010

2.14990

QUAL
2.5698

PAT DONOVAN

LEONARD PROPERTY

Co, Cu, Ni, Ag

SHININGTREE AREA, LEONARD TOWNSHIP

LARDER LAKE MINING DIVISION

NTS-41P 11 47 33'N, 81 02'W

Claim block 1185717

15 Units, 240 Hectares

July, 1992

Patrick Donovan

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SUMMARY

The Leonard property is situated in the central part of Leonard township in the District of Timiskaming, 17 kilometers west of the village of Shiningtree, Ontario. It includes one claim block (1185717) containing 15 units totalling 240 hectares.

All of the consolidated rocks in the area are of Precambrian age. These are covered by a mantle of Pleistocene and Recent deposits.

Early Precambrian rocks comprise a metavolcanic-metasedimentary sequence intruded by a quartz-monzonite pluton and northeasterly and north-northwesterly trending diabase dykes.

Middle Precambrian rocks are represented by Huronian sediments and Nipissing Diabase. These Huronian units belong to the Gowganda and Lorrain Formations of the Cobalt Group which unconformably overly these Early Precambrian units. The Nipissing Diabase sill intrudes between the older underlaying Archan metavolcanics and the metasediments and the Huronian Supergroup.

Structurally, the metavolcanics and metasediments are folded about north-northwesterly trending axis. Major faults in the area trend north-northwesterly and post date the Nipissing Diabase (1).

Silver, cobalt, nickel and copper mineralization, associated with quartz-calcite veining in the Nipissing Diabase is the chief economic feature of the area.

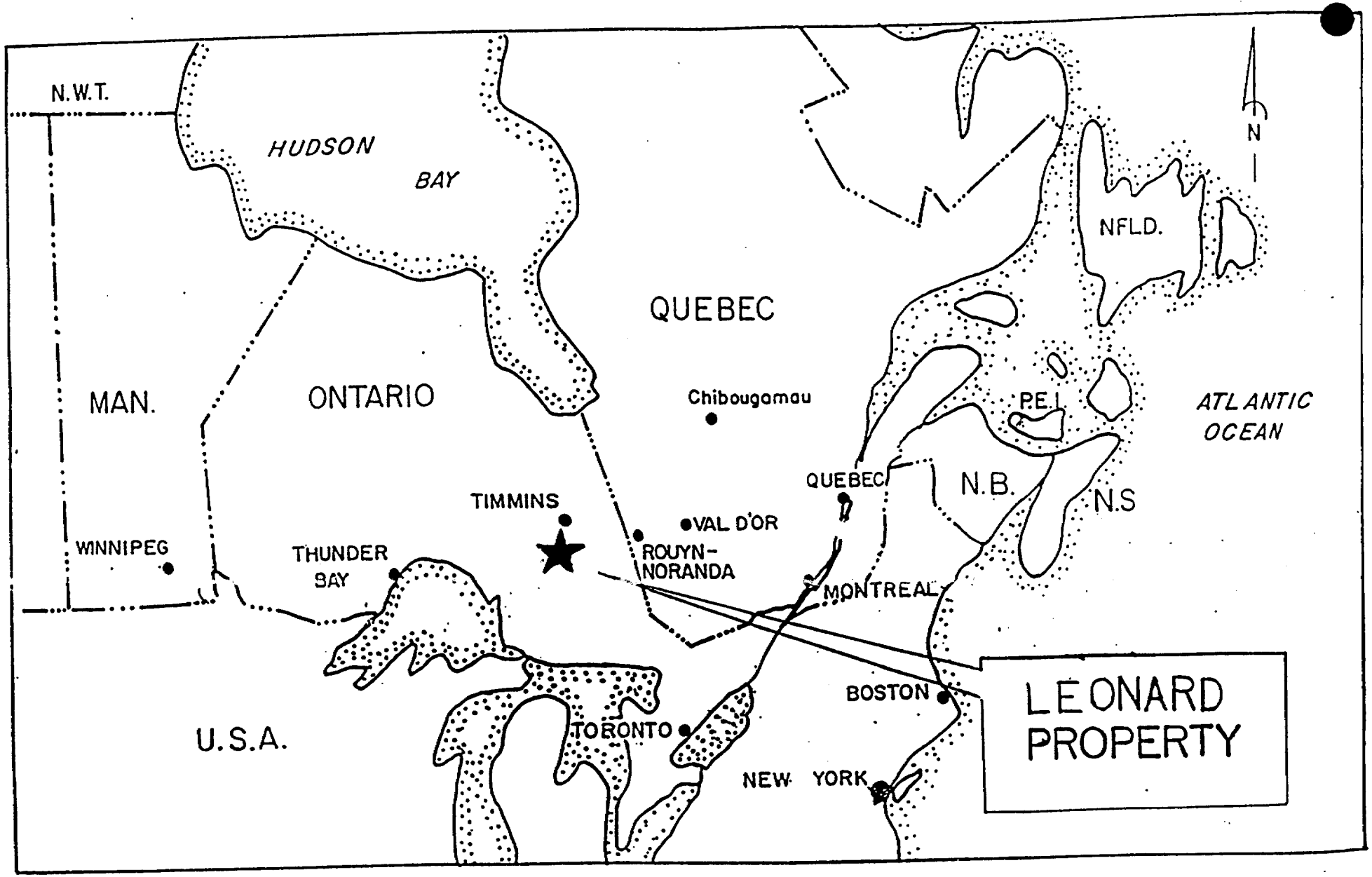


FIGURE 1 : LOCATION MAP

Previous work on the claims was quite extensive in the early part of the 20th century. This consisted of trenching and the sinking of one shift to 100 feet with crosscuts extending east and west for 100 feet each way. Although calcite veining and niccolite mineralization was discussed, no production was undertaken; nor was the presence of considerable cobalt mineralization reported. Later assessment files show that some geological mapping and geophysical surveys were completed over the claim block. Geological surveys were completed over the entire Leonard and Fawcett townships by Carter of the Ontario Division of Mines in 1972 (1).

Most recently an airborne electromagnetic and total intensity magnetometer survey was completed over the area in 1990.

Work covered by this report includes linecutting (18.86 km) (see figure 3), geological mapping and rock sampling, a magnetometer survey using a Scintrex MP-2 magnetometer, and a VLF-EM survey utilizing a Geonics EM-16 unit (see maps in pocket).

The VLF-EM survey outlined a number of interesting anomalies east of the baseline which will require further investigation. The magnetometer was useful in helping to determine geological contacts. In particular between the strongly magnetic diabase and the metasediments.

INTRODUCTION

This is a report of activities on the Leonard property jointly held by Pat Donovan and Edward Ingham located in Leonard township 17 kilometers east of Shiningtree, Ontario.

The property was staked by the author in 1991 after a property visit and a careful study from all previous and recent work in order to determine the economic potential of the area.

In June and July of 1992 a chainsaw cut linecutting program was initiated with geological mapping, a magnetometer survey and a VLF-EM survey executed over these lines.

LOCATION AND ACCESS

The property is located in Leonard township 17 kilometers east of Shiningtree, Ontario and 106 kilometers south of Timmins in the District of Timiskaming. It lies just west of Fournier Lake and just east of the Ontario Hydro transmission line (see figure 2).

Access is good with a 4X4 road south from provincial highway 560 following the Ontario Hydro transmission line a distance of approximately 15 kilometers. Also access can be gained from the Bay road which departs from provincial highway 560 approximately 7 kilometers west of Hydro Creek. This is a good all-weather road approaching to within 4 kilometers of the hydro line. From there the road is only traversable by 4 wheel drive or all-terrain vehicle to the same above mentioned hydro line. It is possible to approach to within 500 meters of the claim group by either these routes.

