REPORT ON A PROGRAM OF BACKHOE TRENCHING, SAMPLING AND GEOLOGICAL MAPPING ON THE KENOGAMING TOWNSHIP, ONTARIO GOLD PROSPECT

of the

CARL CREEK RESOURCES - BEARCAT EXPLORATIONS JOINT VENTURE

Toronto, Ontario
December, 1983

W.E. Brereton, P.Eng.

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SUMMARY

A recently completed program of backhoe trenching, blasting, sampling and geological mapping was designed to evaluate mineralized zones and define geological relationships on the Carl Creek-Bearcat Kenogaming Township gold prospect. The work has achieved these ends and has provided encouragement to carry out further gold exploration on the claims.

Initial interest in the property stemmed mainly from the reported occurrence of low gold values (to 0.24 oz Au per ton) in stratiform, siliceous, sheared pyritic zones in intermediate to felsic tuffaceous rocks - a classic setting for stratiform, volcanogenic gold deposits.

Also of interest was the reported occurrence of a good grade gold intersection associated with a quartz vein in pyritic siliceous tuffs (0.54 oz Au/ton over 10 ft. - Jonsmith Mines, 1960) to the northeast of the above.

Backhoe work, rock trenching and sampling on the Jonsmith zone failed to locate any surface expression of the reported gold zone although local Cu $\pm$ Pb ($\pm$ quartz, epidote, potash feldspar, calcite) vein and alteration zones were discovered. It is virtually certain that efforts were concentrated in the correct area based on geological relationships and the presence of old drill set-ups. The overall geological environment appears favourable and further work should be carried out.

Mapping, backhoe and rock trenching and sampling on the "Main" Au-Zn showing area disclosed a corridor of sheared, sericitized, pyritized tuffaceous rocks containing numerous individual zones of siliceous pyrite mineralization up to 3 m in width. Values of up to 0.08 oz Au per ton were obtained in 1983 sampling. Local zones of stringer sphalerite mineralization are also present. The

overall mineralized tuffaceous zone appears to be at least 50 m in width and, if mineralization on the east side of Akweskwa Lake is correlative as expected, may be in excess of 1,200 m in length. Although no "ore grade" assay results were obtained, several of the pyrite lenses are distinctly anomalous geochemically. Also, some of the siliceous material within pyrite zones appears to be of primary chert origin. In all, this volcanogenic-type setting is an extremely favourable geological environment for gold (and base metals). Only a relatively small portion of the overall zone has ever been examined (e.g. Falconbridge drilling). Additional work should be carried out on this trend.

A large quartz vein zone to the south of the above also merits further investigation. This zone should be a consideration for diamond drilling on geological grounds alone. There might be some industrial mineral-eg silica flux-possibilities of the quartz material along with the gold interest.

The low swampy area to the north of the vein zone might also be a locus of shearing and alteration and might be tested in the course of any further work on the quartz vein zone.

An ongoing exploration effort should be carried out to further evaluate the gold potential of this 5 claim portion of the property. This should consist of detailed Induced Polarization surveys over the existing line grid and along 50 m infill lines over mineralized areas as required. Details of the recommended line coverage (approximately 18 km) and survey parameters have already been presented to the Joint Venture and consist of time domain IP with a dipole-dipole array, an "a" spacing of 40m and reading n=1 through 4. A total budget estimate of $40,000.00 was provided inclusive of the additional linecutting, IP surveying, field supervision and reporting.

1.0 INTRODUCTION

Exploration interest in the stratiform pyritc felsic volcaniclastic/sedimentary - hosted type of gold deposit has intensified in recent years following the development of relatively large deposits in northwestern Quebec (eg. Silverstack) and more recent discoveries in the Hemlo area of Ontario.

This report describes the results of initial investigations on a gold prospect of this type in the Swayze gold area of northeastern Ontario.

The field program consisted of backhoe stripping ± trenching, blasting and sampling in several areas along with geological investigations of mineralized areas and the 5-claim property as a whole.

The work was completed on behalf of the Carl Creek Resources - Bearcat Explorations Joint Venture during October-November, 1983 by MPH Consulting Limited of Toronto.

Results of the field work are presented along with a description of field techniques employed. Recommendations are presented for further exploration on the property.

Exploration work was centered on the following 5 claims in the Porcupine Mining Division:

P - 652688
P - 652689
P - 652690
P - 652691
P - 652692

Technical data statements regarding assessment credits on the above claims will be submitted under separate cover.

2.0 LOCATION, ACCESS AND INFRASTRUCTURE

The property is centred 60 km due southwest of Timmins in Kenogaming Township, northeastern Ontario (Figure 1).

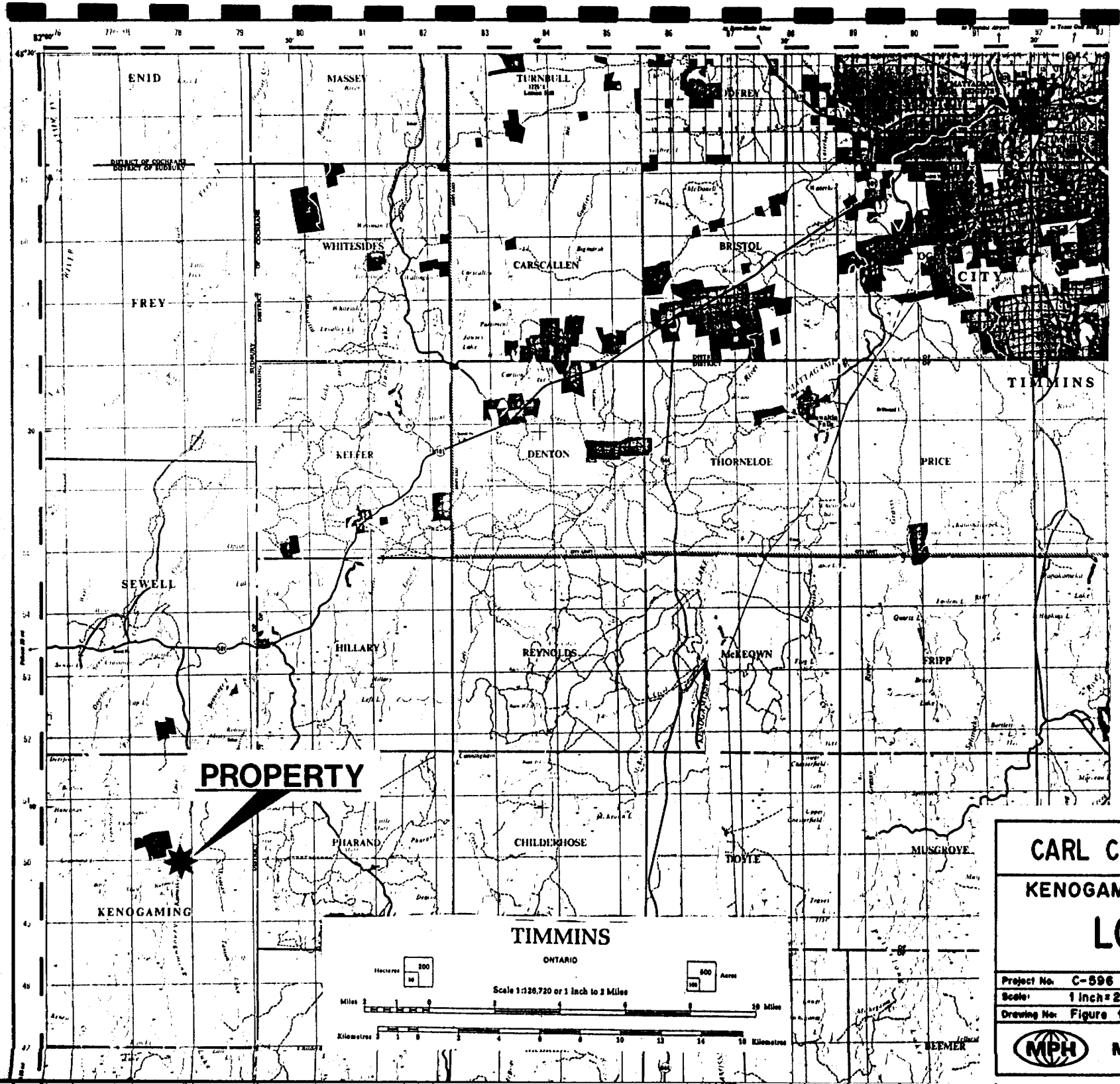
Access is relatively good. New, good quality gravel roads lead from Highway 101 to the south through the general Kenogaming - Penhorwood area. Numerous subsiduary logging roads extend off these main access roads. One of these leads directly past the main Au-Zn zone approximately 13 km from the highway. Map 1 at rear shows the network of old roads on the property.

The general area is under active development by a local lumber company (Mallette Lumber) which should ensure continued year round access into the area.

The main line of the Canadian National Railway passes 12 km southwest of the property.

The main centre of service and supply in the area is Timmins with a population of 45,000. All manner of mining equipment, contract services, exploration services, etc. are available here along with a skilled and stable mining work force. The smaller, nearby hamlet of Foleyet offers some food, accommodation and supply services.

Of interest, Orofino Resources Ltd. plan to construct a mill on their Silk township gold property which might be available to handle ore from other deposits in the immediate area. This is a very attractive consideration for further gold exploration in the north Swayze area. The presence of a nearby custom mill could greatly increase the economic viability of a smaller, otherwise non-economic deposit. The closest custom mills at present are those of Pamour Porcupine Mines Ltd. at Schumacher and Pamour, approximately 85 miles by truck to the east.



CARL CREEK RESOURCES

KENOGAMING TWP. PROPERTY

LOCATION

Project No.	C-596	By:	W.E. Brereton
Scale:	1 inch = 2 Miles	Drawn:	
Drawing No:	Figure 1	Date:	August, 1983

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3.0 THE SWAYZE GOLD BELT

3.1 General

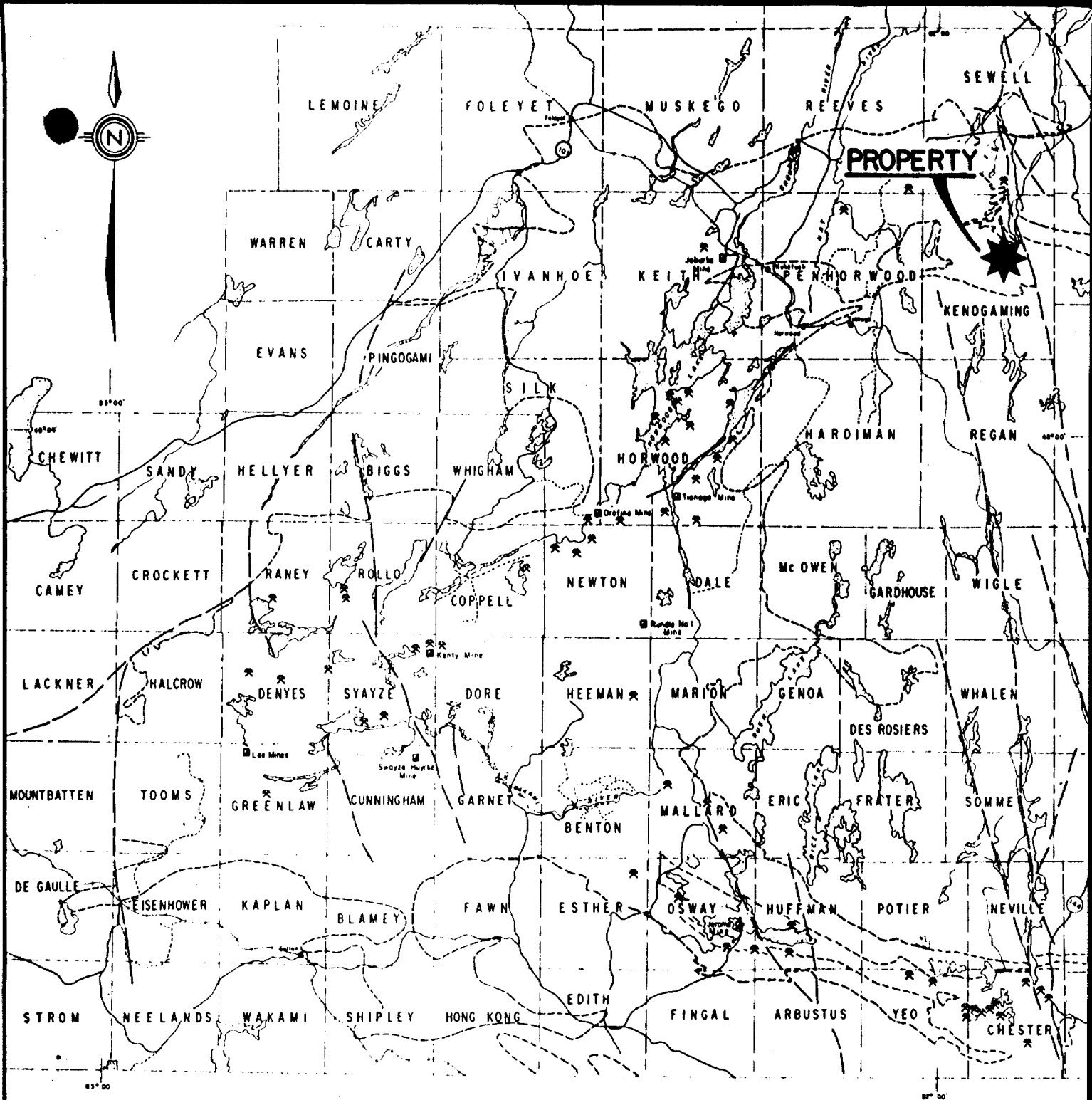
The Swayze Gold Belt is located southwest of and in rocks grossly equivalent to the Timmins-Porcupine Gold Camp. The Porcupine Camp is located in the west portion of the Abitibi Greenstone Belt of the Canadian Shield. It is the largest gold-producing camp in Canada and one of the largest in the world. During the past seventy years, more than 56.3 million troy ounces of gold have been produced from 18 properties in the area.

