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GEOLOGICAL REPORT

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BLUEBERRY ISLAND GOLD PROPERTY

HORWOOD TOWNSHIP

NORTH-EASTERN ONTARIO

NTS 42 B 1

PECEIVED MINING LANDS SECTION

R. Hodgson, B.Sc. Geologist

August 20, 1987



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TABLE OF CONTENTS

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SECTIONPAGE	<u>NO</u>
INTRODUCTION	3
PROPERTY DESCRIPTION, LOCATION & ACCESS	3
TOPOGRAPHY & OVERBURDEN	4
REGIONAL GEOLOGY	5
SUMMARY OF PREVIOUS EXPLORATION & DEVELOPMENT	6
PROPERTY GEOLOGY (a) Lithologie	7
(b) Structure	13
MINERALIZATION	14
CONCLUSIONS & RECOMMENDATIONS	21
REFERENCES	23
STATEMENT OF QUALIFICATIONS	27
Appendix I Claims Schedule	
Appendix II Assay Certificate	
Appendix III Sample Descriptions	

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figures

Location Map
Detailed Location Map
Claim Map
Table of Lithological Units
Scale 1:5,000 (in rear pocket)

1) Geology

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INTRODUCTION

This report describes the results of a geological survey conducted over a twenty-five claim gold prospect comprising 400 hectares in Horwood Township, Northeastern Ontario. The survey was carried out during the period July 9 to August 15, 1987, on a chainsaw cut grid which covered the entire property with one hundred meter spaced northsouth lines.

A detailed description of the principal rock types encountered during the course of the survey is provided, along with the character and dimension of veins and mineralized zones. Recommendations for further development of the property are also made. The survey was conducted by Rand Hodgson, geologist, of 43 St. Olaves Rd., Toronto, Ontario, M6S 3H5.

PROPERTY DESCRIPTION, LOCATION AND ACCESS

The property consists of twenty-five contiguous, unpatented mining claims located in the central portion of Horwood Township, Porcupine Mining Division, N.T.S. Reference Sheet No.42-B-1. Horwood Township is approximately ninety-five kilometers southwest of Timmins, Ontario.

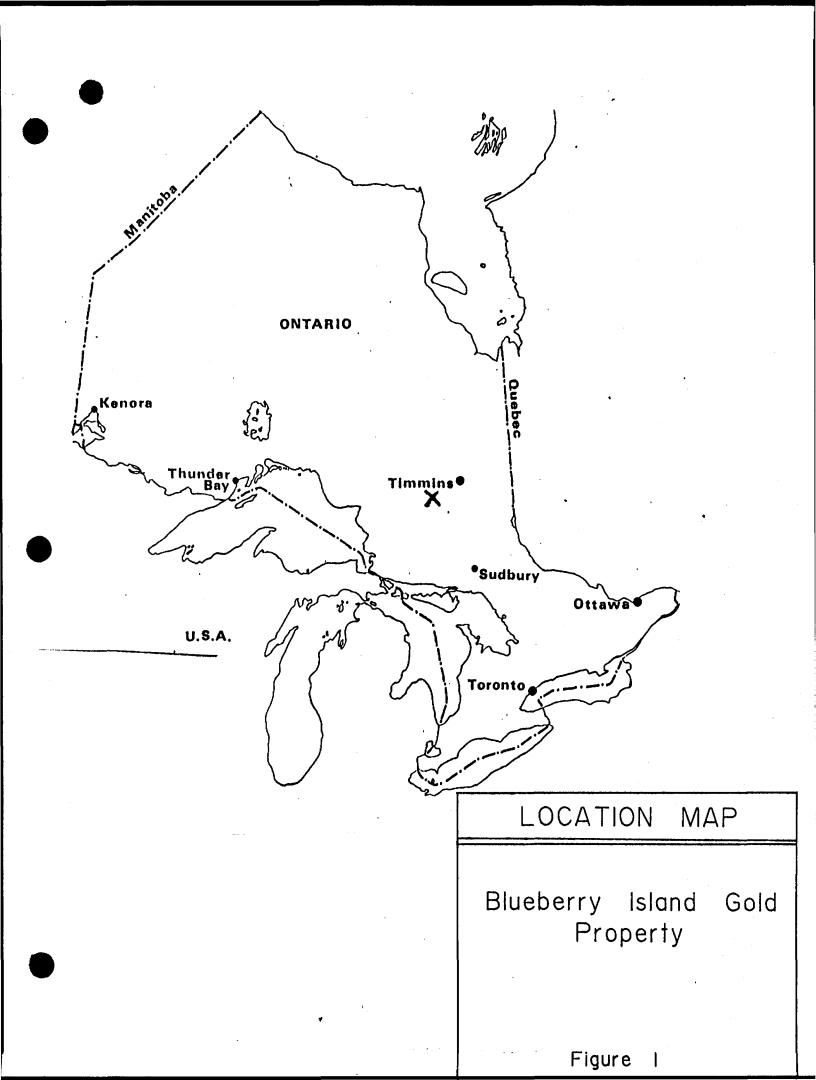
The claim block is adjacent to the east shore of Horwood Lake and includes Blueberry Island, just north of Pinecone Point which juts out from the west side of the lake. Access is easiest by float plane from Timmins. An alternate route is via Highway 101 west from Timmins for 80 kilometers to Highway 616, then sixteen kilometers along a gravel access road which leads to the public landing near the north end of Horwood Lake. The boat ride to the property is about 13 kilometers.

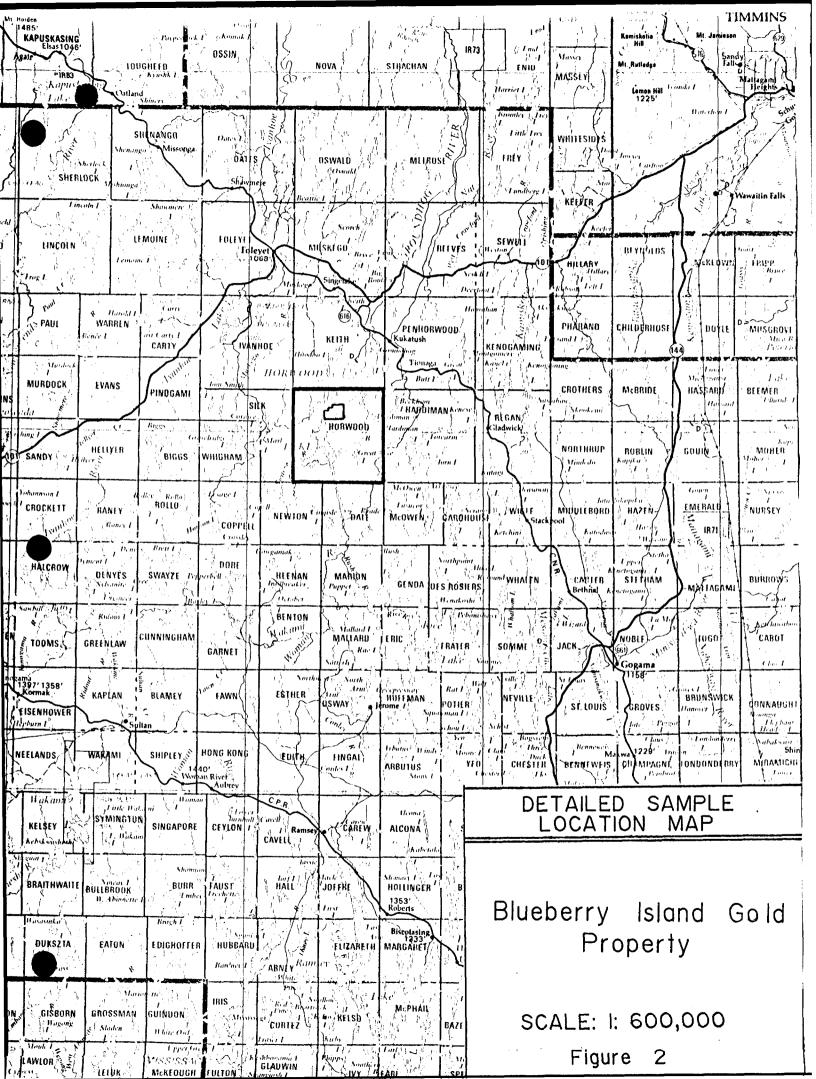
The claims are registered in the name of Pelangio-Larder Mines Limited, P.O. Box 1456, Timmins, Ontario, P4N 7N2. The project is being conducted under a joint venture agreement with Bayridge Developments Inc., Suite 1800 - 400 Burrard Street, Vancouver, B.C., V6C 3A6, the terms of which provide Bayridge Developments with an interest in the property in return for financing the exploration project.

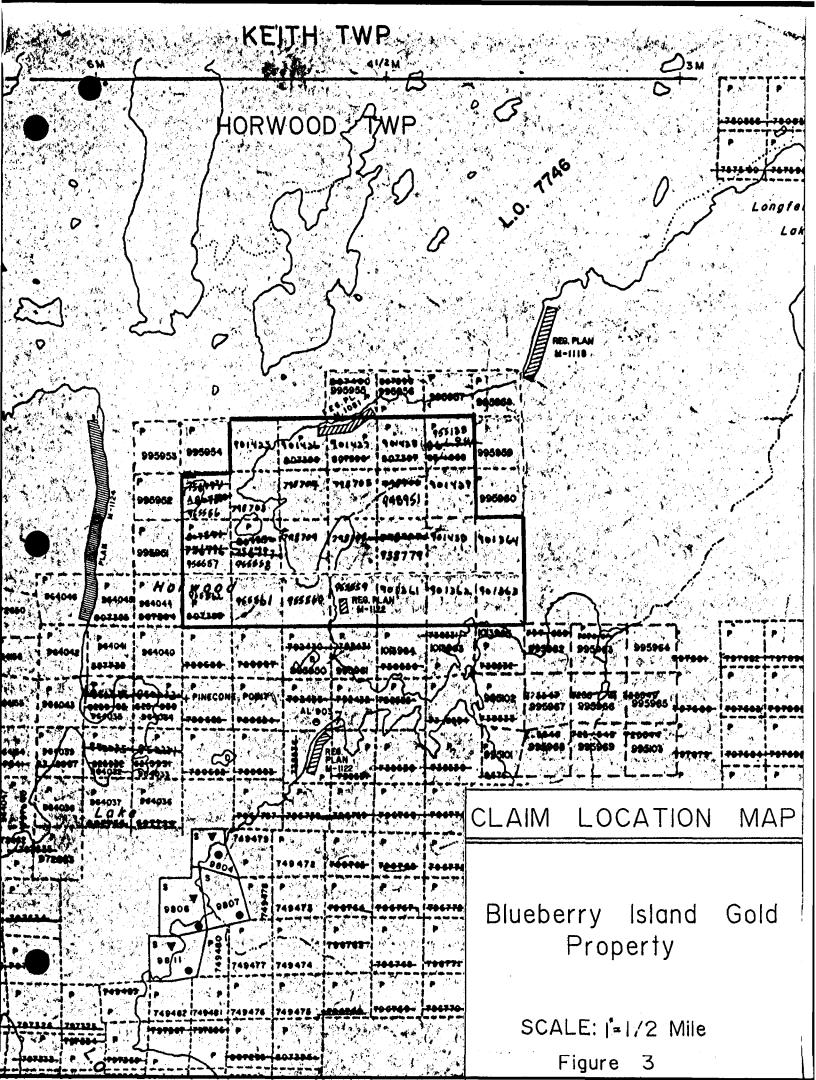
The claims' schedule, containing a list of the claims and their assessment work due dates is provided in the appendix.

TOPOGRAPHY & OVERBURDEN

The property is cut in half by an extensive coverage of cedar swamp which trends northeasterly across the land portion of the property. About 1/6 of the total area is covered by this swamp. A further 1/3 of the property (the north and east portions) is covered by water,







leaving the remaining half with good scattered outcrop exposure in a series of east-north-east trending ridges and valleys. Maximum relief would be in the order of 5-10 meters, and overburden is shallow (except in the cedar swamp), probably rarely exceeding 5 meters.

REGIONAL GEOLOGY *

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The Blueberry Island property lies within the east-west trending Swayze-Deloro Metavolcanic belt which forms part of the Abitibi sub-province. All rocks are Archean in age with the exception of the middle to late Precambrian diabase dyke swarms.

This belt contains two complete sequences of mafic and felsic metavolcanics with associated metasediments. The mafic metavolcanics predominate and consist of massive flows which in many exposures display pillow or amygdaloidal structures. Flows and pyroclastic rocks of rhyolitic, dacitic or trachytic composition form the felsic metavolcanic units, with rhyolitic varieties being the most common.

Less than ten percent of the Swayze-Deloro Belt is composed of metasedimentary rocks. In decreasing order of abundance they include greywacke, arkose, conglomerate, quartzite and argillite.

Numerous Algoman granitic intrusives have deformed the belt's margin into an arcuate pattern typical of many

Horwood Lake Area

TABLE 4 TABLE OF LITHOLOGIC UNITS FOR THE HORWOOD LAKE AREA.

CENOZOIC

QUATERNARY

RECENT

Lake, stream, and swamp deposits.

PLEISTOCENE

Glacial drift, sand, gravel, boulders, and varved clays.

UNCONFORMITY

PRECAMBRIAN

MIDDLE TO LATE PRECAMBRIAN (PROTEROZOIC)

MAFIC INTRUSIVE ROCKS

Olivine diabase dikes (Abitibi-type), quartz diabase, and porphyritic diabase dikes.

INTRUSIVE CONTACT

EARLY PRECAMBRIAN TARCHEAN)

LATE FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

Biotite granodiorite, biotite quartz monzonite, porphyritic biotite granodiorite, porphyritic biotite quartz monzonite, biotite-hornblende quartz diorite, hornblende monzonite, xenolithic granitic rocks, hornblende quartz monzonite, aplite dikes, muscovite granodiorite, hornblende granodiorite, biotite-hornblende diorite.

INTRUSIVE CONTACT

EARLY FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

Biotite trondhjemite, biotite-hornblende trondhjemite, biotite-hornblende diorite, quartz porphyry, feldspar porphyry, quartz-feldspar porphyry, migmatite.

INTRUSIVE CONTACT

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS

Dark green-black serpentinite, light blue-green serpentinite, talc-carbonate serpentinite, sheared serpentinite.

MAFIC INTRUSIVE ROCKS

Metagabbro, xenolithic metagabbro, porphyritic to equigranular diorite, hornblendite, metagabbro dikes.

METAVOLCANICS AND METASEDIMENTS METASEDIMENTS

> Greywacke, conglomerate, chert, chert breccia, quartzite, arkose, slate. FELSIC TO INTERMEDIATE METAVOLCANICS

Tuff, lapilli-tuff, tuff-breccia, pyroclastic breccia, felsic flows, quartz-feldspar crystal tuff, feldspar and/or quartz porphyry subvolcanic rocks, miarolitic subvolcanic rocks.

