

42A06SW0506 2.4765 FRIPP

010

GEOPHYSICAL REPORT ON THE  
FRIPP PROJECT GRID  
FRIPP, McARTHUR & PRICE TWPS.  
DISTRICT OF TIMISKAMING  
PORCUPINE MINING DIVISION  
NTS 42 - A - 6

Toronto, Ontario  
April 1982

G. Harper, Ph. D.

**RECEIVED**

MAY 3 1982

MINING LANDS SECTION



1.0	Summary	1
2.0	Location	1
3.0	Access	1
4.0	Physical Features	2
4.1	Topography	2
4.2	Timber	2
4.3	Climate	2
5.0	Property and Ownership	3
6.0	Regional Geology	3
7.0	Structure	4
8.0	Line Cutting	4
9.0	Magnetometer Survey	5
9.1	Field Method and Instrumentation	5
9.2	Discussion and Interpretation of Results	6
9.3	Conclusions and Recommendations	8

#### LIST OF FIGURES

##### Figure No.

1	Location Map
2	Claims Location Map
3	Regional Geology
4, 5, 6	Magnetometer Survey - Data
7, 8, 9	Magnetometer Survey - Contours
10, 11, 12	Magnetometer Survey - Data Interpretation

#### LIST OF TABLES

##### Table No.

I	Claims Bordin Property: Price, Fripp & McArthur Twps.
II	Northgate Claims: Price, Fripp & McArthur Twps.

#### LIST OF APPENDICES

##### Appendix No.

I	Linecutting Information Submitted by H. Gonzalez
II	Magnetics - Ground

## GEOPHYSICAL REPORT ON THE FRIPP PROJECT GRID

FRIPP, McARTHUR & PRICE TWPS., DISTRICT OF TIMISKAMING

PORCUPINE MINING DIVISION - NTS 42 - A - 6

### 1.0 SUMMARY

Northgate Exploration Limited holds, partly by staking and partly by option, a total of 149 claims extending southeast from the south end of Price Township through Fripp Township into McArthur Township. A grid was cut over 110 of these claims with base lines trending northwest and tie lines cut at 400 foot intervals perpendicular thereto. The grid totals 94.58 line miles and was cut between September and November 1981. Subsequently, a magnetometer survey was completed over the whole grid in November 1981. Plotting and interpretation of the magnetometer results was undertaken in April 1982.

The magnetic expression clearly distinguishes linear zones of sediments including iron formations from the extensive intermediate volcanic terrain. A unit with very low magnetic response is believed to be granitic terrain while several broad areas of higher magnetic relief are suspected as representing areas underlain by mafic or ultramafic units. Major dykes or structural breaks trend north-northwest, north and east-northeast.

### 2.0 LOCATION

The Fripp Option property, consisting of a narrow group of mining claims, stretches from Price Township in the north, southeastwards to McArthur Township. The mid-point of the group lies in the northeastern quadrant of Fripp Township and is 27 kms south-southwest of Timmins and approximately 570 air kms north of Toronto (Figure 1).

### 3.0 ACCESS

Major forest access routes, extending due south from Timmins (Pine Street) into the general area of the property are excellent and, although gravel, are well maintained and plowed during the winter months.

Within the claim block itself there are numerous connecting dirt and

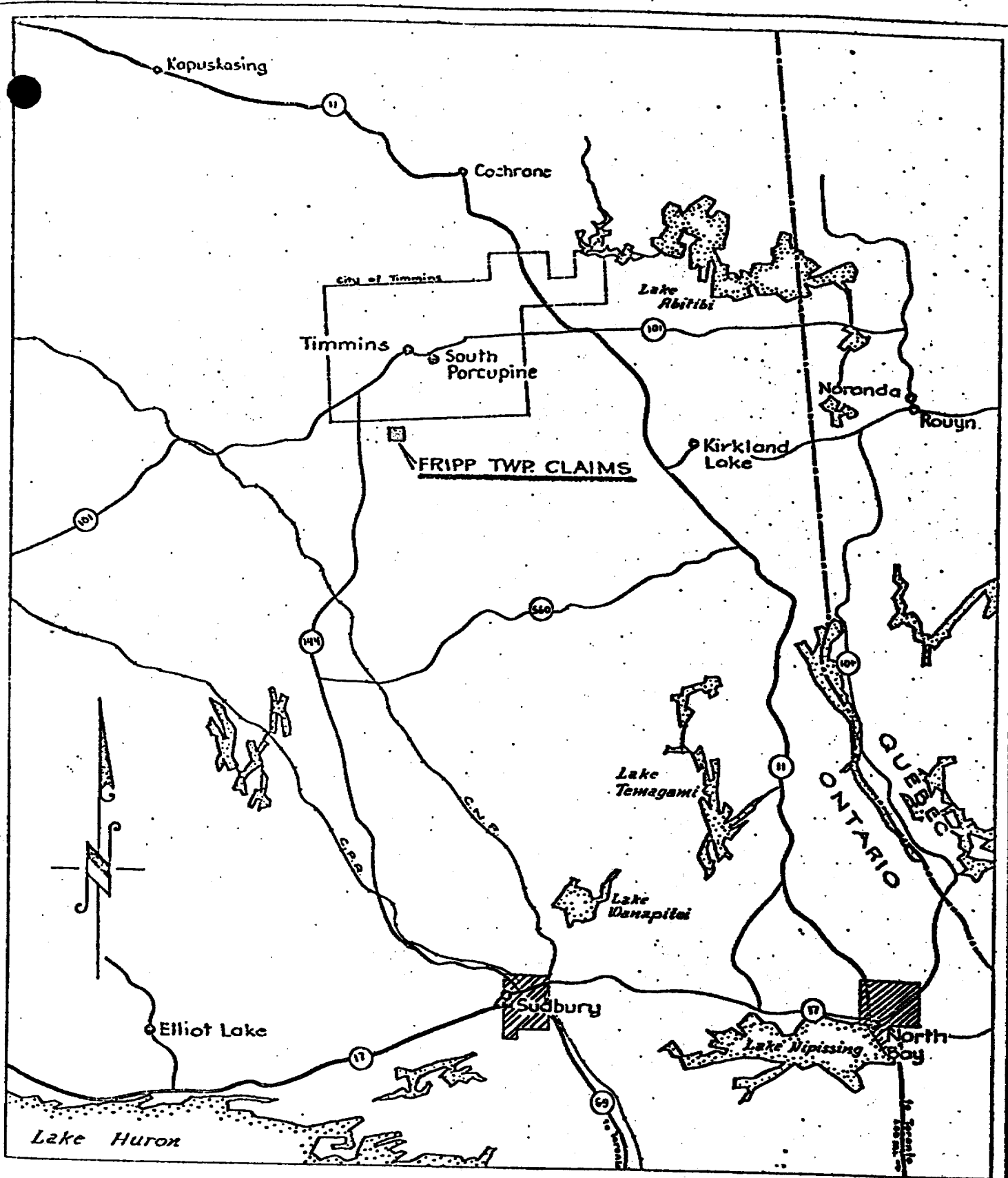


Figure 1

LOCATION MAP  
 showing  
 FRIPP TWP. CLAIMS



logging roads, however, they are not maintained and may become impassable during the winter and early spring.

Access to the northernmost claims is poor with the possibility of an old lumber road existing three quarters of a mile to the west. This route has still to be investigated.

The lack of sufficiently large lakes or rivers prohibits the use of fixed wing aircraft as an alternate source of transportation.

Water transport is also prohibitive, since most of the lakes and streams are not suitable for continuous navigation.

#### 4.0 PHYSICAL FEATURES

##### 4.1 TOPOGRAPHY

Price, Fripp and McArthur Townships are characterized by low, rocky hills, unconsolidated glacial deposits and poorly drained swamps. Rarely does the local topography exceed thirty metres in elevation which is typical of the Precambrian Peneplain.

Lakes in the general area are shallow, small and are usually the result of beaver dams. Many are intermittent and tend to evaporate during the summer months.

##### 4.2 TIMBER

Forest cover in this area is relatively good with mature stands of poplar, birch, spruce and pine being common on the higher ground. The lower swampy areas are covered with alder saplings and moose maple.

Large scale harvesting does occur within the area, however, only small cleared areas exist on the property due to selective cutting.

##### 4.3 CLIMATE

The Timmins area has a continental climatic pattern which is characterized by dry, cold winters and hot, humid summers.

Winter, which can begin as early as mid-October and continue until mid-May, experiences temperatures as low as  $-40^{\circ}\text{C}$  over extended periods and snow cover to 5 feet in forested areas.

The summer months, on the other hand, have warm to hot temperatures which are sometimes accompanied by uncomfortable humidity.

Both spring and fall months have pleasant sunny days, but cool nights. These seasons, however, can be marred by freezing temperatures, frost and snow.

#### 5.0 PROPERTY AND OWNERSHIP (Tables 1 & 2)

The Fripp Project property, as originally presented, consisted of a block of 74 unpatented mining claims, distributed in Price, Fripp and McArthur Townships. All claims were staked by Dennis Bordin of Timmins in the spring of 1981 and were in good standing.

Northgate Exploration Limited expanded this group in two phases, by staking an additional 75 claims. The first phase protected by the blocks' eastern boundary and to form one contiguous group with Westfield's claims in McArthur Township. The second phase extended part of the boundary southwards in Fripp Township to adjoin and partially surround five leased claims currently held by Hollinger-Argus, and containing a mineral deposit of approximately 165,000 tons averaging 3% copper.

The Fripp Project property now consists of 149 mining claims or about 6,000 acres (Figure 2).

#### 6.0 REGIONAL GEOLOGY (Figure 3)

All of the rocks which underlie this area are of early Precambrian Age (Archaean) and have been capped by a mantle of Pleistocene and Recent unconsolidated deposits.

The Archaean rocks consist of two cycles of volcanism in which each cycle contains a basal ultramafic sequence of flows. Mafic metavolcanics overlie this unit and generally contain massive, as well as, pillowed flows. These in turn are overlain by an upper unit of intermediate to felsic metavolcanics consisting of massive flows, but more commonly tuffs, lapilli tuffs, and breccia. It is within

TABLE I

CLAIMS BORDIN PROPERTY: PRICE, FRIPP AND McARTHUR TOWNSHIPS

PRICE TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-591040	Dennis Bordin	X	June 6, 1982
P-591041	Dennis Bordin	X	June 6, 1982
P-591155	Dennis Bordin	X	June 6, 1982
P-591156	Dennis Bordin	X	June 6, 1982
P-591594	Dennis Bordin	X	June 7, 1982
P-591595	Dennis Bordin	X	June 7, 1982
P-591596	Dennis Bordin	X	June 6, 1982
Sub Total	7 Claims		

FRIPP TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-618161	Dennis Bordin	X	May 2, 1982
P-618162	Dennis Bordin	X	May 2, 1982
P-618163	Dennis Bordin	X	May 2, 1982
P-618164	Dennis Bordin	X	May 2, 1982
P-618165	Dennis Bordin	X	May 2, 1982
P-618166	Dennis Bordin	X	May 2, 1982
P-618167	Dennis Bordin	X	May 3, 1982
P-618168	Dennis Bordin	X	May 3, 1982
P-618169	Dennis Bordin	X	May 3, 1982
P-619315	Dennis Bordin	X	May 19, 1982
P-619316	Dennis Bordin	X	May 19, 1982
P-618985	Dennis Bordin	X	May 9, 1982
P-618986	Dennis Bordin	X	May 9, 1982
P-618987	Dennis Bordin	X	May 9, 1982
P-618988	Dennis Bordin	X	May 9, 1982
P-618989	Dennis Bordin	X	May 9, 1982
P-618990	Dennis Bordin	X	May 9, 1982
P-618991	Dennis Bordin	X	May 6, 1982
P-618992	Dennis Bordin	X	May 6, 1982
P-618993	Dennis Bordin	X	May 6, 1982
P-618994	Dennis Bordin	X	May 7, 1982
P-618995	Dennis Bordin	X	May 7, 1982
P-618996	Dennis Bordin	X	May 7, 1982
P-618997	Dennis Bordin	X	May 8, 1982
P-618998	Dennis Bordin	X	May 8, 1982
P-618999	Dennis Bordin	X	May 8, 1982
P-591027	Dennis Bordin	X	May 26, 1982
P-591028	Dennis Bordin	X	May 26, 1982

## FRIPP TOWNSHIP (Cont'd)

## TABLE I (Cont'd)

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-591029	Dennis Bordin	X	May 26, 1982
P-591030	Dennis Bordin	X	May 26, 1982
P-591031	Dennis Bordin	X	May 27, 1982
P-591032	Dennis Bordin	X	May 27, 1982
P-591033	Dennis Bordin	X	May 27, 1982
P-591034	Dennis Bordin	X	May 28, 1982
P-591035	Dennis Bordin	X	May 29, 1982
P-591036	Dennis Bordin	X	May 29, 1982
P-591037	Dennis Bordin	X	May 28, 1982
P-591038	Dennis Bordin	X	May 29, 1982
P-591039	Dennis Bordin	X	May 29, 1982
P-591147	Dennis Bordin	X	May 31, 1982
P-591148	Dennis Bordin	X	May 31, 1982
P-591149	Dennis Bordin	X	May 31, 1982
P-591150	Dennis Bordin	X	May 31, 1982
P-591151	Dennis Bordin	X	May 31, 1982
P-591152	Dennis Bordin	X	May 31, 1982
P-591153	Dennis Bordin	X	May 31, 1982
P-591926	Dennis Bordin	X	June 11, 1982
P-591927	Dennis Bordin	X	June 11, 1982
P-591928	Dennis Bordin	X	June 11, 1982
P-591929	Dennis Bordin	X	June 11, 1982
P-591930	Dennis Bordin	X	June 13, 1982
P-591931	Dennis Bordin	X	June 13, 1982
P-591932	Dennis Bordin	X	June 13, 1982
P-591936	Dennis Bordin	X	June 13, 1982
P-393149	Dennis Bordin	X	June 27, 1982
P-393150	Dennis Bordin	X	June 27, 1982
P-393151	Dennis Bordin	X	June 27, 1982
P-393152	Dennis Bordin	X	June 27, 1982
Sub Total	58 Claims		

McARTHUR TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-619317	Dennis Bordin	X	May 19, 1982
P-619318	Dennis Bordin	X	May 19, 1982
P-591933	Dennis Bordin	X	June 13, 1982
P-591934	Dennis Bordin	X	June 13, 1982
P-591935	Dennis Bordin	X	June 13, 1982
P-591937	Dennis Bordin	X	June 14, 1982
P-591938	Dennis Bordin	X	June 14, 1982
P-591939	Dennis Bordin	X	June 14, 1982
P-591940	Dennis Bordin	X	June 14, 1982
Sub Total	9 Claims		
GRAND TOTAL	74 Claims		



TABLE II

NORTHGATE CLAIMS: PRICE, FRIPP AND McARTHUR TOWNSHIPS

PRICE TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-624406	Gabriel Sutherland	X	Aug. 23, 1982
P-624407	Gabriel Sutherland	X	Aug. 23, 1982
P-624408	Gabriel Sutherland	X	Aug. 23, 1982
P-624409	Gabriel Sutherland	X	Aug. 23, 1982
P-624410	Gabriel Sutherland	X	Aug. 23, 1982
P-624411	Gabriel Sutherland	X	Aug. 23, 1982
Sub Total	6 Claims		

FRIPP TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-624154	Nolan Boa	X	Aug. 16, 1982
P-624155	Nolan Boa	X	Aug. 16, 1982
P-624281	Richard McAllister	X	Aug. 16, 1982
P-624282	Richard McAllister	X	Aug. 16, 1982
P-624283	Richard McAllister	X	Aug. 16, 1982
P-624284	Richard McAllister	X	Aug. 16, 1982
P-624285	Richard McAllister	X	Aug. 16, 1982
P-624286	Richard McAllister	X	Aug. 17, 1982
P-624287	Richard McAllister	X	Aug. 17, 1982
P-624288	Richard McAllister	X	Aug. 17, 1982
P-624289	Richard McAllister	X	Aug. 17, 1982
P-624290	Richard McAllister	X	Aug. 18, 1982
P-624291	Richard McAllister	X	Aug. 18, 1982
P-624292	Richard McAllister	X	Aug. 18, 1982
P-624293	Richard McAllister	X	Sep. 9, 1982
P-624294	Richard McAllister	X	Sep. 9, 1982
P-624295	Richard McAllister	X	Sep. 10, 1982
P-624296	Richard McAllister	X	Sep. 10, 1982
P-624297	Richard McAllister	X	Sep. 10, 1982
P-624298	Richard McAllister	X	Sep. 12, 1982
P-624299	Richard McAllister	X	Sep. 12, 1982
P-624303	Richard McAllister	X	Sep. 13, 1982
P-624304	Richard McAllister	X	Sep. 13, 1982
P-628041	Richard McAllister	X	Sep. 13, 1982
P-628042	Richard McAllister	X	Sep. 13, 1982
P-628043	Richard McAllister	X	Sep. 13, 1982
P-628044	Richard McAllister	X	Sep. 11, 1982
P-628045	Richard McAllister	X	Sep. 11, 1982

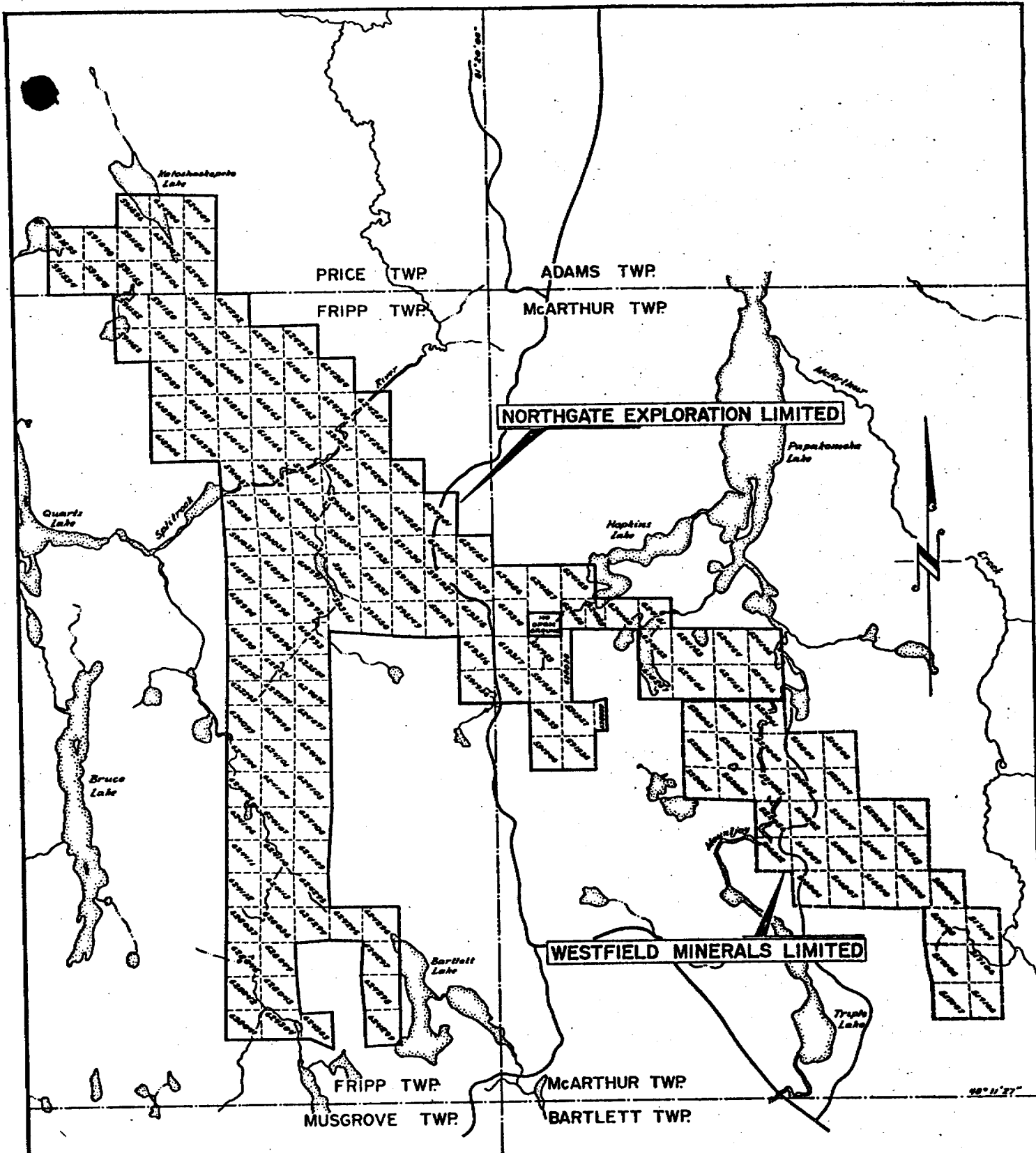
FRIPP TOWNSHIP (Cont'd)

TABLE II (Cont'd)

