GM 42223

REPORT ON THE CASA BERARDI AREA GOLD PROPERTIES

REPORT

ON

THE CASA BERARDI AREA

GOLD PROPERTIES

OF

FORT KNOX MINERALS LIMITED

Toronto, Ontario
February, 1985

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MPH CONSULTING LIMITED

SUMMARY

The two gold properties of Fort Knox Minerals Ltd. in the Casa Berardi area of northeastern Quebec are considered to be well located relative to our gold exploration models for the region and the recent Inco-Golden Knight gold discovery. An on-going exploration effort on this latter property is indicating a gold discovery of major proportions with 3 main gold zones having been discovered to date, the Golden Pond and Golden Pond East and West.

Exploration work to date on the Fort Knox Minerals Ltd. holdings has consisted of field examinations, mining assessment research and airborne geophysical surveys (DIGHEM).

The Fort Knox Minerals Ltd. East Property of 66 claims covers a 3 km strike length of DIGHEM/INPUT conductivity. This zone has been only very superficially tested by previous workers. One drill hole each by Soquem and Hudson Bay Exploration are reported on this trend on or immediately adjoining the Fort Knox Minerals Ltd. property. This drilling indicated a graphite-pyrite conductive zone 25 m core length in one case (Soquem) and 17 m core length in the other, with the conductors overlying siliceous fragmental rocks and argillaceous/tuffaceous sediments. Both the conductive zone and underlying siliceous and sedimentary rocks in the old Soquem hole on the present ground are indicated to be anomalous in gold (0.01 to 0.015 oz Au/ton range). The presence of anomalous gold values in such a sedimentary/tuffaceous setting may be significant in an exploration context and may be indicative of a more substantial stratbound/stratiform gold concentration along this general stratigraphy.

An aggressive exploration program is recommended to further evaluate the gold potential of the above zone in particular and the property area in general. The recommended work consists of a 3 phase program totalling $500,000.00 as follows:

Phase 1:	ground geophysics, diamond drilling	- $ 75,000.00
Phase 2:	ground geophysics, diamond and reverse circulation drilling	- 175,000.00
Phase 3:	mainly diamond drilling	- 250,000.00

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1.0 INTRODUCTION

A great deal of interest has been focused on the Casa Berardi area of northwestern Quebec following the recognition that the "Golden Pond" gold discoveries of the Inco-Golden Knight joint venture are assuming major proportions.

Fort Knox Minerals Ltd. of Vancouver was successful in acquiring two properties in the Casa Berardi area in early 1985.

MPH Consulting Limited had been previously commissioned in mid-June, 1984 to prepare a report on these properties.

Property visits were carried out on June 30 - July 1, 1984. This was supplemented by a search of mining assessment files in Rouyn to review previous work in the property area on July 3, 1984 along with an examination of published government reports and documents relating to the area and discussions with government geologists. Drill core from a previous Soquem hole on the Fort Knox Minerals Ltd. East Property was examined by the author in Val D'Or on July 23, 1984. Airborne geophysical surveys (DIGHEM) were subsequently carried out over the properties in September of 1984.

This report outlines the results of the property visit, assessment search, core examination and airborne geophysical results within a framework of the geology of the area and makes recommendations for an exploration program to further evaluate the gold potential of the claims.

2.0 LOCATION, ACCESS AND INFRASTRUCTURE

The 2 claim groups comprising the Fort Knox Minerals Ltd. Casa Berardi holdings are located in Casa Berardi and Dieppe townships, northwestern Quebec, approximately 80 km due north of La Sarre (Figure 1).

The main line of the Canadian National Railway passes through La Sarre.

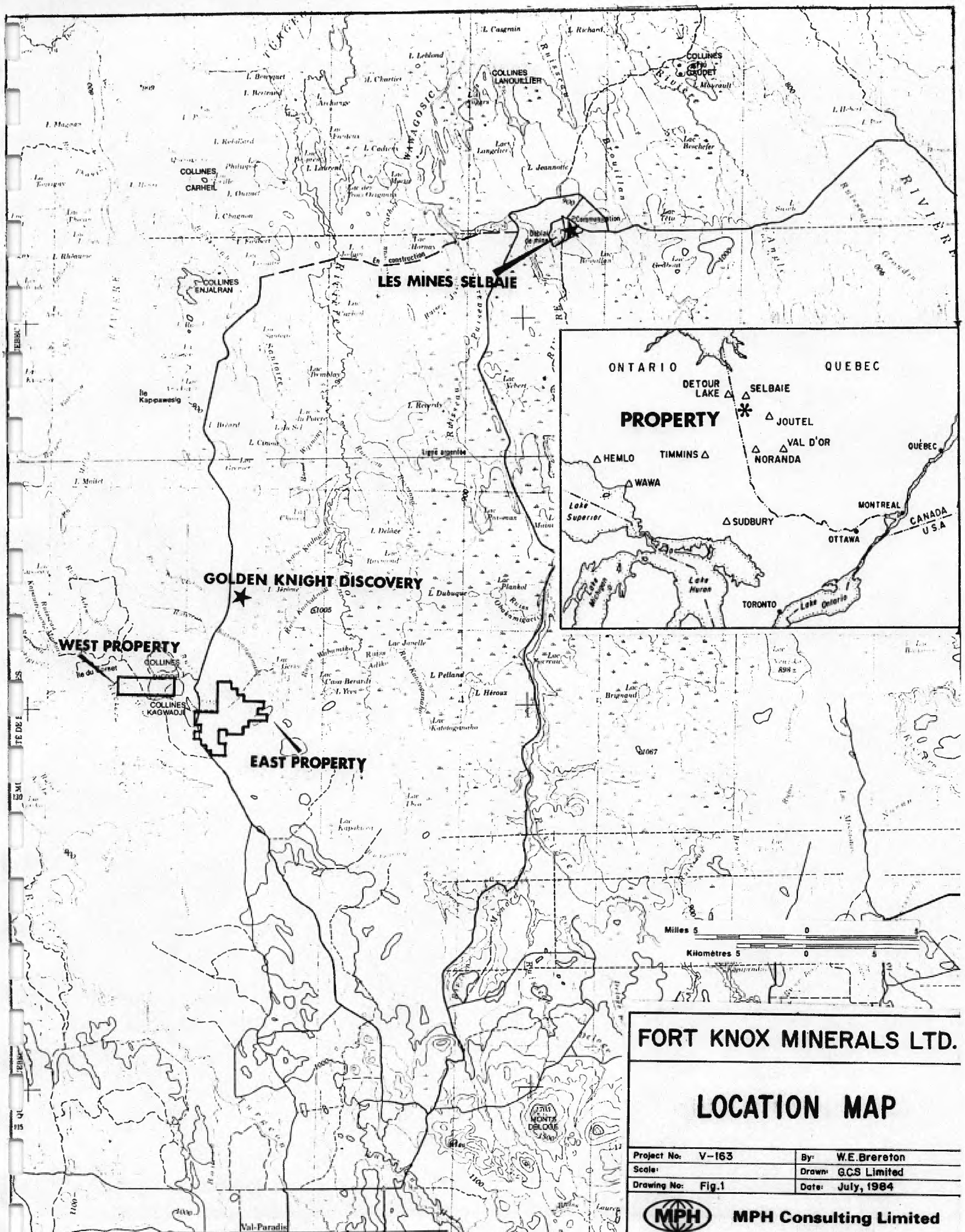
Access to the claims is relatively easy. Year round access is afforded by the Selbaie Mine road which leads directly north from La Sarre through the village of Villebois, thence onto the Lac Dieppe road at a point approximately 15 km north of Villebois. The latter road leads directly between the two claim groups, forming the approximate west boundary of the East Property at a point approximately 35 km past the Lac Dieppe junction.

Numerous logging roads cross the actual claim groups, thereby providing further vehicle access.

Existing hydro-electric power transmission lines extend to within 40 km due south of the properties (at Val Paradis/Villebois).

La Sarre, population 10,000, serves as the main centre of service and supply in the area. Most forms of mining exploration support requirements are available here including fixed and rotary wing aircraft, food, fuel, etc., along with a skilled labour pool from which to draw a potential mining work force.

Local economy is based on the logging, mining, farming, tourism and government service industries. It should be noted that active logging activities are being carried out in the property area. In addition to improving access, this will greatly facilitate ground exploration activities such as geophysical surveying and diamond drilling.


LES MINES SELBAIE
GOLDEN KNIGHT DISCOVERY
WEST PROPERTY
EAST PROPERTY
COLLINES ENJALRAN
COLLINES CARHEIL
COLLINES LANOUILLIER
COLLINES KAGWADJI
En construction
Val-Paradis
ONTARIO
QUEBEC
PROPERTY
DETOUR LAKE
SELBAIE
JOUTEL
VAL D'OR
NORANDA
TIMMINS
HEMLO
WAWA
SUDBURY
MONTREAL
QUÉBEC
OTTAWA
TORONTO
CANADA
U.S.A
Lake Superior
Lake Huron
Lake Ontario
Milles 5 0 5
Kilomètres 5 0 5
FORT KNOX MINERALS LTD.
LOCATION MAP
Project No: V-163
Scale:
Drawing No: Fig.1
By: W.E.Brereton
Drawn: G.C.S Limited
Date: July, 1984
MPH Consulting Limited

The nearest existing gold milling facilities which might be available for milling external ore on a custom or toll basis are those in the Rouyn-Noranda area, some 130 km to the south. Any mining-milling infrastructure established at the Inco-Golden Knight joint venture might also be available to receive custom ore. A need for such custom facilities might arise should a small/low grade deposit be found that did not justify its own mill.

3.0 PROPERTY

The Fort Knox Minerals Ltd. holdings consist of 2 separate claim groups totalling 96 claims (3,840 acres more or less), an East Property and a West Property.

The claims are more properly described as:

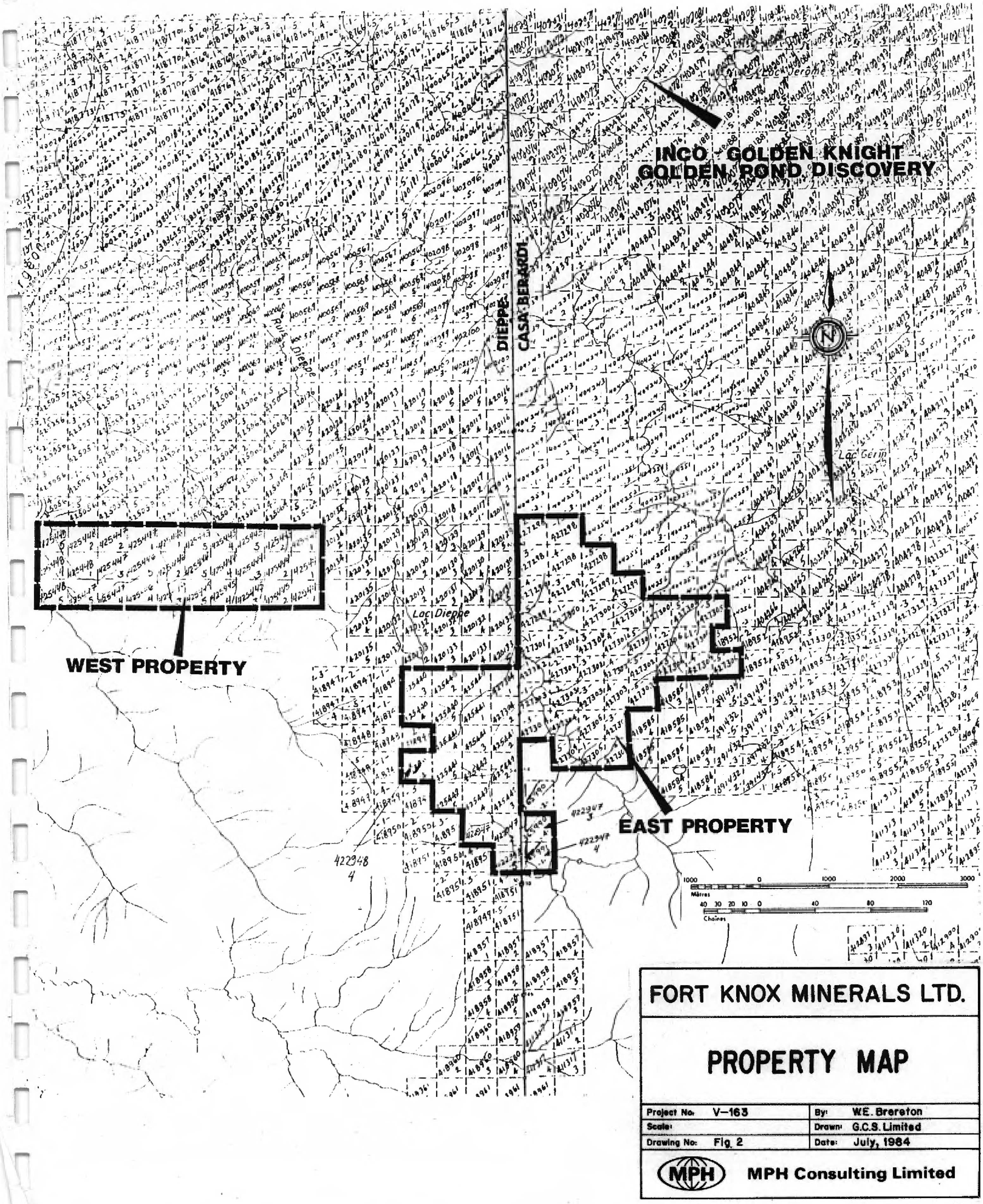
EAST PROPERTY - 66 Claims (Dieppe and Casa Berardi townships)

Claims	Expiration Date	Staker
427298, 1-5	8 March/85	R. Stasyshyn
427299, 1-5	9 March/85	R. Stasyshyn
427300, 1-5	10 March/85	R. Stasyshyn
427301, 1-5	8 March/85	A. Gervais
427302, 1-5	10 March/85	A. Gervais
427303, 1-5	11 March/85	A. Gervais
427304, 1-5	12 March/85	A. Gervais
427305, 1-5	9 March/85	A. Gervais
427306, 1-5	9 March/85	A. Gervais
422947, 1-5	18 April/85	A. Gervais
425442, 1-5	16 April/85	A. Gervais
425441, 1-5	15 April/85	A. Gervais
425440, 1-5	14 April/85	A. Gervais
422948, 1	11 May/85	A. Gervais

WEST PROPERTY - 30 Claims (Dieppe Township)

Claims	Expiration Date	Staker
425443, 1-5	19 April/85	A. Gervais
425444, 1-5	20 April/85	A. Gervais
425445, 1-5	21 April/85	A. Gervais
425446, 1-5	22 April/85	A. Gervais
425447, 1-5	22 April/85	A. Gervais
425448, 1-5	23 April/85	A. Gervais

Figure 2 shows the disposition of the claims relative to the Golden Knight discovery.


INCO - GOLDEN KNIGHT
GOLDEN POND DISCOVERY
DIEPPE
CASA-BERARDI
Lac Dieppe
Lac Gérin
WEST PROPERTY
EAST PROPERTY
N
Mètres
Chaînes
FORT KNOX MINERALS LTD.
PROPERTY MAP
Project No. V-163
By: W.E. Brereton
Scale:
Drawn: G.C.S. Limited
Drawing No: Fig. 2
Date: July, 1984
MPH Consulting Limited

4.0 PREVIOUS AND PRESENT EXPLORATION ACTIVITY

4.1 Previous Work

The property area has been the subject of several investigations over the past 25 years. The following is a summary of this work as gleaned from assessment files in the offices of the Ministry of Energy and Resources, Rouyn, Quebec. The "GM" number refers to the Quebec microfiche file number. Figures 3a and 3b present the previous assessment work in the property area per the Quebec Geoscientific Compilation Maps 32E/11-0101 and 0102.

4.1.1 EAST PROPERTY

Moneta Porcupine Mines Ltd. (GM 15689) in 1959 drilled 7 holes in the general area northeast of this group in follow-up to airborne geophysical surveys. The only hole in immediate proximity to the present property was their hole 2 which was drilled approximately 1 claim north of the No. 1 post of present claim 427305-5. The hole is summarized as follows:

0 - 140 ft.:	Casing (at -50°)
140 - 226.8 ft.:	Andesite and diorite with graphitic sections from 174.0 ft. to 226.8 ft.
226.8 - 286.3 ft.:	Tuff and agglomerate with generally minor pyrite and graphite
286.3 - 334.0 ft.:	Siliceous graphitic material with several sections heavily mineralized with pyrite (up to 65% over 16 ft.)

334.0 ft.:	End of hole

No assays are reported, although 8 samples were taken.

Soquem (GM 34874) in 1979, in the course of a major project in the region drilled 2 holes on the present claims to test ground geophysical targets. The first of these is indicated to have been drilled in the southwest portion of the east block very near the No. 1 post of present claim 422947-1 on a long NNW-trending airborne EM conductor.

The hole (14-1, Figure 3a) is summarized as follows:

0 - 52.6 m:	Overburden (at 60°)
52.6 - 55.8 m:	Intermediate lava
55.8 - 80.8 m:	Graphitic metasediments and basalt; zone from 63 - 80.7 m contains 20 - 25% pyrite; section from 74.9 - 77.9 is somewhat anomalous in Zn with values in the 1,100 ppm range; 5 samples totalling 7.5 m from the section between 57.7 - 77.9 m all returned 0.01 oz Au/ton.
80.8 - 106.7 m:	Tuff; intermediate to acid composition
106.7 m:	End of hole

The highest Au value recorded in the hole was a geochemically anomalous 0.015 oz/ton over the entire section from 80.8 to

The core from this hole was examined in the course of the present study at the Soquem core facility at the old Louvem mine near Val D'Or. Only the section from 171 to 349 ft. (51.8 to 105.8 m) was present in the core racks. This entire section had been split.

The core observed is interpreted to be part of a complex sedimentary/tuffaceous unit which was not completely transected by the drill hole. The rocks consist of laminated, generally blackish cherty sediments, argillite and graphitic argillite. There is a general increase in cherty material progressing down the hole at the expense of argillite. Some of the argillites have a pronounced phyllitic aspect. Thin beds of fine tuffaceous material are present throughout. The black argillite contains nodules and thin bands or lensoid blebs of pyrite which may reach local (several cm) concentrations of 15% or more.

There is a concentration of graphitic material towards the top of the section from 175 to 225 ft. but it should be noted that graphite is also present locally at other places in the section (e.g., 295 ft., 347 ft.). It is this material that is giving rise, at least in point, to the EM conductivity. Quartz ± carbonate ± pyrite material is relatively abundant and is present generally as narrow (1 cm or less) veinlets and fillings, mainly in the more brittle, fractured cherty sediments, throughout the section. There are some concentrations of quartzose vein materials, e.g. 273 to 274 ft., 345 to 348 ft.

This geological setting of a mixed sedimentary/tuffaceous assemblage in contact with volcanic rocks is therefore analogous in a general sense with that at the Golden Pond and Detour deposits and indeed with many other major Archean gold deposits.

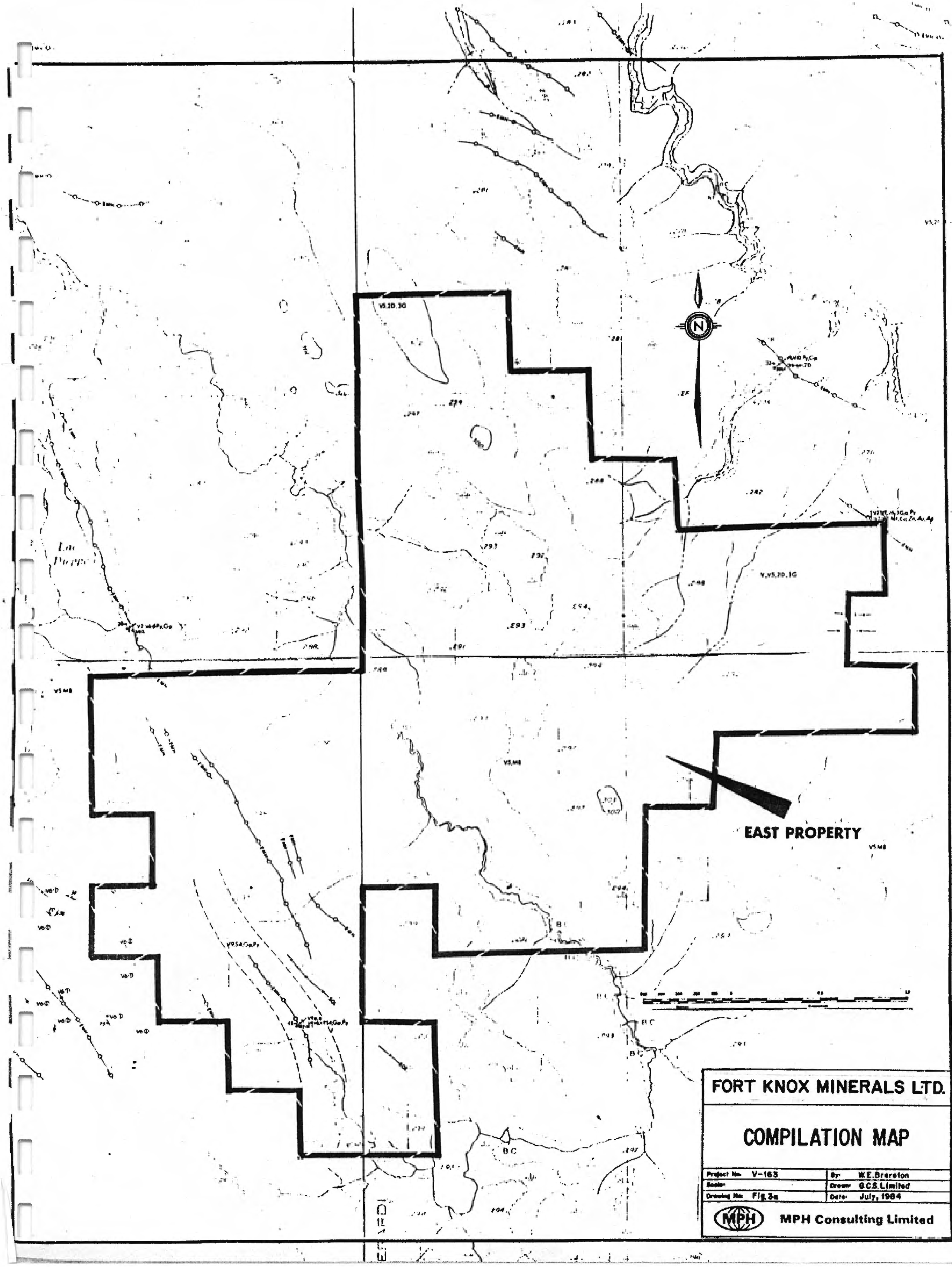
It appears that the entire section in hold 14-1 from 80.8 to 106.7 m (267 to 352 ft.) which assayed 0.015 oz Au per ton was split and sent in as one sample. Judging from the core, there are some zones that are relatively more attractive "gold rocks" such as the interval from 345 to 348 ft. which contains abundant quartzose vein material. The gold represented by the above assay therefore could be from one or more higher grade sections averaged in with surrounding barren material rather than being somewhat uniformly distributed over the entire section. Further attempts to determine exactly how the sampling was carried out, including discussions with the then Soquem drill geologist, have proved unsuccessful to date. It should be noted that this hole has been located in the field and is well flagged.

