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REPORT ON A GEOLOGICAL MAPPING AND PROSPECTING PROGRAM ON THE BIGSTONE ISLAND PROPERTY, ROWAN LAKE AREA, NORTHWESTERN ONTARIO

FOR

BIGSTONE MINERALS LTD.

AND

ANGLO-CANADIAN MINING CORP.

OM 84-3-JV-168

Wawa, Ontario
November 17, 1984

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SUMMARY

A program consisting of geological mapping, line-cutting, prospecting and trenching has been completed on an 18-claim property in the Cameron Lake/Rowan Lake area of Northwestern Ontario. The claims are owned by Bigstone Minerals Ltd., and the program funded by a Joint Venture between Bigstone Minerals Ltd. and Anglo-Canadian Mining Corp.

The property is underlain by a series of sub-marine metavolcanic rocks consisting of mafic to inter-mediate flows and pillow lavas and mafic to felsic volcaniclastic rocks with local interbedded metasediments. These rocks have been locally intruded by granitic dykes and larger gabbroic complexes. Gold is present in two environments on the claim group--as visible free gold in a quartz vein system, grab samples of which carried up to 26.88 ounces per ton, and as microscopic gold associated with quartz-carbonate-sericite-pyrite alteration in shear zones. A three-foot systematic chip sample from one of these zones analysed 1,445 ppb (0.04 oz/ton) gold.

A program consisting of detailed prospecting, trenching, magnetometer and VLF-EM surveys, geochemical sampling and diamond drilling is recommended.

Respectfully submitted,

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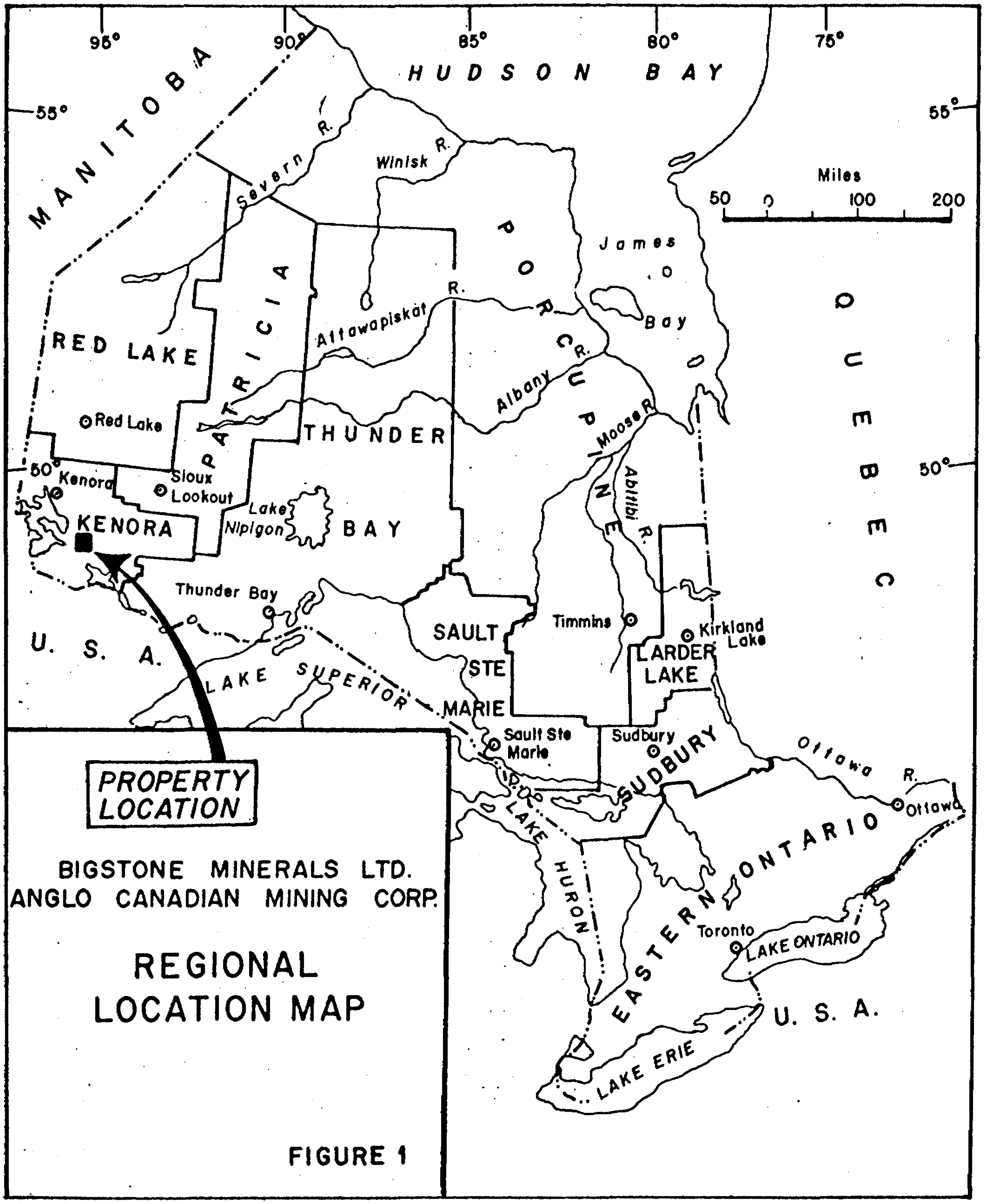
INTRODUCTION

The Bigstone Island Property of Bigstone Minerals Ltd. is situated within the Cameron Lake gold camp in Northwestern Ontario (Figure 1). The purpose of this report is to present the results of a reconnaissance exploration program conducted on the claims during the period August to October, 1984. This program was designed to locate potential gold-bearing zones analogous to recent discoveries in the area--Cameron Lake, Monte Cristo and Victor prospects. Work on the claims included linecutting, magnetometer and VLF-EM surveys on one portion of the property (3.5 miles), geological mapping (400' scale), prospecting, rock sampling, and trenching of some of the more obviously interesting zones (6 trenches).

All claims were examined for staking irregularities and to locate any ground left open as wedges, and necessary corrective measures taken.



BIGSTONE MINERALS LTD.
ANGLO CANADIAN MINING CORP.

REGIONAL LOCATION MAP

FIGURE 1

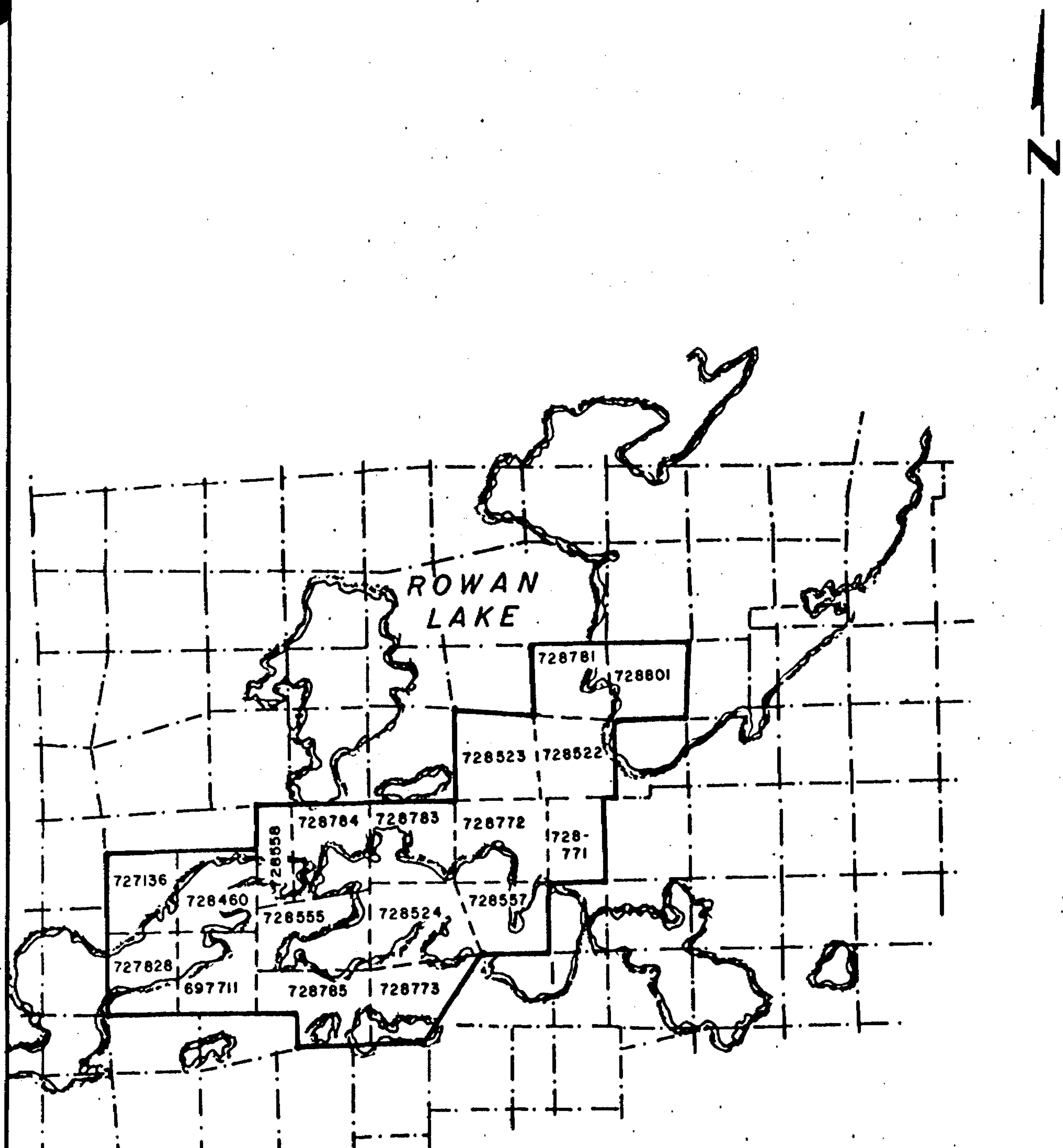
PROPERTY, LOCATION, ACCESS and PHYSIOGRAPHY

The Bigstone Island Property of Bigstone Minerals Ltd. consists of fourteen (14) wholly-owned and four (4) optioned mining claims. The claims are contiguous, unpatented, and shown on MNR claim map M-2580--Rowan Lake. The claims are shown on Figure 2 and numbered as follows:

Bigstone Claims	K 728522	K 728772
	K 728523	K 728773
	K 728524	K 728781
	K 728555	K 728783
	K 728557	K 728784
	K 728558	K 728785
	K 728771	K 728801
Allistair Option	K 728460	
	K 727136	
	K 727828	
	K 697711.	

The property is located in the north-central part of Rowan Lake. It is centred on NTS Sheet 52-F-5 at longitude 93° 34', latitude 49° 20'.

Access to the property is best accomplished by float plane during the warmer months of the year. Airbases are located at Nestor Falls (20 miles, southwest), Kenora (50 miles, northwest), and Dryden (50 miles, northeast). A tractor road is available for winter travel and equipment mobilization. An all-seasons road is currently being planned to provide access to the Nuinsco/Lockwood Joint Venture gold deposit at Cameron Lake, some six (6) miles southwest of the claim group.



BIGSTONE ISLAND GROUP

Data from: Rowan Lake
M-2580

Scale 1" = 1/2 mile

ANGLO / BIGSTONE J. V.	
ROWAN LAKE, KENORA	
CLAIM MAP	
Nov. 22, 1984	Fig. No. 2

The claims are 60 percent covered by the waters of Rowan Lake. Lake level is approximately 1,120 feet above sea level. Maximum relief on the islands and land masses that constitute the property is 100 feet. The terrain is generally undulating with local bedrock ridges. Overburden varies from thin organic cover, to bouldery till, to silty clay--the latter especially prominent in lowland areas, near the present lake level. Poorly drained areas in the interior are usually cedar swamps with abundant organic cover.

PREVIOUS WORK

The Rowan Lake Area has undergone numerous sporadic periods of exploration activity since the late 1800's. Most of the earlier work consisted of prospecting, panning and trenching, with quartz vein systems being the prime targets. A staking rush in 1936-1937 initiated some of the first documentation of some of the occurrences. This included the Monte Cristo prospect, one-half mile southeast of the Bigstone claims; the Roy and Sullivan Bay prospects, 4 miles southwest; and the Wampum and Errington Prospects--both approximately 4 miles southeast. In 1960, two gold occurrences were located in the Cameron-Beggs Lakes area, 6 miles southwest of the claim group, by local prospectors. Following several exploration programs by various companies--Noranda, Zahany Mines, Noranda and Nuinsco Resources--a drill program conducted by Nuinsco Resources and Lockwood Petroleum (Hunter and Curtiss, 1983) intersected the largest gold-bearing structure found in the area to date. This prompted an increase in exploration activity in the area, and the ultimate acquisition by Bigstone Resources of this claim group.

There appears to have been only two significant exploration programs conducted upon the ground now covered by the Bigstone claims. This includes a 10-claim group acquired by prospectors in 1938-1939 in what is locally referred to as the S-Bend area. Old documents (Bigstone

Minerals' private files) indicate that a gold-bearing 'shear' structure having a one and one-quarter mile strike length had been delineated by panning and prospecting. Several short drill holes were completed on this zone, with one reportedly encountering a significant intersection (10 feet) of $9 ore (at $35/oz gold this is estimated to be approximately 0.25 oz/ton). The property was eventually abandoned, with no assessment work having been recorded.

In 1974 Hudson Bay Oil and Gas (HBOG) completed a ground electromagnetic (EM-17) survey over a portion of the Bigstone Island Property. Results delineated numerous conductive zones, but no follow-up work was reported.

Prior to Bigstone's acquisition of the claims, Atikwa Resources, Inc. flew an airborne geophysical survey (Mag, EM, and VLF-EM, Aerodat Ltd., 1984) to provide regional information as well as check for local structural trends. Also, assessment work of interest on immediately adjoining claims is presently available at the Regional MNR office in Kenora. The most useful of these is a report of a ground magnetometer and VLF-EM survey completed on claims lying to the west of the property (Great Cameron Resources, 1984).

The property was included in various geological mapping programs including O.D.M. Map 44e (Thomson, 1935), O.D.M. Preliminary Map No. P-831 (Kaye, 1973), O.G.S.

Compilation Map No. 2443 (Blackburn, 1979), as well as in numerous significant regional studies (Blackburn and Jones, 1983; Beard and Garratt, 1976; Blackburn and Hailstone, 1983; Trowell et al, 1980).

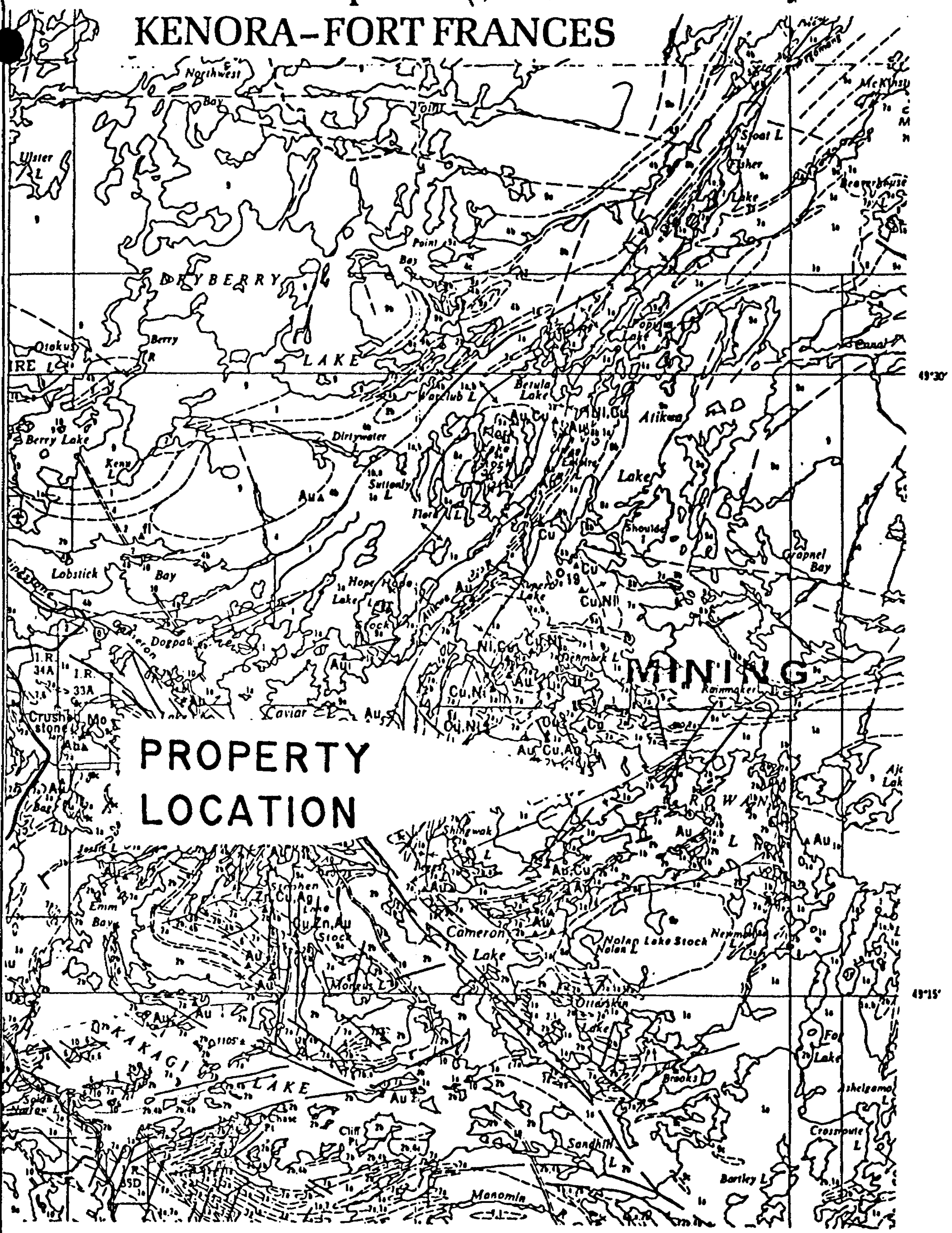
REGIONAL GEOLOGY and GOLD OCCURRENCES

The Bigstone Island Property is located in the western end of the Savant Lake-Kakagi (Crow) Lake Archean greenstone belt, in the Wabigoon Subprovince of the Canadian Shield (Figure 3). The greenstone belt is divided in this area by the northwest-trending Pipestone-Cameron fault zone. On the northeast side of this fault lies a southwest-plunging anticlinal sequence of submarine volcaniclastic rocks (the Shingwak Lake Anticline). This anticlinal package has been subdivided (Trowell et al, 1980) into a central core of tholeitic mafic flows (the Rowan Lake Volcanics) and an overlying mixed sequence of tholeitic to calc-alkaline flows with interbedded mafic/intermediate/felsic pyroclastic rocks and minor metasediments (the Cameron Lake Volcanics). These rocks have been cut by felsic stocks and related dykes and sills (the Nolan Lake Stock and parts of the Atikwa and Lawrence Lake Batholiths) as well as significant mafic bodies.

