



52F08SW8149 2.8712 WAPAGEISE LAKE

010

RECONNAISSANCE GEOLOGY REPORT, FOX LAKE PROJECT  
WAPAGEISI LAKE AREA, G.2598  
Voyager Explorations Limited  
Submitted by: W.Wirowatz

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**MINING LANDS SECTION**



52F08SW8149 2.8712 WAPAGEISE LAKE

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## INTRODUCTION

The reconnaissance geology survey of the Fox Lake property began Saturday June 1, 1985 and ended Sunday July 11, 1985. The predominant lithology on the property is mafic metavolcanics. The mafic metavolcanics comprise a pile of intercalated pillowed flows, brecciated pillowed flows, pillowed porphyritic flows and porphyritic flows associated with or without interflow breccia and medium to fine grained mafic flows.

Trenching was proposed and completed at three sites in the northwest quadrant of claim K794517.

Two more claims were added to the group September 8, 1985. These claims lie immediately to the south of the following pre-existing claims K794523 and K794522. The additional claims are identified by the following tag numbers: K842058 and K842057.

**DESCRIPTION OF CLAIMS, LOCATION, ACCESS, VEGETATION, PHYSIOGRAPHY**

Interest in the Kozowy property was generated when the assay results of grab samples collected by A. Kozowy and F. Gittings were anomalous in Au and Zn.

In October 1984, Voyager Explorations Limited acquired a block of 14 unpatented mining claims by an option agreement with A. Kozowy. The claims covered approximately 526 acres and are numbered as follows: k794514 to k794527 inclusive.

The claim block is located in the northwest portion of the Wapageisi Lake Area (see claim map sheet G2598), in the Dryden district of the Kenora Mining Division, in northwestern Ontario. The block of claims is bracketed by these coordinates:-

latitude	49 21' 50" N	49 22' 20" W
longitude	92 26' 00" W	92 28' 30" W

Access to the Fox Lake claim group is achieved via the Snake Bay Road, which turns south from Highway 17. The Snake Bay Road is an all weather road maintained by Great Lakes Forest Products of Dryden, Ontario. The Snake Bay road traverses the western portion of the claim block 21 miles south of Highway 17. The junction made by the intersection of the Snake Bay Road with Highway 17 is about 24 miles east of the town of Dryden and 7 miles west of the hamlet of Borup's Corners.

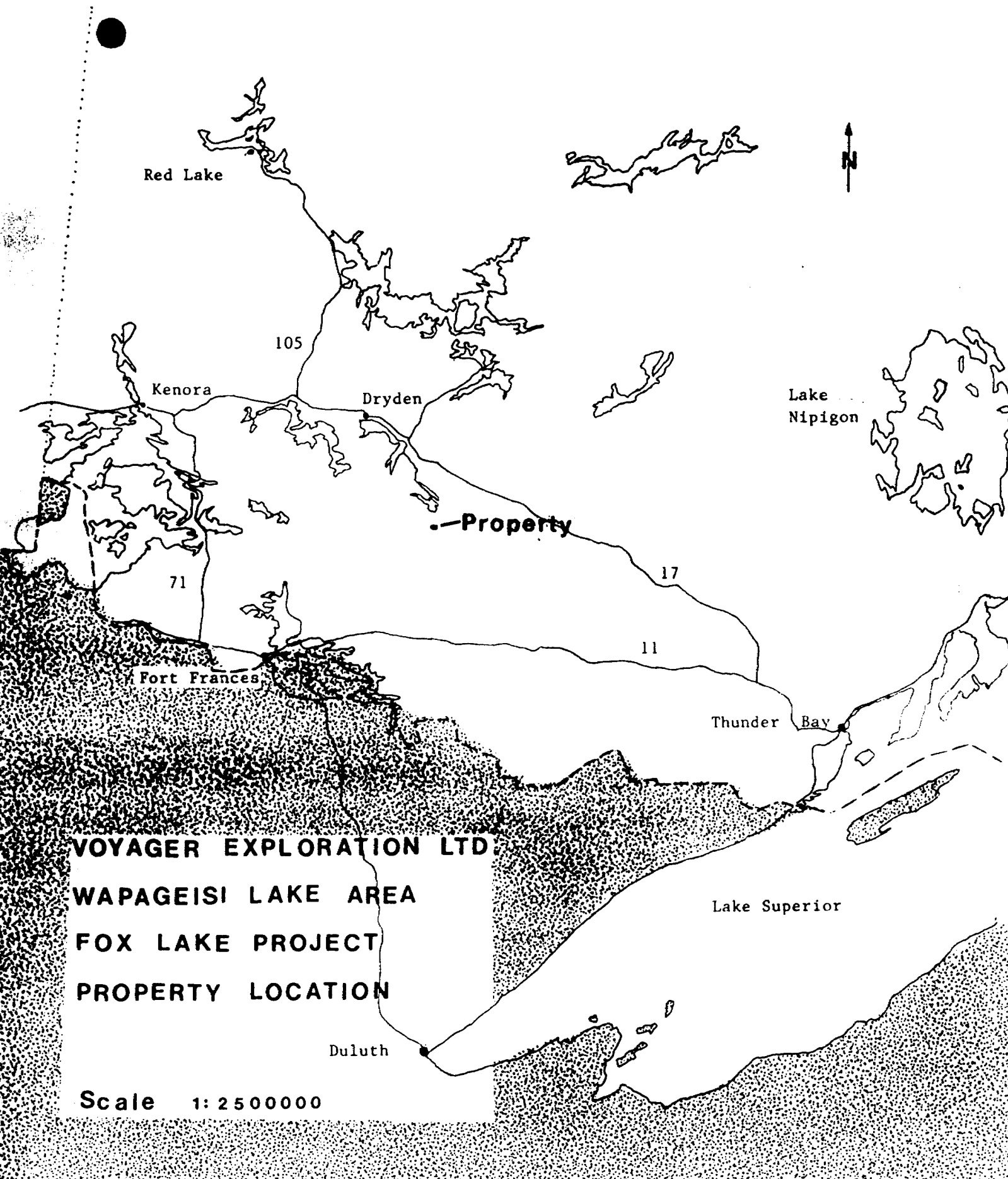
Access to the region is gained by way of Highway 17 or by two daily jet airline flights from Winnipeg or Toronto (via Thunder Bay).

The CPR main trunk line passes through Dryden and the town is served by Greyhound Bus Lines Limited and by numerous freight line companies.

Two thirds of the prime mature forest on the Fox Lake claim group were harvested in the late nineteen sixties and early nineteen seventies. Mature stands of pine and spruce were harvested on the following claims:- K794518 to K794514 inclusive and K794522 to K794527 inclusive, the middle to western sectors of the claim group. Today, a thick tangled growth of regeneration - pine, spruce, poplar and hazel beech thickets cover these claims. The remaining ground, the eastern sector of the claim group is predominantly marsh or wetland and lake; and offers a poor mixed stand of mature trees.

The highest point of land on the property is found in the southwest sector of the property, rising to approximately 485 + meters (1591 feet), above mean sea level. The slope of the land decreases perceptibly from this point to the north and to the east. This change in elevation is emphasized by the drainage pattern of the lakes and of the creeks on the property. The lakes drain northwards and the creeks drain to the north and to the east.

The lowest point of elevation on the property is approximately 439 + 5 meters (1440 feet) above mean sea level. The change in elevation, on the property is about 46 meters (151 feet).



