



42A14SW0561 2.3781 REID

010

MINING LABEL

REID PROJECT
AIRBORNE MAGNETIC SURVEY
REID, LOVELAND, MAHAFFY AND THORBURN
TOWNSHIP AREAS, ONTARIO
- 1981 -

S.D. Robinson
February 1981
Minerals
NTS 42A/11, 12, 13, 14

Based on Report by
D.C. Fraser and Z. Dvorak
Dighem Limited
June 1980



1.0 INTRODUCTION

A DIGHEM II airborne magnetic survey of 426 line miles (682 line-km) was flown in April 1980 for Gulf Minerals Canada Limited, over two areas in Reid and Loveland Townships of Ontario (Figures 1 and 2). Of the 426 line-miles (682 line-km) flown 354 line-miles (566 line-km) covered 517 claims held by Gulf Minerals Canada Limited, (Figures 3 and 4; Table I (Appendix II)).

The Lama C-GDEM jet helicopter flew with an average airspeed of 82.5 mi/hr (132 km/hr). The equipment consisted of a Geometrics 803 magnetometer with its bird at an average height of 53 m, a Sperry radio altimeter, Geocam sequence camera, Barringer 8-channel hot pen analog recorder, and a Geometrics G-704 digital data acquisition system with a Cipher 70 7-track 200-bpi magnetic tape recorder. The analog equipment recorded one channel each of magnetics and radio altitude. The digital equipment recorded the magnetic field to one gamma/bit.

Appendix I provides details on the data channels, their respective noise levels, and the flight path recovery procedure. The quoted noise levels are generally valid for wind speeds up to 21.8 mi/hr (35 km/hr). Higher winds may cause the system to be grounded because excessive bird swinging produces difficulties in flying the helicopter. The swinging results from the area which is presented by the bird to broadside gusts. The DIGHEM system nevertheless can be flown under wind conditions that seriously degrade other airborne systems.



