REPORT

ON AN

AEROMAGNETIC SURVEY

SOUTH TIMMINS AREA

ONTARIO

AMAX MINERALS EXPLORATION LIMITED

May, 1980

A. Watts
Geophysicist

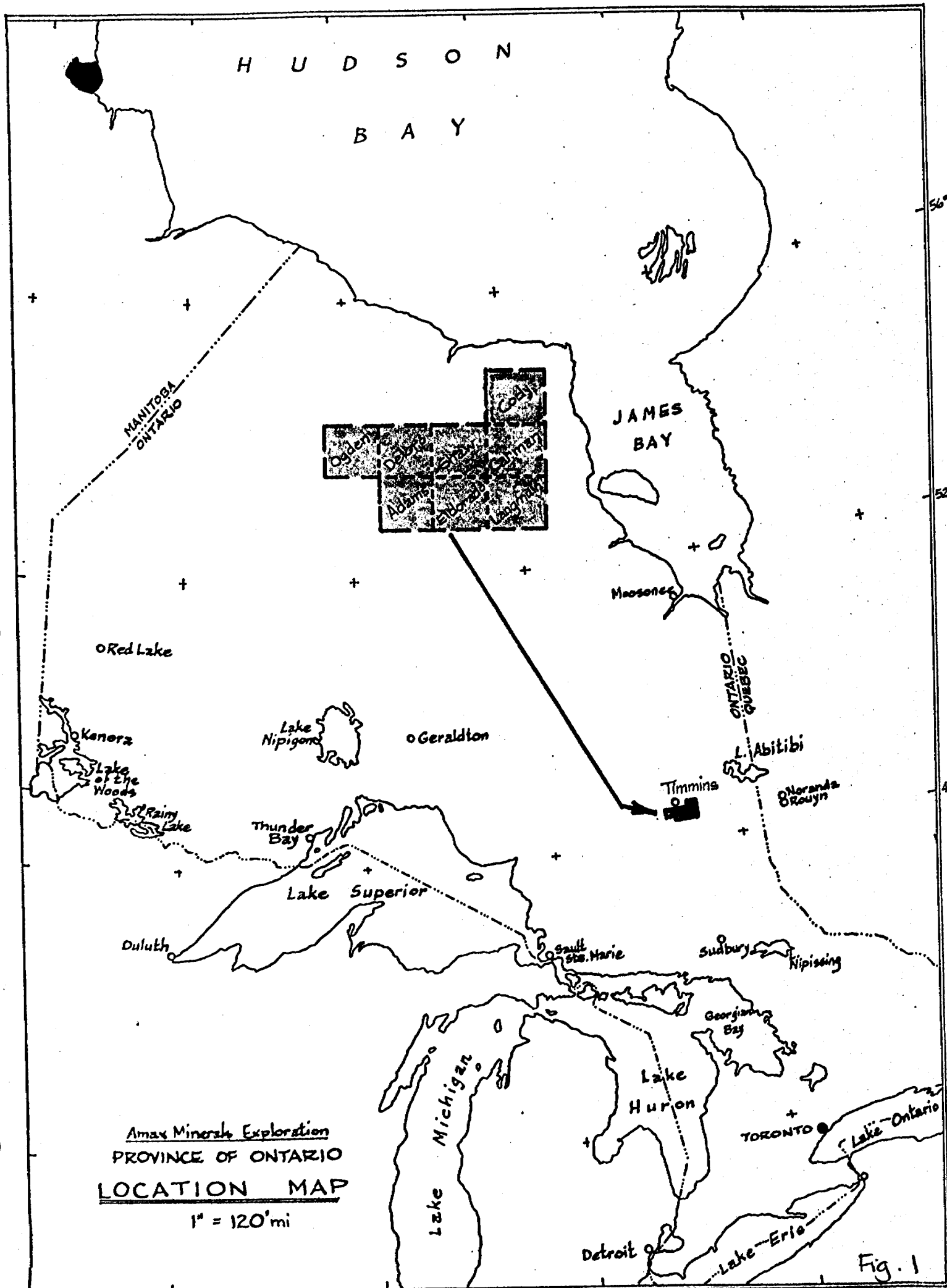
INTRODUCTION

During the month of December 1979, Aerodat Limited undertook an aeromagnetic survey, covering varying proportions of Deloro, Ogden, Shaw, Langmuir, Carman, Cody, Eldorado and Adams Townships, Northern Ontario for Amax Minerals Exploration Limited.

The purpose of the survey was to improve on the fragmentary geophysical information available on the above mentioned townships, and to provide a high-quality database for further mineral exploration activity in the area.

Key personnel present for the duration of the survey were; A. Watts and L. Lebel, Amax staff geophysicists, and W. Boyko, operating manager for Aerodat Limited. Other personnel involved were:

R. Roussain	-	Amax Geologist
M. Watt	-	Helicopter Pilot
W. Courier	-	Dataman
D. Hayward	-	Equipment operator/navigator



Amax Minerals Exploration

PROVINCE OF ONTARIO

LOCATION MAP

1" = 120'mi

Fig. 1

SURVEY PROCEDURE

The survey was flown at a line spacing of 200 metres. Survey airspeed averaged 120 km/h, and the aircraft - (Bell 206 Jet-Ranger helicopter) maintained an average terrain clearance of 70 metres, with the magnetometer sensor located 15 metres below the helicopter, approximately 55 metres above ground.

Survey equipment consisted of a Barringer AM-104 proton precession magnetometer, an Aerodat-Perle data acquisition system, a Hoffman radar altimeter, a Geocam 35 mm flight path camera, and a Barringer 8-channel analogue recorder. All geophysical data were also recorded digitally on magnetic tape.

Flight path was recorded manually by an experienced navigator, and also automatically be 35mm Geocam continuous strip camera. A base station magnetometer was established in the area to monitor local diurnal fluctuations.

DATA PRESENTATION

The aeromagnetic data is presented in computer contoured plan form. The data has been contoured at a nominal 20 gamma interval. Where steep magnetic gradients are encountered, over serpentinite and iron-formation for instance, the contouring interval is 100 gammas. No filtering has been carried out on the magnetic data.

The survey was flown in 6 contiguous blocks, flight direction varying between blocks so as to maintain orthogonality with anticipated geological strike. Thus the data are presented on six separate maps. Matching of contours in the overlap region between maps is good. An index map condensing the six separate 1:15 000 maps into a single 1:50000 maps, is also presented in the report.

DISCUSSION OF RESULTS

The most striking feature resulting from the aeromagnetics is the number of strongly magnetic geologic features present within the survey block. In general these represent ultramafics (serpentinite) and iron-formation units belonging to the Deloro group, and Keweenawan and Matachewan diabase dykes.

For convenience sake, discussion of the survey has been divided into the six contiguous survey blocks constituting the survey, with an overall summary added at the end.

BLOCK 1

This block can clearly be divided into a magnetically quiet northern extremity, and an active southern two-thirds, the well-defined E.W. trending magnetic low, demarcating the boundary between the two, being interpreted as the Porcupine-Destor Fault. Thus the magnetics indicate a marked contrast in magnetic properties between the Tisdale group north of the Porcupine-Destor and the Deloro group to the south.

