NORTHERN EXPLORERS LTD

ONTARIO MINERAL CLAIM S1237429

ASSESSMENT WORK REPORT

SAMPLING AND PHYSICAL TESTING OF MAGNETITE

Hess Township, NTS 41 I 12

by

N. Ralph Newson, M.Sc., P.Eng., P.Geo.
Ontario Prospector's License C38884

May 21, 2002

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1.0 INTRODUCTION

This report discusses work carried out on mineral claim S-1237429. The claim is registered in the name of Northern Explorers Ltd., 3142 Eastview, Saskatoon, Saskatchewan, S7J 3J4. It is in Hess Township, near the intersection of 81° 33' West longitude and 46° 43' North latitude, in NTS area 41 I 12 NE. A hand-held GPS unit gave a UTM (NAD 83) location of 5173930N, 457640E in Zone 17 at the mineral deposit on this claim. The claim is about 1 km north of the village of Cartier. (See Figures, 1 and 2.)

Access to the claim is by a bush road from Cartier. The road is lightly graveled, but does not appear to have been maintained recently. It easily accommodates a two-wheel-drive truck, and a passenger car could likely use it, with caution. Access is also possible from the railway right-of way on the west side of the property.

The work herein described consists of sampling of magnetite-bearing rock, and conducting preliminary tests to find out if it might be suitable for use in heavy aggregate to be used in dense concrete for shielding nuclear reactors. Northern Explorers has identified a customer for material meeting certain specifications. The sampling was supervised by the writer, who is the president and larger shareholder of the owner, assisted by E.A. Rose, P.Geo., C.P.G., of Sudbury. The sampling was carried out on November 8, 2001. The two reports by consultants who carried out the tests are dated May 10, 2002.

2.0 REGIONAL AND LOCAL GEOLOGY

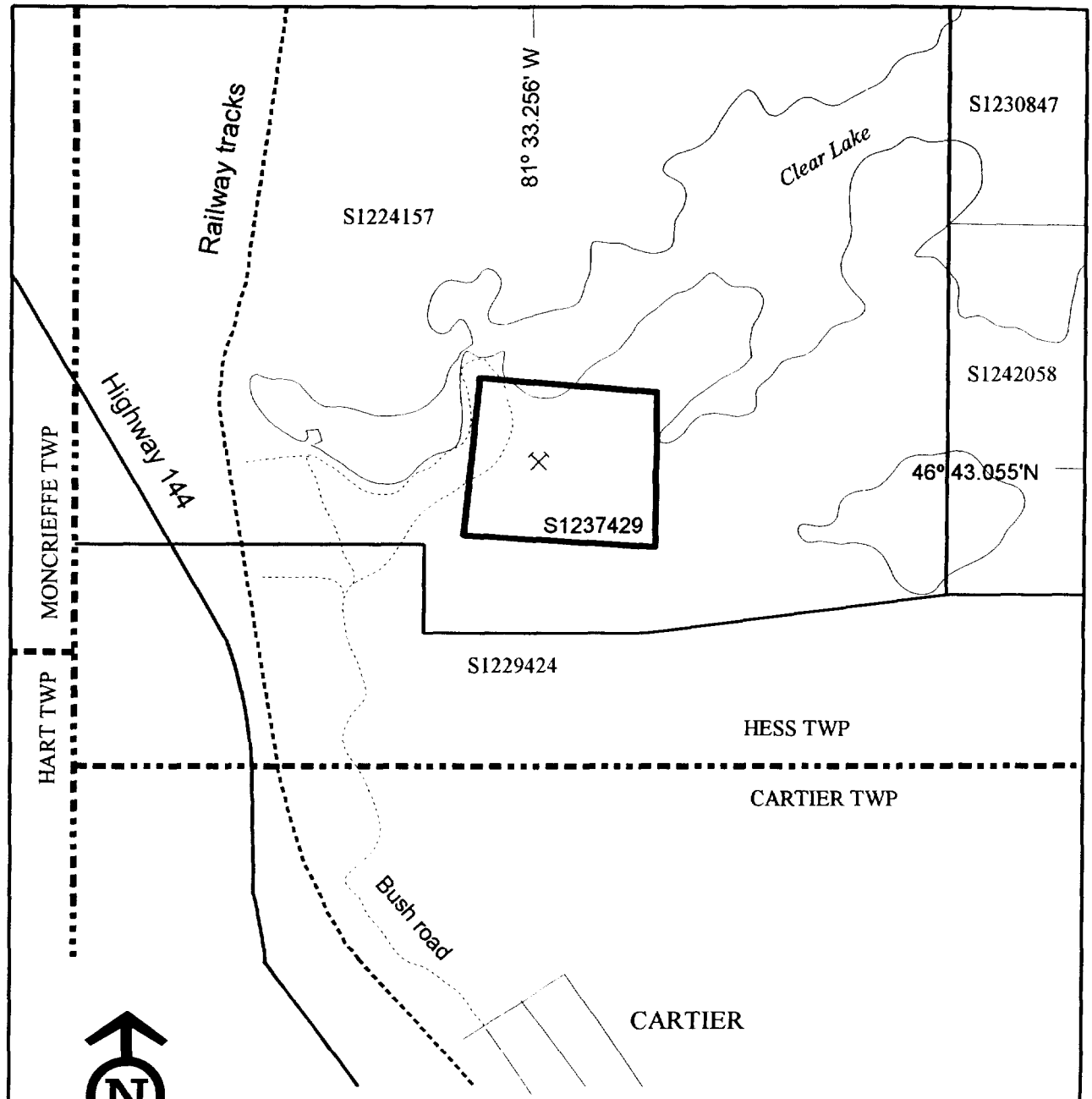
The property is underlain by supracrustal rocks of the Bruce Group, including Serpent Fm. and likely Espanola Fm. rocks, intruded by gabbro of either Sudbury or Nipissing type. All rocks are Proterozoic in age. The supracrustal rocks overlie unconformably felsic intrusive rocks of Archean age.

