



42A12NE0573 2.6527 LOVELAND

010

KIDD CREEK MINES LTD.

REPORT ON GEOPHYSICAL WORK

LOVELAND 11

LOVELAND TOWNSHIP

MARCH, 1984

M. W. ZANG

RECEIVED

MAR 19 1984

MINING LANDS SECTION

SUMMARY AND RECOMMENDATIONS

Geophysical surveys consisting of proton precession magnetometer and horizontal loop electromagnetic traverses were conducted over nine claims in Loveland Township.

A total of four low to moderately high conductive zones were detected in the survey. The largest of these conductors has been drill tested and was found to be a sulphide bearing graphitic zone that returned assays of 2.85% Zn and 0.33% Cu over 1.62 metres and 1.43 oz/ton Ag and 0.25% Zn over 1.83 metres. This conductor is the only interesting geological target on the property.

Further surface geophysics is not recommended at this time. The collar for hole RL-1 has been located, but borehole geophysics is not recommended because of the short length of the drill hole.



42A12NE0573 2.6527 LOVELAND

010C

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INTRODUCTION

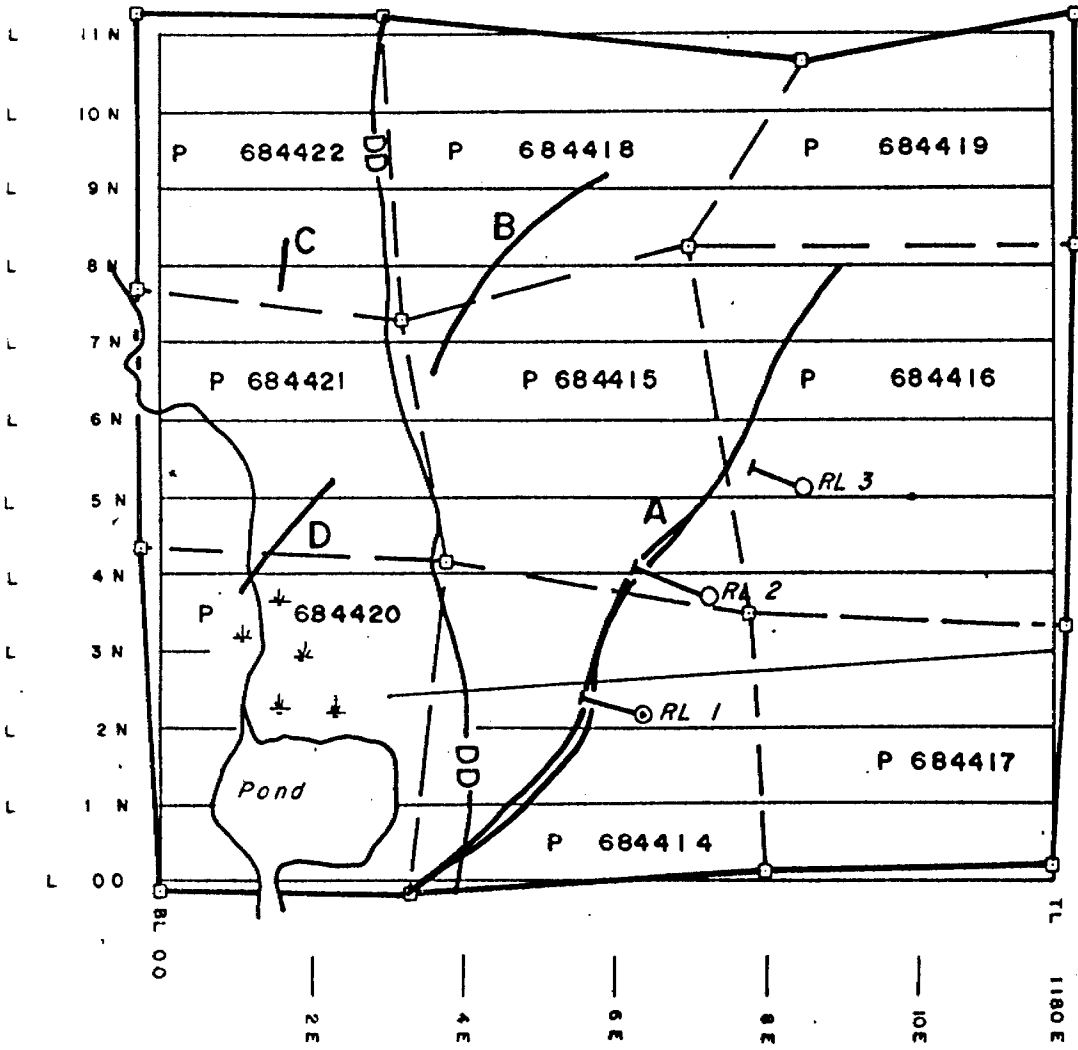
In February, 1984 a geophysical program consisting of proton precession magnetometer and horizontal loop electromagnetic surveys were carried out on a group of nine contiguous claims (P684414 to P684422 inclusive) located in the southwest corner of Loveland Township.

Access to the property is available by helicopter from the Timmins airport.





People involved in the field work include I. Liu, B. Pigeon, S. Ryan and R. Majcher.

PREVIOUS WORK

In 1961, Conwest Exploration Co. Ltd. flew an airborne EM survey over the southwest corner of Loveland Township. The survey located seven weak conductors. In 1965, Mespi Mines Ltd. did a ground EM survey in southwest Loveland and northwest Robb Township which outlined a northeast striking conductor that corresponds with anomaly 'A' (Figure 1). Three holes, RL-1 to RL-3 were drilled later the same year to test this conductor. Hole RL-1 intersected pyritic and pyrrhotitic graphite. Hole RL-2 encountered graphite and



LEGEND

-  HEM ANOMALY
-  DRILL COLLAR
-  DRILL COLLAR APPROX. LOCATION
-  DD DIABASE DYKE

KIDD CREEK MINES LTD.	
Exploration Division	Timmins, ONTARIO
LOVELAND II LOVELAND Twp.	
GEOPHYSICS	
SCALE: 1 : 10,000	Date: Zang
Drawn: DEL	Project N ^o : 937 Date: 09/03/ 84

Figure 1

some pyritic-pyrrhotitic graphite that average 1.46% Zn over 6.4 metres. Hole RL-3 intersected disseminated pyrite and pyrrhotite and some graphite.