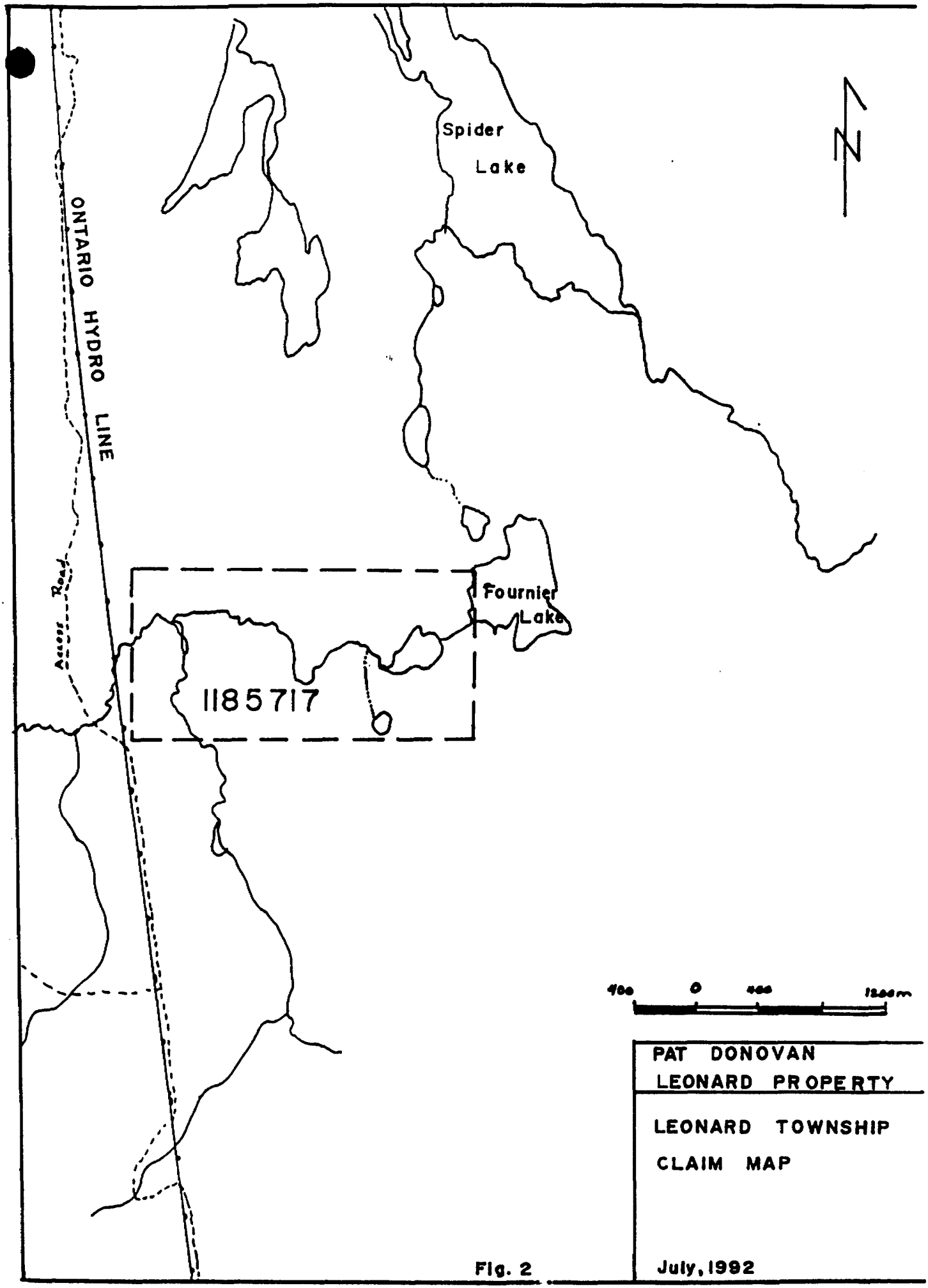

Spider
Lake
ONTARIO HYDRO LINE
Access Road
Fournier
Lake
1185717
400 0 400 1200m
PAT DONOVAN
LEONARD PROPERTY
LEONARD TOWNSHIP
CLAIM MAP
July, 1992

Fig. 2

CLAIM LIST

The Leonard property of Pat Donovan and Edward Ingham comprises one claim block of 15 units covering 240 hectares more or less.

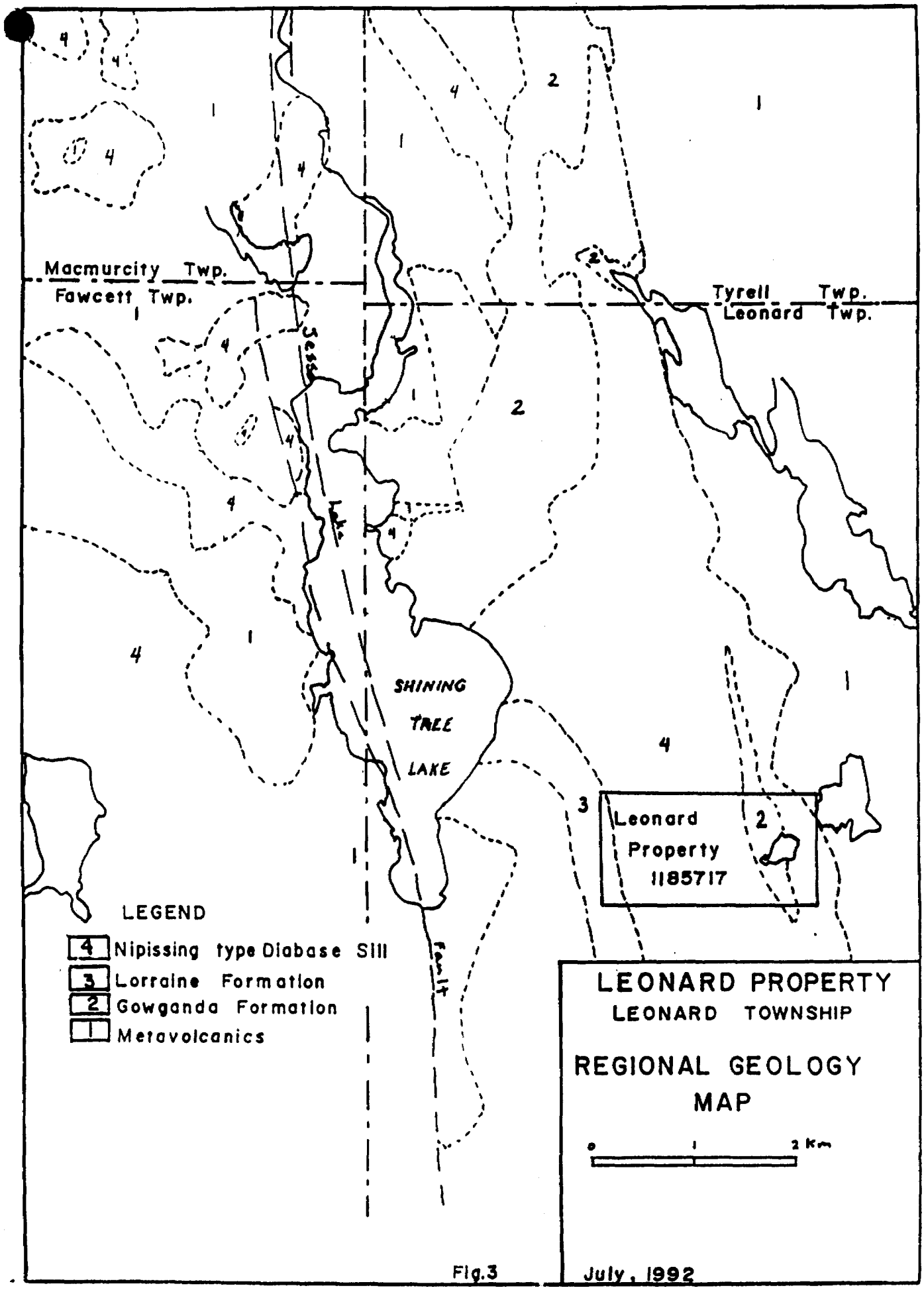
The mining claim is 1185717 and is held by Patrick Donovan of 23 Ch. Baie Jolie, Val d'Or, Quebec, J9P 4N7. The work on this claim was completed by the author with the assistance of Edward Ingham of 109 Ch. Baie Jolie, Val d'Or, Quebec, J9P 4N7. Linecutting was completed by Gestior E. Ingham Inc., of Val d'Or between June 19 and July 7,1992.

Magnetometer and VLF-EM surveys were completed by Pat Donovan between July 2 and July 16, 1992. A geological survey was completed by the author on the cutline grid area between July 2 and July 14, 1992.

REGIONAL GEOLOGY

The oldest rocks in the area are of Early Precambrian (Archean) age forming the basement metavolcanic-metasedimentary sequence throughout the area. These units are within the Superior Geologic Province of the Canadian Shield, more specifically within the central portion of the Abitibi greenstone belt. The Early Precambrian metavolcanics consist of komatiitic, tholeiitic, calc-alkalic, and alkalic rocks with interlayered clastic and chemical metasediments and have a combined thickness of about 19000m (1).