3.0 PROPERTY GEOLOGY

Geological mapping of the claim was not done as part of the work discussed herein, since it had been done before. Since that work was done, the exposed magnetite has been drilled and blasted, but the blasted material has been left in the pit, so that it is presently impossible to map very much of the magnetite body in detail. This description is taken from previous assessment work done by L.S.D. Winters, 1976. Winters had both surface exposures and drill core from which to construct a geological picture of the deposit. The writer has examined such outcrop as is visible in the immediate vicinity of the pit on previous visits, and has seen nothing which would change the picture presented by Winters.

The magnetite zone strikes about east-west, and dips about 50 to 60° to the north. It consists of well-defined layers of magnetite-rich rock separated by layers of actinolite/chlorite/carbonate rock. Grain size of the magnetite ranges from coarse (to 5 mm) to fine (<0.5 mm). There are scattered veins of quartz and calcite throughout the deposit.

The magnetite deposit is underlain by metagabbro. The metagabbro is fine-grained and altered (to chlorite and amphibole) within 60 to 100 cm of the contact with the magnetite, but alteration decreases and grain size increases away from it, i.e. to the south. At a distance of about 30 m from the contact, the metagabbro is coarse-grained and has diabasic texture. Some structural disturbance was noted in the



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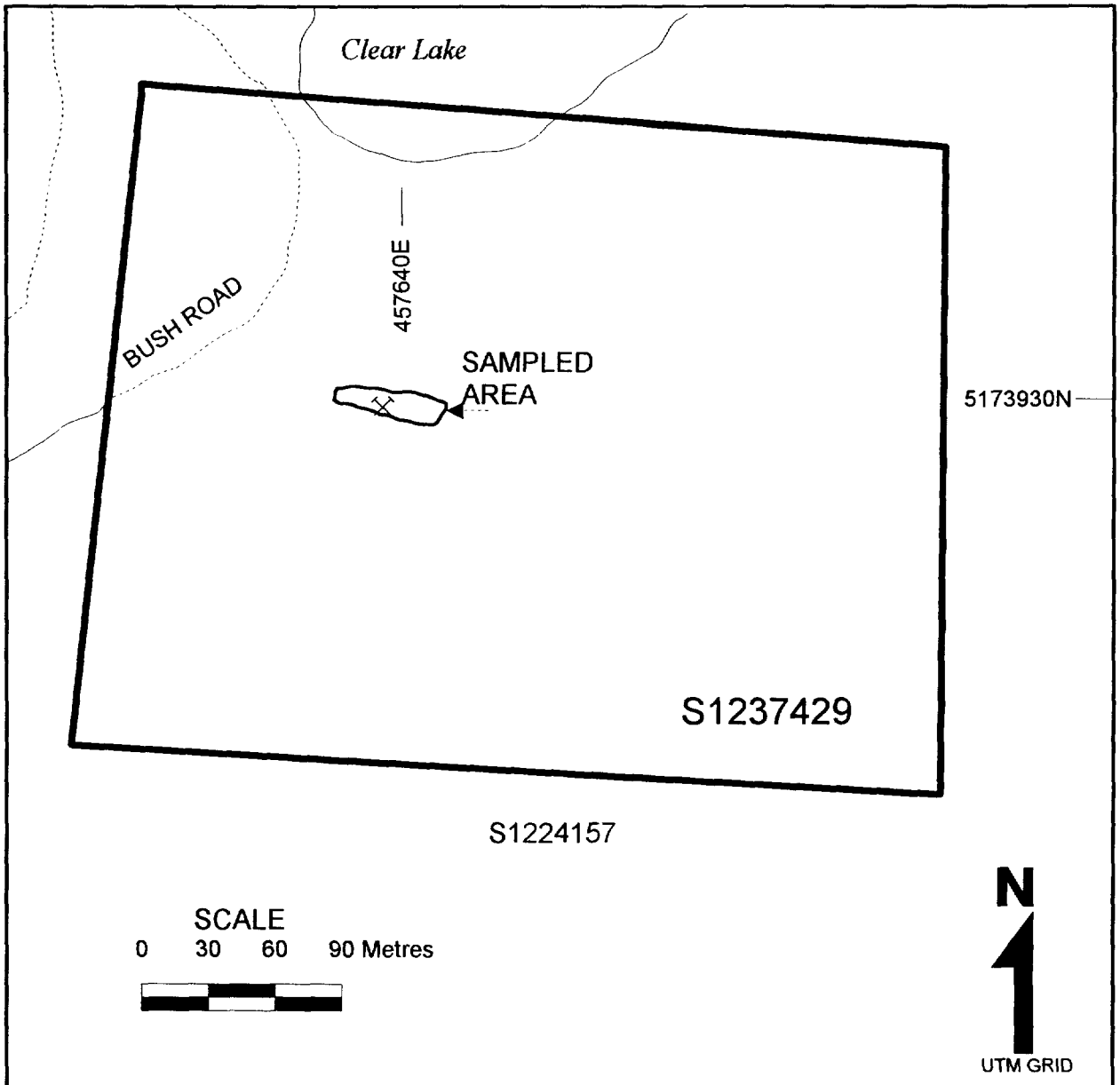
ONTARIO MINERAL CLAIM S1237429		
HESS TOWNSHIP NTS 41 I 12		
LOCATION MAP		
N. Ralph Newson, M.Sc., P.Eng., P.Geo.		
Scale: Shown	May, 2002	FIG. 1



NORTHERN EXPLORERS LTD		
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DETAIL OF CLAIM		
UTM ZONE 17, NAD 83 REFERENCES		
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Scale 1:3000	May, 2002	FIG. 2

footwall bear the centre of the zone, in the form of small-scale folding.

