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NORTHGATE EXPLORATION LIMITED

PROJECT 784
EXPLORATION PROGRAMME, 1981
L'ABBE PROSPECT
HORWOOD TOWNSHIP, ONTARIO.

CLAIM NUMBERS 551737 - 551743 INCLUSIVE
CLAIM NUMBERS 572629 - 572637 INCLUSIVE
PORCUPINE MINING DIVISION

N.T.S. 42 B/1

RECEIVED

DEC 31 1981

MINING LANDS SECTION

Peter Dadson,
Project Geologist.

December 1981.



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STATISTICAL SUMMARY-PROJECT 784

Linecutting	10.71 Miles	100%
Geological Mapping		100%
Geophysics:		
Magnetometer (50' Spacing)	1003 Readings	100%
VLF-EM (100' Spacing)	497 Readings	100%
Geochemistry:		
Humus	410 Samples	100%

SUMMARY

As a continuation of the 1980 programme to evaluate gold prospects in the Orofino Area, Northgate Exploration Limited optioned the L'Abbe Prospect, based on the results obtained from the main showing.

The property which is located on the north shore of Hardiman Bay on Horwood Lake in Horwood Township, 96 air kilometres southwest of Timmins, Ontario, consists of the following fifteen unleased mining claims 551737 to 551743 inclusive and 572629 to 572637 inclusive.

Stripping and re-trenching of the old workings in 1980 revealed three narrow but continuous pyritized shears mineralized with gold.

The 1981 programme was of the reconnaissance type and included linecutting, geological mapping, VLF-EM, proton magnetometer and humus sampling.

The claims were found to be underlain by a predominantly basic volcanic environment with narrow interbeds of intermediate to acid rocks, including one exposure of acid pyroclastics.

A gabbro intruded these rocks and was well exposed on the western boundary. Outcrops of an intrusive diorite were mapped to the north while the dominant intrusive was a feldspar porphyry probably related to the Horwood Peninsula Pluton.

Both the VLF-EM and magnetometer outlined several anomalous zones many of which could be related to either contacts or particular rock units.

Structurally these surveys delineated at least one northwesterly trending fault as well as revealing the warping of rock units around the nose of the porphyry.

Humus geochemical results not only pinpointed the main zone but also indicated three other zones one of which was within the porphyry. The others could be related to the diorite and a basic volcanic unit.

Because of the reconnaissance nature of the 1981 programme it is recommended that further exploration be performed over the humus anomalies and that a limited 2000 foot diamond drill programme should be initiated on the main showing to test for lateral and vertical continuity.

Further, due to the possible significance of the geochemical survey results on the western boundary an additional six claims should be staked for protection.

1.1 INTRODUCTION

The L'Abbe Prospect consists of 15 unleased mining claims in east central Horwood Township, approximately 96 air kilometres southwest of Timmins, Ontario.

Michael A. Terrell originally staked the claims in 1980 and they are now held under option by Northgate Exploration Limited.

The main showing which was first worked in 1936 consists of three sulphide zones lying within a volcanic sequence which has been intruded by a multi-phase granitic body.

Exploration began in May, 1980 as part of Northgate's programme to evaluate gold prospects within the Swayze-Deloro Metasedimentary - Metavolcanic Belt. That initial study centered on the main showing which indicated two narrow pyritic zones containing gold mineralization.

The exploration programme initiated during 1981 included geological mapping, geophysical and geochemical surveys and was designed to outline other areas of possible potential.

This goal was met and it is now recommended that more detailed work be performed on these zones and that a limited diamond drill programme be used to investigate the lateral and vertical continuity of the main zone.

2.1 PROPERTY & OWNERSHIP

The L'Abbe Prospect consists of the following unleased mining claims in Horwood Township (Figure A):

551737 TO 551743 inclusive,
572629 TO 572637 inclusive.

All claims were held under option by Northgate Exploration Limited from Michael A. Terrell of Skead, Ontario and are in good standing until the following dates:

551737 TO 551743 inclusive - February 8, 1982.
572629 TO 572637 inclusive - December 31, 1981.

3.1 LOCATION

The property is located in east central Horwood Township, approximately 96 air kilometers southwest of Timmins (Figure B).

Float plane or boat transport are the only methods of reaching the claims during the summer months, while snowmobile or air transport can be utilized in winter.

Planes or helicopters can be obtained either at Timmins or Sudbury, while various fishing lodges on Horwood Lake have boat and motor rentals.

4.1 AUXILIARY SERVICES

4.1.1 Timber

Some mature timber (Pine, Cedar and Black Spruce) exists on the claims but most of the ground is covered by Birch and Poplar, which have a maximum butt diameter of six inches. Alder, willows and other woody bushes are common.

Timber or lumber requirements for any major mining would have to be obtained off the property.

4.1.2 Water

Horwood Lake provides a vast supply of fresh water which would be adequate for any mining venture.

4.1.3 Power

The nearest supply of electrical power is located at Palomar on the north shore of Horwood Lake, a distance of eight kilometres.

5.1 TOPOGRAPHY

The major topographical feature on the claims consists of a resistant hill of granitic rock, on whose flanks the showing occurs. A gradual slope exists from the lake to the base of the hill, which has steeper slopes and a maximum elevation of 100 feet above the local base level.

5.1 TOPOGRAPHY (Continued)

On a regional scale the area lies within part of the glaciated PreCambrian peneplain, typified by low ridges of rock and glacial debris separated by small areas of level overburden.

6.1 CLIMATE

Horwood Township lies in a belt which experiences a continental climatic pattern.

The Summer season which begins in May and continues to early September is accompanied by warm temperatures which can be as high as 28°C to 30°C for short periods of time. Humidity varies considerably but is generally within an acceptable level.

Although most Summer seasons are quite pleasant, some can be marred with persistent overcast skies, abundant rainfall and cool temperatures.

Both the Fall and Spring seasons are characterized by sunny, cool days and cold nights with frost.

The Winter season can start as early as mid-October and last into May, but more frequently the snow does not usually start until mid to late November and is gone by April.

Snow accumulations can be considerable, up to 3 feet in the bush and temperatures have been known to drop below -40°C.

7.1 PROPERTY HISTORY

The following is a brief outline of past exploration work on this property:

1936: Stripping, trenching, one 90 foot diamond drill holes by A. E. Jerome and W. L'Abbe.

1950: Stripping, trenching, 119 feet of diamond drilling by Gor-Smith Gold Syndicate Limited.

1951: Horlac Mines - trenching, stripping, test pitting and 2 short diamond drill holes.

1961
to
1963 Queensway Mines Limited - trenching and 22 diamond drill holes, (4.247 feet).

1980: Property restaked by present owners.

8.1 REGIONAL GEOLOGY (Figure C)

The L'Abbe Prospect lies within the east-west trending Swayze-Deloro Meta-volcanic-Metasedimentary Belt, which forms part of the Abitibi subprovince. All rocks are Archean in age with the exception of the middle to late Pre-Cambrian diabase dyke swarms.

REGIONAL GEOLOGY (Continued)

This belt contains two complete sequences of mafic and felsic metavolcanics with associated metasediments. The mafic metavolcanics predominate and consist of massive flows which in many exposures display pillow or amygdaloidal structures. Flows and pyroclastic rocks of rhyolitic, dacitic or trachytic composition form the felsic metavolcanic units with rhyolitic varieties being the most common.

Less than ten percent of the Swayze - Deloro Belt is composed of metasedimentary rocks. In decreasing order of abundance they include greywacke, arkose, conglomerate, quartzite and argillite.

Numerous Algonian granitic intrusives have deformed the belts' margin into an arcuate pattern typical of many Archean greenstone belts.

Mafic and ultramafic intrusions having dioritic, gabbroic and serpentinitic compositions, occur throughout the belt. These bodies form as sills or stocks and pre-date the granitic intrusives.

The greenschist facies regional metamorphism predominates over the entire area with epidote-almandine amphibolite grade being present in contact metamorphic aureoles.

EXPLORATION PROGRAMME 1981

9.1.1 GENERAL

A reconnaissance type exploration programme was initiated over the entire L'Abbe Option as a follow up to a small limited, but detailed examination of the main showing in 1980.

9.1.2 LINECUTTING

In order to provide adequate control for the various surveys a total of 10.37 miles of line were cut, such that picket stations were 100 feet apart and the cross lines were at 400 foot spacings.

9.1.3 GEOLOGY (Figure 1)

All claims were mapped at a scale of 1" to 200'.

9.1.3.1 BASIC METAVOLCANICS

Basic metavolcanics predominate on the property and consist of both massive and pillowed basalitic and andesitic flows.

All rocks were green to black in colour, fine grained and chloritized. Although, most were moderately soft, due to extensive carbonatization, some specimens were relatively hard because of silicification.

The pillows in both the basalts and andesites were well formed with thick devitrified rinds.

Quartz stringers and carbonate veins were common in the flows as was in some cases disseminated pyrite and chalcopyrite.

9.1.3.2 INTERMEDIATE TO ACID METAVOLCANICS

Rocks of these compositions were not abundant and probably constitute less than 10% of the exposed outcrop areas.

In part it appears that although intermediate metavolcanics were mapped, that in those exposures marking the contacts between andesite and a gabbro, these rocks were in actual fact a silicified andesitic to basaltic rock, resulting from the intrusion of the gabbro.

However, other exposures can not be related to a possible contact zone and were found to be fine grained, dark, massive and sheared.

These units were limited in lateral extent but in one case had a width exceeding 400 feet. It was believed that all of these rocks were massive flows.

Only one outcrop of pyroclastics was noted whereby angular intermediate to acid fragments were contained in a more basic groundmass. This unit lies within a sequence of basic volcanics and seems to be more closely related to that stage in the volcanic cycle. Its true dimensions could not be determined due to poor exposure but it was estimated to be not more than 800 feet in length and about 200 feet in width.

9.1.3.3 MAFIC INTRUSIVES

Both dioritic and gabbroic rocks have been mapped on the property and both were thought to be intrusive and older than the acid intrusives.

Between the two, the gabbro was probably intimately associated with the basic stages of volcanism, while the diorite may in fact be associated with the poly phase Horwood Peninsula Pluton. The possibility that both were coeval and arose from the same parent magma should not be dismissed, but was not evident within the confines of the claim boundaries.

The intrusive nature of the coarse grained gabbro was apparent by the existence of large xenoliths of basic volcanic wall rock. The presence of "intermediate volcanics" in the contact zones may in fact, as mentioned earlier, be a silicified contact zone. Such zones were present on either side of the gabbro.

As with the gabbro the diorite was mapped on the western boundary; however, it was the only rock type present and the area was devoid of any other exposures, for this reason its true relationship to the surrounding stratigraphy could not be determined.

This body's dimensions although, not truly discernable could be estimated by using grain size as a criteria. In this case fine grained diorite may have been formed at its edges due to chilling, while the centre core had a coarser grain size. Therefore, it would seem that this intrusive measures approximately 900 feet north to south and at least 600 feet east to west.

This particular intrusive was found to be well mineralized with pyrite and chalcopyrite and contained numerous quartz veins.

9.1.3.4 ACID INTRUSIVES

As with the mafic intrusives the relationships between these rocks and the surrounding rocks can not be determined.

The largest exposure was that of a greyish quartz-feldspar porphyry which probably forms part of the Horwood Peninsula Pluton.

It outcrops in the east central section of the property and forms a prominent hill along which the main showing has been exposed in several narrow, pyritized shears.

The rock itself was massive, well jointed and has been classified as a quartz diorite, closer examination however, reveals indistinct feldspar phenocrysts set within a fine to medium grained siliceous ground mass which has been in part re-crystalized.

Further south (2,000 feet) a second intrusive has been mapped, however, unlike the previously described body, this one consists of a quartz-eye porphyry.

This was a massive, coarse grained light coloured rock, exposed on the shores of Hardiman Bay, as well as two adjacent islands. Contacts were irregular and were marked by shearing, rafted blocks of andesite and quartz veining.

9.1.3.5. STRUCTURE

The massive volcanic units did not provide a wealth of structural details, although it was shown that strikes were generally east to northeast with dips varying from about 50 to 90 degrees north.

Shearing occurred parallel to bedding with dips being slightly less but also to the north.

The geophysical data did not outline any major faulting. With the exception of one possible northwesterly feature marked by the truncation and flexing of the VLF-EM filtered results. The low magnetic relief in this area does not reflect this theory.

9.1.3.6 MINERALIZATION

No new mineralized zones were investigated this year. Several of the old trenches on the main showing were extended but the favourable horizons could not be broadened.

Disseminated pyrite and chalcopyrite was found in the diorite with some occurrences more heavily mineralized than other.

Other minor showing were located but none appeared to be of economic importance.

9.1.4 GEOPHYSICS

Both VLF-EM and proton magnetometer surveys were completed over the cut lines during August 1981. All readings were taken at 100 foot intervals.

A scintrex MP-2 magnetometer was used throughout, while a geonics EM-16 was used for the VLF. Cutler, Maine was the transmitting station.

