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Penn-Lync Resources Ltd.
Gold-Copper Lead-Zinc Prospect
Catharine and Marter Townships
Larder Lake Mining Division
Ontario

Willowdale, Ontario,
February 20, 1987.

H. Grant Harper, P.Eng.
Economic Geologist.

Volume Label: Penn-Lync
Disk No.: 34-3
Filename: Titlpg2

Penn-Lync Resources Ltd.
Gold and Base Metal Prospect
Marter & Catharine Townships
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Introduction

Last year Penn-Lync Resources Ltd. optioned a group of six mining claims located in Marter and Catharine Townships, Larder Lake Mining Division, Ontario. The purpose of this report is to summarize the exploration work done on the property by previous developers and to recommend a program for its further development.

This report includes the results of covers VLF Electromagnetic and Magnetometic surveys carried out on a group of 6 claims held under option by Penn-Lync Resources Ltd. The elctromagnetic survey was done with a Ronka EM 16 VLF unit and the magnetic survey with a Scintrex MF1 Fluxgate magnetometer. The linecutting and survey work was done by E.M. Hall, geophysical surveyor of Toronto and the field results were plotted and interpreted by the writer. The 6 claims surveyed straddle the boundary between Catharine and Marter Townships, Larder Lake Mining Division, Ontario.

History and Development

This report is based on the following sources of information.

1. Geological Report No. 18, Catharine and Marter Townships, by James A. Grant; published by the Ontario Department of Mines, 1963.

2. Preliminary maps P2274A and P2276, Airborne electromagnetic and magnetic surveys published by the Ontario Geological Survey, 1979.

3. Electromagnetic and Magnetic surveys and reports thereon by J.E. Croxhall, P.Eng. 1977 and 1978; on file in the Ontario Assessment Files Records Office

4. The logs of 3 drill holes drilled in 1970 by R.I. Benner, P.Eng.; on file in the Ontario Assessment Files Records Office.

Property and location

The property straddles the boundary between Catharine and Marter Townships, Larder Lake Mining Division, Ontario. There are six staked mining claims which are numbered as follows:

Catharine Twp. - L897797 to L897799 inclusive being the South half of Lot 6, Concession 1. (2 claims)

Marter Twp. - L897794 and L897795 being the two northern quarters of the North half of Lot 6, Concession 6. (4 claims)

Access and Facilities

Access to the property is by vehicle via Highway 624 which links the towns of Larder Lake and Englehart. A secondary road leads northward from a point on the highway one-half mile south of the Marter - Catharine boundary. The secondary road swings west along the township boundary line. Access from this point is by walking although a minimum of work would open the road for ATV's in the summer and snow-mobiles in the winter.

Except for a picket line grid system there are no facilities of note on the property.

History and Development

The very early history of the property, namely the discovery of precious and base metals and the trenching done thereon is lost but they did exist prior to 1948 as evidenced by a report of July 30, 1948 by W.S. Savage, then the Resident Geologist, Kirkland Lake.

In 1970 4 drill holes were drilled by R.I. Benner, P.Eng.; 3 for Moncrieff Uranium Mines Ltd. and 1 for Mid-North Engineering Services Ltd. The 3 holes drilled for Moncrieff Uranium mines Ltd totalled 726 linear feet and their logs are available. No data is available on the Mid-North hole.

In 1977 J.E. Croxhall P. Eng. carried out a VLF Crone Radem Electromagnetic survey over the eastern part of the property. The following year he did a magnetic survey. Several conformable conductors were found, one of which appeared to have a close spatial relationship to the known mineralized zone. Other conductors might, in some cases, be attributable to overburden conditions. None of the conductors were checked by more sophisticated geophysical methods nor were any diamond drill tested.

General Geology

The townships of Marter and Catharine were mapped by James A. Grant but the property herein reported was never mapped in detail. The regional geology shows the claims to be located in a wide band of northerly striking Keewatin volcanics consisting of dacites, andesites, diabase, diorite and gabbro apparently all of volcanic flow origin. The mineralized zone occurs in association with a northerly striking, conformable, shear zone. The electromagnetic data available suggests that there may be parallel shear zones.

Economic Geology

The mineral occurrence is located on claim L897797 some 600 feet from the east boundary. According to Savage, the zone strikes N5W, dips 65 degrees east, and is mineralized over a one foot width. The mineralization consists of massive and disseminated streaks of pyrite with associated chalcopyrite, sphalerite, minor pyrrhotite, and chert. The pyrite tends to be disseminated whereas the chalcopyrite tends to occur in narrow bands of massive mineralization.

