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MINING LANDS SECTION

REPORT

ON

GRID J

MAGNETOMETER AND ELECTROMAGNETIC SURVEYS

WALKER TOWNSHIP

DISTRICT OF COCHRANE

LARDER LAKE MINING DIVISION

ONTARIO

November 7, 1980

W. G. Wahl Limited

W. G. WAHL LIMITED
CONSULTANTS: GEOLOGY - GEOPHYSICS
350 BAY ST. - 10TH FLR. - TORONTO, CANADA M5H 2S6
TEL. (416) 363-8761 - CABLE: WAHLCO - TORONTO

November 7, 1980

Mr. J. A. Harquail
President
Surveymin Limited
330 Bay Street
Suite 1107
Toronto, Ontario
M5H 2S8

Dear Mr. Harquail:

Submitted herewith is our report entitled:

GRID J

MAGNETOMETER AND ELECTROMAGNETIC SURVEYS
WALKER TOWNSHIP
DISTRICT OF COCHRANE
LARDER LAKE MINING DIVISION
ONTARIO

The Black River Fault zone and a secondary fault zone, were further defined during the course of the ground geophysical surveys, both of which are magnetically characterized by regions of low, below background magnetic relief and by disruption of established magnetic trends adjacent to the fault zones.

The secondary fault zone is thought to be either a tension release fracture related to the Black River Fault or an en echelon fault zone related to the Pipestone Fault mapped immediately to the south of the survey area.

Electromagnetic data across the Black River Fault is incomplete and no assessment can be made as to the conductivity along the fault trace. However, electromagnetic traverses carried out across the secondary fault zone failed to delineate any increase in conductivity associated with this magnetically inferred fault zone.

In light of the proven structural significance of the Pipestone Fault System as a known channel way for gold bearing mineralizing solutions, and the subsequent disruption of this system by the Black River Fault, it is recommended that additional ground geophysical investigations be carried out in the vicinity

. . . . /2

of the Black River Fault in order to determine if there has been any remobilization of the mineralization along the Black River Fault.

The ground geophysics would consist of several selected horizontal loop traverses carried out across the ice of the Black River in order to assess the conductivity along the fault trace.

GENERAL

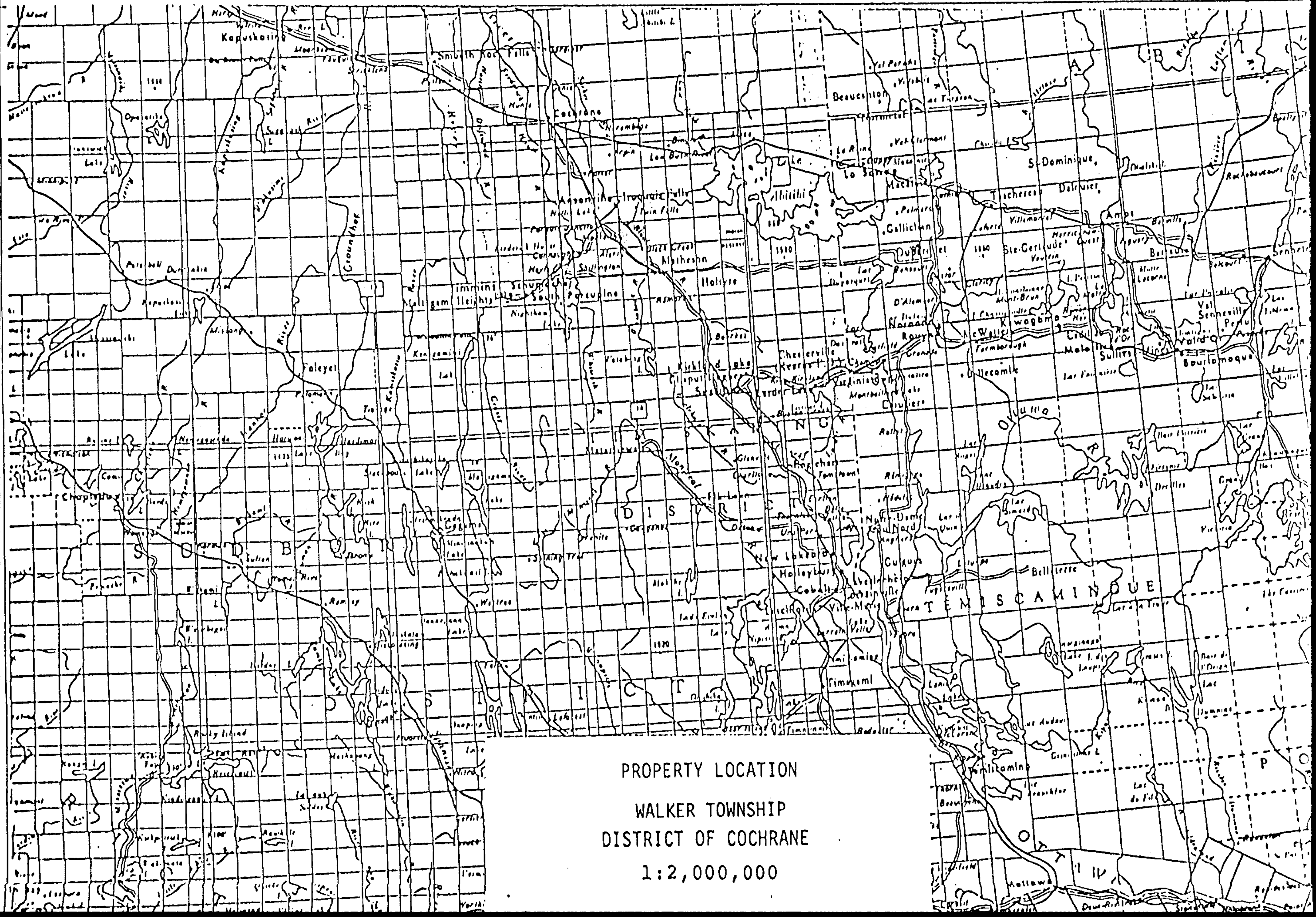
The following geophysical report details the results of the ground magnetometer and electromagnetic surveys undertaken by W. G. Wahl Limited on behalf of Surveymin Limited.