9.1.4.1 MAGNETICS (Figure 3)

The corrected magnetic data upon plotting has outlined several discrete anomalies greater than 2000 gammas.

In general the magnetics show an east-west trend in the south portion of the property, while in the northern half, with the exception of the shoreline area was devoid of magnetic relief. Along the shore the east-west trend continued.

Table summarized the locations and sources of the magnetic anomalies. Briefly though these anomalies were probably caused by the increased magnetite content in the andesitic volcanics and the gabbro. There was no correlation with the main mineralized zone or with the mineralized diorite.

Structural interpretation indicates a warping of the basic volcanics adjacent to the feldspar porphyry intrusion as well as two possible sub-parallel north-westerly fault zones just to the west of this same intrusive. Flexuring and the terminating of contours supports the placement of these faults.

A third northwesterly fault could possibly be conjectured from similar evidence to occur at the western contact of this acid intrusive.

9.1.4.2 VLF-EM (Figure 4)

Numerous strong conductors were found on the property distributed fairly evenly. Table summaries the data on these conductors.

With the exception of three the surface mapping was not able to locate the sources of these conductors, but it seems that some coincide with the contact of the feldspar porphyry intrusive.

The first cause that could be determined was for a conductor on the western boundary and it seems to mark the northern contact between the basic volcanics and the intrusive gabbro. The possibility of this being a sulphide zone should not be overlooked.

The second and third conductors were also close to the western boundary but further to the south. Each of these may be due to swampy watercourses.

The general east-west trend of these conductors supports the magnetic data as does the flexing and truncation of the filtered readings reflect the placement of the possible faults.

9.1.5 GEOCHEMISTRY (Figure 2)

Humus samples were collected at 100 foot intervals along all lines irrespective on whether they were previously sampled in 1980.

Numerous anomalous assay results were received and were found to be in the majority of cases directly related to the main feldspar porphyry intrusive or its appendages.

However, other anomalous zones were outlined with the most well developed and most continuous being underlain by fine to medium grained dark andesites well mineralized with pyrite. This particular unit lies south of the main gabbroic intrusive but north of a small exposure of similar rock type. As mentioned in the geology

section such dark volcanics may in fact represent a contact zone between the volcanics and the gabbro.

This particular zone measured 1200 feet in length. A width calculation would be highly speculative since sample spacing was too wide to clearly define this dimension.

Two other zones deserve mention and they are within the diorite in the northwest corner of the grid and south of the baseline on Line 20 east.

The first of these is important since it is within an area of numerous trenches which were sunk to investigate several quartz veins. Although being only a one station anomaly a more closely spaced sampling interval could enlarge and define this zone.

The second anomaly consists of two high readings which appear to be associated with a quartz-eye porphyry in contact with sheared medium grained andesite. Once again this zone requires further work for clarification.

0.1 CONCLUSIONS

The L'Abbe Option property first examined in 1980 for its gold mineralization was re-examined in 1981 in an attempt to extend the known gold-bearing zone and to establish whether or not other zones exist.

In order to complete these tasks a cut grid was put on the property for control and geological, geophysical and geochemical surveys were then conducted.

Geological mapping has shown the claims to be underlain by a sequence of basic volcanic flows with some rocks of intermediate composition.

These have been intruded by two basic intrusives, one of gabbroic composition while the other being a diorite. The possibility of the gabbro and the basic volcanics being of the relative same age should not be overlooked, while the diorite may have been an early phase of the more acidic Horwood Peninsula Pluton.

A second acid intrusive of quartz-eye porphyry was exposed along Hardiman Bay but its relationship to the pluton could not be ascertained.

Both the VLF-EM and magnetometer surveys aided in the mapping by defining the approximate limits of the feldspar porphyry as well as other units including the gabbro.

Humus sampling was done on a reconnaissance type sample spacing but was still capable of defining several zones. The most important of these would be a contact zone between the feldspar porphyry and the volcanic rocks. Although few outcrops exist in the area the anomaly was 200 feet in length with an indeterminable width.

The other most notable anomalous zone, was within a area underlain by basic volcanics, in close proximity of the intruding gabbro. This zone measured 1200 feet in length with again an indeterminable width.

Although these may be the most continuous zones found, the most important conclusion from the entire programme and this would be based heavily on the geochemical results, would be the anomalous relationship between the feldspar

intrusion and gold mineralization.

0.2

RECOMMENDATIONS

The reconnaissance nature of the 1981 exploration programme, coupled with the detailed work of 1980, have shown that the L'Abbe Option should receive future work in the future and should centre on four particular zones.

It is believed that the main zone does not require additional work since the mineralized zones appear to be continuous, albeit narrow, and are exposed over a length of about 400 feet.

However, the other favourable zones, the diorite, the gabbro-volcanic unit, the contact of the porphyry and the quartz-eye porphyry should receive additional detailed field work including initially humus sampling, to outline the boundaries of each zone, VLF-EM and magnetometer to delineate the geology and possible structural controls and finally trenching and sampling if possible.

The programme although perhaps extensive is not envisaged to take a long period to complete. However, since much of the overall results may be based heavily on the humus sampling a lag time of about 6 weeks should be planned for, before any final decision should be made. In fact, these results may be such that further work would have to be done.

This may seem to be a prolonged period before establishing a possible drill programme, however, it must be remembered that the humus sample results must be thoroughly investigated due to the possibility that they may relate to transported overburden, tree type and depth and type of overburden.

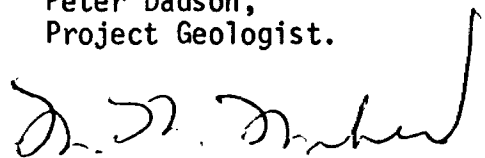
With these cautions a limited short hole drill programme of 2000 feet could be mounted with the primary emphasis being placed on the main zone. The availability of an on-site drill could allow quick testing should the results from the detailed programmes be encouraging.

It is therefore, recommended that the aforementioned zones receive further exploration and that the main zone should be drilled with the possibility of further drilling on the other zones, based upon the analysis of the detailed programmes.

Further, since two of the geochemical anomalies lie on the western boundary an additional six claims should be staked for protection.



Peter Dadson,
Project Geologist.

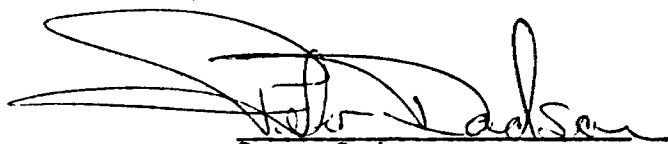


W. W. Weber,
Manager of Exploration.

CERTIFICATION

I, Peter Dadson hereby certify that I:

1. Reside at 4 Moffatt Avenue, Brampton, Ontario,
2. Graduated from Carleton University, Ottawa, with a Bachelor of Science degree in 1974,
3. Have been working in the geological profession since 1974,
4. Am a member, in good standing, in the following professional associations:
Geological Association of Canada
Mineralogical Association of Canada
The Prospectors and Developers Association,
5. Supervised the work described in this report.

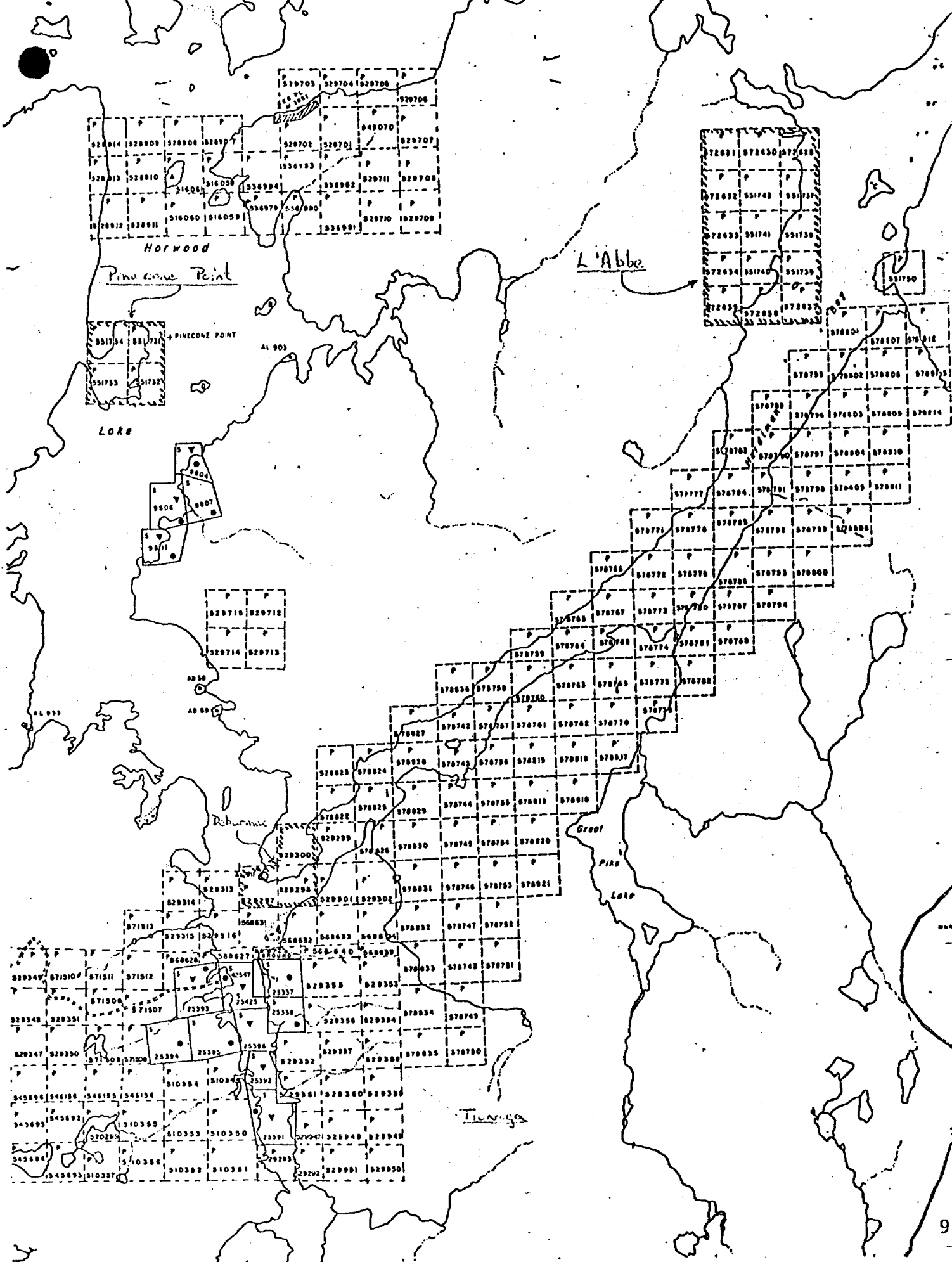


Peter Dadson,
Project Geologist.

/st.

CLAIM BLOCK LOCATIONS HORWOOD TWP.