The Bigstone claims are situated within the transition zone between the two volcanic sequences, an environment considered favourable by the earlier-mentioned authors (Trowell et al, 1980). The actual transition zone boundaries, although apparent from regional rock geochemistry, are very vaguely defined when subjected to a detailed, more practical field program due to rapid facies changes, alteration, and structural complexities.

Map 2443 (part)

KENORA-FORT FRANCES



Scale 1:253,440 or 1 Inch to 4 Miles

Miles 2 1 0 2 4

Metres 5000 0 5000

LOCATION MAP

FIG 3

The most significant presently known gold occurrences in the area are located within epigenetic quartz vein and quartz carbonate breccia lenses associated with quartz-carbonate-alkali feldspar (albite/sericite) alteration zones (Hunter and Curtiss, 1983). These alteration zones are distributed erratically within discordant (Cameron Lake) and apparently concordant shear zones (Monte Cristo) in mafic to intermediate metavolcanics (Melling, D., 1984 and Jones, P., 1984). Two other common features which may in some way influence the localization of the gold-bearing zones, are the shear zone proximity to gabbro/metavolcanic contacts and the existence of quartz-feldspar porphyry dyke systems within the ore zone stratigraphy (Hunter and Curtiss, 1983).

WORK PROGRAM

Overview

The first phase of the summer program was to establish a cut grid on the main portion of the property (Bigstone Island Grid) as well as a small peninsula to the immediate west (S-Bend Grid). Ground magnetometer and VLF-EM surveys were then conducted along this grid. Data from these surveys was used to assist in geological interpretation but will not be reported upon in this report due to lack of total coverage over water-covered portions of the claim group. Control for geological mapping and prospecting in the remaining portions of the property was achieved by means of flagged 'compass and hipchain' grid lines and enlarged topographical maps.

Rock exposure is abundant along shorelines, although dominated by more massive, unaltered lithologies. Inland exposure is generally poor, although frequently masked by only shallow moss and organic cover. The more favourable zones appear to have been more deeply eroded and are now covered by bouldery till, swamp and recent lake sediments.

Geological Mapping

The property appears to be underlain by a slightly overturned, north-dipping homoclinal sequence of interbedded mafic to felsic metavolcanics and minor metasedimentary rocks. This sequence has been intruded by a fairly extensive granitic dyke and sill system in the northern part of the property, while a large 'sill-like' body of gabbro appears to weakly cross-cut stratigraphy in the southwest.

All of these units have been locally sheared and altered (quartz + carbonate ± pyrite ± sericite ± fuchsite*). Carbonate is ubiquitous in all rock types as veinlets, blebs, and pervasive microscopic disseminations.

The rock units appear to trend southwest-northeast on the northeastern end of the property, east-west (84°) throughout the remainder but becoming southwest-northeast again when emerging from the western boundary. This warp in the regional trend suggests a severe structural complexity since all rock units are affected. Two possibilities are proposed, the first being a relatively major northwest-trending fault (with numerous small related parallel faults) occurring to the immediate east of Bigstone Island. Drag folding associated with synistral movement on this fault would then account for the east-west trend. The second possibility is simple bending to accommodate the emplacement of the granitic stocks in the area, particularly the Nolan Lake Stock, or an unexposed apophysis thereof, the former being located some 2 miles south. The renewed northeast trend of the rocks may then be accounted for by the

*The mineral fuchsite is used in this report to refer to an observed green mica. Chemical analysis may prove this mineral to be mariposite or some related mica material.

influence of the Ajax Lake arm of the Lawrence Lake Batholith, which is exposed 2.2 miles to the east. Some combination of these two components is the probable explanation.

Several structural features are noteworthy. First of all, top determinations from pillow orientation, graded bedding in metasedimentary rocks, and stratigraphic inferences, consistently suggest that the stratigraphy faces south. The apparent dip of most exposures on and west of Bigstone Island is generally steep (84°-87°) north. Rocks in the northeastern part of the claim group, however, appear to dip steeply south. There is a relatively strong schistosity throughout the claim group averaging 84° with variable dips. A second fabric thought to be related to much of the shearing is developed at an average of 104°, also with dips that are variable but generally very steep. Locally, minor faults, oriented from 112°-120°, have been observed. These tend to offset the metavolcanic and felsic intrusive units (dextrally) from a few inches to several feet.

Five mappable rock units have been observed on the property. A sixth (Late Felsic Intrusive) has been included on the accompanying map (Sheet I) due to its existence on adjoining property maps upon which work was carried out simultaneously to this program. These include:

Unit 1) Mafic to Intermediate Metavolcanics; this unit consists of five general rock types which appear to have considerable continuity and should be useful marker horizons in any future detailed programs. These are:

a) Pillowed Flows; consisting of small (6" x 2") to huge (6' x 2') 'lava tube' like varieties. Centres are frequently silicified (Plate 1). Margins are variable, but are typically chloritic, siliceous and/or pyritic. The pillows are variously deformed as well, with some exposures showing a complete gradation from nicely preserved (Plate 1) to highly stretched (Plate 2) to sheared and altered beyond recognition (Plate 3). The apparent tops of these pillowed sequences are frequently brecciated.

b) Massive Flows; occur as thin (2 feet) to very thick units, interbedded and irregularly distributed within other rock types. These rocks are fine to medium-grained, locally pyrrhotite, magnetite and pyrite-bearing, and may easily be confused with gabbroic rocks. A feldspar porphyritic weathering texture is often observed, frequently having a 'tuffaceous' or sedimentary appearance.

c) Tuffaceous Rocks; these rocks make up a relatively small portion of the overall section, generally as thin interbeds associated with debris flow (Unit 1a) and pillow breccia sequences. They appear in outcrop as highly schistose, chloritic schist, frequently containing disseminated pyrite. Many sheared pillowed sequences are easily confused with mafic tuffaceous rocks.

d) Debris Flows; this rock type is very common on the Bigstone Island Property. It consists of small to large fragments of mafic rock which appears to have been very rapidly deposited in a matrix of finer-grained similar material (Plates 4 and 5). This unit could best be described as a combination of a pillow breccia, a tuff, and a 'rip up' breccia. A hyaloclastite may be an affinitive term, but a debris flow suggests a more logical origin due to its extensive nature.

e) Porphyritic (Feldspar Phenocrysts); this rock type is quite common on the property, often referred to as leopard rock. It consists of irregularly shaped feldspar phenocrysts up to three (3) inches in diameter within a mafic matrix. The unit can be massive to pillowed with phenocrysts contributing from 2-40 percent of the rock. It is likely andesitic in composition.

Unit 2) Felsic to Intermediate Metavolcanics; this unit is very rare on the Bigstone Island claim group. It has only two recognized subdivisions, although local silicified mafic units and felsic dykes may have been mistakenly identified in the past.

a) Tuffaceous Rocks; ash to lapilli size crystal tuffs, 15-40 percent feldspar phenocrysts, 10 percent quartz phenocrysts, in a similar often sericitized ground mass; weathers light grey to buff; contains abundant pyrite.

b) Agglomerate; 30-50 percent angular to subrounded fragments of varying felsic composition in a mafic-felsic ground mass.

Unit 3) Metasedimentary Rocks; very rare in the overall section, occurs as thin interbeds in restrictive horizons.

a) Chert; dark grey, very thin beds locally pyritic.

b) Interflow Sediment; thin beds of varying composition--siltstone, greywacke; generally siliceous, pyritic, mixed with volcaniclastic material.

Unit 4) Mafic Intrusive Rocks; 'unsubdivided' generally infers feeder dykes of generally local distribution.

a) Gabbro; medium to coarse-grained (fine-grained along margins), locally foliated; occasionally leucocratic, shows local differentiation--feldspar porphyritic, magnetite-bearing zones, hornblende-rich zones; is very difficult to distinguish from some mafic flow rocks, a phenomenon made more complicated by its sill-like to weakly cross-cutting and intercalated configuration within the overall stratigraphy.

b) Diorite; dyke-like bodies of limited lateral extent associated spatially within the gabbroic intrusive unit.

c) Lamprophyre; medium to coarse-grained, biotite, muscovite-bearing dyke rocks.

Unit 5) Early Felsic Intrusive Rocks; occurs as dykes and sills throughout the claim group, particularly abundant along a several hundred foot wide zone in the northern part of Bigstone Island. Unsubdivided indicates a fine-grained (aplitic) phase referred to by others as 'felsite' dykes; may in some cases, be subvolcanic.

a) Feldspar Porphyry; feldspar phenocrysts in a groundmass of felsic material, locally foliated and sericitized; light grey to white weathering.

b) Quartz-Feldspar Porphyry; Quartz and feldspar phenocrysts in a groundmass of dominantly felsic material, locally foliated and sericitized; grey.

Unit 6) Late Felsic Intrusive Rocks; not recognized on the Bigstone Island claims to date, but observed on adjacent properties included in this program.

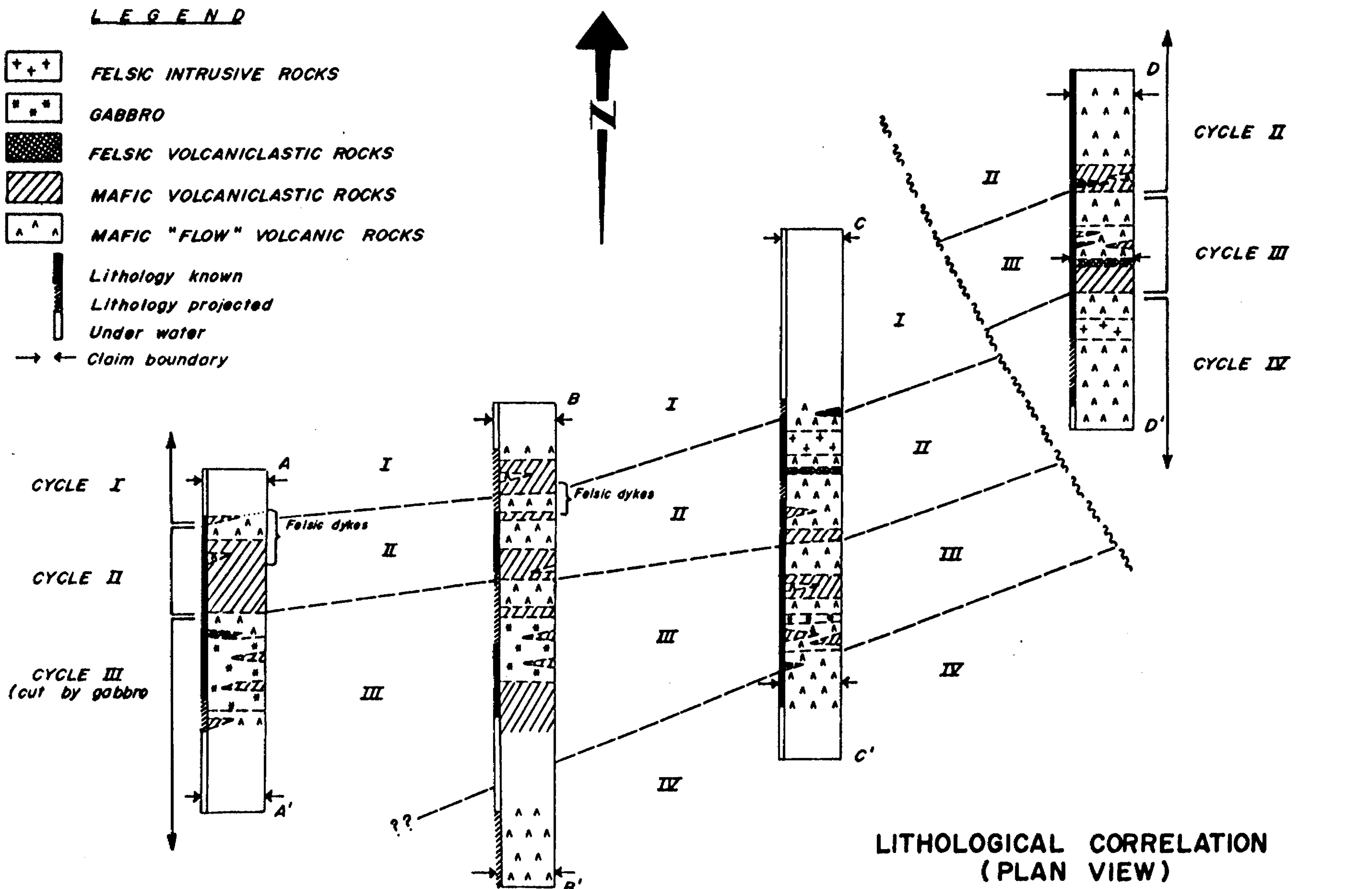
a) Granite; medium-grained, equigranular, dark orange to pink.

Of the above units, 1a (Pillowed Flows) constitutes by far the largest majority of the rocks exposed on the Bigstone Island Property, followed by Unit 1d (Debris Flows). There appears to be evidence for a crude cyclical pattern to the observed rocks both on a local as well as property scale. From the local view point, the pattern, from north to south, is typically pillowed and massive flow sequences, pillow breccia, debris flow and tuffaceous rocks with occasional very thin interbedded sedimentary rocks (cherts, wackes, etc.). Not all of these units exist in all cases. On a gross scale, there appears to be four cycles consisting of flow dominant rocks followed by volcaniclastic dominated sequences. These cyclical units (or parts thereof) are shown in a simplified fashion, in Figure 4. The most easterly section provides evidence for the structural break (east of Bigstone Island) mentioned earlier, since it appears to be stratigraphically much higher in the section.

The rather detailed mapping exhibited on the enclosed map (Sheet 1) demonstrates two considerations with regards to the detection of potential mineralized zones in this area. Firstly the area has an obviously complex depositional history as opposed to the volumenous display of pillowed and massive flow rocks suggested by more generalized, earlier maps. This diversity of rock types is considered by many to be an important asset in potential localization of mineralization. Secondly, the shear zones and accompanying hydrothermal alteration with which the known important gold occurrences in the area are associated are not restricted to any one particular stratigraphic unit, thus providing a considerable number of exploration targets.

Prospecting

The routine prospecting which augmented the geological mapping program was very successful in outlining a number of promising targets on the property. Several



LITHOLOGICAL CORRELATION
(PLAN VIEW)
ACCROSS THE BIGSTONE ISLAND PROPERTY

Scale 1" = 1,200 ft.

Fig. 4

known occurrences of quartz-carbonate alteration were investigated by trenching and detailed sampling, two strong zones of shearing and accompanying quartz-carbonate breccia were located and sampled, numerous small occurrences, of unknown significance were located and sampled, and an earlier reported occurrence of gold was 'rediscovered' and sampled.

With the exception of the latter occurrence, the favourable zones on the Bigstone Island Property are very similar in appearance, mineralogy and geological setting to the host environments for the important Cameron Lake and Monte Cristo deposits. The zones are best described by a schematic diagram (Figure 5). As can be seen, the central core of the zones consist of a quartz-carbonate breccia, quartz stockwork or simple quartz vein system. Accessory minerals include sericite, Py, Cpy and gold. Outside of this zone lies a strongly sheared band of unrecognizable rock, strongly carbonate-altered with quartz in stringers, veinlets, and gash fillings. Typical minerals within this zone are sericite, pyrite, fuchsite, and minor Cpy. This zone is in turn enclosed by a zone of weaker shearing and weaker carbonate alteration. It is typically bleached. Pyrite, as coarse cubes, chlorite, and minor fuchsite are common associates. A gradational contact separates these rocks from surrounding relatively unaltered and undeformed country rocks.

THICKNESS ON BIGSTONE PROPERTY		TYPICAL MINERALOGY
—	RELATIVELY UNDEFORMED METAVOLCANIC ROCKS	—
<1' - 50'	ZONE OF WEAK SHEARING & WEAK ALTERATION	← Py, Chlorite, Calcite & Bleaching
<1' - 40'	STRONGLY SHEARED & ALTERED ZONE	← Py, Carbonate (Calcite, Ankerite) Quartz, Fuchsite, Sericite
<1' - 15'	QUARTZ CARBONATE BRECCIA/STOCKWORK/STRINGERS	← Py, Cpy, Qtz, Sericite & Gold
<1' - 40'	STRONGLY SHEARED & ALTERED ZONE	← Py, Carbonate (Calcite, Ankerite) Quartz, Fuchsite, Sericite
<1' - 50'	ZONE OF WEAK SHEARING & WEAK ALTERATION	← Py, Chlorite, Calcite & Bleaching
—	RELATIVELY UNDEFORMED METAVOLCANIC ROCKS	—

FIG. 5
SCHEMATIC PLAN VIEW
OF A TYPICAL QUARTZ-CARBONATE
ALTERATION ZONE

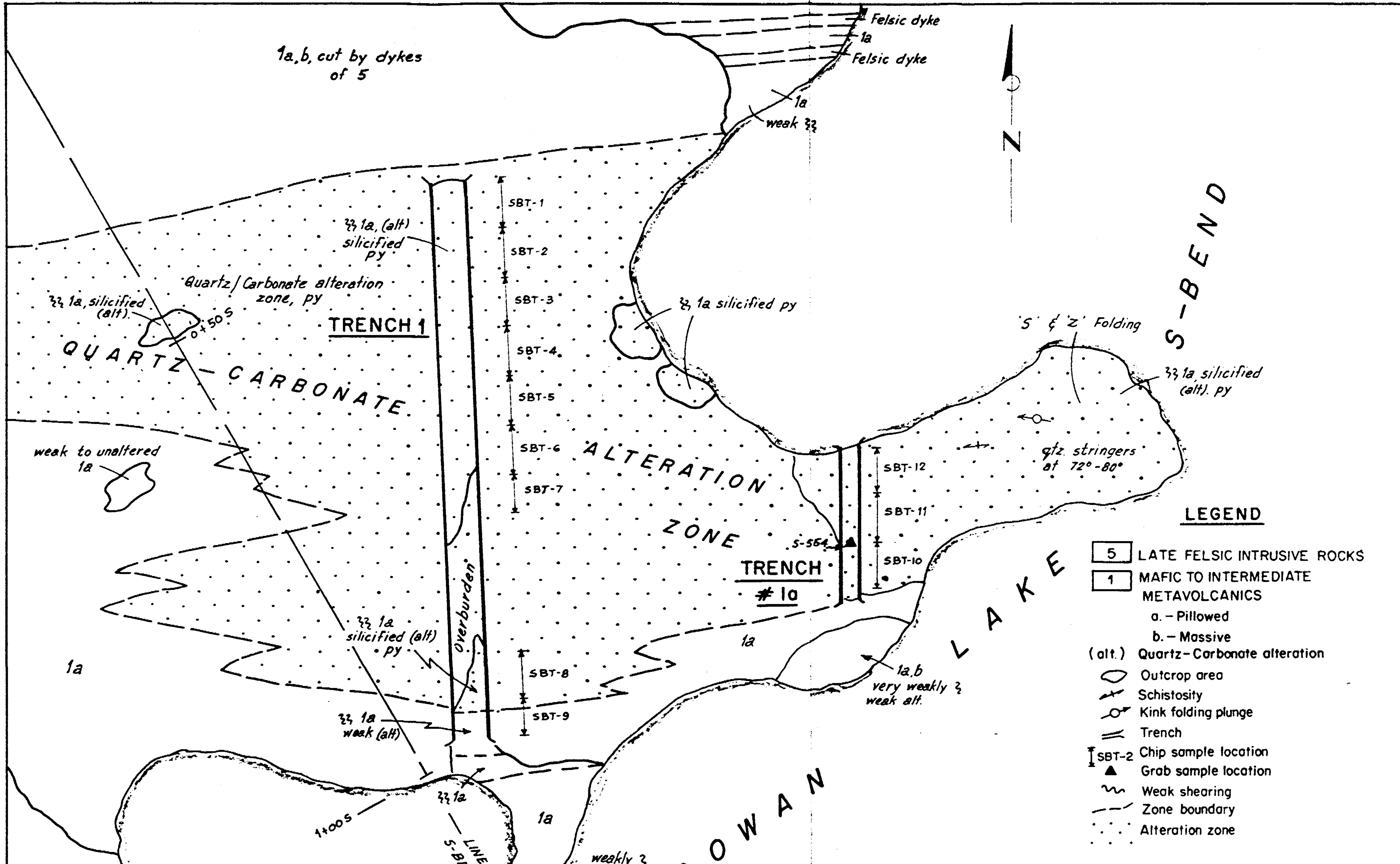
(NO SCALE IMPLIED)

Manwa Exploration Services Ltd. S. Sears, 1984

These zones are of variable thickness on the Bigstone Island Property, ranging from a few feet to in excess of 50 feet. The favourable central core is generally erratically developed within the overall zone, and in some exposures is effectively missing. These zones range from a few inches to greater than 10 feet, and are usually anomalous in gold. The alteration envelope is also of unpredictable thickness. Quartz-carbonate core zones do not necessarily require large alteration envelopes to yield anomalous gold values.