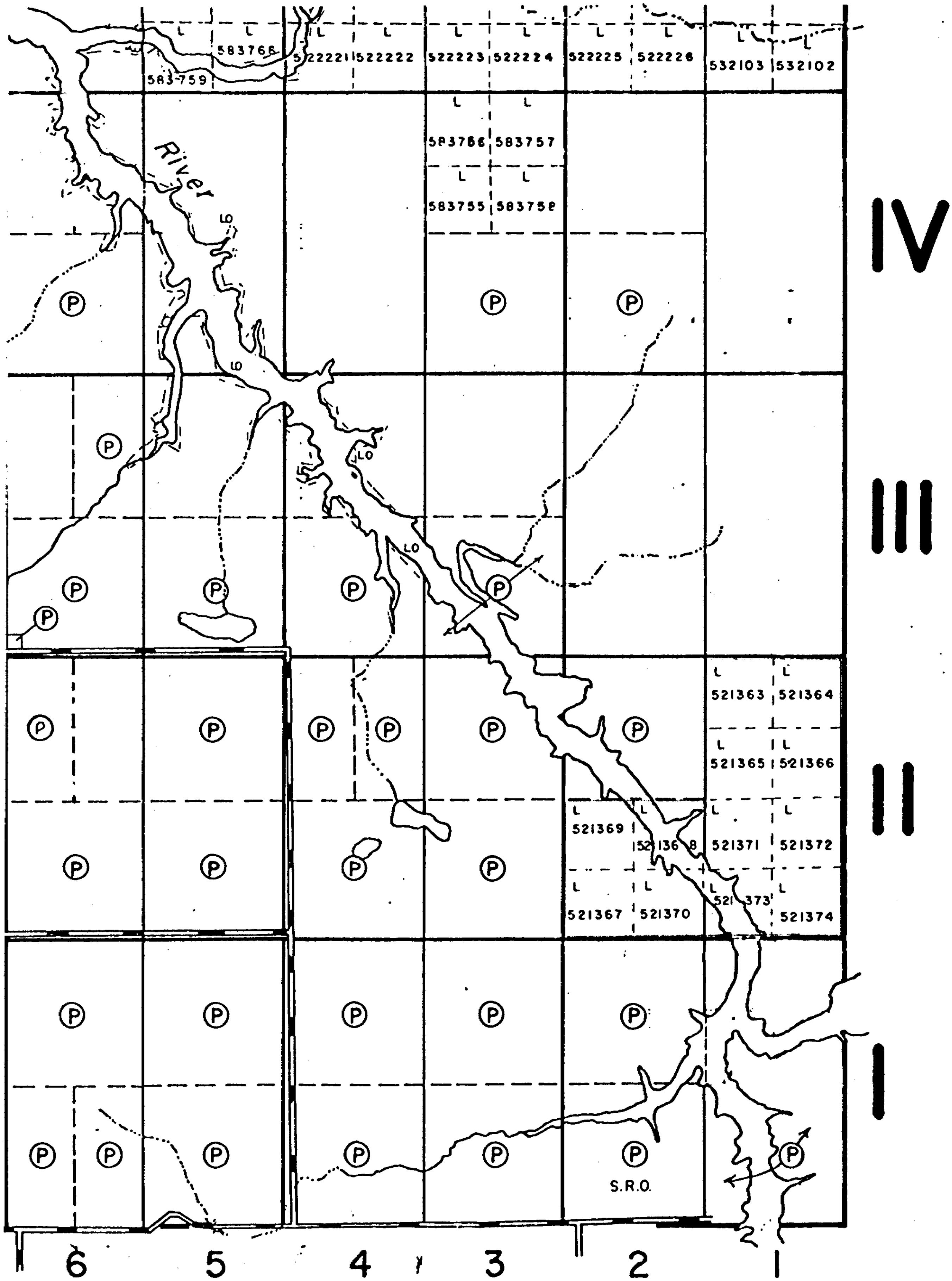
The property is situated in the south-eastern corner of Walker Township - District of Cochrane, and is accessible by a four-wheel drive vehicle east from the village of Monteith on concession road II, then south along Lot road 5 to the 1st concession road, then east to the Black River, a total distance of 10.3 km. From this point the property is located 2.1 km down stream and is accessible by canoe.

