

63.4807



52E09SE0015 63.4807 CODE

010

REPORT

ON

AN EM-16 V.L.F. SURVEY

Mistango Consolidated Resources  
Claim Group  
Code Twp., Dist. of Kenora, Ontario

August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.  
Consulting Geologist

OM85-3-P-65



52E09SE0015 63.4807 CODE

010C

## TABLE OF CONTENTS

Title Page  
Property, Location and Access  
History of the Property  
Introduction  
Local and Structural Geology  
    (1) North-East Block (Triggs Location)  
    (2) North-West Block (Wendigo Extension)  
Instruments, Unit and Method  
Results of the Survey  
Conclusions  
Recommendations  
Certificate

### Maps and Illustrations

Plan of Claim Group  
Geology of the Witch Bay Area  
Plan of VLF, EM-16 Survey, N-E Block 1" = 200'  
Plan of VLF, EM-16 Survey, N-W Block 1" = 200'

Property, Location and Access

The Mistango Gold Property consists of a contiguous block of 9 patented and 21 unpatented mining claims covering approximately 1,200 acres located in the northern part of Code Township, District of Kenora, Ontario. The claims are shown on Plan of Code Twp., (Plan No. M1962)

The following Claims were covered by this exploration program:

North-West Block (8 claims)

KRL 727002	KRL 727008
KRL 727004	KRL 727009
KRL 727005	KRL 727010
KRL 727006	KRL 727011

North-East Block (7 claims)

KRL 590427	KRL 590431
KRL 590428	KRL 590432
KRL 590429	McA 129 (Patented)
KRL 590430	

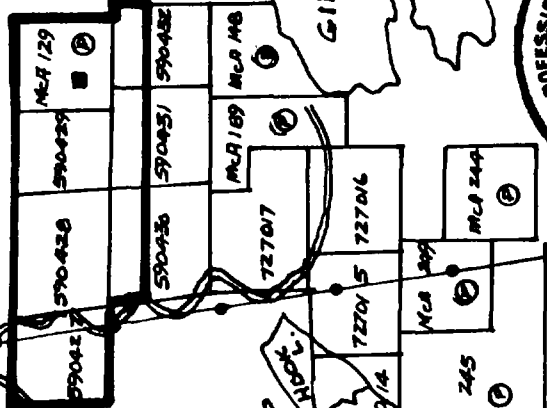
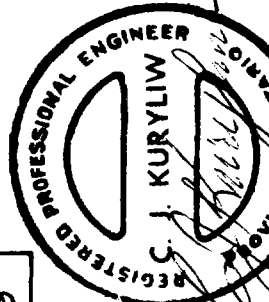
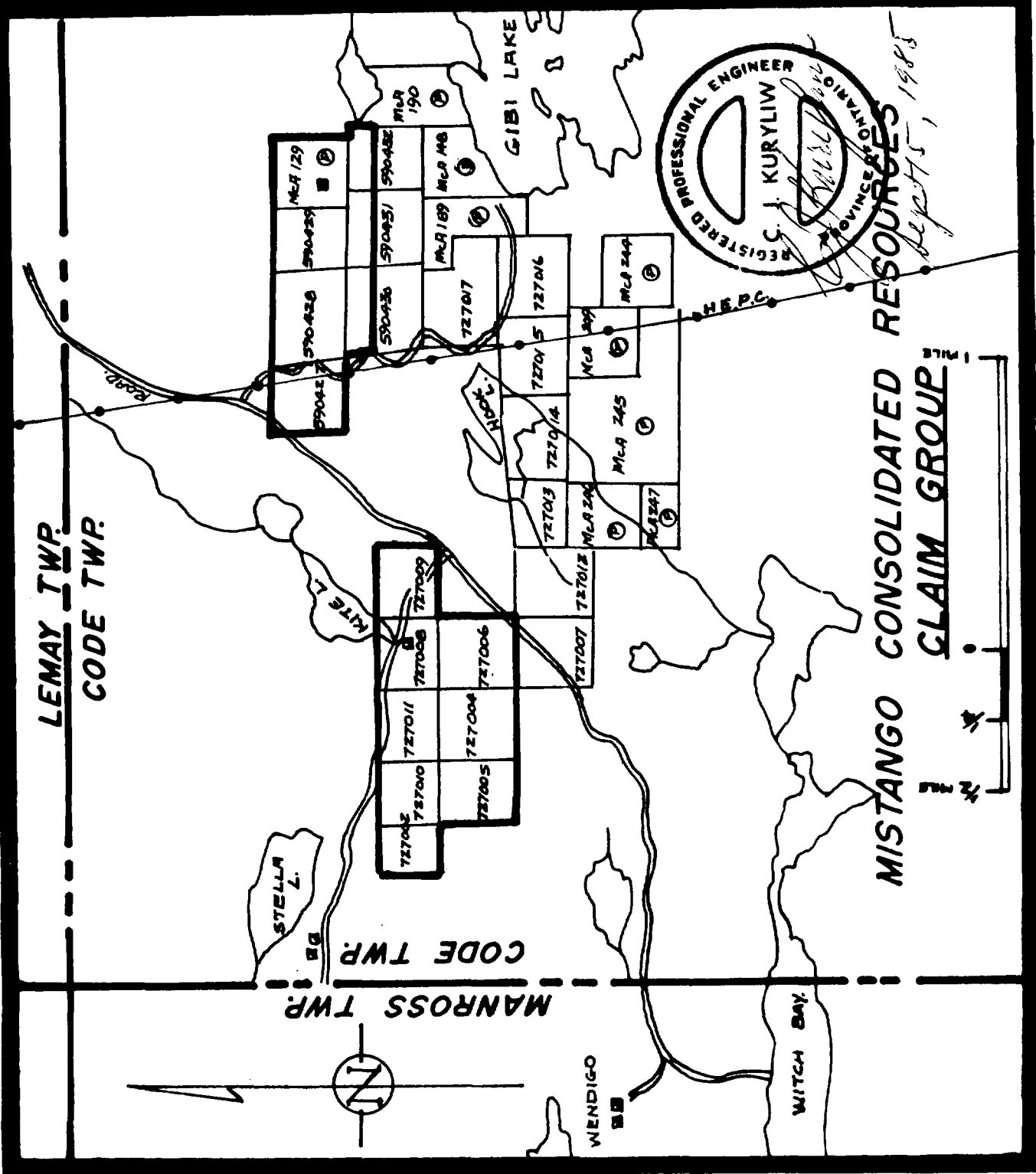
The following claims form the rest of the property not covered by this survey (15 claims).

Patented Claims	Unpatented Claims
McA 148	K 727007
McA 189	K 727012
McA 190	K 727013
McA 243	K 727014
McA 244	K 727015
McA 245	K 727016
McA 246	K 727017
McA 247	

LEMAY TWP  
CODE TWP

MANROSS TWP  
CODE TWP

MISTANGO CONSOLIDATED RESOURCES  
CLAIM GROUP



Sept 5, 1985

### Location and Access

The property is located 16 miles S-E of the town of Kenora as the crow flies.

It is located just east of Witch Bay on Lake of the Woods

The property is accessible from the Trans Canada Highway and branching highway 71 by a one lane gravel road that traverses the property. The total distance by road vehicle from Kenora is 25 miles.

The town of Kenora provides the complete infrastructure of a developed town and amenities required for any work force. The Canadian Pacific Railway line passes through Kenora and natural Gas and Hydro Electric Power are available in the area. Water for diamond drilling is readily available on the property.

## Introduction

In June 1985 this writer was granted a contract to carry out line-cutting on a grid to be followed by geologic mapping, a ground magnetic survey, and an EM-16 survey. The line-cutting was carried out on two grids each with crosslines cut at 200' line interval and chained at 100' stations. The picket lines were oriented due north-south in both the north-east block (Triggs Mine Area) and the northwest block (Wendigo Extension Area).

Line-cutting was started in mid June 1985 and completed August 5, 1985. The magnetic survey was carried out in the field by Adrean Kuryliw of Brandon, Manitoba using a Scintrix precession magnetometer M.P.2. The instrument has a sensitivity of  $\pm 1$  gamma. The readings were taken at 50' stations along lines with a few readings taken at 25' stations where higher magnetic field gradients occurred. The results were corrected and plotted on plans 1" = 200' by this writer who interpreted these results and wrote this report.

The line grid was also covered by geonics VLF, EM-16 unit. The survey was carried out in the field by Adrean Kuryliw of Brandon, Manitoba during the first 2 weeks of August 1985. The readings were taken at 100' intervals

Introduction (cont.)

along the crosslines with a few readings taken at 50' stations in anomalous stations. These readings were plotted on a plan, scale 1" = 200' with EM profiles drawn on the plan. This writer plotted and interpreted the results and wrote this report.

The geologic mapping was carried out in the field by this writer in the first 2 weeks of August 1985. This writer also plotted the results, made interpretations and correlations and wrote this report.

### History of the Property

The Triggs Gold Property was worked prior to 1897 and three shallow shafts totalling 111.0 ft in depth had been sunk. From October 1897 to June 1900 the Triggs mine was operated by the Triggs Gold Mining Co. of Ontario Ltd., who constructed a mining plant and camp and sunk the No. 1 Vertical Shaft to a depth of 225' and established levels at 108' and 208' respectively.

	<u>Crosscuts</u>	<u>Drifting</u>
	(feet)	(feet)
1st level	153.5	248.0
2nd level	29.5	109.0
Total	<u>183.0</u>	<u>357.0</u>

In 1899 (Bow R63) reported that "the shaft followed a very rich pay streak for the greater part of the distance, but this dipped so flatly near the bottom that sinking was continued in the footwall".

In March 1899 a bulk sample weighing 85.54 tons from the No. 1 shaft on the Triggs property was shipped for processing to Keewatin, Ontario, this shipment averaged 1.03 ounces of gold per ton. The Triggs property closed down in July 1900, (due to a lack of capital for further development work).



## History of the Property (cont.)

In 1949 Rexora Mining Corp. Ltd., aquired a block of 26 unpatented mining claims stretching to the south and west of (but not including patented claim McA 129). Rexnora carried out considerable bulldozer stripping on a band of silicious schistose rock from 50' - 150' in width that is reported to have contained 3 quartz veins that varied from a few inches to 10 ft. in width. These veins are reported to strike parrellel to the schistosity across claims 590430, 590431 and 590432 immediately south of the Triggs No. 1 shaft. The company reported that surface weathering was too deep to permit any proper sampling but 14 grab samples that were taken assaying from 0.08 - 2.92 ounces of gold per ton with 6 of the samples assaying in access of 1 ounce gold per ton.

About 1½ miles to the west of the Triggs shaft Rexora carried out work on claims 727008 and 727009 just south of Kite Lake. McLaren for Rexora in 1950 wrote that "two veins, each about 500 ft. long are found in a wide shearing . . . four shafts were sunk in the early work to various depths on these veins". McLaren also stated that a bulk sample was taken by Rexora, partly at the 50' level at one shaft and partly from surface. The pulp from this bulk sample was shipped to a number of assayers with highly variable results. Of 15

## History of the Property (cont.)

separate assays the gold assayed at 0.22 to 3.28 ozs. Au./ton, the silver assayed 0.71 to 4.26 ozs. Ag./ton and 2.37% to 11.28% Cu./ton. It is reported that some diamond drilling was carried out by Rexora but the results are not available.

In 1961 Macassa Gold Mines drilled a total of 557.0 ft. in 3 holes on claims 590429 and 590431 immediately west and south west of claim McA 129. The drilling intersected some sheared sections with pyrite and pyrrhatite but no significant gold intersections were recorded.

In 1970 Olympic Mines Inc. drilled a total of 500 ft. in three holes on present claim 727008 just south of Kite Lake. Only low gold values over narrow widths were intersected.

In 1972 - 1974 Dome Exploration (Canada) Ltd., carried out an airborne magnetic and electromagnetic survey with follow-up ground electromagnetic surveys over parts of Code and the adjoining townships in a search for base metal deposits within the volcanics. A total of 2,722.0 ft. of diamond drilling in 9 holes to test EM conductors. Some of the conductors intersected carried traces to minor amounts of copper, zinc and lead in intercalated intermediate to felsic tuffs.

## History of the Property (cont.)

In February 1985 Mistango Consolidated Resources Ltd. carried out a combined airborne magnetic and VLF survey on 21 claims of the Mistango group. The work was carried out by Terraquest Ltd. of Toronto along parallel flight lines spaced 100 metres apart and aligned North-South.

## Regional Geology

The Big Stone Bay - Andrew Bay - Witch Bay areas are underlain by Precambrian rocks. Basalts with an estimated thickness of 5 miles underly Big Stone Bay and are broadly folded about the Hay Island antiform. Mafic and Ultramafic sills or flows are exposed at the south limb of the fold and the north-west limb near the fold nose. The mafic rocks are overlain by intermediate to felsic pyroclastics and flows which occupy the core of the Sultana Syncline. Granodiorite of the Dryberry Batholith occupies the core of the antiform.

Pillowed and massive basalts that occur in the Witch Bay area were intruded by layered sills of peridotite to Gabbro and the sequence has been folded about an East trending axis. Intermediate and Felsic volcanics overlie the Mafic rocks. Granodiorite of the Dryberry Batholith cross-cuts this regional fold structure.

Gold occurrences are in carbonitized Shear zones in Basalt. The gold is hosted by silicified pyritic schists or in quartz veins that contain up to 20% sulphides. At the Wendigo Mine, the Stella occurrence and the Witch Bay occurrence, the mineralized shears **LIE** stratigraphically

Regional Geology (cont.)

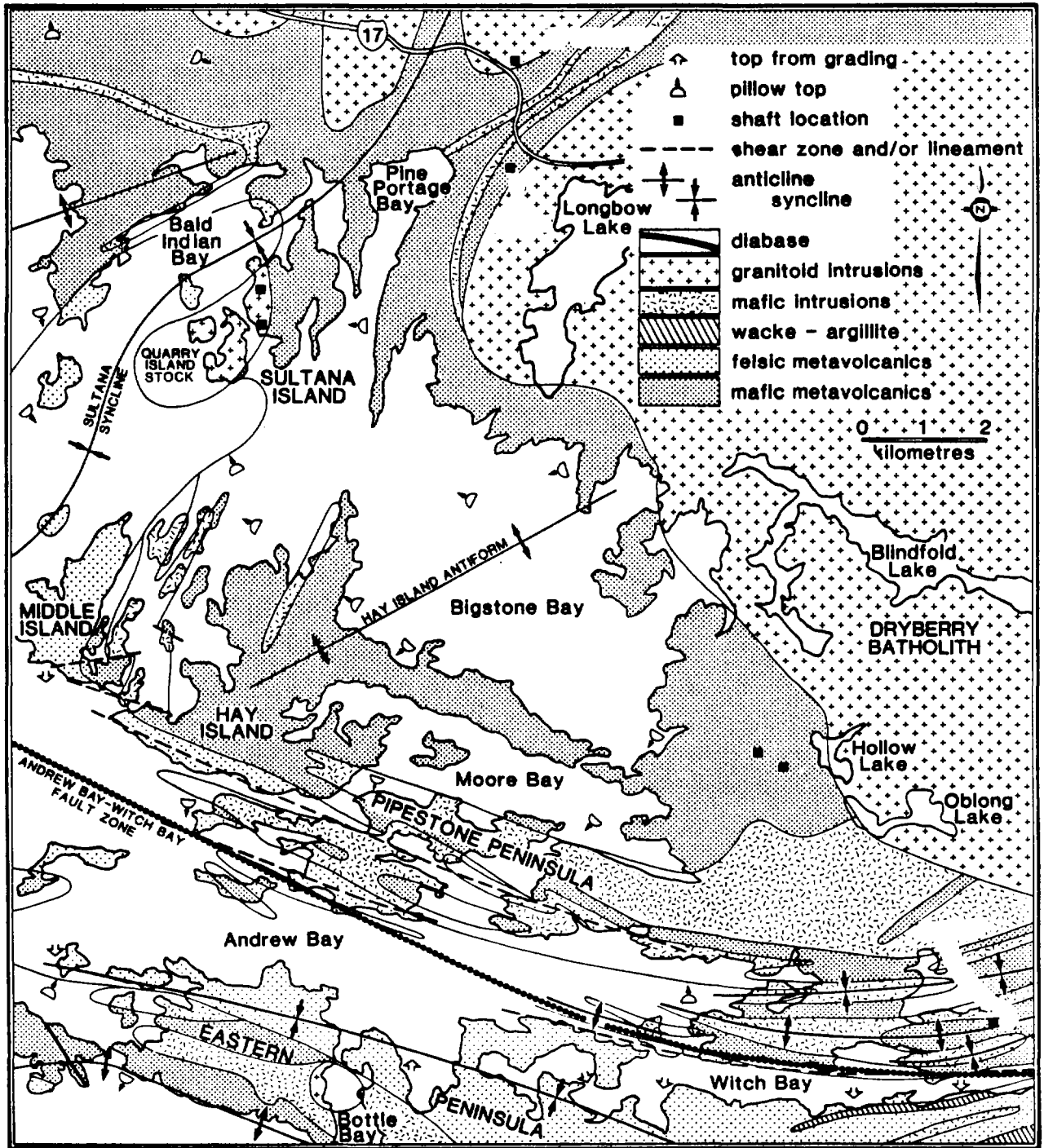
below the base of a peridotite sill. The shearing is believed to be related to the competency contrast between the basalt and the sill.