Because of the large number of occurrences of quartz-carbonate alteration zones on the claim group, and the limited time available in this program, four (4) of the larger exposed zones were selected for trenching and systematic chip sampling.

The first trenches, T-1, T-1a (Figure 6) were completed on a known exposure, referred to as the 'S-Bend' occurrence. This zone occurs within a sheared pillowed sequence in close proximity to a swarm of felsic and feldspar porphyritic dykes, on the west shore of the S-Bend narrows on the west side of Bigstone Island. Quartz stringers and pseudo-stockwork are well-developed within a highly sheared and quartz-carbonate-pyrite-sericite altered zone having an overall thickness of up to 50 feet. A 50-foot trench (T-1) was attempted at a point 40 feet inland from the shore exposure. Thick overburden and the



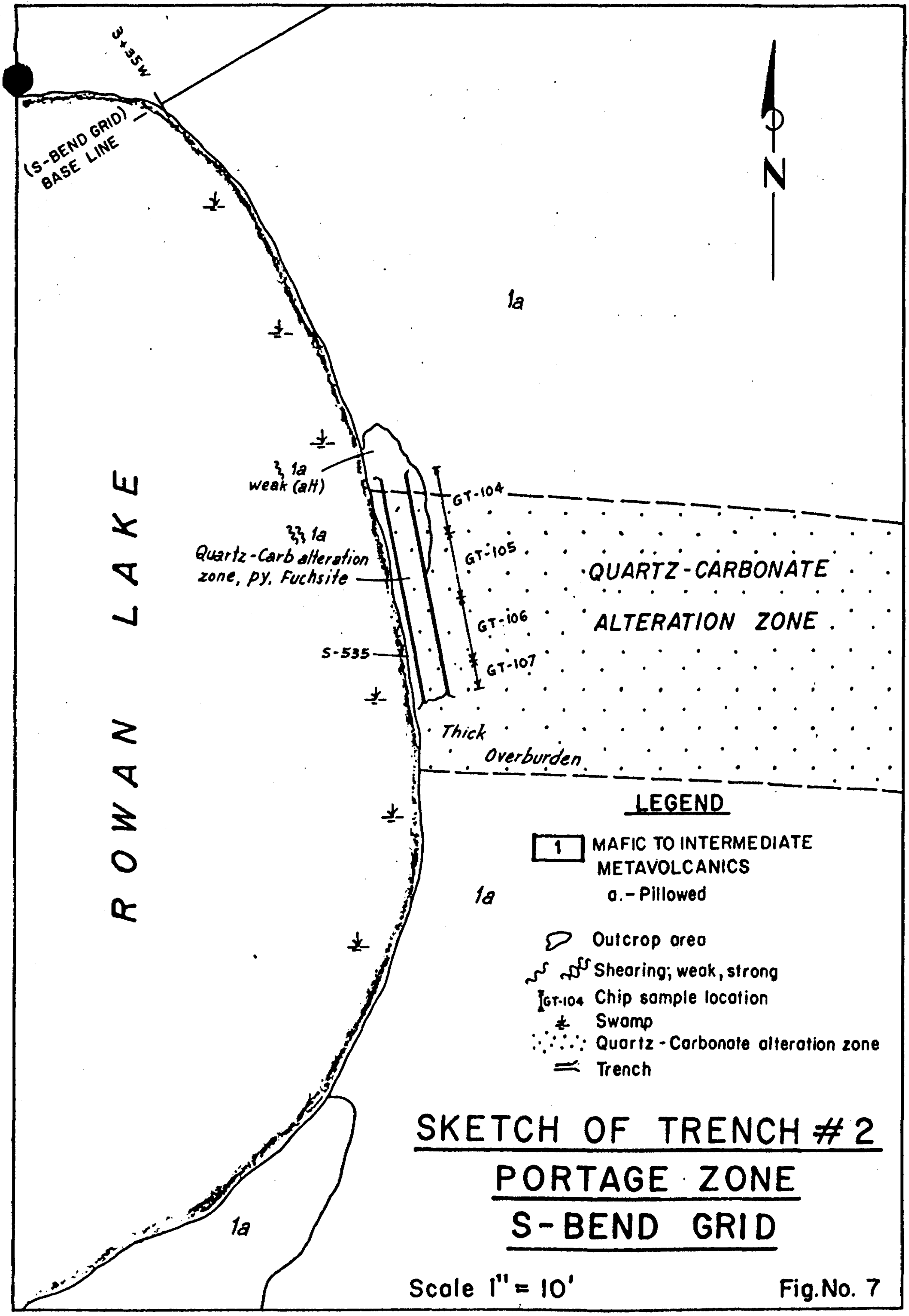
SKETCH OF TRENCH #1 & #1a
S-BEND AREA

Scale 1" = 10'

Fig. No. 6

proximity to the lake (Plate 6) did not allow access to the entire section, so a second trench was placed near the shoreline to cover the unexposed area. Twelve chip samples, each representing from 3 to 5 feet of bedrock were taken from this zone and analyzed for gold only (SBT-1 to SBT-12; appendix). Results show only very marginally elevated values, with the highest being 15 ppb across 5 feet. Background values for gold in the area is less than 5 ppb. The abundant localized pyrite and relatively strong alteration in these rocks were expected to yield better gold results. However, detailed prospecting completed at the same time as the trenching suggests that this zone pinches rapidly to the west, and is very weak on the east shore of the S-Bend where its eastward projection should have occurred. It is possible that the lens exposed here is merely an offshoot of a northeast-trending structure passing through under the waters of the S-Bend itself. Alternatively, it may be a pipe-like structure and have some potential at depth.

The second trench was placed 350 feet southwest of the S-Bend on the east shore of a small bay, to test what is known as the Portage Zone. This zone was originally thought to have been the westward extension of the S-Bend occurrence. Seventeen (17) feet of this trench was sampled, although the southern edge was not defined due to a combination of a thick overburden cover and flooding



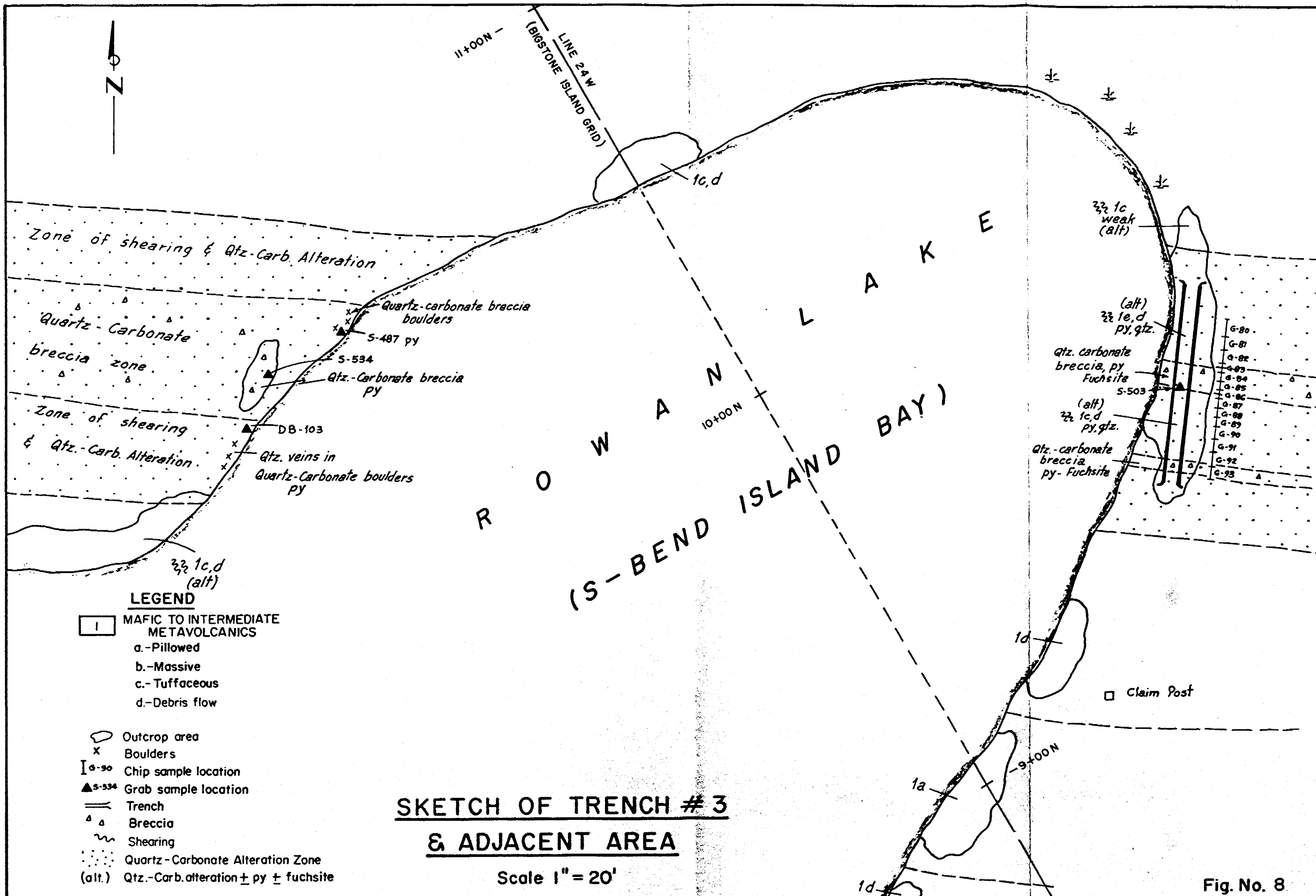
SKETCH OF TRENCH #2
PORTAGE ZONE
S-BEND GRID

Fig.No. 7

(Figure 7). Samples GT-104 to GT-107 were disappointingly low (Appendix), showing only background values. However, this zone has now been traced to in excess of 600 feet (east-west direction), and may have potential along strike. Rocks are locally strongly altered and pyritized in this zone, and pyrite and fuchsite-bearing grab samples collected earlier from a point 400 feet west of this trench is reported to have carried 0.01 ounces/ton of gold.

Trench number three was located on the east shore of a small bay, approximately 900 feet southeast of Trench 1, to explore a newly discovered area of good alteration and local well-developed quartz-carbonate breccia (Figure 8). Thirty-six feet of the altered zone was sampled in fourteen (14) chip samples (G-80 to G-93) along with several grab samples. Results indicate a strongly anomalous gold trend associated with one of the two quartz-carbonate breccia zones exposed. Six feet of this (three samples) trench averaged 193 ppb gold (high of 245 ppb). Grab samples from an exposure located 200 feet west of this trench on the opposite shore of the bay, returned a high value of 40 ppb. This exposure is one of the more intensely altered zones in the area and locally displays abundant pyrite. Additional work is definitely warranted on this zone.

Trench number four was actually a combination of three trenches (4A, 4B and 4C in Figure 9) completed to investigate the areal extent of an earlier discovered zone

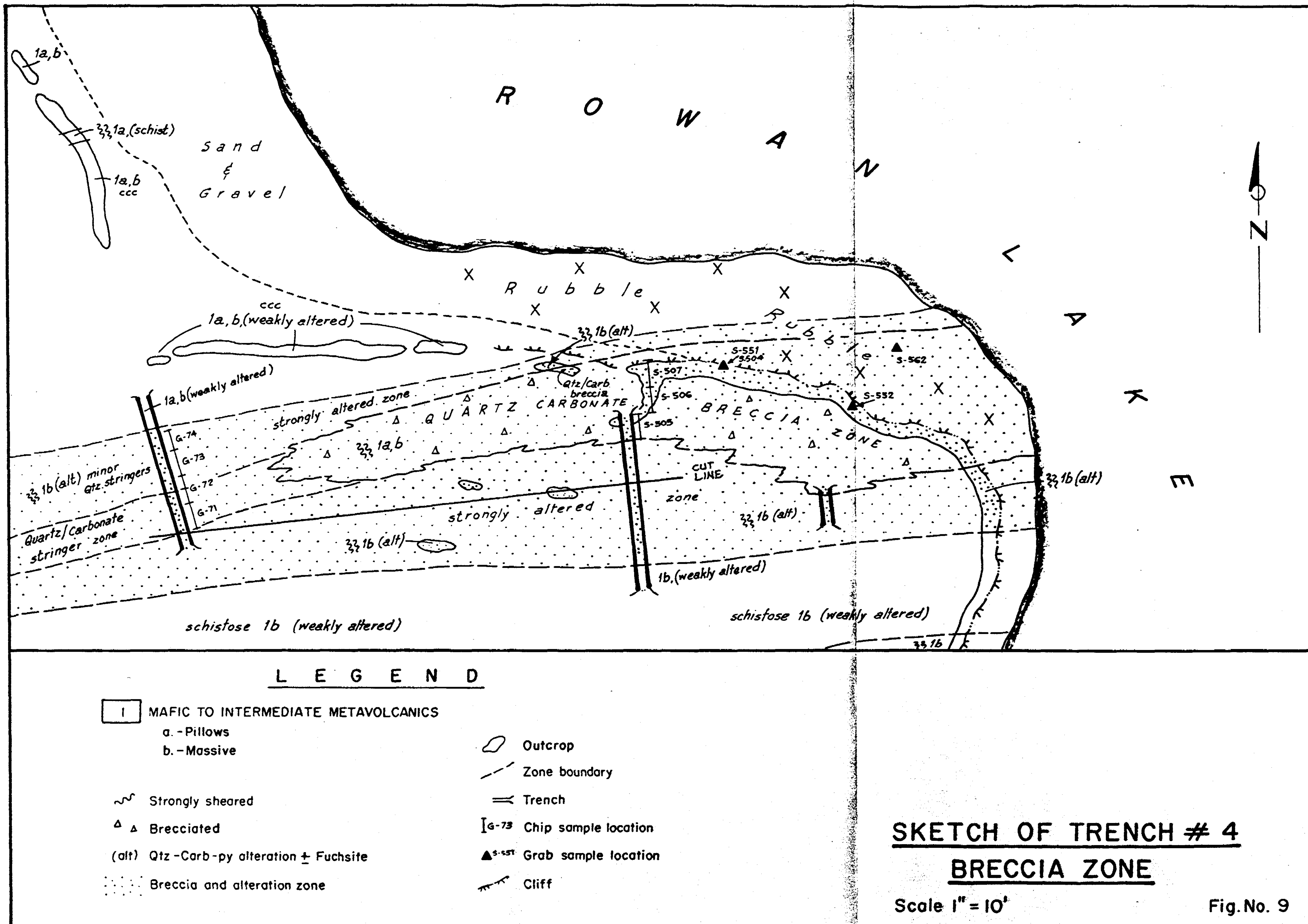


SKETCH OF TRENCH # 3 & ADJACENT AREA

Fig. No. 8

of well-developed quartz-carbonate breccia on the east end of Bigstone Island. Samples from portions of this breccia zone have a remarkable resemblance to portions of the better mineralized breccia zones in the Cameron Lake deposit. Information gained from the trenching in this zone suggests that the exposure is on the western end of a lenticular 'core' zone within a relatively well-developed alteration zone. The better developed lens is in excess of 70 feet long, its eastern projection being covered by the waters of Rowan Lake. Trench 4A, the most westerly of the three, exposed a quartz stringer and pseudo-stockwork zone, approximately four (4) feet wide surrounded by a strongly sheared and altered quartz stringer-bearing unit. This suggests that the quartz breccia core zone changes laterally to the pseudo-stockwork and ultimately to quartz-carbonate stringer zones when traced along strike. Chip samples across this part of the trench (sample numbers G-71 to G-74) returned a very intriguing three (3)-foot section of 1,445 ppb gold (approximately 0.046 oz/ton). These values are actually within the altered rocks enclosing the more intensely developed core zone.

Three samples were chipped from Trench 4B, across the main part of the breccia zone (S-505 to S-507). The best result from this section was 160 ppb across the most northerly portion of the exposed zone. Other grab samples have been reported as high as 0.01 ounces/ton gold.