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-622582	Henry Gonzalez	X	Sep. 9, 1982
P-622291	Henry Gonzalez	X	Sep. 9, 1982
P-622292	Henry Gonzalez	X	Sep. 9, 1982
P-622293	Henry Gonzalez	X	Sep. 9, 1982
P-622294	Henry Gonzalez	X	Sep. 9, 1982
P-624096	Henry Gonzalez	X	Sep. 10, 1982
P-624097	Henry Gonzalez	X	Sep. 10, 1982
P-624098	Henry Gonzalez	X	Sep. 10, 1982
P-624099	Henry Gonzalez	X	Sep. 10, 1982
P-624100	Henry Gonzalez	X	Sep. 10, 1982
P-624101	Henry Gonzalez	X	Sep. 11, 1982
P-624102	Henry Gonzalez	X	Sep. 11, 1982
P-624103	Henry Gonzalez	X	Sep. 11, 1982
P-624104	Henry Gonzalez	X	Sep. 11, 1982
P-624105	Henry Gonzalez	X	Sep. 11, 1982
P-624106	Henry Gonzalez	X	Sep. 12, 1982
P-624107	Henry Gonzalez	X	Sep. 12, 1982
P-624108	Henry Gonzalez	X	Sep. 12, 1982
P-624109	Henry Gonzalez	X	Sep. 12, 1982
P-624110	Henry Gonzalez	X	Sep. 12, 1982
P-624111	Henry Gonzalez	X	Sep. 13, 1982
P-624112	Henry Gonzalez	X	Sep. 13, 1982
P-624113	Henry Gonzalez	X	Sep. 13, 1982
P-628036	Henry Gonzalez	X	Sep. 13, 1982
P-628037	Henry Gonzalez	X	Sep. 13, 1982
Sub Total	53 Claims		

McARTHUR TOWNSHIP

<u>Claim No.</u>	<u>Recorder</u>	<u>Transferred To Ngx</u>	<u>Anniversary Date</u>
P-624156	Nolan Boa	X	Aug. 16, 1982
P-624157	Nolan Boa	X	Aug. 16, 1982
P-624158	Nolan Boa	X	Aug. 17, 1982
P-624159	Nolan Boa	X	Aug. 17, 1982
P-624160	Nolan Boa	X	Aug. 17, 1982
P-624161	Nolan Boa	X	Aug. 17, 1982
P-624162	Nolan Boa	X	Aug. 17, 1982
P-624163	Nolan Boa	X	Aug. 18, 1982
P-624164	Nolan Boa	X	Aug. 18, 1982
P-624165	Nolan Boa	X	Aug. 18, 1982
P-624166	Nolan Boa	X	Aug. 18, 1982
P-624167	Nolan Boa	X	Aug. 18, 1982
P-624168	Nolan Boa	X	Aug. 18, 1982
P-624169	Nolan Boa	X	Aug. 20, 1982
P-628038	Henry Gonzalez	X	Sep. 21, 1982
P-628039	Henry Gonzalez	X	Sep. 21, 1982
Sub Total	16 Claims		
GRAND TOTAL	75 Claims		



NORTHGATE EXPLORATION LIMITED  
 FRIPP TOWNSHIP PROJECT  
**CLAIMS LOCATION MAP**

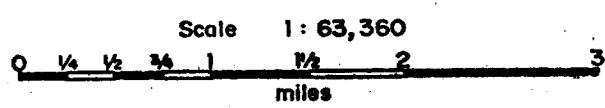


FIGURE 2

the upper unit that intercalated sedimentary beds occur including siltstones, grey-wackes, and iron formation.

The lower metavolcanic unit has been intruded by both felsic and mafic magmas which have formed small domes of quartz-feldspar porphyry in the felsic volcanics and gabbroic sills in the mafic volcanics, respectively.

A pre-tectonic age has been affixed to the gabbro while the porphyry is syntectonic and may be part of a feeder system for the felsic rocks.

Large emplacements of granitic magma late in the tectonic cycle formed the Adams Batholith and the poly-phase Peterlong Lake complex.

Numerous diabase dykes transect the area and are middle to late Precambrian in age.

The Archaean volcano-sedimentary series has been compressed and warped about the granitic domes in Adam and Giekie Townships. The Bordin-NGX property lies on the western flank of this structure.

Numerous north to northwesterly faults traverse or follow the trend of the disturbed and infolded volcanic inliers.

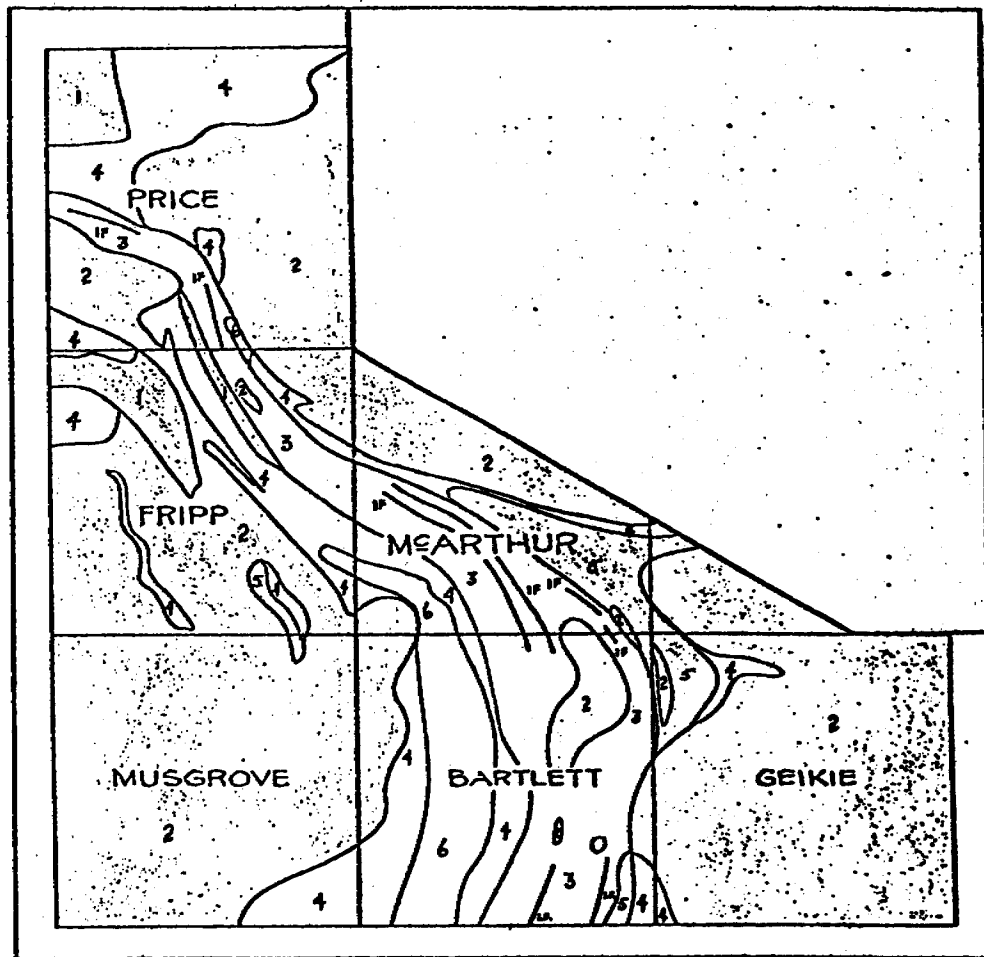
## 7.0 STRUCTURE

From previous mapping, the volcanic and sedimentary rocks strike in a north-westerly direction and have steep northeasterly dips. Pillow top determinations have confirmed this while northeast of Katoshaskepeko Lake tops indicate south-westerly dips suggesting that a synclinal fold axis trends southeasterly beneath the lake.

Very few faults have been recognized in outcrop and these have had small displacements. Lineaments from the aerial photos suggest major displacements masked in the warping evident in the margins of the granitic masses.

## 8.0 LINE CUTTING

Henry Gonzalez of Timmins, contracted to cut the required grid and completed



LEGEND

- 1 Greywacke, Siltstone
- I.F. Iron Formation
- 2 Felsic Intrusives
- 3 Felsic Volcanics
- 4 Mafic Volcanics
- 5 Ultramafic Volcanics
- 6 Gabbro

Figure 3  
FRIPP TOWNSHIP AREA

REGIONAL GEOLOGY

Scale: 1" = 4 miles

such during the period September 11th to November 20th, 1981. The grid comprises a main northwest trending base line down the centre of the claim block with subsidiary base lines at 27 and 53 South and 27, 47 and 52 North. Tie lines at right angles to the base lines were cut at 400 foot intervals and picketed every 100 feet. Claims have been tied into this grid and are shown with the grid on Figs. 4, 5, and 6, (in back pocket). Details of line cutters and line cutting are in Appendix I.

## 9.0 MAGNETOMETER SURVEY

### 9.1 FIELD METHOD AND INSTRUMENTATION

The survey was undertaken by Geophysical Technician, Mr. A. McParland, a recent graduate of Haileybury School of Mines, during the period November 7th to 24th, 1981. A total of 12 man days were required to complete coverage of the grid. Mr. McParland operated from a trailer camp established on the property with support provided from Northgate's Timmins office at 107 Wilson Street, Timmins. (Mr. McParland's address is also c/o Northgate Exploration Limited, 107 Wilson Street, Timmins, Ontario P4N 2S8.)

Readings were taken at the 100 foot picketed intervals on all lines with a Scintrex Proton Magnetometer, model MP 2 (for details, see Appendix II). A Scintrex MBS-2 Field Magnetic Base Station, which is compatible with the MP 2, was installed at the trailer camp to provide records for diurnal corrections.

Data plotting, contouring and interpretation were subsequently undertaken in Northgate's Toronto office in April 1982. The results are presented on Figs. 4, 5, and 6 (in the back pocket), which detail lines, claims and corrected magnetic readings. Figs. 7, 8, and 9 show contoured results and interpretation is superimposed on Figs. 10, 11, and 12.

The line cutting and magnetometer field survey were supervised by Northgate's Project Geologist, Mr. P. A. Dadson, who was present on the property most of the period and was engaged in an initial geologic reconnaissance and detailed examination of several pre-existing showings of massive sulphide style mineralisation.

Massive sulphide deposits are the primary objective of the exploration

program and the line cutting and magnetometer survey are the first regional surveys of the claims.

The overall project and, in particular, the interpretation of the magnetic survey results was supervised by Dr. Gerald Harper, Chief Geologist of Northgate Exploration Limited.

## 9.2 DISCUSSION AND INTERPRETATION OF RESULTS

Fripp Township has not been mapped yet at township scale by the Ontario Geological Survey, but it is known, from prior prospecting, reconnaissance and extrapolation from adjacent townships, to be underlain by a relatively narrow belt of north to northwest trending Archaean metavolcanics and metasediments flanked to the east and west by granite - gneiss terrain. O.G.S. Map 2455, the Precambrian Geology of the Timmins Area; Scale 1:50,000, suggests the predominant rock type to be expected besides granite to be intermediate volcanic flows and tuffs, felsic volcanics and chemical sediments including iron formations. Along the east flank of the volcanic belt, mafic to ultramafic volcanics and intrusives are to be anticipated as they outcrop intermittently in neighbouring townships adjacent to the edge of the Adams Pluton, the granitic batholith forming the eastern boundary of the Fripp Township volcanic belt. Later dykes traverse the area primarily along north and east-northeast trends.

Eight more or less distinct magnetic units can be interpreted:

<u>Unit</u>	<u>Magnetic Range</u>	<u>Magnetic Character</u>
1a	+3,000 - +20,000 $\gamma$	Narrow linear zones striking from north-northwest in the north to northwest in the south.
1b	+1,500 - +3,000 $\gamma$	Narrow linear zones paralleling and forming extensions to 1a.
2a	+500 - +3,000 $\gamma$	Broad linear zones characterised by considerable internal local magnetic relief. Striking north-northwest, they only occur in the northern part of Fripp Township and in Price Township.

<u>Unit</u>	<u>Magnetic Range</u>	<u>Magnetic Character</u>
2b	+500 - +2,000 $\gamma$	Broad linear zones characterised by very minor internal local magnetic relief. They only occur southeast of 2a and are mainly along the east side of the area as oval pods generally elongated north-westerly.
3	+200 - +1,000 $\gamma$	Broad areas of moderate internal magnetic relief. Such trends as can be distinguished tend to follow those of 1a.
4	-200 - +200 $\gamma$	Irregular shaped areas of the lowest magnetic relief recorded which are distributed throughout the area, but concentrated on the east and west sides and in the centre of the belt between lines 40 and 80 W. Predominant orientations of these zones are northwest and north-northwest with a few trending north.
5	+500 - +1,500 $\gamma$	Narrow linear zones of relatively short length trending north in the north end and north-northwest in the south.
6	+800 - +2,000 $\gamma$	A broad linear zone striking east-northeast across the centre of the area.

On the basis of magnetic character, extrapolation of regional geology and detailed geology of old prospects, the magnetic units can be equated with geologic units as follows:

<u>Magnetic Unit</u>	<u>Lithology</u>
1a	Chemical sediments with a high proportion of minerals such as magnetite or pyrrhotite, typically iron formation.
1b	Less magnetic versions of 1a.
2a	Mafic to ultramafic rocks -- probably flows.



<u>Magnetic Unit</u>	<u>Lithology</u>
2b	Mafic to ultramafic rocks -- probably intrusives as a more homogeneous internal character than 2a.
3	Undifferentiated intermediate rocks probably largely of volcanic origin.
4	Felsic intrusives of granitic character.
5	Dykes. Diabase?
6	Dykes. Olivine Diabase?

The overall picture, therefore, is of a volcanic belt of largely intermediate volcanics with some mafic to ultramafic units along the east side and a series of narrow bands of chemical sediments interbedded within the intermediate volcanics. Granites form the east and west flanks of the belt and have invaded the belt in the central section. Later dykes cut all other rock types. Dips of units are steep to vertical.

Several structural breaks are evident trending north, north-northwest, east-northeast and east-southeast. Intrusive units have tended to follow these trends, but are also truncated or offset in several instances suggesting repeated fault movement over considerable time.

### 9.3 CONCLUSIONS AND RECOMMENDATIONS

The magnetic survey has been successful in defining the trends and distribution of units of chemical sediments including iron formation which are believed to be favourable hosts for massive sulphide mineralisation. Follow-up should be directed at those units to isolate conductive sulphide masses by electromagnetic means.

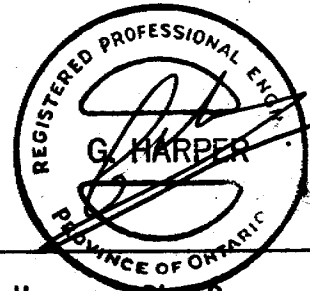
In addition, the survey has identified areas of possible mafic to ultramafic rocks which may have potential for Ni, Cu mineralisation. Geologic mapping should be undertaken in those areas to confirm the existence of such rock types, in particular, in the north where Unit 2a has a series of local magnetic highs along its west contact.

CERTIFICATE

I, Gerald Harper, of 26 Orchard Crescent, Toronto, Ontario M8Z 3E1, hereby certify that,

- 1) I hold a Bachelor of Science degree in Geology from the University of Rhodesia and a Doctor of Philosophy degree in Geology from the University of London, England.
- 2) I am a Registered Professional Engineer in good standing, in the Province of Ontario.
- 3) I have practised my profession in exploration continuously for the past 16 years, since graduation.
- 4) I am presently Chief Geologist for North American Exploration for Northgate Exploration Limited of P. O. Box 143, 1 First Canadian Place, Toronto, Ontario M5X 1C7.
- 5) I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experiences with the geophysical technique used and on the results of the field work conducted on the property in the last quarter of 1981 which was carried out under my supervision.

April 22, 1982  
Toronto, Ontario



G. Harper, Ph. D.

Price-Fripp-M"Arthure TWP.

From: H. Gonzalez

Line- Cutting

Name & Address	Dates Worked	Hours	Days
Garciel Sutherland 32 John St. Timmins, Ontario.	Sept. 11 to 18- Sept. 23 to 30/81 Oct. 5 to 9- Oct. 13 to 29/81 Nov. 2 to 20/81	360	45
David Gonzalez 3 Commercial Ave. Timmins, Ontario.	Sept. 4 to 11- Sept. 14 to 19/81 Sept. 22 to 30- Oct. 5 to 10/81	224	28
St Coyne 44 Mountjoy St. S. Timmins, Ontario.	Sept. 4 to 11- Sept. 14 to 19/81 Sept. 22 to 30- Oct. 5 to 10/81	224	28
John Katakwapit Charles Hotel Timmins, Ontario.	Sept. 21 to 28- Oct. 1 to 20/81	208	26
Gregory Matthews Cochrane Trailer Park Cochrane, Ontario.	Sept. 20 to 30- Oct. 1 to 20/81	208	26
Michael Wabano 9 Fifth Ave. Timmins, Ontario.	Oct 14 to 30/81	136	17
John Bird Jones Hotel Timmins, Ontario	Nov 2 to 20/81	120	15
Jimmy Wabanonic Sumacher Hotel Sumacher Ontario.	Oct. 5 to 10- Oct. 13 to 16/81	80	10
Scotty Dumont Sumacher Hotel Sumacher Ontario.	Oct. 5 to 10- Oct. 13 to 16/81	80	10
Nolan Boa Pine St. S. Timmins Ontario.	Oct. 5 to 10- Oct. 13 to 16/81	80	10
Robert Turner First Ave. Timmins, Ontario.	Oct. 5 to 10- Oct. 13 to 16/81	80	10
Richard M"Allister 105 Maple St. S. Timmins Ontario.	Oct. 5 to 9/81	40	5
Roger Garceau 9 Golden Ave. Timmins Ontario.	Oct. 5 to 9/81	40	5
Totals		1880	235

NORTH-GATE EXPLORATIONS LTD

GEOPHYSICAL - LINE-CUTTING GRID

PRICE - FRIPP - McARTHUR TWP

Footage	PAGE - #1	66,905 FT
	PAGE - #2	250,243 FT
	PAGE - #3	162,337 FT
	PAGE - #4	19,955 FT

TOTAL - FOOTAGE - GRID 499,330 FT.

= 5380 FT. = 94.58 MILES

#1

NORTHGATE EXPLORATIONS LTD.  
GEOPHYSICAL LINE CUTTING GRID  
PRICE FRIPP MCARTHUR TWPS.

BASE LINES & TIE LINES

			LENGTH
BASE LINE	0	FROM BL-0 TO 148700 WEST	14800 FT.
BASE LINE	0	FROM BL-0 TO 126700 EAST	12600 FT.
TIE LINE	6	South From BL-148 WEST TO 160700 WEST	1200 FT.
TIE LINE	27	South From BL-0 TO 108700 WEST	10800 FT.
TIE LINE	27	South From BL-0 TO 47700 EAST	4700 FT.
TIE LINE	53	South From BL-0 TO 24700 WEST	2400 FT.
TIE LINE	53	South From BL-0 TO 27745 EAST	2745 FT.
TIE LINE	27	North From 112700 WEST TO 136700 WEST	2400 FT.
TIE LINE	27	North From 18700 WEST TO 65700 WEST	4700 FT.
TIE LINE	27	North From 63785 EAST TO 96715 EAST	3290 FT.
TIE LINE	42	North From 96700 EAST TO 104700 EAST	800 FT.
TIE LINE	47	North From 99730 EAST TO 156700 EAST	5670 FT.
TIE LINE	52	North From 152700 EAST TO 160700 EAST	800 FT.

TOTAL Footage 66,905 FT.

North-Gate Explorations Ltd  
 GEOPHYSICAL LINE-CUTTING GRID  
 WEST-CROSS LINES

LINE	FROM	TO	NORTH	SOUTH	LENGTH
L-0+00	B.L.	0	2530	7900	10430
L-4	W B.L.	0	2140	7530	9670
L-8	W B.L.	0	1800	7048	8848
L-12	W B.L.	0	2240	6740	8980
L-16	W B.L.	0	2700	6400	9100
L-20	W B.L.	0	2900	5840	8740
L-24	W B.L.	0	3700	5500	8900
L-28	W B.L.	0	3500	4900	8400
L-32	W B.L.	0	3050	4600	7650
L-36	W B.L.	0	2700	4300	7000
L-40	W B.L.	0	3500	3900	7400
L-44	W B.L.	0	2725	3400	6125
L-48	W B.L.	0	3100	3800	6900
L-52	W B.L.	0	2700	3200	5900
L-56	W B.L.	0	2700	3500	6200
L-60	W B.L.	0	3100	4000	7100
L-64	W B.L.	0	3000	4300	7300
L-68	W B.L.	0	2700	4600	7300
L-72	W B.L.	0	2200	4400	6600
L-76	W B.L.	0	1800	4200	6000
L-80	W B.L.	0	2000	4000	6000
L-84	W B.L.	0	1700	3800	5500
L-88	W B.L.	0	2100	3300	5400
L-92	W B.L.	0	2600	2000	4600
L-96	W B.L.	0	2200	2800	5000
L-100	W B.L.	0	1800	3100	4900
L-104	W B.L.	0	2000	3600	5600
L-108	W B.L.	0	2400	2700	5100
L-112	W B.L.	0	2700	2200	4900
L-116	W B.L.	0	3100	1400	4500
L-120	W B.L.	0	3300	1500	4800
L-124	W B.L.	0	3900	1000	4900
L-128	W B.L.	0	4300	1000	5300
L-132	W B.L.	0	4000	1400	5400
L-136	W B.L.	0	3500	1800	5300
L-140	W B.L.	0	2000	2200	4200
L-144	W B.L.	0	2000	2600	4600
L-148	W B.L.	0	2100	3000	5100
L-152	W B.L.	7-L-6-N		2600	2000
L-156	W B.L.	7-L-6-N		2100	1500
L-160	W B.L.	7-L-6-N		1700	1100

Total Footage = 350,243 Ft.