## General Geology of the Neighbouring Gold Deposits (cont.)

Felsic pyroclastic rocks are exposed south of the mine along the north shore of Witch Bay. The felsic rocks are intensely deformed, commonly to sericite schist. Only rarely are good relic primary textures preserved. The felsic sequence is the locus of an extensive fault system, the Andrew Bay-Witch Bay fault zone (Figure 5), which Ayer (1984) suggests is the extension of the Crowduck Lake-Rush Bay dextral fault zone (Davis and Smith, 1984). The fault, therefore, may extend from Indian Bay of Shoal Lake to Witch Bay of Lake of the Woods, a distance of over 70 km.

The mine site is primarily underlain by prophyritic and equigranular basalt, which has been intruded by gabbro and peridotite sills. Pillows are observed locally in the basalts, but top determinations are often questionable. Composition varies from tholeiite to high-iron tholeiite. The prophyritic basalt is an excellent marker horizon, and overlies the massive basalt. Pillows observed near the shaft area indicate tops to the north. This basalt is a Mg-tholeiite and characterized by up to 20% white feldspar phenocrysts less than 2.5 cm in diameter.

Much of the property is underlain by gabbro and peridotite comprising thick, differentiated sills.



Geology of the Bigstone Bay area (modified from Ayer, 1984).

## General Geology of the Neighbouring Gold Deposits (cont.)

Fine-grained peridotite lies at the base of some sills directly overlying the porphyritic basalt. The peridotite, where less altered, is composed principally of serpentine, talc and magnetite. Peridotite is commonly overlain by melagabbro transitional to leucogabbro. The melagabbro is locally magnetic and displays rhythmic layering, but more commonly is nonmagnetic and massive. Amphibole has replaced original pyroxene. The original feldspar: pyroxene ratio was close to 50:50. In places the leucogabbro is porphyritic, containing feldspar phenocrysts up to 3 cm in diameter, similar to those observed within the porphyritic basalt; coarser peridotite occurs as dikes and as narrow layers in the core of the sills, suggesting that the sills may consist of more than one cycle. This peridotite locally displays excellent rhythmic layering. Coarse peridotite dikes and/or sills intrude the host volcanics in a few places.

Several tight, east trending, west plunging folds have been identified by means of the reversal of differentiation trends in the sills, and by limited top determinations in the basalts. Basalt located within the aniclinal cores of these folds is strongly foliated to sheared. This is most noticeable in the vicinity of the main shaft and close to Gagne Lake where wide



## General Geology of the Neighbouring Gold Deposits (cont.)

sections of basalt are strongly sheared. Notably, strong deformation is apparently absent from the gabbro bodies. The texture of the leucocratic gabbro shows virtually no strain, and while some strain is evident within both the peridotite and the melagabbro, it does not appear sufficient to be consistent with the tight folding.

Gold mineralization is restricted to zones of silicification, notably to four east-trending steeply north-dipping veins. All the veins were examined while the mine was in operation, but production was restricted to the No. 1 vein. Veins 2, 3 and 4 are located about 460 m east of the main shaft. The attitudes of the veins are slightly discordant to the enclosing lava flows (Figure 16). The veins occupy a zone about 50 m wide which extends to the peridotite contact to the north. They are found within both porphyritic and massive basalt, much of which is largely altered to chlorite schist. The south (ore proximal) side of the peridotite sill has been intensely altered to a soft "talcy" rock. Chlorite schist proximal to the main ore zone is enriched in carbonate and quartz, and contains abundant epidote and zoisite, minor sphene, and lesser amounts of clinozoisite, opaques and sericite.

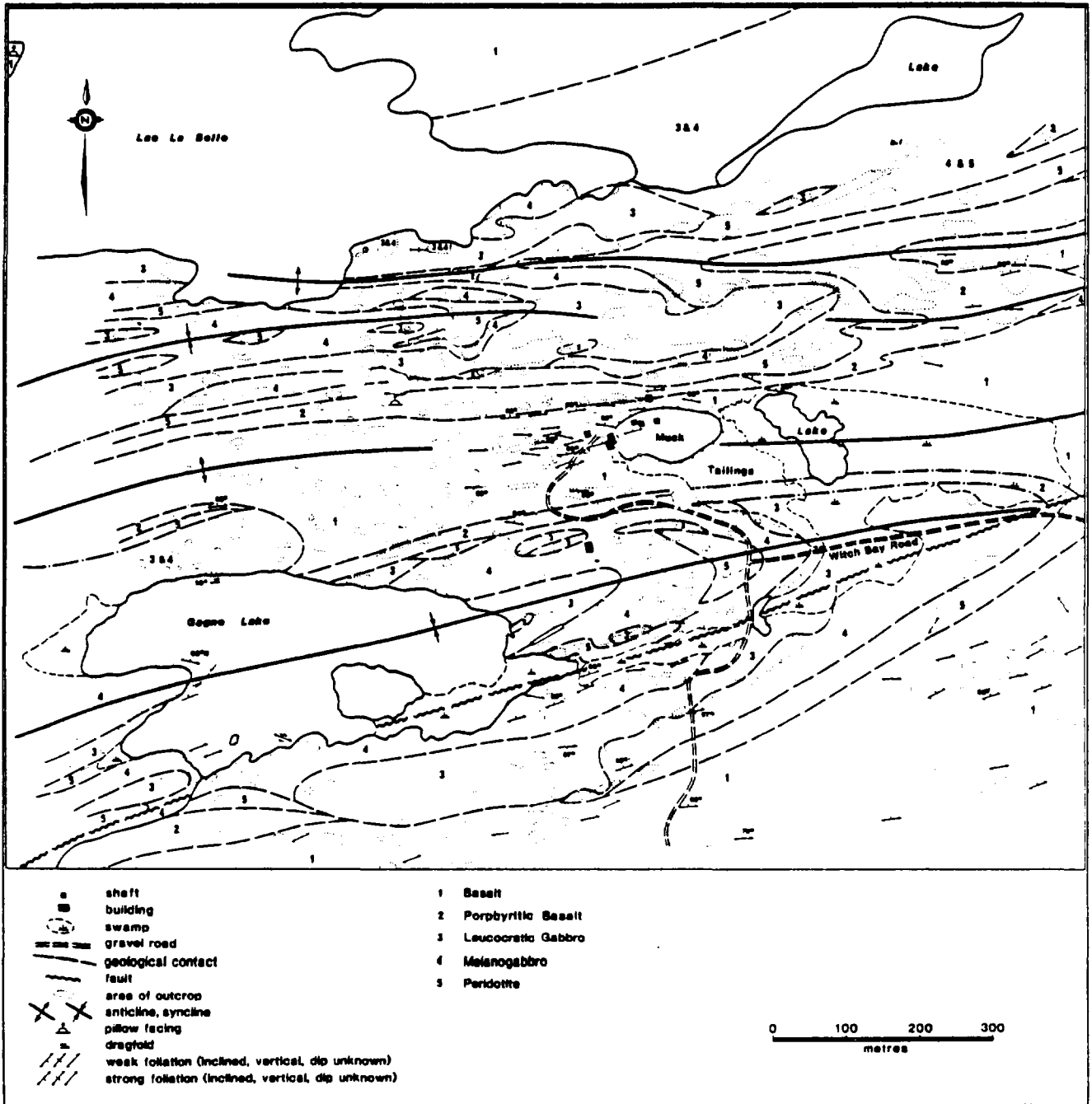
## General Geology of the Neighbouring Gold Deposits

(Modified from 1985 publication of Institute of Lake Superior Geology.) Kenora - Ontario Geological Survey.

### The Wendigo Gold-Copper Mine

Gold was first discovered on the property in 1899, when an 18m shaft was sunk on the main vein. Work continued during the next year and about 1000 tons of gold-copper ore were milled. The mine lay idle until 1933 when it was re-examined by Wendigo Gold mines Ltd. Over the next ten years considerable underground and surface work was done before the mine closed in early 1943. Total production from the property was 67,000 oz of gold, 14,762 oz of silver and 1,866,246 pounds of copper from 206,054 tons milled, establishing the Wendigo as the largest past producer in the western Wabigoon Subprovince. Average grade of ore milled was 0.33 oz of Au/ton.

Wendigo Mine lies on the south limb of the Hay Island antiform (Figures 5 and 6) within mafic volcanics and mafic to ultramafic sills. Metamorphic grade is lower greenschist facies. Analogies between the stratigraphy here and at the Duport Mine on Shoal Lake can be drawn; the two occur close to the top of a lower mafic volcanic cycle.

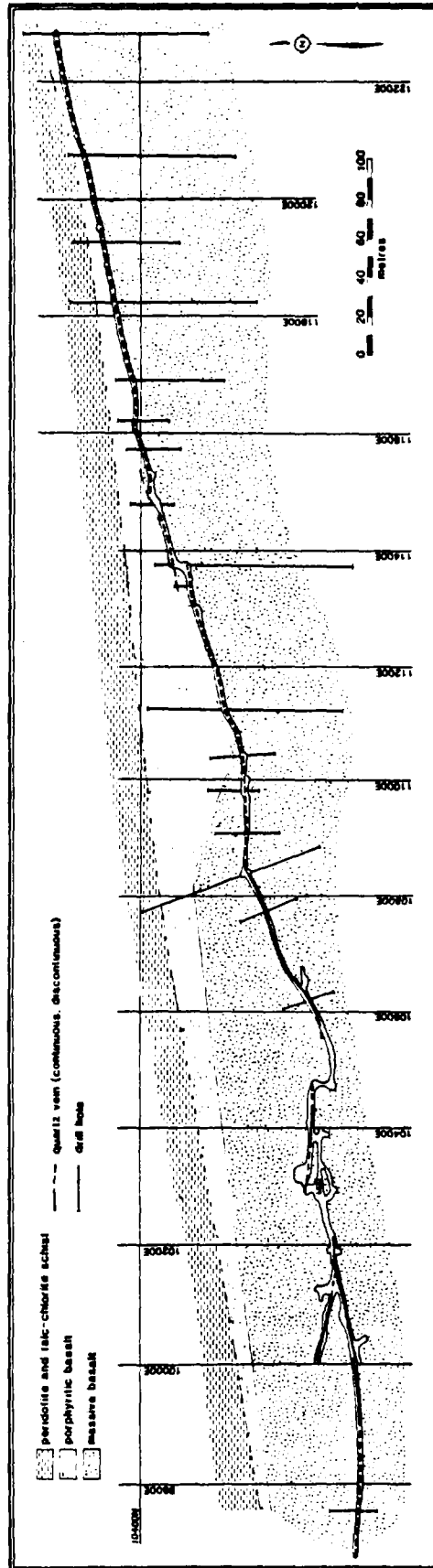


Surface geology of the Wendigo Gold Mine.

## General Geology of the Neighbouring Gold Deposits (cont.)

The No. 1 vein, which strikes N80°E and dips about 79° to the north, maintains an average width of 30 cm, pinching and swelling to a maximum width of 76 cm. Quartz contains pyrite, pyrrhotite and chalcopyrite. Locally, sulphide exceeds quartz. Little of the vein material is presently exposed. Thomson (1936) estimated that, throughout the mine, half the vein material is sulphide, and that the schist immediately adjoining the quartz is commonly well mineralized with sulphides. In general, sulphides are in streaks and lenses which parallel the shearing. Milky-white, unmineralized quartz veins, containing traces of ankerite, may be seen on the surface and underground, locally crosscutting the mineralized quartz, indicating two generations of silicification. Faulting has been observed in places, but offsets are restricted to a few metres.

Petrographic work carried out in 1934 and 1935 (Canada Department of Mines and Resources, 1936) showed native gold to be present as relatively coarse grains within grey translucent quartz; pyrite and chalcopyrite are the dominant sulphides, with minor amounts of pyrrhotite, sphalerite, and arsenopyrite. Brownell (1943) noted distinct mineralogical changes in the vein which were directly related to a sudden decrease in gold content; in the upper levels of the mine, gold was

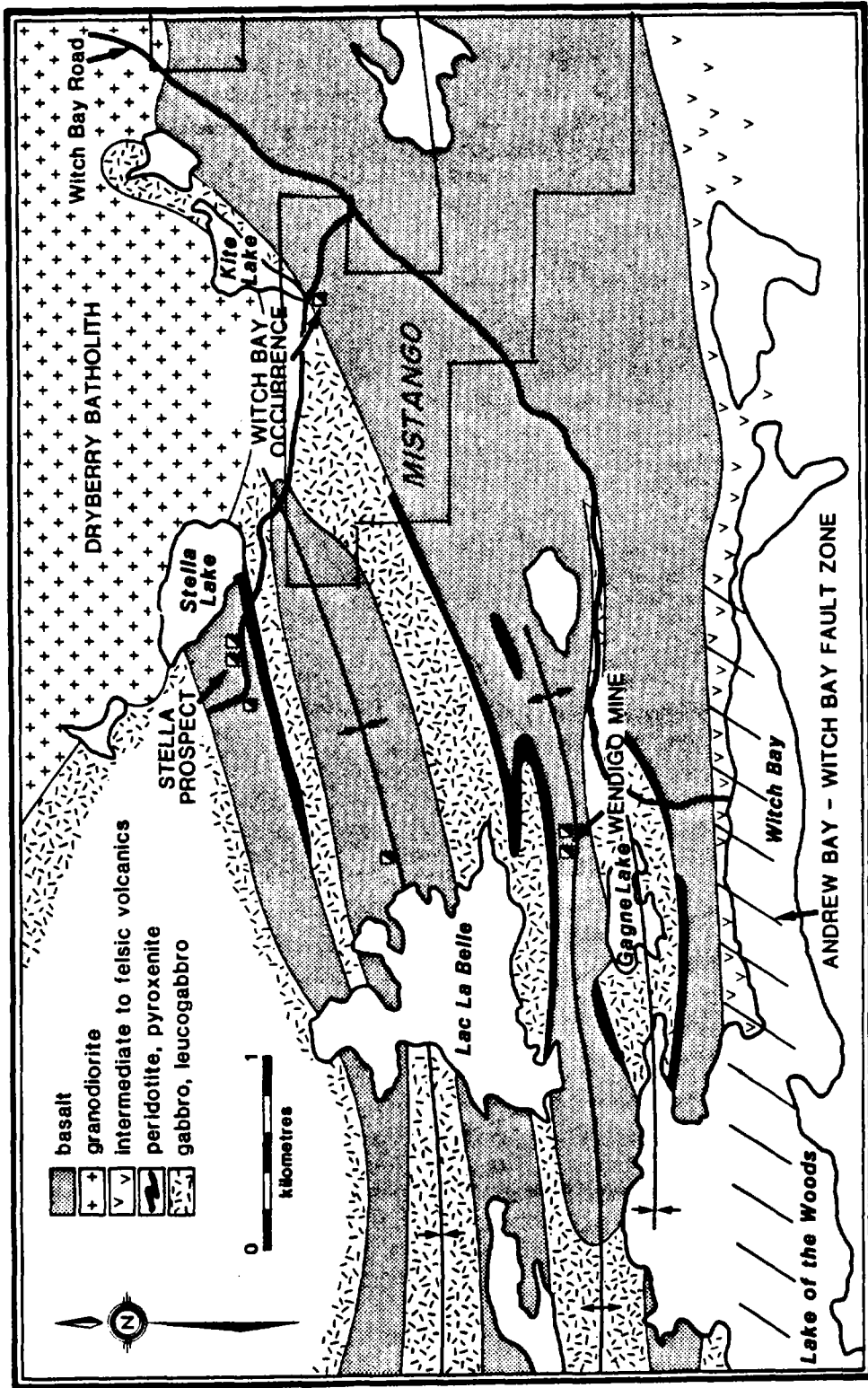


Geology of the 500 level of the Wendigo Gold Mine (after Brownell, 1943).