SKETCH OF TRENCH # 4
BRECCIA ZONE

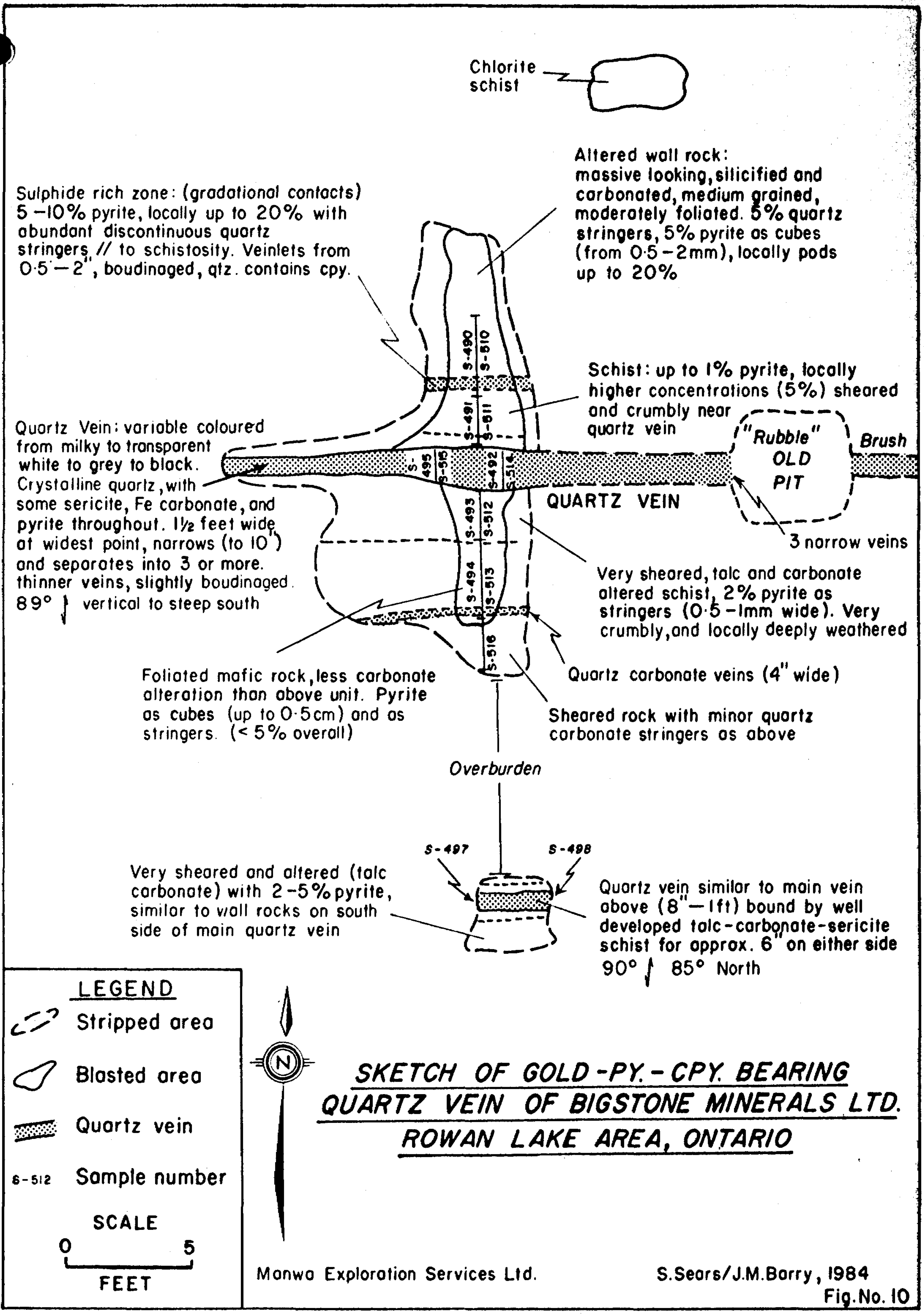
Scale 1" = 10'

Fig. No. 9

Trench 4C was designed to locate the edge of the main zone and was not sampled. Like the previous zone, additional work should definitely be considered in this area.

Late in the program, an additional four-claim group (Allistair Option), adjoining the west boundary of the original Bigstone Island claims, was acquired. Routine mapping and prospecting located a series of old pits, boulders from which were found to contain visible gold. These old diggings are thought to be those reported in work carried out in 1938 to 1939 (Bigstone Minerals Corporate Files). A new trench was completed, approximately 10 feet west of one of the old gold-bearing pits (Figure 10). The trench, and additional stripping revealed an east-west trending quartz and carbonate vein and stringer system, localized along what appears to be a 'block' or 'sheet' of sheared and altered metavolcanic-metasedimentary rocks. This 'sheet' of country rocks of unknown lateral and vertical extent occurs on the southern edge of a large gabbroic intrusive body. The main mineralized vein--actually a set of three or more narrow quartz stringers which diverge and converge into one vein--is from 1.0 foot to 1.5 feet wide. Other stringers of quartz and another 1.0-foot wide vein occur over a 24-foot wide strongly foliated to schistose zone.

Grab samples from the mineralized boulders (P-017 and P-018) assayed 20.24 and 26.88 ounces/ton gold.



SKETCH OF GOLD-PY.-CPY. BEARING QUARTZ VEIN OF BIGSTONE MINERALS LTD. ROWAN LAKE AREA, ONTARIO

Manwa Exploration Services Ltd.

S.Sears/J.M.Barry, 1984

Fig. No. 10

Duplicate chip samples were taken across the main vein and five (5) feet of wallrock. The first set of samples (S-490 to S-495), analyzed by fire assay for gold and silver, indicated trace amounts of both in the 15-inch vein, but the altered pyritic wallrocks showed up to two (2) ounces of silver per ton. Repeat samples (S-510 to S-515), sent to another laboratory suggests only background values (less than 0.1 ppm) of silver. The gold values, one from each wall of the trench, were 130 ppb and 1,235 ppb, an average of 687 ppb, (i.e., approximately 0.02 oz/ton). Although this value appears low, it is consistent with the observed erratic distribution of gold in the vein. The visible gold appears to be sporadically localized along the contact between quartz stringers and chloritic wallrock. An estimate of the overall grade of this quartz vein is conservatively placed at 2 to 3 ounces per ton, in the 30 to 40 feet of exposed strike.

Although outcrop is poor in the immediately adjacent area, a similar sheared system with quartz stringers was observed approximately 235 feet westward along strike. Grab samples from this limited exposure (S-499, S-532, S-533) were as high as 430 ppb gold. The vein appears to change in character in an eastward direction, becoming weaker as it approaches the edge of the gabbroic body, where the country rocks constitute a greater and greater part of the strati-graphic section. The other 1.0-foot quartz vein, 24 feet south of the main occurrence carried less than 5 ppb gold in grab samples (S-497, S-498).

A quartz-carbonate alteration zone, more akin to the Cameron Lake and Monte Cristo occurrences was located at or near the north contact of the same gabbroic body. The zone is typical of the earlier described quartz-carbonate zones and it appears to follow the very irregular contact in the western part of the property. At surface, the central core quartz-carbonate breccias appear to be very localized pods from a few inches to two feet wide. These are distributed within relatively narrow alteration envelopes (10 to 30 feet). Grab samples from the 'core' breccias (S-482, S-485) returned trace and 20 ppb gold. A second parallel but somewhat narrower zone, occurring approximately 200 feet north of the gabbro contact was found to contain 480 ppb gold in a grab sample (S-483).

Further eastward along the gabbro contact, boulders of a strongly silicified, pyritic and carbonate-altered zone were found to contain slightly elevated values in gold (P-013, P-014, P-21).

Among the fifty-nine (59) grab samples collected during the program (exclusive of 52 chip samples collected from the trenching program) several other zones, anomalous in gold, were detected. Included in these are the following:

a) A quartz sericite schist boulder containing approximately 10 percent pyrite and 115 ppb gold (S-390) thought to have been associated with a weak EM conductor detected by earlier workers (HBOG, 1975). An earlier sample of this zone, collected 400 feet west of this boulder is reported to have assayed 0.01 ounces/ton gold. This zone, as interpreted from the HBOG survey, appears to be much stronger one-half mile west near the north boundary of the Allistair group, under the waters of Rowan Lake.

b) A ten (10)-foot wide quartz-carbonate alteration zone within pillowed mafic volcanic rocks located on the south shore of Bigstone Island, about 50 feet east of the east boundary (S-383). A sample of the quartz stringer core of this zone contained 60 ppb gold. Its westward extension would occur under the waters of the lake.

c) A zone of weak quartz-carbonate alteration flanking the granitic instrusive rocks on a large island north of the baseline (Bigstone Island Grid) at line 0. Two samples of separate zones (G-34, G-37) ran 40 and 25 ppb gold respectively.

d) A 15 to 20-foot sheared and altered (carbonate/quartz) zone exposed on the west end of a small island on the east boundary of the claim group. This zone displays well-developed ankerite and quartz alteration in local lenses up to two (2) feet wide. A sample (S-477) displayed only a weakly elevated gold value (20 ppb), but the zone appears to be quite strong.

e) Another zone, or series of related zones, occurs near the south boundary of the claim group. A sample (S-489) taken from the siliceous core of a 6 to 8-foot wide sheared quartz-carbonate alteration zone on a large island on the south boundary of the claim group, contained 50 ppb gold. Assuming an east-west strike of this zone, it may be related to two other anomalous samples--one (S-479) a 20 ppb gold from a similar zone on a small island south of the Allistair group (3,000 feet east of S-489) and a very intriguing 1,775 ppb gold (S-481) from a well-altered zone in excess of 30 feet wide, located about 1,200 feet west-southwest of the Allistair group. Although this zone is situated just south of the claim group, its downdip projection (assuming a north dip) may well be within the property.

CONCLUSIONS and RECOMMENDATIONS

The Bigstone Island Property is underlain by an east-west to northeast-trending mixed sequence of mafic to felsic metavolcanics with local thin metasedimentary interbeds. A relatively major northwest-trending structure affects the stratigraphy in the northeast end of the claim group. A large gabbro complex intrudes and locally crosscuts all rock types in the west-central part, while a felsic dyke complex cuts across the northern portion. All rocks are of middle greenschist facies metamorphism with exception of local amphibolite facies along the wider felsic dyke margins.

Gold mineralization occurs on the property in at least two environments. Firstly, visible gold occurs in a quartz stringer and vein system associated with an altered and sheared sheet of metavolcanic/metasedimentary rock caught up within a large gabbro body in the southwest end of the claim group (Allistair Option). Grab samples from this old showing (relocated during the course of the present program) were assayed at 20.24 and 26.88 ounces/ton gold. A chip sample across the main vein, from which the above-mentioned samples were obtained, returned 1,235 ppb gold (0.03 oz/ton) across 1.5 feet. A drill program combined with surface excavation and prospecting is recommended on this prospect.

The second and possibly more permissive environment in which gold occurs on the claims is in the siliceous cores of quartz-carbonate-sericite-pyrite alteration zones. These zones are developed locally along the trend of extensive shear systems which subparallel and/or crosscut the local stratigraphy. At least 10 distinct, well-developed alteration zones exist on the property. All are of undetermined size and require further work. Values of up to 1,425 ppb (0.04 oz/ton) gold across 3.0 feet were located at surface. The exposed alteration zones are from 10 to 50 feet wide, with narrower, more highly altered, local cores. Detection of these zones is generally restricted to shoreline exposures. Since the alteration has permitted deeper weathering than the surrounding rocks, there is usually heavier overburden on land subcroppings.

Two of these zones are felt to be presently well enough defined for an initial testing by diamond drilling. These are referred to as the Breccia Zone (Figure 9) on the eastern end of Bigstone Island and the Island Bay Zone (Figure 8) in the S-Bend area. Both of these zones have well-developed cores carrying elevated gold values, and should be tested along strike and down dip for better preserved or more enhanced mineralization and for structural information. Eight shallow holes (1,600') would provide an adequate initial testing.

The other zones should be further delineated by other methods prior to contemplating a diamond drilling program. A second phase program should include the following:

a) Cutting a grid across the remaining portion of the property, and local 200-foot spaced lines in areas of known mineralization;

b) Completion of ground magnetometer and VLF-EM surveys across all of the claim group including the water-covered areas during the winter;

c) Detailed prospecting of all favourable structures to attempt to locate boulders or outcrop of the favourable rocks on the inland portion of the property; This should involve machine trenching, if possible;

d) A comprehensive geochemical sampling program concentrating on delineation of known structures as well as detection of unexposed targets. This program should involve collection of the A_1 (decomposed organic) soil horizon, utilizing a 50' x 200' sampling grid in known favourable areas and a somewhat more expanded pattern (100' x 400') in areas of unknown potential. This sampling pattern can be confined to those corridors of the claim group through which shear zones are postulated. An orientation lake sediment sampling program should be considered, due to the large water-covered portion of the property. This could be accomplished best in the area east of the gold-bearing 'Breccia Zone.' Samples should be collected at relatively close spacing (50 feet) on several lines in this area and possibly one other area of known mineralization, prior to any full-scale program. The orientation survey could be accomplished through the ice during the winter months.

e) An orientation IP survey should be attempted during the winter, to see if the favourable zones respond to this technique. If successful, selected areas could be routinely covered.

The property appears to have considerable merit, and deserves a more intensive investigation. The above program, although not exhaustive, should effectively delineate any favourable target zones. An additional diamond drilling program will be needed to test any new targets arising from this work.

The cost of such a program, broken down in two segments--A) the gold occurrence (Discovery Zone) and B) the quartz-carbonate alteration zone targets--is estimated as follows:

ESTIMATE OF COSTS

PHASE II PROGRAM

A) Gold Occurrence (Discovery) Zone			
1) Surface Stripping, Prospecting and Rock Sampling			
Trenching and Stripping	$ 10,000		
Prospecting	2,000		
Assaying and Shipping - 50 @ $20	1,000		
2) Diamond Drilling			
1,200 feet @ $30/foot	36,000		
Supervision, Sampling, Etc.	7,000		
Assaying and Shipping - 50 @ @ $20	1,000		
3) Accommodation and Transportation			
30 days @ $100/day	3,000		
Mobilization, Demobilization and Supplies	1,000		
Sub Total	61,000		
Contingency	5,000		
		$ 66,000	
B) Quartz-Carbonate Alteration Zones			
1) Linecutting (All inclusive contract)			
3 miles @ $300/mile (land)			
13 miles @ $200/mile (water)	($ 3,500		
2) Mag and VLF-EM Surveys (All inclusive contract)			
16 miles @ $200/mile	3,200		
Geophysical Report	1,000		
3) Prospecting and Trenching			
4 Men for 1 month plus Explosives, Etc.	20,000		
4) Geochemical Sampling			
600 A-horizon samples @ $4/sample	2,400		
Analytical Costs and Shipping - 600 @ $12	7,200		
50 Orientation Lake Sediment Samples @$10	500		
Analytical Costs and Shipping - 50 @ $12	600		
5) IP Survey (All inclusive contract)			
6 days @ $1,000/day	6,000		
6) Diamond Drilling			
1,600 feet @ $30/foot	48,000		
Supervision and Sampling	8,000		
Assaying and Shipping - 80 @ $20	1,600		
7) Accommodation and Transportation			
225 Man-days @ $40/man-day (room,board,boat)	9,000		
Mobilization, Demobilization and Supplies	4,000		
8) Supervision, Drafting and Report			
Estimated at 10 percent of budget	11,000		
Sub Total	126,000		
Contingency	13,000	$139,000	
Total Program		$205,000	

Respectfully Submitted,

Seymour M. Sears

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Geologist
(Wawa, Ontario - November 17, 1984) MANWA EXPLORATION SERVICES LTD.

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STATEMENT OF QUALIFICATIONS

I, SEYMOUR M. SEARS, of the Town of Wawa, Ontario, do certify that:

1. I am a consulting geologist under contract with Manwa Exloration Services Ltd., P.O. Box 2028, Wawa, Ontario.

2. I am a B.Sc. graduate in Geology and a B.A. graduate in Psychology from Mount Allison University, Sackville, New Brunswick.

3. I have been practicing my profession continuously since 1972.

4. I have not received directly or indirectly, nor do I expect to receive any interest, direct or indirect in the property of Bigstone Minerals Ltd. or Anglo-Canadian Mining Corp. or any of their affiliates nor do I beneficially own, directly or indirectly, any securities of the Companies or any affiliates of the Companies.

5. This report is based upon field work carried out and supervised by me during the period August 13th to October 17th, 1984.

Respectfully submitted,

Seymour M Sears

P.O. Box 2058
Wawa, Ontario
November 17, 1984

Seymour M. Sears, B.A., B.Sc.
Geologist

CERTIFICATE OF ENDORSEMENT

I, JOAN MARIE BARRY do certify that:

1. I am a graduate geologist, Memorial University, B.Sc., 1976.

2. I have worked as an exploration geologist for the past eight years.

3. I am a Fellow of the Geological Association of Canada.

4. I worked in the area of the claims during September and October 1984. I am familiar with the work of Seymour Sears and find the work to be professional and the report to be a true representation of the data.

5. I do not own nor have I received or expect to receive any interest directly or indirectly in the properties or securities of Bigstone Minerals Ltd. or Anglo-Canadian Mining Corp. or any affiliates of these companies.

Respectuflly submitted,

Joan Marie Barry

Wawa, Ontario
November 17, 1984

Joan Marie Barry, B.Sc.
Geologist

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

APPENDIX A

Samples Analyzed from the Bigstone Island Property

DB-103	Altered (carb., qtz., Py, bleaching) mafic rock from north shore of Island Bay (S-Bend Area).
G-34	Py in carb. altered zone (2-3 feet wide) from island north of baseline on L-0 (North Island).
G-35	Sulphide in breccia and silicified pillows from North Island.
G-36	Quartz, Carb., py. altered zone (less than 5 feet wide, North Island.
G-37	Quartz, carb., py altered zone near felsic dyke (narrow zone) North Island
G-38	Sulphides in pillow selvages and breccia matrix, North Island.
G-71 to G-74	Chip samples from Trench 4A, across the Breccia Zone. (See sketch, Figure 9).
G-80 to G-93	Chip samples from Trench 3 across the Island Bay alteration zone (See sketch, Figure 8).
G-97	Silicified metasediment, fine-grained, purplish pyritic, from 200 feet east of 'Au' showing, Allistair Group.
GT-104 to GT-107	Chip samples from Trench 2 across the alteration zone west of the S-Bend. (See sketch, Figure 7).
P-012	Grab from fine-grained silicified, carbonated and pyritic unit, north of gabbro, Allistair Group.
P-013	Same unit as P-012.
P-014	Same unit as P-012.

Samples Analyzed from the Bigstone Island Property - Cont'd B of F

P-015	Grab sample from silicified and altered zone on shoreline east of the Au showing, Allistair Group.
P-016	Grab from quartz stringer zone (1 foot wide) on shoreline southeast of Au showing, Allistair Group.
P-017 P-018	Selected grab samples with visible gold from boulders near old pits, Au showing, Allistair Group.
P-019 P-020	Selected grabs from quartz-carbonate alteration zone north of gabbro, Allistair Group.
P-021	Silicified, carbonated and pyritic fine-grained rock from unit north of gabbro, Allistair Group.
P-022	Weakly altered pyritic rocks (cubic pyrite) from unit north of gabbro, Allistair Group.
S-310	Chip sample across 4-foot sheared and altered zone in mafic pillowed sequence, east shore, S-Bend Area.
S-311	Chip sample across 4-foot zone similar to S-310 on east shore, S-Bend Area.
S-312	Chip sample across 3.5-foot zone similar to S-310 on east shore, S-Bend Area.
S-313	Grab sample of quartz-rich core of 6-foot altered zone with carbonate-sericite-pyrite on east shore, S-Bend Area.
S-341	Grab from silicified and carbonate-altered debris flow, north shore, Bigstone Island.
S-348	Sulphide, quartz and carbonate associated with a minor crossfault (112°), north shore, Bigstone Island.
S-364	Grab from quartz-carbonate core 1-2 feet wide within broad (20-foot) alteration zone, south shore, Bigstone Island.

Samples Analyzed from the Bigstone Island Property - Cont'd C of F

S-369	Boulder of highly altered pyritic rock within sheared, tuffaceous sequence, west end of Tie Line 1+00 N.
S-376	Sheared, weakly altered tuff, shoreline west of Line 36W, Bigstone Grid.
S-383	Quartz-carbonate alteration zone, 2-foot core in 10 feet wide sheared and altered pillowed sequence, east boundary, south shore, Bigstone Island.
S-386	Quartz-carbonate breccia zone with pyrite, associated with a felsic dyke, east shore Bigstone Island, 500 feet south of Breccia Zone.
S-387	Till sample--representative B-Horizon in S-Bend Trench.
S-388	Till sample--representative sample from carbonated horizon in till near bedrock interface (6" - 24" wide), from S-Bend Trench.
S-389	Till sample--representative C-Horizon in S-Bend Trench.
S-390	Boulders of sericite schist with 10-20 percent pyrite from HBOG conductor, north shore, Bigstone Island.
S-391	Boulder of smokey-quartz with pyrite and carbonate from Island Bay Zone (See sketch - Figure 8).
S-392	Boulder of quartz-carbonate 'core' zone breccia from same area as S-391 (See sketch - Figure 8).
S-394	Sulphide-laminated pillow, 20 percent pyrite, from island north of baseline L-0 (7+80 North).
S-401	Boulder of quartz with carbonate and pyrite from small island on south boundary.
S-402	Quartz-carbonate breccia (2 feet wide) within a 6 to 10 foot altered shear zone, small island, south boundary.
S-404	Carbonate-altered (minor quartz) zone in sheared pillowed unit (5 feet wide), small island, south boundary.