The following grab sample results were reported by W.S. Savage.

Gold	Silver	Copper	Lead	Zinc
oz/T	oz/T	%	%	%
0.05	4.49	27.14	----	5.09
0.01	0.20	21.25	____	2.52
0.01	0.27	0.88	0.42	2.42
Tr	4.03	6.69	0.56	____

Subsequently, grab samples from the walls and dumps of pit collected by J.E Croxhall yielded the following results.

Gold	Silver	Copper	Zinc
oz/T	oz/T	%	%
0.02	1.38	6.34	1.89
0.02	1.20	4.25	5.84

The three drill logs available indicate that mineralization was intersected in each hole with chalcopyrite reported in two holes. Other evidence of mineralization includes pyrite, sphalerite, calcite, quartz, fracturing, and brecciation. This mineralization evidence occurs over a strike length of approximately 600 feet although the holes are too widely spaced to take this as proof of continuity.

Geophysical Survey Results

VLF Electropmagnetic Survey

A broad and intense conductor runs N-S roughly parallel and along the baseline. It is referred to as Anomaly "A". The intensity of the anomaly strongly indicates the presence of abundant graphite or a talc-serpentine zone.

Anomaly "B" is located just off the west boundary of the property. It is not as intense as Anomaly "A" but there are a number of conductive zones between the two anomalies and therefore the entire area may be a major fault zone. The presence of several creeks and the anomalies that may result therefrom adds a further complication to interpretation.

Anomlay "C" is less distinct and much more variable in intensity than the other anomalies. However it has a fairly close spatial relationship to the known zone

of mineralization and to 2 of the 3 drill holes and therefore commands most attention.

Magnetic Survey

The magnetic intensity varies from a low of about 210 gammas to a high of 980 gammas with the bulk of the readings falling in the range of 340 to 460 gammas. The 500 gamma contour outlines one very large magnetic anomaly however it is quite possible that there are actually 3 separate but closely spaced anomalies which appear to comprise the one large anomaly. The large magnetic anomaly tends to bevel Electromagnetic Anomaly "A" from west to east.

Correlation of Geophysical and Geological Data

The mineralized pit was accurately located on the map by field observation. However, the three diamond drill holes were located from pre-existing maps and their plotted locations may be quite inaccurate. The location and results of the fourth drill hole are unknown.

One of the drill holes (MC-3) was drilled under the showing so its location is probably fairly accurate. The reach of the hole was only 112 feet. Although brecciation and fracturing are reported in the drill log there is no mention of valuable mineral. Some pyrite is reported. Survey lines pass approximately 200 feet north and 200 feet south of the mineralized pit. There is no significant magnetic effect. The electromagnetic survey shows anomalous conditions which appear to lie slightly east of the pit and would not have been intersected by MC-3. No samples or assays are reported.

Drill Hole MC-2 was drilled approximately 300 feet north of MC-3 and parallel to it. Its reach was 187 feet. It encountered a small amount of chalcopyrite about midway down the hole. Most of the fracturing, cementing, and pyritization occurred at the bottom of the hole. As in the previous drill hole, the conductive zone appears to lie to the east of the drill hole bottom. There is no significant magnetic effect. No samples or assays are reported.

Drill hole MC-4 was drilled on an unknown target. Its plotted location is simply a guesstimate. Its azimuth of 340 degrees indicates that it crossed very little of the formation. The hole encountered faulting at 62 feet where the water was lost. From 75 to 305 feet (hole bottom) it cut basic lava with scattered pyrite and chalcopyrite. From 106 to 195 feet the lava was fractured and had many hematite stained slips. From 192 to 195 the hole interesected quartz, chlorite, pyrite, sphalerite and mud. It is quite clear that the ground intersected was faulted. The hole, as plotted, was collared just off the 700 gamma contour and lies entirely within the 500 to 700 gamma range. The collar appears to be some 200 feet northwest of the strongest magnetic readings on the property and appears to drill **away** from those high readings. No samples or assays are reported.

Conclusions and Recommendations

1.- The geology of the property should be mapped. This might allow the drill

holes to be more accurately located and would assist in the interpretation of the geophysical results relative to the mineralization. Extra picket lines should be cut at 100 foot intervals between 4N and 16N and from 10+00E to the east boundary.