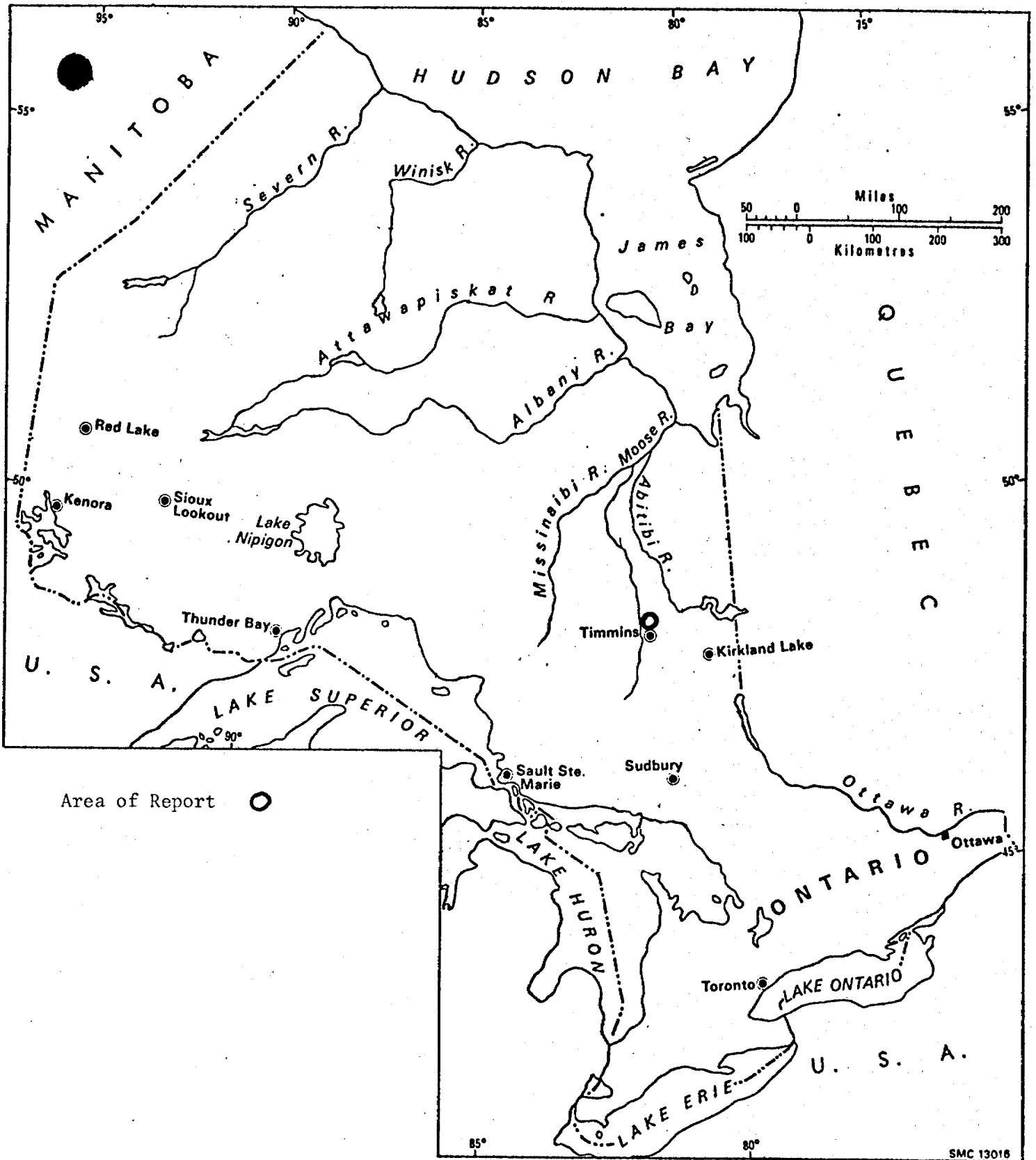
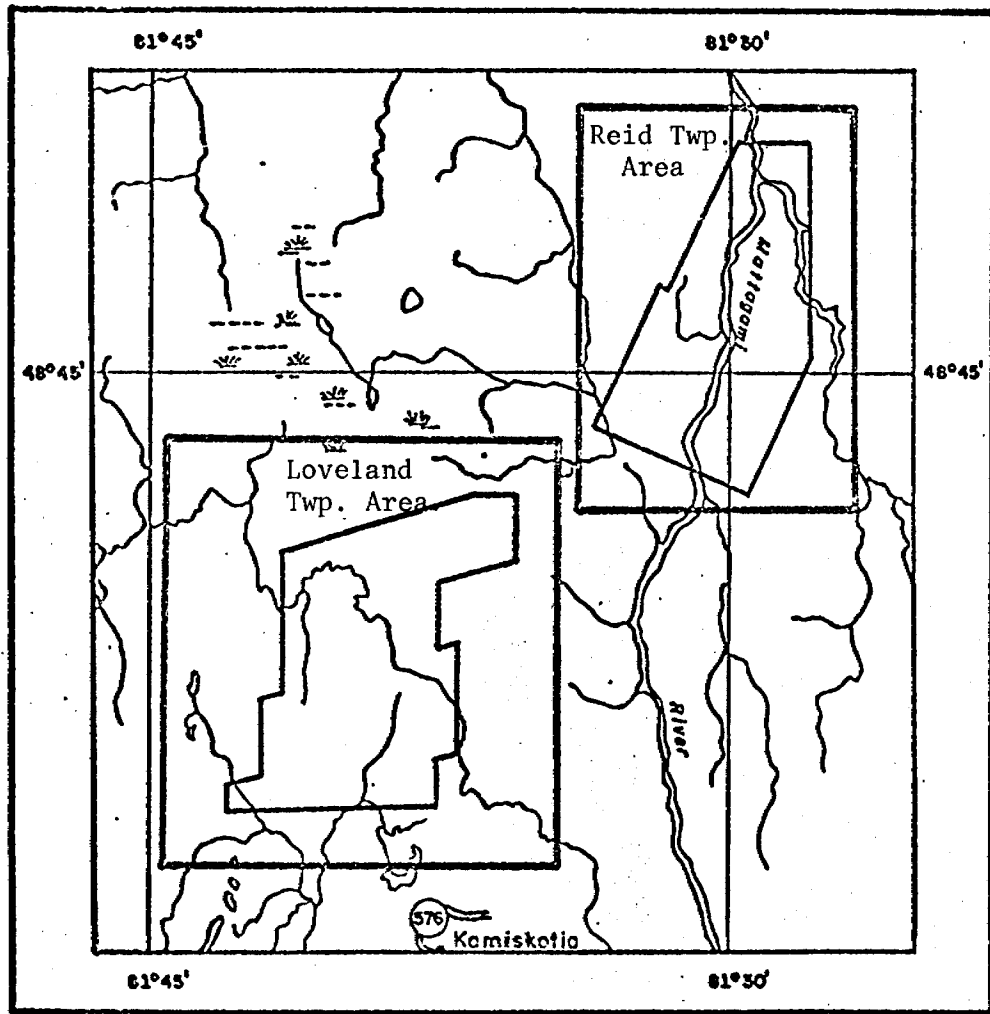