MAFIC TO INTERMEDIATE METAVOLCANICS

Amygdaloidal metavolcanics, pillowed metavolcanics, crenulated metavolcanics, laminated metavolcanics, medium-to coarse-grained metavolcanics, mafic breccia, amphibolitized metavolcanics, massive metavolcanics, garnetiferous metavolcanics, variolitic metavolcanics, porphyritic andesite, migmatized metavolcanics. Archean greenstone belts. Mafic and ultramafic intrusions having dioritic, gabbroic and serpentinized compositions occur throughout the belt. These bodies form as sills or stocks and predate the granitic intrusives.

A green schist facies regional metamorphism predominates over the entire area with epidote-almandine amphibolite grade being present in contact metamorphic aureoles.

SUMMARY OF PREVIOUS EXPLORATION & DEVELOPMENT **

History of Previous Work and Results

- 1909 Early prospectors found several small gold showings.
- 1949-1959 J.E. Lefever put down 32 "x-ray" diamond drill holes for 2389 feet. Only assay recorded was 0.51 oz gold per ton over 10.0 feet. A "grab" sample from a gold showing on the north shore of a small island on the north boundary of claim P955558 assayed 5.46 oz gold per ton.
- 1960 Kerr Addison Mines Limited carried out a limited magnetometer survey and drilled 7 holes for 3026 feet. A gold-bearing zone 500 feet

long and 4 feet wide averaged 0.20 oz gold per ton over 12 inches for a strike length of 360 feet. Character samples from a third vein assayed up to 1.33 oz gold per ton.

1972 Noranda Exploration Co. Ltd. carried out a McPhar SS-15 vertical loop E-M and fluxgate Magnetometer survey. Two weak conductors were found.

1980 M.P.H. Consulting Limited carried out VLF E-M and magnetometer survey using 300 foot line spacing and 100 foot stations. 10 conductors were found, and further exploration was recommended to Ingamar Explorations Limited.

1982 Raise Contracting carried out stripping and trenching on the "Main" and "Inlet" gold showings, and also did 8 miles of mapping on 2 claims.

PROPERTY GEOLOGY

(a) Lithologies

The property consists of three major rock types; mafic metavolcanics, mafic intrusives and intermediate

felsic plutonics. There are also a few minor exposures of felsic metavolcanics, volcanogenic metasediments and felsic intrusive (hypabyssal) rocks such as quartz-feldspar porphyry. These lithologies are described as follows:

Mafic Metavolcanics

Mafic metavolcanics constitute the oldest and most common rock type on the property. They represent about 90% of all outcrop in the northern and western parts of the claim group. North of the baseline, these rocks generally occur as thinly interbedded massive flows, tuffs, lappilli tuffs and pyroclastic breccias. Interbedded flows and tuffs commonly occur within the space of only a few meters. They are green-grey, green, medium to coarse grained, often heavily sheared, amphibolized, and chloritized. The shear zones have a phyllite-like facility due to the lineal rearrangement of biotite minerals in the rock.

Amygdaloidal flows are not common in the mafic volcanics although they were observed in a pillowed andesite located at L.IE, 4N on the grid. In this case the vesicles were about 5 mm in diameter and infilled with epidote.

Pillow lavas (mainly andesite) seemed to be more prevalent in the southern half of the property, although this might be due to the fact that greater outcrop exposure occurs to the south.

The individual pillows range from 15 cm to 2 meters in length and they provide good regional

stratigraphic information. Conclusive identification of tops was rare however, due to deformation and insufficient exposure.

Some of the flows have developed a very coarse grained subhedral crystalline texture which makes them difficult to distinguish from some of the fine grained hornblende gabbros - especially when the two rock types interfinger in clöse proximity to one another.

The mafic tuffs and lappilli tuffs were comprised of typically dark green andesitic matrix with chloritic stretched fragments ranging in length from 1 mm up to 15 cm.

INTERMEDIATE-FELSIC PLUTONIC ROCKS

The Horwood Peninsula Pluton extends onto the southeast corner of the property from the east and then passes beneath it out into Horwood Lake. The rocks uniformly consist of medium to coarse grained massive equigranular guartz-biotite-hornblende diorite.

There are several small exposures of xenolithic diorite and quartz monzonite located in the vicinity of L6E to L7E, 7+50S. The xenoliths are mainly foliated amphibolized mafic metavolcanics ranging up to 25 cm in length, set in a medium grained equigranular reddish-grey ground mass. This rock type is also exposed on the shore of the lake in the vicinity of L6E, 5S. It is not known

whether these rocks are related to the main plutonic body to the south.

MAFIC INTRUSIVES

The westward extension of a large gabbroic mass which butts up against the north side of the Horwood Peninsula Pluton Extends onto the property from the east. This mafic intrusive body extends a great deal further onto the property than was previously known, and, in fact, could possibly extend underneath the main cedar swamp to link up with a similar smaller plug which is exposed on an island and the shore of Horwood Lake at the western end of the Another large mass of gabbro occurs near the property. southern boundary of the claim group. It exhibits an elongate east-west shape with dimensions approximately 200 m x 800 m. There are numerous other smaller gabbroic plugs exposed randomly throughout the property, and altogether, this rock type underlies 30% (or more) of the total area of the claims.

These gabbros are generally medium-grained, but commonly occur in any grain size, ranging from coarse to very fine. Because the very fine-grained textures are easily mistaken for coarse-grained amphibolized volcanic flows, it is sometimes difficult to determine exact contact between these two lithologies. Although examples of dark colored hornblende and pyroxene gabbros can be found, the overwhelming majority of these rocks are high in feldspar content. These feldspathic gabbros have a distinct diabasic texture and could easily be referred to as diabase if they were dykes.

It is interesting to note here that these feldspathic gabbros are distinctly similar to those which host the ore veins in the Orofino deposit, located in the same metavolcanic complex approximately 12 km to the southwest, in Silk Township.

"The ore host rock is typically a dark greenishblack (fresh surface) medium grained massive metagabbro. In relatively unaltered specimens, a metadiabasic texture is clearly discernible with slender to stumpy, haphazardly oriented plagioclase laths (40-50%) enclosing hornblende and lesser amounts of biotite, magnetite and pyrite. Adjacent to quartz veins, the metagabbro is often chloritized with a finer-grained, softer dark green appearance, probably related to hydrothermal alteration during emplacement of these veins." ***

It is also interesting to note here that there is a generalized trend towards finer-grained phases of the gabbro towards the north end of the main gabbroic body. This also fits the Orofino model of quartz veins being associated with the fine grained gabbros because it is in the north end of the body that the gold bearing quartz veins are found.

INTERMEDIATE-FELSIC METAVOLCANICS

Rocks of dacitic/rhyolitic composition are found in five isolated locations throughout the property. They are pale green to dark grey, usually porphyritic (quartz and/or feldspar) with an extremely fine-grained ground mass exhibiting concoidal fracture. There are a few good exposures of felsic tuffs and breccias on Blueberry Island and the peninsula opposite the island to the east. The beds are thin (less than 5 m) and cannot be traced along strike. Altogether, these rocks make up less than 1% of the total exposure on the property.

VOLCANOGENIC METASEDIMENTS

There are a few thin chert horizons which host the north-west trending quartz veins of on the some These grade quickly into mafic volcanics and property. cross-cut the regional stratigraphy. Because of this, the author tends to think of these units as local intense silicification related to the hydrothermal event which emplaced the quartz veins --rather than as true No other examples of metasediments were metasediments. located on the property.

FELSIC INTRUSIVE (HYPABYSSAL) ROCKS

There are several examples of grey fine-grained feldspar porphyry on the property. They are poorly exposed and thus it is difficult to determine whether they are dykes or not, or even whether they are true feldspar porphyries rather that felsic porphyritic flows. An example of the ambiguity of these rocks is the exposure which is associated with gold bearing quartz veins located at L6E, 3+50S. This unit has been described as a grey siliceous feldspar porphyry in the past, however because of the rounded phenocrysts, it is the opinion of this writer that they are actually amygdules in felsic flows.

(b) <u>Structure</u>

Although there has been a strong secondary foliation/lineation imprinted on the rocks, there is enough primary bedding information from flow contacts, pillow lavas and some lappilli tuffs to confirm that at least locally (within the property boundaries), this foliation generally conforms to the initial strike of the bedding - that being uniformly 70-90% with steep northerly dips.

"Based upon numerous lava flow-top determinations it appears that a macroscopic (regional) anticlinal fold exists in Horwood Township, with its axial plane trace trending northeast between East March Island and the

northwestern shoreline of Horwood Peninsula."**** It is inferred that this anticline passes through the middle of the property in a northeasterly direction. Not enough flowtop information was observed to confirm this hypothesis.

There is no evidence of any regional faulting in the vicinity of the property, however, there appears to be some indication of local faulting. Foliation and shearing is fairly common in the mafic volcanics along the north shore of Horwood Peninsula within the claim group. These shear zones are concordant with the strike of the bedding, contain generally narrow and 5-10% disseminated are sulphide. Of greater interest is a tendency for discordant mineralized quartz veining to occur in association with north-west trending sulphide shear zones in different parts of the property. This is probably the single most important trend which has been noticed that will help in directing ongoing exploration for gold on the property.

MINERALIZATION

Sulphide minneralization occurs as minor disseminations throughout the mafic volcanic and mafic intrusive lithologies on the property. Concentration of these sulphides occurs commonly within narrow concordant shear zones in the mafic volcanics, especially towards the north end of the group. The rocks in these shear zones are altered to chlorite schists, sericite schists, and phyllitic

/graphitic units with 20-30% disseminated pyrite, pyrrhotite, chalcopyrite and massive pyrite veins. These shear zones are associated with negative gold values.

There are several examples of north-west trending discordant sulphide shears and associated sulphide-gold mineralized quartz carbonate veins on the property. These occur in mafic volcanic as well as gabbroic host In "both rock types, the rocks immediately environments. enclosing the quartz carbonate veins are metamorphosed chlorite-sericite-carbonate-sulphide schists. Locally they are cherty, possibly due to silicification associated with hydrothermal activity. Lesser amounts of chalcopyrite, sphalerite, pyrrhotite and arsenopyrite are also present. Both the quartz carbonate veins and the associated mineralized shear zones are generally narrow, but the quartz veins have been observed to swell to as much as 1-2 meters in diameter, and the mineralized schists have been measured as wide as 10 meters and possibly more. The mineralized quartz veins are relatively low in sulphides - generally less than 10%. Sulphide mineralization in the schist ranges from 10% up to massive veining. High concentrations of gold up to 30,000 ppb are found in the quartz vein material and in associated chlorite schists hosting quartz-carbonate veinlets.

Most of these mineralized quartz veins are exposed by an extensive system of trenches and pits located on the

property. Location and description of these trench systems are as follows:

Trench System "A"

These trenches and pits are located in the vicinity of 6+50E,, 8+50S. They explore a thick (more than 10 m) sequence of mafic volcanics altered to chloritesericite-carbonate schists with pyrite, sphalerite, Total sulphide content in the chalcopyrite and hematite. schist approached 30% in veins and disseminations, including 0.5% copper (S38, 39) Gold values were moderately anomalous, up to 435 parts per billion (ppb) (S49). Within the schist is a thick (1-2 m) north-west trending quartz vein with minor (less than 1%) py., cpy. Gold values from the quartz vein were erratic, up to 2800 ppb (S19). A total of twenty samples were assayed from the trenches (S19-22, and S35-50). Most of the trenches were long (50 m) and shallow in overburden, but one main pit measured 5 m x 5 m x 2 m deep. The samples were taken from this pit.

Trench System "B" (Lefever Showing)

This trench system is located at 12+25E, 5N. It consists of one small pit in overburden, and one trench. The trench trends north-north-east, across the strike of the mineralized zone. It measures 1.5 m x 1.5 m x 18 m long. It is mostly in overburden with a three meter wide outcrop on the west side of the trench exposing a mineralized section about 1.5 meters wide. The host rock is massive mafic volcanic which grades into chlorite schist with abundant carbonate and 5-10% py. Within the schist are two narrow (10-20 cm) north-west trending quartz carbonate veins with 5-10% py, several quart-carbonate veinlets and one narrow massive pyrite vein (10 cm). A total of eleven samples were taken here,(S24-30, S80-85). The schist assayed up to 100 ppb; the quartz veins up to 3100 ppb.

Trench System "C" L6E, 3+75S

extensive An amount of stripping and trenching has been carried out between lines 6 and 7E, 3+50 to 4+50S. At least two parallel quartz veins are exposed, each up to 15 cm in diameter. The veins run parallel in a northwest-southeast direction, about 20 m apart. They are hosted by a variety of rock types, including gabbro, pillowed andesites, porphyritic felsic flows (feldspar amygdules, chlorite phenocrysts) or silicified mafic flows. The veins contain semi-massive py, cpy and assay up to 25,000 ppb Au., 3600 ppb Cu.,, 4.5 ppm Ag. Immediately enclosing the guartz is a chert horizon which the writer believes to be a highly silicified mafic volcanic. Most of the trenches strike northwest-southeast, and expose the veins along strike for about sixty meters. Six samples were taken, (\$5, \$76-80).

Trench System "D" Location 9+15E, 6S

One small pit (2 m x 2 m x 1 m deep) exposes a dark coloured intermediate volcanic with 10% disseminated pyrite, chalcopyrite. One sample was taken (S 13) which ran 120 ppb Au.

Trench System "E" L6E, 7+50S

This is a series of narrow, shallow pits and trenches located on the south tie-line between 4+50E and 7E. These are mainly in overburden but outcrop is found in the trench at 7E. There appears to be a sheared contact between a fine-grained felsite dyke to the south and mafic volcanics to the north. The volcanics have been metamorphosed into a chlorite schist with sericite, graphite, pyrite (20% disseminated) and hematite. There is a thin (10 cm) quartz vein at the contact. None of the four (S71-74) samples taken here yielded anomalous Au values. The chlorite schist here is identical to the chlorite schist host in Trench System "A", located 100 meters to the south.

Trench System "F" L14E, 0+50N

The trench strikes east-west and measures 1 m x 1 m x 20 m long and is accompanied by two small pits dug in overburden. Outcrop is however, exposed in several places in the trench. The rock is a fine-grained gabbro, with a few pyrite veins and blebs (5%). No quartz veining was located. Two grab samples of gabbro with 5% pyrite blebs returned assays of nil Au (S90-91)

Trench System "G" Location 15E, 3N

This group of trenches consists of two small trenches (1 m x 1 m x 25 m)and two small pits (1 m x 1 m x 1 m). One of the trenches exposes gabbro outcrop with a narrow (0.5 meter) mineralized zone striking approximately 120[°]. The mineralized gabbro is heavily carbonated, with 20% disseminated pyrite, pyrrhotite, up to massive veining. No quartz veining was observed in outcrop, but several samples taken from the adjacent dump pile include quartzcarbonate material with massive py, po. Seven samples were assayed from this occurrence (S64-70). A massive pyrite vein from outcrop (1 cm diameter) assayed 6000 ppb Au. The quartz-carbonate-sulphide float grab samples assayed up to 3250 ppb Au.

