REPORT ON

GRID K

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

November 21, 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 21, 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 K

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

The ground geophysical surveys extended and further defined the regional geology as mapped by the Ontario Division of Mines.

A northwesterly trending fault zone was mapped in the western portion of the survey area, the relative position and sense of which adds supportive evidence to the right-hand displacement indicated along the Black River Fault zone mapped on Grid J, located in Walker Township.

The magnetometer survey also identified two diabase dikes and a large metamorphosed mafic intrusive body mapped along the southern property boundary. It is felt that this intrusive body either lies along the northern contact of or is synonymous with the Pipestone Fault zone.

The electromagnetic survey mapped a near surface bedrock conductor, C-1, located in the southeast corner of the survey area exhibiting a conductivity thickness of 10 mhos. This conductor is believed to be the mappable expression of a finely disseminated

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sulfide band associated with a tuffaceous horizon lying within the metavolcanics.

In light of the proven structural significance of the Pipestone Fault System as a known channel way for gold bearing mineralizing solutions, it is strongly recommended that the structural relationship between the metamorphosed mafic intrusive body and the Pipestone Fault zone be determined. It is also recommended that additional ground geophysics be carried out in the vicinity of Conductor C-1. This additional work would consist of several selected I.P. profiles carred out across the inferred axis of Conductor C-1.