Figure 1 Location Map



Scale 1:250,000

Figure 2 Area of Survey

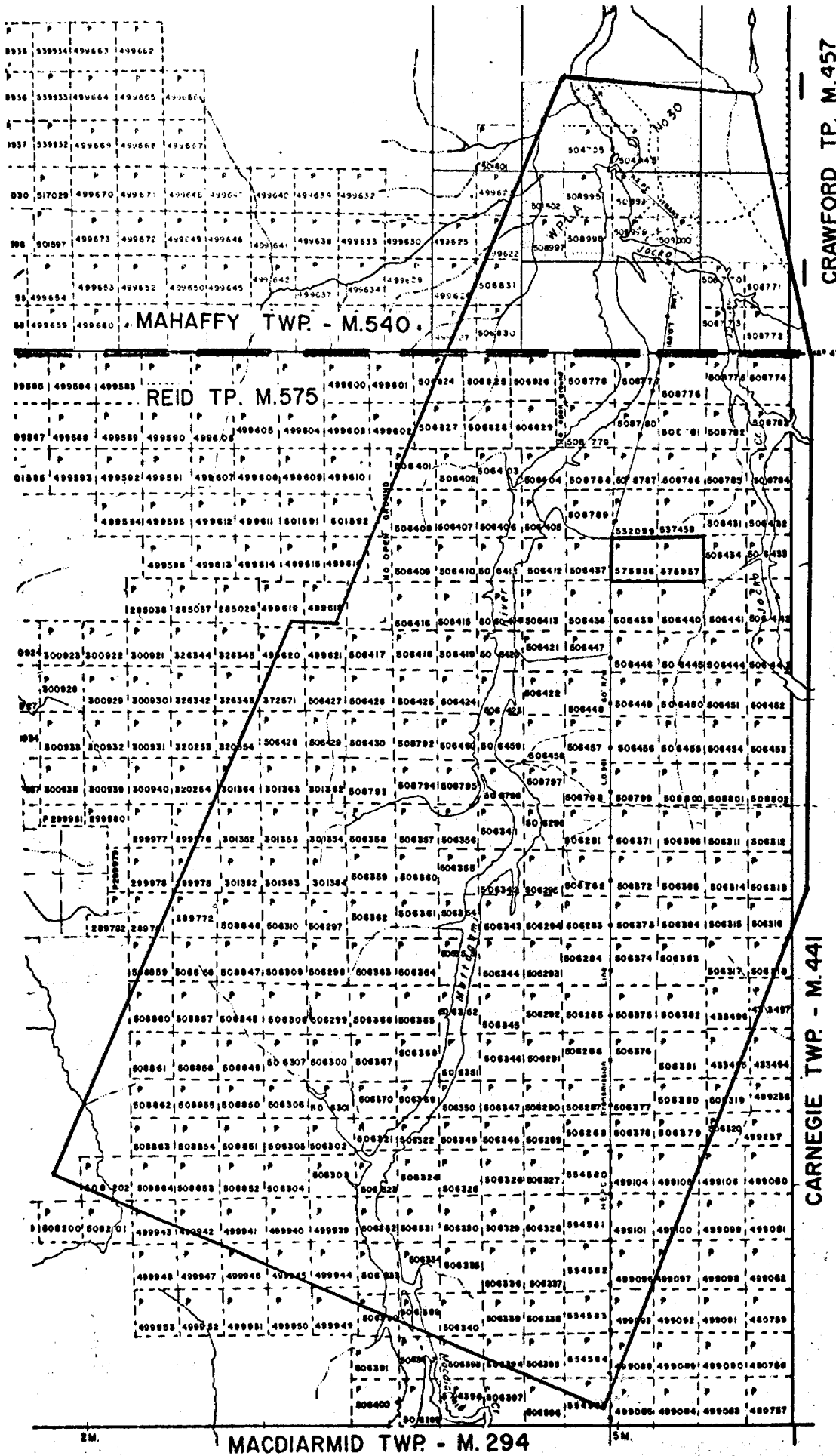


Figure 3 Claim Map - Reid Township Area

THORBURN TWP. - M.601

REID TP. M

LOVELAND TWP. - M.293

Macciarid Twp. (M.294)

Robb Twp. (M.309)