Immediately south of the Porcupine-Destor magnetic break is a sub-paralleling linear magnetic high, which is fairly continuous across the whole of Block 1. The source of this magnetic unit is interpreted as one of the numerous oxide iron-formations present within the Deloro group.

The highly magnetic U-shaped feature north of Shaw Lake appears to be caused by a combination of an E.W. trending diabase dyke, which is quite continuous across the entire survey area, and N.S. to N.W trending lenses of ultra-mafics (serpentinite).

The featureless S.E. portion of Block 1 is thought to represent felsic to intermediate volcanics, which extend into Block 2, of which they occupy a major part, and also Blocks 5 and 6.

BLOCK 2

The ultra-mafics unit mentioned in Block 1 extends southward into Block 2 and is abruptly terminated by a fault about 2½ kilometres into the Block.

This fault appears to have sinistral displacement, the ultramafics being shifted eastward.

A much distorted NW trend can be discerned from the ultramafics in the southern half of this block, severe faulting and several crosscutting diabase dykes creating a succession of erratic highs and lows. The signature of the major E.W. trending diabase dyke at the south end of Block 2 is effectively masked where it cuts across the ultramafic unit.

BLOCK 3

This block is noteable for its geometric pattern of N.S. and E.W. crosscutting diabase dykes. The N.W. strike of ultramafics in Block 2 appears to have swung around to an approximate E.W. strike and the hinge of a regional fold is implied as strike direction on Block 4 is approximately NE. The magnetically benign north and central portions of Block 3 appear to be caused by a felsic intrusive.

BLOCK 4

This block is almost entirely dominated by strong anomalies reflecting numerous ultramafics lenses occupying a general N.E. trend. Some weak N.S. incursions into the ultramafics in the extreme south of the block probably represent weakly magnetic Matachewan quartz diabase dykes. Again highly magnetic Keewanawan dykes are evident tracking across the N.W. corner of the block.

BLOCK 5

The general geologic strike as portrayed by the magnetics in this block is similar to that in Block 2 i.e. N.W, and appears to have outlined the eastern limb of the fold structure suggested in the discussion of Block 3. Government geologic mapping in this area indicates that the magnetic N.N.W.

trending features in this block arise from both iron-formation and ultra-mafic sources, but it does not appear possible to distinguish between the two units on the basis of the magnetics. Diabase dykes of E.W. and N.N.E. orientation are pervasive throughout this block, as is the case throughout most of the survey area. The relatively inactive eastern portion of Block 5 probably relates to a metasedimentary source as this rock type has been identified immediately west of Nighthawk Lake.

BLOCK 6

Geologic strike swings abruptly from N.N.W in Block 5 to E.N.E. in Block 6. It should be noted that this is the only Block in the survey area in which diabase dykes do not form a prominent pattern. The majority of linear magnetic features in this block would appear, because of relative continuity, to be caused by iron-formation rather than serpentinite as most ultramafic occurrences in the survey area are rather irregular and lensoid in shape.

SUMMARY AND CONCLUSIONS

The survey has successfully outlined, with a high degree of resolution, numerous magnetically anomalous geologic units and in the process resolved at lease two major structural features i.e. the Porcupine-Destor Fault, and the major fold structure passing through Blocks 2,3,4,5.

A more detailed examination would undoubtedly produce more structural information, but such an examination is beyond the scope of this report, in which an attempt has been made to assess the aeromagnetic data on a regional basis.

The base-metal potential of the survey area aside, there is an obvious gold exploration attraction, the two northernmost Blocks (5 and 6) forming the most logical follow-up areas, located as they are just south of a multitude of old and existing gold mines.

This aeromagnetic survey should provide an invaluable database for future mineral exploration activity in the area.

Respectfully submitted

A. Watts

A. Watts,
Geophysicist (Qualification # 2.2910)

PROJECT / GROUP	CLAIM NO.	TOWNSHIP	RECORDING DATE	TOTAL
1043-01	554097	Ogden	Jan. 14/80	
Ogden-1	549932	"	"	
	549933	"	"	
	549934	"	"	
	549935	"	"	
	549936	"	"	
	549937	"	"	
	549938	"	"	
	549939	"	"	
	567041	"	Apr. 8/80	
	567042	"	"	
	567043	"	"	
	567044	"	"	
	567045	"	"	
	567099	"	"	
	567100	"	"	
	567101	"	"	
	567102	"	"	
	567103	"	"	
	567104	"	"	
	567105	"	"	
	567106	"	"	
554122	~~567122~~	"	"	
	567093	"	"	
	567094	"	"	
	567095	"	"	
	567096	"	"	
	567097	"	"	
	567098	"	Apr. 8/80	29
1043-02	549063	Ogden	Jan. 8/80	
Ogden-2	549066	"	"	
	549067	"	"	
	549076	"	"	
	554077	"	"	
	554078	"	"	
	549940	"	"	
	549941	"	"	
	567107	"	Apr. 8/80	
	567108	"	"	
	567109	"	Apr. 8/80	
	577869	"	June 24/80	
	577870	"	"	
	577871	"	"	
	577872	"	"	
	577873	"	"	
	577874	"	"	
	577875	"	"	
	577876	"	"	
	577877	"	"	
	577878	"	"	
	577879	"	"	
	577880	"	"	
	577881	"	"	
	577882	"	"	
	577883	"	"	
	577904	Ogden	June 24/80	28

7

PROJECT / GROUP	CLAIM NO.	TOWNSHIP	RECORDING DATE	TOTAL
1043-03	549492	Ogden	Feb. 6/80	
Ogden-3	549493	"	"	
	549494	"	"	
	549495	"	"	
	549496	"	"	
	549497	"	"	
	549498	"	"	
	549499	"	"	
	549500	"	"	
	549501		Feb. 6/80	10
1043-04	549502	Deloro	Feb. 6/80	
Deloro-1	549503	"	"	
	549555	"	"	
	549556	"	"	
	555069	"	Mar. 24/80	
	555070	"	"	
	555071	"	"	
	555072	"	"	
	555073	"	"	
	555074	"	"	
	555075	"	"	
	555076	Deloro	Mar. 24/80	12
1043-05	554102	Adams	Jan. 8/80	
Adams-1	554103	"	"	
	554104	"	"	
	554105	"	"	
	554106	"	"	
	554107	"	"	
	554108	"	"	
	554109	"	"	
	554110	"	"	
	554111	"	"	
	554112	"	"	
	554113	Adams	Jan. 8/80	12
1043-06	554114	Shaw	Jan. 14/80	
Shaw-1	554115	"	"	
	554116	"	"	
	554117	"	"	
	554118	"	"	
	554119	"	"	
	554120	"	"	
	554121	Shaw	Jan. 14/80	8
1043-07	554098	Eldorado	Jan. 21/80	
Eldorado-1	554099	"	"	
	554100	"	"	
	554101	Eldorado	Jan. 21/80	4