Soquem permitted some short character samples to be taken. These are being held in Toronto for reference should further drilling be undertaken.

In terms of Figure 3a, it should be noted that there are additional ground electromagnetic conductors indicated to the north of Soquem hole 14-1 that have never been drill tested.

A second hole was drilled on another EM target in the extreme northeast corner of the present property on claim 427305-5. The hole (15-1, Figure 3a) is summarized as follows:

0 - 28.8 m:	Overburden (at -50°)
28.8 - 30.6 m:	Rhyolite
30.6 - 58 m:	Basalt; section from 30.6 to 33.1 m contains 15% py and 10% magnetite


EAST PROPERTY
FORT KNOX MINERALS LTD.
COMPILATION MAP
Project No. V-163
Scale:
Drawing No. Fig 3a
By: W.E.Brereton
Drawn: G.C.S. Limited
Date: July, 1984
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58 - 77.7 m:	Mixed zone of agglomerate, pelitic sediments with some rhyolite, basalt
77.7 - 88.1 m:	Basalt
88.1 - 94.3 m:	Rhyolitic breccia
94.3 - 105.8 m:	Basalt-Andesite
105.8 m:	End of hole

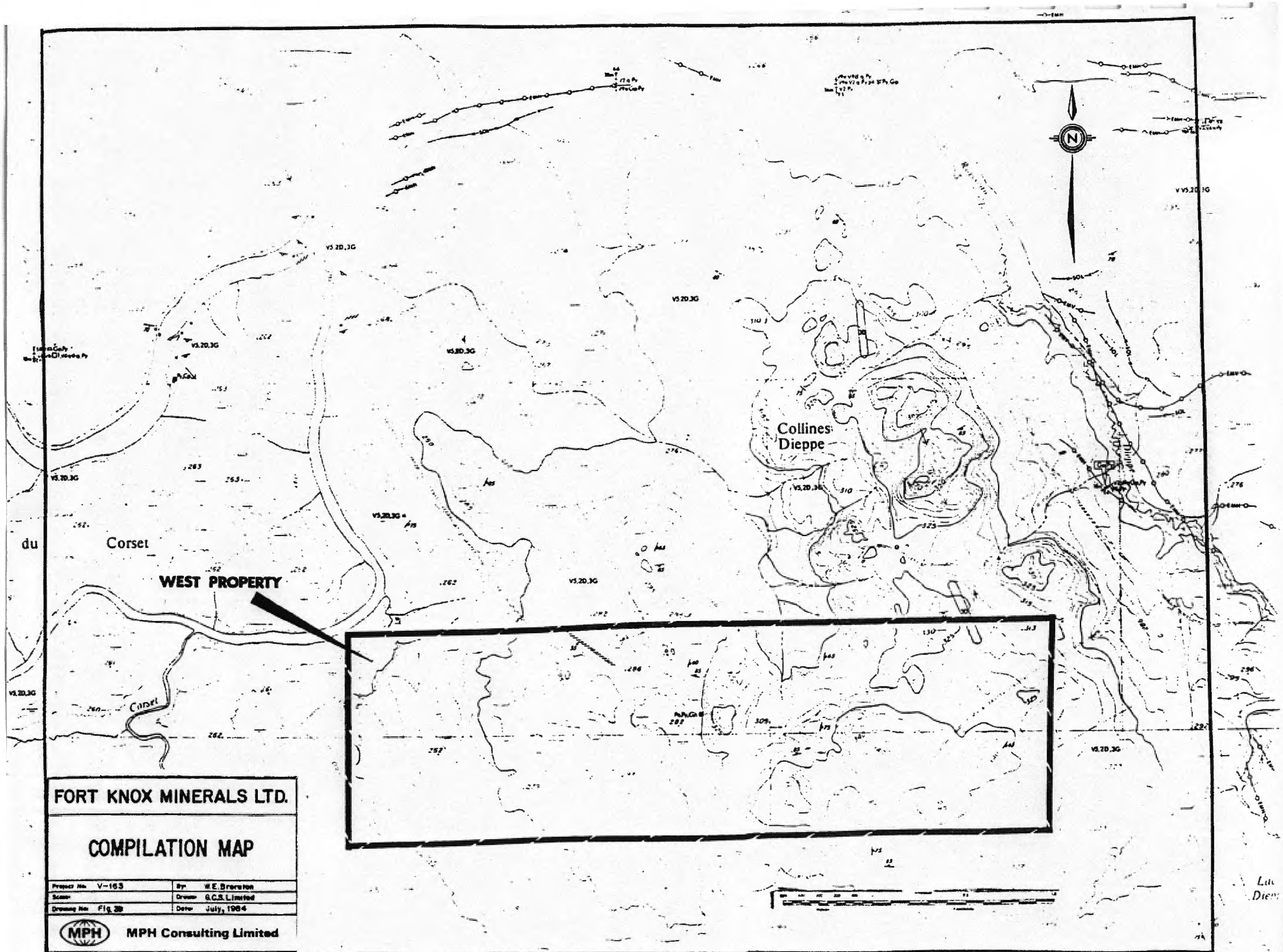
Note that the "Cu, Zn, Au, Ag" notation corresponding to hole 15-1 on Figure 3a actually pertains to hole 14-1.

Hudson Bay Exploration and Development Co. Ltd. (GM 32808) in the mid 1970's carried out a large program in this general region in follow-up to airborne geophysical surveys by Kenting Earth Sciences Ltd. of Ottawa. they drilled three holes on the EM conductive zone which extends down the west side of the present property and which was subsequently probed by Soquem in 1979 (hole 14-1) as described above.

None of the Hudson Bay holes was drilled on the present ground. The closest hole is their NO. E-3 which was drilled at the south end of Lac Dieppe, approximately 275 m north of the present property boundary.

The hole is summarized as follows:

0 - 110 ft.:	Casing (at -55°)
110 - 213 ft.:	Andesite, rhyolite, minor py


Collines
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du
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WEST PROPERTY
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V5,2D,3G
FORT KNOX MINERALS LTD.
COMPILATION MAP
Project No. V-163
By: W.E. Brereton
Scale:
Drawn: G.C.S. Limited
Drawing No. Fig. 3B
Date: July, 1984
MPH
MPH Consulting Limited

213 - 269 ft.:	Graphite with up to 25% pyrite (most of section from 213 to 269 ft. was split and assayed but no values are reported)
269 - 282 ft.:	Breccia, siliceous
282 ft.:	End of hole

Note that the same general geologic sequence is again present relative to Soquem hole 14-1, i.e. a graphite-pyrite conductive zone overlying siliceous volcanic or sedimentary rocks.

Hudson Bay hole E-2, 3 k north of the property along the same EM trend, intersected extensive graphite-pyrite in a felsic volcanic environment. Thirty-five samples were submitted for assay from the 345 ft. hole but no values are reported. There was no log submitted for hole E-1 located 4 claims to the north-northeast of hole E-2.

Amax Exploration Company are reported to have held part of the main EM trend covered by the present claims after Soquem although they apparently dropped the ground without doing any work.

File 35461 which pertains to the property area was missing at the time of the assessment search and should be checked in the course of any further work in the properties.

4.1.2 WEST PROPERTY

There is no record of any previous ground exploration on this group although the claim area has been covered by several air-borne surveys, both government-sponsered and private.

The indicated "py, po, Cu" showing in the central portion of the group (Figure 3b) was found by a Quebec Department of Natural Resources geological mapping crew in 1959 (Remick, 1969, p. 26). The showing consisted of some pyrite and pyrrhotite with minor chalcopyrite along fractures in basalt. This occurrence was not located during the property examination on July 1.

4.1.3 INPUT SURVEY

A key facet of the existing exploration data base in the region is the airborne geophysical surveys (Mk VI INPUT, magnetics) flown by the Quebec Government and released in 1973-1974. Results of these surveys in the property area are presented as Figure 4.

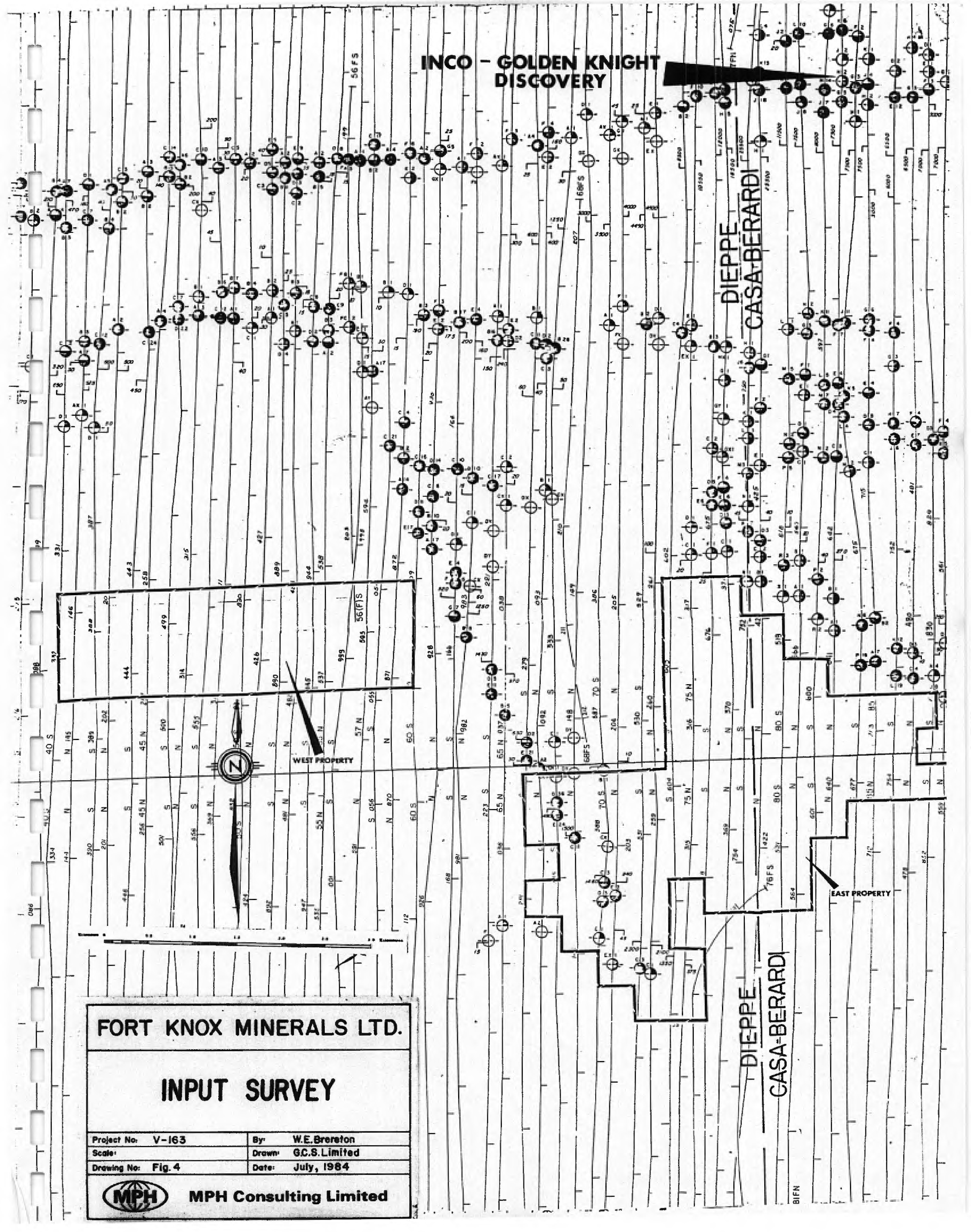
To be noted is the well developed north-northwest INPUT trend along the southwest portion of the East Property. This is the zone partially tested by Soquem and Hudson Bay and is at present the main exploration feature on the Fort Knox Minerals Ltd. ground.

4.2 Present Exploration Activity

There is a great deal of activity in the area at the present time.

Major mining companies with interests in the general area include Noranda, Dome, Inco-Golden Knight, Newmont-Soquem, Canamax and Cominco. The northeast boundary of the Fort Knox Minerals Ltd. East Property ties directly onto a large Newmont-Soquem claim block.

A large number of junior interests are also present including Fort Knox Minerals Ltd., Candaka Metals, Golden Key Resources, Western Pacific Energy Corp. and many others.



FORT KNOX MINERALS LTD.

INPUT SURVEY

Project No:	V-163	By:	W.E. Brereton
Scale:		Drawn:	G.C.S. Limited
Drawing No:	Fig. 4	Date:	July, 1984

MPH Consulting Limited

5.0 THE INCO-GOLDEN KNIGHT GOLD DISCOVERY, CASA BERARDI TOWNSHIP

It appears that the recent Inco-Golden Knight gold discovery in Casa Berardi Township is of major proportions. Grades of up to 0.23 oz Au/ton over 81.5 ft. core length are being reported from drilling on the Golden Pond zone (Hole 58, 339 to 420.5 ft.; Northern Miner, April 26, 1984).

The initial discovery was made by Inco in 1981 by diamond drilling on a ground geophysical anomaly (EM, mag). The actual airborne surveys had been flown by Inco in 1974. It is interesting that an attempt was made to drill this particular anomaly in 1974. Three attempts were made with a light drill, all of which were unsuccessful due to heavy overburden conditions. Further, the discovery hole was drilled on what is now known to be a small satellitic zone well to the south of the main Golden Pond deposit. Three holes drilled after the discovery hole were all blanks. It was only by continued drilling on other targets in the immediate area that the Golden Pond deposit was found.

Golden Knight Resources Inc. of Vancouver subsequently farmed into the entire 882 claim property. They will earn a 40% interest in the property by providing $3,000,000 in exploration. In excess of $2.3 million has already been spent by them. Inco remains the operator.

Some geological details on the deposit were released for the first time at a presentation at the Westin Hotel in Toronto on June 12, 1984.

The following are excerpts from a report on the Casa Berardi property for Golden Knight handed out at the above presentation:

> "The property lies on the south limb of a synclinorium, as described above. It straddles the contact between the lower sequence where volcanics predominate and the overlying thick sedimentary pile. This contact strikes at a few degrees north of east and dips almost

vertically. It runs in the northern part of the main claim group, east of the Turgeon River.

A major anticlinal axis has been recognized parallel to and about 0.6 to 5 kilometers (1 to 3 miles) south of the volcanic-sedimentary contact mentioned above, east of the Turgeon River. At present, there is not sufficient information to construct any sort of detailed stratigraphic column for the Casa-Berardi area. The geology can, however, be differentiated into various groups or large units using the regional iron formations and graphitic horizons as markers, because they respond very well to geophysical techniques. The main rock units recognized at this time are as follows, from top to bottom:

Legend	Description
3	Clastic sediments, mostly sandstone, siltstone.
2e	Upper banded iron formation, ferruginous sediments.
2d	Golden Pond pyroclastic unit, agglomerate, lapilli-tuff, tuffaceous sediments.
2a	Volcaniclastic conglomerates.
1	Lower iron formation, magnetite, ferruginous sediments, clastic sediments.

The geological and geophysical data clearly show that the Golden Pond gold-bearing zone lies within a major east-west trending wide conductive rock unit and an overlying complex pyroclastic unit. The conductive unit can be traced with no ambiguity from the Turgeon River to the east for a strike length of 19 kilometers (12 miles).

At this point, bifurcation occurs and continuity further to the east is less certain. West of the river, a doubled conductive horizon continues as far as the Ontario-Quebec border, but leaves the subject property. The first major conductive unit on the south flank of the anticline may possibly be the fold equivalent of the Golden Pond horizon.

Mineralization

The Golden Pond gold area is so far the only area of the property that has been tested by more than three drill holes. It was discovered in 1981 by drilling and the geology is known entirely from widely spaced drill holes. The rock units face north and dip steeply to the south.

The geology of the Golden Pond area, as described here from the first 16 holes drilled prior to November, 1983, can conveniently be considered in terms of a sequence of four mini-cycles. These face north, start with a relatively high energy sedimentary or volcanic component, and except for cycle IV, terminate with a low energy chemical precipitate or very fine grained sediment. The cycles are numbered from south to north and each are briefly described below.

The base of cycle I consists of a thick polymictic volcaniclastic conglomerate. Clasts of pyritic grey chert and white bedded chert are characteristic. This is succeeded by a unit of graphitic mudstone-siltstone and the cycle is capped by a discontinuous lens of bedded chert-pyrite sulphide facies iron formation. The mudstone is the host of the original discovery* of quartz-tourmaline-gold mineralization. Cycle I hosts three distinct types of gold mineralization; from south to north these are:

1) A weak but continuous zone that straddles the contact between the polymictic conglomerate and graphitic sediments.

2) The discovery of high-grade quartz-tourmaline-arsenopyrite-pyrite visible gold vein in the mudstone-siltstone.

3) Mineralization associated with disseminated arsenopyrite in the pyrite-chert exhalite in drill hole 70203.

High energy rocks at the base of cycle II consist of a variety of dacitic volcanics and volcaniclastic to intraformational conglomerates. The bulk of the cycle consists of a very thick sequence of turbidite greywacke, sandstone, siltstone, mudstone, nodular pyrite-graphite and chert. Variable quantities of intermediate to felsic volcaniclastic material are associated with one or more apparently transgressive, carbonate-sericite alteration zones which cut diagonally across the general east-west strike of the units. The alteration is intense and pervasive. It is possible that this feature represents fossil hydrothermal conduits.

Ore grade gold mineralization in cycle II is associated with the alteration in several bore holes. Gold mineralization is also associated with the graphite pyrite-chert-arsenopyrite assemblage at the top of the cycle.

Cycle III is dominantly pyroclastic in character. It is initiated by a thin, somewhat discontinuous, lapilli-tuff horizon followed by a thick, laterally and vertically continuous, felsic agglomerate unit. The agglomerate is succeeded northward by a mixed sequence of lapilli-ash tuffs, green chloritic mudstone, cherts and a thin dacitic flow (?). The cycle is capped by an exhalitive unit consisting of magnetite-quartz-chlorite-carbonate-pyrite iron formation and intercalated ferruginous sediments.

Gold mineralization in cycle III has been located on, and straddling, the south and north contacts of the agglomerate unit and in one thin bed of pyritic iron formation.

Cycle IV consists of well-bedded, non-graphitic, calcereous sandstone-siltstone-mudstone. The north extension of this cycle is not yet defined.

The overall simplicity of the mineralogy in the Golden Pond area is explained by the generally quartzo-feldspathic nature of most of the primary sedimentary and volcanic lithologies. These, in their least altered states, consist of plagioclase, quartz, and in the sedimentary facies, varying proportions of clay-derived sericite and primary (?) calcite. Superimposed upon this primary mineralogy is a presumably hydrothermal metasomatic alteration. This alteration is characterized by progressive replacement of quartz-plagioclase-calcite by sericite-Fe carbonate-Mg chlorite. Whole rock chemical data and petrographic observations suggest that notable quantities of Fe-Mg-Ca-Mn-Ti CO_2-S-As-B are added to the system while Si-Na-K-Al (6) are removed. The bulk of the leached Si probably ends up as a constituent of the numerous quartz-carbonate veins which characterize the most highly altered zones or in stratigraphically higher cherty exhalites and iron formations.