Trench System "H" (Stack Vein) L4N, 13+20E

The mineralized zone is exposed along the edge of a gabbro outcrop ridge which drops off into a cedar It is two meters wide, consisting of one main guartz swamp. vein approximately 20 cm wide in chlorite-carbonate-sulphide schists altered from the qabbro country rocks. Intermittently poor exposure over a distance of about 20 meters indicates the possibility of swelling of the vein to The vein and associated mineralized zone wider widths. strikes southeast -northwest, and is open in both directions due to overburden cover. Pyrite mineralization ranges from

30% disseminated up to massive. Of the seven grab samples taken from the dump, five contained highly anomalous gold values up to 30,000 ppb. Three of these samples are described as quartz-carbonate, and one sample (S-105) is described as a chlorite schist with massive pyrite stringers and 10% quartz-carbonate stringers. This sample contained the highest concentration of gold. Also it is interesting to note that a. chip sample across 33 cm of a similarly described chlorite schist returned the same high gold content - 30,000 ppb (S98), A total of twelve samples were taken here (S96-107).

There is one highly anomalous gold occurrence on the property which is not associated with earlier trenching. Sample S63 is described as a small quartz lense with massive pyrite in gabbro. The sample was taken at 15+15E, 2+15N, and yielded 6000 ppb Au.

CONCLUSIONS & RECOMMENDATIONS

It is especially important to note the linear correlation of three gold bearing trench systems (systems "B", "G" and "H" as well as sample S63 taken from a small quartz-sulphide lense in gabbro. All four of these gold showings are north-west trending guartz veins in north-west trending shear zones. They are along strike from one another, and together represent what could possibly be a continuous mineralized shear zone extending from 12E, 5N to 15E, 2N, a length of at least 500 meters. Due to the pinching and swelling nature of the exposed mineralized zones on the property and the fact that this gold bearing zone of weakness is poorly exposed because of overburden cover there is little reason not to believe that the zone could widen along strike, or with depth, or that there might be other parallel mineralized zones or stock works in the immediate vicinity.

Based on this information I am recommending that additional grid lines be cut at 12+50E, 13+50E, 14+50E, 15+50E, 16+50E, 17+50E, 18+50E and 19+50E; each to be extended from 2+00S to 5+00N. These lines will adequately cover the areas of outcrop in the immediate vicinity of the main gold-bearing zone. This expanded grid will greatly facilitate detailed mapping and prospecting as well as geophysical and/or geochemical surveys, if necessary.

Further, it is recommended that power stripping be carried out between trench systems "H" and "G", and sample S63 to see if the shear zones can be joined up and/or widened.

14-1A

Respectfully submitted,

R. Hodgson Geologist

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REFERENCES

- P.C, Thurston, G.M. Siragusa, and R.P. Sage,
 "Geology of the Chapleau Area, Districts of
 Algoma, Sudbury, and Cochrane", Ontario
 Division of Miines, Geoscience Report 157,
 1977 F.W. Breaks, "Geology of the Horwood
 Lake Area", Ontario Geological Survey, Report
 169, 1978.
- ** Graham R.H., "Geological Report on the Exploration Potential for Gold of a Twentyfive Claim Gold Property in Horwood Township Ontario, joint ventured by Bayridge Developments Ltd. and Pelangio-Larder Mines Limited " June, 1987.
- *** Breaks, F.W. "The Geology of the Horwood Lake Area", Ontario Geological Survey, Report #169, 1978, pg.53.

**** - Breaks, F.W., Ibid., pg.40.

1987 - Graham, R.J. "Geological Report on the Exploration Potential for Gold on a Twentyfive Claim Property in Horwood Township.

- 1987 All pertinent data from assessment files, Timmins.
- 1987 Claim map, Horwood Lake, Porcupine Mining Division, No. G3228.
- 1985 Brereton, W.E., Willoughby, N.O., "The Swayze Gold Area," from Northern Miner Press, March, 1985.
- 1983 Brereton, W.E., "Report on Geology, Gold Occurrences, and Exploration Potential of Horwood Lake Area."
- 1978 Breaks, F.W., "Geology of the Horwood Lake Area" O.G.S. Report 169.
- 1977 Thurston, P.C., Siragusa, G.M., and Sage,
 R.P., "Geology of the Chapleau Area,
 Districts of Algoma, Sudbury, and Cochrane."
 O.D.M. Geoscience Report 157.

CERTIFICATION

I Rand Hodgson, of 43 St. Olaves Rd., Toronto, Ontario, do hereby certify that:

- 1) I hold a Bachelor of Science degree in Geology from the University of Waterloo, Waterloo, Ontario (1977).
- 2) I have based conclusions and recommendations contained in this report on knowledge gained from ten years experience in Northern Ontario gold exploration, and on results of field work on the property.

3)

I hold no interest, directly or indirectly in this property, nor do I expect to receive any interest in the property, or in Pelangio-Larder Mines Limited, or any of its subsidiary companies.

Rand Hodgson, B.Sc.

APPENDIX

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CLAIM SCHEDULE

P-798703 P-798704 P-798705 P-798708 P-901361 P-901362 P-901363 P-901425 P-901426 P-901427 P-901428 P-901428 P-901429 P-901429 P-901429 P-955556 P-955560 P-955561 P-955562 August 31, 1987 " P-90197	CLAIM NUMBERS	WORK DUE		
P-798705 " P-798708 " P-901361 " P-901362 " P-901363 " P-901464 " P-901425 " P-901426 " P-901427 " P-901428 " P-901429 " P-938779 October 01, 1987 1987 P-955138 March P-955556 " P-955558 " P-955561 "		August	31, "	1987
P-798709 P-901361 P-901362 P-901363 P-901425 P-901426 P-901427 P-901428 P-901429 P-901430 P-938779 P-955138 P-95556 P-9556			H	
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PHONE: (604)980-5814 DR (604)988-452	4	TELEX:VIA USA
<u>C</u> .	<u>ertificate o</u>	f geochem
Company:M. HIBBARD Project: Attention:M. HIBBARD	R. HODGSON	File:72-709/ Date:JULY 23 Type:ROCK 68
<i>He hereby certify</i> t	ne following results for	samples submitted.
Sample Number	AU-WET PPB	
8H1 RH3 RH4	120 15 30 370	
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 RH18	90	

Certified by_

MIN-EN ABORATORIES LTD

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Company:M. HIBBARD Project: Attention:M. HIBBARD

File:72-7 Date: JULY Type:ROCK

We hereby certify the following results for samples submitted.

Sample		
	AU-FIRE	
Number	FFB	
RH-17 .		
1420		
1421	270	
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<u>GEOCHEM</u> <u>Certificate</u> of

Company:M. HIBBARD Project: Attention: M. HIBBARD

File:72-Date: AUG Type: ROC

TELEX:V

He hereby certify the following results for samples submitted.

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Sample	CU	ZN	AG ·	AU-FIRE	
Number	PM	PPM	PPM	PPB	
1435	120	60	1.0	17	
1436	940	56	1.8	20	P 2
1437	1550	62	1.6	25	
1438	5100	42	2.5	153	
1439	5000	48	3.6	45	
1440	280	65	1,0	45	1 # # # # # # # # # # # # # # # # # # #
1441	124	58	1.2	330	
1442	50	37	0.4	20	
1443	20	12	0.2	12	
1444	24	21	0.3	15	
1445	41	17	0.3	24	
1446	,		0.2	33	
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Certified by

MIN-EN LABORATORIES

**** Certificate of GEDCHEM ****

Company M. HIBBARD		File:72-
$\left\{ P(\mathbf{r}_{i}) \in \mathcal{F}_{i} \right\}$	•	Date: AUE
Attention:M. HIBBARD		Type:ROC

We hereby certify the following results for samples submitted.

Sample	сu	AG	. AU-FIRE			
Number	PPM	PPM	PPB			
1463			5500		~	
1464			6000			
1465	,		46			
1466			18			
1467			3250			
1468			4			
1469			123	$\mathcal{F} = \{ i \in \mathcal{F} \}$		
1470	•		125			
1471	1	•	19			
1472			3			
1473	** ***		**30			
1474			12			
1475			14			
1476	3600	4.5	11500			
1477			7000			
1478			25000			
1479			7000			
1480			3800			
1481	,		23			
1482			3100			
1483			15			
1484			330			
1485			87			
1486			9			
1487			61	· .		
1488		•	125			
1489			23			
1490			3			
1491			2			
1492			7			

Certified by **U**MIN-EN LABORATORIES

Company:M.HIBBARD Project: Attention:M.HIBBARD/R.HODGSON

File:72-7 Date:AUGU Type:ROCK

We hereby certify the following results for samples submitted.

Sample Number 1493 1494	AU-FIRE PPB 4	
1495	. 3 . 6	
1496	S S	· · ·
1497	3000	· · · · · · · · · · · · · · · · · · ·
1498	30000	
1499	40	
1500	15	
1501		
1502	43	•
1503	9600	· · · · · · · · · · · · · · · · · · ·
1504	12500	· · · ·
1505	····* 30000	• •
1506	245	
1507	4500	· · · ·
1508	7	. ·

*SOME OF THESE SAMPLES SHOULD HAVE BEEN REQUESTED FOR ASSAY.

Certified b MIN-EN LABORATORIES I

PELANGIO-BAYRIDGE JOINT VENTURE

HORWOOD LAKE PROPERTY

SAMPLE_LOCATIONS_& DESCRIPTIONS

£4 · 44 £4 · 44 SAMPLE #

LOCATION - DESCRIPTION

- S1 small island north of "main" showing-gossan -py. with serecite in locally heavily sheared matic pillow lava.
- S2 no assay.
- S3 north shoreline between 1 east and 2 east serecite schist with semi-massive py,, mafic lappilli tuff host rock.
- S4 south side of "main" showing island rusty shear zone in breccia in deformed pillow lavas py., cpy.
- S5 6E, 4S quartz vein from Trench system "D" (Hibbard showing) near north-west end.
- S6 8E, 3+50S quartz-feldspan crystal tuff-grey, hard, vitreous matrix, 5% py.
- S7 3E, 2N matic flow, 10% disseminated py.
- S8 3E, 3+75N mafic flow with py. blebs.
- S9 2+50E, 7N at lakefront white, barren bull quartz -? ?' thick vein.
- S10 7E, 4+50S quartz vein with minor sulfides (pit).
- S11 7E, 4+50S pit at south-east end of vein system "Q" chert host rock - no sulfides.
- S12 7+75E, 5S dacitic flow, grey, 10% py.
- S13 9E, 6S hard, fine-grained (silicified) andesite, 10% disseminated py. cpy.
- S14 12E, 2+75S discarded drill core & drill site andesitic, fine-grained, massive, no sulfides.
- S15 12E, 2+75S very old small sized (Winkie drill) drill coresoft, fine-grained light colored highly weathered rock probably weathered mafic volcanic.
- S16 12E, 2+75S gossan mafic volcanic with semi-massive py.
- S17 13E, 7+50S narrow (%m) north-south trending shear zone 10 15% disseminated py. with quartz veinlets in mafics.
- S18 13E, 7+50S same as S17. This area appears to have been hydrothermally active - abundant sulfide lenses and quartz veining.

SAMPLE #

LOCATION - DESCRIPTION

- S19 6+50E, 9+50S Trench system "A" quartz vein grab sample from large pit - serecite, carbonate, py, cpy.
- S20 6+50E, 9+50S Waench system "A" altered matic volcanic (chlorite schist) with hemolite, py., cpy., carb., sph.
- S21 6+50E, 9+50S same as \$20.
- S22'- same as S20.
- S23 6E, 8+25S Trench system "A" mafic volcanic, po., contact with fine-grained felsite (dyke?).

S24 - 12+25E, 4+75N - Trench "B" (Lefeve showing) - channel sample - 40 cm across narrow quartz veins in mafic volcanics, carbonate, 5, - 10% py.

- S25 same as S24.
- S26 same as S24.

S27 - same as S24.

- S28 12+25E, 4+75N Trench "B" pure quartz-vein samples.
- S29 12+25E, 4+75N 32 cm channel sample of mafic host rock located 1 m south-west across strike from S23 - semi-massive py., cpy.
- S30 12+25E, 4+75N Trench "B" massive py. vein (3 cm wide) in mafic host pock.
- S31 15+75E, 17+75S diorite (plutonic) with carbonate.
- S32 15+50E, 0+00N gabbro, fine-grained, 5% py., po.
- S33 16E, 0+40S fine-grained gabbro, 25% disseminated py.
- S34 16E, 4S rusty shear zone in coarse-grained basalt.
- S35 to S49 6+50E, 9+50S big pit from trench system "A" Channel sample across 4.5 meters of pit, each sample approximately 30 cm long. Rocks sampled are mafic volcanics altered to chlorite schists, with quartz veinlets abundant throughout, with carbonate, py., cpy., sph., hem.

s50 - same as S49 but 3 meters across strike to the north-east.

-2-

SAMPLE #

- LOCATION - DESCRIPTION

- S51 17+75E, 2+75S felsic dyke minor py.
- S52 17+75E, 2+75S Q.V. at contact between mafic flow (S53) and felsic dyke (S51).
- S53 17+75E, 2+75S silicified (cherty) mafic volcanic.
- S54 -: 17+25E, 0+50S mafic volcanic with 158 py. blebs.
- S55 18E, 1+25S mafic flow contact with felsite dyke 10% disseminated py., po.
- S56 19E, 2+50N gossan in gabbro 20% disseminated py.
- S57 17E, 6+75N mafic flow 10% fine disseminated py. contact with felsic dyke.
- S58 20E, 3+25N "-"bull qtz no sulfides in fine-grained gabbroic intrusive with greater than average feldspars.
- S59 fine-grained intermediate rock with strong mag.
- S60 11E, 1S fine-grained hornblende gabbro with 10% disseminated py.
- S61 10+25E, 0+25N 10% disseminated py. po., in mafic volcanic at cross-over, conductor "C".
- S62 same as S61.
- S63 15+15E, 2+15N samll quartz lens with semi-massive py. in gabbro.
- S64 to S70 15E, 3+50N Trench system "G" quartz veining (1-3 cm wide) and sulfiae veining (2 cm wide) striking eastwest with vertical dip. Host rock - gabbro with py., po., abundant carbonate.
 - S64 massive py. vein with quartz.
 - S65 gabbro with 20% disseminated sulfide just north of py vein.
 - S66 coarse grained hornblende gabbro (1 m south of py vein) -20% cubic py.
 - S67 quartz vein float from dump massive py.

S68 - quartz, gabbro, carbonate float from dump.

-3-

PLE # - LOCATION - DESCRIPTION

S69 - quartz vein float - massive py. po. - from bottom of pit.

S70 - same as S69.

S71 to S74 - 7+40S, 6+50E -pit from Trench system "E" on south tie line between lines 6 and 7E. Sheared contact between fine-grained felsite dyke to the south and mafic volcanics to the north. Mafic volcanics altered to chlorite-graphite-hematite schist with minor carbonate, serecite, 20% disseminated py.