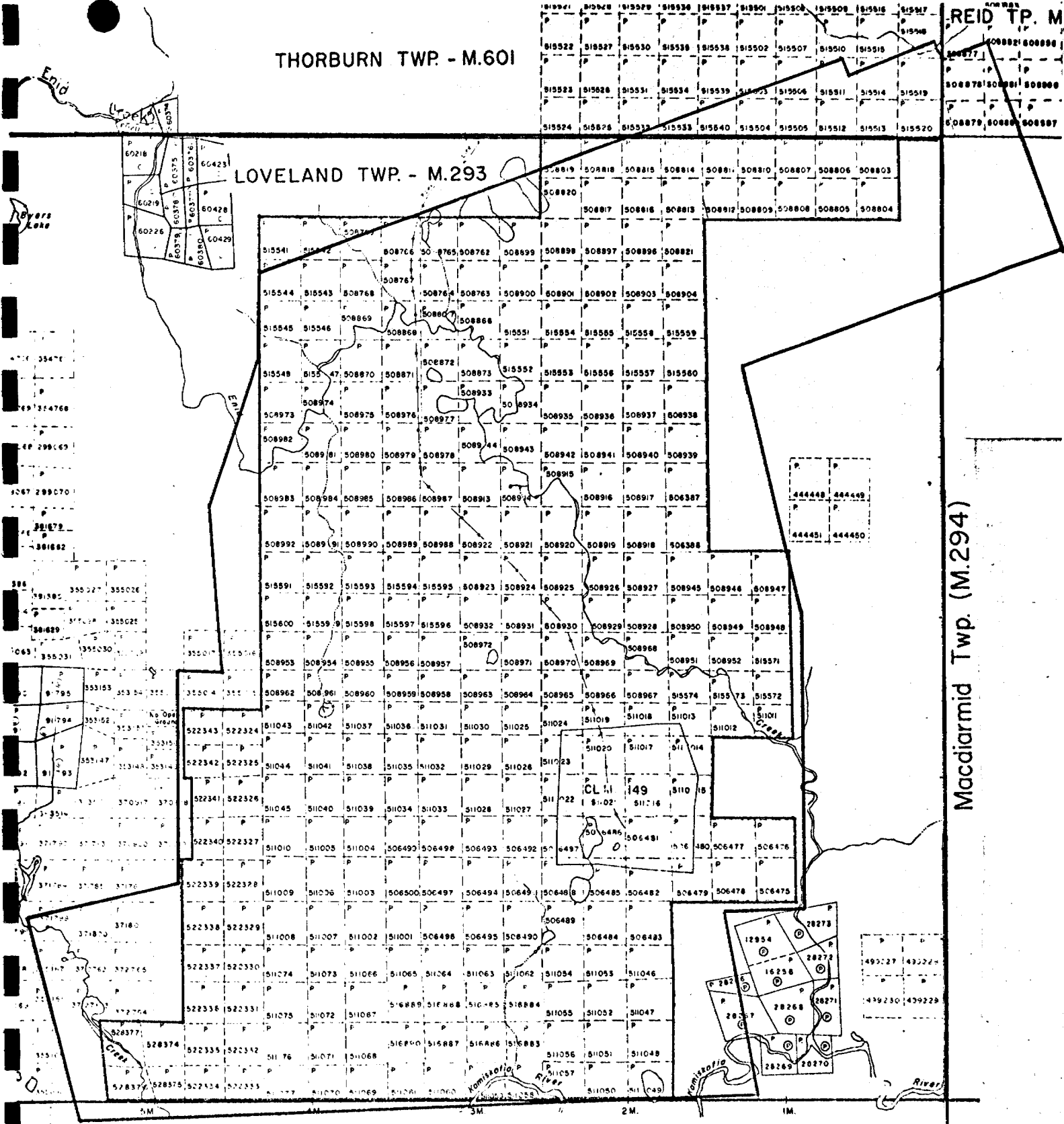


Figure 4 Claim Map - Loveland Township Area

2.0 MAGNETICS

The magnetometer data are digitally recorded in the aircraft to an accuracy of one gamma. The digital tape is processed by computer to yield a standard total field magnetic map contoured at 25 gamma intervals.

The majority of magnetic conductors represent sulphides containing pyrrhotite or magnetite. The truly magnetic conductors tend to follow closely the contoured magnetic highs.

3.0 RESULTS

3.1 Reid Township Area

This area comprising Reid Township and a small portion of Mahaffy Township is active magnetically. The magnetic map indicates two main trends, i.e. N 15°W and N 100°E (Plate I). The N 15°W-trend reflects diabase dykes, and the N 100°E-trend the mafic volcanics.

3.2 Loveland Township Area

Prominent magnetic trends of approximately N 10°W are evident on the magnetic map (Plate II) of Loveland Township and the small portion of Thorburn and Reid Townships. The N 10°W trend reflects diabase dykes.



4.0 RECOMMENDATIONS

An airborne electromagnetic survey should be carried out to determine whether or not any electromagnetic conductors are present.

J. D. Robinson
12.3.81



The Flight Record and Path Recovery

The flight record is a roll of chart paper containing the geophysical profiles. The profiles are generated by computer at a scale identical to the geophysical maps. The flight record contains 2 channels of information as follows:

Channel Number	Parameter	Scale Units/mm	Noise
20	magnetics	10 gamma	2 gamma
21	altitude	10 feet	5 feet

The Fiducial marks on the flight record represent points on the ground which were recognized by the aircraft navigator. Continuous photographic coverage allowed accurate photo-path recovery locations for the fiducials, which were then plotted on the geophysical maps to provide the track of the aircraft.

Fiducial locations on both the flight records and flight path maps were examined by a computer for unusual helicopter speed changes. Such changes often denote an error in flight path recovery. The resulting flight path locations, therefore, reflect a more stringent checking than is provided by standard flight path recovery techniques.



GEOPHYSICAL TECHNICAL DATA

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

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

**INDUCED POLARIZATION
RESISTIVITY**

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

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) Magnetic

Instrument(s) Geometrics 803 magnetometer
(specify for each type of survey)

Accuracy Magnetics - 1 gamma; - Altitude - 5 feet
(specify for each type of survey)

Aircraft used Lama C-GDEM jet helicopter

Sensor altitude Sperry radio altimeter

Navigation and flight path recovery method Continuous photographic coverage and fiducial marks on the flight record.

Aircraft altitude 175 feet Line Spacing 660 feet

Miles flown over total area 426 Over claims only 354

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken _____

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 _____

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 _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

Technical Data Statement

The technical data statement contains the pertinent information.

Table I lists the 517 claims for which assessment credits are being applied. A total of 14,160 days of assessment credit is being filed for. This has been calculated on 354 line miles of survey at the rate of 40 days per mile. Therefore, 27 days of assessment credit is being filed for. Since 14,160 divided by 517 is 27.388, the fraction works out to 201 days. If it is possible, please distribute the 201 days to any of the claims on the list in Table I.



