GEOPHYSICAL SURVEY RESULTS
ON THE KEHOE-RIDDELL PROPERTY
CLARENDON TWP., ONTARIO

for

ARDOCH SYNDICATE

by

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INTRODUCTION

A suite of old gold showings and workings in Clarendon Township, Eastern Ontario, on strike with the erstwhile Boerth mine, was acquired by an option agreement during the summer of 1986. These are prospects dating from 1906 or thereabouts, and while some extended sampling has been carried out subsequently over the years, including diamond drilling in the Boerth vicinity, such work has been spasmodic and confined. No coherent overall surveying of the environment has ever been undertaken on the ground so far as is known, certainly not by geophysics in recent times.

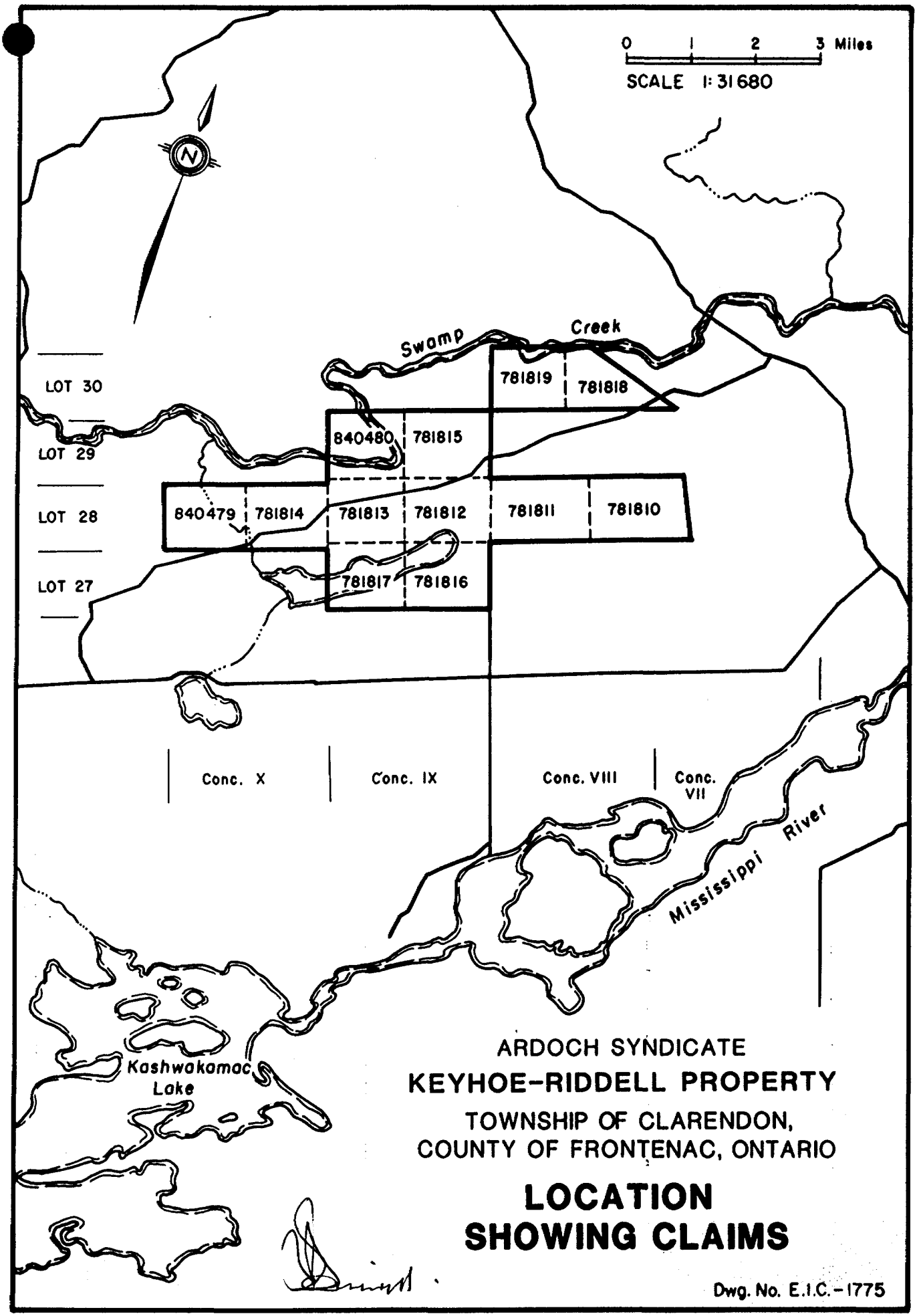
Therefore in order to provide a new and fundamental data base for the area, a systematic, combined V.L.F. em. and magnetic survey has recently been completed. The results of this work form the subject of this reporting.

DESCRIPTION OF PROPERTY

The property as presently constituted is composed of 12 unpatented mineral claims, each nominally of 50 acres (20.2 hectares). Several of the claims however are of irregular shape, and they affect the property outline (Dwg. No. EIC-1775). In addition, there exist 2 alien patented claims which together form a salient in the property east side. Nevertheless all claims of the group are contiguous.