The magnetite body is overlain by limestone, with which it is generally in sharp contact (over about 1- 2 cm), except in one hole where the contact zone was about a metre thick.

4.0 PREVIOUS WORK

In 1966, Jaybee Landry Exploration and Mining Co. Ltd. drilled eight holes into the deposit (assessment work file Hess 0011-D1). They assayed for iron content, probably total iron, since they didn't say otherwise. Analyses from holes near the edge of the deposit were as low as 2.56%, and some intervals were not assayed at all, presumably because they were visibly lacking in magnetite. However, in the main part of the deposit iron values were from 31.8% to 57% over intervals of 5 to 20 feet of core length.

In 1973, J. Bardswich carried out a magnetic survey over the zone, using a Sharpe MF-2 fluxgate magnetometer (assessment work file Hess 0013). Not surprisingly, the deposit gave an anomaly of 50,000 nt. The survey was interpreted to indicate a body of magnetite with horizontal dimensions of 200 feet by 400 feet.

In 1974 and 1975 J. Bardswich and L.S.D. Winters carried out stripping with a bulldozer, and drilled 12 holes for a total of 1112 feet. Iron analyses were by Davis tube, giving only magnetic iron, from which magnetite content can be calculated. This work outlined a body of material 480 feet long, 100 feet thick, and extending 100 feet down dip, having a mass of 456,800 tonnes grading 34% magnetic iron, or 47% magnetite, for a resource of 214,696 tonnes of magnetite (assessment work files Hess 0015-A1, 0015-C1).

In 1976 a gravity survey was carried out to see if body might be larger than determined by drilling, since the drilling left the body open at both ends (assessment work file Hess 0019-B1). The instrument was a Scintrex CG-2 Prospector model. Drift, Bouguer, latitude north, and free-air corrections were done, leaving a positive 0.3 mgal anomaly on three lines. This was interpreted to suggest that the body might extend to 350 feet down dip, but this was qualified by pointing out that some of the mass excess might be accounted for by the diabase.