The Walker Township property consist of the following twelve unpatented mining claims all of which are duly recorded with Mr. G. J. Koleszar, Mining Recorder, Larder Lake Mining Division.

L. 521363 -	N.W.¼,	N½,	Lot	1,	Conc.	11,	Walker	Township.
L. 521364 -	N.E.¼,	",	"	",	"	",	"	" .
L. 521365 -	S.W.¼,	",	"	",	"	",	"	" .
L. 521366 -	S.W.¼,	",	"	",	"	",	"	" .
L. 521367 -	S.W.¼,	S½,	"	1,	"	",	"	" .
L. 521368 -	N.E.¼,	",	"	",	"	",	"	" .
L. 521369 -	N.W.¼,	",	"	",	"	",	"	" .
L. 521370 -	S.E.¼,	",	"	",	"	",	"	" .
L. 521371 -	N.W.¼,	",	"	",	"	",	"	" .
L. 521372 -	N.E.¼,	",	"	",	"	",	"	" .
L. 521373 -	S.W.¼,	",	"	",	"	",	"	" .
L. 521374 -	S.E.¼,	",	"	",	"	",	"	" .

FORM NO. L12 111-P REPORT PAPER - GRAND & TOY





CLAIM MAP

WALKER TOWNSHIP
(2 inches to 1 mile)

LINE CUTTING

The linecutting was conducted under the direct supervision of Mr. Gordon McIntosh of Timmins, Ontario, during the period from October 18, 1979 to March 27, 1980. The survey grid consisted of 1.6 kimometres of baseline trending E-W and 20.28 kilometres of grid line trending N-S, established at one hundred metre intervals along the entire baseline. Thirty metre stations were established on all lines.

The thirty metre station interval was apparently established by the line cutting crews using an imperial chain on the grid lines with the assumption that 100 feet was equal to 30 metres.

MAGNETOMETER SURVEY

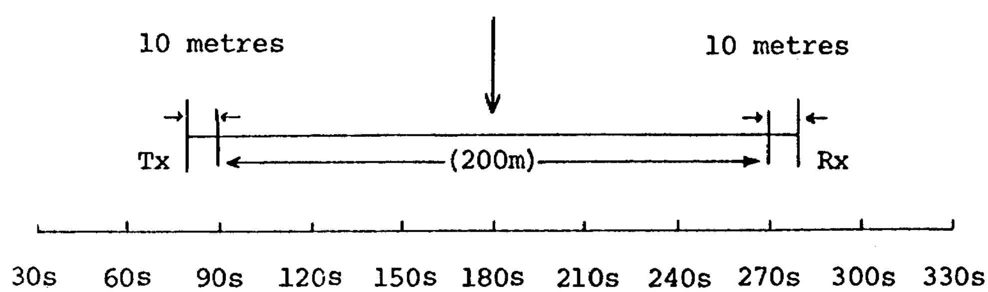
The magnetometer survey was carried out by R. Harwood of W. G. Wahl Limited during the period from September 2 to September 7, 1980, employing a Scintrex MP-2 total field proton precession magnetometer in conjunction with a Scintrex MBS-2 total field magnetic base station attached to a Simpson M2750 strip chart recorder.

The magnetic data was observed at a 15 metre station interval on all lines of the established grid. The data was corrected for diurnal fluctuations, reduced to a local datum and presented as a contoured interpretation of these data.

MAXMIN II HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

The horizontal loop electromagnetic survey was carried out by J. Palladini, of W. G. Wahl Limited during the period from September 2 to September 7, 1980, employing an Apex Parametrics MaxMin II horizontal loop survey unit in the maximum coupled mode. The inphase and quadrature response parameters were recorded at 444 Hz and 1777 Hz utilizing a 200 metre coil separation and a 30 metre station interval. These data are presented in profile form.

Due to the imperial-metric nature of the grid, the following field and data plotting convention was established:



DISCUSSION

The ground magnetometer survey extended and further defined the regional geology as mapped by the Ontario Division of Mines and presented on Map No. 2205.

The Black River Fault zone lies coincident with the Black River striking north-northwesterly across the survey area and is characterized by a region of low, below background magnetic relief in the range of 100 - 200nT. Adjacent to the

Black River Fault, established magnetic trends of up to 300nT have been terminated as a result of the displacement along the fault trace. A secondary fault zone was also mapped in the southeast corner of the survey area trending northeasterly across the property from a point 510 metres south of the baseline on line 6W to a point 180 metres south of the baseline on line 0 and is characterized by a region of low, below background magnetic relief and by disruption of established magnetic trends adjacent to the fault zone.