The property is wholly located in Clarendon Township, County of Frontenac, Eastern Ontario Mining Division. The specifics and status of the individual claims comprising it are as follows:

Claims Nos.	Range	Lot	No. of Claims	Twp.	Due Date
EO 781810,11	VIII	28	2	Clarendon	12 Dec.'86
781812,13	IX	28	2	"	"
781814	X	28	1	"	"
781815	IX	29	1	"	"
781816,17	IX	27	2	"	"
781818,19	VIII	30	2	"	"
840479	X	28	1	"	10 Feb.'87
840480	IX	29	1	"	"
			12		


0 1 2 3 Miles
SCALE 1:31680
Swamp
Creek
LOT 30
LOT 29
LOT 28
LOT 27
781819
781818
840480
781815
840479
781814
781813
781812
781811
781810
781817
781816
Conc. X
Conc. IX
Conc. VIII
Conc. VII
Mississippi River
Kashwakamac Lake
ARDOCH SYNDICATE
KEYHOE-RIDDELL PROPERTY
TOWNSHIP OF CLARENDON,
COUNTY OF FRONTENAC, ONTARIO
LOCATION
SHOWING CLAIMS
Dwg. No. E.I.C.-1775

These claims are presently registered in the name of Clinton Kehoe, R.R. #1, Tichborne, Ontario.

The encompassed ground is quite lumpy and provides a fair amount of rock exposure. In between the higher relief, sections of swamp exist which can be quite marked as topographic depressions. The land surface is forested for the most part, hardwood trees on the well drained slopes, conifers on the poorer ground and in the swamps.

Some of the area has been farmed in the past and certain open fields are still being used for grazing. Barbed wire fences occur in places but none of these are grounded. The chief cultural component of the area, and the one which most drastically affects the geophysical data, is a power line right-of-way which cuts through the heart of the property longitudinally. No less than 5 high tension transmission lines occupy this corridor at times. Their effect on the collected V.L.F. and magnetic measurements in the vicinity can be profound.

DETAILS OF SURVEY

In order to curtail cutting, traverse lines for this survey were primarily put in by chain and compass. However a BL oriented 250° true was cut, chained, and picketed across the full width of the property to control the operation. A parallel sub-BL at 575N turned off from line 200E, both lines similarly cut, chained and picketed, extended such control to the northern reaches of the claims.

All traverses were laid out 100 m apart. Reading stations on them were occupied every 25 m and flagged with their appropriate co-ordinates.

The survey was conducted by two people working in tandem, the leading crewman providing compass direction as well as being responsible for the flagging of the station and the collection of the V.L.F. observation thereat. The trailing crewman was responsible for the chainage interval and magnetometer reading.

In the event, actual field operations were interrupted by the hunting season. As it transpired, the first instalment representing the western half of the coverage was completed with a different crew using in part different equipment than that subsequently deployed for the eastern half.

The magnetic values were gathered in the first stage with a Geometrics G-816 proton precession magnetometer providing a read-out sensitivity of 1 nT. Geomagnetic fluctuations were

monitored by standard looping techniques to established bases periodically. An accuracy of about 20 nT is presumed to have been achieved thereby. In the second stage, an EDA model Omni IV proton magnetometer with similar sensitivity was monitored closely in time by a self-recording base station magnetometer (another Omni IV) set up in the area (at 100E/125S). An estimated 3 nT accuracy was achieved in this case.

For their part, the V.L.F. (radio) em. data were obtained in the broadcast field of NAA (24.0 kHz) transmitting from Cutler, Maine. The receiver employed throughout was the Geonics Em-16 suitably tuned. Measures in effect of the vertical secondary field were taken at a sensitivity of $\pm 1\%$ of the primary (horizontal) field at each observation point.

PRESENTATION OF DATA

All data are presented at a plan scale of 1:2500.

The V.L.F. results are shown both as profiles and in the form of contours, the former a plot of actual field readings, the latter undertaken after the application of a filter to remove extremes of response and the reduction of data to the second derivative (the Fraser filter).

The magnetic results are displayed as contours only. The posted values represent departures from a base level of 56,000 nT in the terrestrial field. The fundamental contour interval employed is 100 nT up to 2000 nT of relief, thereafter it is 1000 nT.

In the presentation, a division is made between west and east sheets according to where the ground programme was interrupted. It is also to be noted that coverage of the two alien claims has been included in the presentation to improve the perspective and to facilitate interpretation.

DISCUSSION OF RESULTS

A. Magnetics (Dwg. No. EIC-1776)

An appreciable relief exists across the property, excluding the power-line corridor. Sharply resolved ridges involving several hundred nTs generally running in a NE direction typify parts of the area, and for over a kilometer of strike, these changes can be quite orderly in behaviour. Largely mafic horizons in a gneissic sequence can be presumed responsible.

As marker units, these magnetic features could be valuable in describing events which depart from the norm. The geology of the area (OGS Map #P.2487, Precambrian Geology of the Ardoch Area, Southern Ontario, 1982) implies a tightly folded overturned suite of metasediments bearing northeast; in fact the main fold axes flank and are sub-parallel to the power-line right-of-way. Beyond these specifics however, very little other structure has been recognized, and very little deformation. It is therefore remarkable that the magnetic trends towards grid centre and to the east appear as spotty and broken up as they do.