The sequence commences with felsic metavolcanics followed by a layered cycle beginning with a mafic tholeiitic lower unit


Macmurcity Twp.
Fawcett Twp.
Tyrell Twp.
Leonard Twp.
SHINING TREE LAKE
Leonard Property 1185717
LEGEND
4 Nipissing type Diabase Sill
3 Lorraine Formation
2 Gowganda Formation
1 Metavolcanics
Fault
LEONARD PROPERTY
LEONARD TOWNSHIP
REGIONAL GEOLOGY MAP
0 1 2 km
Fig.3
July, 1992

MIDDLE PRECAMBRIAN

Mafic Intrusive Rocks
Nippissing Diabase

HURONIAN SUPERGROUP
COBALT GROUP

Gowganda Formation
- 4a) pebbly arenite to para conglomerate
- 4b) siltstone
- 4c) argillite

EARLY PRECAMBRIAN

Felsic Intrusive Rocks

META VOLCANICS

Intermediate Volcanics

Mafic Volcanics

and closing with pyroclastic rocks and interlayered sediments and alkalic metavolcanics. Mafic intrusive rocks comprise syntectonic batholiths consisting of quartz monzonite, and porphyroblastic granodiorite and trondhjemite, and late tectonic stocks of massive and porphyritic quartz diorite, trondhjemite, syenodiorite and diorite.

Middle Precambrian rocks comprise clastic and chemical sedimentary rocks of the Huronian Supergroup and intrusive Nipissing-type diabase sills. The Huronian is represented by the Quirke Lake and Cobalt Groups which unconformably overlie the Early Precambrian rocks. The Nipissing Diabase lower sill was emplaced at the Early-Middle Precambrian unconformity and is associated with cobalt-silver mineralization.

Early to Late Precambrian diabase dykes cut the previous formations in northwesterly and northeasterly sets.

The major structural feature in the region is a doubly-plunging synclinorium of the metavolcanics and metasediments trending north-nortnwesterly to northwesterly.

Numerous north trending faults that cross the area are part of the Onaping Lineament (2).

PROPERTY GEOLOGY

The property is underlain predominately by the lower unit Nipissing-type diabase. This unit occurs in the west part of the property and is a medium to fine grained massive greenish black rock with a reddish rusty brown weathered surface. These diabase sills intruded along the unconformity between the Huronian sediments and the Early Precambrian rocks.

Immediately east of the diabase, a thin wedge of intermediate volcanics occur. This rock is an andisite to dacite lapilli to fine tuffaceous unit. It is a reddish pink colour on the weathered surface and dark grey to brown on fresh surface. The eastern portion of the claim is underlain by Huronian Supergroup, Gowganda Formation and is comprised of pebbly arenite to paraconglomerate with interbedded siltstones and argillites. The paraconglomerate or pebbly arenite contains sparse pink pebbles of granitic material up to 2 cm in size within a dark grey fine argillaceous to medium arenitic matrix. The siltstone unit is a grey to pink, gritty, fine grained rock interbedded with the paraconglomerate or arenite and is slightly schistose. The argillites are massive black rocks which are very well laminated. These units strike in a generally north-south to north-northwest direction and dip steep westward.

The extreme eastern end of the property is underlain by unaltered tholeiitic, aphanitic basalt flows and lapilli tuffs. They are dark brown on weathered surfaces and dark grey to black on fresh surfaces. Locally the flows are amygdaloidal. The lapilli tuffs are the same colour with <3 mm subrounded fragments.

PREVIOUS WORK

The first reported exploration in the area dates back to 1909 when Saville Exploration Syndicate discovered silver on their property located just south of the present Leonard

Property. Stripping and trenching outlined a number of veins within diabase which contained cobalt bloom, smaltite, copper pyrite and small amounts of bismuth. No silver, however, was found in place (1).

In 1912, the Caswell-Eplett prospect was discovered. This prospect is within the present Leonard Property. Quite extensive work was done on this prospect to explore many veins within the diabase. Cobalt bloom occurs in several of these veins. An underground program was done on this prospect with a vertical shaft sunk to 100 feet with 100 foot crosscuts excavated both east and west of these shafts. On the east side a calcite vein 18" wide (45 cm) and a vein of niccolite 4 to 6" wide (10 - 15 cm) was intersected. No significant cobalt or silver was reported. The plant consists of a 20 hp. upright boiler, a 5 X 5 foot hoist, three pumps, and a Rand drill (1).

Also on the present Leonard Property can be found the workings of the Neelands prospect. This prospect lies just north of the Caswell-Eplett prospect. Considerable stripping and trenching exposed six or seven veins a few inches wide. These quartz-calcite veins occur within the Nipissing-type diabase and some contain significant chalcopyrite and smaltite mineralization. No significant silver was seen on the property.

In 1956 Newnorth Gold Mines Limited drilled five diamond drill holes just to the west of the present baseline in diabase. Very little economic mineralization was encountered.

In 1976 Alamo Petroleum Ltd. conducted a geological survey, as well as a JEM electromagnetic survey and a geochemical soil

sample program over the most of the present Leonard Property. No significant new mineralization was located during this program. A JEM electromagnetic anomaly outlined during this time appears to very closely coincide with the anomalies 1a and 1b of the present survey.

ECONOMIC GEOLOGY

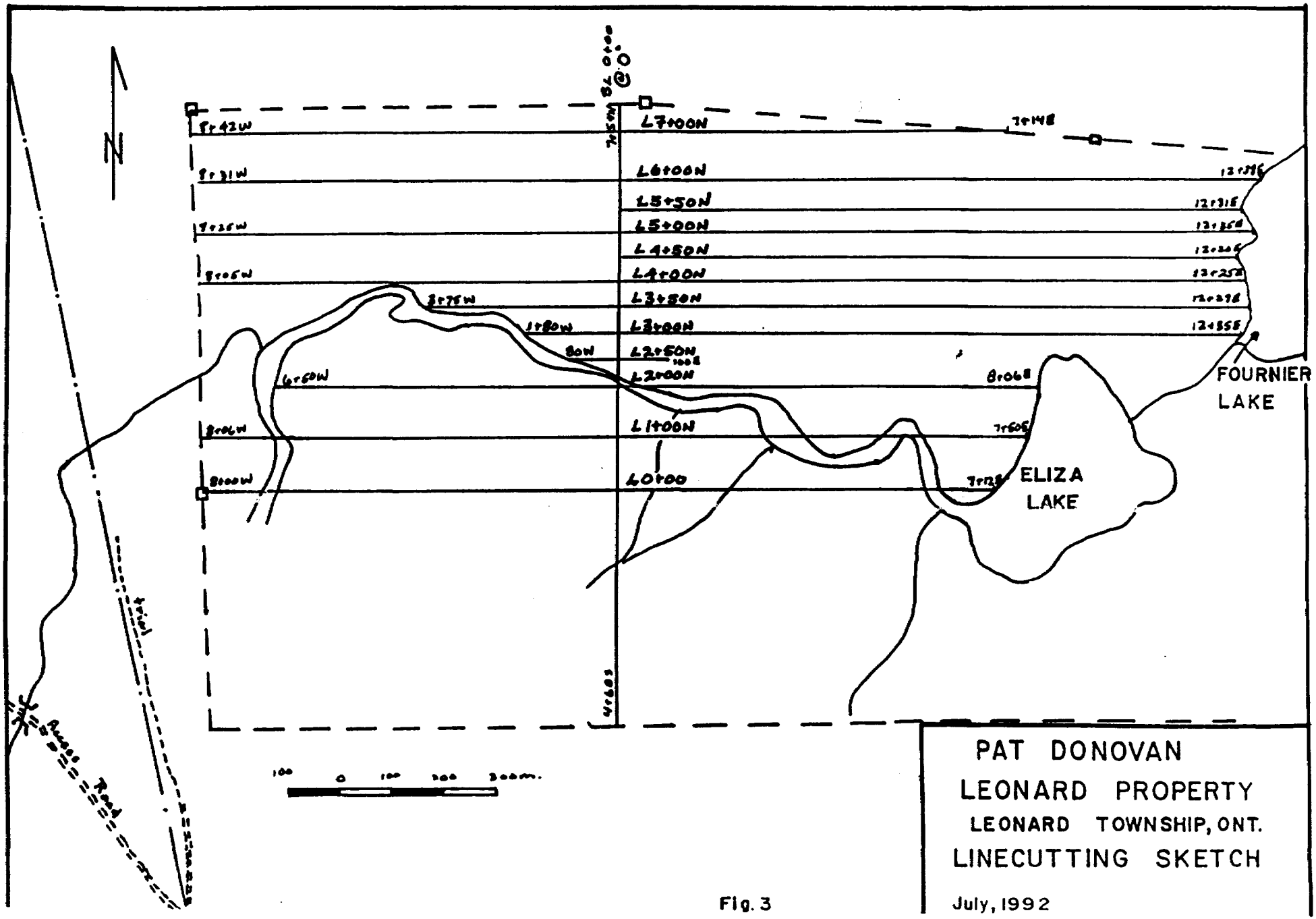
Within the area, deposits of asbestos, cobalt, silver, gold, lead, molybdenum, nickel, zinc, and iron occur in characteristic associations and in most cases show a definite relationship to rock type.

