



32D04SE0243 2.4156 HEARST

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SEP 28 1981

MINING LANDS SECTION

REPORT ON

GEOLOGICAL SURVEY

HEARST TOWNSHIP, ONTARIO

BY

R.A. MacGregor, P. Eng.

September 24, 1981

I. INTRODUCTION

A Geological survey was carried out on a group of claims in the south-east part of Hearst Township during the latter part of 1981. Results are plotted on the enclosed maps.

II. LOCATION, ACCESS AND OWNERSHIP

The property is located in the south-east part of Hearst Township. There are 15 claims numbered L522792 to 522793, L523348 to 523352, L545046 to 545051 all inclusive 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 high 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 outcrops 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 345° . 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 ⁽¹⁾. 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 serpentinized 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

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.

cut both the metasediments and volcanics. The later 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. Analysis of these rocks should be carried out in the search for gold.

Respectfully submitted



September 24, 1981

R.A. MacGregor, P. Eng.

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

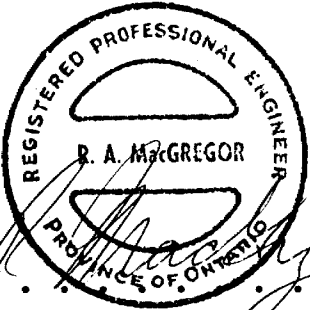
Carbonatized Rock

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.

Sept 24/81
.....
Date


.....
R.A. MacGregor

The Mining Act **2,4156**

Type of Survey(s) **ELECTROMAGNETIC** Township or Area **HEARST**
 Claim Holder(s) **SUPERIOR NORTHWEST INC.** Prospector's Licence No. **T-626**
 Survey Company **COLEX EXPLORATIONS INC.** Survey Dates (linecutting to office) Day **11** 80 Day **20** 81 Total Miles of line Cut
 Name and Address of Author (of Geo-Technical report) **R.A. MacGregor, 134 Palace Drive, SAULT STE. MARIE, Ont.**

Special Provisions Credits Requested

Instructions For first survey: Enter 40 days. (This includes line cutting) For each additional survey: using the same grid: Enter 20 days (for each)	Geophysical	Days per Claim
	- Electromagnetic	20
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	40 - 24156
	Geochemical	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
L	522792				
	522793				
	545051				
	545954				
	523348				
	523349				
	523350				
	523351				

these claims are covered on third report with form on this file

Man Days

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

Airborne Credits

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

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.

Report Completed

Date of Report **Sept. 21/81** Recorded Holder or Agent (Signature) *R.A. MacGregor*

For Office Use Only

Total Days Cr. Recorded **480** Date Recorded **Sept. 24, 1981** Mining Recorder *[Signature]*
 Date Approved as Recorded **Sept. 24, 1981** Regional Branch Director *[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 Postal Address of Person Certifying **R.A. MacGregor, 134 Palace Dr. Sault Ste. Marie, Ont.**

Date Certified **Sept. 21/81** Certified by (Signature) *R.A. MacGregor*

RECEIVED
OCT - 5 1981
MINING LANDS SECTION

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7 18 1981
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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 _____

2.415

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2.4156

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 Township of Hearst

The Geological Survey assessment work credits as listed
with my Notice of Intent dated October 29, 1982 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

A. Barr:sc

cc: Superior Northwest Inc
Sault Ste. Marie, Ontario

cc: Mr. R.A. MacGregor
Sault Ste. Marie, Ontario

cc: Resident Geologist,
Kirkland Lake, Ontario



Ministry of
Natural
Resources

Ontario

NOV ~~20~~ 21, 1982

1982 10 29

Your file:

Our file: 2.4156

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.

Yours very truly,

E.F. Anderson
Director
Lands Administration Branch
Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

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

A. Barr:sc

cc: Mr. R.A. MacGregor
Sault Ste Marie, Ontario

cc: Superior Northwest Inc
Sault Ste Marie, Ontario

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



Ministry of
Natural
Resources

Ontario

Notice of Intent
for Technical Reports

1982 10 29

2.4156

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.