It is manifest nevertheless that the presence of the power-line has severely hampered a full definition of the area's magnetic patterns. A swath varying from 200 - 300 m wide in which effectively no magnetic data can be relied upon to denote sub-surface circumstance, transects the area from grid southwest to grid northeast. This is a zone of major discontinuity, and

since a low angle of transgression is involved, it is commonly difficult to carry magnetic feature from one side to the other.

(It is interesting to observe at this point that the EDA Omni IV magnetometer has been influenced less by the power line interference than the Geometrics G-816, that is to say, it was overwhelmed by noise over a shorter transverse distance (200 m) than its older counterpart (300 m). This can be put down to an improved in-built tolerance the more modern meter has to high magnetic gradients).

As can be seen, the more magnetic rocks occupy the southern fringe of the grid, south of Swaugers Lake. Unhappily because of the shape of the claims group, this particular magnetic regime is terminated by property boundaries at both its strike extremities; this is unfortunate because this system is potentially the best marker unit in the area lying free of the power-line zone. As it is, the only hint it offers that cross-structural disruption has disturbed it is at 750W/500S, virtuallly at the grid edge. A possible fault bearing NW is suspected at this juncture.

Elsewhere across the grid, the presence of faulting is more implicit than defined. Magnetic continuities are either inherently insufficient or are blanked by the power line noise. Yet despite these hindrances, it is still possible to project some axes on the evidence of the magnetic data, the most notable of which are the NW faults at 100E circa 250N, and at 750W/500S as already noted, and two N-S striking faults crossing the tie-line 575N near lines 500E and 900E. Faults running in any

other direction, or that is in the broad direction of the geology, are difficult to perceive on the basis of the present magnetics alone.

The known gold showings and workings in the area, it is seen, are largely confined to one broad band of modest magnetic low which strikes across the grid just south of the power-line corridor. Since previous prospecting had followed this (largely calcareous) horizon in the metasedimentary sequence rather extensively, this outcome is not particularly surprising. However the present magnetics by such association do allow the speculation of wider possibilities in the grid environment, and these could be important to future exploration. They are considered in a later section of the report.

B. V.L.F. (radio) Em. (Dwg. Nos. EIC-1777, 1778)

A number of quite strong V.L.F. anomaly axes have been delineated in the area. Again however, the existence of the central power-lines renders the data in their vicinity insensitive to sub-surface events. Below the lines themselves, results are virtually meaningless.

Despite this handicap, what the V.L.F. coverage has returned is quite revealing. Probably the most notable is the striking evidence of E-W faulting in the area. This circumstance had not been foreseen especially. At least two such structures have been indicated in the eastern sector of the grid, and there are hints in the data that there may exist subsidiaries to them

there. This of course is the structural alignment most favoured by the primary (NAA) field, direction, and in any case the strength and clarity of the main breaks can not be denied. As it turns out, there is air-photo support for their existence once it is known exactly where to look for them. The magnetics are accommodating without being very descriptive.

As a corollary, any fault axis bearing N-S is least favoured by the primary transmission, and indeed possible cases of such structures are relatively hard to discern. By contrast, those with NE or NW headings are likely to be reasonably coupled and definitively, yet because of the grid orientation, it is the only NE-bearing structures which will show up with authority in the present survey presentation. Thus it is regarded consistent that most of the other strongly resolved V.L.F. events in the data should assume northeast axial headings. On the odds, these signify shears or slip faults; certainly they tend to govern the topography of the area and in consequence much of the drainage. Swaugers Lake, for example, is clearly the seat of a major fault passing along its length, and so likewise is the ENE bearing arm of Swamp Creek bordering the grid north side to the west.

However what is important to present exploration is the interaction these faults make with each other. In V.L.F. terms, the most evident locality of compound response centres upon 400E/225N. Here a number of fault lineaments seemingly converge. Also there occur sharp changes and terminations in the vicinity. Significantly the heart of this interactive zone falls in a sharply edged swamp cutting across the grain of the country. A

very broken up bedrock can be presumed in this location consequentially.

A not quite so pronounced interaction of V.L.F. axes occurs also at 700E/700N in the northern quarters of the claims group. Again there is some lower ground in coincidence, although not as distinctively. Here NE and ENE striking structures appear to merge.

MINERAL CONSIDERATIONS

The known gold in the area occurs on higher ground where there is outcroip or sub-crop, and conditions are amenable to pitting and trenching, even driving underground from an adit. All such manner of investigations have in fact been carried out in the past, and to this day constitute the main prospecting activities effected. Some diamond drilling has been completed in the property area, but it largely has been undertaken as a confined shallow testing of existing showings either immediately below them or on strike (Dwg. No. EIC-1779). No broader exploration based on conceptual possibilities seems to have been attempted -- except questionably by geochemistry (Selco 1980 over the one claim #781812).

It is entirely possible of course that the gold mineralization exists on the topographically higher ground because of an attendant silicification which has differentially resisted gaicial erosion. However it needs be pointed out that in the regional sense virtually the whole property occupies a higher ground -- a reason why the power-line right-of-way is where it is -- and that it would be a mistake if the locally swampy ground between outcrop sections were to be excluded from mineral consideration as a result.