NORTH GATE EXPLORATION LTD  
 GEOPHYSICAL LINE CUTTING GRID  
 EAST CROSS LINES

LINE	FROM	TO	NORTH	SOUTH	LENGTH
L 4	E	B L 0	2500	7530	10030
L 8	E	B L 0	2100	7300	9400
L 12	E	B L 0	1840	6830	8670
L 16	E	B L 0	1765	6430	8195
L 20	E	B L 0	2100	6015	8115
L 24	E	B L 0	2280	5600	7880
L 28	E	B L 0	2050	4177	6227
L 32	E	B L 0	1750	3550	5300
L 36	E	B L 0	2055	3060	5115
L 40	E	B L 0	2600	2700	5300
L 44	E	B L 0	2180	2135	4315
L 48	E	B L 0	1970	1765	3735
L 52	E	B L 0	1500	1280	2780
L 56	E	B L 0	1840	870	2710
L 60	E	B L 0	2500	700	3200
L 64	E	B L 0	2720	1080	3800
L 68	E	B L 0	3130	1570	4700
L 72	E	B L 0	3700	1880	5580
L 76	E	B L 0	3900	2050	5950
L 80	E	B L 0	4300	1800	6100
L 84	E	B L 0	3420	950	4370
L 88	E	B L 0	3830	625	4455
L 92	E	B L 0	3500	270	3770
L 96	E	B L 0		500	500
L 100	E	B L 0	2100		2100
L 100	E	2500N	4500		2000
L 100	E	B L 0	1815	840	2655
L 100	E	2930N	4765		1835
L 104	E	B L 0	1500	1300	2800
L 104	E	3320N	5200		1880
L 108	E	B L 0	1645	1200	2845
L 108	E	3249N	5575		875
L 112	E	B L 0	800	1800	2600
L 116	E	B L 0	500	1500	2000
L 116	E	4100N	5100		1000
L 120	E	B L 0	900	1300	2200
L 120	E	3900N	4860		960
L 124	E	B L 0	1200	300	1500
L 124	E	3440N	5100		1660
L 128	E	3445N	5200		1755
L 132	E	3935N	5300		1365

Total Footage -

160,837 Ft.

NORTH GATE EXPLORATION LTD  
GEOPHYSICAL LINE CUTTING GRID  
EAST CROSS LINES

LINE	FROM	TO	NORTH	South	LENGTH
L 136 E	3445N		6350		2905
L 140 E	3150N		6930		3780
L 144 E	3360N		7575		4275
L 148 E	3700N		9270		3570
L 152 E	4120N		6940		2820
L 156 E	TL47N		6535		1835
L 160 E	TL52N		5970		770

total - Footage      19,955 Ft.



## Magnetics - Ground

### MP-2 Portable Proton Precession Magnetometer

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.

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

Operates in very high gradients, to 5,000 gammas per meter.

Weighs only 3.7 kg.

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.

Reads out in only 3.7 seconds.

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 in the MBS-2 model.



## Magnetismo - Terrestre Magnétisme - Au sol

### MP-2 Magnetómetro Portátil de Protones

El MP-2 es un magnetómetro de protones de una gamma, portátil, para trabajos de campo o como estación base. Su circuito posee un diseño optimizado con modernos componentes COS/MOS. Es un magnetómetro de peso muy liviano, consumo de energía, alta resolución y sensibilidad.

Posee una precisión y sensibilidad de 1 gamma por metro en el rango total de 20,000 a 100,000 gammas.

Buena operación en gradientes hasta 5,000 gammas por metro.

Peso liviano de solo 3.7 kg.

Con solo 8 baterías tipo D pueden obtenerse hasta 25,000 lecturas.

Perfecta aislación de las baterías y protección contra corrosión.

Extensión del paquete de baterías para uso en el invierno.

Pantalla digital con diodos de emisión LED y características de comprobación de funcionamiento.

Lecturas que toman solo 3.7 segundos.

Un reflector polarizado permite lecturas fáciles en sol brillante.

Luz indicadora de peligro por gradientes excesivos, ruido ambiental o fallas electrónicas.

Lectura digital del voltaje de las baterías.

Sólida caja de metal para un intenso uso en trabajos de campo y bajo toda condición de temperatura.

Características de activación externa o automática, permiten una conversión rápida a estación base en el modelo MBS-2.

## MBS-2 Total Field Magnetic Base Station

The MBS-2 is a compact, portable, self powered, total field magnetic base station which incorporates the MP-2 Portable Proton Precession Magnetometer. It is designed and constructed to operate for extended periods at remote locations under a variety of environmental conditions.

The MBS-2 may be used as a base station for ground and airborne magnetic surveys, in observatories as well as for land, air and sea mobile surveying.

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

Operates in very high gradients, to 5,000 gammas per meter.

Internal D cell power supply allows approximately 80 hours of operation. Alternatively, external power sources can be used.

Analog recording output is switch selectable at 10, 100 or 1,000 gammas full scale.

Digital output for interfacing with cassette or computer compatible magnetic tape recorders.

Automatic sampling intervals are variable from two seconds to ten minutes. Alternatively, manual or remote clock commands can be used for any sampling interval greater than two seconds.

Timing pulses are automatically shown each ten minutes on the analog strip chart.

Automatic stepping ensures no off scale analog traces.

## MBS-2 Estación Base Magnética de Campo Total

El MBS-2 es una estación base magnética, de campo total, portátil, compacta y auto-energizada que incluye al Magnetómetro Portátil de Precesión de Protones MP-2. Está diseñada y construida para operación durante largos períodos y en localidades remotas, bajo diversas condiciones climáticas.

La unidad MBS-2 puede ser usada como una estación base para trabajos magnéticos de tipo aéreo y terrestre, sea en observatorios o trabajos móviles en aire, mar o tierra.

Tiene una precisión y sensibilidad de 1 gamma en todo el rango desde 20,000 hasta 100,000 gammas.

Opera en condiciones de alto gradiente magnético, hasta de 5,000 gammas por metro.

Una fuente interna de energía con baterías de tipo D permiten aproximadamente 80 horas de operación. Puede usarse una fuente de energía externa, alternativa.

La salida para registro analógico puede seleccionarse entre 10, 100 ó 1,000 gammas para escala total.

La salida digital puede interconectarse a registradores magnéticos tipo cassette u otro registro magnético compatible con un computador.

Los intervalos de muestreo automático pueden seleccionarse desde 2 segundos hasta 10 minutos. Como alternativa, pueden utilizarse comandos manuales o de reloj para un muestreo superior a dos segundos.

Salidas de pulsos de tiempo son automáticamente grabadas en la banda de papel de registro, cada 10 minutos.

Un escalonado automático permite trazas analógicas siempre dentro de escala.

## MBS-2: Station magnétique totale

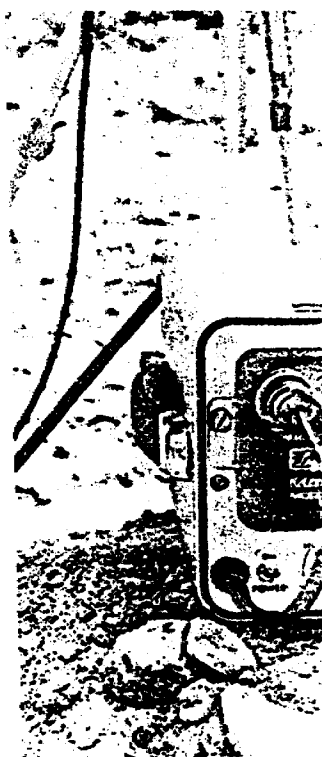
L'appareil MBS-2 est une station magnétique de champ total, compacte, portable, auto-energisée qui incorpore le magnétomètre portable de type MP-2 et construit pour fonctionner pendant de longues périodes de temps dans des lieux éloignés, sous diverses conditions d'environnement variées.

L'appareil MBS-2 peut être utilisé comme une station fixe pour des levés magnétiques de type aériens, dans les observatoires aériens et les levés mobiles, au sol, aériens et en mer.

Une sensibilité et une précision de 1 gamma sur une gamme de 20.000 à 100.000 gammas.

L'appareil opère dans des gradients magnétiques jusqu'à 5.000 gamma par mètre.

L'alimentation interne à piles "D" permet une opération de 80 heures environ. Alternativement, des alimentations externes peuvent être utilisées.



## Magnetismo - Terrestre Magnétisme - Au sol

### Estación Base Magnética de Total

Es una estación base magnética, de campo total, portátil, compacta y auto-energizada. El Magnetómetro Portátil de Precisión de tipo MP-2. Está diseñada y construida para funcionar durante largos periodos y en condiciones remotas, bajo diversas condiciones ambientales.

El MBS-2 puede ser usada como una estación base para trabajos magnéticos de tipo terrestre, sea en observatorios o trabajos en tierra, mar o tierra.

Una precisión y sensibilidad de 1 gamma en un rango desde 20,000 hasta 100,000 gammas.

Condiciones de alto gradiente magnético, hasta de 5,000 gammas por metro.

Alimentación de energía con baterías de tipo recargables, aproximadamente 80 horas de operación. Puede usarse una fuente de energía externa.

Para registro analógico puede seleccionarse entre 10, 100 ó 1,000 gammas para campo total.

El sistema puede interconectarse a magnetómetros tipo cassette u otro magnetómetro compatible con un computador.

Los intervalos de muestreo automático pueden variarse desde 2 segundos hasta 10 segundos. Como alternativa, pueden utilizarse comandos de reloj para un muestreo de intervalos de segundos.

Los pulsos de tiempo son automáticamente grabados en la banda de papel de registro, cada 10 segundos.

El muestreo automático permite trazas de campo siempre dentro de escala.

### MBS-2: Station magnétique fixe à champ total

L'appareil MBS-2 est une station magnétique fixe à champ total, compacte, portable, à alimentation propre qui incorpore le magnétomètre à précision de protons portable de type MP-2. Il est conçu et construit pour fonctionner pour de longues périodes de temps dans des lieux éloignés et dans des conditions d'environnement variées.

L'appareil MBS-2 peut être utilisé en tant que station fixe pour des levés magnétiques au sol et aériens, dans les observatoires ainsi que pour des levés mobiles, au sol, aériens et en mer.

Une sensibilité et une précision de 1 gamma sur une gamme de 20.000 à 100.000 gamma.

L'appareil opère dans des gradients très élevés jusqu'à 5.000 gamma par mètre.

L'alimentation interne à piles "D" permet une opération de 80 heures environ. Alternativement, des alimentations externes peuvent être utilisées.

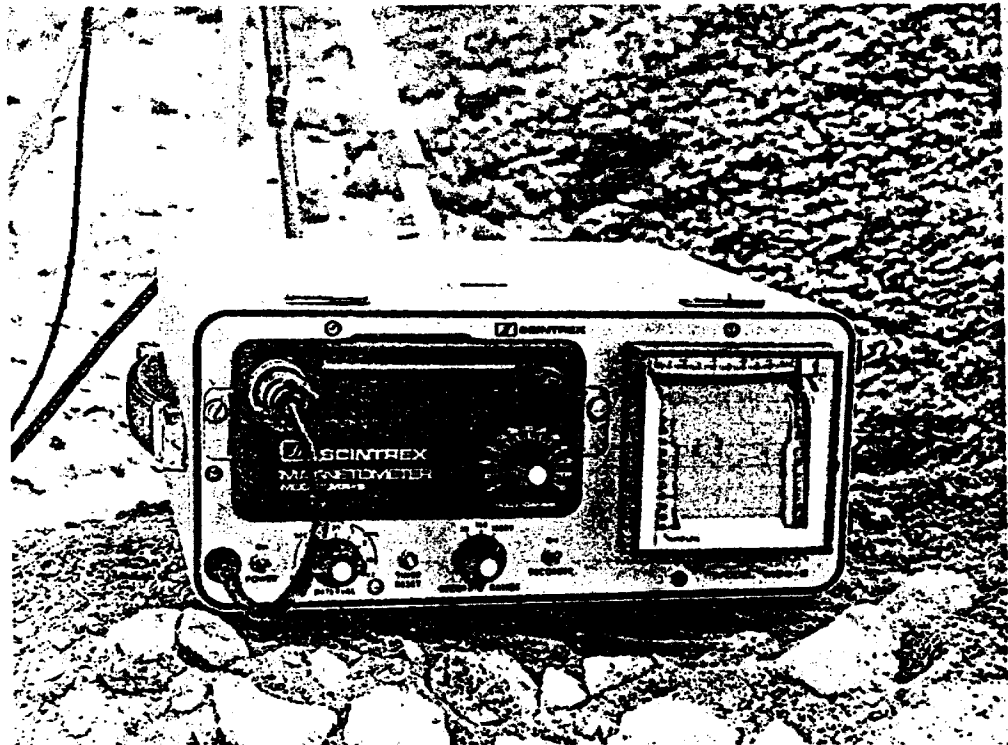
Le calibre de sortie d'enregistrement analogique choisi par sélecteur est de 10, 100 ou 1.000 gamma.

Une sortie numérique pour liaison avec des enregistreurs à cassette ou à ruban magnétique compatible avec un ordinateur.

Les intervalles de mesure automatiques sont variables de deux secondes à dix minutes. Alternativement, des commandes d'horloge manuelles ou à distance peuvent être utilisées pour tout intervalle de mesure plus long que deux secondes.

Des impulsions de synchronisation sont automatiquement marquées chaque dix minutes sur le papier millimétré.

Les décalages automatiques assurent des traces analogiques en-dedans de l'échelle.





42A06SW0506 2.4765 FRIPP

900



TABLE 1

Claims Bordin Property: Price, Fripp and McArthur Townships

MINING RECORDS OFFICE - TORONTO  
**RECEIVED**  
 APR 30 1982  
 PH  
 7 8 9 10 11 12 1 2 3 4 5 6

Price Township

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred To NGX</u>	<u>Anniversary Date</u>
P-591040	Dennis Bordin	X	June 6, 1982
P-591041	" "	X	" " "
P-591155	" "	X	" " "
P-591156	" "	X	" " "
P-591594	" "	X	June 7, 1982
P-591595	" "	X	" " "
P-591596	" "	X	June 6, 1982

Sub-total 7 claims

**RECEIVED**

MAY 25 1982

MINING LANDS SECTION

Fripp Township

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred To NGX</u>	<u>Anniversary Date</u>
P-618161	Dennis Bordin	X	May 2, 1982
P-618162	" "	X	" " "
P-618163	" "	X	" " "
P-618164	" "	X	" " "
P-618165	" "	X	" " "
P-618166	" "	X	" " "
P-618167	" "	X	May 3, 1982
P-618168	" "	X	" " "
P-618169	" "	X	" " "
P-619315	" "	X	May 19, 1982
P-619316	" "	X	" " "
P-618985	" "	X	May 9, 1982
P-618986	" "	X	" " "
P-618987	" "	X	" " "
P-618988	" "	X	" " "
P-618989	" "	X	" " "
P-618990	" "	X	" " "
P-618991	" "	X	May 6, 1982
P-618992	" "	X	" " "
P-618993	" "	X	" " "
P-618994	" "	X	May 7, 1982
P-618995	" "	X	" " "
P-618996	" "	X	" " "
P-618997	" "	X	May 8, 1982
P-618998	" "	X	" " "
P-618999	" "	X	" " "
P-591027	" "	X	May 26, 1982
P-591028	" "	X	" " "
P-591029	" "	X	" " "
P-591030	" "	X	" " "
P-591031	" "	X	May 27, 1982
P-591032	" "	X	" " "
P-591033	" "	X	" " "
P-591034	" "	X	May 28, 1982
P-591035	" "	X	May 29, 1982
P-591036	" "	X	" " "

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred To NGX</u>	<u>Anniversary Date</u>
P-591037	Dennis Bordin	X	May 28, 1982
P-591038	" "	X	May 29, 1982
P-591039	" "	X	" " "
P-591147	" "	X	May 31, 1982
P-591148	" "	X	" " "
P-591149	" "	X	" " "
P-591150	" "	X	" " "
P-591151	" "	X	" " "
P-591152	" "	X	" " "
P-591153	" "	X	" " "
P-591926	" "	X	June 11, 1982
P-591927	" "	X	" " "
P-591928	" "	X	" " "
P-591929	" "	X	" " "
P-591930	" "	X	June 13, 1982
P-591931	" "	X	" " "
P-591932	" "	X	" " "
P-591936	" "	X	" " "
P-393149 - 2.4766	" "	X	June 27, 1982
P-393150	" "	X	" " "
P-393151	" "	X	" " "
P-393152	" "	X	" " "

Sub-total 58 claims

McArthur Township

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred To NGX</u>	<u>Anniversary Date</u>
P-619317	Dennis Bordin	X	May 19, 1982
P-619318	" "	X	" " "
P-591933	" "	X	June 13, 1982
P-591934	" "	X	" " "
P-591935	" "	X	" " "
P-591937	" "	X	June 14, 1982
P-591938	" "	X	" " "
P-591939	" "	X	" " "
P-591940	" "	X	" " "

Sub-total 9 claims

Total 74 claims

NORTHGATE CLAIMS: PRICE, FRIPP AND MCARTHUR TOWNSHIPS

PRICE TOWNSHIP

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred to NGX</u>	<u>Anniversary Date</u>
P-624406	Gabriel Sutherland	X	August 23, 1982
P-624407	"	X	"
P-624408	"	X	"
P-624409	"	X	August 24, 1982
P-624410	"	X	"
P-624411	"	X	"

SUB TOTAL : 6 CLAIMS

FRIPP TOWNSHIP

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred to NGX</u>	<u>Anniversary Date</u>
P-624154	Nolan Boa	X	August 16, 1982
P-624155	"	X	"
P-624281	Richard McAllister	X	"
P-624282	"	X	"
P-624823-283	"	X	"
P-624284	"	X	"
P-624285	"	X	"
P-624286	"	X	August 17, 1982
P-624287	"	X	"
P-624288	"	X	"
P-624289	"	X	"
P-624290	"	X	August 18, 1982
P-624291	"	X	"
P-624292	"	X	"

MCARTHUR TOWNSHIP

<u>Claim Number</u>	<u>Recorder</u>	<u>Transferred to NGX</u>	<u>Anniversary Date</u>
P-624156	Nolan Boa	X	August 16, 1982
P-624157	"	X	"
P-624158	"	X	August 17, 1982
P-624159	"	X	"
P-624160	"	X	"
P-624161	"	X	"
P-624612	"	X	August 18, 1982
P-624163	"	X	"
P-624164	"	X	"
P-624165	"	X	"
P-624166	"	X	"
P-624167	"	X	"
P-624168	"	X	"
P-624169	"	X	August 20, 1982
P-628038	Henry Gonzalez	X	September 21, 1982
P-628039	"	X	"

SUB TOTAL: 16 CLAIMS

TOTAL : 75 CLAIMS





Ministry of Natural Resources

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

File 2.4765

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.

THIS SHOULD  
NOT HAVE  
BEEN RETURNED

Type of Survey(s) MAGNETOMETER  
Township or Area PRICE, FRIPP, MCARTHUR  
Claim Holder(s) NORTHGATE EXPLORATION LIMITED  
  
Survey Company NORTHGATE EXPLORATION LIMITED  
Author of Report G. HARPER, Ph.D.  
Address of Author 26 ORCHARD CRESCENT, ETOBICOKE, ONTARIO  
Covering Dates of Survey SEPT. /81 - APRIL /82  
(linecutting to office)  
Total Miles of Line Cut 94.8

**MINING CLAIMS TRAVERSED**  
List numerically

See Attached Claim Sheets  
(prefix) (number)

**RECEIVED**  
FEB - 7 1983

**MINING LANDS SECTION**

TOTAL CLAIMS \_\_\_\_\_

SPECIAL PROVISIONS  
CREDITS REQUESTED

DAYS  
per claim

ENTER 40 days (includes  
line cutting) for first  
survey.

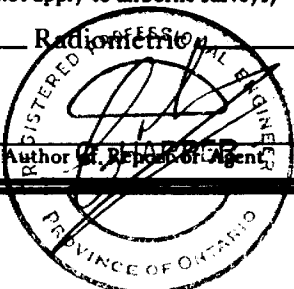
ENTER 20 days for each  
additional survey using  
same grid.