FIGURE A



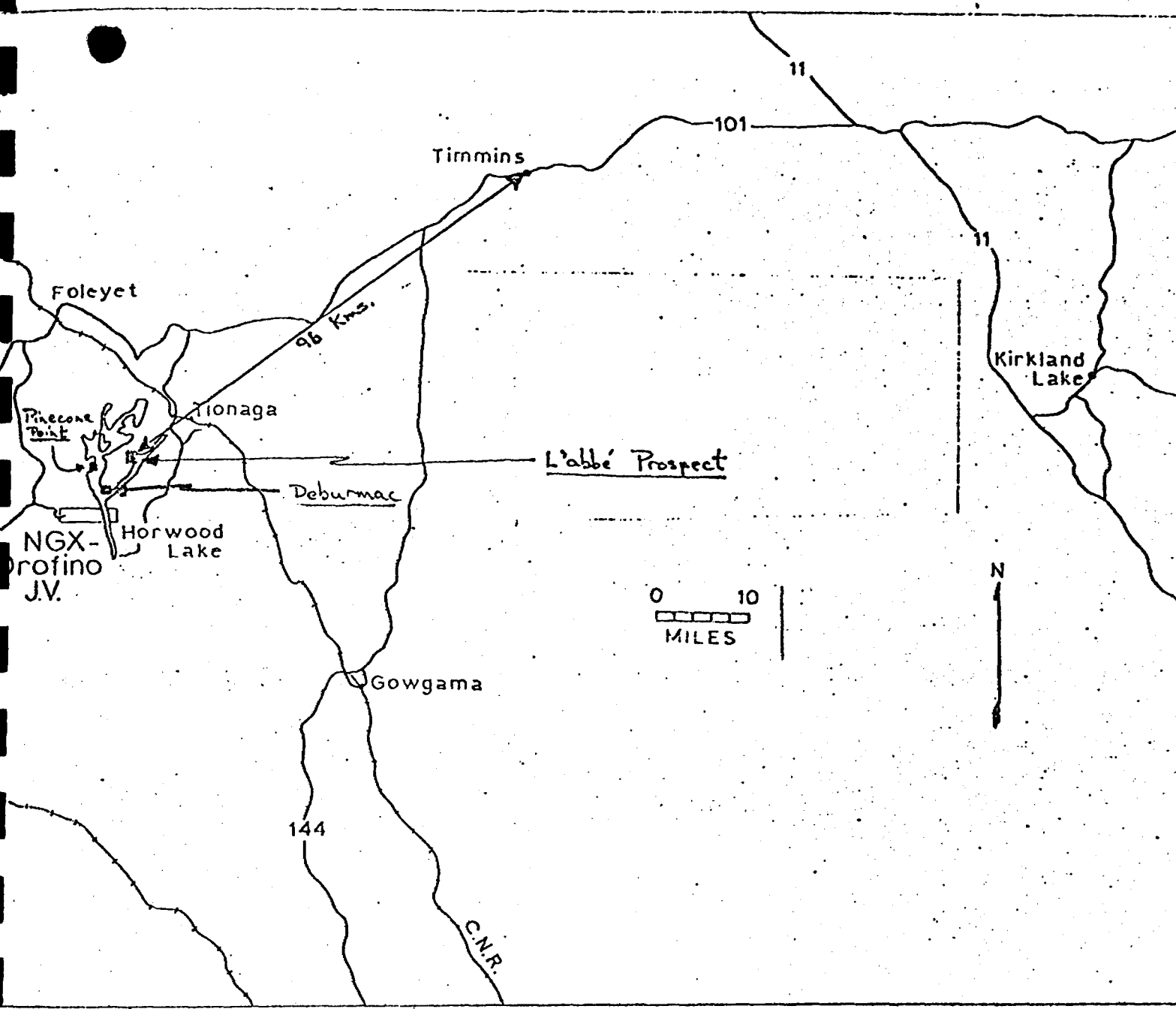
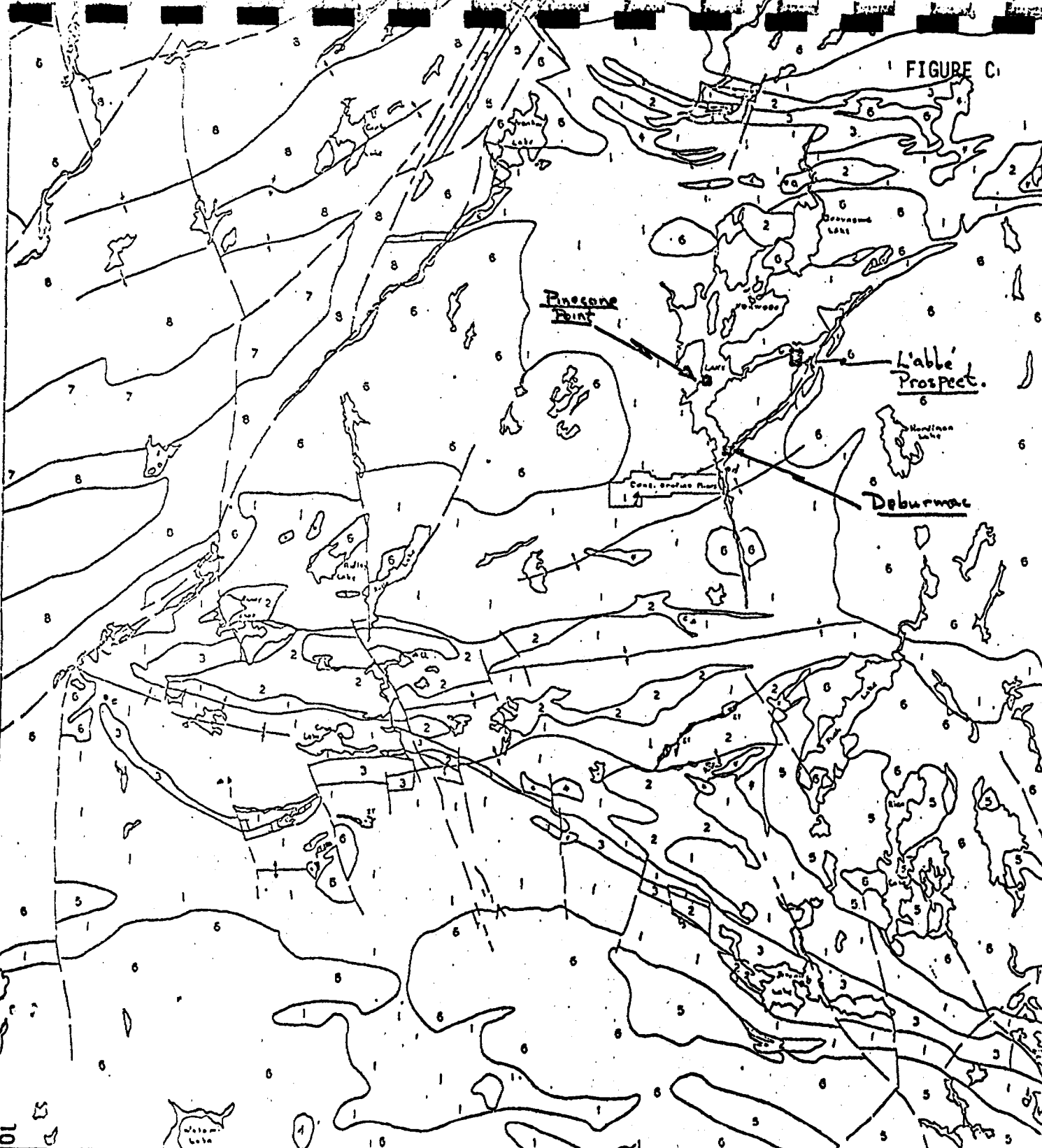
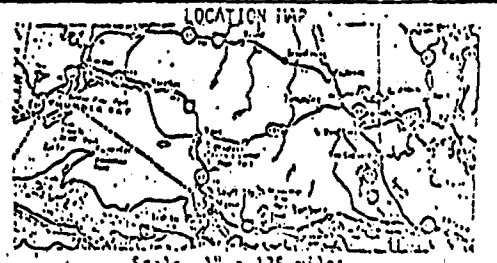


FIGURE C



HURONWOOD LAKE AREA, REGIONAL GEOLOGY, FIGURE C
LEGEND

- EARLY PRECAMBRIAN**
- Shawmore anorthosite complex
 - Intrusive Contact
 - Kapuskasing structural zone rocks
 - Fault Contact
- FELSIC IGNEOUS & METAMORPHIC ROCKS**
- Felsic intrusive & hybrid rocks
 - Intrusive or gradational contact
 - Iligmatitic rocks
 - Intrusive Contact
- MAFIC & ULTRAMAFIC INTRUSIVE ROCKS**
- Unsubdivided
 - Intrusive Contact
- METASEDIMENTS**
- Unsubdivided
- METAVOLCANICS**
- Felsic to intermediate metavolcanics
 - Mafic to intermediate metavolcanics
- Rock units 1,2,3 encompass the Archean Greenstone Belt
- SYMBOLS**
- Geological Boundary
 - Synclinal, Anticlinal Axis
 - Fault
 - Iron Formation
 - Past Producing Mine
 - a) Joburke Explorations Ltd.
 - b) Jerome Mine
 - c) Halcrow-Swayze Mine.
 - d) Tionaga Mine
 - Extensive Development
 - a) Kenty Prospect, Swayze Twp.
 - b) Lee Prospect, Greenlaw Twp.
 - c) Rundle Gold Mines Ltd., Newton & Dale Twp.
 - d) Orofino Mines Ltd., Silk & Huron Twp.



APPENDIX

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EM16

VLF Electromagnetic Unit

Pioneered and patented exclusively by Geonics Limited, the VLF method of electromagnetic surveying has been proven to be a major advance in exploration geophysical instrumentation.

Since the beginning of 1965 a large number of mining companies have found the EM16 system to meet the need for simple, light and effective exploration tool for mining geophysics.

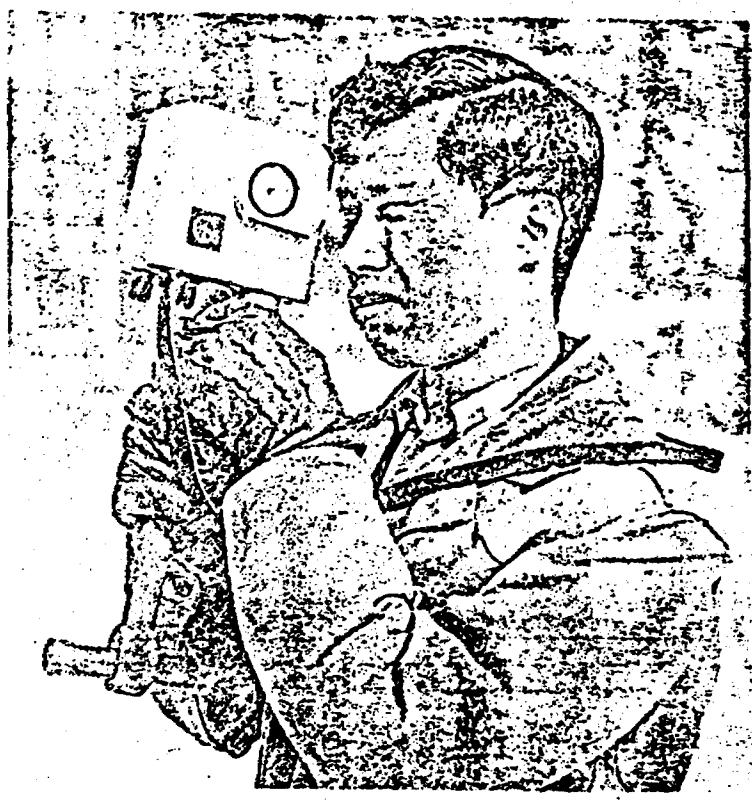
The VLF method uses the military and time standard VLF transmissions as primary field. Only a receiver is then used to measure the secondary fields radiating from the local conductive targets. This allows a very light, one-man instrument to do the job. Because of the almost uniform primary field, good response from deeper targets is obtained.

The EM16 system provides the *in-phase* and *quadrature* components of the secondary field with the polarities indicated.

Interpretation technique has been highly developed particularly to differentiate deeper targets from the many surface indications.

Principle of Operation

The VLF transmitters have vertical antennas. The magnetic signal component is then horizontal and concentric around the transmitter location.



Specifications

Source of primary field	VLF transmitting stations.	Reading time	10-40 seconds depending on signal strength.
Transmitting stations used NAA, CUTLER, MAINE Freq. - 178 kHz	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.	Operating temperature range	-40 to 50° C.
Operating frequency range	About 15-25 kHz.	Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial ± 40%, inclinometer dial ± 150%.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).	Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Method of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.	Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Scale range	In-phase ± 150%; quadrature ± 40%.	Weight	1.6 kg (3.5 lbs.)
Readability	± 1%.	Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
		Shipping weight	4.5 kg (10 lbs.)

GEONICS LIMITED

Designers & manufacturers of geophysical instruments

2 Thorncliffe Park Drive
Toronto/Ontario/Canada
M4H 1H2
Tel: (416) 425-1821
Cables: Geonic's



SCINTREX MP-2 Portable Proton Precession Magnetometer

Function

The MP-2 is a portable one gamma proton precession magnetometer for field survey or base station use. The optimized design of sensor and circuitry using the latest COS/MOS components has resulted in a very light weight, low power consumption, rugged and reliable magnetometer.

Light emitting diodes coupled with an ingenious optically polarized reflector combine solid state reliability with easy reading even in bright sunlight.

Coupled with a module into which the MP-2 is easily inserted, the magnetometer can be used as a base station unit for analogue or digital recording. Full details of the MBS-2 Magnetic Base Station are available on another Scintrex specification sheet.

The noise-cancelling dual-coil sensor and electronics have been so designed as to effectively eliminate reading problems due to virtually all magnetic gradients which may be encountered in field survey conditions.

Features

1 gamma sensitivity and accuracy over range of 20,000 to 100,000 gammas.

Operates in very high gradients, to 5000 gammas per meter.

Ultra small size and weight.

Up to 25,000 readings from only 8 D cells.

Battery pack isolated from electronics for corrosion protection.

Battery pack easily extended for winter use.

Light emitting diode digital display, with complete test feature.

Unique no-glare polarized reflector permits easy reading in bright sunlight.

Indicator light warning of excessive gradient, ambient noise or electronic failure.