Two diabase dikes were also mapped during the course of the magnetometer survey lying parallel to and coincident with line 7W and line 1W respectively. These dikes exhibit a lenticular magnetic expression in the range of 300 - 350nT and transect regional magnetic trends as evidenced on line 7W, north of the baseline, where a prominent magnetic feature thought to be a metamorphosed mafic or ultramafic rock unit is cut by the dike.

The horizontal loop electromagnetic data exhibits a high noise envelope as evident in the somewhat erratic nature of both the inphase and quadrature response parameters recorded at both frequencies. This high noise component is due in part to the highly conductive nature of the overburden and in part to the unavoidable errors in coil geometry; due to the imperial-metric nature of the grid and the poorly cut, overgrown condition of the grid lines.

The horizontal loop data was able to identify two regions which have been interpreted to be either a bedrock rise or an esker complex lying in the southern half of the survey area.

At the time of the survey, continuous traverses across the Black River Fault were impossible due to the open water conditions present on the Black River.

CONCLUSIONS

The Black River Fault zone and a secondary fault zone were further defined during the course of the ground geophysical surveys, both of which are magnetically characterized by regions of low, below background magnetic relief and by disruption of established magnetic trends adjacent to the fault zones.

The secondary fault zone is thought to be either a tension release fracture related to the Black River Fault or an en echelon fault zone related to the Pipestone Fault mapped immediately to the south of the survey area.

Electromagnetic data across the Black River Fault is incomplete and no assessment can be made as to the conductivity along the fault trace. However, electromagnetic traverses carried out across the secondary fault zone failed to delineate any increase in conductivity associated with this magnetically inferred fault zone.

RECOMMENDATIONS

In light of the proven structural significance of the

Pipestone Fault System as a known channel way for gold bearing mineralizing solutions, and the subsequent disruption of this system by the Black River Fault, it is recommended that additional ground geophysical investigations be carried out in the vicinity of the Black River Fault in order to determine if there has been any remobilization of the mineralization along the Black River Fault.

The ground geophysics would consist of several selected horizontal loop traverses carried out across the ice of the Black River in order to assess the conductivity along the fault trace.

All of which is respectfully submitted.

D. G. WAHL

Sincerely yours,
W. G. WAHL LIMITED

D. G. Wahl, P.Eng.
Consulting Engineer

DGW/pl

Ontario

Ministry of Natu

GEOPHYSICAL – GEOLOGI
TECHNICAL DATA

42A10NE0064 2.3553 WALKER

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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 WALKER TOWNSHIP

Claim Holder(s) SURVEYMIN LIMITED
1107 - 330 BAY ST., TORONTO

Survey Company W. G. WAHL LIMITED

Author of Report D. G. WAHL, P.ENG.

Address of Author 1000 - 350 BAY ST., TORONTO

Covering Dates of Survey OCTOBER 18, 1979 to November 7, 1980
(linecutting to office)

Total Miles of Line Cut 21.88 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	20
—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 3/80 SIGNATURE: [signature]
Author of Report or Agent

MINING CLAIMS TRAVERSED
List numerically

M		EM
(prefix)	(number)	
L ✓	521363	✓
L ✓	521364	✓
L ✓	521365	✓
L ✓	521366	✓
L ✓	521367	1/4
L ✓	521368	3/4
L ✓	521369	1/4
L ✓	521370	1/2
L ✓	521371	✓
L ✓	521372	✓
L ✓	521373	∅
L ✓	521374	1/4

If space insufficient, attach list

TOTAL CLAIMS 12

OFFICE USE ONLY

Res. Geol. ______ Qualifications 63.1121

Previous Surveys

File No.	Type	Date	Claim Holder

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations Mag - 1334 EM - 636 Number of Readings Mag - 1334 EM 444 Hz - 1272 / 1777 Hz - 1272

Station interval 30 m. Line spacing 100 m

Profile scale 1 cm = 10%

Contour interval 25 nT as indicated

MAGNETIC

Instrument SCINTREX MP-2

Accuracy – Scale constant ± 1 nT

Diurnal correction method Relative time interpolation base on strip chart recorder

Base Station check-in interval (hours) SCINTREX MBS-2 BASE STATION

Base Station location and value Baseline - grid line intercepts were standardized to base station recorder

ELECTROMAGNETIC

Instrument APEX PARAMETRICS MAXMIN II

Coil configuration Co-planar, maximum coupled mode

Coil separation 200 metre

Accuracy ± 1%

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

Frequency 444 Hz and 1777 Hz
(specify V.L.F. station)