Geophysical  
- Electromagnetic \_\_\_\_\_  
- Magnetometer 40  
- Radiometric \_\_\_\_\_  
- Other \_\_\_\_\_  
Geological \_\_\_\_\_  
Geochemical \_\_\_\_\_

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

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

DATE: 29th April 1982 SIGNATURE: \_\_\_\_\_  
Author or Representative



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

Previous Surveys

File No.	Type	Date	Claim Holder

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 5016 Number of Readings
Station interval 100 feet Line spacing 400 feet
Profile scale
Contour interval 200 gammas and 1,000 gammas

MAGNETIC

Instrument SCINTREX MP-2 (Appendix II)
Accuracy - Scale constant ± 1 gamma
Diurnal correction method BASE STATION RECORDER MPS-2 (Appendix II)
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

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

GRAVITY

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

INDUCED POLARIZATION RESISTIVITY

Instrument
Method Time Domain Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_

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 \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

AIRBORNE SURVEYS

Type of survey(s) \_\_\_\_\_

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 \_\_\_\_\_

RECEIVED

MAY 3 1982

GEOCHEMICAL SURVEY - PROCEDURE RECORD

MINING LANDS

Numbers of claims from which samples taken ~~AS PER CLAIM SHEET~~

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

ANALYTICAL METHODS

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

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

Others ~~Ag~~ As

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory ~~BELL WHITE~~ tests)

Name of Laboratory BELL WHITE

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_



Ministry of Natural Resources

File \_\_\_\_\_

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) V.L.F. - E.M. MAGNETIC  
Township or Area PRICE, FRIPP, MCARTHUR  
Claim Holder(s) NORTHGATE EXPLORATION LIMITED  
  
Survey Company NORTHGATE EXPLORATION LIMITED  
Author of Report P. DADSON  
Address of Author 4 MOFFAT AVE., BRAMPTON, ONTARIO  
Covering Dates of Survey 09/81 - 04/82  
(linecutting to office)  
Total Miles of Line Cut 2.2

MINING CLAIMS TRAVERSED  
List numerically

P 591928  
(prefix) (number)  
591933  
618162  
618165  
619317  
619318

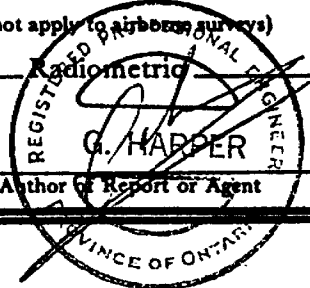
<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	<u>DAYS per claim</u>
Geophysical	
-Electromagnetic _____	
-Magnetometer _____	
-Radiometric _____	
-Other _____	
Geological _____	
Geochemical _____	

ENTER 40 days (includes line cutting) for first survey.  
ENTER 20 days for each additional survey using same grid.

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

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

DATE: 29th April 1982 SIGNATURE: G. HADDER  
Author of Report or Agent



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

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS \_\_\_\_\_

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 233 Number of Readings 233
Station interval 50 feet Line spacing 100 feet
Profile scale 1 inch = 20%
Contour interval 50 gammas

MAGNETIC

Instrument SCINTREX MP-2
Accuracy - Scale constant ± 1 gamma
Diurnal correction method BASE STATION MBS-2
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

Instrument GEONICS EM-16; V.L.F.
Coil configuration
Coil separation
Accuracy
Method: [X] Fixed transmitter [ ] Shoot back [ ] In line [ ] Parallel line
Frequency ANAPOLIS, MARYLAND (specify V.L.F. station)
Parameters measured IN PHASE AND QUADRANGLE

GRAVITY

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

RESISTIVITY

Instrument
Method [ ] Time Domain [ ] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode



2.4765

**NORTHGATE EXPLORATION LIMITED**

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

**RECEIVED**

**MAR 10 1983**

**MINING LANDS SECTION**

March 10, 1983

Mr. Roger Barlow  
Ministry of Natural Resources  
Whitney Block - Rm. 6450  
Queen's Park  
Toronto, Ontario M7A 1W3

Re: Your Ref. No. 2.4765 & 2.4766

Dear Sir:

Please find enclosed the signed maps for your file No. 2.4765.

As for file No. 2.4766 I have included the Assessment Work Breakdown and the claims to which the tags are to be applied (I believe you mentioned during our conversation that you didn't see an attached claims list). Time sheets are discarded after one year so exact dates of the work are not available; however it was all in Nov.-Dec. 81.

If anything else is missing from the file, please don't hesitate to call me.

Yours truly

NORTHGATE EXPLORATION LIMITED

R. Zinn  
Geologist

RZ:sd

1983 03 01

2.4765

Northgate Exploration Co. Ltd.  
4 Moffat Avenue  
Brampton, Ontario

Dear Sir:

RE: Geophysical (Magnetometer) Survey submitted on  
Mining Claims P 591928 et al in the Townships  
of Price, Fripp & McArthur.

---

Enclosed are the Magnetometer plans (in duplicate)  
pertaining to the above mentioned report. Please  
sign each map and return them to this office. We  
note that the work was recorded with the Porcupine  
Mining Recorder on May 19, 1982, under the Man  
Days method. Please, therefore, complete and  
return the enclosed forms, providing us with a  
Man-Days assessment work breakdown.

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

Encls.

D.Wice:jh

cc: Mining Recorder  
Timmins, Ontario



Mining Lands Comments

Handwritten wavy line and illegible text in the Mining Lands Comments section.

To: Geophysics

Mr. Barber.

Comments section for Geophysics with handwritten text: "maps need signature".

Approved

Wish to see again with corrections

Date

Jan 3/03

Signature

[Handwritten Signature]

To: Geology - Expenditures

Comments section for Geology - Expenditures, currently blank.

Approved

Wish to see again with corrections

Date

Signature

To: Geochemistry

Comments section for Geochemistry with handwritten initials "LD".

Approved

Wish to see again with corrections

Date

Signature

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

(Tel: 5-1380)

1982 05 28

2.4765

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

Dear Sir:

We have received reports and maps for a Geophysical (Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 591928 et al in the Townships of Price, Fripp, and McArthur.

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

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

J. Skura/amc

cc: Northgate Exploration Limited  
Toronto, Ontario

cc: Mr. P. Dadson  
Brampton, Ontario

	Mag			Mag			Mag
P. - 393149	✓		P. - 591933	✓		P624156	✓
50	✓		34	✓		57	✓
51	✓		35	✓		58	✓
52	✓		36	✓		59	✓
591027	✓		37	✓		60	✓
28	✓		38	✓		61	✓ 1/4
29	✓		39	✓		62	✓ 1/4
30	✓		40	✓		63	✓
31	✓		618161	✓		64	✓
32	✓		62	✓		65	✓
33	✓		63	✓		66	✓
34	✓		64	✓		67	✓
35	✓		65	✓		68	✓
36	✓		66	✓		69	✓ 1/4
37	✓		67	✓		624281	✓
38	✓		68	✓		82	✓
39	✓		69	✓		83	✓
40	✓		618985	✓		84	✓
41	✓		86	✓		85	✓
591147	✓		87	✓		86	✓
48	✓		88	✓		87	✓
49	✓		89	✓		88	✓
50	✓		90	✓		89	✓
51	✓		91	✓		90	✓
52	✓		92	✓		(91)	✓
53	✓		93	✓		92	✓
591155	✓		94	✓		624406	✓
56	✓		95	✓		07	✓
591594	✓		96	✓		08	✓ 1/2 (Lake)
95	✓		97	✓		09	✓
96	✓ 1/4 (Lake)		98	✓		10	✓
591926	✓		99	✓		11	✓
27	✓		619315	✓		628038	✓
28	✓		16	✓		39	✓
29	✓		17	✓		All accepted	
30	✓		18	✓			
31	✓		624154	✓			
32	✓		55	✓			

Ogden Twp. (M.305)

THE TOWNSHIP OF

PRICE

DISTRICT OF COCHRANE

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 ----- C.

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).  
Order N<sup>o</sup> File Date Disposition

DATE OF ISSUE  
APR 21 1983  
Ministry of Natural Resources  
TORONTO

SAND AND GRAVEL

Ⓞ QUARRY PERMIT

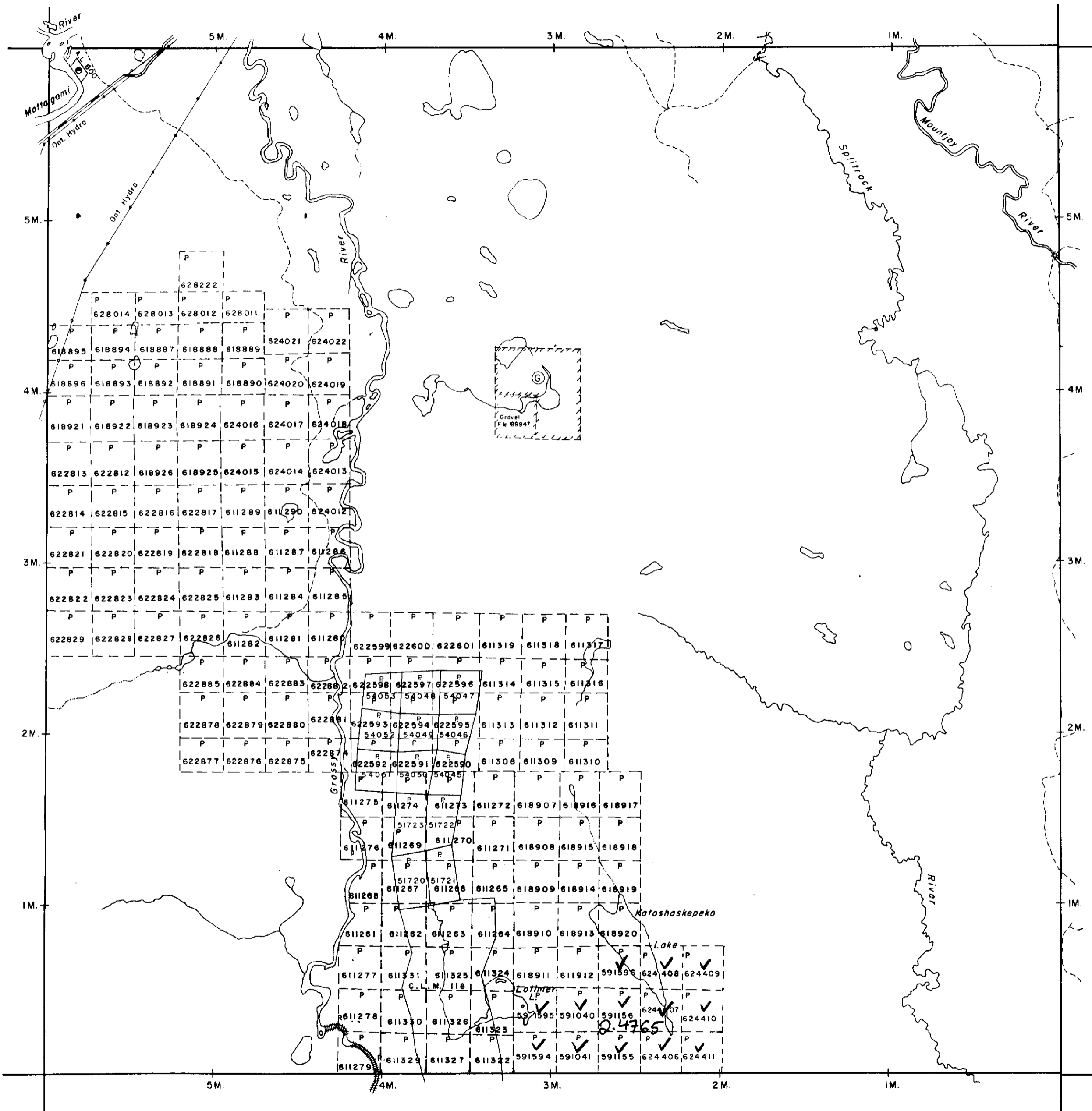
This township lies within the Municipality of the CITY of TIMMINS.

PLAN NO. M-307

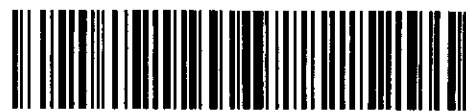
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

Thorneloe Twp. (M.313)

Adams Twp. (M.261)



Fripp Twp. (M.281)



42A965W0506 2.4765 FRIPP

Adams Twp. - M.261

THE TOWNSHIP OF  
OF

McARTHUR

DISTRICT OF  
TIMISKAMING

PORCUPINE  
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
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 and rivers.

RESERVATIONS:

- Ⓡ<sub>1</sub> - Reserved for recreational purposes under Sec. 3 P.L.A. File 188543.
- Ⓡ<sub>2</sub> - PUBLIC ACCESS POINT - S.R.O. RES., FILE 164584, vol. 2

DATE OF ISSUE

JAN 13 1983

Ministry of Natural Resources  
TORONTO

PLAN NO. - M.298

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

Frripp Twp. - M.281

Douglas Twp. - M.274

Bartlett Twp. - M.262



42A065W0506 2.4765 FRIPP

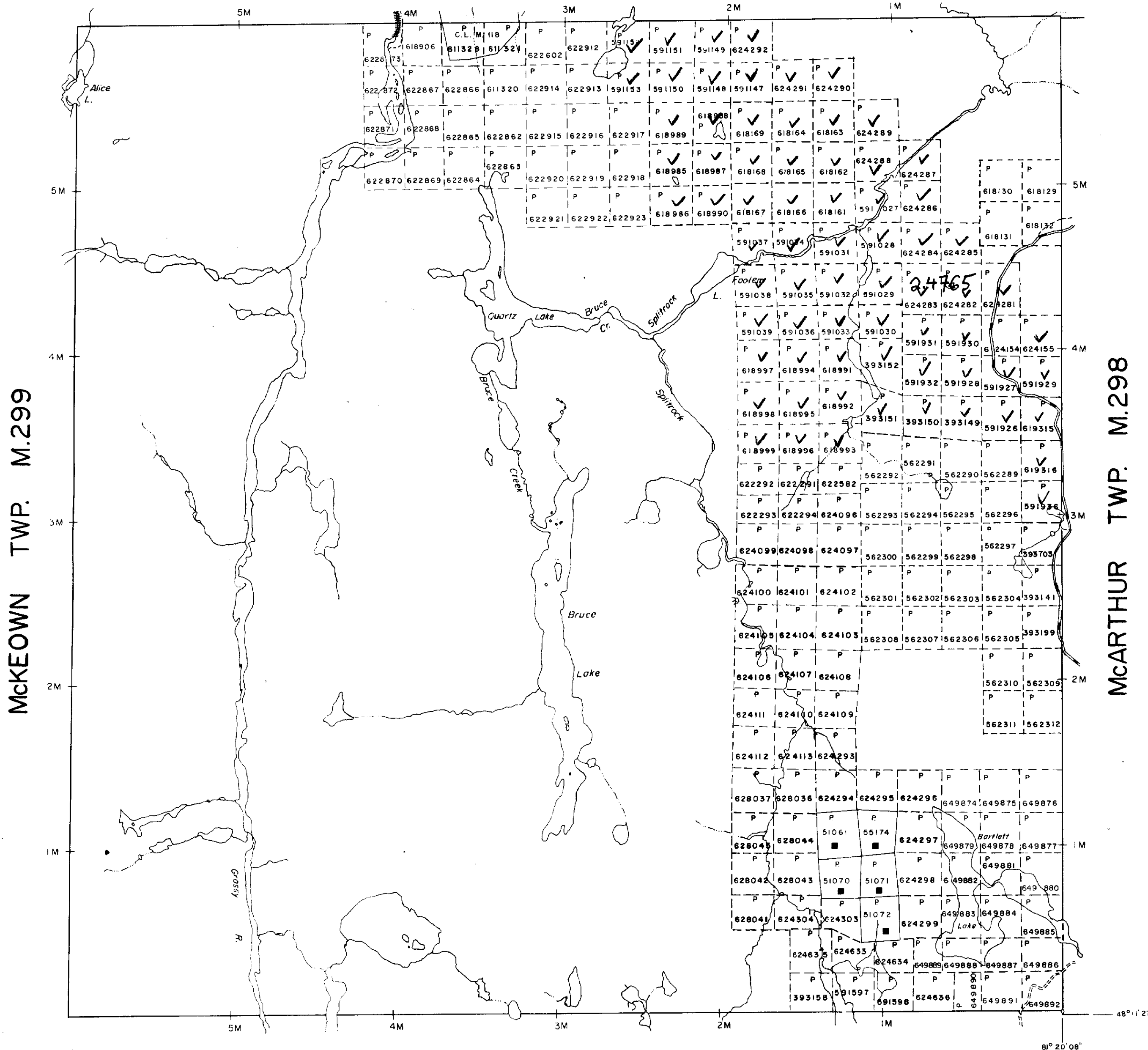
PRICE TWP. M.307

THE TOWNSHIP OF  
OF  
**FRIPP**

DISTRICT OF  
TIMISKAMING

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 and rivers.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970.)

Order N°	File	Date	Disposition

DATE OF ISSUE

APR 21 1983

Ministry of Natural Resources  
TORONTO

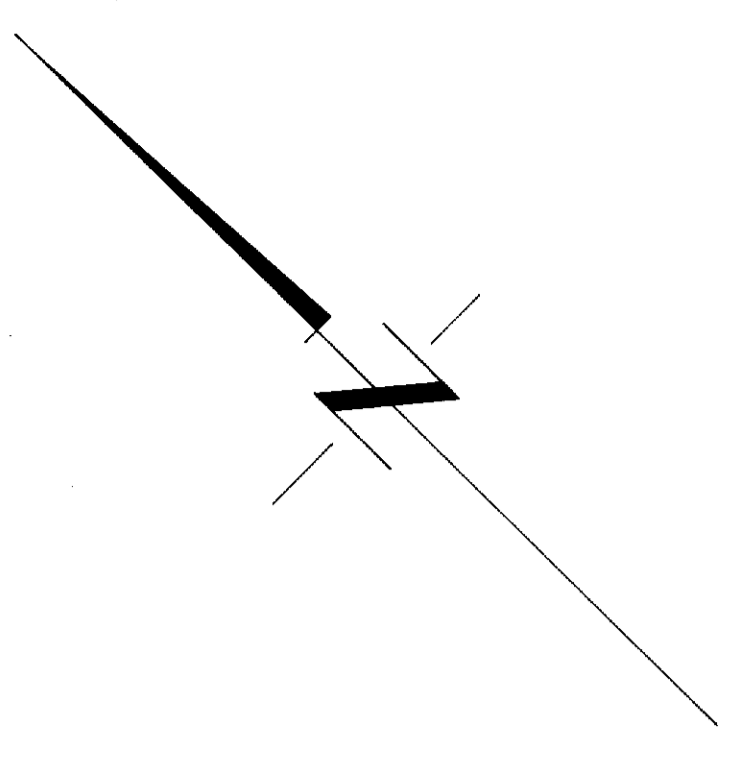
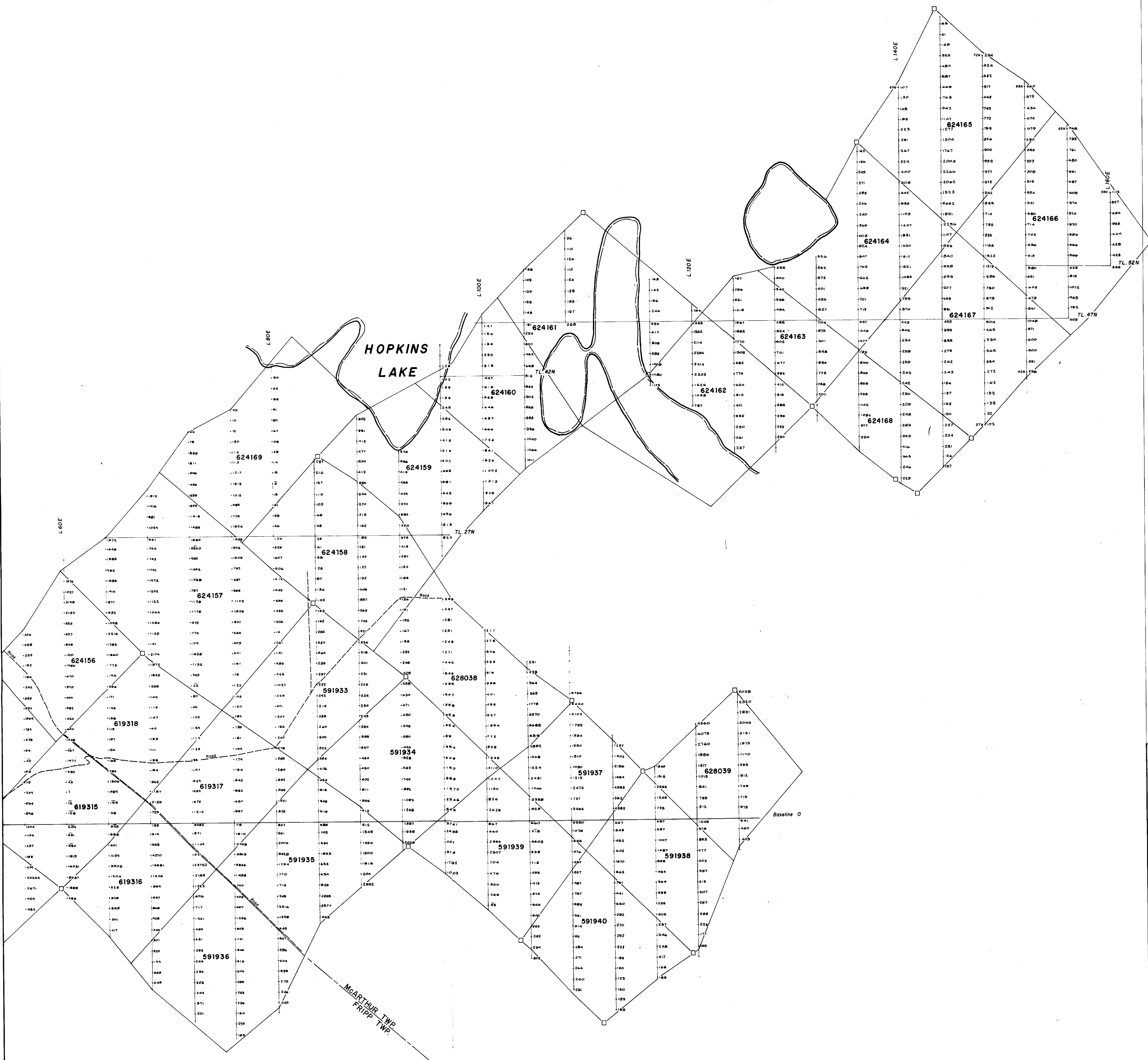
PLAN NO. **M.281**

ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

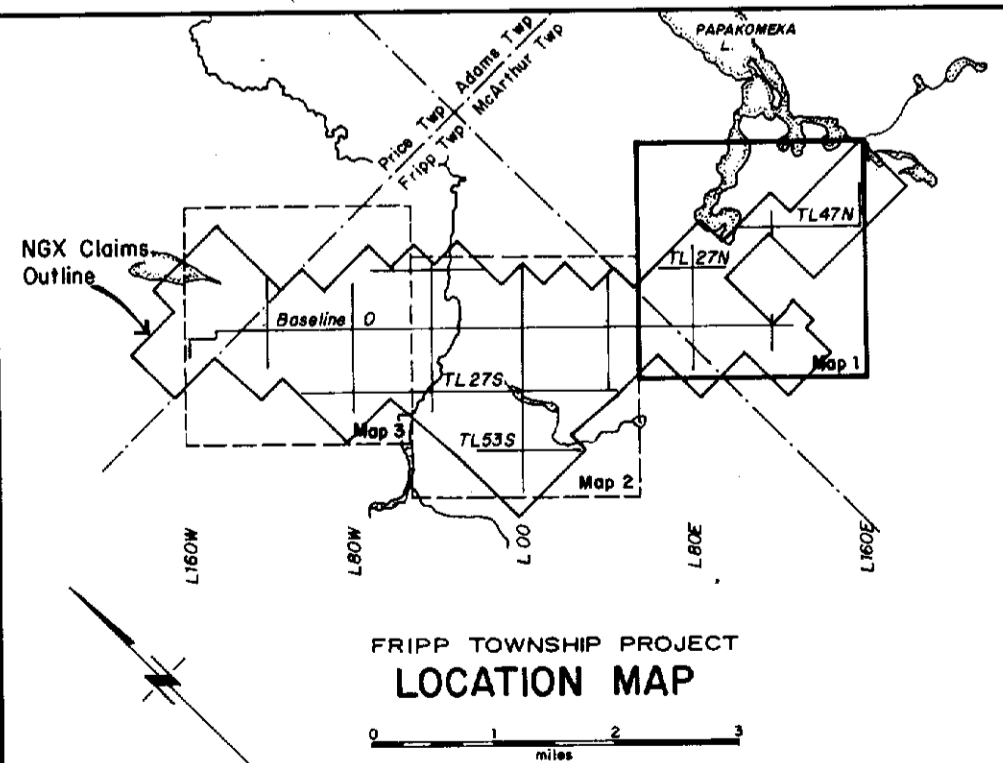
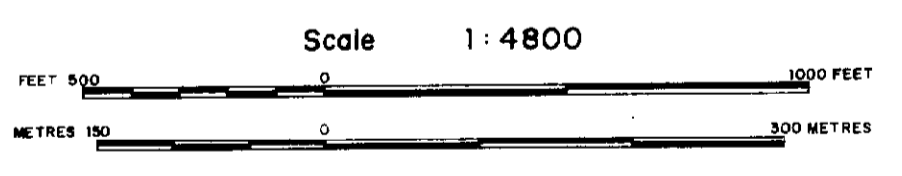
MUSGROVE TWP. M.304



42A065W0506 2.4765 FRIPP



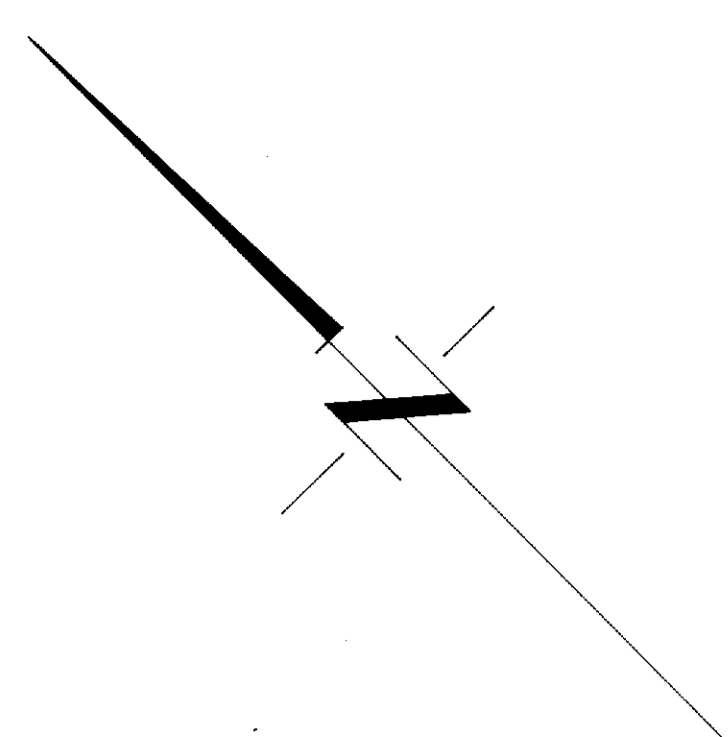
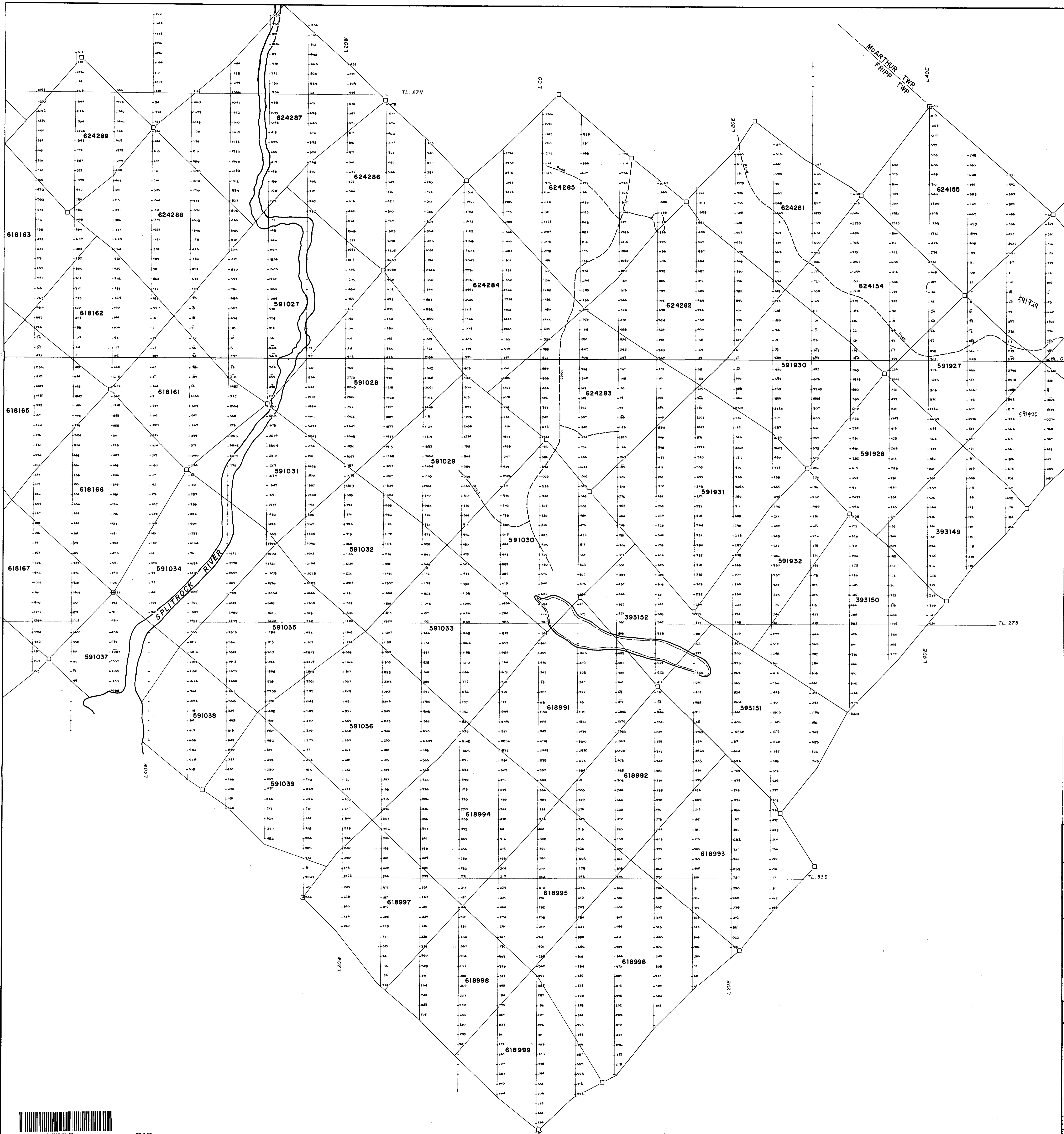
Note: Add 59,000 gammas on all readings



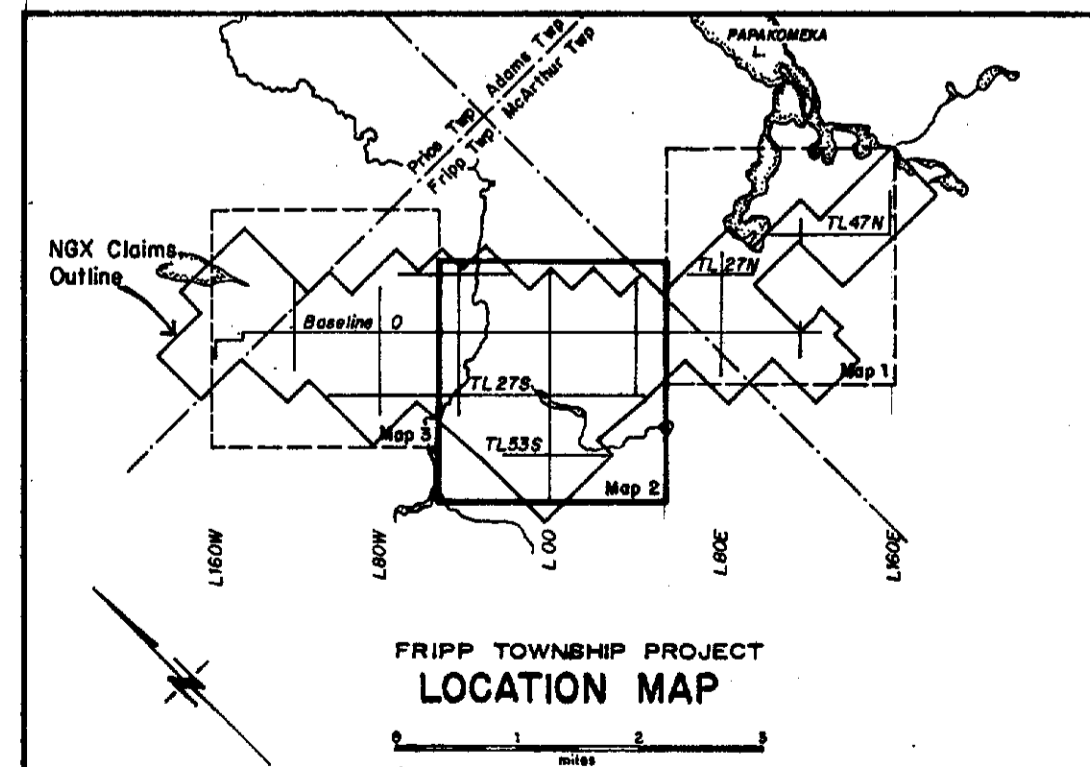
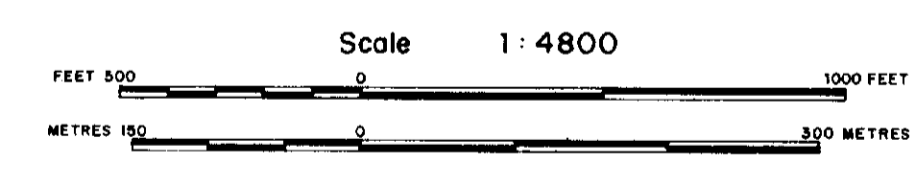
**Northgate Exploration Limited**  
 N.T.S. No. 785  
 FRIPP TOWNSHIP PROJECT - No 785  
 FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
 -DATA-  
 Map 1 of 3

Work by: A. McParland Date: Nov '81 Proj. no: 785 Scale: 1:4800  
 Drawn by: A.R. Gunther Date: March '82 Rev. by: R.E. Ortiz Date:





Note: Add 59,000 gammas on all readings

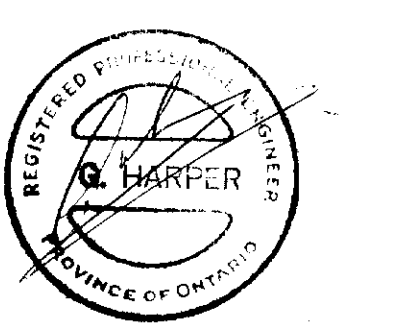
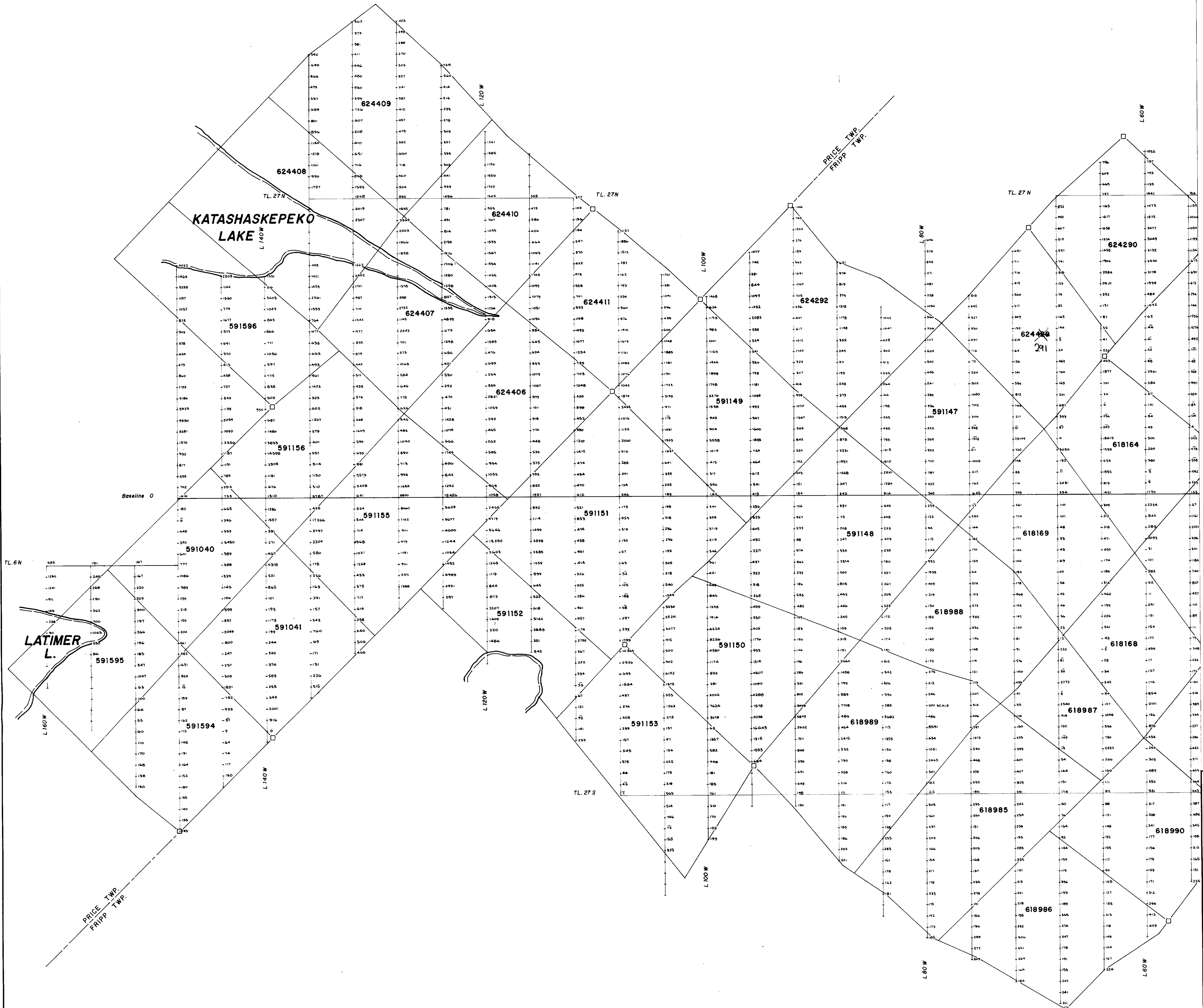
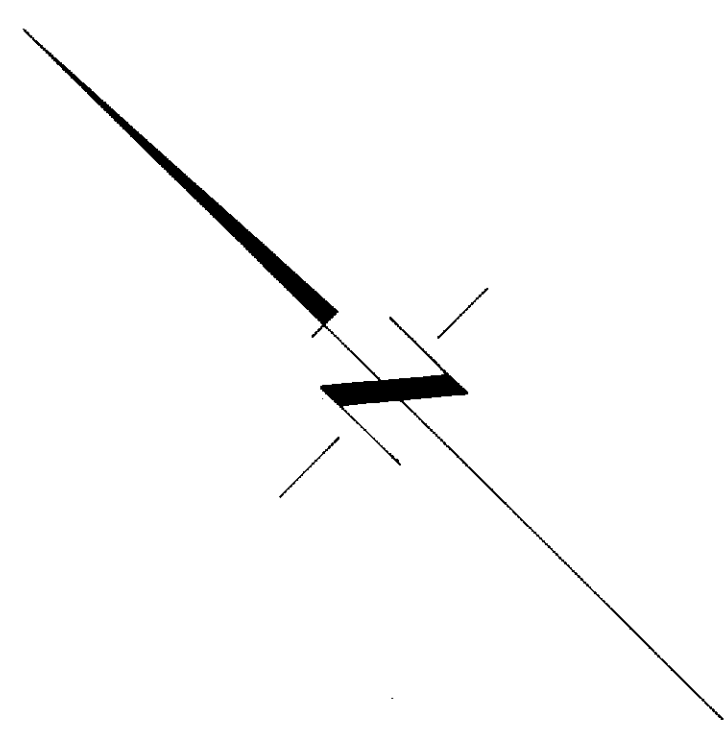


**Northgate Exploration Limited**  
 N.T.S. No. FRIPP TOWNSHIP PROJECT - NO 785  
 FRIPP TOWNSHIP, DISTRICT OF TIMSKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
 - DATA -  
 Map 2 of 3

