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**Geology and Exploration of the Black Fox Claim Group,**

**Kenora Mining District, Northwest Ontario**

**OPAP 90 - 242**

**J.V. Hamilton**

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## PART I

### Geology of the Black Fox Claims

#### Property Location and Access

The Black Fox claim group lies in the NW quadrant of Hodgson Township, Ignace area of the Kenora Mining Division (Fig. 1). The claims, which partially straddle provincial highway 17, are approximately 60 km southeast of Dryden and 25 km northwest of Ignace. The area, in general, is crossed by the main line of the C.P.R., the trans-Canada Highway (17), the trans-Canada Pipeline and an Ontario Hydro powerline.

Several old bush tracks on the property are presently choked with abundant windfall.

#### List of Claims

K1069981	K1070166	K1070168	K1070170	K1107230
K1069707	K1070167	K1070169	K1107229	K1107405

#### Brief History

The area, which includes the present Hodgson Township, is part of what in the early days of gold mining in NW Ontario was known as the New Klondike gold region (Satterly, 1960). Limited gold production has been recorded in the area 20 km SW of Hodgson Township. However, no mineral production has been recorded in the immediate vicinity of Hodgson Township.

The Black Fox and Jumbo claims were first worked in the early 1890's by the Maple Leaf Gold Mining Co. Several shallow shafts and pits were developed and worked for several years with promising results. Newspaper reports from that period describe gold-bearing quartz veins from 30 to 100 feet wide with assays averaging \$9.00 a ton (1890 gold price). Nickel ore was also reported from the Black Fox claims (see Appendix I). The property lay relatively dormant until the mid-1960's when several of the quartz veins were uncovered to test the quality of the silica for eventual quarrying purposes.

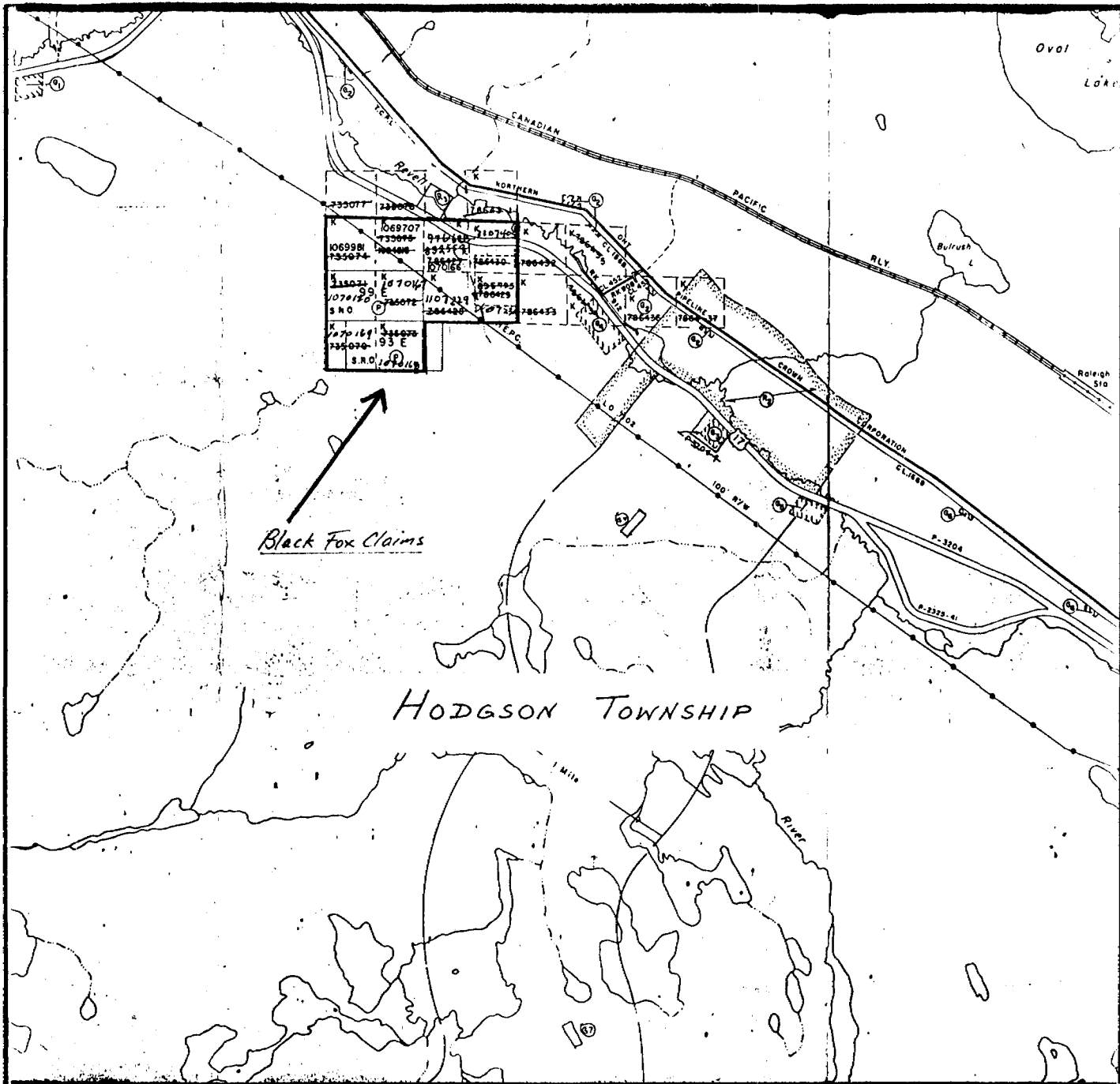


FIGURE 1. LOCATION OF THE BLACK FOX CLAIMS

## **Object of the Program**

The object of the 1990 program was to map the Black Fox claims in detail and to sample the area in order to verify the results reported in newspaper accounts from the late 1890's. Economic concentrations of the minerals Au, Ni, Cu, and Pt were to be targeted.

## **Description of Work**

An initial reconnaissance of the claims established the location of the shafts, pits, and trenches which date back to the late 1890's. Secondly, the general strike of lithological units was ascertained in order to best place the baseline. The baseline was then established with an azimuth of 130° and was picketed along an Ontario Hydro powerline right-of-way which conveniently bisects the property in a NW-SE direction. Grid north was established as N40° E. Lines were cut off the baseline, to the northeast and to the southwest, on 400 foot spacings. Mapping control was further established by picket intervals, on the lines, of 100 feet. Linecutting and chaining were dramatically slowed by the presence of dense windfall, the result of hurricane force winds which swept over the Ignace area in mid August, 1990.

Prospecting was conducted over the area of the claims and was broadened out to encompass southern Hyndman Township to the north and part of Hsley Township to the east.

Bulldozing was not pursued at this time because of possible future stumpage charges and application/inspection time constraints which did not fit with the scheduling and budgeting of the present project. As a result of the dropping of this part of the program, additional time and budget allotment for mapping, prospecting and sample analysis was granted to the applicant (letter on file with the OPAP office, Sudbury).

## General Geology

### Introduction

The area was first mapped as part of a regional, geological reconnaissance by W. McInnes (1906) during 1898 and 1899 for the Geological Survey of Canada. The three townships directly to the north and northwest of Hodgson Township (Melgund, Revell and Hyndman townships) were mapped by J. Satterly (Dyment Area, D.D.M. map 1960h) at a scale of 1 inch to 1/2 mile. Hodgson Township has not been mapped in detail to date and little information on exploration within the township is on file at the district geologist's office in Kenora.

Satterly's map (1960h) of the 3 townships to the N and NW of Hodgson Township indicate that the area is underlain by massive and pillowed, mafic metavolcanic flows and minor rhyolitic flows and tuffs. These volcanic units are intruded by the Revell stock, directly to the W, and the Basket Lake batholith to the E and NE. Various generations of dykes (diorite through to felsite) cut the above supracrustal lithologies. No faults, shears, or folds are indicated on Satterly's map. The few pillow facing directions found in northern Melgund and Revell Townships all face to the N. The rocks between the Revell stock and the Basket Lake batholith are all contact metamorphosed to amphibolite facies.

NE structures in Melgund Township appear to be intimately associated with numerous gold occurrences in the SE part of the township. Conversely, it is NW structures that host all of the gold occurrences in Hyndman Township. These NW-striking, steeply south-dipping structures appear to be a stacked series of major structures that have great strike continuity and may be important in the regional context. Parker (1989) has noted that felsic metavolcanics and intrusions within this zone are mylonitized while the mafic metavolcanics are chloritized and fissile.

Airborne magnetic and electromagnetic surveys for this area (Keeba Res. Ltd., Assessment File, Resident Geologist's Office, Kenora) indicate the presence of this major deformation structure in the form of a strong, linear, NW-trending magnetic low associated with coincident, weak, electromagnetic conductors. Ground magnetic and VLF-electromagnetic surveys, conducted over a large

portion of Hyndman Township, indicate that a number of gold-bearing quartz veins are associated with VLF-electromagnetic conductors which extend along the flanks of linear, NW-trending magnetic highs. A parallel series of strong, NW-trending, air and ground magnetic and electromagnetic anomalies, in the SW part of Hyndman Township, strike directly into the northcentral area of Hodgson Township (Geological Data Inventory Folio 398). The Revell river also has a NW orientation as it cuts across the township in this area. G.D.I.F. 398, map 2, Oval Lake Area shows two shafts on the property (Black Fox and Jumbo shafts) with gold (?) and pyrite reported.

## **Geology of the Black Fox Claims**

### **Introduction**

The supracrustal rocks of the area are primarily late Archean in age. These consist mainly of mafic volcanic flows and minor pyroclastic horizons. Although the claims are proximal to the Revell stock (granodiorite) only sparse granodiorite dykes are found within the mapped area. However, numerous felsic dykes (aphanitic to porphyritic) of variable widths cut the rocks of the claim group.

All the rocks in the immediate area are metamorphosed to amphibolite grade and are best described with the prefix "meta".

The supracrustal rocks are variably covered by Pleistocene glacial deposits and Recent peat and dune deposits (Table 1).

### **Criteria Used for Lithological Differentiation**

Satterly (1960h) described 6 distinct mafic volcanic units in his mapping of the Dymont area. However, at the scale of that mapping Satterly was unable to establish traceable contacts and the 6 units were consolidated on the map as "basic volcanic rocks".

At a scale of 1 inch to 100 feet it was hoped that contacts within the mafic volcanic rocks could be drawn. Two major units were established on the basis of texture (massive and pillowed). Rock outcroppings were designated as either pillowed or massive on the basis of a dominance (>60%) of unit type exposed. Although subjective or inexact in many respects, this method does allow for a



Table 1

Table of Formations

CENOZOIC

Recent:	Peat, stream deposits, dune or reworked outwash sand deposits
Pleistocene:	Sand, gravel, boulders (glaciofluvial)

- unconformity -

PROTEROZOIC (?)

Quartz veins and stockworks

ARCHEAN

Latest (?):	Felsite, quartz-feldspar porphyry, biotite granodiorite
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- intrusive contact -

Late:	Mafic volcanic rocks: massive and pillowed metabasalt, hornblende schist, pyroclastics
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grouping of unit types that describes a larger, coherent pattern that can be mapped on the ground. The establishment of unit boundaries then allows for a rudimentary interpretation of the larger structural architecture.

## **Lithologies**

### **Mafic Metavolcanic Rocks**

The mafic metavolcanic rocks are subdivided on the basis of texture into massive, pillowed and schistose units. All mafic rock varieties are thought to be basaltic in composition. These rocks range from medium to dark green to nearly black or grey-green in colour. The majority of the basaltic rocks are fine- to medium-grained which are occasionally porphyritic and frequently pillowed. The rocks are often sheared and, when in contact with felsic dykes or quartz veins, they are sometimes carbonatized. Amphibole crystals are generally aligned and define planar foliation surfaces. On some foliation surfaces the crystals are randomly oriented. The amphibole is predominantly hornblende, but radiating clusters of actinolite or tremolite are found within some flows. Chlorite is present in areas of retrograde metamorphism or late contact metamorphism.

#### Massive metabasalt (unit 1a)

This unit comprises the coarser-grained parts of thick mafic flows which may include pillowed sections near the top of flows. Occasionally, flow-top breccia horizons were identified. In places the massive unit appeared porphyritic, with the presence of medium-grained feldspar phenocrysts. Internal flow structure was tentatively identified. Facing directions were not identified from the structures in the massive metabasalt. Massive, amygdaloidal metabasalts often leave a pock-marked appearance on weathered surfaces.

#### Pillowed metabasalt (unit 1b)

Large areas of the claim group are underlain by pillowed metabasalt. Pillow structures range in size from inches to many feet in length. In places the selvages are siliceous and up to 1 inch

in width. One pillow was found that showed pillow retreat hollows under the convex, chilled pillow selvage that was filled with cherty material. Most pillows are not well preserved and only a few top determinations were made. Porphyritic pillows were found to be common.

#### Schistose metabasalt (unit 1c)

In places the metabasalt shows a relative increase in strain intensity to the point of becoming schistose in texture. These areas are interpreted as shears within the larger mafic volcanic stratigraphy.

#### Pyroclastic metabasalt (unit 1d)

Only one horizon of pyroclastic material was observed containing various sizes of basaltic clasts up to 10 inches in length in a fine-grained matrix.

#### Felsic Intrusive Rocks (4a,b,e)

A variety of felsic intrusive dykes were identified including aphanitic felsite (unit 4a), biotite-granodiorite (unit 1b), and quartz-feldspar porphyry (unit 4e). These lithologies may be correlated to the larger composite felsic stocks and batholiths that border the area. The interpretation of the felsite and quartz-feldspar porphyry as dykes or small stock-like bodies (claims K1107230 and K1107229) is tentative in light of Satterly's (1960) description of porphyritic rhyolite horizons further to the north in Hyndman Township.

#### Transitional Zone

An empirical observation based on field mapping and from Figure 2 is that massive and pillowed metavolcanic units (1a and 1b) are thinner to the NE of the claim group while to the SW the units are generally thicker. Dividing these two domains is a zone of increased structural and stratigraphic complexity referred to here as a transitional zone. This zone hosts interdigitated lenses of both

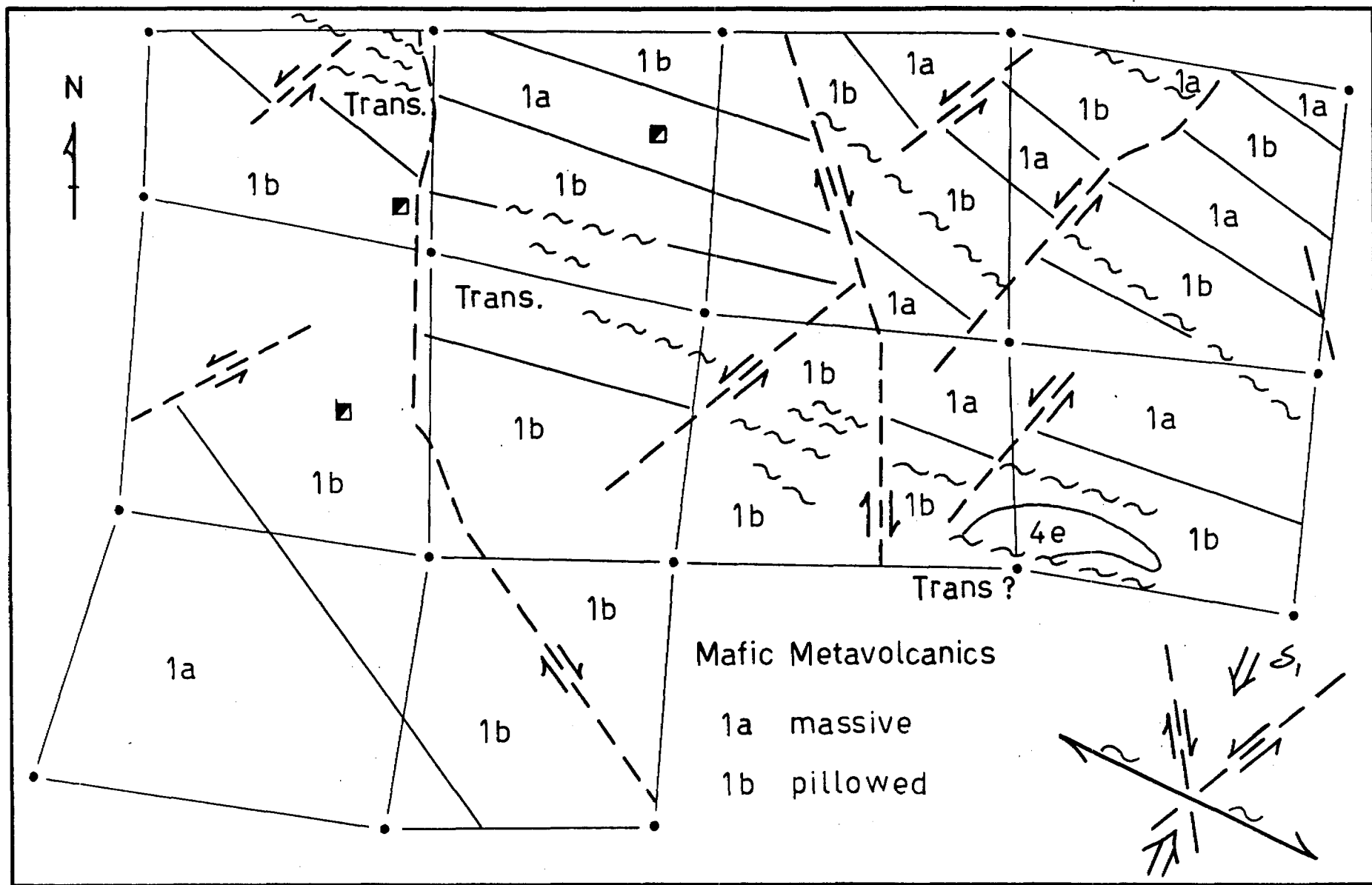


Figure 2. Structural geometry of the Black Fox claims

massive and pillowed units and a relative increase in the occurrence of schistose metabasalt. As well, this zone hosts most of the mapped felsic intrusive rocks. The presence of this zone between two somewhat different domains may indicate the presence of a minor thrust fault or a limb shear on a larger fold structure.

## Structure

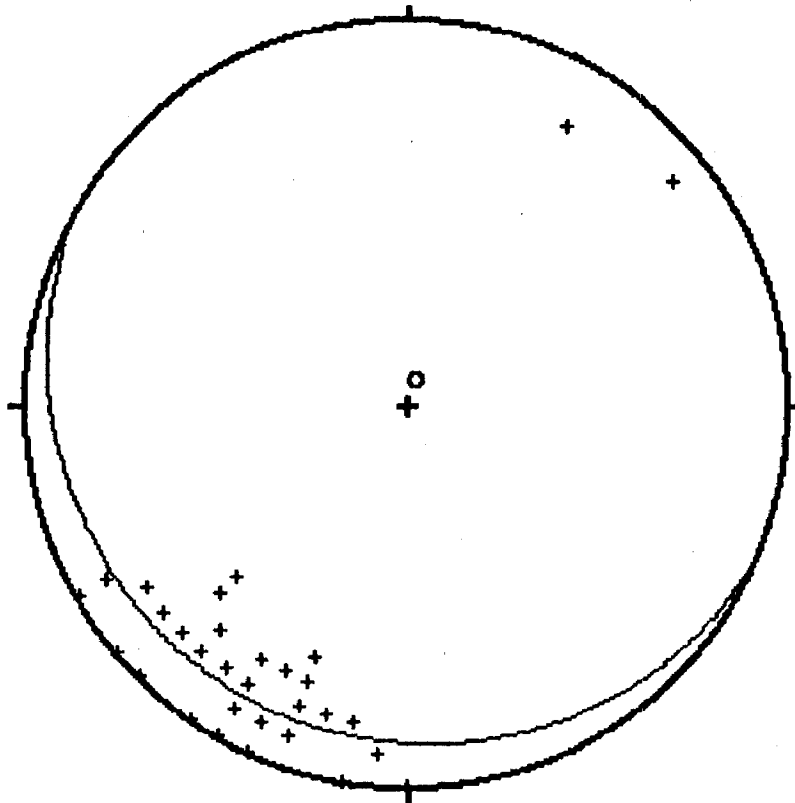
All structural data and facing determinations have been plotted on the map attached to the back of this report. Few top determinations in pillowed metabasalt were made owing to the amount of apparent strain in the area. South facings were noted on two, separated outcrops of pillowed flows, while on one outcrop a north facing was mapped. Satterly (1960) reported north facing pillows to the north of Hodgson Township but no fold axes were interpreted on map 1960h.

Using the lithological mapping criteria described above, contacts were established on the attached geological map. These contacts strike consistently NW-SE and range between  $090^{\circ}$  to  $150^{\circ}$ . Steeply-dipping bedding determinations (S0) in the volcanic units also fall within this range of orientations (Fig. 3). The pole (fold axis) to the best-fit great circle through the poles to the bedding surfaces, plunges very steeply to the NNE. This fold axis describes the gentle warping of the volcanic units on the claims.

Shortening across the area is described by flattened pillows, flattened amygdules, and ptlygmatically-folded, early quartz veins. Much of the deformation appears to have been ductile and closely associated with peak metamorphism. A penetrative, structural fabric (S2) associated with this shortening event was mapped over most of the area and maintained a vertical to steeply N-dipping, NW-striking orientation (Fig. 4).

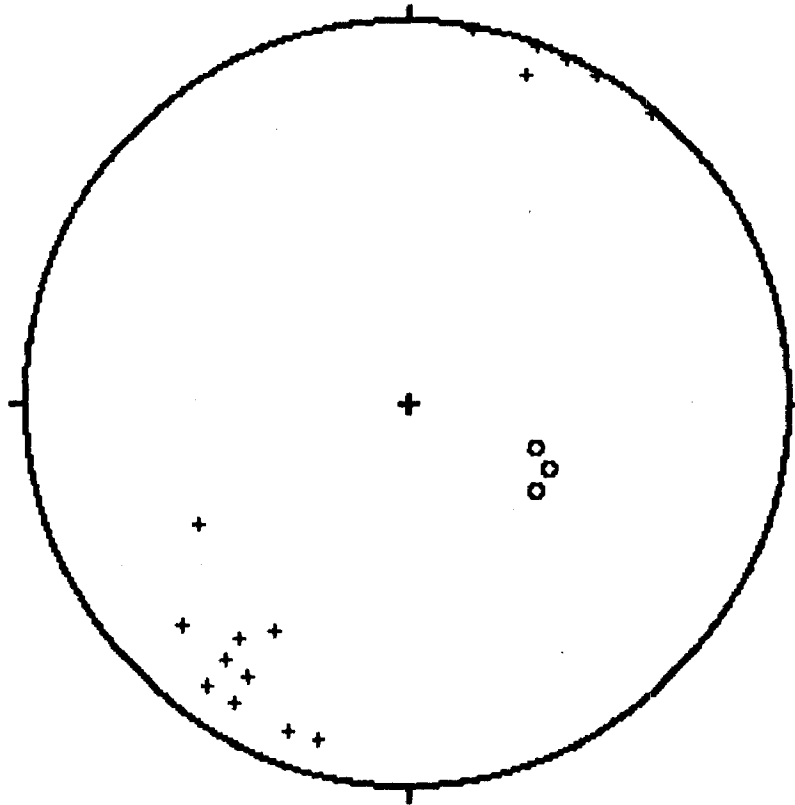
A very early foliation, now crenulated about the main foliation measured in this study, was tentatively recorded at only one location. Therefore, the possibility exists that an early foliation-forming event may have been overprinted by the main penetrative foliation.

Weakly expressed mineral lineations (L2) on foliation surfaces are tightly grouped and plunge moderately to the ESE (Fig. 4).



Date	Wulff Equal Angle Projection	Statistics
+ Black Fox bedding orientations (S0)	N = 48	o Pole to Bestfit Great Circle 25.1 7.8 E1 = 0.925 E2 = 0.062 E3 = 0.013 r1 = 2.71 r2 = 1.54 K = 1.76 s. var. = 0.117 Rbar = 0.883

Figure 3.



Data	Wulff Equal Angle Projection	Statistics
o Black Fox mineral lineations (L2) + Black Fox flattening foliations (S2)	N = 23	

Figure 4.

The offset of lithological contacts suggests fault offset of stratigraphy. This is further suggested by the preferred orientation of streams and creeks in the area. On the basis of these offsets and other cross-cutting relationships, two generations of shears and faults are recognized.

#### Early structures

The earliest deformation structures identified within the claim group are outlined by the occurrence of schistose metabasalt which can be traced over several hundreds of feet in some areas. These structures are invariably parallel or sub-parallel to flattening foliation orientations in the area (compare Fig. 4 to Fig. 5). This relationship, in conjunction with the mineral lineations on foliation surfaces, suggests that these early structures are oblique thrust faults. Occasionally these early shears define contacts between mapped units (i.e. NE part of K1107230 and central part of K1070166).

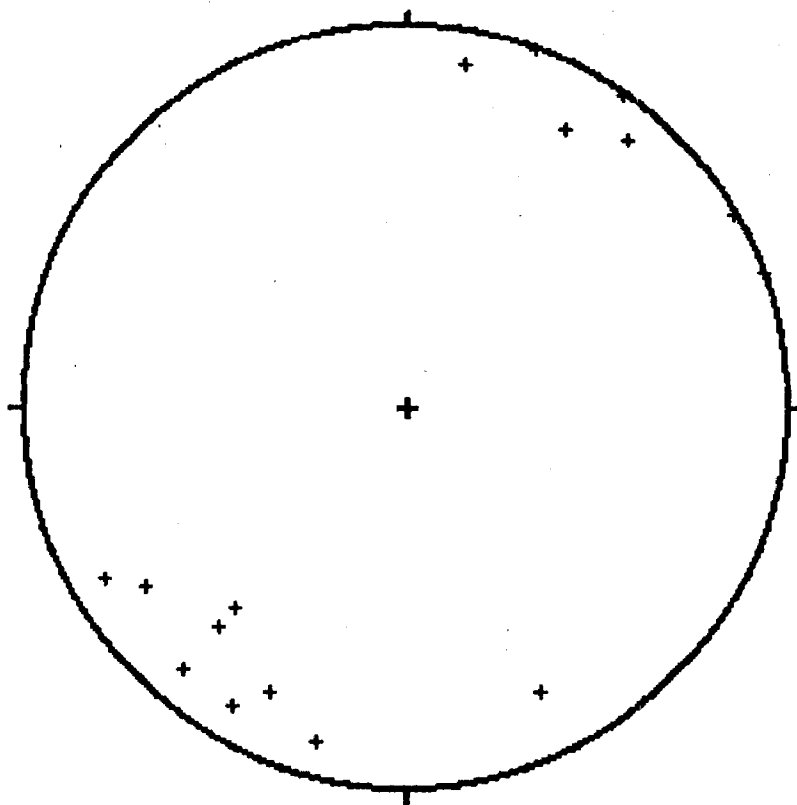
#### Late structures

Two sets of late, brittle fault structures are apparent within the claim area as suggested by: 1) offset of lithological contacts; 2) preferred stream and creek orientation and; 3) offset of earlier shear zones. These relationships are shown on Figure 2 and on the attached geological map.

Two main creeks drain the large marsh area that lies within the central part of the claims. These creeks maintain either a N-S or NE-SW orientation. The offset on lithological units suggest that the N-S fault set is dextral in horizontal displacement as can be seen along the N-S creek that drains claims K1070166 and K1107229 (attached map and Fig. 2). The NE-SW fault set appears to have a sinistral horizontal sense of displacement based on offsets in the eastern part of claim K1107229 and the NE part of claim K1070166. Other late offsetting faults probably exist but are not obvious at the scale of mapping or at the level of outcrop exposure.

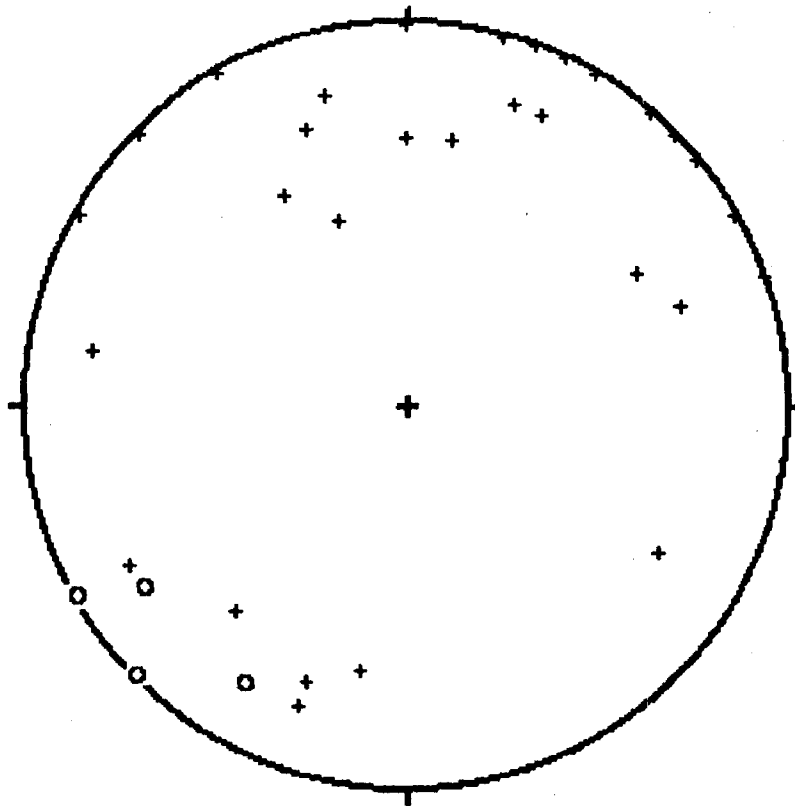
Dyke orientations in the area follow bedding and foliation orientations (Fig. 6). Quartz vein orientations, when plotted together, appear to be randomly dispersed (Fig. 6). However, in





Data	Wulff Equal Angle Projection	Statistics
+ Black Fox shears & shear fol. (C2)	N = 17	

Figure 5



Data	Wulff Equal Angle Projection	Statistics
+ Black Fox vein orientations o Black Fox dyke orientations	N = 43	

Figure 6.

detail, several sets of veins appear to be present. One set is parallel to the major shears (ESE-WNW), one set was identified as tensional veins (NNE-SSW), and two other sets appear to be conjugates (NNW-SSE and NE-SW).

### **Economic Geology**

One timbered shaft (Black Fox), two deep pits (Jumbo I and II), two deep trenches, and three stripped areas were located on the property (attached map).

The Black Fox shaft and the three stripped areas located nearby (K1069707) represent part of a massive quartz stockwork system. Quartz veins up to 30 feet wide with latticed stringers dominate the outcropping areas. The dominant vein orientation varies between 090° and 120°. The quartz is of the white, milky variety which generally lacks sulphides except for patches where pyrrhotite and minor pyrite is present. Wallrock inclusions are occasionally found in the quartz veins. Wall rock alteration is minimal and indicates a relatively cool intrusion temperature. A strong structural control of the vein system and stockwork is indicated by the orientation of the main veins which are parallel to the early shears. Four samples were taken in the general vicinity of the Black Fox shaft (Fig. 7a) and assayed for gold. These assays all indicate <0.002 oz/T gold for these samples (Appendix 2).

The Jumbo I pit area (K1070170) is dominated by a 30 foot wide quartz vein which trends 110° to 120°. The vein quartz is predominantly milky white with minor pyrrhotite and pyrite. In areas close to the host rock a reddish hue is imparted to the quartz indicating probable Fe contamination. The orientation of the main vein suggests a structural control and the abundance of quartz veins in the general vicinity suggests a wider stockwork form to the occurrence. Two samples were taken in the vicinity of the Jumbo I pit (Fig. 7b) and assayed for gold. These assays all indicate <0.002 oz/T gold for these samples (Appendix 2).

The Jumbo II pit area (K1069981) is dominated by a N-S vein system up to 20 feet wide. Except for the orientation, the quartz occurrence is the same as at the Black Fox shaft and the Jumbo I pit. Fewer minor quartz veins were found in the immediate area of the

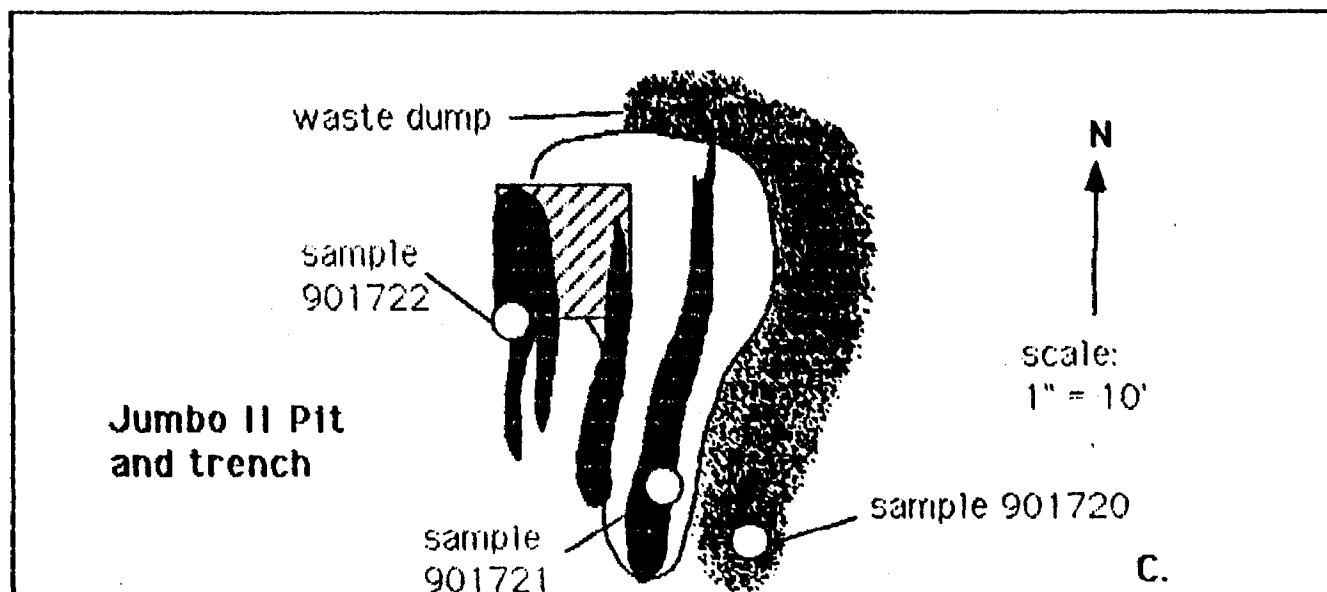
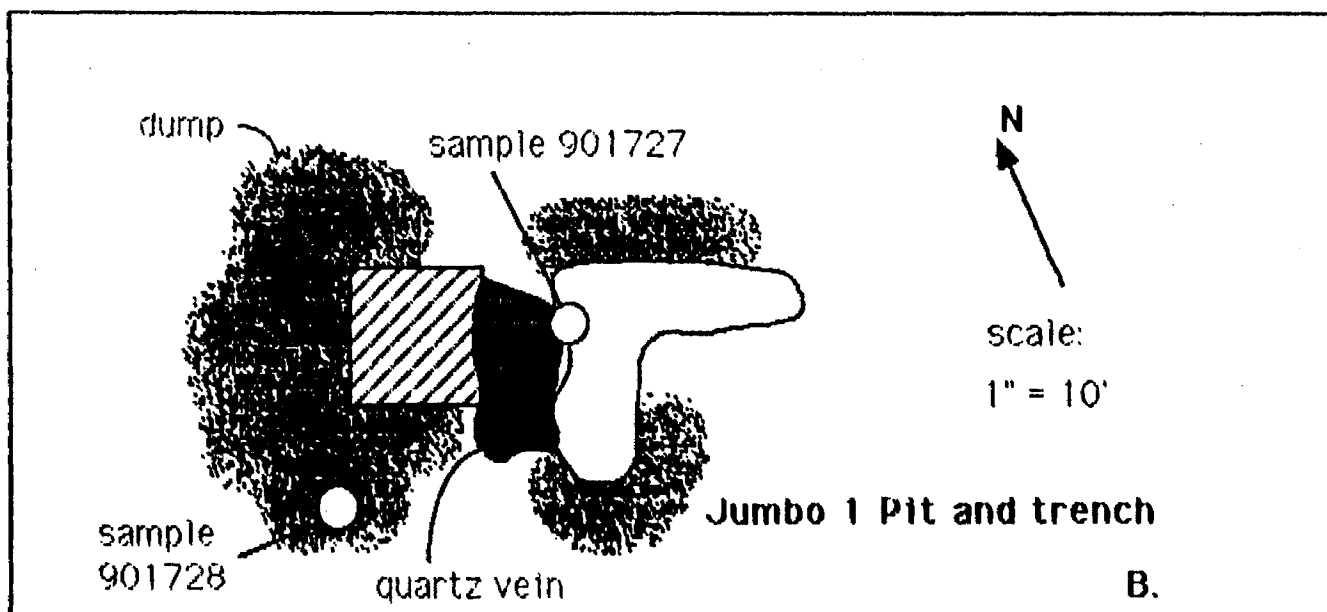
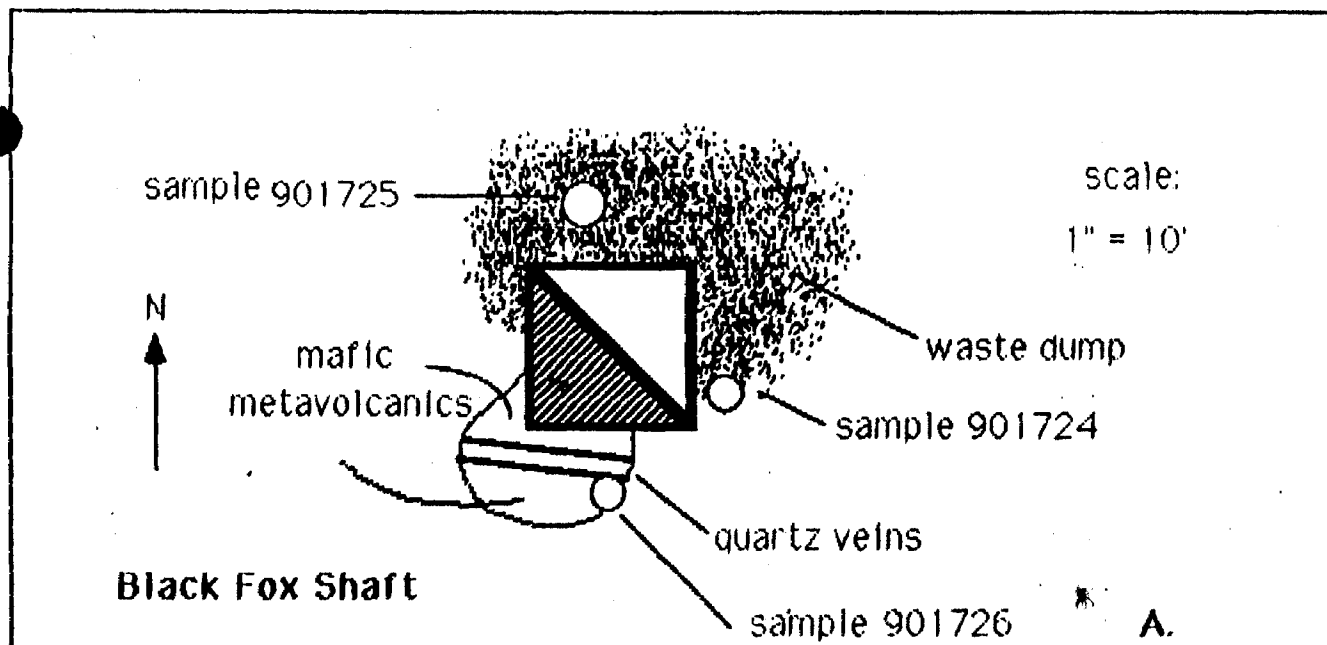


Figure 7. Sample locations near shaft and pits

Jumbo II pit. Three samples were taken from the Jumbo II pit (Fig. 7c) and assayed for gold. These assays all indicate <0.002 oz/T gold for these samples (Appendix 2).

A 20 foot wide quartz exposure (ESE-WNW), with no apparent strike continuity was uncovered on claim K1107405. The quartz at this location is very lean with respect to sulphides and no previous work appears to have been done on this vein.

The major quartz occurrences are not spatially related to the major late faults as they are indicated on the attached geology map. It may be that there are unrecognized faults associated with these large quartz veins or these veins may be related to a later system of fault geometry (orthogonal?) associated with uplift in the area.

Late quartz veins cutting all lithologies are scattered throughout the property. Except for the main quartz occurrences described above, few of the other quartz veins are over 1 foot wide and most average 2-6 inches in width. The quartz is characteristically lean or barren of sulphides and no gold colours were found in crushed and panned samples.

No nickel, copper or platinum minerals were found on the Black Fox claims.

### **Conclusions**

The Black Fox claims are underlain by mafic metavolcanic flows which have been subdivided into sequences characterized by internal structures such as massive, pillowed or schistose. All mafic metavolcanic rocks are of basaltic composition and have been metamorphosed to amphibolite facies.

The predominant flattening foliation in the area trends ESE to SE and subparallels schistose units of metabasalt. Mineral elongation lineations have a moderate to steep plunge indicating a large degree of dip directed translation with a maximum compressive stress direction being NNE-SSW. Early ductile shears, described by the schistose metabasalt, are nearly parallel to lithological contacts and do not appear to disrupt the geological pattern. These are interpreted as oblique thrust faults.

Two sets of late, conjugate brittle faults break up the NW-SE striking lithologies. One set trends NE and is sinistral in relative

horizontal displacement. The other set trends N-S and is dextral in relative horizontal displacement. The early penetrative foliation bisects the obtuse angle of the conjugate fault sets. This implies a prolonged stress field, the earlier ductile phase being coaxial with the second, brittle phase of deformation. As metamorphic minerals of amphibolite grade define the foliation surfaces, and as the foliation roughly parallels the contacts of the surrounding batholiths, it is suggested that these major felsic intrusions controlled the deformation in this area. Deformation began as a ductile response to stress and continued through unroofing into a brittle response to applied stress at a shallower depth.

Quartz emplacement appears to be late in the history of deformation and is probably associated with uplift and/or intrusion of the felsic stocks and batholiths. Samples taken from the Black Fox shaft and the Jumbo pits did not return gold assays any higher than background. It is concluded that the earlier reports of significant gold and nickel on the property represent an elaborate hoax or investment scam. No further work on this property is warranted.

## PART II

### Exploration North and Northeast of the Black Fox Claim Group

#### Introduction

Prospecting was extended outside of the Black Fox claim group proper and was focussed north and east of the claims. Outcrops are exposed along highway 17 and along the trans-Canada gas pipeline both of which cut across stratigraphic units at an oblique angle. Lithologic units noted include mafic metavolcanics, rhyolite, various types of felsic intrusive rocks and sulphidic tuffs.

Sample site locations are found on Figure 8 and assay certificates are attached as Appendix 2.

#### Sample locations and Descriptions

##### Sample 901701

Location: SW corner of Hyndman Township, 0.25 mi. north of the gas pipeline, 0.25 mi. south of the Can. Pacific rail line, 0.12 mi. east of a small unnamed creek, and exposed in a recent windfall.

Geology: Coarse-grained granodiorite of the Revell stock giving way to medium-grained dioritic phase halfway to the rail line.

Sample: Coarse-grained quartz vein material from a series of 3" wide quartz veins cutting dioritic phase of Revell stock and associated with a 1' cross-cutting, fine-grained, feldspar-phyric mafic dyke.

Assay: <5 ppb Au

##### Sample 901702

Location: NW Hodgson Township, roadcut west side, 10.7 km east of the Basket Lake road on highway 17.

Geology: Medium-grained massive basalt with 2' wide shear zone of foliated basalt cut and filled with white to rusty quartz vein approx. 10" wide.

Sample: Fine-grained, white quartz with septa of basaltic rock, minor carbonate and epidote.

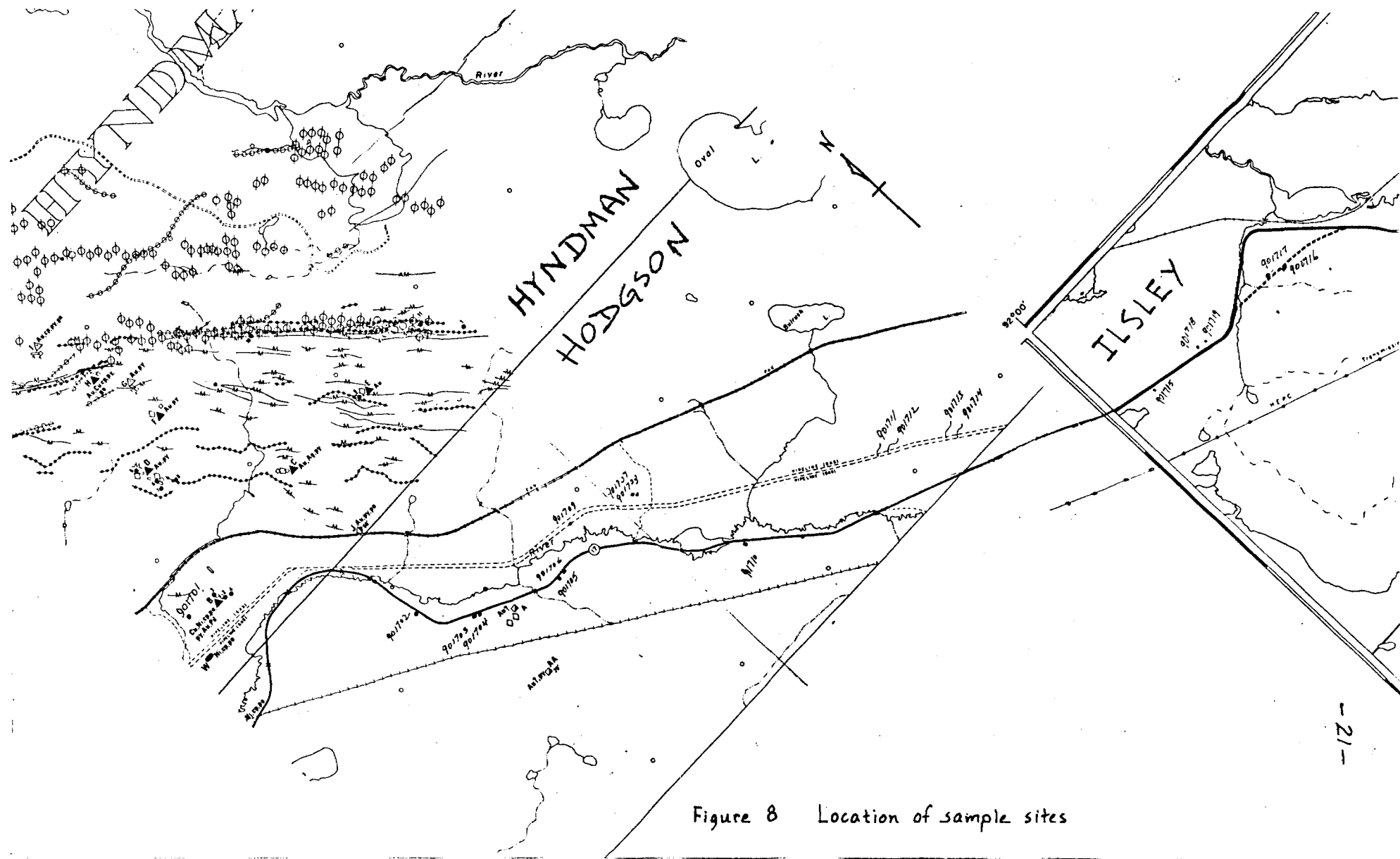


Figure 8 Location of sample sites



Assay: <5 ppb Au

Sample 901703

Location: NW Hodgson Township, roadcut southwest side, 11.9 km east of the Basket Lake road, highway 17.

Geology: 20' wide felsite dyke cutting pillowed, mafic, metabasalt.

Sample: Altered, rust-stained, fine-grained felsite dyke material with pyrite finely disseminated in patches associated with epidote.

Assay: 5 ppb Au

Sample 901704

Location: NW Hodgson Township, roadcut southwest side, 11.9 km east of the Basket Lake road, highway 17.

Geology: 20' wide felsite dyke cutting pillowed, mafic, metabasalt.

Sample: Coarse-grained portion of the felsite dyke (with marcasite?).

Assay: <5 ppb Au

Sample 901705

Location: Northcentral Hodgson Township, roadcut south side, 12.5 km east of the Basket Lake road, highway 17.

Geology: 1' wide quartz vein cutting pillowed, mafic, metabasalt.

Sample: White quartz and sheared wallrock, no sulphides visible.

Assay: 12 ppb Au

Sample 901706

Location: Northcentral Hodgson Township, roadcut south side, 12.6 km east of the Basket Lake road, highway 17.

Geology: 5" wide quartz vein cutting massive metabasalt.

Sample: White and grey quartz material from narrow quartz vein in undeformed metabasalt. No sulphides visible.

Assay: 5 ppb Au

Sample 901707

Location: Northcentral Hodgson Township, 300' NE of gas pipeline, 150' NW of bush road that leaves highway 17 towards north, 13.4 km east of the Basket Lake road.

Geology: Intercalated mafic metabasalt, granodiorite and diorite dykes.

Sample: Sheared and altered metabasalt near diorite dyke. Carbonate, hornblende, sulphides, feldspar, quartz in shear foliation.

Assay: 6 ppb Au

#### Sample 901708

Location: Northcentral Hodgson Township, 300' NE of gas pipeline, 150' NW of bush road that leaves highway 17 towards NE, 13.4 km east of the Basket Lake road.

Geology: Intercalated mafic metabasalt, granodiorite and diorite dykes.

Sample: White quartz material mixed with metabasalt wallrock septa from 6" quartz vein that cuts both the metabasalt and diorite dyke.

Assay: 30 ppb Au

#### Sample 901709

Location: Northcentral Hodgson Township, on gas pipeline, 600' west from bush road that turns NW from highway 17, 13.4 km east of the Basket Lake road.

Geology: Pillowed metabasalt

Sample: Quartz-carbonate vein material from vein cutting metabasalt. Approx. 1% finely disseminated pyrite.

Assay: 10 ppb Au

#### Sample 901710

Location: Northcentral Hodgson Township, highway 17 roadcut, SW side, 600' west of the Atikokan turnoff.

Geology: Massive and pillowed metabasalt cut by well-foliated quartz-feldspar porphyry dyke.

Sample: Smoky-grey quartz from 4" quartz vein cutting quartz-feldspar porphyry.

Assay: 8 ppb Au

Sample 901711

Location: Eastcentral Hodgson Township, gas pipeline right-of-way, 500' NW of end of bush road, 2 km east of Atikokan turnoff, highway 17.

Geology: Mixed metabasalt and quartz-feldspar porphyry and diorite.

Sample: Siliceous (altered), rusty-altered, and deformed quartz-feldspar porphyry with approx. 3% disseminated pyrite.

Assay: <5 ppb Au

Sample 901712

Location: Eastcentral Hodgson Township, gas pipeline right-of-way, 400' NW of end of bush road, 2 km east of Atikokan turnoff, highway 17.

Geology: Mixed metabasalt and quartz-feldspar porphyry and diorite.

Sample: Foliated and altered diorite with approx. 3% disseminated pyrite.

Assay: 11 ppb Au

Sample 901713

Location: Eastcentral Hodgson Township, gas pipeline right-of-way, 500' SE of end of bush road, 2 km east of Atikokan turnoff, highway 17.

Geology: Mixed metabasalt and quartz-feldspar porphyry and diorite.

Sample: Carbonate/vesuvianite replacement of quartz-feldspar porphyry. Occasional coarser pyrite crystals.

Assay: 29 ppb Au

Sample 901714

Location: Eastcentral Hodgson Township, gas pipeline right-of-way, 600' SE of end of bush road, 2 km east of Atikokan turnoff, highway 17.

Geology: Mixed metabasalt and quartz-feldspar porphyry and diorite.

Sample: Deformed and altered quartz-felspar porphyry with 1" quartz veinlets cross-cutting, some biotite alteration (wallrock septa) and minor pyrite.

Assay: 6 ppb Au

Sample 901715

Location: NW Ilsley Township, roadcut south side, 4 km west of the Raleigh Lake turnoff, highway 17.

Geology: Highly deformed and altered metabasalt and diorite.

Sample: Rusty-weathering schistose diorite with disseminated pyrite.

Assay: 35 ppb Au

Sample 901716

Location: NW Ilsley Township, roadcut south side, 2 km west of the Raleigh Lake turnoff, highway 17.

Geology: Highly sheared and altered metabasalt with distinct hydrothermal overprint.

Sample: Well-foliated metabasalt, replaced by approx. 10% massive and disseminated pyrite and pyrrhotite.

Assay: 22 ppb Au, 710 ppm Cu, 260 ppm Ni

Sample 901717

Location: NW Ilsley Township, roadcut north side, 2.1 km west of the Raleigh Lake turnoff, highway 17, at turnoff to Trans-Canada Pipeline pump station.

Geology: Highly sheared and altered metabasalt with distinct hydrothermal overprint.

Sample: Massive pyrite and pyrrhotite replacement of metabasalt.

Assay: 43 ppb Au.

Sample 901718

Location: NW Ilsley Township, roadcut north side, 3.5 km west of the Raleigh Lake turnoff, highway 17.

Geology: Well-foliated metabasalt and quartz-feldspar porphyry

dykes

Sample: Quartz-feldspar porphyry, well foliated, altered and cut by a 2" quartz vein.

Assay: 5 ppb Au

#### Sample 901719

Location: NW Ilsey Township, roadcut north side, 3.5 km west of the Raleigh Lake turnoff, highway 17.

Geology: Well-foliated metabasalt and quartz-feldspar porphyry dykes

Sample: Sulphidized metabasalt.

Assay: 7 ppb Au

#### **Conclusions**

1. No anomalous gold assays were obtained in prospecting north and east of the Black Fox claims.
2. Several narrow lenses of deformed and sulphidized metabasalt were located within wider metabasalt units but a representative sample assay for copper and nickel was not encouraging. As well, the widths of these units discourages follow-up exploration.
3. It is concluded that this area is not generally prospective for mineral exploration.

#### **Bibliography**

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Satterly, J., 1960, Geology of the Dymont area; O.D.M., Annual Report, V. 69, pt. 6, 32p., accompanied by Map No. 1960h.

The Daily Sentinel, Kenora, Tuesday, April 7, 1891.

The Weekly Herald, Kenora, Friday, October 6, 1893.

The Weekly Herald, Kenora, Saturday, March 7, 1891.

The Weekly Herald, Kenora, Saturday, January 25, 1890.

**Appendix 1**

# HURRAH FOR ALGOMA,

The Weekly Herald.

Wonderful Gold Find at Tache—  
Gold ore Being Literally  
Quarried out.

The vein is 100 Feet Wide—  
Second only to Douglas Island,  
Alaska.

About the commencement of June last year, a modest party of mining men passed through this town on their way to the then almost unknown gold fields of Tache, Ont. Under the able management of Capt. S. V. Halstead of the Maple Leaf Gold Mining Company of Chatham, Ont. Many were the shakes of the head, by the would-be knowing ones, who doubted much if gold in paying quantities could be found, except at the Lake of the Woods, or in the neighborhood of the Huronian mine in the township of Moos. Now, however, it is an undisputed fact that the Black Fox mine situated about 7 miles east of Tache Station is the most wonderful discovery of free milling gold ore, on a vein averaging 100 feet and extending for over half a mile, within the limits of the company's land. The ore is composed of a brittle white crystallized sugar quartz averaging as the result of numerous assays by different assayers about \$9.00 a ton. The most remarkable feature being the extreme similarity of the different assays, although taken from different parts of the vein. Thus conclusively proving that the ore can be literally quarried with the certainty of equal average results. On first reaching Tache Capt. Halstead commenced operations on the ~~Wawbeck~~ location, from which he obtained very promising results. He however noticed that the veins on all the locations that had hitherto been taken up appeared to run north and south, and he thus came to a conclusion that there was a strong probability of there being some large mother vein running east and west, into which the others would prob-run. Having formed this theory like a wise man he set to work to see if actual facts would bear out his hypothesis. He therefore traced out the veins of the Wawbeck, the Baby, the Gates Ajar and the Sable, southwards until he found them all running into a large east and west vein. He then selected the most promising point on this vein where he located the Black Fox which then

measured 30 feet on the surface. Being convinced that he had discovered something unusually good, he commenced developments on it with the result of discovering as before mentioned that the vein averaged 100 feet in width. He has now on the dump about 600 tons which has been taken from several ore pits, the greatest depth so far being about 25 feet. Nor is this the only advantage that this wonderful claim possesses. It is situated within three-quarters of a mile of the Canadian Pacific railway to which an almost level siding can be easily made, and it has also the Minnehaha River flowing close to it with a waterfall of 20 feet, which will supply all the water that will be necessary hereafter for air compressors and other mining machinery.

Capt. Halstead's intention is to return next spring when he proposes to have a thorough mill test made of the property. Fortunately for this purpose there are good prospects of smelters and stamp mills being erected both at Rat Portage and at Kakabeka Falls very shortly where the ore could be hauled cheaper than in the United States. Capt. Halstead is now going east to Chatham for the purpose of meeting his company, so that arrangements may be made for vigorous operations next summer. Capt. Halstead is also the fortunate part owner of the Jumbo location which contains the continuation of the Black Fox. So far no prospecting has been made on the Jumbo, but as the same vein shows up well on it, there seems to be no reason why it should not turn out as good or almost as good as the Black Fox.

Saturday Jan. 25, 1890.

Kenora

## MINES AND MINERALS.

Silver at Edwards Island—Properties that are Being Put Under Development.

Work at the Badger—Capt. Eberts has Begun Work—The Black Fox Location.

### EDWARD'S ISLAND.

Capt. Trethewey, for the Silver Islet Mining company, who is now engaged in developing the property on Edward Island, struck some rich arsenical silver last week.

### THE GRANT LOCATION.

Dr. Grant, the Minneapolis gentleman who recently purchased the location opposite the Tanguay claim, is developing the property. He has let a contract for sinking a shaft and some good ore is now being taken out.

### THE BADGER.

We understand that it is the intention of Mr. H. N. Nichols, who lately purchased the property of the Badger Mining company, to at once commence development work at this famous mine on a much more liberal plan than has been done under the late owners. Additional machinery will be added and the force of men enlarged. Capt. Shear will still have charge of the operations.

### THE YOUNG PROPERTY.

Mr. P. T. Young is sinking on his location, which adjoins the Porcupine. It is thought that the north vein of the Porcupine runs through this property, and although it has not as yet been tapped the prospects are good.

Capt. Eberts has been busy ever since his arrival in Port Arthur from Detroit in getting together a force of men and purchasing supplies and outfit for the commencement of operations on some of the property which he purchased last summer. The outcome of it was that on Wednesday he left in company of Mr. J. Chandler, Coldwater, Mich., taking with him a good crew of men, by special train over the P. A., D. & W. railway for Marks township. He will immediately start work in building camps and cutting roads. In the spring about 45 men will be put to work. The width of the vein where it is exposed is about 200 feet and it crops up for a distance of half a mile running east and west. The ore, which is a hard magnetite, from surface specimens gives an average of 54 per cent. metall. iron, and contains no titanium and very little sulphur and phosphorus.

### THE BLACK FOX.

We have not noticed the Black Fox gold mine, which is located on the line of the C.P.R. about six and a half miles east of Tache station, for some time, but only because no change in the condition of the property since our last report. Now, however, we learn that a deal is on between the owners and a rich English Syndicate for the transfer of the property. It will, therefore, be of interest to our readers if we give some information about this valuable location. The vein, which runs east and west, passes through the ~~Jumbo~~ and ~~Black Fox~~ locations, and where exposed is 30 feet in width, with every appearance of its widening as it goes down. The walls of the vein are well defined and run with the formation which consists of Huronian green trap, dipping from 10 to 20 degrees to the north. Previous to the discovery of the Black Fox and Jumbo (another exceedingly promising property) all the veins found ran in a northerly and southerly direction and they all appear to be intercepted by the Black Fox lode. The gangue of the vein consists of very fine grained fluor quartz, and the color below the surface is white with grey streaks. We hope to see this deal consummated as if the company worked it, which no doubt they would, it would show the possibilities of Algoma as a gold producer. Tache is 181 miles west of Port Arthur.



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### The Black Fox Mine

This mine is located on the line of the Canadian Pacific Railway, about six and one-half miles east of Tache station. The vein, which runs east and west, passes through the Jumbo and Black Fox locations, and, where exposed, is 30 ft. in width, with every appearance of its continuing downward. The wall runs with the formation, which is Huronian green trap, dipping from 10° to 20° to the north. Previous to the discovery of the Black Fox and Jumbo all the veins found ran in a northerly and southerly direction and they all appear to be intercepted by this lode. The gangue of the vein consists of very fine grained quartz. It is said that a party of English capitalists is at present negotiating for this property.

The Daily Sentinel

Tuesday, April 7, 1891.

Kenora

# The Weekly Herald

Work at the Black Fox mine, near Tache, has been suspended for two or three weeks. Mr. Halstead has gone east to purchase pumping machinery, development work having proceeded as long as possible and was stopped only on account of the influx of water. We are informed that a magnificent bed of nickel ore has been struck, but no assay has been made. In another vein the gold bearing rock continues but is looking richer than when work was started this past summer.

Capt. O Johnson is in town, having returned from the Black Fox, where he was engaged as mining captain.

Friday October 6, 1893.

Notified —

All these clip pings

refer to a property in the Raleigh Lake area, near

Ignace

**Appendix 2**



# ACCURASSAY LABORATORIES LTD.

P.O. BOX 604  
KIRKLAND LAKE, ONTARIO, CANADA P2N 3J5  
TEL.: (705) 567-6343

President: Dr. GEORGE DUNCAN, M.Sc., Ph. D., C. Chem (Ont.), C. Chem (U.K.), M.C.I.C., M.R.S.C., A.R.C.S.T.

## Certificate of Analysis

Page: 1

28436 MR. J. V. HAMILTON  
FOR PICK-UP  
RED LAKE, ONTARIO  
POV 2M0

Date: September 18 19 90

Work Order # : 181563  
Project :

Accurassay	SAMPLE NUMBERS Customer	Gold ppb	Gold Oz/T	
279179	901701	<5	<0.002	
279180	901702	<5	<0.002	
279181	901703	5	<0.002	
279182	901704	<5	<0.002	
279183	901705	12	<0.002	
279184	901706	5	<0.002	
279185	901707	6	<0.002	
279186	901708	30	<0.002	
279187	901709	10	<0.002	
279188	901710	8	<0.002	
279188	901710	6	<0.002	Check
279189	901711	<5	<0.002	
279190	901712	11	<0.002	
279191	901713	29	<0.002	
279192	901714	6	<0.002	
279193	901715	35	<0.002	
279194	901716	22	<0.002	
279195	901717	43	<0.002	
279196	901718	5	<0.002	
279197	901719	7	<0.002	
279197	901719	7	<0.002	Check
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279200	901722	7	<0.002	
279201	901723	13	<0.002	
279202	901724	9	<0.002	
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279204	901726	<5	<0.002	
279205	901727	8	<0.002	
279206	901728	22	<0.002	
279206	901728	28	<0.002	Check



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## Certificate of Analysis

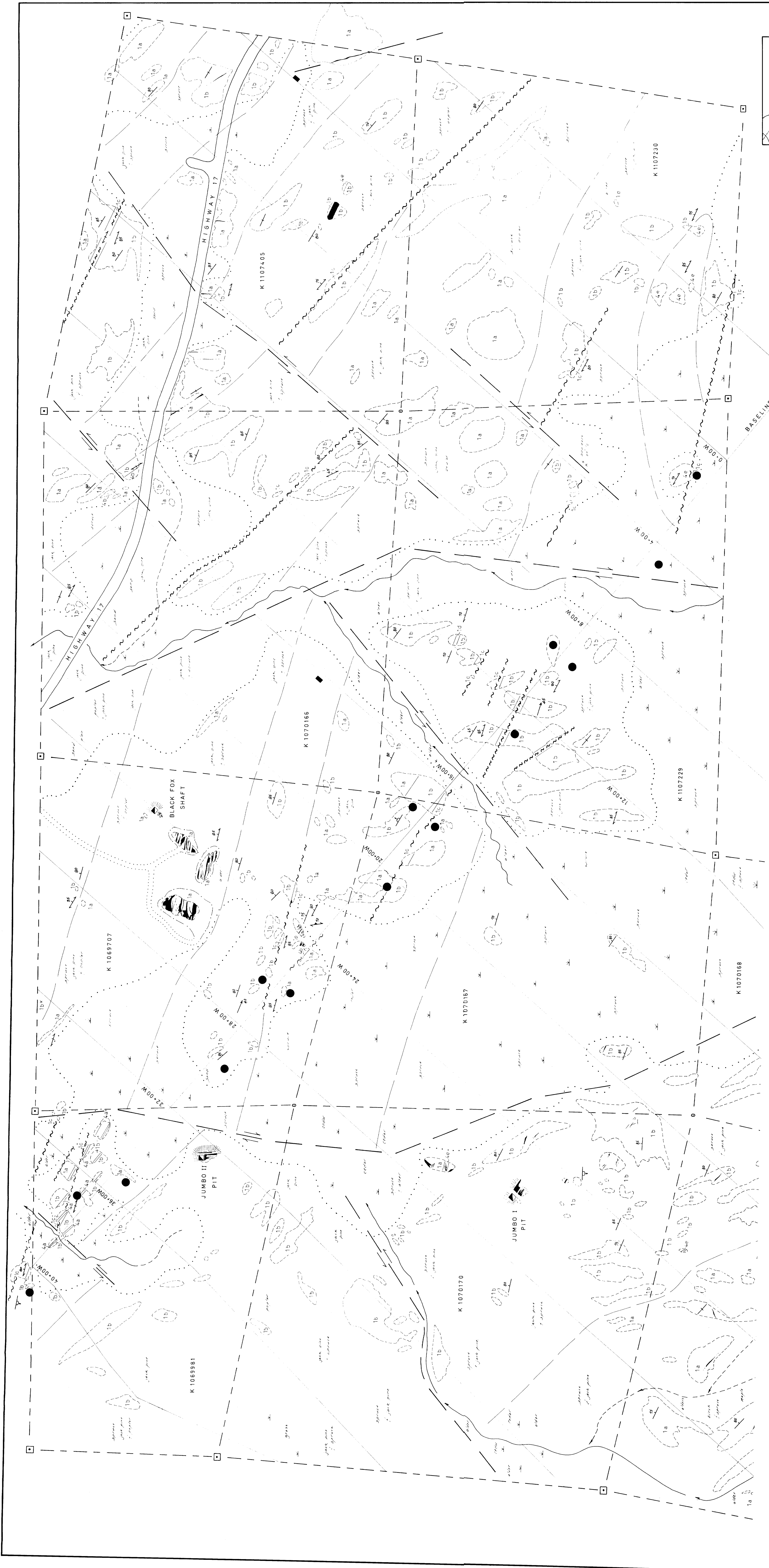
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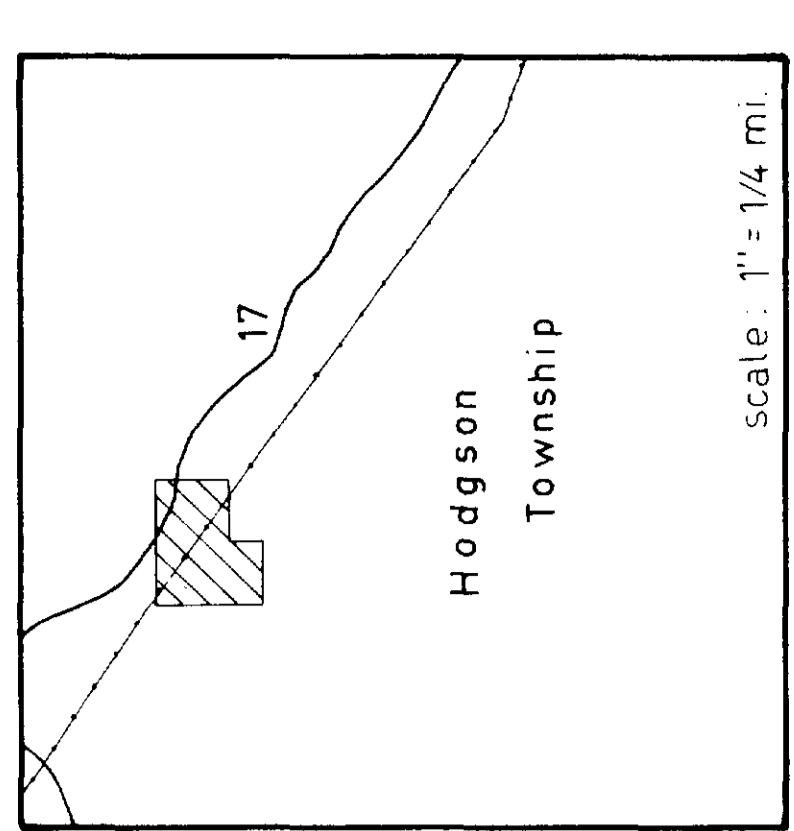
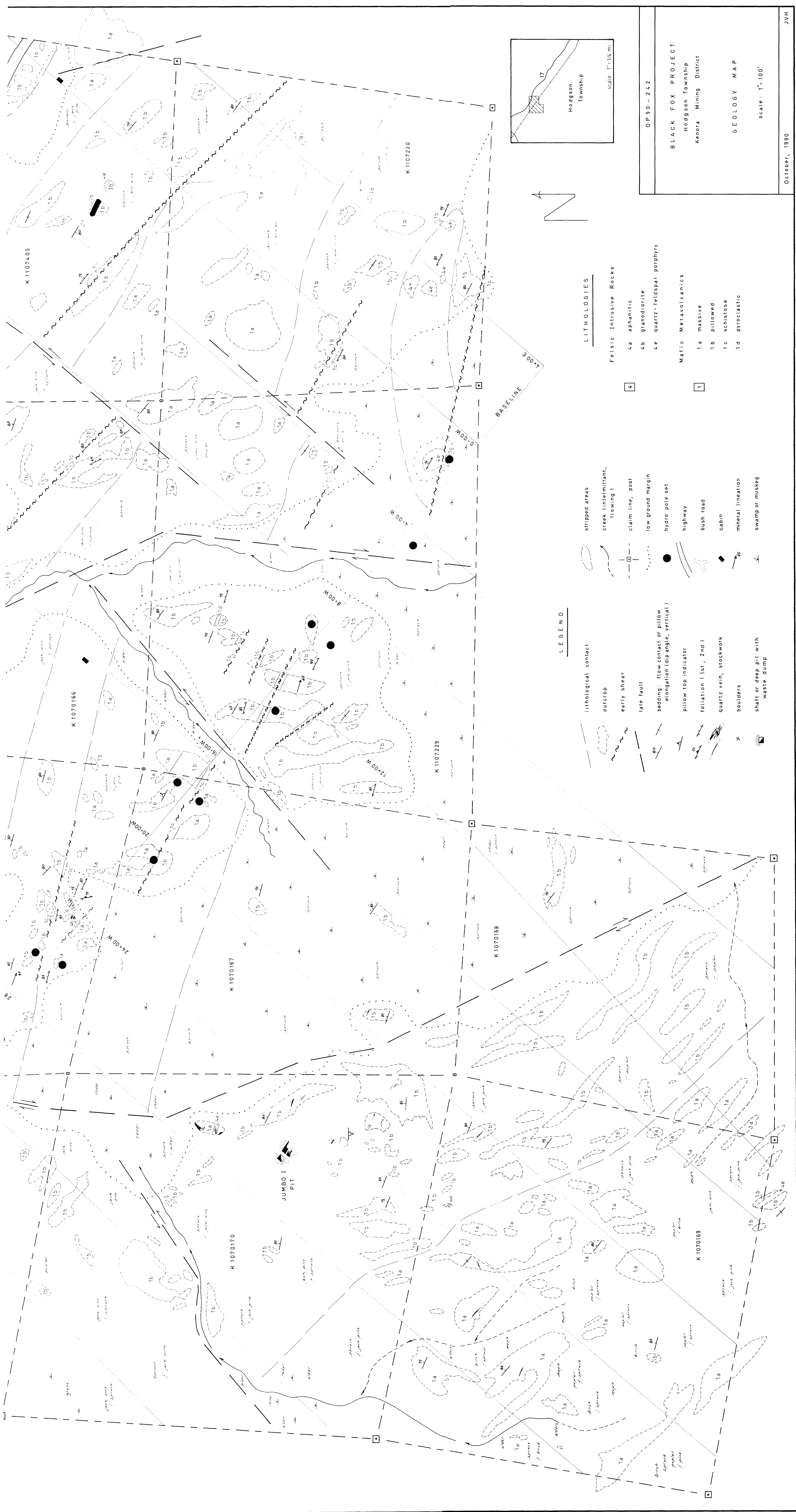
28453 MR. J. V. HAMILTON  
FOR PICK-UP  
RED LAKE, ONTARIO  
POV 2M0

Date: September 27 19 90

Work Order # : 181563  
Project :

SAMPLE NUMBERS		Copper	Nickel
Accurassay	Customer	ppm	ppm
279194	901716	710	260





OP 90 - 242

**BLACK FOX PROJECT**  
Hodgson Township  
Kenora Mining District

**GEOLOGY MAP**

scale: 1" = 100'

October, 1990

JVF

- LITHOLOGIES**
- Felsic Intrusive Rocks**
- 4a aphanitic
  - 4b granodiorite
  - 4e quartz-feldspar porphyry
- Mafic Metavolcanics**
- 1a massive
  - 1b pillowed
  - 1c schistose
  - 1d pyroclastic
- LEGEND**
- lithological contact
  - outcrop
  - early shear
  - late fault
  - bedding: flow contact or pillow elongation (dip angle, vertical)
  - pillow top indicator
  - foliation (1st, 2nd)
  - quartz vein, stockwork
  - boulders
  - shaft or deep pit with waste dump
- Other Symbols:**
- stripped areas
  - creek (intermittent, flowing)
  - claim line, post
  - low ground margin
  - hydro pole set
  - highway
  - bush road
  - cabin
  - mineral lineation
  - swamp or muskeg



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