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**PROPERTY LOCATION**

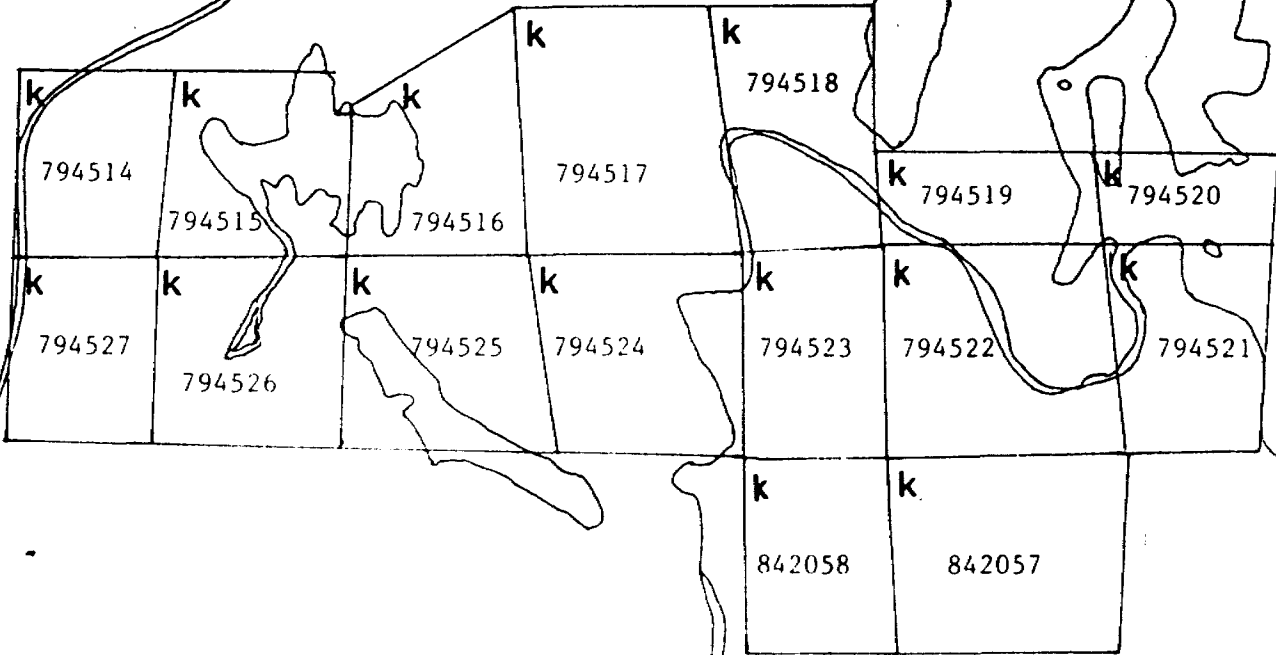
**Scale 1:250000**

Snake Bay Road

Camp



Wolf Lake Road



VOYAGER EXPLORATION LTD.

FOX LAKE PROJECT

WAPAGEISI LAKE G. 2598



## PREVIOUS WORK

Selco Mining Corporation<sup>1</sup> began an aggressive search for base metal sulphides in the Wabagoon Volcanic-Plutonic Belt southeast of Dryden in 1978. A winter grid was cut in February 1978 to provide access and control for ground geophysics survey crews. The baseline was oriented at Az 090 and stretched across the entire property, a distance of about 8,000 feet (2,438 m). The distance between the winglines was about 400 feet (122 m). The winglines north of the baseline were oriented due north and the lines were < 2000 feet (609 m) in length. The winglines, south of the baseline were oriented due south and were < 1000 feet (305 m) in length. The distance between stations (pickets) on the lines was 100 feet (30 m).

A horizontal loop electromagnetic survey was conducted over the grid using an Apex Max-Min II electromagnetic instrument. The coil separation was 400 feet (122 m) and the frequency used was 1777 Hz. Inphase and quadrature components of the secondary field were read to an accuracy of  $\pm 1\%$  of the primary field.

A magnetic survey was completed using a McPhar M-700 fluxgate magnetometer ( a vertical component magnetometer). The accuracy of the magnetometer is  $\pm 10$  gammas. Readings were recorded at intervals of < 100 feet (30 m).

<sup>1</sup> Selco Mining Corporation was bought by British Petroleum Company in the spring of 1984. The new acquisition is referred to as the BP Selco Mining and Minerals Division.

The horizontal loop electromagnetic survey detected three conductors- a moderately strong conductor and two weak conductors. The moderately strong conductor response was found along the baseline from L 60 E to L 68 E over the lake at the eastern boundary of the property. The moderately strong HEM<sup>2</sup> conductor was delineated as a shallow source conductor, in bedrock. The moderately strong HEM conductor was recommended as a possible diamond drill target.

The weak HEM responses, from L 16 E to L 24 E north of the baseline and from L 32 E to L 40 E south of the baseline were diagnosed to be either conductive shear zones or weakly conductive surficial material. No further work was recommended to determine the origin of the weak HEM responses.

Several moderately strong magnetic highs were detected. However, no defined pattern was observed. The magnetic anomalies were considered to be very local events caused by isolated concentrations of magnetite.

The moderately strong HEM conductor was drilled in March and April of 1979.

The following is a brief description of the diamond drill hole completed by Selco Mining Corporation.

- collar site L64E sta 0 + 64 N
- orientation of diamond drill hole: azimuth 180 ;plunge -50 S

2 HEM - horizontal loop electromagnetic

- core size: AQ
- end of hole 288 feet (87.7 m).
- depth of overburden 19 feet (5.79 m).
- rock type description
  - lc mafic to intermediate metavolcanics.
  - andesite - green, fine to medium grained.
    - varying from massive and pillowed flows to intraflow tuffs.

HEM conductor - at 255 feet to 255.5 feet is found in andesitic tuff.

Andesitic tuff - very finely bedded, chloritic with minor biotite and minor beds of pyrrhotite.

- 10% pyrrhotite in beds up to 1/4" thick.

An airborne geophysics survey was flown over the Fox Lake property. The airborne geophysics survey was a combined survey of VLF electromagnetics and total field magnetics flown privately in May 1985 for the firm of Terraquest Limited, consultants, acting on behalf of Voyager Explorations Limited. Three geophysics maps were produced at a scale 1:10,000.

- an airborne magnetic survey map with a plot of vertical magnetic gradient calculated from total field magnetics.
- an airborne magnetic survey map with a plot of total magnetic field.
- an airborne VLF-EM survey map with a plot of contours of total field strength and profiles of quadrature.

### Interpretation Synopsis

The total field magnetic data has a relief of about 75 gammas, over the claim block. There are several west to northwest trending magnetic units across the property. These magnetic units are mafic metavolcanics enriched with magnetite. They are offset by two northeast trending faults in the western sector of the property.

A strong continuous northwest trending VLF-EM conductor axis passes through two lakes in the western sector of the property. The conductor is interpreted to be either a conductive fault zone or as a graphitic recessive strata. An arcuate conductor axis in the centre of the property is not influenced by topography and may be caused by lithological or structural features. The broad conductive axis located in the northeastern corner of the property has been drilled by Selco in April 1979. The HEM conductor was intersected at a depth of 255 feet down the hole. The conductive zone is very finely bedded chlorite with minor biotite and minor beds of pyrrhotite. The pyrrhotite is about 10% in beds up to 1/4" thick.

### Work Undertaken

A claim inspection was conducted. The perimeter of the claim group was recut, claim posts were counted and claim tags recorded. The distance between claim posts were chained. The distances between claim posts on the east-west claim lines were chained, flagged and used as tie lines for control. As a consequence of this work, a drafting error was detected on the original staking plan submitted by A. Kozowy in 1984. The drafting error was corrected.

A temporary survey grid of flagged lines oriented north-south was utilized to provide control across the entire property for the reconnaissance geology survey. The flagged lines were approximately 800 m in length and spaced at 100 m intervals. The north-south and east-west claim lines were incorporated into the survey grid.

The objective of the reconnaissance geology survey was to search for prospective traps and horizons for economic mineralization...such as:

- carbonate altered shear zones
- carbonate altered shear zones overprinted by silicification associated with pyrite and arsenopyrite
- mineralized quartz veins
- mineralized felsic intrusives
- mineralized gossan zones
- exhalative horizons
- chert horizons
- etc.

When they were found, these traps and/or horizons were sampled, the samples were then assayed and if it was warranted, the site was trenched.

Trenching was proposed for three sites in the northwest quadrant of claim K794517.

Site 1 description Two white quartz carbonate veins intrude a sheared chloritized and pervasively carbonatized mafic pillowed flow. The site has been trenched earlier by; two test pits, a test pit for each quartz vein (see location sketch for trench and pits).

Pit 1, the northern pit intersects a white quartz-carbonate vein. the dimensions of the pit are 1.0 m x 0.5 m x 0.5 m

The white quartz carbonate vein has an apparent width of 1 m and an apparent length of 8 m oriented at 116/90. The quartz vein intrudes a mafic pillowed flow that has been sheared, pervasively carbonatized and chloritized. The shear orientation is 116/67 SW.

Pit 2, the southern pit, intersects a white quartz carbonate vein that swells and pinches.

The white quartz carbonate vein swells and pinches over a known distance of 10 m oriented at 125/80 N. The quartz vein intrudes a mafic pillowed flow that has been sheared, pervasively carbonatized and chloritized. The shear orientation is 120/90, to steeply dipping southwards.

Site 2 description From site 1 go Az. 120 for 5 m

A white quartz carbonate vein intrudes a mafic pillowed porphyritic flow. This white quartz-carbonate vein is the continuation of the white quartz carbonate vein exposed by pit 2. From site 1 to site 2 the quartz carbonate vein is oriented at 125/82 N. The country rock, a mafic pillowed porphyritic flow is sheared and pervasively carbonatized. The shear orientation is Az. 120.

Site 3 description From site 1 go Az. 165 for 30 m.

Two shears intersect and provide a promising target for mineralization and a possible trench site. The shears in the outcrop are surficially bleached due to silica enrichment and carbonate alteration. The shears have the following orientations: 090/86 N and 160/84 SW.

Site 1 was trenched. The trench is approximately 9.5 m long and is oriented at Az. 055. The average width of the trench is 1.5 m. The trench intersects both white quartz carbonate veins and includes pit 2 trenched at an earlier time. The chip samples taken from the trench are identified by these numbers, 8032 to 8054 inclusive (see sketch of trench appended).

Site 2 was trenched. This pit is approximately 2.5 m long and is oriented at Az. 196. The width of the pit is about 2 m. The pit intersects the continuation of the white quartz carbonate vein found at site 1 in the southern end of the trench. The samples taken from the pit are 8055 to 8063 inclusive. (See sketch of pit appended).

Site 3 was trenched. The pit is approximately 1.5 m long and the width of the pit is about 1 m. The chip samples taken from the pit are identified by these numbers, 8064 to 8073. (See sketch of pit appended).



REGIONAL GEOLOGY<sup>4</sup>

The Archean stratigraphic section is composed of five volcanic episodes around a major uplift zone. This tectonic zone was the focus for associated shear zone development, intrusive activity and hydrothermal alteration.

The basal portion of the stratigraphy is the Wapageisi Lake Group of tholeiitic basalts overlain by heterolithic breccias intruded by a layered gabbro sill and capped by quartz porphyritic felsic volcanism, uplift and erosion occurred which led to the production of an angular unconformity.

The angular unconformity is overlain by the Stormy Lake Group which is composed of a thin basal polymictic conglomerate blanketed by a unit of dacitic breccia approximately 500 m thick followed by a thick sequence of polymictic conglomerates. After the period of dacitic volcanism; a series of vertical conjugate ductile shear zones trending Az. 120 and Az. 180 were formed in the Wapageisi Lake Group rocks. These shear zones and the adjacent country rock experienced widespread carbonate alteration in the Stormy Lake Group consisted of non shear/vein related areas of widespread pervasive carbonate, pyrite and magnetite-chlorite-pyrite alteration. A series of composite mafic to ultramafic dykes intruded in the shear zones during active carbonate alteration and maybe related to subaqueous trachybasalt flows which extruded, as part of the Stormy Lake Group, some 600 m above the active shear zones.

Later silicification with associated pyrite, arsenopyrite and gold overprinted the carbonate-bearing zones. East-west trending dextral fault zones with associated quartz diorite dykes marked the end of Stormy Lake Group sedimentation and maybe associated with batholith emplacement and northward tilting of the entire package. Late northeasterly trending sinistral faults associated with the Manitou Fault system to the west cut all the above rock types and structures.

4 The regional geology was interpreted by E.P. Moreton, Esso project geologist. The regional geology described above is a copy of E. P. Moreton's paper presented at the Institute on Lake Superior Geology 31st Annual Meeting in Kenora, Ontario May 9, 1985 "Stratigraphy and hydrothermal alteration in an Archean structural zone, the Katisha Lake Area, Wabigoon Subprovince, N.W. Ontario."

## TABLE OF LITHOLOGIC UNITS, IN THE REGION \*

## Phanerozoic

## Cenozoic

## Quaternary

## Recent

--swamp and stream deposits

## Pleistocene

--sand, gravel, boulders, muck

## Unconformity

## Precambrian

## Proterozoic

- mafic intrusive rocks - diabase - intrusive contact.

## Archean

- felsic intrusive rocks--granodiorite  
 --quartz monzonite  
 --hornblende monzonite  
 --hornblende diorite  
 --syenodiorite  
 --aplite

intrusive contact

- felsic intrusive rocks--migmatites  
 --late granitic phases  
 --early granitic phases

- intrusive contact

- felsic hyabyssal rocks--quartz felspar porphyry  
 --intrusive contact

- mafic and ultramafic intrusives

--gabbro  
 --lamprophyre  
 --pyroxenite  
 --peridotite  
 --granophyre

intrusive contact

- metasediments--volcanic--clast conglomerate  
 --polymictic conglomerate  
 --sandstone  
 --siltstone  
 --argillite  
 --sericite schist  
 --magnetite ironstone  
 --chert

- felsic to intermediate metavolcanics
  - tuff
  - breccia
  - dacitic to rhyolitic flows
  - feldspar and quartz feldspar
  - porphyry
  
- mafic to intermediate metavolcanics
  - medium to fine grained flows
  - coarse grained gabbroic flows
  - pillowed porphyritic flows
  - pillowed flows
  - volcanic breccia
  - porphyritic coarse grained flows
  - amygdaloidal flows
  - amphibolite
  - chloritic schist
  - breccia

\* Source Blackburn 1981.

## TABLE OF LITHOLOGIC UNITS ON FOX LAKE

## Phanerozoic

## Cenozoic

## Quaternary

## Recent

--swamp and stream deposits

## Pleistocene

--sand, gravel, boulders, muck

## unconformity

## Precambrian

Proterozoic--mafic intrusive rocks--diabase--intrusive contact

Archean --felsic hyabyssal rocks--quartz feldspar porphyry intrusive contact.

--mafic and ultramafic intrusives--~~L~~amprophyre intrusive contact

--mafic to intermediate metavolcanics

-medium to fine grained flows

-coarse grained gabbroic flows

-pillowed flows

-pillowed porphyritic flows

-volcanic breccia

-porphyritic coarse grained flows

-amphibolite

-breccia

## PROPERTY GEOLOGY

### Lithology

The predominant lithology on the property is mafic metavolcanics. The mafic metavolcanics comprise a pile of intercalated pillowed flows, brecciated pillowed flows, porphyritic pillowed flows and porphyritic flows associated with or without interflow breccia, medium to fine grained mafic flows and amphibolite. The mafic pile forms the basal portion of the stratigraphy in the region, known as the Wapageisi Lake Group.

Diabase dykes, rarely encountered, intrude the mafic pile. The mafic pile is also intruded by felsic hyabysal apophyses of quartz feldspar porphyry.

There are at least two episodes of quartz veining; the first episode intrudes the mafic flows but does not intrude the quartz feldspar porphyry dykes and the second episode intrudes the mafic flows and the quartz feldspar porphyry dykes.

Silica enrichment and pervasive carbonate alteration is widespread in the mafic pile. Pyritization is ubiquitous and the pyrite occurs as fine to very fine grained cubes.

### Description of Predominant Rock Types.

- 1a. medium to fine grained mafic flows - dark green, medium to fine grained  
- mildly chloritic
- 1c. pillowed flows - green, aphanetic, can be silicified or chloritic

- ld. porphyritic flows - matrix-green, aphanetic, can be silicified or can be chloritized
  - phenocrysts-feldspar- chalky white
    - subhedral, rounded
    - occurrence sparse to rare
    - size < 1 cm.
  
- lg. Amphibolite - dark green, medium to fine grained ammphiboles
  - chloritized, melanocratic
  
- lh. interflow - matrix - green, aphanetic to fine grained
  - chloritic
  - breccia-fragments-green angular
    - grain size-aphanetic
    - size < 10 cm
  
- 5a. quartz feldspar porphyry - matrix-greyish white to translucent
  - aphanetic to fine grained
  - composition, quartz, feldspar
  - phenocrysts - quartz-transparent, to rounded < 7 mm
  - feldspar - chalky white
    - euhedral to subhedral < 2 mm.
  
- Quartz veining - black smokey quartz to white quartz
  - quartz - translucent to opaque
  - glassy to aphanetic

### Structural Geology

A series of ductile shear zones, trends ranging from Az. 120 to Az. 180 were found in the mafic metavolcanic pile. These shear zones and the immediate country rock experienced widespread carbonate alteration and calcite and/or carbonate veining. Later silicification associated with pyrite and arsenopyrite overprinted the carbonate bearing zones. The late quartz veining intrudes along the shear zones.

There are four dominant joint orientations - 032/76 SE, 127/80 NE, 138/80 SW and horizontal-strike unknown. This joint system imparts to the outcrops a blocky or fragmented appearance.

An insufficient number of pillow top determinations were taken to determine the stratigraphic younging direction.

The metamorphic grade of the mafic metavolcanic pile is green schist facies.



## RESULTS

All assay results have returned from the laboratory. The following is revealed :

Site 1 possesses anomalous gold values, a weighted average of 0.01 oz/ton over 5 feet. The zone extends from sample 8039 to 8043 inclusive.

Sample Number	Au(ppb)	Au(oz)	Sample Width	(V) (width) (oz/km) ft.
8039	102	0.003	20 cm 8" 0.66'	(.003)(0.66') = .0019
8040		0.061	13 cm 5" 0.41'	(.061)(.41') = .025
8041	203	0.006	20 cm 8" 0.66'	(.006)(.66') = .0039
8042	111	0.003	46 cm 18" 1.5'	(.003)(1.5') = .0045
8043	412	0.012	55 cm 22" <u>1.8'</u>	(0.012)(1.8') = <u>.02</u>
			Total : 5'	.05

Weighted average  $\frac{.05(\text{oz/ton})\text{ft}}{5\text{ft}} = 0.01 \text{ oz/ton over 5 ft.}$

Neither site 2 nor site 3 possess anomalous values of gold.

Sample 8121 is located on the southern boundary of claim K794523. It is anomalous and has a value of 0.029 oz/ton or 1000 ppb. The source is a sheared gossan zone that has seams of pyrite < 2 mm in width. This find prompted the staking of an additional two claims, identified by tag numbers 842057 and 842058 in September 1985.

The trench is 10 meters long, one meter wide and one meter deep. The orientation of this trench is Az. 055.

The trench has two quartz vein intrusions associated with it. The sulfides observed in the trench include iron pyrite, bornite, azurite and malachite. These sulfides occurred as veinlets, fine disseminations and medium euhedral crystals.

The quartz veins and shearing have an orientation of Az. 120.

The trench was carbonatized throughout. This carbonatization was most evident along the joint planes. Silicified mafic volcanics were observed in close proximity to the quartz intrusions and in minorly sheared material.

Twenty-three chip samples were taken from the trench (8032-8054 incl.)

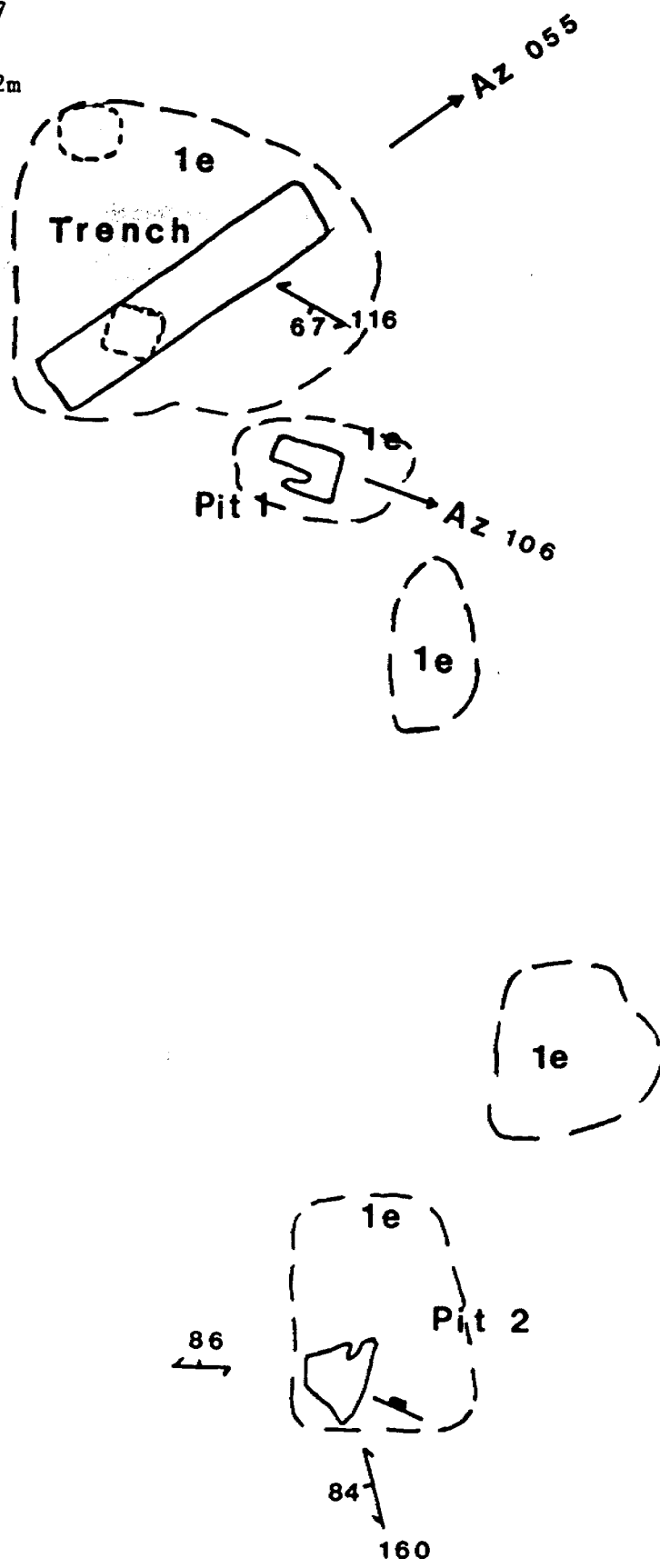
Pit 1 was placed in the southeastern extension of the quartz vein, located in the southern end of the trench. Here the quartz vein was much wider than it was in the trench. No sulfides were observed in the quartz vein. Nine chip samples were removed from Pit 1 (8055-8063 incl.)

Pit 2 was placed in slightly sheared mafic volcanics. No sulfides were observed in this pit. Ten chip samples were removed from this pit (8064-8073 incl.)

# VOYAGER EXPLORATION LTD FOX LAKE

Claim K794517

Scale 1cm = 2m

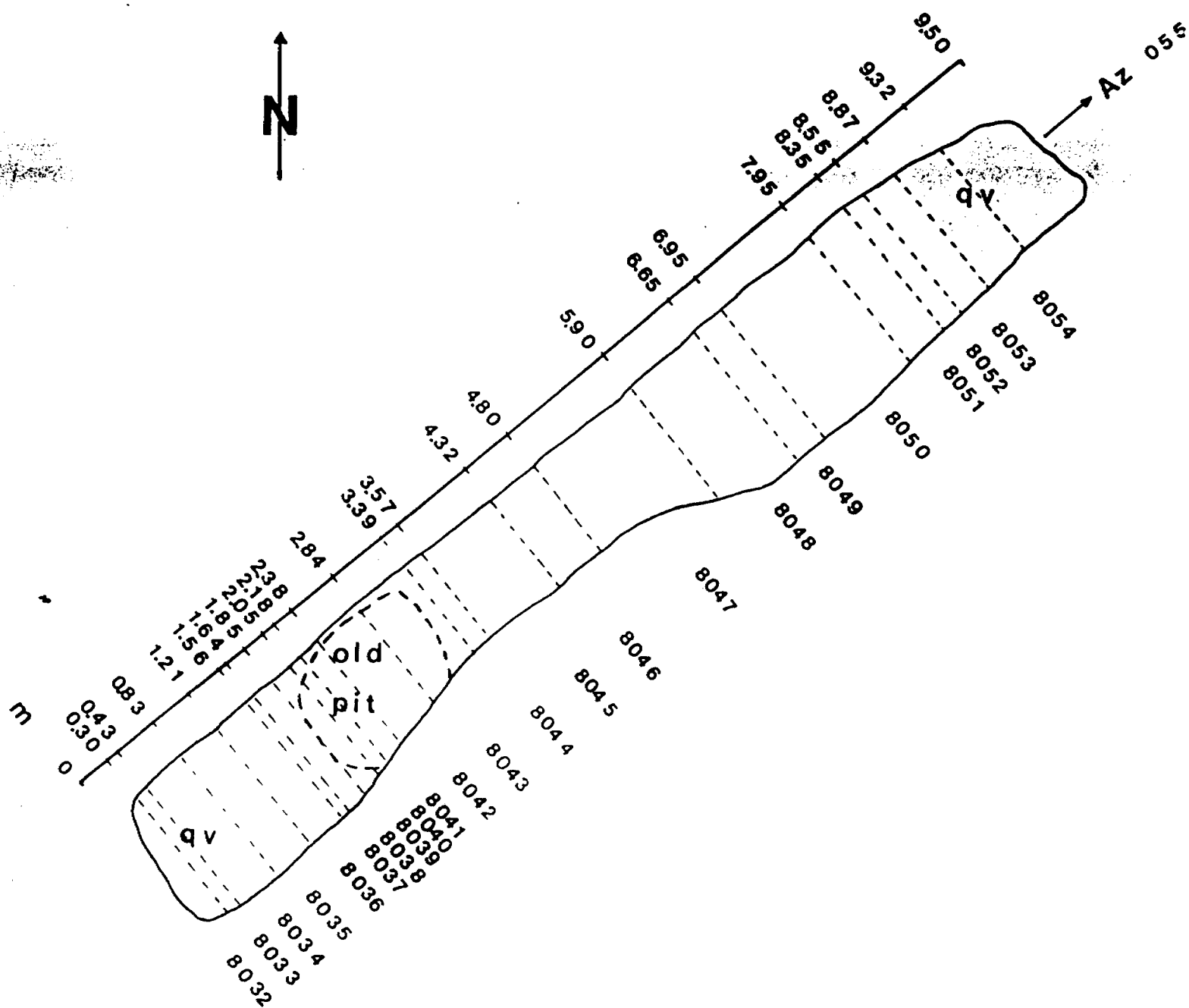


## Trench

Location: From cp#1 - 794516 go south 95m then go east 40 m to trench site .  
 Trench: orientation Az 055  
 length 9.5 m  
 width 1.0 m

Sample number	Interval (meters)	Au(ppb)	Au(.02)	Cu(ppm)	As(ppm)
8032	0.0 - 0.30	7		12	5
8033	0.30 - 0.43	4		16	15
8034	0.43 - 0.83	15		24	25
8035	0.83 - 1.21	18		74	10
8036	1.21 - 1.56	6		272	15
8037	1.56 - 1.64	12		144	5
8038	1.64 - 1.85	4		118	5
8039	1.85 - 2.05	102		134	5
8040	2.05 - 2.18		0.061	164	10
8041	2.18 - 2.38	203		96	5
8042	2.38 - 2.86	111		144	75
8043	2.84 - 3.39	412		96	5
8044	3.39 - 3.57	19		124	15
8045	3.57 - 4.32	48		112	5
8046	4.32 - 4.80	7		58	5
8047	4.80 - 5.90	8		64	5
8048	5.90 - 6.65	17		86	ND
8049	6.65 - 6.95	8		90	ND
8050	6.95 - 7.95	10		84	10
8051	7.95 - 8.35	6		16	ND
8052	8.35 - 8.55	8		52	5
8053	8.55 - 8.87	19		38	10
8054	8.87 - 9.32	10		60	5

ND : NOT DETECTED.



**VOYAGER EXPLORATION LTD.**

Claim 794517

Trench

JULY 1985

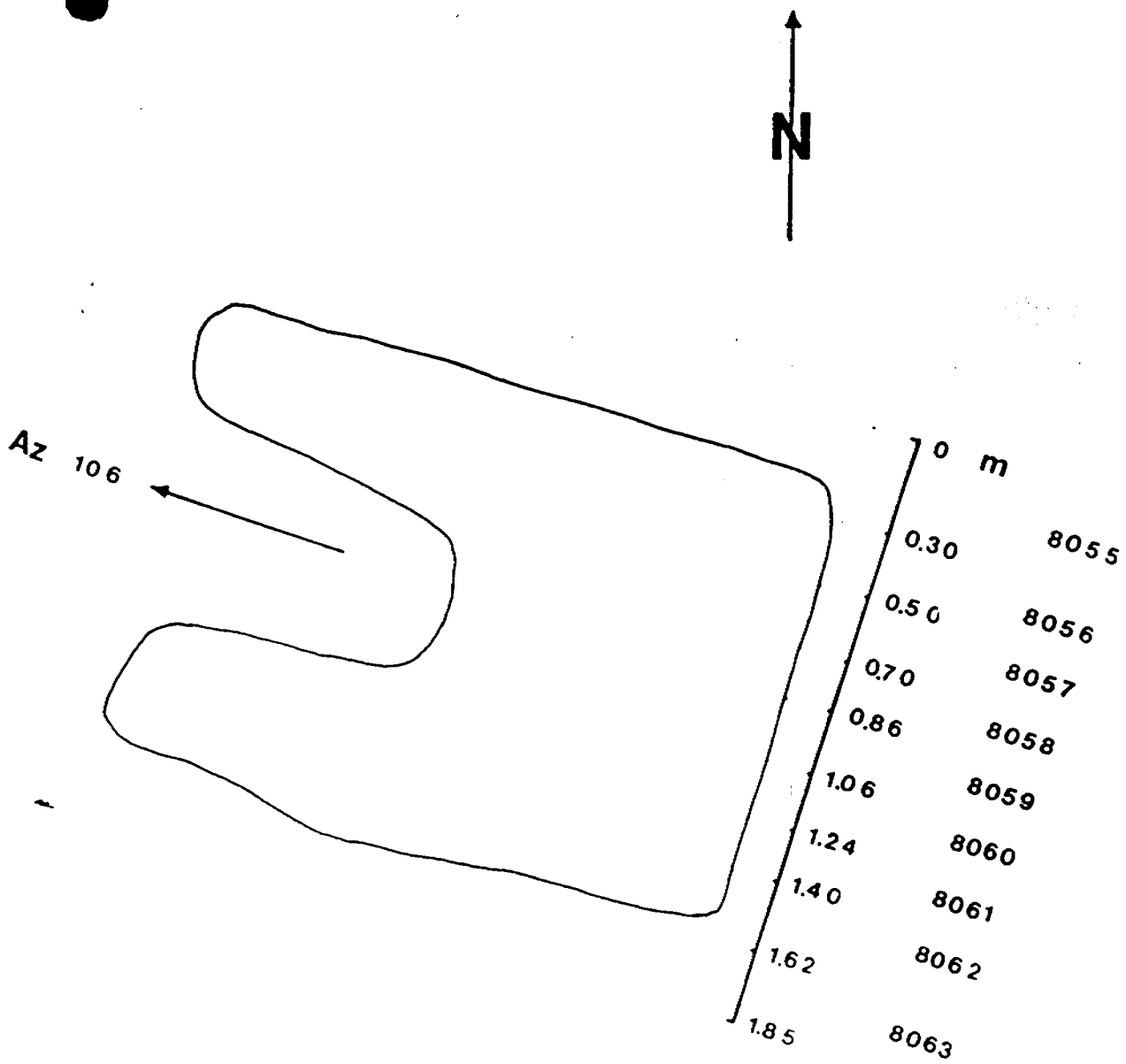
Scale 1cm = 0.5m

Location: Pit 1 From the trench go Az 120 for 5 m to pit site.

Pit # 1 : orientation Az 106  
 length 2.5 m  
 width 2 m

Sample Number	Interval (meters)	Au(ppb)	Au(oz)	Cu(ppm)	As(ppm)
8055	0.0 - 0.30	4		76	5
8056	0.30 - 0.50	41		100	10
8057	0.50 - 0.70	11		72	15
8058	0.70 - 0.86	6		40	30
8059	0.86 - 1.06	7		20	ND
8060	1.06 - 1.24	3		10	ND
8061	1.24 - 1.40	10		32	ND
8062	1.40 - 1.62	7		66	5
8063	1.62 - 1.85	12		192	10

ND : NOT DETECTED.



**VOYAGER EXPLORATION LTD.**

Claim 794517

Trench / Pit # 1

JULY 1985

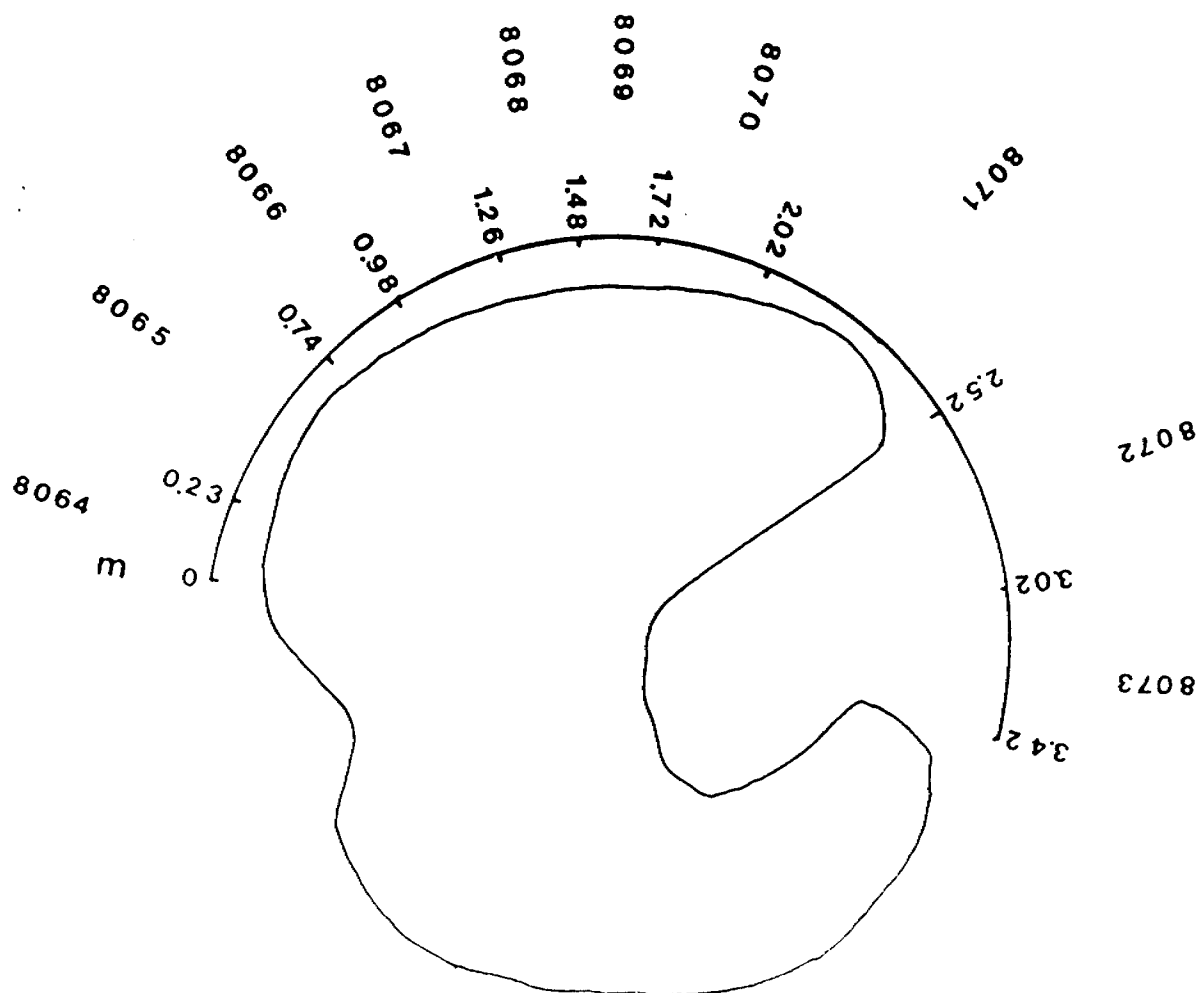
Scale 1cm = 0.20m

Location: Pit 2 From the trench go Az 165 for 30 m to pit site.

Pit #2 : orientation Az 032  
length 1.5 m  
width 1.0 m

<u>Sample Number</u>	<u>Interval (meters)</u>	<u>Au(ppb)</u>	<u>Au(oz)</u>	<u>Cu(ppm)</u>	<u>As(ppm)</u>
8064	0.0 - 0.23	10			
8065	0.23 - 0.74	11			
8066	0.74 - 0.98	7			
8067	0.98 - 1.26	7			
8068	1.26 - 1.48	4			
8069	1.48 - 1.72	7			
8070	1.72 - 2.02	8			
8071	2.02 - 2.52	22			
8072	2.52 - 3.02	6			
8073	3.02 - 3.42	8			



**VOYAGER EXPLORATION LTD.**

Claim 794517

Trench / Pit # 2

JULY 1985

Scale 1cm = 0.20m

### CONCLUSION

Anomalous gold values found in the trench are not associated with either massive white quartz carbonate vein. The gold is found in the sheared, well silicified and pervasively carbonatized mafic metavolcanics associated with a 7 centimeter wide seam of sericitized and carbonatized mafic metavolcanics predominantly mineralized with pyrite, some chalcopyrite and with minor amounts of arsenopyrite.

The observed exposure of sample site 8121 is narrow and the strike length is 3 meters.

### RECOMMENDATION

It is proposed that the site from which sample 8121 is taken, be stripped of its mantle of overburden and trenched.

Site one, should be drilled to determine the down dip extension of zone.

## REFERENCES

Blackburn, C.E. 1981

Geology of the Boyer Lake - Meggisi Lake Area, District of Kenora;  
Ontario Department of Mines, Geoscience Report 202 , pp.107. Accompanied  
by Map 2437, Scale 1 31680 and Map 2438, Scale 1 31680.

Kresz, D.U., Blackburn, C.E., and Fraser, F.B. 1982

Precambrian Geology of the Kawashegamuk Lake Area, Western Part,  
Kenora District, Ontario Geological Survey, Map P.2569, Geological Series  
Map, Scale 1 15840. Geology 1980, 1981.

CERTIFICATE

I, Werner Wirowatz, of the City of Hamilton, in the Province of Ontario, do hereby certify that:

1. I have been employed as a geologist with Voyager Explorations Ltd.  
10 King Street, East,  
Suite 1101  
Toronto, Ontario.  
M5C-1C3

2. I graduated from McMaster University, in May 1978, with a Bachelor of Science degree, in Geology.

I graduated from the University of Waterloo, in May 1982, with a Honours Bachelor Science degree, major Chemistry.

3. I reside at 159 Parkview Dr.,  
Hamilton, Ontario.  
L8S-3Y4

4. I have been engaged in mineral exploration, since 1977.

5. I have no personal interest, nor do I expect to receive any interest in the property.

Yours sincerely,

*W. Wirowatz*  
Werner Wirowatz

APPENDIX

Appendix i

Crew members.

party chief: W. Wirowatz  
assistant : R. Cinitis  
assistant : G. Forbes

Appendix ii

Claim numbers

K794514	K794521
K794515	K794522
K794516	K794523
K794517	K794524
K794518	K794525
K794519	K794526
K794520	K794527

Appendix 111





Sample Number	Au (ppb)	Au (oz.)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)	Cl. Claim
8029	6								794527
8030	7								"
8031	6								794515
8032	7			12				5	794517
8033	4			16				15	"
8034	15			24				25	"
8035	18			74				10	"
8036	6			272				15	"
8037	12			144				5	"
8038	4			118				5	"
8039	102			134				5	"
8040		0.061		164				10	"
8041	203			96				5	"
8042	111			144				75	"
8043	412			96				5	"
8044	19			124				15	"
8045	48			112				5	"
8046	7			58				10	"
8047	8			64				5	"
8048	17			86				ND	"
8049	8			90				ND	"
8050	10			84				10	"
8051	6			16				ND	"
8052	8			52				5	"
8053	19			38				10	"
8054	10			60				5	"
8055	4			76				5	"
8056	41			100				10	"



Sample Number	Au (ppb)	Au (oz.)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)	Claim
B 111	<5			135	<5				794523
B 112				130	<5				"
B 113				103	<5				"
B 114	<5								"
B 115				123	<5				"
B 116	<5								794518
B 117	<5			112	<5				"
B 118	<5		<0.2						794523
B 119	<5			160					"
B 120	<5			280					"
B 121	1000			126					"
B 122	<5								"
B 123	125								"
B 124	<5								"
B 125	20			280/332	<5				794522
B 126	<5								794518
B 127	<5								"
B 128	<5								"
B 129	<5								"
B 130	<5								"
B 131	<5								"
B 132	<5								"
B 133		tr						ND	794517
B 134		tr						ND	"
B 135		tr							"
B 136		tr							"
B 137		tr						ND	"
B 138		0.044		194				10	"

Sample Number	Au (ppb)	Au (oz.)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)	Fl. Claim
B139		0.020							794517
B140		tr							794525
B141		tr							
B142		tr						ND	794516
B143		tr						ND	"
B144		tr							South of 794525
B145		tr							794525
B146		tr							"
B147		tr						ND	"
B148		tr						ND	"
B149		tr							794527
B150		tr						ND	"
B151		tr							794526
B152		tr						ND	"
B153		tr							"
B154		tr							794525
B155		tr							"
B156		tr							"
B157		tr						ND	794527
B158		tr							794526
B159		tr							"
B160		0.002							"
B161		tr							794514
B162		tr						ND	"
B163		tr						ND	"
B164		0.002						ND	"
B165		tr							"
B166		tr						ND	"

Sample Number	Au (ppb)	Au (oz.)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Hg (ppm)	As (ppm)	Cl. Claim
8167		tr						200	794514
8168		tr						ND	"
8169		tr						ND	"
8170		tr							"
8171		tr						ND	"
8172		tr						ND	"
8173		tr							"
8174		tr						ND	"
8175		tr						ND	"
8176		tr						ND	"
8177		tr						ND	"
8178		tr							"
8179		tr						ND	"
8180		tr						ND	"
8181		tr						ND	"
8182	11							ND	794526
8183	8							ND	"
8184	11		3.2						West of 842058
8185	19		0.6						842058
8186	38		2.4						"
8187	8		2.2						"
8188	17		0.6						"
8189	56		2.0						842057
8190	29								"
8191	18								"
8192	21								"
8193	267	0.009	2.2						794523

Sample Number	Au (ppb)	Au (oz.)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	As (ppm)	Cl. Claim
8201	0.002	0.006							842057
8202		0.002							
8203		0.004							794522
8204		tr							
8205		tr							794523
8206		0.002							794522
8207		tr		238					"
8208		tr							"
8209		tr							794518
8210		tr							"
8211		tr							"
8212		tr		134				ND	794517
8213		tr							794518
8214		tr		246				ND	"
8215		tr							"
8216		tr							"
8217		tr							794517
8218		tr							"
8219		tr		206				ND	"
8220		tr							"
8221		tr		362				ND	"
8222		tr							"
8223		tr						ND	"
8224		tr		18				ND	794524
8225		tr						ND	Norm. of 794516
8226		tr						ND	794516
8227		tr						ND	"
8228		tr		48				ND	"





**Report of Work**  
(Geophysical, Geological,  
Geochemical and Expenditures)

The Mill



52F08SW8149 2.8712 WAPAGEISE LAKE

Jan 12  
#220-85

300

Type of Survey(s) **Geology** Wapageisi Lake G. 2598

Claim Holder(s) **ALEXANDER KOZOWY, Box 36, DRYDEN, ONT** Prospector's Licence No. **5.1856**  
~~Voyager Explorations Ltd.~~ **PBN 2Y7**

Address **10 King Street East, Suite 1101, Toronto, Ontario M5C 1C3**

Survey Company **Voyager Explorations Ltd.** Date of Survey (from & to) **01 06 85 11 7 85** Total Miles of line Cut

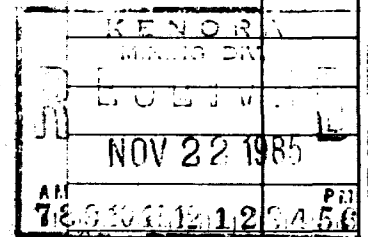
Name and Address of Author (of Geo-Technical report)  
**Werner Wirowatz 10 King Street East, Suite 1101, Toronto, Ontario M5C 1C3**

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	20
	Geochemical	
Men Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
K	794514				
	794515				
	794516				
	794517				
	794518				
	794519				
	794520				
	794521				
	794522				
	794523				
	794524				
	794525				
	794526				
	794527				



Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷ 15 = Total Days Credits

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

794514

Total number of mining claims covered by this report of work.

14

officer of Voyager Explorations

Date **Nov 18/85** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

Total Days Recorded **280** Date Recorded **Nov 22/85** Mining Recorder *[Signature]*

Date Approved as Recorded **See Reversed Statement** Branch Director *[Signature]*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying  
**Werner Wirowatz, 159 Parkview DR., Hamilton, Ontario L8S 3Y4**

Date Certified **November 18, 1985** Certified by (Signature) *W. Wirowatz*





Ministry of Natural Resources

File \_\_\_\_\_

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geology

Township or Area Wapageisi Lake G.2598

Claim Holder(s) Voyager Exploration Ltd.

1101, 10 King St. East, Toronto, Ont. M5C 1C3

Survey Company Voyager Exploration Ltd.

Author of Report Werner Wirowatz

Address of Author 1101, 10 King St. East, Toronto, Ont.

Covering Dates of Survey June 1, 1985 to July 11, 1985  
(linecutting to office) <sup>M5C 1C3</sup>

Total Miles of Line Cut \_\_\_\_\_

MINING CLAIMS TRAVERSED  
List numerically

K (prefix)	794514 (number)
.....	794515
.....	794516
.....	794517
.....	794518
.....	794519
.....	794520
.....	794521
.....	794522
.....	794523
.....	794524
.....	794525
.....	794526
.....	794527

If space insufficient, attach list

SPECIAL PROVISIONS  
CREDITS REQUESTED

DAYS  
per claim

- Geophysical \_\_\_\_\_
- Electromagnetic \_\_\_\_\_
- Magnetometer \_\_\_\_\_
- Radiometric \_\_\_\_\_
- Other \_\_\_\_\_
- Geological 20
- Geochemical \_\_\_\_\_

ENTER 40 days (including  
line cutting) for first  
survey.

**RECEIVED**

1985

ENTER 10 days for each  
additional survey using  
same grid.

**MINING LANDS SECTION**

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: December 9, 1985 SIGNATURE: W. Wirowatz  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications 2.5923

Previous Surveys

File No.	Type	Date	Claim Holder
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

TOTAL CLAIMS 14

OFFICE USE ONLY

**GEOPHYSICAL TECHNICAL DATA**

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

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_  
Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_  
Profile scale \_\_\_\_\_  
Contour interval \_\_\_\_\_

**MAGNETIC**

Instrument \_\_\_\_\_  
Accuracy – Scale constant \_\_\_\_\_  
Diurnal correction method \_\_\_\_\_  
Base Station check-in interval (hours) \_\_\_\_\_  
Base Station location and value \_\_\_\_\_  
\_\_\_\_\_

**ELECTROMAGNETIC**

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)  
Parameters measured \_\_\_\_\_

**GRAVITY**

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
\_\_\_\_\_  
Base station value and location \_\_\_\_\_  
\_\_\_\_\_  
Elevation accuracy \_\_\_\_\_

**INDUCED POLARIZATION  
RESISTIVITY**

Instrument \_\_\_\_\_  
Method  Time Domain  Frequency Domain  
Parameters – On time \_\_\_\_\_ Frequency \_\_\_\_\_  
– Off time \_\_\_\_\_ Range \_\_\_\_\_  
– Delay time \_\_\_\_\_  
– Integration time \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_

SELF POTENTIAL

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

RADIOMETRIC

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

AIRBORNE SURVEYS

Type of survey(s) \_\_\_\_\_

Instrument(s) \_\_\_\_\_

(specify for each type of survey)

Accuracy \_\_\_\_\_

(specify for each type of survey)

Aircraft used \_\_\_\_\_

Sensor altitude \_\_\_\_\_

Navigation and flight path recovery method \_\_\_\_\_

Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_

Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken \_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

**SAMPLE PREPARATION**  
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ANALYTICAL METHODS**

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, -(circle)

Others \_\_\_\_\_

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Voyager Explorations Limited*

TELEPHONE:  
366-8058

Werner Wirowatz  
SUITE 1101 - 10 KING STREET EAST  
TORONTO, ONTARIO M5C 1C3

December 9, 1985

Mr. R. Pichette  
Mining Administrator  
Mining Lands Section  
Ministry of Natural Resources  
99 Wellesley Street West  
Whitney Block, Room 6601  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Dear Mr. Pichette:

Accompanying this letter are two copies of the following report:

Reconnaissance Geology Survey, Fox Lake Project  
Wapageisi Lake Area.

**RECEIVED**

DEC 09 1985

**MINING LANDS SECTION**

Technical data statements are enclosed with the reports.

Yours sincerely,

*W. Wirowatz*

W. Wirowatz

WW/ec

Mining Lands Section

File No 28712

Control Sheet

TYPE OF SURVEY     GEOPHYSICAL  
                           GEOLOGICAL  
                           GEOCHEMICAL  
                           EXPENDITURE

MINING LANDS COMMENTS:

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*600  
H.S.*

*J. Hurst*

Signature of Assessor

*Dec 17/85*

Date

1986 01 10

Your File: 220-85  
Our File: 2.8712

Mining Recorder  
Ministry of Northern Development and Mines  
808 Robertson Street  
Box 5080  
Kenora, Ontario  
P9N 3X9

Dear Sir:

RE: Notice of Intent dated December 20, 1985  
Geological Survey on Mining Claims  
K 794514, et al, in the Wapageisi Lake Area

---

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,

S.E. Yundt  
Director  
Land Management Branch

Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone:(416)965-4888

SH/mc

cc: Mr. Alexander Kozowy  
Box 36  
Dryden, Ontario  
P8N 2Y7

Yoyager Explorations Ltd  
Mr. Werner Wirowatz  
10 King Street East  
Suite 1101  
Toronto, Ontario  
M5C 1C3

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

Resident Geologist  
Kenora, Ontario

Encl.



Recorded Holder <b>MR. ALEXANDER KOZOWY</b>
Township or Area <b>WAPAGEISI LAKE G.2598</b>

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days  Section 77 (19) See "Mining Claims Assessed" column Geological <u>18</u> days Geochemical _____ days  Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>  <input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	<b>K 794514 to 527 incl.</b>

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

**No credits have been allowed for the following mining claims**

not sufficiently covered by the survey                       insufficient technical data filed

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; Geological - 40; Geochemical - 40; Section 77(19) - 60.





Jan 6, 86

.1985 12 20

Your File: 220-85  
Our File: 2.8712

Mining Recorder  
Ministry of Northern Development and Mines  
808 Robertson Street  
Box 5080  
Kenora, Ontario  
P9N 3X9

Dear Sir:


Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. R.J. Pichette at 416/965-4888.

Yours sincerely,

  
S.E. Yundt  
Director  
Land Management Branch

Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3

 SH:bc

Encls.

cc: Mr. Alexander Kozowy  
Box 36, Dryden,  
Ontario P8N 2Y7

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

cc: Voyager Explorations Ltd.  
Mr. Werner Wirowatz  
10 King Street East,  
Suite 1101, Toronto,  
Ontario M5C 1C3

**FILE**



Ministry of  
Natural  
Resources

Ontario

Notice of Intent  
for Technical Reports

1985 12 20

2.8712/220-85

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.





92° 28' 00"

92° 27' 00"

CAMP

WOLF LAKE ROAD

SNAKE BAY ROAD

49° 22' 15"

49° 22' 00"