PROJECT / GROUP	CLAIM NO.	TOWNSHIP	RECORDING DATE	TOTAL
1043-08	549566	Carman	Feb. 6/80	
Carman-1	549567	"	"	
	549568	"	"	
	549569	Carman	Feb. 6/80	4
1043-09	549504	Langmuir	Feb. 6/80	
Langmuir-1	549505	"	"	
	549506	"	"	
	549507	Langmuir	Feb. 6/80	4
1043-10				
Carman-2	554680	Carman	Apr. 8/80	
	554681	"	"	
	554684	Carman	Apr. 8/80	
555042	~~554042~~	Cody	"	
	554043	"	"	
	554044	"	"	
	554045	"	"	
	554046	"	"	
	554047	"	"	
	554048	"	"	
	554049	"	"	
	554050	"	"	
	554051	"	"	
	554052	"	"	
	554053	"	"	
	554054	"	"	
	554055	"	"	
555056	554056	Cody	Apr. 8/80	18
1043-11	555624	Deloro	Apr. 8/80	
Deloro-2	555625	Deloro	Apr. 8/80	2
1043-12	567036	Deloro	Apr. 8/80	
Deloro-3	567037	"	"	
	567038	"	"	
	567039	"	"	
	567040	Deloro	Apr. 8/80	5
1043-13	555631	Ogden	Apr. 8/80	
Ogden-4	555632	"	"	
	555633	"	"	
	555634	"	"	
	555635	"	"	
	555636	"	"	
567660	~~555660~~	"	Apr. 18/80	
	~~555661~~	"	"	
567661	567033	"	Apr. 8/80	
	567034	"	"	
	567035	Ogden	Apr. 8/80	11

PROJECT / GROUP	CLAIM NO.	TOWNSHIP	RECORDING DATE	TOTAL
1043-14				
Deloro-4	555626	Deloro	Apr. 8/80	
	555627	"	"	
	555628	"	"	
	555629	"	"	
	555630	Deloro	Apr. 8/80	7
	567049	"	May 27/80	
	567050	"	"	12
	567051	"	"	
	567052	"	"	
	567427	Shaw	May 27/80	
	567428	"	"	
	567429	"	May 27/80	
1043-15	567046	Deloro	Apr. 18/80	
Deloro-5	567047	"	"	
	567048	Deloro	Apr. 18/80	3
1043-16	567642	Shaw	Apr. 21/80	
Shaw-2	567643	"	"	
	567644	"	"	
	567645	"	"	
	567646	"	"	
	567647	Shaw	Apr. 21/80	6
1043-17				
Adams-2	567021	Adams	June 5/80	
	567022	"	"	
	567023	"	"	
	568902	"	"	
	568903	"	"	
	568904	"	"	
	568905	"	"	
	568906	"	"	
	568907	"	"	
	568908	Adams	June 5/80	10

PROJECT / GROUP	CLAIM NO.	TOWNSHIP	RECORDING DATE	TOTAL
1043-18				
Ogden-5	568909	Ogden	June 24/80	
	568910	"	"	
	568911	"	"	
	568912	"	"	
	568913	"	"	
	568914	"	"	
	568915	"	"	
	568916	"	"	
	568917	"	"	
	568918	"	"	
	568919	"	"	
	568920	"	"	
	568921	"	"	
	577884	"	"	
	577885	"	"	
	577886	"	"	
	577887	"	"	
	577888	"	"	
	577889	"	"	
	577890	"	"	
	577891	"	"	
	577892	"	"	
	577893	"	"	
	577894	"	"	
	577895	"	"	
	577896	"	"	
	577897	"	"	
	577898	"	"	
	577899	"	"	
	577900	"	"	
	577901	"	"	
	577942	"	"	
	577943	"	"	
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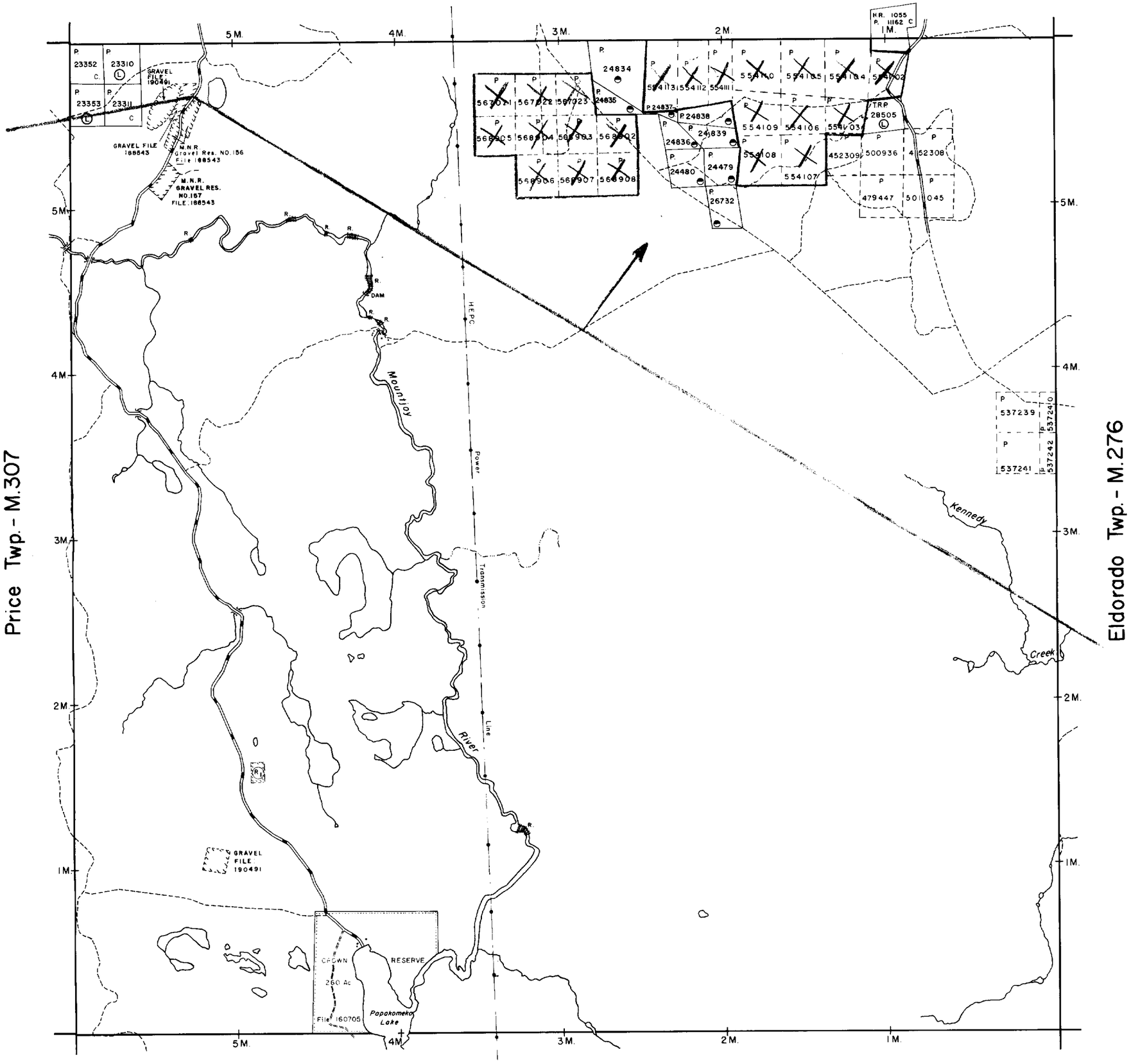
	577947	"	"	
	577948	"	"	
	577949	"	"	
	577950	"	"	
	577951	"	"	
	577952	"	"	
	577953	"	"	
	577954	"	"	
	577955	"	"	
	577956	"	"	
	577957	"	"	
	577958	"	"	
	577959	"	"	
	577960	"	"	
	577961	Ogden	June 24/80	51