The best gold mineralization found so far is in the central and western part of the Golden Pond area. Values higher than 5.1 grams per tonne over core width of over 3 meters (0.15 ounce per ton, over 10 feet) were intersected in 16 holes out of 22 along a strike length of 720 meters (2,360 feet). All 22 holes, except one (70328), intersected at least one section of 1.5 meters (5 feet) grading 3.4 grams of gold per tonne (0.10 ounce per ton) or more. Most of the holes in this sector returned two or more sections of economic interest. Hole 70269, the last hole drilled in February, 1984, intersected seven mineralized sections, as indicated following. The best sections encountered in the central and western part of the Golden Pond area are as follows:

Hole No.	Gram per tonne/meter	Ounce per ton/feet
70267	34.91/3.44	1.018/11.3
70268	9.77/7.10	0.285/23.29
70269	6.76/8.84	0.197/29.0

These holes are the last three drilled in early 1984."

The present author would also add that a major east-west trending, north-dipping zone of faulting, shearing and alteration reportedly passes through the mineralized area. Some Inco geologists are of the opinion that this structure has had a major influence on mineralization. Some of the mineralized zones appear to be truncated by or rooted in this fault zone. There is also rumoured to be some north-south faulting, the effects of which are not clearly understood at this time.

Subsequent to the Golden Pond discovery, an on-going, aggressive exploration effort has resulted in the discovery and partial delineation of the Golden Pond East deposit and more recently, the Golden Pond West zone. Reverse circulation basal till sampling and, to some extent, Induced Polarization surveying, have reportedly played a key role in these new discoveries.

The significance of the Golden Pond East zone is emphasized by an article in the Northern Miner (December 13, 1984) which notes that:

"Hole 71747 returned an impressive 44.2 ft. grading 0.78 oz gold per ton from 693.5-737.7 ft. This section included 19.3 ft. grading 1.27 oz. gold per ton.

Results from three other holes in the zone are listed below:

Hole	Intersection (ft)	Width (ft)	Grade oz gold/ton
71740	707.3-713.8	6.5	0.11
	818.7-860.0	41.3	0.30
	822.4-832.5	10.1	0.83
71743	162.4-171.6	9.4	0.18
	270.8-282.7	11.9	0.08
71751	1,201.0-1,209.9	8.9	0.12
	1,222.2-1,228.9	6.7	0.08
	1,286.0-1,292.9	6.9	0.37"

Unofficial preliminary tonnage figures for the Golden Pond and Golden Pond East are currently being quoted in the neighbourhood of 8,000,000 tons at 0.22 oz Au/T.

6.0 GEOLOGY, MINERAL DEPOSITS AND EXPLORATION MODELS, DETOUR - JOUTEL SECTOR, ABITIBI GREENSTONE BELT

6.1 Geology

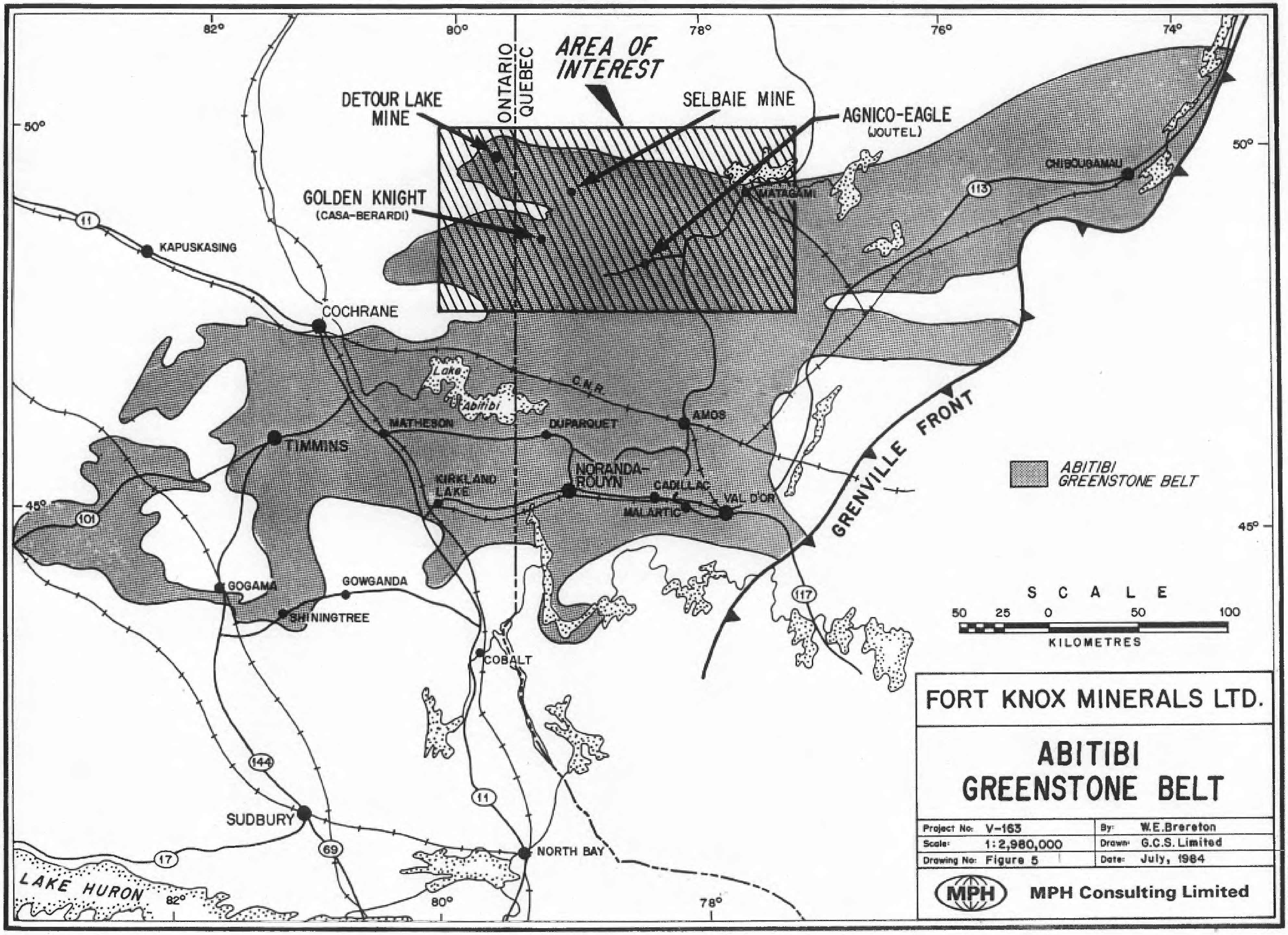
The general area of interest extends from the Detour-Burntbush area in Ontario into Quebec through Casa Berardi into the Joutel area (Figure 5).

This is generally a flat, monotonous area with heavy forest and muskeg cover. Outcrop exposure is probably 2% or less so that the geology is very imperfectly known. A further corollary of this is that there are probably several major deposits beneath overburden yet to be discovered in the region.

The geology of the immediate area of interest as presently interpreted by the Quebec Government from scattered rock outcroppings, airborne magnetics, INPUT surveying and some drill hole information is depicted on Figure 6.

Mafic metavolcanics are interpreted to be the predominant lithology. Scattered throughout this mafic "sea" are several centers of felsic volcanism such as in the Matagami area and around Selbaie Mine. We are of the opinion, based on extensive assessment research, that there are far more felsic rocks in this region than presently recognized. This is very important from an exploration viewpoint in that base ± precious metal massive sulphide deposits are typically associated with such rocks.

Intercalated with the mafic rocks are regional sedimentary-tuffaceous units with abundant graphite, argillite, sulphides and oxide iron formation. These units typically appear as zones of airborne EM conductors which may extend for 10's of miles across country. As such,


AREA OF INTEREST
ONTARIO
QUEBEC
DETOUR LAKE MINE
SELBAIE MINE
AGNICO-EAGLE (JOUTEL)
GOLDEN KNIGHT (CASA-BERARDI)
KAPUSKASING
COCHRANE
CHIBOUGAMAU
MATAGAMI
Lake Abitibi
C.N.R.
AMOS
MATHESON
DUPARQUET
TIMMINS
NORANDA-ROUYN
KIRKLAND LAKE
CADILLAC
VAL D'OR
MALARTIC
GRENVILLE FRONT
ABITIBI GREENSTONE BELT
GOGAMA
GOWGANDA
SHININGTREE
COBALT
SUDBURY
NORTH BAY
LAKE HURON
11
101
113
117
144
69
17
82°
80°
78°
76°
74°
50°
45°
SCALE
50 25 0 50 100
KILOMETRES
FORT KNOX MINERALS LTD.
ABITIBI GREENSTONE BELT
Project No: V-163
Scale: 1:2,980,000
Drawing No: Figure 5
By: W.E.Brereton
Drawn: G.C.S. Limited
Date: July, 1984
MPH Consulting Limited

they provide valuable stratigraphic marker horizons. This sedimentary tuffaceous setting can also be a fertile one for mineral deposits. The Casa Berardi deposit is in such a setting as is the approximately regionally equivalent Agnico-Eagle Mine at Joutel.

Intrusive into all of these rocks are various intermediate to felsic plutons, some of which may be broadly coeval with volcanism, i.e. synvolcanic.

6.2 Mineral Occurrences

After the Republic of South Africa's Witwaterstrand, which produced 1,114 million ounces of gold between 1884 and 1978, the greatest gold mining area of the western world is Canada's Abitibi belt, also about 2,700 million years old and composed mainly of interbedded volcanic and sedimentary rocks. Between 1906 and 1981, the Abitibi belt produced more than 133 million ounces of gold.

Several major gold and base metal deposits are present in the general region (Figure 5). The characteristics of some of these are described following:

a) Detour Mine - Ontario

The Detour gold (± copper) deposit was found in 1974 by Amoco Canada Petroleum Company Ltd. during a geophysically-oriented search for massive sulphide base metals deposits. The original target was selected for drilling on the basis of a strong electromagnetic conductor with a directly coincident magnetic high. These geophysical responses are known now to relate primarily to the cherty sulphide (pyrite, pyrrhotite ± chalcopyrite) iron formation which is host to much of the gold ore.

Present re-calculated reserves are quoted at approximately 10.9 million metric tonnes averaging approximately 0.128 oz Au per tonne and 0.15% Cu. These reserves are only to the 1,800 foot level with the deposit completely open to depth. The mine went into full official production on November 4, 1983 at a rate of 2,500 tonnes per day. Initial production is by open pit. This will be phased into an underground operation as open pit reserves are exhausted. A mill increase to 4,000 tonnes per day is also planned.

The following geological description of the deposit is paraphrased from Jackson (1980).

> "In the immediate vicinity of the deposit, the stratigraphic sequence, as known, consists of several hundred to several thousand feet of fine-grained arkosic and graphitic sediments with occasional interbedded basaltic to ultramafic flows and tuffs. This grades upward into a sequence of interbedded mafic tuffs and sediments approximately 1,000 feet in thickness, with the mafic tuffs being predeominant. This, in turn, is overlain by a distinctive variolitic basalt sequence which is up to 300 feet thick.
>
> The variolitic sequence is overlain by a very well banded sequence of mafic tuffs up to 100 feet thick. These are chloritic and biotitic and are characterized by alternating light-dark beds up to 1 inch in thickness.
>
> The mafic tuffs are overlain by a series of ultramafic flows and tuffs which vary in thickness from 10 feet to 300 feet. In the thicker portions, these rocks appear quite massive, varying from finely crystalline talc-carbonate rocks to medium to coarsely carbonate units. The thinner parts of

the unit are usually very well-banded and appear to be tuffs as they contain numerous relict fragments. These are also highly altered to talc-carbonate.

Several quartz-eye porphyry units occur in the central part of the ultramafic. These units are generally foliated and in some cases appear tuffaceous but their somewhat irregular nature and the often chloritic contacts suggest that they are dykes. (This intrusive nature has subsequently been confirmed in the open pit - WEB.)

Two other units found within the ultramafics consist of coarsely crystalline gabbroic and pyroxenitic intrusives. The gabbro is non-magnetic and has been largely altered to tremolite and chlorite. The pyroxenite is highly magnetic and is characterized by large pseudomorphs of tremolite and magnetite after olivine or pyroxene. This unit forms a large mass on the eastern end of the main Detour ore zone and is indicated by a large magnetic high.

The ultramafic unit is overlain by a cherty tuff which is generally from 1 foot to 10 feet but usually less than 5 feet thick. It is a creamy grey, very well laminated chert. The lower contact is usually marked by a 1 foot to 2 foot band of pyrrhotite with minor chalcopyrite. These sulphides usually contain rounded inclusions of quartz from ½ inch to 2 inches in diameter. The cherty tuff is overlain by several tens of hundreds of meters of basaltic flows and tuffs. The first 500 feet to 650 feet of the basalts are massive to moderately foliated, medium to coarsely crystalline rocks.

Intrusive into the sequence, particularly east of the deposit, are several magnetic dioritic sills.

The "main zone" of gold mineralization is essentially an auriferous quartz fracture zone. It is centered on the cherty tuff unit and the immediately overlying basalts. Gold values extend beneath the cherty tuff into the underlying altered ultramafics.

The main quartz fracture zone has an indicated strike length of 700 to 900 feet. It is somewhat arcuate in plan with strikes varying from east-west in the west to northeast-southwest in the east. The mineralized zone plunges 35 or 45 degrees to the west.

The main zone is generally 20 to 40 feet in width and consists of a system of quartz veins which contain 10 to 15% pyrrhotite, 0.5 to 1% chalcopyrite and 1 to 5% pyrite within the veins and as selvages. The zone is characterized by extensive biotite alteration of the basalts. The quartz veins are generally less than 6 inches in width and average 3 to 5 veins per 5 feet through the zone. The gold occurs mainly as free grains within the quartz veins and sulphide selvages.

A small amount also occurs in gold-silver tellurides. Gold particles are usually 10 to 12 microns in size and often adhere to sulphide grains. Other sulphides commonly encountered are marcasite and various bismuth and lead tellurides.

Several other zones of mineralization have been indicated but are less well-defined than the main zone.

> Four zones were indicated in the hanging wall basalts above the main zone and are referred to as the quartz-vein zones. The mineralization in these is similar to the main zone in that the gold is within quartz veins with associated pyrrhotites and chalcopyrite and biotite selvages. Most of these quartz-vein zones have been interpreted to occur in structures that parallel the main zone.
>
> There are also several zones of mineralization in the talc-carbonate rocks. In these zones, the gold occurs as blebs and specks within the rock in close association with and pyrrhotite and chalcopyrite. Quartz veins are occassionally present but are not essential for the presence of gold. These talc-carbonate zones occur along the plunging hinge line of the subsidiary warp containing the main zone."

An important point at Detour is that the main ore zone occurs exactly at a local, gentle anticlinal warp on the north limb of the Detour anticlinal fold, the axis of which is located well south of the mine. The plunge of the ores is exactly that of the fold plunge (45° - 60° west). Further, the hanging wall quartz vein zones appear to occupy a fracture zone which is axially planar to the subsidiary warp. It appears, therefore, that there is a very strong structural influence at Detour along with the obvious stratigraphic influence. It should also be emphasized that the host rocks are mafic volcanics (vs Casa Berardi, Agnico Eagle, etc.).

b) <u>Selbaie Mine - Quebec</u>

This zinc-copper ($\pm$ gold, silver) deposit was discovered in 1974 by a Selco Exploration - Pickands Mather joint venture via diamond drilling of a very weak horizontal loop EM anomoly in follow-up to an airborne INPUT survey. The Selbaie Mine went into official production in mid-1981 at 1,500 metric tonnes per day (B-Zone). The mine is currently undergoing a major expansion, funded in part by the Quebec government.

Ore reserves at December, 1982 consisted of 2.83 million metric tonnes averaging 3.5% Cu, 0.7% Zn, 33 g Ag, 1.2 g Au per metric tonne in the B Zone and 24.4 million metric tonnes averaging 0.49% Cu, 2 to 3% Zn, 34.3 g Ag and 0.38 g Au per metric tonne in the A-1 Zone. Reserve figures quoted for the A-2 Zone in 1978 were 5 million short tonnes grading 2.02% Cu, 1.33% Zn, 0.36 g Ag and 0.036 g Au per tonne.

the Selbaie deposits are centered 40 km northeast of the present properties within an easterly-trending series of intermediate to felsic flow and fragmental rocks adjoining the Brouillan batholith. The following comments are abbreviated from Deptuck, Wierzbicki and Squair (unpublished).

> "The Selbaie deposit, discovered in 1974, occurs within acid pyroclastic and volcaniclastic rocks which form part of the Matagami section of the Archean Abitibi orogenic belt. Three zones; A-1, A-2 and B have been outlined by surface diamond drilling and underground development.
>
> This base metal deposit is atypical compared to known Canadian Shield types in that it consists of epigenetic-quartz-carbonate vein systems resulting from hydrothermal activity related to late stages of acid volcanism. A caldera volcanic setting with subaerial and subaqueous depositional environments is postulated.

Veining and minor replacement occur in preferred but variable steeply dipping fracture/fault patterns. The veining systems of the A-1 and A-2 zones are concentrated within subhorizontal, permeable formations.

Principal hypogene minerals are pyrite, sphalerite and chalcopyrite; galena, tetrahedrite, polybasite and native silver occur in minor amounts with native gold in trace amounts. Supergene chalcocite, digenite, covellite, bornite and native copper occur as fracture fillings and replacement rims around hypogene sulphides forming an enriched zone associated with intense kaolinitization in the upper portions of the B-Zone and elsewhere in minor amounts.

The host rocks consist of rhyolitic tuffs and breccias, bedded cherty-pyrite, and volcaniclastic debris. An overlying quartz porphyry unit which is weakly mineralized may have formed an impermeable cap rock trapping the hydrothermal solutions and thereby localizing the deposits within channels in the underlying fragmental rocks.

The deposit lies in a drift-covered region, where local terrain is characterized by extensive swamps of low relief. Bedrock exposures are confined to isolated hills, and the channels of several large rivers.

The deposit occurs within a crescent-shaped band of acid to intermediate flow and fragmental volcanic rocks some 65 kilometers long. It is located near the southwest margin of a plutonic complex known locally as the Brouillan Granite, which is roughly circular and has an area of approximately 270 square kilometers."

Important points to be noted at Selbaie include:

i) relatively weak nature of the initial EM target;

ii) somewhat different i.e. more epigenetic nature of the mineralization relative to the classical massive sulphide model

c) <u>Agnico-Eagle Mine - Quebec</u>

Located near Joutel, 60 km east of the present Fort Knox Minerals Ltd. property, this gold-silver producer reported production of 995,808 oz Au and 118,884 oz Ag from 1974 to 1982. Second quarter production in 1983 amounted to 71,755 tons of ore grading 0.216 oz Au per tonne for 14,164 oz Au; 1983 production totalled 49,412 ounces of gold.

Barnet et al. (1982) report on the deposit as follows.

> "Investigations leading to the discovery of the deposit began in February, 1962 during early exploration of the Joutel-Poirier district for base metal sulphide deposits. Ground geophysical surveys outlined coincident magnetic and electromagnetic anomalies which were tested by diamond drilling in late spring of the same year. Exploration continued, and by 1967 it was apparent that a potentially mineable deposit of auriferous pyrite existed, and underground development was initiated. Regular and sustained production began in 1974.
>
> Unlike most Archean gold deposits, Agnico-Eagle has many similarities to massive base metal sulphide deposits, suggesting a common volcanogenic origin. The gold is contained within the suplphide facies of a stratabound to stratiform carbonate-sulphide-silicate-oxide facies iron formation

which immediately overlies a sequence of partially welded felsic tuff and lapilli tuff. Within the ore-bearing horizon are interdigitating, partially welded felsic tuff-breccia and intercalated cherty sedimentary rocks and water-lain tuff. A carbonaceous schist containing pyrite bands and nodules occurs immediately overlying the ore zone.

The ore-bearing sequence is distinctly zoned with an outward change from an iron silicate facies exhalite at the center of the ore body to iron carbonate facies exhalite. A diabase dyke transects the former. The footwall rocks near the diabase and beneath the silicate facies exhalite are enriched in chlorite and pyrite. Although chalcopyrite and sphalerite are present only in accessory quantities, analytical data indicates that copper and zinc exhibit both lateral and vertical zonation. There is also a distinct sequential upward change in the composition of the carbonate facies exhalite from siderite-rich to ankerite-rich. In addition, there is a marked upward increase in the manganese and magnesium content of both siderite and ankerite. The only important ore mineral is native gold with a fineness of approximately 830. The gold occurs as microscopic-size inclusions and veinlets in and around pyrite in the carbonate facies exhalite, and pyrite and pyrrhotite in the silicate facies exhalite. It is proposed that like many massive base metal sulphide bodies, the Agnico-Eagle deposit formed by volcanogenic and exhalative processes. Fluids migrated up a tensional fracture into a local reduced basin, possibly within a collapse caldera following explosive felsic volcanism. As a result, footwall rocks were altered along the channelway by fluid movement, and chemical sedimentary strata, including the gold ore, were deposited around the vent on the seafloor. These strata were themselves altered and chloritized near the vent, but as

> subsequent metamorphism was minor, primary relationships are well preserved. The feeder fracture was subsequently intruded by a diabase dyke with resulting minor thermal metamorphic effects."