## General Geology of the Neighbouring Gold Deposits (cont.)

accompanied by pyrite and chalcopyrite, whereas below the 335m level pyrrhotite is the dominant sulphide and gold contents are much lower. Brownell (1943) suggested that this relationship is essentially temperature dependent, ie. pyrrhotite is normally deposited at higher temperatures than pyrite, chalcopyrite and gold. He concluded that, below the 335m level, no additional ore might be expected.

The area is characterized by intense deformation and probably lies within the influence of the Andrew Bay-Witch Bay fault zone. Since the rock assemblage is heterogeneous, most of the strain was taken up by the least competent rocks (i.e. massive and porphyritic basalt). The contrasting competencies of the two major rock types (intrusive vs extrusive) resulted in zones of dilatancy being created along the contact between the two units. These zones of dilatancy acted as permeable channelways along which hydrothermal fluids moved upwards. The vertical zonation noted by Brownell (1943) may represent two distinct stability fields with the 335 m level corresponding to the stability field boundary.



Geology of the Witch Bay area (modified from Davies and Smith, 1984).

## General Geology of the Neighbouring Gold Deposits (cont.)

### Witch Bay Gold Prospect

The geology in the vicinity of Kite Lake has not been mapped in detail. Based on aeromagnetic data it would appear that the principal lithologic units of the Wendigo mine area (ie. basalt, gabbro and peridotite), extend east-northeast as far as the central part of Kite lake, where they terminate against granodiorite of the Dryberry batholith.

Fine-grained basalt underlies an area south of Kite Lake. Near the southernmost tip of Kite Lake an east-striking zone of schist and breccia, from one to two metres wide and dipping south at from 50° to 70° contains some carbonate and one or more quartz veins and lenses with a maximum width of 45 cm. The quartz is fractured, encloses minor silicified basalt, and contains abundant chalcopyrite and pyrite in and near some of the fractures. The mineralization and its stratigraphic position is similar to that at the Wendigo.

Two shafts about 30 m apart have been sunk on the zone. A chip sample across 50 cm of the mineralized quartz vein at the east shaft assayed 1.93 ounces of gold per ton. A third shaft was put down a further 75 m to the east. A fourth shaft was sunk on a separate zone approximately 100 m to the southwest. The zone is not



General Geology of the Neighbouring Gold Deposits (cont.)

exposed, but material on the dump indicates that it is carbonatized, sheared basalt with minor quartz and with chalcopyrite, pyrite and pyrrhotite.

LOCAL GEOLOGY (N-E BLOCK, TRIGGS LOCATION)

Table of Formations

Precambrian

Acid Intrusives

Granite

Basic Intrusives

Gabbro

Volcanics

Basaltic Lavas

## Local and Structural Geology (M-E Block)

The Basalt formations trend northeasterly as indicated from the mapping of pillows. The mapping also indicates that the Basalt formation is crenulated into a series of anticlines and synclines along northeasterly trending axes. At the north east portion of the block some intrusions of gabbro and granitic dykes also trends northeasterly.

At the old Triggs Mine shaft it was noted that the northeasterly trending rocks dip  $55^{\circ}$  to the north-west. The rocks are cut by a vertical northeasterly trending fault in the shaft. A quartz vein with some periferal pyritic mineralization follows the fault. The vein pinches at the top of the shaft and the pinch plunges at about  $45^{\circ}$  southwestwards. It is interpreted that the mining of the Triggs vein occured below this pinch in the vein and along the fault and along the southwesterly plunge. Diamond drilling to extend the Triggs vein should utilize the interpreted southwesterly plunge.

The fault mapped at the Triggs shaft was traced as a fairly continuous magnetic low. It may be significant that conductor "C" appears to terminate against this fault near the Triggs ventilation raise. Conductor "C", which maybe an extension to the south west of Conductor "C" again is intersected by the fault near line 8-E.

Local and Structural Geology (N-E Block) cont.

This same curved conductor that terminates against the same fault provides a similar structural corollary that should also be tested by diamond drilling.

## Results of the V.L.F. - EM-16 Survey (N-E Block)

The geonics EM-16, V.L.F. instrument was used to take readings at 100' stations along picket lines. The Cutler, Maine, U.S.A. submarine V.L.F. transmitter station was used.

### Conductor "A"

This is a relatively strong V.L.F. conductor that trends north-easterly for at least 1,000'. It lies under a marshy cedar swamp.

### Conductor "A<sup>1</sup>"

This is a short weak conductor that occurs under the same swamp as conductor "A" at its south end.

### Conductor "B"

This conductor was picked up on one line on the edge of a flooded marsh its conductivity may be due to swampy soil muds.

### Conductor "C" and "C<sup>1</sup>"

This is a relatively weak conductor but it may be significant because it extends to the Triggs ventilation raise where it is cut by the Triggs shaft fault. The trace of this conductor to the south-east along a curved

Results of the V.L.F. - EM-16 Survey (N-E Block) cont.

Conductor "C" and "C<sup>1</sup>" cont.

path indicates that it is again cut by the Triggs shaft fault. The south-west extension of this conductor to the fault should be tested by diamond drilling because it appears to present a structural situation similar to the gold bearing vein occurrence at the Triggs shaft.

Conductor "D" and "D<sup>1</sup>"

This conductor follows a swamp, is of medium strength and is not interpreted to be significant.

## Conclusions

Diamond drilling is warranted to test for the extension to depth of the rich Triggs vein that was mined at the turn of the century. If these drill holes are successful in returning significant gold values further drilling on the merits of the values would be undertaken to expand the gold deposit.



August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.





LOCAL GEOLOGY (N-W BLOCK, WITCH BAY EXTENSION)

Table of Formations

Precambrian

Acid Intrusives

Granite (Dryberry Batholith)

Quartz - Feldspar Porphyry

Basic and Ultrabasic Intrusives

Gabbro

Peridotite, Gabbro - Amphibolite

Volcanics

Porphyritic Basalt Lava

Basalt : Pillowed, Massive, Amphibolized

### Local Geology (N-W Block)

The Basalt pillowed lava formations trend north-70° to north-80°-east. The majority of the dips are 60°-north with a few dips near vertical. The peridotite "sill" intrusion is actually discordant with the general trend of the volcanics since it trends north-50°-east and dips 60°-north. This same peridotite "sill" is traced from the Wendigo Mine where it occurs as a hanging wall formation to the Wendigo gold-copper ore veins. It appears that the curved trend of the peridotite intersects the same stratigraphic horizon at Kite Lake that occurs as the host rock volcanic formations at the Wendigo. It is significant that previously discovered gold mineralization occurs near Kite Lake in the general area where the peridotite "sill" intersects the porphyritic basalt formation. This is an analogous structural situation to the gold-copper ore occurrence at the Wendigo Mine.

The peridotite "sill" occurs near the base of the larger gabbroic intrusion that is up to ¼ mile thick. In general the gabbro does not exhibit any significant magnetic relief and is indistinguishable from areas of Basalt. The peridotite however is easily traced by its high magnetic relief.

Local Geology (N-W Block) cont.

The V.L.F. conductors are generally quite weak and most follow topographic valleys and swamps, one conductor follows the base of the peridotite "sill", two other weak conductors follow the projected trend of minor mineralization located in previous trenching.

## Rock Types (N-W Block)

### Basalt

This rock is dark greenish, fine grained to aphanitic. The lavas are frequently composed of well developed pillow structures. The strike and dip of the pillows were mapped and these trends were used in determining formation trends. The Basalt is partly amphibolized in proximity to intruding peridotite.

### Porphyritic Basalt Lava

This Basalt formation occurs just south of Kite Lake and stratigraphically south and below the main peridotite sill. It is distinguished by the occurrence of 5 - 15% white feldspar knots in a slightly epidotized basaltic ground mass. This is a significant stratigraphic horizon marker because it relates to the same formation mapped as part of the Wendigo Mine host rock to the gold-copper ore veins.

### Peridotite

This rock is a dense, dark greenish amphibolite. On a fresh fractured surface coarse stubby crystals of amphiboles are evident (probably in part amphibole after pyroxene). The basal peridotite sill that occurs on the south-east side of the main gabbro mass exhibits a

## Rock Types (N-W Block) cont.

### Peridotite cont.

fine pseudo-banding in some outcrops that strikes north 50° east and dips 60° to the northwest. A second band of peridotite occurs as an amphibolite or as a gabbro-amphibolite within and along the larger gabbro intrusion. Towards Kite Lake the peridotite also occurs as numerous narrow dyke-like intrusions. This rock is intensely magnetic and is traced by a magnetic high of 2,000 - 5,000 gammas above background.

### Gabbro

This rock occurs as a medium to coarse grained dark greenish rock. It is composed of 50 - 70% ferromagnesian (largely amphiboles) and 30 - 50% plagioclase feldspar. Numerous linear intrusions were mapped and one large gabbroic mass about ¼ mile in thickness occurs to the north of the peridotite. These gabbro intrusions are partly discordant. They strike northeasterly whereas the Basalt pillow lava formations strike east-north-east. This formation exhibits relatively low magnetic relief.

### Quartz-Feldspar Porphyry

This rock occurs in two outcrops near the base line at lines 74 and 76. It is stratigraphically about 400 ft. south of the peridotite sill. The rock is greyish with

## Rock Types (N-W Block) cont.

### Quartz-Feldspar Porphyry cont.

a fine grained ground mass of feldspar and minor quartz and sericite. Twenty percent of this rock is composed of medium grained phenocrysts of plagioclase (albite - oligoclase feldspar).

### Granite

Several outcrops of granite were mapped near Kite Lake and near the north boundary of the property. These outcrops form part of the southern rim of the Dryberry Batholith. The rock is medium to coarse grained and is composed of 20 - 40% orthoclase feldspar, 20 - 40% albite - oligoclase feldspar, 15 - 20% quartz and 2 - 5% ferromagnesian.

## Conclusions

A favourable geologic environment for discovering gold deposits occurs near the south side of Kite Lake. A similar structural environment and stratigraphic horizon occurs south of Kite Lake that is analagous to the Wendigo Mine or environment. The previous discovery of significant gold mineralization in previous work underlines its potential. The occurrence of several weak V.L.F. conductors that appear to be the extended trends of previous trenching should be tested by diamond drilling. The occurrence of a weak V.L.F. conductor along the base of the peridotite which is covered by swamp also presents a favourable horizon to be tested.

1,800 ft. of diamond drilling, comprised of six diamond drill holes are warranted to test the favourable possibilities.

August 15, 1985



Chester J. Kuryliw M.Sc., P.Eng.

Recommendations

Six drill holes totalling 1,800 ft. of B - Q core size are recommended at the following coordinates.

D.D.H. #4 @ 48 + 35-W, 12 + 00-N, @-45° to S-25°-E to a depth of 300'

D.D.H. #5 @ 55 + 50-W, 8 + 00-N, @-50° to S-45°-E to a depth of 300'

D.D.H. #6 @ 64 + 00-W, 10 + 75-N, @-45° to S to a depth of 300'

D.D.H. #7 @ 84 + 00-W, 1 + 60-N, @-45° to S-45°-E to a depth of 300'

D.D.H. #8 @ 67 + 00-W, 8 + 50-S, @-50° to S-45°E to a depth of 300'

D.D.H. #9 300' of spare footage to follow-up any significant intersection

Estimated cost of diamond drilling contract, engineering, assaying, transportation, drafting plans and final report @ \$25. per foot

Total 1,800 ft. @ \$25. per foot

\_\_\_\_\_  
\$45,000.  
\_\_\_\_\_



August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.



CHESTER J. KURYLIW, M.Sc., P.Eng.  
Consulting Geologist

C E R T I F I C A T E

I, Chester J. Kuryliw of 46 Ingall Drive, Dryden, Ontario, do hereby certify that:

- (1) I am a Professional Engineer and I am currently employed as a Consulting Geologist for several mining companies.
- (2) I am a graduate of:  
The University of Manitoba B.Sc. Degree, 1949  
The University of Manitoba M.Sc. Degree, 1966
- (3) I am a registered Engineer of the Association of Professional Engineers of Ontario and also Manitoba. I am a fellow of the Geologic Association of Canada, also a member of the Canadian Institute of Mining and Metallurgy.
- (4) I have practiced my profession for over 35 years, most of those years at gold mines, during which time I often planned, supervised and directed underground exploration, development and production.
- (5) My report is based upon a study of the magnetic and electromagnetic survey results on the property, and my mapping of the field geology.

AUG. 15, 1985



Chester J. Kuryliw, M.Sc., P.Eng.



52E09SE0015 63.4807 CODE

020

REPORT

ON

A MAGNETIC SURVEY

Mistango Consolidated Resources  
Claim Group  
Code Twp., District of Kenora, Ontario

August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.  
Consulting Geologist

OM85-3-P-65



020C

## TABLE OF CONTENTS

Title Page  
Property, Location and Access  
History of the Property  
Introduction  
Local and Structural Geology  
    (1) North-East Block (Triggs Location)  
    (2) North-West Block (Wendigo Extension)  
Instrument, Unit and Method  
Results of the Survey  
Conclusions  
Recommendations  
Certificate

## Maps and Illustrations

Plan of Claim Group  
Geology of the Witch Bay Area  
Plan of Magnetic Survey N-E Block 1" = 200'  
Plan of Magnetic Survey N-W Block 1" = 200'

Property, Location and Access

The Mistango Gold Property consists of a contiguous block of 9 patented and 21 unpatented mining claims covering approximately 1,200 acres located in the northern part of Code Township, District of Kenora, Ontario. The claims are shown on Plan of Code Twp., (Plan No. M1962)

The following Claims were covered by this exploration program:

North-West Block (8 claims)