SURVEY DESCRIPTION

On this grid, the baseline runs north-south with crosslines cut at 100 metre intervals and stations established every 20 metres.

Magnetic readings were taken with a Scintrex MP-3 proton precession magnetometer. This instrument measures the Earth's total magnetic field to an accuracy of ± 0.1 gamma. The diurnal drift corrections were made using a base station recorder located at 0+00N, 0+00E. The base station field datum was set at 59092 gammas. A total of 787 readings were taken along 14.16 kilometres of line.

The horizontal loop survey was carried out with an Apex Parametrics MaxMin II using a coil separation of 120 metres. Readings were taken every 20 metres (10 metres in anomalous areas) at frequencies of 444 Hz and 1777 Hz. A total of 1298 readings were taken along 12.54 kilometres of line.

SURVEY RESULTS

The horizontal loop survey outlined four conductive

zones labelled A, B, C and D. The interpretation of these anomalies is given in Tables 1 and 2.

Anomaly 'A' found on Line 0 through to Line 8+00N (Table 1) represents a bedrock conductor of moderate to high conductivity thickness. There is no direct magnetic correlation with the source of anomaly 'A'. The three holes drilled by Mespi Mines Ltd. in 1965 identify the conductor as disseminated pyrite and pyrrhotite with or without graphite in a sequence of mafic and felsic tuffs.

Anomaly 'B' found on Line 7+00N through to Line 9+00N (Table 2) represents a bedrock conductor of low to moderate conductivity thickness. The horizontal loop anomaly on Line 8+00N at 4+40E corresponds with a 300 gamma magnetic high. The magnetic anomaly appears to be caused by a near surface feature. It appears likely that anomaly 'B' and 'D' are the responses of a single conductor bisected by a diabase dike (Figure 1).

Anomaly 'C' found on Line 8+00N (Table 2) represents a bedrock conductor of moderately high conductivity thickness. The horizontal loop anomaly corresponds with a 100 gamma magnetic high.

Anomaly 'D' found on Lines 4+00N and 5+00N (Table 2) represents a bedrock conductor of low to moderate

TABLE 1: Anomaly A, Loveland 11, 444 Hz, 120 Metre Coil Separation

Line	Anomaly Center	Anomaly Width	Indicated Depth	I. P Max.	O. P Max.	Response Parameter	Conductivity Thickness	Remarks
0	3+40E	10m?	30m?	-4	-6	3	7 mhos?	Some coil missalignment
1+00N	4+70E	20m	12m	-12	-18	4	9 mhos	Assume Dip 90°
2+00N	5+57E	20m	< 12m	-20	-25	4.5	10 mhos	Assume Dip 90°
3+00N	5+62E	5m	15m	-23	-18	10	24 mhos	East Dip Between 60°-90°
4+00N	6+20E	10m	15m	-23	-18	10	24 mhos	East Dip Between 60°-90°
5+00N	7+23E	5m	< 12m	- 3	-10	1.5	4 mhos	Assume Dip 90°. Multiple Conductor
6+00N	7+80E	Thin	30m	- 3	-5	2.5	6 mhos	East Dip Between 60°-90°. Poor Conductor
7+00N	8+25E	10m	42m	- 5	-6	4.5	10 mhos	East Dip Between 60°-90°
8+00N	9+00E	Thin	33m	-8	-9	5	12 mhos	West Dip Between 60°-90°

TABLE 2: Anomaly B, C and D; Loveland 11, 444 Hz and 1777 Hz, 120 Metre Coil Separation

Line	Anomaly Center	Anomaly Width	Indicated Depth	I. P Max.	O. P Max.	Response Parameter	Conductivity Thickness	Remarks
Anomaly B								
7+00N	3+80E	Thin	-	-	-	-	-	<u>444 Hz</u> ; Very Poor Response
			32m	-5	-7	4	2 mhos	<u>1777 Hz</u> ; Assume Dip 90 ⁰
8+00N	4+40E	Thin	42m	-5	-6	4.5	10 mhos	<u>444 Hz</u> ; Assume Dip 90 ⁰
			33m	-11	-10	9	5 mhos	<u>1777 Hz</u> ; Assume Dip 90 ⁰
9+00N	5+73E	Thin	< 12m	-1	-4	0.5	1 mhos	<u>444 Hz</u> ; Poor Response
			45	-5	-5	6	3.5 mhos	<u>1777 Hz</u> ; Assume Dip 90 ⁰
Anomaly C								
8+00N	1+60E	Thin	57m	-6	-4	12	28 mhos	<u>444 Hz</u> ; Slight Dip To The West
			53m	-8	-5	15	9 mhos	<u>1777 Hz</u> ;
Anomaly D								
4+00N	1+20E	Thin	54m	-3	-3	5	12 mhos	<u>444 Hz</u> ; Poor Response
5+00N	2+10E	Thin	36m	-2	-3	1.5	3 mhos	<u>444 Hz</u> ; Poor Response
			12m	-4	-9	2.5	1.5 mhos	<u>1777 Hz</u> ; Assume Dip 90 ⁰

conductivity thickness. The conductor is found east of several erratic magnetic highs associated with outcropping pyrrhotite-pyrite-chalcopyrite mineralization.

Michael W. Zang
M. W. ZANG



Ministry of Natural Resources

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

#1



42A12NE0573 2.6527 LOVELAND

900

W8406-112

The Mini

Type of Survey(s) GEOPHYSICAL	Township or Area LOVELAND TWP.
Claim Holder(s) KIDD CREEK MINES LTD.	Prospector's Licence No. T-1
Address 571 Moneta Avenue, P.O. Box 1140, Timmins, Ontario P4N 7H9	
Survey Company KIDD CREEK MINES LTD.	Date of Survey (from & to) 15 06 83 29 02 84 <small>Day Mo. Yr. Day Mo. Yr.</small>
Total Miles of line Cut 9.6	
Name and Address of Author (of Geo-Technical report) Michael W. Zang, 571 Moneta Avenue, P.O. Box 1140, Timmins, Ontario P4N 7H9	

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	684414	
	684415	
	684416	
	684417	
	684418	
	684419	
	684420	
	684421	
	684422	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECEIVED
MAY 11 1984
MINING LANDS SECTION

POPCUPINE MINING DIVISION
RECEIVED
MAR 14 1984
A.M.
7:8:9:10:11:12:1:2:3:4:5:6
P.M.