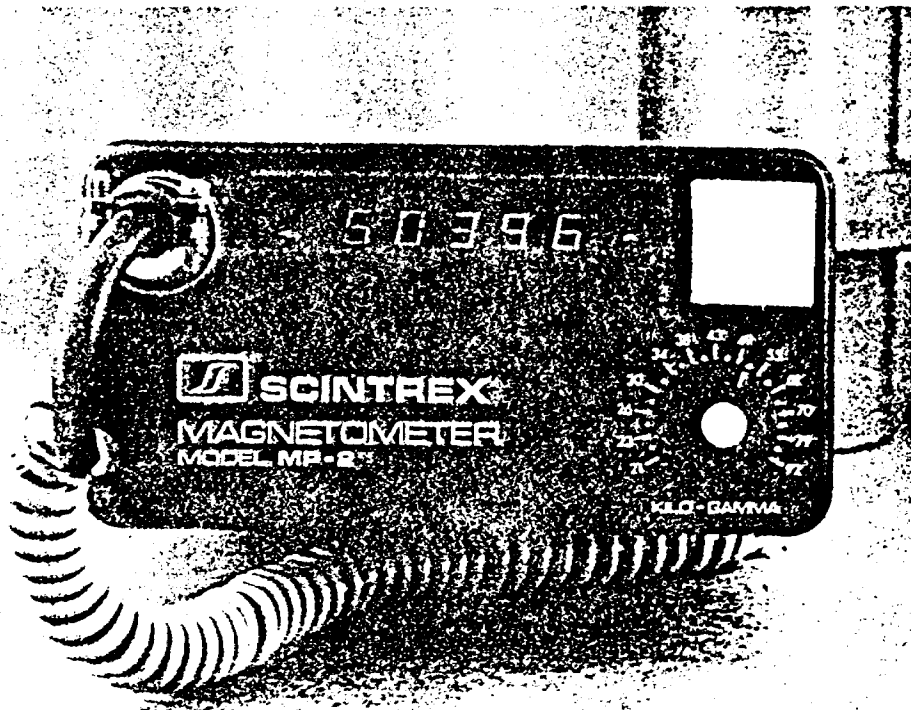
Digital readout of battery voltage.

Rugged all metal housing for rough field use at all temperatures.

Automatic recycling or external trigger features permit ready conversion to base station use.

Short reading time.

Broad operating temperature range.

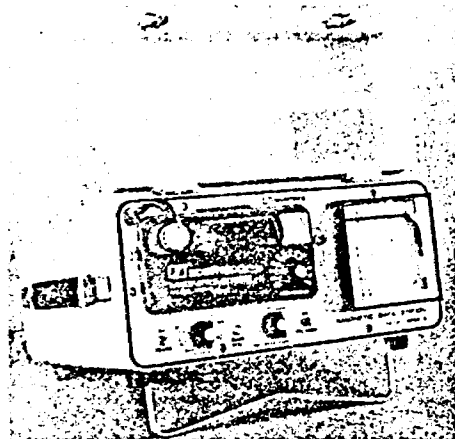


MP-2 Console

MP-2 In Operation with Staff Sensor



Technical Description of MP-2 Portable Proton Precession Magnetometer



MBS-2 Magnetic Base Station



MP-2 in Operation with Back Pack Sensor

Resolution	1 Gamma
Total Field Accuracy	± 1 Gamma over full operating range
Range	20,000 to 100,000 gammas in 25 overlapping steps
Internal Measuring Program	Single reading — 3.7 seconds. Recycling feature permits automatic repetitive readings at 3.7 second intervals
External Trigger	External trigger input permits use of sampling intervals longer than 3.7 seconds
Readout	5 digit LED (Light Emitting Diode) readout displaying total magnetic field in gammas or normalized battery voltage
Digital Output	Multiplied precession frequency and gate times
Base Station Mode	MP-2 console slips into a base station module which provides external triggering as well as digital and analogue outputs. The complete unit is called the MBS-2 Magnetic Base Station
Gradient Tolerance	Up to 5000 gammas/meter
Power Source	8 alkaline "D" cells provide up to 25,000 readings at 25°C under reasonable signal/noise conditions (less at lower temperatures). Premium carbon-zinc cells provide about 40% of this number
Sensor	Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance
Harness	Complete for operation with staff or back pack sensor
Operating Temperature Range	-35°C to +60°C
Size	Console, with batteries: 80 x 160 x 250mm Sensor: 80 x 150mm Staff: 30 x 1550mm (extended) 30 x 600 mm. (collapsed)
Weights	Console, with batteries: 1.8 kg Sensor: 1.3 kg Staff: 0.6 kg
Standard Accessories	Sensor, Staff, Cable, Harness, Carrying Case, Manual
Shipping Weight	Approximately 9.5 kg

Scintrex Limited
222 Snidercroft Road
Concord (Toronto) Ontario
Canada L4K 1B5
Tel: (416) 669-2280
Telex: 06-964570
Cable: Scintrex Toronto

Complete Geophysical
Instrumentation
and Services

MAN-DAYS - L'ABBE PERSONNEL

Peter Dadson

4 Moffatt Avenue,
Brampton, Ontario

Geological Mapping
July 13,14,15 & 28.

Andy McParland

c/o Northgate Exploration Ltd.,
107 Wilson Avenue,
Timmins, Ontario. P4N 2S8

Geological Mapping July 11,12,15 & Aug. 7-13,16.
Soil (Humus) Sampling July 10/August 6, 29.
Linecutting - August 14.

Brendan Jones

2002 Ingledale Road,
Mississauga, Ontario. L5J 2H2

Soil (Humus) Sampling - August 6 - 8.
VLF-EM Survey - August 9,11-13,15, 16.
Linecutting - August 14.

Maurizio Napoli

536 Edna Street,
Sudbury, Ontario. P3C 3P2

Soil (Humus) Sampling - August 6
Geological Mapping - August 7 - 14.

Simon Grimley

64 Truman Road,
Willowdale, Ontario.

Soil (Humus) Sampling - July 10/August 6 - 8.
Geological Mapping - July 11,12,28/August 10.
Geophysical (VLF-EM) - August 9, 11-13.
Geophysical(Magnetometer) - August 21.

Tom Wingfield

309 Primrose Lane,
Newmarket, Ontario. L3Y 5Z1

Geophysical (Magnetometer - August 21,22 & 26,27.

North-Gate Exploration LTD.

Horwood Lake

Line- Cutting

<u>Name @ Adress</u>	<u>Dates Worked</u>	<u>Hours</u>	<u>Days</u>
Henry TT Gonzalez 373 Commercial Ave, Timmins, Ont.	July 5-6-18-19-/ 81	32	4 8 hrs/day
David Gonzalez 373 Commercial Ave, Timmins, Ont.	July 5-6-7-8-9-10-11-12-13 18-19-20-21-22-23-24-/81	128	16 8 hrs/day
Pat Coyne 144 Moutjoy South Timmins, Ont.	July 5-6-7-8-9-10-11-12-13 18-19-20-21-22-23- /81	120	15 8 hrs/day
Jimmy Wabanonic Schumacher Hotel Schumacher Ont.	July 9-10-11-12- 18-19-20-21-22-23-24- /81	88	11 8 hrs/day
Totals		368	46



NORTHGATE EXPLORATION LIMITED

0006923

TORONTO, CANADA

November 16th 19 81

TOTAL SUM \$ 2749.80

PAY

\$ 2,749.80

NORTHGATE EXPLORATION LIMITED

TO THE ORDER OF

Bondar-Clegg & Company Ltd.,
764 Belfast Road
Ottawa, Ontario K1G 0Z5

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THE TORONTO-DOMINION BANK
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TORONTO, M5K 1A2 CANADA

NORTHGATE EXPLORATION LIMITED - REMITTANCE ADVICE

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DEBIT		CREDIT	
AC	\$	AC	\$
782-304	2,749.80		
<i>Only \$1,695.45 refers to Report number 11-2678</i>			

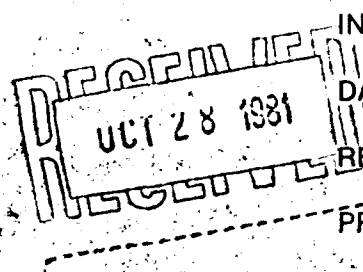
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BONDAR-CLEGG & COMPANY LTD.

64 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110 TELEX: 053-4455

Northgate Exploration Limited
c/o Dr. W.W. Weber
P.O. Box 143
1 First Canadian Place
Toronto, Ontario
M5X 1C7



INVOICE: **F 01025**

DATE: October 26, 1981

REPORT NO: 111-2574

PROJECT:

61	Analyses of Gold (Carbon Rod)	@ \$5.75	\$350.75
61	Sample Preparation	@ 0.60	<u>36.60</u>
			<u>Total \$387.35</u>

782-304

Dr. W.W. Weber

dr

Wm

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Northgate Exploration Limited,
c/o Dr. W.W. Weber,
P.O. Box 143,
1 First Canadian Place,
Toronto, Ontario.
M5X 1C7

RECEIVED
OCT 21 1981

INVOICE: E 09953

DATE: October 19, 1981

REPORT NO: 111-2575

PROJECT:

145	Analyses of Copper	@ \$1.75	\$253.75
145	Analyses of Lead	@ 0.75	108.75
145	Analyses of Zinc	@ 0.75	108.75
145	Analyses of Silver	@ 0.75	108.75
145	Sample Preparation	@ 0.60	87.00
TOTAL			<u>\$667.00</u>

ABB1-48 Project 782.
RANS-1-144 " 782

782.304

Oct 21/81

Dr. W. Weber

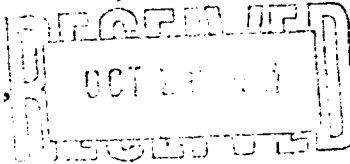
W.W.
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Northgate Exploration Limited,
c/o Dr. W.W. Weber
P.O. Box 143,
1 First Canadian Place,
Toronto, Ontario.
M5X 1C7



INVOICE: E 10087

DATE: October 23, 1981

REPORT NO. 111-2678

PROJECT:

267	Analyses of Gold(Carbon Rod)	@ \$5.75	\$1,535.25
267	Sample Preparation	@ 0.60	160.20
			<hr/>
		TOTAL	<u>\$1,695.45</u>

12 x 6.35 = 76.20

782-304

Dr. Weber

Nov. 3/81

W

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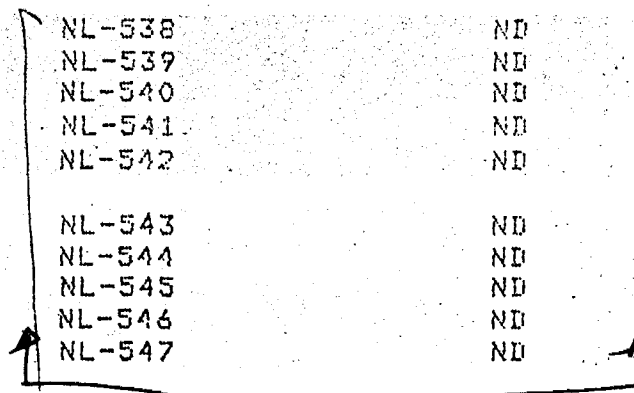
Geochemical Lab Report

REPORT 111-2670

PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/AU GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/AU GM	NOTES
RPN-144		ND			NL-538		ND		
RPN-145		2			NL-539		ND		
RPN-146		6			NL-540		ND		
RPN-147		ND			NL-541		ND		
RPN-148		ND			NL-542		ND		
RPN-149		ND			NL-543		ND		
IRV-0		ND			NL-544		ND		
IRV-6		ND			NL-545		ND		
IRV-24		ND			NL-546		ND		
IRV-30		ND			NL-547		ND		
IRV-32		ND			NL-548		ND		
IRV-44		ND			RDR-07		ND		
IRV-47		ND			RDR-08		ND		
NED-2		ND			RDR-09		ND		
JMG-26		ND			RDR-10		ND		
ANN-28		ND			RDR-11		ND		
NNG-3		ND			RDR-13		ND		
NNG-5		ND			NFF-4		ND		
NNG-8		ND			NFF-5		ND		
NNG-9		ND			NFF-6		ND		
NNG-12		ND			NFF-8		2		
NNG-24		ND			NFF-10		ND		
NNG-26		ND			NFF-12		ND		
NNG-27		ND			NFF-18		ND		
NNG-30		ND			NFF-32		ND		
NNG-33		ND			NFF-33		ND		
NNG-34		ND			NFF-34		ND		
NNG-35		ND			NFF-37		ND		
NNG-39		ND			LTF-7		ND		
NL-537		ND			LTF-8		ND		

L.A.B.E.



214886



NORTHGATE EXPLORATION LIMITED

0006777

TORONTO, CANADA

October 21, 1981

75019508459

PAY

\$ 9508.65

NORTHGATE EXPLORATION LIMITED

TO THE ORDER OF Bondar-Clegg & Company Ltd.
764 Belfast Road
Ottawa, Ontario
K1G 0Z5

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	AC	\$		AC	\$	
724-304		628	65			
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725-304		914	40			
727-304		209	00			
772-304		1327	15			
780-304		1242	75			
782-304		2642	10			
783-304		393	70			
784-304		2057	90			

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Northgate Exploration Limited
c/o Dr. W.W. Weber
P.O. Box 143
1 First Canadian Place
Toronto, Ontario
M5X 1C7

INVOICE: E 09361
DATE: September 18, 1981
REPORT NO: 111-1998
PROJECT: 784

322	Analyses of Gold (Carbon Rod)	@ \$5.75	\$ 1,851.50
322	Sample Preparation	@ 0.60	193.20
	Shipping Charge		<u>13.20</u>
	Total		<u><u>\$2,057.90</u></u>

784-304
Sept 22/81
Dr. Weber

Accrued

dr.