Deloro Twp. - M.272

Price Twp. - M.307

Eldorado Twp. - M.276

McArthur Twp. - M.298



THE TOWNSHIP
OF
2.3367

ADAMS

DISTRICT OF
COCHRANE

PORCUPINE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.

NOTES

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

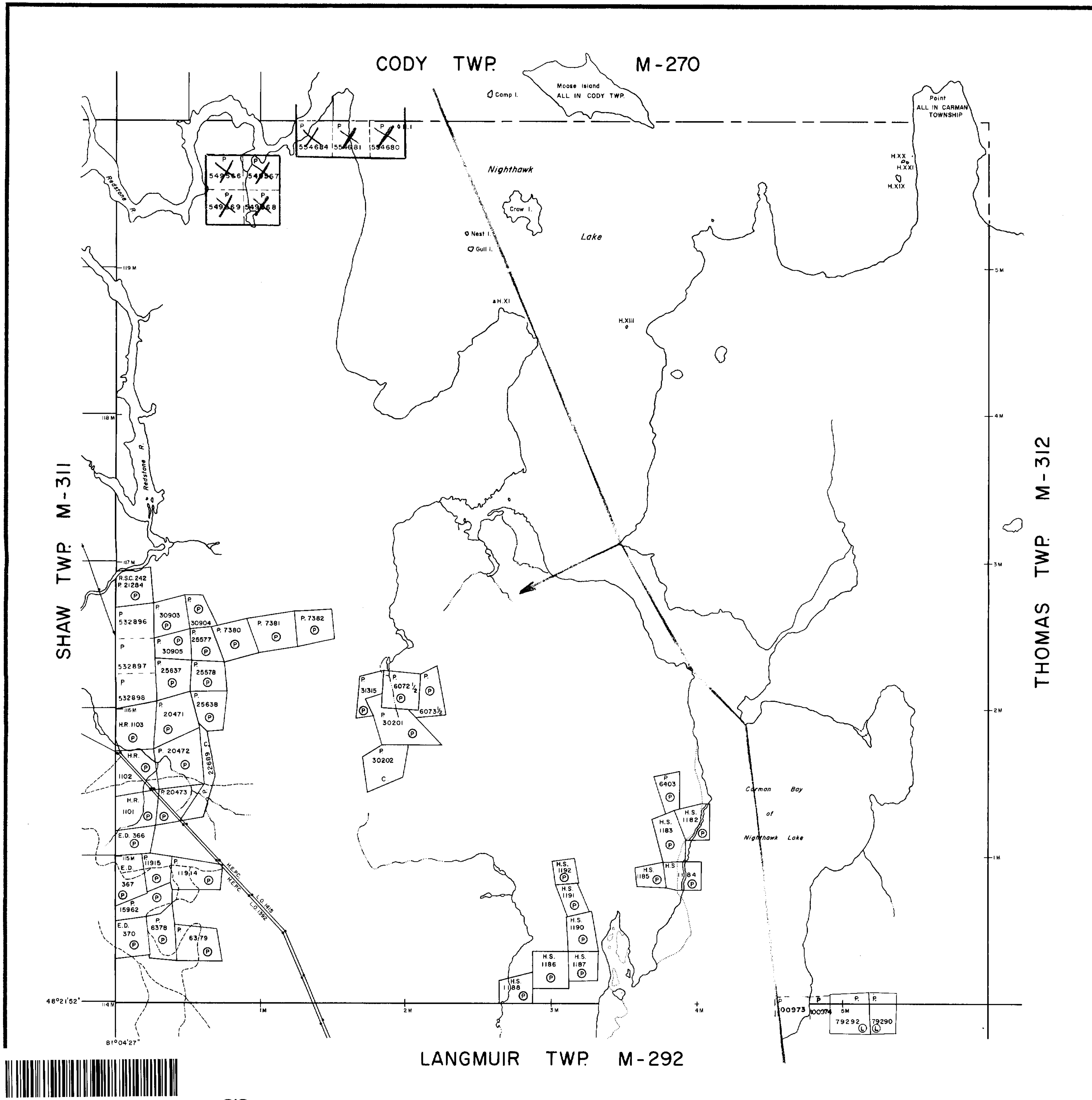
This township lies within the Municipality of CITY of TIMMINS.

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

	Order No.	File	Date	Disposition
(R)	W.25/77	188543	11/3/77	S.R.O

PLAN NO. M.261

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



42A06NE0007 2.3367 CODY

210

THE TOWNSHIP OF

2.3367

CARMAN

DISTRICT OF COCHRANE

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	C

NOTES

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

Flooding Rights on Nighthawk Lake to the contour elevation 903.5' reserved to H.E.P.C.

This township lies within the Municipality of CITY of TIMMINS.

