



32D04SE0816 2.5243 HEARST

010

NOV 29 1982

**MINING LANDS SECTION**

REPORT ON  
GEOLOGICAL SURVEY  
SKEAD AND HEARST TOWNSHIPS, ONTARIO

by

R.A. MacGregor, P. Eng.

November 22, 1982

### I. INTRODUCTION

A geological survey was carried out on a group of claims in the south-east part of Hearst Township and the north-east part of Skead Township during the latter part of 1981 and the summer of 1982. Results are plotted on the enclosed maps.

### II. LOCATION, ACCESS AND OWNERSHIP

The property is located in the south-east part of Hearst Township and the north-east part of Skead Township. There are 24 claims numbered L522792 to 522793; L531364 to 531366; L532348 to 532352; L532819 to 532820; L532835 to 532837; L545046 to 545051 all inclusive and L531370; L545054 and L545954. The claims are recorded in the name of Superior Northwest Inc., Box 1110, Sault Ste. Marie, Ontario.

The claims may be reached by following cut lines east from secondary Highway 624 about 6 miles south of Larder Lake, Ontario or by a trail which leads south along the east side of Sharp Creek from the bridge over Sharp Creek on the Martin-Bird road. The Martin-Bird road is a poor gravel road running east from Highway 624 about 5 miles south of Larder Lake.

### III. PREVIOUS EXPLORATION

The claims have been explored by surface work in the past as evidenced by pits scattered over the claims and seen in the geological survey. A few old pipes and drill rods were seen in the bush, evidence that drilling may have been carried out in the past. There are no records available to the author on this past work.

#### IV. TOPOGRAPHY

The major part of the property is covered by Pleistocene drift, gravel and swamp. Rocky hills with cliffs of 50 to 100 feet occur along the creek margins particularly in areas of Cobalt sediments or ultramafic volcanics. The cliffs probably represent fault scarps. Rock exposure is good in areas of Cobalt sediments and some porphyry outcrop, over much of the remaining area it is very poor. A large part of the claims are covered with drift, swamp or beaver ponds with scattered very small out-crops in some of the higher areas. The property is covered with a dense second growth of poplar, birch, alder and wild cherry with black spruce in the more swampy parts. With this is a thick growth of underbrush which makes the location of small outcrops difficult. A number of beaver ponds, or now dry beaver meadows cover many of the stream courses.

#### V. MAPPING AND SURVEY PROCEDURE

A baseline was laid out across the property at an Azimuth of approximately  $365^{\circ}$ . Crosslines were cut at 400-foot intervals perpendicular to the baseline north-east and south-west. The picket lines were chained and picketed every 100 feet. The pickets were marked with fluorescent red paint for easier observation. Trial lines were run east and west from the picket lines by pace and compass in search of poorly exposed outcrop. All outcrops were noted in a field book as to rock type and distance from picket lines. This information was then plotted on a 1" = 400' scale plan.

## VI. GENERAL GEOLOGY

The general geology of Hearst Township has been described by J.E. Thomson <sup>(1)</sup>. The area is underlain by early Precambrian volcanics, sedimentary rocks and intrusives. The early Precambrian rocks are overlain in places by later middle Precambrian sediments.

Thomson classified the volcanic rocks as Keewatin and sediments as overlying Temiskaming. Both these rocks were cut by later Algomian intrusives. A group of diorite, gabbros and serpentized peridotites are classified as Post Keewatin intrusives. The geological succession of the area as proposed by Thomson is given in the "Table of Formations".

From the mapping, the sediments appear to be related to the volcanics and are probably the same relative age. If this is correct, they should not be correlated with the Temiskaming series.

## VII. PROPERTY GEOLOGY

The main rock types occurring on the property are fine grained greywacke grading to conglomerate in places and with graphitic interbeds, mafic to ultramafic volcanics and on the east side a large porphyritic body. Through the central part the older rocks are overlain by younger cobalt series conglomerates, which rise often as bare outcrop or steep cliffs above the surrounding swampy area. From recent mapping it is now believed that the sediments are of the same age as the volcanics and are interbedded in places. Felsic to ultramafic intrusives

(1) J.E. Thomson Geology of Hearst & McFadden Townships  
O.D.M. Vol. 56 pt. 8, 1947

TABLE OF FORMATIONS

QUATERNARY

Recent and Pleistocene: Clay, sand, gravel  
Great unconformity

PRECAMBRIAN

Keweenawan or Matachewan: Diabase

Intrusive contact

Huronian (Cobalt Series) Conglomerate, greywacke, arkose  
slate, quartzite.

Great unconformity

Algoman: Syenite; syenite porphyry; granite;  
granite porphyry; felsite; aplite;  
lamprophyre; basic syenite;  
hornblende syenite; hornblende  
diorite; amphibolite, hornblendite.

Intrusive contact

Temiskaming: Fine-grained sediments; greywacke,  
arkose, slate, iron formation.  
Conglomerate with interbedded  
greywacke.

Great unconformity

Post-Keewatin: Diorite, diabase, gabbro, serpen-  
tinized peridotite.

Intrusive contact

Keewatin: Early Intrusives: Quartz porphyry,  
feldspar porphyry, dacite porphyry.

Basic and Intermediate Volcanics:  
Greenstone, pillow lava; diabasic,  
dioritic, and gabbroic lava, frag-  
mental lava, agglomerate, pyroclas-  
tics, dacite, talc-chlorite schists,  
andesite, tuff, sheared basic lava.

Acid Volcanics: Rhyolite, cherty  
tuff, rhyolite tuff, tuff agglom-  
erate, fragmental lavas, trachyte.

VII. Property Geology (Continued)

cut both the metasediments and volcanics. The late middle Precambrian sediments which are mostly conglomerates probably lie near the base of the section. The table of formations as proposed for this survey is given in "Table of Formations (2)".

Carbonatized rocks were found in a number of places along Sharp Creek. They may be related to the faulting along the creek valley or the ultramafic volcanics which outcrop to the east of the creek.

VIII. CONCLUSIONS

The geological survey shows a sedimentary-volcanic sequence of rocks intruded by syenite and porphyry. Strongly carbonatized rocks were noted in a number of places, as well as porphyries carrying several percent of pyrite. Some preliminary rock geochemical analysis for gold shows low but anomalous gold assays from the carbonate rocks and pyritized porphyrys. Further prospecting should be carried out in the carbonate zones and porphyrys in the search for higher grade assays.

Respectfully submitted



November 22, 1982

R.A. MacGregor, P. Eng.

TABLE OF FORMATIONS (2)

MIDDLE PRECAMBRIAN

- 6 Cobalt Sediments  
(a) Conglomerate  
(b) Greywacke, Argillite  
  
Unconformity

EARLY PRECAMBRIAN

- 5 Felsic Intrusives  
(a) Syenitic  
(b) Porphyry  
  
Intrusive Contact
- 4 Intermediate to Ultramafic Intrusives  
Basic syenite, lamprophyre, diorite  
gabbro  
  
Intrusive contact
- 3 Metasediments feldspathic wacke, argillite  
minor graphitic slate conglomerate
- 2 Mafic and ultramafic metavolcanics  
dark green to black, grey, basalt,  
pillow breccia, flows
- 1 Felsic metavolcanics, buff to light green  
rhyolite-dacite, tuff  
  
Carbonatized Rock

CERTIFICATE

I, Robert A. MacGregor, certify:

1. I am a Mining Engineer residing at 134 Palace Drive, Sault Ste. Marie, Ontario. I have worked as a mining engineer and geologist for the past 17 years.
2. I am a member of the Association of Professional Engineers of the Province of Ontario and a member of the Canadian Institute of Mining and Metallurgy.
3. I attended Queen's University for two years in the Mining-Geology course.
4. I personally carried out or supervised the field work on the subject claims.

Nov. 22/82.  
Date



R.A. MacGregor





Type of Survey(s)

Radio-metric and Geological #326

Claim Holder Superior Northwest Inc.

320045E0816 2.5243 HEARST

1-020

Address P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7

Survey Company: Colex Explorations Inc; Date of Survey (from & to): Day 06, 82 to Day 09, 82; Total Miles of line Cut: 15.1

Name and Address of Author (of Geo-Technical report): R.A. MacGregor, 134 Palace Dr. Sault Ste. Marie, Ontario S5h5

Credits Requested per-Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Table with columns: Special Provisions, Geophysical, Days per Claim, Man Days, Airborne Credits. Includes handwritten entries like '20 6K' and '40'.

Table with columns: Mining Claim Prefix, Mining Claim Number, Expend. Days Cr. Lists claim numbers from 522789 to 545054.