Parameters measured In-phase and Out-of-phase

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

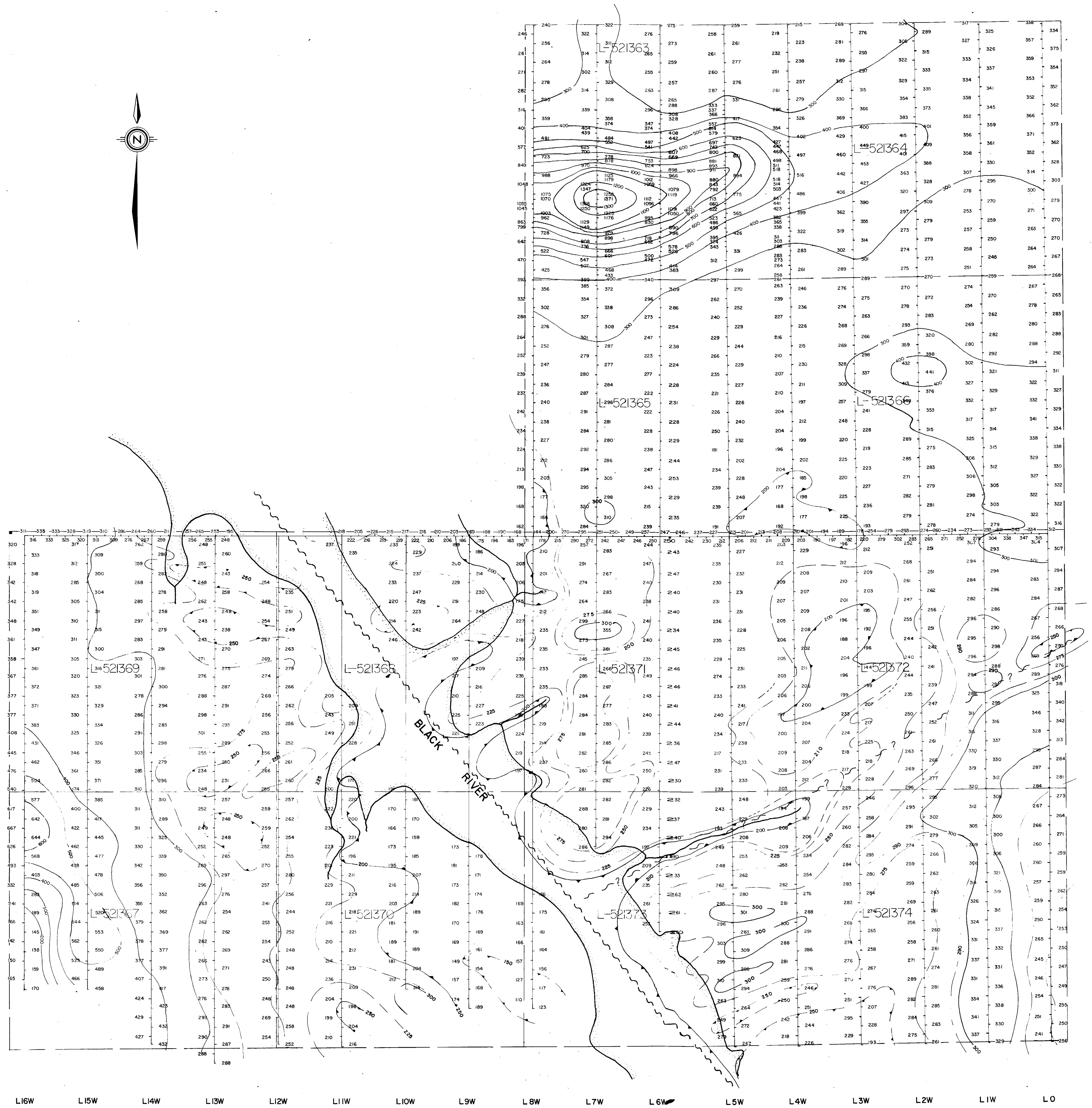
– Integration time

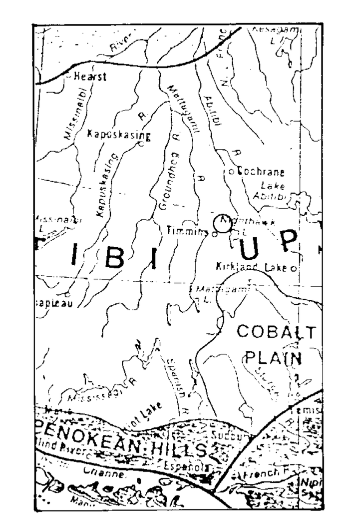
Power

Electrode array

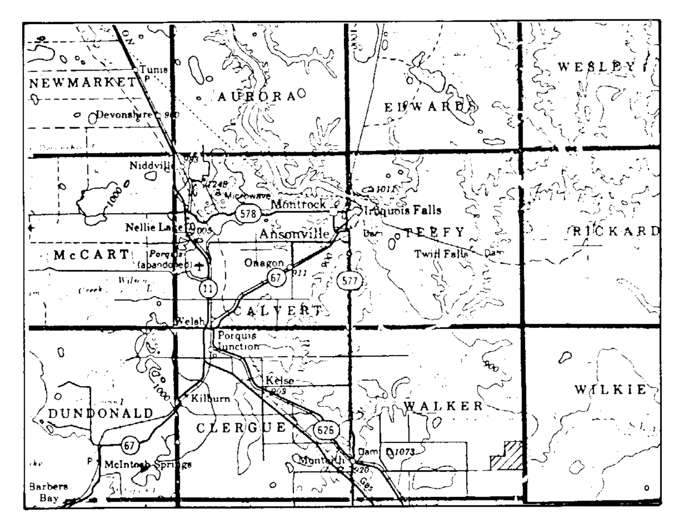
Electrode spacing

Type of electrode





LOCATION MAP



INDEX MAP