5.0 CURRENT PROJECT

5.1 PURPOSE

The purpose of the work discussed herein was to carry out the first in a series of tests to determine whether the magnetite body on the claim is suitable as aggregate in heavy concrete for shielding nuclear power plants. The tests carried out in the first stage are relatively quick, easy, and cheap. Failure at this stage would mean that no further work is worthwhile. If the product passes this stage, it will be necessary to proceed with expensive and time-consuming tests on larger samples.

5.2 METHOD

The sample was taken by collecting broken magnetite-rich rock already covering the bottom of the pit. The broken rock was left over from blasting by a previous owner. Seven 20-litre pails of material were collected along lines established over the pile of broken rock (Fig. 3). The lines were merely guides to make sure all of the pile was sampled, and samples were taken from between the lines too. This was a random sample, with no attempt to be selective, which was designed to approximate the overall composition of the zone. Small pieces of rock were picked up by hand. Sledge hammers were used to break smaller pieces off the large pieces of rock blasted by a previous owner.

The seven pails were taken to Sudbury, where the best grade of magnetite was selected by hand, a process designed to simulate the effect of a process of magnetic separation. In this way, 4 pails of concentrated magnetite were produced. Two pails, weighing about 60 kg total, were shipped to GeoMin Inc., in Picton, Ontario, for preliminary examination, crushing of the material, and for magnetic separation tests on the fine fraction of material (-5 mm) left over after the crushing. GeoMin then shipped the coarse fraction of the sample (-28 mm + 5 mm) on to Golder Associates, in Whitby, Ontario, for the CSA and ASTM tests. Finally, GeoMin received the results of the Golder tests, and wrote a short report explaining the significance of the results.

The tests carried out were as follows.

- A bulk specific gravity test, which is a standard measure of the sample weight relative to the same volume of water.

- An absorption test, which is designed to see how much water is absorbed into cracks or pores in the grains of magnetite. The test sample is heated to 110°C for 24 hours to drive off all moisture. It is weighed, then soaked in water for 24 hours at ambient temperature. The surface water is dried off and the sample is weighed again. The increase in weight is due to absorbed water.

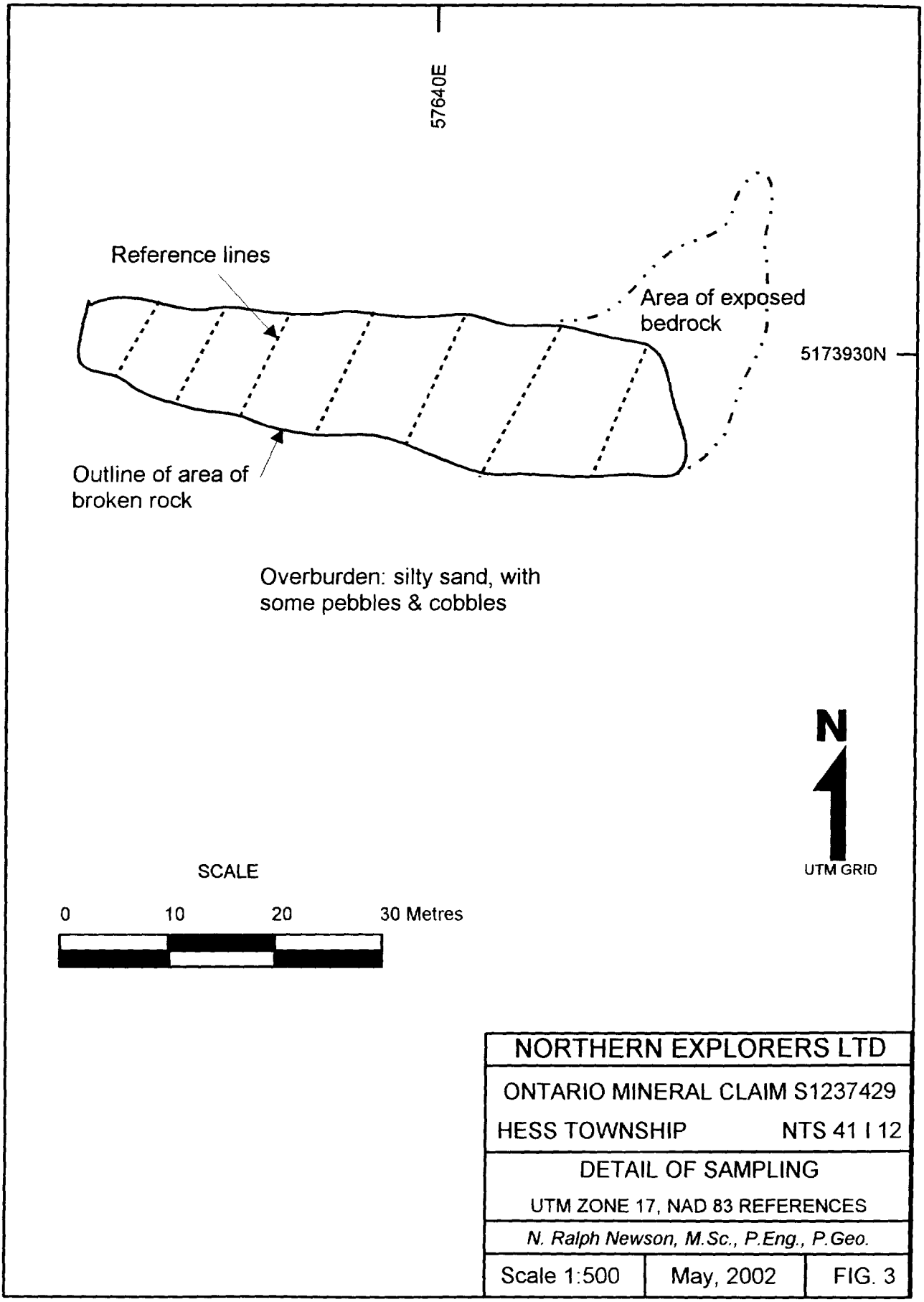
- The Los Angeles abrasion test, which is designed to test the resistance to abrasion of individual grains of magnetite. The test grains are embedded in phenolic resin to make a wheel. This wheel is rubbed against another wheel for a specified time, and its weight at the end of the test is compared with its weight before the test began. The percentage loss is a function of the resistance to abrasion of the magnetite.