Expenditures (excludes power stripping)

Type of Work Performed _____

Performed on Claim(s) _____

Calculation of Expenditure Days Credits

Total Expenditures	+	15	=	Total Days Credits
\$				

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

RECORDED
MAR 14 1984
Receipt No. *af*

Total number of mining claims covered by this report of work. 9

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
360	March 14/84	<i>[Signature]</i>
	Date Approved as Recorded	Regional Director
	8.7.6.17	<i>[Signature]</i>

Date March 12/84
Recorded Holder or Agent (Signature) *Michael Zang*

Certification: Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
Michael W. Zang, 571 Moneta Avenue, P.O. Box 1140, Timmins, Ontario
P4N 7H9

Date Certified	Certified by (Signature)
Mar. 12/84	<i>Michael Zang</i>



**GEO PHYSICAL – 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) GEO PHYSICAL
Township or Area Loveland
Claim Holder(s) Kidd Creek Mines Ltd.
P.O. Box 1140, Timmins, Ontario
Survey Company Kidd Creek Mines Ltd.
Author of Report Michael W. Zang
Address of Author P.O. Box 1140, Timmins, Ontario
Covering Dates of Survey 15/06/83 - 29/02/84
(linecutting to office)
Total Miles of Line Cut 9.6

**MINING CLAIMS TRAVERSED
List numerically**

P	684414
P (prefix)	684415 (number)
P	684416
P	684417
P	684418
P	684419
P	684420
P	684421
P	684422

If space insufficient, attach list

<u>SPECIAL PROVISIONS CREDITS REQUESTED</u>	<u>DAYS per claim</u>
Geophysical	
– Electromagnetic <u>20</u>	
– Magnetometer <u>20</u>	
– 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: March 13/84 SIGNATURE: Michael W. Zang
Author of Report or Agent

Res. Geol. _____ Qualifications 2.4262

Previous Surveys
File No. Type Date Claim Holder

File No.	Type	Date	Claim Holder

RECEIVED

MAR 19 1984

MINING LANDS SECTION

TOTAL CLAIMS 9

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 708 Number of Readings Mag:787 HL:1298
Station interval 20m Line spacing 100m
Profile scale 1cm=20%
Contour interval 200 gammas

MAGNETIC

Instrument Scintrex MP:3 Proton Precession Magnetometer
Accuracy - Scale constant +/- 0.1 gamma
Diurnal correction method Base Station
Base Station check-in interval (hours) 30 seconds
Base Station location and value 0+00N, 0+00E 59092 gammas

ELECTROMAGNETIC

Instrument Apex Parametrics MaxMin II
Coil configuration Horizontal Loop
Coil separation 120m
Accuracy +/- 1%
Method: [] Fixed transmitter [] Shoot back [x] In line [] Parallel line
Frequency 444 and 1777 Hz (specify V.L.F. station)
Parameters measured Percent of Primary Field

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 _____

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 _____

1984 03 23

Our File: 2.6527

Mr. Bruce Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic and Magnetometer) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 684414 to 22 inclusive in the Township of Loveland.

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

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-8918

A. Barr:mc

cc: Kidd Creek Mines Ltd
P.O. Box 1140
Timmins, Ontario
P4N 7H9
Attention: M.W. Zang

Kidd Creek Mines Ltd.

Box 1140
571 Moneta Avenue,
Timmins, Ontario P4N 7H9
(705) 267-1188

Exploration Division

March 13, 1984

Mr. Fred Matthews
Director, Land Management Branch
Whitney Block, Room 6450
Queen's Park
TORONTO, Ontario
M7A 1W3

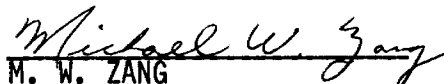
Dear Sir:

Re: LOVELAND TOWNSHIP

Enclosed please find duplicate copies of a report and maps covering claims in Loveland Township. The claims aforementioned are P-684414 to P-684422 inclusive.

Your prompt attention to this matter would be greatly appreciated.

Yours very truly,


M. W. ZANG

MWZ/pp
Encls.

RECEIVED

MAR 19 1984

MINING LANDS SECTION

KIDD

Mining Lands Section

File No 2,6527

Control Sheet

TYPE OF SURVEY / GEOPHYSICAL
 _____ GEOLOGICAL
 _____ GEOCHEMICAL
 _____ EXPENDITURE

MINING LANDS COMMENTS:

Handwritten notes:
_____ *Handwritten scribble*
_____ *Handwritten scribble*
- claim lines & #'s not on map - but
key map in report is adequate for
locating claims P.

Handwritten signature:
L.D.

Signature of Assessor

Handwritten date:

Date

W. 503

GOLEFAYD LMB

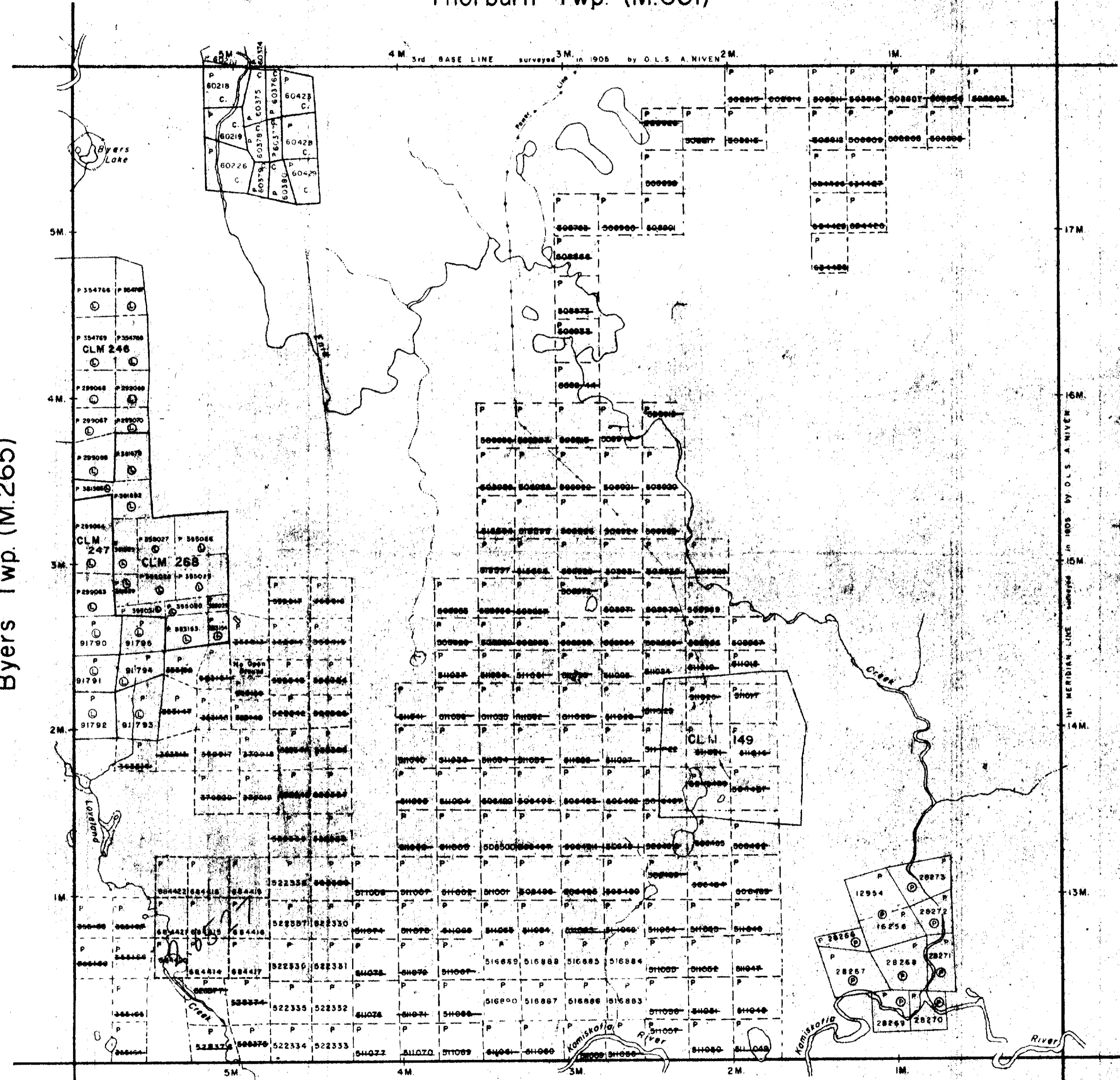
W. 503

W. 503

GOLEFAYD LMB

W. 503

Thorburn Twp. (M.601)



THE TOWNSHIP OF LOVELAND

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 MUSKES	—
MINES	⋈
CANCELLED	C

NOTES

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

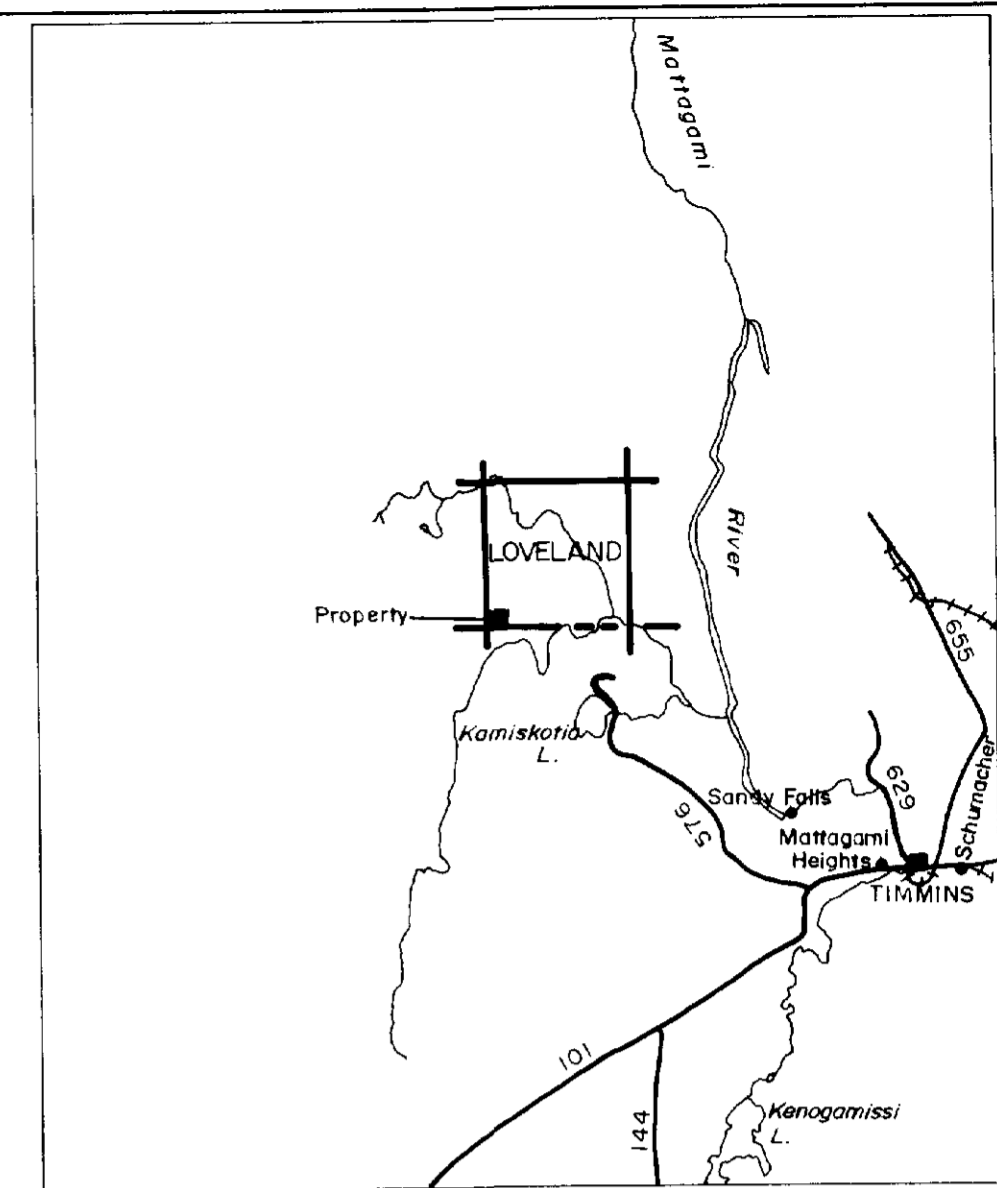
This township lies within the Municipality of CITY of TIMMINS.

Rec'd Feb. 17/83
PLAN NO. M-293

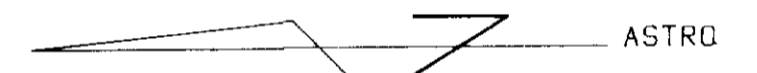
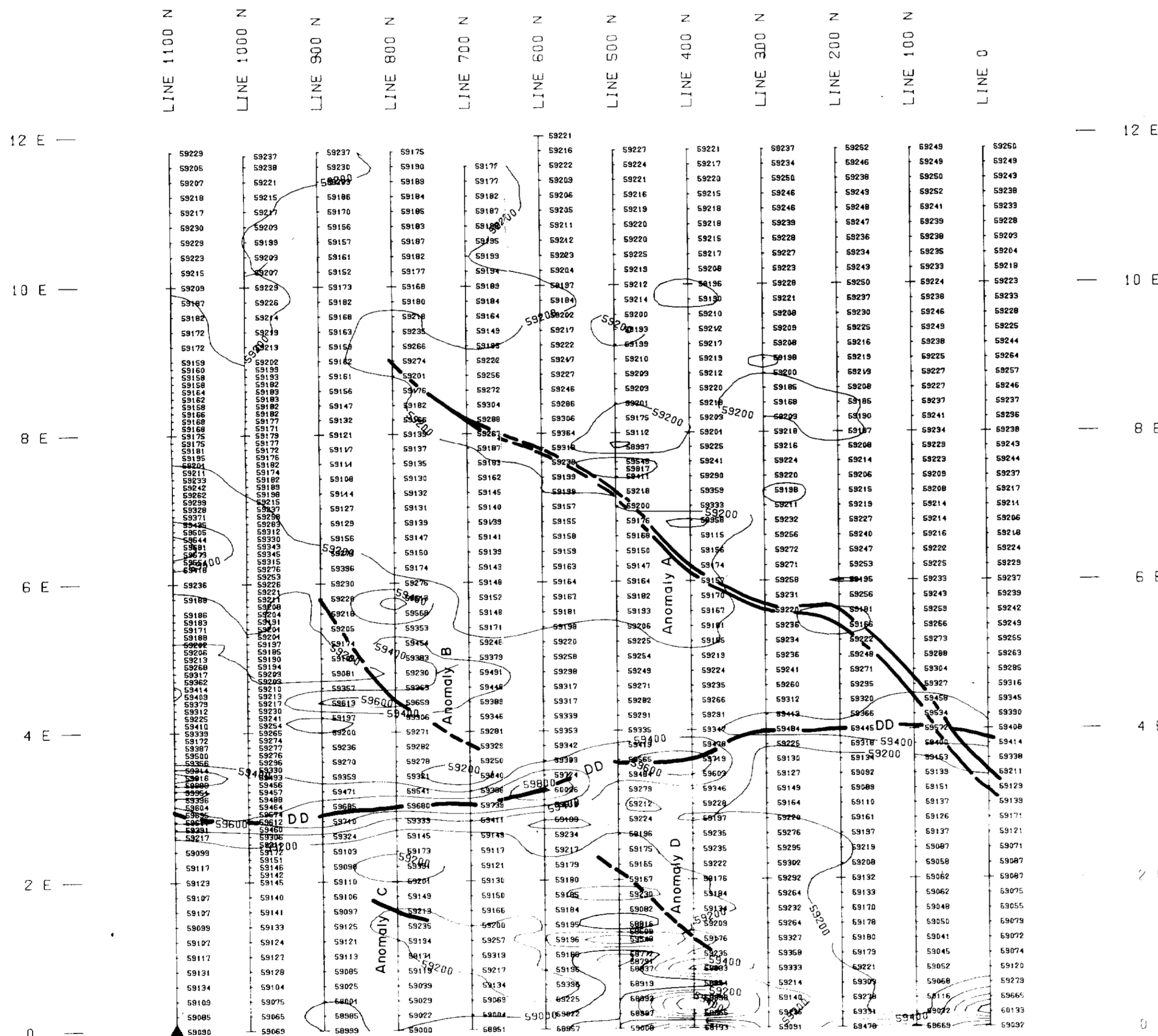
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

DATE OF ISSUE
JUN 14 1984
Ministry of Natural Resources
TORONTO





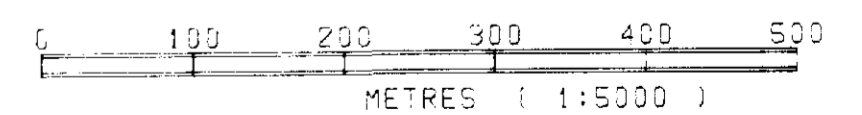
KEY MAP SCALE: 1:506,880



- HEM ANOMALY
 DIABASE DYKE

LEGEND

INSTRUMENT : SCINTREX MP-3
 TYPE : PROTON PRECESSION MAGNETOMETER
 READINGS IN GAMMAS
 ▲ MAGNETIC BASE STATION



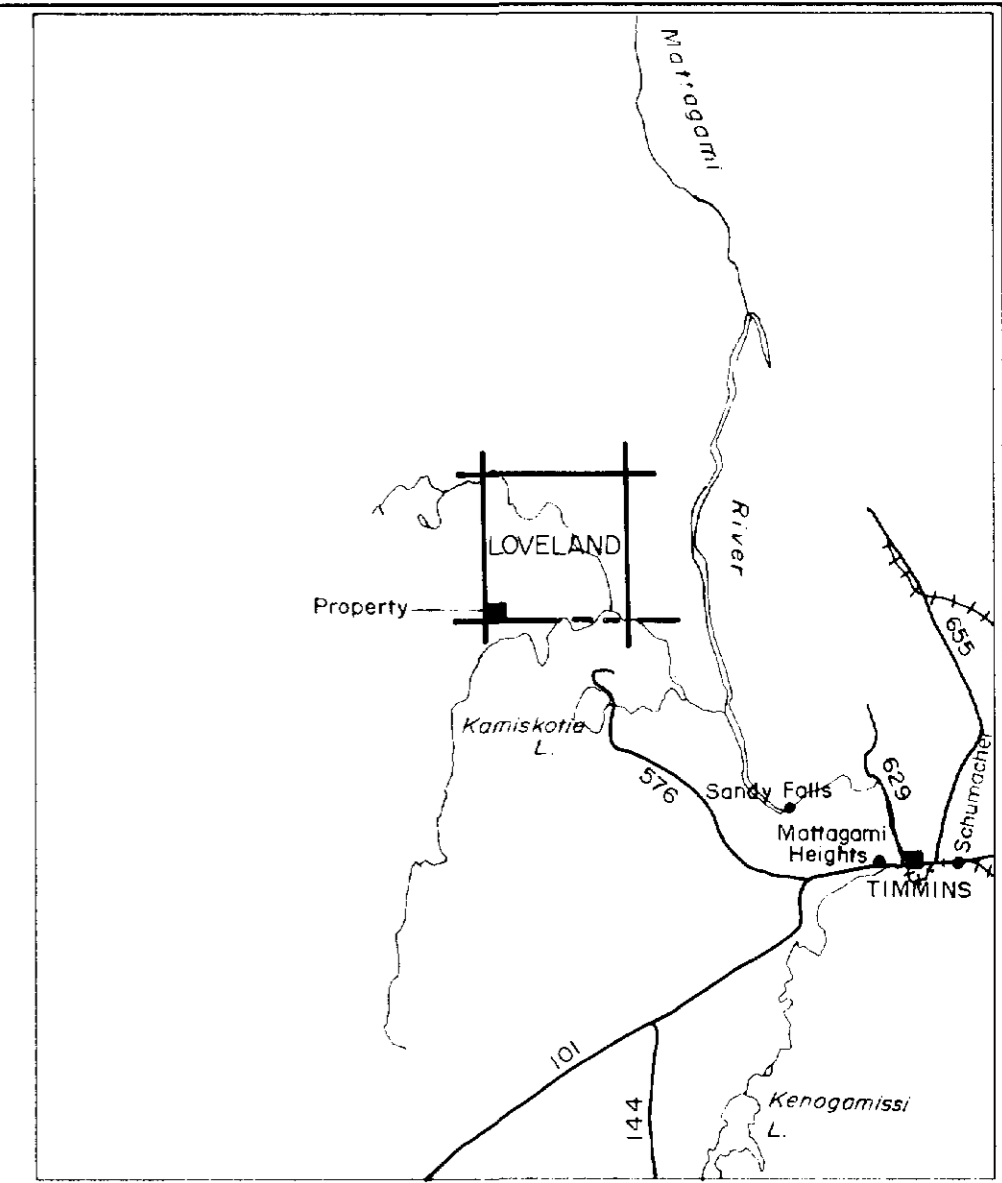
KIDD CREEK MINES LTD.

MAGNETIC SURVEY
LOVELAND CLAIMS
 LOVELAND 11

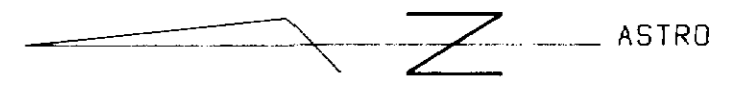
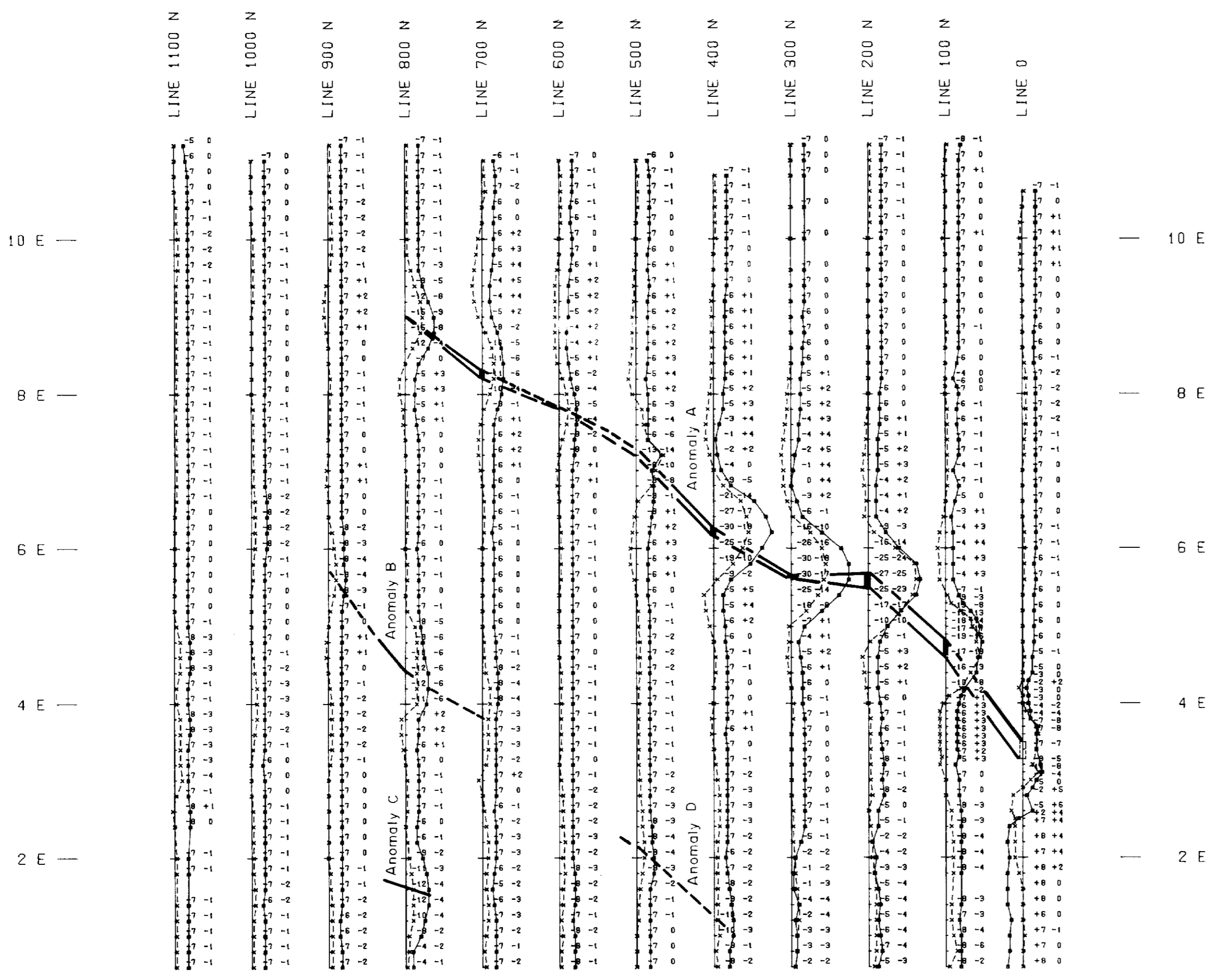
NTS: 42-A/12 26527 PROJ. #937

WORK BY	DATE
M. W. Zang	1984

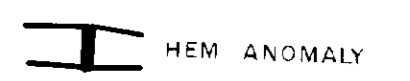




KEY MAP SCALE: 1:506,880

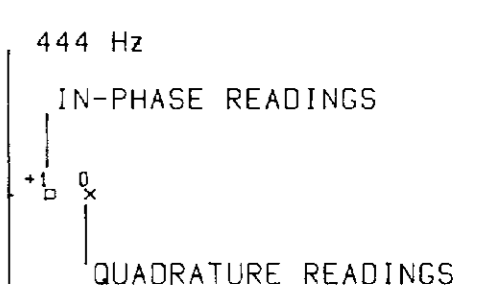


ASTRO



HEM ANOMALY

LEGEND

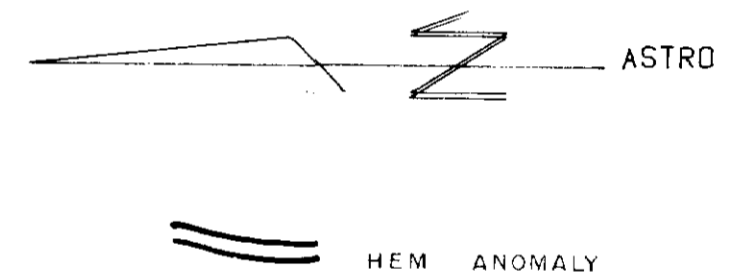
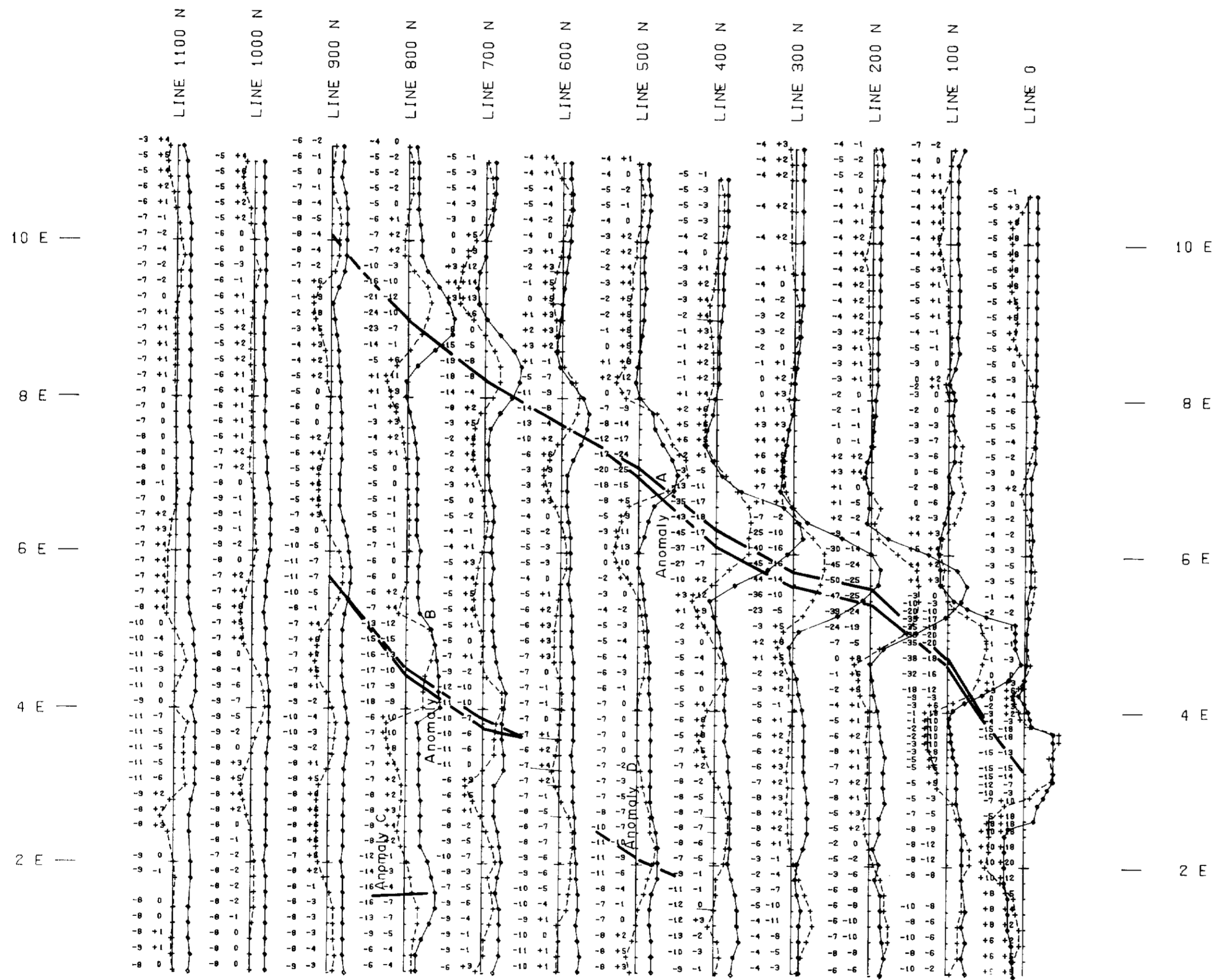
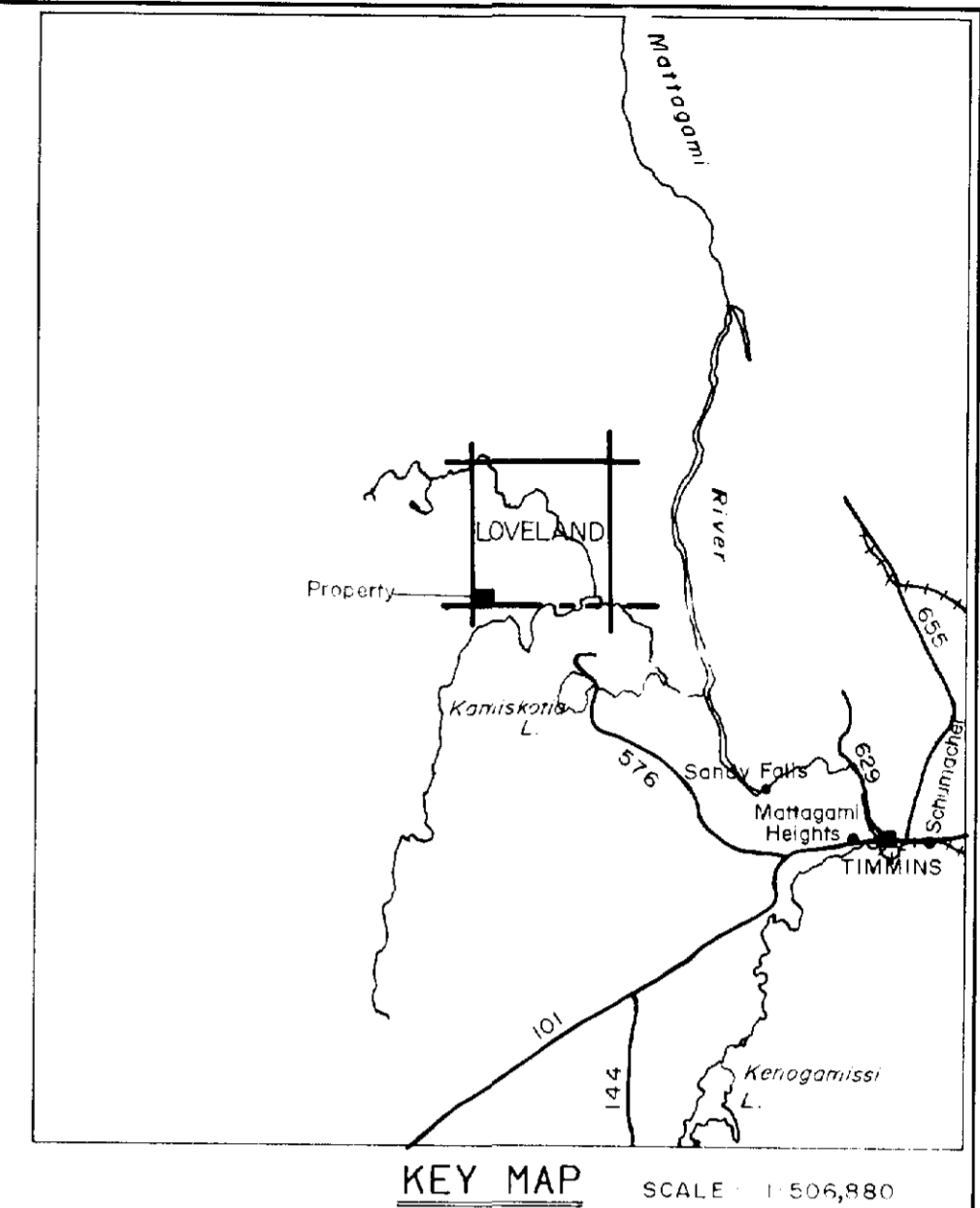