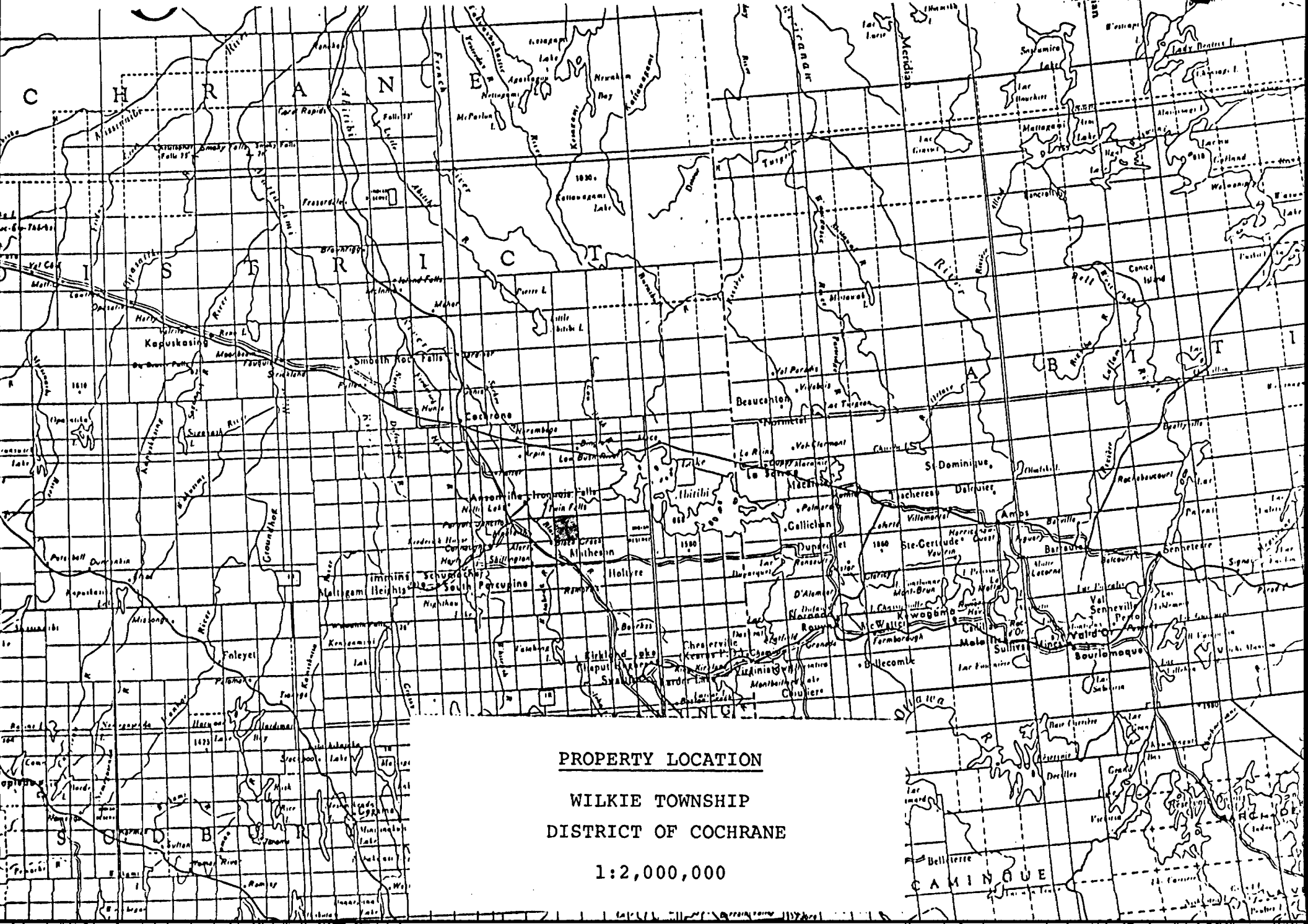
GENERAL

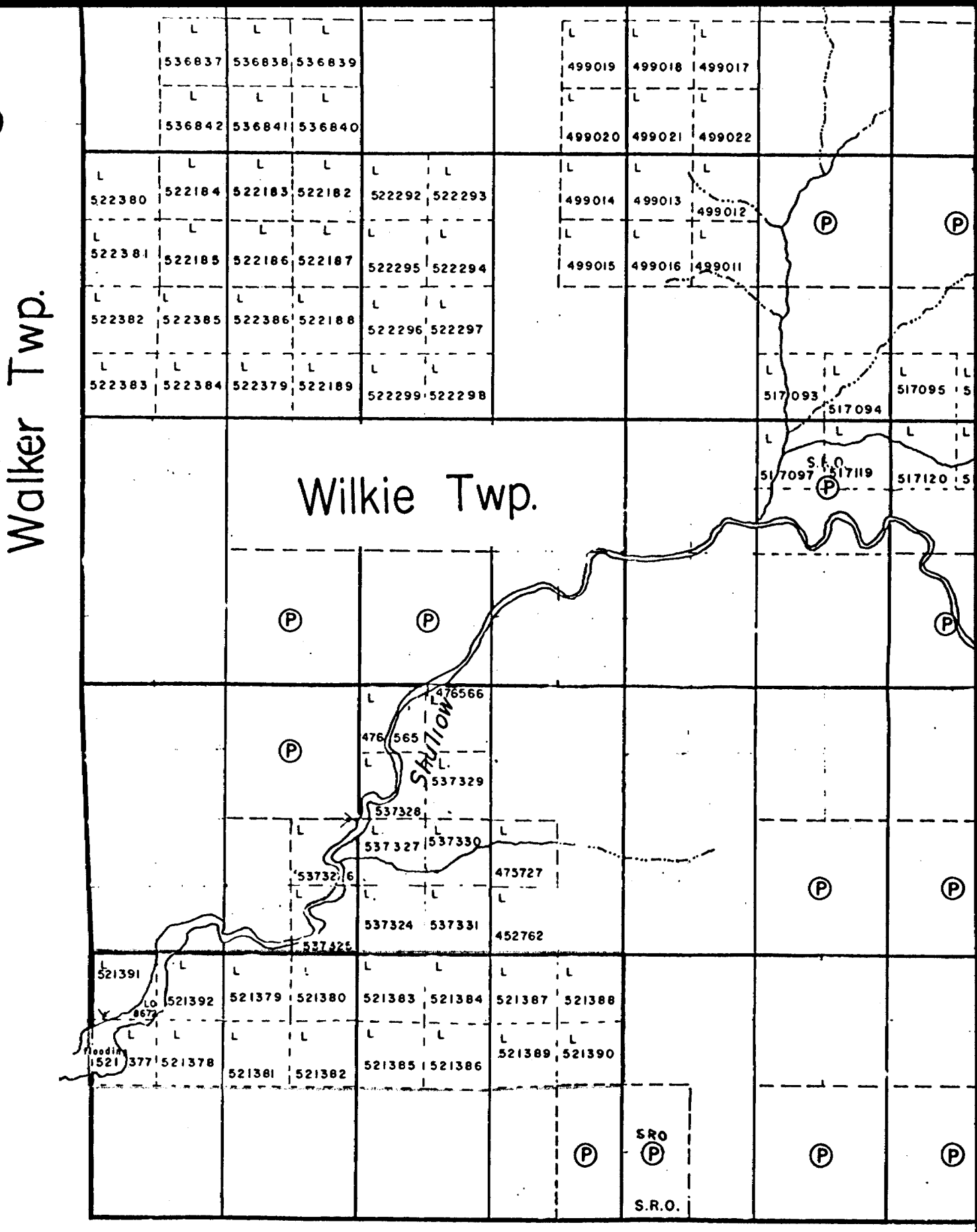
The following geophysical report details the results of the ground magnetometer and electromagnetic surveys undertaken by W. G. Wahl Limited on behalf of Surveymin Limited.