Samples Analyzed from the Bigstone Island Property - Cont'd D of F

S-443	Porphyritic dyke and pyritic wall rock with quartz-carbonate alteration, east shore, Bigstone Island, 150' northeast of S-386.
S-473	Grab from tuff or sheared pillow unit with pyrite, small island, northeast end of claim group.
S-475	Quartz-carbonate zone, minor Py, narrow (6") lenses in an 8-foot wide altered zone, tiny reef, northeast end.
S-476	Boulders of quartz-sericite schist (smokey grey) with 10 percent pyrite, small reef in northeast end of property.
S-477	Grabs from two separate 2-foot wide quartz-carbonate cores within 15-20 foot wide altered zone, small island on east boundary.
S-478	Siliceous interflow sediment with sericite and pyrite and minor carbonate, small island south of Allistair Group.
S-479	Quartz-carbonate zone in sericitized and carbonate-quartz altered zone, same island as S-478.
S-480	Weakly altered, chlorite, carbonate, sericite(?), quartz and pyrite near gabbro contact, west boundary, Allistair Group.
S-481	Quartz-carbonate 'core' lenses within a wide (greater than 30 feet) altered (sericite + carbonate + quartz + pyrite) shear zone southwest of the Allistair Group.
S-482	Quartz-carbonate core (6" - 15" pods) of breccia with pyrite on 20-30' altered shear zone, north shore of Allistair Group.
S-483	Quartz-carbonate 'pseudo-stockwork' core (less than 1 foot) in 8-10 foot wide altered shear zone, north short of Allistair Group.
S-484	Weak quartz-carbonate altered zone between two felsic dykes, north shore of Allistair Group.
S-487	Grab sample of pyritic quartz-carbonate breccia from trench in Island Bay (See Figure 8).

Samples Analyzed from the Bigstone Island Property - Cont'd E of F

S-489	Quartz-carbonate stringers within a 5-10-foot wide altered shear zone on large island, south boundary..
S-490 to S-495	Chip samples from trench across Au showing, Allistair Group (See Sigure 10).
S-496	Quartz stringers, 1-foot wide, in 4-foot altered zone east on shoreline from Au showing, Allistair Group.
S-497	Grab of white quartz vein (bullish), 1-foot wide, occurring 24 feet south of main vein, Au showing, Allistair Group.
S-498	Grab of quartz vein and contact rocks--sheared, talc + sericite altered, with pyrite--same vein as S-497.
S-499	Grab of quartz stringer lens 2" wide with pyrite and some wall rock (cal/talc schist) + carbonate from sheared zone 235' westward along strike from Au showing.
S-503	Selected grab of pyritic quartz-carbonate stringer zone, S-Bend Trench (See Figure 6).
S-504	Selected grab of pyritic, quartz-carbonate breccia from Breccia Zone (See Figure 9).
S-505 to S-507	Chip samples across 10 feet in the Breccia Zone (See Figure 9).
S-510 to S-515	Duplicate chip samples from trench across Au showing, Allistair Group (See Figure 10).
S-516	Chip sample across 2-foot wide pyritic, foliated mafic rock (talc, carb. sericite altered) from hanging wall zone, Au showing, Allistair Group (See Figure 10).
S-530	Several grab samples of alteration zone (quartz, carbonate, pyrite, fuchsite, sericite) on north shore of Bigstone Island--Fuchsite Zone.

Samples Analyzed from the Bigstone Island Property - Cont'd F of F

S-532 Grab samples of quartz, carb. lens and stringer material west of Au showing, Allistair Group. Same as S-499.

S-533 Grab samples of highly sheared chlorite, talc, carb. schist, wall rock to the quartz stringer material in S-532.

S-534 Selected grab from quartz-carbonate breccia zone (outcrop) with Py from the Island Bay alteration zone (See Figure 8).

APPENDIX B

PLATES (Photographs)

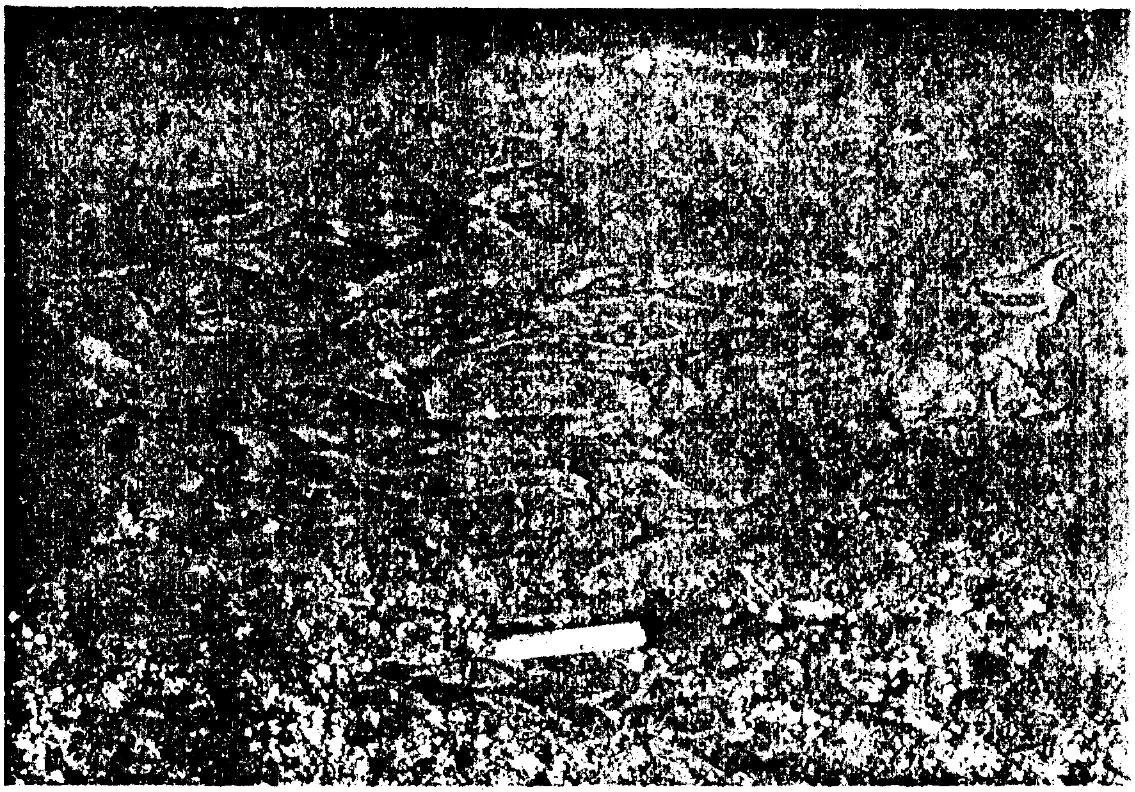

Plate 5: Debris Flow--large fragments showing minor displacement of constituent material.

Plate 6: Photo of Trench No. 1 across the S-Bend Alteration Zone showing irregular depth to bedrock and overburden character.

Plate 3: Highly sheared and altered rocks, from a typical alteration zone.

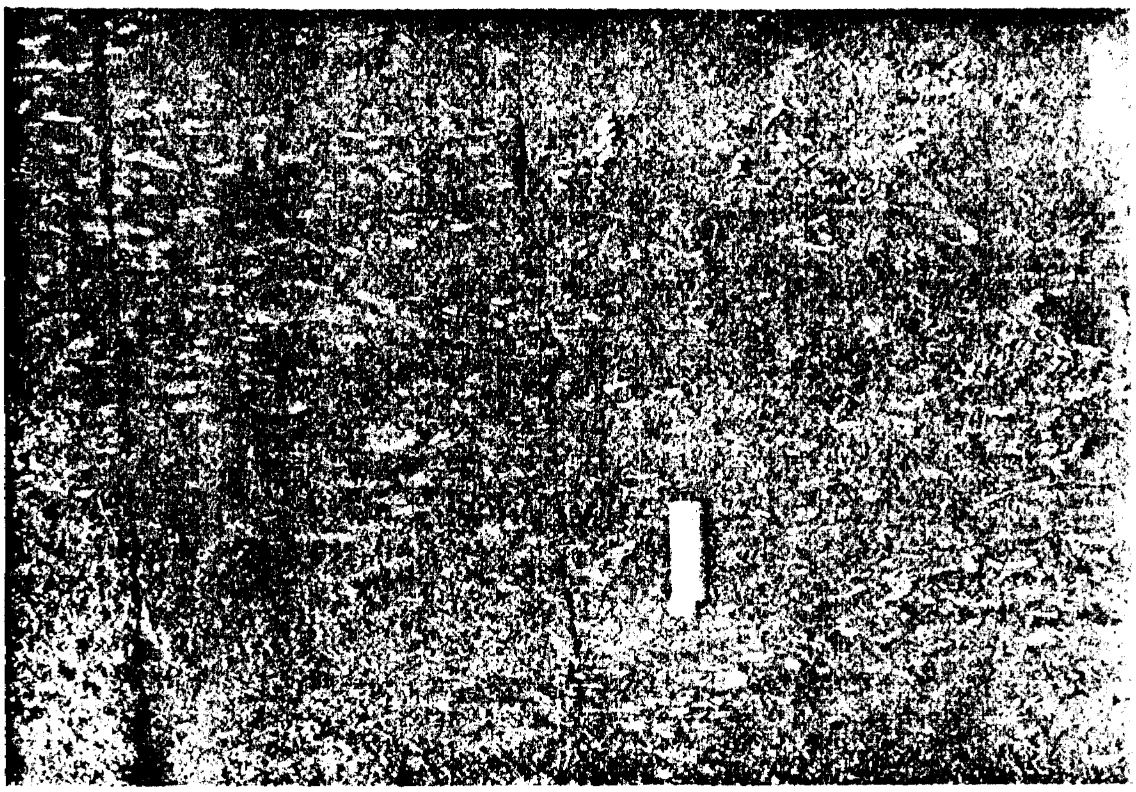

Plate 4: Debris flow composed of volcanic material in a fine-grained silty matrix of similar material.

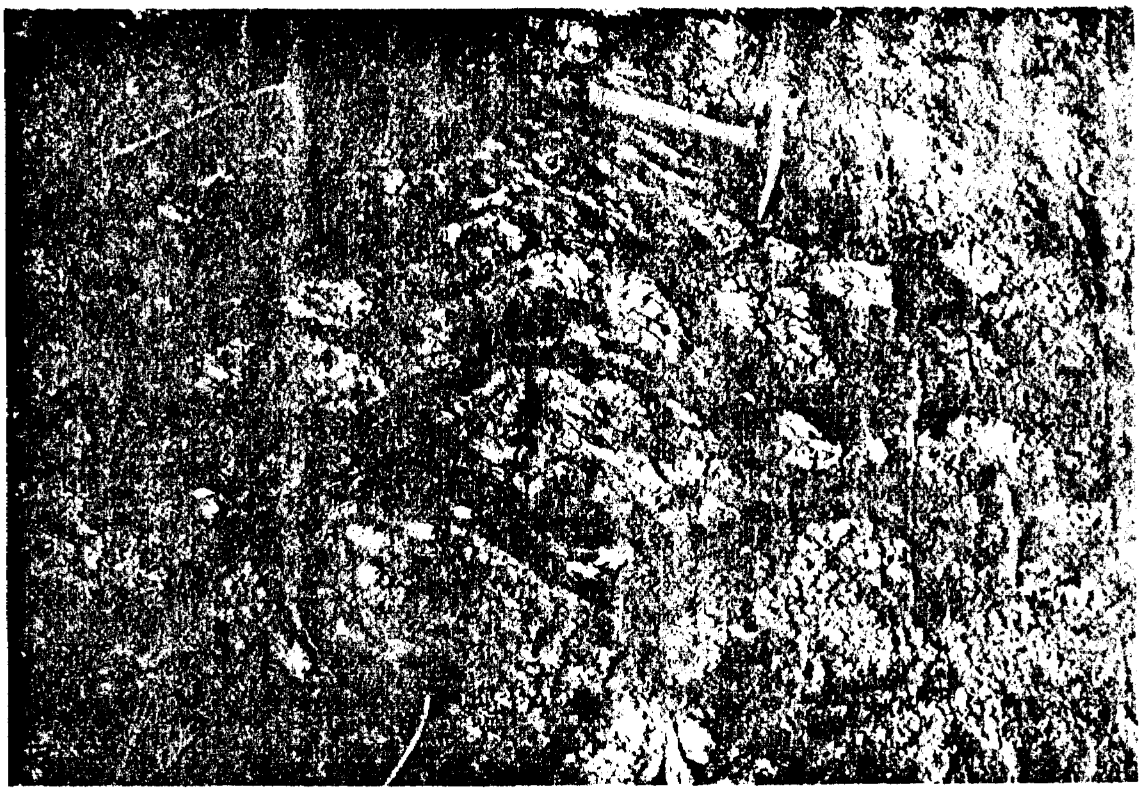

Plate 1: Weakly deformed pillowed flow rocks showing silicified centres.

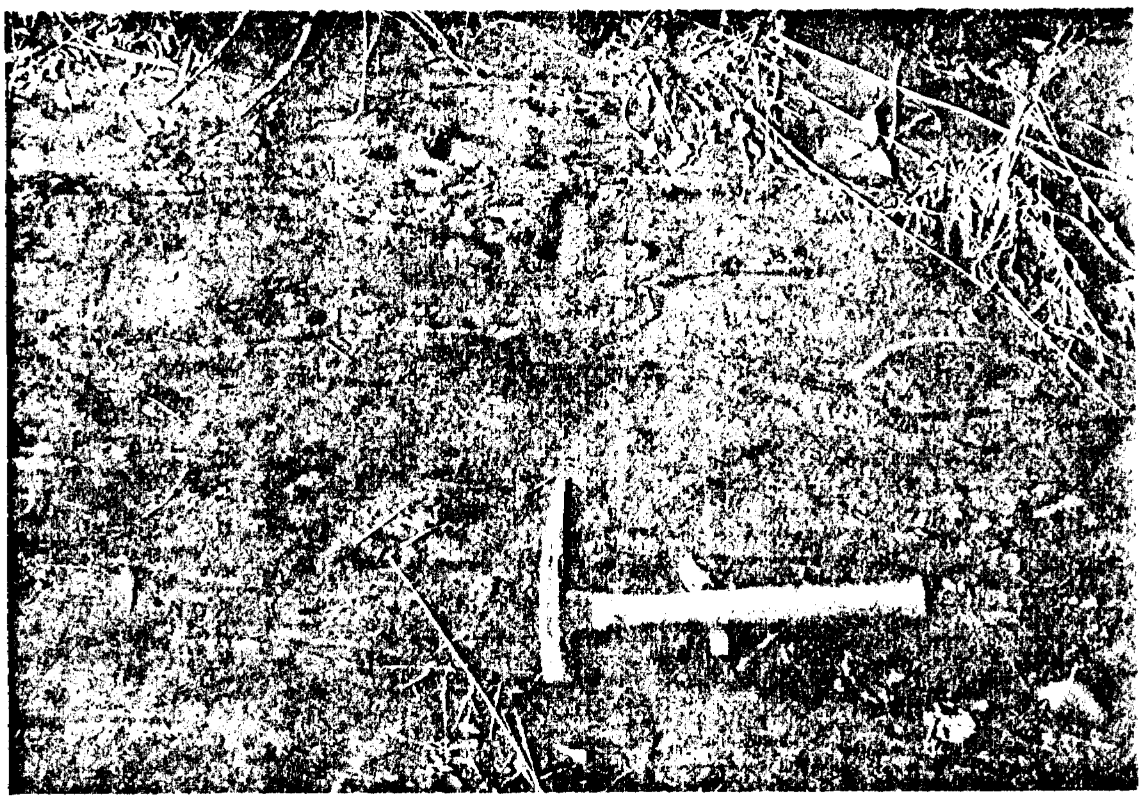

Plate 2: Moderately deformed pillowed flow rocks.