Recorded Holder SUPERIOR NORTHWEST
Township or Area HEARST

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Section 86 (18) _____ days Geological <u>40</u> days Geochemical _____ 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 522792 523348 to 51 Inclusive

Special credits under section 86 (15a) for the following mining claims

20 days L 522793 545051 545954

No credits have been allowed for the following mining claims

<input type="checkbox"/> not sufficiently covered by the survey <input type="checkbox"/> 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(18)-60:

1982 10 29

2,4156

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

Dear Sir:

RE: Geological Survey submitted on Mining Claims
L 522792 et al in the Township of Hearst,

The assessment work credits for Claims 522792-93 with respect to your notification dated July 28, 1981 have been dealt with. Those same claims appear on a notification dated September 24, 1981 and seem to be a duplication. Please delete the 40 days Geological credits from your record sheets and inform Mr. R.A. MacGregor of this change.

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

A. Barrisc

Encls:

cc: R.A. MacGregor
Sault Ste. Marie, Ontario



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AUG - 6 1981

Ministry of
Natural
Resources

Notification of recording **MINING LANDS SECTION**
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

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 <i>these claims are covered on first notification on this file.</i>
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Section 86 (18) _____ days	
Geological <u>40</u> days	
Geochemical _____ days	
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.

J. Bettel
Acting Mining recorder
c.c. Superior Northwest Inc.
c.c. R. A. MacGregor
134 Palace Drive
SAULT STE. MARIE, Ontario
P6B 5H5

GEOTECHNICAL REPORT APPROVAL

MINING LANDS COMMENTS:

GEOPHYSICS

Handwritten notes and signatures in the background.

DATE:

APPROVED

SIGNATURE:

WISH TO SEE AGAIN WITH CORRECTION

GEOLOGY - EXPENDITURES

Ma Kuska

DATE:

Oct 13/82

APPROVED

SIGNATURE:

Ma Kuska

WISH TO SEE AGAIN WITH CORRECTION

GEOCHEMISTRY

DATE:

APPROVED

SIGNATURE:

WISH TO SEE AGAIN WITH CORRECTION

RETURN TO F. W. MATTHEWS, ROOM 6452 WHITNEY BLOCK (5-1380)

1981 09 29

2.4156

Mining Recorder's Office
Ministry of Natural Resources
P.O. Box 984
4 Government Road East
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 Township of Hearst.

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

Yours very truly

E.F. Anderonn
Director
Land Management Branch

Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3
Phone 416/965-3380

Joan Skura

cc: R.A. MacGregor
Sault Ste. Marie, Ontario



MIDDLE PRECAMBRIAN

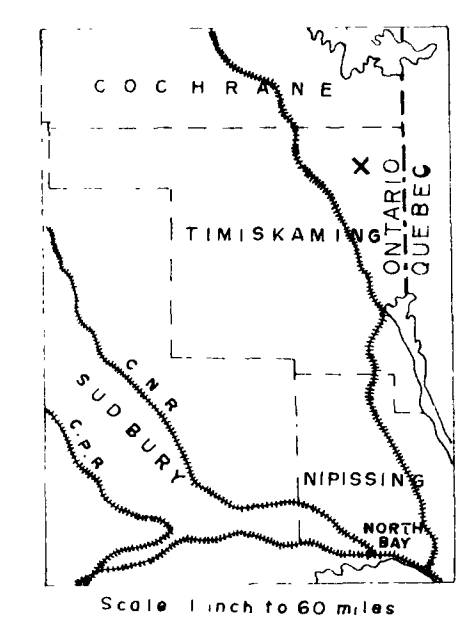
- LOBALT SEDIMENTS
 - a Conglomerate
 - b Greywacke, Argillite
- UNCONFORMITY

EARLY PRECAMBRIAN

- FELSIC INTRUSIVES
 - a Syenite
 - b Porphyry
- INTRUSIVE CONTACT
- Intermediate to Ultrabasic Intrusives
 - Basic syenite, lamprophyre, diorite gabbro
- INTRUSIVE CONTACT
- Metasediments: feldspathic wacke, mudstone, minor graphitic slate, conglomerate
- Mafic and Ultramafic Intrusives: dark green to black, gabbro, basalt, pillow breccia flows
- Felsic metavolcanics, buff to light green: rhyolite, dacite, tuff
- Carbonized rock

LEGEND

- AREA OF BEDROCK OUTCROP
- BEDDING
- LIVE FLOW
- SWAMP
- HIGHER GROUND
- CLAIM LINE AND POST (APPROXIMATE)



Geological Survey
 GRACE LAKE BASELINE
 SKEAD & HEARST TOWNSHIP
 SCALE 1" = 400'

24156