2.- The eastern edge of the property, that is from 10+00 E to the boundary should be surveyed by Max-Min methods to improve the quality of the geophysics. Also Lines 0+00 amd 4N should be surveyed by Max-Min from 8+00E to 8+00 W.

3.- It is likely that the above work would clearly define one or more diamond drill targets.

Cost Estimates

1.	Linecutting: as required	$ 1500.
2.	Geological mapping, including drafting	5000.
3.	Max-Min Survey, including interpretation	2000.
	Total	$ 8500.

Reliable diamond drill cost estimates would be possible upon completion of the above work.

This report is respectfully submitted.

REGISTERED PROFESSIONAL ENGINEER
MINING
H. C. HARPER
PROVINCE OF ONTARIO

H. G. Harper

Willowdale, Ontario.
February 20, 1987.

H. Grant Harper, P.Eng.,
Consulting Geologist.

**This report available on disk. PC-DOS; 5 1/4"; PC-Talk; QModem; 300 or 1200 baud. (416) 225 7412.

Volume Label: Penn-Lync
Disk No.: 6-4
Filename: CathVLFM

Land Management #84/87 2.9827

Ontario Ministry of Natural Resources

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

Instructions: – Please type or print.

Minir

31M13NW0064 2.9827 MARTER

900

Type of Survey(s)
VLF electromagnetic, + Magnetic

Claim Holder(s)
Penn-Lyne Resources Ltd.

Prospector's Licence No.
T879

Address
Box 2038 Suite 404 20 Eglinton Ave West Toronto M4R1K8

Survey Company
Harper Consulting Service Inc.

Date of Survey (from & to)
10 Day | 01 Mo. | 87 Yr. | 20 Day | 01 Mo. | 87 Yr.

Total Miles of line Cut
6.84

Name and Address of Author (of Geo-Technical report)
W.G. Harper, P.Eng. 314 Hendon Ave, Willowdale Ont M2N1B2

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	40
	Geophysical - Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	897794	60			
	897795	60			
	897796	60			
	897797	60			
	897798	60			
	897799	60			

LARDER LAKE MINING DIVISION
RECEIVED
FEB 23 1987
10:32a.m.

Total number of mining claims covered by this report of work. 6.

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded: 360

Date Recorded: FEB 23 1987

Mining Recorder: Acting

Date Approved as Recorded: 87.3.19

Branch Director:

Date: Feb w 187

Recorded Holder or Agent (Signature): W.G. Harper

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
W.G. Harper, P.Eng 314 Hendon Ave, Willowdale, Ontario

Date Certified

Certified by (Signature)

File 2.9827

Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

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(s) VLF EM & Magnetic
Township or Area Catharine & Marter
Claim Holder(s) Penn-Lync Resources Ltd.
Box 2038 Suite 404 20 Eglinton Ave W. Toronto
Survey Company Harper Consulting Services Inc.
Author of Report N. G. Harper P. Eng.
Address of Author 317 Hendon Ave, Willowdale Ont.
Covering Dates of Survey Jan 10/87 To Feb 14/87
(linecutting to office)
Total Miles of Line Cut 6.84 miles

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	20
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Feb 14/87 SIGNATURE: N. G. Harper
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
L	897794
	897795
	897796
	897797
	897798
	897799

If space insufficient, attach list

TOTAL CLAIMS 6.

837 (5/79)

2.9827

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 640 Number of Readings EM = 1280 Mag = 640

Station interval 50 feet Line spacing 400 feet

Profile scale EM 1" = 30%

Contour interval variable

MAGNETIC

Instrument Scintrex MF 1 Fluxgate

Accuracy – Scale constant 10 γ max

Diurnal correction method Check back on base & control sheet hair

Base Station check-in interval (hours) ½ hr to 45 minute

Base Station location and value L00 - 0+00 4440 gammas

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration fixed horizontal & Vertical

Coil separation N/A

Accuracy ± 1%

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

Frequency @ Annapolis Md. NSS 21.4 kHz
(specify V.L.F. station)

Parameters measured Vertical In phase & out of phase components

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

Ontario Resources

(Geophysical, Geological, Geochemical and Expenditures)

Mining Act

Note: – Only days credits calculat... "Expenditures" section may ... in the "Expend. Days Cr." – Do not use shaded areas below.

Type of Survey(s): VLF electromagnetic, + Magnetic

Township or Area: Catharine & Marter

Claim Holder(s): Penn-Lyne Resources Ltd.

Prospector's Licence No.: T879

Address: Box 2038 Suite 404 20 Eglinton Ave West Toronto M4R1K8

Survey Company: Harper Consulting Services Inc.

Date of Survey (from & to): 10 Day | 01 Mo. | 87 Yr. | 20 Day | 01 Mo. | 87 Yr.

Total Miles of line Cut: 6.84

Name and Address of Author (of Geo-Technical report): W.G. Harper, P.Eng. 314 Hendon Ave, Willowdale Ont M2M 1B2

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	40
	Geophysical - Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	Geophysical - Magnetometer	
	Geophysical - Radiometric	
	Geophysical - Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
L	897794	60
	897795	60
	897796	60
	897797	60
	897798	60
	897799	60

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
✓	✓	
✓	✓	
✓	✓	
✓	✓	
✓	✓	
✓	✓	

Total number of mining claims covered by this report of work: 6.

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures: $ ____ + 15 = Total Days Credits: ____

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
Feb 10/87	W.G. Harper

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: W.G. Harper, P.Eng 314 Hendon Ave, Willowdale, Ontario M2M 1B2

Date Certified: Feb 10/87

Certified by (Signature): W.G. Harper

Catherine Twp.

Chamberlain Twp.

Bayly Twp.

Evanturel Twp.

VI

V

IV

III

II

I

12 11 10 9 8 7 6 5 4 3 2 1

Blanche River

Englehart R.

Wendigo L.

FLUME LINE

MARTER

S.R.O.

S.R.O. Withdrawn from Staking Sec 43 of the Mining Act, R.S.O. 1970

M.T.C. GRAVEL PIT 1175

M.T.C. GRAVEL PIT No. 709

M.T.C. GRAVEL PIT 745

GRAV FILE 2252

M.T.C. GRAVEL PIT No. 774

M.T.C. GRAVEL PIT 1271

GRAVEL FILE 15087

RAP

RA 8

THE TOWNSHIP OF MARTER

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.
ROADS	
IMPROVED ROADS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
WATER POWER LEASE	W.P.L.

NOTES

400' Surface Rights Reservation around all Lakes and Rivers.

Mining Claims on N. 1/2 Lot 1 Con 6
SW. 1/4 " 2 " 6
NW. 1/4 " 2 " 5
N. 1/2 " 1 " 5
will be exclusive of gravel purposes.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).

	Order No.	File	Date	Disposition
(R)		30852	19/10/71	S.R. & M.R.
(L)	W.11/76 Rescinded	31283	23/3/76	S.R.O.

NRW 17/80-SR rescinded Jan 17/84 prospecting staking out, Crown Land Waste Disposal, Sit

JUN 6 1986

#7

PLAN NO. – M-543

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

G.E.M.

McELROY TP.

PACAUD TP.

SKEAD TP.

VI

V

IV

III

II

I

12 11 10 9 8 7 6 5 4 3 2 1

47°58'08" Approx.

79°45'36"

NOTES

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

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY

S.R.O. – SURFACE RIGHTS ONLY

M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File

LEGEND

PATENTED LAND	Ⓟ or ●
PATENTED FOR SURFACE RIGHTS ONLY	◒
LEASE	L
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

JAN 20 1987

CATHARINE

DISTRICT OF
TIMISKAMING

LARDER LAKE
MINING DIVISION

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

DR. K.K.I.

DATE JULY 1986

PLAN NO. G-3615

Ontario Ministry of Natural Resources

Ministry of Northern Development and Mines

LOT 6

CON. 1

CON. 6

CATHARINE TWP.

MARTER TWP.

BASELINE

L24N

L20N

L16N

L12N

L8N

L4N

L0O

L4S

L8S

L12S

L897799

L897798

L897796

L897797

L897795

L897794

N

Au Ag Cu Zn Showing

Instrument
Scintrex Fluxgate MF1
△ Control Station

LEGEND

over 800 Gammas

700 to 800 Gammas

500 to 700 Gammas

under 500Gammas

LOCATION MAP
1" = 1320'

Lot 8 | Lot 7 | Lot 6 | Lot 5

CON. 1

CON. 6

Property

Highway 624

0 200 400 600 800
FEET

Penn-Lync Resources Ltd.