A key point in terms of Agnico-Eagle, as noted, is that it is essentially a pyrite deposit which carried economic gold values. This is reminiscent of the Horne Mine at Noranda which, although generally thought of as a base metals mine (mainly copper), was actually a massive pyrite gold deposit in that some 11 million ounces of gold were produced from 58 million tonnes of ore during the life of the mine. There is still indicated to be in excess of 100 million tonnes of pyritic material carrying low gold values (0.05 oz/tonne ±?) in the old workings which will probably be mined at some point.

Any pyrite ± pyrrhotite zones in this region should therefore be throughly evaluated for their gold potential.

6.3 Exploration Models

The foregoing descriptions of mineral deposits serve to illustrate some of the types of gold deposits which can be expected in the region. These include:

a) stratiform/stratabound deposits ± sulphides, quartz vein zones, graphite, oxide iron formation in both mafic volcanic environments (Detour) and felsic volcaniclastic-tuffaceous-sedimentary environments of volcanic contact (Casa Berardi).

b) massive and stringer sulphide gold deposits without base metals (Agnico-Eagle) or with base metals (Selbaie) in a generally felsic volcanic-sedimentary environment.

There is probably also potential for the structurally-controlled, intrusive-associated, quartz stockwork type of deposit both along the margins of intermediate to felsic plutons and within these. Such deposits are well represented in the Val D'Or area to the south.

Disseminated gold deposits associated with carbonated, pyritized mafic volcanics may also be present. Such deposits are important sources of gold ore elsewhere in the Abitibi, for example, in the Timmins area (Owl Creek Mine, Dome Mine).

7.0 FIELD EXAMINATIONS

7.1 East Property

This 66 claim group, straddling the Dieppe-Casa Berardi line, is virtually entirely overburden covered. Most of the property has been logged off.

Some time was spent examining an area of scattered outcrop on and to the west of the southwest property boundary to the west of the previous QDNR INPUT zone. This outcrop consists in general of massive and pillowed basaltic flows. Minor, often laminated cherty interflow material is locally present in pillow interstices. The flows trend north-northwest and dip moderately to steeply west (60°±).

Stratigraphic tops are also indicatd to be to the west so that the sequence here is upright. The main INPUT trend immediately to the east has the same north-northwest trend and is also indicated to dip west based on previous drilling, although this zone does not outcrop anywhere along its length.

A narrow linear airborne magnetic anomaly is indicated to be present approximately two claims to the east of and parallel to the INPUT zone. This is probably a magnetite-bearing mafic sill.

A local outcrop knob is present on claim 427303-5 in the east portion of the group. This consists of a massive basalt flow to the north with pillowed units to the south, the two separated by a thin pillow breccia unit. Strike here is approximately 060° with tops still to the northwest.

A large outcrop area immediately east of the claims again consists primarily of basaltic flows with some pillow breccia; trends are now essentially east-west. A magnetite-bearing diorite body is present immediately south of the logging road through this area.

These divergent trends from north-northwest through to eastwest are clearly evident in the airborne geophysical trends and reflect a warping of the volcano-sedimentary stratigraphy around more competent granitoid batholiths during oregeny.

The collar for previous Soquem hole 15-1 was located during the staking and is approximately 60 m southwest of the No. 1 post of claim 427305-5.

7.2 West Property

This 30 claim block contains extensive outcrop. It is centered over the south portion of the "Dieppe hills", a large outcrop area which rises up to 100 ft. above the swamp to the west.

This claim group again has been largely logged over.

The rocks observed here were generally brown-weathering, massive basaltic flows. Several units of siliceous-cherty interflow material were noted between basalt flows. One of the larger of these was in the northwest portion of claim 425445-1 in the southeast corner of the property. This consisted of a white-weathering stratiform siliceous zone up to 3 m thick with cherty fragments and narrow chert bands sandwiched between brown weathering basalt. Chert fragments and bands were also noted in several places in basaltic flow top and interflow breccia units. Although probably not of any direct economic significance, such units do indicate that there was siliceous exhalative activity between periods of volcanic erruption in the area at the time.

The only distinct intrusive rock noted was in the southeast corner of claim 425448-2 and consisted of a narrow, north-striking dyke of fine-grained greenish porphyry containing minor finely disseminated pyrrhotite.

Coarser grained, massive rocks along the northwest property boundary are interpreted to be coarser flows rather than intrusive rocks.

The volcanic units on the property generally trend east-west and dip steeply.

A representative sample of basalt was collected from the southeast corner of claim 425448-2 and submitted for whole rock geochemistry. Geochemical results are presented in Appendix 1. Plotting of these values on both Jensen Cation Plot and standard AFM rock classification diagrams yields tholeiitic basalt compositions.

The "py, po, Cu" occurrence on the edge of the large outcrop area in the central portion of the claims could not be located during the property visit.

8.0 AIRBORNE GEOPHYSICAL SURVEYS

Following the initial field investigations and mining assessment searches, it was decided to carry out airborne geophysical surveys on the project utilizing the DIGHEM system.

North-south lines at 200 m spacing were flown over the entire west claim block. A very detailed survey with 100 m lines was flown over the west portion of the East Property to map the known INPUT conductive trend in detail and to locate previously undetected conductive zones.

The detailed DIGHEM report and maps are presented as Appendix 2. We have reviewed the DIGHEM data and offer the following comments:

1) The Dighem anomalies have been reasonably analyzed and appraised by Dighem in their report.

2) On Block A (West Property), no EM anomalies were recorded that could represent credible or even vaguely plausible bedrock conductors, consistent with the absence of conductors in the QDNR Input survey. The magnetic anomalies are interpreted to reflect diabase dikes striking obliquely to the flight direction.

3) On Block B (East Property), the most prominent, persistent, credible bedrock conductor detected by the survey extends NNW-SSE across the entire survey area, consistent with the QDNR Input results.

   This conductor lies on the western edge of a prominent, co-extensive magnetic anomaly in the northern part of the survey. However, in the southerm half of the survey the conductor is several hundred meters west of the magnetic anomaly.

The principal magnetic anomaly shows several offsets, notably between lines 322 and 323, and between lines 337 and 338, which are reasonably inferred to reflect faults. The conductor, on the other hand, shows no such disruptions or offsets.

This divergence of EM and magnetic trends implies that the conductor could be a graphite horizon while the source of the magnetic anomaly is geologically distinct from the source of the conductor. Thus the magnetic anomaly could reflect a mafic sill, although an oxide iron-formation is still a possibility.

The survey noise level, particularly for the important 900 Hz coaxial component, was distinctly higher than is desirable or usually achieved. Consequently, recognition of low amplitude bedrock conductors on this channel is difficult. Since Block B has considerable conductive overburden, this deficiency impedes identification of deep conductors.

Most of the other EM anomalies selected and evaluated by Dighem in Block B are clearly surficial responses. There are, however, a few weak, possible bedrock responses, discernable mainly on the in-phase response of the 900 H_3 co-planar coil. These responses in some cases may be present on the co-axial trace as well, although difficult to recognize in view of the high noise level. These zones are best outlined on the apparent resistivity map derived from the 900 H_3 co-planar data. Although viewed with considerable suspicion, they probably deserve checking on the ground. These are:

a) a weak three line zone at the north end of the survey just east of the lake believed to have been previously drilled by Hudson Bay.

b) a group of weak X-type responses in the northeast part of the survey area, principally between lines 307 and 312 with a possible extension onto lines 317 and 318. This feature has an accompanying weak magnetic anomaly.

c) a short zone sub-parallel to and immediately west of the main conductive trend extending from line 324 through 326.

d) a short weak feature immediately east of the main conductor trend on lines 332 and 333.

e) a group of weak anomalies between lines 330 and 337 that can be viewed as either being strong surficial or deep bedrock responses.

(It should be noted that none of these weak responses has any correlating anomaly in the QDNR Input survey data.)

9.0 CONCLUSIONS AND RECOMMENDATIONS

The most significant exploration feature on the Fort Knox Minerals Ltd. properties at this time is the general zone of DIGHEM/INPUT conductivity in the southwest portion of the East Property.

Previous Soquem drilling here has indicated a geological environment known to be permissive for gold mineralization in the Abitibi consisting of a complex assemblage of argillitic/cherty sediments and tuffaceous material with graphite, pyrite and quartz veining. These rocks are indicated to be chemically anomalous in gold (± zinc). This geologically favourable zone has only been very superficially tested. There is, for example, approximately 2.5 km of untested strike length between Soquem hole 14-1 and Hudson Bay hole E-3, virtually all of which is on Fort Knox Minerals Ltd. ground.

A multi-stage exploration effort should be initiated to thoroughly evaluate the gold potential of the ground.

Phase 1a should consist of selective linecutting and Max Min II EM and magnetic surveying as follow-up to the DIGHEM surveying. Recommended survey lines, expressed in terms of the DIGHEM flight lines within property boundaries, are as follows:

i) line 308 to 310 extending northeast to the river
ii) line 315 to investigate local thickening in main conductor
iii) line 325 to 327 extending west of main conductive trend to the road
iv) midway between line 319 and 320 to investigate most highly conductive portion of the main trend in an area of broad flexure
v) lines 331 to 333 extending 300 m east of the main road

Cost of this work is estimated at $15,000.00

Phase 1b should consist of diamond drill testing of priority targets located by the above work relative to our explorative models for the property. A total of 1,500 ft. in 3 holes should be budgetted at an all-inclusive cost of $60,000.00 for a total Phase 1 cost of $75,000.00

Phase 2 which will be contingent on Phase 1 will consist most probably of additional ground EM (± Induced Polarization) surveying along with further diamond and possibly reverse circulation drilling. A tentative $175,000.00 budget figure is proposed for this stage.

Phase 3, contingent on Phases 1 and 2, would be diamond drill intensive and a tentative budget figure of $250,000.00 is suggested at this time for a total Phase 1, 2, 3 budget of $500,000.00

Respectively submitted,

W.E. Brereton, P. Eng.

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CERTIFICATE OF QUALIFICATIONS AND LETTER OF CONSENT

I, W.E. Brereton, of Toronto, Ontario, do hereby certify that:

1. I am a consulting geologist with an office at 2406-120 Adelaide Street West, Toronto, Ontario, Canada.

2. I obtained a B.Sc. (Hon.) degree in Geology and Physics from Queen's University in 1971, and a M.Sc. (A) from McGill University in 1977.

3. I have practiced my profession continuously since graduation and have been in private independent practice since 1977.

4. I am a member of the Association of Professional Engineers of the province of Ontario.

5. I have no interest, either direct or indirect in Fort Knox Minerals Ltd. or any of Fort Knox Minerals Ltd. subsidiaries, nor do I expect to receive or acquire any such interest.

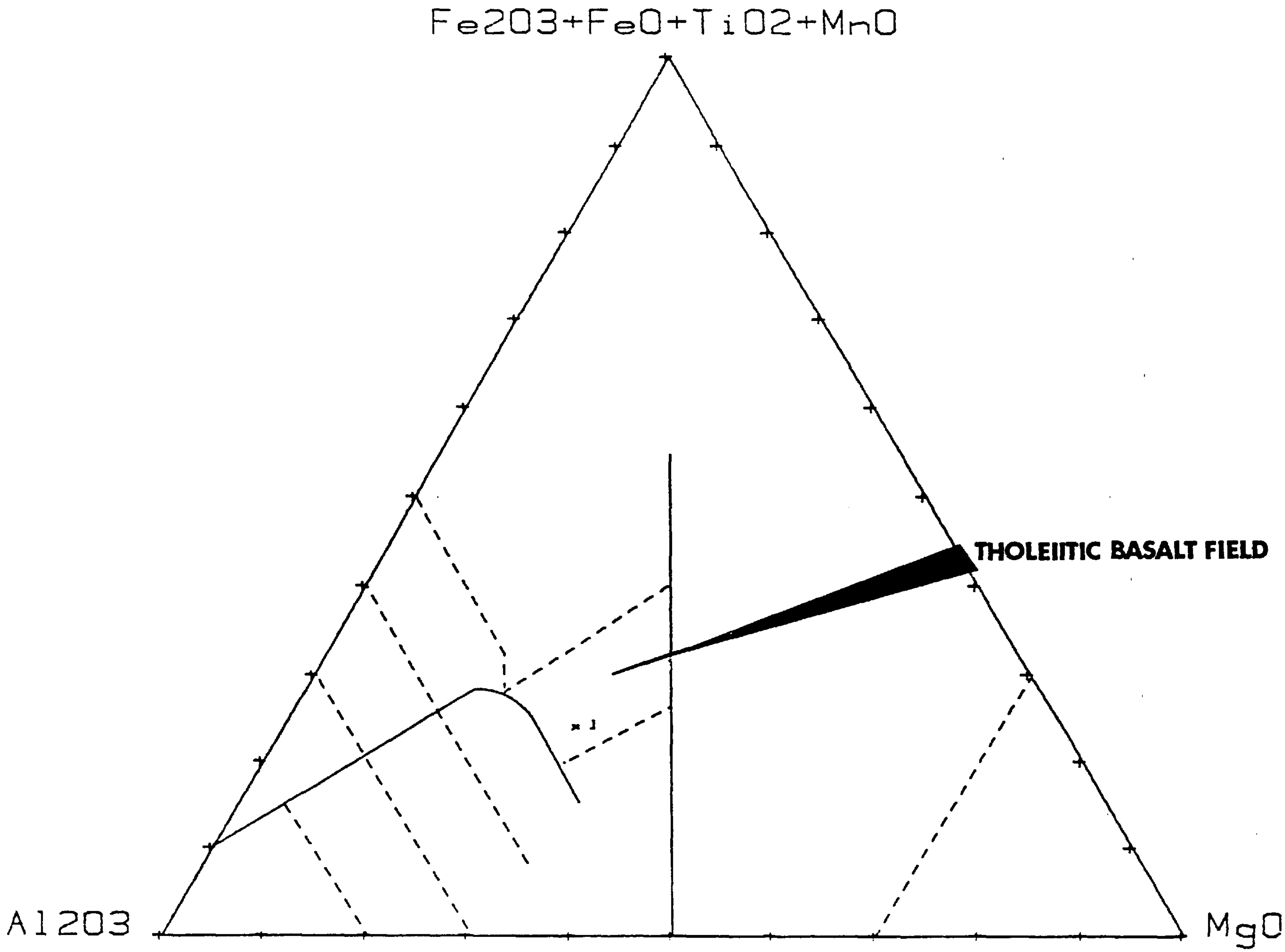
6. I consent to the use of this report in any Statement of Material Facts to be used by the company in any raising of funds to explore the Casa Berardi property.

Toronto, Ontario
February, 1985

W.E. Brereton, P.Eng.

REGISTERED PROFESSIONAL ENGINEER
W.E. BRERETON
PROVINCE OF ONTARIO

Appendix 1



JENSEN CATION PLOT

>>>>>>>>>>>>>>>>>> 1 <<<<<<<<<<<<<<<<<<

JENSEN CLASSIFICATION: Tholeiitic Basalt

IRVINE/BARAGAR CLASSIFICATION: Tholeiitic Basalt Alkaline

SiO2 CLASSIFICATION: Basalt (47.81% SiO2)

TiO2 CLASSIFICATION: Dacite

------------------------ Volcanogenic base metals Evaluation ------------------------

WARNING SiO2 content TOO LOW for accepted volcanogenic studies ***

Residuals:

MgO	K2O	CaO	Na2O	Fe2O3	SiO2	IAAS
1.15	-.15	1.73	-1.55	-.88	-.94	58.37

Discriminant Functions:

DF1	DF2	DF3	DF4	DF5
-.53	-.00	99.99	-.88	-.24
	N/A	N/A		

----------------------------- Volcanogenic Au Evaluation -----------------------------

Na2O(R)	K2O(%)	Au	As	Fer. Index	CO2/CaO
-1.55	.20	0.00	0.00	1.28	.06
		N/A	N/A		EST

SS	RT	LATITUDE	DEPARTURE	COMMENTS
0.	0.	0.00	0.00	

SiO2	Al2O3	Fe2O3	FeO	CaO	MgO	Na2O	K2O
47.81	16.48	11.87	0.00	11.30	7.74	1.46	.20
TiO2	MnO	P2O5	LOI	CO2	Cr2O3	Zr	Sr
.79	.17	.03	2.13	0.00	0.00	.01	.01
Rb	Ba	W	U	Th	Cu	Zn	Pb
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ni	Au	Ag	S	As	Sb	X	Y
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

N.B.: ******* anomalous factor
N/A not available
EST estimated

TECHNICAL SERVICE LABORATORIES
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TELEPHONE : (416) 625 - 1544

CERTIFICATE OF ANALYSIS

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T.S.L. REPORT No. : T - 7095
T.S.L. File No. : DX1:JUL272
T.S.L. Invoice No. 25786

SAMPLE #	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	TiO2	MnO	P2O5	BaO	SrO	ZrO2	LOI	TOTAL
CBR-84.01	47.54	16.39	11.80	11.24	7.70	1.45	.20	.79	.17	.03	< .01	.01	< .01	2.12	99.45

DATE : 30-07-84

SIGNED : Paul E. Burgener
Paul E. Burgener P. Eng.

Appendix 2

REPORT NO. 216/B

DIGHEM^{III} SURVEY

OF THE

DIEPPE TWP. AREA, QUEBEC

FOR

MPH CONSULTING LIMITED

BY

DIGHEM SURVEYS & PROCESSING INC.

TORONTO, ONTARIO
AUGUST 31, 1984

Z. DVORAK
GEOPHYSICIST

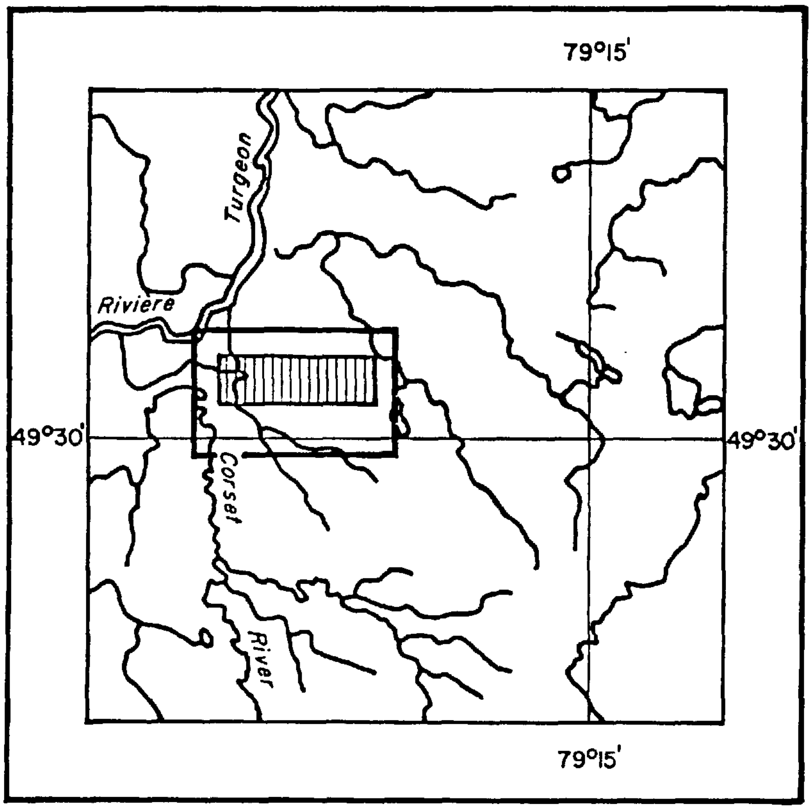
SUMMARY AND RECOMMENDATIONS

A total of 144 km of survey was flown in July 1984, over a property in the Dieppe Twp. area of western Quebec.

The survey outlined several discrete bedrock conductors associated with areas of low resistivity. Most of these anomalies appear to warrant further investigation using appropriate surface exploration techniques. Areas of interest may be assigned priorities for follow-up work on the basis of supporting geological, geochemical, and other geophysical information. Due to the cultural features in the survey areas, any interpreted bedrock conductors, which occur close to cultural sources, should be confirmed as bedrock conductors prior to drilling.

AE ZD-220

LOCATION MAP



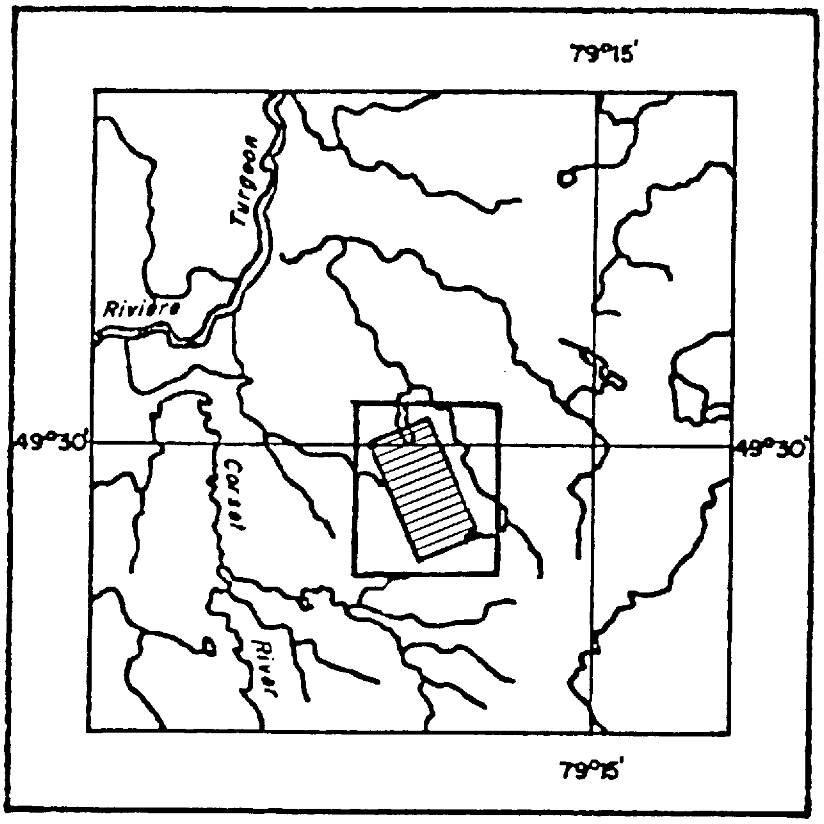
SCALE 1:250,000

FIGURE 1A

THE SURVEY AREA

AREA A (SHEET 2)

LOCATION MAP



SCALE 1:250,000

FIGURE 1B
THE SURVEY AREA
AREA B (SHEET 3)

CONTENTS

INTRODUCTION

DIGHEM^{III} surveys totalling 135 line-km were flown with 100 m and 200 m line-spacings for MPH Consulting Limited, on July 25 and 26, 1984, over two blocks in the Dieppe Twp. area of Quebec. In addition, two tie lines were flown totalling 9 line-km.

The ASTAR/CG-NSM turbine helicopter flew at an average airspeed of 123 km/h with an EM bird height of approximately 32 m. Ancillary equipment consisted of a Sonotek PMH 5010 magnetometer with its bird at an average height of 47 m, a Sperry radio altimeter, a Geocam sequence camera, an RMS GR-33 analog recorder, a Sonotek 1200 digital data acquisition system, a DigiData 1140 9-track 800-bpi magnetic tape recorder, and a Herz Industries Totem-2A VLF-electromagnetometer with its sensor towed at an average height of 55 m. The VLF-EM receivers were tuned to NLK Seattle, Washington, which operates at 24.8 kHz, and to NAA Cutler, Maine, which operates at 24.0 kHz. The analog equipment recorded four channels of EM data at approximately 900 Hz, two channels of EM data at approximately 7200 Hz, two ambient EM noise channels (for the coaxial and coplanar receivers), two channels of magnetics (coarse and fine count),a channel of radio altitude, and four channels of

VLF-EM (the total field and the guadrature of the vertical component for two stations). The digital equipment recorded the EM data with a sensitivity of 0.20 ppm at 900 Hz, and 0.40 ppm at 7200 Hz, the magnetic field to one nT (i.e., one gamma), and the VLF-EM field to 0.10 percent.

Appendix A provides details on the data channels, their respective senstivities, and the flight path recovery procedures. Noise levels of less than 2 ppm are generally maintained for wind speeds up to 35 km/h. Higher winds may cause the system to be grounded because excessive bird swinging produces difficulties in flying the helicopter. The swinging results from the 5 m^2 of area which is presented by the bird to broadside gusts. The DIGHEM system nevertheless can be flown under wind conditions that seriously degrade other AEM systems.

It should be noted that the anomalies shown on the electromagnetic anomaly map are based on a near-vertical, half plane model. This model best reflects "discrete" bedrock conductors. Wide bedrock conductors or flat-lying conductive units, whether from surficial or bedrock sources, may give rise to very broad anomalous responses on the EM profiles. These may not appear on the electromagnetic anomaly map if they have a regional character rather than a locally anomalous character. These broad conductors, which more closely approximate a half space model, will be maximum coupled to the horizontal (coplanar) coil pair and are clearly evident on the resistivity map. The resistivity map, therefore, may be more valuable than the electromagnetic anomaly map, in areas where broad or flat-lying conductors are considered to be of importance.

In areas where magnetite causes the inphase components to become negative, the apparent conductance and depth of EM anomalies may be unreliable.

Areas in which EM responses are evident only on the quadrature components, indicate zones of poor conductivity. Where these responses are coincident with strong magnetic anomalies, it is possible that the inphase component amplitudes have been suppressed by the effects of magnetite. Most of these poorly-conductive magnetic features give rise to resistivity anomalies which are only slightly below background. These weak features are evident on the resistivity map but may not be shown on the electromagnetic anomaly map. If it is expected that poorly-conductive sulphides may be associated with magnetite-rich units, some of these weakly anomalous features may be of interest.

SECTION I: SURVEY RESULTS

CONDUCTORS IN THE SURVEY AREA

The survey covered two grids designated Dieppe Twp., areas A and B, with 144 km of flying, the results of which are shown on two separate map sheets for each parameter. Tables I-1 and I-2 summarize the EM responses on the two sheets with respect to conductance grade and interpretation.

The line numbers, spacings, directions, and distances flown over the two areas are shown below.

Area (Sheet)	Line No.	Line Spacing	Line Direction	km
A (sheet 2)	201-223 224 (tie line)	200 m	N-S E-W	40.0 4.5
B (sheet 3)	301-341 342 (tie line)	100 m	N65°E N25°W	95.0 4.5
TOTAL				144.0

In spite of their close proximity, the two survey areas are different in their geophysical responses. Generally speaking, area A (sheet 2) lacks well developed bedrock responses. In comparison, area B (sheet 3) contains a clearly defined, conductive bedrock horizon crossing the

TABLE I-1

EM ANOMALY STATISTICS OF THE DIEPPE TWP., AREA A (Sheet 2)

CONDUCTOR GRADE	CONDUCTANCE RANGE	NUMBER OF RESPONSES
6	> 99 MHOS	0
5	50-99 MHOS	0
4	20-49 MHOS	0
3	10-19 MHOS	1
2	5- 9 MHOS	6
1	< 5 MHOS	91
X	INDETERMINATE	12
TOTAL		110

CONDUCTOR MODEL	MOST LIKELY SOURCE	NUMBER OF RESPONSES
B	DISCRETE BEDROCK	7
E	BEDROCK OR EDGE EFFECT	8
G	ROCK OR COVER	5
H	ROCK OR COVER	20
S	COVER	67
(BLANK)		3
TOTAL		110

(SEE EM MAP LEGEND FOR EXPLANATIONS)

TABLE I-2

EM ANOMALY STATISTICS OF THE DIEPPE TWP., AREA B (Sheet 3)

CONDUCTOR GRADE	CONDUCTANCE RANGE	NUMBER OF RESPONSES
6	> 99 MHOS	0
5	50-99 MHOS	1
4	20-49 MHOS	3
3	10-19 MHOS	11
2	5- 9 MHOS	26
1	< 5 MHOS	179
X	INDETERMINATE	30
TOTAL		250

CONDUCTOR MODEL	MOST LIKELY SOURCE	NUMBER OF RESPONSES
D	DISCRETE BEDROCK	27
T	DISCRETE BEDROCK	2
B	DISCRETE BEDROCK	26
E	BEDROCK OR EDGE EFFECT	22
H	ROCK OR COVER	35
S	COVER	125
L	CULTURE	8
?	QUESTIONABLE	1
(BLANK)		4
TOTAL		250

(SEE EM MAP LEGEND FOR EXPLANATIONS)

area in a north-northwesterly direction, and a number of weak conductors of possible bedrock origin.

The electromagnetic anomaly map shows the anomaly locations with the interpreted conductor type, dip, conductance and depth being indicated by symbols. Direct magnetic correlation is also shown if it exists. The strike direction and length of the conductors are indicated when anomalies can be correlated from line to line. When studying the map sheets for follow-up planning, consult the anomaly listings appended to this report to ensure that none of the conductors are overlooked.

Area A

The geologic environment in the survey area varies from highly conductive to very resistive. The most conductive areas, with resistivity values as low as 30 ohm-m, occur in the west part of the grid and in its southeast corner. In contrast, the east portion of the area is characterized by high resistivities in excess of 1,000 ohm-m; values higher than 4,000 ohm-m are common. A few isolated high resistivity zones are also found in the west third of the area. One of the most interesting, and maybe significant, features of the resistivity contours is the presence of a highly-to-moderately conductive narrow trend of a north-northwesterly strike which divides the eastern resistive zone into two parts. It extends from the north end of lines 214 and 215 toward the south end of line 216. This trend appears to occur on the west flank of a strong magnetic anomaly; also, it may correlate with a VLF-EM trend.

The magnetic map shows the presence of two major anomalies of approximately northwest-southeast strike. They display a complex internal character which is best portrayed by the enhanced magnetics. As mentioned above, a correlation between the magnetic and the resistivity patterns appears to exist .

The VLF-EM patterns display northwesterly trends with secondary(?) east-northeasterly trends being present. While the former trends correlate or parallel similar magnetic, and possibly, resistivity features, the latter trends do not appear, in general, to be associated with similar features on the other two maps.

In view of the lack of well defined bedrock responses, an all-parameter analysis of the geophysical data and its correlation with geological, geochemical, or other geophysical information is essential for the future exploration program.

The EM anomalies of possible significance are relatively few. They are discussed below.

Anomalies 203B, 205B	These grade 1 and 2 anomalies, which are associated with a 40 to 50 ohm-m resistivity low, may reflect conductors, or a conductor, in the bedrock.
Anomalies 207A, 209A	These grade 1 anomalies reflect conductors which may occur in the bedrock. They are associated with a prominent magnetic anomaly and a well defined VLF-EM trend. The EM data suggests that 209A may be partly masked by magnetite. At the same time, 209A could be the result of the combined effects of geology and culture as this anomaly coincides with a road.

Anomalies 205xA, 206C, 208D

This x-type response and grade 1 anomalies are associated with a northwesterly striking VLF-EM anomaly which parallels (and possibly flanks) from the north a prominent magnetic anomaly.

Anomalies 206D, 206E

These anomalies occur on the opposite flanks of secondary, east-northeasterly striking VLF-EM and enhanced magnetic anomalies. Note that they do not display characteristics of confined bedrock conductors, but they may be near-surface expressions of weak bedrock features.

Anomaly 209E

This grade 1 anomaly may reflect weak, slightly magnetic bedrock conductor. It is confined to the flanks of east-northeasterly VLF-EM and magnetic trends.

Anomalies 211A, 212E

These grade 1 anomalies reflect broad conductors, which may be of bedrock origin. The VLF-EM map suggests that the two anomalies could be indicative of a single target.

Anomalies 216C, 217D

Although these grade 1 and 4 anomalies are associated with the flanks of VLF-EM and magnetic/ enhanced magnetic anomalies of northwesterly(?) direction, their EM responses suggest that they reflect edge effects of the north-northeasterly trending low resistivity zone. Their possible significance results from the fact that, occasionally, weak bedrock conductors associated with contact zones alias as edge effects.

Anomalies 218D, 219xA, 220C, 221G

These grade 1 anomalies and an x-type response have produced a narrow low resistivity zone of an east-northeast strike which appears to cross-cut a strong VLF-EM anomaly of northwestern direction.

Area B

A major part of this survey area, approximately three quarters of it, contains conductive rocks. Except for the northwest corner, where the resistivities as high as 8,000 ohm-m were observed, the rest of the survey block displays resistivities generally lower than 100 ohm-m. The EM data suggests that the low resistivities reflect near-surface conductive layer, e.g., overburden. Magnetic and VLF-EM data provide supporting information. The lack of appreciable VLF-EM anomalies in the area, except for its northwest portion, indicates high, possibly uniform conductivity of the ground. However, the presence of well defined, continuous magnetic features in the area indicates continuity of the bedrock across the area. This would support the interpretation of high conductivities as reflecting conductive overburden. The presence of such a surface layer may mask and severely impede the recognition of bedrock conductors at depth.

One of the more interesting features of the resistivity map is the presence of somehwat questionable northeasterly trending "channels" in otherwise resistive northwest corner of the area. Two of these conductive "channels" parallel lines 308 and 313. Although they are difficult to assess properly on the basis of the airborne data, it should be noted that they roughly parallel a boundary between conductive and resistive rocks in the southeast part of area A which increases their credibility.

The magnetic field is dominated by a strong, relatively narrow anomaly of up to 4,000 nT above the regional, which runs parallel to the tie line. Several breaks and/or offsets in the contour patterns suggest that this anomaly reflects a complex target of possibly discontinuous character. Smaller secondary anomalies, especially at the southeast end of the grid, indicate the presence of satellitic(?) bodies. The magnetic anomaly correlates with a conductive trend in its northern part, on lines 301 to 321. This correlation becomes questionable south of line 321.

The VLF-EM map contains two major trends north of line 327 which are confined to the east and west boundaries of the northwest resistive zone. Several other anomalies of short length occur in the northeast part of the area. The anomaly centered just east of the intersection of line 304 with the tie line may be related to the main magnetic/EM target. Two anomalies centered on lines 311 and 313 at fiducials 1087 and 920, respectively, occur at the boundaries of an elongated resistive zone between lines 309 and 318.

The EM anomalies reflecting bedrock and possible bedrock conductors, which may be of exploration significance, are described below.

Anomaly 301D-340B

These grade 1 to 6 anomalies reflect a bedrock conductor which is associated with the main magnetic anomaly. The EM and magnetic anomalies correlate between 301D and 321C but diverge from each other south of line 321. The magnetic patterns are offset between lines 322 and 323 suggesting the presence of a northeasterly fault.

An interesting and puzzling aspect of this conductor is the apparent change of the dip from easterly on lines 302 to 304, to westerly, between 307B and 330D, and back to easterly south of line 331.

The most attractive portion of the conductor occurs between 315C and 321C. This section consists of grade 2 to 6 anomalies and contains two "thick" responses.

Anomaly 341B

This grade 1 anomaly occurs in a lake but it has characteristics of a possible bedrock conductor. It may constitute an offset continuation of 301D-340B.

Anomalies 301C, 302C

These grade 1 anomalies were classified as edge responses. Also, they occur near a road which makes them suspect for cultural contribution. They should be investigated with care.

Anomaly 301F-303C

A weak conductive trend of possible bedrock origin is indicated by these grade 1 anomalies. They occur in an area containing numerous roads and may be partly due to cultural sources.

Anomalies 305A, 305B, 306B	All these grade 1 anomalies occur on, or in the proximity of, roads. They may have been partly caused by culture, bedrock or near-surface features.
Anomalies 301G, 302G, 303D, 305xB, 307C, 309xD	These grade 1 anomalies and x-type responses indicate a conductive trend which may reflect a weak bedrock feature. Note that 301G, 302G and 303D could be edge effects.
Anomaly 305H	This grade 1 anomaly occurs over a creek. It is difficult to explain but there is a possibility of it being of bedrock origin.
Anomaly 323E	A weak conductor is indicated by this grade 1 anomaly. Although this anomaly may have been partly caused by culture (note its location on a small road) it is probably of bedrock origin.

Anomalies 324B, 326D, 333B, 335B, 337A

The first two anomalies occur close to the edge of a cleared area and at the flank of a narrow resistive zone. The other three anomalies are associated with an oval shaped conductive zone which correaltes with a cleared, probably low lying ground.

All these anomalies occur near cultural features (road) and as such they may have been partly caused by such sources. Anomalies 324B and 326D reflect broad conductive targets which appear to outcrop. In comparison, 333B, 335B, and 337A have characteristics of narrow, confined conductors of bedrock and possible bedrock origin. Alternatively, a combination of narrow conductors of L and S types would have produced a similar type of response.

Anomaly 334C

This grade 1 anomaly reflects a weak conductor of possible bedrock origin which may be masked by the presence of magnetite.

AE ZD-220

SECTION II: BACKGROUND INFORMATION

ELECTROMAGNETICS

DIGHEM electromagnetic responses fall into two general classes, discrete and broad. The discrete class consists of sharp, well-defined anomalies from discrete conductors such as sulfide lenses and steeply dipping sheets of graphite and sulfides. The broad class consists of wide anomalies from conductors having a large horizontal surface such as flatly dipping graphite or sulfide sheets, saline water-saturated sedimentary formations, conductive overburden and rock, and geothermal zones. A vertical conductive slab with a width of 200 m would straddle these two classes.

The vertical sheet (half plane) is the most common model used for the analysis of discrete conductors. All anomalies plotted on the electromagnetic map are analyzed according to this model. The following section entitled **Discrete conductor analysis** describes this model in detail, including the effect of using it on anomalies caused by broad conductors such as conductive overburden.

The conductive earth (half space) model is suitable for broad conductors. Resistivity contour maps result from the use of this model. A later section entitled **Resistivity mapping** describes the method further, including the effect of using it on anomalies caused by discrete conductors such as sulfide bodies.

Geometric interpretation

The geophysical interpreter attempts to determine the geometric shape and dip of the conductor. This qualitative interpretation of anomalies is indicated on the map by means of interpretive symbols (see EM map legend). Figure II-1 shows typical DIGHEM anomaly shapes and the interpretive symbols for a variety of conductors. These classic curve shapes are used to guide the geometric interpretation.

Discrete conductor analysis

The EM anomalies appearing on the electromagnetic map are analyzed by computer to give the conductance (i.e., conductivity-thickness product) in mhos of a vertical sheet model. This is done regardless of the interpreted geometric shape of the conductor. This is not an unreasonable procedure, because the computed conductance increases as the electrical quality of the conductor increases, regardless of its true shape. DIGHEM anomalies are divided into six

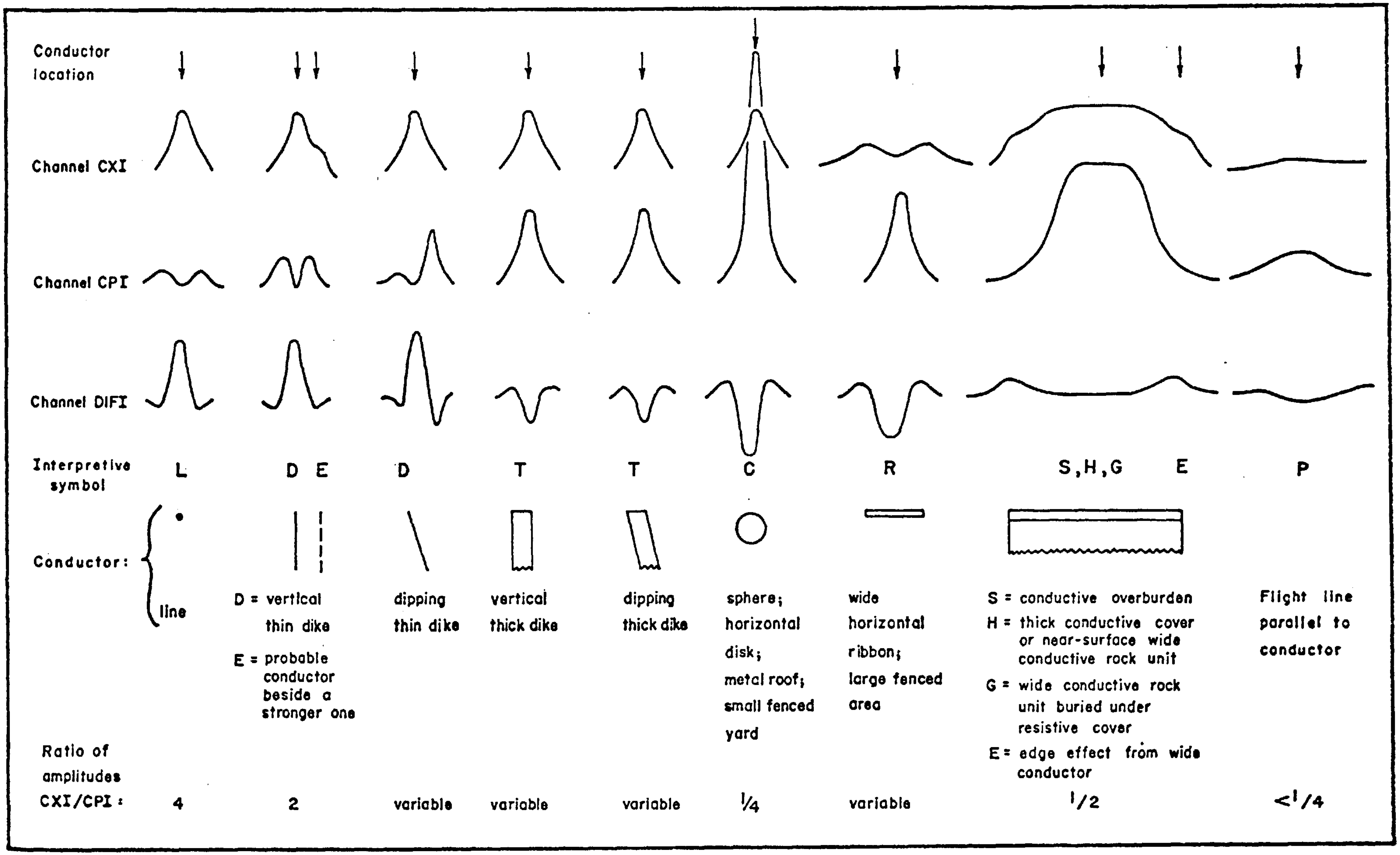


Figure II - 1 Typical DIGHEM anomaly shapes grades of conductance, as shown in Table II-1. The conductance in mhos is the reciprocal of resistance in ohms.