- A petrographic examination, which is essentially like any other petrographic examination, in this case to determine the amount of weathered or otherwise degraded material in the sample.

5.3 RESULTS

The results are set out in detail in the two appendices. Appendix A is the report from Golder Associates, and Appendix B is the explanation of the Golder report by GeoMin.

In summary, the most important test is the bulk specific gravity test. If the material had failed this test, there would be no reason to conduct further tests. In fact, the material passed this test, with a bulk specific gravity of 4.33. As explained in the GeoMin report, this will produce a concrete with dry unit



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HESS TOWNSHIP		NTS 41 I 12
DETAIL OF SAMPLING		
UTM ZONE 17, NAD 83 REFERENCES		
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Scale 1:500	May, 2002	FIG. 3

weight of 3500 kg/m^3 when combined with a fine heavy aggregate having a specific gravity of 4.8, which means it is suitable for the use for which it was tested. The GeoMin report notes that our hand-cobbing technique may not have exactly simulated a magnetic separation process, and that we might get a higher specific gravity product in a production situation which included magnetic separation as part of the process. The better product, would, however, come at the expense of a reduced yield.

The absorption test showed that our material absorbed 0.22% water. The GeoMin report points out that a typical specification would require an absorption of less that 0.50%. The product therefore falls well within the normal specification for absorption.

In the Los Angeles abrasion loss test, a loss of 28.4% was measured. Typical specification for this is less than 50%, so the product is well within specification. The GeoMin report indicates that the value of 28.4% might be improved in a production situation.

The petrogaphic examination of the product showed that 0.8% was weathered. The GeoMin report notes that this is an excellent result, and that the small amount of weathering is likely due to the fact that this sample was taken from surface. In fact, this sample was likely more weathered than the usual surface sample, since the broken rocks from which the sample was taken have been detached from bedrock for a number of years, and are probably even more weathered than a normal surface sample. In a production situation the percentage of weathered material would almost certainly be even lower.

6.0 CONCLUSIONS AND RECOMMENDATIONS

1. The GeoMin report concludes that the tests discussed herein indicate that the magnetite from the claim is suitable to be used as heavy aggregate for the production of dense concrete products. GeoMin recommends that we continue to work on a technique to upgrade the material by magnetic separation, and that we carry out the more advanced tests required to fully qualify the material for its intended use.

2. The writer agrees with those conclusions and recommendations.

7.0REFERENCES AND BIBLIOGRAPHY

MNDM assessment work files*:

Hess 0011-D1	Jaybee Landry Exploration and Mining Co.
Hess 0013	J. Bardswich/L.D.S. Winters
Hess 0015-A-1	"
Hess 0015-C-1	"
Hess 0019-B-1	"
Hess 0020-A-1	"

- These are the numbers on the file folders as they were at the time the writer studied them in the Sudbury office. The AFRI numbers on the MNDM web site are 41 I 12 NE 0001, 0003, 0005, 0007, 0008, and 0010. The writer could not determine which files correspond to which, since not all of the AFRI files could be retrieved at the time of writing this report.

