

NAIRN-00 16-A1

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PROJECTS UNIT

GEOPHYSICAL SURVEY
GOLDEN SABRE MINES LIMITED
NAIRN TOWNSHIP
SUDBURY DISTRICT
ONTARIO

January 30, 1975

J. D. McANNETT

The Directors
Golden Sabre Mines Limited
Suite 520
25 Adelaide Street East
Toronto, Ontario

Gentlemen:

The following report describes the results of an electromagnetic and partial magnetometer survey over a group of fifteen mining claims held by your Company and located in Nairn Township, District of Sudbury, Ontario. The field work for this survey was carried out during the period November 1st to 17th, 1974.

North-south traverse lines were cut at 400-foot intervals and the geophysical observations were made at 100-foot intervals along these lines. A geonics EM-16 instrument was used for the electromagnetic survey and the magnetometer readings were taken using a scintrex MF-1 instrument.

The electromagnetic survey showed the presence of five east-west conducting zones extending across the claims group. In most cases, the conductivity along the strike of these zones was very strong and although some influences from topographic conditions is suspected in places, much of this conductivity undoubtedly reflects underlying geological conditions such as shearing and the presence of graphite and possibly some sulphide mineralization.

The conducting zones all strike in a slightly north of east direction, parallel to the regional schistosity strike. The topography is fairly rugged with high outcrop areas forming ridges paralleling the regional schistosity. The conducting zones indicated by the electromagnetic survey, mostly occupy low topographic lineaments lying between the high outcrop ridges.

The magnetometer survey was confined to six claims, as the other nine were covered in 1955 by Mogul Mining Corporation. That

work showed a strong magnetic anomaly paralleling the schistosity in the south part of the present claims group. It is now recommended that Golden Sabre Mines Limited proceed with a limited drilling program to test some of the stronger zones of conductivity.

PROPERTY, LOCATION AND ACCESS

The property covered by this report, includes fifteen mining claims located in the southwest corner of Nairn Township, District of Sudbury, Ontario. Nairn Township is twenty five miles west and slightly south from the City of Sudbury and the property is readily accessible as Highway 17 and the Sault Ste Marie line of the C.P.R. pass within a couple of hundred feet of the northwest corner of the group. The following claims are included in the property:

397794	NW 1/4 N 1/2	Lot 9	Conc. II
397795	NE 1/4 N 1/2	Lot 9	Conc. II
397796	SW 1/4 N 1/2	Lot 9	Conc. II
397797	SE 1/4 N 1/2	Lot 9	Conc. II
397801	NW 1/4 S 1/2	Lot 9	Conc. II
397800	NE 1/4 S 1/2	Lot 9	Conc. II
397806	SW 1/4 S 1/2	Lot 9	Conc. II
397805	SE 1/4 S 1/2	Lot 9	Conc. II
397798	SW 1/4 N 1/2	Lot 8	Conc. II
397799	NW 1/4 S 1/2	Lot 8	Conc. II
397802	NE 1/4 S 1/2	Lot 8	Conc. II
397804	SW 1/4 S 1/2	Lot 8	Conc. II
397803	SE 1/4 S 1/2	Lot 8	Conc. II
397807	NW 1/4 N 1/2	Lot 8	Conc. I
397808	NE 1/4 N 1/2	Lot 8	Conc. I

TOPOGRAPHY

The claims are located in an area of fairly rugged relief, with numerous outcrop hills and narrow intervening valleys. The north of east striking topographic lineaments conform with the strike of the underlying geological formations. Most of the area of the property is covered with a fairly heavy growth of small timber and there is considerable underbrush in the low areas between the outcrop ridges. Lake Tenho, a long narrow lake, extends across

about two and a half claims in the south part of the property.

GENERAL GEOLOGY

There is a considerable amount of geological information published on Nairn Township. The township was included on the Espanola Sheet published by the Geological Survey of Canada in 1938 on the scale of one inch to one mile. Preliminary Map P-48, published in black and white form on the scale of one inch to 1,320 feet by the Province of Ontario Department of Mines in 1958, includes both Nairn and Lorne Townships. This same sheet published in colour on the scale of one inch to one half mile, accompanies Geological Report No. 35, issued in 1965.

Nairn Township is largely underlain by Huronian sediments including quartzite, conglomerate, greywacke, arkose and various intergradations of these rock types. In places there is considerable alteration to schist. These sediments include a wide range of the Huronian Series and may even include some pre-Huronian sediments. This entire sedimentary series strikes slightly north of east and is intensely folded with the anticlinal and synclinal axis parallel to the strike of the formations. There is a great deal of regional faulting as well as localized faults, both conforming with and cutting across the formational strike.

Nairn Township is only about five miles west of the southwest end of the major structure generally referred to as the Sudbury Basin. Basic intrusives consisting largely of gabbro, metagabbro and diabase, and possibly closely related to the Sudbury Area Nickel Irruptive, form numerous dikes and sills throughout Nairn Township. Small occurrences of sulphide mineralization, often

carrying appreciable values in nickel, copper, cobalt, silver and gold are commonly associated with these basic intrusives.

The claims group discussed in this report is largely underlain by sediments of the Huronian Series. Two bands of meta-gabbro about one thousand feet in width, strike in a north of east direction across the property. Three regional faults conforming with the north of east strike of the sediments and one fault striking just west of north and normal to the sedimentary strike, occur on the claims group.

Preliminary Map P-48, and the coloured version, Map No. 2062, both show two occurrences of sulphide mineralization on the property. One is located in the south central part of Lot 8 Concession II and the other in the west central part of Lot 9 Concession II. A third sulphide zone is located immediately south of the claims group, in the northwest corner of Lot 9, Concession I. All three occurrences are described in Geological Report No. 35, which accompanies Map No. 2062, Nairn and Lorne Townships. The Lot 9 Concession II showing is described as a north-south sulphide vein, lacking quartz or carbonate gangue, three feet wide at the widest point and pinching out completely within twelve feet. A grab sample of the material reportedly assayed 0.94 percent nickel and 0.74 percent copper.

The Lot 8 Concession II showing is described in part in Geological Report No. 35 as follows: A long north-south slab of amphibolite, a metasediment, was faulted south into metagabbro by the Tenho Lake Fault. The adjoining "Nipissing" metagabbro is chilled against the amphibolite, indicating that the faulting occurred during gabbro intrusion. The amphibolite contains dis-

minated pyrite, chalcopyrite and pyrrhotite. Traced by the author along a strike length of 400 feet, the amphibolite is almost ten feet wide. It does not continue into the olivine gabbro sill to the south. (end of quote). Report No. 35 also lists the assays for five samples taken from the two trenches on this zone, by Hopkins Exploration Consultants. These assays show values as high as 1.25 % combined nickel and copper across a width of 8.0 feet.

GEOPHYSICAL SURVEY

A geophysical survey, consisting of electromagnetic work over the entire fifteen claims and magnetometer coverage of six of the claims, was carried out during the period November 1st to 17th, 1974. North-south picket lines were cut at 400-foot intervals to provide control for this work. The geophysical observations were made at 100-foot intervals along these lines. A Geonics EM-16 instrument was used for the electromagnetic survey and a Scintrex MF-1 magnetometer was used for the magnetic readings. The remaining nine claims were included in a magnetometer survey conducted over a large block of ground in 1955 by Mogul Mining Corp.

The electromagnetic work showed five conductor extending in a slightly north of east direction through the claims group and conforming with the formational and schistosity strike. In places, the survey showed very strong conductivity associated with these zones. The anomalies mostly follow low topographic lineaments formed by sharp depressions between high ridges of outcrop area. For this reason, some topographic influences on the Geonics EM-16 readings are very possible but the high conductivity also probably reflects underlying geological conditions such as strong shearing,

graphite and possibly some sulphide mineralization.

The magnetometer survey was confined to the six claims forming the northwest part of the property. The readings were not high and varied within a very narrow range. Two of the electromagnetic anomalies occur within this area but the magnetometer survey did not show any relatively higher readings along the conducting zones. A very high magnetic anomaly, indicated in the work carried out by Mogul Mining Corporation in 1955, extends in a north of east direction through the extreme south part of the present claims group and conforms with the formational and schistosity strike. This magnetic anomaly coincides fairly well with an electromagnetic conductor delineated in the survey discussed in this report.

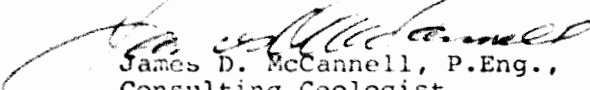
CONCLUSIONS AND RECOMMENDATIONS

The electromagnetic survey indicated some strong conductivity on the claims group but present and previous magnetometer work only showed the presence of one strong magnetic anomaly. The writer's report on this property dated August 16th, 1974, recommended some I.P. work as a second stage of an exploration program on the ground. The electromagnetic survey has shown the presence of so much conductivity on the claims, that it would almost require a complete coverage of the claims group by the I.P. method which would be quite costly and undoubtedly diamond drilling would still have to be carried out as a final check of at least some of the anomalous zones. It is therefore recommended that a minimum of one thousand feet of diamond drilling be done as the second phase with three holes being drilled in the most geophysically and geologically favourable areas as determined with the data now on hand.

(7)

Sulphide mineralization consisting of pyrite, pyrrhotite and chalcopyrite are known to occur in the immediate area and associated with similar rock types as have been observed in the vicinity of the conducting zones. As the matter stands now, there is no information available to definitely establish the reason or reasons for these strong conductors on the claims group and the knowledge gained from the limited diamond drilling recommended above will greatly assist a further interpretation of the electromagnetic results. The cost of the proposed one thousand feet of diamond drilling will be approximately fifteen thousand dollars.

Respectfully submitted,


James D. McCannell, P.Eng.,
Consulting Geologist.



Toronto, Ontario
January 13, 1975.
jc



Ministry of Natural Resources

File 2-1717

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.

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PROJECTS UNIT

Type of Survey(s) EM and Magnetometer
Township or Area Nairn Township
Claim Holder(s) H. Shlesinger (Golden Sabre Mines)
Suite 520 - 25 Adelaide St. E Toronto
Survey Company Exchange Mining Holdings Ltd.
Author of Report James D. McCannell p. Eng.
Address of Author 326 Adelaide St. W. Toronto, Ont.
Covering Dates of Survey Nov. 1, 1974 - Jan. 30, 1975
(linecutting to office)
Total Miles of Line Cut 19

MINING CLAIMS TRAVERSED

List numerically
MAG EM

(prefix)	(number)
✓	397794 ✓
✓	397795 ✓
✓	397796 ✓
✓	397797 ✓
	397798 ✓
	397799 ✓
✓	397800 ✓
✓	397801 ✓
	397802 ✓
	397803 ✓
	397804 ✓
	397805 ✓
	397806 ✓
	397807 ✓
	397808 ✓

If space insufficient, attach list

<u>SPECIAL PROVISIONS</u> <u>CREDITS REQUESTED</u>	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical <u>40</u>
ENTER 20 days for each additional survey using same grid.	Electromagnetic <u>20</u>
	Magnetometer <u>20</u>
	Radiometric _____
	Other _____
	Geological _____
	Geochemical _____

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

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

DATE: Feb. 20, 1975 SIGNATURE: *James D. McCannell*
Author of Report or Agent

Res. Geol. _____ Qualifications 63-2502

File No.	Type	Date	Claim Holder
<u>63-2633</u>	<u>mag-EM</u>	<u>1969</u>	<u>John Sabawski</u> <u>different instruments</u>
<u>63-164</u>	<u>mag-EM</u>		

TOTAL CLAIMS 15

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations EM 884 Mag. 364 Number of Readings EM 884 Mag. 364
 Station interval 100 feet Line spacing 400 feet
 Profile scale EM 1" = 40λ Mag 500λ contour interval _____
 Contour interval _____

MAGNETIC

Instrument Scintrex MF-1
 Accuracy - Scale constant + or - 20λ
 Diurnal correction method Base stations hourly
 Base Station check-in interval (hours) every hour
 Base Station location and value Base line at lines 4E, 12E, 20E and 28E

ELECTROMAGNETIC

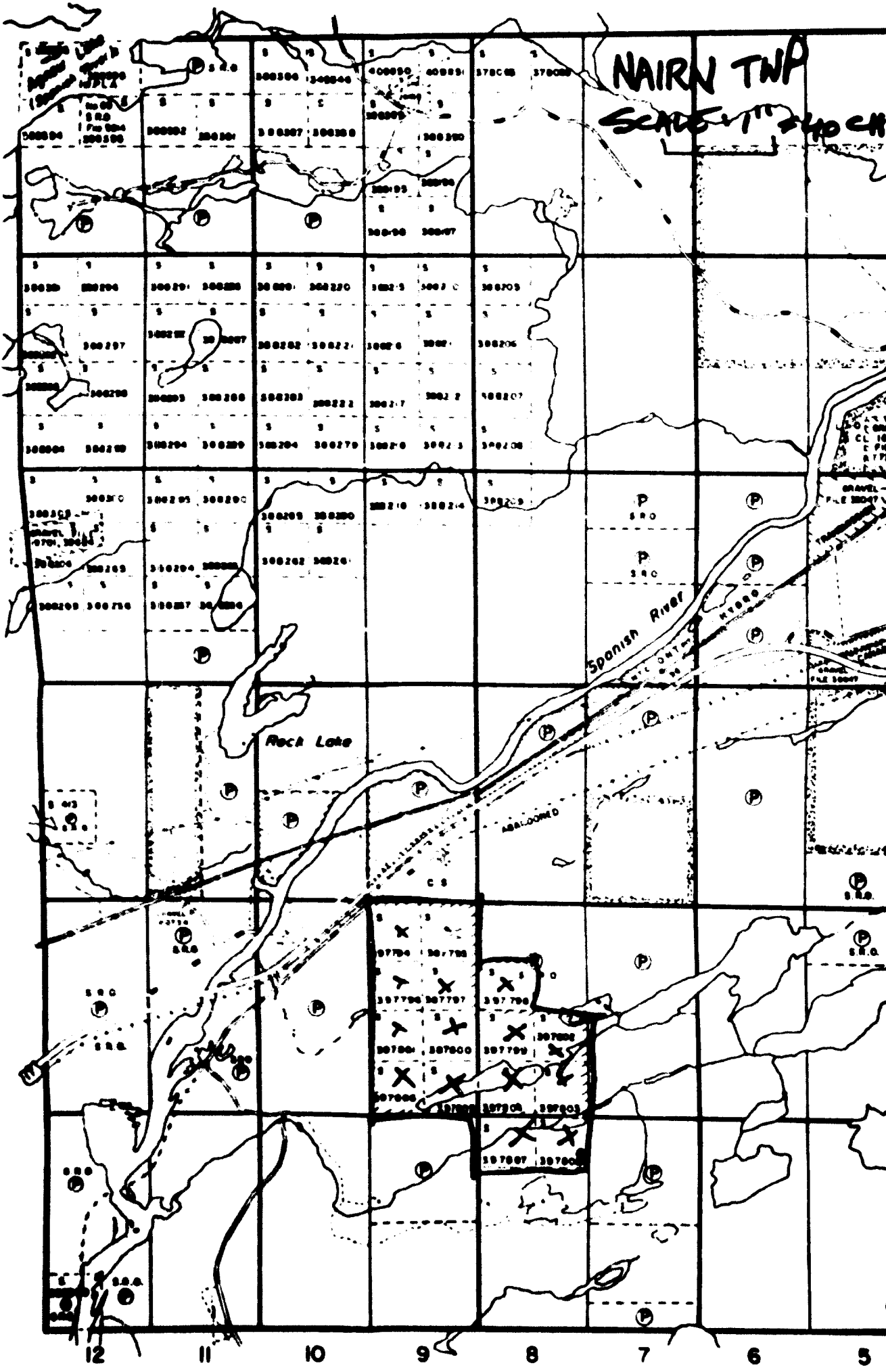
Instrument Geonics EM-16
 Coil configuration _____
 Coil separation _____
 Accuracy + or - 1%
 Method: Fixed transmitter Shoot back In line Parallel line
 Frequency 17.8 kHz, Cutler Maine
(specify V.I.F. station)
 Parameters measured in phase out of phase

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 _____

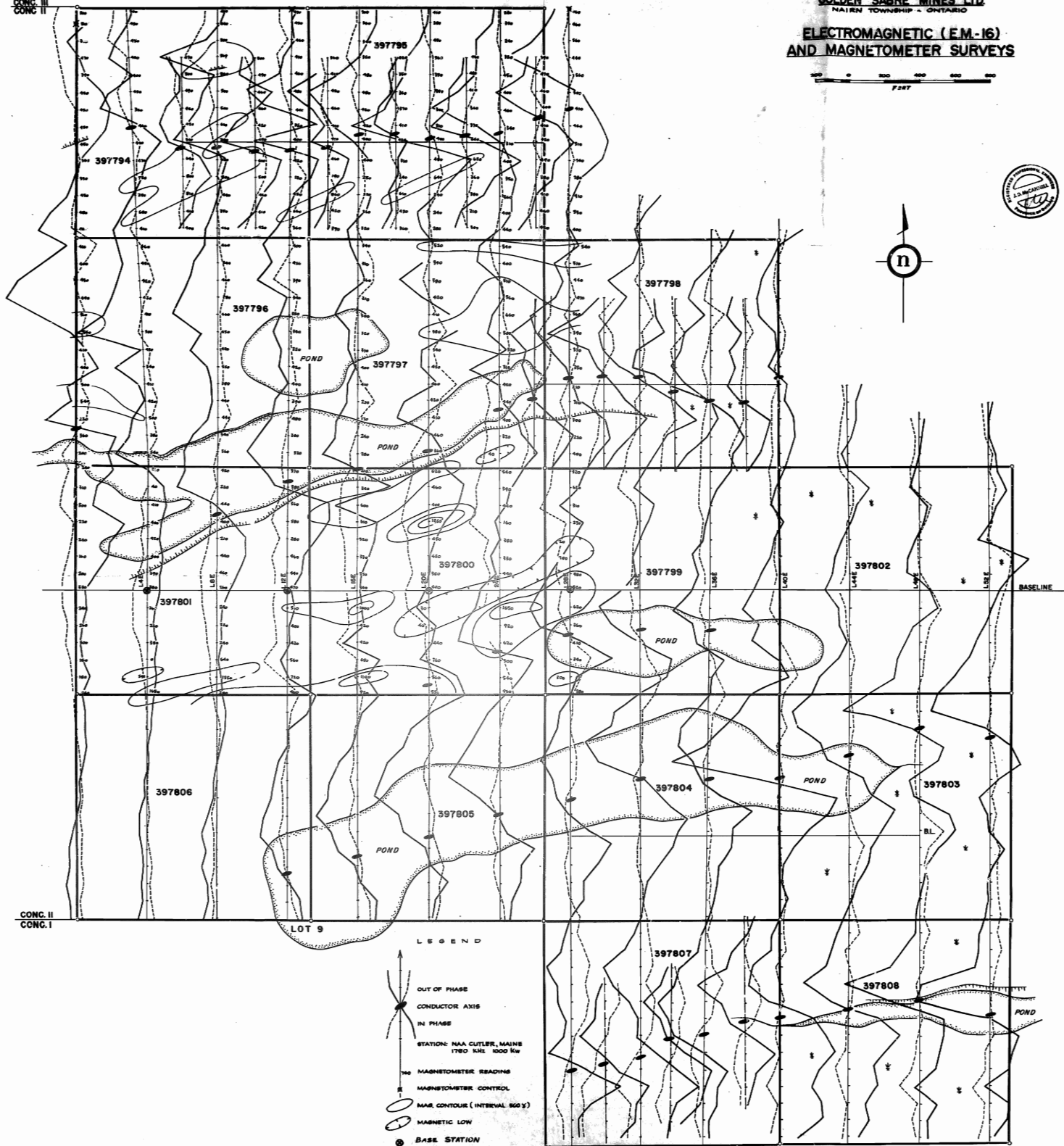
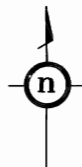


Foster Twp. (M-8:4)

CONG. III
CONG. II

GOLDEN SABRE MINES LTD.
NAIRN TOWNSHIP - ONTARIO

ELECTROMAGNETIC (E.M.-16)
AND MAGNETOMETER SURVEYS



CONG. II
CONG. I

LEGEND

- OUT OF PHASE
CONDUCTOR AXIS
- IN PHASE
CONDUCTOR AXIS
- STATION: NAA CUTLER, MAINE
(780 KHZ 1000 Kw)
- MAGNETOMETER READING
- MAGNETOMETER CONTROL
- MAG. CONTOUR (INTERVAL 500 G)
- MAGNETIC LOW
- BASE STATION

Scale 1" = 40%

NAIRN-0016-A1-9
1975