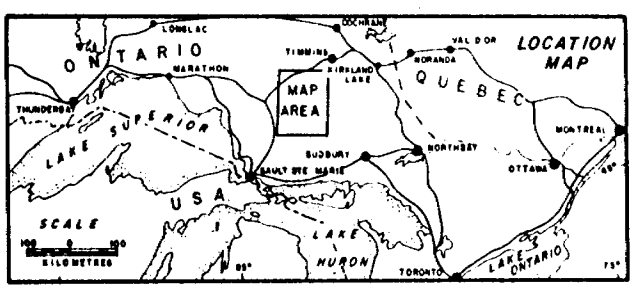
The Swayze area contains four past-producing gold mines (Joburke, Tionaga, Halcrow-Swayze and Jerome). Other substantial gold prospects under active exploration/ development in addition to Orofino include the Rundle Mine (Sulpetro-Hollinger) in Newton Township, the Kenty Mine in Swayze Township (Cumo Resources-Heron Resources) and the Jerome Mine in Osway Township (Osway Resources).

Figure 2 presents the generalized geology of, and gold occurrences in, the Swayze area.

3.2 History of Exploration and Development

Initial interest in the general region was stimulated by the discovery of two major iron formation bands along the Groundhog River and Woman River in the early 1900's. Following a general waning of interest in iron deposits, gold became the principal metal sought.





LEGEND

- Swayze metasedimentary - metavolcanic belt
- Felsic intrusive rocks
- Gold prospect or showing
- Shaft on gold deposit

CARL CREEK – BEARCAT J.V.

SWAYZE GREENSTONE BELT

GEOLOGY AND GOLD OCCURRENCES

Project No: C – 596	By: W. Brereton
Scale:	Drawn: GCS Ltd.
Drawing No: Fig. 2	Date: Dec, 1983

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Earliest gold discoveries date back to 1909 as prospectors worked westward from the Porcupine Camp which had been discovered that same year.

The first significant gold discovery in the area and subsequent staking rush was made in 1918 on the east shore of Horwood Lake. This became the property of Groundhog Gold Mines Limited in 1934.

Visible gold was discovered on what is now the property of Orofino Resources Limited in the early 1930's. This precipitated another small rush into the region.

Numerous other properties were being actively explored and developed in the Horwood Lake area at this time. The only production during this period was in 1938-39 from the Smith-Thorne (Tionaga) Mine.

Gold was then discovered in 1946 on the Joburke property in Keith Township immediately to the north of Orofino triggering another staking rush in the northern portion of the Swayze metasedimentary-metavolcanic belt.

3.3 Geology

The Swayze area has been the subject of numerous geological studies since the turn of the century. The most pertinent studies in the present area are those by Laird (1935), Harding (1937), Breaks (1978) and Milne (1972).

Figure 3 illustrates the geology of the immediate property area (ODM Map 2231).

The Swayze area represents the western extremity of the Abitibi metasedimentary-metavolcanic ("greenstone") belt of Archean age which extends for several hundred miles east - northeast to the Grenville Front east of Chibougamau.

Swayze greenstone rocks are truncated to the west against the "Kapuskasing High" structural-metamorphic zone.

Of interest, the Abitibi is probably the most prolific metal producer of any greenstone belt in the world.

The present area of interest, the Kenogaming-Penhorwood area, encompasses the northeasternmost extremity of the Swayze greenstone sub-belt.

The present property occurs within a discrete, lenticular pile of felsic metavolcanic rocks approximately 13 km long in an east-west direction by 6.5 km wide in the central portion of Kenogaming Township and east-central portion of Penhorwood Township (Ontario Department of Mines Map 2231). The main felsic pile is bounded to the east by the Tanton Lake Fault although a narrow wedge of felsic rocks does extend to the east into adjoining Pharand Township. Rock types include mainly felsic volcaniclastic rocks (tuffs, tuff-breccias) along with some flows and sediments. The volcanics are extensively intruded by mafic to ultramafic rocks, primarily amphibolites and serpentinities. A major sulphide-oxide iron formation extends virtually around the entire felsic pile and forms the contact with adjoining mafic metavolcanics. Granitic batholith complexes occur to the east and south.

Figure 3 illustrates the geology of the immediate property area (ODM Map 2231).

LEGEND

- [redacted]abase, unsubdivided.
- [redacted]artz diabase (dikes).
- 9b Porphyritic quartz diabase (dikes).

INTRUSIVE CONTACT

ARCHEAN

LATE FELSIC INTRUSIVE ROCKS

- 8 Granitic rocks.
- 8a Biotite-hornblende granodiorite.
- 8b Biotite granodiorite, biotite quartz monzonite.
- 8c Xenolithic granodiorite.
- 8d Diorite, hybrid diorite, syenite.
- 8e Muscovite-albite trondhjemite.
- 8f Leucocratic trondhjemite.
- 8g Pegmatite.
- 8h Migmatite.

INTRUSIVE CONTACT

EARLY FELSIC INTRUSIVE ROCKS

- 7 Granitic rocks.
- 7a Biotite trondhjemite gneiss.
- 7b Feldspar porphyry, quartz-feldspar porphyry.
- 7c Quartz porphyry.
- 7d Hybrid granodiorite gneiss.
- 7e Migmatite.
- 7f Hornblende-chlorite-feldspar porphyry.

INTRUSIVE CONTACT

ULTRAMAFIC INTRUSIVE ROCKS

- 6 Unsubdivided.
- 6a Grey to green-grey serpentinite.
- 6b Dark grey to black serpentinite.
- 6c Coarse blade textured serpentinite (chicken track rock).
- 6d Mineralogically layered serpentinite.
- 6e Sheared serpentinite.
- 6f Asbestos-bearing serpentinite.
- 6g Chloritic tremolitic serpentinite.†
- 6h Talcose serpentinite.
- 6k Rusty carbonatized serpentinite.

INTRUSIVE CONTACT

EARLY MAFIC INTRUSIVE ROCKS

- 5 Unsubdivided.
- 5a Tremolitic actinolitic amphibolite.
- 5b Actinolitic hornblendic amphibolite.
- 5c Sheared amphibolite.
- 5d Porphyritic amphibolite.
- 5e Garnet amphibolite.
- 5f Dioritic amphibolite.

INTRUSIVE CONTACT

IRON FORMATION

- 4 Unsubdivided.
- 4a Magnetite-chert iron formation.
- 4b Carbonate-chert iron formation.
- 4c Amphibole-chert iron formation.
- 4d Garnet-magnetite amphibolite.
- 4e Chert.
- 4f Pyritic slate, graphitic slate.

DETRITAL METASEDIMENTS

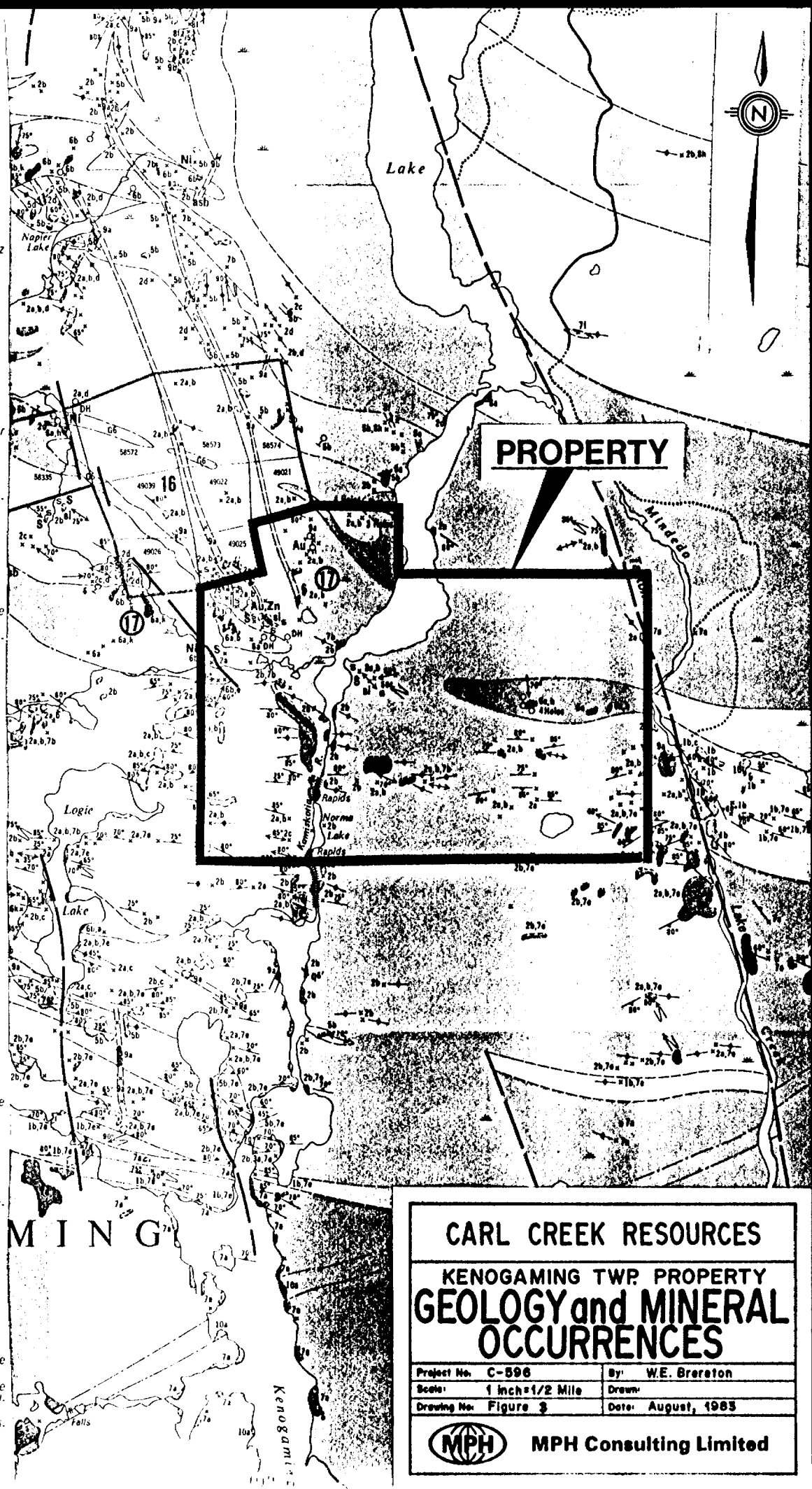
- 3 Unsubdivided.
- 3a Greywacke.
- 3b Conglomerate.
- 3c Slate, argillite.
- 3d Phyllite, sericite schist, chlorite schist.
- 3e Sandstone.

FELSIC TO INTERMEDIATE METAVOLCANICS[c]

- 2 Unsubdivided.
- 2a Felsic agglomerate, mafic agglomerate.
- 2b Felsic tuff, felsic lapilli tuff.
- 2c Mafic tuff, mafic lapilli tuff.
- 2d Felsic flows.
- 2e Felsic flow breccia.†
- 2f Garnet amphibiolite.