Gulf Minerals Canada Limited

P. 515595 P. 522343
P. 515596 P. 528374
P. 515597 P. 528375
P. 515598 P. 528376
P. 515599 P. 528377
P. 515600
P. 516883
P. 516884
P. 516885
P. 516886
P. 516887
P. 516888
P. 516889
P. 516890
P. 522324
P. 522325
P. 522326
P. 522327
P. 522328
P. 522329
P. 522330
P. 522331
P. 522332
P. 522333
P. 522334
P. 522335
P. 522336
P. 522337
P. 522338
P. 522339
P. 522340
P. 522341
P. 522342



Gulf Minerals Canada Limited

Reid Township

P. 506281	P. 506311	P. 506343	P. 506373
P. 506282	P. 506312	P. 506344	P. 506374
P. 506283	P. 506313	P. 506345	P. 506375
P. 506284	P. 506314	P. 506346	P. 506376
P. 506285	P. 506315	P. 506347	P. 506377
P. 506286	P. 506316	P. 506348	P. 506378
P. 506287	P. 506317	P. 506349	P. 506379
P. 506288	P. 506318	P. 506350	P. 506380
P. 506289	P. 506321	P. 506351	P. 506381
P. 506290	P. 506322	P. 506352	P. 506382
P. 506291	P. 506323	P. 506353	P. 506383
P. 506292	P. 506324	P. 506354	P. 506384
P. 506293	P. 506325	P. 506355	P. 506385
P. 506294	P. 506326	P. 506356	P. 506386
P. 506295	P. 506327	P. 506357	P. 506395
P. 506296	P. 506328	P. 506358	P. 506401
P. 506297	P. 506329	P. 506359	P. 506402
P. 506298	P. 506330	P. 506360	P. 506403
P. 506299	P. 506331	P. 506361	P. 506404
P. 506300	P. 506332	P. 506362	P. 506405
P. 506301	P. 506333	P. 506363	P. 506406
P. 506302	P. 506334	P. 506364	P. 506407
P. 506303	P. 506335	P. 506365	P. 506408
P. 506304	P. 506336	P. 506366	P. 506409
P. 506305	P. 506337	P. 506367	P. 506410
P. 506306	P. 506338	P. 506368	P. 506411
P. 506307	P. 506339	P. 506369	P. 506412
P. 506308	P. 506340	P. 506370	P. 506413
P. 506309	P. 506341	P. 506371	P. 506414
P. 506310	P. 506342	P. 506372	P. 506415



Gulf Minerals Canada Limited

P. 506416	P. 506448	P. 508793	P. 508879
P. 506417	P. 506449	P. 508794	P. 532099
P. 506418	P. 506450	P. 508795	P. 537458
P. 506419	P. 506451	P. 508796	
P. 506420	P. 506452	P. 508797	
P. 506421	P. 506453	P. 508798	
P. 506422	P. 506454	P. 508799	
P. 506423	P. 506455	P. 508800	
P. 506424	P. 506456	P. 508801	
P. 506425	P. 506457	P. 508802	
P. 506426	P. 506458	P. 508846	
P. 506427	P. 506459	P. 508847	
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P. 506429	P. 508774	P. 508849	
P. 506430	P. 508775	P. 508850	
P. 506431	P. 508776	P. 508851	
P. 506432	P. 508777	P. 508852	
P. 506433	P. 508778	P. 508853	
P. 506434	P. 508779	P. 508854	
P. 506437	P. 508780	P. 508855	
P. 506438	P. 508781	P. 508856	
P. 506439	P. 508782	P. 508857	
P. 506440	P. 508783	P. 508858	
P. 406441	P. 508784	P. 508859	
P. 406442	P. 508785	P. 508860	
P. 406443	P. 508786	P. 508861	
P. 406444	P. 508787	P. 508862	
P. 506445	P. 508788	P. 508863	
P. 506446	P. 508789	P. 508864	
P. 506447	P. 508792	P. 508878	