RECEIVED

OCT 19 1982

MINING LANDS SECTION

LARDER LAKE MINING DIV. RECEIVED SEP 27 1982 AM 7 18 19 10 11 12 1 2 3 4 5 PM

Expenditures (excludes power stripping)

Form for Expenditures and Instructions. Includes a calculation box: Total Expenditures \$ / 15 = Total Days Credits.

see revised statement Total number of mining claims covered by this report of work. 16

For Office Use Only. Includes Date Recorded: SEP 27 1982, Date Approved as Recorded, Mining Recorder, Branch Director.

Date: Sept. 24/82; Recorded by or Agent (Signature): [Signature]

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 Address of Author: Robert A. MacGregor, P.O. Box 1110, Sault Ste. Marie, Ontario P6A 5N7

Date Certified: Sept. 24/82

Certified by Signature: [Signature]



**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) Geological  
 Township or Area Skead and Hearst  
 Claim Holder(s) Superior Northwest Inc.  
 Survey Company Colex Explorations Inc.  
 Author of Report R.A. MacGregor  
 Address of Author 134 Palace Dr. S.S. Marie, Ont.  
 Covering Dates of Survey Nov./80 - Nov./82  
(linecutting to office)  
 Total Miles of Line Cut 21.0

MINING CLAIMS TRAVERSED	
List numerically	
L522792.....	L545054..... <small>(number)</small>
<small>(prefix)</small>	
L522793.....	L545954.....
L531364.....	
L531365.....	
L531366.....	
L532348.....	
L532349.....	
L532350.....	
L532351.....	
L532352.....	
L532819.....	
L532820.....	
L532835.....	
L532836.....	
L532837.....	
L545046.....	
L545047.....	
L545048.....	
L545049.....	
L545050.....	
L545051.....	
L531370.....	
<b>TOTAL CLAIMS <u>24</u></b>	

If space insufficient, attach list

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

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Nov. 22/82 SIGNATURE: *R.A. MacGregor*  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications 2.1102

<u>Previous Surveys</u>			
File No.	Type	Date	Claim Holder

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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



Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_  
Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_  
Profile scale \_\_\_\_\_  
Contour interval \_\_\_\_\_

MAGNETIC

Instrument \_\_\_\_\_  
Accuracy – Scale constant \_\_\_\_\_  
Diurnal correction method \_\_\_\_\_  
Base Station check-in interval (hours) \_\_\_\_\_  
Base Station location and value \_\_\_\_\_  
\_\_\_\_\_

ELECTROMAGNETIC

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)  
Parameters measured \_\_\_\_\_

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 \_\_\_\_\_



Jan 31/83

Mining Lands Comments


To: Geophysics

Comments

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
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To: Geology - Expenditures *W. E. Kustrea*

Comments

<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date <i>Mar 7/83</i>	Signature <i>W. E. Kustrea</i>
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To: Geochemistry

Comments

*LD*

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
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To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1982 12 06

2.5243

Mining Recorder  
Ministry of Natural Resources  
4 Government Road East  
P.O. Box 984  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

We have received reports and maps for a Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims L 522792 et al in the Townships of Skead and Hearst.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

DW:sc

cc: R.A. MacGregor  
134 Palace Drive  
Sault Ste Marie, Ontario  
P6B 5H7



Ministry of  
Natural  
Resources

*Aug 12/83*

Your file:

1983 07 21

Our file: 2.5243

Mr. George J. Koleszar  
Mining Recorder  
Ministry of Natural Resources  
4 Government Road East  
P.O. Box 984  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. F.W. Matthews at 416/965-1380.

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1316

R. Pichette:mc

cc: Superior Northwest Inc  
P.O. Box 1110  
Sault Ste. Marie, Ontario  
P6A 5N7

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

cc: Colex Explorations Inc  
134 Palace Drive  
Sault Ste. Marie, Ontario  
P6B 5H5

Encls:



Ministry of  
Natural  
Resources

Ontario

Notice of Intent  
for Technical Reports

1983 07 21

2.5243

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.



Ministry of  
Natural  
Resources

Notification of recording  
of assessment work credits

Recording Office  
4 Gov't Road East  
KIRKLAND LAKE, Ontario  
P2N 1A2

Lands Administration Branch  
Mining Lands Section  
Ministry of Natural Resources  
Room 1617, Whitney Block  
Queen's Park, Toronto  
M7A 1W3

522783

Date of recording of work: JULY 28, 1981

Recorded holder: SUPERIOR NORTHWEST INC.