There is little doubt that the gold mineralization of the area is an introduced mineralization, and that fundamentally it is structurally controlled. One structural component of obvious prominence is the regional folding which bears axially NE-SW;

here it is pertinent to note that within this context the old Boerth mine as mapped sits astride a projected anticlinal fold axis (Pauk and Mannard, 1982).

The V.L.F. results clearly provide evidence of E-W faulting across the grid, but these axes in the case of the Boerth widely bracket the mineralization. They do not impinge directly upon the mineral setting. This case is repeated elsewhere for virtually all the other showings through the area. Only at 600N/1400E at the extreme east edge of the coverage is there an apparent correlation between such structure and mineralization (two old shafts occur there). At the Boerth mine in fact, the only hint of an interceding fault is in the N-S direction. This is poorly seen in the V.L.F. data due either to minimum field coupling or to local silicification, as as more probable, to a combination of both. However the magnetics support such a cross-structure, and so does the air-photo topographically. It is therefore believed real and potentially symptomatic.

A third structural factor in the Boerth vicinity promises to be faulting in the bedding (schistosity) direction. A marked V.L.F. axis approximately 70 m south and bearing ENE flanks the mineral setting. If this is a shear, as it promises to be, then it abruptly terminates west of line 900E, or that is as it draws abreast the Boerth shaft. A possible explanation is a regional silicification aligned along the above-noted transgressing N-S fault break which locates nearby. Intriguingly, it is seen that another such ENE fault/shear, albeit more weakly defined, flanks the Weber showing to its south side about the same distance away,

and that it too suffers the same fate proceeding westwards (at line 100E). Again N-S faulting is potentially responsible although it is only glimpsed here. This manner of fault interaction thus emerges as holding, at least empirically, some vital significance for mineral occurrence.

A final aspect of note at the Boerth is the lack of local magnetic relief; in fact the entire mineral setting sits in a sector of relative magnetic low. While typically the amount of magnetic change in the neighbourhood is not great -- as is appropriate to a metasedimentary host, -- it becomes a consequence thereby that the magnetic low involved will not be sharply defined. Nonetheless, there is a grid-wide persistence to this type of association: viz. all the known showings and workings in the area without exception fall in or closely flank sectors of similar magnetic low.

On this basis then, it is possible to discern prospective localities for new gold occurrence in the area using the above-developed criteria. These include proximity to a fold axis, existence of N-S cross-structure, and ENE shearing, and an embracing magnetic low which could represent a zone of alteration environmentally. Four such localities are presently put forward as more or less satisfying these requirements. Three of them are small, the other is large and is distinguished by the inclusion of most of the known gold showings.

Prospective as these situations may be, they are however far from clearly defined, in fact their extents and outlines are inherently vague. It is therefore necessary to determine

individual points within them which can become focussed targets for a realistic (and cost-effective) drill testing of contained potential. A screening by induced polarization/resistivity of each locality is thus regarded as the next logical step in exploration here. All the main gold showings are accompanied by sulphides, (viz. arsenopyrite, chalcopyrite, pyrrhotite, pyrite), at least to some extent or another, and hence any demonstrated existence of further sulphides in any one place within these favoured sectors would immediately provide substance and purpose to a future investigation by drilling in the area.

CONCLUSIONS AND RECOMMENDATIONS

The completion of geophysical surveys on the Kehoe-Riddell property, it is concluded, has provided an insight into the structural make-up of the region not previously had. In particular such coverage has allowed the projection of additional controls to the known mineralization, and has led to the recognition that wider possibilities for new gold occurrence exist in the property area.

Specifically it is concluded that there are four sectors which are eminently prospective and worthy of further work. None however at this time is sufficiently defined to propose test drilling directly.

It is therefore recommended that the following further geophysical steps be undertaken:

i) extend the present grid coverages to Swaugers Lake as and when winter ice permits, likewise the swampy ground adjacent to Swamp Creek circa the north end of lines 500E-800E;

ii) carry out a cross-grid V.L.F. survey utilizing the broadcast field of NSS (21.4 kHz). Stations again would be occupied every 25 m on lines 100 m apart, the present grid co-ordinate system being maintained for this work throughout;

iii) initiate an IP/resistivity screening of the four favoured locales. Such work is to be effected with pulse transient equipment with a minimum power rating of 2 kva, and employing a double dipole array with an 'a' spacing of 25 m and 'na' spacings equivalent to n=1,2,3,4. Appropriate sections for this work would be:

Locales 1/2	Lines	800W	from	300S	to 400N
Locale 1		600W	"	150S	to 350N
"		400W	"	150S	to 400N
"		100W	"	50S	to 550N
"		100E	"	250S	to 250N
"		200E	"	250S	to 900N
Locales 1/3		400E	"	100S	to 1000N
Locale 1		600E	"	100S	to 900N
"		800E	"	100S	to 500N
"		900E	"	00	to 500N
Locales 1/4		1000E	"	100S	to 1050N

These sections approximate 8.25 kms total of traverse.