MAFIC TO INTERMEDIATE METAVOLCANICS[c]

- 1 Unsubdivided.
- 1a Light coloured chlorite-tremolite metavolcanics.
- 1b Dark coloured actinolite-hornblende schistose and gneissose metavolcanics.
- 1c Chloritic metavolcanic schist, sericite-carbonate metavolcanic schist.
- 1d Pillowed metavolcanics.
- 1e Epidotized metavolcanics.†



CARL CREEK RESOURCES

KENOGAMING TWP. PROPERTY

GEOLOGY and MINERAL OCCURRENCES

Project No.	C-596	By:	W.E. Brereton
Scale:	1 inch=1/2 Mile	Drawn:	
Drawing No:	Figure 3	Date:	August, 1985

MPH Consulting Limited

3.4 Mineral Deposits

Economic interest in the Swayze area has focussed on gold, silver, asbestos, talc, copper-nickel, iron, copper-zinc and barite deposits. There has been economic production of the first four of the above mineral commodities. Gold and silver have been won primarily from structurally-controlled, quartz vein-type deposits, e.g. Joburke mine, Keith Township, which produced 66,500 ounces of gold from 1973 to 1979. Asbestos and, lately, talc are produced at the Reeves Mine of Canadian Johns-Manville in Reeves Township 14 km northwest of the present property.

3.4.1 Types of Gold Occurrences

The most important types of gold occurrences to date in Swayze area may be classified as

a) auriferous quartz veins and zones ± py, cpy, po, etc. in mafic-intermediate intrusive rocks (Orofino Mine, Lefever Prospect)

b) gold-bearing quartz stockworks, stringers and veins ± py, cp, po in sheared, faulted and fractured zones in mafic to intermediate volcanic rocks (e.g. Joburke Mine).

c) gold-bearing quartz veins ± py, po, cpy, gn, Mo, etc. associated with porphyry intrusives
   i) in porphyry - Rundle No. 1 Mine, Hardiman Bay, Horwood Lake occurrences
   ii) at porphyry contacts (with sheared metasediments - Jerome Mine)

iii) cutting porphyry and mafic to felsic lavas - Tionaga Mine, Kenty Mine

d) green carbonate zones ± quartz, pyrite, gold (Quinterra discovery, Greenlaw township)

e) stratiform pyrite zones in sheared felsic pyroclastics and volcaniclastics without significant quartz (present property, Kenogaming township)

f) quartz pods, veins and lenses with gold, py, cp, po in sheared, sulphide-bearing mafic tuffs (Gifford Prospect - Horwood Township)

4.0 PREVIOUS WORK

The present property encompasses the old Dunvegan Mines - Jonsmith Mines gold ± zinc occurrences.

The initial history of the property is summarized by Darke (1983). The latter author reports that gold was first discovered in the area now encompassed by the property in 1947 by a prospector working for Hoodoo Lake Mines. Subsequent prospecting, trenching and sampling were concentrated on five of their claims where gold discoveries had been made. The following quotes are excerpts taken from a report dated February 3, 1948 by G.W. Moore, Mining Engineer (Assessment Work File T-527):

> "As a result of this work many small gold bearing shear zones were found but so far there is only one that shows values that have economic interest.
>
> The main belt of tuff and agglomerate in which the gold bearing zones occur strikes roughly at N55W and dips steeply to the northeast. The fragments in the agglomerates are elongated along the strike of foliation. This tuff and agglomerate is highly silicified throughout. The strike of the gold bearing shear zones seems to conform with the general strike length of the tuff.
>
> The tuff and agglomerate are usually slightly mineralized with fine pyrite which becomes quite heavy in parts, especially in the narrow gold bearing shear zones and in trenches No. 7 to 12 in the area west of the main gold discovery. Considerable heavy pyrite also occurs in scattered bunches east of Akweskwa Lake.
>
> A large quartz vein about 150 feet wide was examined. This occurs about 600 feet south of the gold bearing belt of tuff and agglomerate and is close to the west shore of Akweskwa Lake. Although this vein is barren looking and a grab sample taken from it ran only .01 ozs in gold, the vein is considered to be of interest from a structural standpoint. So far it has been difficult to trace the vein along its strike because of low swampy ground to the west and Akweskwa Lake to the east. The strike of the vein is apparently parallel to the general strike of the rocks.

The gold discoveries made to date have been confined to narrow well pyritized shear zones in the tuff and agglomerate. Gold is readily panned from those shear zones, usually after burning pieces of the rock. In the case of the main gold discovery which is located on claim No. S-49029, heavy tails of gold have been panned from surface rust while high assays have also been obtained from channel samples in different places along the strike. The shear is about two feet wide and the rock section has been traced so far for about seventeen feet in length. Late this fall Elieff dug up some rich specimens of free gold out of this shear that further increased interest in it and in the property. Further trenching showed the presence of still more free gold. This seems to occur in concentrations along narrow seams in the shear zone. The high gold samples also carry considerable silver, about 25% as much as of gold.

The trenching done on the east side of Akweskwa Lake has uncovered still more narrow gold bearing shear zones with the gold content being generally a little higher than further west. That is with the exception of the main rich shear zone.

Geological conditions seem generally favourable to the deposition of the gold ore with the area on the east side of Akweskwa Lake showing the most signs on rock disturbance. Drag folds are more common here than further west."

Note:- The main gold showing on former claim S-49029 referred to be Moore was subsequently designated as the Hoodoo Lake Mines' Gold-Zinc Showing and is located on current claim 652692 of the present property.

In 1950 the name of Hoodoo Lake Mines was changed to Dunvegan Mines. During the summer of 1951, the Canadian Johns-Manville Company sent a party of prospectors into the area to investigate a belt of serpentine rocks (magnetic highs) that extend in an east-west direction through Kenogaming Township and the present property. The possibility of finding asbestos led to renewed staking by Dunvegan, Canadian Johns-Manville, and others.

In 1951, old trenches were deepened and new trenches excavated; all were sampled for zinc, gold and silver. Results were as follows (OMNR file T-527, Timmins). Sample locations are shown on Figure 4.

SAMPLE NO.	SAMPLING WIDTH IN FEET	AU IN OUNCES PER TON	AG IN OUNCES PER TON	ZN PERCENT
4081	12	0.01	NIl	-
4082	25	Nil	Nil	0.17
4083	8	Nil	Nil	0.14
4084	15	Nil	Nil	0.14
4085	10	Nil	0.16	0.42
4086	20	Nil	0.20	0.19
4087	8	Nil	Nil	0.84
4088	10	Nil	Nil	0.24
4089	7	Nil	Nil	3.19
4090	1	Nil	Nil	0.21
4091	2	Nil	Nil	12.33
4092	10	Nil	Nil	0.79
4093	20	Nil	0.40	0.39
4094	20	Nil	Nil	0.49
4095	5	Nil	Nil	0.54
4096	4	0.24	0.20	0.24
4097	6	0.02	Nil	1.04
4098	5	Nil	Nil	0.34

In 1953, Norduna Mines (Falconbridge Nickel) optioned 135 claims from Dunvegan Mines and undertook an exploratory search for nickel deposits associated with the extensive belt of altered ultramafics (serpentinite). After completing approximately 5,000 ft. of diamond drilling, Norduna patented nine claims covering the main nickel occurrences (disseminated pentlandite) and allowed the remainder to lapse.

Darke (1983) further reports that in 1957, Dunvegan re-staked some of the lapsed claims, and undertook additional exploration on two separate serpentinite zones. They drilled six holes in the area located a few hundred feet south of the original Hoodoo Lake Mines gold-zinc Showing and four holes located east of Akweskwa Lake on current Claim No. 653245. No commercial mineralization was encountered in the drill holes. Dunvegan subsequently became inactive in the area and their claims lapsed.

In 1960, Jonsmith Mines Ltd. staked 12 claims covering the original Hoodoo Lake Mines' gold-zinc showing, and undertook exploration in this general area. They drilled three short holes (packsack drill) to test a gold occurrence located 1,800 ft. northeast of the aforementioned main gold-zinc showing. Each hole was just over 100 ft. long and the total length drilled was 306 feet such that the total strike length of the tuffaceous zone tested was approximately 100 feet only. The principal rock intersected in the holes was sericitized tuff cut by thin veins of lightly pyritized quartz. Gold mineralization was associated with the heavier pyrite mineralization; the highest gold values were obtained where chaclopyrite and galena were present in addition to the pyrite. The best intersections were in drillhole No. 1 where a 5-foot intersection assayed 0.92 oz. gold per ton followed by another 5-foot section that assayed 0.16 oz. gold per ton. That is, the 10-foot section from 65-75 ft. averaged 0.54 oz. gold per ton. Surprisingly, it appears as if the remainder of the hole from 75-102 ft. was not assayed even though the drill log states that it intersected the same favourable sericitized tuff host rock with scattered pyrite and some quartz vein material.

Two other sections intersected near the beginning of the hole also contained gold values, a 5-foot section assayed 0.06 oz. Au/ton, and a 5.6-foot section assayed 0.04 oz. Au/ton. Two holes drilled

on either side of Hole No. 1 intersected only minor gold values with the best intersection being three feet that averaged 0.07 oz. Au/ton. Because of their locations however, there is considerable doubt that these latter two short drillholes actually intersected the possible srike extensions of the 10-foot gold-bearing zone intersected in Hole No. 1.

In 1966, Falconbridge Nickel Mines optioned part of the Jonsmith claim group including the area encompassing the original Hoodoo Lake Mines' gold-zinc showing. Falconbridge drilled eight holes to test this zone along an 800-foot strike length. A plan of the drill hole locations as taken directly from O.D.M. Geological Report 97 is presented as Figure 4. Thin sphalerite stringers were cut in hole No's 3, 7 and 8 and disseminated pyrite sections in all holes. In DDH #7, one 3.7-ft. section assayed 1.21% Zn, 0.51 oz. Ag and 0.03 oz. Au per ton; and another 5.2 ft. section assayed 1.03% Zn, 0.55 oz. Ag and 0.01 oz. Au per ton. The best gold assay was a 3.3 ft. section near the bottom of hole 4 which returned 0.08 oz. Au per ton.

Falconbridge also completed ground magnetic, horizontal loop electromagnetic, and self-potential surveys over six of the Jonsmith claims as well as their own adjacent claims. No worth while electromagnetic anomalies were detected. The magnetometer survey clearly outlines the ultramafic intrusive bodies as areas of magnetic highs. Falconbridge subsequently drilled a number of holes at scattered points throughout the claim group to test magnetic highs associated with ultramafic intrusives. Disseminated sulphide zones with associated nickel values were found at a number of locations; however, no economic deposits were found.

Texasgulf Ltd. staked the gold-zinc zone in 1978 and carried out magnetic, VLF-EM and horizontal loop EM surveys on 100 metre, north-south lines. As established by the previous Falconbridge survey, there is no horizontal loop response over the main zones (OMNR File T-2000, Timmins). There is no record of any drilling by Texasgulf.

Donit Exploration Services carried out a new VLF-EM survey over the 5 claims surrounding the known showings in July of 1983. The work outlined two relatively strong VLF responses (conductors "A" and "B") and numerous weaker responses. This is no obvious VLF response over the gold-zinc zone although the data are relatively active in the showing area and some conductive-like responses here may actually be representative of the pyrite minerlization or associated shearing. IP surveys were recommended by the author of the Donit report, a recommendation with which the present author strongly concurs.

5.0 EXPLORATION RESULTS

5.1 Field Techniques

The initial objectives were to find and evaluate the Dunvegan gold-zinc zone and the Jonsmith gold zone via a program of backhoe stripping, trenching, blasting and sampling. The author geologically mapped the 5-claim showing area in preliminary fashion during the course of this work to more clearly define gross geological relationships. The reported large quartz vein to the south was also located and examined.

Backhoe trenching was carried out with a Caterpillar 225 backhoe on steel pads sub-contracted from Mascioli Construction of Timmins.

The approach was to backhoe a trench, 1.5 to 4.5m wide and up to 6m deep, through overburden to bedrock (Plates 1 and 2). This was followed by washing of the bedrock surface with a high pressure fire pump followed by drilling, blasting and channel sampling of any mineralized zones (Plates 3, 4, 5, 6, 7, 8 and 9).

5.2 Property Geology

The overall property was mapped in sufficient detail to define the main geological relationships (Map 1 at rear). More detailed investigations were carried out in mineralized and trenched areas (Maps 2 and 3).

The property is underlain by a northwest-trending sequence of interbedded pyroclastic rocks comprising ash tuffs, lapilli tuffs and tuff breccias. Dips are steep throughout with steep south dips predominating. Compositionally, the pyroclastics vary from mafic to felsic types with a preponderance of approximately intermediate compositions. Coarser, tuff breccias ("agglomerate") occur in approximately equal proportions with finer ash and lapilli tuffs.

An excellent exposure of the former is to be seen on the large outcrop area just off the road in the area of 6+25E, 0+70N. Here pyroclastic fragments average 7-13cm although may be in excess of 30cm. They are typically amphibolitic in composition and show an often pronounced elongation parallel to prominent foliation. The fragments occur in a white weathering tuffaceous matrix with prominent light greenish streaks; the latter appear to represent smaller, stretched fragments and patches of chloritic material. There appears to have been some flowage of tuffaceous matrix around fragments during development of regional foliation.

Excellent examples of finely laminated ash tuffs are exposed in the area of the 1983 trenching on the old Jonsmith gold zone (6+50E, 4+00N). Field notes describe this area as "generally a NW-striking, steeply south dipping sequence of intermediate - felsic tuffaceous rocks with some cherty chemical sedimentary component; the tuffs are often thinly and delicately laminated on a scale of mm's to cm's although they may be somewhat more massive. The rocks are generally very fine-grained with compositions ranging from mafic chloritic varieties to cherty types. A weak purplish tinge on some varieties may reflect a minor biotite content. Note

local areas of potash feldspar - epidote - quartz (± py, cp) alteration and veining. Generaly stratiform, narrow quartz stringers and pods often displaying small scale folding and crenulation are present.

The tuffs are cut by mafic dike rocks how altered to amphibole + chlorite ± carbonate, pyrite; these are very incompetent and often highly sheared".

In addition to the above altered amphibolites, the pyroclastics are intruded by a major dunite body, now altered to serpentinite, in the southwest portion of the grid along with numerous, smaller and often irregular intrusions of feldspar porphyry and one occurrence of grandiorite. All rocks are intruded by late, north to northwest-trending diabase dikes.

Structurally, a prominent foliation is invariably present in the pyroclastics. This varies from a planar, often compositional lamination in the finer tuffs to a compositional - shear foliation in the tuff breccia. also present are zones of intense schistosity - shear zones - which are invariably mineralized and will be discussed in detail in subsequent sections. The prominent foliation appears to be representative of original pyroclastic bedding judging by certain outcrops where the parallelism of foliation with unequivocal bedding can be observed.

The prominent planar foliation (S1) is probably reflective of and concomitant with major regional folding (F1). One distinct post-F1 fold deformation (F2) is present in an old trench near 0+60N on line 3+00E. This consists of small-

scale, wavy crenulation on a scale of less than 1 ft. about a northwest-striking, 40° north dipping cleavage (S2). The intersection of S1 and S2 plunges gently to the southeast. This direction may have some significance in terms of gold-bearing zones on the property.

5.3 Mineralization, Trenching, Sampling

There are three mineralized areas of interest - Jonsmith gold zone, Dunvegan gold-zinc zone and a large quartz vein to the south of the above.

5.3.1 Jonsmith Gold Zone

Work here consisted of extensive backhoe trenching followed by some blasting and sampling in an attempt to find the surface expression of a gold zone reportedly intersected in a packsack hole by Jonsmith Mines Ltd. in 1960. A 10 ft core length in this hole averaged 0.54 oz Au/ton.

In summary, although some very interesting rocks were uncovered in the course of this work, we were unable to find any gold zones in the area of the reported occurrence. Sampling locations and analytical values are shown on Map 3 along with the trenching pattern. The total length of trench excavation is in excess of 255m.

Some mineralization was found in the course of the work. This consisted of minor pyrite, chalcopyrite and galena in stratiform and crosscutting veins and

alteration zones with epidote, quartz, potash feldspar, calcite in well laminated siliceous tuffs. Plate 8 illustrates the Cu stain on one of these occurrences (sample CC-83-03-Map 3). The hammer head in Plate 9 rests on the contact between the flat-laying potash feldspar epidote vein and steeply dipping tuffs. Of particular significance, minor galena is present in the vein material at samples CC-83-08, 09 (Map 3). This mineral reportedly accompanied the gold in the Jonsmith hole. Also, this was the only location at which galena was observed on the entire property. There were however no gold values in any of the samples.

It may be that the Jonsmith gold zone a) does not extend to surface, b) we did not find it or, c) it does not exist.

In terms of b), all indications confirm that the trenching was carried out in the correct area including the presence of the diabase dike (on the edge of which the old Jonsmith hole was collared) and, more importantly, the discovery of two old drill setups in the immediate area. The pyritic siliceous tuffs are also described in the old reports

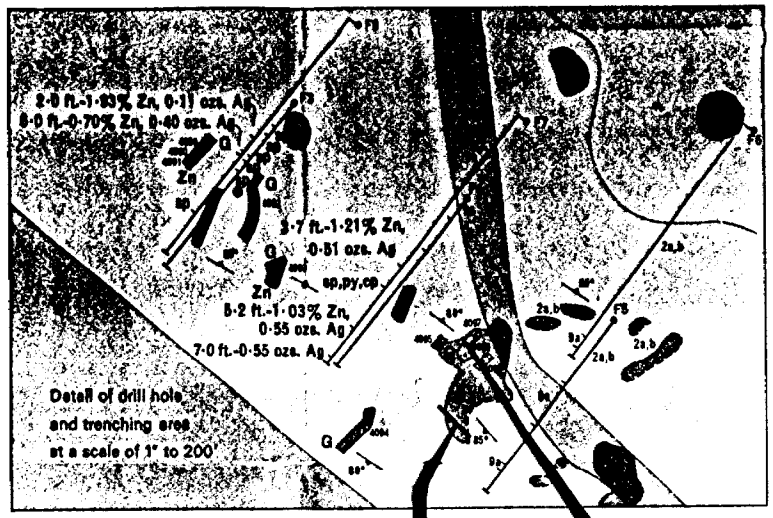
As recommended in a subsequent section, Induced Polarization surveys should be carried out over this area to detect the reported pyrite concentrations associated with the gold. Further recommendations will be contingent on the results of this work.

5.3.2 Dunvegan or Main Gold-Zinc Showing Area

This occurrence displays classic volcanogenic elements in the form of stratiform, siliceous semi-massive pyrite mineralization in intermediate to felsic tuffaceous rocks. Values of up to 0.24 oz Au per ton over 2 ft are reported from old sampling (Figure 4).

In detail there are a number of individual mineralized zones within an overall corridor of mineralization. This outcrops erratically between 1+40N, 1+30E and 0+30S, 4+40E, a distance of some 375m. The corridor is variable in thickness but appears to be 55m thick in the area of the 1983 backhoe trench centered at 0+30N, 3+50E. Map 2 shows the relationship between the various sulphide zones while Map 3 presents details of the 1983 trenching and sampling. Plates 1 to 7 are from this trench.

Individual sulphide zones are up to 3m in thickness and consist of disseminated to massive pyrite in siliceous, sericitic and variably sheared zones. Shearing and sericitization may be very intense such that some of the pyritic zones have been described as "rusty pyritic shears". The pyrite-rich zones are everywhere conformable with pyroclastic bedding. Plate 7 shows one of the rusty, pyritic, intensely sheared zones in the 1983 trench (distance between red bars equals 1m). Plate 10 shows one of the old 1951 trenches on another such zone at 0+10N, 4+00E. A grab sample taken by the author from this trench returned 0.08 oz Au per ton (Figure 4).



1983 Sampling - W.E.B.

83-KPR-08A

83-KPR-08B
08C
08D

NOTES

F1 to F11 are Falconbridge Nickel Mines DDH numbe 1966, on Jonsmith Mines Ltd. option.

#1 and #2 are Norduna Mines Ltd. DDH numbers, 19

N14 and N15 are Norduna Mines Ltd. DDH numbe 1954.

W1 to W6 are Dunvegan Mines Ltd. DDH numbe 1957.

Plan compiled from company maps.

LEGEND

LATE MAFIC INTRUSIVE ROCKS

9a Diabase.

EARLY FELSIC INTRUSIVE ROCKS

7b Feldspar porphyry.

ULTRAMAFIC INTRUSIVE ROCKS

6a Grey to green-grey serpentinite.
6b Dark grey to black serpentinite.
6e Sheared serpentinite.

FELSIC TO INTERMEDIATE METAVOLCANICS

2a Agglomerate.
2b Felsic tuff.

Scale in Feet

200 0 200 400 600

G *Locations from which gold was panned.*

O.D.M. 6515

Akweskwa Lake

CARL CREEK RESOURCES

KENOGAMING TWP. PROPERTY
GOLD-ZINC SHOWING AREA

Project No:	C-596	By:	W.E. Brereton
Scale:	1 inch = 200 Feet	Drawn:	
Drawing No:	Figure 4	Date:	August, 1983

MPH Consulting Limited

The 1983 trench was designed to investigate a low-lying area between bedrock outcrops on the main mineralized trend (Map 3).

At least 10 individual, parallel, conformable pyritic zones ranging from 1cm to 3m or more in thickness were exposed by the backhoe trenching and subsequent rock blasting across a 55m width. The mineralization is confined primarily to 2 tuffaceous units which are flanked to the north and south by coarser, variably pyritic tuff breccia. The northernmost tuff bed is a siliceous tuffaceous - sedimentary rock with pronounced platey foliation. The rock is heavily sheared and sericitized with ½-5% disseminated pyrite throughout.

The bulk of the sheared pyrite mineralization is within the adjoining unit to the south, namely a 25m thick bed of well foliated, dark, siliceous tuffs with 1-3% disseminated pyrite and an occasional coarser lapilli - sized pyroclastic fragment.

Careful chip sampling along 32m of rock trench across mineralized zones and adjoining pyritic wallrocks returned only low Au values, the best being in the 0.04 to 0.07 oz Au per ton range. The latter were from a 0.5m sampling width across an intensely sheared, siliceous pyrite zone in the lower portion of the trench (samples CC-83-11, 20, 20A - Plate 7). The one difference of this zone relative to all the others exposed in the trench was the presence of a thin - 2 to 5cm - central seam rich in bornite. A selected

sample of the latter returned 1.38% Cu (sample CC-83-20A).

A much thicker (3m ±) zone of intense siliceous pyrite mineralization at the south contact of the tuffs returned only low values.

Several of the zones can be seen to be distinctly geochemically anomalous with values in the 1000 to 1500 ppb range (CC-83-14, 22, 25).

Bedrock dips reverse along the length of the trench from steep north in the north to steep south in the south. It appears therefore that the previous Falconbridge drilling did not completely cross section the entire zone.

Falconbridge investigated an approximately 240m long section of the mineralized corridor in 8 holes. Although their interest was primarily in base metals, they do report up to 0.08 oz Au per ton over 3.3 ft (Hole 4). Significant base-precious metals intersections are tabulated on Map 2.

Individual pyrite-rich zones are somewhat discontinuous along strike based on surface mapping. This is in accord with previous HLEM results. The pyrite-sphalerite zone exposed at the old trench near the baseline, 4+00E, for example, was not intersected at its strike projection in the 1983 trench.

Sphalerite was noted at 3 apparently unrelated places in old workings - at 0+06N, 4+00E; 0+61N, 3+09E, and

0+44N, 3+31E. The latter occurrence is exposed in a large pit at least 3m deep and 1.5-2.5m square. The pit was sunk on a zone of wavy, but essentially vertical shearing in dark purplish, fine-grained tuffs. Two mineralized zones 15 to 30cm wide located approximately 1m apart are best exposed on the east wall of the pit. These are steeply dipping and are intensely silicified and epidotized with irregular stringers and patches of carbonate, chalcopyrite, pyrite and coarsely crystalline blackjack sphalerite. A peculiar amphibole alteration is associated with the sphalerite mineralization in this outcrop area. A selected grab sample from rubble around the pit returned 21.8% Zn and 0.7 oz Ag per ton. Au values are low. The Zn mineralization, in its present form, appears later than the siliceous pyrite ($\pm$ Au) mineralization.

Research of old data indicates a number of old trenches with shearing, pyrite mineralization and low gold values on the east side of Akweskwa Lake. The author feels that this area represents the continuation of the "mineralized corridor" as it is directly on its southeast strike projection. No field work was carried out on this side of the lake due to lateness of season.

Attempts to reach bedrock with the backhoe in the intervening area between the above trenches and the main showing were unsuccessful due to a cover of sandy outwash in excess of the reach of the backhoe (10 m). This entire area remains untested.

5.3.3 Quartz Vein Zone

Follow-up to reports of a large quartz vein with low gold values (0.01 oz Au per ton) south of the main showings resulted in its re-location and sampling on October 23, 1983. The vein zone is located in the south-central portion of claim 653241 (Map 1). It consists of massive white quartz infilling a strong chloritic shear zone. Quartz veining is conformable with shearing (295/90°) where the relationship between the two can be observed. The quartz material is incompletely exposed across 40 m or more of old trenching (Plates 11 and 12). Where exposed, it appears to be completely barren of sulphides.

A large pit, 4 m deep and a like distance across has been sunk on the north side of the zone. Loose material in the north wall of the pit suggests that the quartz zone may be bounded in this direction by feldspar porphyry. Four grab samples did not return any values of interest (CC-83-04 to 07) although much more exhaustive sampling would be required to properly evaluate this very impressive concentration of quartz vein material.

CONCLUSIONS AND RECOMMENDATIONS

In confirmation of the original exploration model, mineralization at the main gold-zinc zone is concluded to be primarily of volcanogenic origin based on the backhoe trenching - geological mapping program. A number of discontinuous individual siliceous pyrite zones up to 3m in thickness are present within an overall mineralized corridor which is 55m thick where exposed in the 1983 trench. Similar mineralization reported east of Akweskwa Lake is interpreted to be the continuation of the above zone. Overall strike length is therefore in excess of 1200m.

Gold values to date are relatively low from an economic viewpoint (generally less than 0.1 oz Au/ton). These are highly significant from an exploration lithogeochemistry perspective however and suggest that the desired gold mineralizing processes have been operative along this stratigraphy.

The only drill investigations to date are those by Falconbridge in the northwest portion of the zone in 1966.

The bulk of this geochemically "live" and geologically favourable stratigraphy has therefore never been tested by state-of-the-art exploration techniques. Such a test is strongly recommended.

The surface exposure of the reported Jonsmith gold zone could not be located via extensive backhoe trenching in the indicated area of the old drill hole. However, it appears that our work was carried out in the correct area based on geological relationships, presence of old drill set-ups, etc. Also, although no gold values of significance were encountered, some geological encouragement in the form of minor Cu $\pm$ Pb mineralization is epidotic vein and

alteration zones in pyritic siliceous tuffs was encountered. Accepting that the previous Jonsmith intersection is in fact real, this area deserves further attention.

The large quartz vein zone to the south of the main showing has only been very superficially examined and also merits further attention both from an industrial minerals and gold exploration standpoint.

This 5-claim portion of the property is concluded to have good gold exploration potential.

A program of linecutting and Induced Polarization surveying is recommended as the next phase in evaluating the gold potential of these claims.

Per previous detailed recommendations to the Joint Venture, an additional 10 km of detail, 50m infill lines should be cut between existing lines to more completely cover mineralized zones. This should be followed by blanket Induced Polarization surveying of the entire grid (18km). IP has never been used on the prospect before even though the observed style of mineralization would appear to present an excellent IP target.

Our recommendations for the IP surveying is a time domain system with an "a" spacing of 40m and reading n=1 through 4. Anomalies of potential economic interest would then be carefully detailed with a 20m "a" spacing for better resolution and drill target selection.

A total budget estimate of $40,000.00 was provided inclusive of the additional linecutting, IP surveying, field supervision and reporting.

Recommendations for further work, mainly in the form of diamond drilling, will be contingent on the results of the IP survey evaluated in view of our geological models and information to date.

Respectfully submitted,

W.E. Brereton, P.Eng.

REFERENCES

Breaks, F.W.; 1978
Geology of the Horwood Lake Area, Ont. Geol. Surv. Report 169

Darke, K.H.; 1983
Preliminary Exploration Report on the Akweskwa Lake Claim Group, Kenogaming Township, Ontario; unpublished report for Carl Creek Resources Ltd.

Harding, W.D.; 1937
Geology of the Horwood Lake Area, Ont. Dept. Mines An. Report, Vol. XLVI, P II, 1937.

Laird, H.C.; 1935
Horwood Lake Area, Ont. Dept. Mines An. Report, Vol. XLIV, Pf VII, 1935.

Milne, J.G.; 1972
Geology of the Kukatush - Sewell Lake Area, Ont. Div. Mines Geol. Report 97.

CERTIFICATE OF QUALIFICATIONS

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

1. I am a consulting geologist with an office at 120 Adelaide Street West, Suite 2406, Toronto, Ontario, M5H 1T1, Canada.

2. I obtained an Honours B.Sc. degree in Geology and Physics from Queen's University in 1971 and an M.Sc.(A) in Mineral Exploration from McGill University in 1977.

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

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

5. I have no interest in Bearcat Explorations or Carl Creek Resources or the Kenogaming property nor do I expect to receive or acquire any such interest.

William E. Brereton, P.Eng.,
Toronto, Ontario, Canada,
November, 1983

Appendix I - Plates

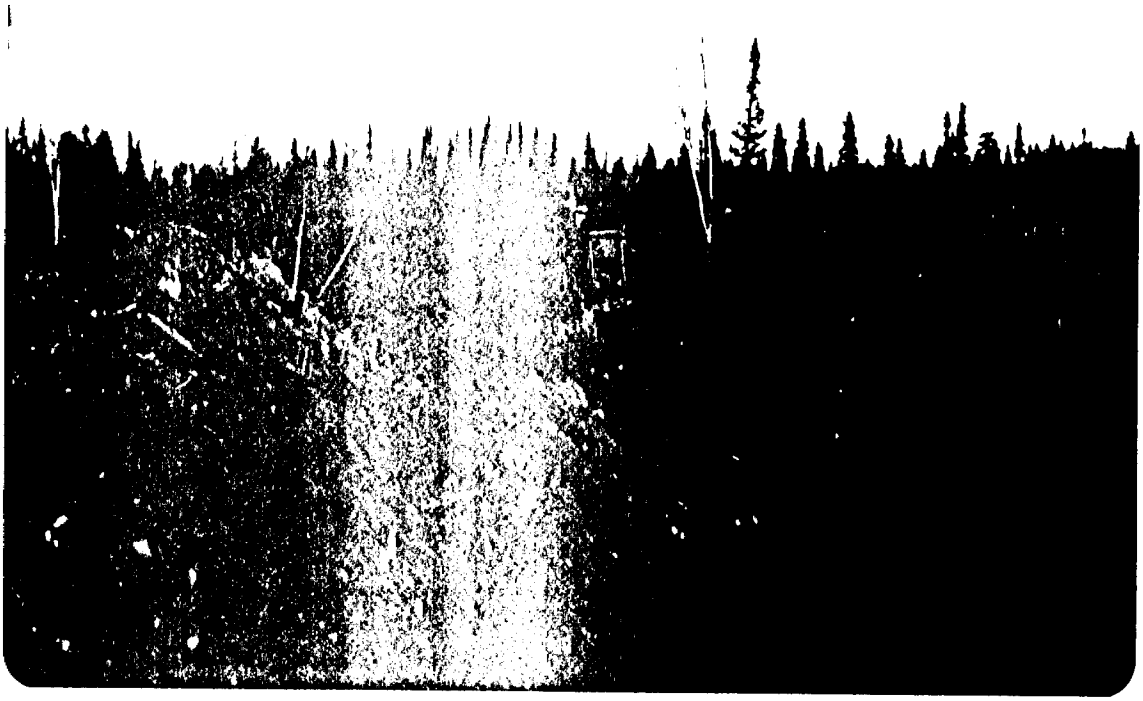


Plate 1: Backhoe operations at trench on "Main" Au-Zn showing, looking north.

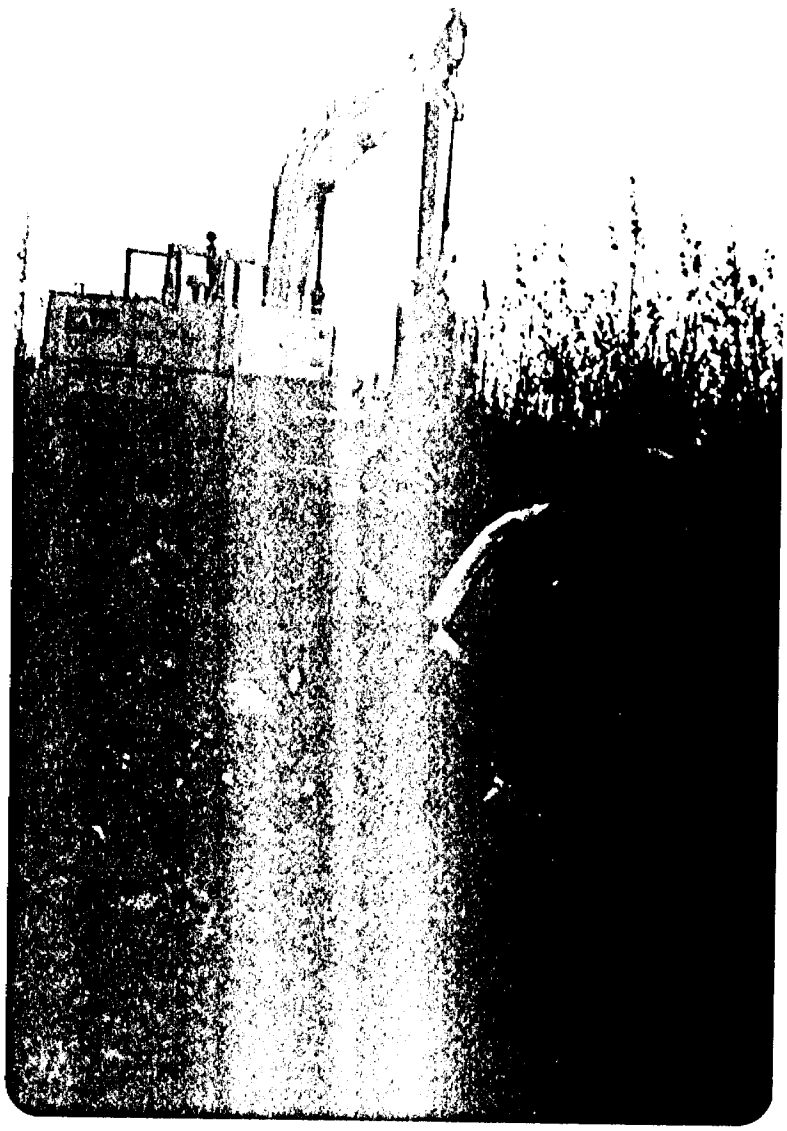


Plate 2: Backhoe operations on Jonsmith zone - discovery of Cu-stain on bedrock surface (Plate 8).

Plate 3: Drill pattern -- rock trenching on Main showing.

Plate 4: Continuation of drill pattern from Plate 3 showing drill holes loaded for blasting.

Plate 5: Main showing - charges wired up and ready to go.

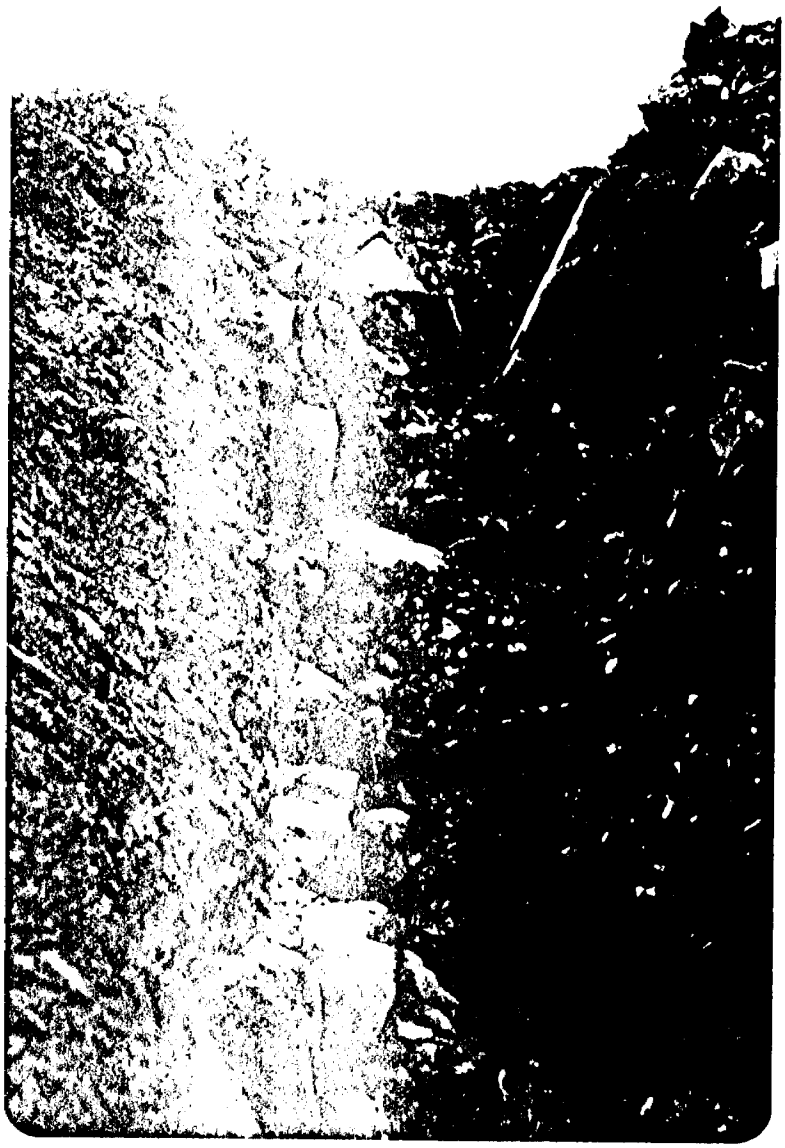


Plate 6: Aftermath of large blast on Main showing trench - looking north.

Plate 7: Main showing trench - rusty mineralized zone as exposed by blast and prior to sampling - distance between red bars = 1m.

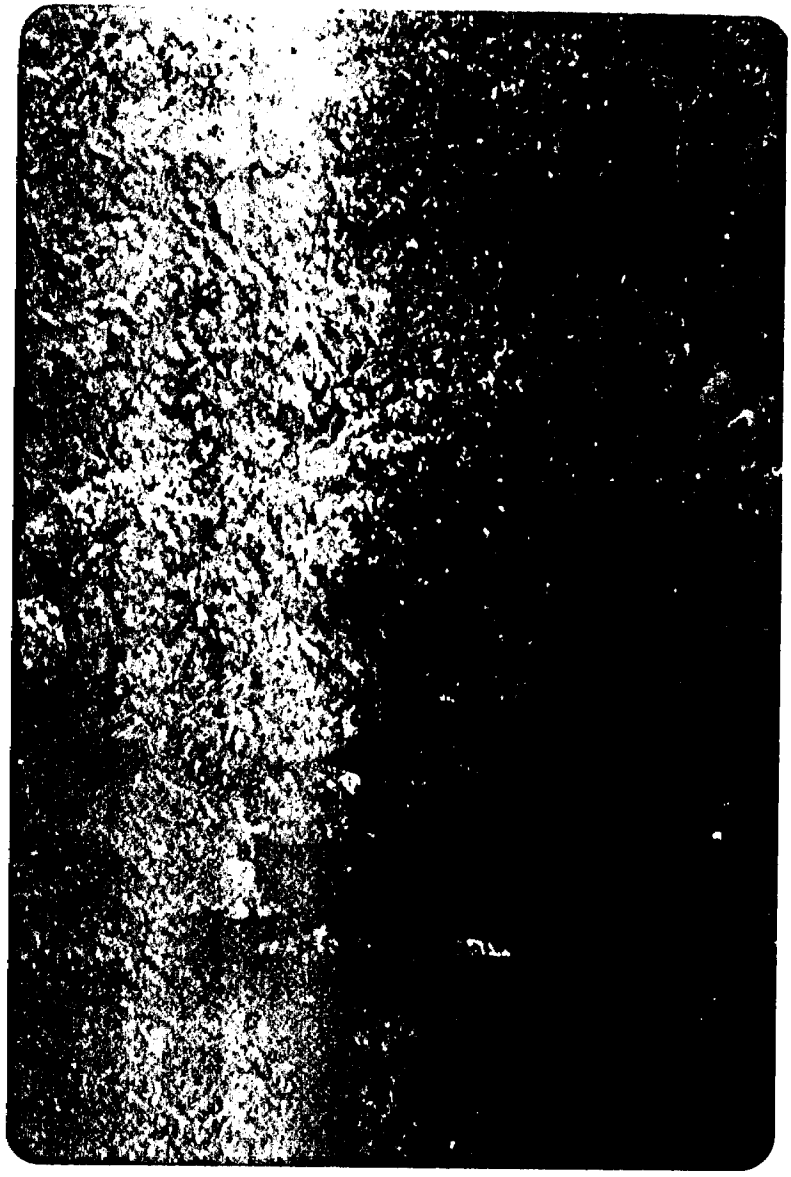


Plate 8: Jonsmith trench area - secondary Cu oxides exposed by trenching.

Plate 9: Trench blasted on above; Cu minerals seen to be in flat-lying, 6 inch plus green epidote vein cutting steeply dipping siliceous tuffs.

Plate 10: Old trench near baseline, 4+00E on Main Au-Zn zone, looking north.

Plate 11: Old trench on quartz vein zone on claim 653241.

Plate 12: As 11, another view of massive white quartz exposed in old trench.

Appendix II - Analytical Results

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 55527 Date: August 8, 1983

Received July 26, 1983 4 Samples of Ore

Submitted by MPH Consulting Limited, Toronto, Ontario

SAMPLE NO.	GOLD PPB	GOLD Oz./ton	SILVER PPM	ZINC %
83-KPR-08A	1540	--	13.7	--
83-KPR-08B	1090	--	9.1	--
83-KPR-08C	2070	0.068	3.8	--
83-KPR-08D	160	--	17.3	8.75

Per G. Lebel
G. Lebel - Manager

ESTABLISHED 1928

Member Canadian Testing Association

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. Combined 56536 56563 56617 56624 Date: November 23, 1983

Received Nov. 2, 3, 7, 9/83 44 Samples of Ore/Split Core/Rock/Crushed Ore

Submitted by M.P.H. Consulting Limited, Toronto, Ontario Attn: Mr. W. Brereton

Project # C-596

SAMPLE NO.	GOLD PPB	GOLD Oz./ton	SILVER PPM	COPPER PPM
CC-83-1	Nil	--	--	--
CC-83-2	Nil	--	--	--
CC-83-3	Nil	--	--	1700
CC-83-4	Nil Nil	--	--	--
CC-83-5	Nil	--	--	--
CC-83-6	Nil	--	--	--
CC-83-7	10	--	--	--
CC-83-8	10	--	--	--
CC-83-8A	10 Nil	--	--	--
CC-83-9	Nil	--	--	--
CC-83-10	Nil	--	--	--
CC-83-11	2070	0.071	--	--
CC-83-12	150	--	--	--
CC-83-13	110	--	--	--
CC-83-14	1090 1100	--	--	--
CC-83-15	80	--	--	321
CC-83-16	30	--	--	--
CC-83-17	80	--	--	--
CC-83-18	110	--	--	--

Per G. Lebel - Manager

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
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Received Nov. 2, 3, 7, 9/83 44 Samples of Ore/Split Core/Rock/Crushed Ore

Submitted by M.P.H. Consulting Limited, Toronto, Ontario Attn: Mr. W. Brereton

Project # C-596

SAMPLE NO.	GOLD PPB	GOLD Oz./ton	SILVER PPM	ZINC %	COPPER %
CC-83-19	20	--	--	--	
CC-83-20	2450	0.058	--	--	0.19
Second Pulp		0.040 0.064			
CC-83-20A	1910	0.052	--	--	1.38
CC-83-21	70	--	--	--	
CC-83-22	1000	--	6.1	--	
CC-83-23	40	--	--	--	
CC-83-24	180	--	--	--	
CC-83-25	1300 1390	--	--	--	
CC-83-25A	30	--	--	--	
CC-83-26	130	--	--	--	
CC-83-27	10	--	--	--	
CC-83-28	30	--	--	--	
CC-83-29	70	--	--	--	
CC-83-29A	280	--	--	--	
CC-83-30	50	--	--	--	
CC-83-31	Nil	--	--	--	
CC-83-32	20	--	--	--	
CC-83-33	20	--	--	--	
CC-83-34	10	--	--	--	

Per G. Lebel
G. Lebel - Manager

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. Combined 56536 56563 56617 56624 Date: November 23, 1983

Received Nov. 2,3,7,9/83 44 Samples of Ore/ Split Core/ Rock/ Crushed Ore

Submitted by M.P.H. Consulting Limited, Toronto, Ontario Att'n: Mr. W. Brereton

Project # C-596

SAMPLE NO.	GOLD PPB	SILVER PPM	ZINC %
CC-83-35	350 310	22.8	21.83
CC-83-36	40	0.8	--
CC-83-37	130	2.0	--
CC-83-38	20	--	--
CC-83-39	30	1.6	--
CC-83-40	10	--	--

Per G. Lebel

G. Lebel -- Manager

Ministry of Natural Resources
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures) #21/84

The Mining A

42A04NW0138 2.6285 KENOGAMING

900

Type of Survey(s): Geological	Township or Area: Kenogaming Twp.
Claim Holder(s): Ingamar Explorations Ltd.	Prospector's Licence No.: T-836
Address: Cedar Hill, Ontario	
Survey Company: MPH Consulting Limited	Date of Survey (from & to): 5 10 83 (Day Mo. Yr.) 7 11 83 (Day Mo. Yr.) — Total Miles of line Cut: ---
Name and Address of Author (of Geo-Technical report): W.E. Brereton; 2406-120 Adelaide Street West, Toronto, Ontario M5H 1T1	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	20
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

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.

Date	Recorded Holder or Agent (Signature)
Jan. 16/84	[signature]

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
P	652688 ✓	
	652689 ✓	
	652690 ✓	
	652691 ✓	
	652692 ✓	

RECEIVED
FEB 23 1984
MINING LANDS SECTION

RECORDED
JAN 18 1984
Receipt No.

RECEIVED
PORCUPINE MINING DIVISION
JAN 18 1984
A.M. 7 8 9 10 11 12 1 2 3 4 5 6 P.M.

See revised work statement

Total number of mining claims covered by this report of work. 5

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
100	Jan 18/84	[signature] Mining Recorder
	Date Approved as Recorded	Branch Director

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
W.E. Brereton; 2406-120 Adelaide Street West, Toronto, Ontario M5H 1T1

Date Certified	Certified by (Signature)
Jan. 16/84	[signature]

April 5, 1984 Our File: 2.6285

Ingamar Explorations Ltd
Cedar Hill
Connaught, Ontario
P0N 1A0

Dear Sirs:

RE: Geology Survey submitted on Mining Claims
P 652688 to 92 inclusive in the Township
of Kenogaming

Enclosed are the geological plans, in duplicate, for the above-mentioned survey. Please have the author of the report colour code the designated geological outcrops and return all to this office as soon as possible.

For further information, please contact Mr. F.W. Matthews at (416)965-6918.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-6918

McE. Anderson:mc

cc: Mining Recorder
Timmins, Ontario

Ministry of Natural Resources
Ontario

Geotechnical Report Approval

File 26285

Feb. 24/84

Mining Lands Comments

— too detailed. Color will mask copying. ~~est~~

☐ To: Geophysics

Comments

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☑ To: Geology - Expenditures Mr. Kustra.

Comments

☑ Approved ☐ Wish to see again with corrections | Date March 15/84 | Signature C. Kustra

☐ To: Geochemistry

Comments

L.D.

☐ Approved ☐ Wish to see again with corrections | Date | Signature

☐ To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)

1693 (81/10)

D.K.

Assessed

Approved Reports of Work sent out

Notice of Intent filed

Approval after Notice of Intent sent out

Duplicate sent to Resident Geologist

Duplicate sent to A.F.R.O.

1984 01 23 Our File: 2.6285

Mr. Bruce Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims P 652688 to 92 inclusive in the Township of Kenogaming.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

J.R. Morton
Acting Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone:(416)965-1380

A. Barr:mc

cc: Ingamar Explorations Ltd
Cedar Hill
Connaught, Ontario
PON 1A0

cc: M.P.H. Consulting Limited
Suite 2406
120 Adelaide Street West
Toronto, Ontario
M5H 1W5
Attention: W.E. Brereton

Ontario

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) Geological

Township or Area Kenogaming Twp.

Claim Holder(s) Ingamar Explorations Ltd.
Cedar Hill, Ontario

Survey Company MPH Consulting Limited

Author of Report W.E. Brereton, P.Eng.

Address of Author 2406-120 Adelaide St. West, Toronto

Covering Dates of Survey Oct. 15 - Dec. 15/83
(linecutting to office)

Total Miles of Line Cut ---

SPECIAL PROVISIONS CREDITS REQUESTED

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

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
--Electromagnetic	
--Magnetometer	
--Radiometric	
--Other	
Geological	20
Geochemical	

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

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

DATE: Jan. 16/84 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications 21310

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	652688
	652689
	652690
	652691
	652692

RECEIVED
JAN 19 1984
MINING LANDS BRANCH

RECEIVED
JAN 17 1984
MINING LANDS BRANCH

TOTAL CLAIMS 5

If space insufficient, attach list

OFFICE USE ONLY

2.6285

1984 06 20

Your File: 21-84
Our File: 2.6285

Mr. Bruce W. Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Notice of Intent dated May 31, 1984 Geology Survey on Mining Claims P 652688 to 92 inclusive in the Township of Kenogaming

---

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

B. Hurst:mc

cc: Ingamar Explorations Ltd
Cedar Hill
Connaught, Ontario
P0N 1A0

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

cc: Resident Geologist
Timmins, Ontario

Encl.

Ministry of Natural Resources
Ontario

Technical Assessment Work Credits

File 2.6285

Date 1984 05 31

Mining Recorder's Report of Work No. 21-84

Recorded Holder: INGAMAR EXPLORATIONS LTD

Township or Area: KENOGAMING TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	P 652688-89-91-92
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological 20 days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

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

10 DAYS

P 652690

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:

828 (83/6)

Ministry of Natural Resources
Ontario

June 15/84

Your file: 21-84

Our file: 2.6285

1984 05 31

Mr. Bruce W. Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

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. F.W. Matthews at 416/965-6918.

Yours very truly,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: 416/965-1316

RW S. Hurst:mc
Encls.

cc: Ingamar Explorations Ltd
Cedar Hill
Connaught, Ontario
PON 1AO

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

6645

Ministry of Natural Resources

Ontario

Notice of Intent

for Technical Reports

1984 05 31

2.6285/21-84

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 Lands Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

						2.6285
65-2688	✓	[redacted]	[redacted]			
89	✓					
90	1/2					
91	✓					
92	✓					

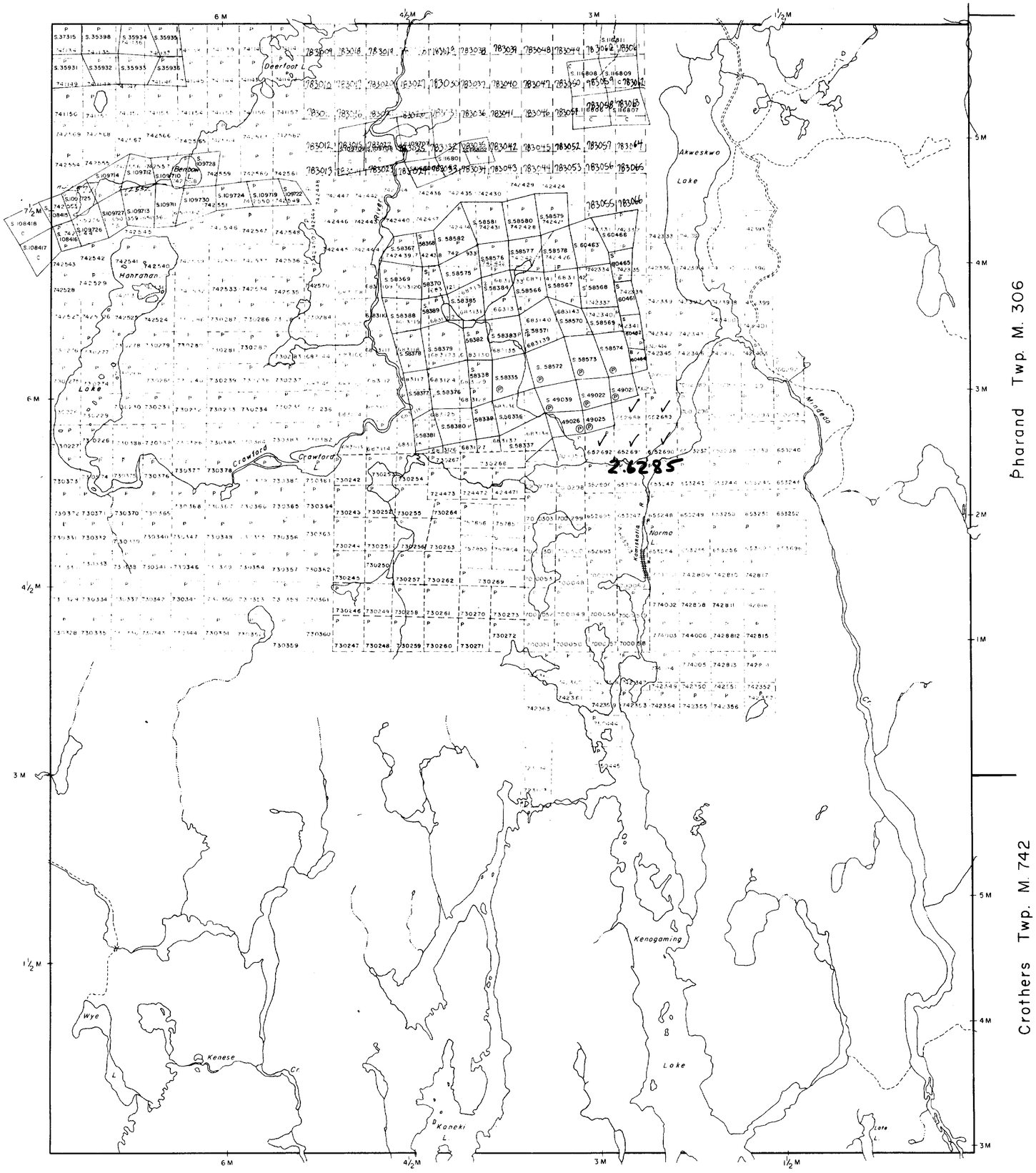
Sewell Twp. M.1102

Penhorwood Twp. M.1055

Pharand Twp. M.306

Crothers Twp. M.742

Regan Twp. M.1075



THE TOWNSHIP OF

KENOGAMING

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	● or (P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C
PATENTED S.R.O.	

NOTES

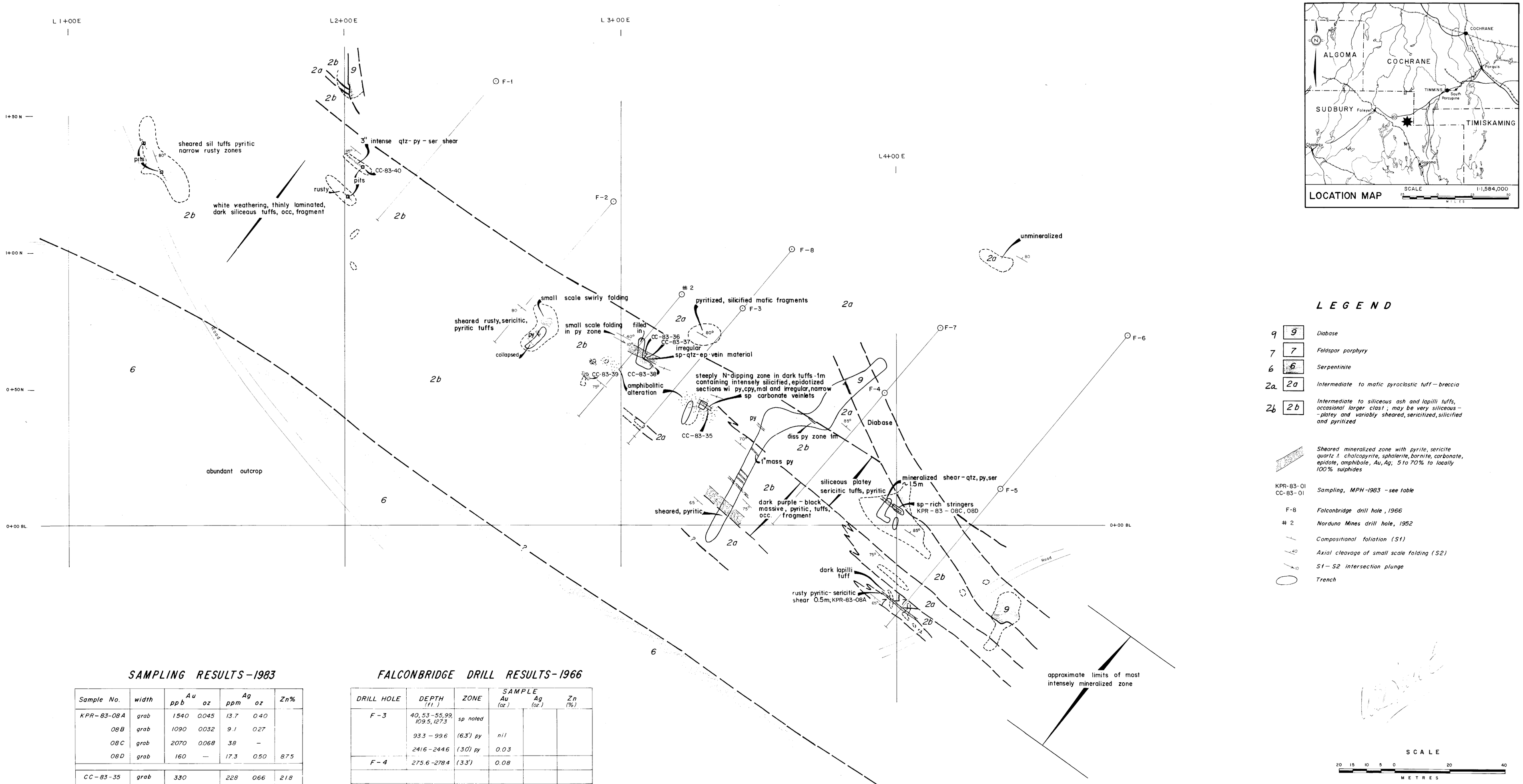
400' Surface Rights reservation along the shores of all lakes and rivers.

PLAN NO.- M.967

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH



LEGEND

- 9 — Diabase
- 7 — Feldspar porphyry
- 6 — Serpentinite
- 2a — Intermediate to mafic pyroclastic tuff – breccia
- 2b — Intermediate to siliceous ash and lapilli tuffs, occasional larger clast; may be very siliceous – platey and variably sheared, sericitized, silicified and pyritized
- Sheared mineralized zone with pyrite, sericite quartz ± chalcopyrite, sphalerite, bornite, carbonate, epidote, amphibole, Au, Ag, 5 to 70% to locally 100% sulphides
- KPR-83-01 / CC-83-01 — Sampling, MPH-1983 – see table
- F-8 — Falconbridge drill hole, 1966
- # 2 — Norduna Mines drill hole, 1952
- Compositional foliation (S1)
- Axial cleavage of small scale folding (S2)
- S1–S2 intersection plunge
- Trench

SCALE
20 15 10 5 0 20 40
METRES

SAMPLING RESULTS – 1983

Sample No.	width	Au ppb	Au oz	Ag ppm	Ag oz	Zn%
KPR-83-08A	grab	1540	0.045	13.7	0.40	
08B	grab	1090	0.032	9.1	0.27	
08C	grab	2070	0.068	38	–	
08D	grab	160	—	17.3	0.50	8.75
CC-83-35	grab	330		228	066	21.8
36	1m	40		0.8		
37	1m	130		2.0		
38	grab	20		–		
39	1m	3.0		1.6		
40	grab	10		–		

FALCONBRIDGE DRILL RESULTS – 1966

DRILL HOLE	DEPTH (ft.)	ZONE	SAMPLE Au (oz.)	SAMPLE Ag (oz.)	Zn (%)
F-3	40,53-55,93, 109.5, 127.3	sp noted			
	93.3 – 99.6	(6.3') py	nil		
	241.6 – 244.6	(3.0') py	0.03		
F-4	275.6 – 278.4	(3.3')	0.08		
F-7	303 – 306.7	py, sp	0.03	0.51	1.21
	407 – 412.2	py, sp	0.01	0.55	1.03
	492 – 496	py	0.005	0.55	
F-8	242.8 – 244.8	py, sp	0.005	0.40	0.70
	274 – 276	py, sp	0.005	0.11	1.93
	388	py, sp			

CARL CREEK – BEARCAT JOINT VENTURE

KENOGAMING TWP. GOLD PROSPECT

MAIN SHOWING AREA DETAILED GEOLOGY

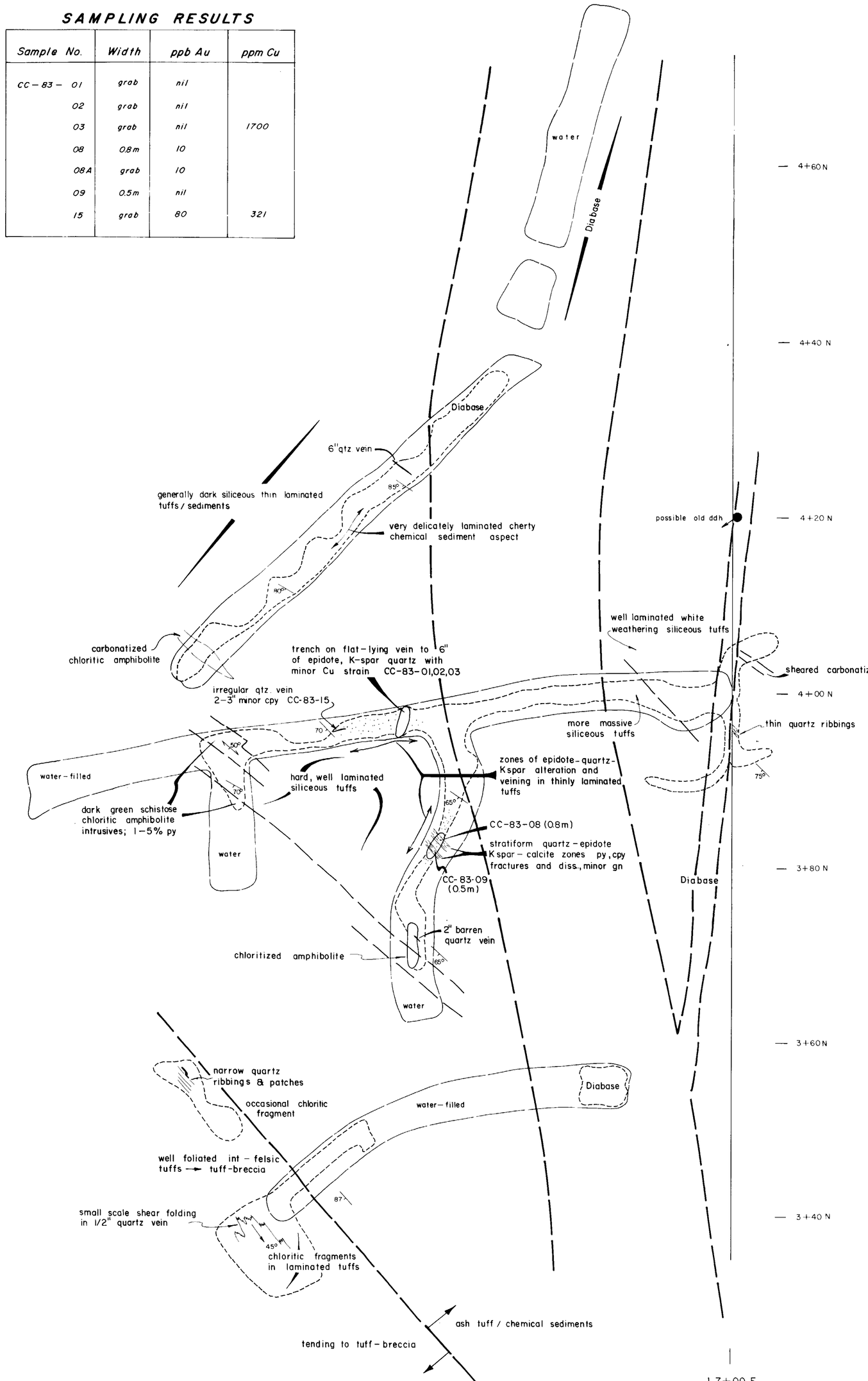
Project No: C-596	By: W.E. Brereton
Scale: 1:500	Drawn: G.C.S. Ltd.
Drawing No: Map 2	Date: Nov./83

MPH Consulting Limited

CARL CREEK–BEARCAT
JOINT VENTURE
KENOGAMING TWP. GOLD PROSPECT
GEOLOGY
Project No. C-596
Scale: 1:2000
Drawing No. Map 1
By: W.E. Brereton
Drawn: GCS Ltd
Date: Dec/83
MPH Consulting Limited
LOCATION MAP
SCALE 1:1,584,000
ALGOMA
COCHRANE
SUDBURY
TIMISKAMING
TIMMINS
South Porcupine
LEGEND
LITHOLOGIES
9 Diabase
8 Granodiorite
7 Feldspar (± quartz) porphyry
6 Serpentinite (meta-dunite)
5 Amphibolite, variably sheared
2 Intermediate to felsic pyroclastics
2a Intermediate tuff-breccia, local mafic varieties
2b Intermediate to felsic ash tuffs, some lapilli tuffs may include some delicately laminated chemical sedimentary component
SYMBOLS
Prominent planar foliation (often compositional), strike and dip
Schistosity, strike and dip
Geological contact
Claim post, located, inferred
Trench, pit
Bush road
Timbered area (outside hachure pattern)
Higher ground
ABBREVATIONS
py pyrite
po pyrrhotite
cp chalcopyrite
q.v. quartz vein
ser sericite
ep epidote
SCALE
METRES
AKWESKWA LAKE
Area of 1983 stripping and trenching on old Jonsmith Au Zone (see map 3)
Main Au-Zn Zone (Maps 2,3)
Trench 1983
old trenches
po,cp,py
qv 6"
old ddh set up?
old ddh
abundant white qtz.
mafic tuff breccia
qtz-py zone
qtz-py-ser zones
py-qtz-ser shear 1.5m
py-ser shear 0.5m
rusty zones
rusty,py
chloritic bands
siliceous platey;
porphyry intrusives
narrow rusty bands
boulders
backhoe pits in fine sand 10m no bedrock
backhoe trench
hummocky sandy outwash
extensive white quartz veining in strong chloritic shear zone, low Au values reported
7 on wall of pit, py CC-83-07
Pit 3-4m CC-83-06
CC-83-05
CC-83-04
mineralized shear zones and quartz veins (from old records) in 2a,b; qtz., py, ser; low Au values reported
outcrop 2a,b,7
large outcrop area 2a,b
open grassy area
open grassy marsh
balsam–poplar ridge
cedar swamp
high ground
old cabin
cabin
cleared area
to main haulage road
Road with rams up
700288
700289
700296
652689
652690
652691
652692
653237
653241
653242
653243
652800
L0+00
L1+00E
L2+00E
L3+00E
L4+00E
L5+00E
L6+00E
L7+00E
L8+00E
L9+00E
L10+00E
L11+00E
L12+00E
6+00N
5+00N
4+00N
3+00N
2+00N
1+00N
0+00BL
1+00S
2+00S
220

SAMPLING RESULTS

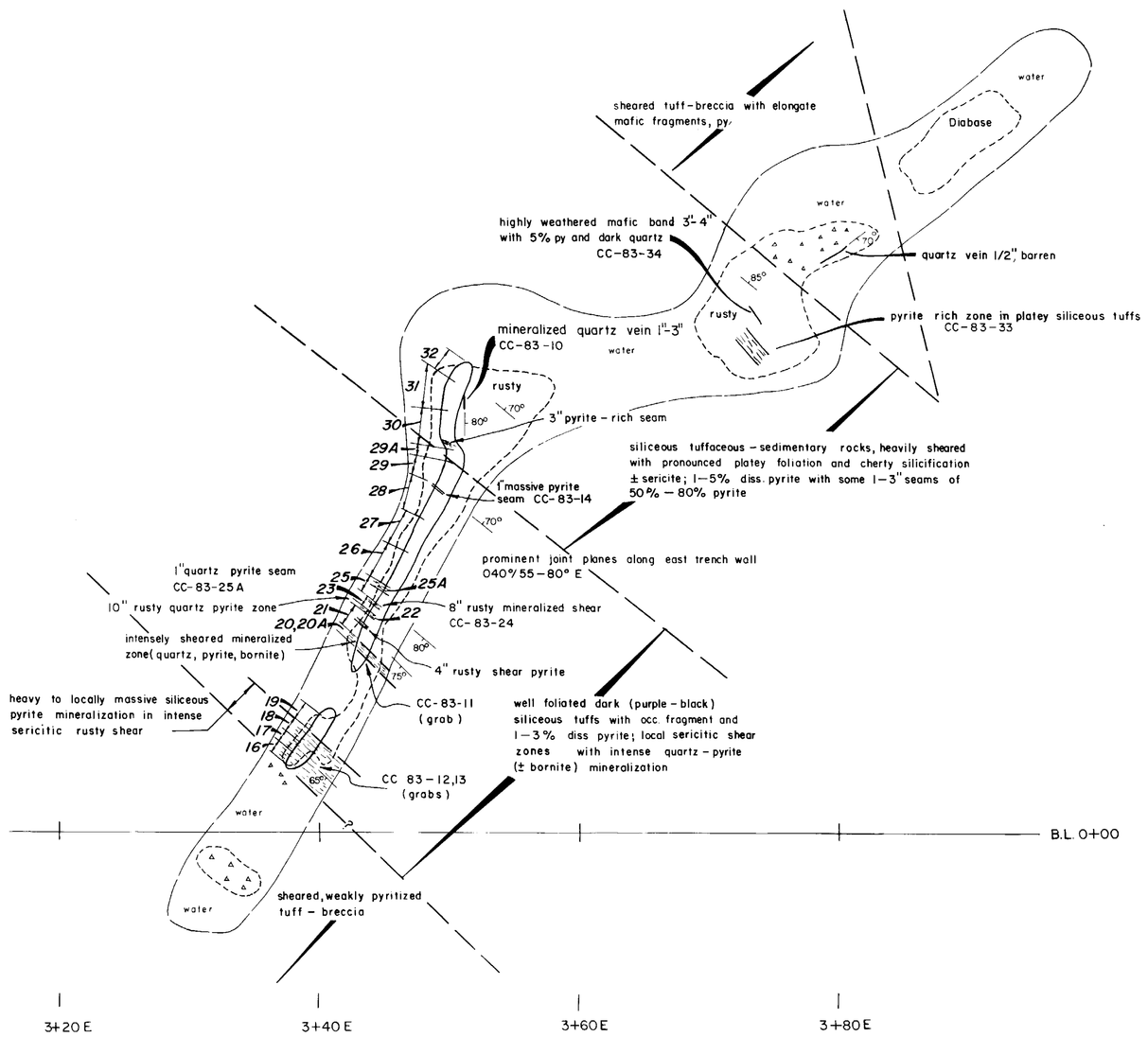
Sample No.	Width	ppb Au	ppm Cu
CC-83-01	grab	nil	
02	grab	nil	
03	grab	nil	1700
08	0.8m	10	
08A	grab	10	
09	0.5m	nil	
15	grab	80	321



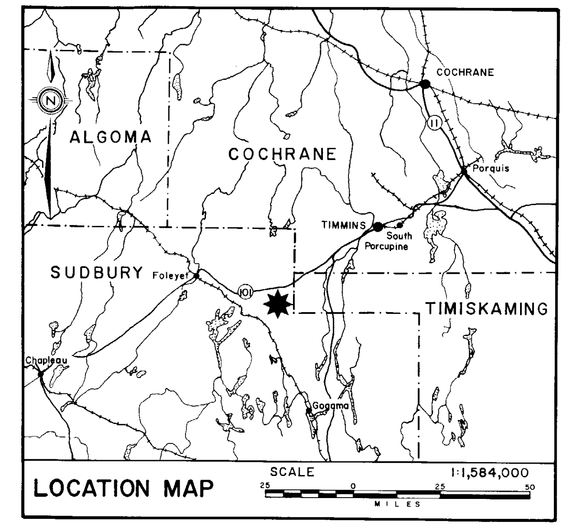
TRENCH PLAN — JONSMITH SHOWING AREA

SAMPLING RESULTS

Sample No	Width	Au ppb	Au oz/ton	Ag ppm	Ag oz./ton	Cu%
CC-83-10	grab	nil				
-11	grab	2070	0.071			
-12	grab	150				
-13	grab	110				
-14	grab	1095	0.032			
-16	1.0m	30				
-17	1.0m	80				
-18	1.0m	110				
-19	1.5m	20				
-20	0.5m	2450	0.058			0.19
-20A	grab	1910	0.052			1.38
-21	10cm	70				
-22	25cm	1000		6.1		
-23	36cm	40				
-24	20cm	180				
-25	1.5m	1345	0.039			
-25A	grab	30				
-26	3.0m	130				
-27	3.0m	10				
-28	2.5m	30				
-29	2.0m	70				
-29A	1.0m	280				
-30	3.0m	50				
-31	2.5m	nil				
-32	1.5m	20				
-33	1.0m	20				
-34	grab	10				



TRENCH PLAN — MAIN SHOWING AREA



LEGEND

- Prominent compositional foliation, strike and dip
- Schistosity, strike and dip
- Geological Contact
- Backhoe trench through overburden (0-10m) to bedrock
- Bedrock (exposed in trench with hi pressure hose)
- Trench blasted into bedrock
- Mineralized zone

CARL CREEK-BEARCAT JOINT VENTURE

KENOGAMING TWP. GOLD PROSPECT

DETAILED TRENCH PLAN

Project No: C-596	By: W.E. Brereton
Scale: 1:250	Drawn: GCS Ltd.
Drawing No: Map 3	Date: Nov./83

MPH Consulting Limited

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