Table II-1. EM Anomaly Grades

Anomaly Grade	Mho Range
6	> 99
5	50 - 99
4	20 - 49
3	10 - 19
2	5 - 9
1	< 5

The conductance value is a geological parameter because it is a characteristic of the conductor alone; it generally is independent of frequency, and of flying height or depth of burial apart from the averaging over a greater portion of the conductor as height increases.[1] Small anomalies from deeply buried strong conductors are not confused with small anomalies from shallow weak conductors because the former will have larger conductance values.

Conductive overburden generally produces broad EM responses which are not plotted on the EM maps. However, patchy conductive overburden in otherwise resistive areas

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[1] This statement is an approximation. DIGHEM, with its short coil separation, tends to yield larger and more accurate conductance values than airborne systems having a larger coil separation.

can yield discrete anomalies with a conductance grade (cf. Table II-1) of 1, or even of 2 for conducting clays which have resistivities as low as 50 ohm-m. In areas where ground resistivities can be below 10 ohm-m, anomalies caused by weathering variations and similar causes can have any conductance grade. The anomaly shapes from the multiple coils often allow such conductors to be recognized, and these are indicated by the letters S, H, G and sometimes E on the map (see EM legend).

For bedrock conductors, the higher anomaly grades indicate increasingly higher conductances. Examples: DIGHEM's New Insco copper discovery (Noranda, Canada) yielded a grade 4 anomaly, as did the neighbouring copper-zinc Magusi River ore body; Mattabi (copper-zinc, Sturgeon Lake, Canada) and Whistle (nickel, Sudbury, Canada) gave grade 5; and DIGHEM's Montcalm nickel-copper discovery (Timmins, Canada) yielded a grade 6 anomaly. Graphite and sulfides can span all grades but, in any particular survey area, field work may show that the different grades indicate different types of conductors.

Strong conductors (i.e., grades 5 and 6) are characteristic of massive sulfides or graphite. Moderate conductors (grades 3 and 4) typically reflect sulfides of a less massive character or graphite, while weak bedrock conductors (grades 1 and 2) can signify poorly connected graphite or heavily disseminated sulfides. Grade 1 conductors may not respond to ground EM equipment using frequencies less than 2000 Hz.

The presence of sphalerite or gangue can result in ore deposits having weak to moderate conductances. As an example, the three million ton lead-zinc deposit of Restigouche Mining Corporation near Bathurst, Canada, yielded a well defined grade 1 conductor. The 10 percent by volume of sphalerite occurs as a coating around the fine grained massive pyrite, thereby inhibiting electrical conduction.

Faults, fractures and shear zones may produce anomalies which typically have low conductances (e.g., grades 1 and 2). Conductive rock formations can yield anomalies of any conductance grade. The conductive materials in such rock formations can be salt water, weathered products such as clays, original depositional clays, and carbonaceous material.

On the electromagnetic map, a letter identifier and an interpretive symbol are plotted beside the EM grade symbol. The horizontal rows of dots, under the interpretive symbol, indicate the anomaly amplitude on the flight record. The vertical column of dots, under the anomaly letter, gives the estimated depth. In areas where anomalies are crowded, the letter identifiers, interpretive symbols and dots may be obliterated. The EM grade symbols, however, will always be discernible, and the obliterated information can be obtained from the anomaly listing appended to this report.

The purpose of indicating the anomaly amplitude by dots is to provide an estimate of the reliability of the conductance calculation. Thus, a conductance value obtained from a large ppm anomaly (3 or 4 dots) will tend to be accurate whereas one obtained from a small ppm anomaly (no dots) could be quite inaccurate. The absence of amplitude dots indicates that the anomaly from the coaxial coil-pair is 5 ppm or less on both the inphase and quadrature channels. Such small anomalies could reflect a weak conductor at the surface or a stronger conductor at depth. The conductance grade and depth estimate illustrates which of these possibilities fits the recorded data best.

Flight line deviations occasionally yield cases where two anomalies, having similar conductance values but dramatically different depth estimates, occur close together on the same conductor. Such examples illustrate the reliability of the conductance measurement while showing that the depth estimate can be unreliable. There are a number of factors which can produce an error in the depth estimate, including the averaging of topographic variations by the altimeter, overlying conductive overburden, and the location and attitude of the conductor relative to the flight line. Conductor location and attitude can provide an erroneous depth estimate because the stronger part of the conductor may be deeper or to one side of the flight line, or because it has a shallow dip. A heavy tree cover can also produce errors in depth estimates. This is because the depth estimate is computed as the distance of bird from conductor, minus the altimeter reading. The altimeter can lock onto the top of a dense forest canopy. This situation yields an erroneously large depth estimate but does not affect the conductance estimate.

Dip symbols are used to indicate the direction of dip of conductors. These symbols are used only when the anomaly shapes are unambiguous, which usually requires a fairly resistive environment.

A further interpretation is presented on the EM map by means of the line-to-line correlation of anomalies, which is based on a comparison of anomaly shapes on adjacent lines. This provides conductor axes which may define the geological structure over portions of the survey area. The absence of conductor axes in an area implies that anomalies could not be correlated from line to line with reasonable confidence.

DIGHEM electromagnetic maps are designed to provide a correct impression of conductor quality by means of the conductance grade symbols. The symbols can stand alone with geology when planning a follow-up program. The actual conductance values are printed in the attached anomaly list for those who wish quantitative data. The anomaly ppm and depth are indicated by inconspicuous dots which should not distract from the conductor patterns, while being helpful to those who wish this information. The map provides an interpretation of conductors in terms of length, strike and dip, geometric shape, conductance, depth, and thickness (see below). The accuracy is comparable to an interpretation from a high quality ground EM survey having the same line spacing.

The attached EM anomaly list provides a tabulation of anomalies in ppm, conductance, and depth for the vertical sheet model. The EM anomaly list also shows the conductance and depth for a thin horizontal sheet (whole plane) model, but only the vertical sheet parameters appear on the EM map. The horizontal sheet model is suitable for a flatly dipping thin bedrock conductor such as a sulfide sheet having a thickness less than 10 m. The list also shows the resistivity and depth for a conductive earth (half space) model, which is suitable for thicker slabs such as thick conductive overburden. In the EM anomaly list, a depth value of zero for the conductive earth model, in an area of thick cover, warns that the anomaly may be caused by conductive overburden.

Since discrete bodies normally are the targets of EM surveys, local base (or zero) levels are used to compute local anomaly amplitudes. This contrasts with the use of true zero levels which are used to compute true EM amplitudes. Local anomaly amplitudes are shown in the EM anomaly list and these are used to compute the vertical sheet parameters of conductance and depth. Not shown in the EM anomaly list are the true amplitudes which are used to compute the horizontal sheet and conductive earth parameters.

X-type electromagnetic responses

DIGHEM maps contain x-type EM responses in addition to EM anomalies. An x-type response is below the noise threshold of 3 ppm, and reflects one of the following: a weak conductor near the surface, a strong conductor at depth (e.g., 100 to 120 m below surface) or to one side of the flight line, or aerodynamic noise. Those responses that have the appearance of valid bedrock anomalies on the flight profiles are indicated by appropriate interpretive symbols (see EM map legend). The others probably do not warrant further investigation unless their locations are of considerable geological interest.

The thickness parameter

DIGHEM can provide an indication of the thickness of a steeply dipping conductor. The amplitude of the coplanar anomaly (e.g., CPI) increases relative to the coaxial anomaly (e.g., CXI) as the apparent thickness increases, i.e., the thickness in the horizontal plane. (The thickness is equal to the conductor width if the conductor dips at 90 degrees and strikes at right angles to the flight line.) This report refers to a conductor as thin when the thickness is likely to be less than 3 m, and thick when in excess of 10 m. Thin conductors are indicated on the EM map by the interpretive symbol "D", and thick conductors by "T". For base metal exploration in steeply dipping geology, thick conductors can be high priority targets because many massive sulfide ore bodies are thick, whereas non-economic bedrock conductors are often thin. The system cannot sense the thickness when the strike of the conductor is subparallel to the flight line, when the conductor has a shallow dip, when the anomaly amplitudes are small, or when the resistivity of the environment is below 100 ohm-m.

Resistivity mapping

Areas of widespread conductivity are commonly encountered during surveys. In such areas, anomalies can be generated by decreases of only 5 m in survey altitude as well as by increases in conductivity. The typical flight record in conductive areas is characterized by inphase and quadrature channels which are continuously active. Local EM peaks reflect either increases in conductivity of the earth or decreases in survey altitude. For such conductive areas, apparent resistivity profiles and contour maps are necessary for the correct interpretation of the airborne data. The advantage of the resistivity parameter is that anomalies caused by altitude changes are virtually eliminated, so the resistivity data reflect only those anomalies caused by conductivity changes. The resistivity analysis also helps the interpreter to differentiate between conductive trends in the bedrock and those patterns typical of conductive overburden. For example, discrete conductors will generally appear as narrow lows on the contour map and broad conductors (e.g., overburden) will appear as wide lows.

The resistivity profile (see table in Appendix A) and the resistivity contour map present the apparent resistivity using the so-called pseudo-layer (or buried) half space model defined in Fraser (1978)[2]. This model consists of a resistive layer overlying a conductive half space. The depth channel (see Appendix A) gives the apparent depth below surface of the conductive material. The apparent depth is simply the apparent thickness of the overlying resistive layer. The apparent depth (or thickness) parameter will be positive when the upper layer is more resistive than the underlying material, in which case the apparent depth may be quite close to the true depth.

The apparent depth will be negative when the upper layer is more conductive than the underlying material, and will be zero when a homogeneous half space exists. The apparent depth parameter must be interpreted cautiously because it will contain any errors which may exist in the measured altitude of the EM bird (e.g., as caused by a dense tree cover). The inputs to the resistivity algorithm are the inphase and quadrature components of the coplanar coil-pair. The outputs are the apparent resistivity of the

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[2] Resistivity mapping with an airborne multicoil electro-magnetic system: Geophysics, v. 43, p. 144-172.

conductive half space (the source) and the sensor-source distance. The flying height is not an input variable, and the output resistivity and sensor-source distance are independent of the flying height. The apparent depth, discussed above, is simply the sensor-source distance minus the measured altitude or flying height. Consequently, errors in the measured altitude will affect the apparent depth parameter but not the apparent resistivity parameter.

The apparent depth parameter is a useful indicator of simple layering in areas lacking a heavy tree cover. The DIGHEM system has been flown for purposes of permafrost mapping, where positive apparent depths were used as a measure of permafrost thickness. However, little quantitative use has been made of negative apparent depths because the absolute value of the negative depth is not a measure of the thickness of the conductive upper layer and, therefore, is not meaningful physically. Qualitatively, a negative apparent depth estimate usually shows that the EM anomaly is caused by conductive overburden. Consequently, the apparent depth channel can be of significant help in distinguishing between overburden and bedrock conductors.

The resistivity map often yields more useful information on conductivity distributions than the EM map. In comparing the EM and resistivity maps, keep in mind the following:

(a) The resistivity map portrays the absolute value of the earth's resistivity. (Resistivity = 1/conductivity.)

(b) The EM map portrays anomalies in the earth's resistivity. An anomaly by definition is a change from the norm and so the EM map displays anomalies, (i) over narrow, conductive bodies and (ii) over the boundary zone between two wide formations of differing conductivity.

The resistivity map might be likened to a total field map and the EM map to a horizontal gradient in the direction of flight[3]. Because gradient maps are usually more sensitive than total field maps, the EM map therefore is to be preferred in resistive areas. However, in conductive areas, the absolute character of the resistivity map usually causes it to be more useful than the EM map.

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[3] The gradient analogy is only valid with regard to the identification of anomalous locations.

Interpretation in conductive environments

Environments having background resistivities below 30 ohm-m cause all airborne EM systems to yield very large responses from the conductive ground. This usually prohibits the recognition of discrete bedrock conductors. The processing of DIGHEM data, however, produces six channels which contribute significantly to the recognition of bedrock conductors. These are the inphase and quadrature difference channels (DIFI and DIFQ), and the resistivity and depth channels (RES and DP) for each coplanar frequency; see table in Appendix A.

The EM difference channels (DIFI and DIFQ) eliminate up to 99% of the response of conductive ground, leaving responses from bedrock conductors, cultural features (e.g., telephone lines, fences, etc.) and edge effects. An edge effect arises when the conductivity of the ground suddenly changes, and this is a source of geologic noise. While edge effects yield anomalies on the EM difference channels, they do not produce resistivity anomalies. Consequently, the resistivity channel aids in eliminating anomalies due to edge effects. On the other hand, resistivity anomalies will coincide with the most highly conductive sections of conductive ground, and this is another source of geologic noise. The recognition of a bedrock conductor in a conductive environment therefore is based on the anomalous responses of the two difference channels (DIFI and DIFQ) and the two resistivity channels (RES). The most favourable situation is where anomalies coincide on all four channels.

The DP channels, which give the apparent depth to the conductive material, also help to determine whether a conductive response arises from surficial material or from a conductive zone in the bedrock. When these channels ride above the zero level on the electrostatic chart paper (i.e., depth is negative), it implies that the EM and resistivity profiles are responding primarily to a conductive upper layer, i.e., conductive overburden. If both DP channels are below the zero level, it indicates that a resistive upper layer exists, and this usually implies the existence of a bedrock conductor. If the low frequency DP channel is below the zero level and the high frequency DP is above, this suggests that a bedrock conductor occurs beneath conductive cover.

Channels REC1, REC2, REC3 and REC4 are the anomaly recognition functions. They are used to trigger the conductance channel CDT which identifies discrete conductors. In highly conductive environments, channel REC2 is deactivated because it is subject to corruption by highly conductive earth signals. Similarly, in moderately conductive environments, REC4 is deactivated. Some of the automatically selected anomalies (channel CDT) are discarded by the geophysicist. The automatic selection algorithm is intentionally oversensitive to assure that no meaningful responses are missed. The interpreter then classifies the anomalies according to their source and eliminates those that are not substantiated by the data, such as those arising from geologic or aerodynamic noise.

Reduction of geologic noise

Geologic noise refers to unwanted geophysical responses. For purposes of airborne EM surveying, geologic noise refers to EM responses caused by conductive overburden and magnetic permeability. It was mentioned above that the EM difference channels (i.e., channel DIFI for inphase and DIFQ for quadrature) tend to eliminate the response of conductive overburden. This marked a unique development in airborne EM technology, as DIGHEM is the only EM system which yields channels having an exceptionally high degree of immunity to conductive overburden.

Magnetite produces a form of geological noise on the inphase channels of all EM systems. Rocks containing less than 1% magnetite can yield negative inphase anomalies caused by magnetic permeability. When magnetite is widely distributed throughout a survey area, the inphase EM channels may continuously rise and fall reflecting variations in the magnetite percentage, flying height, and overburden thickness. This can lead to difficulties in recognizing deeply buried bedrock conductors, particularly if conductive overburden also exists. However, the response of broadly distributed magnetite generally vanishes on the inphase difference channel DIFI. This feature can be a significant aid in the recognition of conductors which occur in rocks containing accessory magnetite.

EM magnetite mapping

The information content of DIGHEM data consists of a combination of conductive eddy current response and magnetic permeability response. The secondary field resulting from conductive eddy current flow is frequency-dependent and consists of both inphase and quadrature components, which are positive in sign. On the other hand, the secondary field resulting from magnetic permeability is independent of frequency and consists of only an inphase component which is negative in sign. When magnetic permeability manifests itself by decreasing the measured amount of positive inphase, its presence may be difficult to recognize. However, when it manifests itself by yielding a negative inphase anomaly (e.g., in the absence of eddy current flow), its presence is assured. In this latter case, the negative component can be used to estimate the percent magnetite content.

A magnetite mapping technique was developed for the coplanar coil-pair of DIGHEM. The technique yields channel "FEO" (see Appendix A) which displays apparent weight percent magnetite according to a homogeneous half space model.[4] The method can be complementary to magnetometer mapping in certain cases. Compared to magnetometry, it is far less sensitive but is more able to resolve closely spaced magnetite zones, as well as providing an estimate of the amount of magnetite in the rock. The method is sensitive to 1/4% magnetite by weight when the EM sensor is at a height of 30 m above a magnetitic half space. It can individually resolve steeply dipping narrow magnetite-rich bands which are separated by 60 m. Unlike magnetometry, the EM magnetite method is unaffected by remanent magnetism or magnetic latitude.

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[4] Refer to Fraser, 1981, Magnetite mapping with a multi-coil airborne electromagnetic system: Geophysics, v. 46, p. 1579-1594.

The EM magnetite mapping technique provides estimates of magnetite content which are usually correct within a factor of 2 when the magnetite is fairly uniformly distributed.. EM magnetite maps can be generated when magnetic permeability is evident as indicated by anomalies in the magnetite channel FEO.

Like magnetometry, the EM magnetite method maps only bedrock features, provided that the overburden is characterized by a general lack of magnetite. This contrasts with resistivity mapping which portrays the combined effect of bedrock and overburden.

Recognition of culture

Cultural responses include all EM anomalies caused by man-made metallic objects. Such anomalies may be caused by inductive coupling or current gathering. The concern of the interpreter is to recognize when an EM response is due to culture. Points of consideration used by the interpreter, when coaxial and coplanar coil-pairs are operated at a common frequency, are as follows:

1. Channels CXS and CPS (see Appendix A) measure 50 and 60 Hz radiation. An anomaly on these channels shows

that the conductor is radiating cultural power. Such an indication is normally a guarantee that the conductor is cultural. However, care must be taken to ensure that the conductor is not a geologic body which strikes across a power line, carrying leakage currents.

2. A flight which crosses a line (e.g., fence, telephone line, etc.) yields a center-peaked coaxial anomaly and an m-shaped coplanar anomaly.[5] When the flight crosses the cultural line at a high angle of intersection, the amplitude ratio of coaxial/coplanar (e.g., CXI/CPI) is 4. Such an EM anomaly can only be caused by a line. The geologic body which yields anomalies most closely resembling a line is the vertically dipping thin dike. Such a body, however, yields an amplitude ratio of 2 rather than 4. Consequently, an m-shaped coplanar anomaly with a CXI/CPI amplitude ratio of 4 is virtually a guarantee that the source is a cultural line.

3. A flight which crosses a sphere or horizontal disk yields center-peaked coaxial and coplanar anomalies with a CXI/CPI amplitude ratio (i.e., coaxial/coplanar) of 1/4. In the absence of geologic bodies of this geometry, the most likely conductor is a metal roof or

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5 See Figure II-1 presented earlier.

small fenced yard.[4] Anomalies of this type are virtually certain to be cultural if they occur in an area of culture.

4. A flight which crosses a horizontal rectangular body or wide ribbon yields an m-shaped coaxial anomaly and a center-peaked coplanar anomaly. In the absence of geologic bodies of this geometry, the most likely conductor is a large fenced area.[4] Anomalies of this type are virtually certain to be cultural if they occur in an area of culture.

5. EM anomalies which coincide with culture, as seen on the camera film, are usually caused by culture. However, care is taken with such coincidences because a geologic conductor could occur beneath a fence, for example. In this example, the fence would be expected to yield an m-shaped coplanar anomaly as in case #2 above. If, instead, a center-peaked coplanar anomaly occurred, there would be concern that a thick geologic conductor coincided with the cultural line.

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[4] It is a characteristic of EM that geometrically identical anomalies are obtained from: (1) a planar conductor, and (2) a wire which forms a loop having dimensions identical to the perimeter of the equivalent planar conductor.

6. The above description of anomaly shapes is valid when the culture is not conductively coupled to the environment. In this case, the anomalies arise from inductive coupling to the EM transmitter. However, when the environment is quite conductive (e.g., less than 100 ohm-m at 900 Hz), the cultural conductor may be conductively coupled to the environment. In this latter case, the anomaly shapes tend to be governed by current gathering. Current gathering can completely distort the anomaly shapes, thereby complicating the identification of cultural anomalies. In such circumstances, the interpreter can only rely on the radiation channels CXS and CPS, and on the camera film.

TOTAL FIELD MAGNETICS

The existence of a magnetic correlation with an EM anomaly is indicated directly on the EM map. An EM anomaly with magnetic correlation has a greater likelihood of being produced by sulfides than one that is non-magnetic. However, sulfide ore bodies may be non-magnetic (e.g., the Kidd Creek deposit near Timmins, Canada) as well as magnetic (e.g., the Mattabi deposit near Sturgeon Lake, Canada).

The magnetometer data are digitally recorded in the aircraft to an accuracy of one nT (i.e., one gamma). The digital tape is processed by computer to yield a total field magnetic contour map. When warranted, the magnetic data also may be treated mathematically to enhance the magnetic response of the near-surface geology, and an enhanced magnetic contour map is then produced. The response of the enhancement operator in the frequency domain is illustrated in Figure II-2. This figure shows that the passband components of the airborne data are amplified 20 times by the enhancement operator. This means, for example, that a 100 nT anomaly on the enhanced map reflects a 5 nT anomaly for the passband components of the airborne data.