DATE OF ISSUE JUL 3 - 1980 SURVEYS AND MAPPING BRANCH

PLAN NO. M-266

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

2.3367

THE TOWNSHIP OF CODY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

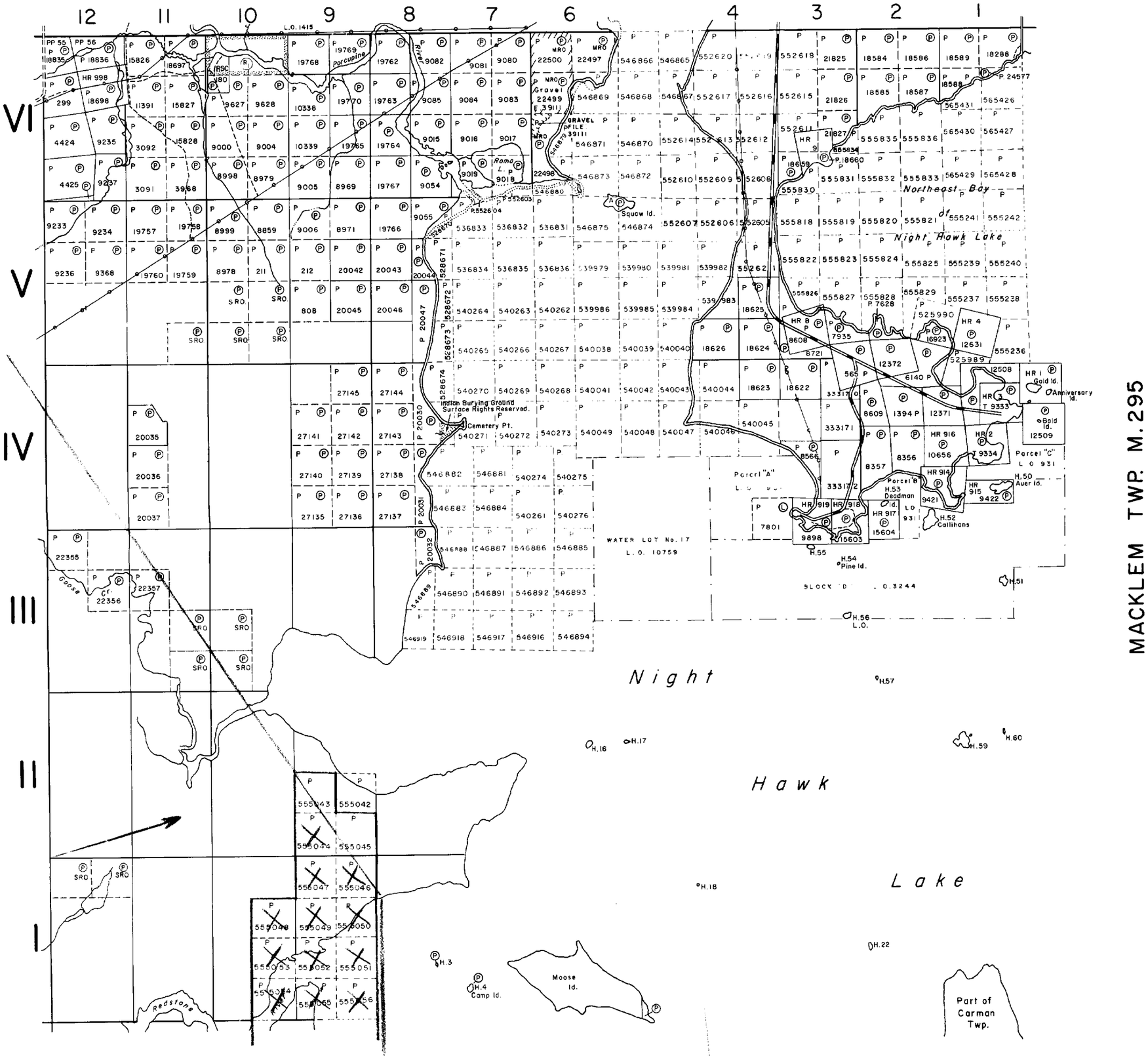
SCALE: 1-INCH 40 CHAINS

MATHESON TWP. M.297

WHITNEY TWP. M.319

MACKLEM TWP. M.295

CARMAN TWP. M.266



LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.
CANCELLED	

NOTES

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

The whole of Moose Island is attached to the Township of Cody. File 23642.

This Township lies within the Municipality of The city of Timmins

Reserve flooding rights to Ont. Hydro to elevation 903.5' T&NO Railway datum on Night Hawk lake and that portion of the river between Night Hawk lake and Frederick House Lake

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

Order No.	File	Date	Disposition
(R) W.53/76	16539	10/9/76	S.R.O.

DATE OF ISSUE
JUL 7 - 1980
SURVEYS AND MAPPING BRANCH

PLAN NO. M.270

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

TISDALE TWP. M-315

OGDEN TWP. M-305

SHAW TWP. M-311

ADAMS TWP. M-261

2.3367

THE TOWNSHIP OF DELORO

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 20 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S
LEASES	(L)
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	C.
PATENTED S.R.O.	

NOTES

400' Surface Rights reservation along the shores of all lakes and rivers.

For status of fraction situated between Mg. Claims: H.R.1132; H.R.947 & M.E.42 see File No. 119653

Mining claims within the area shown thus ..... are subject to rights & privileges granted under An Easement Order dated May 19, 1937 to Delnite Mines Ltd.

This township lies within the Municipality of CITY of TIMMINS.

DATE OF ISSUE
DEC 3 - 1980
SURVEYS AND MAPPING BRANCH

PLAN No. - M-272

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

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Shaw Tp. - M.311

Adams Tp. - M.261

Langmuir Tp. - M.292

Douglas Tp. - M.274

THE TOWNSHIP OF

2.3367

ELDORADO

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	● or (P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.
PATENTED S.R.O.	

NOTES

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

This township lies within the Municipality of CITY of TIMMINS.