Gulf Minerals Canada Limited

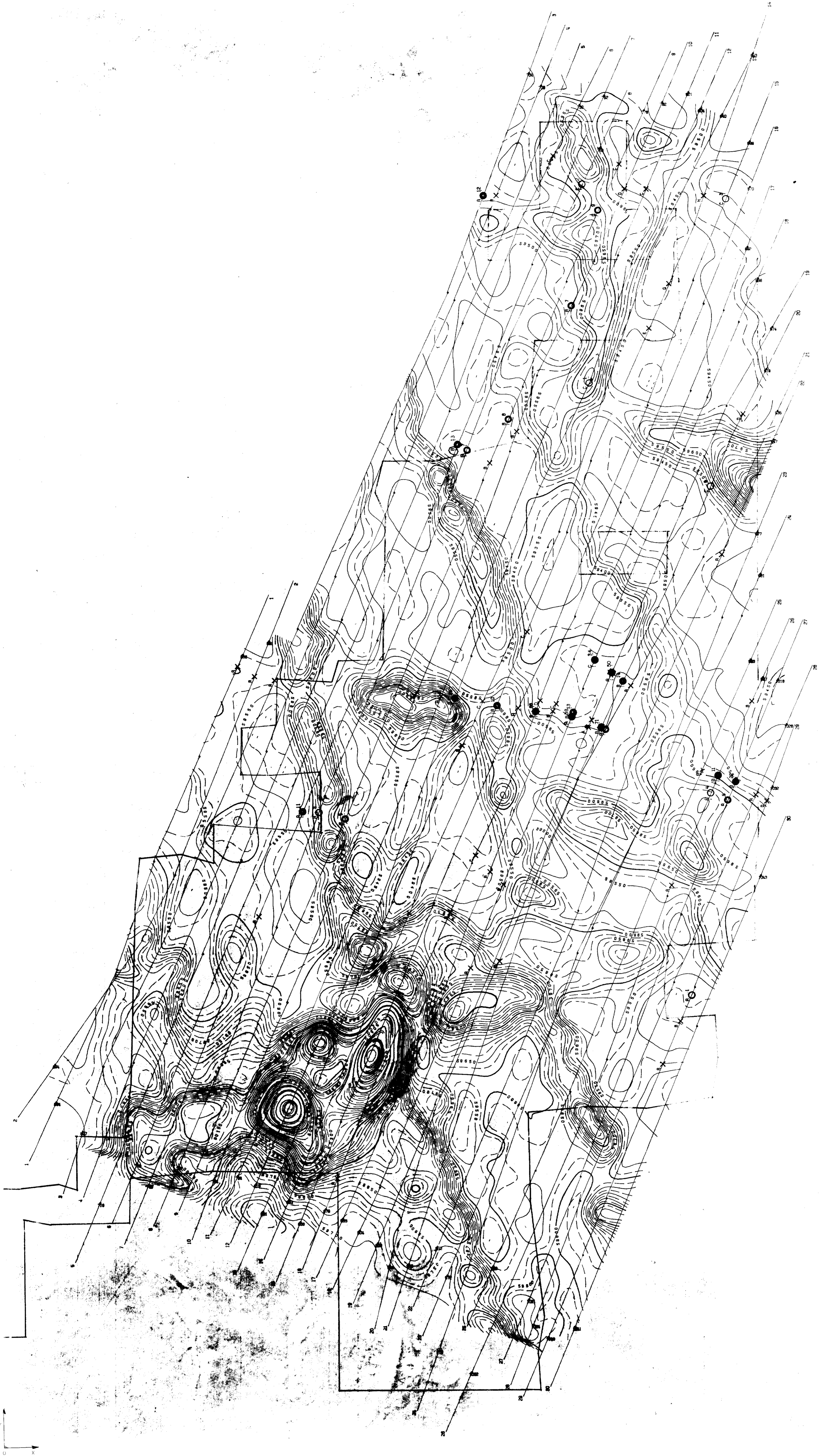
Thorburn Township

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P. 515505
P. 515512
P. 515513
P. 515519
P. 515520