O.D.M. Map P0287, Preliminary map series, Cartier Sheet, Districts of Sudbury and Algoma, geological compilation series,

O.D.M.N.A. Map 2188, Sudbury -Cobalt sheet, geological compilation series.

CERTIFICATE

I, Norman Ralph Newson, of 3142 Eastview, Saskatoon, Saskatchewan, do hereby certify as follows:

1) That I am a graduate geologist, with B.Sc. and M.Sc. degrees from Queen's University at Kingston, Ontario, received in 1964 and 1970 respectively. I have practised my profession continuously since receiving my undergraduate degree, except for the time spent on course and thesis work for my graduate degree.

2) I am the author of the report to which this certificate is attached. My qualifications to write a report of this nature derive not only from my academic qualifications, but from increasingly responsible positions in the mining industry, including middle and senior management. The Sudbury camp was once part of my area of responsibility for a previous employer, and I have visited producing mines and assessed a number of exploration properties in that capacity. I have relied on work by others (Golder Associates, GeoMin Inc.) in compiling this report and I believe that they have particular expertise in the aspects of the work that I assigned to them.

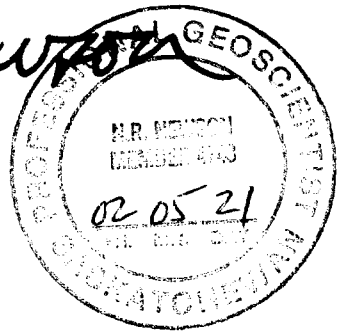
3) That I am a Member of the Association of Professional Engineers & Geoscientists of Saskatchewan (with Permission to Consult), and a Member of the Association of Professional Engineers & Geoscientists of Manitoba.

4) That I believe I am a "qualified person" as defined in National Instrument 43-101.

5) That this report is based a study of all of the available relevant data on the properties. I carried out the sampling part of the program discussed in the report, and supervised the rest of the work.

The effective date of this report is May 21, 2002.

N. Ralph Newson, M.Sc., P.Eng., P.Geo.



APPENDIX A

REPORT BY GOLDER ASSOCIATES

Golder Associates Ltd.

100 Scotia Court
Whitby, Ontario, Canada L1N 8Y6
Telephone (905) 723-2727
Fax (905) 723-2182

May 10, 2002

021-8425

GeoMin Inc.
P.O. Box 3054
68 Bridge Street
Picton, Ontario
K0K 2T0

Attention: Mr. Peter Kriens

RE: COARSE MAGNETITE - THE CARTIER MINE

Dear Sir,

This letter reports the results of laboratory testing carried out on the aggregate sample received at our office in Whitby on April 16, 2002. The results of the aggregate testing are summarized in the following tables.

We trust this letter is sufficient for you current requirements. If you have any questions regarding the contents of this letter, please call us.

Yours truly,

GOLDER ASSOCIATES LTD.

John A. Watkins
Laboratory Manager

Enclosures: Tables 1 and 2

JAW/JMK/jw

C:\Documents_PROJECTS\4000's\2002 Projects\021-8425 GeoMin\021-8425 REP 2002 05 The Cartier.doc

Table 1

RESULTS OF AGGREGATE EVALUATION

Aggregate Description: Coarse Magnetite
Aggregate Source: The Cartier Mine
Golder Sample Number: G-02-054

Physical Properties

Test Procedure	Test Number	Test Result
Bulk Specific Gravity (Saturated Surface Dry) Mg/m^3	CSA-A23.3-00-12A	4.330
Absorption (%)	CSA-A23.3-00-12A	0.22
Los Angeles Abrasion Test Percent Loss	CSA-A23.3-00-16A	28.4
Petrographic Analysis	ASTM C295	See Table 2

Table 2

DETAILS OF PETROGRAPHIC ANALYSIS

Aggregate Description: Coarse Magnetite
Aggregate Source: The Cartier Mine
Golder Sample Number: G-02-054

Rock Classification	Description	Quality Designation Groups (Percentage of Aggregate in Sample)			
		Good	Fair	Poor	Deleterious
Magnetite	Hard	99.2			
Magnetite	Weathered		0.8		
	Totals	99.2	0.8		

Test carried out in accordance with ASTM C295 test procedure.

APPENDIX B

REPORT BY GEOMIN INC

GeoMin Inc.

P.O. Box 3054
Picton, Ontario, CANADA K0K 2T0
Tel: 613 / 476-3419
Fax: 613 / 476-5481
pkriens@on.aibn.com

May 10, 2002

Mr. N. Ralph Newson
Northern Explorers Ltd.,
3142 Eastview,
Saskatoon, Saskatchewan
S7J 3J4

Dear Ralph,

We have completed our preliminary analysis on your "Cartier Mine" magnetite samples. The purpose of our investigation was to determine whether magnetite from this deposit was suitable as aggregate for use in heavy concrete production.