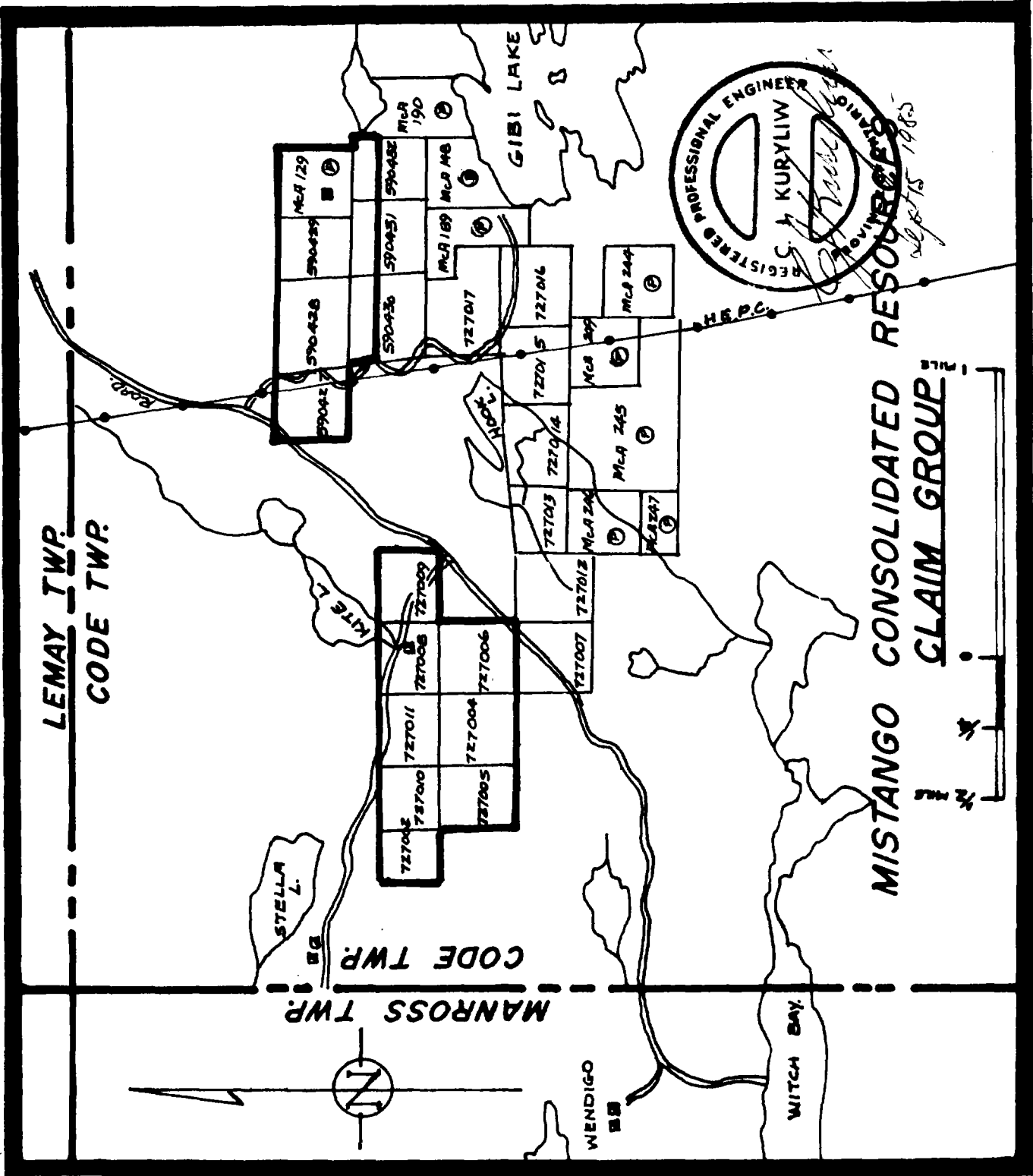
KRL 727002	KRL 727008
KRL 727004	KRL 727009
KRL 727005	KRL 727010
KRL 727006	KRL 727011

North-East Block (7 claims)

KRL 590427	KRL 590431
KRL 590428	KRL 590432
KRL 590429	McA 129 (Patented)
KRL 590430	

The following claims form the rest of the property not covered by this survey (15 claims).

Patented Claims	Unpatented Claims
McA 148	K 727007
McA 189	K 727012
McA 190	K 727013
McA 243	K 727014
McA 244	K 727015
McA 245	K 727016
McA 246	K 727017
McA 247	



### Location and Access

The property is located 16 miles S-E of the town of Kenora as the crow flies.

It is located just east of Witch Bay on Lake of the Woods

The property is accessible from the Trans Canada Highway and branching highway 71 by a one lane gravel road that traverses the property. The total distance by road vehicle from Kenora is 25 miles.

The town of Kenora provides the complete infrastructure of a developed town and amenities required for any work force. The Canadian Pacific Railway line passes through Kenora and natural Gas and Hydro Electric Power are available in the area. Water for diamond drilling is readily available on the property.

## Introduction

In June 1985 this writer was granted a contract to carry out line-cutting on a grid to be followed by geologic mapping, a ground magnetic survey, and an EM-16 survey. The line-cutting was carried out on two grids each with crosslines cut at 200' line interval and chained at 100' stations. The picket lines were oriented due north-south in both the north-east block (Triggs Mine Area) and the northwest block (Wendigo Extension Area).

Line-cutting was started in mid June 1985 and completed August 5, 1985. The magnetic survey was carried out in the field by Adrean Kuryliw of Brandon, Manitoba using a Scintrix precession magnetometer M.P.2. The instrument has a sensitivity of  $\pm 1$  gamma. The readings were taken at 50' stations along lines with a few readings taken at 25' stations where higher magnetic field gradients occurred. The results were corrected and plotted on plans 1" = 200' by this writer who interpreted these results and wrote this report.

The line grid was also covered by geonics VLF, EM-16 unit. The survey was carried out in the field by Adrean Kuryliw of Brandon, Manitoba during the first 2 weeks of August 1985. The readings were taken at 100' intervals

## Introduction (cont.)

along the crosslines with a few readings taken at 50' stations in anomalous stations. These readings were plotted on a plan, scale 1" = 200' with EM profiles drawn on the plan. This writer plotted and interpreted the results and wrote this report.

The geologic mapping was carried out in the field by this writer in the first 2 weeks of August 1985. This writer also plotted the results, made interpretations and correlations and wrote this report.



### History of the Property

The Triggs Gold Property was worked prior to 1897 and three shallow shafts totalling 111.0 ft in depth had been sunk. From October 1897 to June 1900 the Triggs mine was operated by the Triggs Gold Mining Co. of Ontario Ltd., who constructed a mining plant and camp and sunk the No. 1 Vertical Shaft to a depth of 225' and established levels at 108' and 208' respectively.

	<u>Crosscuts</u>	<u>Drifting</u>
	(feet)	(feet)
1st level	153.5	248.0
2nd level	29.5	109.0
Total	<u>183.0</u>	<u>357.0</u>

In 1899 (Bow R63) reported that "the shaft followed a very rich pay streak for the greater part of the distance, but this dipped so flatly near the bottom that sinking was continued in the footwall".

In March 1899 a bulk sample weighing 85.54 tons from the No. 1 shaft on the Triggs property was shipped for processing to Keewatin, Ontario, this shipment averaged 1.03 ounces of gold per ton. The Triggs property closed down in July 1900, (due to a lack of capital for further development work).

## History of the Property (cont.)

In 1949 Rexora Mining Corp. Ltd., acquired a block of 26 unpatented mining claims stretching to the south and west of (but not including patented claim McA 129). Rexnora carried out considerable bulldozer stripping on a band of silicious schistose rock from 50' - 150' in width that is reported to have contained 3 quartz veins that varied from a few inches to 10 ft. in width. These veins are reported to strike parallel to the schistosity across claims 590430, 590431 and 590432 immediately south of the Triggs No. 1 shaft. The company reported that surface weathering was too deep to permit any proper sampling but 14 grab samples that were taken assaying from 0.08 - 2.92 ounces of gold per ton with 6 of the samples assaying in excess of 1 ounce gold per ton.

About 1½ miles to the west of the Triggs shaft Rexora carried out work on claims 727008 and 727009 just south of Kite Lake. McLaren for Rexora in 1950 wrote that "two veins, each about 500 ft. long are found in a wide shearing . . . four shafts were sunk in the early work to various depths on these veins". McLaren also stated that a bulk sample was taken by Rexora, partly at the 50' level at one shaft and partly from surface. The pulp from this bulk sample was shipped to a number of assayers with highly variable results. Of 15

## History of the Property (cont.)

separate assays the gold assayed at 0.22 to 3.28 ozs. Au./ton, the silver assayed 0.71 to 4.26 ozs. Ag./ton and 2.37% to 11.28% Cu./ton. It is reported that some diamond drilling was carried out by Rexora but the results are not available.

In 1961 Macassa Gold Mines drilled a total of 557.0 ft. in 3 holes on claims 590429 and 590431 immediately west and south west of claim McA 129. The drilling intersected some sheared sections with pyrite and pyrrhatite but no significant gold intersections were recorded.

In 1970 Olympic Mines Inc. drilled a total of 500 ft. in three holes on present claim 727008 just south of Kite Lake. Only low gold values over narrow widths were intersected.

In 1972 - 1974 Dome Exploration (Canada) Ltd., carried out an airborne magnetic and electromagnetic survey with follow-up ground electromagnetic surveys over parts of Code and the adjoining townships in a search for base metal deposits within the volcanics. A total of 2,722.0 ft. of diamond drilling in 9 holes to test EM conductors. Some of the conductors intersected carried traces to minor amounts of copper, zinc and lead in intercalated intermediate to felsic tuffs.

## History of the Property (cont.)

In February 1985 Mistango Consolidated Resources Ltd. carried out a combined airborne magnetic and VLF survey on 21 claims of the Mistango group. The work was carried out by Terraquest Ltd. of Toronto along parallel flight lines spaced 100 metres apart and aligned North-South.

## Regional Geology

The Big Stone Bay - Andrew Bay - Witch Bay areas are underlain by Precambrian rocks. Basalts with an estimated thickness of 5 miles underly Big Stone Bay and are broadly folded about the Hay Island antiform. Mafic and Ultramafic sills or flows are exposed at the south limb of the fold and the north-west limb near the fold nose. The mafic rocks are overlain by intermediate to felsic pyroclastics and flows which occupy the core of the Sultana Syncline. Granodiorite of the Dryberry Batholith occupies the core of the antiform.

Pillowed and massive basalts that occur in the Witch Bay area were intruded by layered sills of peridotite to Gabbro and the sequence has been folded about an East trending axis. Intermediate and Felsic volcanics overlie the Mafic rocks. Granodiorite of the Dryberry Batholith cross-cuts this regional fold structure.

Gold occurrences are in carbonitized Shear zones in Basalt. The gold is hosted by silicified pyritic schists or in quartz veins that contain up to 20% sulphides. At the Wendigo Mine, the Stella occurrence and the Witch Bay occurrence, the mineralized shears *lie* stratigraphically

Regional Geology (cont.)

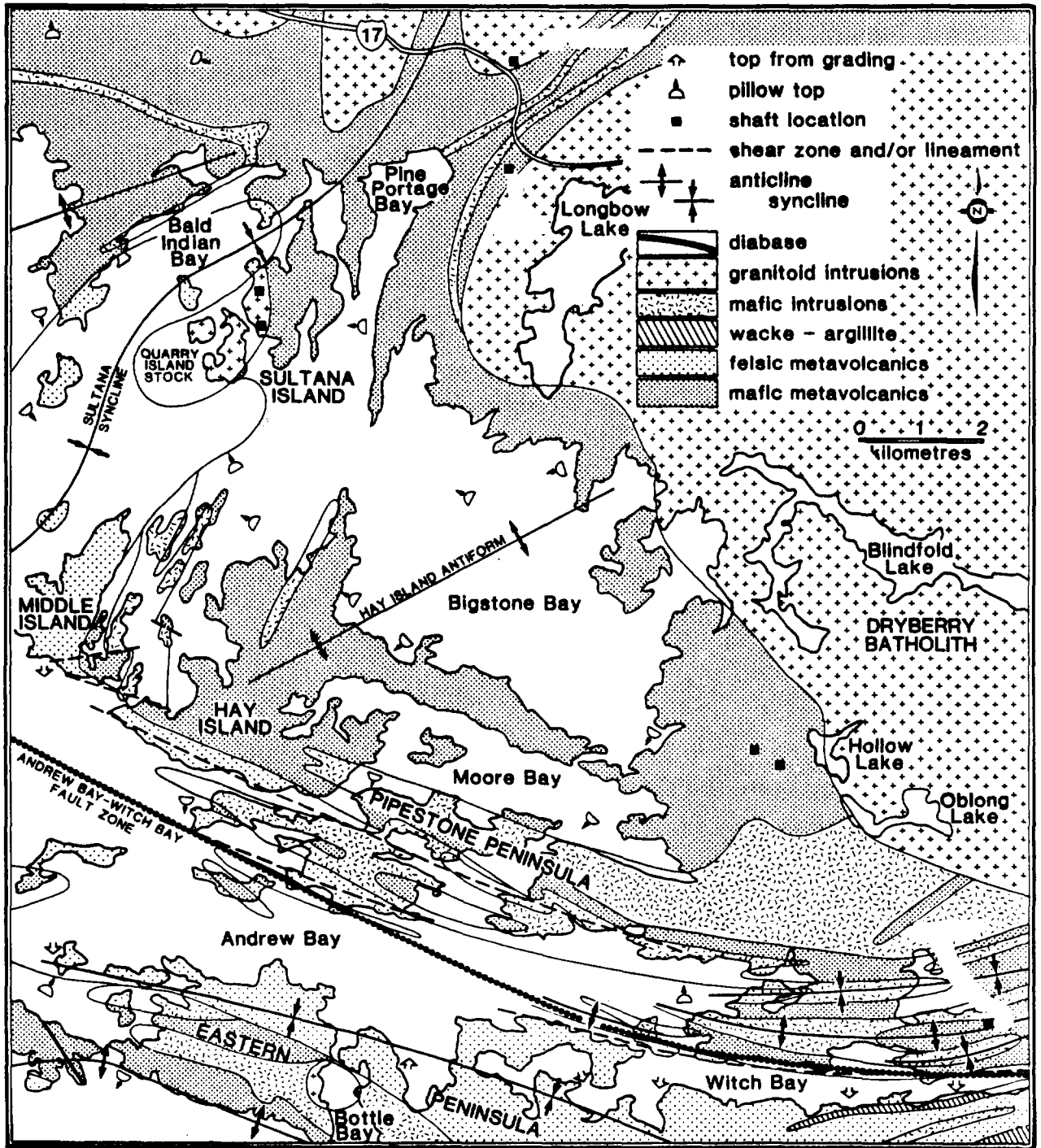
below the base of a peridotite sill. The shearing is believed to be related to the competency contrast between the basalt and the sill.

## General Geology of the Neighbouring Gold Deposits (cont.)

Felsic pyroclastic rocks are exposed south of the mine along the north shore of Witch Bay. The felsic rocks are intensely deformed, commonly to sericite schist. Only rarely are good relic primary textures preserved. The felsic sequence is the locus of an extensive fault system, the Andrew Bay-Witch Bay fault zone (Figure 5), which Ayer (1984) suggests is the extension of the Crowduck Lake-Rush Bay dextral fault zone (Davis and Smith, 1984). The fault, therefore, may extend from Indian Bay of Shoal Lake to Witch Bay of Lake of the Woods, a distance of over 70 km.

The mine site is primarily underlain by prophyritic and equigranular basalt, which has been intruded by gabbro and peridotite sills. Pillows are observed locally in the basalts, but top determinations are often questionable. Composition varies from tholeiite to high-iron tholeiite. The prophyritic basalt is an excellent marker horizon, and overlies the massive basalt. Pillows observed near the shaft area indicate tops to the north. This basalt is a Mg-tholeiite and characterized by up to 20% white feldspar phenocrysts less than 2.5 cm in diameter.

Much of the property is underlain by gabbro and peridotite comprising thick, differentiated sills.



Geology of the Bigstone Bay area (modified from Ayer, 1984).



## General Geology of the Neighbouring Gold Deposits (cont.)

Fine-grained peridotite lies at the base of some sills directly overlying the porphyritic basalt. The peridotite, where less altered, is composed principally of serpentine, talc and magnetite. Peridotite is commonly overlain by melagabbro transitional to leucogabbro. The melagabbro is locally magnetic and displays rhythmic layering, but more commonly is nonmagnetic and massive. Amphibole has replaced original pyroxene. The original feldspar: pyroxene ratio was close to 50:50. In places the leucogabbro is porphyritic, containing feldspar phenocrysts up to 3 cm in diameter, similar to those observed within the porphyritic basalt; coarser peridotite occurs as dikes and as narrow layers in the core of the sills, suggesting that the sills may consist of more than one cycle. This peridotite locally displays excellent rhythmic layering. Coarse peridotite dikes and/or sills intrude the host volcanics in a few places.

Several tight, east trending, west plunging folds have been identified by means of the reversal of differentiation trends in the sills, and by limited top determinations in the basalts. Basalt located within the aniclinal cores of these folds is strongly foliated to sheared. This is most noticeable in the vicinity of the main shaft and close to Gagne Lake where wide

## General Geology of the Neighbouring Gold Deposits (cont.)

sections of basalt are strongly sheared. Notably, strong deformation is apparently absent from the gabbro bodies. The texture of the leucocratic gabbro shows virtually no strain, and while some strain is evident within both the peridotite and the melagabbro, it does not appear sufficient to be consistent with the tight folding.