SURVEYMIN LIMITED			
WALKER TWP. PROJECT		DRAWN BY J.P	REV
TOTAL FIELD PROTON MAGNETOMETER SURVEY (background 59,000nT)		TRACED BY K.J.R.	REV
		APPROVED	REV
		N.T.S. 42 A/10	REV OCT 1980
W. G. WAHL LIMITED	Scale 1: 2,500	DWG. NO. GRID J	

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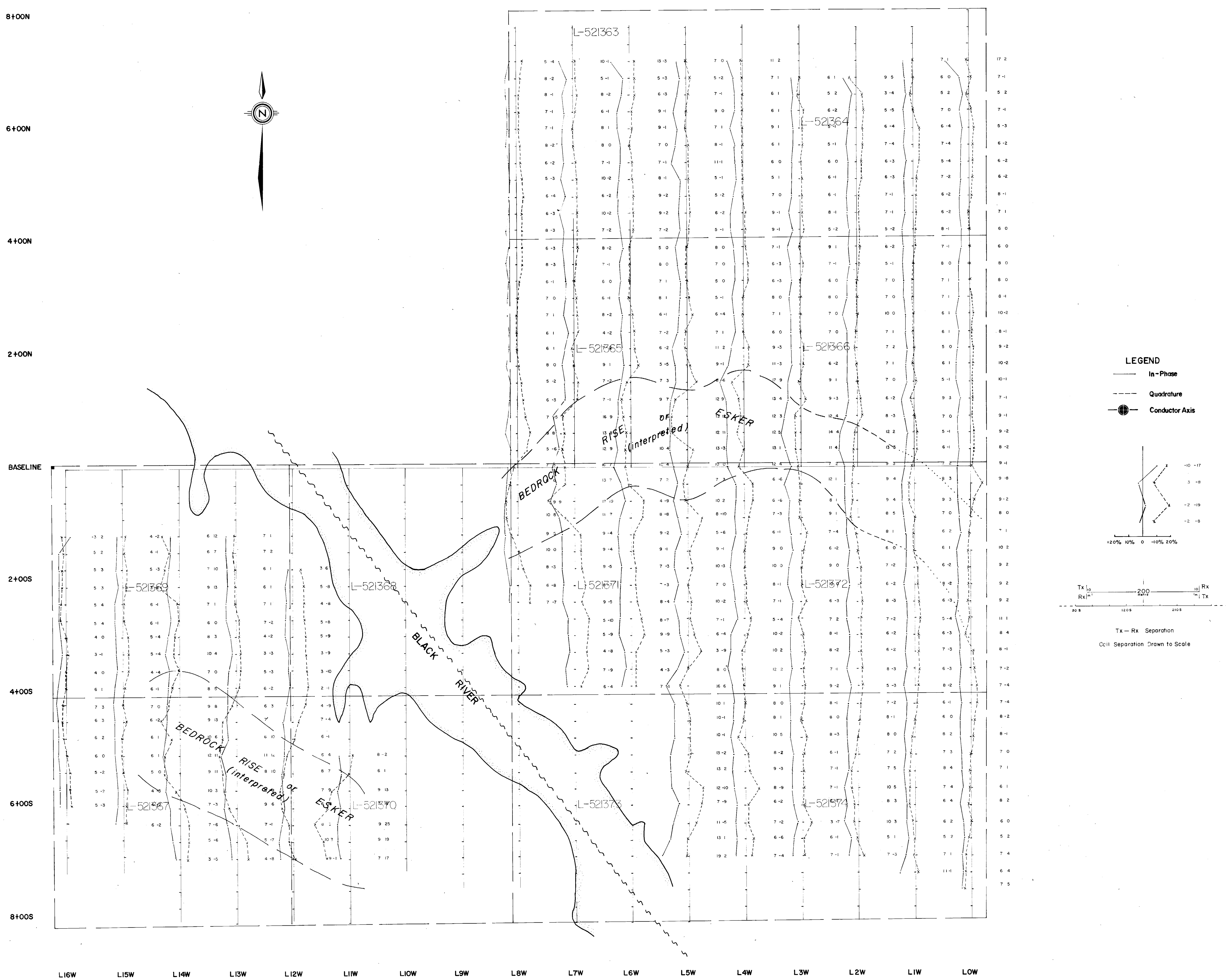

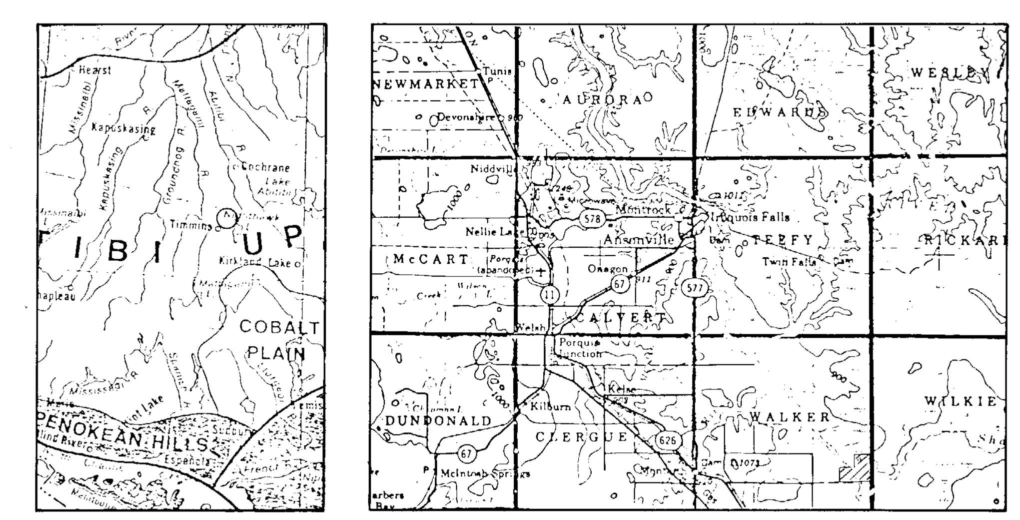

LOCATION MAP
1:5,000,000

INDEX MAP
1:250,000

SURVEYMIN LIMITED		
WALKER TWP. PROJECT	DRAWN BY R.H.	REV.
MAXMIN II	TRACED BY K.J.R.	REV.
HORIZONTAL LOOP SURVEY	APPROVED	REV.
444 hertz	N.T.S. 42 A/10	REV. OCT 1980
W.G. WAHL LIMITED · Scale 1:2,500	DWG. NO. GRID J	