- S71 quartz vein at contact minor py.
- S72 altered matic schist 208 disseminated py.
- S73 same as S72.
- S74 felsite with chlorite stringers.
- S75 7+10E, 4+10S fine-grained grey dyke rock with py. cubes.

S76 - 3+75S, 6+50E - Trench system "C" - south-east end.

- S77 same as S76.
- S78 same as S77.
- S79 6+15E, 3+30S Q.V. (3-5 cm) in cherty rock (silicified basalt) with semi-massive cpy.
- S80 6E, 3+75S quartz vein with cpy. in silicified mafic volcanic.
- S81 6E, 7+80N lake edge shear zone with py., 1 m wide in matic volcanics.
- S82 12E, 5N Trench system "B" quartz vein with py. (2 inches).
- S83 12E, 5N Trench system "B" fine-grained, hard silicified matic host rock.
- S84 12E, 5N Trench system "B" 2 inches thick quartz vein with py.
- S85 12E, 5N Trench system "B" 1 inch thick massive py vein.
- S86 north-east corner Blueberry Island disseminated sulfide and quartz in felsic flow.
- S87 north-west corner of island south of claim 955560 sulfide pads in masic volcanics, diorites, masic and selsic dykes.

-4-

SAMPLE # - LOCATION - DESCRIPTION

S88 - same as S87.

- S89 south-west corner of same island as S87. Diorite gossanlarge py. cubes.
- S90 14E, 0+50N Trench system "F" trench is 20 m long, 1 m wide, 1 m deep - strike - east-west. Fine-grained gabbro with minor py. veins and blebs - no quartz.
- S91 same as S90.
- S92 15E, 5+50N small gossan in matic pillowed lava, py., po.
- S93 12E, 9+25N lake front intermediate mylonitic (granular) rock from fracture zone - 20% fine disseminated pyrite, lineated chlorite crystals.
- S94 12E, 9+25N quartz vein from fracture zone mentioned in S93
- S95 12E, 9+25N dacitic volcanic flow 208 disseminated py.
- S96 to S101 13+50E, 3+80N Trench system "H" (Stack vein) 2 meter H channel sample (33 cm per sample) across mineralized zone consisting of gabbros with carbonate, sulfide stringers, one quartz vein measuring 20 cm across, numerous narrow quartz carbonate veinlets.
 - S102 13+50E, 3+80N Trench system "H" granula quartz carbonate from dump.
 - S103 13+50E, 3+80N Trench system "H" quartz float.
 - S104 same as S103
 - S105 13+50E, 3+80N Trench system "H" chlorite schist.
 - S106 13+40E, 3+90N gabbro with 30% disseminated pyrite in contact with S107 to the north.
 - S107 13+40E, 3+90N quartz vein from mineralized zone 10 meters north-west along strike from area of channel sample.
 - S108 13+50E, 2+50N gabbro with anomalous pyrite veins.

-5-

GUY THIBAULT EXPLORATION SERVICES Suite 22, Hollinger Building - P.O. Box 1670 Timmins, Ontario. P4N-7W8-(705)264-2977

REPORT ON A

GROUND MAGNETIC

AND

ELECTROMAGNETIC SURVEY

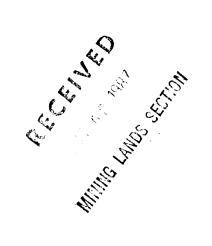
FOR

BAYRIDGE-PELANGIO JOINT VENTURE

BLUEBERRY ISLAND GOLD PROPERTY

HORWOOD TOWNSHIP

ONTARIO



Kenneth Guy Geologist

Timmins, Ontario September, 1987



TABLE OF CONTENTS

SUMMARY and RECOMMENDATIONS	1
INTRODUCTION	2
LOCATION and ACCESS	2
PROPERTY	З
PREVIOUS WORK	4
GEOLOGY	5
LINECUTTING	5
SURVEY EQUIPMENT and PROCEDURES	5,6
DISCUSSION OF RESULTS	6,7
CERTIFICATE	8

FIGURES

1. LOCATION MAP	2 - A
2. PROPERTY LOCATION MAP	3 - A
3. VLF-EM PLAN MAP	BACK POCKET
4. CONTOURED MAGNETIC PLAN MAP	BACK POCKET

SUMMARY and RECOMMENDATIONS

The ground geophysical program has successfully located and defined a number of anomalies. Thirteen VLF-EM anomalies are recommended as high priority follow-up targets.

The magnetic survey successfully delineated a number of anomalies including some attributed to diabase dikes, iron formation and ultramafic volcanics.

The ground geophysical program should greatly aid during geological mapping and assist in stratigraphic correlation of the project area.

The following recommendations are made for the project area:

- A detailed geological survey should be conducted concurrent with intensive prospecting.
 Many of the magnetic and VLF-EM responses indicate a nearsurface expression.
- 2) A reconnaissance geochemical survey be conducted over the gold occurrences and the eastern portion of the property. This may aid in anomaly discrimination.
- 3) A reconnaissance Induced Polarization (IP) survey be conducted over some of the VLF-EM anomalies as well as in the vicinity of the gold occurrences.

1.

INTRODUCTION

During the period June through August, 1987, a combined Very Low Frequency Electromagnetic (VLF-EM) and magnetic survey was carried out over the Bayridge-Pelangio Joint Venture property in Horwood Township, Ontario.

The purpose of the VLF-EM survey was to detect, on the ground, zones of conductivity which may be produced by conductive minerals and/or zones of shearing or faulting. The magnetic was performed to determine if any magnetic correlation exists with apparent conductivity and to aid in stratigraphic correlation.

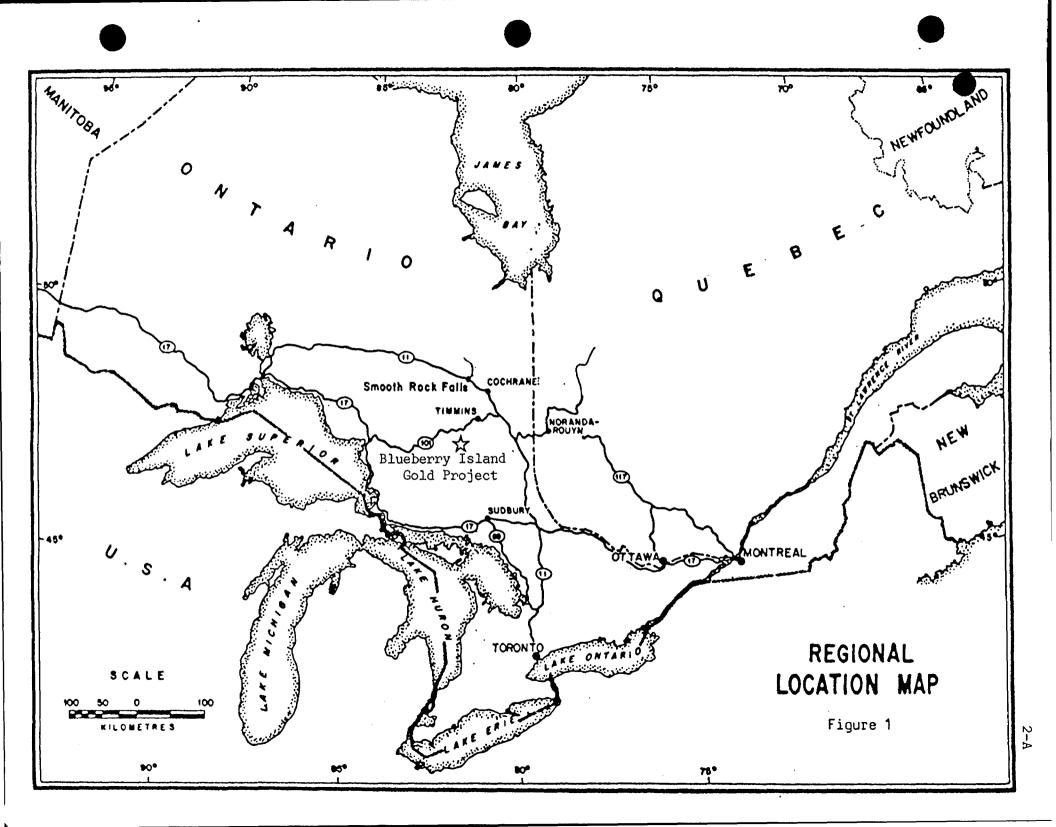
The property encompasses a number of gold occurrences hosted by carbonatized volcanic rocks.

LOCATION and ACCESS

The Blueberry Island Gold Property is located in central Horwood Township, Porcupine Mining Division, Ontario. The property lies approximately 70 miles southwest of Timmins, Ontario (Figure 1).

Access to the property is via Highway 616, south off Highway 101, to the northeast shore of Horwood Lake (Figure 2). Transportation by boat is then necessary to the claim group which straddles the shore of Horwood Lake.

Air transportation, helicopter or fixed wing, is also available in Timmins



PROPERTY

The Blueberry Island Gold Property consists of 31 contiguous, unpatented mining claims in Horwood Township. The survey covered in whole or in part 24 claims; the remainder of the property is covered by water.

The following claims were covered in whole or in part by the combined surveys:

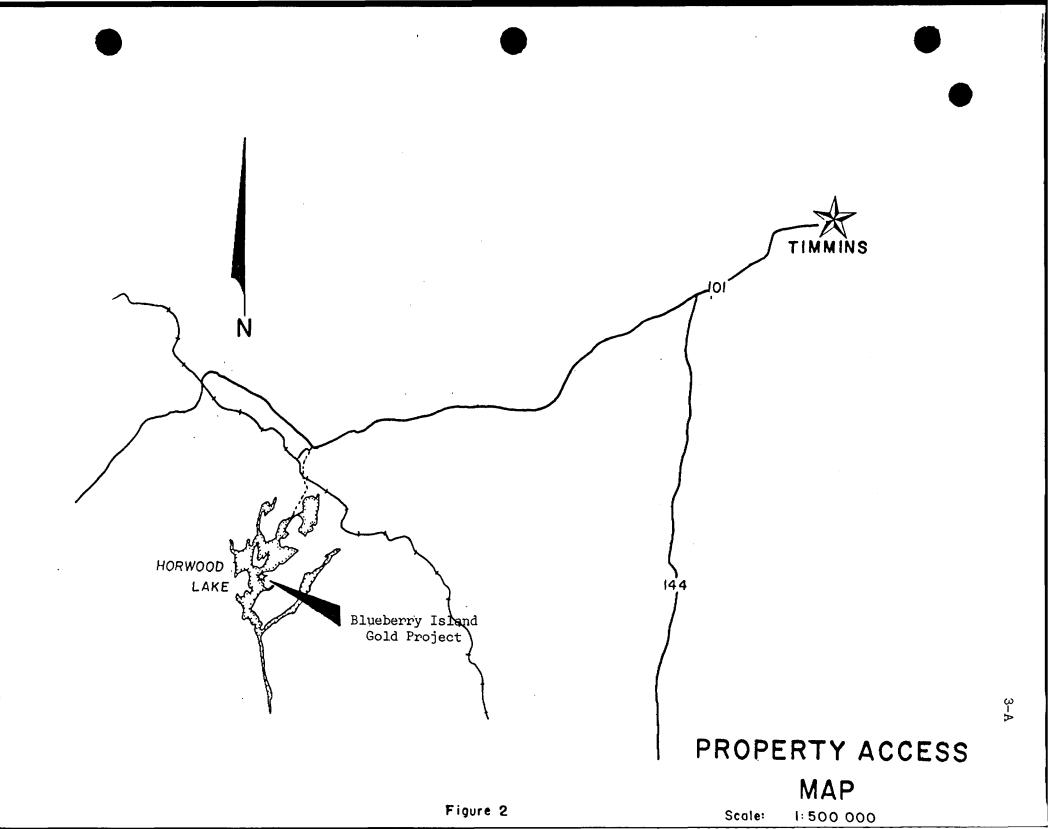
798704, 798705 798708, 798709 901361, 901364 inclusive 901426, 901430 inclusive 938779 948951 955138 955559, 955560 995955 - 995960 inclusive

- 24 claims

The claims covered by water are:

798703 901425 955556 - 955558 inclusive 955561, 955562 - <u>7 claims</u>

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PREVIOUS WORK

<u>1949 - 1959 - J. E. Lefever</u> - 32 DDH's - 0.56 oz Au/ton over 10 feet, sludge sample assayed 7.8 oz Au/ton.

<u>1960 - Kerr Addison Mines Ltd.</u> - magnetic survey, 7 DDH's, 3,076 feet, over the main showing - drilling indicated an auriferous zone 500 feet long by 4 feet wide with an average assay value of 0.204 oz Au/ton hosted in a sheared diorite - occurrence is a gold and sulphide-bearing, quartz-carbonate vein system.

- 3 DDH's on the Stack vein, 0.67 oz Au/ton over 1 inch

<u>1972 - Noranda Exploration Company Limited</u> - magnetic and VEM surveys.

1980 - Ingamar Explorations Limited - magnetic and VLF-EM surveys.

<u>1982 - Raise Contracting</u> - geological survey, stripping and trenching encountered gold values.

1986 - Pelangio-Larder Mines Ltd. - VLF-EM survey.

GEOLOGY

The Blueberry Island Gold Property lies within the northeast portion of the Swayze greenstone belt. The Swayze greenstone belt is a typical Superior Province, Archean age greenstone belt consisting of predominately mafic volcanics with lesser felsic to intermediate volcanics. Intercalated tuffs and sediments are also present. The volcanic sequence is intruded by mafic to felsic intrusive rocks.

LINECUTTING

During the period June, July, 1987, a total of 36.1 kilometers of line were cut on the property. The base line and tie line were cut at Az 090° (E-W) with section lines every 100 metres off the BL. Picket stations were established every 25 metres on both section lines and BL/TL.

SURVEY EQUIPMENT and PROCEDURES

The Very Low Frequency - Electromagnetic (VLF-EM) survey was carried out using a Geonics EM16, operating at a frequency of 24.0 KHz utilizing the Cutler, Maine (NAA) transmission station. Readings of both In Phase (IP) and Quadrature (OP) were taken every 25 metres, with an accuracy of 1% on both.

A total of 32.6 km of line were surveyed by Mike Tremblay of Timmins during August, 1987.

The data is presented as profiles on the VLF-EM plan map, Figure 3.

SURVEY EQUIPMENT AND PROCEDURES (Cont'd)

The Magnetic survey was conducted with a Scintrex MP-2 total field magnetometer. Readings were taken every 25 metres along section lines, base line and tie line. The intersection of the section lines on the base line served as base stations so that diurnal drift could be monitored. This method allows readings to be taken and corrected with an accuracy of one gamma.

A total of 36.1 kilometers of line were surveyed by Mike Caron of Timmins during August 1987.