Gold mineralization is restricted to zones of silicification, notably to four east-trending steeply north-dipping veins. All the veins were examined while the mine was in operation, but production was restricted to the No. 1 vein. Veins 2, 3 and 4 are located about 460 m east of the main shaft. The attitudes of the veins are slightly discordant to the enclosing lava flows (Figure 16). The veins occupy a zone about 50 m wide which extends to the peridotite contact to the north. They are found within both porphyritic and massive basalt, much of which is largely altered to chlorite schist. The south (ore proximal) side of the peridotite sill has been intensely altered to a soft "talcy" rock. Chlorite schist proximal to the main ore zone is enriched in carbonate and quartz, and contains abundant epidote and zoisite, minor sphene, and lesser amounts of clinozoisite, opaques and sericite.

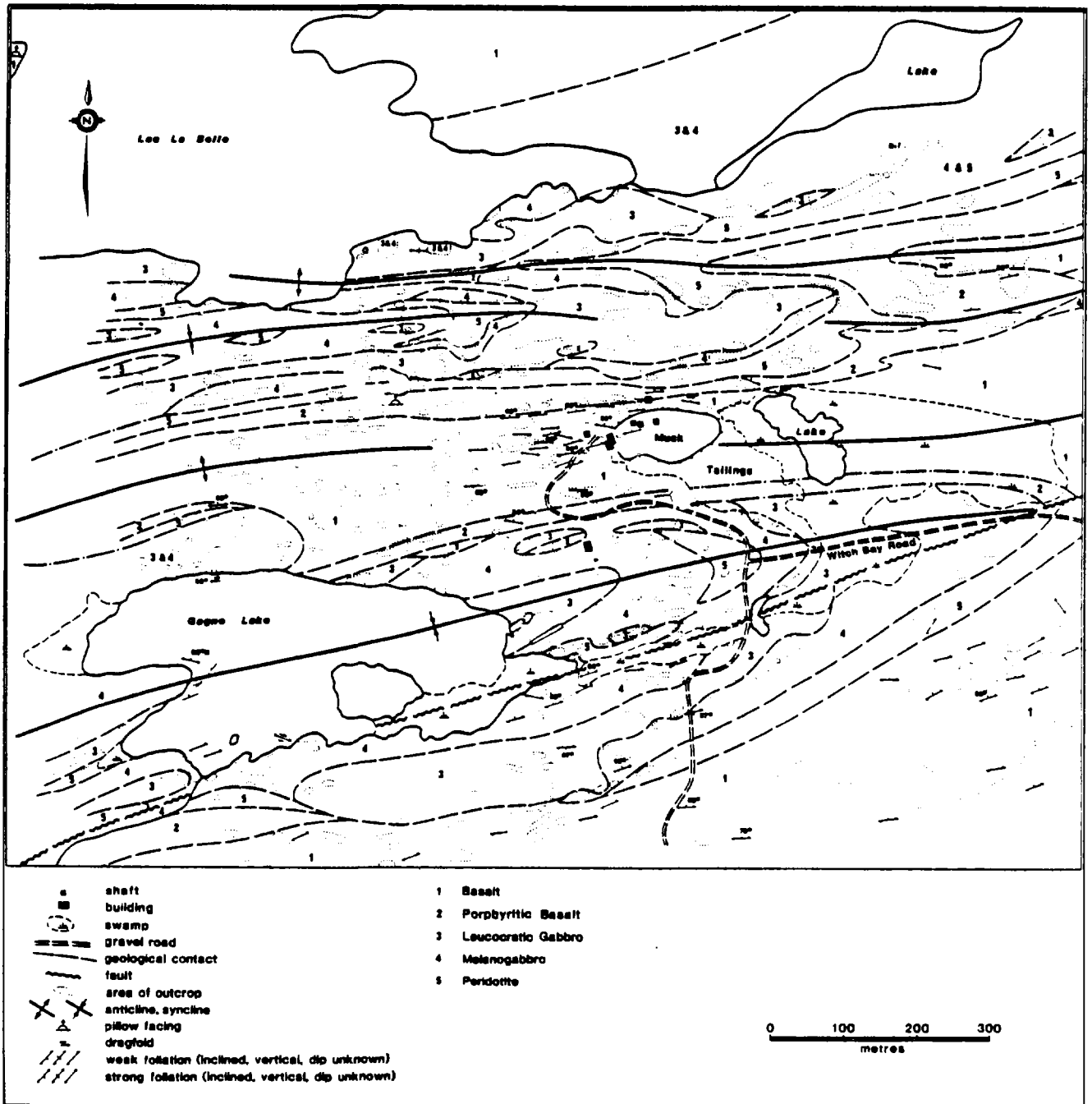
## General Geology of the Neighbouring Gold Deposits

(Modified from 1985 publication of Institute of Lake Superior Geology.) Kenora - Ontario Geological Survey.

### The Wendigo Gold-Copper Mine

Gold was first discovered on the property in 1899, when an 18m shaft was sunk on the main vein. Work continued during the next year and about 1000 tons of gold-copper ore were milled. The mine lay idle until 1933 when it was re-examined by Wendigo Gold mines Ltd. Over the next ten years considerable underground and surface work was done before the mine closed in early 1943. Total production from the property was 67,000 oz of gold, 14,762 oz of silver and 1,866,246 pounds of copper from 206,054 tons milled, establishing the Wendigo as the largest past producer in the western Wabigoon Subprovince. Average grade of ore milled was 0.33 oz of Au/ton.

Wendigo Mine lies on the south limb of the Hay Island antiform (Figures 5 and 6) within mafic volcanics and mafic to ultramafic sills. Metamorphic grade is lower greenschist facies. Analogies between the stratigraphy here and at the Duport Mine on Shoal Lake can be drawn; the two occur close to the top of a lower mafic volcanic cycle.

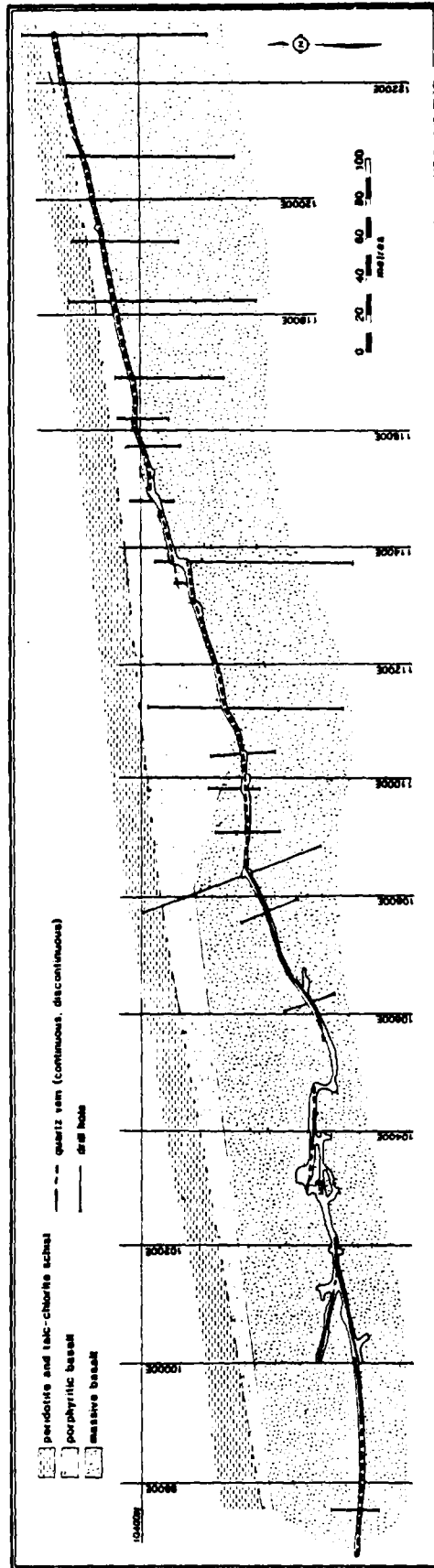


Surface geology of the Wendigo Gold Mine.

General Geology of the Neighbouring Gold Deposits (cont.)

The No. 1 vein, which strikes N80°E and dips about 79° to the north, maintains an average width of 30 cm, pinching and swelling to a maximum width of 76 cm. Quartz contains pyrite, pyrrhotite and chalcopyrite. Locally, sulphide exceeds quartz. Little of the vein material is presently exposed. Thomson (1936) estimated that, throughout the mine, half the vein material is sulphide, and that the schist immediately adjoining the quartz is commonly well mineralized with sulphides. In general, sulphides are in streaks and lenses which parallel the shearing. Milky-white, unmineralized quartz veins, containing traces of ankerite, may be seen on the surface and underground, locally crosscutting the mineralized quartz, indicating two generations of silicification. Faulting has been observed in places, but offsets are restricted to a few metres.

Petrographic work carried out in 1934 and 1935 (Canada Department of Mines and Resources, 1936) showed native gold to be present as relatively coarse grains within grey translucent quartz; pyrite and chalcopyrite are the dominant sulphides, with minor amounts of pyrrhotite, sphalerite, and arsenopyrite. Brownell (1943) noted distinct mineralogical changes in the vein which were directly related to a sudden decrease in gold content; in the upper levels of the mine, gold was

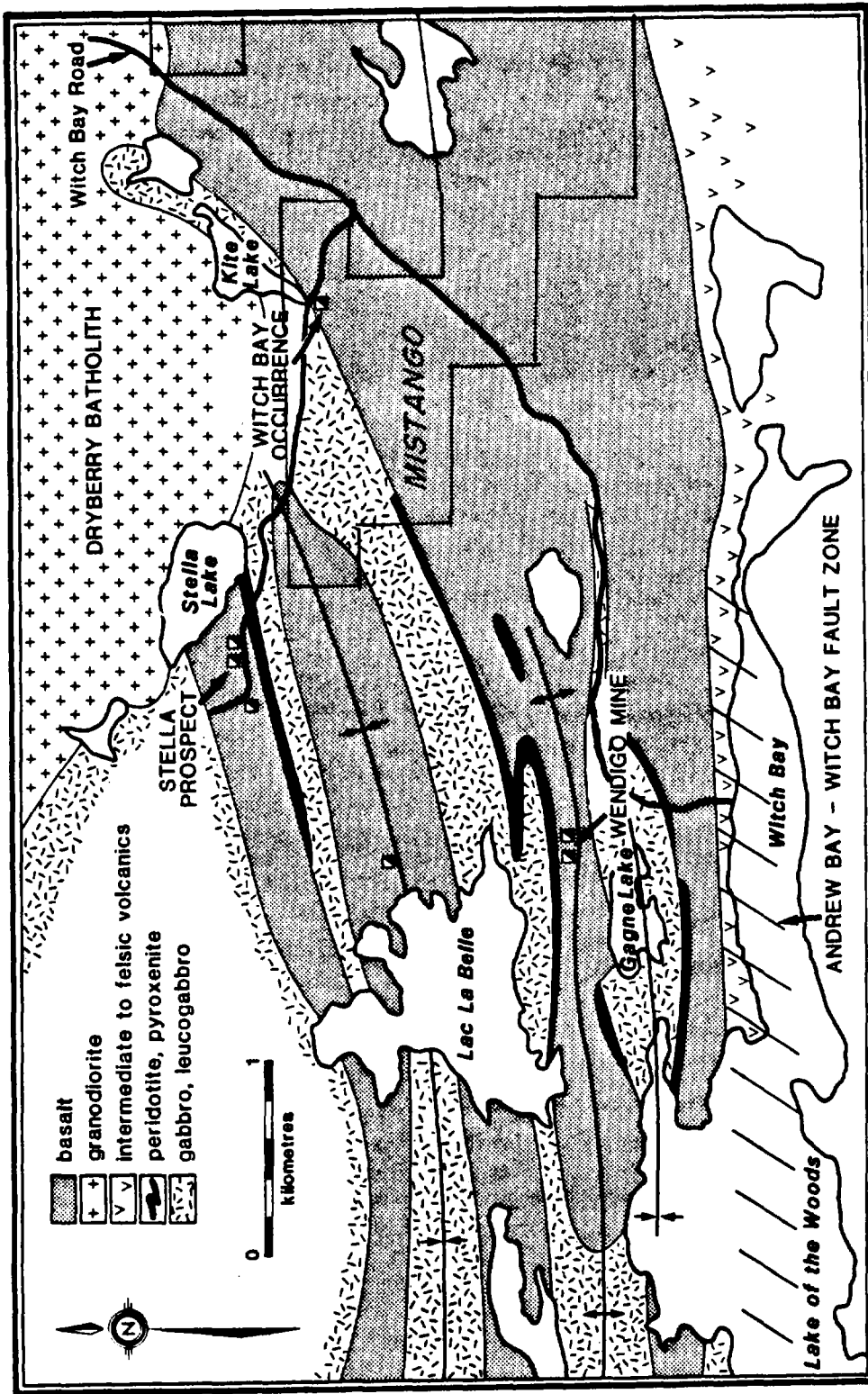


Geology of the 500 level of the Wendigo Gold Mine (after Brownell, 1943).

## General Geology of the Neighbouring Gold Deposits (cont.)

accompanied by pyrite and chalcopyrite, whereas below the 335m level pyrrhotite is the dominant sulphide and gold contents are much lower. Brownell (1943) suggested that this relationship is essentially temperature dependent, ie. pyrrhotite is normally deposited at higher temperatures than pyrite, chalcopyrite and gold. He concluded that, below the 335m level, no additional ore might be expected.

The area is characterized by intense deformation and probably lies within the influence of the Andrew Bay-Witch Bay fault zone. Since the rock assemblage is heterogeneous, most of the strain was taken up by the least competent rocks (i.e. massive and porphyritic basalt). The contrasting competencies of the two major rock types (intrusive vs extrusive) resulted in zones of dilatancy being created along the contact between the two units. These zones of dilatancy acted as permeable channelways along which hydrothermal fluids moved upwards. The vertical zonation noted by Brownell (1943) may represent two distinct stability fields with the 335 m level corresponding to the stability field boundary.



Geology of the Witch Bay area (modified from Davies and Smith, 1984).



## General Geology of the Neighbouring Gold Deposits (cont.)

### Witch Bay Gold Prospect

The geology in the vicinity of Kite Lake has not been mapped in detail. Based on aeromagnetic data it would appear that the principal lithologic units of the Wendigo mine area (ie. basalt, gabbro and peridotite), extend east-northeast as far as the central part of Kite lake, where they terminate against granodiorite of the Dryberry batholith.

Fine-grained basalt underlies an area south of Kite Lake. Near the southernmost tip of Kite Lake an east-striking zone of schist and breccia, from one to two metres wide and dipping south at from 50° to 70° contains some carbonate and one or more quartz veins and lenses with a maximum width of 45 cm. The quartz is fractured, encloses minor silicified basalt, and contains abundant chalcopyrite and pyrite in and near some of the fractures. The mineralization and its stratigraphic position is similar to that at the Wendigo.

Two shafts about 30 m apart have been sunk on the zone. A chip sample across 50 cm of the mineralized quartz vein at the east shaft assayed 1.93 ounces of gold per ton. A third shaft was put down a further 75 m to the east. A fourth shaft was sunk on a separate zone approximately 100 m to the southwest. The zone is not

General Geology of the Neighbouring Gold Deposits (cont.)

exposed, but material on the dump indicates that it is carbonatized, sheared basalt with minor quartz and with chalcopyrite, pyrite and pyrrhotite.

LOCAL GEOLOGY (N-E BLOCK, TRIGGS LOCATION)

Table of Formations

Precambrian

Acid Intrusives

Granite

Basic Intrusives

Gabbro

Volcanics

Basaltic Lavas

## Local and Structural Geology (N-E Block)

The Basalt formations trend northeasterly as indicated from the mapping of pillows. The mapping also indicates that the Basalt formation is crenulated into a series of anticlines and synclines along northeasterly trending axes. At the north east portion of the block some intrusions of gabbro and granitic dykes also trends northeasterly.

At the old Triggs Mine shaft it was noted that the northeasterly trending rocks dip  $55^{\circ}$  to the north-west. The rocks are cut by a vertical northeasterly trending fault in the shaft. A quartz vein with some periferal pyritic mineralization follows the fault. The vein pinches at the top of the shaft and the pinch plunges at about  $45^{\circ}$  southwestwards. It is interpreted that the mining of the Triggs vein ocured below this pinch in the vein and along the fault and along the southwesterly plunge. Diamond drilling to extend the Triggs vein should utilize the interpreted southwesterly plunge.

The fault mapped at the Triggs shaft was traced as a fairly continuous magnetic low. It may be significant that conductor "C" appears to terminate against this fault near the Triggs ventilation raise. Conductor "C'", which maybe an extension to the south west of Conductor "C" again is intersected by the fault near line 8-E.

Local and Structural Geology (N-E Block) cont.

This same curved conductor that terminates against the same fault provides a similar structural corollary that should also be tested by diamond drilling.

### Results of the Magnetic Survey (N-E Block)

Please refer to the contoured plan of the magnetic survey, scale 1" = 200'.

The magnetic relief over the basaltic volcanics is relatively subdued, no strong anomolous pattern is evident, except that the magnetic trends indicate the northeasterly trend of the volcanics.

The north-east trending fault that passes through the Triggs shaft is well marked by a series of magnetic lows that are flanked by several small magnetic couples.

## Conclusions

Diamond drilling is warranted to test for the extension to depth of the rich Triggs vein that was mined at the turn of the century. If these drill holes are successful in returning significant gold values further drilling on the merits of the values would be undertaken to expand the gold deposit.



August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.

Recommendations

Three drill holes totalling 1,200 ft. of B - Q core size are recommended at the following coordinates.

D.D.H. #1 @ 23 + 75-E, 8 + 00-N, @-50° to S-45°-E  
to a depth of 450'

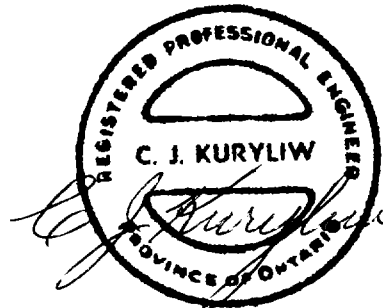
D.D.H. #2 @ 25 + 10-E, 8 + 75-N, @-50° to S-45°-E  
to a depth of 450'

D.D.H. #3 @ 7 + 40-E, 2 + 30-S, @-45° to S-45°-E  
to a depth of 300'

Estimated cost of diamond drilling contract,  
engineering, assaying, transportation, drafting  
plans and final report @ \$25. per foot

Total 1,200' @ \$25. per foot

\_\_\_\_\_  
\$30,000.  
\_\_\_\_\_



August 15, 1985

Chester J. Kuryliw, M.Sc., P.Eng.



LOCAL GEOLOGY (N-W BLOCK, WITCH BAY EXTENSION)

Table of Formations

Precambrian

Acid Intrusives

Granite (Dryberry Batholith)

Quartz - Feldspar Porphyry

Basic and Ultrabasic Intrusives

Gabbro

Peridotite, Gabbro - Amphibolite

Volcanics

Porphyritic Basalt Lava

Basalt : Pillowed, Massive, Amphibolized

### Local Geology (N-W Block)

The Basalt pillowed lava formations trend north-70° to north-80°-east. The majority of the dips are 60°-north with a few dips near vertical. The peridotite "sill" intrusion is actually discordant with the general trend of the volcanics since it trends north-50°-east and dips 60°-north. This same peridotite "sill" is traced from the Wendigo Mine where it occurs as a hanging wall formation to the Wendigo gold-copper oreveins. It appears that the curved trend of the peridotite intersects the same stratigraphic horizon at Kite Lake that occurs as the host rock volcanic formations at the Wendigo. It is significant that previously discovered gold mineralization occurs near Kite Lake in the general area where the peridotite "sill" intersects the prophyritic basalt formation. This is an analogous structural situation to the gold-copper ore occurrence at the Wendigo Mine.

The peridotite "sill" occurs near the base of the larger gabbroic intrusion that is up to ¼ mile thick. In general the gabbro does not exhibit any significant magnetic relief and is indistinguishable from areas of Basalt. The peridotite however is easily traced by its high magnetic relief.

Local Geology (N-W Block) cont.

The V.L.F. conductors are generally quite weak and most follow topographic valleys and swamps, one conductor follows the base of the peridotite "sill", two other weak conductors follow the projected trend of minor mineralization located in previous trenching.

## Results of the Magnetic Survey (N-W Block)

Please refer to the contoured plan of the magnetic survey north-west block, scale 1" = 200'.

There is a marked magnetic high that traces the trend of the peridotite that trends north-50°-east. The peridotite has a magnetic relief 1,000 - 5,000 gammas above background. The amphibolite that intrudes the large gabbro mass about 300' north of the peridotite also exhibits a similar magnetic high trend to the peridotite. A few isolated high magnetic anomalies at the north-east portion of this block and south of the main peridotite where mapped were found to be narrow dyke-like intrusions of peridotite. The large mass of gabbro at the north-west part of this block has relatively low relief that is comparable to the basalt volcanics to the south-west

There does not seem to be any marked correlation of magnetics with the weak V.L.F. conductors in the area surveyed. One V.L.F. conductor that traces the south contact of the base of the peridotite may be the exception.

## Conclusions

A favourable geologic environment for discovering gold deposits occurs near the south side of Kite Lake. A similar structural environment and stratigraphic horizon occurs south of Kite Lake that is analagous to the Wendogo Mine or environment. The previous discovery of significant gold mineralization in previous work underlines its potential. The occurrence of several weak V.L.F. conductors that appear to be the extended trends of previous trenching should be tested by diamond drilling. The occurrence of a weak V.L.F. conductor along the base of the peridotite which is covered by swamp also presents a favourable horizon to be tested.

1,800 ft. of diamond drilling, comprised of six diamond drill holes are warranted to test the favourable possibilities.



August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.

Recommendations

Six drill holes totalling 1,800 ft. of B - Q core size are recommended at the following coordinates.

D.D.H. #4 @ 48 + 35-W, 12 + 00-N, @-45° to S-25°-E  
to a depth of 300'

D.D.H. #5 @ 55 + 50-W, 8 + 00-N, @-50° to S-45°-E  
to a depth of 300'

D.D.H. #6 @ 64 + 00-W, 10 + 75-N, @-45° to S  
to a depth of 300'

D.D.H. #7 @ 84 + 00-W, 1 + 60-N, @-45° to S-45°-E  
to a depth of 300'

D.D.H. #8 @ 67 + 00-W, 8 + 50-S, @-50° to S-45°E  
to a depth of 300'

D.D.H. #9 300' of spare footage to follow-up any significant intersection

Estimated cost of diamond drilling contract,  
engineering, assaying, transportation, drafting  
plans and final report @ \$25. per foot

Total 1,800 ft. @ \$25. per foot

\_\_\_\_\_  
\$45,000.  
\_\_\_\_\_



August 15, 1985

Chester J. Kuryliw M.Sc., P.Eng.

CHESTER J. KURYLIW, M.Sc., P.Eng.  
Consulting Geologist

C E R T I F I C A T E

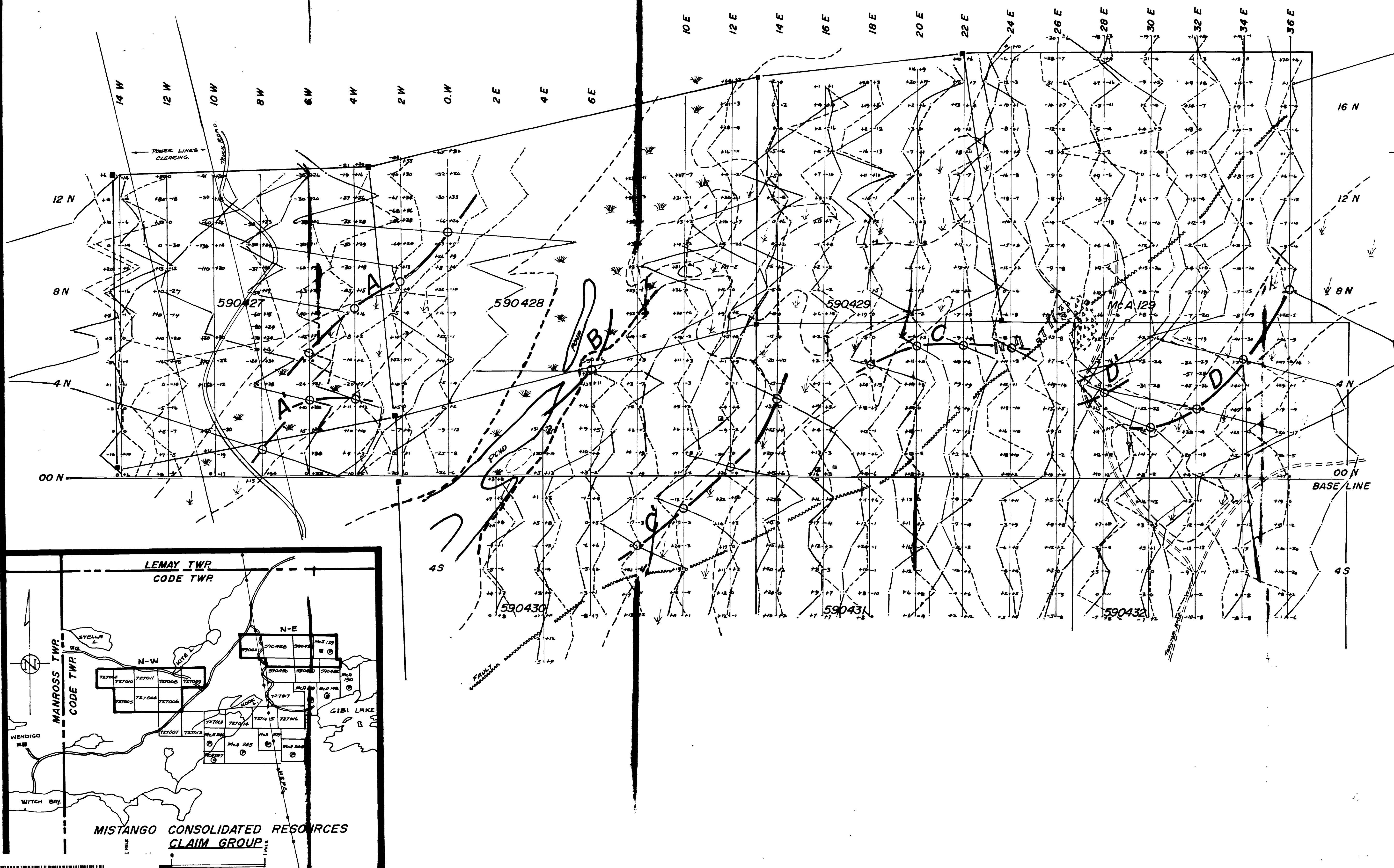
I, Chester J. Kuryliw of 46 Ingall Drive, Dryden, Ontario, do hereby certify that:

- (1) I am a Professional Engineer and I am currently employed as a Consulting Geologist for several mining companies.
- (2) I am a graduate of:  
The University of Manitoba B.Sc. Degree, 1949  
The University of Manitoba M.Sc. Degree, 1966
- (3) I am a registered Engineer of the Association of Professional Engineers of Ontario and also Manitoba. I am a fellow of the Geologic Association of Canada, also a member of the Canadian Institute of Mining and Metallurgy.
- (4) I have practiced my profession for over 35 years, most of those years at gold mines, during which time I often planned, supervised and directed underground exploration, development and production.
- (5) My report is based upon a study of the magnetic and electromagnetic survey results on the property, and my mapping of the field geology.



AUG. 15, 1985

Chester J. Kuryliw, M.Sc., P.Eng.



- SYMBOLS**
- OUTCROPS
  - OUTLINE OF SWAMP OR MUSKEG
  - OUTLINE OF BOG
  - RIDGE OUTLINE OR CLIFF
  - STREAM
  - CLAIM POST LOCATION
  - GEOLOGIC CONTACT (INTERPRETED)
  - STRIKE & DIP OF BEDDING
  - STRIKE & DIP OF SHEARING
  - FAULT (INTERPRETED)
  - VLF E-M CONDUCTOR
  - MAGNETIC CONTOUR
  - DIAMOND DRILL HOLE

**LEGEND**

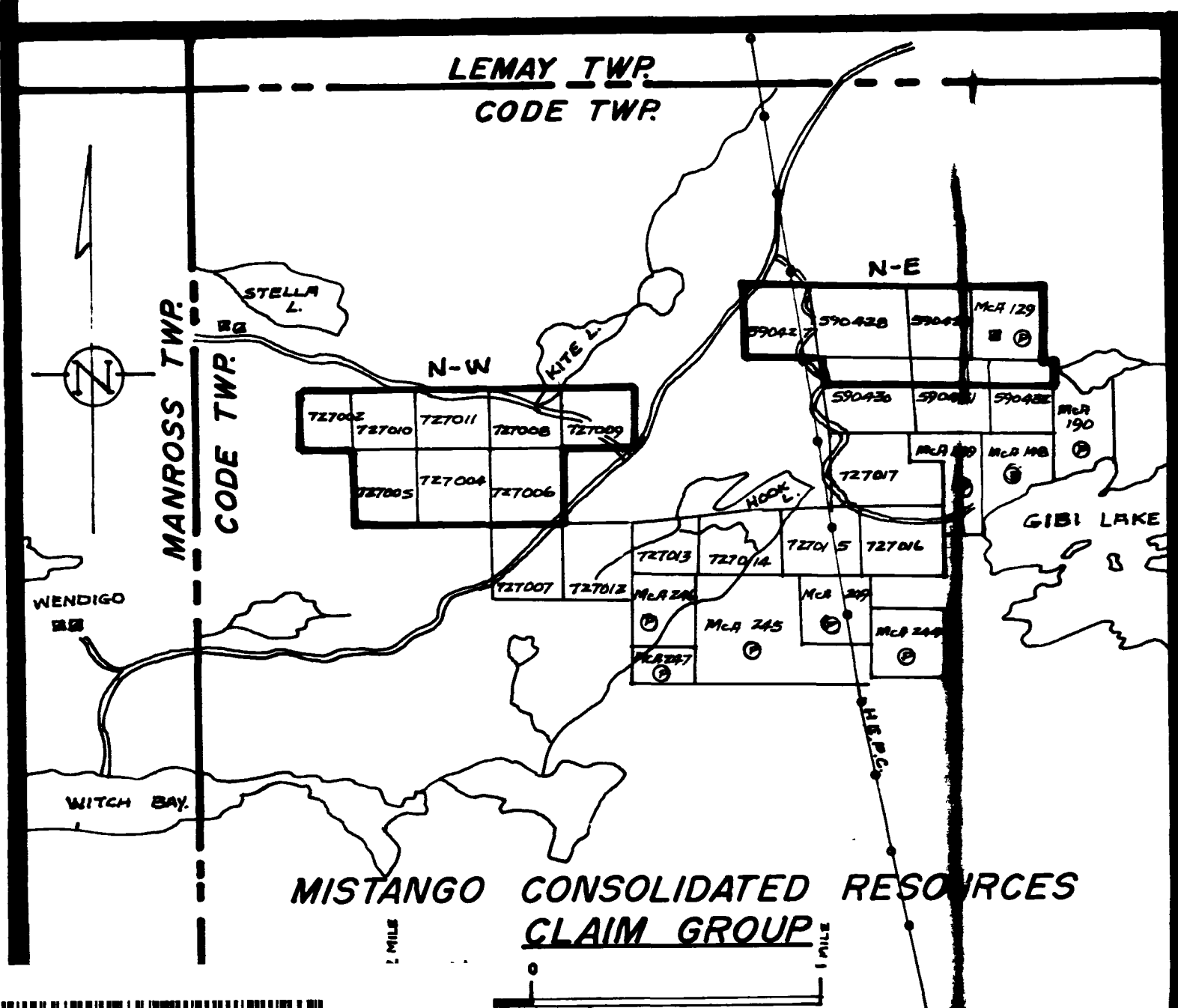
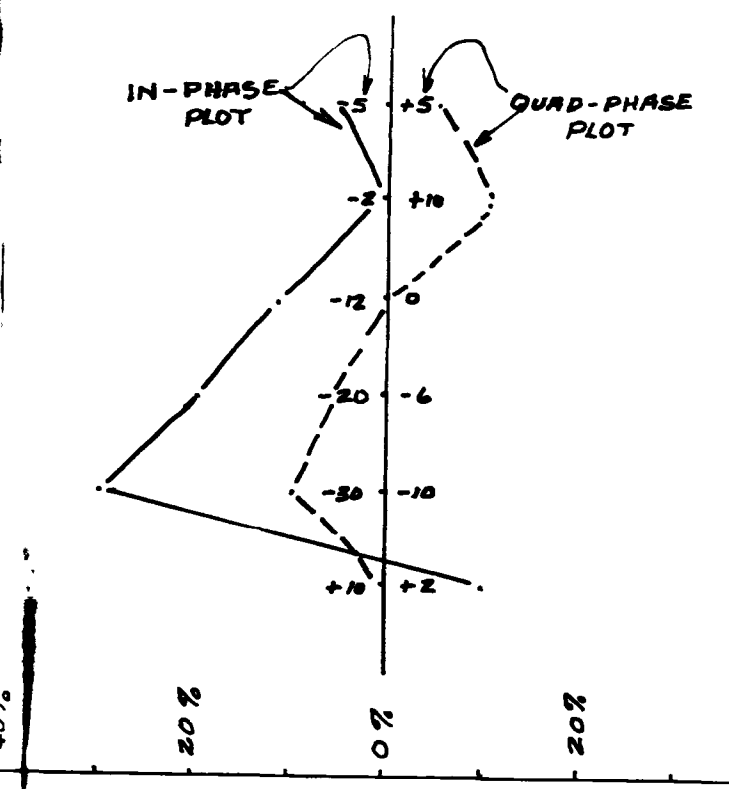
INSTRUMENT: VLF GEONICS EM-16  
 MEASUREMENT: IN-PHASE AND QUAD-PHASE COMPONENTS OF VERTICAL MAGNETIC FIELD AS A % OF HORIZONTAL PRIMARY FIELD