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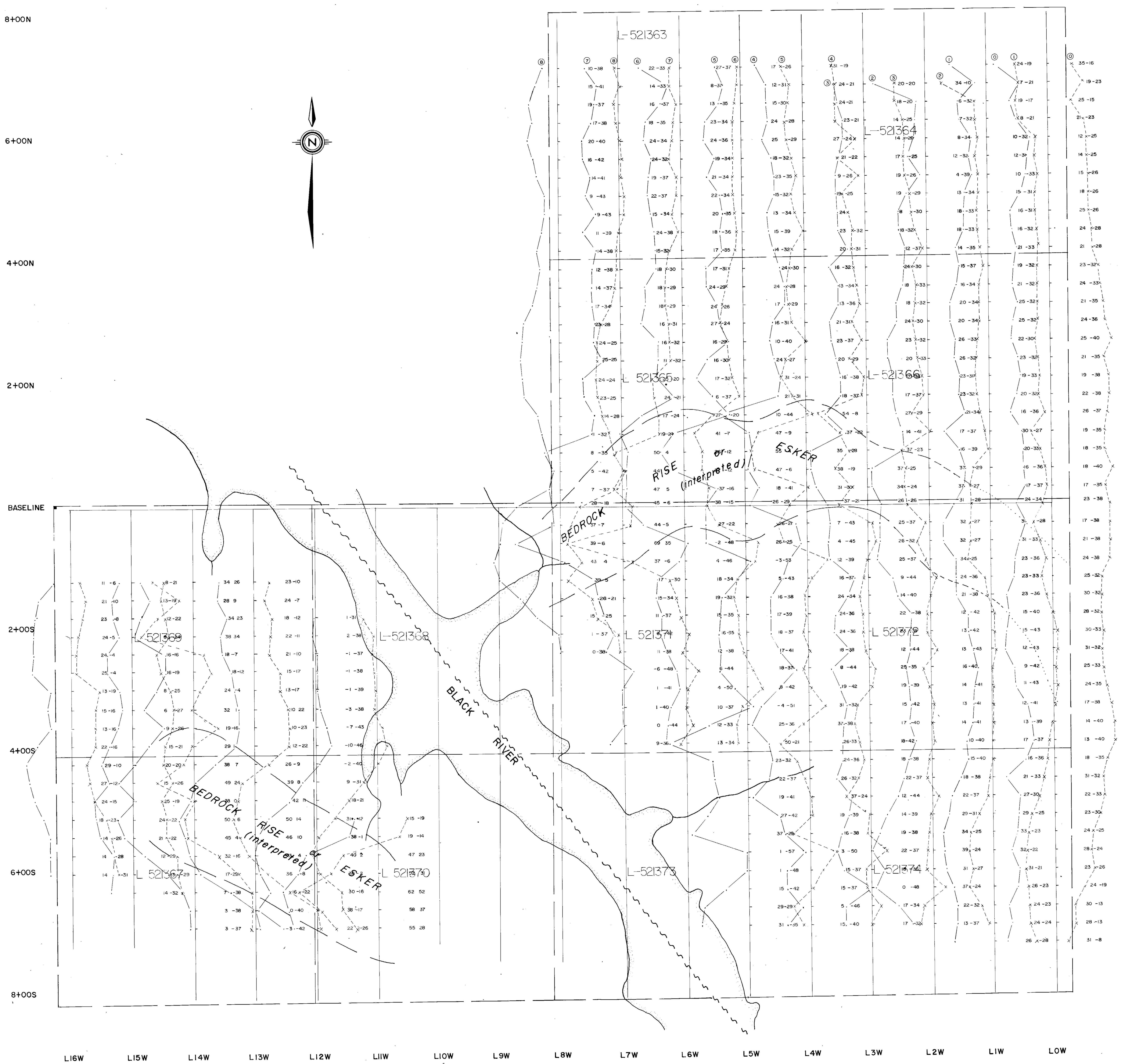
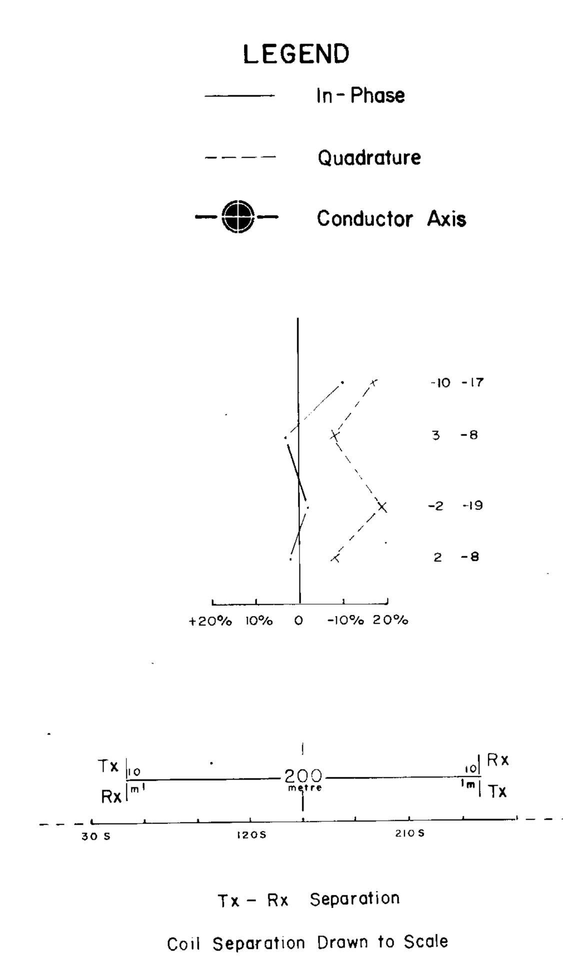
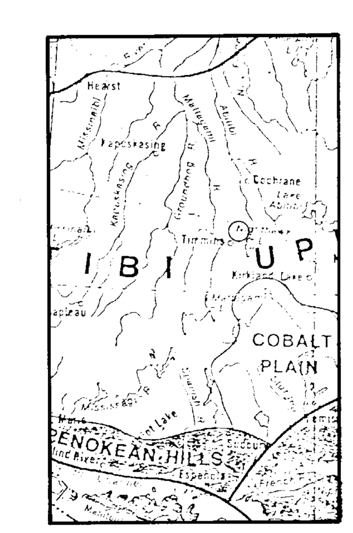
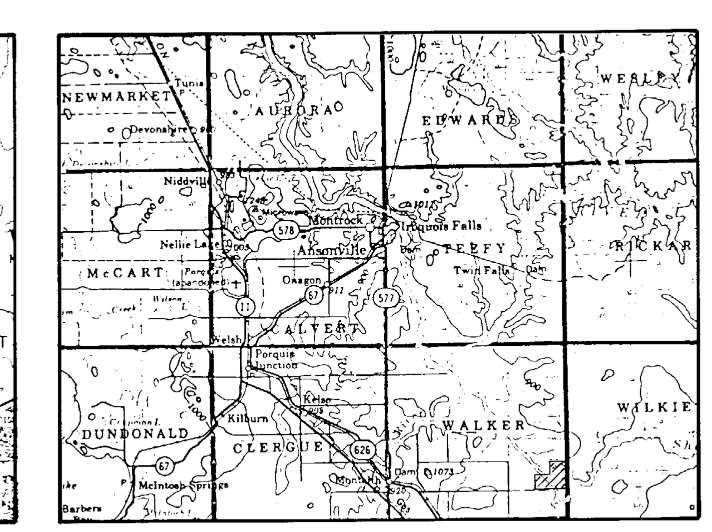






LOCATION MAP
1:5,000,000



INDEX MAP
1:250,000

SURVEYMIN LIMITED		
WALKER TWP. PROJECT	DRAWN BY R.H.	REV.
MAXMIN II HORIZONTAL LOOP SURVEY 1777 hertz	TRACED BY B.W.S.	REV.
	APPROVED	REV.
	N.T.S. 42 A/10	REV. OCT 1980
W.G. WAHL LIMITED — Scale 1:2,500	DWG. NO. GRID J	

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