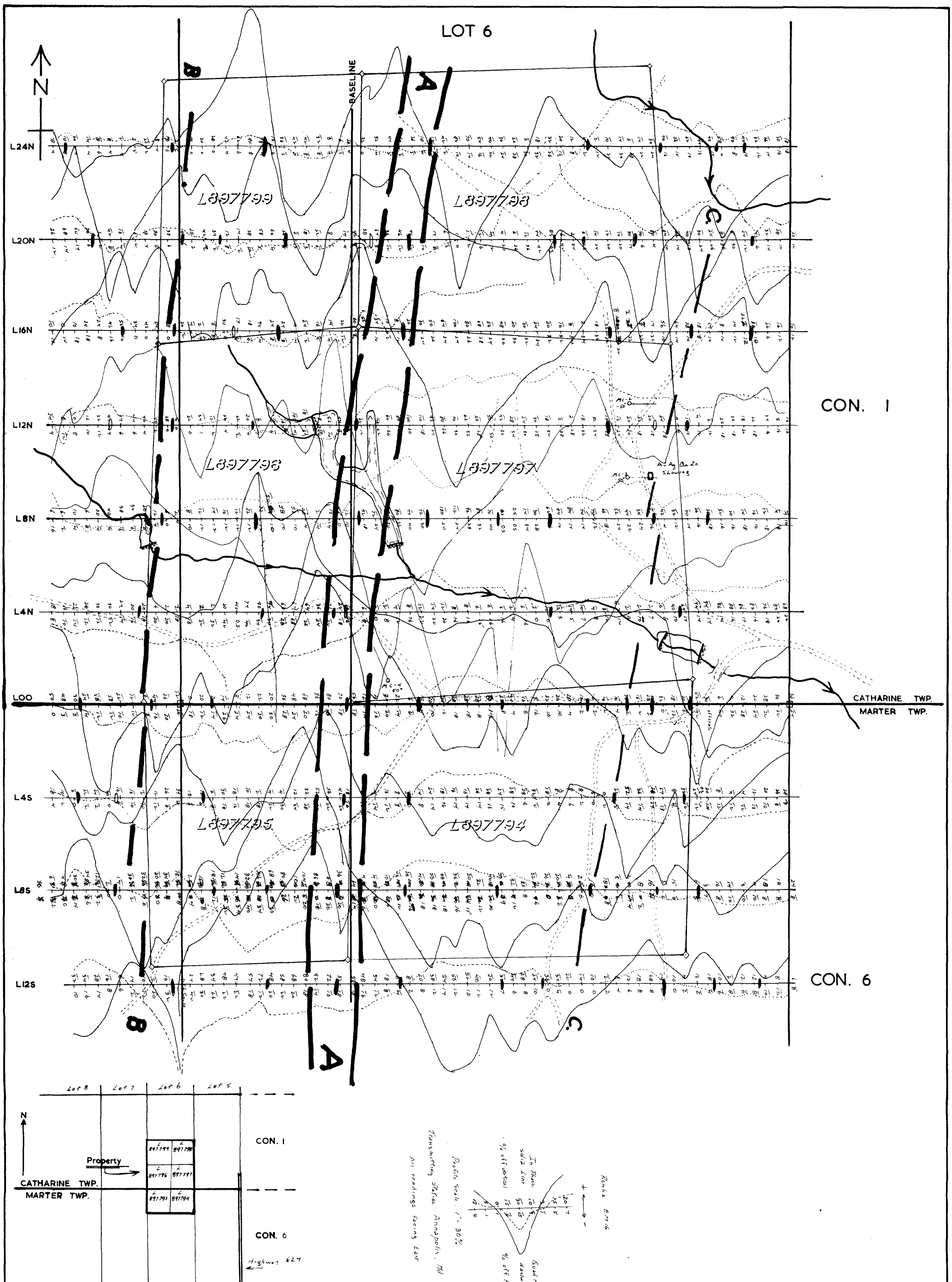
Catharine & Marter Townships

Magnetic Survey

REGISTERED PROFESSIONAL ENGINEER
MINING
H. C. HARPER
PROVINCE OF ONTARIO

Feb 10/87
H.C. Harper

2.9827



LOCATION MAP
1" = 1320'

0 200 400 600 800
FEET

Transmitting Station: Annapolis, Md
All readings facing East

Profile Scale: 1" = 30%

In Phase
Split Line

% off vertical

% off horizontal

Quad reference axis

Ronka EM16

Penn-Lync Resources Ltd.

Catharine & Marter Townships

Electromagnetic Survey

29827

Feb/87
H.G. Hopp