SENSITIVITY: IN-PHASE (±) 150 %  
 QUAD-PHASE (±) 40 %

RESOLUTION: (±) 1%

OPERATING FREQUENCY: 24.0 kHz. VLF RADIO BAND, NAA CUTLER, MAINE.

CONDUCTOR AXIS



**N-E BLOCK**  
**MISTANGO CONSOLIDATED RESOURCES**  
 CODE TWP., DIST. of KENORA, ONTARIO.

**PLAN of**  
**VLF E-M.16 SURVEY**

SCALE: 1" = 200'

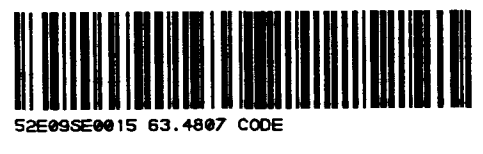


AUG. 1985.

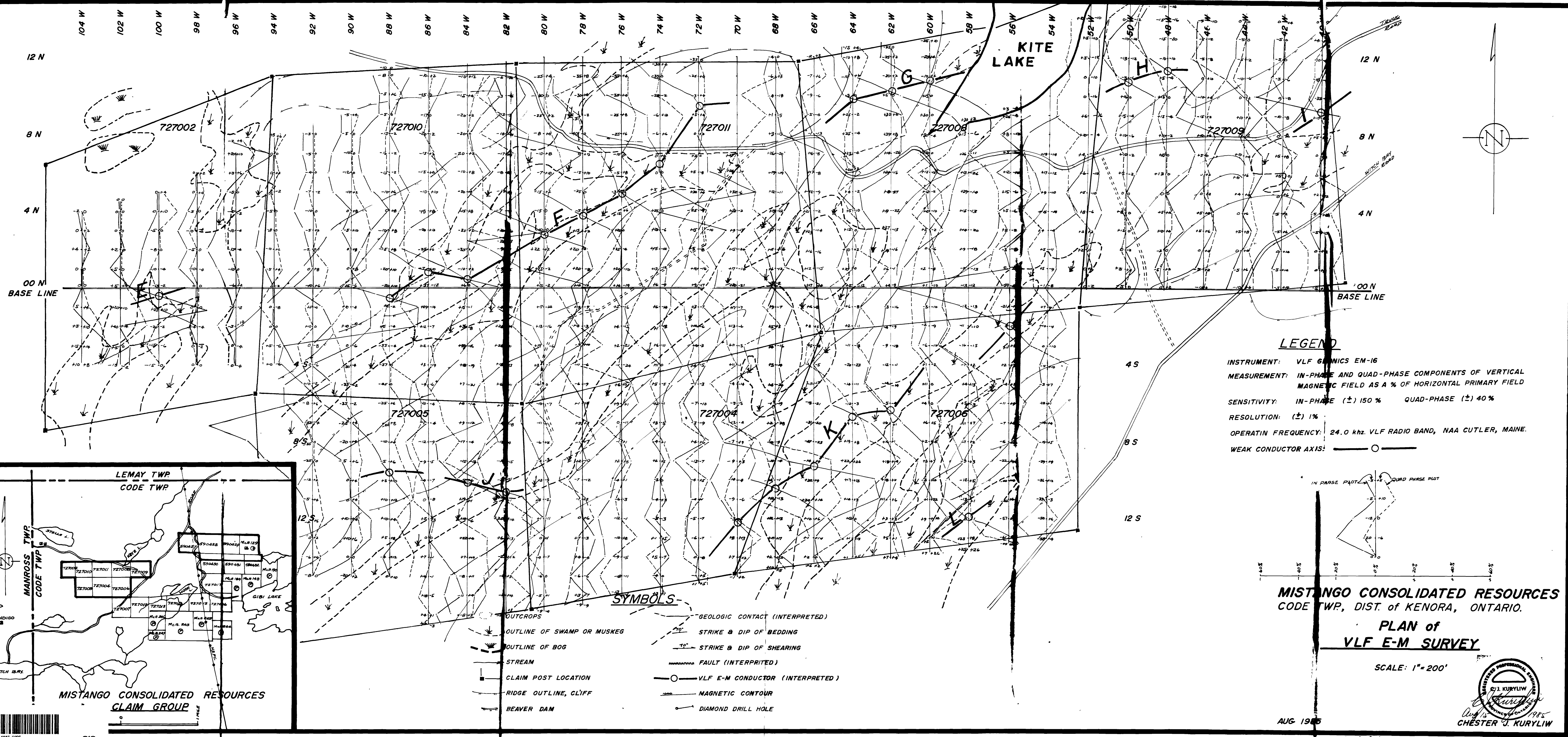
CHESTER J. KURYLIW

OM85-3-P-65

63.4807



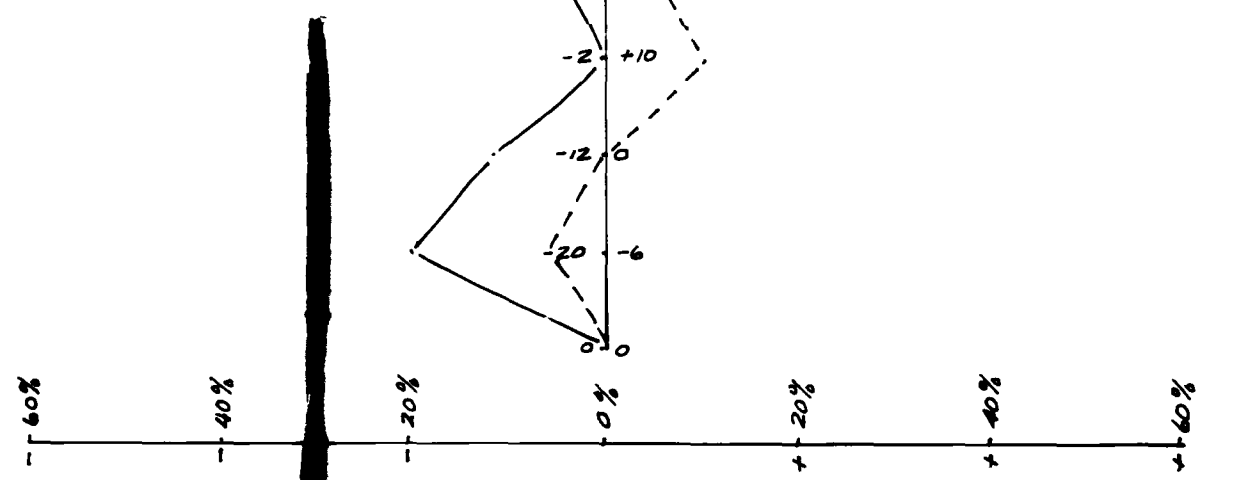




**LEGEND**

INSTRUMENT: VLF GEONICS EM-16  
 MEASUREMENT: IN-PHASE AND QUAD-PHASE COMPONENTS OF VERTICAL MAGNETIC FIELD AS A % OF HORIZONTAL PRIMARY FIELD  
 SENSITIVITY: IN-PHASE (±) 150% QUAD-PHASE (±) 40%  
 RESOLUTION: (±) 1%  
 OPERATING FREQUENCY: 24.0 khz. VLF RADIO BAND, NAA CUTLER, MAINE.  
 WEAK CONDUCTOR AXIS: — ○ —

IN PHASE PLOT      QUAD PHASE PLOT



**MISTANGO CONSOLIDATED RESOURCES**  
 CODE TWP., DIST. OF KENORA, ONTARIO.

**PLAN of  
 VLF E-M SURVEY**

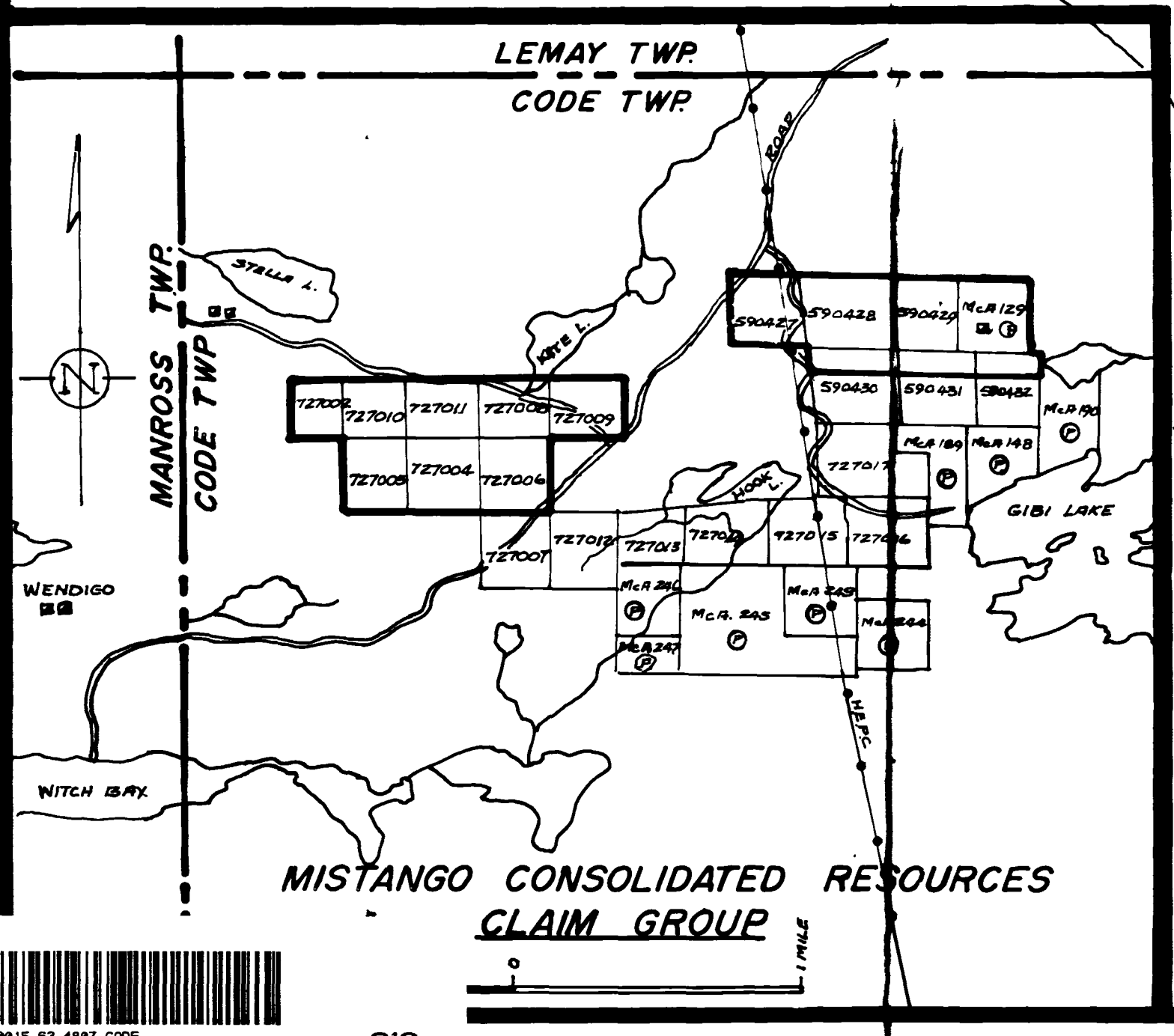
SCALE: 1" = 200'



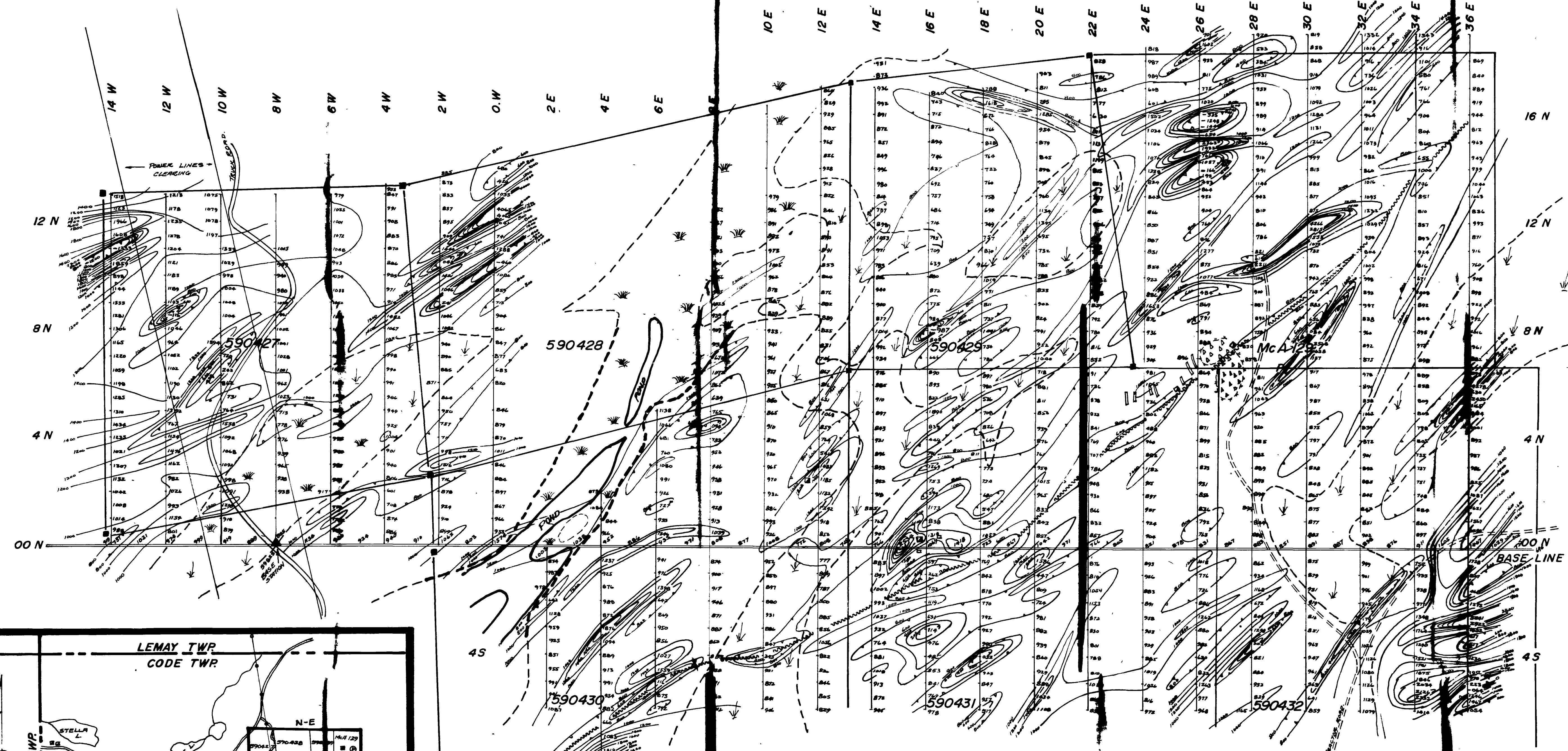
AUG 1985

**SYMBOLS**

- GEOLGIC CONTACT (INTERPRETED)
- /— STRIKE & DIP OF BEDDING
- /— STRIKE & DIP OF SHEARING
- /— FAULT (INTERPRETED)
- VLF E-M CONDUCTOR (INTERPRETED)
- MAGNETIC CONTOUR
- ◇— DIAMOND DRILL HOLE
- OUTCROPS
- OUTLINE OF SWAMP OR MUSKEG
- OUTLINE OF BOG
- STREAM
- CLAIM POST LOCATION
- RIDGE OUTLINE, CLIFF
- BEAVER DAM





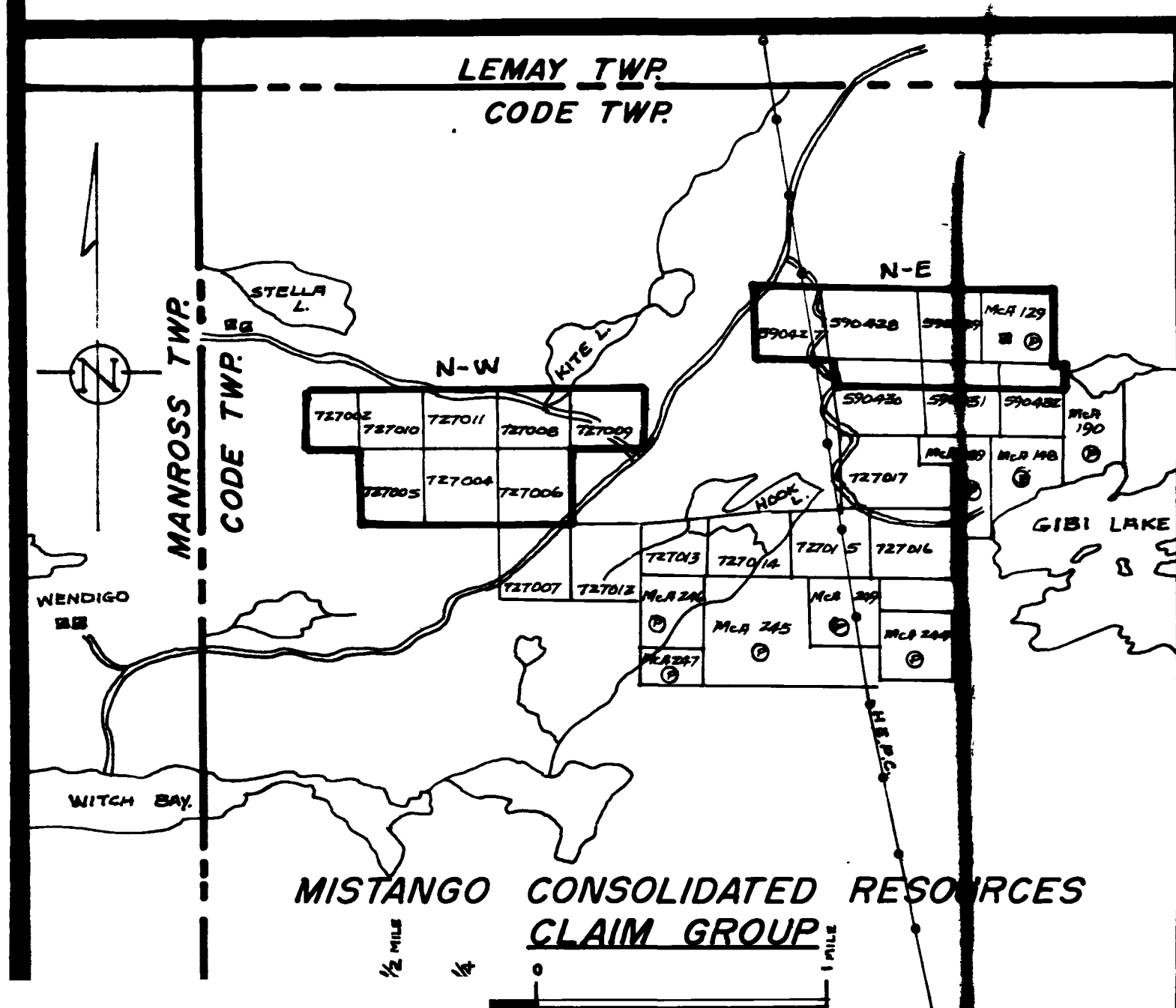


**SYMBOLS**

- OUTCROPS
- OUTLINE OF SWAMP OR MUSKEG
- OUTLINE OF BOG
- RIDGE OUTLINE OR CLIFF
- STREAM
- CLAIM POST LOCATION
- GEOLOGIC CONTACT (INTERPRETED)
- STRIKE & DIP OF BEDDING
- STRIKE & DIP OF SHEARING
- FAULT (INTERPRETED)
- VLF E-M CONDUCTOR
- MAGNETIC CONTOUR
- DIAMOND DRILL HOLE

**LEGEND**

INSTRUMENT: SCINTREX PRECESSION MAGNETOMETER MP-2  
 SENSITIVITY: (±) -1 GAMMA, GRADIENT TOLERANCE: 150 GAMMAS / FT.  
 READINGS: CORRECTED & PLOTTED WITH 59000 GAMMAS SUBTRACTED  
 BASE STATION: 00-N, 8-W = 59 825 GAMMAS  
 CONTOUR INTERVAL: 200 GAMMAS



**N-E BLOCK**  
**MISTANGO CONSOLIDATED RESOURCES**  
 CODE TWP., DIST. of KENORA, ONTARIO.  
**PLAN of**  
**MAGNETIC SURVEY**

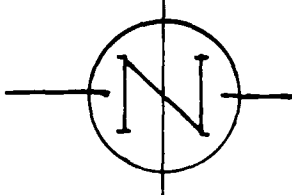
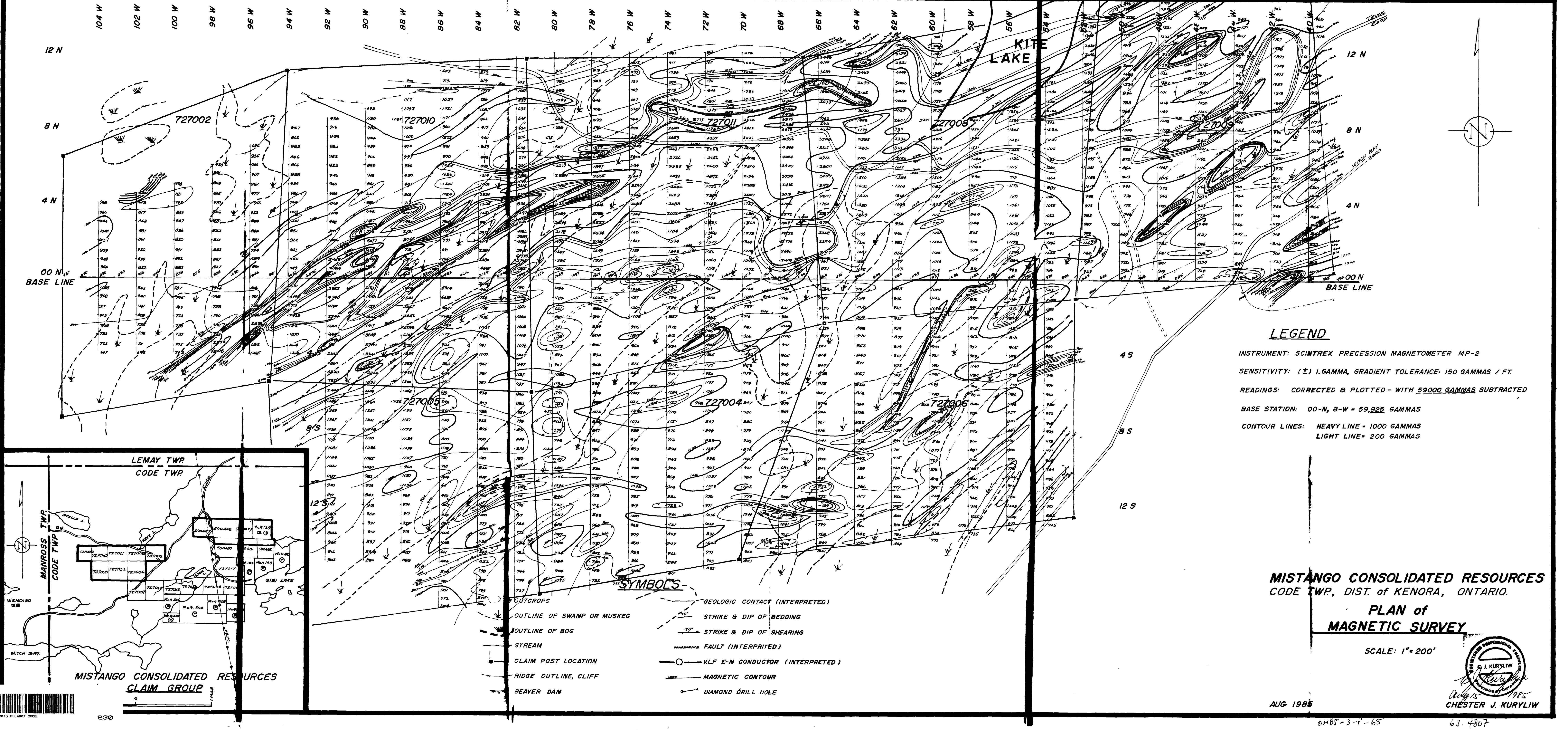
SCALE: 1"=200'

AUG. 1985.

CHESTER J. KURLIOW  
 1985





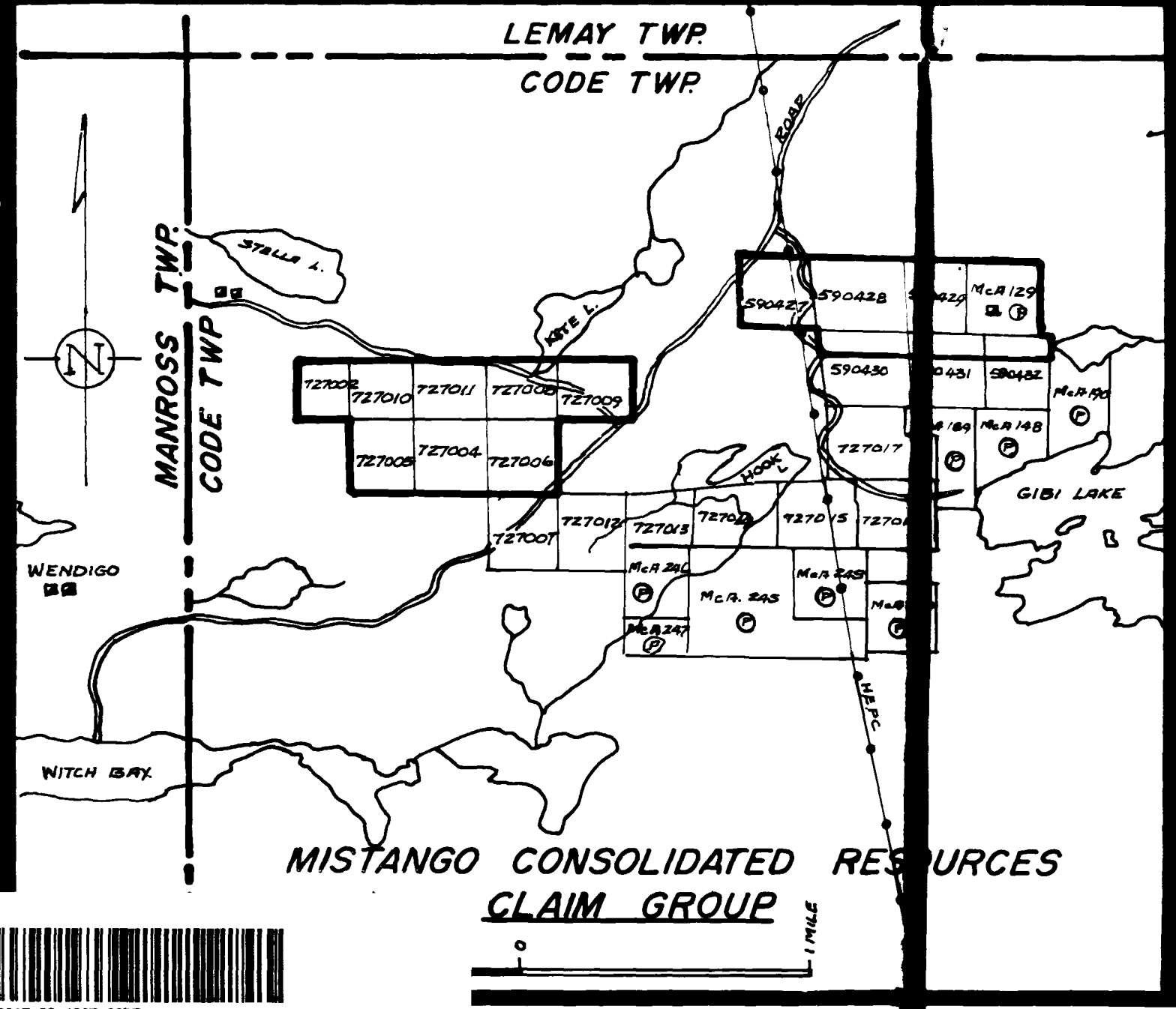


**LEGEND**

INSTRUMENT: SCINTREX PRECESSION MAGNETOMETER MP-2  
 SENSITIVITY: (±) 1 GAMMA, GRADIENT TOLERANCE: 150 GAMMAS / FT.  
 READINGS: CORRECTED & PLOTTED - WITH 59000 GAMMAS SUBTRACTED  
 BASE STATION: 00-N, 8-W = 59,825 GAMMAS  
 CONTOUR LINES: HEAVY LINE = 1000 GAMMAS  
 LIGHT LINE = 200 GAMMAS

**SYMBOLS**

- OUTCROPS
- GEOLIC CONTACT (INTERPRETED)
- OUTLINE OF SWAMP OR MUSKEG
- STRIKE & DIP OF BEDDING
- OUTLINE OF BOG
- STRIKE & DIP OF SHEARING
- STREAM
- FAULT (INTERPRETED)
- CLAIM POST LOCATION
- VLF E-M CONDUCTOR (INTERPRETED)
- RIDGE OUTLINE, CLIFF
- MAGNETIC CONTOUR
- BEAVER DAM
- DIAMOND DRILL HOLE



**MISTANGO CONSOLIDATED RESOURCES**  
 CODE TWP, DIST. OF KENORA, ONTARIO.

**PLAN of  
 MAGNETIC SURVEY**

SCALE: 1" = 200'



AUG 1985

CHESTER J. KURLIOW

0185-3-4-65

63.4807