DISCUSSION OF RESULTS

The VLF-EM survey detected 32 anomalies. The VLF-EM anomaly summary table summarizes the anomalies and rates their priority for followup. The anomalies break down into the following priorities:

> HIGH - 13 - additional ground follow-up recommended, good conductivity with corresponding magnetics or structure, possible contact zones, shear zones.

MODERATE - 14 - additional follow-up is contingent upon results from high priority anomalies.

LOW - 5 - no follow-up recommended - likely surficial or overburden response.

The magnetic survey delineated a number of anomalies.

A diabase dike trends a NE crossing the BL at 15E and another crossing at 11E on a similar trend.

6.

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DISCUSSION OF RESULTS (Cont'd)

A broad slight magnetic high, 400 gammas above background, trends east-west from LO to L12E at 550 N. This may be a dioritic unit.

The magnetic intensity in the SE corner of the property is very intense with narrow highs and lows, including dipole effects. This is probably caused by iron formation in a sedimentary environment or ultramafic volcanics.

	VLF - EM ANOMALY SUMMARY									
ANOMALY	LENGTH (m)	IP	OP	PEAK TO PEAK(m)	CONDUCTIVITY	DEPTH	MAGNETICS	COMMENTS		
А	300	+40,-35	x-over	75	good	shallow	none	high priority		
В	600	+63,-30	x-over	75	good	shallow	none	high priority		
С	300	+ 8,-14	x-over	25	good	shallow	none	trends off property to E - moderate priority		
D	300,100	+ 9,- 8	x-over	25	good	shallow	local high	trends off property to E - moderate priority		
E	200,200	+40 ,-1 6	x-over	50	excellent	shallow	slight low	<u>high priority</u> - cross cutting stratigraphy - shear zone L18		
F	300	+29 ,- 44	x-over	50	excellent	shallow	x-cutting	<u>high priority</u> - shear zone? D.D. L16E		
G	200	+10,-19	x-over	25	good	shallow	slight low	moderate priority		
Н	450	+45 ,- 25	x-over	50	excellent	shallow	flanking high	<u>high priority</u> - contact zone D.D. L18E		
I	300	+21,-33	+ slope	50	good	shallow	flanking high	moderate priority - trending off property to E		
J	300	?	flat	125+	poor	?	none	low priority - probable superficial		
к	300	?	x-over	;	moderate	moderate	flat	moderate priority - 2 proximal conductors		
L	250	+10,-56	x-over	50	good	moderate	slight low	high priority		
М	200	?	x-over	?	weak	?	flanking high	low priority		
N	400	+65,-60	reverse x-over	100	moderate	\$	x-cutting	moderate priority - possible shear zone		

good

moderate

+25,- 8

+ 4,-23

x-over

slight

x-over

25

50

0

Ρ

300

300

shallow

shallow

none

x-cutting

cont'd.....

moderate priority - parallel to N

low priority - possible superficial

				v	LF - EM ANOMALY	SUMMARY		Page 2
ANOMALY	LENGTH (m)	IP	OP	PEAK to PEAK(m)	CONDUCTIVITY	DEPTH	MAGNETICS	COMMENTS
Q	400	+ 4,-28	x-over	50	good	shallow	high	high priority - D.D. L15E on lobe of diabase
R	600	+40,-27	variable	50	poor-good	variable	flanks high	<u>high priority</u> - on contact or parallel to diabase
S	200	+23,- 3	reverse x-over	150	poor	?	flat	low priority - surficial response
Т	400	?	flat	?	poor	?	low	low priority - probable surficial
U	100	+80,- 8	x-over	50	good	shallow	high	moderate priority
V	600	+33,-35	x-over	50	good	variable	flanking high	high priority, contact or shear zone, D.D. L11E
W	300	+37,-50	x-over	50	excellent	shallow	flanking high	high priority, contingent on V
Х	700	+25,-11	x-over	50	good	moderate	flanking high	high priority
Y	300	+ 3,-22	variable	50	weak	moderate	flanking high	moderate priority
Z	100	0,-15	x-over	25	weak	moderate	flat	moderate priority
A1	100	+13,-41	x-over	50	good	shallow	flanking high	high priority, contingent on X
B1	100	+19 ,- 9	x-over	25	good	shallow	flanking high	high priority
C1	500	+14,- 8	reverse x-over	50	poor	?	x-cutting	fault zone? - moderate priority
D1	400	-13,-70	?	50	?	?	flat	contingent on geology - moderate
E1	300	+20,+ 4	x-over	25	poor	?	high	contingent on geology - moderate
F1	100+	- 5,-43	x-over	25	moderate	?	flat	further work necessary to west - moderate

.

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CERTIFICATE

I, the undersigned, Kenneth Guy, residing at 180 Nadine Street, South Porcupine, Ontario graduated with a Bachelor of Science degree in Earth Science - Geology from the University of Waterloo, Waterloo, Ontario in 1978.

I have been employed in the field of Geology since graduation in 1978.

I am a Fellow of the Geological Association of Canada.

I do not hold, nor do I expect to receive an interest of any kind in these claims held by Bayridge-Pelangio Joint Venture or in any other mining claims they may have.

The interpretations and conclusions are based on my experience with the Davidson-Broulan Project, Getty-Davidson Tisdale Joint Venture and other properties in the Timmins area.

2.5778

SOCIA Kenneth Guy Geologist K. W. GUY ELLO

Timmins, Ontario

Natural Resources	Report of Work (Geophysical, Geological, Geochemical and Expend		井 2 2 8 The Mining	42801SE00	45 2.10441 H	- I		900
Type of Survey(s)				****	Township	or Area		
ELECTROMAGNE Claim Holder(s)	TIC SURVEY				HOR	Prospector	o r's Licence No.	
PELANGIO-L	ARDER MINES LIMIT	ED				T-971		
Address	456, Timmins, Ont		N 7N2					
Survey Company				Date of Survey	y (from & to)	T	Total Miles of lin	e Cut
GUY THIBAUL Name and Address of Auth	T EXPLORATION SER	VICES		0 9 07 Day Mo.	87 15 1 vr. bay 1	08. ₁ 87.	6 miles	
KENNETH GU	Y, 180 NADINE STR	EET, SO	UTH PORCU	PINE, ONTA	RIO			
Credits Requested per E	ach Claim in Columns at i	ight	Mining Cla	ims Traversed	(List in nume			
Special Provisions	Geophysical	Days per Claim	Prefix	ning Claim Number	Expend. Days Cr.	Prefix	lining Claim Number	Expend. Days Cr.
For first survey: Enter 40 days, (This	- Electromagnetic	40	Р	995955			- <u></u>	
includes line cutting		20		995956				
-	- Radiometric					in the W		
For each additional surv using the same grid:	vey: - Other			995957		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Enter 20 days (for ea	ach)			995958				
	Geological		prine succes	995959				
	Geochemical			995960				
Man Days	Geophysical	Days per Claim						
Complete reverse side					11		••••••••••••••••••••••••••••••••••••••	
and enter total(s) here	VM							
RECE	Magnetometer							
2 1 A 4	1981 - Radiometric		194119-04-1 191-14429					
	- Other							
INNE	S SECTION		and all a set of the s					
MINING LAND	Geochemical							
Airborne Credits		Days per						
		Claim						
Note: Special provisions credits do not app	•			E-0-0-0-				
to Airborne Surve			ר ח	ECOR	DED			
	Radiometric							
Expenditures (excludes (power stripping)			SEP 231	107			
Type of Work Performed					۱۲۱		<u> </u>	
Performation Claimfred								
DIACELW	151M							
IN IN ISLAND			•					
SED 99108								
Calculation of Expenditures		Total s Credits			11			
			LL				r	
	÷ [15] = [claims cov	nber of mining vered by this	6
Instructions Total Days Credits may	be apportioned at the claim h	older's	·		0	report of v		
choice. Enter number of in columns at right.	days credits per claim select	be	Total Days	or Office Use (Cr. Date Recorded		Minio	20/19/01	
	- Aut		Recorded	Sept	23/87	10	Vanley	1
Date 10 /07	Recorded Torper of Agent 1	Signaturel	360	Date Approved	as Recorded	Branch Dir	ector	
September 18/87		Mal L	_ L			1		
Certification Verifying F	Teport of Work v ave a personal and intimate ki		the facts set fo	rth in the Report	of Work ance	xed hereto	naving performed	the work
	g and/or after its completion				of troix drine.	nou noretu, i		
Name and Postal Address of				_			XIII	-
Agent, MAURI	CE HIBBARD, CEDAR	HILL,	CUNNAUGH1	Date Certified	PON LAG	Contractor	v (Signature)	- h
				Sept. 18		XHH	Abber	To a
969 /01-91						ere and it -		

Ministry of	Developed	1.		1		0 c	t:17	
Northern Developme	Report of W	ork Seelesieel	-tt-	193/87) –	 Hease type of If number of 	f mining claim	s traversed
Ontario and Mines	(Geophysical, Geochemical a	seological	ditures)	13187		• Only days	credits calculat	ed in the
		•	Baimin	g Act 2.104	14	in the "Exp	s" section may bend. Days Cr.	" columns.
Type of Survey(s)			winnn		Township	Do not use shi	aded areas below	v.
S-EOLOGICA	L, VLF. E.M.	NAG	NETCHET	ER, LINE -	IG H	ORIVCOD	Twp	
Claim Holder(s)	1) 1 - 0 - 12	, , ,	1. 1. June 1			Prospector's	Licence No.	
Address	V- CAMBER	<u> </u>	MES.		- 1	1 1/	<u> </u>	
Ber	Y 1456, TI		Vit	. 1411	7112		r	
Type of Survey(s) CEOLOGICA Claim Holder(s) PELANGA Address Survey Company)	Date of Survey	(from & to) 871 15	08 87 00	tal Miles of line	Cut
Name and Address of Author (c	of Geo-Technical report)				Yr. Day	Mo. Yr.	~	
RAND HO	NG-SCIV, 4-3	<u>ST.</u>						
Credits Requested per Each (Special Provisions	1	ight Days per		laims Traversed (I lining Claim	List in num		e) ng Claim	Expend.
For first survey:	Geophysical	Claim	Prefix	Number	Days Cr.	Prefix	Number	Days Cr.
Enter 40 days. (This	- Electromagnetic	20						
includes line cutting)	- Magnetometer	20		P798703				
For each additional survey:	- Radiometric			P778764				
using the same grid: Enter 20 days (for each)	- Other			1798 705				
Enter 20 days (for each)	Geological	40		1 797 702				-
	Geochemical			R 110 700				-
Man Days	 	Days per		P 798 709	 			
Complete reverse side	Geophysical	Claim		10/36/	 			
and enter total(s) here	Electromagnetic			P901 362				
	Magnetometer			1921 363				
	Badiometric			P701364				
	• Other			1901425				
	Geological			P =1C1 +26	11			1
	Geochemical		1	1 10 120		REC	ORDE	5
Airborne Credits	1	Days per		F STATE			· · · · · · · · · ·	-
		Claim		7 00, 423	ļ			
Note: Special provisions credits do not apply	Electromagnetic			1 911 423		AUG	2 6 1987	J
to Airborne Surveys.	Magnetometer			8 GUI 470				
UISION	Radiometric			1948951				
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Type of Itenan Perdinty	ש <i>ו</i>			091-0125			AFA-	
ernt he on Claim(s).				2 3 5 5 5 5 1	¦] '	R	+0.07	1
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V Water							NDS SECTION	46
Colculation of Expenditure Days	s Credits	[otal		2000		A	NDS Str	_
Total Excenditures		Credits	43.44	4 955 359	<u> </u>	NUMBER		1
\$	÷ 15 =			933360		Total numbe claims covere		\mathcal{C}
Instructions		- 1 - 1		P 955 561		report of wo		\sim
Total Days Credits may be an choice. Enter number of days			Total Day	For Office Use O	Inly	Mininemeeor	H. A	1
in columns at right.			Recorded	1 Aug	21/87	- 0/	anley	ļ,
Date Approved as Recorded Branch Director								
1.111 3 -0/18	<u> ///</u>						/	
Certification Verifying Repo		owledge of	f the facts set	forth in the Report	of Work anne	exed hereto, hav	ring performed t	he work
or witnessed same during and	l/or after its completion							
Name and Postal Address of Per RAND HOD	GSON 4	3 5	T. OL	AVES RO	. To	RONTO	1	
M65 3#		<u>v</u>	<u></u>	ALL C-		Certified by	Signature	
1362 (85/12)	>			11000.		1-1-1	<u> </u>	



Ministry of Northern Development Mines

File 2.10441 Dete October 30, 1987 Mining Recorder's Report of Work No. 228

Pelangio-Larder Mines Li	mited
rownship or ACEX Horwood Township	
Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic 40 days 20 Magnetometer days	P 995959-960 inclusive
Radiometric days	
Induced polarization days	,
Other days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological days	
Geochemical days	
Man days Airborne	
Special provision 🔀 Ground 🖌	
Credits have been reduced because of partial coverage of claims.	
Credits have been reduced because of corrections to work dates and figures of applicant.	
pecial credits under section 77 (16) for the following m	
30 Days Electromagnetic and 15 Day P 995958	/s magnetometer
20 Days Electromagnetic and 10 Day P 995956-957 inclusive	/s Magnetometer
10 Days Electromagnetic and 5 Days P 995955	3 Magnetometer
o credits have been allowed for the following mining cla	aims
not sufficiently covered by the survey) insufficient technical data filed

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		File
		2.10441
Date		Mining Recorder's Report of Work No.
October 30,	1987	193

Recorded Holder Pelangio-Larder Mi	nes Limited	
Township or Area Horwood Township	¹	*******
Type of survey and number of Assessment days credit per claim	Mini	ing Claims Assessed
Geophysical		
Electromagnetic	P 798704-705 inclu P 901361-364	
Radiometric days	P 901427-430 inclu P 948951 P 938779	sive
Induced polarization days	P 955138 P 955559	
Other days		
Section 77 (19) See "Mining Claims Assessed" column		
Geological days		
Geochemical days		· ·
Man days 🗍 Airborne 🗌		
Special provision 🔀 Ground 📡		
Credits have been reduced because of partial coverage of claims.		
Credits have been reduced because of corrections to work dates and figures of applicant.		
pecial credits under section 77 (16) for the following) mining claims	
30 Days Geological	20 Days Geological	10 Days Geological
P 798708-709 inclusive P 901426	P 798703	P 901425 P 955556 P 955558 P 955560
o credits have been allowed for the following mining	claims	
not sufficiently covered by the survey	📋 insufficient technical data filed	
P 955557 P 955561-62 inclusive		



Ministry of Northern Development Mines

Technical Assessment Work Credits

			File
			2.10441
Date			Mining Recorder's Report of Work No.
October :	30,	1987	193