Relative Density

Testing of your coarse magnetite, sized from 28mm to 5mm, resulted in a specific gravity of 4.33 Mg/m3. Your magnetite can be used to produce concrete with a dry unit weight of 3500 Kg/m3, when combined with a fine heavy aggregate of approximately 4.8 Mg/m3.

We did not conduct any magnetic separation on the magnetite ore as you indicated it was hand-cobbed. Further magnetic separation on the coarse aggregate may lead to increased density, with a corresponding loss of processing yield.

Prelminary work on the fine portion of the magnetite (minus 5mm) shows the possibility of upgrading. Tests in our laboratory showed specific gravity results ranging from 4 45 – 4.55 Mg/m3 after completing washing and magnetic separation.

Cont'd.....

Gradation

Typical gradation specifications for heavy aggregate are as follows:

Coarse Aggregate	Sieve	Percent Passing
	28mm	100
	14mm	25-50
	5mm	0 – 8

Your coarse sample was not sieved to determine acceptance for gradation as this is more a function of crusher set-up and screen sizing. Based on the physical characteristics of the magnetite sample, we would not see any problems in meeting the specifications for the coarse magnetite.

Absorption

A typical absorption specification for coarse heavy aggregate is less than 0.5 percent. Results of testing on your coarse product was 0.22 percent.

Los Angeles Abrasion Loss (LAB)

Results of LAB testing showed a loss of 28.4 percent. Typical specifications for coarse heavy aggregate are less than 50%. The LAB test was completed on magnetite crushed through laboratory jaw and rolls crushers, which tend to produce a large percentage of brittle flat and elongated particles. Specific production equipment, in particular hammer mills, vertical shaft impactors and even a production jaw and rolls combination should provide a significantly better particle shape and therefore a corresponding improvement in LAB results. Despite this, the results of your magnetite sample were well within acceptable limits.

Petrographic

The Petrographic showed the magnetite was of excellent quality, showing 99.2 percent of the particles to be of excellent quality. The 0.8 percent of weathered magnetite was probably a result of surface sampling.

Summary and Recommendations

In summary, the samples as submitted show the "Cartier Mine" magnetite to be of suitable quality for use as heavy aggregate for the production of dense concrete products.

Continue working on upgrading the fine magnetite by magnetic separation techniques.

It is recommended that the following tests also be completed:

ASTM C289 Aggregates that are classified as "deleterious" when tested in accordance with ASTM C289 may be rejected.

ASTM C295 If time is of the essence, a Petrographic by ASTM C295 may be substituted for the following tests:

ASTM C227 Aggregates that produce an expansion in excess of 0.10 percent in one (1) year when tested in mortar bars in accordance with ASTM C227 shall be rejected.

CAN/CSA Aggregates that produce an expansion in concrete in excess of 0.1 percent in three (3) months and 0.02 percent at one (1) year, when tested in accordance with CAN/CSA-a23.2-14A (clause 2.4) shall be rejected.

Regards,
Geomin Inc.,

Peter Kriens

ONTARIO

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

Work Report Summary

Transaction No: W0270.00902 **Status:** APPROVED

Recording Date: 2002-MAY-29 **Work Done from:** 2001-NOV-08

Approval Date: 2002-MAY-29 **to:** 2001-NOV-08

Client(s):

393044 NORTHERN EXPLORERS LTD.

Survey Type(s):

ASSAY

Work Report Details:

Claim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
S 1237429	$3,013	$3,013	$2,400	$2,400	$0	0	$613	$613	2008-JUN-02
	$3,013	$3,013	$2,400	$2,400	$0	$0	$613	$613	

External Credits: $0

Reserve:

$613 Reserve of Work Report#: W0270.00902

$613 Total Remaining

Status of claim is based on information currently on record.

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Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

Date: 2002-JUN-20

GEOSCIENCE ASSESSMENT OFFICE
933 RAMSEY LAKE ROAD, 6th FLOOR
SUDBURY, ONTARIO
P3E 6B5

Tel: (888) 415-9845
Fax:(877) 670-1555

NORTHERN EXPLORERS LTD.
3142 EASTVIEW
SASKATOON, SASKATCHEWAN
S7J 3J4 CANADA

Submission Number: 2.23625
Transaction Number(s): W0270.00902

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact STEVEN BENETEAU by email at steve.beneteau@ndm.gov.on.ca or by phone at (705) 670-5855.