The objective of these supplementary coverages is to sharpen up the structural context of the prospective locations, as well as supply fill-in data in past gaps. The extra parameters granted by the IP/resistivity traversing specifically seek direct evidence of sulphides within the select sectors, and some indication of their distribution therein. At the same time

they promise to provide information on local alteration effects, especially in respect of silicification.

With this kind of enlarged information, it should be possible to lay out a realistic drill programme to test the discovery potential pertinent to new gold on the property.

JBB:sb
January 3, 1987

J. B. Boniwell
Exploration Geophysical Consultant

APPENDIX

PROPERTY: Kehoe - Riddell Option

LOCATION: Clarendon Twp., Eastern Ontario Mining Division, Ontario.

ASSESSMENT INFORMATION

Number of Claims: 12

Work Performed :
i) line-cutting and chaining
ii) magnetic surveying
iii) V.L.F. (radio) em. surveying

Dates of Work :
i) field work, Oct. - Dec. 1986
ii) data processing, compilation; Dec. '86
iii) interpretation, reporting; Jan. 1987

Services :
i) grid preparation;
Claridge La Rose Geophysics Ltd.,
Bracebridge, Ontario.

ii) geophysical surveying;
a) Claridge La Rose Geophysics Ltd.,
Bracebridge, Ontario.
b) Techterrex Inc.,
Mississauga, Ont.

iii) interpretation, reporting;
Excalibur International Cons. Ltd.
Mississauga, Ont.

Resident Geologist - Tweed.

Jan 21

Ministry of Northern Development and Mines
Ontario

Report of Work #86-1(

(Geophysical, Geological, Geochemical and Expenditures)

31C15NW0043 2.9710 CLARENDON

900

W8609.100 Mi

Type of Survey(s)	Township or Area
Magnetic, V.L.F. (radio) em.	Clarendon M-77
Claim Holder(s)	**Prospector's Licence No.**
Clinton Kehoe	
Address	
R.R. #1, Tichborne, Ontario	
Survey Company	**Date of Survey (from & to)**	**Total Miles of line Cut**
Claridge La Rose Geophysics Ltd., TechTerrex Inc.	26 10 86 (Day Mo. Yr.) 27 11 86 (Day Mo. Yr.)	33.3 kms
Name and Address of Author (of Geo-Technical report)		
J. B. Boniwell, 10 Hurontario St., Misssissauga, Ontario, L5G 3G7		

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
	· Magnetometer	20
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical · Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· 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.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
EO	781810				
	781811				
	781812				
	781813				
	781814				
	781815				
	781816				
	781817				
	781818				
	781819				
	840479				
	840480				

EASTERN ONTARIO MINING DIVISION
RECEIVED
DEC - 2 1986
AM 7 8 9 10 11 12 1 2 3 4 5 PM

Expenditures (excludes power stripping)

Type of Work Performed: Magnetics, V.L.F. (radio) em.

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.

Total number of mining claims covered by this report of work: 12

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
720	Dec 2, 86	
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
27 Nov. '86	

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

Ministry of Northern Development and Mines

Ontario

Geotechnical Report Approval

File 2.9710

Jan. 23/87

Mining Lands Comments Roger Barlow:

No line cutting (chain + compass) carried out.
Do you feel that control is adequate for these geophysical surveys, so that we may assess?

— Denis King

☐ To: Geophysics

Comments

- VLF raw data needed on maps
- Chain & compass in satisfactory

☑ Approved ☐ Wish to see again with corrections	Date Jan 27/87	Signature R Barlow

☐ To: Geology - Expenditures

Comments

☐ Approved ☐ Wish to see again with corrections	Date	Signature

☐ To: Geochemistry

Comments

☐ Approved ☐ Wish to see again with corrections	Date	Signature

☐ To: Mining Lands Section, Room 6610, Whitney Block. (Tel: 5-4888)

1593 (85/12)

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File _____

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) V.L.F. (radio) em, magnetic

Township or Area Clarendon

Claim Holder(s) Clinton Kehoe
R.R. #1, Tichborne, Ont.

Survey Company Techterrex Inc.

Author of Report J. B. Boniwell

Address of Author 10 Hurontario St., Mississ. L5G 3G7

Covering Dates of Survey 26 Oct. - 27 Nov. '86
(linecutting to office)

Total Miles of Line Cut 31.4 kms.

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	20
–Radiometric	
–Other	
Geological	
Geochemical	

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

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

DATE: Nov. 27, '86 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 63.1284

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
EO	781810
	781811
	781812
	781813
	781814
	781815
	781816
	781817
	781818
	781819
	840479
	840480

If space insufficient, attach list

TOTAL CLAIMS 12

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 1255 Number of Readings 2510

Station interval 25 m Line spacing 100 m

Profile scale 1 cm = 20%

Contour interval 100 nT

MAGNETIC

Instrument EDA PPM 350 / Geometrics G-816

Accuracy – Scale constant 1 nT

Diurnal correction method Base station EDA PPM 375

Base Station check-in interval (hours) 2 hrs. for G-816

Base Station location and value

ELECTROMAGNETIC

Instrument Geonics Em-16

Coil configuration N/A

Coil separation infinite

Accuracy ± 1% primary field

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

Frequency NAA
(specify V.L.F. station)