Pelangio-Larder Mines Ltd Township or Area Horwood Township	
Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic days	P 798704-705 inclusive
Magnetometer 20 days	P.901361-364 inclusive
magnetometer Gays	P.901427-430 inclusive P.948951
Radiometric days	P.938779
Induced polarization days	P. 955138
Other days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological days	
Geochemical days	
Man days Airborne	
Special provision	
Credits have been reduced because of partial coverage of claims.	
Credits have been reduced because of corrections	
to work dates and figures of applicant.	
pecial credits under section 77 (16) for the following min	ning claims
15 Days Magnetometer	5 Days Magnetometer
P 798708-709 inclusive	P 955560
P 90142 6	1 933300
P 955559	
	·
o credits have been allowed for the following mining claim	
y not sufficiently covered by the survey	insufficient technical data filed
P 798703	
P 901425	
P 955556-558 inclusive	
P 955561-562 inclusive	



Technical Assessment Work Credits

				File
				2.10441
Date			Mining R	ecorder's Report of
October	30,	1987	Work No.	193

Recorded Holder Pelangio-Larder Mi	ines Ltd.
Township or Area Horwood Township	
Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Assessment days credit per claim Geophysical Electromagnetic Magnetometer days Radiometric days Induced polarization days Other days Section 77 (19) See "Mining Claims Assessed" column Geological days Geochemical Man days Man days	P 798704-705 inclusive P 901361-364 inclusive P 901427-430 inclusive P 948951 P 938779 P 955138 P 955559
 Special provision Ground Credits have been reduced because of partial coverage of claims. Credits have been reduced because of corrections to work dates and figures of applicant. 	
pecial credits under section 77 (16) for the following mi	ining claims
15 Days Electromagnetic P 798708-709 P 901426	5 Days Electromagnetic P 955560
lo credits have been allowed for the following mining cla	aims
· · · · · · · · · · · · · · · · · · ·) insufficient technical data filed

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

November 17, 1987

Your File: 193,228 Our File: 2.10441

Mining Recorder Ministry of Northern Development and Mines 60 Wilson Avenue Timmins, Ontario P4N 2S7

Dear Sir:

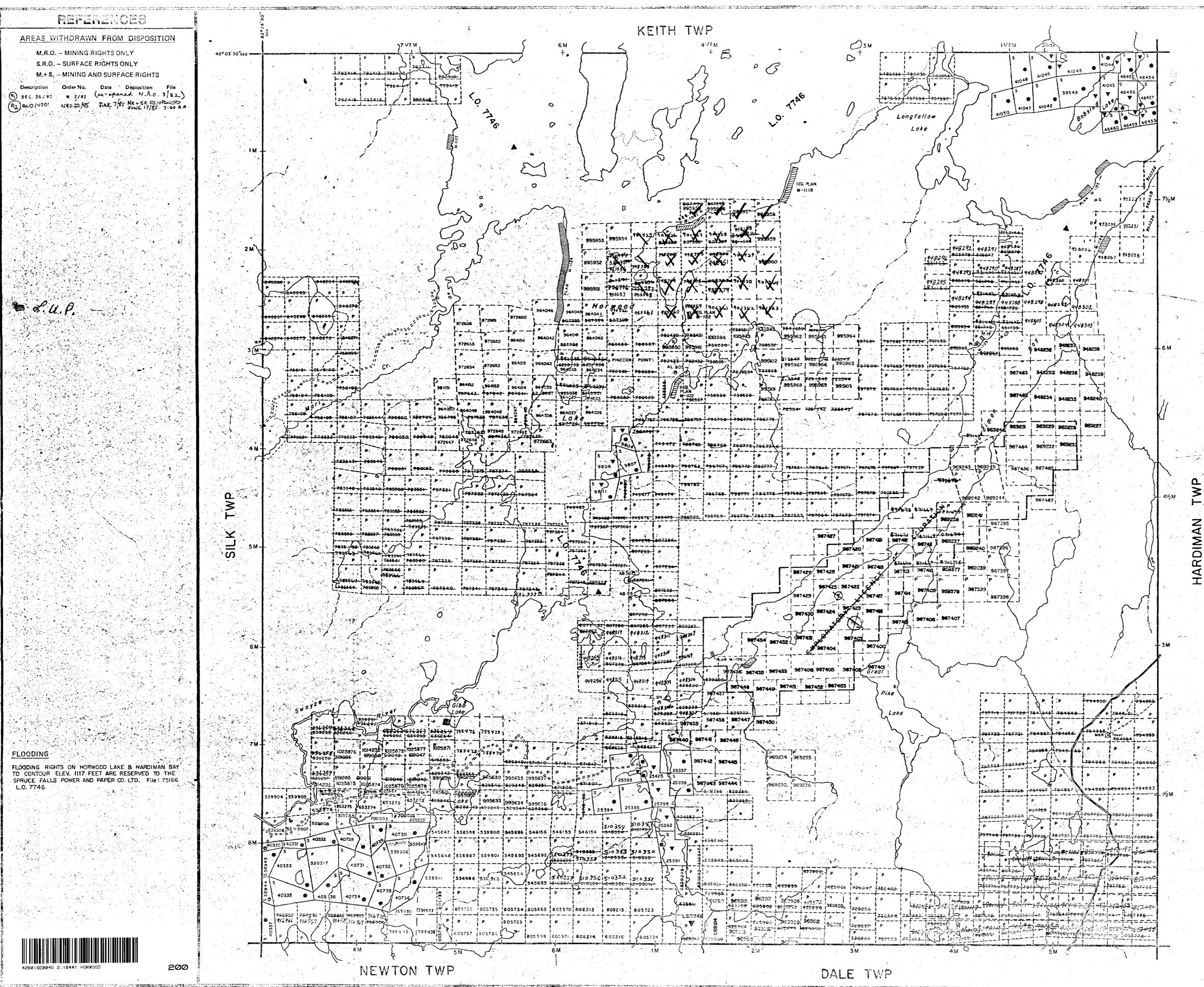
RE: Notice of Intent dated October 30, 1987 Geophysical (Electromagnetic and Magnetometer) and Geological Surveys on Mining Claims P 798704 et al in Horwood Township

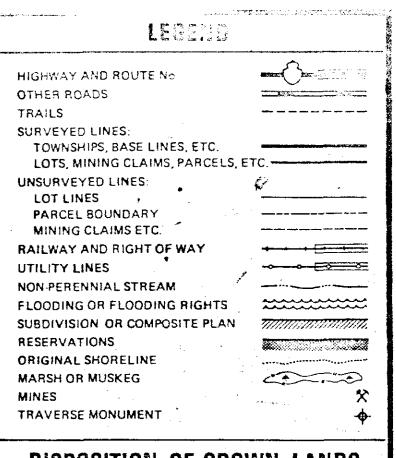
The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

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

Yours sincerely,

ł W.R. Cowan, Manager Mining Lands Section Mines and Minerals Division Whitney Block, Room 6610 Queen's Park Toronto, Ontario M7A 1W3 Telephone: (416) 965-4888 RM:p1 Enclosure: Technical Assessment Work Credits cc: Mr. G.H. Ferguson Resident Geologist Mining & Lands Commissioner Timmins, Ontario Toronto, Ontario Pelangio-Larder Mines Ltd. Box 1456 Timmins, Ontario P4N 7N2





DISPUSITION OF	CKUMN	LANDS
	1.5	
TYPE OF DOCUMENT	· · ·	SYMBOL
PATENT, SURFACE & MINING	RIGHTS	•
SURFACE RIGHTS ON	H Y	· · · ·

* , MINING RIGH				
LEASE, SURFACE & MI	NING RIGH	TS		
" , SURFACE RIGH				
MINING RIGHTS	SONLY			·
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ORDER-IN-COUNCIL	· : ·			محمد مدهن د عد
RESERVATION		· - ·		
CANCELLED				
SAND & GRAVEL	. · · · ·	۰.	e	5 N. 19

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1.

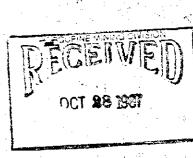
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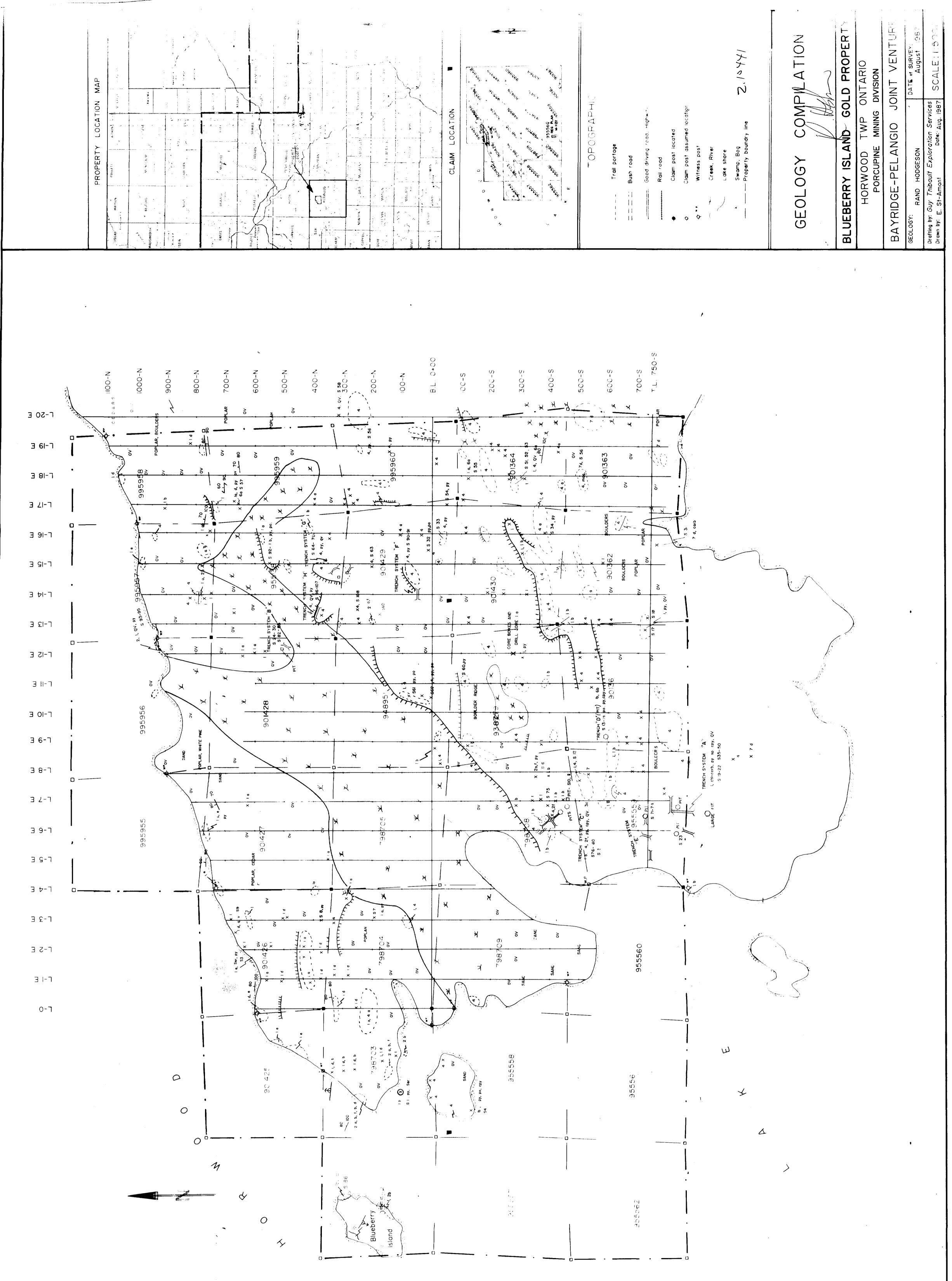
HORWOOD