Only gold was produced in the area and came from two mines: the Ronda Mine in southwestern Macmurchy Township which produced only in 1939, and the Tyranite Mine in northeastern Tyrrell Township which produced from 1939 until 1942.

Considerable exploration work was carried out elsewhere in the area including the property to which this report refers. In the past, significant cobalt bloom and smaltite mineralization was found within the present property limits dating back to 1912. The potential for uncovering economic cobalt, nickel, copper, and possibly silver mineralization, appear very good on this property.

PRESENT WORK

In 1991 the property was staked by the author based on the presence of significant cobalt bloom found in trenches and pits within the claim block.



PAT DONOVAN
LEONARD PROPERTY
LEONARD TOWNSHIP, ONT.
LINECUTTING SKETCH
July, 1992

Fig. 3

In June and July of 1992 a linecutting program totalling 18.86 kilometers of chainsaw cut lines was completed covering the northern half of the property. This was designed to cover the area of known mineralization on the claim block.

In July a program of geological mapping and geophysical surveys (magnetometer and VLF-EM) were completed over the property. In the VLF-EM survey a number of anomalies were encountered. The most significant anomaly extends from 2+00N to 6+00N centered 200 meters east of the baseline (conductor 1a and 1b) (see Table 1). The magnetometer survey was useful to distinguish the strong magnetic diabase and the moderately magnetic mafic volcanics from the non-magnetic Huronian sediments.

Assay values obtained from grab samples from pits and trenches on the property was as high as 7.04% Co, 4.32% Cu, and 0.59% Ni (see completed assay results in appendix "A" and descriptions in appendix "B"). A total of 12 rock samples were collected from the pits and trenches on the property and submitted for analysis for Cu, Ni, Co, and Ag.

GEOPHYSICAL TECHNIQUES

1. Magnetics

a) Total Field Intensity

The Earth's magnetic field generally resembles that of a bar magnet. This field is distorted by several factors but through the use of sensitive magnetometers the variations attributable to local effects can be measured. These local

effects generally reflect the changes in magnetic susceptibility of the lithology in the survey area. Geologic units of different magnetic susceptibility will cause a distortion in the local magnetic field at the point where the two units meet. This distortion or anomaly will have a characteristic shape and amplitude dependent on the variation in the magnetic susceptibility of the rock types, the depth to the contact and the orientation of the magnetic field with respect to the geometry of the contact.

Magnetic anomalies may therefore be attributed to faults and shear zones, changes in geologic facies within a unit and to concentrations of mineralization having magnetic minerals in their assemblage.

The magnetic field is affected by several factors, most notably diurnal variations within the field and magnetic storms which are attributed to solar activity. The variations can be corrected from the magnetic measurements using a base station magnetometer or by repeating the magnetic measurement at specific intervals at a selected base station.

In cases where magnetic storm activity is severe, measurement of the total magnetic field should not be conducted as corrections become impractical due to the number of high frequency variations of the field.

b) Vertical Gradient

The measurement of the vertical gradient of the magnetic field can be employed to increase the resolution of the total field intensity survey. Gradiometer measurements resolve complex

total field anomalies into their constituents and also remove the regional magnetic field to better define the shallow anomalies which are generally of interest. In addition, diurnal variations and magnetic storm effects are removed. As these variations are time-based, the component of the magnetic field attributable to the "noise" is removed when two simultaneous measurements at one station are subtracted. These measurements are considered to be much closer to the local source than are the causes of the magnetic storm of the diurnal.

For gradiometer surveys two magnetic sensors of a fixed vertical separation are energized and their measurements are subtracted to provide the gradient (expressed in gammas or nanoteslas per foot or per meter). In common practice, the measurement of the higher sensor is subtracted from the lower sensor.

2. Electromagnetics - VLF

It is well known that rock types vary in conductivity and that a primary electromagnetic field will generate secondary fields within the rocks. The more conductive geologic units will have higher amplitude anomalies, thus an expression of the conductance of various lithologies or changes within lithologies can be acquired.

Powerful military communication transmitters in the 15 to 25 kilocycle range have been applied to geophysical exploration. Electromagnetic receivers tuned to a specific transmitter can measure the tilt and fieldstrength of the secondary magnetic field generated within the Earth. A simple

mathematical relationship exists to convert the tilt and field strength measurements into the in phase and out of phase components (in terms of percent) which are presented by many instruments. These measurements can then be plotted and inspected to determine the presence and orientation of conductive features.

VLF-EM surveys must be conducted under certain criteria for the information to be valid. These criteria are easily met and are as follows:

a) The orientation of the survey lines must parallel the transmitted electomagnetic field, that is, be at 90 to the primary field direction which is the direction to the location of the selected transmitter.

Measurements of the secondary field can then be made in the presence of a uniform primary field and the variations of the secondary field will reflect changes in conductivity with minimal field distortion.

b) The measurements must also be made with the instrument facing in the same direction otherwise anomalies of opposite polarity will result and the data can be misinterpreted.

In complex structural regions it is often good pratice to measure responses using a second transmitter with a primary field direction at approximately 90 to the direction of the first transmitter. The detection of those anomalies attributable to features perpendicular to the general geologic strike will then be enhanced. In normal practice these measurements are made along the same lines as the first measurement to maintain a cost

efficient program. However, in complex regions of unknown geology, a second set of lines, perpendicular to the first, may have to be prepared and surveyed with this second transmitter.

Presentation of VLF-EM data is as profiles of the in phase and out of phase components. However, many anomalies are generated by the high frequency of the VLF transmitter which are due to variations in overburden conductivity, swamps and topography as well as geologic conductors. A data processing technique, called the "Fraser Filter" can be applied to the data which allows it to be contoured. This filter converts crossovers and inflections to positive peaks and minimizes station to station random noise allowing an easier understanding of the data.

GEOPHYSICAL WORK

A chainsaw cut grid was established over the northern half of the property extending from approximately 8+00W at the western boundary to 12+00E at the eastern boundary.

The baseline was cut north-south true from 0+00 to 7+54 north at the northern boundary, and 0+00 to 4+68 south at the southern boundary. Lines were established at 50 meter intervals over the known mineral occurence areas and at 100 meters elsewhere. A total of 18.86 kilometers of lines were cut.

Total Field magnetic and electromagnetic surveys were completed using a Scintrex MP-2 magnetometer and a Geonics EM-16 VLF-EM receiver respectively. The fixed transmission station of Culter,Maine (NAA) was used for the VLF survey.

TABLE I VLF CONDUCTOR ANALYSIS STATION NAA

ZONE	LOCATION OF BEST RESPONSE	LENGTH	FRASER FILTER MAXIMUM	MAGNETIC ASSOCIATION	CLASS	REMARKS
1a	L4+50N, 1+80E	± 250m.	---------	moderate adjacent	2	25 m. deep
1b	L3+00N, 2+25E	±150m.	----------	strong	1	50 m. deep
2	L1+00N, 5+30E	±125 m.	----------	no	2	20 m. deep
3	L3+50N, 8+35E	±100 m.	----------	no	2	20 m. deep
4	L5+50N, 7+50E	±50 m.	----------	no	4	20 m. deep
5	L6+00N, 9+50N	±50 m.?	----------	moderate	3	30 m. deep
6	L5+00N, 10+30E	±50 m.	----------	moderate	3	10 m. deep
7	L6+00N, 11+30E	±50 m.	----------	moderate	2	40 m. deep
8	L0+00, 4+25E	±50 m.?	----------	moderate	3	60 m. deep

The results of the surveys are presented on the maps enclosed in the pocket at a scale of 1:2500.