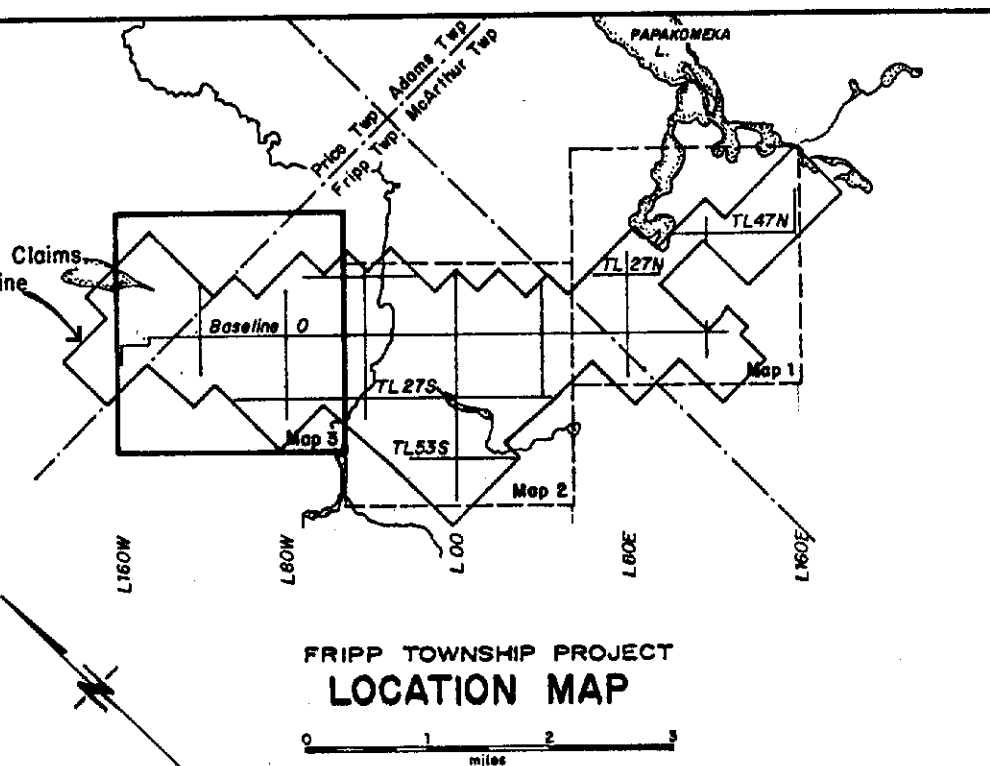
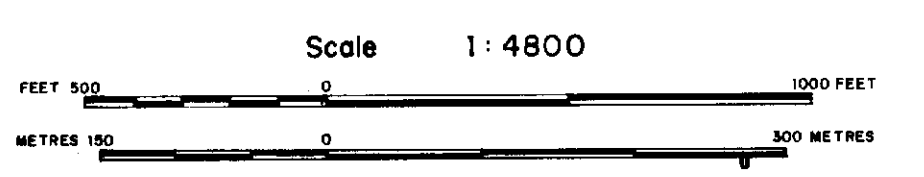
Work by: A. McParland Date: Nov. '81 Proj. no: 785 Scale: 1"=400  
 Drawn by: R.E. Ortiz Date: March '82 Rev. by: Date:







Note: Add 59,000 gammas on all readings



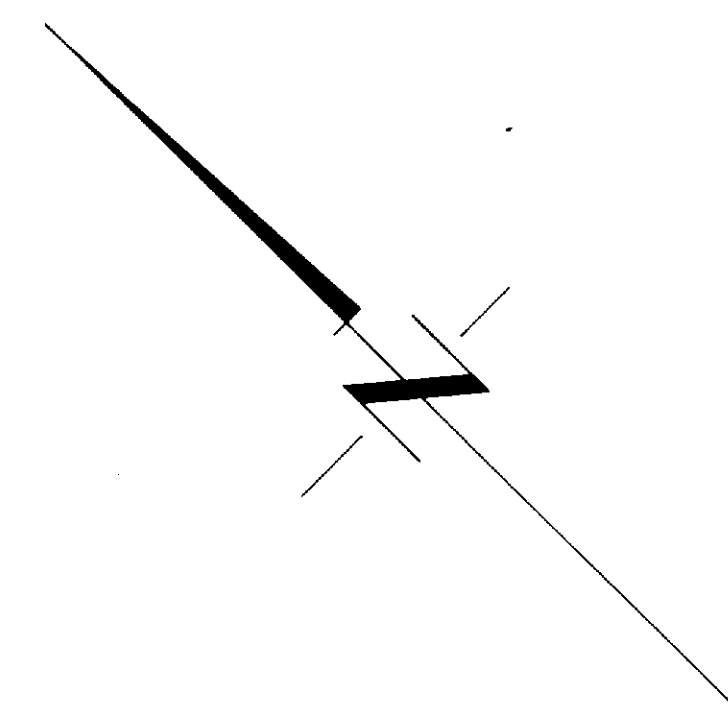
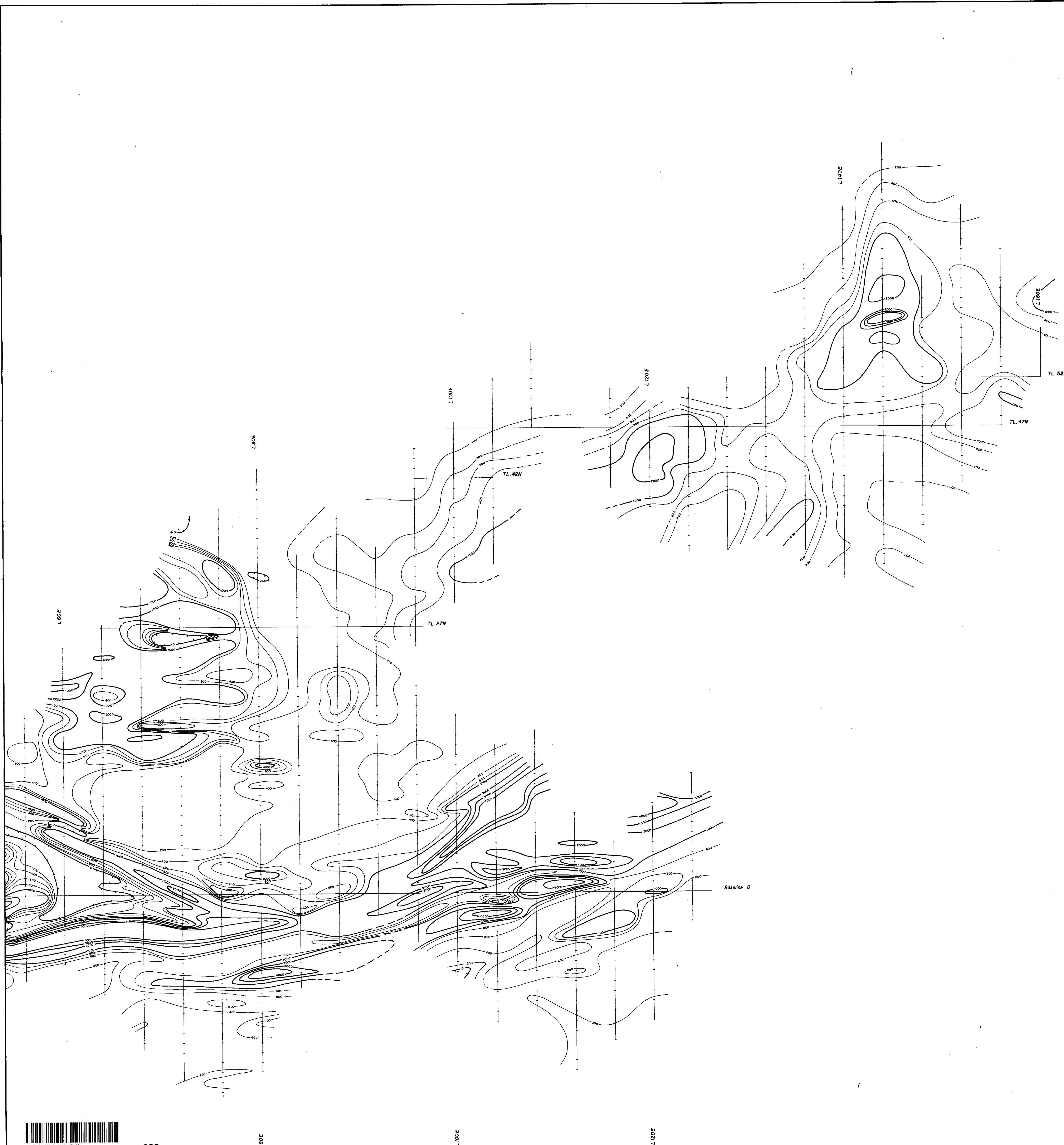
**Northgate Exploration Limited**

N.T.S. No. 785  
**FRIPP TOWNSHIP PROJECT - NO 785**  
 FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO

**MAGNETOMETER SURVEY**  
 -DATA-  
 Map 3 of 3

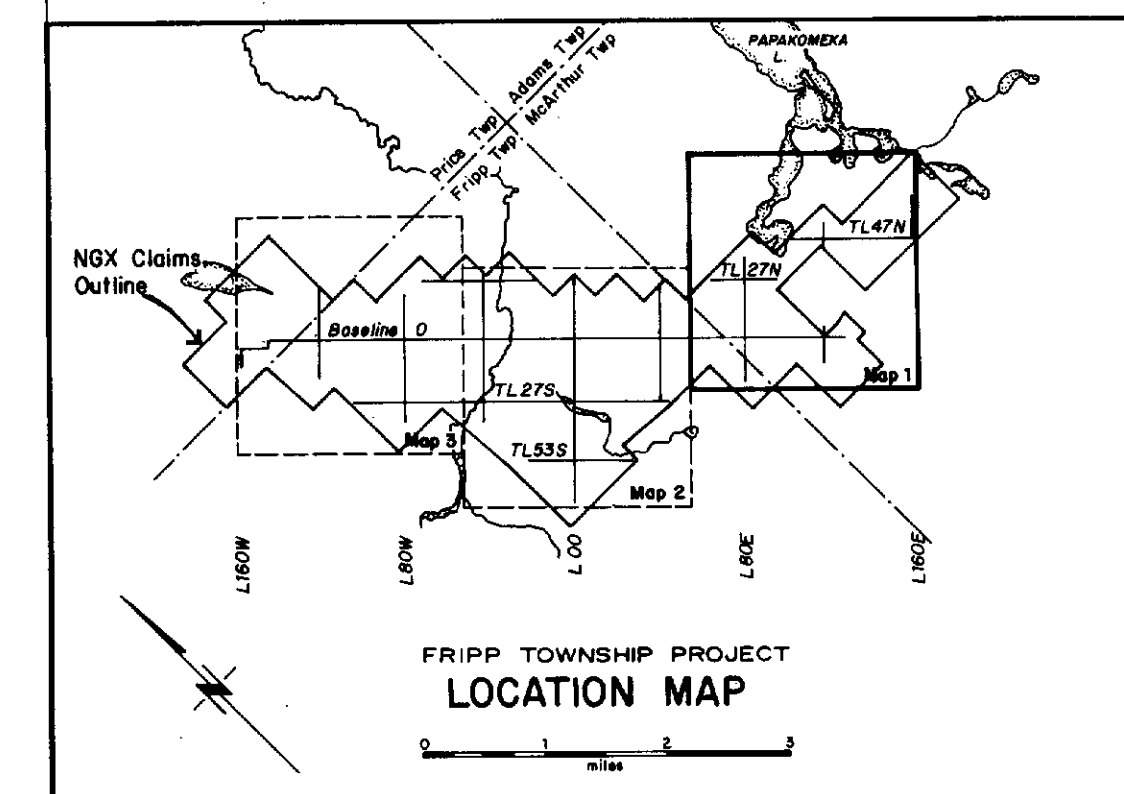
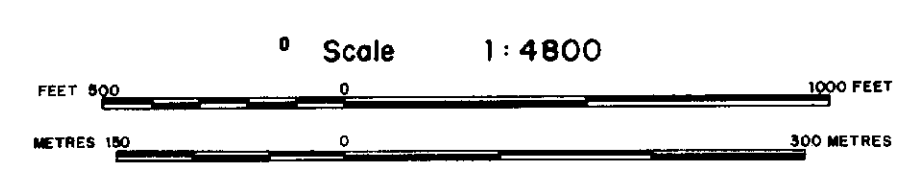
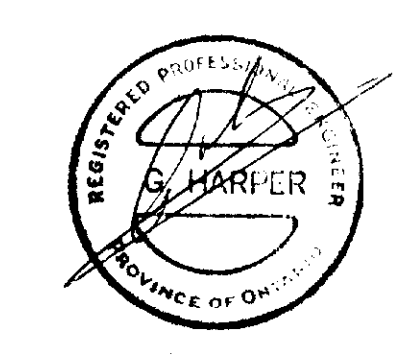
Work by: A. McParland Date: Nov. '81 Proj. no: 785 Scale: 1"=400'  
 Drawn by: R.E. Ortiz Date: March '82 Rev. by: Date: 1:4800'





CONTOUR INTERVAL (plus 59,000 gammas)

█	> 4000 gammas
█	3000 - 4000 gammas
█	2000 - 3000 "
█	1000 - 2000 "
█	800 - 1000 "
█	600 - 800 "
█	400 - 600 "
█	200 - 400 "
█	0 - 200 "
█	< 0 gammas



**Northgate Exploration Limited**

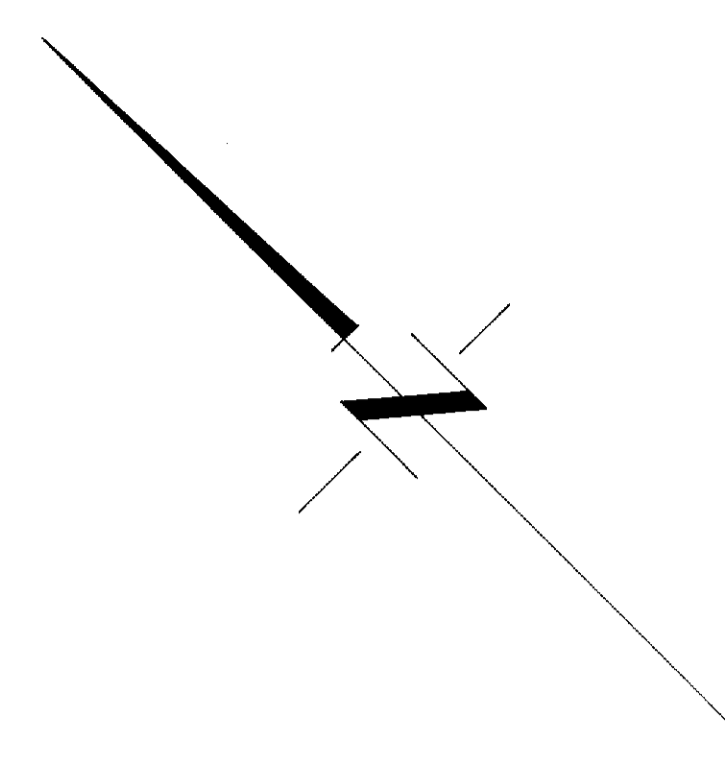
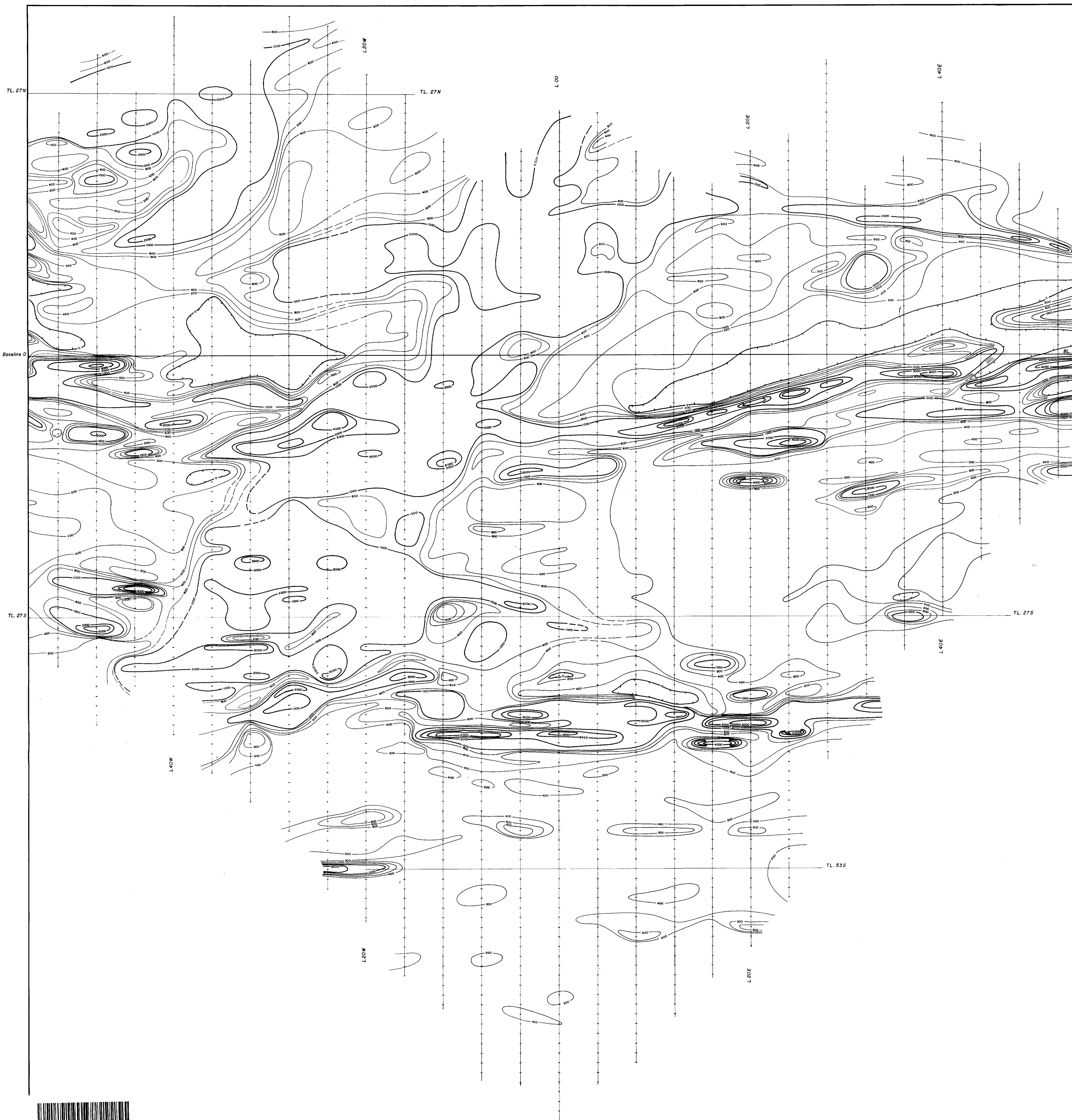
N.T.S. No. 785  
FRIPP TOWNSHIP PROJECT - N<sup>o</sup> 785  
FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO

**MAGNETOMETER SURVEY**  
- CONTOURS -

Map 1 of 3

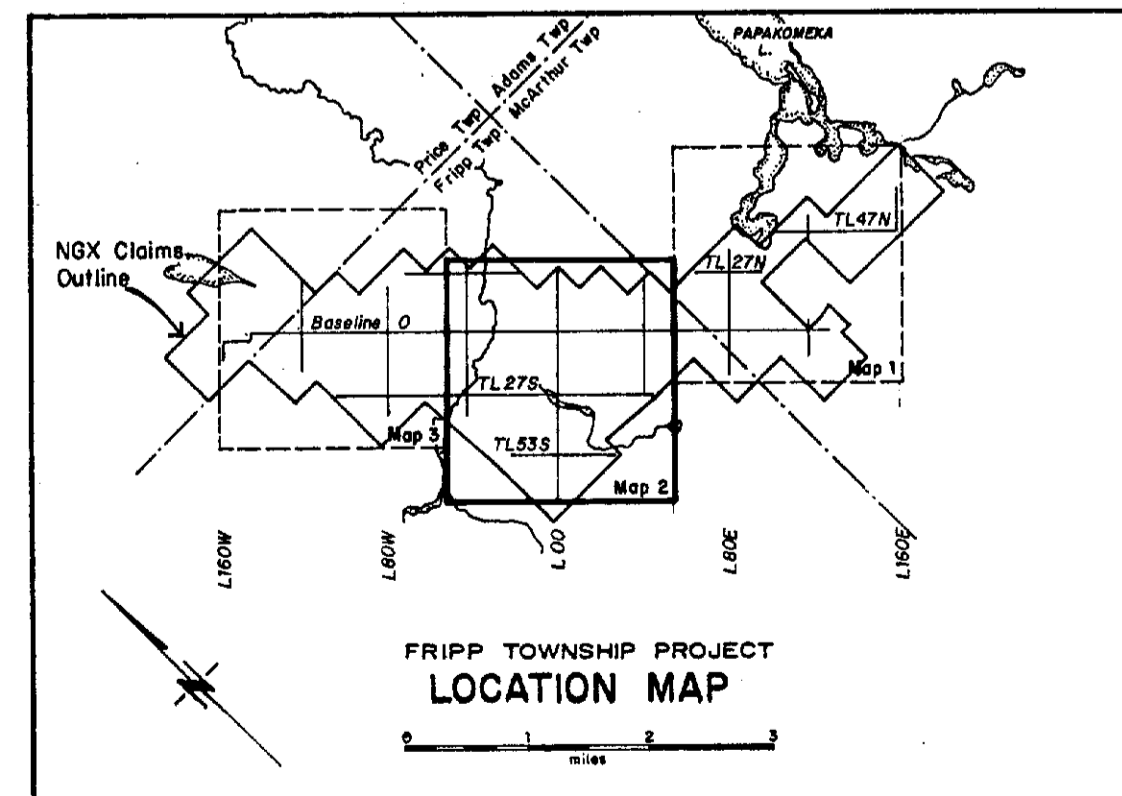
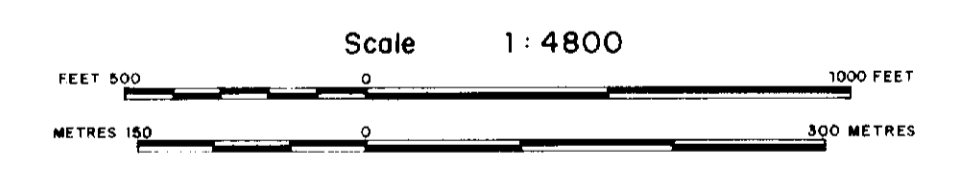
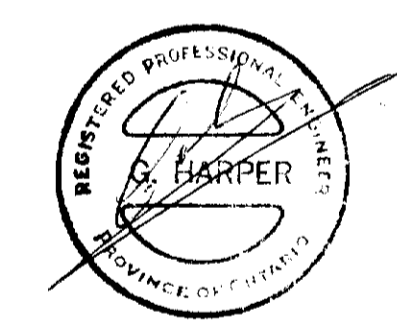
Work by: A. McParland	Date: Nov. '81	Proj. no: 785	Scale: 1:4800
Drawn by: A.R. Gunther R.E. Ortiz	Date: March '82	Rev. by:	Date:





CONTOUR INTERVAL (plus 59,000 gammas)

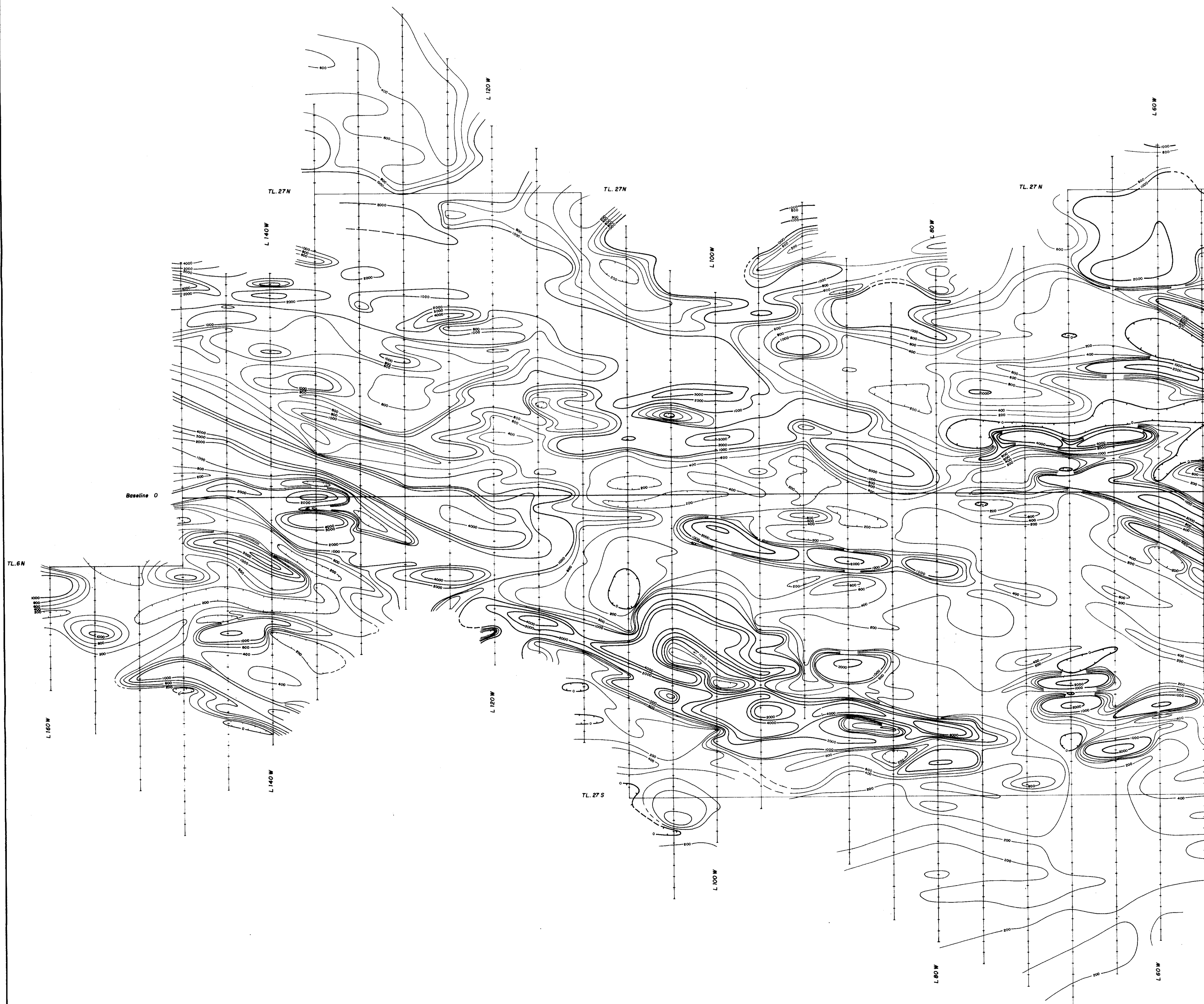
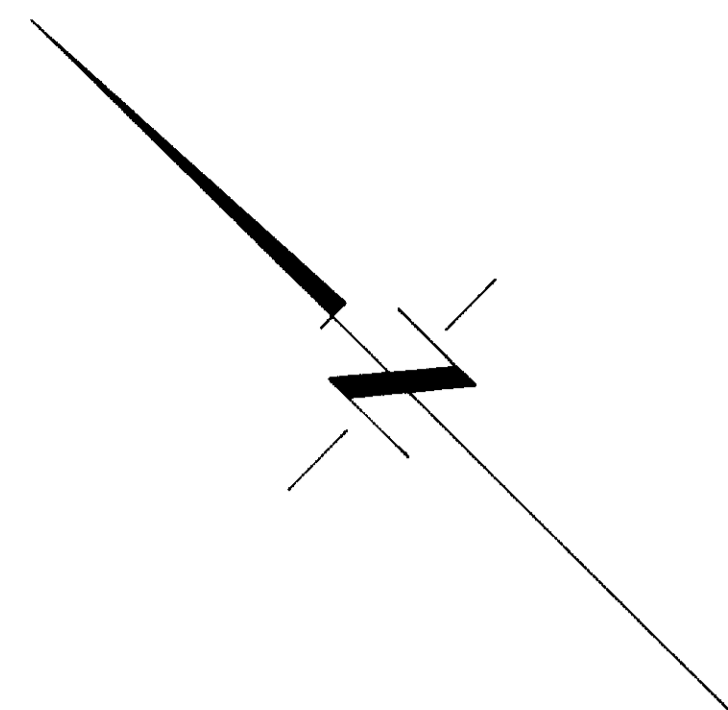
Blank	> 4000 gammas
White	3000 - 4000 "
Light Grey	2000 - 3000 "
Medium Grey	1000 - 2000 "
Dark Grey	800 - 1000 "
Very Dark Grey	600 - 800 "
Black	400 - 600 "
White	200 - 400 "
White	0 - 200 "
White	< 0 gammas



**Northgate Exploration Limited**  
 N.T.S. No.  
**FRIPP TOWNSHIP PROJECT - No 785**  
 FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
 - CONTOURS -  
 Map 2 of 3

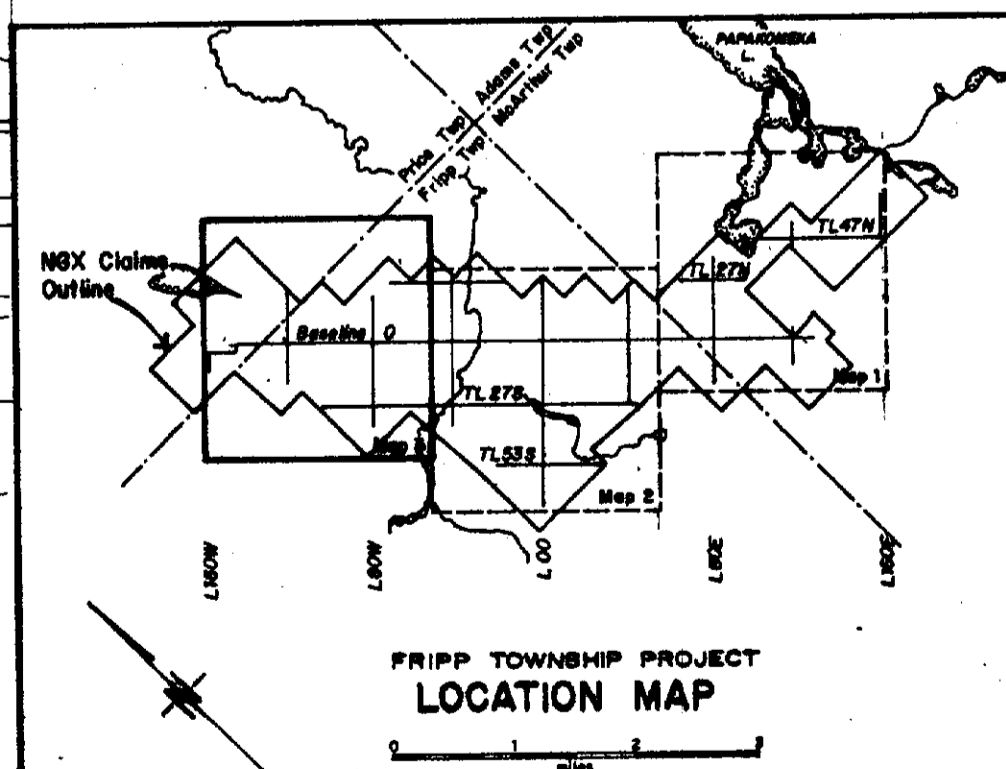
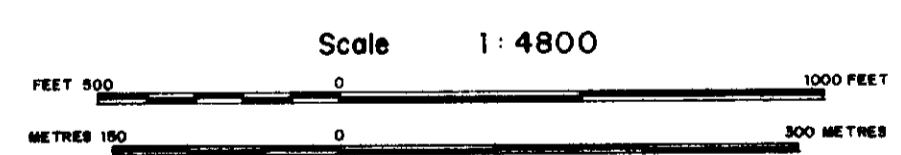
Work by: A. McParland	Date: Nov '81	Proj. no: 785	Scale: 1" = 400'
Drawn by: R.E. Ortiz	Date: March '82	Rev. by:	Date:





CONTOUR INTERVAL (plus 59,000 gammas)

█	> 4000 gammas
█	3000 - 4000 "
█	2000 - 3000 "
█	1000 - 2000 "
█	800 - 1000 "
█	600 - 800 "
█	400 - 600 "
█	200 - 400 "
█	0 - 200 "
█	0 gammas



**Northgate Exploration Limited**

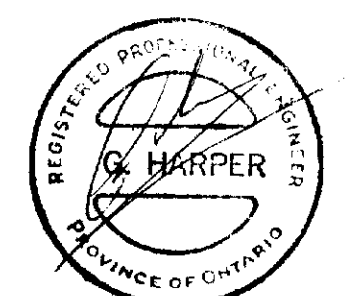
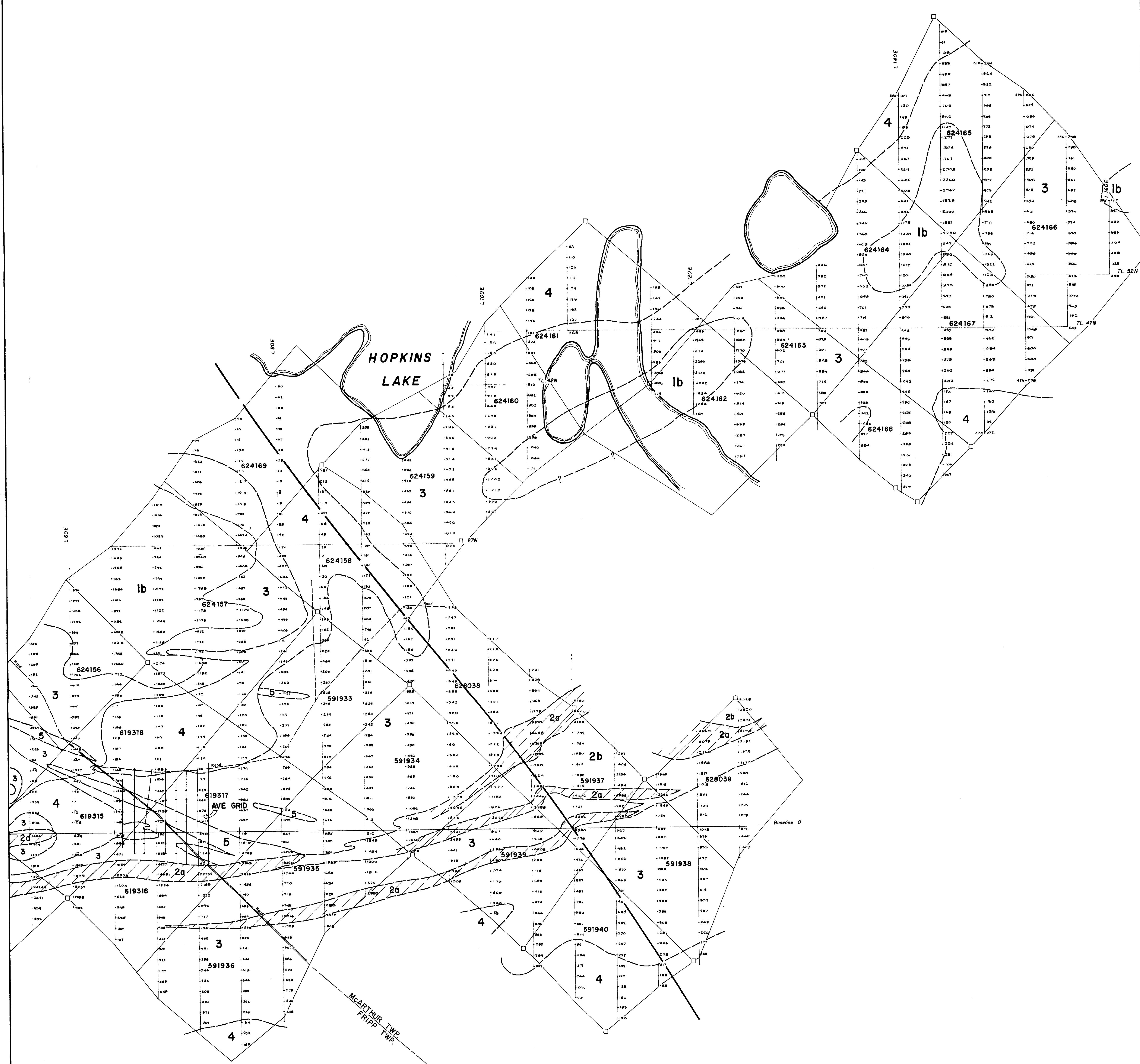
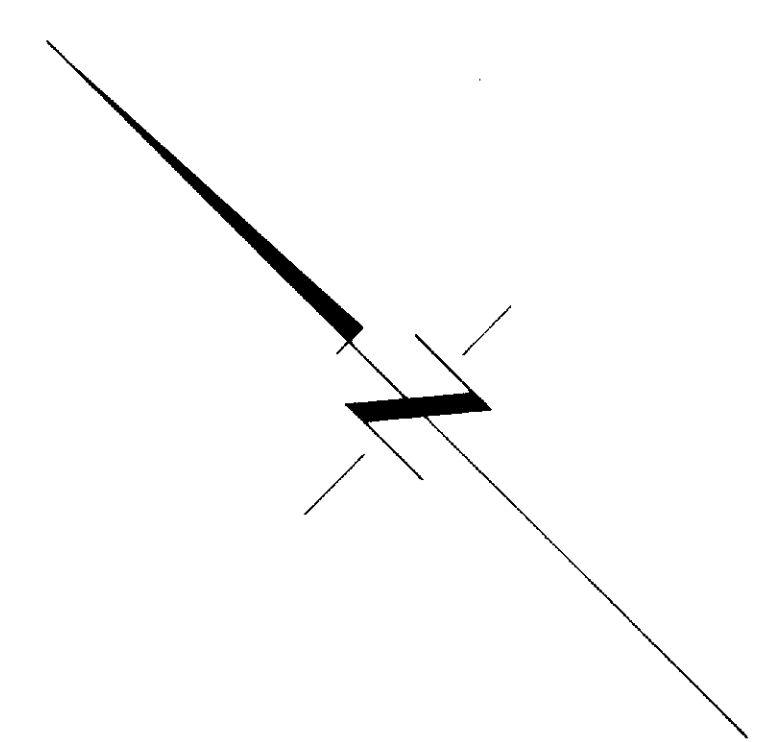
N.T.S  
FRIPP TOWNSHIP PROJECT - No. 785  
FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO

**MAGNETOMETER SURVEY - CONTOURS -**

Map 3 of 3

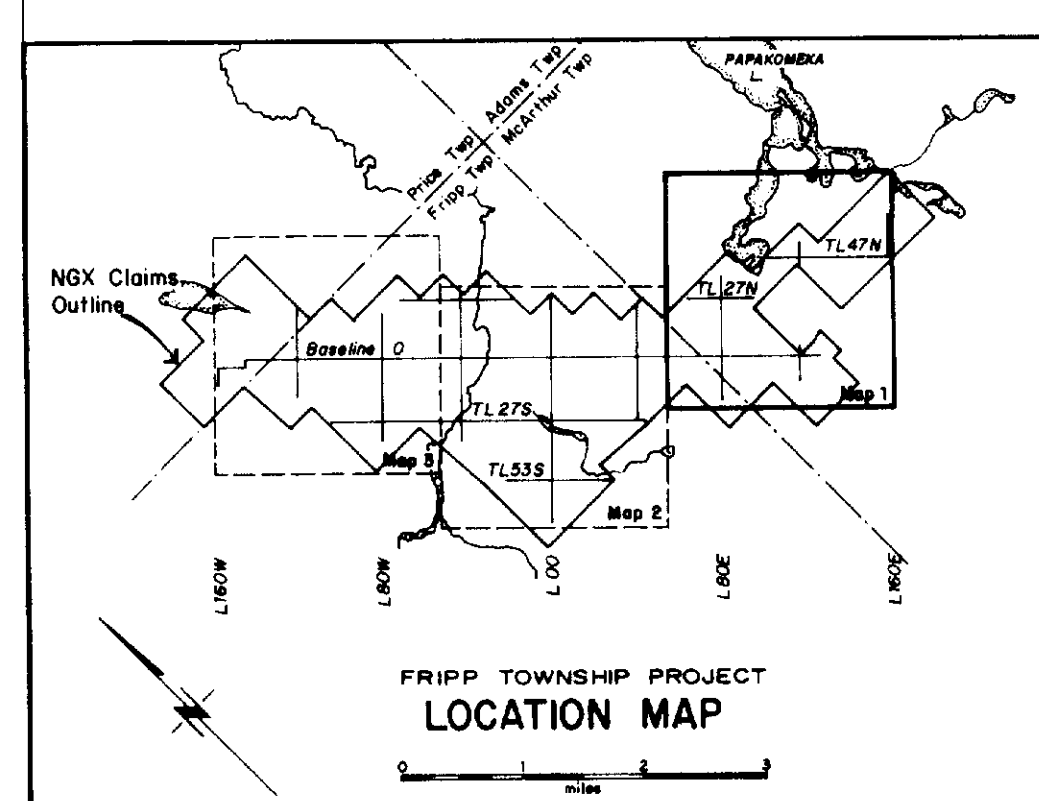
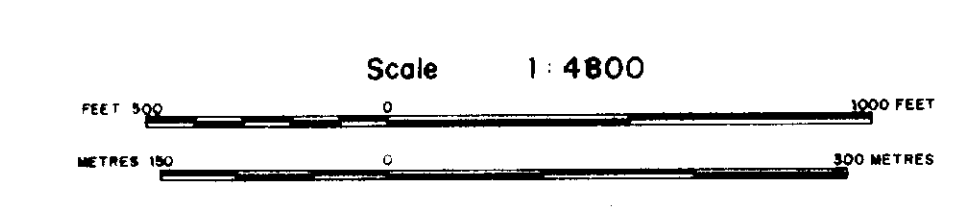
Work by: A. McParland	Date: Nov. '81	Proj. no: 785	Scale: 1" = 400'
Drawn by: A.R. Gunther R. Ortiz	Date: March '82	Rev. by:	Date:





— STRUCTURAL BREAKS  
- - - UNIT BOUNDARIES

Note: Add 59,000 gammas on all readings



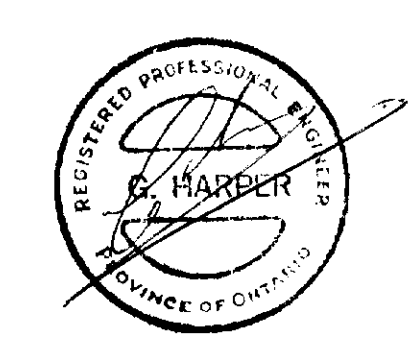
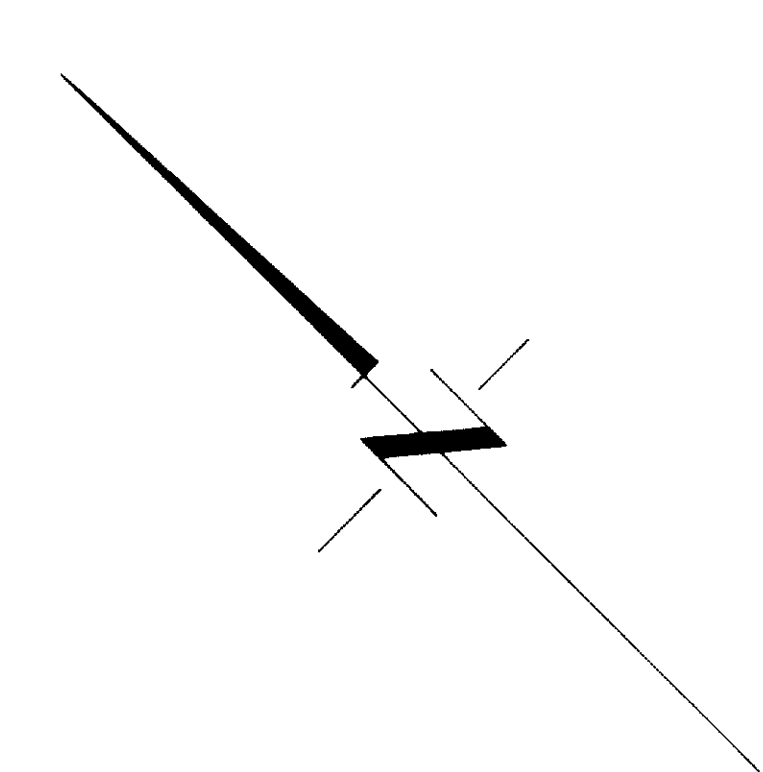
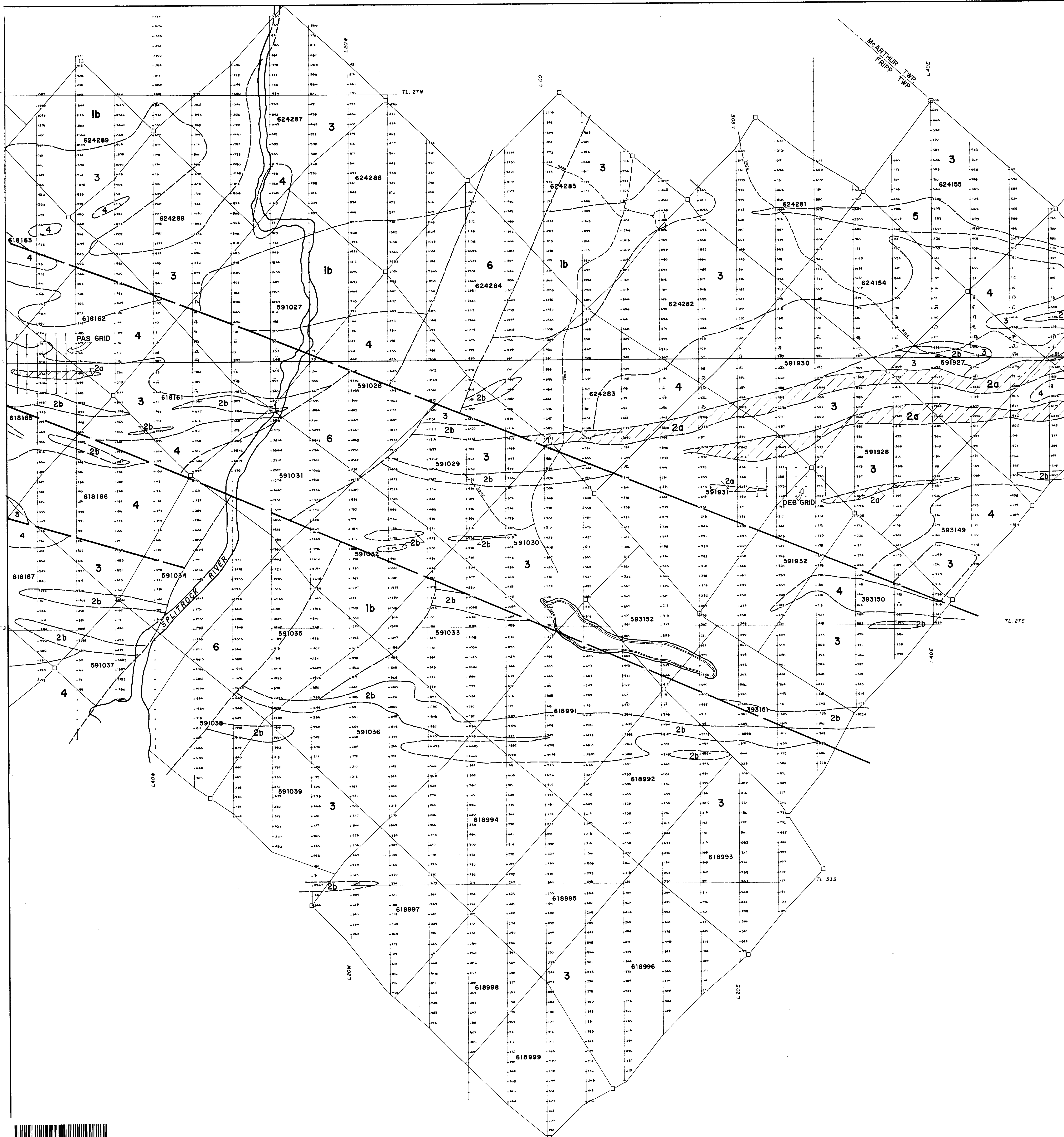
**Northgate Exploration Limited**  
N.T.S.  
FRIPP TOWNSHIP PROJECT - NO 785  
FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
DATA INTERPRETATION  
Map 1 of 3

Work by: A. McParland Date: Nov. '81 Proj. no: 785 Scale: 1:4800  
Drawn by: A.R. Gunther Date: March '82 Rev. by: Date:



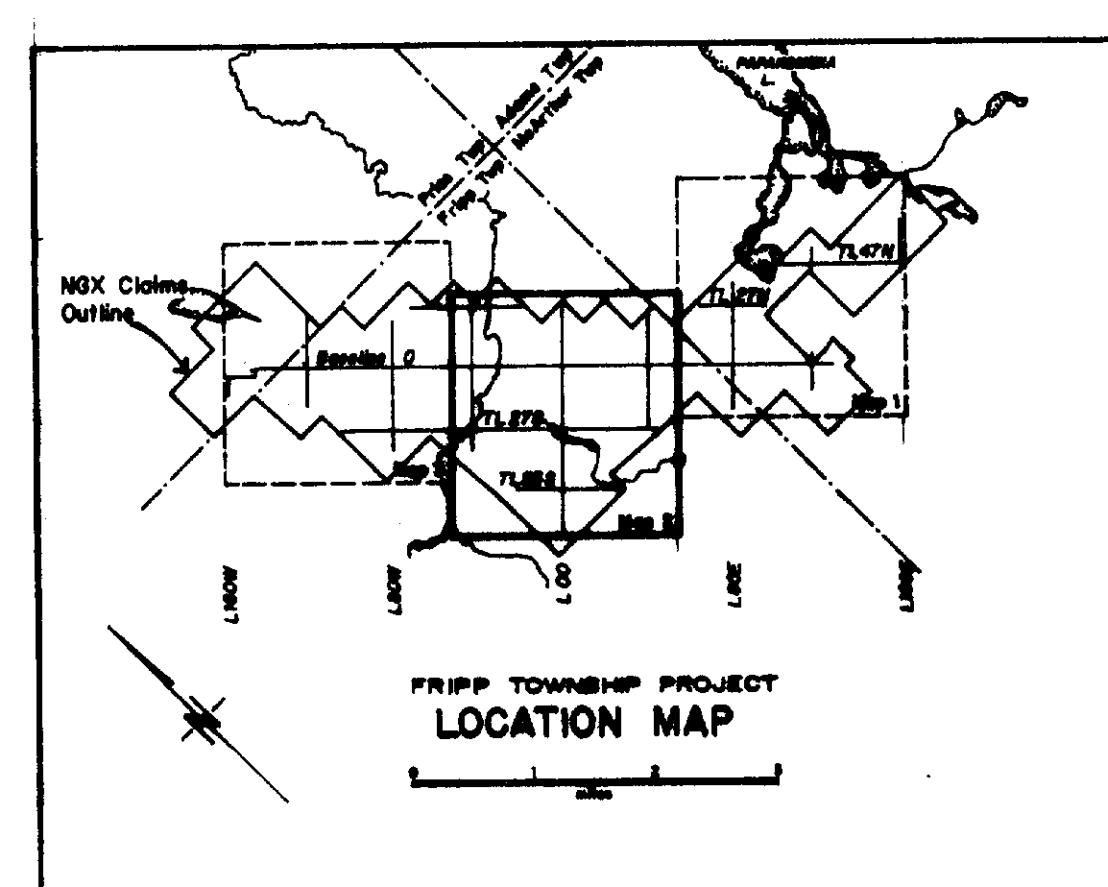
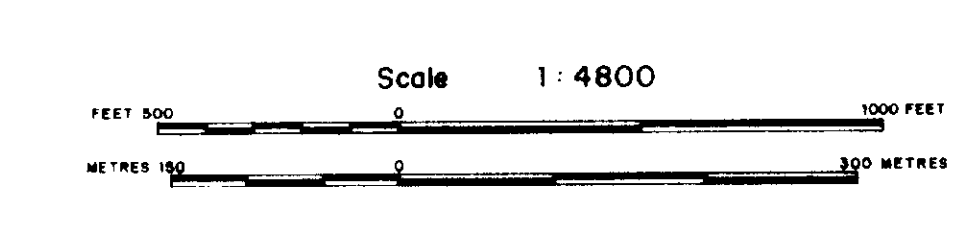
290

TRANSLAR 200-3-81



--- STRUCTURAL BREAKS  
 - - - UNIT BOUNDARIES

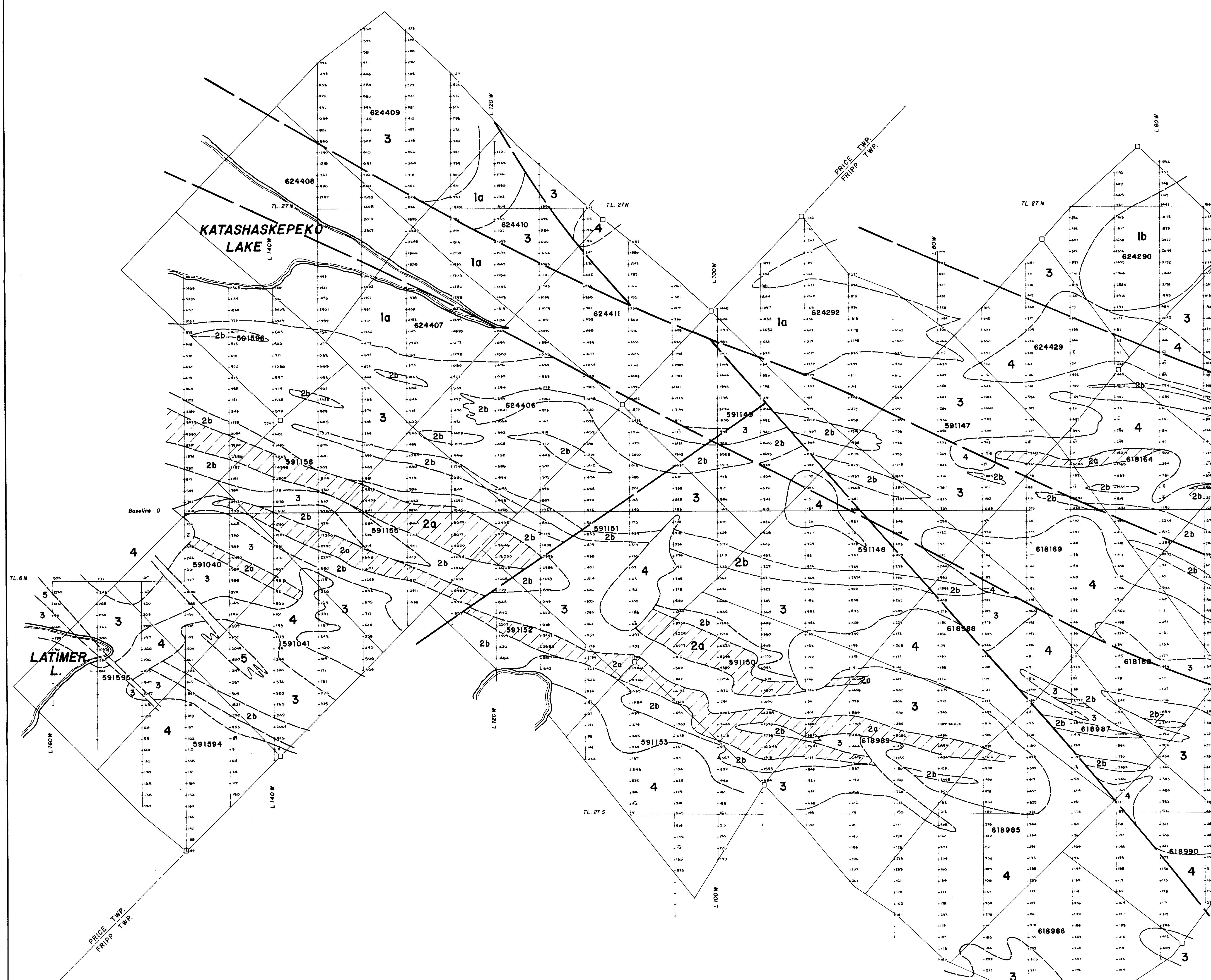
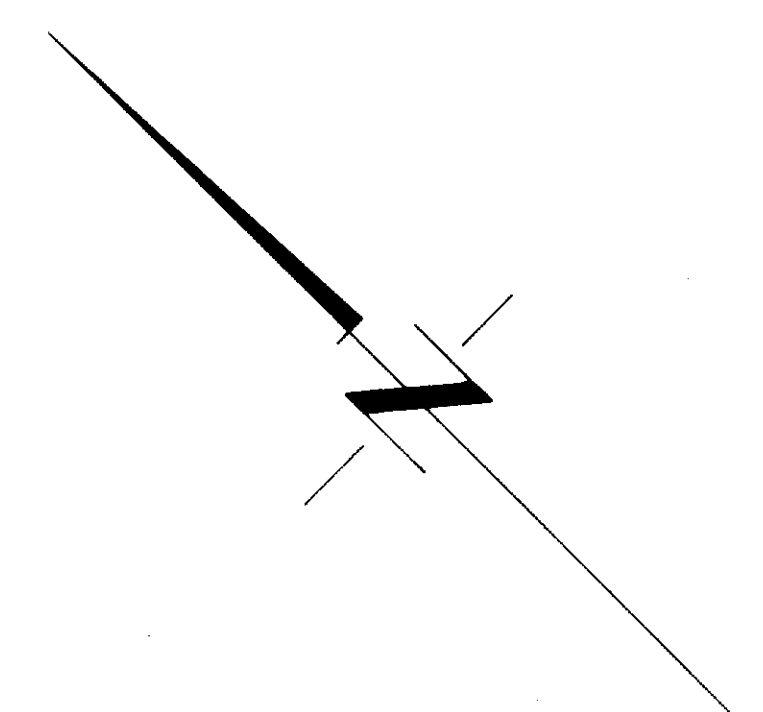
Note: Add 59,000 gammas on all readings



**Northgate Exploration Limited**  
 N.T.S. No. 785  
 FRIPP TOWNSHIP PROJECT - No 785  
 FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
 DATA INTERPRETATION  
 Map 2 of 3

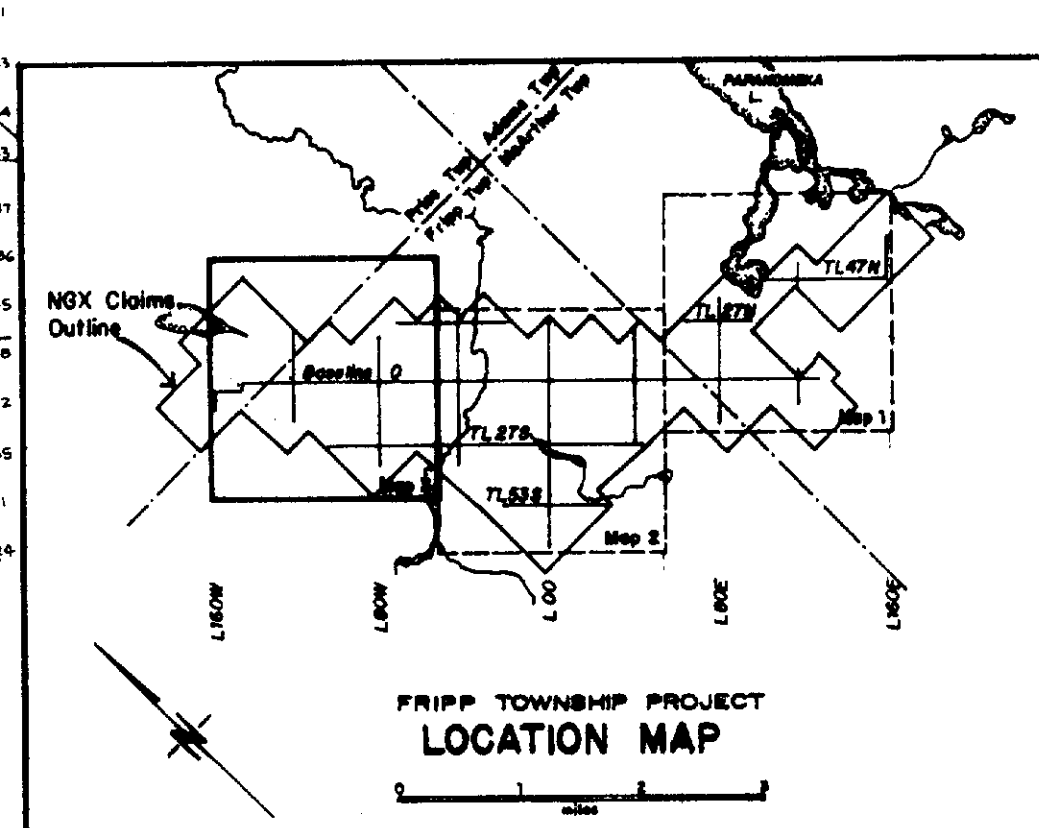
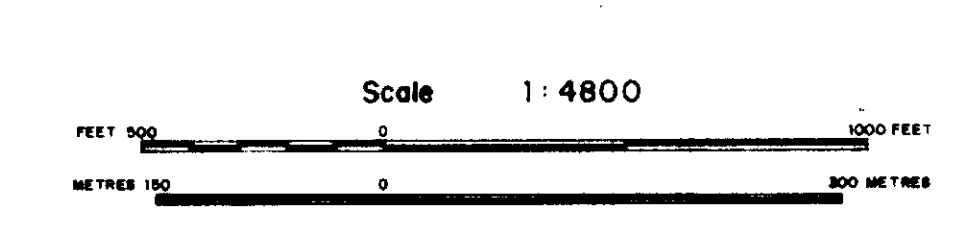
Work by: A. McParland Date: Nov. '81 Proj. no: 785 Scale: 1" = 400'  
 Drawn by: A.R. Gunther Date: March '82 Rev. by: Date: 1:4800





— STRUCTURAL BREAKS  
 - - - UNIT BOUNDARIES

Note: Add 59,000 gammas on all readings



**Northgate Exploration Limited**  
 N.T.S. No. 785  
 FRIPP TOWNSHIP PROJECT - NO 785  
 FRIPP TOWNSHIP, DISTRICT OF TIMISKAMING, ONTARIO  
**MAGNETOMETER SURVEY**  
 DATA INTERPRETATION  
 Map 3 of 3

Work by: A. McParland Date: Nov '81 Proj. no: 785 Scale: 1" = 400'  
 Drawn by: R.E. Ortiz Date: March '82 Rev. by: Date:

