KIDD CREEK MINES LTD.

REPORT ON GEOPHYSICAL WORK

YEO 33

YEO TOWNSHIP

CLAIMS P-743282 TO P-743287

N.T.S.: 41-O-9

OCTOBER, 1984

M. W. ZANG

SUMMARY AND RECOMMENDATIONS

Geophysical surveys consisting of proton precession magnetometer, very low frequency (VLF) electromagnetic and horizontal loop (HEM) electromagnetic traverses were conducted over six contiguous claims in central Yeo Township.

No interesting geophysical anomalies were detected. If there is sufficient geological interest a surface PEM survey will be conducted to search for any deeply buried conductors.

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INTRODUCTION

A proton precession magnetometer, VLF electromagnetic and horizontal loop electromagnetic survey was completed by mid August, 1984 on a group of six contiguous claims (P-743282 to P-743287 inclusive) located in central Yeo Township (Figure 1).

Access to the property was attained by truck from the Eddy Forest road to Sultan, west of Highway 144.

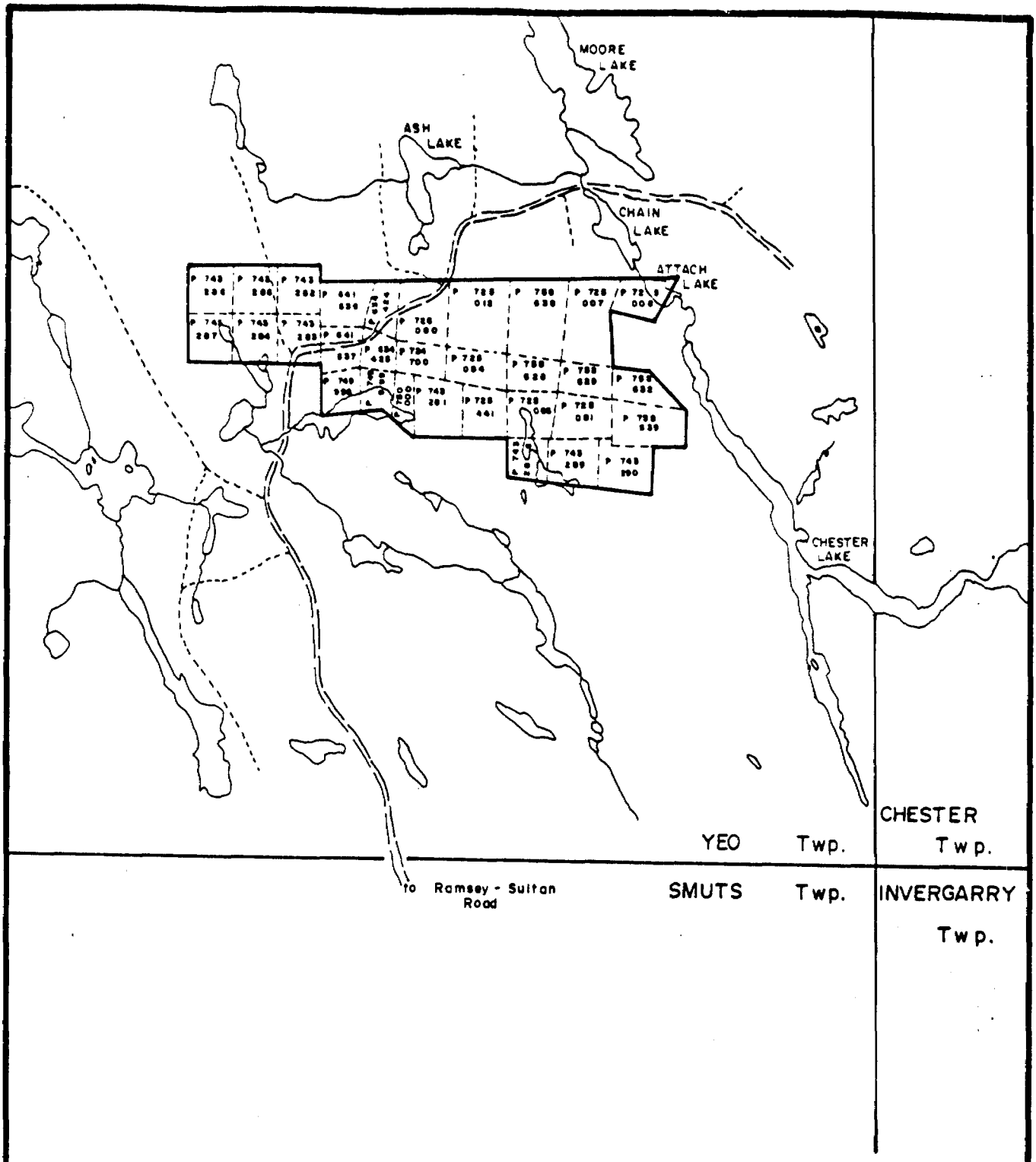
People involved in the field work include R. Daigle, B. Campbell and B. Pigeon.

PREVIOUS WORK

A helicopter airborne geophysical survey utilizing the REXHEM-1 system was carried out over the claim group by Geophysical Surveys Inc. This survey was completed for Hargor Resources Inc. during the period of August 9 to August 22, 1980.

The REXHEM-1 instrumentaton includes an EM-33 from Geonics Ltd., with coaxial max-coupled coils at a frequency of 736 Hz. A Geometrics G-803 proton magnetometer and a TOTEM-1A VLF system from Hertz Industries Ltd.

No interesting geophysical anomalies were detected and



LEGEND

☐ GEOPHYSICAL SURVEYS
AUGUST, 1984

KIDD CREEK MINES LTD.
Exploration Division — Timmins, ONTARIO

YEO 34
YEO Twp.

CLAIM LOCATION MAP

SCALE: 1 : 50,000		Data: Mullen
Drawn: DEL	Project N°: 56	Date: 03/05/84

Figure 1

no recommendations for further work were made.

SURVEY DETAILS

On this grid, a base line runs east-west with crosslines cut at 100 metre intervals and stations established every 20 metres.

Magnetic readings were taken with a Scintrex MP-4 proton precession magnetometer. This instrument measures the Earth's total magnetic field to an accuracy of ± 0.1 gamma. Diurnal drift correctons were made using a base station recorder. A total of 558 readings were taken along 10.0 kilometres of line.

VLF readings were taken with a Crone RADEM EM receiver. This instrument measures the dip angle of the magnetic field component in degrees with an accuracy of ± 1/2 degree. The transmitting station used in this survey was Cutler, Maine which employs a frequency of 24.0 KHz. In this survey a total of 519 readings were taken along 10.1 kilometres of line.

The horizontal loop survey was carried out with an Apex Parametrics Max Min II using a coil separation of 160 metres. Readings were taken every 40 metres at frequencies of 444 and 1777 Hz. A total of 468 readings were sampled along 8.0 kilometres of line.

SURVEY RESULTS

Several weak VLF crossovers occur in the survey results. Since none of these correspond with any horizontal loop anomalies, they probably represent poorly conductive bedrock structures or surficial conductors.

Geologic mapping has shown that the numerous magnetic anomalies are coincident with a swarm of north-south and east-west trending diabase dykes.

M. W. ZANG

Ontario

Ministry of Nat

GEOPHYSICAL – GEOLO(
TECHNICAL DA1

41009SE0056 2.7420 YEO

900

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) Geophysical

Township or Area Yeo Township

Claim Holder(s) Kidd Creek Mines Ltd.
571 Moneta Avenue, P.O. Box 1140, Timmins

Survey Company Timmins, Ontario Kidd Creek Mines Ltd.

Author of Report Michael W. Zang

Address of Author P.O. Box 1140, Timmins, Ontario

Covering Dates of Survey 01/06/84 - 20/08/84
(linecutting to office)

Total Miles of Line Cut 12.8 Km

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	40
–Magnetometer	40
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Nov. 16/84 SIGNATURE: Michael W. Zang
Author of Report or Agent

Res. Geol. _____ Qualifications 2.4262

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	743282
P	743283
P	743284
P	743285
P	743286
P	743287

If space insufficient, attach list

TOTAL CLAIMS 6

OFFICE USE ONLY

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 520 Number of Readings Mag: 558 VLF: 519 HL:468

Station interval 20 metres Line spacing 100 metres

Profile scale 1 cm = 10%

Contour interval 100 gammas

MAGNETIC

Instrument Scintrex MP-4 Proton Precession Magnetometer

Accuracy - Scale constant ± 0.1 gamma

Diurnal correction method Base Station Recorder

Base Station check-in interval (hours) 30 seconds

Base Station location and value Line 0 2+00 S 58849 gammas

ELECTROMAGNETIC

Instrument Crone Radem

Coil configuration Vertical Loop

Coil separation Infinite

Accuracy ± 1/2 degree

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency 24.0 KHz Cutler Main (specify V.L.F. station)

Parameters measured Dip Angle

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 Electromagnetic

Instrument Apex Parametrics Max Min II

Accuracy + - 1%

Parameters measured Secondary Field in percent of Primary Field

_____

Additional information (for understanding results) Coil Separation: 160 m, Coil Configuration: Horizontal Loop, Method: In Line

_____

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_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Ministry of Natural Resources
Ontario

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

The Mining Act

#408/84 2.7420

nov. 26

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

Type of Survey(s)	Township or Area
Geophysical	Yeo Township
Claim Holder(s)	**Prospector's Licence No.**
Kidd Creek Mines Ltd.	T-1
Address	
571 Moneta Avenue, P.O. Box 1140, Timmins, Ontario P4N 7H9	
Survey Company	**Date of Survey (from & to)** Day / Mo. / Yr. — **Total Miles of line Cut**
Kidd Creek Mines Ltd.	01 06 84 — 20 08 84 — 12.8 km
Name and Address of Author (of Geo-Technical report)	
M. W. Zang, 571 Moneta Avenue, P. O. Box 1140, Timmins, Ontario P4N 7H9	

Credits Requested per Each Claim in Columns at right

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

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

Airborne Credits		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	743282	~~80~~
	743283	~~80~~
	743284	~~80~~
	743285	~~80~~
	743286	80
	743287	~~80~~

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

RECORDED
SEP 27 1984
Receipt No. [illegible]

PORCUPINE MINING DIVISION
RECEIVED
SEP 27 1984

Total number of mining claims covered by this report of work: 6

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.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
480	Sept 27/84	E Blanchard
	Date Approved as Recorded	Branch Director
	85.1.23	

Date	Recorded Holder or Agent (Signature)
Sept. 27/84	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		
M. W. Zang, 571 Moneta Avenue, P.O. Box 1140, Timmins, Ontario P4N 7H9		
	Date Certified	**Certified by (Signature)**
	Sept. 27/84	Michael Zang

1350 (81/9)

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.7420

Date 1984 12 14

Mining Recorder's Report of Work No. 408/84

Recorded Holder: KIDD CREEK MINES LTD

Township or Area: YEO TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic 20 days	
Magnetometer 40 days	
Radiometric ____ days	
Induced polarization ____ days	
Other HL 20 days	P 743282-83-87
Section 77 (19) See "Mining Claims Assessed" column	
Geological ____ days	
Geochemical ____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Sue, issue total approval for all claims + covering letter to disregard previous approval

R.

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

30 DAYS MAGNETOMETER
15 DAYS VLF
15 DAYS HL

P 743284-85-86

Michael Zang
882-705-267-1188

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ Insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total num each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geolo

828 (83/6)

1984 12 31

Your File: 408/84
Our File: 2.7420

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

Dear Sir:

RE: Notice of Intent dated December 14, 1984
Geophysical (Electromagnetic & Magnetometer)
Survey on Mining Claims P 743282 et al in
Yeo Township

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

S. Hurst:mc

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

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

cc: Resident Geologist
Timmins, Ontario

Encl.

Kidd Creek Mines Ltd.
Box 1140
571 Moneta Avenue,
Timmins, Ontario P4N 7H9
(705) 267-1188

Exploration Division

November 16, 1984

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

Dear Sir:

Re: YEO TOWNSHIP

Enclosed please find duplicate copies of a report and maps covering claims in Yeo Township. The claims aforementioned are P-743282 to P-743287 inclusive.

Your prompt attention to this matter would be greatly appreciated.

Yours very truly,

M. W. ZANG

MZ/pp
Encls.

Ministry of
Natural
Resources

Dec 31/84

1984 12 14

Your File: 408/84
Our File: 2.7420

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

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. R.J. Pichette at 416/965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

R.J.S. Hurst:mc

Encls.

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

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

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1984 12 14

2.7420/408/84

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

1985 01 18

Your File: 408/84
Our File: 2.7420

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

Dear Sir:

RE: Report of Work #408/84 dated September 27, 1984

The enclosed approved Report of Work replaces our letter of December 31, 1984 which approved the work at a reduced rate of credits. The file has been reassessed and the work fully approved.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-4888

S. Hurst:mc

cc: Kidd Creek Mines Ltd
571 Moneta Avenue
P.O. Box 1140
Timmins, Ontario
P4N 7H9

Encl.

Mining Lands Section

File No 2.7420

Control Sheet

TYPE OF SURVEY ✓ GEOPHYSICAL

____ GEOLOGICAL

____ GEOCHEMICAL

____ EXPENDITURE

MINING LANDS COMMENTS:

yd. L.D.

D. Hunter.

Signature of Assessor

Date

	IM	VLF	HL
743282	✓	✓	1/4 ✓
83	✓	✓	✓
84	1/4	1/4	1/4
85	1/4	1/4	1/4
86	1/4	1/4	1/4
87	✓	✓	✓
	3/4	3/4NC	1NC

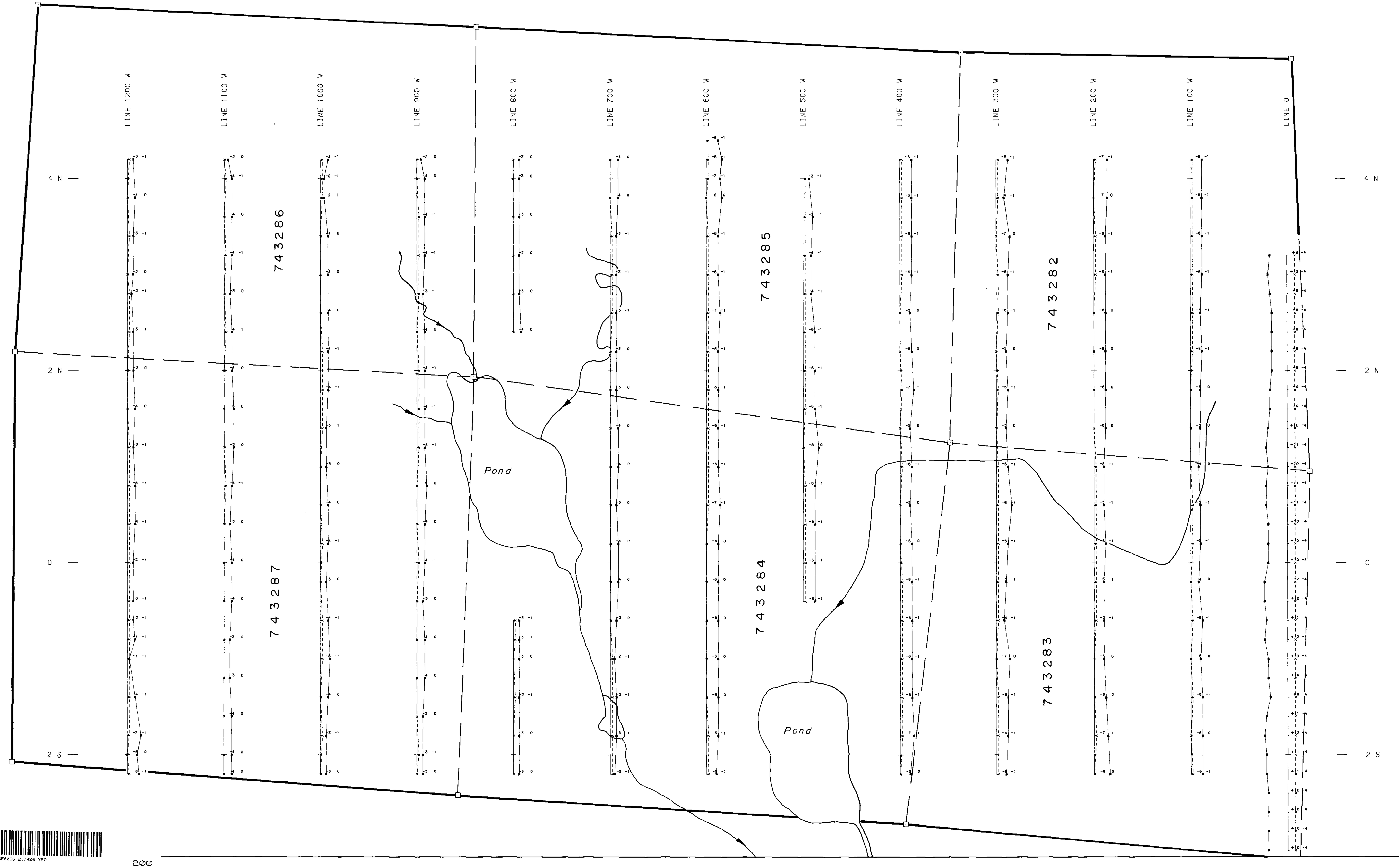
2-7420

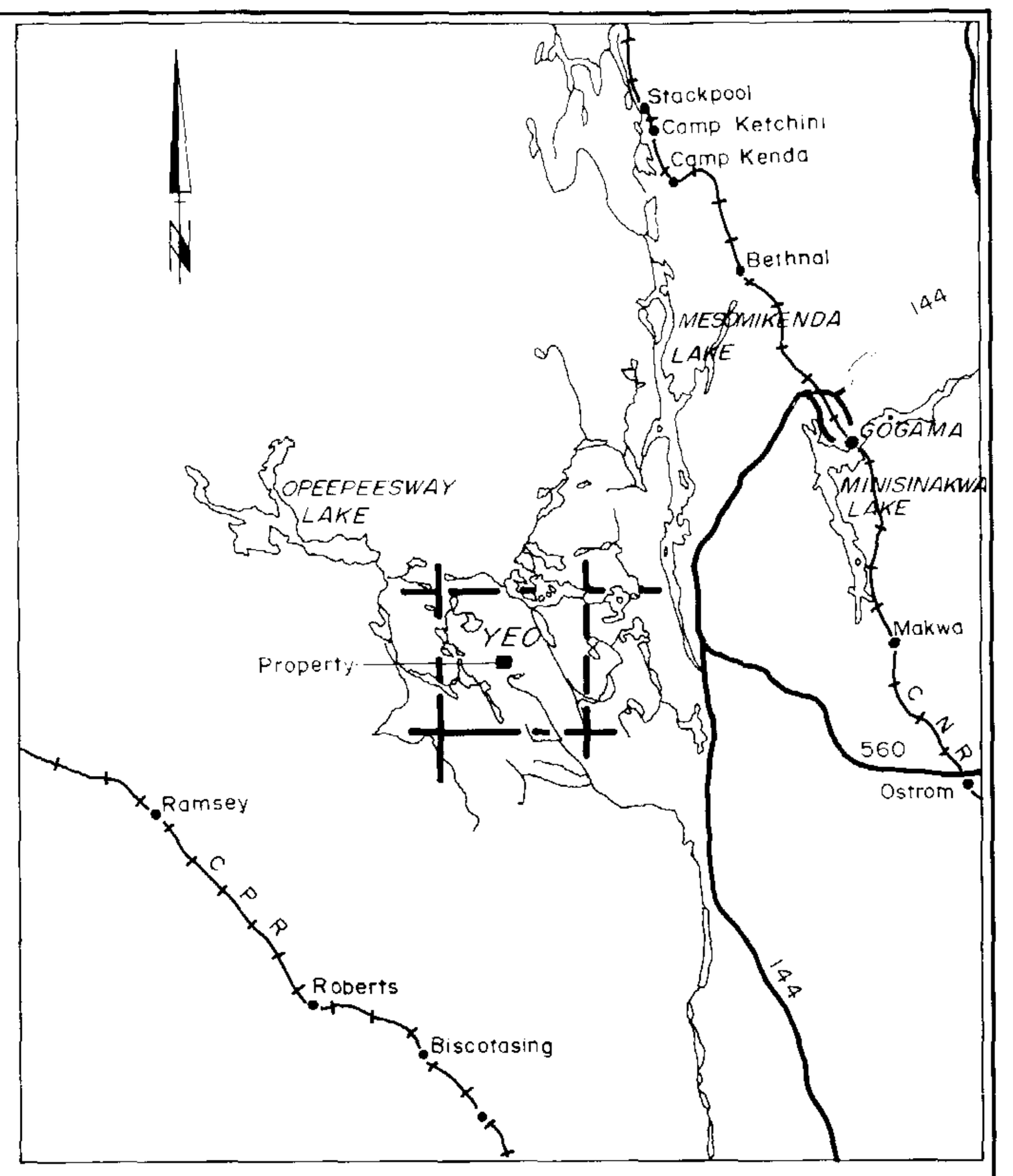
20×6=120

120÷7=17

20×6=120

120÷6.75=17.7





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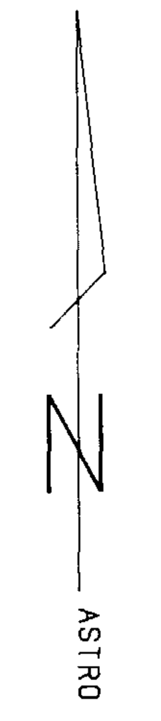


LEGEND

444 Hz
IN-PHASE READINGS
QUADRATURE READINGS

INSTRUMENT : APEX PARAMETRICS MAXMIN II
FREQUENCY : 444 Hz
COIL SPACING : 160 METRES
PROFILE SCALE : 1 CM= 10%

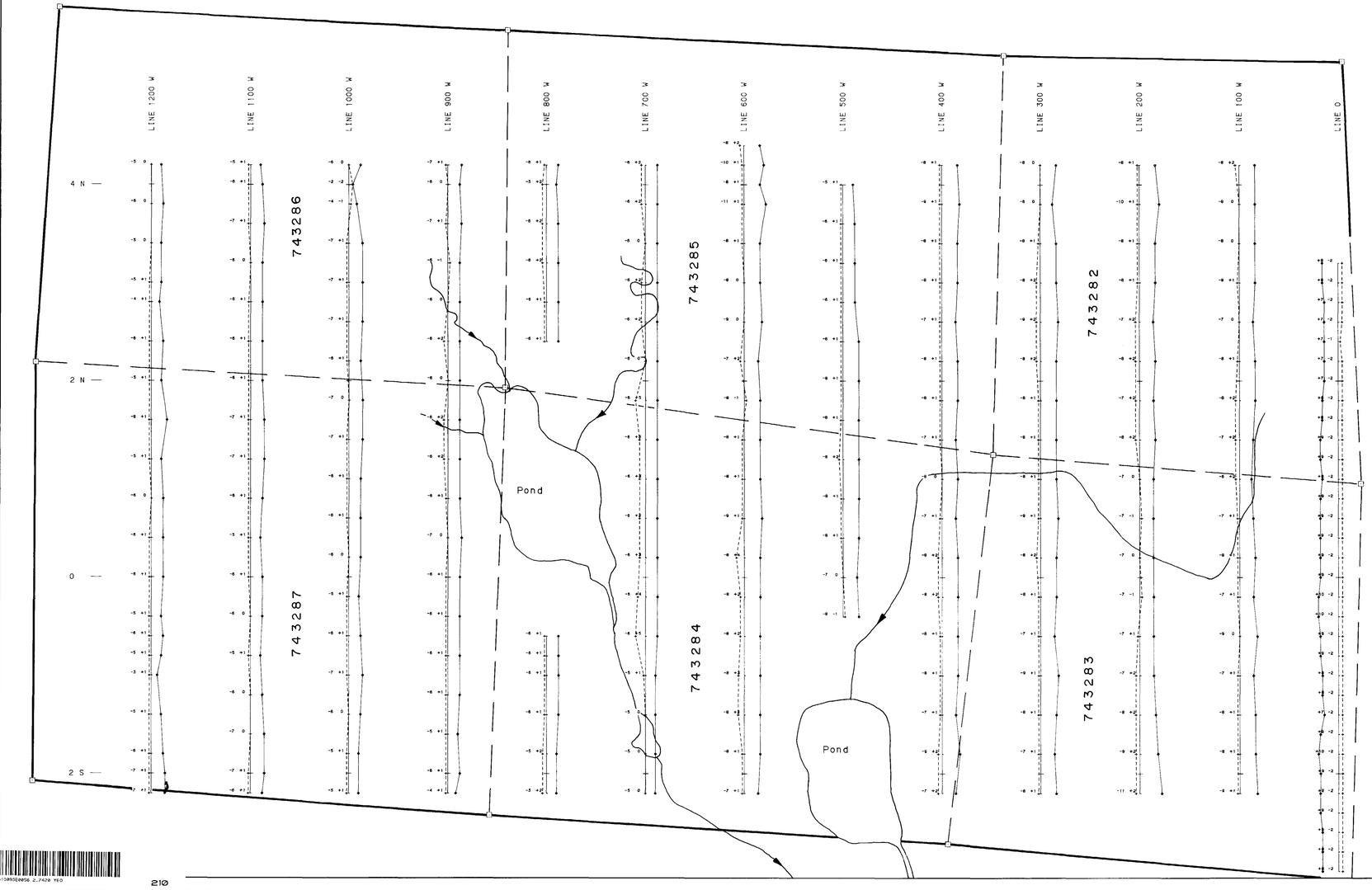
+ READINGS — READINGS

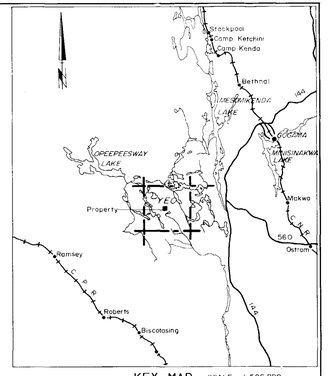
0 40 80 120 160 200
METRES (1:2000)

KIDD CREEK MINES LTD.	
HORIZONTAL LOOP SURVEY YEO 34 YEO TOWNSHIP	
NTS:41-O-09	PROJ.#56
WORK BY	DATE
M.W. [signature]	1984

41O09SE0050 2.7420 YEO

200





KEY MAP SCALE 1:506,880

ASTRO

LEGEND

1777 Hz
IN-PHASE READINGS
QUADRATURE READINGS

INSTRUMENT : APEX PARAMETRICS MAXMIN II
FREQUENCY : 1777 Hz
COIL SPACING : 160 METRES
PROFILE SCALE : 1 CM= 10%

+ READINGS — READINGS

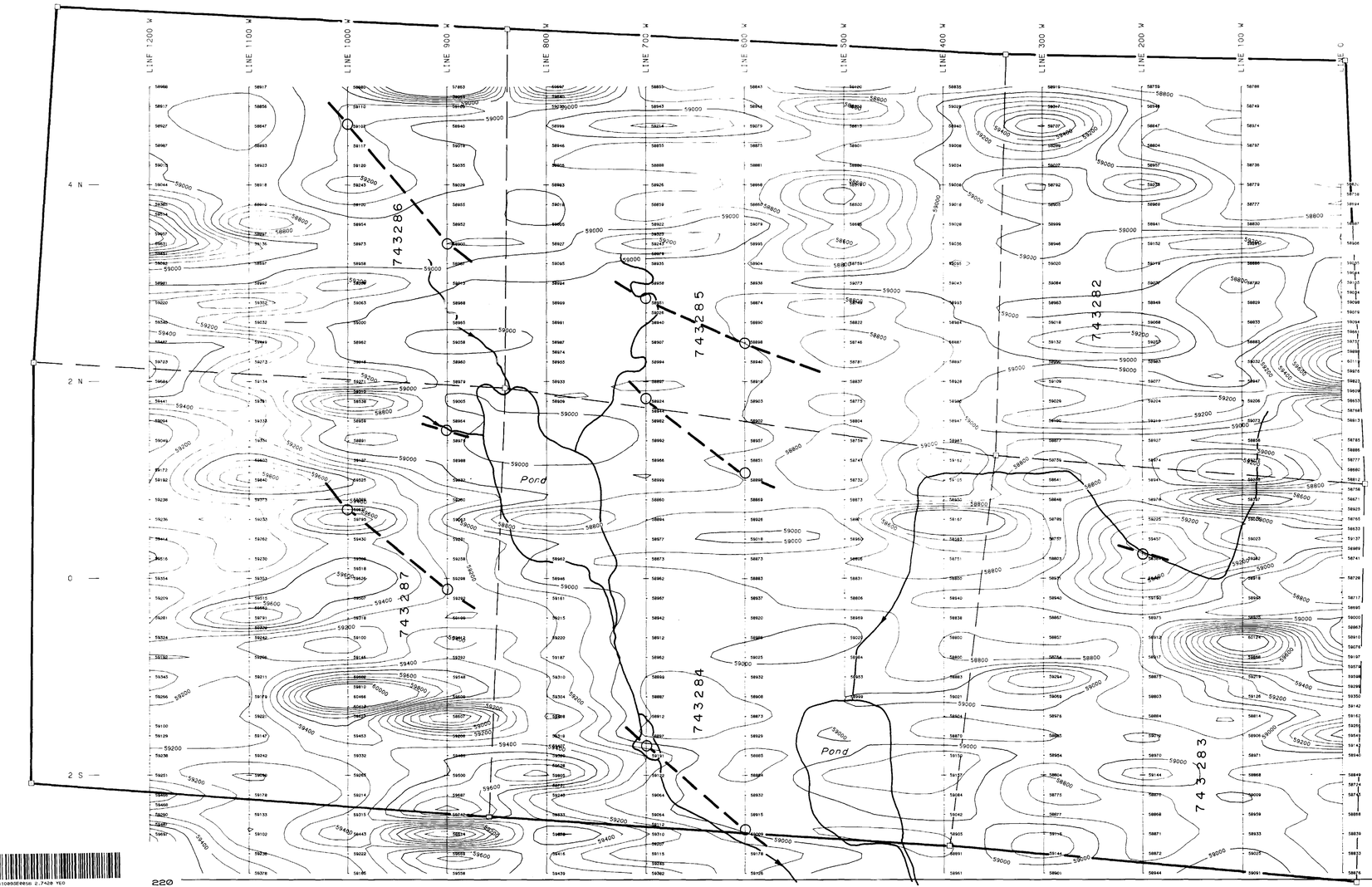
0 40 80 120 160 200
METRES (1:2000)

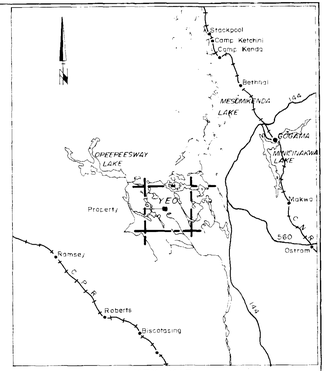
KIDD CREEK MINES LTD.

HORIZONTAL LOOP SURVEY
YEO 34
YEO TOWNSHIP

NTS: 41-0-09 PROJ.#56

WORK BY	DATE
M. A. S.	1984





KEY MAP SCALE 1:506,880

—○— VLF ANOMALY

LEGEND

INSTRUMENT : SCINTREX MP-3
TYPE : PROTON PRECESSION, TOTAL FIELD
READINGS IN GAMMAS
ARBITRARY ZERO LEVEL
▲ MAGNETIC BASE STATION

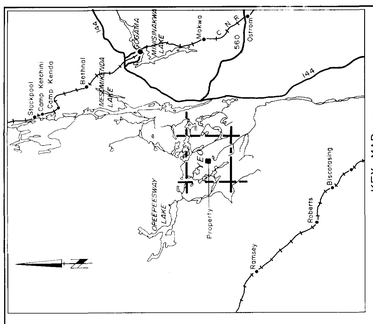
0 40 80 120 160 200
METRES (1:2000)

KIDD CREEK MINES LTD.

MAGNETIC SURVEY
YEO 34
YEO TOWNSHIP

NTS: 41-O/09 PROJ#56

WORK BY	DATE
M.W.S.	1984



LEGEND

VLF ANOMALY

DIP ANGLE (DEGREES)

INSTRUMENT : CRONE RADEM
STATION : CUTLER 24.0 KHz
PROFILE SCALE : DIP ANGLE 1 CM= 10°

S DIPS ← → N DIPS

0 40 80 120 160 200
METRES (1:2000)

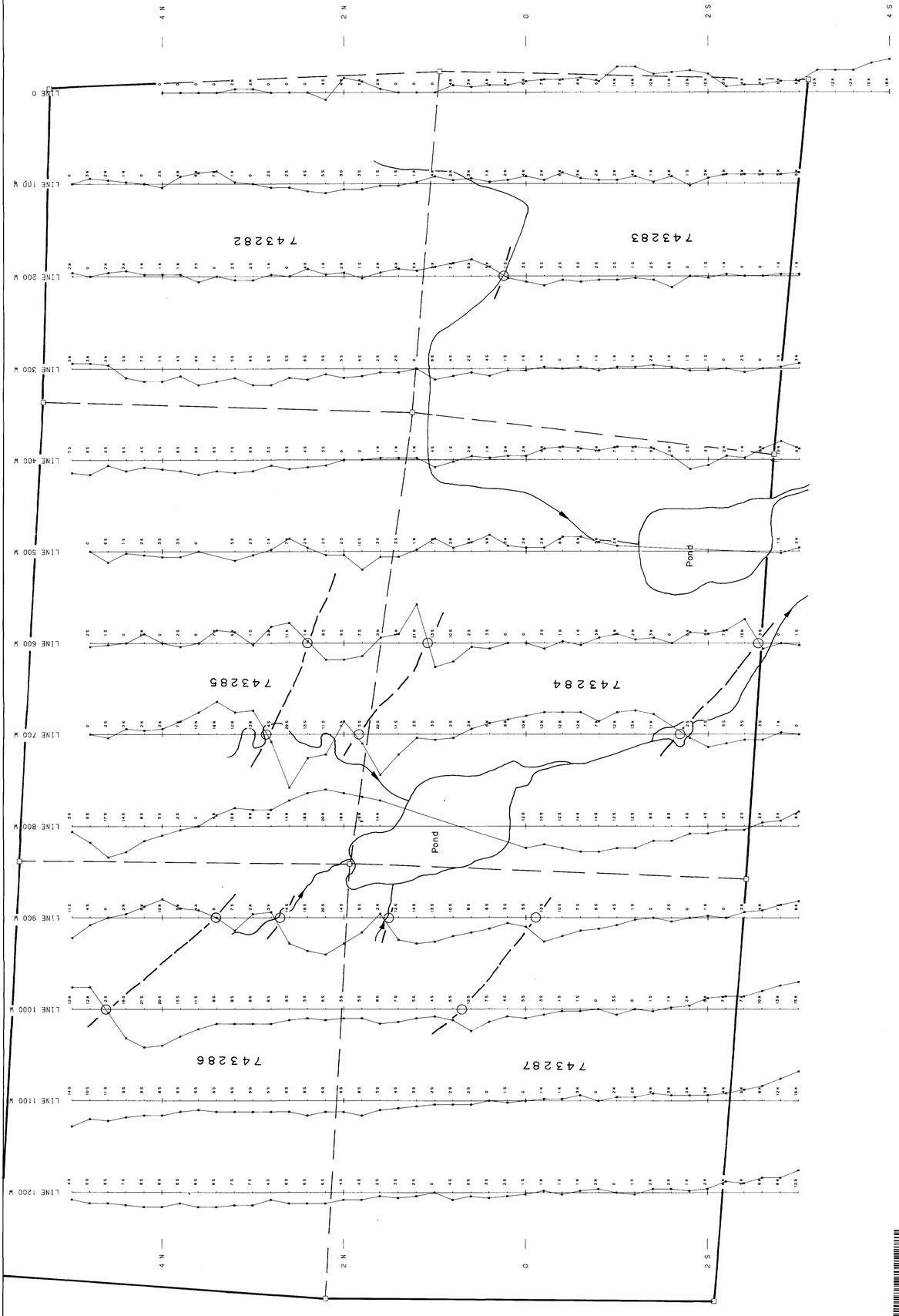
KIDD CREEK MINES LTD.

V L F SURVEY

YEO TWP. PROJ.#56

NTS 41-0-09

WORK BY	DATE
M.H.	1984



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