The enhanced map, which bears a resemblance to a downward continuation map, is produced by the digital bandpass filtering of the total field data. The enhancement is equivalent to continuing the field downward to a level (above the source) which is 1/20th of the actual sensor-source distance.

Because the enhanced magnetic map bears a resemblance to a ground magnetic map, it simplifies the recognition of trends in the rock strata and the interpretation of

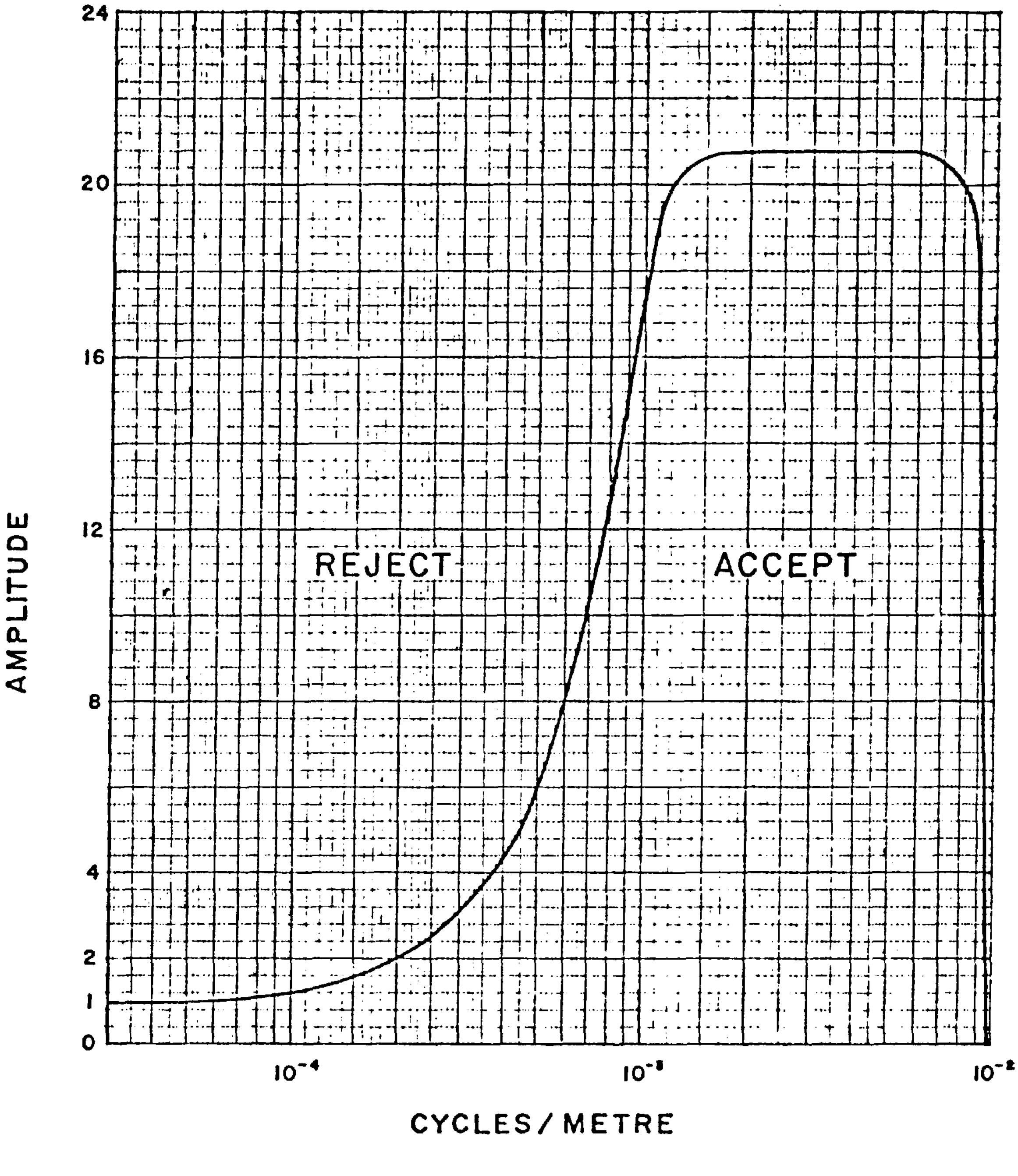

Figure II-2 Frequency response of magnetic enhancement operator.

geological structure. It defines the near-surface local geology while de-emphasizing deep-seated regional features. It primarily has application when the magnetic rock units are steeply dipping and the earth's field dips in excess of 60 degrees.

VLF-EM

VLF-EM anomalies are not EM anomalies in the conventional sense. EM anomalies primarily reflect eddy currents flowing in conductors which have been energized inductively by the primary field. In contrast, VLF-EM anomalies primarily reflect current gathering, which is a non-inductive phenomenon. The primary field sets up currents which flow weakly in rock and overburden, and these tend to collect in low resistivity zones. Such zones may be due to massive sulfides, shears, river valleys and even unconformities.

The Herz Industries Ltd Totem VLF-electromagnetometer measures the total field and vertical quadrature components. Both these components are digitally recorded in the aircraft with a sensitivity of 0.1 percent. The total field yields peaks over VLF-EM current concentrations

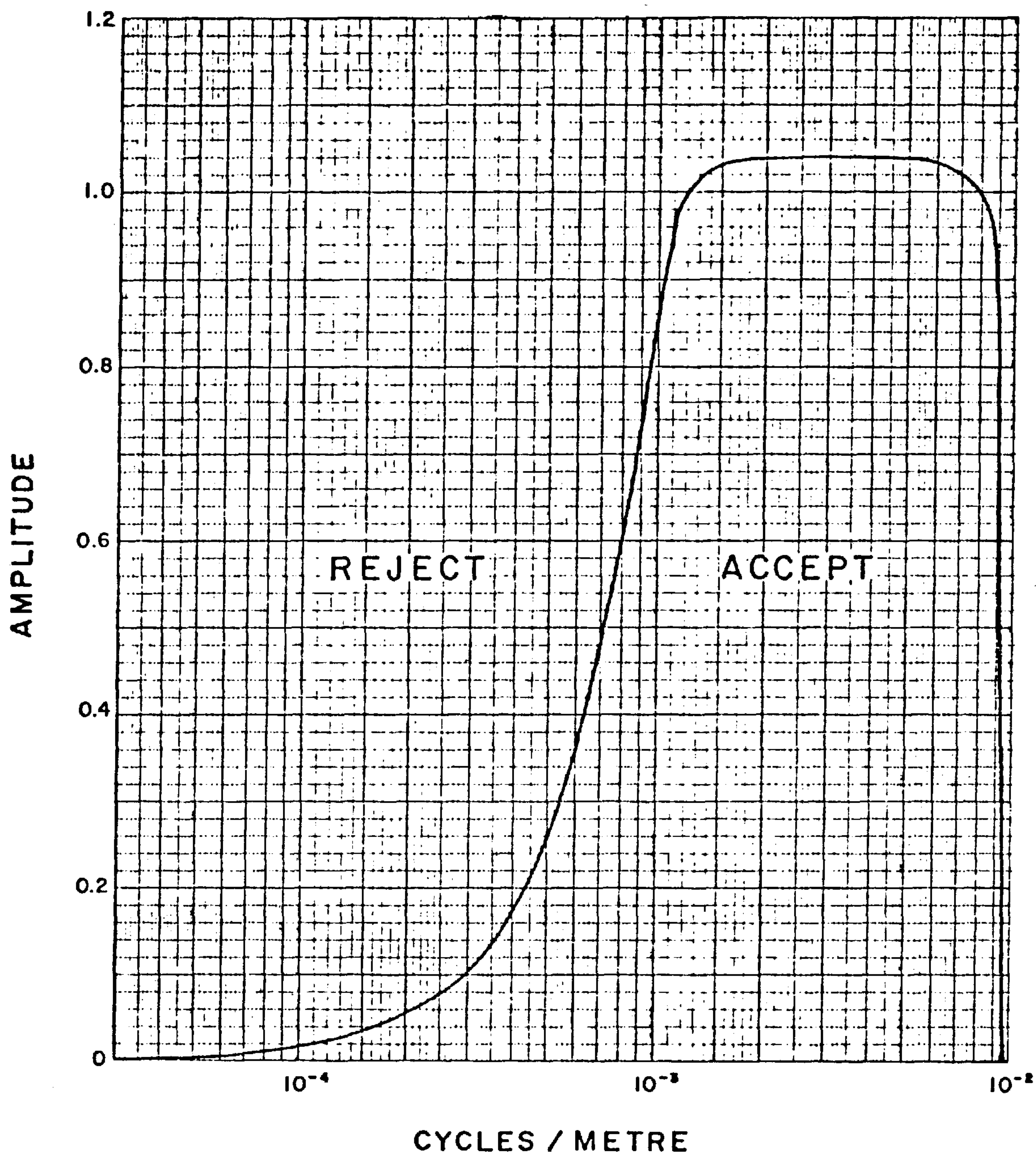

Figure II-3 Frequency response of VLF-EM operator.

whereas the quadrature component tends to yield crossovers. Both appear as traces on the profile records. The total field data also are filtered digitally and displayed on a contour map, to facilitate the recognition of trends in the rock strata and the interpretation of geologic structure.

The response of the VLF-EM total field filter operator in the frequency domain (Figure II-3) is basically similar to that used to produce the enhanced magnetic map (Figure II-2). The two filters are identical along the abscissa but different along the ordinant. The VLF-EM filter removes long wavelengths such as those which reflect regional and wave transmission variations. The filter sharpens short wavelength responses such as those which reflect local geological variations. The filtered total field VLF-EM contour map is produced with a contour interval of one percent.

MAPS ACCOMPANYING THIS REPORT

Ten map sheets accompany this report:

Electromagnetic Anomalies	2 map sheets
Resistivity	2 map sheets
Total Field Magnetics	2 map sheets
Enhanced Magnetics	2 map sheets
Filtered Total VLF-EM Field	2 map sheets

Respectfully submitted,
DIGHEM SURVEYS & PROCESSING INC.

Z. Dvorak

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Geophysicist

AE ZD-220

APPENDIX A

THE FLIGHT RECORD AND PATH RECOVERY

Both analog and digital flight records were produced. The analog profiles were recorded on chart paper in the aircraft during the survey. The digital profiles were generated later by computer and plotted on electrostatic chart paper at a scale of 1:10,000. The digital profiles are listed in Table A-1.

In Table A-1, the log resistivity scale of 0.03 decade/mm means that the resistivity changes by an order of magnitude in 33 mm. The resistivities at 0, 33, 67, 100 and 133 mm up from the bottom of the digital flight record are respectively 1, 10, 100, 1,000 and 10,000 ohm-m.

The fiducial marks on the flight records represent points on the ground which were recovered from camera film. Continuous photographic coverage allowed accurate photo-path recovery locations for the fiducials, which were then plotted on the geophysical maps to provide the track of the aircraft.

The fiducial locations on both the flight records and flight path maps were examined by a computer for unusual helicopter speed changes. Such speed changes may denote an error in flight path recovery. The resulting flight path locations therefore reflect a more stringent checking than is normally provided by manual flight path recovery techniques.

Table A-1. The Digital Profiles

Channel Name (Freq)		Observed parameters	Scale units/mm
MAG		magnetics	10 nT
ALT		bird height	3 m
CXI	(900 Hz)	vertical coaxial coil-pair inphase	1 ppm
CXQ	(900 Hz)	vertical coaxial coil-pair quadrature	1 ppm
CXS	(900 Hz)	ambient noise monitor (coaxial receiver)	1 ppm
CPI	(900 Hz)	horizontal coplanar coil-pair inphase	1 ppm
CPQ	(900 Hz)	horizontal coplanar coil-pair quadrature	1 ppm
CPS	(900 Hz)	ambient noise monitor (coplanar receiver)	1 ppm
CPI	(7200 Hz)	horizontal coplanar coil-pair inphase	1 ppm
CPQ	(7200 Hz)	horizontal coplanar coil-pair quadrature	1 ppm
VLFT		VLF-EM total field	1 %
VLFQ		VLF-EM vertical quadrature	1 %
		Computed Parameters	
DIFI	(900 Hz)	difference function inphase from CXI and CPI	1 ppm
DIFQ	(900 Hz)	difference function quadrature from CXQ and CPQ	1 ppm
RES	(900 Hz)	log resistivity	.03 decade
RES	(7200 Hz)	log resistivity	.03 decade
DP	(900 Hz)	apparent depth	3 m
DP	(7200 Hz)	apparent depth	3 m
FEO%	(900 Hz)	apparent weight percent magnetite	0.25%

A P P E N D I X   B

EM ANOMALY LIST

	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 201	(FLIGHT	26)										
A 1665 E?	2	4	3	18	122	71	5	6	1	18	66	5
B 1650 S	1	10	2	28	148	179	2	0	1	11	40	0
C 1648 S	1	9	2	20	103	116	2	0	1	11	34	0
LINE 202	(FLIGHT	26)										
A 1762 S	3	9	0	11	76	97	2	0	1	15	81	1
B 1768 S?	1	5	2	13	95	31	9	4	1	18	29	7
C 1780 S	0	18	0	38	180	211	2	0	1	11	33	1
LINE 203	(FLIGHT	26)										
A 1828 H	4	1559	2	16	54	197	1	0	1	12	85	0
B 1821 G	1	4	2	10	75	30	6	6	1	21	38	9
C 1817 G?	1	9	0	13	97	108	2	0	1	22	76	7
D 1805 E	7	14	5	29	85	101	3	0	1	36	94	5
E 1802 H	6	15	6	32	144	165	2	0	1	13	36	1
LINE 204	(FLIGHT	27)										
A 1268 S	4	12	1	24	142	116	3	0	1	10	40	0
B 1253 S	2	6	1	9	65	39	4	0	1	14	39	1
C 1251 S	2	5	0	13	69	63	2	0	1	11	45	0
D 1246 E?	2	7	1	21	87	106	2	0	1	14	93	0
LINE 205	(FLIGHT	26)										
A 1917 S	3	13	2	31	234	183	4	0	1	14	40	3
B 1916 B?	3	13	2	32	234	183	1	2	1	33	193	3
D 1902 S?	1	10	4	17	128	189	2	0	1	13	136	0
F 1894 S?	5	12	5	50	283	107	2	0	1	10	150	0
LINE 206	(FLIGHT	26)										
A 1944 H	1	8	7	19	124	165	2	0	1	11	83	0
B 1947 S	2	29	7	60	312	470	1	0	1	15	211	0
C 1954 H?	0	9	4	15	35	170	1	1	1	54	285	13
D 1956 H?	1	7	1	10	24	103	1	0	1	10	459	0
E 1960 S	1	24	0	46	191	422	1	0	1	6	99	0
F 1963 H	1	10	2	12	74	104	1	0	1	51	285	7
G 1968 S	16	16	4	35	194	280	5	3	1	26	298	0
LINE 207	(FLIGHT	26)										
A 2012 B?	3	9	6	20	201	172	2	9	1	26	214	0
B 2011 S	3	8	6	35	201	268	2	0	1	15	51	3
C 2004 S	1	7	4	13	34	146	1	0	1	19	270	0

* ESTIMATED DEPTH MAY BE UNRELIABLE BECAUSE THE STRONGER PART OF THE CONDUCTOR MAY BE DEEPER OR TO ONE SIDE OF THE FLIGHT LINE, OR BECAUSE OF A SHALLOW DIP OR OVERBURDEN EFFECTS.

ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 207	(FLIGHT	26)										
D 2001 S	0	7	4	18	76	162	1	0	1	16	218	0
F 1995 S	0	4	0	11	47	106	1	0	1	11	297	0
G 1992 H?	0	2	6	7	70	32	5	12	1	21	193	3
LINE 208	(FLIGHT	26)										
A 2043 S	0	24	7	50	274	429	1	0	1	16	207	0
D 2050 S?	0	8	5	15	46	142	1	0	1	19	249	1
E 2068 S	0	10	0	18	58	69	2	2	1	12	147	0
LINE 209	(FLIGHT	26)										
A 2117 B?	0	0	1	19	23	150	1	1	1	21	614	0
D 2108 H	1	2	1	4	11	44	1	0	1	34	661	5
E 2103 B?	2	2	0	3	11	35	1	0	1	33	500	7
F 2097 H?	2	7	1	15	83	73	2	7	1	21	117	6
G 2092 S	3	10	1	14	66	143	1	0	1	13	102	0
LINE 210	(FLIGHT	26)										
A 2185 H	3	2	0	7	28	68	1	0	1	17	277	0
B 2188 G	0	0	0	1	12	22	1	8	1	35	286	12
C 2191 S	1	5	0	12	56	116	1	0	1	11	161	0
D 2198 G	1	2	0	3	11	41	1	0	1	41	259	17
LINE 211	(FLIGHT	26)										
A 2245 G?	3	1	1	3	12	17	1	12	1	27	396	2
B 2241 S	0	8	1	15	68	134	1	0	1	11	159	0
C 2235 S	1	7	0	20	96	181	1	0	1	11	125	0
D 2230 H	1	1	1	4	30	43	1	0	1	13	173	0
LINE 212	(FLIGHT	27)										
A 1065 S	2	13	1	2	139	179	2	0	1	7	72	0
B 1068 S	2	13	1	26	139	179	2	0	1	7	95	0
C 1071 S	1	4	0	7	33	86	1	0	1	9	374	0
D 1076 S	0	1	0	3	11	46	1	0	1	7	1059	0
E 1083 H	2	3	0	11	32	15	4	18	1	21	350	0
F 1087 S	2	5	0	14	54	139	1	0	1	10	266	0
G 1094 S	1	22	1	53	213	470	1	0	1	10	90	0
H 1099 S	0	7	0	10	27	113	1	0	1	12	335	0
LINE 214	(FLIGHT	26)										
A 2470 S	3	1	0	2	9	31	1	0	1	18	1192	0
LINE 215	(FLIGHT	27)										
C 384 H	1	2	1	3	19	32	1	0	1	24	506	0

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 215	(FLIGHT 27)											
D 395 S	4	8	1	32	35	66	2	0	1	0	360	0
LINE 216	(FLIGHT 27)											
A 439 S	1	2	1	5	12	63	1	0	1	16	756	0
B 425 S	5	6	2	18	82	159	1	0	1	5	136	0
C 424 E?	5	5	3	15	82	122	4	2	1	63	312	11
D 422 S	2	2	2	2	19	8	4	12	1	19	518	0
LINE 217	(FLIGHT 28)											
A 1970 S	3	12	3	24	127	160	2	0	1	6	57	0
B 1978 S	3	3	1	6	18	69	1	0	1	15	605	0
D 1996 E	0	0	1	0	5	10	19	130	1	186	939	35
LINE 218	(FLIGHT 28)											
B 1940 S	5	15	2	34	68	302	1	0	1	5	83	0
D 1910 B?	0	0	1	0	5	8	1	19	1	61	1159	20
LINE 219	(FLIGHT 28)											
A 1834 S	6	10	3	22	116	171	3	2	1	0	334	0
C 1822 S	2	4	0	13	21	128	1	0	1	7	710	0
D 1818 S	0	1	1	2	11	30	1	17	1	165	1035	0
LINE 220	(FLIGHT 28)											
A 1735 S	3	13	3	18	65	130	1	0	1	6	113	0
B 1756 S	1	11	1	22	117	112	2	0	1	6	139	0
C 1766 S?	1	4	1	9	35	105	1	0	1	4	385	0
LINE 221	(FLIGHT 27)											
A 794 S	2	12	1	21	136	117	3	0	1	8	39	0
B 791 S	2	12	1	15	68	42	3	0	1	7	51	0
C 786 S	1	9	1	24	93	168	1	0	1	7	90	0
E 776 H	1	3	0	10	21	51	1	0	1	24	444	0
F 771 S	0	11	1	22	92	139	1	0	1	9	98	0
G 762 B?	1	1	0	1	8	15	1	0	1	53	364	21
LINE 222	(FLIGHT 28)											
A 1713 S	3	15	3	35	171	201	1	0	1	0	360	0
B 1708 S	2	7	0	16	59	138	1	0	1	6	148	0
C 1695 S	2	15	1	33	156	92	5	0	1	6	86	0
D 1693 S	0	14	1	35	153	298	1	0	1	5	96	0
LINE 223	(FLIGHT 28)											
A 1616 S	2	5	2	10	45	93	1	0	1	6	145	0

* ESTIMATED DEPTH MAY BE UNRELIABLE BECAUSE THE STRONGER PART OF THE CONDUCTOR MAY BE DEEPER OR TO ONE SIDE OF THE FLIGHT LINE, OR BECAUSE OF A SHALLOW DIP OR OVERBURDEN EFFECTS.