Parameters measured In-phase quadrature components of vertical field

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION

Instrument

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time Frequency

– Off time Range

– Delay time

– Integration time

RESISTIVITY

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 _____

_____

_____

_____

_____

_____

_____

_____

_____

March 27, 1987

Your File: 86-100
Our File: 2.9710

Mining Recorder
Ministry of Northern Development and Mines
Whitney Block, Room 2548
99 Wellesley Street West
Queen's Park
Toronto, Ontario
M7A 1W3

Dear Madam:

RE: Notice of Intent dated March 5, 1987
Geophysical (Electromagnetic & Magnetometer)
Surveys on Mining Claims EO 781810, et al,
in Clarendon 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,

J.C. Smith, A/Manager
Mining Lands Section
Mineral Development and Lands Branch
Mines and Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

DK/mc
cc: Clinton Kehoe
R.R.#1
Tichborne, Ontario
K0H 2V0

J.B. Boniwell
10 Hurontario Street
Mississauga, Ontario
L5G 3G7

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

Resident Geologist
Tweed, Ontario

Encl.

Ministry of Northern Development and Mines
Ontario

Technical Assessment Work Credits

File 2.9710

Date: March 5, 1987

Mining Recorder's Report of Work No.: 86-100

Recorded Holder: CLINTON KEHOE

Township or Area: CLARENDON TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic 32 days	E0 781810 to 19 inclusive
Magnetometer 20 days	840479 - 80
Radiometric ____ days	
Induced polarization ____ days	
Other ____ days	
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.	

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

No credits have been allowed for the following mining claims

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

- LINECUTTING CREDITS REDUCED DUE TO ONLY THE BASE LINE AND TIE LINE BEING CUT. CREDITS WERE PRORATED OVER THE WHOLE CLAIM BLOCK.

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

Miller Twp. (M.127)

Barrie Twp. (M.50)

Palmerston Twp. (M.139)

Olden Twp. (M.136)

THE TOWNSHIP OF CLARENDON

COUNTY OF FRONTENAC

SOUTHERN ONTARIO

MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	● or Ⓟ
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
TRAILS	
PATENTED S.R.O.	

NOTES

This Map Is Not To Be Used FOR SURVEY PURPOSES

Lot And Concession Lines Shown Hereon Are Projected From The *Best Information Available*, But Their True Position Is Not Guaranteed. *For Official* Survey Purposes Consult The Original Survey Plans And Field Notes Of Records In The Ministry of Natural Resources.

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

Flooded Lands Shown Thus:

Flooding Rights Reserved On Cross Lake And Fawn Lake To *Elevation* 110.5'. File: 126113.

Original Survey Line Of Frontenac Road Shown Thus:

Islands in Clarendon Lake shown thus

Surface Rights Only withdrawn from staking. File: 150709.

AREAS WITHDRAWN FROM STAKING

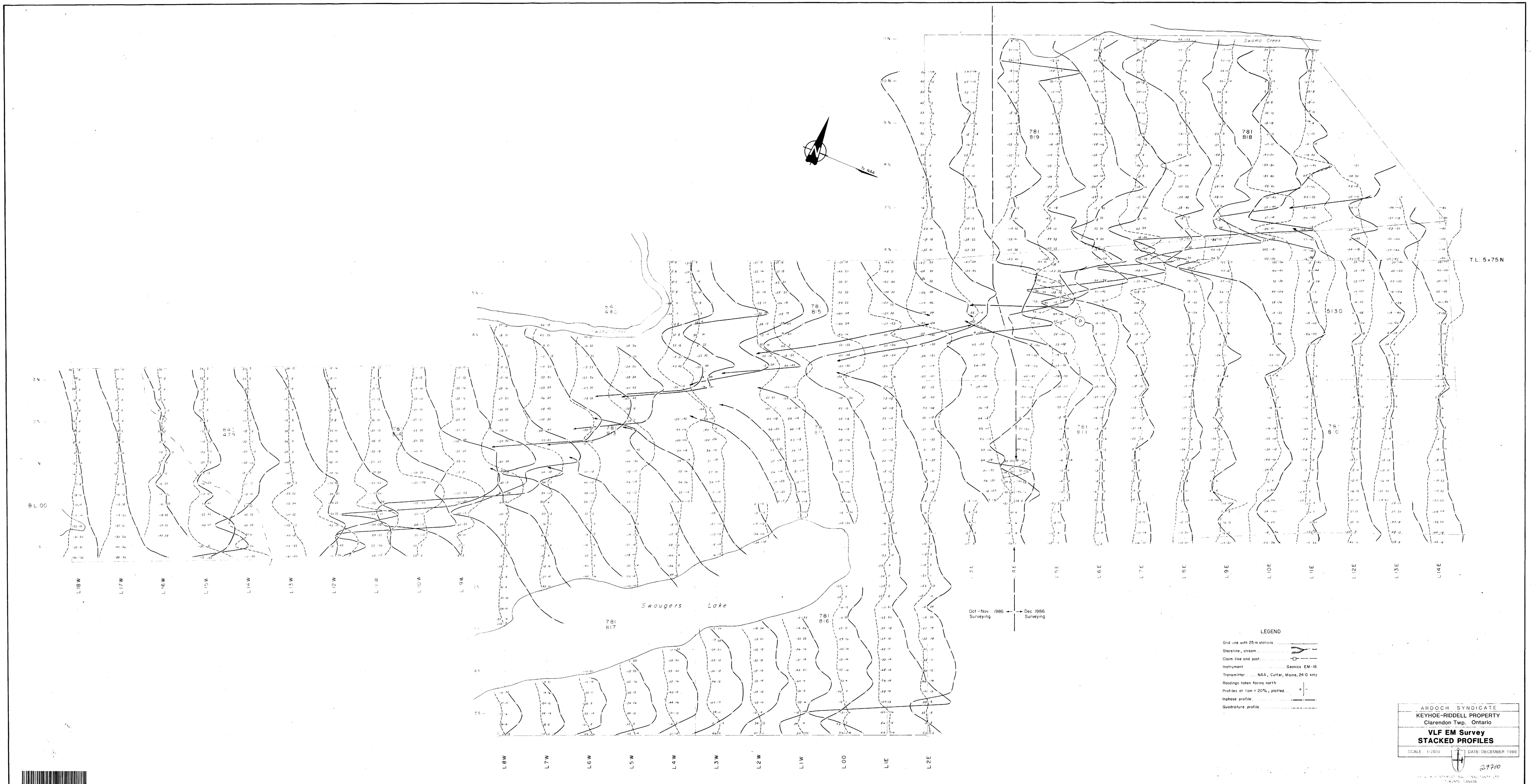
S.R. – SURFACE RIGHTS M.R.–MINING RIGHTS