Wm

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Geochemical Lab Report

REPORT: 111-1998

FROM: NORTHGATE EXPLORATION LIMITED

SUBMITTED BY: NORTHGATE

DATE: 18-SEP-81 PROJECT: 784

ELEMENT	LOWER DETECTION LIMIT	EXTRACTION	METHOD	SIZE FRACTION	SAMPLE TYPE	SAMPLE PREPARATIONS
Au	2 PPB	HBr-Br ₂ -MIBK	Carbon Rod AA	-50	HUMUS	SEIVE -50

REPORT COPIES TO: DR. W.W. WEBER
MR. PETER DADSON

INVOICE TO: DR. W.W. WEBER

REMARKS: ND MEANS NOT DETECTED.
SAMPLE NO. NL-370 NO SAMPLE PROVIDED

DETECTION LIMITS FOR GOLD
10 gram sample: 2 ppb.
5 gram sample: 4 ppb.
1 gram sample: 20 ppb.

Sample Wt. 10 g. unless otherwise stated.

NOTE:
Check concentration/sample weight ratio
for effective detection level.



Geochemical Lab Report

111-2678

REPORT: 111-1998

PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	wt/Au GM	NOTES
---------------	---------------	--------	----------	-------

NL-68		ND		
NL-69		ND		
NL-70		ND		
NL-71		ND		
NL-72		2		

NL-76		ND		
NL-87		ND		
NL-88		ND		
NL-90		ND		
NL-91		ND		

NL-92		ND		
NL-93		ND		
NL-94		ND		
NL-95		ND		
NL-96		ND		

NL-97		ND		
NL-98		ND		
NL-100		ND		
NL-102		ND		
NL-105		ND		

NL-108		ND		
NL-111		2		
NL-112		ND		
NL-113		ND		
NL-114		2		

NL-115		ND		
NL-116		2		
NL-117		ND		
NL-118		2		
NL-119		ND		

NL-537	ND
NL-538	ND
NL-539	ND
NL-540	ND
NL-541	ND
NL-542	ND
NL-543	ND
NL-544	ND
NL-545	ND
NL-546	ND
NL-547	ND
NL-548	ND

NL-150	ND
NL-151	5
NL-152	ND
NL-153	ND
NL-154	ND

NL-155	ND
NL-156	ND
NL-157	ND
NL-158	ND
NL-160	ND

NL-164	2
NL-165	2
NL-166	ND
NL-167	ND
NL-168	2

NL-169	2
NL-170	ND
NL-171	ND
NL-172	ND
NL-173	ND



Geochemical Lab Report

REPORT: 111-1998

PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/Au GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/Au GM	NOTES
NL-174		ND			NL-214		ND		
NL-182		ND			NL-216		ND		
NL-183		2			NL-217		7		
NL-184		ND			NL-218		ND		
NL-185		ND			NL-219		2		
NL-186		ND			NL-220		ND		
NL-187		ND			NL-221		ND		
NL-188		ND			NL-222		ND		
NL-189		ND			NL-224		ND		
NL-190		ND			NL-225		2		
NL-191		ND			NL-226		ND		
NL-192		2			NL-227		ND		
NL-193		ND			NL-228		ND		
NL-194		ND			NL-229		ND		
NL-195		ND			NL-230		ND		
NL-196		ND			NL-231		ND		
NL-197		ND			NL-232		ND		
NL-199		ND			NL-237		ND		
NL-200		ND			NL-238		ND		
NL-201		ND			NL-239		ND		
NL-202		ND			NL-240		ND		
NL-204		ND			NL-241		ND		
NL-205		ND			NL-243		ND		
NL-207		ND			NL-246		ND		
NL-208		ND			NL-247		6		
NL-209		ND			NL-248		ND		
NL-210		ND			NL-249		ND		
NL-211		ND			NL-250		8		
NL-212		ND			NL-251		5		
NL-213		ND			NL-252		2		



Geochemical Lab Report

REPORT: 111-1998

PAGE 3

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	wt/Au GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	Au PPB	wt/Au GM	NOTES
NL-253		ND			NL-290		ND		
NL-254		ND			NL-291		ND		
NL-255		ND			NL-292		ND		
NL-257		ND			NL-293		ND		
NL-258		ND			NL-294		ND		
NL-259		ND			NL-296		ND		
NL-260		ND			NL-297		ND		
NL-261		ND			NL-298		ND		
NL-264		ND			NL-300		ND		
NL-265		ND			NL-301		ND		
NL-266		ND			NL-302		ND		
NL-267		ND			NL-303		ND		
NL-268		ND			NL-305		ND		
NL-269		ND			NL-307		10		
NL-270		ND			NL-308		ND		
NL-271		ND			NL-309		ND		
NL-272		ND			NL-310		ND		
NL-273		ND	9.30		NL-311		ND		
NL-274		2			NL-312		ND		
NL-275		ND			NL-313		ND		
NL-276		ND			NL-314		ND		
NL-277		ND			NL-315		ND		
NL-280		ND			NL-316		ND		
NL-281		3			NL-317		ND		
NL-282		6			NL-318		ND		
NL-284		ND			NL-320		2		
NL-285		2			NL-321		2		
NL-286		ND			NL-322		ND		
NL-287		ND			NL-323		ND		
NL-289		ND			NL-325		ND		

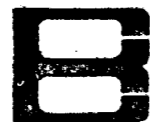


Geochemical Lab Report

REPORT: 111-1998

PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/AU GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	AU PPB	wt/AU GM	NOTES
NL-326		ND			NL-363		ND		
NL-327		ND			NL-364		2		
NL-328		2			NL-365		2	9.00	
NL-329		2	5.90		NL-366		2		
NL-330		3			NL-367		ND		
NL-331		ND			NL-368		2	7.20	
NL-336		ND			NL-369		ND		
NL-337		ND			NL-370				
NL-339		ND			NL-371		ND		
NL-341		ND			NL-372		ND	9.90	
NL-343		ND	8.60		NL-373		2		
NL-344		ND			NL-374		ND		
NL-345		3	8.60		NL-375		ND	6.10	
NL-346		29			NL-376		3		
NL-347		ND	9.10		NL-377		ND	6.90	
NL-348		ND			NL-378		ND	8.50	
NL-349		ND	8.40		NL-379		ND		
NL-350		ND	8.70		NL-380		ND	3.90	
NL-351		ND			NL-381		7	9.60	
NL-352		ND			NL-382		2	6.90	
NL-353		ND			NL-383		ND	7.80	
NL-354		ND	9.00		NL-384		2	4.30	
NL-355		ND			NL-385		2	6.40	
NL-356		2			NL-386		2	8.10	
NL-357		ND			NL-387		2	9.60	
NL-358		ND			NL-388		2	9.10	
NL-359		ND			NL-389		2		
NL-360		ND			NL-390		ND	8.20	
NL-361		ND			NL-391		ND		
NL-362		ND	9.60		NL-392		ND		



Geochemical Lab Report

REPORT: 111-1998

PAGE 5

SAMPLE NUMBER	ELEMENT UNITS	Au PFB	wt/Au GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	Au PFB	wt/Au GM	NOTES
NL-393		2			NL-429		ND		
NL-394		ND			NL-430		2		
NL-395		ND			NL-431		ND		
NL-396		2			NL-434		ND		
NL-397		2	7.30		NL-435		ND		
NL-398		8			NL-436		3		
NL-399		2			NL-438		2		
NL-400		2			NL-439		ND		
NL-401		2	5.50		NL-440		ND		
NL-402		ND	8.00		NL-441		ND	7.50	
NL-403		ND			NL-446		ND		
NL-404		2			NL-448		ND		
NL-405		ND			NL-450		8		
NL-406		ND			NL-451		8		
NL-407		ND			NL-452		6		
NL-408		ND			NL-453		ND		
NL-409		4			NL-454		ND		
NL-410		ND			NL-455		ND		
NL-411		ND			NL-457		ND		
NL-412		ND	8.70		NL-458		ND	8.50	
NL-418		2			NL-459		2	7.30	
NL-419		ND			NL-460		ND	8.90	
NL-420		3			NL-461		ND		
NL-421		ND			NL-463		2	9.70	
NL-422		2	7.90		NL-465		2	7.40	
NL-423		11			NL-500		2		
NL-424		2			NL-502		ND		
NL-425		5			NL-503		ND		
NL-427		ND			NL-504		2		
NL-428		2			NL-505		3	6.60	



Geochemical Lab Report

REPORT: 111-1998

PAGE 6

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	wt/Au GM	NOTES
NL-506		2		
NL-507		ND		
NL-508		ND		
NL-511		ND		
NL-512		ND		
NL-513		ND	9.30	
NL-514		2		
NL-515		ND		
NL-517		ND		
NL-518		ND		
NL-519		ND		
NL-520		ND		
NL-521		ND		
NL-522		ND		
NL-523		ND		
NL-524		5		
NL-525		ND		
NL-526		ND		
NL-531		2	8.10	
NL-532		4		
NL-533		2		
NL-534		ND	8.20	
NL-535		2		

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NORTHGATE EXPLORATION LIMITED

0001443

TORONTO, CANADA

September 11, 1981

THE BANK OF NOVA SCOTIA
TORONTO BRANCH, TORONTO, ONT.

PAY

THE SUM IS 40442.50

\$ 14044.25

NORTHGATE EXPLORATION LIMITED

TO THE ORDER OF

Bondar-Clegg & Company Ltd.
764 Belfast Road
Ottawa, Ontario
K1G 0Z5

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	725-304	381.00				
	727-304	12.70				
	772-304	4851.40				
	775-304	975.95				
	781-304	3992.88				
	782-304	740.41				
	783-304	774.70				
	784-304	740.41				

→ dollar amount charged to 784 should only be \$469.90 (Report 111-1216)

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764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110 TELEX: 053-4455

Northgate Exploration Limited
c/o Dr. W.W. Weber
P.O. Box 143
1 First Canadian Place
Toronto, Ontario
M5X 1C7

INVOICE: E 08770
DATE: August 21, 1981
REPORT NO: 111-1716
PROJECT:

583	Analyses of Gold (Carbon Rod)	@ \$5.75	\$3,352.25
583	Samples Preparation	@ 0.60	<u>349.80</u>
			Total <u>\$3,702.05</u>

74 samples 469.90

*782-304
Avg 166
NL-11
Aug 85/87
L-67
RPN. 1-87
M. 118
See 60%*

Dr. Weber

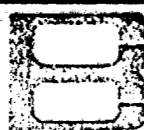
*784-304 NL 82 → 20%
535*

*781-304 → 20%
BAS 88.105*

dr

Ulin

THIS IS A PROFESSIONAL SERVICE
ACCOUNTS DUE WHEN RENDERED



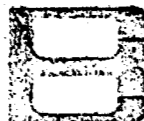
Geochemical Lab Report

REPORT: 111-1714

PAGE 5

SAMPLE NUMBER	ELEMENT UNITS	Au PFB	wt/Au GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	Au PFB	wt/Au GM	NOTES
BAS-92		ND			NL-20		ND		
BAS-95		ND			NL-21		ND		
BAS-96		2			NL-22		ND		
BAS-97		3			NL-23		ND		
BAS-98		ND			NL-24		ND		
BAS-99		ND			NL-25		ND		
BAS-100		3			NL-26		ND		
BAS-101		ND			NL-27		ND		
BAS-102		ND			NL-28		ND		
BAS-103		ND			NL-29		ND		
BAS-104		ND			NL-30		ND		
BAS-105		ND			NL-31		ND		
NL-1		ND			NL-32		ND		
NL-2		ND			NL-33		ND		
NL-3		ND			NL-34		ND		
NL-4		ND			NL-35		2		
NL-5		ND			NL-36		ND		
NL-6		ND			NL-37		2		
NL-7		ND			NL-38		ND		
NL-8		ND			NL-39		ND		
NL-9		ND			NL-40		ND		
NL-10		ND			NL-41		12		
NL-11		ND			NL-42		ND		
NL-12		ND			NL-43		ND		
NL-13		ND			NL-44		ND		
NL-14		ND			NL-45		ND		
NL-15		3			NL-46		ND		
NL-16		ND			NL-47		ND		
NL-17		ND			NL-48		ND		
NL-18		2			NL-49		5		