Each conductor is tabulated in Table I with the following parameters:

- Location of conductor or grid.
- Length of conductor.
- Depth interpreted using the peak to peak horizontal distance divided by three.
- The magnetic association.

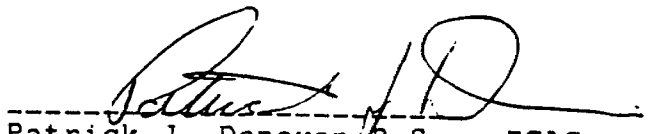
Class of conductor based on class:

1) strong conductor with magnetic response
2) strong conductor with no magnetic response
3) weak to moderate conductor with a magnetic response
4) all other conductors

CONCLUSIONS AND RECOMMENDATIONS

The Leonard Township Property has excellent potential to contain significant Co, Cu, Ni, and Ag type mineralization. Due to the fact that there is known mineralization on the property which does not respond to a VLF-EM geophysical survey but very strong VLF-EM conductors do exist within 50 meters of the surface showings suggests that the conductors 1a and 1b could be mineralized systems of larger magnitude than previously seen on the property. These should be examined more closely. It is suggested that an I.P. survey be conducted over the property and the results of that survey be the basis for a further diamond drill program.

Respectfully Submitted,



Patrick J. Donovan, B.Sc., FGAC

REFERENCES

1) Carter, M. W., 1977; Geology of Fawcett and Leonard Townships, Districts of Sudbury and Timiskaming; Ontario Division of Mines, GR-146, Accompanied by Map 2359.

2) Carter, M. W., 1987; Geology of the Shiningtree Area, Districts of Sudbury and Timiskaming; Ontario Geological Survey Report 240, Accompanied by Map 2510.

3) Middleton, R. P. and Flegeah, J. M., 1976; Geology of Leonard Twp.- Shining Tree Project, Alamc Petroleum Ltd.

CERTIFICATE OF QUALIFICATION

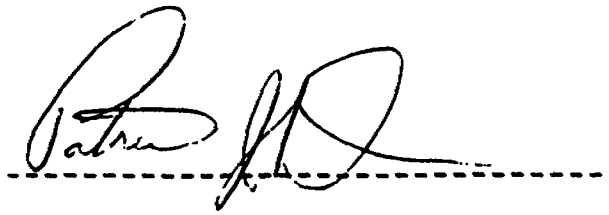
I, Patrick J. Donovan of Val d'Or in the province of Quebec, Canada, do hereby certify that:

I reside at 23 Chemin Baie Jolie, Val d'Or, Quebec.

I am a qualified geologist having received my academic training at St. Francis Xavier University in Antigonish, Nova Scotia, graduating in 1977 with a B.Sc.. I am a member of the Canadian Institute of Mining, Metallurgy and Petroleum, the Prospectors and Developers Association of Canada and a Fellow of the Geological Association of Canada.

I have continuously been engaged in my profession for the last 15 years. I have examined the work files covering the subject property and the immediate area at the resident geologist office of the Ontario Ministry of Northern Development and Mines in Cobalt, Ontario.

This report is based on the author's comprehensive study of all work records and on geological maps and reports published for the area. Also I have personally mapped the entire gridded portion of the property.



Patrick J. Donovan, B.Sc.,FGAC

APPENDIX "A"

ASSAY RESULTS

C.P. / P.O. 550 148, AVENUE PERREAULT VAL D'OR (QUÉBEC) J9P 4P5 TEL.: (819) 824-
FAX: (819) 824-

LABORATOIRE D'ANALYSE BOURLAMAQUE LT
BOURLAMAQUE ASSAY LABORATORIES LTD.

PAT DONOVAN

CERTIFICAT D'ANALYSES
CERTIFICATE OF ANALYSIS

N° 59848

ÉCHANTILLONS SAMPLES: Rock

VAL D'OR (QUÉBEC): July 14 19

REÇU DE RECEIVED FROM:

ANALYSES ASSAYS: 7 Ag, 3 Cu, 8 Co, 4 Ni

Sample	Ag ppm	Cu %	Co %	Ni %
180185	<1.0	0.033	0.020	0.007
180186	8	0.004	2.85	0.335
180187	1	0.003	7.04	0.590
180188	-	-	3.36	-
180189	1	-	0.035	-
180190	22	-	1.92	0.200
180191	4	-	2.26	-
180192	28	-	2.35	-

C.P./ P.O. 550 148, AVENUE PERREAULT VAL D'OR (QUÉBEC) J9P 4P5 TÉL.: (819) 824-4337
FAX: (819) 824-4745

LABORATOIRE D'ANALYSE BOURLAMAQUE LTÉ.
BOURLAMAQUE ASSAY LABORATORIES LTD.

PAT DONOVAN

CERTIFICAT D'ANALYSES
CERTIFICATE OF ANALYSIS

N° 59930

ÉCHANTILLONS / SAMPLES: Rock

VAL D'OR (QUÉBEC): July 29 19 92

REÇU DE / RECEIVED FROM:

ANALYSES / ASSAYS: 4 - Cu, Co, Ni

Sample	Cu %	Co %	Ni %
180199	0.054	0.010	0.005
180200	4.32	0.016	0.010
4401	0.004	0.097	0.019
4402	0.017	0.865	0.103

Ag to follow / à suivre

ANALYSTE / ASSAYER

C.P. / P.O. 550 148, AVENUE PERREAULT VAL D'OR (QUEBEC) J9P 4P5 TÉL.: (819) 824-433
FAX: (819) 824-474

BOURLAMAQUE ASSAY LABORATORIES LTD.

PAT DONOVAN EXPLORATION SERVICES

ÉCHANTILLONS SAMPLES Rock

REÇU DE RECEIVED FROM

CERTIFICAT D'ANALYSES
CERTIFICATE OF ANALYSIS

N° 59942

VAL D'OR (QUÉBEC) July 31 19 9

ANALYSES ASSAYS 4 - Ag

Sample	Ag oz/ton
180199	0.08
180200	0.08
4401	0.16
4402	0.82

APPENDIX "B"

DESCRIPTION OF SAMPLES

Sample No.	Type of Sample	Width (cm)	Rock Type	Mineralization	Assay Results
180185	Grab from shaft muck	7.6	diabase	tr. chalcopyrite	Appendix "A"
180186	Grab	7.6	diabase	10-20% Co bloom	"
180187	Grab	7.6	diabase	high grade smaltite	"
180188	Composite Grab	--	diabase	50% Co bloom	"
180189	Grab	15	Calcite Vein	None	"
180190	Grab	10	diabase	5% smaltite	"
180191	Grab	10	diabase	5% smaltite	"
180192	Grab	10	diabase	5% smaltite	"
180199	Grab	?	diabase	tr. chalcopyrite	"
180200	Grab	4	diabase	smaltite, niccolite vein	"
4401	Grab	1-2	calcite vein	none	"
4402	Grab	1	diabase	considerable colbalt bloom	"

Ontario

900

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Branch
Geoscience Approvals Section
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

June 14, 1993

Our File: 2.14990
Transaction #W9380.00047

Mining Recorder
Ministry of Northern Development
and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIM L.1185717 IN LEONARD TOWNSHIP

The assessment work credits for the Geological and Geophysical Surveys filed under Sections 12 and 14 of the Mining Act Regulations have been approved as originally filed.

The approval date is June 8, 1993.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Branch
Mines and Minerals Division

LJ/jl
Enclosures:

cc: Resident Geologist
Kirkland Lake, Ontario

Assessment Files Office
Toronto, Ontario

Ministère du Développement du Nord et des Mines
Ontario

Rapport sur les travaux exécutés après l'enregistrement d'un claim

N° de transaction W9380.00047

MINING LANDS GAS Loi sur les mines COBALT Leonard Twp Caswell-Eldett Prospect

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à la correspondance. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, étage, Sudbury (Ontario) P3E 6A5; téléphone : (705) 670-7264.

2.14990

Directives :
- Dactylographier ou écrire en lettres moulées.
- Se reporter à la **Loi sur les mines** et aux règlements pour connaître les directives de dépôt des travaux d'évaluation ou consulter le registrateur de claims.
- Remplir une formule pour chaque groupe de travaux.
- Joindre à la présente formule deux exemplaires des rapports techniques et des cartes.
- Joindre à la présente formule une esquisse indiquant les claims ayant fait l'objet des travaux.