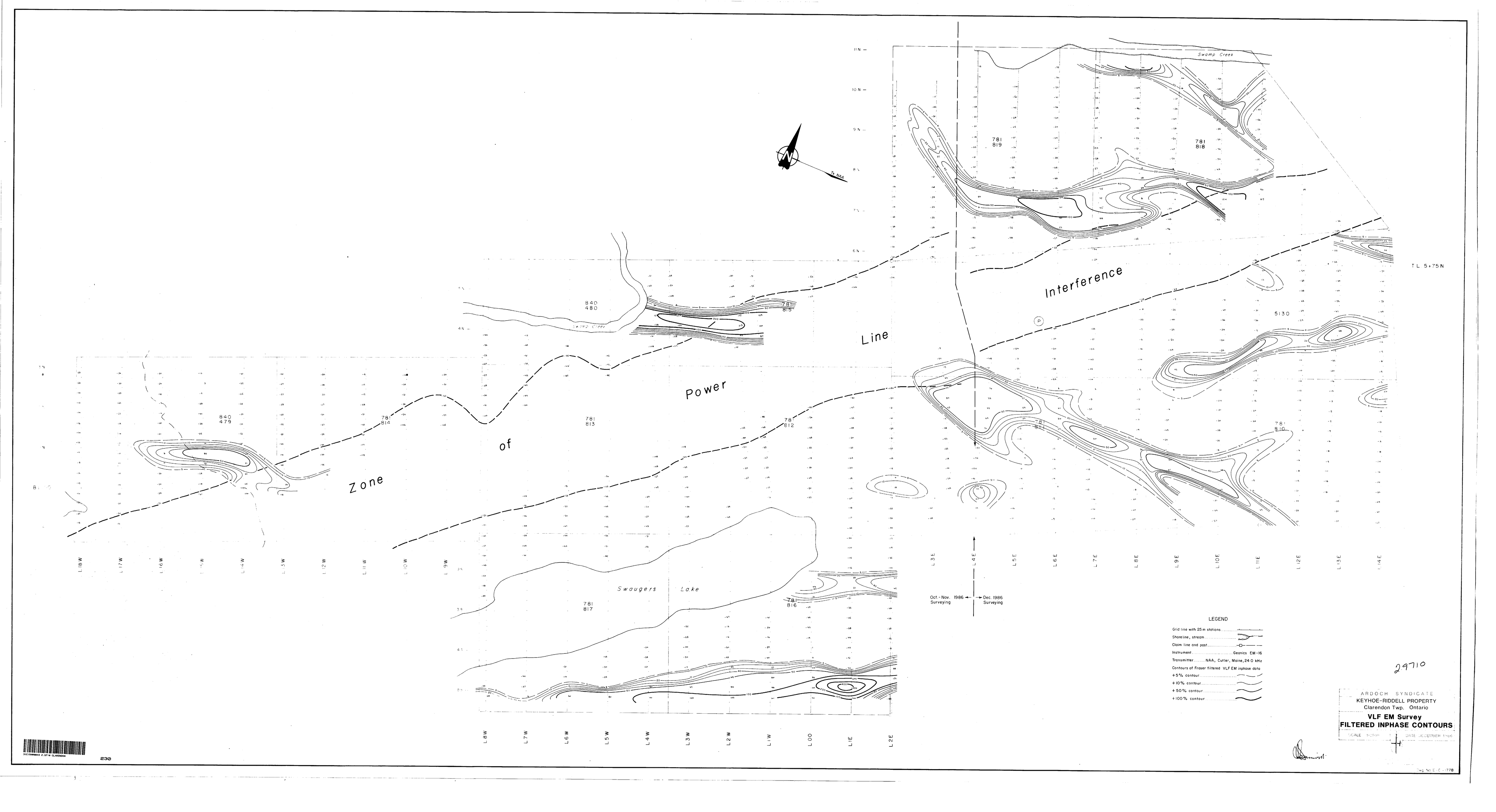
Section	Order No.	Date	Disposition	File
Reserved for Public Use			S.R.	87431
" " " "			S.R.	125573
M.N.R. Reservation			S.R.	140861
" "			S.R. & M.R.	92575
Reservation				