APPENDIX C

ANALYTICAL RESULTS

Bondar-Clegg & Company Ltd.
5420 Canotek Rd.,
Ottawa, Ontario,
Canada K1J 8X5
Phone: (613) 749-2220
Telex: 053-3233

BONDAR-CLEGG

REPORT: 014-2627

PROJECT:

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	wt/Au GM	NOTES
SBT-01		<5		
SBT-02		<5		
SBT-03		10		
SBT-04		10		
SBT-05		<5		
SBT-06		15		
SBT-07		10		
SB-08		<5		
SBT-09		5		
SBT-10		5		
SBT-11		15		
SBT-12		30		
S-341		<5		
S-348		<5		
S-364		<5		
S-369		<5		
S-386		<5		
S-387		<5		
S-388		<5		
S-389		<5		
S-390		115		
S-391		10		
S-392		25		
[redacted]				
S-394		<5		

Bondar-Clegg & Company Ltd
764 Belfast Road
Ottawa, Ontario
Canada K1G 0Z5
Phone: (613) 237-3110
Telex: 053-4455

BONDAR-CLEGG

REPORT: 014-2718

PROJECT: BIGSTONE

SAMPLE NUMBER / ELEMENT UNITS	Cu PPM	Zn PPM	Ag PPM	Au PPB	wt/Au gm	NOTES
G-24	56	60	0.3	65		
G-25	67	53	0.4	<5		
G-34	433	122	1.6	40		
G-35	105	60	0.1	<5		
G-36	59	104	0.6	<5		
G-37	125	87	0.6	25		
G-38	89	114	0.3	<5		
GT-104			0.5	<5		
GT-105			0.3	<5		
GT-106			0.3	<5		
GT-107			0.2	<5		
S-401			<0.1	<5		
S-402			0.5	<5		
S-404			0.2	<5		
[redacted]						
[redacted]						
[redacted]						

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Phone: (613) 237-3110
Telex: 053-4455

BONDAR-CLEGG

REPORT: 014-2951

PROJECT: BIGSTONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	Wt/Au gm
6-71		136	5	148	0.6	185	20.00
6-72		87	5	97	0.2	35	20.00
6-73		106	4	231	0.3	1425	20.00
6-74		130	6	152	0.4	105	20.00
6-80		62	5	82	0.3	35	20.00
6-81		7	2	72	0.3	20	20.00
6-82		6	4	77	0.2	50	20.00
6-83		19	2	104	0.1	70	20.00
6-84		16	6	50	0.2	235	20.00
6-85		10	5	42	0.2	100	20.00
6-86		6	5	45	0.1	245	20.00
6-87		6	3	63	<0.1	30	20.00
6-88		8	4	52	0.1	5	20.00
6-89		38	6	63	<0.1	20	20.00
6-90		103	8	92	0.1	<5	20.00
6-91		104	6	87	0.3	<5	20.00
6-92		103	6	93	0.1	<5	20.00
6-93		77	3	74	0.4	5	20.80
6-95		205	4	62	0.3	<5	20.00
[redacted]							
6-97		36	6	23	0.2	<5	20.00
S-489		9	5	12	<0.1	50	20.00
[redacted]							
P-015		106	6	50	0.4	15	20.00

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BONDAR-CLEGG

REPORT: 014-2951

PROJECT: BIGSTONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	wt/Au gm
P-019		30	<2	8	0.1	<5	20.00
P-020		158	4	62	0.3	15	20.00
P-021		105	4	78	<0.1	<5	20.00
P-022		99	2	97	<0.1	<5	20.00

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BONDAR-CLEGG

REPORT: 014-2825

PROJECT: BIGSTONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	wt/Au gm
[redacted]							
S-376		53	5	103	<0.1	<5	
S-383		32	2	40	<0.1	<5	
[redacted]							
S-443		47	4	43	<0.1	<5	
[redacted]							

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BONDAR-CLEGG

REPORT: 014-2937

PROJECT: BIGSTONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	NOTES
[redacted]							
[redacted]							
[redacted]							
P-014		50	11	41	0.3	5	
P-016		164	6	301	0.4	40	
[redacted]							
[redacted]							
S-473		486	4	76	0.3	10	
S-475		31	5	32	<0.1	<5	
S-476		160	5	287	0.3	5	
S-477		308	5	27	0.4	20	
S-478		103	8	69	0.1	<5	
S-479		66	6	51	0.1	20	
S-481		18	2	26	<0.1	1775	
S-483		22	6	25	1.2	480	
S-484		67	5	46	0.1	10	
[redacted]							
S-487		12	7	24	0.4	15	

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Telex: 053-3233

BONDAR-CLEGG

REPORT: 014-3050

PROJECT: BIGSTONE

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Au PPB	wt/Au gm
[redacted]							
S-482		42	3	41	0.2	20	20.00
S-497		4	5	56	0.1	<5	20.00
S-498		5	3	41	<0.1	<5	20.00
S-499		27	4	19	0.2	420	20.00
S-505		23	4	46	0.1	65	20.00
S-506		35	4	32	<0.1	45	20.00
S-507		47	3	106	<0.1	160	20.00
S-510		41	7	66	<0.1	10	20.00
S-511		100	5	112	<0.1	<5	20.00
S-512		96	3	109	<0.1	<5	20.00
S-513		106	5	105	<0.1	<5	20.00
S-514		30	3	29	<0.1	130	20.00
S-515		43	4	48	<0.1	1235	20.00
S-516		113	5	97	<0.1	10	20.00
[redacted]							
S-530		181	5	49	0.1	10	20.00
[redacted]							
S-532		21	<2	21	<0.1	10	20.00
S-533		24	4	68	<0.1	<5	20.00
S-534		20	4	32	<0.1	40	20.00

GEOLOGICAL REPORT

JENNY LEIGH PROPERTY

LAKE OF THE WOODS, KENORA DISTRICT, ONTARIO
N.T.S. 52E/9SW

by

ULRICH KRETSCHMAR, Ph.D.

Prepared for

BIGSTONE MINERALS LTD
8 KING STREET EAST, SUITE 1703
TORONTO, ONTARIO
M5C 1B5

JANUARY 1985

OM 84-3-JV-168

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SUMMARY

There is a close similarity between the geology of the Jenny Leigh property and the adjacent Wendigo Mine where about 200,000 tons grading 0.33 oz/ton gold and 0.92% copper were produced during 1900-1951. The value of this production would be about $30 million dollars at current metal prices.

Major lithologies consist of mafic volcanics and interbedded differentiated ultramafic flows of probable komatiitic affinity. These are folded in a series of tight isoclinal drag folds on the Wendigo property and the mine horizon is repeated by a major east-west trending syncline on the Jenny-Leigh property. Mineralization on both the Jenny-Leigh property and at the Wendigo Mine occurs in gold-bearing conformable siliceous, locally graphitic interflow sediments. Associated sulfides are mainly chalcopyrite and minor pyrrhotite and pyrite. Two separate horizons have been identified on the Jenny-Leigh property and the potential for the occurrence of others is excellent. The best assay obtained from the stratiform mineralization is 0.15 oz/ton gold over 50 cm.

A two stage program is recommended. Initial work is to consist of line-cutting, remapping, stripping, trenching and an I.P. survey at a cost of approximately $32,000.00. If results of this program warrant it, a 3000 ft. drill program is proposed at an additional cost of $90,000.00. Regional reconnaissance should be carried out on the Wendigo Mine stratigraphy.

INTRODUCTION

The Jenny Leigh property was examined on Lake of the Woods, an area that has seen sporadic exploration and mining of gold since 1868. There are a large number of gold showings and current interest is generally a result of spillover from Nuinsco's discovery of about 1 million tons, grading 0.20 oz./ton in the Cameron Lake area, about 50 km. to the SE. Gold mines that are in a similar geologic setting to the Jenny Leigh are, Consolidated Professor, Shoal Lake (currently producing), Sultana and Wendigo, both on Lake of the Woods.

Topography on the Jenny Leigh property is variable. The northern part which has been logged and which is underlain by basalt and differentiated flows forms a topographic high. Olivine-rich rocks and andesite weather low.

WORK ACCOMPLISHED

This is a summary report on geological mapping and sampling carried out by Ulrich Kretschmar and Patrick Chevalier in August and September on the Jenny-Leigh, property in the Lake of the Woods. A total of about 30 man days was spent by Ulrich Kretschmar on the Jenny Leigh. The work consisted of geological mapping, locating claim posts, sampling of mineralized showings and examining nearby occurrences (Stella, Witch Bay, Wendigo Mine).

DISCUSSION AND CONCLUSIONS

Jenny-Leigh Property

There is a close similarity between the geology of the Jenny Leigh property and the adjacent Wendigo Mine. Top determinations using differentiation trends in flows permits delineation of complex isoclinal folds, which in turn shows that the Wendigo Mine stratigraphy has been repeated by a major syncline and occurs on the Jenny Leigh claims. Two and possibly three mineralized sedimentary interflow horizons have been located on the north limb of the syncline. These should also occur on the south limb.

Current market value of the Wendigo production (about 200,000 tons grading 0.33 oz/ton gold and 0.92% Cu during 1900-1951 and calculated at about $350 US/oz. gold and $1 US = $1.25 Canadian) is about $30 million Canadian. Assuming that mineralization of approximately the same grade and tonnage can be found, $30 million provides an estimate of the value of the target being sought on the Jenny Leigh property.

RECOMMENDATIONS

Jenny-Leigh Property

1. Cut lines on the Jenny-Leigh property at 150 ft. spacing (in between the existing 300 ft. lines) in the area bounded by L15W/6S, 15W/27S and L15E/6S, L15E/27S. (Total of 2.75 line-miles). Establish pickets at 25 ft. intervals.

2. Rechain existing lines in the new grid area.

3. Remap entire area covered by new grid at a scale of 1 in. = 150 ft. Map in location of trenches more accurately.

4. Clean out and freshen all trenches at Showings 1 to 4 and collect assay samples across widths. Strip the area around Showing No. 2 by bulldozer and backhoe. Panel sample the vein exposed in the Stella adit to get an idea of the variability of the mineralization.

5. Do IP survey using 100 ft. spacing of electrodes.

6. Drill off mineralized horizons, contingent on results of the above work. An estimated budget for this program is presented below.

7. Do a regional reconnaissance program to locate similar mineralization in the 50 km long portion of mine stratigraphy to the east and west of the Wendigo Mine.

LOCATION AND ACCESS

A location map showing the Jenny-Leigh property is presented as Fig. 1. The Jenny Leigh property is accessible via the spur road to the east end of Witch Bay from Highway 71. From this road, there is a trail to the old Wendigo Mine site from whence the property is reached by traversing around the east end of Lac La Belle.

LAND STATUS

The Jenny-Leigh claim groups was staked in June 1983. A list of claims comprising the property is presented as Table 1 and a claim map is Fig. 2.

Table 1: LIST OF CLAIMS

Jenny Leigh Property

Claim No.	Staking Date
727052	6 June 83
727053	6 June 83
727054	6 June 83
727055	6 June 83
727056	6 June 83
727057	7 June 83
727058	7 June 83
727059	7 June 83
727060	7 June 83
727061	7 June 83
727062	7 June 83
727063	7 June 83

These claims are shown on Claim Map M2338. The pertinent portion is included in this report as Fig. 2.

HISTORY OF EXPLORATION

Gold was first discovered in the district about 1873 and there was a major gold rush from 1885 to 1899. Subsequent exploration was characterized by erratic cycles of activity and inactivity. The latter were due to low gold prices, mismanagement of properties, small size of the showings and territorial disputes since the exact location of the Manitoba-Ontario border was not delineated. From a total recorded production of about 180,000 oz. in the Kenora-Fort Frances area, 75% came from thirteen mines in the Shoal L - Lake of the Woods area. The most important of these mines were Wendigo, Mikado and Sultana.

The Wendigo mine, located north of Witch Bay, Lake of the Woods, is directly adjacent to the Jenny Leigh property. Some aspects of its geology are discussed below. A complete history of mining in the Lake of the Woods is presented in Klondike at Home by Nelson et al (1976).

ONTARIO DEPARTMENT OF MINES

PRELIMINARY GEOLOGICAL MAP NO. P. 281

LAKE OF THE WOODS SHEET

DISTRICTS OF KENORA AND RAINY RIVER[*]

Geological Compilation Series

Scale: 1 inch to 2 miles

N.T.S. Reference 52C, D, E, F, K, L
O.D.M. - G.S.C. Aeromagnetic Maps:
1167G-1172G, 1175G-1180G, 1183G-1188G, 1190G-1193G

LEGEND

PRECAMBRIAN

PROTEROZOIC

8 — Diabase.

INTRUSIVE CONTACT

ARCHEAN

7 — Acid Igneous and Metamorphic Rocks[a]
Granite (gneiss) porphyritic granite (gneiss), quartz and feldspar porphyries, syenite, aplite, pegmatite 7A; strongly foliated gneiss, migmatite, including areas containing abundant inclusions of metavolcanics or metasediments or both, 7B; monzonite, syenite, 7C.

INTRUSIVE CONTACT

6 — Basic and Ultrabasic Igneous Rocks
Gabbro, norite, diorite, 6A; peridotite, pyroxenite 6B; anorthositic gabbro 6C; highly altered gabbro (amphibolite) 6D.[b]

INTRUSIVE CONTACT

5 — Metasediments[c]
Conglomerate, arkose, greywacke, slate, etc. 5A; intermixed metavolcanics and metasediments 5B.

4 — Metasediments[d]
Greywacke, slate, arkose, mica schists and gneisses.

3 — Iron formation[e]

2 — Metavolcanics[f]
Rhyolitic and dacitic tuff, agglomerate and flows 2A; dacitic agglomerate with dark matrix 2B. acid tuff and sedimentary rocks 2C.

1 — Basaltic and andesitic massive lava, pillow lava, tuff, agglomerate, hornblende and chlorite schist, 1A; metavolcanics with interbedded metasediments 1B; border phase of metavolcanics injected by granitic rocks 1C.

SYMBOLS

- Geological boundary, defined or approximate.
- Geological boundary, assumed.
- Geological boundary, determined by air photograph interpretation.
- Geological boundary, determined by air photograph and magnetometer survey interpretation.
- Fault.
- Topographic linear.
- Trace of axial plane of anticline.
- Trace of axial plane of syncline.
- Glacial moraine.
- O Past producing mine.
- ▲ Mineral occurrence.

MINERAL OCCURRENCES REFERENCE

Ag	Silver	mi	Mica
Au	Gold	Mo	Molybdenum
be	Beryl	Ni	Nickel
Cu	Copper	py	Pyrite
fel	Feldspar	Sb	Antimony
fl	Fluorite	talc	Soapstone
gf	Graphite	U	Uranium

PAST PRODUCING MINES

1. Cameron Island mine	7. Ophir mine
2. Cedar Island mine	8. Gold Hill mine
3. Mikado mine	9. Wendigo mine
4. Olympia mine	10. Regina mine
5. Kenricia mine	11. Camp Bay mine
6. Sultana mine	20. Scotstown Granite quarry

SOURCES OF INFORMATION

Geology from published maps of the Ontario Department of Mines, Geological Survey of Canada, and unpublished maps of mining companies.

Geological compilation by J. C. Davies, Resident Geologist, Kenora, and A. P. Pryslak, 1964, 1965.

Issued 1965.

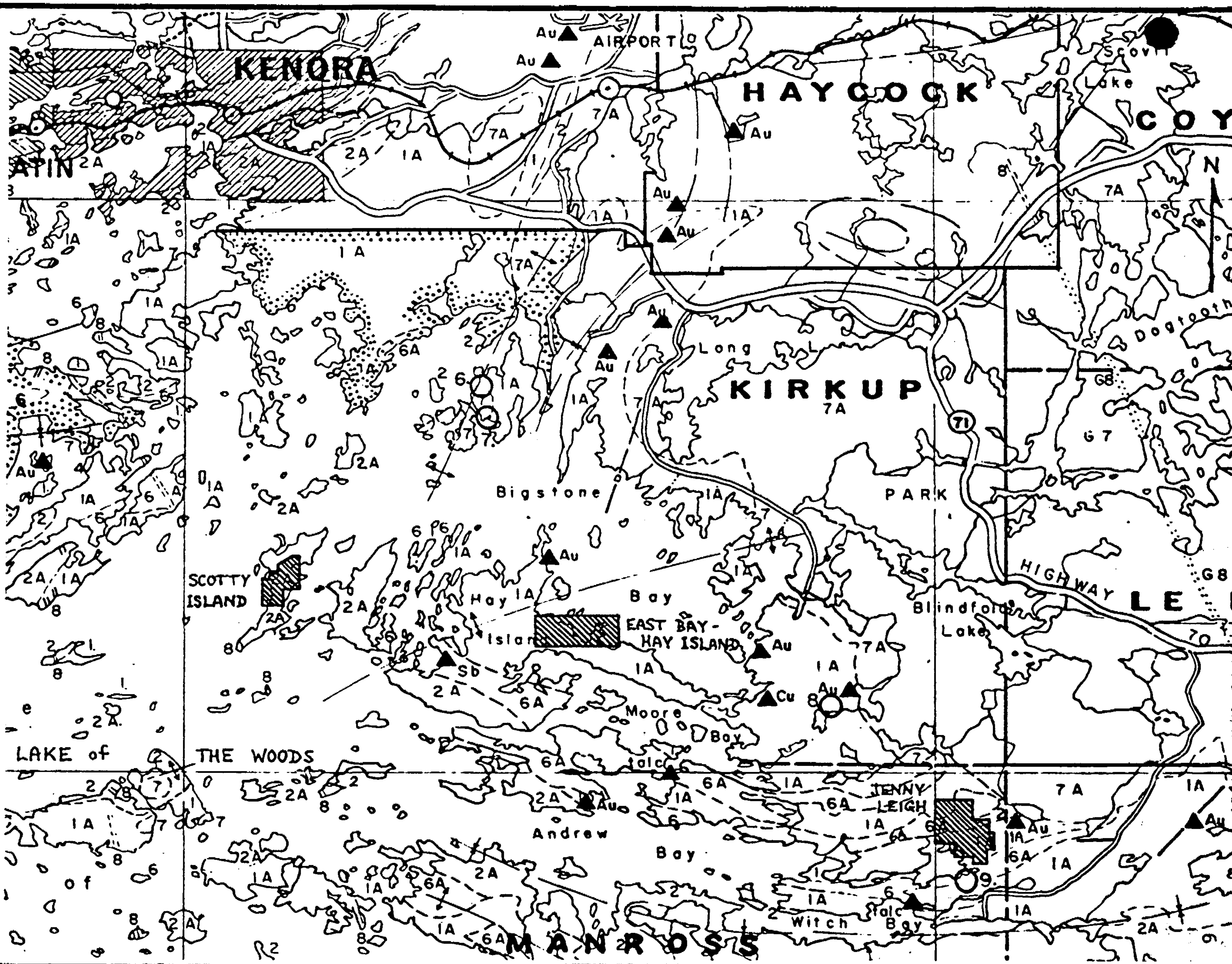


Fig 1: Bigstone Minerals Ltd.
Regional geological compilation and property location
(From ODM Preliminary Geological Map P. 281)

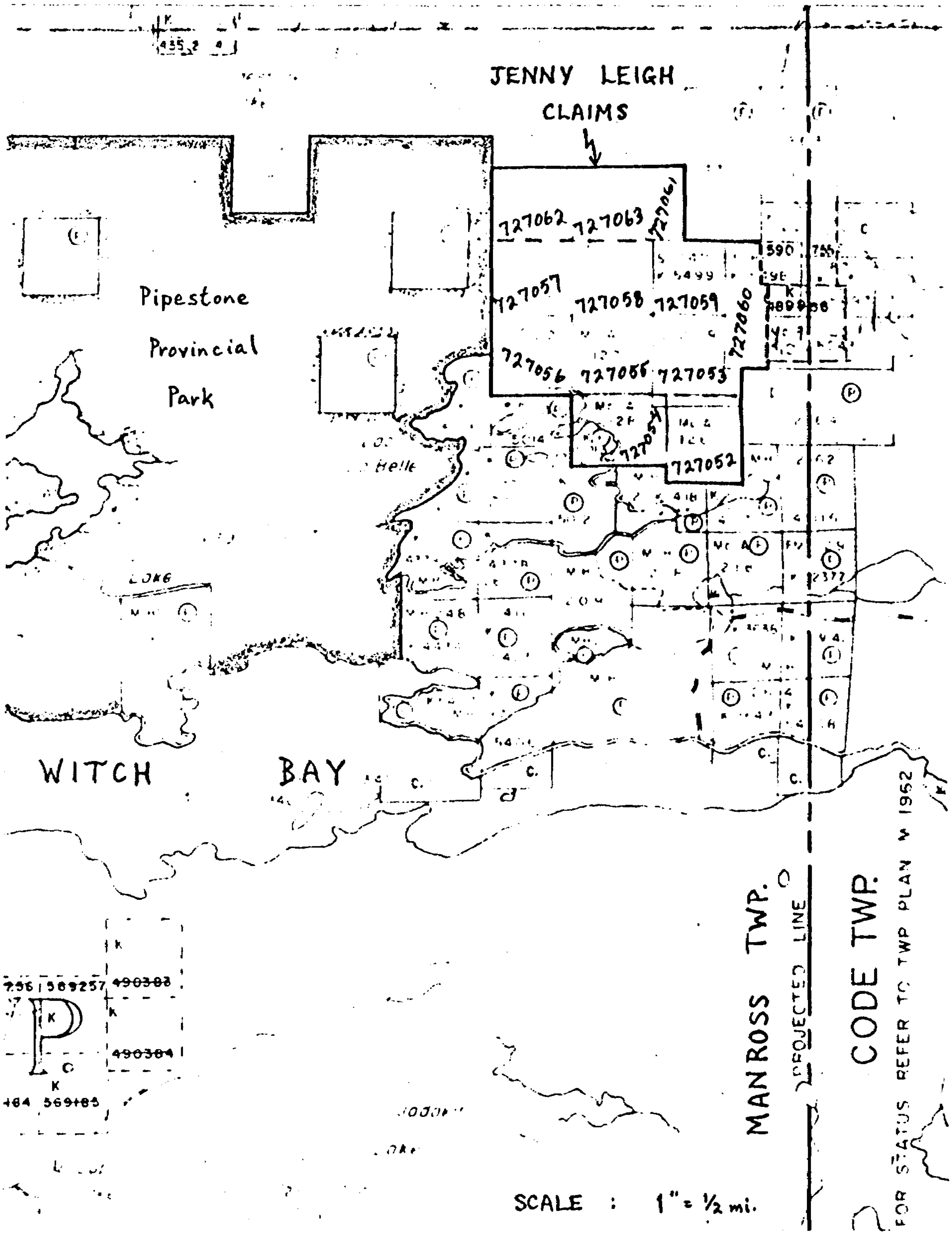


Fig. 2. Bigstone Minerals Ltd. Claim Map of Jenny Leigh Property, Manross Twp., Lake of the Woods, Kenora District. N.T.S. 52E/9 From Plan M2338.

REGIONAL GEOLOGY

The Jenny-Leigh property lies in the Wabigoon Subprovince, a major subdivision of the Superior Province of the Canadian Shield. Supracrustal metavolcanic and metasedimentary successions occur as arcuate wedges at the margins of gneissic domes, and these are metamorphosed to assemblages characteristic of greenschist and amphibolite facies. Patterns of metamorphism are closely related to the domes, such that the highest metamorphic grades occur adjacent to these structures. Late tectonic granitoid plutons, such as the Dryberry batholith and Viola Lake Stock, cut both the supracrustal and batholithic rocks. Internal shear zones, such as the Pipestone-Cameron Fault, involve the supracrustal assemblages and suggest late transcurrent movement (Blackburn & Janes, 1983).

The most recent published geological map (Fig. 1) encompassing the area in which the Jenny-Leigh property is located, is by Davies and Pryslak (1965). The Andrew Bay area including Hay Island and the Wendigo mine, is currently being remapped by Ayer (1984) and a preliminary map is shown as Fig. 3.

About 6 km to the northwest of the Jenny-Leigh property and along strike, are the Sultana and Ophir Mines on Sultana Island. About $1 million worth of gold (at $32/oz.?) was extracted from the Sultana mine during the period 1892-1934). Auriferous quartz veins occur at the contract of granite and porphyritic granite and "greenstone". The Ophir vein was entirely in unaltered granite porphyry and was a lobe consisting of a few lenses and bands of quartz separated by micaceous and chloritic material and granite porphyry. No production figures or years of operation could be located by the present author.

In the Witch Bay-Wendigo Mine area, interbedded basalts, porphyritic andesite and diorite flows or sills dip steeply and trend due easterly. The trace of a major anticlinal axis passes through Lac La Belle, so that the Wendigo Mine mineralized horizon is repeated on the Jenny-Leigh property.

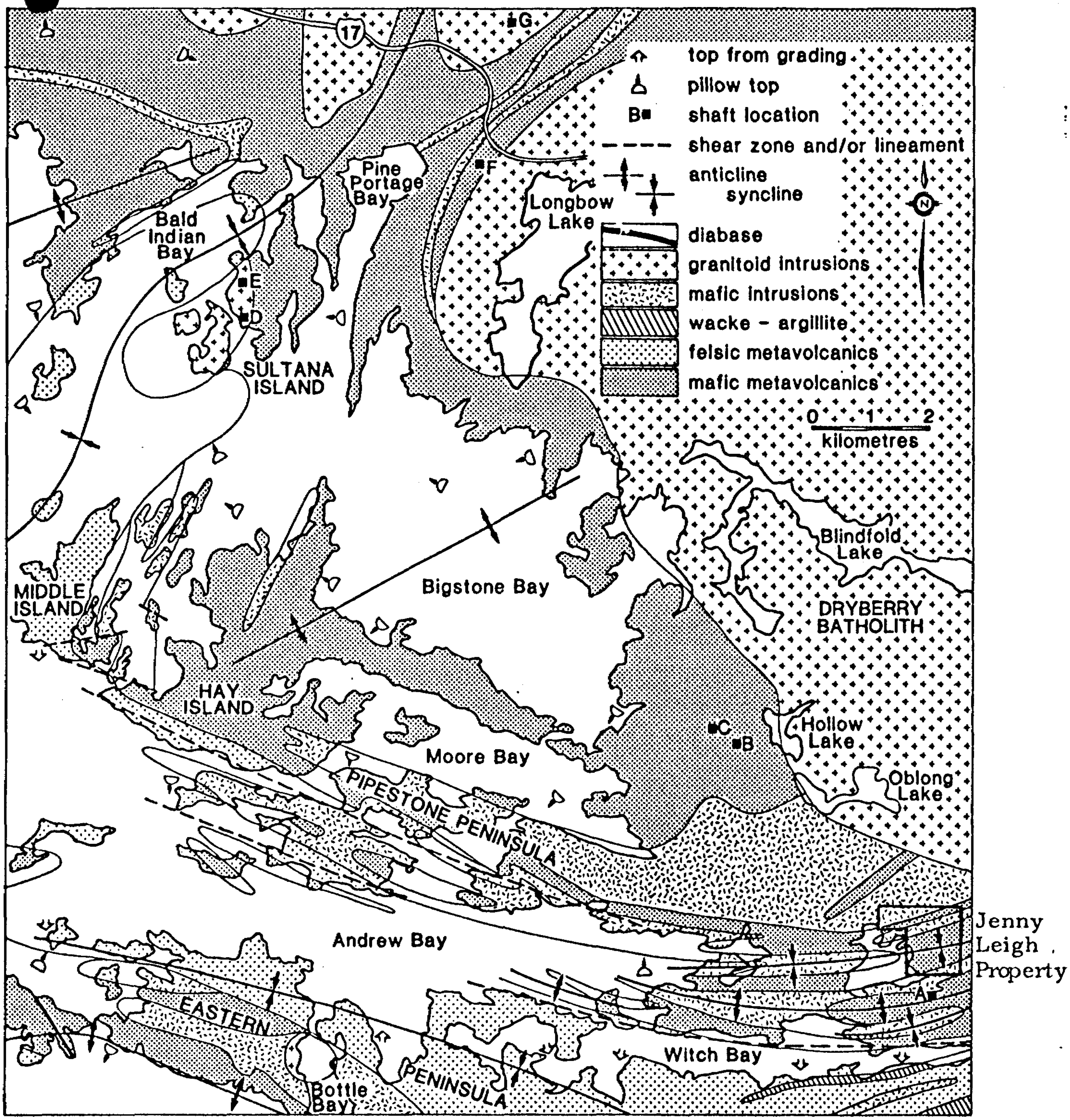


Fig. 3: Preliminary Regional Geology,
Witch Bay - Andrew Bay area and
location of Jenny-Leigh property (from Ayer, 1984).

MINES

A = Wendigo
B = Gold Hill
C = Black Jack
D = Ophir
E = Sultana

JENNY-LEIGH PROPERTY

In the vicinity of Lac La Belle and the Wendigo mine, the major lithologies consist of mafic volcanics and differentiated mafic ultramafic flows of probable komatiitic affinity. ("Mafic intrusions" on Fig. 3). These are folded in a series of tight isoclinal drag folds in the area between Witch Bay and Lac La Belle.

Geology

Mapping was done on a grid, with 300 ft. line spacing. Three major units are exposed on the property: differentiated flows of probable komatiitic affinity, magnesian basalts and pillowed andesite or basalt flows (Fig. 4, in pocket). The differentiated flows (Units la, lb, lc) grade from a cumulate olivine-rich peridotitic base upwards into gabbroic or pyroxenitic units. These are in turn commonly overlain by leucogabbro, which is proportionately the most abundant rock type in the differentiated flows. Individual flows are commonly between 30-50 ft. thick. Thin polybrecciated flow tops and bases are common, and these are often talc-chlorite altered or carbonated.

A 750-1,000 ft. thick magnesian basalt sequence (Unit ld) also of probable komatiitic affinity, is intercalated with the komatiites. Small pillows with thin chilled margins and occasional polygonal breccia and pyroxene spinifex textures can be distinguished. The basalt is medium to fine grained, grey to dark green in colour, and generally hard and dense. Graphitic sulfidic interflow sediments are associated with this sequence, but do not outcrop (see Mineralization). The overlying flow or flows (Unit ld) is complex. At its western end, it thins - this is considered a primary (not tectonic) feature - and its upper margin is characterized by a talc-chlorite altered flow top breccia. At its eastern end, the flow consists of several thinner flows and irregularly intercalated magnesian basalt or rocks of pyroxenitic composition. The rocks of Unit 2, predominantly "andesite", are generally softer, more chloritic, and dominated by brecciated pillows and flow breccias. Interstices are commonly calcite-filled. Minor gabbro basalt flows and variolitic and feldspar porphyritic phases can also be distinguished but have not been traced. Mineralized interflow sediments are common in this sequence (Showings No. 1, No. 2, see below).

Structure

The axis of a major regional syncline trends northeasterly through Unit 2. Facing directions are based on differentiation trends in differentiated flows of Unit 1. These show a reversal in the southern part of the property and on the adjacent Wendigo property. The location of the axis is based on symmetry. Independent evidence for this structure was found by Ayer during his mapping on the western shore of Lac La Belle and in Andrew Bay (Fig. 3).

The most important implication of the complex structure in this area is that the Wendigo Mine stratigraphy is repeated by the folding and occurs on the Jenny Leigh claims.

Geophysics

Geophysical surveys available consist of a regional compilation map (OGS P2044) that shows the axes of horizontal loop EM, airborne EM and ground mag surveys. In 1984 a ground VLF and magnetometer survey was carried out on the property. The results are presented in a report by Rejean Gosselin (1984) The axis of major conductors and magnetic highs are shown on Figure 4 (in pocket). The main results and interpretation follows: 42 VLF conductors were found. The majority are weak and are underlain by faults, swamps, groundwater, etc. and therefore are not considered to be significant. There are two major VLF conductors that appear to be geologically significant. Both of these were previously known and drilled by Dome in 1973 (Fig. 4). Conductive interflow sediments containing pyrrhotite and graphite were intersected. The axes of magnetic highs can be directly correlated with the basal cumulate olivine and magnetite-rich portions of differentiated flows. Major VLF conductors and magnetic highs are shown on the geological map (Fig. 4).

Mineralization

There are four main showings on the Jenny Leigh property. Assay and rock geochemical results from these showings are presented in Tables 2 and 3.

Showing No. 1

Pods of massive pyrrhotite with minor pyrite occur in silicified andesite or gabbro. Rock geochemical results (Table 3) show slightly elevated concentrations of copper, but no significant gold.

Showing No. 2

Two or three distinct siliceous interflow sediments occur in this area. On the shore of Lac La Belle and in the trenches on L6W/18S, pyrrhotite, pyrite and graphite occur in a grey siliceous metavolcanic. Outcrop is scarce, but andesite and andesite flow breccia with interstitial carbonate appear to be the host rock. Rock geochemical results and assays of grab samples are presented in Tables 2 and 3. The most significant geochemical result is 5190 ppb (0.15 oz/t Au) from sample JL520. (Table 2, Fig. 5). Samples JL600, 601 and 602 were collected from the same trenches (Table 3) but the high result could not be duplicated. Two reassays of sample JL520 also produced lower results (Table 3). A series of trenches were found on possibly a third mineralized horizon (samples JL606, 609), but insufficient work has been done to delineate it.

Showing No. 3

A series of trenches were found in an area underlain mainly by strongly carbonated andesite, veined with clear quartz up to 1 m thick and occasional minor disseminated pyrite. No significant results were obtained.

Showing No. 4

This consists of a shear zone or a fault, filled with a massive white 20 - 30 cm thick quartz vein. The host rock is leucogabbro and flow top breccia. The vein trends 140 - 160°, dips steeply and clearly cross cuts stratigraphy. Foliation parallels the quartz vein along the margins. Mineralization consists of blebs of chalcopyrite, hematite and carbonate in a sugary aplitic quartz matrix. Chalcopyrite occurs as drops. Significant gold (up to 0.336 oz/ton, Table 2, 3) was obtained from grab samples. Despite this, the

TABLE 2 JENNY LEIGH ASSAY RESULTS

Sample	Sample Type	Width (cm)	Cu%	Ag oz/t	Au oz/t	Comments
Showing No. 2						
JL520	RA	50			0.001	reassay
JL520	RA	50			0.002	reassay
JL600	RA	40	0.07	0.03	0.001	duplicate of JL520
JL601	RA	40	0.04	0.04	0.001	
JL602	RA	40	0.03	0.15	0.001	
JL604	RA	50	0.26	0.03	0.001	
JL605	RA	Select	0.01	1.76	0.001	
JL606	RA	Select	0.24	0.07	0.006	
JL609	RA	Select	0.24	0.06	0.005	
83JL003	RA	Select		Nil	tr	Custom Fire Assays Cochenour, Ont.
Showing No. 4						
JL022		Select			0.336	reassay
JL607	RA	Select	0.59	0.17	0.034	duplicate of JL022
JL608	RA	60	0.53	0.10	0.049	duplicate of JL021

Note: All assays except 83JL003 by Bondar-Clegg, Ottawa

TABLE 3 ROCK GEOCHEMICAL RESULTS, JENNY LEIGH PROPERTY

Sample No.	Assay No.	Sample Type	Width (cm)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Comments
Showing No. 1									
JL015		RG	grab	1305	3	54	0.1	10	silicified mafic volcanic
JL017		RG	grab	2560	6	32	0.6	<5	mafic volcanic with py, po
Showing No. 2									
JL009		RG	grab	137	9	182	0.3	10	po in cherty interflow sediments
JL010		RG	100	584	3	3580	0.5	35	py in cherty interflow sediments with graphite
JL011		RG	30	18	3	185	0.1	<5	po in silicified volcanic
JL520		RG	50	1210	4	71	0.1	5190	silicified volcanic with pyrite (0.15 oz/t Au)
Showing No. 3									
JL512		RG	grab	1840	4	17	0.6	35	
JL516		RG	grab	254	2	81	0.1	<5	
JL517		RG	grab	162	2	11	0.1	<5	
Showing No. 4									
JL020		RG	grab	2230	2	28	1.4	25	drop shaped hem, cp in sugary qtz., chlorite, carbonate
JL021		RG	60	1965	3	61	0.8	320	mainly quartz, minor carbonate, cp, hem, in foliated chloritic volcanic
JL022		RG	grab	20,000	13	236	18.7	11195	0.326 oz/t Au) cp in 0.545 oz/t Ag) quartz
JL607		RA	grab			48			duplicate of JL022
JL608		RA	60			61			duplicate of JL021

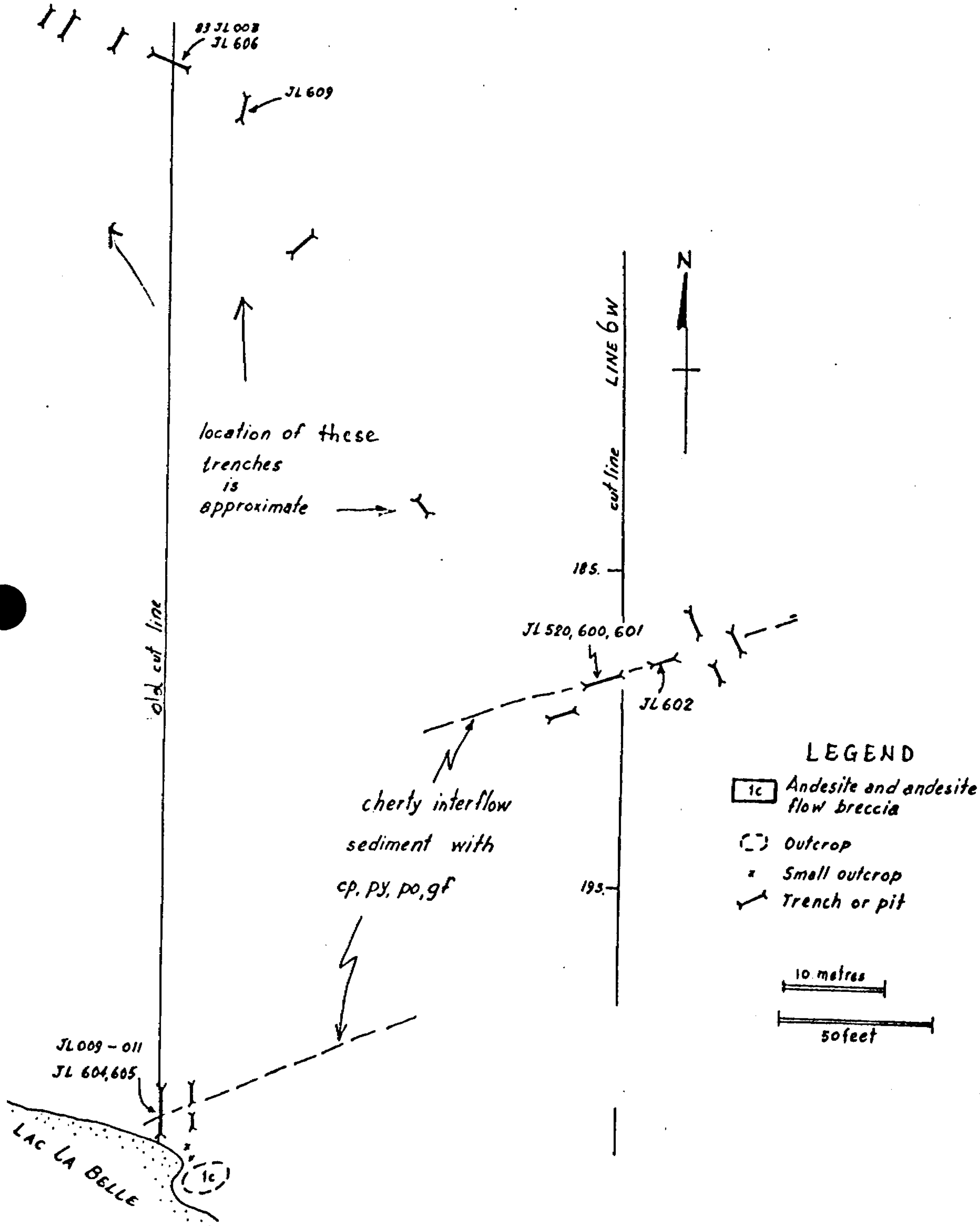


Fig 5. JENNY LEIGH PROPERTY
AREA OF SHOWING No 2
Location of assay samples and trenches

UK. Sept 1984

potential of this area is not considered very high because of the secondary, cross-cutting nature of the mineralization.