Mahaffy Township

P. 504785
P. 504845
P. 508770
P. 508771
P. 508772
P. 508773
P. 508995
P. 508996
P. 508997
P. 508998
P. 508999
P. 509000





DIGHEM^{II} SURVEY

REID TOWNSHIP, ONTARIO

MAGNETICS

FOR

SULF MINERALS CANADA LTD

ISOMAGNETIC LINES

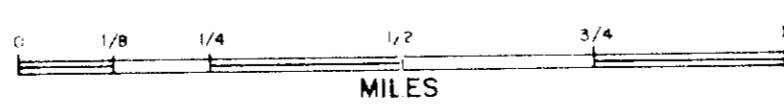
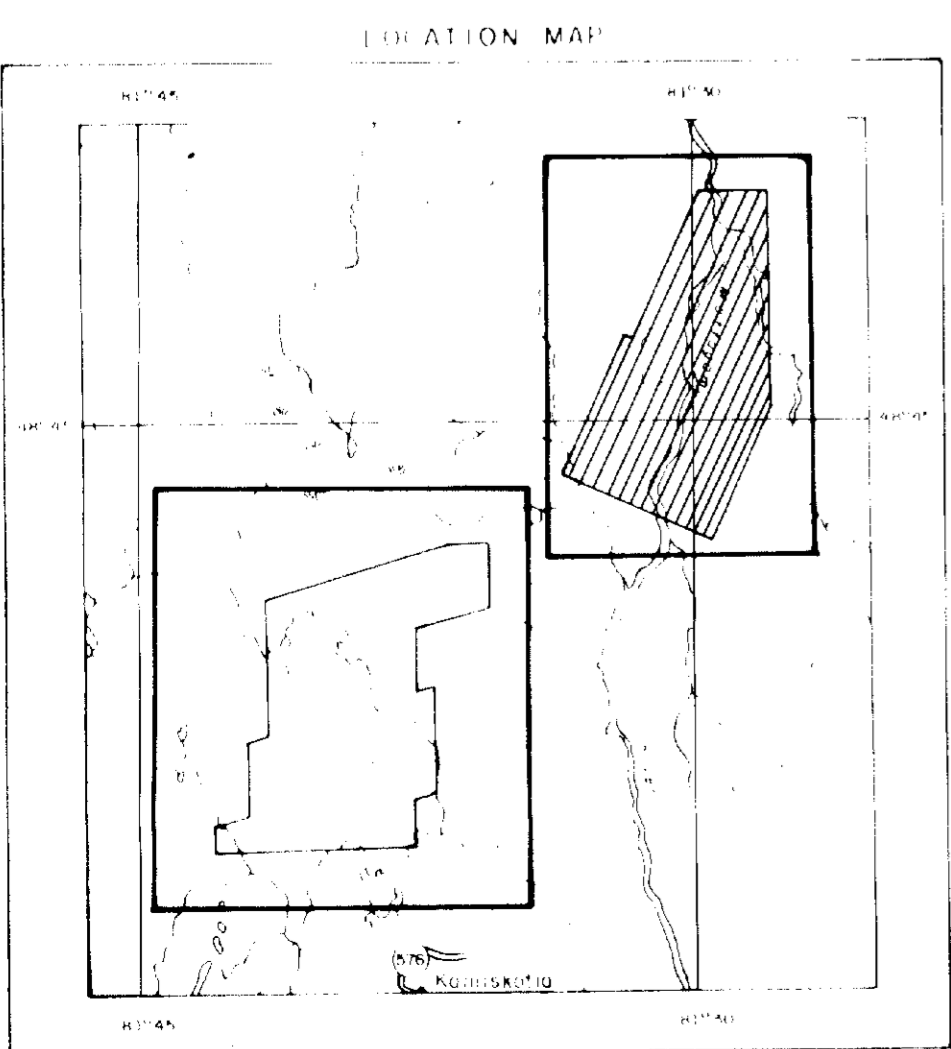
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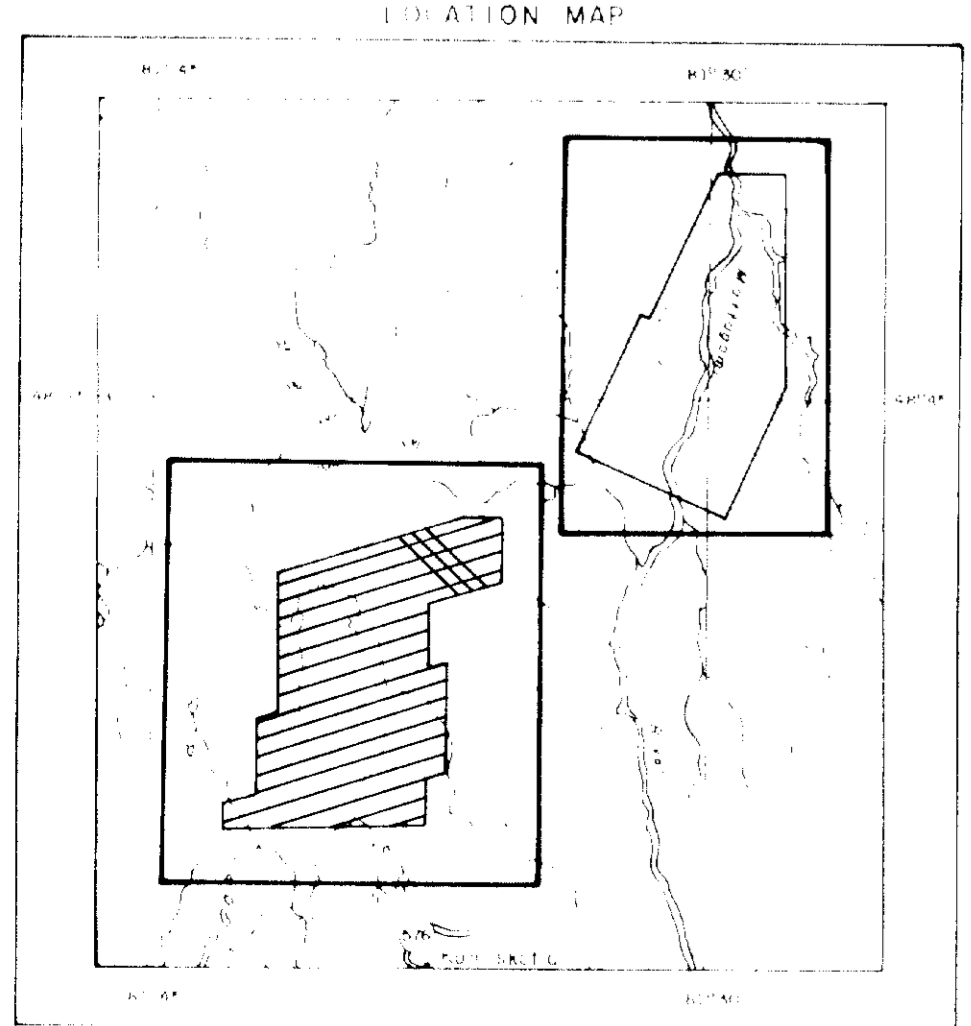
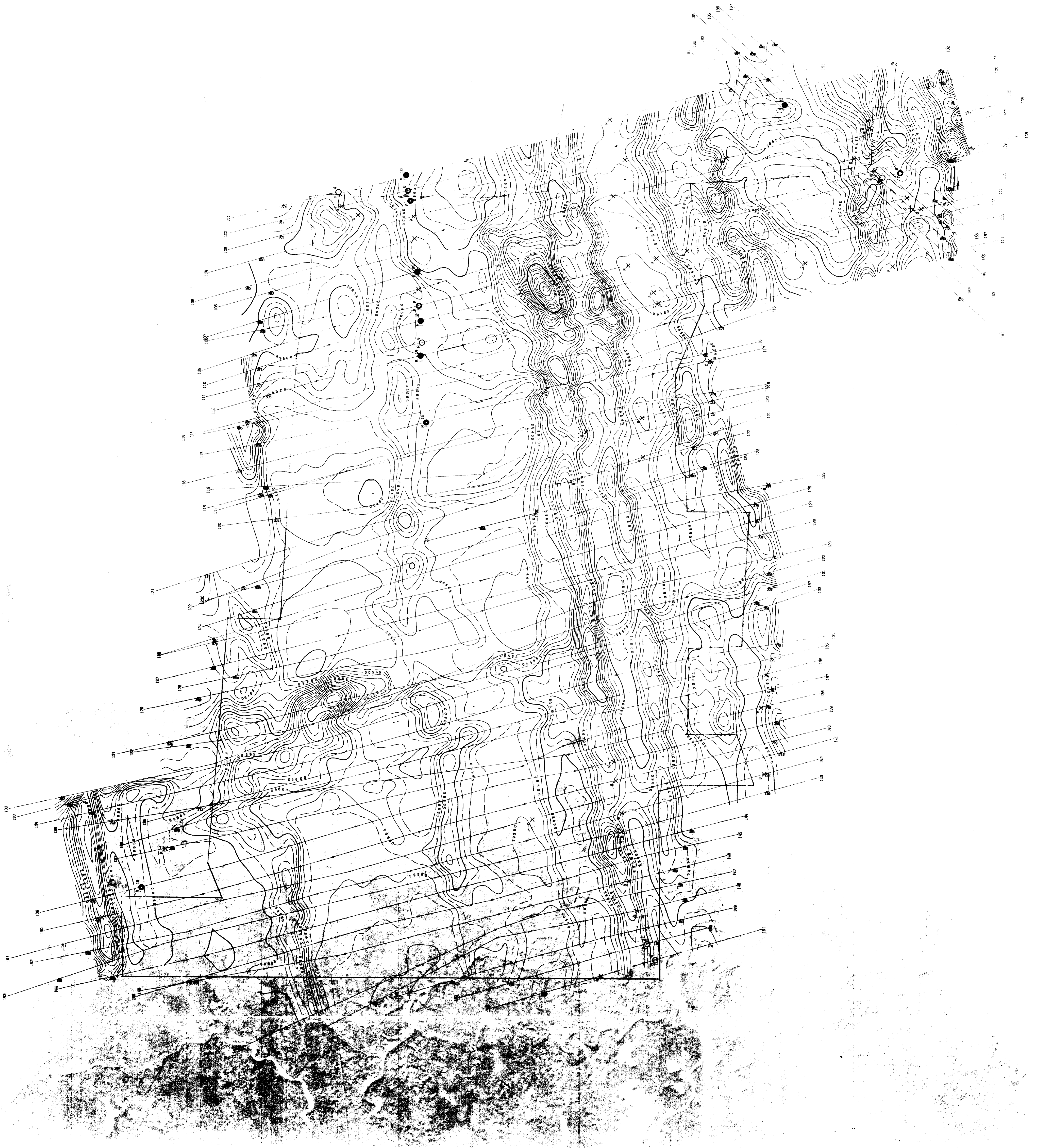
- 1000
- 200
- 50
- 25
- magnetic depression
- 1000 gammas
- 200 gammas
- 50 gammas
- 25 gammas

Flight line

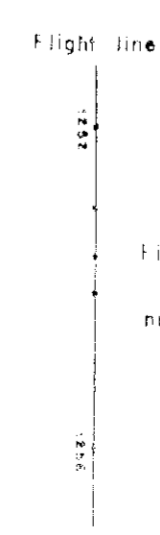
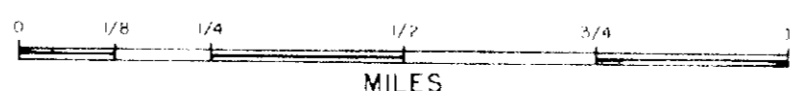
Fiducials and numbers

Magnetic inclination within the survey area 76°





DIGHEM SURVEY
 LOVELAND TOWNSHIP, ONTARIO
 MAGNETICS
 FOR
 GULF MINERALS CANADA LIMITED



- ISOMAGNETIC LINES**
 (total field)
- 1000 gammas
 - 200 gammas
 - 50 gammas
 - 25 gammas
 - magnetic depression

Magnetic Inclination within the survey area: 76°