Titulaire(s) enregistré(s)		N° de client
Glenn J. Mullan		173700
Adresse: 2130 av. St-Philippe Dubuisson Québec J9P4A4		N° de téléphone: (819) 738-4082
Division des mines: Larder Lake	Canton/secteur: Leonard Twp.	N° de plan M ou G: M-232
Dates d'exécution des travaux du : June 19, 1992	au : July 14, 1992	

Travaux exécutés (cocher un seul groupe de travaux)

Groupe de travaux	Genre
✓ Levé géotechnique	Grid, Mag (total field + vertical gradient), VLF-em, Geological Mapping
Travaux physiques, y compris forage	RECEIVED
Réhabilitation	
Autres travaux autorisés	APR 22 1993
Essais	MINING LANDS BRANCH
Valeur transférée de la réserve	

Total des travaux d'évaluation réclamé sur le relevé des frais ci-annexé $12,021.00 $

Nota : Le ministre peut rejeter une partie ou la totalité des travaux d'évaluation présentés pour obtenir des crédits d'évaluation si le titulaire enregistré ne peut vérifier les dépenses réclamées sur le relevé des frais dans les trente jours suivant une demande de vérification.

Les personnes et la compagnie d'arpentage qui ont exécuté les travaux (donner le nom et l'adresse de l'auteur du rapport)

Nom	Adresse
Pat Duncan	23, ch Baie Jolie, Val d'Or, Québec
Edward Ingham	196 - 19e Rue, Val d'Or, Québec J9P 2X5
R. Mongeon, D. Mercier	c/o " " "

(Joindre une annexe au besoin)

Certification d'intérêt bénéficiaire * Voir la note n° 1 au verso

Je certifie qu'au moment où les travaux ont été exécutés, les claims dont il est question dans le présent rapport étaient enregistrés au nom de leur titulaire actuel ou détenus à titre bénéficiaire par l'actuel titulaire enregistré.	Date: March 5, 1993	Titulaire enregistré ou représentant (Signature)

Certification du rapport sur les travaux exécutés

Je certifie que j'ai une connaissance directe des faits exposés dans le présent rapport, pour avoir exécuté les travaux ou en avoir constaté l'exécution avant ou après leur achèvement. Je certifie aussi que le rapport ci-annexé est exact.

Nom et adresse du certificateur

N° de téléphone | Date | Certifié par (signature)

March 5, 1993

Réservé au ministère

Valeur totale des crédits | Date d'enregistrement | Registrateur des claims | Cachet reçu

Numéro de rapport sur les travaux exécutés pour l'affectation de la réserve	Numéro de claim	Nombre d'unités	Valeur des travaux d'évaluation exécutés sur ce claim	Valeur affectée à ce claim	Valeur transférée de ce claim	Réserve : travaux à réclamer à une date ultérieure
	L-1185717	15	$12,022.00	$12,022.00		
	1		$12,022.00	$12,022.00		
	Nombre total de claims		Valeur totale des travaux exécutés	Valeur totale des travaux qui a été affectée	Total transféré	Réserve totale

RECEIVED
APR ?? 1983
MINING LANDS BRANCH

Les crédits que vous réclamez dans le présent rapport peuvent être réduits. Afin de diminuer les conséquences défavorables de telles réductions, veuillez indiquer l'ordre dans lequel vous désirez qu'elles soient appliquées à vos claims. Veuillez cocher [illegible] une des options suivantes :

1. ☐ Les crédits doivent être réduits en commençant par le dernier claim sur la liste
2. ☐ Les crédits doivent être réduits également entre tous les claims figurant dans le présent rapport
3. ☐ Les crédits doivent être réduits selon l'ordre donné en annexe

Si vous n'avez pas choisi d'option, la première sera appliquée

Note 1 : Exemples d'intérêts bénéficiaires : cessions non enregistrées, ententes sur des options, protocoles d'entente, etc. relatifs aux claims.

Note 2 : Si des travaux ont été exécutés sur un terrain faisant l'objet de lettres patentes ou d'un bail, veuillez remplir ce qui suit :

Je certifie que le titulaire enregistré possédait un intérêt bénéficiaire [illegible] terrain faisant l'objet de lettres patentes ou d'un bail au moment où les [illegible] ont été exécutés. Signature [illegible] Date

0241 (05/81)

Statement of Costs - "Caswell-Eplett Prospect"

Leonard Twp. - Shining Tree, Ontario

Summer, 1992 Program

Item - Description	Cost
A) Direct Survey Costs: $10,018.25	
- linecutting (18.86 km @ $240/km + 7% GST)	= $4843.25
- geological mapping (13 days @ $100/man per day)	= $2600
- geophysical (VLF, 1 station; NAA)	= $1000
- geophysical (gradient & total field magnetic)	= $1000
- final report (3 days)	= $300
- 8 rock sample assays	= $95
- drafting fees for maps (10 hours @ $18/hour)	= $180
B) Indirect Support Costs: $3150	
- vehicle mileage (3000 km in Ontario @ $0.30/km)	= $900
- food & accomodation (30 days total @ $75/day)	= $2250

Indirect Cost Allowable for Assessment Work:

$10,018.25 * 20% = $2003.65

Total Assessment Credits Claimed: $12,021.90 = $12,022

The above cost breakdown has been derived from information supplied by the author at my request.

Submitted by:

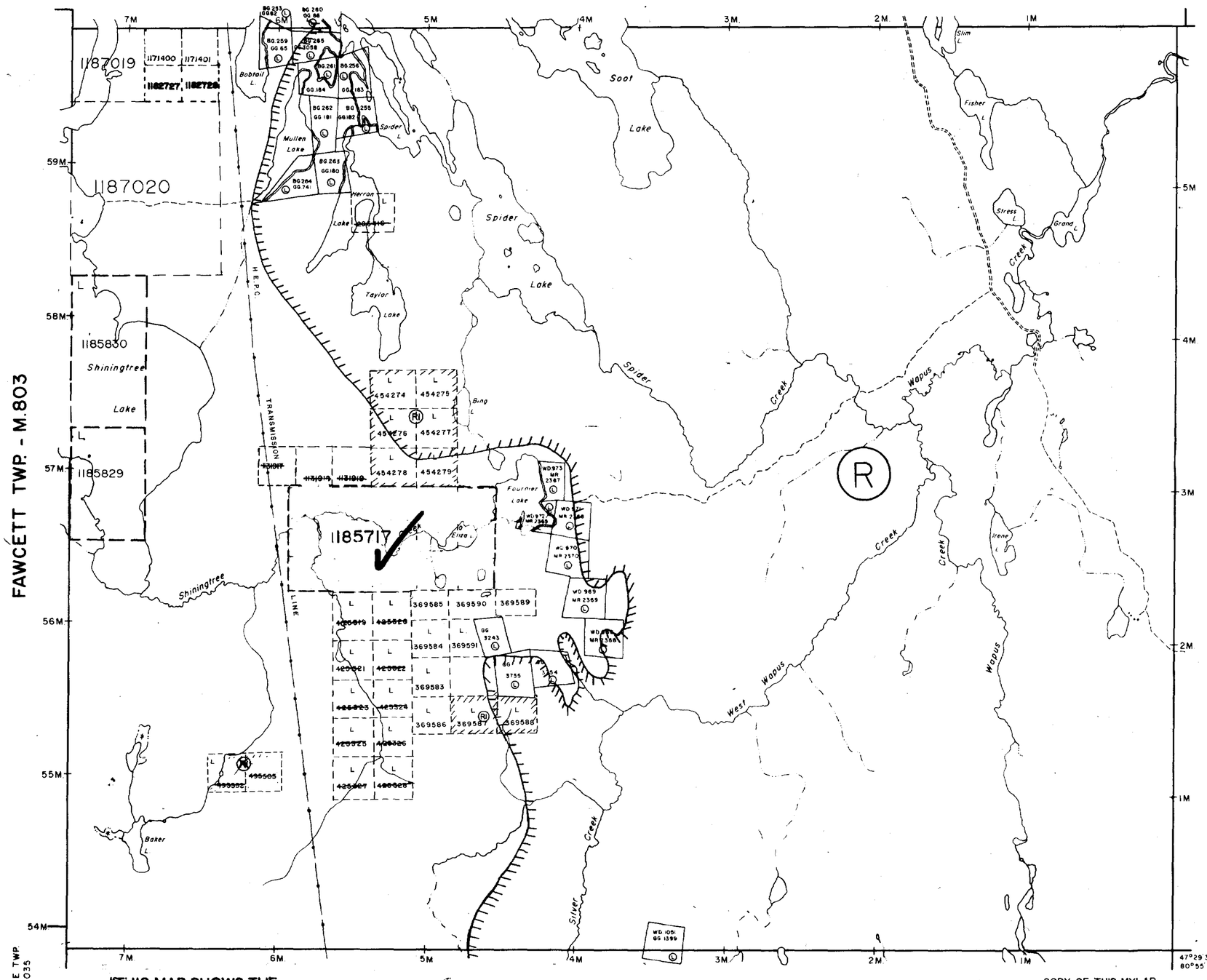
Glenn J. Mullan
March 4th, 1993

2130 av. St-Philippe, Dubuisson (Québec) J9P 4N7 (819) 736-4062

TRIM LINE

geology reference-COBALT
RESIDENT GEO.