TOWNSHIP

M.N.R. ADMINISTRATIVE DISTRICT CHAPLEAU MINING DIVISION PORCUPINE LAND TITLES / REGISTRY DIVISION SUDBURY

Ministry of Land T Natura! Management Resources Branch Ontario

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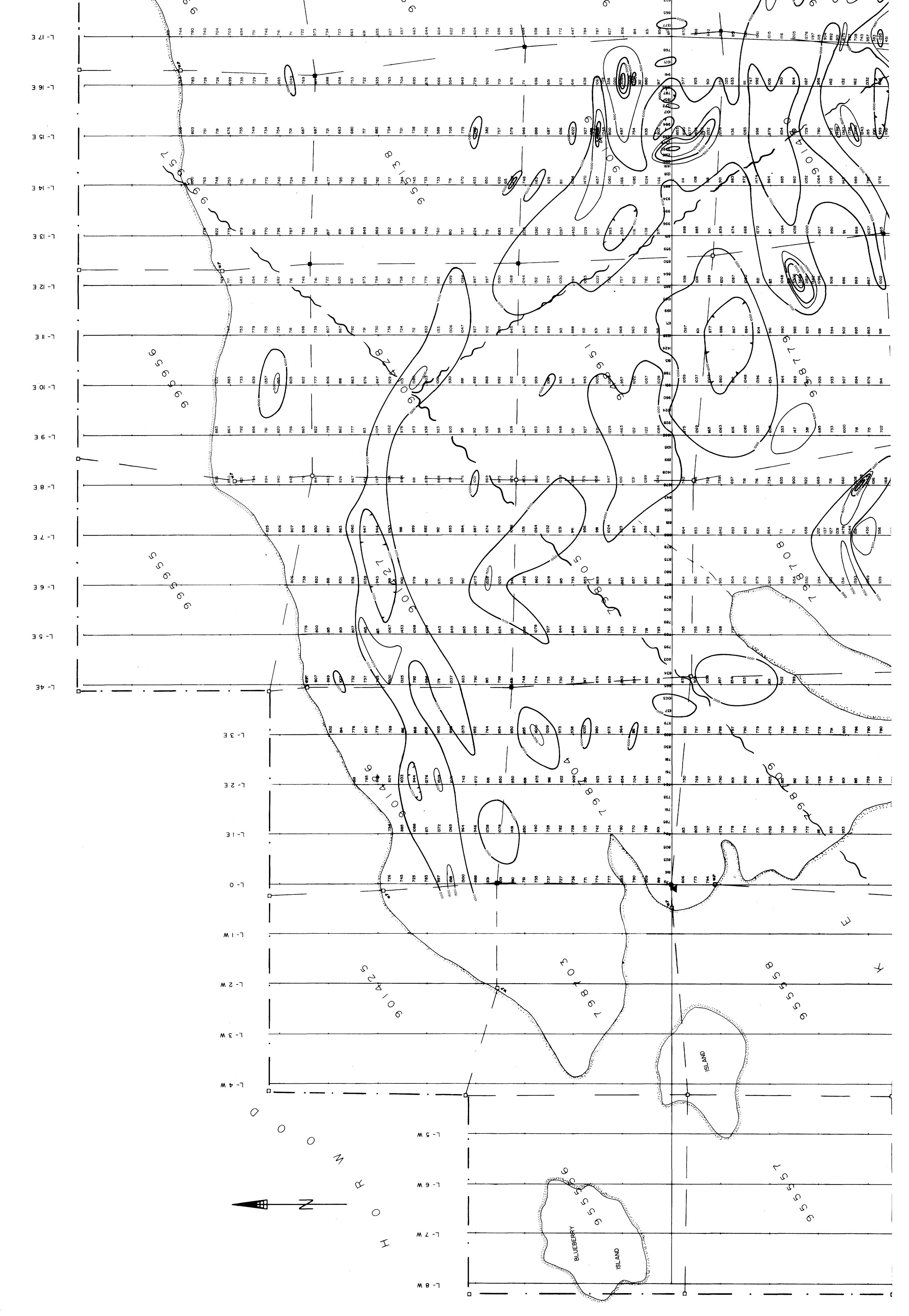
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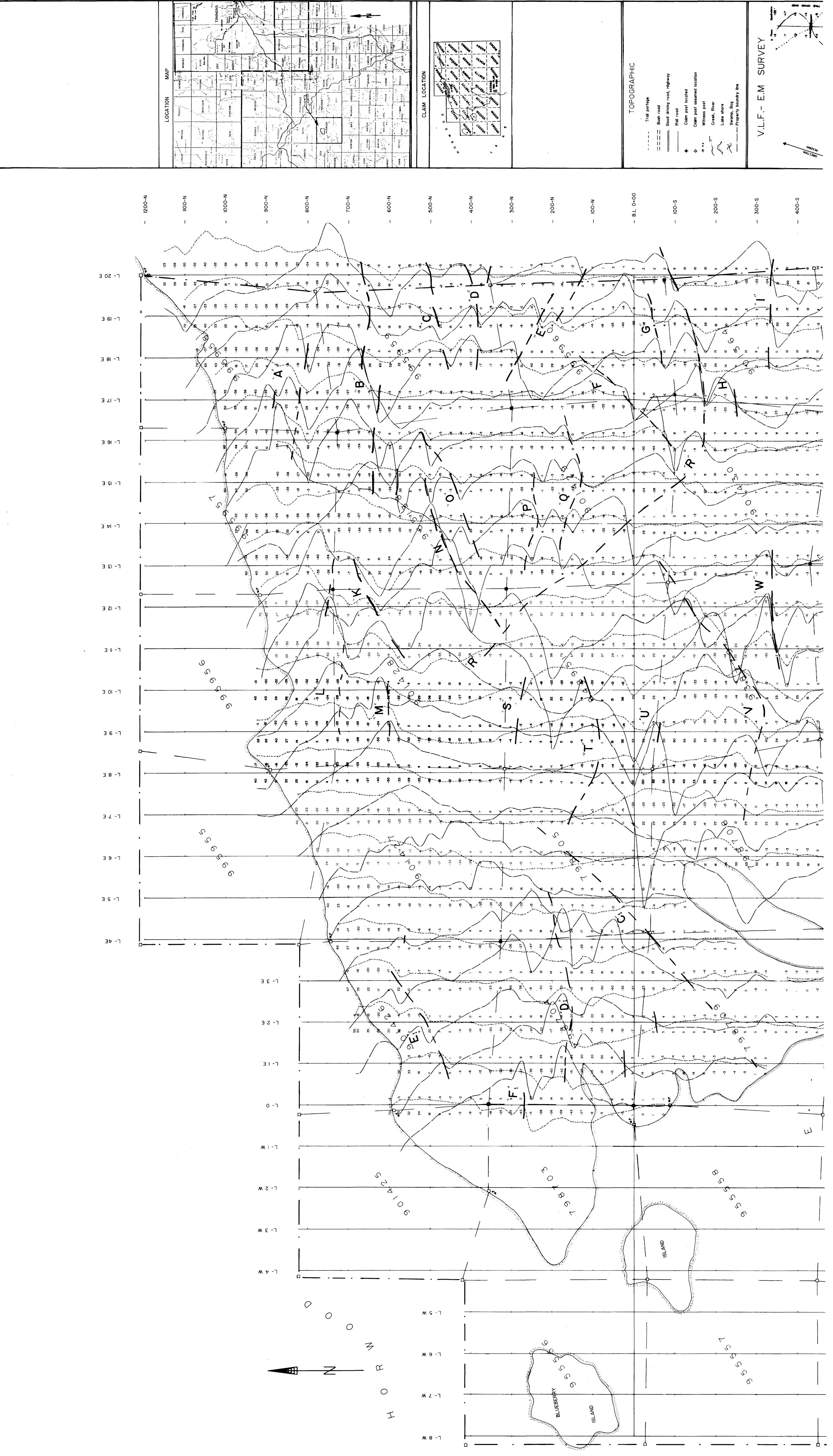
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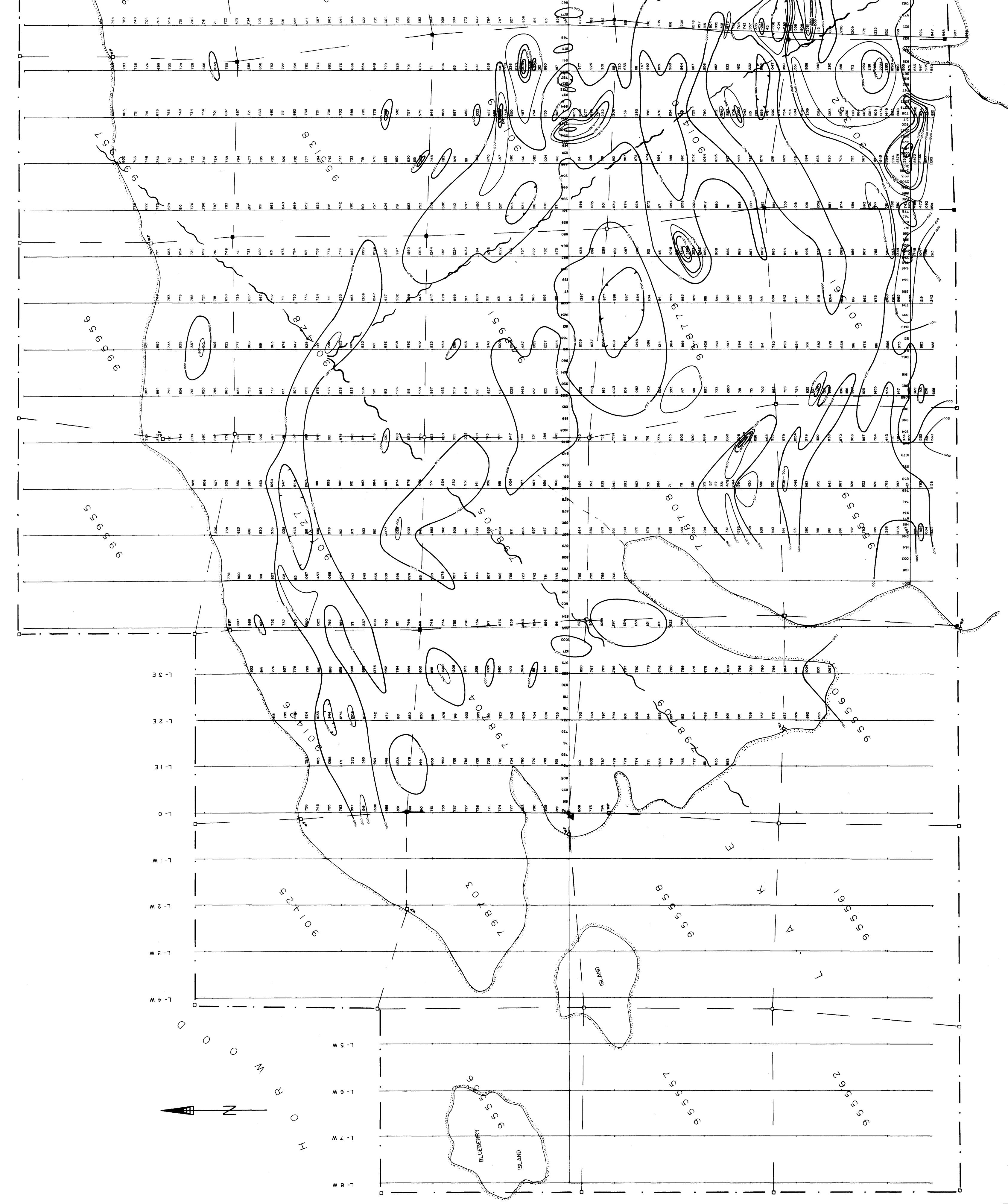


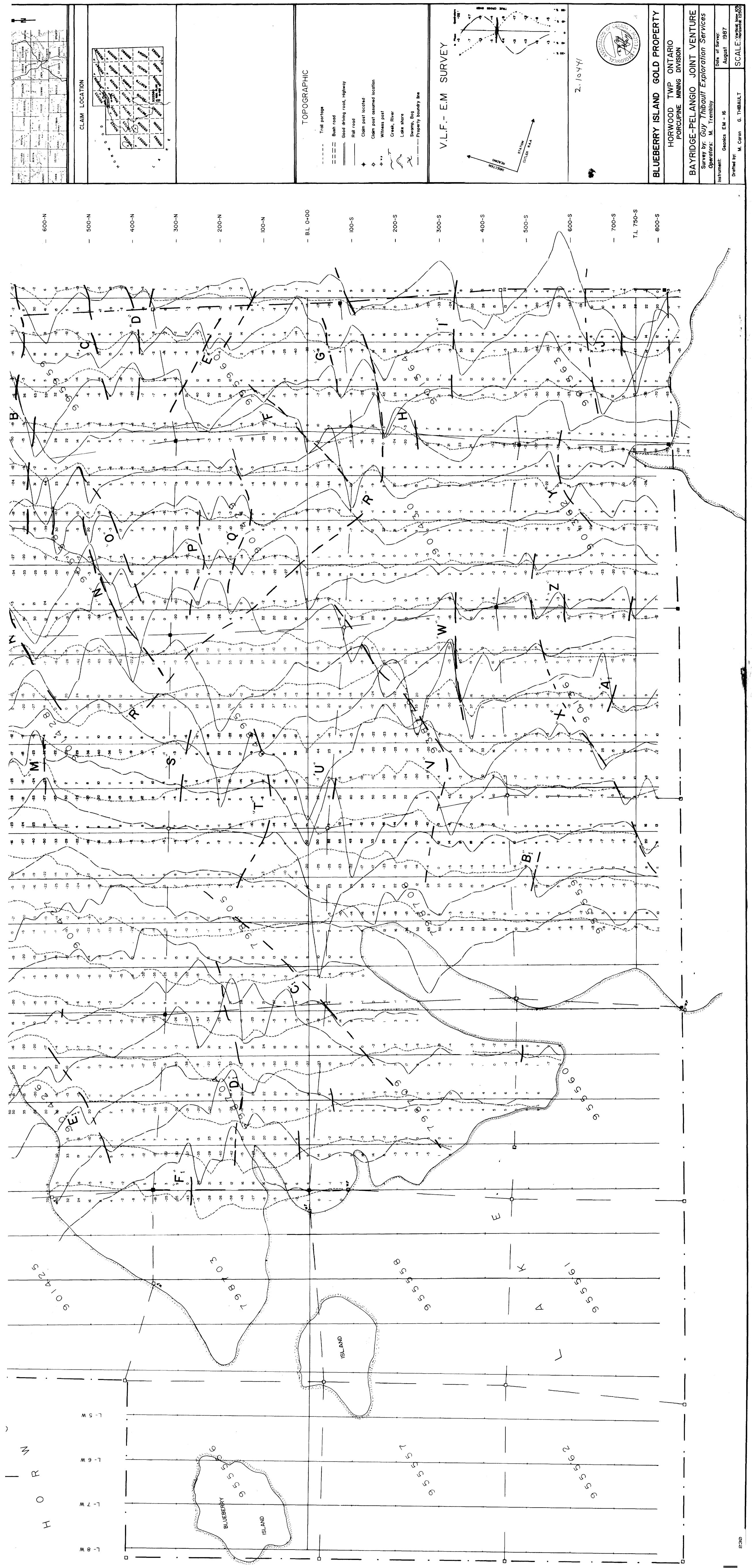




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	LOCATION MAP LISCAP IN MAISON MAP LISCAP IN MULETI AITKEN INTER MOBERLY THUNAGUR NELL IISCAP IN MOBERLY THUNAGUR INTER MOBERLY THUNAGUR	International of the second se	Charline F (Induction of the second of the s	HITH AND	COPPEIL NEW 10N Front Automatic	GABNET BENTON BENTON AND FILMEN A	CLAIM LOCATION CLAIM LOCATION	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						TOPOGRAPHIC Trail portage		Mitness post Witness post Creek, River Lake shore Mamp, Bog Swamp, Bog Property boundry line	Add 58,000 Gammas to all readings for total field values	Soo Contours Contour intervals: 500 GAMMAS Depression Contour Base Station Location BL 0+00/ L- 0 56,799	Fault	BLUEBERRY ISLAND GOLD PROPERTY	ORWOOD TWP ONTARIC PORCUPINE MINING DIVISION	Survey by: Guy Thibault Exploration Services Operators: M. Caron D. Crowley Instrument:	Scintrex Proton MP-Z August 1987 Prafted by: M. Caron E. st-Amant SCALE: 1:2500
- 1200-N	N-001 I	N-000 I	N-006	N-008 I	N-002	600-N	N-002 1	1 N-004 N	- 300~N	N-002 I	N-001	- B.L 0+00	S-001 1	- 200-S	- 300-S	- 4 00-S	1 500-S	- 600-S	- 700-S	T.L 750-S - 800-S			Ē
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15E045 2.10441 HORWOOD



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GUY THIBAU 42B015E0045 2.10441 HORWOOD EXPLORATION SERVICES Suite 22, Hollinger Building - P.O. Box 1670 Timmins, Ontario. P4N-7W8-(705)264-2977

REPORT ON A

GROUND MAGNETIC

AND

ELECTROMAGNETIC SURVEY

FOR

BAYRIDGE-PELANGIO JOINT VENTURE

BLUEBERRY ISLAND GOLD PROPERTY

HORWOOD TOWNSHIP

ONTARIO

Timmins, Ontario September, 1987

Kenneth Guy Geologist

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Page

TABLE OF CO

42801SE0045 2.10441 HORWOOD

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	_
SUMMARY and RECOMMENDATIONS	1
INTRODUCTION	2
LOCATION and ACCESS	2
PROPERTY	3
PREVIOUS WORK	4
GEOLOGY	5
LINECUTTING	5
SURVEY EQUIPMENT and PROCEDURES	5,6
DISCUSSION OF RESULTS	6,7
CERTIFICATE	8

FIGURES

1. LOCATION MAP	2 - A
2. PROPERTY LOCATION MAP	3 - A
3. VLF-EM PLAN MAP	BACK POCKET
4. CONTOURED MAGNETIC PLAN MAP	BACK POCKET

$\mathbf{G}_{\mathbf{T}}$ GUY THIBAULT EXPLORATION SERVICES

SUMMARY and RECOMMENDATIONS

The ground geophysical program has successfully located and defined a number of anomalies. Thirteen VLF-EM anomalies are recommended as high priority follow-up targets.

The magnetic survey successfully delineated a number of anomalies including some attributed to diabase dikes, iron formation and ultramafic volcanics.

The ground geophysical program should greatly aid during geological mapping and assist in stratigraphic correlation of the project area.

The following recommendations are made for the project area:

- A detailed geological survey should be conducted concurrent with intensive prospecting.
 Many of the magnetic and VLF-EM responses indicate a nearsurface expression.
- 2) A reconnaissance geochemical survey be conducted over the gold occurrences and the eastern portion of the property. This may aid in anomaly discrimination.
- 3) A reconnaissance Induced Polarization (IP) survey be conducted over some of the VLF-EM anomalies as well as in the vicinity of the gold occurrences.

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INTRODUCTION

During the period June through August, 1987, a combined Very Low Frequency Electromagnetic (VLF-EM) and magnetic survey was carried out over the Bayridge-Pelangio Joint Venture property in Horwood Township, Ontario.

The purpose of the VLF-EM survey was to detect, on the ground, zones of conductivity which may be produced by conductive minerals and/or zones of shearing or faulting. The magnetic was performed to determine if any magnetic correlation exists with apparent conductivity and to aid in stratigraphic correlation.

The property encompasses a number of gold occurrences hosted by carbonatized volcanic rocks.

LOCATION and ACCESS

The Blueberry Island Gold Property is located in central Horwood Township, Porcupine Mining Division, Ontario. The property lies approximately 70 miles southwest of Timmins, Ontario (Figure 1).

Access to the property is via Highway 616, south off Highway 101, to the northeast shore of Horwood Lake (Figure 2). Transportation by boat is then necessary to the claim group which straddles the shore of Horwood Lake.

Air transportation, helicopter or fixed wing, is also available in Timmins

2.

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PROPERTY

The Blueberry Island Gold Property consists of 31 contiguous, unpatented mining claims in Horwood Township. The survey covered in whole or in part 24 claims; the remainder of the property is covered by water.

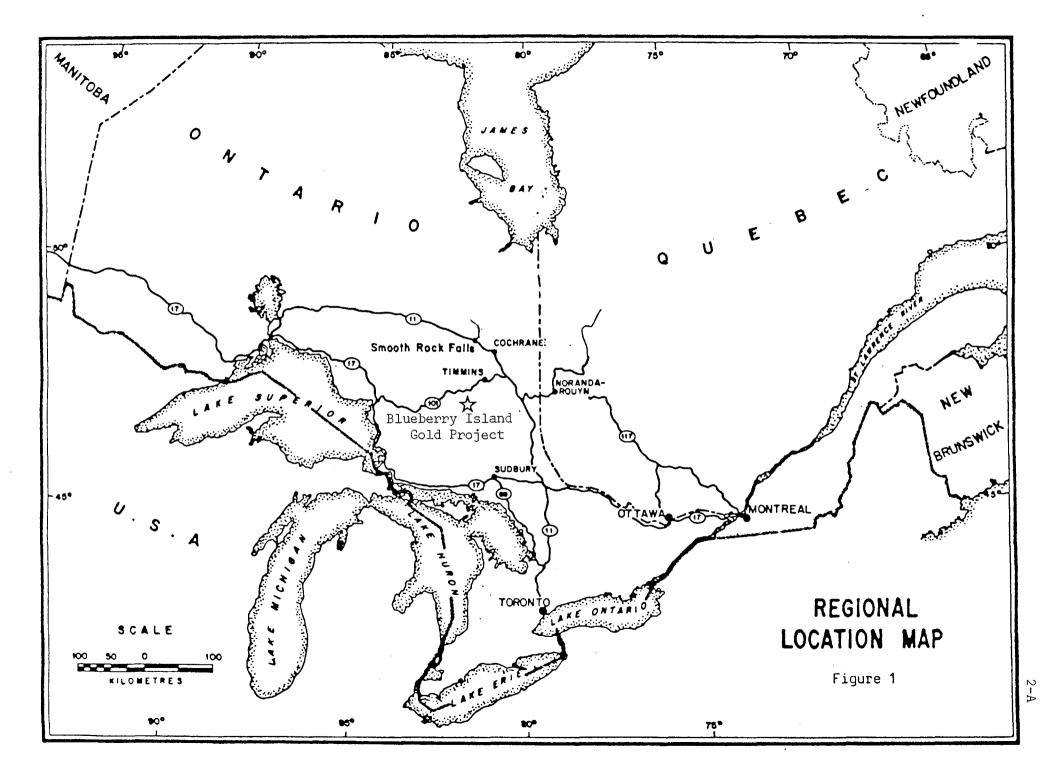
The following claims were covered in whole or in part by the combined surveys:

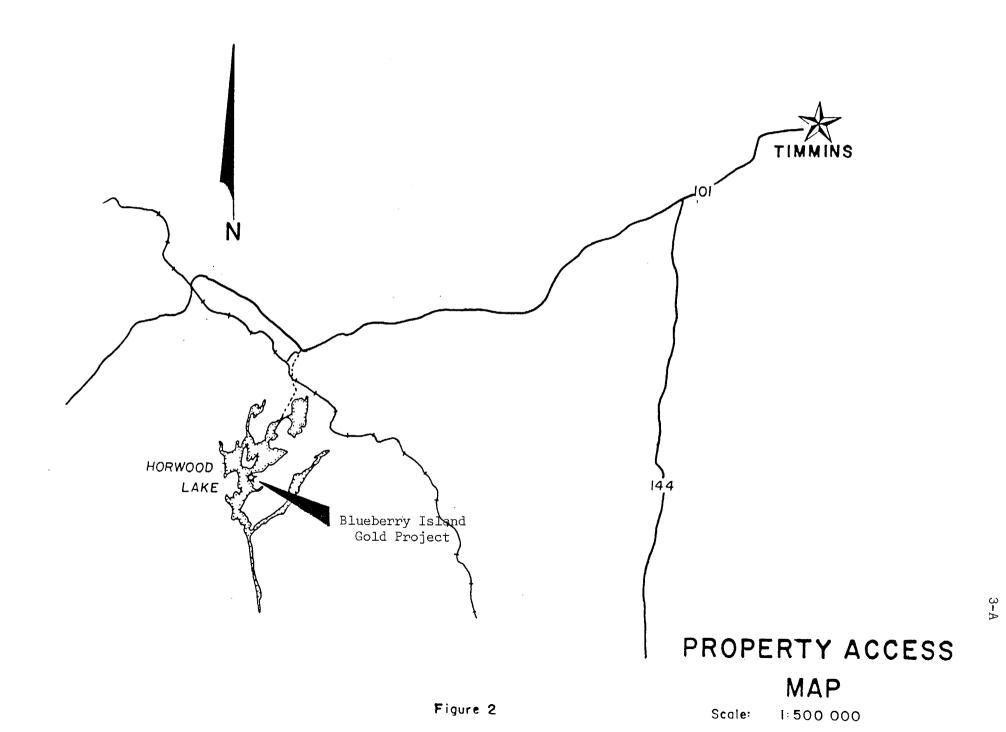
> 798704, 798705 798708, 798709 901361, 901364 inclusive 901426, 901430 inclusive 938779 948951 955138 955559, 955560 995955 - 995960 inclusive - 24 claims

The claims covered by water are:

798703 901425 955556 - 955558 inclusive 955561, 955562

- 7 claims





PREVIOUS WORK

<u>1949 - 1959 - J. E. Lefever</u> - 32 DDH's - 0.56 oz Au/ton over 10 feet, sludge sample assayed 7.8 oz Au/ton.

<u>1960 - Kerr Addison Mines Ltd.</u> - magnetic survey, 7 DDH's, 3,076 feet, over the main showing - drilling indicated an auriferous zone 500 feet long by 4 feet wide with an average assay value of 0.204 oz Au/ton hosted in a sheared diorite - occurrence is a gold and sulphide-bearing, quartz-carbonate vein system.

- 3 DDH's on the Stack vein, 0.67 oz Au/ton over 1 inch

<u>1972 - Noranda Exploration Company Limited</u> - magnetic and VEM surveys.

1980 - Ingamar Explorations Limited - magnetic and VLF-EM surveys.

<u>1982 - Raise Contracting</u> - geological survey, stripping and trenching encountered gold values.

1986 - Pelangio-Larder Mines Ltd. - VLF-EM survey.

GEOLOGY

The Blueberry Island Gold Property lies within the northeast portion of the Swayze greenstone belt. The Swayze greenstone belt is a typical Superior Province, Archean age greenstone belt consisting of predominately mafic volcanics with lesser felsic to intermediate volcanics. Intercalated tuffs and sediments are also present. The volcanic sequence is intruded by mafic to felsic intrusive rocks.

LINECUTTING

During the period June, July, 1987, a total of 36.1 kilometers of line were cut on the property. The base line and tie line were cut at Az 090° (E-W) with section lines every 100 metres off the BL. Picket stations were established every 25 metres on both section lines and BL/TL.

SURVEY EQUIPMENT and PROCEDURES

The Very Low Frequency - Electromagnetic (VLF-EM) survey was carried out using a Geonics EM16, operating at a frequency of 24.0 KHz utilizing the Cutler, Maine (NAA) transmission station. Readings of both In Phase (IP) and Quadrature (OP) were taken every 25 metres, with an accuracy of 1% on both.

A total of 32.6 km of line were surveyed by Mike Tremblay of Timmins during August, 1987.

The data is presented as profiles on the VLF-EM plan map, Figure 3.

SURVEY EQUIPMENT AND PROCEDURES (Cont'd)

The Magnetic survey was conducted with a Scintrex MP-2 total field magnetometer. Readings were taken every 25 metres along section lines, base line and tie line. The intersection of the section lines on the base line served as base stations so that diurnal drift could be monitored. This method allows readings to be taken and corrected with an accuracy of one gamma.

A total of 36.1 kilometers of line were surveyed by Mike Caron of Timmins during August 1987.

DISCUSSION OF RESULTS

The VLF-EM survey detected 32 anomalies. The VLF-EM anomaly summary table summarizes the anomalies and rates their priority for followup. The anomalies break down into the following priorities:

- HIGH 13 additional ground follow-up recommended, good conductivity with corresponding magnetics or structure, possible contact zones, shear zones.
- MODERATE 14 additional follow-up is contingent upon results from high priority anomalies.

LOW - 5 - no follow-up recommended - likely surficial or overburden response.

The magnetic survey delineated a number of anomalies.

A diabase dike trends a NE crossing the BL at 15E and another crossing at 11E on a similar trend.

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DISCUSSION OF RESULTS (Cont'd)

A broad slight magnetic high, 400 gammas above background, trends east-west from LO to L12E at 550 N. This may be a dioritic unit.

The magnetic intensity in the SE corner of the property is very intense with narrow highs and lows, including dipole effects. This is probably caused by iron formation in a sedimentary environment or ultramafic volcanics.

ANOMALY	LENGTH (m)	IP	OP	PEAK TO PEAK(m)	CONDUCTIVITY	DEPTH	MAGNETICS	COMMENTS
А	300	+40,-35	x-over	75	good	shallow	none	high priority
В	600	+63,-30	x-over	75	good	shallow	none	high priority
С	300	+ 8,-14	x-over	25	good	shallow	none	trends off property to E - moderate priority
D	300,100	+ 9,- 8	x-over	25	good	shallow	local high	trends off property to E - moderate priority
E	200,200	+40 ,- 16	x-over	50	excellent	shallow	slight low	<u>high priority</u> - cross cutting stratigraphy - shear zone L18E
F	300	+29 ,- 44	x-over	50	excellent	shallow	x-cutting	<u>high priority</u> - shear zone? D.D. L16E
G	200	+10,-19	x-over	25	good	shallow	slight low	moderate priority
Н	450	+45 ,- 25	x-over	50	excellent	shallow	flanking high	high priority - contact zone D.D. L18E
I	300	+21,-33	+ slope	50	good	shallow	flanking high	n moderate priority - trending off property to E
J	300	;	flat	125+	poor	?	none	low priority - probable superficial
K	300	?	x-over	?	moderate	moderate	flat	moderate priority - 2 proximal conductors
L	250	+10,-56	x-over	50	good	moderate	slight low	high priority
М	200	?	x-over	?	weak	?	flanking high	low priority
N	400	+65,-60	reverse x-over	100	moderate	?	x-cutting	moderate priority - possible shear zone
0	300	+25 ,- 8	x-over	25	good	shallow	none	moderate priority - parallel to N
Ρ	300	+ 4,-23	slight x-over	50	moderate	shallow	x-cutting	low priority - possible superficial

VLF - EM ANOMALY SUMMARY

cont'd.....

VLF - EM ANOMALY SUMMARY

Page 2

ANOMALY	LENGTH (m)	IP	OP	PEAK to PEAK(m)	CONDUCTIVITY	DEPTH	MAGNETICS	COMMENTS
Q	400	+ 4,-28	x-over	50	good	shallow	high	high priority - D.D. L15E on lobe of diabase
R	600	+40,-27	variable	50	poor-good	variable	flanks high	<u>high priority</u> - on contact or parallel to diabase
S	200	+23,- 3	reverse x-over	150	poor	?	flat	low priority - surficial response
Т	400	?	flat	?	poor	?	low	low priority - probable surficial
U	100	+80,- 8	x-over	50	good	shallow	high	moderate priority
V	600	+33,-35	x-over	50	good	variable	flanking high	high priority, contact or shear zone, D.D. L11E
W	300	+37,-50	x-over	50	excellent	shallow	flanking high	high priority, contingent on V
Х	700	+25,-11	x-over	50	good	moderate	flanking high	high priority
Y	300	+ 3,-22	variable	50	weak	moderate	flanking high	moderate priority
Z	100	0,-15	x-over	25	weak	moderate	flat	moderate priority
Al	100	+13,-41	x-over	50	good	shallow	flanking high	high priority, contingent on X
B1	100	+19,- 9	x-over	25	good	shallow	flanking high	high priority
C1	500	+14,- 8	reverse x-over	50	poor	?	x-cutting	fault zone? - moderate priority
D1	400	-13,-70	?	50	?	?	flat	contingent on geology - moderate
E1	300	+20,+ 4	x-over	25	poor	?	high	contingent on geology - moderate
F1	100+	- 5,-43	x-over	25	moderate	?	flat	further work necessary to west - moderate

CERTIFICATE

I, the undersigned, Kenneth Guy, residing at 180 Nadine Street, South Porcupine, Ontario graduated with a Bachelor of Science degree in Earth Science - Geology from the University of Waterloo, Waterloo, Ontario in 1978.

I have been employed in the field of Geology since graduation in 1978.

I am a Fellow of the Geological Association of Canada.

I do not hold, nor do I expect to receive an interest of any kind in these claims held by Bayridge-Pelangio Joint Venture or in any other mining claims they may have.

The interpretations and conclusions are based on my experience with the Davidson-Broulan Project, Getty-Davidson Tisdale Joint Venture and other properties in the Timmins area.

2.5.18 SOCIA Kenneth Guy Geologist K. W. GUY E110

Timmins, Ontario