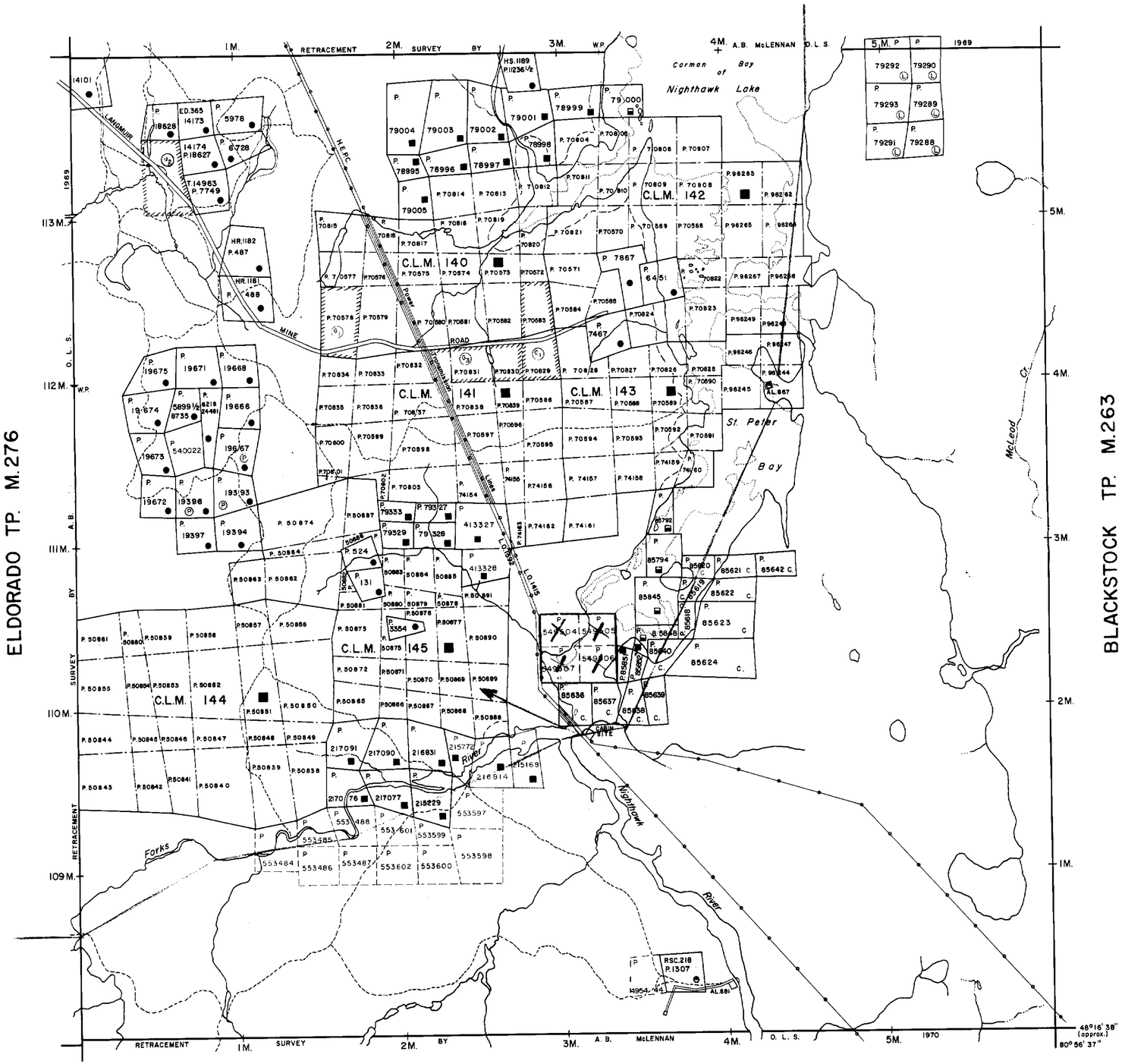
PLAN NO. M.276

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

CARMAN TP. M.266



ELDORADO TP. M.276

BLACKSTOCK TP. M.263

FALLON TP. M.278

NOTES

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

Flooding rights on Nighthawk Lake to the contour elevation 903.5' reserved to H.E.P.C.

SAND and GRAVEL

(G1)	GRAVEL	File	Nº 171978
(G2)	"	"	Nº 151198
(G3)	"	"	Nº 171978 & 171979

This township lies within the Municipality of CITY of TIMMINS.

LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◒
" MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◪
" MINING RIGHTS ONLY	◪
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	C.S.
ORDER-IN-COUNCIL	OC
RESERVATION	Ⓡ
CANCELLED	Ⓧ
SAND & GRAVEL	Ⓖ

SCALE : 1 INCH = 40 CHAINS

FEET 0 500 1000 2000 4000 6000 8000

METRES 0 200 400 600 800 1KM 2KM

ACRES	HECTARES
40	16

TOWNSHIP 2.3367

LANGMUIR

DISTRICT

COCHRANE

MINING DIVISION

PORCUPINE

Ministry of Natural Resources

Ontario Surveys and Mapping Branch

Date SEPT. 1973

Whitney Block
Queen's Park, Toronto

Plan No. M.292

250

A.T.V.

MOUNTJOY TWP. M-302

THE TOWNSHIP OF OGDEN

2.3367

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 20 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.
QUARRY PERMIT	(QP)

NOTES

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

L.O. 6613 - Booming Grounds - covers the westerly half of the bed of the Mattagami River flowing through this township. File: 73543.

This township lies within the Municipality of CITY of TIMMINS.

Areas withdrawn from staking under Section 43 of the Mining Act

	File	Date	Disposition
(43) W 17/76	139801	2/4/76	S.R.O.
(43) W 25/78	108545	26/5/78	S.R.O.
(43) NW 51/79	189427	2/11/79	S.R.O.

DATE OF ISSUE
DEC 3 - 1980
SURVEYS AND MAPPING BRANCH

PLAN NO. M-305

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

PRICE TWP. M-307

DELORO TWP. M-272

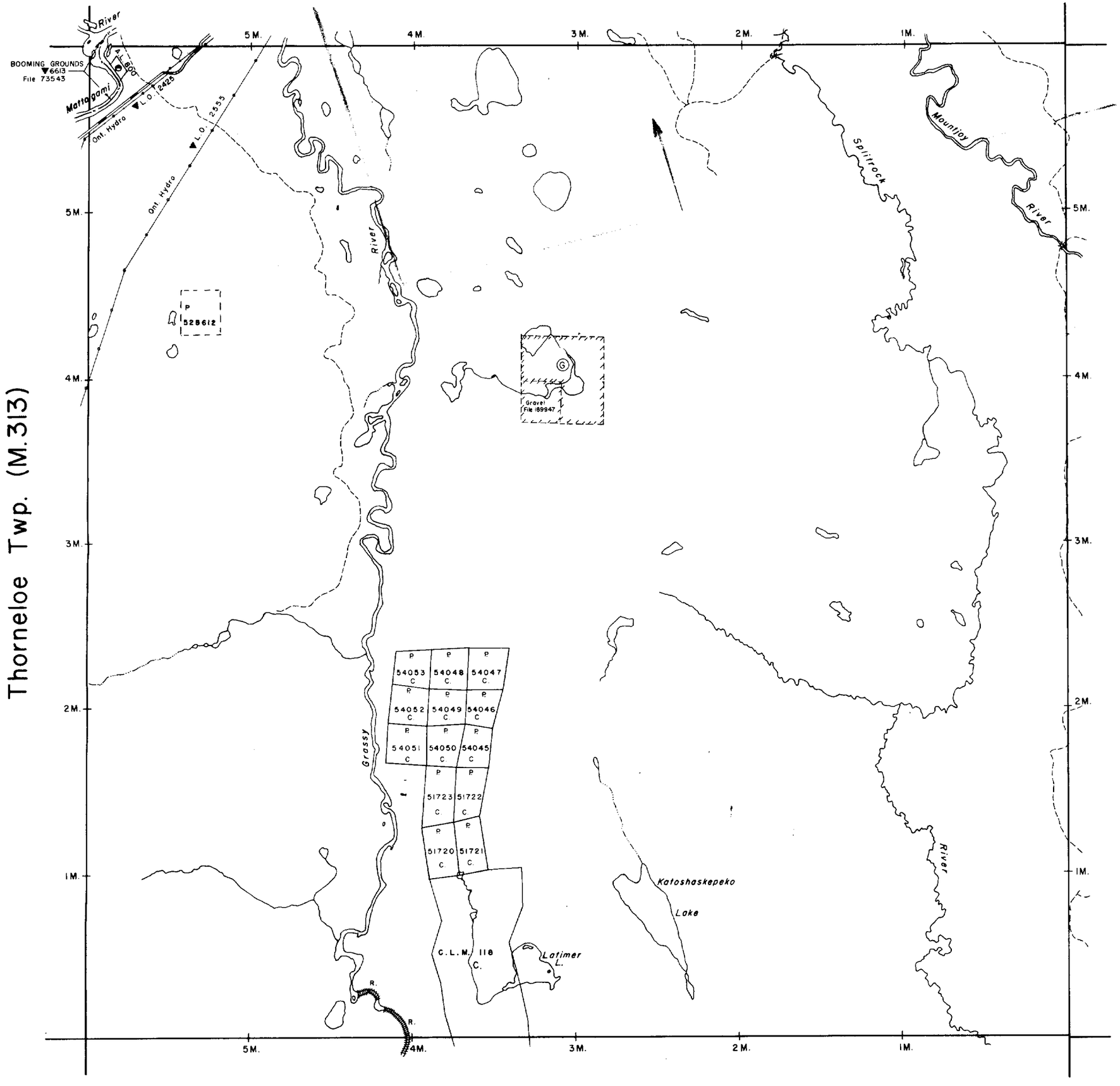
BRISTOL TWP. M-264

Ogden Twp. (M.305)