TYRRELL TWP. - M.253



THE TOWNSHIP OF

LEONARD

DISTRICT OF TIMISKAMING

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

400' surface rights reservation around all lakes and rivers.

Part of Township closed to staking effective May 8th, 1978, Sec.38(f) of the Mining Act.

(R) Surface and Mining Rights on all Crown Land in this township Withdrawn from prospecting, staking out, sale or lease Section 36 R.S.O. 1980 The Mining Act. Order NRW 11 / 82 effective October 18,1982 at 2:00 pm.

*** Part of order NRW 11 / 82 RE-OPENED by order O-M.01-90 NER effective April 3,1990 at 7:00 AM E.S.T

(R1) Surface and Mining Rights Withdrawn from staking section 36 of the Mining Act R.S.O. 1980. Order W-L2-90 NER effective on April 3,1990 at 7:01 E.S.T.

**** Part of order W-L2-90 NER REOPENED by order O-ONT-06/92 NER/CR effective March 16 1992 at 4:45 pm E.S.T.

***** Part of order W-L2-90 NER REOPENED by order O-ONT-07/92 NER/CR dated March 23 1992 at 8:45 am E.S.T. This Order comes into effect at 7:00 AM E.S.T on JUNE 1, 1992.

PLAN NO. M.232

ONTARIO #9

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

DATE OF ISSUE
APR 15 1999

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

"THIS MAP SHOWS THE APPROXIMATE LOCATION OF THE BOUNDARIES OF THE AREA WHICH IS THE SUBJECT OF CURRENT LITIGATION. THE EXACT LOCATION WILL BE SHOWN FOLLOWING CONFIRMATION BY THE

COPY OF THIS MYLAR ARCHIVED NOV 13/91

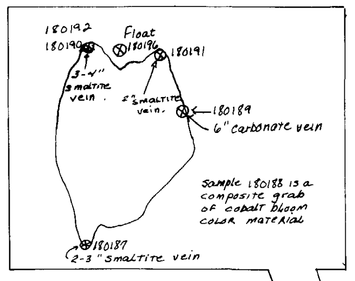
41P10SW9028 2.14998 LEONARD

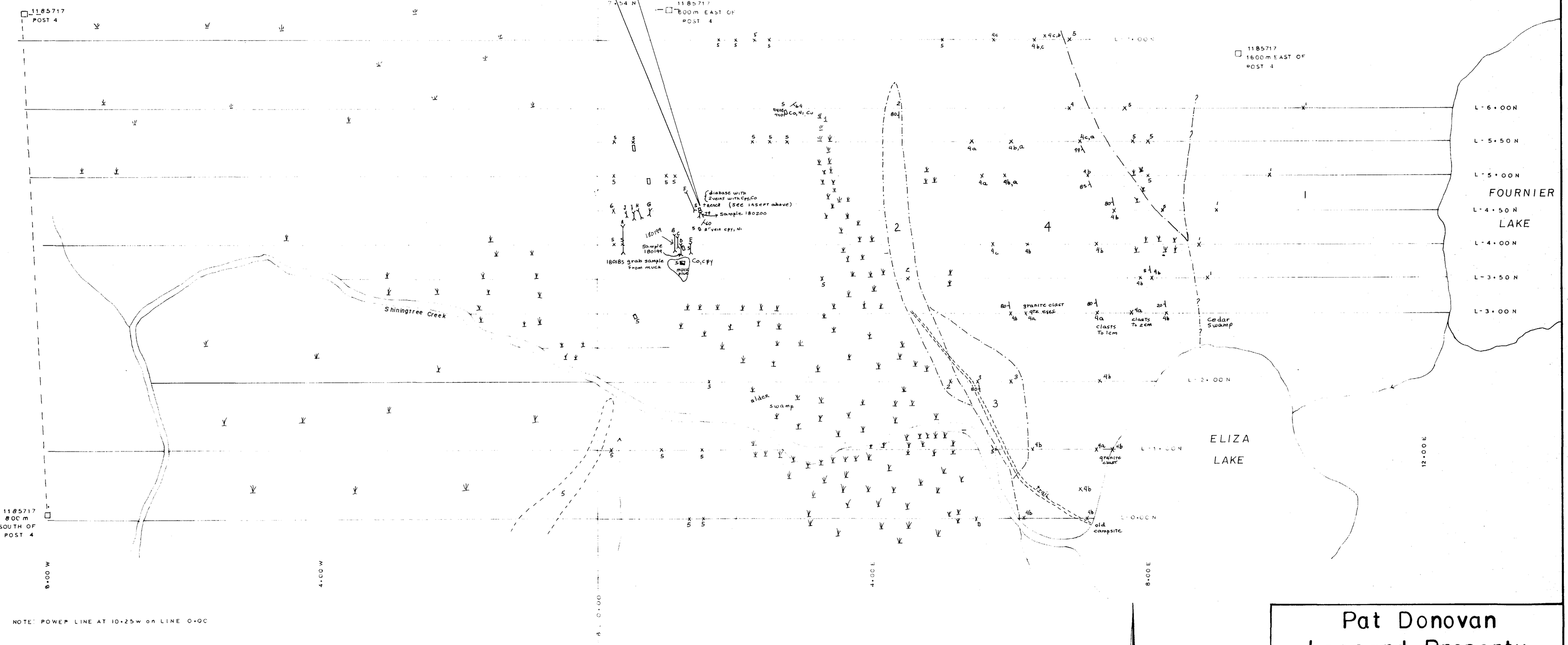
200

LEONARD TWT

ASSAY RESULTS

SAMPLE NO.	Cu(%)	Co(%)	Ni(%)	Ag (ppm)
180185	.033	.020	.007	<1.0
180186	.004	2.85	.335	8
180187	.003	7.04	.590	1
180188	-	3.36	-	-
180189	-	.035	-	1
180190	-	1.92	.200	22
180191	-	2.26	-	4
180192	-	2.35	-	28
180199	.054	.010	.005	.08 opt
180200	4.32	.016	.010	.08 opt
4401	.004	.097	.019	.16 opt
4402	.017	.865	.103	.82 opt





NOTE: POWER LINE AT 10+25W on LINE 0+00

SYMBOLS

- small outcrop, large outcrop
- bedding with dip
- schtosity with dip
- geological boundary
- unconformity boundary
- shaft
- claim post & claim line
- mineral occurrance
- large trench, small trench
- wet or swampy ground
- flooded area
- sample location

ABBREVIATIONS

Ag	silver
Ni	nickel
Cu	copper
Co	cobalt
Cpy	chalcopyrite
py	pyrite
nic	niccolite
qtz	quartz
cal	calcite
qcv	quartz calcite vein