784



Geochemical Lab Report

REPORT: 111-1716

PAGE 4

SAMPLE NUMBER	ELEMENT UNITS	AU PPB	WT/AU GM	NOTES	SAMPLE NUMBER	ELEMENT UNITS	AU PPB	WT/AU GM	NOTES
NL-50		ND			RPN-5		ND		
NL-51		ND			RPN-6		ND		
NL-52		ND			RPN-7		ND		
NL-53		3			RPN-8		ND		
NL-55		7			RPN-9		ND		
NL-56		2			RPN-10		ND		
NL-57		2			RPN-11		ND		
NL-58		6			RPN-12		ND		
NL-59		ND			RPN-13		ND		
NL-60		ND			RPN-14		ND		
NL-61		ND			RPN-15		ND		
NL-62		ND			RPN-16		ND		
NL-63		ND			RPN-17		ND		
NL-64		ND			RPN-18		ND		
NL-65		ND			RPN-19		ND		78v
NL-66		ND			RPN-20		ND		
NL-77		ND			RPN-21		ND		
NL-78		ND			RPN-22		ND		
NL-79		ND			RPN-23		ND		
NL-80		ND			RPN-24		ND		
NL-81		ND			RPN-25		ND		
NL-82		ND			RPN-26		ND		
NL-83		2			RPN-27		ND		
NL-84		ND			RPN-28		ND		
NL-85		2			RPN-29		ND		
NL-86		ND			RPN-30		ND		
RPN-1		ND			RPN-31		ND		
RPN-2		ND			RPN-32		ND		
RPN-3		ND			RPN-33		ND		
RPN-4		3			RPN-34		ND		

78A

78v



42B01SE0052 2.4455 HORWOOD

900

1983 11 21

Your File : #1

Our File : 2.4455

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Geophysical (Magnetometer) Geological & Geochemical
Survey submitted on Mining Claims P 551737 et al in
the Township of Horwood

The Geophysical (Magnetometer), Geological & Geochemical Survey assessment work credits as listed with my Notice of Intent dated September 2, 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 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

D. Kinvig:sc

cc: Northgate Exploration Limited
Timmins, Ontario

cc: Resident Geologist
Timmins, Ontario

#1

2.4455

1983 10 27

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Geophysical (Electromagnetic and Magnetometer),
Geological, and Geochemical Survey submitted
on mining claims P 551737 et al in the Township
of Horwood

The Geophysical (Electromagnetic and Magnetometer),
Geological, and Geochemical Survey assessment work
credits as listed with my Notice of Intent dated
September 2, 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 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-1380

D. Kinvig:mc

cc: Northgate Exploration Ltd
Suite 3140
1 First Canadian Place
Toronto, Ontario
M5X 1C7
Att: Peter Dadson

cc: Resident Geologist
Timmins, Ontario



Ontario

Ministry of Natural Resources

Technical Assessment Work Credits

File 2.4455

Date 1983 09 02

Mining Recorder's Report of Work No. #1

Recorded Holder	NORTHGATE EXPLORATION LIMITED
Township or Area	NORWOOD TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ 32 _____ days Magnetometer _____ 16 _____ days Radiometric _____ _____ days Induced polarization _____ _____ days Other _____ _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ _____ days Geochemical _____ 16 _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input type="checkbox"/> Ground <input 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.	P 551737 to 42 inclusive 572629 to 36 inclusive

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed

0 572637

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 77 (19)—60:

1983 00 05

2.4455

Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Geophysical (Electromagnetic) Survey submitted on
Mining Claims P 551737 et al in the Township of Horwood

The Geophysical (Electromagnetic) Survey assessment work credits as listed with my Notice of Intent dated September 2, 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 6610
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1380

cc:Kinvig:sc

cc: Northgate Exploration Ltd
Suite 3140
1 First Canadian Place
Toronto, Ontario
M5X 1C7
Attention: Peter Dadson

cc: Resident Geologist
Timmins, Ontario



Ontario

Ministry of Natural Resources

Technical Assessment Work Credits

File
2.4455

Date
1983 09 02

Mining Recorder's Report of Work No.
1

Recorded Holder
NORTHGATE EXPLORATION LIMITED

Township or Area
HORWOOD TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days	P 551737 to 42 inclusive 572629 to 37 inclusive
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ 16 days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input checked="" 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.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed



Sept 26/83

Your file: 1

Our file: 2.4455

1983 09 02

Mr. William L. Good
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

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

JK
D. Kinvig:mc

Encls:

cc: Northgate Exploration Limited
P.O. Box 143
Suite 3140
1 First Canadian Place
Toronto, Ontario
M5X 1C7
Attention: Peter Dadson

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



Ministry of
Natural
Resources

Ontario

Notice of Intent
for Technical Reports

1983 09 02

2.4455/1

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

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

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns
- Do not use shaded areas below.

P-551737

1
The Mining Act

24455

Type of Survey(s) Magnetometer, Electromagnetic, Geological & Geochemical	Township or Area Horwood Township
Claim Holder(s) Northgate Exploration Limited	Prospector's Licence No. T-835
Address P.O. Box 143, Suite 3140, 1 First Canadian Place, Toronto, Ontario. M5X 1C7	
Survey Company Northgate Exploration Limited	Date of Survey (from & to) 6 7 81 31 12 81 Day Mo. Yr. Day Mo. Yr.
Name and Address of Author (of Geo-Technical report) Peter Dadson, 4 Moffatt Avenue, Brampton, Ontario.	
Total Miles of line Cut 10.71 MILES	

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	40
	- Magnetometer	20
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	20
	Geochemical	20
	Geophysical	
	Electromagnetic	
Man Days Complete reverse side and enter total(s) here Receipt No.	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	PH	
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
P	551737				
	551738	12.00			
	551739	46.30			
	551740				
	551741				
	551742				
	572629	10.00			
	572630				
	572631				
	572632				
	572633				
	572634				
	572635				
	572636	25.00			
	572637	70.30			
		173.60			
		n.d.			

RECEIVED
RECEIVED
JUN 14 1982
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed **Chemical**
Geochemistry - Humus Sampling-Analyses

Performed on Claim(s)
P-551737-738, P-551740-P551742

Calculation of Expenditure Days Credits

Total Expenditures	Total Days Credits
\$ 2,604.00	15
+	=
	173.60

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.

Date **12/23/81** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded 1500	Date Recorded 12/23/81	Mining Recorder Regional Mining Recorder
	Date Approved/as Recorded	Branch Director

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
[Signature]

Date Certified **12/23/81** Certified by (Signature) *[Signature]*



Mining Lands Comments

- You wanted to see this file again.

To: Geophysics *Mr Barlow.*

Comments

Approved Wish to see again with corrections Date *July 26/83* Signature *Douglas H. Pitcher*

To: Geology - Expenditures

Comments

Approved Wish to see again with corrections Date Signature

To: Geochemistry

Comments *L.D.*

Approved Wish to see again with corrections Date Signature

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1983 05 19

2.4455

Northgate Exploration Limited
P.O. Box 143
Suite 3140
1 First Canadian Place
Toronto, Ontario
M5X 1C7
Attention: Peter Dadson

Dear Sirs:

RE: Geophysical (Electromagnetic) Survey submitted
on Mining Claims 55737 et al in the Township
of Horwood.

Enclosed are the V.L.F. Electromagnetic plans, in duplicate,
for the above mentioned survey. Please plot the original
V.L.F.-EM reading on the plans and return them to this office.

For further information, 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: 416/965-1380.

R. Pichette:sc

Encls:

cc: Mining Recorder
Timmins, Ontario



NORTHGATE EXPLORATION LIMITED

SUITE 3140, P.O. BOX 143, 1 FIRST CANADIAN PLACE, TORONTO, CANADA M5X 1C7 • TELEPHONE (416) 362-6683 • TELEX 06-217766

May 27, 1983

Mr. E. F. Anderson
Director
Land Management Branch
Whitney Block, Room 6450
Queen's Park
Toronto, Ontario
M7A 1W3

Dear Sir:

Re: Your File No. 2.4455
Geophysical (Electromagnetic) Survey submitted
on Mining Claims P 551737 et al in the Township
of Horwood.

Please find enclosed the V.L.F.-EM Plans with original V.L.F-EM readings.

Yours truly

NORTHGATE EXPLORATION LIMITED

G. Harper / s.d.

G. Harper, Ph. D.
Chief Geologist

GH:sd

encl.

c.c. Mining Recorder
Timmins, Ontario

RECEIVED	
Land Management Branch	
CIRCULATE <input checked="" type="checkbox"/>	
COMMENTS PLEASE <input type="checkbox"/>	
BY	
JUN -2 1983	
E. F. ANDERSON	
J. R. MORTON	
J. C. SMITH	<input checked="" type="checkbox"/>
G. SHERMAN	
J. M. SMALL	
RETURN TO R. 6450	

Mining Lands Comments

V.L.F. map needs re-acting (new data)

To: Geophysics

Mr. Barber.

Comments

- VLF raw data needed

Approved

Wish to see again with corrections

Date April 29/83

Signature R. [Signature]

To: Geology - Expenditures

Mr. Kustra.

Comments

Approved

Wish to see again with corrections

Date Jan 11/83

Signature Kustra

To: Geochemistry

Dr. Thomsen.

Comments

Approved

Wish to see again with corrections

Date June 7 1983

Signature J. A. [Signature]

To: Mining Lands Section, Room 6462, Whitney Block.

(Tel: 5-1380)

1982 01 04

2.4455

Mining Recorder's Office
Ministry 66 Natural Resources
60 Wilson Avenue
Toronto, Ontario

Dear Sir;

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer), a Geological and Geochemical survey submitted under Special Provisions (credit for Performance and Coverage) on mining claims P 551737 et al in the Township of Horwood.

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

Enclosed is the Report of Work sheet which was sent to us by mistake.

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

J. Skura

cc: Northgate Exploration Ltd.,
Toronto, Ontario

P. Dadson
Brampton, Ontario



**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.**

RECEIVED

DEC 31 1981

MINING LANDS SECTION

Type of Survey(s) Electromagnetic, Magnetometer, Geological & Geochemistry

Township or Area Horwood Township

Claim Holder(s) Northgate Exploration Limited
1 First Canadian Place, Box 143, Toronto, M5X 1C7

Survey Company Northgate Exploration Limited

Author of Report Peter A. Dadson

Address of Author 4 Moffatt Avenue, Brampton, Ontario

Covering Dates of Survey July 5, 1981 to December 31, 1981
(linecutting to office)

Total Miles of Line Cut 10.71 Miles

**MINING CLAIMS TRAVERSE
List numerically**

P (prefix)	551737 (number)
.....	551738
.....	551739
.....	551740
.....	551741
.....	551742
.....	572629
.....	572630
.....	572631
.....	572632
.....	572633
.....	572634
.....	572635
.....	572636
.....	572637

If space insufficient, attach list

**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	20
Geochemical	20

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

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

DATE: Dec 28/81 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. _____ Qualifications 2.3162

Previous Surveys

File No.	Type	Date	Claim Holder
.....
.....
.....
.....
.....
.....
.....
.....

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 497 (100' intervals) 1003 (50' intervals) Magnetometer Survey - 1003
Number of Readings EM Survey 497, Humus 410 sample
Station interval see above Line spacing 400'
Profile scale VLF-EM - 1' = 100%
Contour Interval Magnetometer - 200% up to 1000', 500% up to 2000', 1000% From 2,000' and up.

MAGNETIC

Instrument Scintrex MP-2 Portable Proton Precession Magnetometer
Accuracy - Scale constant + 1 Gamma
Diurnal correction method
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

Instrument Geonics EM-16
Coil configuration Horizontal and Vertical
Coil separation --
Accuracy + 1%
Method: Fixed transmitter Shoot back In line Parallel line
Frequency Station NAA: Cutler, Maine Frequency 17.8 KHZ
(specify V.L.F. station)
Parameters measured Inphase and Quadrature

GRAVITY

Instrument N/A
Scale constant
Corrections made
Base station value and location
Elevation accuracy N/A

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

SELF POTENTIAL

Instrument _____ N/A _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____ N/A _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth - include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____ N/A _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____ N/A _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken P-551737 - P551742 Inclusive & P-572629 - P572636
Inclusive

Total Number of Samples 408

Type of Sample Humus
(Nature of Material)

Average Sample Weight 10 gms

Method of Collection _____

Soil Horizon Sampled Ao

Horizon Development Fair to Good

Sample Depth 1" - 2"

Terrain Gentle Slopes, Some Rocky Hills

Drainage Development Fair to Good

Estimated Range of Overburden Thickness _____
1" to several feet

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____
-80 Mesh

General _____

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, -(circle)

Others Au

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory Bondar-Clegg & Co., Ltd.

Extraction Method MIBK - Organic Layer

Analytical Method Carbon Rod AA

Reagents Used HBr - Br₂

General _____



NORTHGATE EXPLORATION LIMITED

SUITE 3140, P.O. BOX 143, 1 FIRST CANADIAN PLACE, TORONTO, CANADA M5X 1C7 • TELEPHONE (416) 362-6663 • TELEX 06-217766

December 31, 1981.

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

Dear Mr. Mathews,

Enclosed please find three copies of the Summary Report for assessment credits on our L'Abbe Prospect, covering geology, geophysics and geochemistry.

We have also enclosed financial records for the humus sampling. If there are any questions, please do not hesitate to contact Mr. R. Zinn.

Yours truly,

NORTHGATE EXPLORATION LIMITED,


P. A. Dadson,
Project Geologist.

/st.

Encls (3).