Address: P.O. Box 1110, SAULT STE. MARIE, Ontario P6A 5N7

Township or Area: HEARST TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining claims	
Geophysical	L 522792 and L 522793	
Electromagnetic _____ days		
Magnetometer _____ days		
Radiometric _____ days		
Induced polarization _____ days		
Section 86 (18) _____ days		
Geological <u>40</u> days		
Geochemical _____ days	<i>See renewal statement</i>	
Man days <input type="checkbox"/>		Airborne <input type="checkbox"/>
Special provision <input checked="" type="checkbox"/>		Ground <input checked="" type="checkbox"/>

Notice to recorded holder:

Survey reports and maps in duplicate be submitted to the Lands Administration Branch, Toronto within 60 days from the date of recording of this work.

Reports and maps are being forwarded to the Lands Administration Branch with this letter.

\_\_\_\_\_  
Acting Mining recorder

c.c. Superior Northwest Inc.  
c.c. R. A. MacGregor  
134 Palace Drive





Ontario

Ministry of Natural Resources

Technical Assessment Work Credits

File 2.5243

1983 07 21

Recorded Holder: SUPERIOR NORTHWEST INC

Township or Area: HEARST TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Section <del>86(16)</del> <sup>77(19)</sup> _____ days <b>Geological</b> _____ <sup>40</sup> days <b>Geochemical</b> _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	L 522789 531364 to 66 inclusive 531370 532819-20 532836-37 545046 to 50 inclusive 545054 522792

Special credits under section ~~86(16)~~ <sup>77(16)</sup> for the following mining claims

20 DAYS CREDIT

L 532835  
L 522793

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section ~~86(16)~~ <sup>77(19)</sup>

77(19)

2.5243

1983 08 25

2.5243

Mining Recorder  
Ministry of Natural Resources  
4 Government Road East  
P.O. Box 984  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

RE: Geological Survey on Mining Claims L 522792 et al in  
the Townships of Skead and Hearst

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The Geological Survey assessment work credits as listed with my  
Notice of Intent dated July 21, 1983 have been approved as of  
the above date.

Please inform the recorded holder of these mining claims and  
so indicate on your records.

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: (416)965-1380

R. Pichette:mc

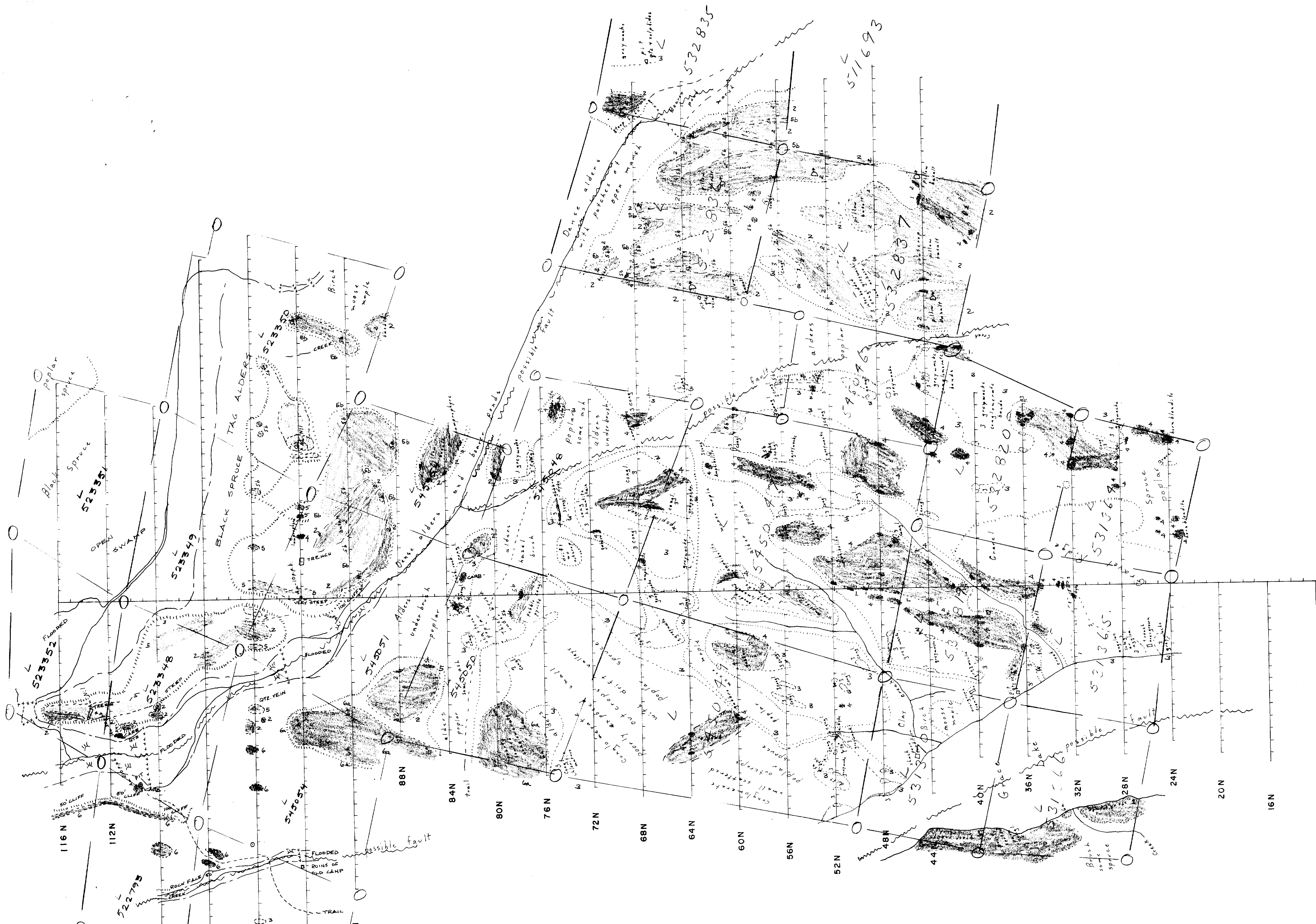
cc: Superior Northwest Inc  
P.O. Box 1110  
Sault Ste. Marie, Ontario  
P6A 5N7

cc: Resident Geologist  
Kirkland Lake, Ontario

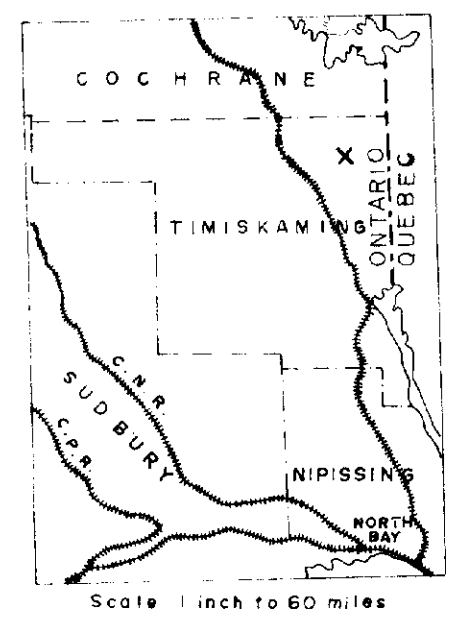
cc: Colex Explorations Inc  
134 Palace Drive  
Sault Ste. Marie, Ontario  
P6B 5H5

File no  
2.5243

L 522789	Geol.	545046	✓	✓	Claims have no notification L532348 ✓ 49 ✓ 50 ✓ 51 ✓ 52 ✓ L545051 ✓ L545954 ✓
531364v	✓	47	✓	✓	
65 ✓	✓	48	✓	✓	
66 ✓	✓	49	✓	✓	
70 ✓	✓	50	✓	✓	
532819 ✓	✓	54	✓	✓	
20 ✓	✓	522792v	✓	✓	
35 ✓	1/2	93 ✓	✓	1/2	
36 ✓	✓	18 claims			
37 ✓	✓				



- MIDDLE PRECAMBRIAN**
- 6 COBALT SEDIMENTS
    - a Conglomerate
    - b Greywacke, Argillite
  - UNCONFORMITY
  - EARLY PRECAMBRIAN**
  - 5 FELSIC INTRUSIVES
    - a Syenitic
    - b Porphyry
  - INTRUSIVE CONTACT
  - 4 Intermediate to Ultrabasic Intrusives
    - Basic syenite, lamprophyre, diorite gabbro
  - INTRUSIVE CONTACT
  - 3 Metasediments, feldspathic wacke, argillite, minor graphitic slate, conglomerate
  - 2 Mafic and ultramafic metavolcanics dark green to black, grey, basalt, pillow breccia flows
  - 1 Felsic metavolcanics, buff to light green rhyolite-dacite, tuff
  - Carb. Carbonatized rock
- LEGEND**
- AREA OF BEDROCK OUTCROP
  - BEDDING
  - LAVA FLOW
  - SWAMP
  - HIGHER GROUND
  - CLAIM LINE AND POST (APPROXIMATE)



GEOLOGICAL SURVEY  
 GRACE LAKE BASELINE  
 SKEAD & HEARST TOWNSHIPS  
 SCALE 1" = 400'