The property is situated in the southwest corner of Wilkie 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 first concession road, then east to the Black River, a total distance of 10.3 km. From this point the property is accessible by canoe, 1 km down the Black River and then east upstream 1 km on the Shallow River.

The Wilkie Township property consists of the following sixteen unpatented mining claims, all of which are duly recorded with Mr. G. J. Koleszar, Mining Recorder, Larder Lake Mining Division:

L. 521391 - N.W.¼, N½, Lot 12, Conc. I, Wilkie Township.
L. 521392 - N.E.¼, ", " ", " ", " " .
L. 521377 - S.W.¼, ", " ", " ", " " .
L. 521378 - S.E.¼, ", " ", " ", " " .
L. 521379 - N.W.¼, ", " 11, " ", " " .
L. 521380 - N.E.¼, ", " ", " ", " " .
L. 521381 - S.W.¼, ", " ", " ", " " .
L. 521382 - S.E.¼, ", " ", " ", " " .
L. 521383 - N.W.¼, ", " 10, " ", " " .
L. 521384 - N.E.¼, ", " ", " ", " " .
L. 521385 - S.W.¼, ", " ", " ", " " .
L. 521386 - S.E.¼, ", " ", " ", " " .


PROPERTY LOCATION
WILKIE TOWNSHIP
DISTRICT OF COCHRANE
1:2,000,000



CLAIM MAP

(2 inches to 1 mile)

L. 521387 - N.W.¼, N½, Lot 9, Conc. I, Wilkie Township.
L. 521388 - N.E.¼, ", " ", " ", " ", " .
L. 521389 - S.W.¼, ", " ", " ", " ", " .
L. 521390 - S.E.¼, ", " ", " ", " ", " .

LINE CUTTING

The linecutting was conducted under the direct supervision of Mr. S. Wabananik of Timmins, Ontario, during the period from March 9, 1980 to April 1, 1980. The survey grid consisted of 3.2 kilometres of baseline trending E-W and 25.74 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 8 to September 14, 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 8 to September 14, 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 600 foot coil separation and a 30 metre station interval. These data are presented in profile form.

VLF ELECTROMAGNETIC SURVEY

The VLF electromagnetic survey was conducted by R. Harwood of W. G. Wahl Limited during the period from September 8 to September 14, 1980, employing a Crone Radem VLF EM survey unit. This unit measured the inclination or dip angle and the total field strength. The VLF station used was Cutler, Maine, having a frequency of 17.8 KHz. All observations were taken facing east at 30 metre stations on the lines of the grid which were interrupted by open water.

DISCUSSION

The magnetometer survey extended and further defined the regional geology as mapped by the Ontario Division of Mines

and presented on Map No. 2205.

A major lenticular magnetic expression of up to 2,000nT was mapped transecting the survey area trending north-easterly from a point 700 metres south of the baseline on line 11W to the baseline on line 8E at which point the magnetic anomaly appears to be open to the northeast. This anomaly is thought to be the mappable expression of a late precambrian diabase dike, the western-most end of which has been faulted and structurally offset by a northwesterly trending fault zone. Movement along this fault zone appears to be a right-hand displacement and is up to 200 metres.

A younger, early precambrian, diabase dike was also mapped trending N-S, lying parallel to and coincident with line 14E. This lenticular magnetic expression is characterized by a total magnetic field intensity of up to 793nT.