216-SH.2 DIEPPE

ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	QUAD PPM	COPLANAR 900 HZ REAL PPM	QUAD PPM	COPLANAR 7200 HZ REAL PPM	QUAD PPM	VERTICAL DIKE COND MHOS	DEPTH* M	HORIZONTAL SHEET COND MHOS	DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	DEPTH M
LINE 223	(FLIGHT 28)											
B 1624 S	2	5	0	10	34	59	1	0	1	10	316	0
C 1635 S	0	8	0	14	43	142	1	0	1	8	318	0
D 1646 H	0	1553	2	1554	16	1604	1	0	1	31	442	4

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ANOMALY/ FID/INTERP		COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 224		(FLIGHT 27)											
A 1343	S	6	11	4	20	95	99	3	0	1	22	252	0
B 1351	S?	4	7	1	9	72	48	3	0	1	17	41	5
C 1355	S	3	6	1	7	52	61	2	1	1	28	247	0
D 1358	S	3	10	4	15	95	74	3	0	1	7	65	0
E 1362	S	4	4	3	6	23	34	1	0	1	13	315	0
F 1372	H?	1	2	0	3	13	36	1	0	1	17	405	0
G 1377	S	0	3	0	7	20	61	1	0	1	7	314	0
H 1387	S	3	3	1	6	26	58	1	0	1	19	404	0
I 1401	S	0	7	2	16	56	95	1	0	1	9	290	0
J 1409	S	2	1	0	2	11	33	1	0	1	17	443	0

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 301 (FLIGHT 26)												
A 1406 S?	0	5	0	12	73	125	1	0	1	10	142	0
B 1402 S	1	14	0	35	161	260	2	0	1	9	99	0
C 1395 E	5	14	18	53	279	68	3	0	1	37	273	0
D 1392 B	13	22	22	68	338	79	5	1	1	30	63	5
E 1390 E?	5	22	20	68	338	5	3	0	1	10	257	0
F 1388 B?	4	23	1	50	240	378	2	0	1	10	58	0
G 1382 E?	5	20	2	43	256	233	1	0	1	3	370	0
H 1380 S	5	12	2	31	256	233	3	0	1	11	45	0
J 1375 S	2	1	2	20	114	43	8	0	1	11	59	0
K 1370 S	2	13	5	42	230	217	3	0	1	11	37	0
LINE 302 (FLIGHT 28)												
A 1477 S	2	7	2	12	40	122	1	0	1	5	254	0
B 1472 S	2	15	1	32	79	196	1	0	1	7	172	0
C 1465 E	5	18	16	37	135	230	3	0	1	52	100	16
D 1464 D	9	11	18	42	168	222	6	2	1	38	52	11
E 1462 S?	3	11	16	42	168	78	3	0	1	21	195	0
F 1459 B?	4	15	4	21	88	178	1	0	1	8	123	0
G 1454 E?	7	18	3	33	176	233	2	0	1	11	487	0
H 1451 S	7	17	3	19	102	159	1	0	1	6	63	0
J 1443 H?	6	6	2	20	100	69	3	0	1	18	53	4
LINE 303 (FLIGHT 26)												
A 1312 ?	0	1551	0	1553	11	11	1	19	1	100	173	72
B 1325 D	6	8	6	20	25	27	4	0	1	48	116	9
C 1330 B?	3	7	2	11	60	106	1	0	1	13	110	0
D 1334 E?	5	14	2	32	167	187	2	0	1	12	50	0
LINE 304 (FLIGHT 28)												
A 1383 S	2	15	3	31	143	120	3	0	1	8	55	0
B 1408 D	18	31	14	78	332	491	4	0	1	22	107	0
C 1417 E	1	10	0	25	141	176	2	0	1	5	95	0
LINE 305 (FLIGHT 28)												
A 1343 B?	0	4	2	6	19	72	1	0	1	11	694	0
B 1338 B?	1	2	1	4	11	53	1	0	1	43	592	13
C 1329 B	7	8	8	20	92	77	5	0	2	48	58	15
D 1327 S?	7	9	8	10	75	94	2	0	1	5	69	0
E 1320 E?	4	7	2	14	50	71	3	3	1	25	268	0
F 1310 S	3	6	0	15	65	103	1	0	1	9	110	0
G 1308 S	6	5	2	15	44	77	1	0	1	9	97	0

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 305	(FLIGHT	28)										
H 1306 B?	6	6	2	11	44	75	4	0	1	57	161	12
LINE 306	(FLIGHT	26)										
A 281 S	1553	1560	2	26	132	1768	1	0	1	10	130	0
B 266 S	3	6	0	13	38	125	1	0	1	9	327	0
C 260 D	20	13	16	60	275	353	7	4	1	29	96	1
D 250 S	2	25	2	49	181	402	1	0	1	10	84	0
E 243 S	5	10	6	18	113	69	3	15	1	10	171	0
F 241 S	0	20	3	49	175	313	1	0	1	9	51	0
G 235 H?	3	7	4	14	86	43	5	0	1	10	46	0
LINE 307	(FLIGHT	27)										
A 2385 S	0	6	2	12	53	122	1	0	1	16	208	0
B 2380 D	28	38	28	87	426	473	7	0	1	27	58	2
C 2364 S?	3	15	5	25	116	166	2	0	1	6	187	0
D 2361 S	4	18	4	58	185	220	2	0	1	12	27	1
LINE 308	(FLIGHT	26)										
A 194 D	12	7	8	23	24	13	8	0	1	35	86	2
B 213 E	6	17	6	6	236	166	4	14	1	15	163	0
LINE 309	(FLIGHT	26)										
A 1163 S	777	26	0	52	184	443	1	0	1	10	99	0
B 1143 D	22	24	16	72	348	66	6	2	1	18	122	0
C 1133 S	3	17	3	34	217	246	2	0	1	9	33	0
LINE 310	(FLIGHT	27)										
A 2232 S	778	16	0	33	150	269	1	0	1	11	97	0
B 2253 D	19	25	18	62	320	158	6	0	1	26	81	0
C 2263 S?	2	10	2	14	87	101	2	0	1	11	61	0
LINE 311	(FLIGHT	26)										
A 1068 L?	5	0	0	0	6	5	1	30	1	165	55	144
B 1081 D	20	14	23	37	211	145	12	4	2	41	44	14
C 1087 L?	1	10	0	18	75	171	1	0	1	10	438	0
D 1089 S?	0	15	3	24	135	190	1	0	1	3	314	0
E 1094 E	3	13	5	28	139	24	1	0	1	9	187	0
F 1098 E	2	8	5	22	96	42	6	0	1	17	32	4
LINE 312	(FLIGHT	25)										
A 2386 D	22	19	23	50	264	274	9	3	2	47	40	21

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 312 (FLIGHT 25)												
C 2388 S	7	19	14	50	264	248	3	0	1	5	379	0
E 2397 S	1	11	3	27	108	123	2	0	1	9	40	0
F 2406 H	2	10	3	24	127	122	2	0	1	19	40	7
LINE 313 (FLIGHT 26)												
A 944 S	1555	1569	2	39	215	287	2	0	1	6	46	0
B 927 H?	3	6	1	11	33	95	1	0	1	5	412	0
C 921 D	23	16	21	34	210	154	12	13	2	46	47	19
D 919 S	8	16	15	34	210	180	4	5	1	26	153	0
E 914 E	1	13	5	36	191	243	2	0	1	6	243	0
G 911 S	4	16	2	32	129	132	2	0	1	8	71	0
H 899 H	3	9	4	24	81	105	2	0	1	19	140	2
LINE 314 (FLIGHT 25)												
A 2209 H	1551	2	1	3	19	20	1	0	1	24	157	0
B 2223 H	0	6	4	16	77	135	1	0	1	17	196	0
C 2228 B	19	9	29	28	152	115	18	12	3	56	20	33
D 2231 S	2	14	4	28	153	124	1	0	1	12	277	0
E 2236 S	2	16	4	26	157	207	1	0	1	8	310	0
F 2249 H?	3	7	4	24	81	90	2	0	1	15	39	3
LINE 315 (FLIGHT 28)												
A 1231 S	1553	16	2	40	124	292	1	0	1	8	57	0
B 1249 S	2	20	4	45	138	130	3	0	1	7	109	0
C 1253 T	17	17	27	45	161	220	9	9	2	38	46	13
D 1255 S	0	17	2	33	163	200	2	0	1	0	323	0
E 1262 L	2	6	2	7	62	59	2	0	1	9	89	0
F 1272 S	2	7	2	16	96	89	2	0	1	7	51	0
G 1276 H	3	5	4	14	105	43	7	7	1	15	43	4
LINE 316 (FLIGHT 25)												
B 2067 B	15	9	21	19	84	4	17	12	2	55	26	30
C 2066 H	4	9	5	20	109	78	3	0	1	19	41	6
D 2060 S	3	16	5	27	151	211	2	0	1	10	58	0
E 2051 E?	2	9	5	20	129	106	3	0	1	11	36	0
F 2049 H	2	7	5	20	117	81	2	4	1	19	135	0
LINE 317 (FLIGHT 26)												
A 811 S	3	22	1	42	177	334	1	0	1	15	259	0
B 797 S	3	43	2	92	418	753	2	0	1	9	48	0
C 791 D	14	19	40	46	180	167	10	9	2	35	35	12

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 317 (FLIGHT 26)												
D 789 S	0	19	6	46	156	167	2	0	1	6	63	0
E 783 S	2	20	7	41	240	327	1	0	1	11	211	0
LINE 318 (FLIGHT 25)												
A 1962 S	6	17	1	30	143	270	2	0	1	5	426	0
B 1959 H	0	7	1	14	51	146	1	0	1	15	205	0
C 1949 S	1	29	4	61	272	364	1	0	1	4	263	0
D 1942 D	37	23	53	51	263	210	21	6	3	40	17	20
E 1933 S	2	21	1	42	196	188	3	0	1	11	55	0
F 1921 H	4	1	6	6	224	138	14	55	1	13	166	0
LINE 319 (FLIGHT 28)												
A 1193 S	2	21	1	40	172	357	1	0	1	6	80	0
B 1190 H	1	4	0	7	114	57	5	1	1	12	218	0
C 1181 S	3	16	4	37	184	199	2	0	1	8	56	0
D 1173 D	25	7	48	18	74	122	62	8	3	43	20	22
LINE 320 (FLIGHT 25)												
A 1860 S	1	1	0	3	31	17	3	0	1	12	75	0
B 1870 S	4	11	5	35	201	149	4	0	1	13	33	2
C 1877 T	22	9	40	39	99	177	22	12	2	34	31	12
D 1879 S	0	9	4	44	236	177	4	0	1	10	48	0
LINE 321 (FLIGHT 26)												
A 698 S	3	31	2	55	240	111	8	7	1	9	42	0
B 689 S	5	19	7	36	235	196	4	0	1	8	39	0
C 680 D	29	16	62	38	141	331	29	13	2	35	21	16
D 679 S	29	16	6	38	237	331	2	0	1	8	51	0
E 674 S	3	19	3	45	185	353	1	0	1	8	80	0
F 670 H	2	25	2	65	265	169	5	6	1	12	35	3
H 661 H	2	16	5	43	206	240	2	0	1	13	35	1
LINE 322 (FLIGHT 25)												
A 1836 S	3	7	1	16	71	149	1	0	1	11	88	0
B 1832 S	3	32	3	54	292	422	2	0	1	10	41	0
C 1822 S	3	13	4	14	64	203	1	0	1	13	65	0
D 1815 S	5	5	6	14	74	69	2	0	1	12	28	0
E 1812 B	5	5	7	12	22	43	6	11	1	23	112	0
F 1799 S	4	11	4	25	145	79	5	0	1	11	26	1
G 1792 S	3	17	5	34	172	133	4	0	1	12	25	2
LINE 323 (FLIGHT 27)												
A 2188 S	3	28	0	56	298	439	2	0	1	11	44	0

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216-SH.3 DIEPPE

ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	COAXIAL 900 HZ QUAD PPM	COPLANAR 900 HZ REAL PPM	COPLANAR 900 HZ QUAD PPM	COPLANAR 7200 HZ REAL PPM	COPLANAR 7200 HZ QUAD PPM	VERTICAL DIKE COND MHOS	VERTICAL DIKE DEPTH* M	HORIZONTAL SHEET COND MHOS	HORIZONTAL SHEET DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	CONDUCTIVE EARTH DEPTH M
LINE 323 (FLIGHT 27)												
B 2185 S	0	11	0	33	166	210	2	0	1	10	106	0
C 2179 H	3	14	5	37	113	195	1	0	1	14	39	3
D 2173 D	11	22	15	51	100	347	4	5	1	14	119	0
E 2162 B?	3	12	5	24	113	254	2	6	1	2	207	0
F 2154 H	4	22	4	48	164	218	1	0	1	8	175	0
LINE 324 (FLIGHT 25)												
A 1652 S	2	13	1	28	170	207	2	0	1	9	52	0
B 1659 H?	3	8	3	27	159	141	3	0	1	15	61	3
C 1664 S	4	15	8	32	168	165	3	0	1	10	27	0
D 1666 B	8	7	3	14	93	46	5	17	1	11	155	0
LINE 325 (FLIGHT 27)												
A 2084 S	1	15	1	28	109	259	1	0	1	8	68	0
B 2089 S	0	15	3	30	182	190	3	0	1	9	62	0
C 2098 S?	6	20	5	44	230	94	9	1	1	10	23	2
D 2100 D	6	20	5	44	230	94	2	0	1	9	148	0
E 2122 S	5	5	4	22	111	131	2	0	1	11	34	0
LINE 326 (FLIGHT 25)												
A 1632 S	781	11	0	18	121	150	2	0	1	8	68	0
B 1627 S	1	24	0	42	208	375	2	0	1	7	66	0
C 1621 S	3	17	0	49	244	363	2	0	1	10	84	0
D 1618 H?	3	15	5	38	205	159	4	4	1	17	40	6
E 1609 D	12	14	10	29	129	205	6	18	1	10	183	0
F 1606 S	0	22	0	46	241	290	1	0	1	0	209	0
H 1599 S	0	31	0	52	202	484	1	0	1	10	72	0
LINE 327 (FLIGHT 27)												
A 1859 S	4	12	1	26	124	204	1	0	1	9	65	0
B 1878 D	6	11	5	25	118	147	3	4	1	8	164	0
C 1889 S	4	12	1	29	115	264	1	0	1	9	50	0
D 1895 S	0	19	4	49	237	188	4	0	1	11	39	1
E 1897 S	4	19	5	12	108	175	2	5	1	4	229	0
F 1902 E	5	19	6	60	317	275	4	0	1	12	25	2
LINE 328 (FLIGHT 25)												
A 1526 S	1557	1590	2	1628	362	2158	1	0	1	13	41	3
B 1541 S	4	14	0	35	182	303	2	0	1	14	51	3
C 1557 D	14	5	4	9	83	87	17	24	1	12	168	0
D 1561 S	0	2	2	1	50	15	4	64	1	0	352	0

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216-SH.3 DIEPPE

	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 328	(FLIGHT	25)										
E 1564 S	0	8	2	14	115	79	1	0	1	0	358	0
LINE 329	(FLIGHT	25)										
A 976 S	1	12	8	26	131	144	2	0	1	9	30	0
B 978 D	16	12	8	26	131	140	8	4	1	13	163	0
C 985 S	2	9	3	18	107	42	1	0	1	0	313	0
LINE 330	(FLIGHT	25)										
A 1517 S	4	11	5	18	147	232	2	0	1	12	35	2
C 1507 S	1	7	3	21	107	151	1	3	1	2	227	0
D 1503 D	21	12	25	28	113	37	16	19	1	18	72	0
E 1498 S	1	7	2	18	97	294	1	6	1	0	212	0
F 1495 S	1	22	2	44	236	294	2	0	1	10	43	1
LINE 331	(FLIGHT	27)										
A 1835 S	3	15	5	37	171	295	1	0	1	10	29	0
B 1824 H	12	46	9	90	476	123	2	0	1	3	170	0
C 1812 D	13	8	11	15	30	297	13	25	1	15	124	0
D 1808 S	2	3	8	53	258	164	2	0	1	7	194	0
F 1797 S	2	13	1	28	171	210	2	0	1	9	46	0
LINE 332	(FLIGHT	25)										
A 1439 S	8	33	7	69	373	379	3	0	1	10	24	1
B 1441 L	8	33	7	68	373	379	2	0	1	12	171	0
C 1444 L?	5	22	7	36	190	210	2	0	1	7	215	0
E 1453 D	11	20	11	46	238	94	4	3	1	13	134	0
F 1463 S	0	11	0	21	106	186	1	0	1	11	63	0
G 1468 S	1	17	1	29	170	220	2	0	1	9	49	0
LINE 333	(FLIGHT	25)										
A 804 S	3	14	2	35	171	292	1	0	1	8	44	0
B 812 B	8	28	9	12	50	35	3	7	1	7	147	0
C 823 D	9	18	9	42	37	54	3	0	1	14	134	0
F 838 S	0	9	2	17	99	150	1	0	1	10	60	0
LINE 334	(FLIGHT	27)										
A 1711 S	4	12	7	27	147	163	3	5	1	10	132	0
B 1724 B	6	11	8	22	86	169	4	13	1	16	105	0
C 1731 B?	6	15	8	4	6	151	4	18	1	0	266	0
E 1739 S	0	8	4	17	78	157	1	0	1	13	270	0
LINE 335	(FLIGHT	25)										
A 790 E?	5	10	4	44	252	229	3	0	1	10	34	1

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 335	(FLIGHT 25)											
B 784 B	9	21	6	44	182	228	3	4	1	11	125	0
C 781 S	1	12	6	65	324	429	2	0	1	10	42	0
D 773 B	6	6	5	12	69	85	5	17	1	21	102	0
G 757 S	0	9	7	23	108	187	1	0	1	10	54	0
LINE 336	(FLIGHT 25)											
B 1336 E?	2	12	5	29	167	125	4	0	1	9	35	0
C 1340 H	5	25	7	41	212	192	2	0	1	10	127	0
D 1342 H?	5	20	7	44	248	91	11	0	1	11	35	1
E 1348 S	1	16	5	34	166	290	1	0	1	7	41	0
F 1353 S	7	21	7	45	224	218	2	0	1	14	111	0
G 1359 S	3	13	4	29	164	150	3	0	1	10	30	0
H 1366 S	4	7	5	17	128	70	5	0	1	10	31	0
LINE 337	(FLIGHT 25)											
A 719 B?	3	8	4	13	142	124	3	17	1	10	159	0
B 730 D	9	25	7	51	244	335	2	0	1	16	105	0
C 732 S	9	25	7	51	244	335	2	0	1	11	21	3
D 737 S	6	20	8	40	241	104	8	1	1	11	26	2
LINE 338	(FLIGHT 25)											
A 1315 H	4	27	5	58	294	420	1	0	1	7	163	0
B 1309 S	3	29	2	59	280	393	2	0	1	10	28	2
C 1299 S	4	30	0	59	239	277	2	0	1	10	28	2
D 1293 S	7	55	11	116	419	342	4	2	1	14	18	7
E 1288 B	11	34	13	70	178	115	3	5	1	11	91	0
F 1273 S	1	9	5	22	133	177	1	5	1	4	229	0
LINE 339	(FLIGHT 25)											
A 697 S	4	26	4	8	18	481	2	0	1	5	206	0
B 692 S	3	26	3	55	288	373	2	0	1	10	29	1
C 686 L	1	8	1	36	149	283	1	0	1	10	43	0
D 674 B	6	15	8	29	152	150	3	9	1	11	104	0
E 669 H?	5	28	9	59	106	290	2	0	1	10	115	0
LINE 340	(FLIGHT 25)											
A 1231 S	2	16	3	33	175	241	2	0	1	8	36	0
B 1240 B?	4	7	3	45	211	271	1	0	1	14	138	0
C 1243 S?	4	23	5	46	233	290	1	0	1	10	120	0
D 1248 S	6	27	11	66	339	317	4	0	1	9	24	0
LINE 341	(FLIGHT 25)											
A 619 S	2	11	1	25	136	181	2	0	1	8	40	0

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ANOMALY/ FID/INTERP	COAXIAL 900 HZ REAL PPM	QUAD PPM	COPLANAR 900 HZ REAL PPM	QUAD PPM	COPLANAR 7200 HZ REAL PPM	QUAD PPM	VERTICAL DIKE COND MHOS	DEPTH* M	HORIZONTAL SHEET COND MHOS	DEPTH M	CONDUCTIVE EARTH RESIS OHM-M	DEPTH M
LINE 341 (FLIGHT 25)												
B 634 B?	6	37	7	55	242	298	2	0	1	12	20	4
C 637 E	4	17	9	80	316	452	2	0	1	12	28	2

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	COAXIAL 900 HZ		COPLANAR 900 HZ		COPLANAR 7200 HZ		VERTICAL DIKE		HORIZONTAL SHEET		CONDUCTIVE EARTH	
ANOMALY/ FID/INTERP	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	REAL PPM	QUAD PPM	COND MHOS	DEPTH* M	COND MHOS	DEPTH M	RESIS OHM-M	DEPTH M
LINE 342	(FLIGHT 27)											
A 1458 B	8	4	11	14	75	35	12	1	3	56	18	32
B 1465 S	3	4	5	9	58	53	2	0	1	10	169	0
D 1474 E?	0	4	2	7	33	80	1	0	1	27	487	0
G 1496 B?	2	12	2	27	137	17	1	0	1	7	169	0
H 1503 B	3	6	6	14	69	59	3	13	1	19	101	0

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