Yours Sincerely,

Ron Gashinski
Senior Manager, Mining Lands Section

Cc: Resident Geologist

Northern Explorers Ltd.
(Claim Holder)

Assessment File Library

Northern Explorers Ltd.
(Assessment Office)

2.23625

MINING LAND TENURE MAP

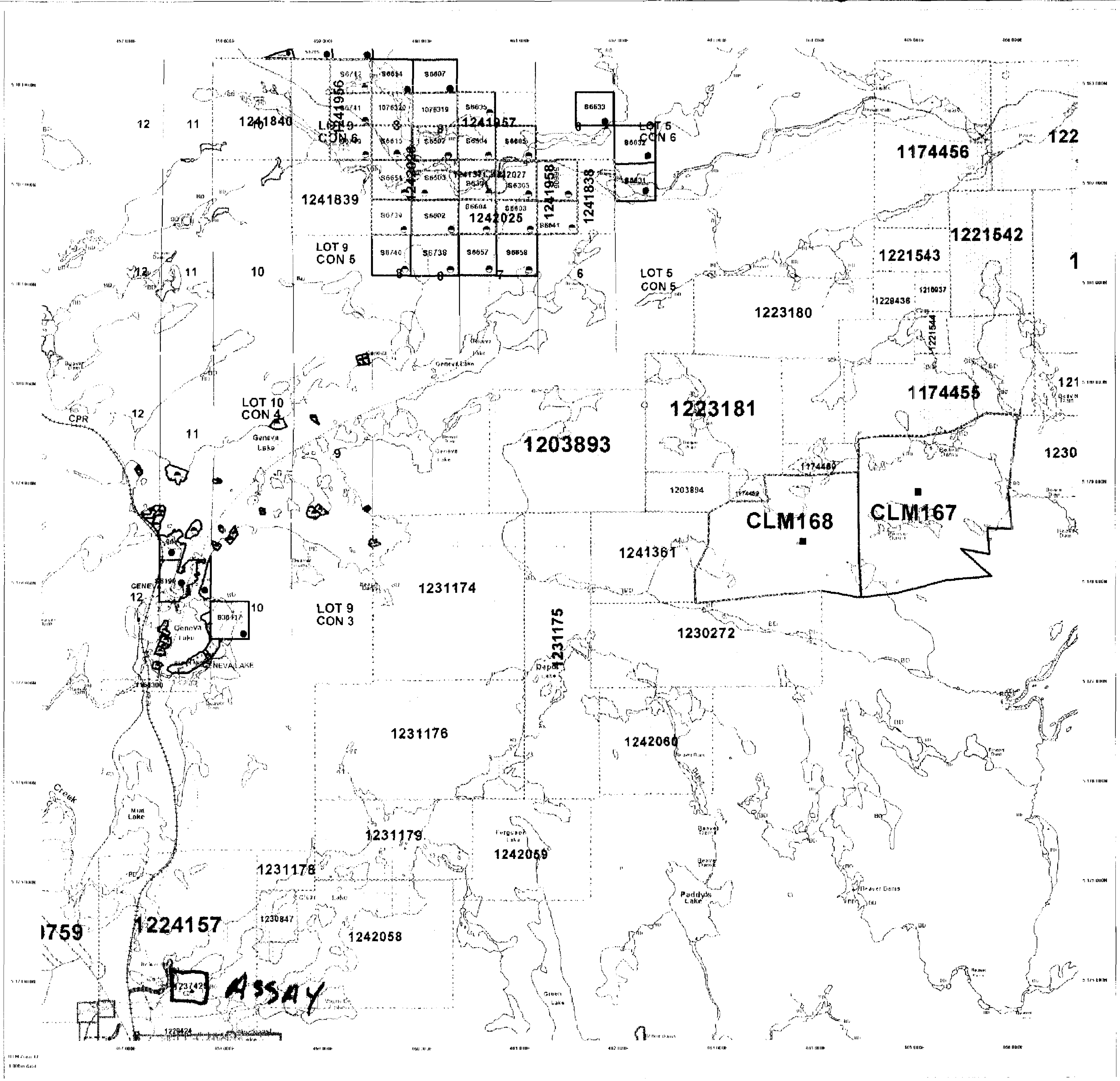
Date / Time of Issue Feb 27 2002 15:40h Eastern

TOWNSHIP / AREA: HESS

PLAN: G-4062

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division	Sudbury
Land Titles/Registry Division	SUDBURY
Ministry of Natural Resources District	SUDBURY



TOPOGRAPHIC

LAND TENURE

LAND TENURE WITHDRAWALS

IMPORTANT NOTICES

LAND TENURE WITHDRAWAL DESCRIPTIONS

IMPORTANT NOTICES

General Information and Limitations

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