RECEIVED
DEC 31 1981
MINING LANDS SECTION

2.4455

	E.M.	Mag.	Geol.	Geochem.
P-551737			1/2	
38			1/2	
39			3/4	
40			✓	
41			✓	
551742			✓	
572629			3/4	
30			✓	
31			✓	
32			✓	
33			✓	
34			✓	
35			✓	
36			3/4	
572637	0	0	3/4	0

Geol. PRO-RATED

$$(15 \times 20) \div (15 + \frac{16}{4})$$

$$= 15.78 = \textcircled{16} \text{ days}$$

Mag, Geochem. PRO-RATED

$$(14 \times 20) \div (14 + \frac{13}{4})$$

$$= 16.23$$

$$= \textcircled{16} \text{ days}$$

E. M. PRO-RATED.

$$(14 \times 40) \div (14 + \frac{13}{4})$$

$$= 32.46$$

$$= \textcircled{32} \text{ days}$$

D.K.

THE TOWNSHIP OF
HORWOOD
 DISTRICT OF SUDBURY
 PORCUPINE MINING DIVISION
 SCALE: 1-INCH = 40 CHAINS

DISPOSITION OF CROWN LANDS

PATENT, SURFACE AND MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	◐
LEASE, SURFACE AND MINING RIGHTS	◑
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◓
LICENCE OF OCCUPATION	◔
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	—
CANCELLED	—

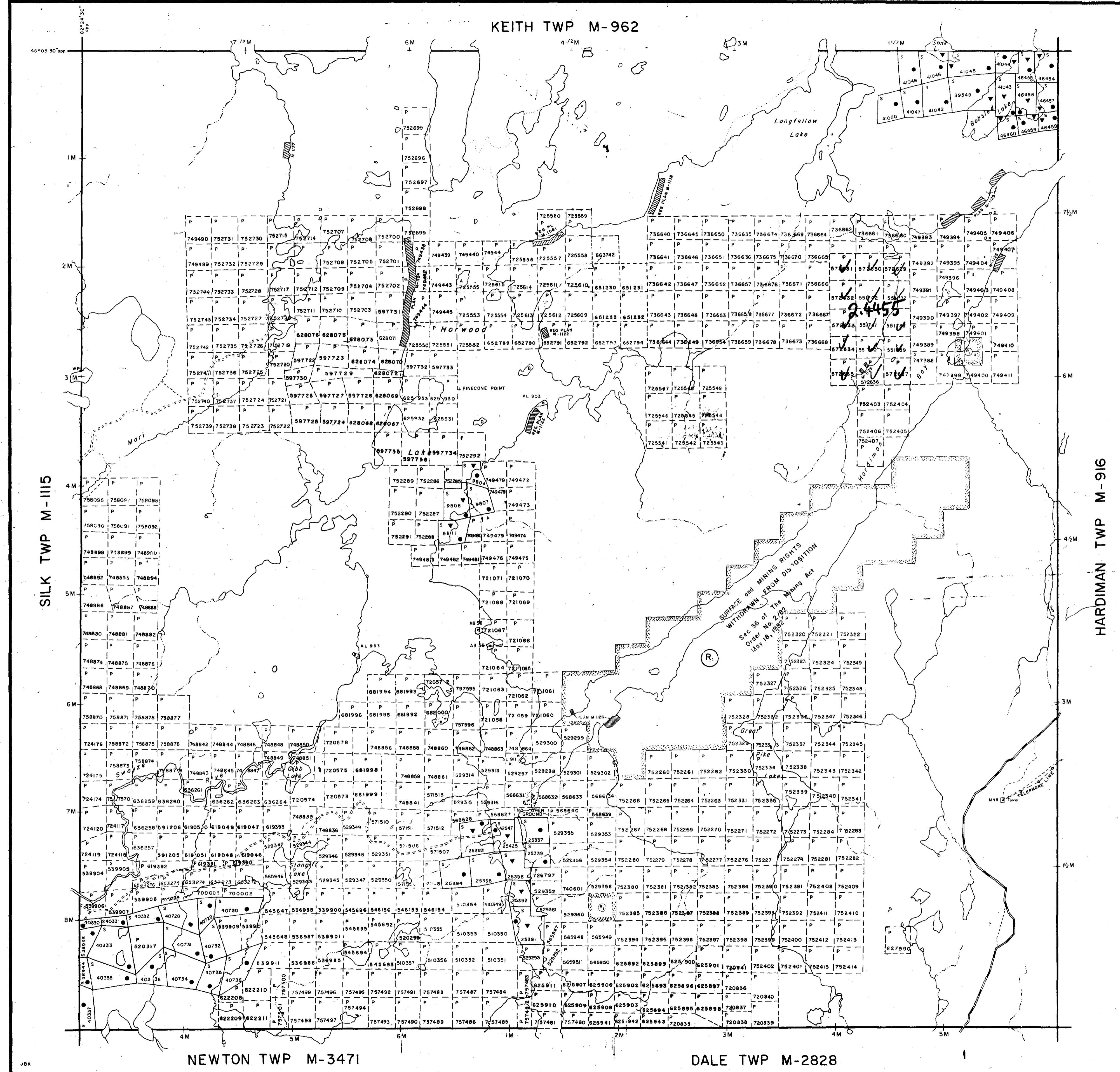
NOTES

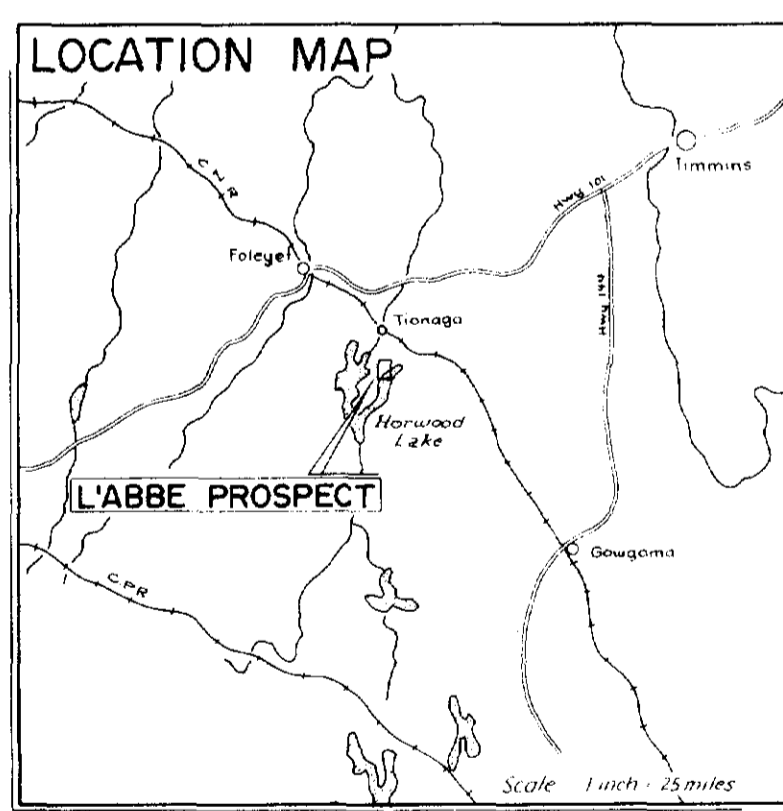
400' Surface Rights Reservation along the shores of all lakes & rivers

is withdrawn from staking under Section of the Mining Act (R.S.O. 1980), to. File Date Disposition

W. 2/82 16/5/82 S.R.D.M.R.

PLAN NO.- **M-936**
 ONTARIO
 MINISTRY OF NATURAL RESOURCES
 SURVEYS AND MAPPING BRANCH

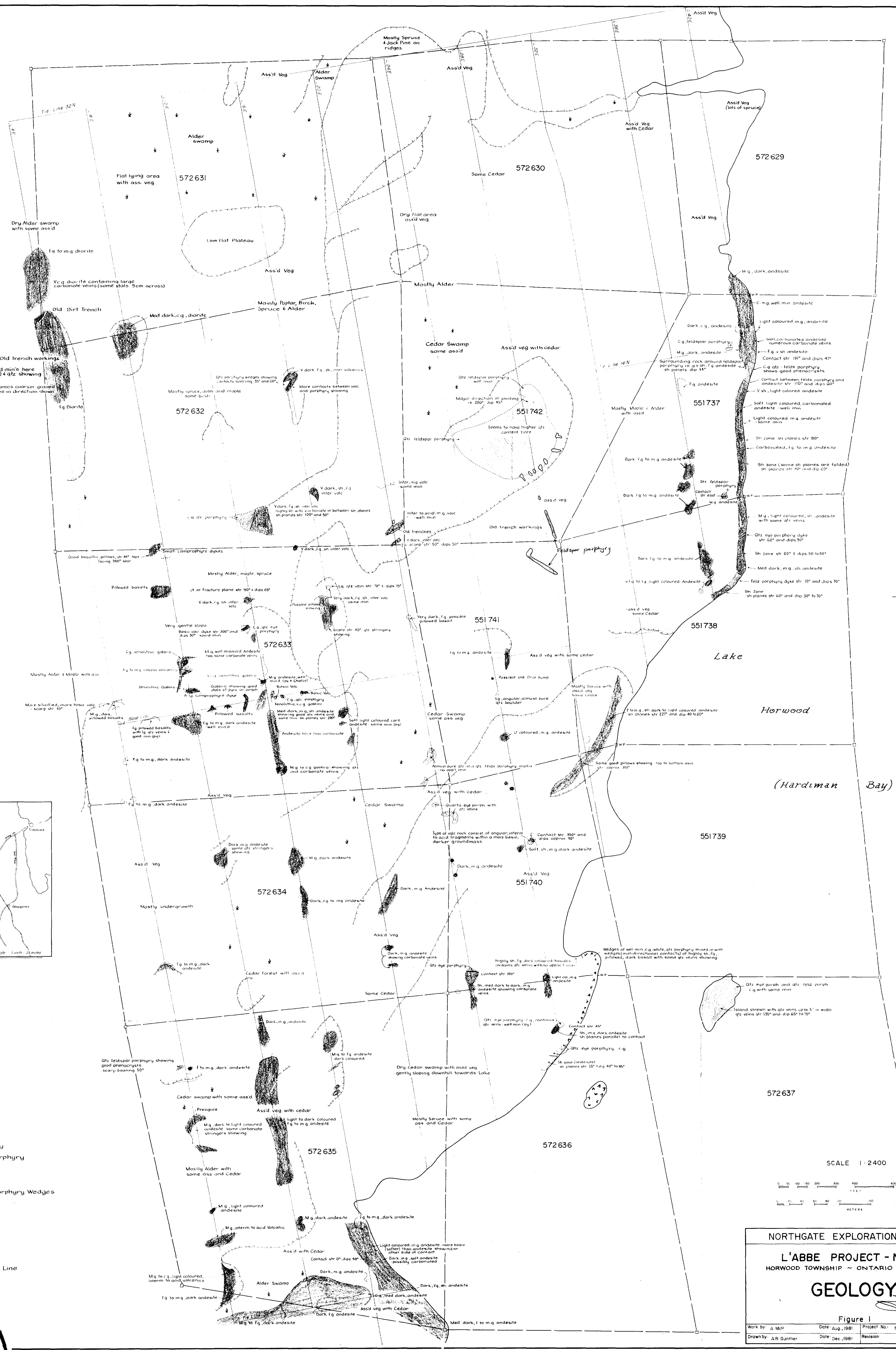




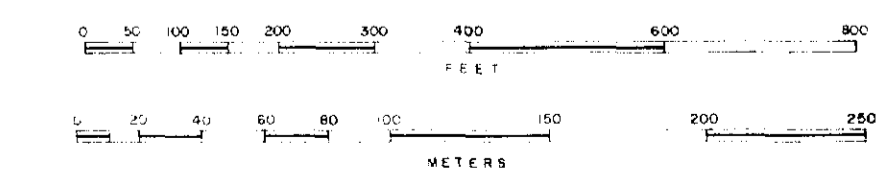
LEGEND

- Andesite
- Basalt
- Gabbro
- Diorite
- Quartz eye Porphyry
- Quartz Feldspar Porphyry
- Feldspar Porphyry
- Xenolithic Gabbro
- Basalt and Quartz Porphyry Wedges

- Geological Contact
- Outcrop Area
- Trench
- Claim Post & Claim Line
- Cliff
- Swamp