The large regional magnetic feature of up to 16,000nT, located in the southeastern portion of the survey area, is thought to be the mappable expression of a metamorphosed mafic intrusive body.

The MaxMin II horizontal loop survey identified two anomalous conductive zones lying within the survey area, both of which will be discussed in the following section of the report.

Conductor C-1:

Conductor C-1 is located in the southeast corner of the survey area and is characterized on lines 9E through 12E

inclusive, lying roughly parallel to and 600 metres south of the baseline. This anomaly is interpreted to be a vertical, near surface (<15 metres) conductor, up to 4 metres wide, exhibiting a conductivity thickness of 10 mhos at the low frequency (444 Hz) response.

Conductor C-2:

Conductor C-2 is located in the west central portion of the survey area and is characterized on lines 3 and 4W inclusive, lying roughly parallel to and 480 metres south of the baseline. This anomaly is interpreted to be a very poor conductor and is thought to be an overburden response related to the beaver pond.

CONCLUSIONS

The apparent right-hand displacement interpreted along the northwesterly trending fault zone mapped in the western portion of the survey area adds supportive evidence to the right-hand displacement indicated along the Black River Fault zone mapped on Grid J, located in Walker Township.

The metamorphosed mafic intrusive body mapped in the southeastern portion of the survey area is thought to be either associated with or lying immediately north of the Pipestone Fault.

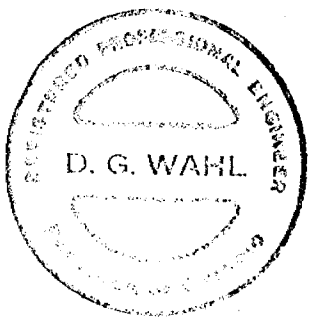
The causative body of conductor C-1 is thought to be a finely disseminated sulfide band associated with a tuff

horizon lying within the mafic metavolcanics.

RECOMMENDATIONS

In light of the proven structural significance of the Pipestone Fault System as a known channel way for gold bearing mineralizing solutions, it is strongly recommended that the structural relationship between the metamorphosed mafic intrusive body and the Pipestone Fault zone be determined. It is also recommended that additional ground geophysics be carried out in the vicinity of Conductor C-1. This additional work would consist of several selected I.P. profiles carried out across the inferred axis of Conductor C-1.

All of which is respectfully submitted.



Sincerely yours,
W. G. WAHL LIMITED

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

DGW/pl

Ontario

Ministry of Natu

GEOPHYSICAL – GEOLOGI
TECHNICAL DATA

42A10NE0019 2.3575 WILKIE

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 WILKIE 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 MARCH 9 1980 to November 24/80
(linecutting to office)

Total Miles of Line Cut 28.94 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 24/80 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 63.1121

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)		(number)	
	EM		M
L	1/2	521391	1/4
L	1/4	521392	
L	1/2	521377	1/4
L	1/4	521378	
L	1/4	521379	
L	1/4	521380	
L	1/4	521381	
L	1/4	521382	
L	1/4	521383	
L	1/4	521384	
L	1/4	521385	
L	1/4	521386	
L	1/4	521387	
L	1/4	521388	
L	1/4	521389	
L	1/4	521390	

16 x 20 = 320 ÷ 16 = 16

TOTAL CLAIMS 16

If space insufficient, attach list

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 Mag - 1780 ; MAXMIN - 676 ; VLF - 120 Number of Readings Mag - 1780 MAXMIN 444 Hz - 1352, 1777 Hz - 1352; VLF - 240

Station interval Mag - 15 m ; MAXMIN - 30 m ; VLF - 30 m Line spacing 100 m

Profile scale MAXMIN - 1 cm = 20% ; VLF - 1 cm = 10°

Contour interval Mag - 100 nT VLF - 10 %

MAGNETIC

Instrument SCINTREX MP-2

Accuracy – Scale constant ± 1 nT

Diurnal correction method Relative time interpolation based on strip chart recording

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 recordings

ELECTROMAGNETIC

Instrument APEX PARAMETRICS MAXMIN II ; CRONE RADEM VLF

Coil configuration Co-planar, maximum coupled mode

Coil separation 600 ft.

Accuracy MAXMIN - ± 1 % ; VLF ± ½° Dip Angle ± 2% Field Strength

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

Frequency MAXMIN - 444 Hz and 1777 Hz ; VLF - Cutler, Maine 17.8 KHz
(specify V.L.F. station)

Parameters measured MAXMIN - In-phase and Out-of-phase ; VLF - dip angle and Field Strength.

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

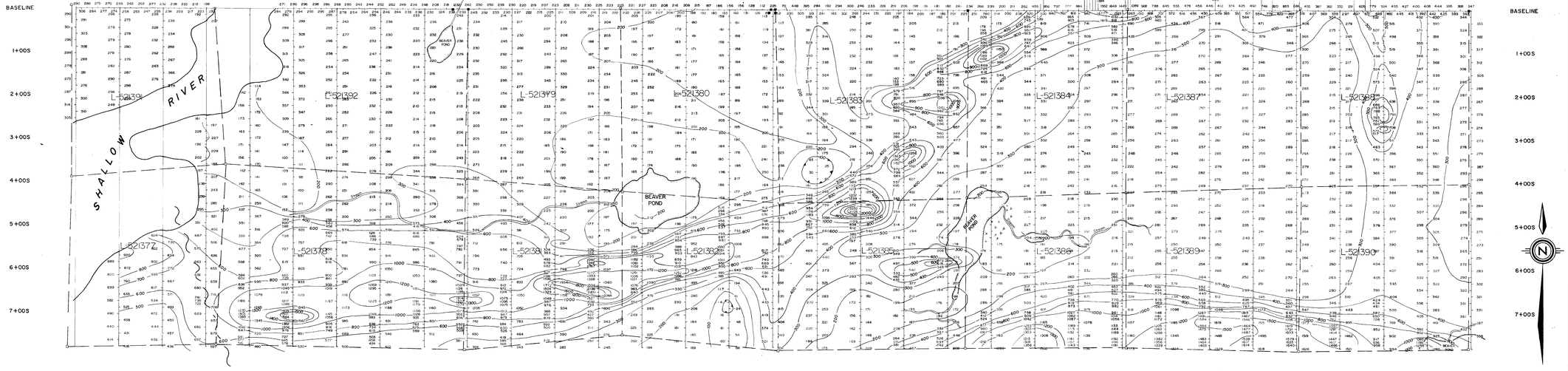
– Integration time

Power

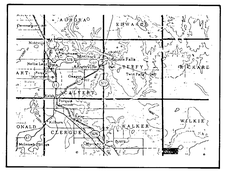
Electrode array

Electrode spacing

Type of electrode



LOCATION MAP
1:5,000,000



INDEX MAP
1:250,000

SURVEYMIN LIMITED		
	WILKIE TWP. PROJECT	DRAWN BY: J.P. REV.
	TOTAL FIELD PROTON MAGNETOMETER SURVEY (background 59,000nT)	TRACED BY: BWS REV.
		APPROVED REV. OCT-980
		N.T.S. REV.
	W.G.WAWL LIMITED	Scale 1:2500 DWG. NO. GRID "A"


SURVEYMIN LIMITED
WILKIE TWP PROJECT
MAX-MIN II
HORIZONTAL LOOP SURVEY
444, 1777 hertz
Scale 1:2500
GRID "K"
W.G. WAHL LIMITED
LEGEND
In-Phase
Quadrature
Conductor Axis
Tx-Rx Separation
Drawn to Scale
VLF LEGEND
N.B. Lines marked with a star are surveyed by VLF
LOCATION MAP 1:5,000,000
INDEX MAP 1:250,000
444 Hz.
1777 Hz.
SHALLOW RIVER
BEAVER POND
C-1
C-2
L-521391
L-521392
L-521379
L-521380
L-521383
L-521384
L-521387
L-521388
L-521377
L-521378
L-521381
L-521382
L-521385
L-521386
L-521389
L-521390
BL. 0+00
0+90S
1+80S
2+70S
3+60S
4+50S
5+40S
6+30S
7+20S
7+80S
L16W
L15W
L14W
L13W
L12W
L11W
L10W
L9W
L8W
L7W
L6W
L5W
L4W
L3W
L2W
L1W
L0
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