PLAN NO.-M.77

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH


In terfere nce
Line
Power
of
Zone
T.L. 5+75N
Swaggers Lake
Oct.-Nov. 1986 Surveying
Dec 1986 Surveying
LEGEND
Grid line with 25 m stations
Shoreline, stream
Claim line and post
Instruments:- Dec. 86 work........EDA OMNI IV
Oct.-Nov. 86 work Geometrics G-816
Reading base levels:- Dec. 86 work...... 56,000 nT
Oct.-Nov. 86 work........ 56,000 nT
Contour interval..........100 nT
100 nT contour
500 nT contour
1000 nT contour
Depression
29710
ARDOCH SYNDICATE
KEYHOE-RIDDELL PROPERTY
Clarendon Twp. Ontario
Magnetometer Survey
TOTAL FIELD CONTOURS
DATE: DECEMBER
Dwg No E.I.C.-1776
210


Swamp Creek
Swamp Creek
Swougers Lake
T.L. 5+75N
BL 0+00
781 819
781 818
781 817
781 816
781 815
781 814
781 813
781 812
781 811
781 810
781 809
781 808
781 807
781 806
L18W
L17W
L16W
L15W
L14W
L13W
L12W
L11W
L10W
L9W
L8W
L7W
L6W
L5W
L4W
L3W
L2W
L1W
L0O
L1E
L2E
L3E
L4E
L5E
L6E
L7E
L8E
L9E
L10E
L11E
L12E
L13E
L14E
Oct-Nov 1986 Surveying
Dec 1986 Surveying
To NAA
LEGEND
Grid line with 25 m stations
Shoreline, stream
Claim line and post
Instrument Geonics EM-16
Transmitter NAA, Cutler, Maine, 24.0 kHz
Readings taken facing north
Profiles at 1cm = 20%, plotted
Inphase profile
Quadrature profile
ARDOCH SYNDICATE
KEYHOE-RIDDELL PROPERTY
Clarendon Twp. Ontario
VLF EM Survey
STACKED PROFILES
SCALE 1:2500
DATE DECEMBER 1986
24710
Dwg. No. E-C.-1777


Swamp Creek
781 819
781 818
Interference
Line
T.L. 5+75N
840 480
781 815
Swamp Creek
5130
Power
840 479
781 814
781 813
781 812
781 810
Zone
of
Swaugers Lake
781 817
781 816
L18W L17W L16W L15W L14W L13W L12W L11W L10W L9W
L3E L4E L5E L6E L7E L8E L9E L10E L11E L12E L13E L14E
L8W L7W L6W L5W L4W L3W L2W L1W L00 L1E L2E
11N
10N
9N
8N
7N
6N
5N
4N
3N
2N
1N
TN NAA
Oct.-Nov. 1986 Surveying
Dec. 1986 Surveying
LEGEND
Grid line with 25 m stations
Shoreline, stream
Claim line and post
Instrument ..... Geonics EM-16
Transmitter ..... NAA, Cutler, Maine, 24.0 kHz
Contours of Fraser filtered VLF EM inphase data
+5% contour
+10% contour
+50% contour
+100% contour
29710
ARDOCH SYNDICATE
KEYHOE-RIDDELL PROPERTY
Clarendon Twp. Ontario
VLF EM Survey
FILTERED INPHASE CONTOURS
SCALE 1:2500
DATE DECEMBER 1986
Reg. No. E.C. 1778
230


ARDOCH SYNDICATE
KEYHOE-RIDDELL PROPERTY
Clarendon Twp. Ontario
INTERPRETATION
SCALE 1:2500
DATE: DECEMBER 1986
Dwg. No. E.I.C.-1779
LEGEND
Grid line with 25 m stations
Shoreline, stream
Claim line and post
Interpreted fault showing relative movement and basis for projection.
M – Magnetics
V – VLF (NAA)
Projected fold axis, anticlinal
Zone of potential alteration with identifier
Old DDH showing direction and year drilled (approx. location only).
Trench, pit, mine shaft
29710
Interference
Line
Power
of
Zone
FERNLEIGH – CLYDE FAULT ZONE
Swaugers Lake
Swamp Creek
T.L. 5+75N
Old mill site
Trench
Pit
(Boerth Mine)
Trench (Weber)
145 ppb Au in soils (Selco 1980)
V.G. Float
781 810
781 811
781 812
781 813
781 814
781 815
781 816
781 817
781 818
781 819
840 479
840 480
5130
B.L.00
240