Thorneloe Twp. (M.313)

Adams Twp. (M.261)

Fripp Twp. (M.281)



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 Nº	File	Date	Disposition

DATE OF ISSUE
JUL 16 1980
SURVEYS AND MAPPING
Approved

SAND AND GRAVEL

Ⓖ QUARRY PERMIT

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

PLAN NO. M-307

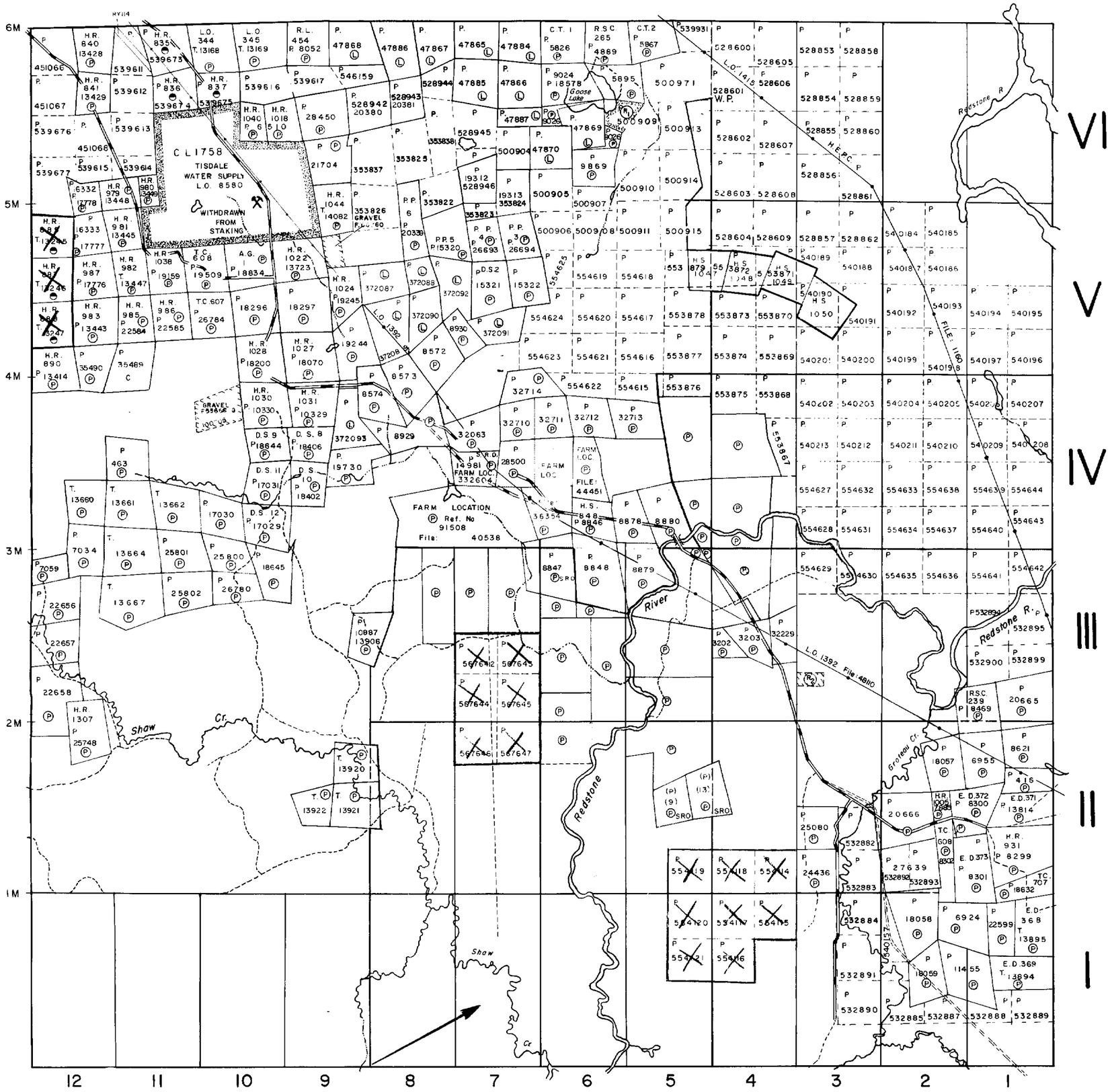
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Whitney Twp. M.319

Deloro Twp. M.272

Carman Twp. M.266

Eldorado Twp. M.276



THE TOWNSHIP OF

2.3367

SHAW

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.
PATENTED S.R.O.	

NOTES

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

Unpatented Mining Claims in the Subdivided Portion of Shaw TP. are subject to Section 118 of the Mining Act M. of N. R. File No. 83.5

This Township lies within the Municipality of CITY of TIMMINS.

RESERVATIONS:

(R1) – Reserved for recreational purposes under Sec. 3 P.L.A. File 188543

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

	File	Date	Disposition
(R2) W.97/77	86555	15/12/77	S.R.O.

PLAN NO.- M.311

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

THE TOWNSHIP OF TISDALE

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

Murphy Twp.

Mountjoy Twp.

Whitney Twp.

TOWN OF TIMMINS

Deloro Twp.

VI

V

IV

III

II

I

12 11 10 9 8 7 6 5 4 3 2 1

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	(S) or C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KINGS HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
GEODECTIC STATION	△
SURFACE RIGHTS ONLY PATENTED	●

NOTES

This township lies within the Municipality of CITY of TIMMINS.

400' Surface rights reservation around all lakes & rivers.

Town boundary of TIMMINS shown thus: NOW WITHIN THE CITY OF TIMMINS.

PLAN NO.- M. 315

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

HOYLE TWP. M-287

TISDALE TWP. M-315

CODY TWP. M-270

SHAW TWP. M-311

THE TOWNSHIP OF

2.3367

WHITNEY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
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	C.
S.R.O. PATENTED M.R.O. LEASED	

NOTES

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

This township lies within the Municipality of CITY of TIMMINS.

No disposition of sand and gravel on lands north of O.N.Ry., from May 8, 1964 until further notice. Form D.O.M. file 550.13

Any restakings within stippled area in Lots 5,6,7,8 Con 4 and 5 subject to rights and privileges granted to Pamour Porcupine Mines Ltd. for tailings disposal.

DATE OF ISSUE
JUL 16 1980
SURVEYS AND MAPPING BRANCH

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

Date 10th. JULY 1974 (Rev.)

Whitney Block
Queen's Park, Toronto

M-319

48°27'05"
81°04'27" approx.

42A05NE0007 2.3367 CODY

AHAX MINERALS EXPLORATION

DEGEN- DELORO TWPS., ONTARIO

TOTAL FIELD AEROMAGNETIC SURVEY

CONTOUR PLAN MAP

1:15,000

Flown by Aerodat - October 1974

Contour Interval - 20 gammas

Instrument - Barringer AM 104 Proton Precession Magnetometer

To accompany report by: T.Watts- Toronto- June 1980

Map 1

Flown by Aerodat - October 1979
Contour Interval - 20 gammas
Instrument - Barringer AM 104 Proton Precession Magnetometer

AMAX MINERALS EXPLORATION

DELORO, ADAMS TWPS., ONTARIO
TOTAL FIELD AEROMAGNETIC SURVEY
CONTOUR PLAN MAP
1: 15,000

T. Watts - Toronto - June 1980 - BP

REDSTONE RIVER

CREEK

SHAW TWP

ELDORADO TWP

SHAW

SHAW LAKE

DELORO TWP

ADAMS TWP

KENNEDY CR

320

SHAW TWP

ELDORADO TWP

REDSTONE RIVER

CARMAN TWP.

LANGMUIR TWP

Flown by Aerodat - October 1979
Contour Interval - 20 gammas
Instrument - Barringer AM 104 Proton Precession Magnetometer

AMAX MINERALS EXPLORATION

ELDORADO TWP, ONTARIO

TOTAL FIELD AEROMAGNETIC SURVEY

CONTOUR PLAN MAP

1:15,000

2.3367

T. Watts - Toronto - June 1980

Map 3

REDSTONE RIVER

NIGHTHAWK LAKE

CARMAN TWP.
LANGMUIR TWP

CLINE BAY

ST. PETER BAY

549504 549505 549506 549507

Flown by Aerodat - October 1979
Contour Interval - 20 gammas
Instrument - Barringer AM 104 Proton Precession Magnetometer

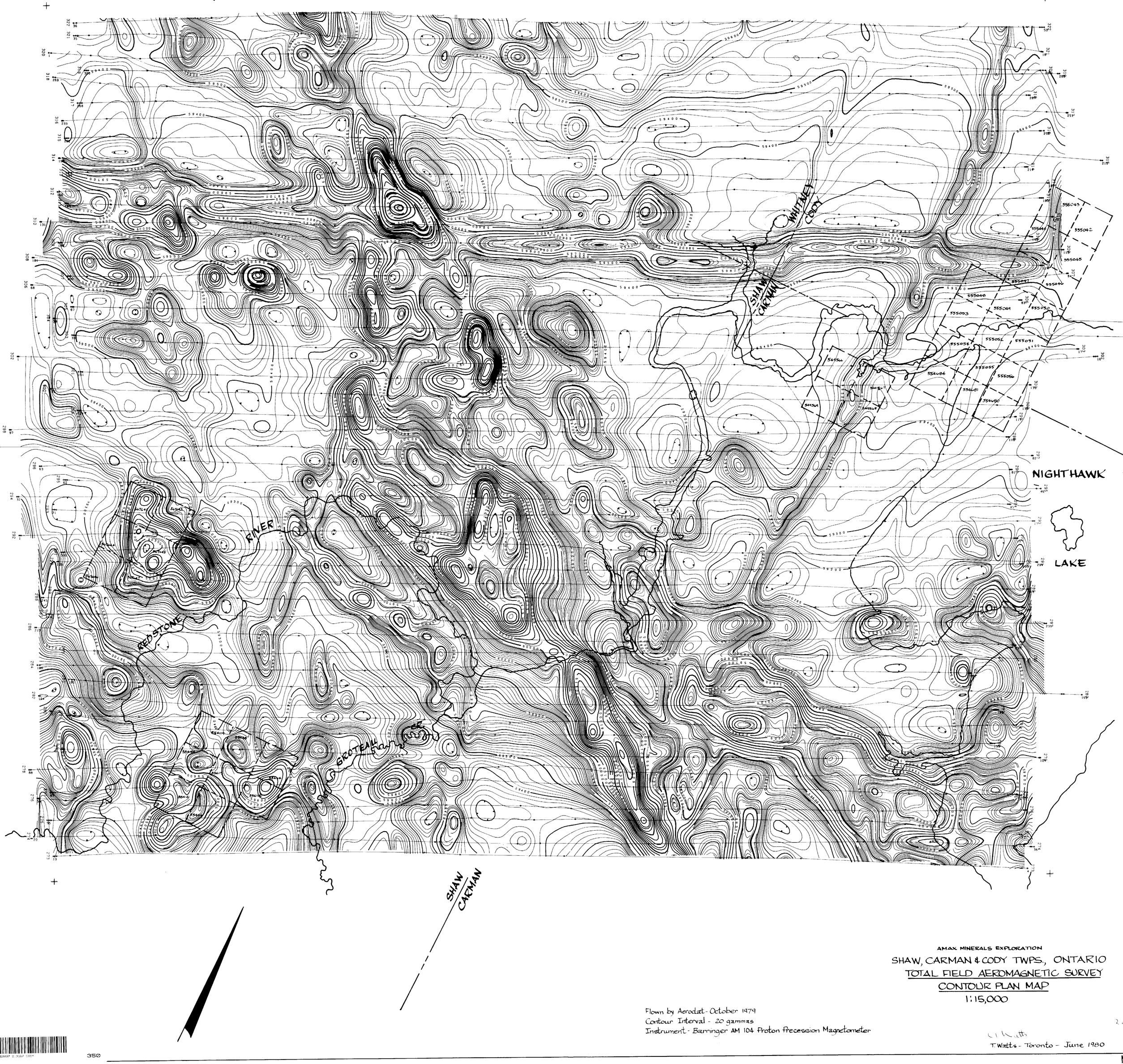
AMAX MINERALS EXPLORATION

CARMAN, LANGMUIR TWPS, ONTARIO
TOTAL FIELD AEROMAGNETIC SURVEY
CONTOUR PLAN MAP
1:15,000

340

C. Watts
T. Watts - Toronto - June 1980 - BP

Map 4



AMAX MINERALS EXPLORATION

SHAW, CARMAN & CODY TWPS., ONTARIO

TOTAL FIELD AEROMAGNETIC SURVEY

CONTOUR PLAN MAP

1:15,000

Flown by Aerodat - October 1979
Contour Interval - 20 gammas
Instrument - Barringer AM 104 Proton Precession Magnetometer

T. Watts - Toronto - June 1980

BP

350

Map 5

PORCUPINE LAKE

THREE NATIONS LAKE

SHAW TWP.

WHITNEY TWP.

CODY TWP.

AMAX MINERALS EXPLORATION

WHITNEY - CODY TWPS, ONTARIO

TOTAL FIELD AEROMAGNETIC SURVEY

CONTOUR PLAN MAP

1: 15,000

Flown by Aerodat October 1979
Contour Interval – 20 gammas
Instrument - Barringer AM 104 Proton Precession Magnetometer.

2.3367

T Watts - Toronto - June 1980 BP

Map. 6