INSTRUMENT : APEX PARAMETRICS MAXMIN 11
 FREQUENCY : 444 Hz
 COIL SPACING : 120 METRES
 PROFILE SCALE : 1 CM= 20%

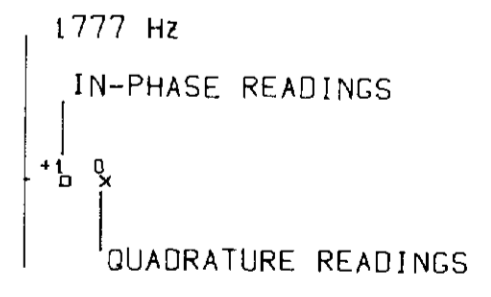


KIDD CREEK MINES LTD.	
HORIZONTAL LOOP SURVEY	
LOVELAND CLAIMS	
LOVELAND 11	
NTS:42-A/12 26527	PROJ.#937
WORK BY	DATE
M. W. Zung	1984

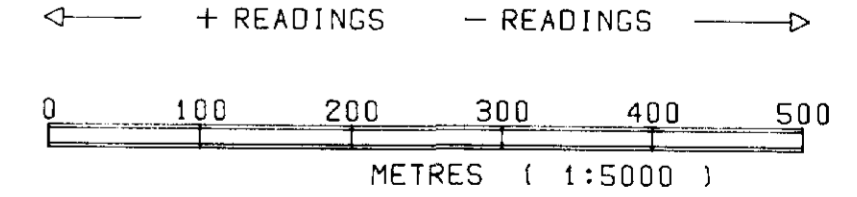




LEGEND



INSTRUMENT : APEX PARAMETRICS MAXMIN II
 FREQUENCY : 1777 Hz
 COIL SPACING : 120 METRES
 PROFILE SCALE : 1 CM = 20%



KIDD CREEK MINES LTD.	
HORIZONTAL LOOP SURVEY	
LOVELAND CLAIMS	
LOVELAND 11	
NTS: 42-A/12 26527	PROJ. #937
WORK BY <i>M. W. [Signature]</i>	DATE 1984