SCALE 1:2400



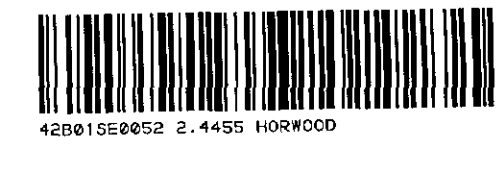
NORTHGATE EXPLORATION LIMITED

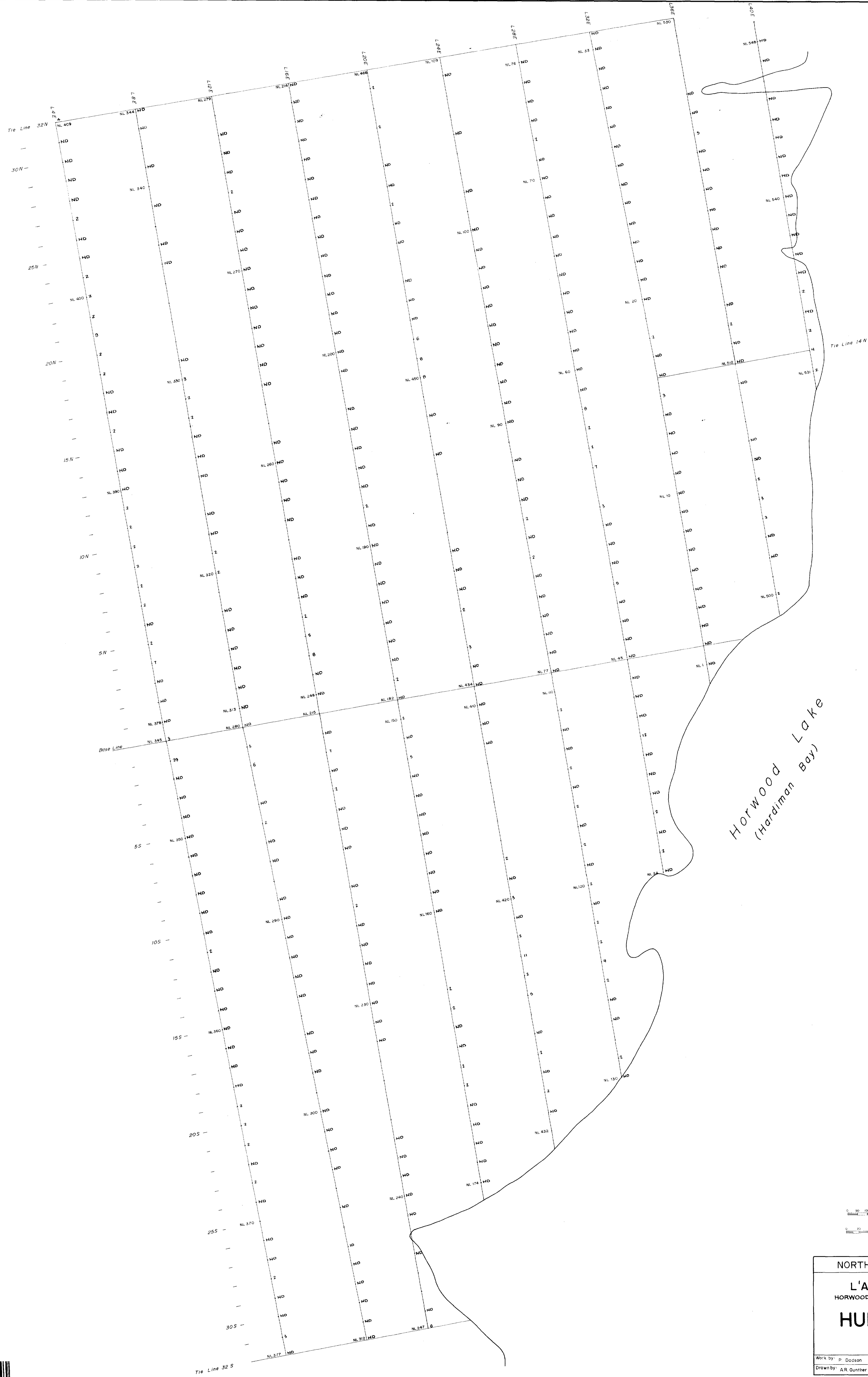
L'ABBE PROJECT - NO 784
HORWOOD TOWNSHIP ~ ONTARIO ~ NTS 41-0-16

GEOLOGY

Figure 1

Work by: A. McI.	Date: Aug. 1981	Project No: 784	Scale: 1:2400
Drawn by: A.R. Gunther	Date: Dec. 1981	Revision:	Date:

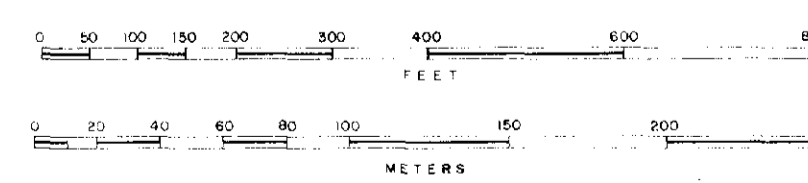




LEGEND

NL 100 + 5
 Sample Number | Value of Gold in parts per billion (ppb)
 ND - Not Detected

SCALE 1:2400



NORTHGATE EXPLORATION LIMITED

L'ABBE PROJECT - NO 784
 HORWOOD TOWNSHIP ~ ONTARIO ~ NTS 41-0-16

HUMUS SAMPLING

Figure 2

Work by: P. Dacson Date: Aug., 1981 Project No.: 784 Scale: 1:2400
 Drawn by: A.R. Gunther Date: Dec., 1981 Revision: Date:



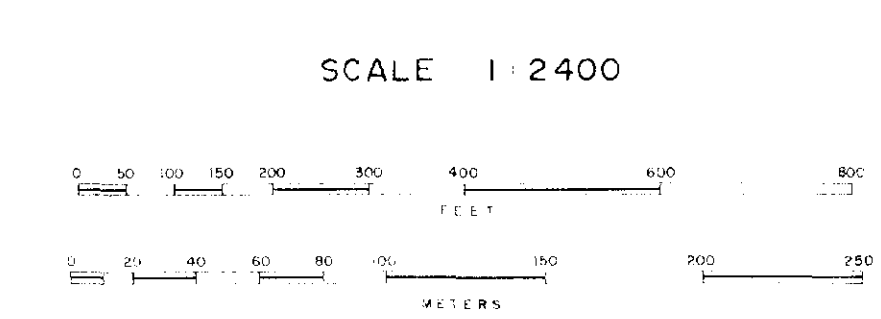


*Horwood
(Hardiman Bay) Lake*

LEGEND

All readings shown are in gammas
 Add 59000 gammas to all Readings
 Contours shown are 0, 200, 400, 600, 800, 1000,
 1500, 2000, 3000, 4000 gammas

Instrument used: Scintrex MP-2
 Serial N^o: 2553
 Transmitter Station: Cutler, Maine



NORTHGATE EXPLORATION LIMITED

L'ABBE PROJECT - N^o 784
 HORWOOD TOWNSHIP ~ ONTARIO ~ NTS 41-0-16

MAGNETOMETER SURVEY

Figure 3

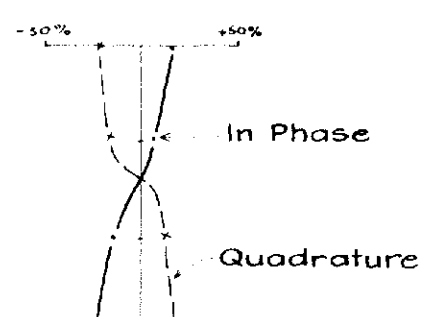
Work by: A. McP	Date: Aug., 1981	Project No: 784	Date:
Drawn by: A.R. Gunter	Date: Dec., 1981	Revision:	Date:





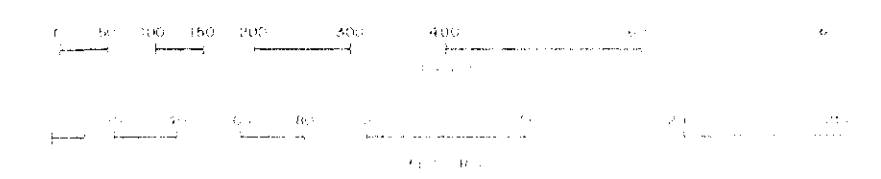
Horwood Lake
(Hardiman Bay)

LEGEND



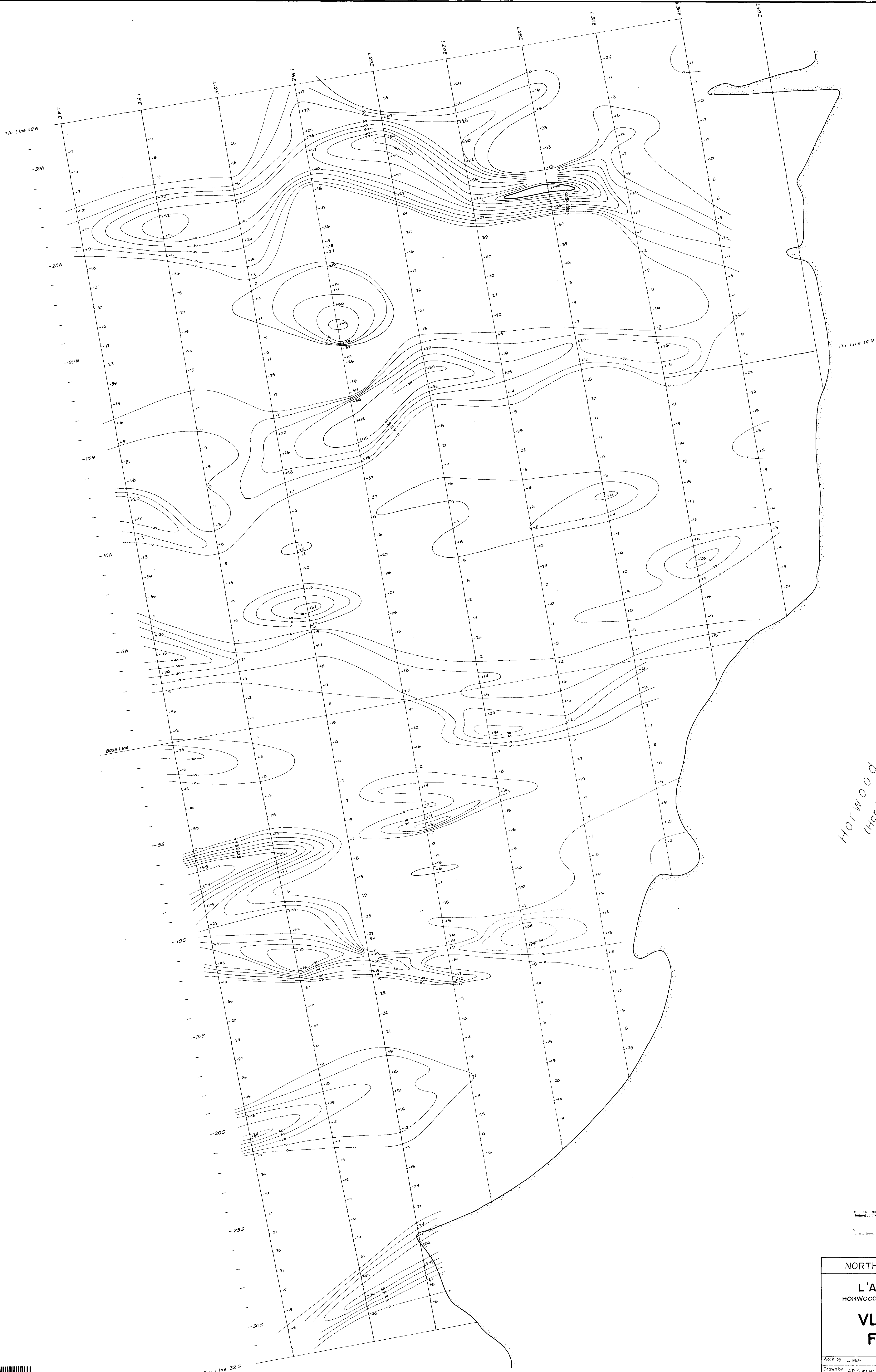
Scale of Profiles: 1" = 100 ft.
Instrument: EM-16
Serial Number: 16900

SCALE 1:2400



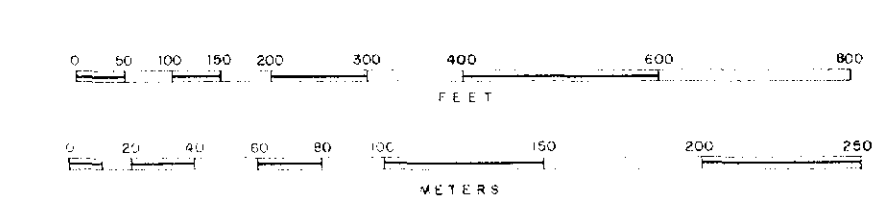
NORTHGATE EXPLORATION LIMITED
 L'ABBE PROJECT - No 784
 HORWOOD TOWNSHIP - ONTARIO - NTS 41.0.15
VLF - E.M. SURVEY
 Figure 4
 Drawn by: S. Grimes Date: Aug. 1985 Project No.: 784
 Checked by: A.R. Gunther Date: Dec. 1985 Revision: 1





Horwood Lake
(Hardiman Bay)

SCALE 1:2400



NORTHGATE EXPLORATION LIMITED			
L'ABBE PROJECT - NO 784			
HORWOOD TOWNSHIP ~ ONTARIO ~ NTS 41-0-16			
VLF - E.M. SURVEY			
FRASER FILTER			
Figure 5			
Work by: A.M.L.	Date: Aug., 1981	Project No: 784	Scale: 1:2400
Drawn by: A.R. Gunther	Date: Dec., 1981	Revision:	Date:

