010

REPORT

ON A

PROGRAM OF OVERBURDEN REMOVAL

SAMPLING AND MAPPING

ON THE

SANGOLD PROPERTY

SWAYZE GOLD AREA, ONTARIO

FOR

GAIL RESOURCES INC.

March, 1986
Toronto, Ontario

W.E. Brereton
MPH Consulting Limited

Dual
2.1310

SUMMARY

A program of overburden removal, trenching, blasting, sampling and geological mapping was completed in two phases during 1985 on the Sangold property of Gail Resources Inc. Work was concentrated on the old Hoodoo Lake Mines' gold showing area.

The showing area is underlain primarily by massive and pillowed mafic volcanics and displays extreme small-scale structural complexity with several generations of folding, shearing and faulting. The pillow and pillow breccia units have been the more severely deformed and altered. There is extensive carbonatization and widespread development of quartz-carbonate-pyrite veins and stringers of several generations.

The stripping and sampling indicated generally erratic gold mineralization hosted mainly within minor late, cross-cutting quartz-carbonate-pyrite veins. Values in excess of 4 ounces of gold per ton were recorded over 4-6 inches ("East Showing") indicating the high grade nature of this material.

It is concluded that nothing of any immediate economic significance was located by the work.

The property is regarded as an attractive exploration bet for a Joburke style of gold deposit given the probable structural-stratigraphic equivalence of the Hoodoo showings with the Joburke. The extensive alteration, structural complexity and presence of widespread quartz veining, some containing scattered gold values, are also key features at Joburke.

Further exploration in the form of linecutting and ground geophysics is recommended with an initial orientation survey (magnetics, VLF-EM, IP) on the known showing area. Cost of the latter is estimated at $15,000-$20,000.

TABLE OF CONTENTS

1.0 INTRODUCTION

This report summarizes results of a program of mechanical stripping, washing, blasting, sampling and geological mapping on the Sangold property located in the Swayze gold area west of Timmins in northeastern Ontario.

The work was carried out specifically over the old Hoodoo Lake Mines' gold showing area by MPH Consulting Limited on behalf of Gail Resources Inc.

Attention remains focussed on this general part of the Swayze partially on the expectation that the Orofino deposit in nearby Silk Township will be placed into production on any strengthening in gold prices.

2.0 LOCATION AND ACCESS

The property is located in the northeastern portion of Keith Township some 60 miles west of Timmins per the location map inset on Map 1 at rear.

The property adjoins the old Joburke Gold Mine most recently operated by Noranda-Mining Corp.

Access is afforded by the old Joburke road off Highway 101 West thence onto a new road constructed by Mr. Gerry Sanford which leads directly to the showing area on claims 752148-149.

This new road leads south off the Joburke road about ½ mile west of permanent camps occupied by Mr. Sanford.

3.0 FIELD PROGRAM

An extensive program of backhoe/bulldozer stripping, washing with hi-pressure pumps and blasting of any mineralized zones so exposed was carried out over the showing area in the spring of 1985. The exposed rock was then gridded at 25 ft centres with chain and compass followed by geological mapping and extensive sampling of the various zones blasted open by Mr. Sanford. Sample locations were marked with red spray paint for easy recovery if desired. A total of 157 lineal feet of sampling was carried out in the various trenches along with the collection of a number of grab samples. A total of 41 chip and 6 grab samples was taken.

Fire assays for gold were subsequently performed at the laboratory facilities of Gail Resources Inc. at their Carshaw minesite at South Porcupine with some checks at an external laboratory.

A subsequent phase of sampling and mapping was completed in late October - early November of 1985 following a second round of overburden removal and blasting.

This second sampling/mapping phase was preceeded by the establishment of a picket line grid over the stripped area for control. Sample sites were again marked with red spray paint.

A total of 31 samples, 16 grab and 15 chip, was taken during this phase of the work.

These samples were assayed at Swastika Laboratories by combined fire assay/atomic absorption techniques.

Sampling was carried out under the supervision of W.E. Brereton, P.Eng. Mr. Gerry Sanford provided every assistance to the field crew during the course of the work along with supervising the overburden removal operations. Plates 1 to 4 at rear attest to the excellent stripping work carried out.

4.0 HISTORY AND PREVIOUS WORK

4.1 History

The gold potential of the Swayze greenstone belt has been recognized since the early 1900's. An early gold discovery was made at Moore Lake, Yeo Township, in 1912 by P. Moore who test-pitted an auriferous quartz-carbonate vein within pyritized, carbonatized metasediments. Gold and copper mineralization in quartz-carbonate veins within sheared granite was investigated in Chester Township in 1910. This showing (Lawrence prospect) eventually produced some 16 tons of 7% Cu, 0.15 ounces of gold per ton.

Much of the initial exploration focus in the region was directed towards iron deposits. The Woman River iron deposit (Algoma Steel Corp., 1906-07, Heenan and Marion townships) contained reserves of some 5,100,000 long tons of 40% Fe. Additional iron deposits include the Radio Hill in Keith and Penhorwood townships (158,200,000 long tons at 27% Fe; Kukatush Mining Corp., 1958-65). Iron exploration was also carried out in Cunningham township in the late 1920's.

Barite was discovered by R. Cryderman in Penhorwood township in 1917 with some production reported by Barite Syndicate Explorations in 1923. The deposit is currently held by Extender Minerals Ltd. who reportedly carried out bulk sampling in 1984 prior to a decision to ship material to their Matachewan barite processing facility.

The first major thrust in gold exploration and development occurred in the period 1930-1943, during which time most of the reported gold occurrences were discovered. Aside from the Joburke Mine, most of the gold production in the area was also from this time period.

Sporadic gold exploration occurred in the mid 1950's and early 1960's with an explosion of activity in the last five years following an increase in gold prices. Earlier prospecting discoveries culminated in the 1970's and early 1980's with gold production from the Joburke Mine, Keith township (Pamour Porcupine Mines Ltd.) and a major evaluation program at the Orofino deposit (Orofino-Northgate Joint Venture) along with extensive work on various prospects in the Chester township area.

Approximately 980,000 tons of gold-silver ore have been mined to date from 7 deposits (Joburke, Jerome, Tionaga, Kingbridge-Gomak, Halcrow-Swayze, Young-Shannon, Lawrence). Two of these contained significant copper values (Lawrence, Young-Shannon).

The lions share of production has been from the Joburke and Jerome Mines. The Joburke Mine yielded 632,292 tons grading 0.10 ounces of gold per ton (1973-75, 1979-81), while the Jerome Mine produced some 56,893 oz Au and 15,114 oz Ag from 335,060 tons of ore (1938-45, 1951).

Base metals exploration was a major focus in the Swayze from the mid 1950's to the late 1960's. Lead-zinc mineralization was first discovered in the area in iron formation in Cunningham township in 1904 by Ridout Mining Co. Later work by Shunsby Mines Ltd. (1957-63) in this same township found a Zn-Cu deposit in which the current owner, MW Resources Ltd., reports reserves of 2,400,000 tons at 2.7% Zn, 0.39% Cu, with a higher grade section of 80,000 tons of 6.2% Zn, 3.9% Cu, 1.2 oz Ag/T, 0.03 oz Au/T (1981). Work on copper-nickel deposit in Groves township from 1953 to 1975 resulted in a delineation of some 500,000 tons of reserves grading 1.5 - 2% combined Cu-Ni (Ontario Nickel Mines Ltd., Nickel Gold Mines Ltd.).

A large portion of the northern part of the belt was evaluated by Canadian-Johns Manville for its asbestos potential from 1951 to 1967. The Reeves Mine in Reeves township reportedly had reserves of 20,000,000 tons of 3 to 3.5% asbestos fibre content (1967). Upon cessation of the asbestos mining activities, a thriving talc mining/milling complex has been established at the site by Steetly Talc Limited.

4.2 Previous Work

The most significant previous work on the Sangold property was carried out by Hoodoo Gold Mines Ltd. in 1946-47. This consisted of prospecting, blasting and sampling on two zones, an "East" showing and a "West" showing followed by a 19 hole drill program totalling 7,500 ft. Both showings are described as quartz-carbonate veins in sheared (East) or massive (West) lavas. The East showing is described as being 8-12 inches in width and occupying a N10°E cross-fracture. The West vein is from 30 to 50 inches wide but is indicated to pinch out over a length of 20 ft or so.

The results of the Hoodoo drilling are described as follows:

"Hole No. 1, drilled under the surface showing returned assays as high as 0.09 oz over 2 ft and Hole No. 4, drilled to intersect the same zone further north returned 0.18 oz over 2 ft. The drilling under this exposure was, however, not encouraging as it showed up the vein as a probable tension fracture with little continuity. Holes 2, 5 and 6, all drilled to intersect the same structure, returned nothing better than 0.04 oz assays.

In Hole No. 7, a quartz carbonate vein returned 0.20 oz over 2 ft. This intersection would fall along the general strike as those in ddh 1 and 4. Holes 3, 10 and 13 designed to intersect the same vein returned only low assays.

Hole No. 14, which was laid out to cut the surface showing at depth returned 1.41 oz/ton over 1.5 ft from 36 to 37.5 ft. These values were apparently derived from a white quartz vein 0.7 inches long in the core and mineralized with heavy pyrite, some chalco pyrite and some pyrrhotite. This would not represent the same vein as the one exposed on surface.

Further down the hole, from 194 to 197 ft an assay of 0.08 oz over 3 ft was obtained from a section containing quartz stringers and light pyrite in sheared andesite.

Hole 17, drilled on the favourable zone further to the northwest gave one assay of 0.11 oz over 2 ft from 519 to 521 ft.

Apart from the assays mentioned, there were a large number of low assays ranging from 0.005 to 0.07 in almost every hole drilled." (Nelson Hogg, ODM Resident Geologist, Timmins, TMNR file T-62, 1947).

This drilling which has been re-constructed on Map 1 at rear is considered by the present author to have relatively thoroughly evaluated the showing areas.

Palomar Gold Mines Ltd. in 1947 drilled a 9 hole cross-sectional profile to the northwest of the Hoodoo gold showings, between these and the Joburke Mine. No assays are reported and it is assumed that no values of significance were encountered. The drilling did indicate that the same sheared and carbonatized volcanics which hosted the Joburke gold-quartz lodes extended through the Palomar drilling towards the present Hoodoo area.

Much more recently, Pamour Porcupine Mines Ltd. processed a 100 bulk sample taken by Mr. Sanford from the area of the above East showing. This is indicated to have graded in the 0.01 to 0.02 oz gold per ton range.

Dome Exploration Canada Ltd. has carried out extensive work in the past several years to the north and south of the Hoodoo showing area.

Various companies have visited and sampled the present property over the last couple of years including INCO, Esso Minerals, Noranda, Canamax and Rio Algom.

5.0 REGIONAL GEOLOGY AND MINERALIZATION

5.1 General

The Swayze can be thought of as an arcuate volcano-sedimentary ("greenstone") belt of Archean age, convex to the west, extending from Sewell township in the northeast, through Swayze township in the central region, to Groves township in the southeast (Figure 1).

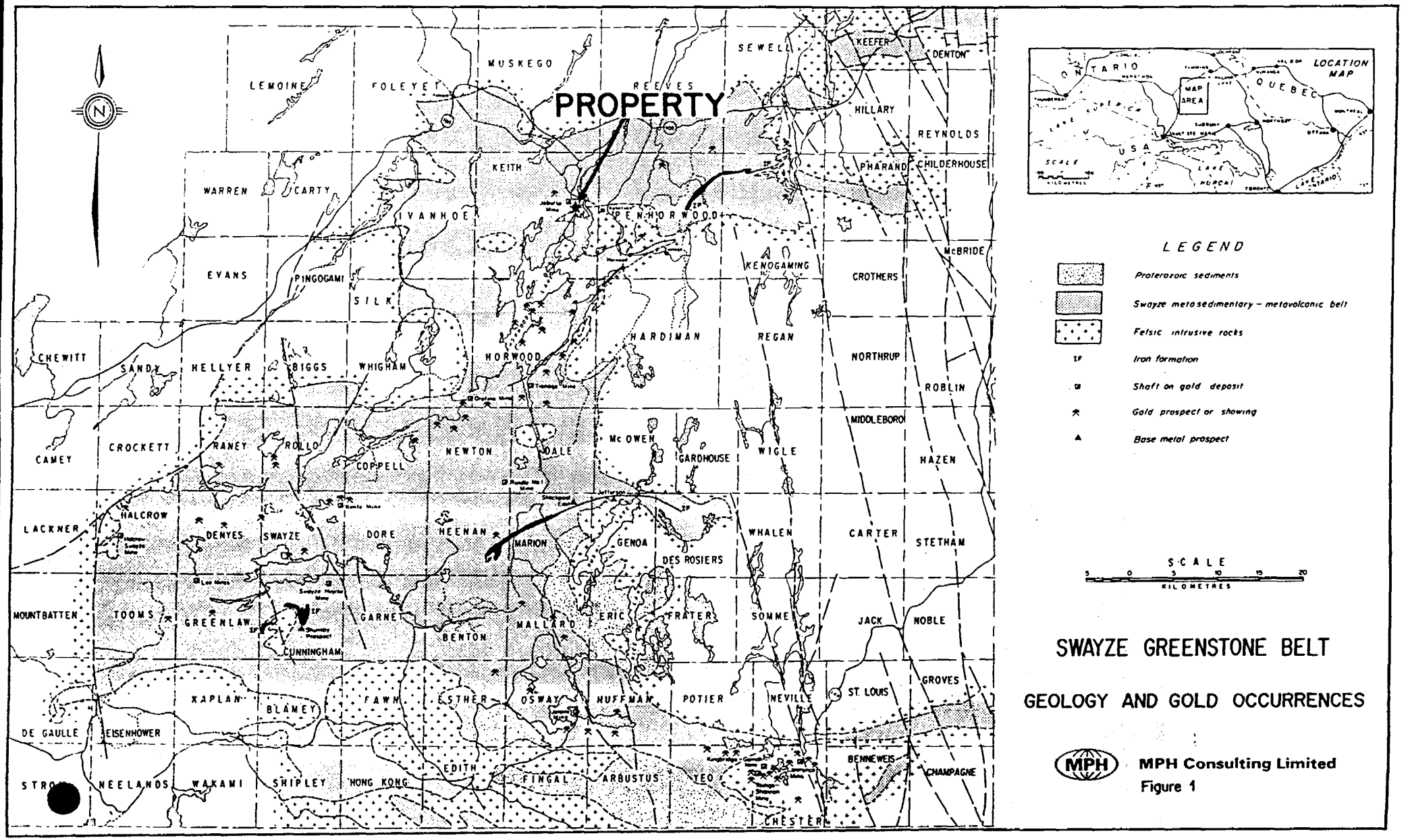
The Swayze greenstone belt forms the westernmost extremity of the central Abitibi belt, partially disconnected from it by a series of north to northwest striking faults and granodiorite/monzonite batholiths.

The volcanics consist primarily of mafic rocks which floor some substantial intermediate-felsic eruptive centres. Two such centres are to be found in the Kenogaming-Penhorwood and Swayze township areas.

Clastic and chemical sedimentary rocks, including major banded iron formations, are intercalated with the volcanics. They also form regionally extensive sedimentary units as in southeast Swayze.

A variety of synvolcanic to post-volcanic intrusions have invaded the supracrustal rocks. The Swayze belt is truncated to the west by the fault-bounded, north-northeast trending Kapuskasing Structural Zone, which contains high-grade metamorphic rocks and associated carbonatite intrusive complexes.

It has long been recognized that the rocks in north Swayze represent the first major reappearance of greenstones west of the Timmins-Porcupine gold camp, the latter notable for its production of some 57 million ounces of gold to date.


PROPERTY
LEMOINE
FOLEYET
MUSKEGO
REEVES
SEWELL
KEEFER
DENTON
HILLARY
REYNOLDS
PHARAND
CHILDERHOUSE
KEITH
WARREN
CARTY
IVANNHOE
PENHORWOOD
McBRIDE
KENOGAMING
CROTHERS
EVANS
PINGOGAMI
SILK
HARDIMAN
REGAN
NORTHRUP
CHEWITT
SANDY
HELLYER
BIGGS
WHIGHAM
HORWOOD
ROBLIN
MIDDLEBORO
CAMEY
CROCKETT
RANEY
ROLLO
COPPELL
NEWTON
DALE
McOWEN
GAROHOUSE
WIGLE
HAZEN
LACKNER
HALCROW
DENYES
SWAZYE
DORE
HEENAN
MARION
GENOA
DES ROSIERS
WHALEN
CARTER
STETHAM
MOUNTBATTEN
TOOMS
GREENLAW
GARNET
BENTON
MALLARD
ERIC
FRATER
SOMME
JACK
NOBLE
CUNNINGHAM
KAPLAN
BLAMEY
FAWN
ESTHER
OSWAY
HUFFMAN
POTIER
NEVILLE
ST. LOUIS
GROVES
DE GAULLE
EISENHOWER
BENNEWEIS
CHAMPAGNE
NEELANDS
WAKAMI
SHIPLEY
HONG KONG
EDITH
FINGAL
ARBUSTUS
TEO
CHESTER
LOCATION MAP
ONTARIO
QUEBEC
MAP AREA
USA
LEGEND
Proterozoic sediments
Swayze metasedimentary – metavolcanic belt
Felsic intrusive rocks
IF Iron formation
Shaft on gold deposit
Gold prospect or showing
Base metal prospect
SCALE
KILOMETRES
SWAYZE GREENSTONE BELT
GEOLOGY AND GOLD OCCURRENCES
MPH Consulting Limited
Figure 1

Recent mapping and lithogeochemical studies in southeast Swayze by the O.G.S. have revealed a sequence of tholeiitic and komatiitic volcanics overlain by assorted calc-alkaline volcanics and sediments, a relationship not disimilar to that involving the Deloro/Tisdale Groups at Timmins.

In addition to lithologic similarities, a number of workers, including the present authors, have concluded from structural and geophysical evidence that the Porcupine-Destor Break can be traced from the Porcupine westwards through the northeast portion of the Swayze possibly into the present Joburke area. The relationship of gold deposits to this structure in the Porcupine is well known.

Known gold mineralization in Swayze is typically of the quartz lode variety generally accompanied by shearing, fracturing and associated sulphides and carbonate. Gold is present in a large variety of lithological and structural settings. Some prominent examples are gold in quartz veins and replacements in diorite (Orofino deposit - Silk township); in carbonate zones (Tooms-Greenlaw area); in siliceous zones associated with felsic porphyry (Rundle No. 1 deposit - Newton township); in quartz vein zones in sheared sediments (Halcrow-Swayze deposit - Halcrow township); near a porphyry contact in sheared sediments (Jerome Mine - Osway township); in sheared, carbonatized volcanics (Joburke Mine); and in quartz veins in granodiorite-granite (Chester-Yeo area).

Gold is also present in oxide iron formation (Marion township), in massive pyrite iron formation (Cree Lake area) and in sheared stratiform pyritic zones in intermediate volcaniclastics (Kenogaming township). The latter types suggest potential for occurences of Hemlo-style deposits in Swayze.

The Orofino deposit with 1.65 million tons of geological reserves at 0.14 oz gold per ton is probably the closest to production.

5.2 The Joburke Gold Mine

Geological details of this deposit are of interest in that the gold showings under consideration herein are probably within the same stratigraphic/structural trend. The following details are presented by Prest (1950).

"The ore zone consists of an intricate network of quartz stringers and veins in variously silicified, albitized, and carbonated andesitic and dacitic volcanics. The vein material itself is largely quartz, albite, carbonate, and pyrite, with a minor amount of chalcopyrite and, rarely, visible gold. The presence of chalcopyrite is a good indicator of gold values, but the better values are usually found where there are marked concentrations of pyrite. Indeed, narrow pyrite "leads" may readily be followed through some of the better ore-grade sections. There are clearly at least two ages of both quartz and carbonate. Zones of strong carbonatization are fairly numerous but seldom make ore-grade material unless cut by the later pyritiferous quartz veins. Yet occasionally the carbonated rocks make ore without any noticeable quartz being present. As already stated, the gold usually accompanies the more pyritiferous quartz veins. Other quartz veins with little or no pyrite are widespread through the vein zone.

Drag-folding is evident in the volcanics of the vein zone underground, and almost always these show a south side up movement and plunge westward from near horizontal up to angles of 45 degrees and, rarely, as much as 60 degrees. In plan these drags form a reverse "S", as is commonly seen on the surface. The quartz veins, however, usually occur in "S" drag folds, and the ore shoots rake to the east. Numerous minor faults are also apparent

undergound. These displace the veins a few feet, with an east side north movement. The ore shoots are arranged en échelon to the north, going eastward. The writer believes that the two types of drag movements seen in the mine and on the surface are related to folding in the one case and faulting or shearing movements in the other. The south side up movement with the frequent tops-south determinations observed to the south of the mine indicate the south limb of an anticline plunging west. The more usual occurrence of the quartz veins in "S" drag folds, the rake of the ore shoots to the east, and their en échelon arrangement with an east side north movement may be a result of the dragging movements along the Joburke fault to the north. This dragging movement along the strike fault, so at variance with the fold structures in the greenstone block to the east, is believed to have "opened" the rocks and provided the channels for the vein-forming solutions.

This picture is further illustrated on the surface at the No. 3 vein, where the main part of the quartz vein show an open "S", elongated in the north-south direction and with a steep dip to the east, which cuts directly across the schistosity and the drags in the greenstone. The shear in the greenstone strikes at N 75°E and dips vertically, whereas the axis of the drag folds, which are the reverse "S" type, trend at N 50°E and plunge 40 degrees to the southwest. Minor offshoots of quartz follow the greenstone schistosity for short distances and hence may occur in the fold or the fault drags.

The main vein zone may owe its position to the occurrence of more massive and competent dacitic volcanics interbedded with schistose and streaky-banded andesitic volcanics, with fractures developing as these heterogeneous rocks were dragged by the folding and faulting movements. No tuffs could be positively identified near the shaft site owing to the intense shearing, but thin-section

studies do indicate their presence. There are also numerous rusty-weathering, carbonated rocks in this vicinity, which are known as "old dikes". These both paralled and crosscut the volcanic formations."

6.0 RESULTS OF FIELD PROGRAM

6.1 Geology

6.1.1 General

The area exposed by the stripping program is one of great structural complexity.

Several phases of folding, veining, shearing and faulting are recorded in the rocks.

Map 1 at rear presents the results of the mapping/sampling program.

6.1.2 Lithologies

Lithologically, the showing area is relatively simple.

A unit(s) of relatively massive chloritic basalt with variably deformed pillowed flows and breccias adjoining to the northeast comprise most of the exposed rock.

The pillowed rocks, in particular, have been moderately to highly sheared, deformed and altered. This has led to a banded sedimentary/tuffaceous aspect to some of these rocks, particularly in the strong shear zone in the northwest (Plate 5).

A very thin band of interflow graphitic argillite occurs in sheared pillow basalts in the east part of the grid area.

Numerous thin (½ - 3 ft) variably carbonatized "porphyry" dikes and sills transect the volcano-sedimentary rocks. A black micaceous, recessive weathering, lamprophyre dike fills the Sanford Fault in the east.

A fault-bounded zone of intensely carbonatized, silicified and pyritized porphyry (?) has been exposed in the southwest portion of the grid area (Plate 6).

A local zone or unit up to 1 ft thick, of boudinaged, magnetite-rich siliceous material with chalcopyrite splashes was noted in the area of 1+40N, 1+20W. This material may represent a highly tectonized iron formation unit or, possibly, a local alteration phenomenon.

A small fragment of banded oxide facies iron formation was noted within basalt in the extreme northwest corner of the grid.

6.1.3 Structure

In general, the main volcanic units strike northwest and dip steeply north to vertically.

In detail, the structural picture is extremely complex with several generations of shearing, small-scale folding and faulting. A tentative structural history, open to much modification, is:

D1: Bedding - parallel shearing and faulting (producing S1 - parallel to S0) during regional folding.
"Regional" quartz $\pm$ carbonate-pyrite veining of 1 or more phases; dike emplacement.

D2: N to NE shearing, faulting and small-scale crenulation of S1 about N to NE-trending cleavage planes (S2).
Local quartz-carbonate-sulphide-gold veins, further dike emplacement (Plate 7).

D3: Shearing parallel to S1 and transposition of D2 structures and veins into S3 (=S1); quartz veining (Plate 8).

D4: East-west faulting ("Sanford Fault") plus late flat vitreous quartz veins along joint sets (Plate 10).

6.1.4 Alteration and Mineralization

Carbonatization is generally pervasive with some areas of very intense carbonatization (e.g., Plate 6). One effect of this has been to produce a characteristic brown weathering rind on the rocks.

Massive basalt in the west portion of the grid has been less susceptible to this shear-related alteration.

There are several generations, possibly as many as 5, of variably boudinaged and tectonized quartz $\pm$ carbonate $\pm$ sulphide veins. The most prominant and widespread set is generally parallel to S1. This consists mainly of thin (6 inches or less) quartz stringers with some carbonate and variable pyrite. Locally, pyrite may prediminate over quartz. This set, to date, contains no gold of economic significance although some chemically anomalous values were encountered.

The more highly sheared rocks are also variably pyritized, silicified and chloritized, the latter two features possibly partially related to regional metamorphic events.

There has been an impressive development of coarse pyrite porphyroblasts in highly sheared chlorite-sericite schist in the east part of the showing area.

Transecting the above more widespread veining and alteration are a minor set of later, crosscutting, quartz-carbonate-pyrite ± chalcopyrite veins and pods from several inches to 1 ft or more in thickness. All of the gold values of significance would appear to be contained within these veins. These veins also contain by far the greatest sulphide content.

Two or more generations of late, fracture-controlled, generally flat, white to vitreous to smokey quartz veins cut all of the above (Plate 10).

6.2 Sampling and Assaying

Assay sheets are presented as Appendix 2 with a summary in Table 1 following. Four areas returned gold values of potential economic interest.

In the northwest, sample 06, a composite grab of broken vein material, returned 0.127 ounces of gold per ton. This vein is largely rubble-covered but is indicated to be up to 50 inches in width but can be no more than 25-30 ft in length based on outcrop exposure.

Extensive sampling was carried out on a complex, partially transposed vein-zone containing purplish carbonate (?) immediately to the northwest of the above. The best value obtained in systematic chip sampling was 0.152 ounces gold per ton over 3 ft (sample 76). A large composite grab sample, number 78, of the best-looking vein material contained 0.159 ounces of gold per ton.

TABLE 1

Sample	Length (ft)	Oz Au/ton
Phase 1		
SG-85-01	4	0.007
SG-85-02	4	0.008
SG-85-03	4	0.006
SG-85-04	3	0.003
SG-85-05	3	0.006
SG-85-06	Grab	0.127 -
SG-85-07	Grab	0.034
SG-85-08	4	0.008
SG-85-09	4	tr
SG-85-10	4	0.009
SG-85-11	4	tr
SG-85-12	3	tr
SG-85-13	3	0.012
SG-85-14	3	0.049
SG-85-15	3	0.002
SG-85-16	1.25	0.376 -
SG-85-17	3	0.004
SG-85-18	3	0.002
SG-85-19	5	tr
SG-85-20	6	0.003
SG-85-21	Grab	0.087 -
SG-85-22	0.75	0.050 -
SG-85-23	5	tr
SG-85-24	3	0.004
SG-85-25A	10	0.002
SG-85-25B	10	0.007
SG-85-26	10	tr
SG-85-27	3	0.008
SG-85-28	2	tr
SG-85-29	3	0.009
SG-85-30	3	0.012
SG-85-31	4	0.002
SG-85-32	3	0.012
SG-85-33	Grab	tr
SG-85-34	Grab	tr
SG-85-35	6	0.002
SG-85-36	1.25	0.045
SG-85-37	1.1	tr
SG-85-38	1.1	0.037
SG-85-39A	3	0.010
SG-85-39B	3	tr
SG-85-39C	3	tr
SG-85-40	4	0.354 -
SG-85-41	4	0.018

Sample	Length (ft)	ppbAu	Oz Au/ton
Phase 1			
SG-85-42	3		0.007
SG-85-43	0.33		4.032 –
SG-85-44	Grab		0.057 –
Phase 2			
SG-85-55	Grab	20	
SG-85-56	Grab	165	
SG-85-57	0.5	Nil	
SG-85-58	Grab	90	
SG-85-59	0.33	Nil	
SG-85-60	Grab	10	
SG-85-61	0.9	Nil	
SG-85-62	3.5	Nil	
SG-85-63	Grab	Nil	
SG-85-64	5	Nil	
SG-85-65	4	Nil	
SG-85-66	Grab	50	
SG-85-67	3.5	220	
SG-85-68	1.5	5,210	0.152 –
SG-85-69	2.5	2,450	0.072 –
SG-85-70	Grab	23,005	0.671 –
SG-85-71	Grab	2,810	0.082 –
SG-85-72	Grab	400	
SG-85-73	Grab	650	
SG-85-74	Grab	1,710	0.005
SG-85-75	Grab	3,220	0.094 –
SG-85-76	3	5,210	0.152 –
SG-85-77	5	2,390	0.070 –
SG-85-78	Grab	5,450	0.159 –
SG-85-79	Grab	10	
SG-85-80	Grab	115	
SG-85-81	Grab	20	
SG-85-82	3	540	
SG-85-83	3	1,135	
SG-85-84	3	480	
SG-85-85	3	2,690	0.078 –

A 16 inch chip sample (number 16) across a very localized pod of quartz-carbonate material in the central portion of the property returned 0.376 ounces of gold per ton. Grab sample 21 from the same vein returned 0.087 ounces of gold per ton. This vein has virtually no strike extent.

Sample 43 of a 4-6 inch quartz-pyrite vein in the east portion of the property returned 4.032 ounces of gold per ton. This high grade material is also responsible for the value of 0.354 ounces of gold per ton in sample 40 which represents a 4 ft chip across the vein.

This showing is a localized vein of quartz-carbonate-pyrite in a N10°E cross-fracture. There are some flat veinlets. The mineralization is exposed over a length of some 20 ft and appears to die out both to the north and south. The host fracture was traced further to the north during the second phase of sampling and additional gold mineralization was encountered. Sample 68 which represents a 1.5 ft chip sample across another quartz-pyrite pod returned 0.152 ounces of gold per ton. Sample 70 which represents a grab sample of pyrite-rich material from a 2 inch vein returned 0.671 ounces of gold per ton. This vein represents the east showing of Hoodoo Lake Mines in the 1940's.

The final and possibly most interesting area is in the southwest portion of the property where an incompletely exposed body of intensely silicified, carbonatized and pyritized porphyry material returned up to 0.094 ounces of gold per ton in large composite grab samples. The highest gold grades seemed to be closest to the fault contact with adjoining carbonatized volcanics.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Higher gold values are related to a specific and minor set of quartz-carbonate-pyrite ± chalcopyrite veins in later cross-fracture zones and to an intensely altered, fault-bounded porphyry body. Within certainly the former type, there would appear to be a 1:1 correlation of gold grade with sulphide content.

Values in the widespread S1 foliation-parallel quartz-carbonate vein and stringer material are low.

Examination of the old Hoodoo drill assay results also indicates a generally erratic distribution of low gold values.

In conclusion, I do not see any immediate economic potential in the specific area investigated given our sampling results within the context of the geology and previous Hoodoo drilling.

This author would, however, view the Sangold property area as an attractive exploration bet for a Joburke style of deposit. There are a number of similarities between the two properties including:

a) probable stratigraphic and structural equivalence
b) presence of extensive carbonatization and quartz veining associated with intense shearing and fracturing.
c) scattered presence of significant gold values in Hoodoo showing area

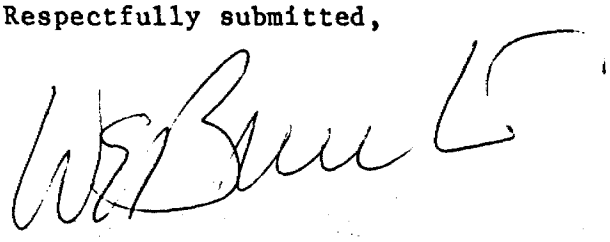
Further exploration work should be carried out on the property.

This should take the form of linecutting and magnetic and VLF-EM surveying over at least the "Joburke-equivalent corridor". Anomalies so located should be followed up with Induced Polarization surveying.

The purpose of this is to locate zones of intense shearing and any sulphide concentrations that might be associated with same.

Some orientation surveying utilizing magnetics, VLF-EM and Induced Polarization should be carried out over the known showning area to determine what geophysical response there might be associated with the mineralization here. Cost of this would be in the $15,000-$20,000 range. Exact survey parameters for the balance of the surveying could then be presented to Gail.

Respectfully submitted,



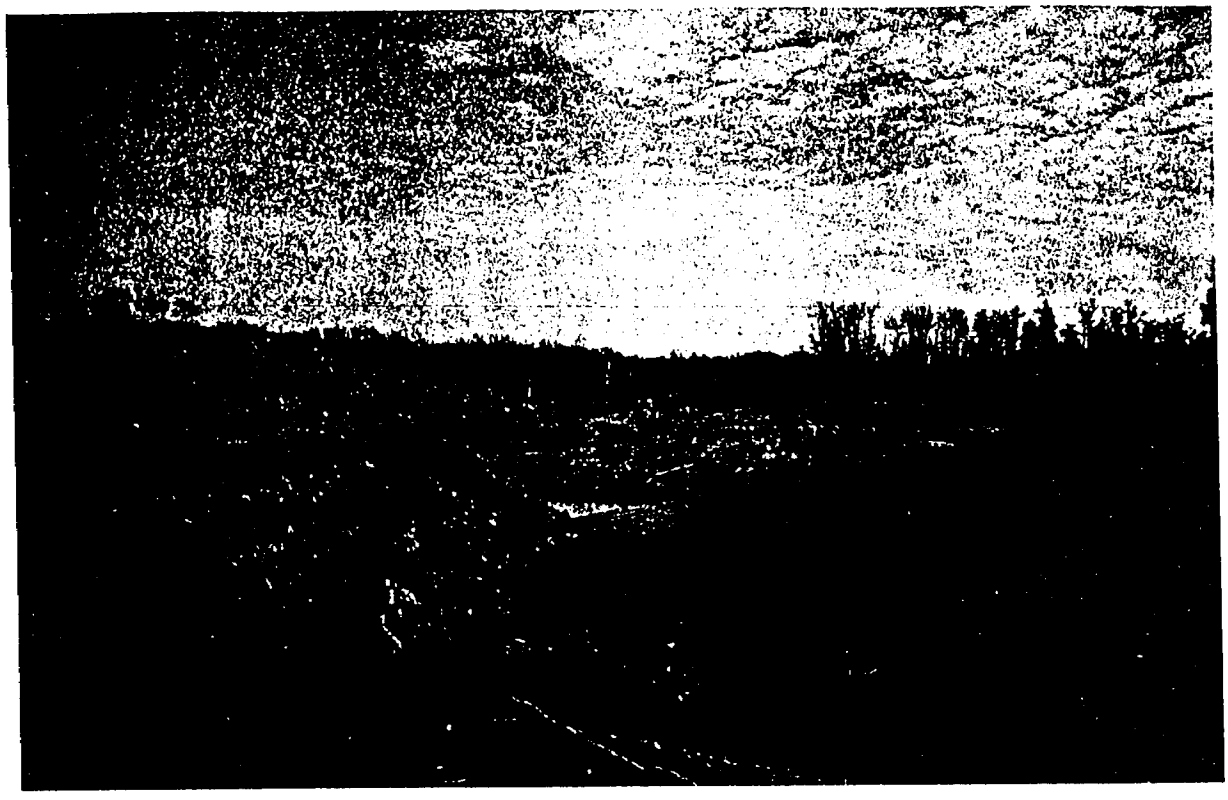
W.E. Brereton, P.Eng.

REFERENCES

Prest, V.K.; 1950

Geology of the Keith-Muskego Townships Area, ODM An Rept., Vol. LIX, Part VII, 1950.

Plate 1 to 4: Overburden Stripping



Plates 1 to 4: Overburden Stripping

Plate 5: Highly sheared and deformed pillow breccia

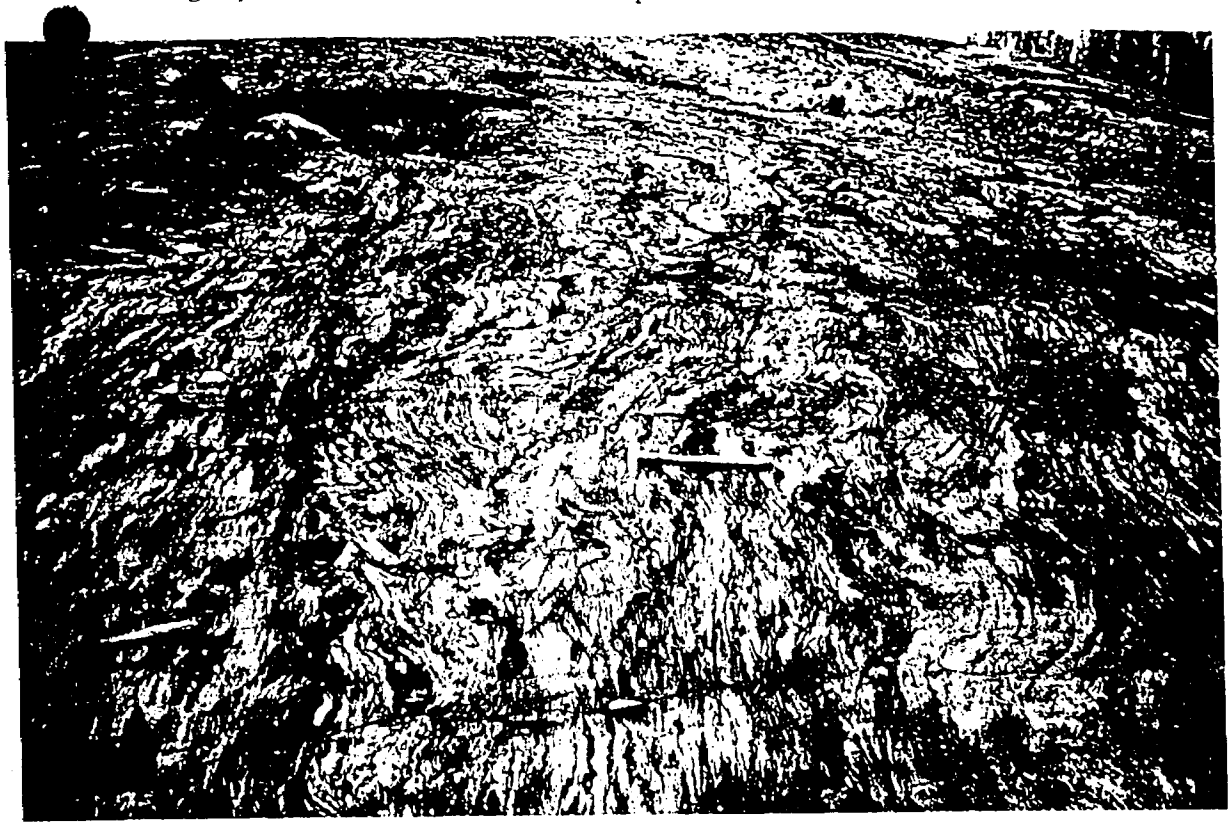


Plate 6: Silicified porphyry (to the right) in contact with sheared intensely carbonatized volcanics

Plate 7: Crenulation of S_1 foliation and quartz stringers about N-trending S_2 cleavage

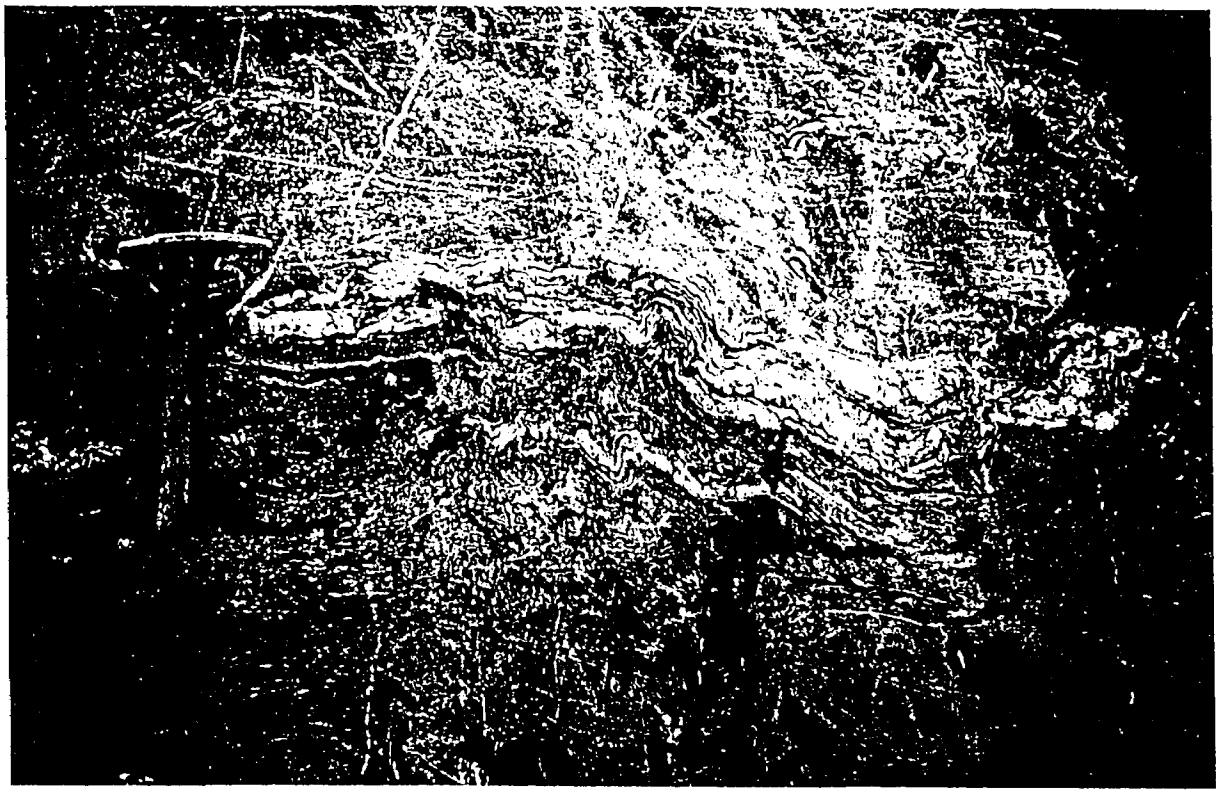


Plate 8: Transposition of S_2 veining back into S_3 ($=S_1$); the S_1 defined by narrow shear at left

Plate 9: Complex, multi-stage quartz carbonate veining in drag folded, sheared volcanics

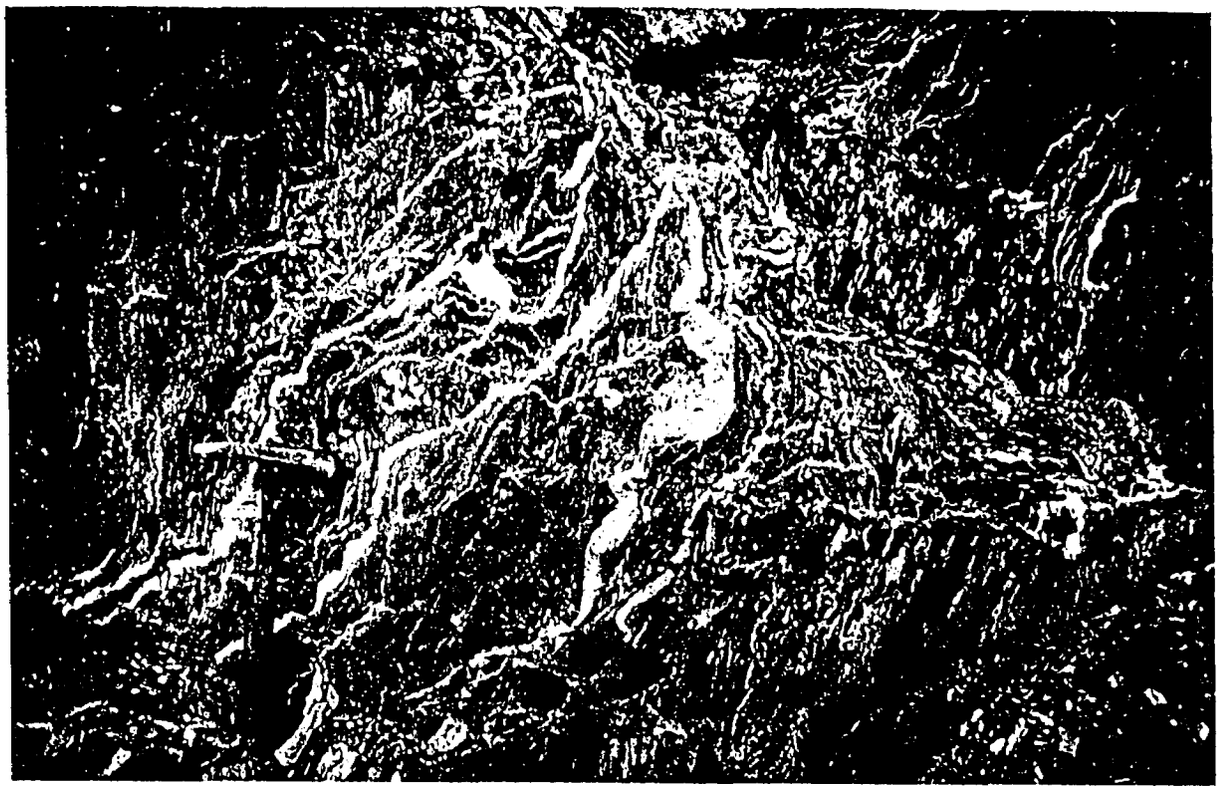


Plate 10: Late, flat quartz veining

Ministry of Northern Affairs and Mines
Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditures)

#16/87 Minir

42B01NW0039 2.9442 KEITH

900

Type of Survey(s)	Township or Area
GEOL. EVALUATION & ANALYSIS	KEITH TOWNSHIP

Claim Holder(s)	Prospector's Licence No.
GAIL RESOURCES INC.	T- 1520

Address: BOX 248, FORT ERIE, ONT. L2A 5N9

Survey Company	Date of Survey (from & to)	Total Miles of line Cut
MPH CONSULTANTS LIMITED	31 05 85 (Day Mo. Yr.) 30 11 85 (Day Mo. Yr.)	

Name and Address of Author (of Geo-Technical report): W.B. BRERETON C/O MPH, SUITE 2406, 120 ADELAIDE ST.W., TORONTO, ONT. 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	
	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	

PORCUPINE MINING DIVISION RECEIVED JAN 28 1987

Expenditures (excludes power stripping)

Type of Work Performed: Sect(77-1)(d) Geol. Evaluation and Analysis

Performed on Claim(s): P-793148, 793149, P-806963

Calculation of Expenditure Days Credits

Total Expenditures			Total Days Credits
$ 2300.00	÷ 15	=	154

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.

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	806963	08
	806964	20
	806965	26
	USING BAL. 54 DAYS	
	REFER: #303/86	

RECEIVED FEB 10 1987 MINING LANDS SECTION

RECORDED JAN 28 1987

Total number of mining claims covered by this report of work: 3

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
54	Jan. 28/87	
	Date Approved as Recorded: 87.2.25	Branch Director

Date	Recorded Holder or Agent (Signature)
JAN. 24?87	Gerald Sanford

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: GERALD SANFORD, BOX 211, FOLEYET, ONT. POM 1TO (ALL CORRESPONDENCE)

Date Certified	Certified by (Signature)
Jun 28/87	Gerald Sanford

1362 (85/9)

Ontario Ministry of Natural Resources

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

The Mining Act

2.9442

Note: – If number of mining claims traversed exceeds space on this form, attach a list.
– Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey: Geol. Evaluation + Analysis

Township or Area: Keith Twp

Claim Holder(s): Gail Resource Inc.

Prospector's Licence No.: T-1520

Address: Box 248 Fort Erie Ont P.O. L2A 5N9

Survey Company: MPH Consulting Limited

Date of Survey (from & to): 31 05 85 (Day Mo. Yr.) to 30 11 85

Total Miles of line Cut:

Name and Address of Author (of Geo-Technical report): W. E BRERETON c/o MPH Suite 2406 120 Adelaide St. W., Toronto Ont 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	
	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	

RECEIVED
SUDBURY MINING DIVISION
SEP 12 1986

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
P	654248	20
	654249	20
	654250	20
	654251	20
	654252	20

Bal 54 days To be applyed at later Date.

RECORDED
SEP 12 1986
R.L.

RECEIVED
OCT 03 1986
MINING LANDS SECTION

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

Expenditures (excludes power stripping)

Type of Work Performed: SECT 77(19) GEOL. EVALUATION + ANALYSIS

Performed on Claim(s): P752148, 752149, P688519

Calculation of Expenditure Days Credits

Total Expenditures: $ 2300.00 ÷ 15 = Total Days Credits: 154

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: Oct 12/86

Recorded Holder or Agent (Signature): Gerald Lanford

For Office Use Only

Total Days Cr. Recorded: 100

Date Recorded: Sept 12/86

Date Approved as Recorded: Oct 3/86

Mining Recorder: Stanley

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: Gerald Lanford. Box 211 Fonthill Ont L0S 1E0

Date Certified: Sept 12/86

Certified by (Signature): Gerald Lanford

REFERENCE

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(a)			SRO	135263
(b) MNR RES			SRO	22417
(c) SEC 36/80		7/2/80	SRO	188543

SAND AND GRAVEL

(a) MTC PIT
(b) MTC PIT SALTER
(c) MTC PIT SALTER
(d) MTC PIT FORS
(e) GRAVEL FILE 177187
(f) MNR PIT SALE (MOE WASTE DISP SITE)

NOTES

SURVEY LINES SHOWN THUS ———— ARE FOR CONTROL ONLY. CLAIMS CLASSIFIED AS BEING IN UNSUBDIVIDED TERRITORY.— March 7, 1947.

Surveyor General

FLOODING

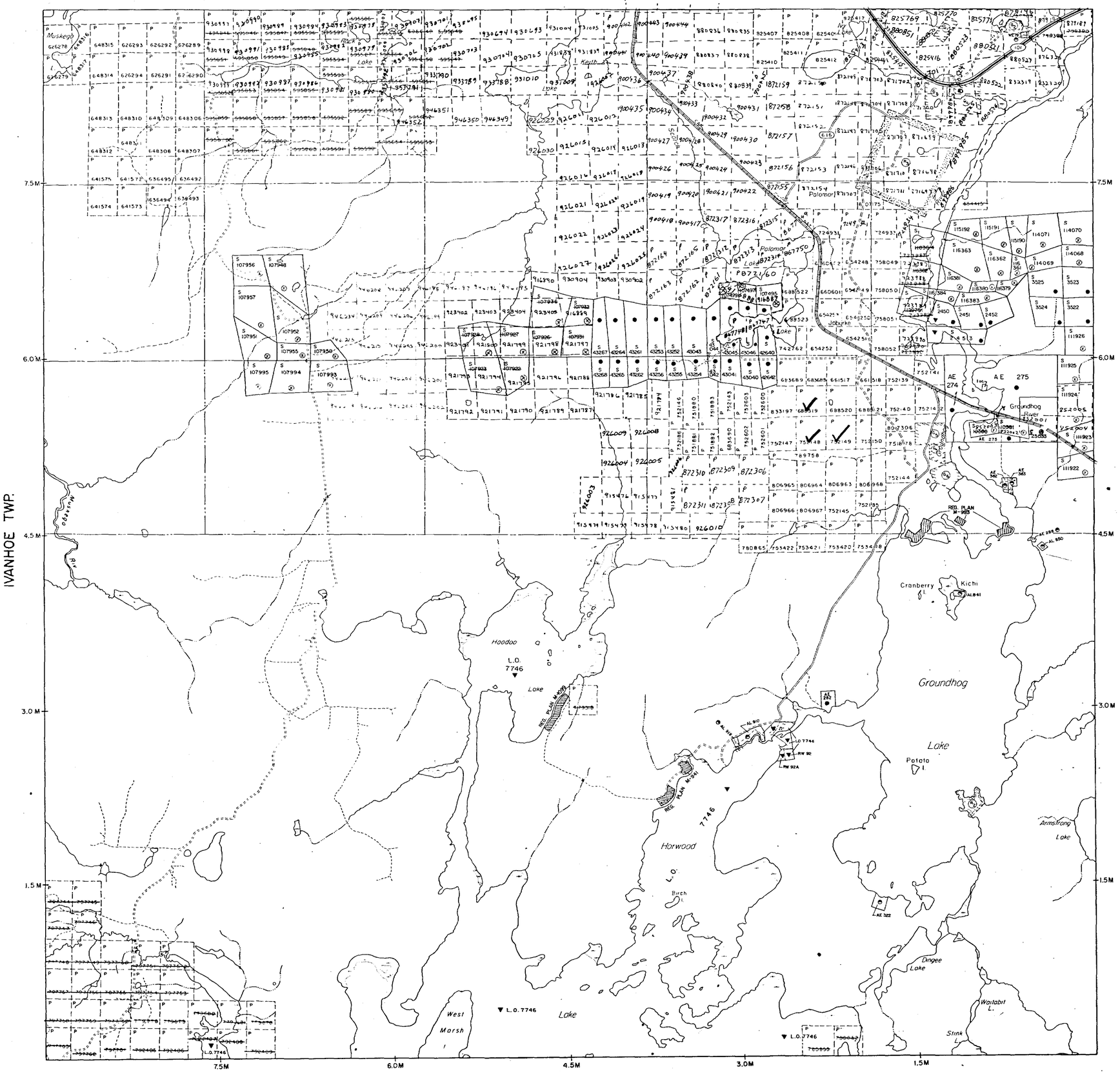
Flooded areas on Hoodoo & Horwood Lakes and Groundhog R. to contour elev. 1117' L.O. 7746 File: 75166

MUSKEGO TWP.

IVANHOE TWP.

PENHORWOOD TWP.

HORWOOD TWP.



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◒
" , MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	■
" , MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	(R)
CANCELLED	⊗
SAND & GRAVEL	(S)

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

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

KEITH

M.N.R. ADMINISTRATIVE DISTRICT

CHAPLEAU

MINING DIVISION

PORCUPINE

LAND TITLES / REGISTRY DIVISION

SUDBURY

Ontario Ministry of Natural Resources — Land Management Branch

Date APRIL 1985

Number G-3238

6 8 8 5 1 9 | 6 8 8 5 2 0

7 5 2 1 4 8 | 7 5 2 1 4 9

#17

2+00 W

4+00 W

0+00

#8

#10

#13

#18

#14

#19

#1

#5

#16

#3

#4

#2

#12

#11

#15

#9

#6

#7

TO MAIN ROAD

ROAD

BASELINE

5+00 W

4+00 W

2+00 W

0+00

2+00 E

4+00 E

7a

1a

1b

6

7

fracturing

crenulated

erratic qtz stringers, weak carb

78 grabs of vein material

irregular veining

06,07 grabs of qtz ±carb±py, cpy vein material from indicated N-trending vein up to 4' wide, vein now largely rubble-covered

blasted face

relatively massive, non-carbonated

relatively non-carbonatized

minor carb

crenulated qtz stringers

relatively massive, non-carbonatized

55,56 minor py & qtz ± carb stringers ± trace cpy

57 qtz-CO3 stringers

water

qtz pad

gov't samples

58

Zone of intense shearing and deformation, highly carbonatized, may be thinly laminated with abundant foliation-parallel qtz-CO3 stringers

strongly crenulated

"Porphyry Fault"

62 63 61

qtz-CO3 veins

60 59

0.04/4'

66 mag pods to 4" cpy

0.07/8' incl 0.2/2'

16" qtz-carb pod py, cpy

8" qtz-carb vein

crenulated qtz veinlets

chip sampled by INCO - low values

carbonatization much less intense

sericitic

cren qv

0.18/2'

1.41/1.5'

0.02/5.5'

0.04/2'

0.07/6'

pillowed

43,44 grabs of qtz-py vein material

0.039/23'

0.03/17'

0.02/8'

0.01/6'

qtz pad

33 grab from 3' qv

0.02/12'

highly crenulated qtz-carb veining

0.04/5'

very weak carbonat

79 18" qtz-CO3

80, 81 flat qtz veins 3'

3-5% py minor cpy

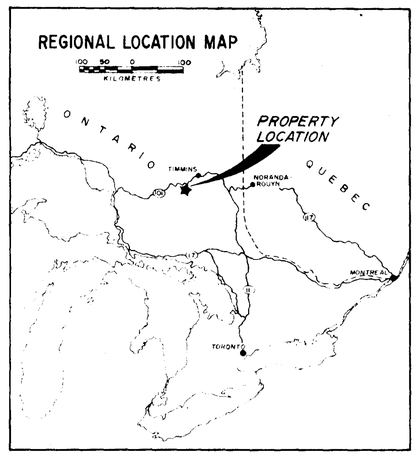
64

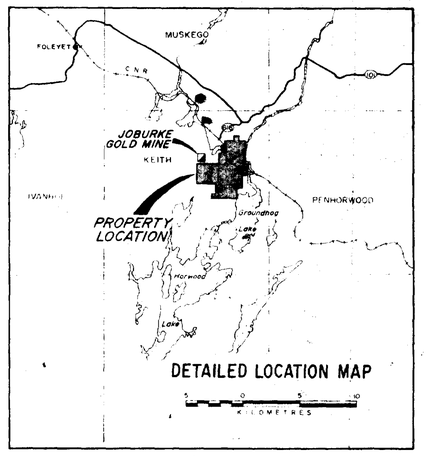
sericite

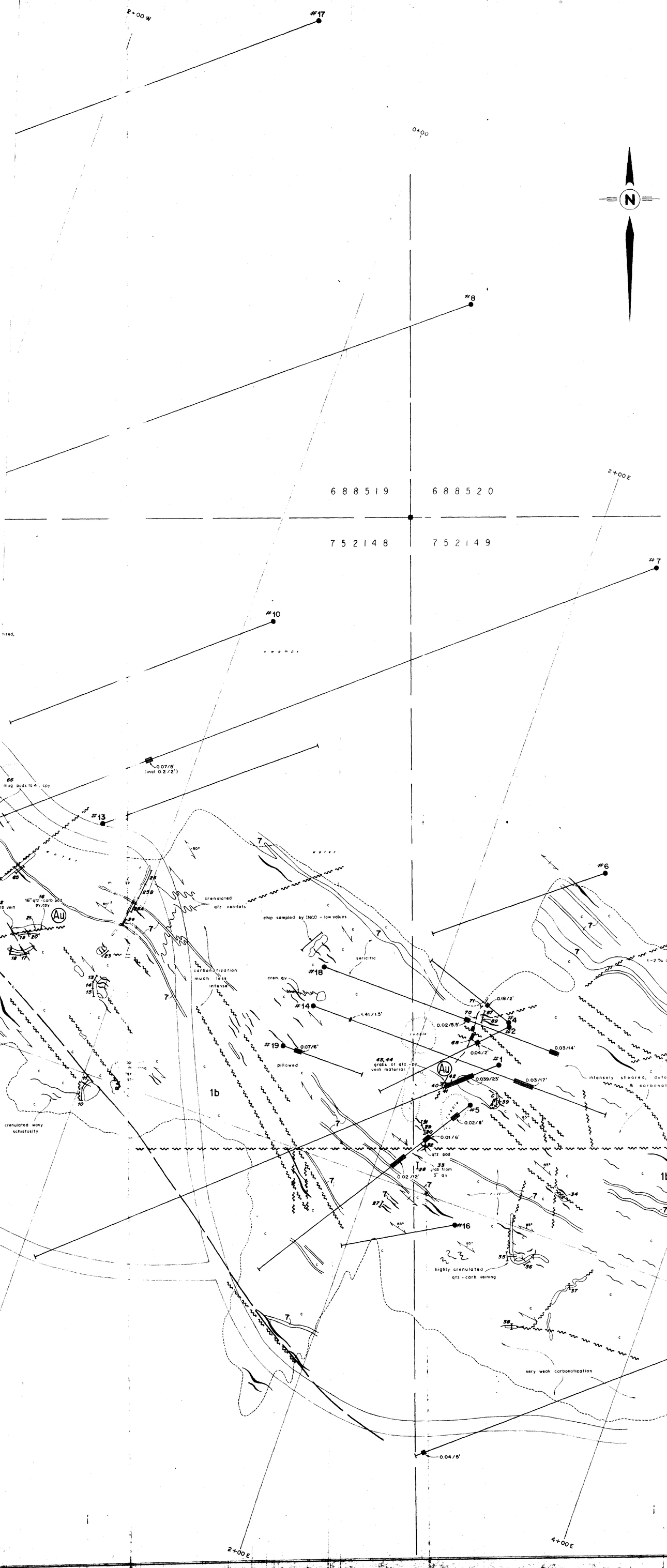
strongly sheared

crenulated wavy schistosity

Au







LEGEND

SYMBOLS

- Outline of exposed bedrock
- Primary foliation, strike and dip
- Crenulation foliation, strike and dip
- Shear or fault
- Fracture
- Geological Contact
- #6 — Old diamond drill hole (Hoodoo Lake M.L.)
- 0.18/5 — Gold assay (oz Au/Feet)
- 67 — Chip sample
- 79 — Grab sample

GEOLOGY

- 7 — "Dikes" – variably carbonatized (porphyrys, banded micaceous)
  - 7a – lamprophyre
- 6 — Carbonate zone, zone of intensely silicified, carbonatized & pyritized rock (porphyry?) in highly sheared and carbonatized volcanics(?)
- 4 — Graphitic argillite
- 1 — Mafic Volcanics
  - 1a – relatively massive, chloritic flows
  - 1b – pillowed flows, may be intensely sheared, deformed and altered
- Quartz-carbonate – py, cpy veins, veinlets, stockworks and pods
- Carbonatization
- Zone of intense shearing

SCALE

25 0 25 50 75 100

FEET

GAIL RESOURCES INC.	
SANGOLD PROJECT – KEITH TOWNSHIP	
GEOLOGY & SAMPLING	
Project No: C-784	By: W.E. Brereton
Scale: 1" = 25'	Drawn: A & N Cartographics
Drawing No: Map 1	Date: February, 1986
MPH Consulting Limited	