SOUTH BOUNDARY 4+68S

LEGEND

MIDDLE PRECAMBRIAN

5 Mafic Intrusive Rocks
Nippissing Diabase

HURONIAN SUPERGROUP
COBALT GROUP

4 Gowganda Formation
- 4a) pebbly arenite to para conglomerate
- 4b) siltstone
- 4c) argillite

EARLY PRECAMBRIAN

3 Felsic Intrusive Rocks

META VOLCANICS

2 Intermediate Volcanics

1 Mafic Volcanics

N

Pat Donovan Leonard Property

LEONARD TOWNSHIP
SHINING TREE AREA, ONTARIO

SCALE 1 : 2500

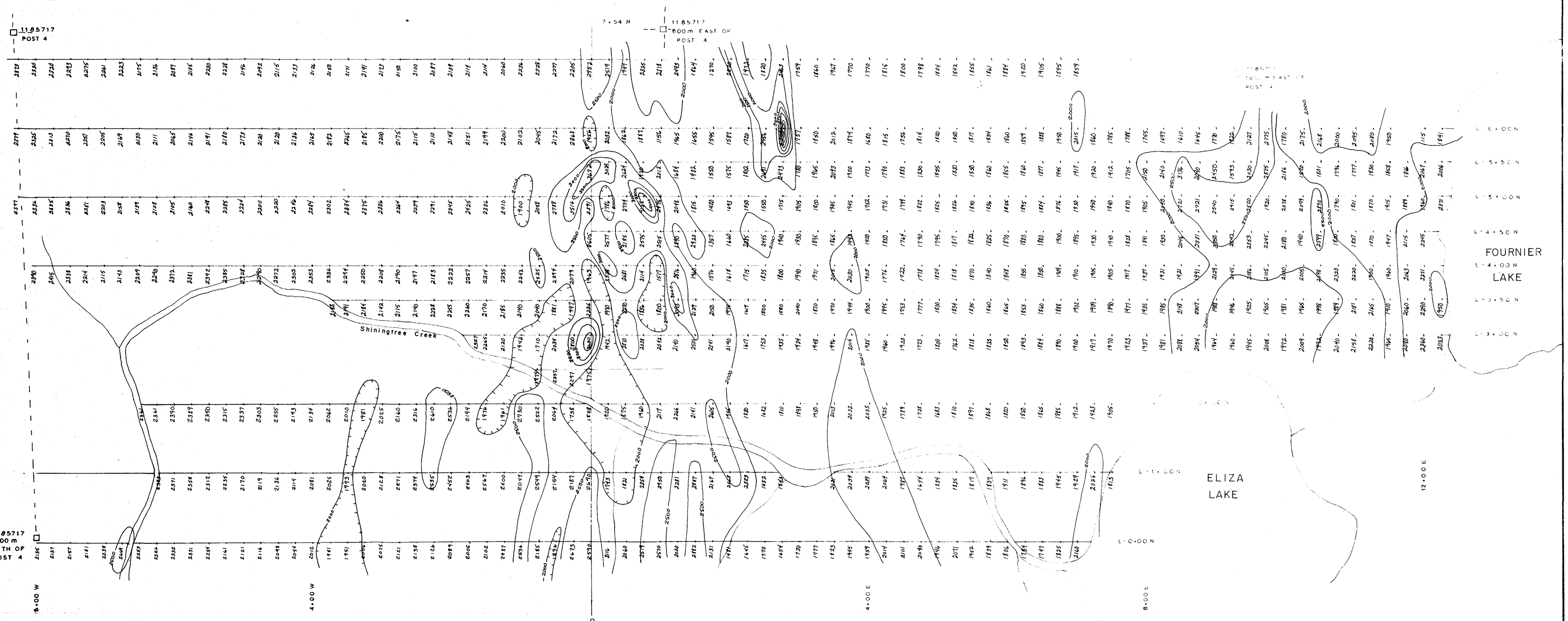
GEOLOGICAL SURVEY

2.14990

50 25 0 50 100 200 metres

EXECUTED BY Pat Donovan
DRAWN BY Annick Samovojski
INTERPRETED BY Pat Donovan B.Sc

JULY 1992



NOTE: POWER LINE AT 10+25W on LINE 0+00

LEGEND

MAG CALCULATION OVER 56,000 GAMMAS

LESS	- 2000
2000	- 2500
2500	- 3000
3000	- 3500
3500	- 4000
4500	- 5000
5000	- OVER

Pat Donovan
Leonard Property

LEONARD TOWNSHIP
SHINING TREE AREA ONTARIO

SCALE 1 : 2500

TOTAL FIELD MAGNETOMETER SURVEY 2.14990

INSTRUMENT: SCINTREX MP-2
OPERATOR: P. DONOVAN

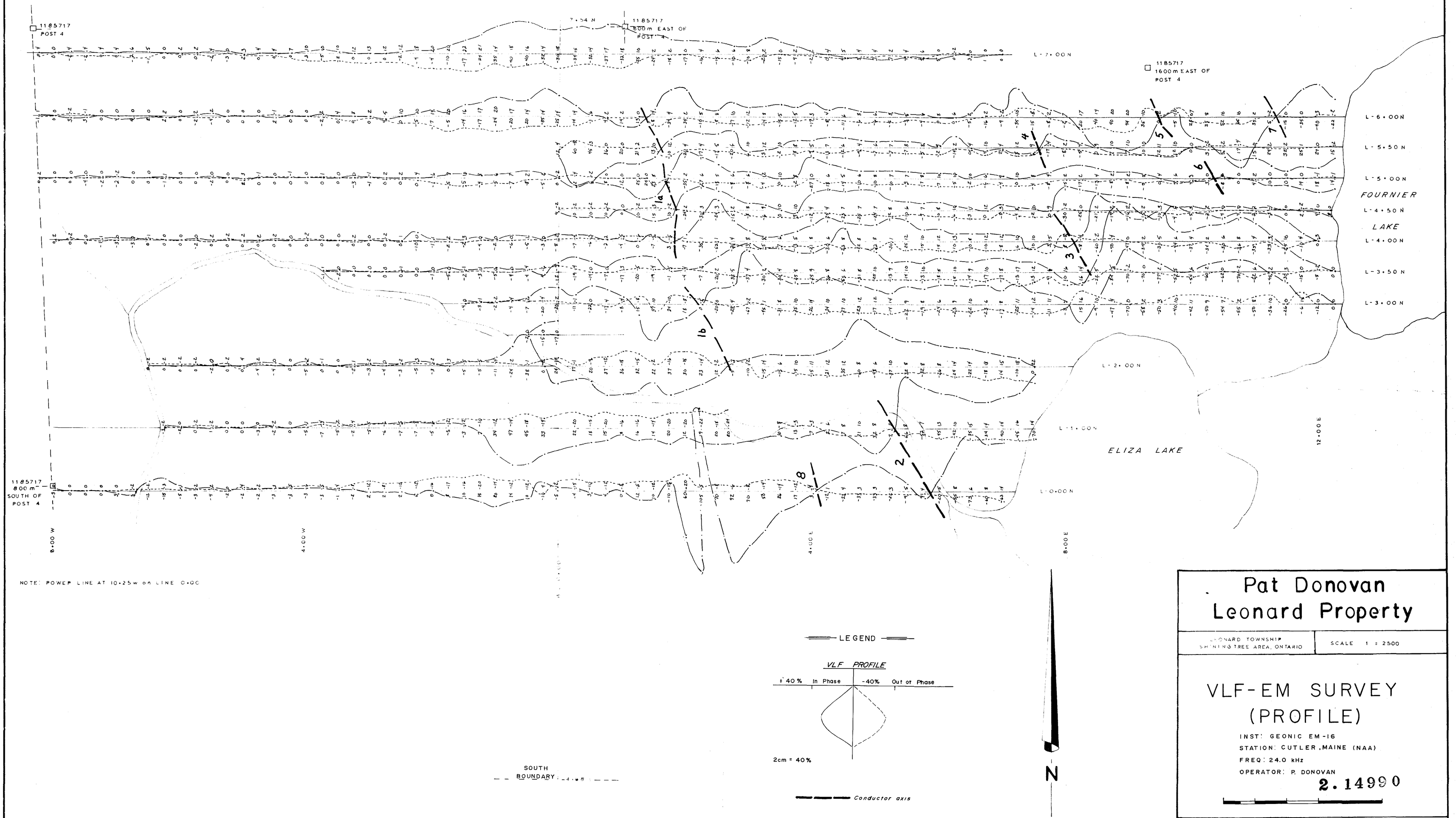
50 25 0 50 100 200 metres

EXECUTED BY PAT DONOVAN

DRAWN BY ANNICK SAMOVOJSKI

INTERPRETED BY PAT DONOVAN B.Sc.

JULY 1992



Pat Donovan
Leonard Property

LEONARD TOWNSHIP
SHINING TREE AREA, ONTARIO

SCALE 1 : 2500

VLF-EM SURVEY
(PROFILE)

INST: GEONIC EM-16
STATION: CUTLER, MAINE (NAA)
FREQ: 24.0 kHz
OPERATOR: P. DONOVAN

2.14990

EXECUTED BY PAT DONOVAN
DRAWN BY ANNICK SAMOVOJSKI
INTERPRETED BY PAT DONOVAN, B.Sc.

JULY 1992