Stella Adit

In the Stella adit a 3 - 4 foot thick cherty interflow sediment or quartz vein containing minor disseminated pyrite is exposed. Both footwall and hanging wall consist of basalt. Its strike and dip is 110/55 SW. It is exposed for 100 feet in the adit and can be traced discontinuously in a series of pits and shafts to the shore of Stella Lake, about 1000 ft. to the east, where the horizon appears to terminate against a granite contact. No samples were collected since there are numerous assays reported in the literature and in assessment files. As well only a short section of the mineralized horizon which terminates in a breccia zone at the west end of the adit is on the Jenny Leigh property. A 60 ft. length is reported to show from 0.02 to 6.92 oz/ton gold over widths of 1 to 3 feet.

Wendigo Mine

The Wendigo Mine was in operation from 1900-1951, during which time 206,054 tons averaging 0.33 oz/ton gold, 0.07 oz/ton silver and 0.92% copper were mined from "a shear zone in basalt that contained up to 50% pyrite, pyrrhotite and chalcopyrite" (MNR, MDIR, SMDR 001350).

Fig. 6 is a geological map of the Wendigo Mine area, redrawn and reinterpreted on the basis of findings on the Jenny Leigh property and limited mapping. The most important observations are as follows:

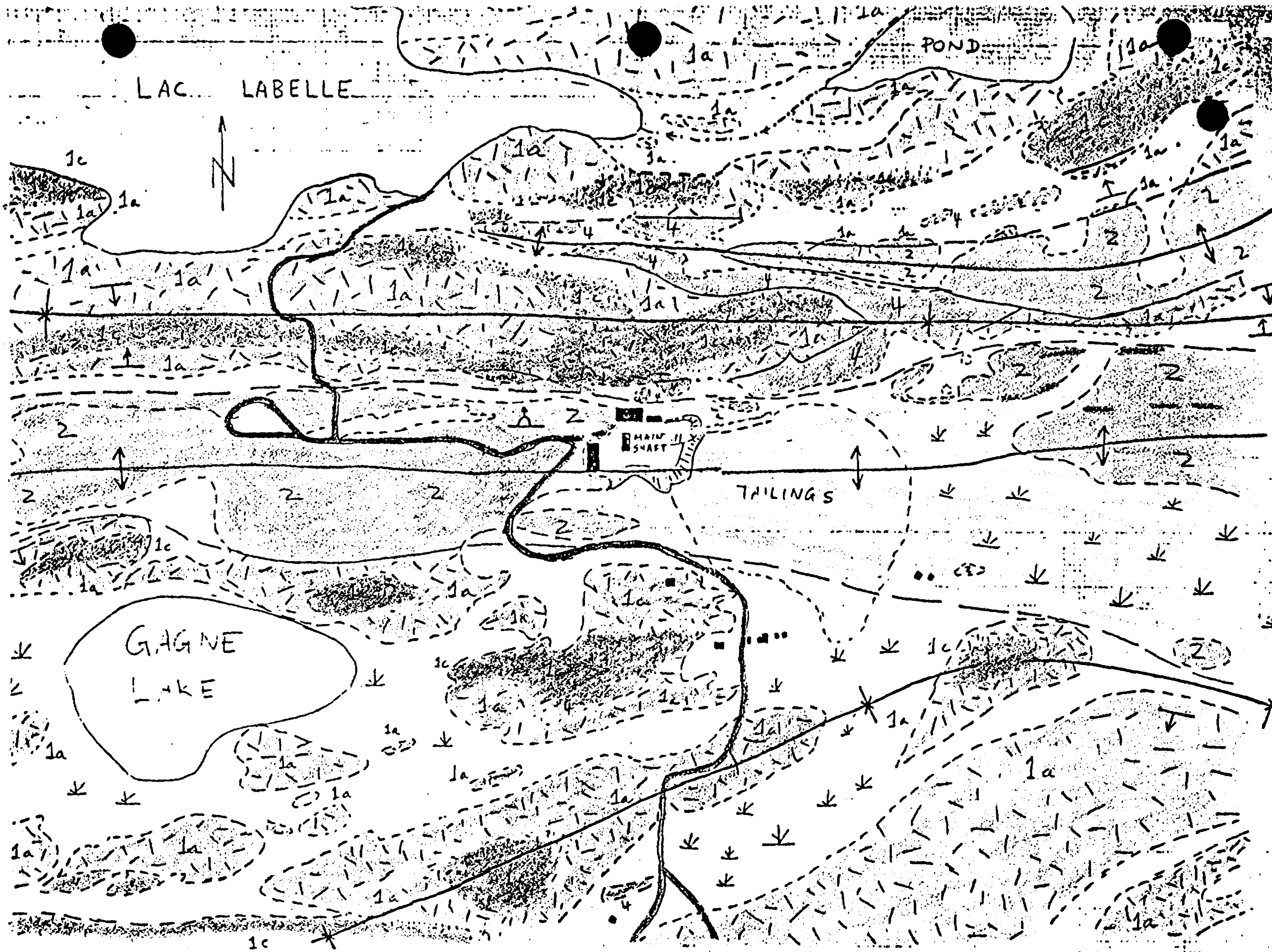
1. Since differentiation trends in Komatiitic flows can be used to determine facing directions, complex structures can be mapped and the ore-bearing stratigraphy can be readily traced.

2. At least four fold axes can be recognized in the vicinity of the mine. Possibly folding is even more complex. There is only one fold nose showing closure to the west in the map area. The fold axis appears to be plunging steeply to the west.

LEGEND

2	pillowed mafic metavolcanics	
4	"lamprophyre" on Brownell's 1941 map, probably basaltic komatiite or flow tops	subunits of differentiated flows of probable komatiitic affinity
1c	gabbro and pyroxenite	
1a	peridotite, locally dunite	
	siliceous gold-bearing interflow sediments	
	tops from flows	
	tops from pillows	

Fig. 6: Geology of the Wendigo Mine Area After G.M. Brownell, 1941



WENDIGO MINE GEOLOGY

ORIGINAL BY G.M. BROWNELL, 1941
INTERPRETATION BY U. KRETSCHMAR, 1984

3. The discovery showing (west of the mainshaft) and several other showings to the east represent several mineralized horizons and are hosted by a pillowed andesite sequence of Unit 2, and appear to be stratabound.

Cross sections and geological plans in the assessment files show that the mineralization occurred in three or more distinct horizons ("veins") that were conformable to diorite - andesite contacts and that they occurred within pillowed andesites of Unit 2. "Diorite" was the designation for flows of Unit 1. Apparently only one of these was sufficiently rich for mining. Descriptions in the assessment files also permit the interference that the ore bearing horizon was zoned from a "central" massive pyrrhotite-rich core with low gold values to a distal pyrite-chalcopyrite-gold rich zone below the 1100 ft. slope. This has economic implications and confirmation should be sought. The ore has the appearance of sheared Cu-rich siliceous massive sulfide. My interpretation is that the mineralized horizons are siliceous, chalcopyrite, pyrrhotite-rich interflow sediments with a high gold content.

Regional Implications

Assuming that Wendigo type mineralization may be stratabound, the strike extensions of the mineralized stratigraphy are obvious targets for further explorations. At present there are three versions of the regional geology (Figs. 3,6,7), none of which is entirely satisfactory. However, it seems to be clear that the Witch Bay occurrence and the Wendigo Mine are on the same horizon. To the east the mine stratigraphy wraps around the Dryberry batholith, and trends northeasterly as far as Dogtooth Lake. To the west the mine stratigraphy occurs in a series of drag folds along the Pipestone Peninsula and Hay Island. From there it turns north to Sultana Island where it is intruded by a small grantic stock. This entire stretch comprising some 50 km of favourable stratigraphy would appear to warrant an exploration effort as has also been noted by Blackburn (1982), see Appendix A.

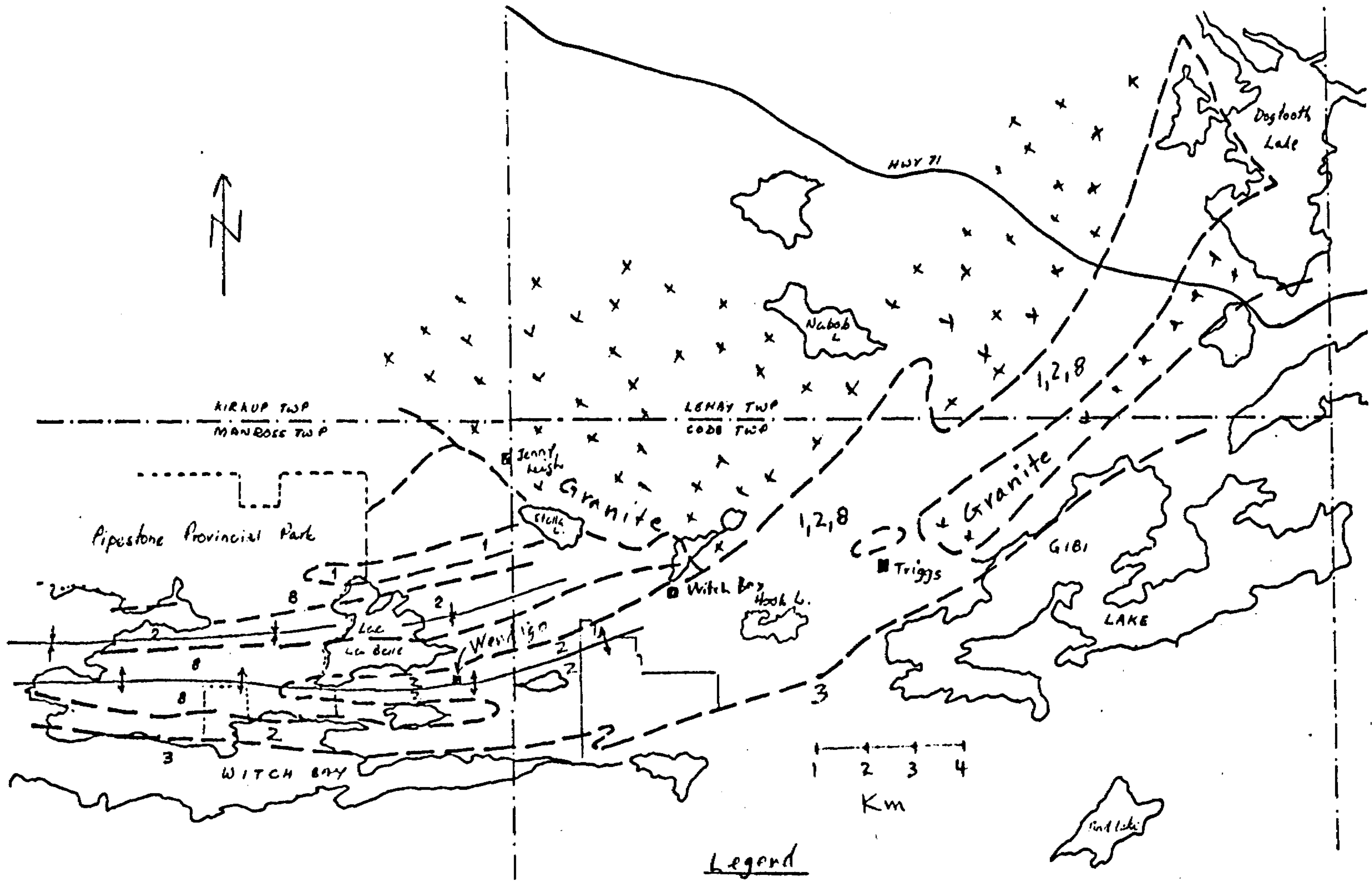


Fig. 7: Regional geology near the Wendigo Mine, compiled from maps by Ayer (1984), Trowell et. al. (1980) and this study.

Legend

1 = Komatiitic basalt
2 = pillowed intermediate volcanics
3 = felsic pyroclastics
8 = differentiated Komatiitic flows

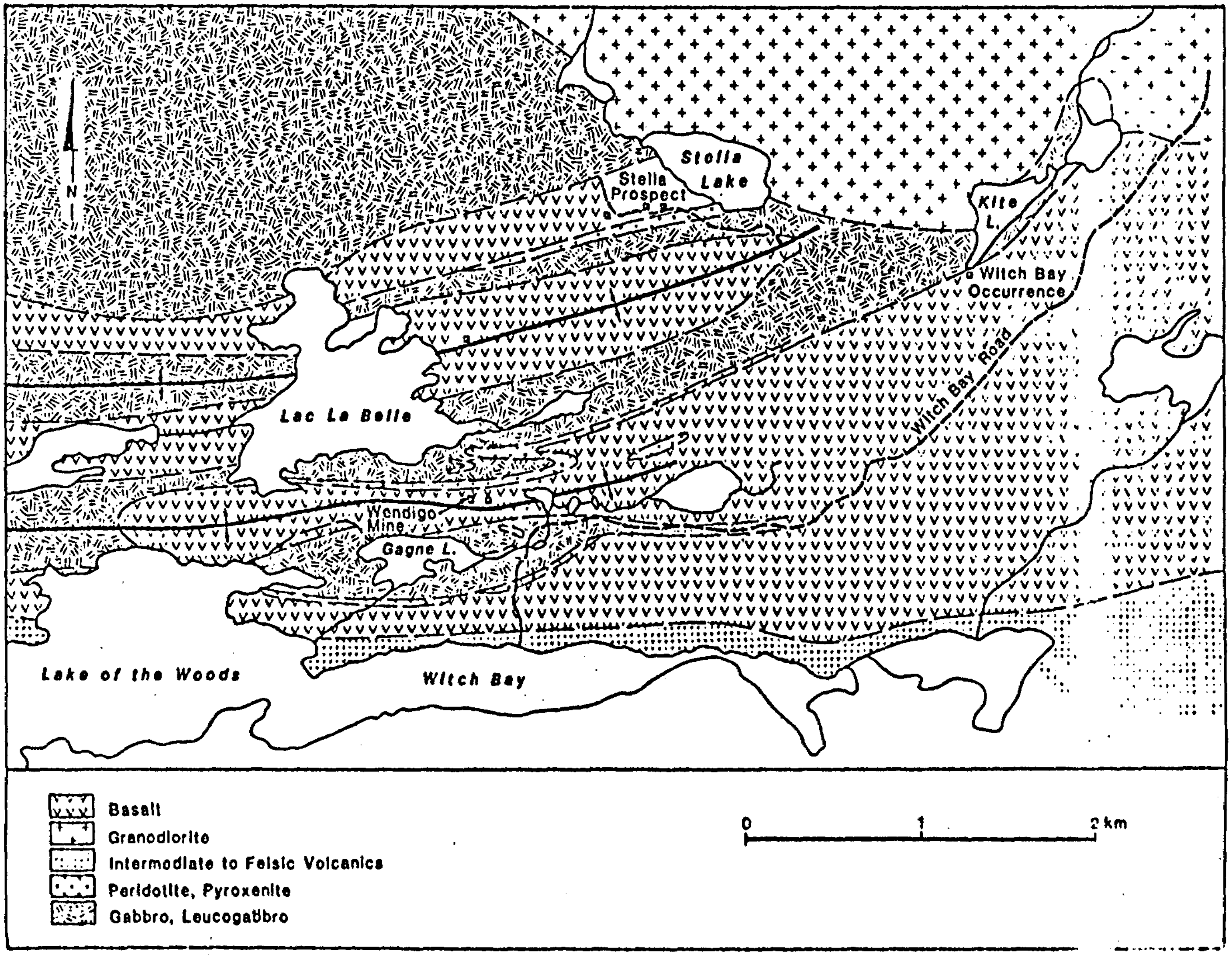


Fig. 8: Regional Geology near the Wendigo Mine according to Mark Smith (unpublished data, OGS, Kenora)

ESTIMATED BUDGET

Stage 1:	SALARIES AND FEES		
		Sr. Geologist - mapping, supervision, reports 14 days @ $300.00/day	$4,200.00
		Assistant geologist - field work 30 days @ $1,800.00/Month	1,800.00
		Trenching crew 2 men x 10 days @ $100.00/day	2,000.00
		Food, Accommodation 55 man days at $45.00/day	2,500.00
	PHYSICAL WORK		
		Line Cutting & Rechaining 3 line-mi. @ $330.00/mi.	1,000.00
		Stripping, trenching with backhoe 100 hours at $50.00/hr	5,000.00
	TRANSPORTATION		
		Vehicle rental 3 weeks	800.00
		Airfare	1,000.00
	SUPPLIES, FUEL, COMMUNICATION, REPORT PREPARATION		2,500.00
	CHEMICAL ANALYSES, ASSAYS		1,500.00
	GEOPHYSICS 6 line-miles I.P.		10,000.00
			$32,300.00
Stage 2:	Drilling: 3,000 ft. @ $30/ft. all-in cost		$90,000.00

TOTAL BUDGET*	Stage 1	$32,300.00
	Stage 2	90,000.00
		$122,300.00

* A two week reconnaissance program would cost an additional $7,500.00

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1945-46 Assessment File, K49; Lac La Belle Group.

APPENDIX "A"

Gold Association of the Wendigo Mine Area

Among the numerous gold occurrences of the general Bigstone Bay-Andrew Bay area on the eastern side of the Lake of the Woods, the Wendigo Mine, between Witch Bay and Lac La Belle has aroused considerable recent interest, both in terms of its potential for further gold in subsurface (Denison Mines Limited: this report) and for the potential of obtaining gold from the tailings (Porta Metal Mills: 1981 Report of the Kenora Resident Geologist. Blackburn (1982)).

The Wendigo Mine was the largest gold producer in the Lake of the Woods. In the period 1900 to 1951, 67 423 ounces of gold and 14 762 ounces of silver were obtained from 206 054 tons of ore milled; 1 886 246 pounds of copper were also produced (Beard and Garratt 1976). Ore was supposedly exhausted in 1943. The geological environment, both lithological and structural, however, suggests that there is excellent potential for both precious and base metals in the general Wendigo Mine area.

Mapping by Suffel at a scale of 1 inch to 1 mile (1931) and Thomson at a scale of 1 inch to 20 chains (1936) indicated that mafic volcanic rocks were extensively intruded by mafic rocks, identified as diorite by these workers. Subsequent more detailed mapping at a scale of 1 inch to 200 feet in the immediate vicinity of the Wendigo Mine by Brownell (1941), enabled subdivision of the mafic intrusive rocks into 3 units, lamprophyre, gabbro, and diorite. Thomson (1936) and Brownell (1941) showed the ore zone at the Wendigo Mine to lie within the mafic lavas, and while extensive talc alteration of the mafic intrusive rocks was noted by Brownell (1941) to be indicative of regional, possibly hydrothermal alteration, no other significance was attached to these rocks in the genesis of the ore deposit.

Recent work by Denison Mines Limited geologists (G. Patterson, N. Kazira, Geologists, Denison Mines Limited, personal communications, 1982) has led to the re-interpretation of lamprophyre, gabbro, and diorite units as peridotite, hornblendite, and leucogabbro respectively, with the conclusion that these are members of a differentiated body or bodies from peridotite base to leucogabbro top. Using this model, numerous fold axes can be identified on Brownell's (1941) map. A unit of feldspar-phyric basaltic lavas, mapped by both Thomson (1936) and Brownell (1941), occurs immediately below and in sharp contact with the base of the differentiated bodies. This leads to the suggestion that the differentiated ultramafic to mafic bodies may be very thick flows rather than sills.

Sections through the Wendigo Mine workings (Assessment Files, Resident Geologist's Office, Ontario Ministry of Natural Resources, Kenora) show the Number 1 vein, developed to the 1700-foot level, to lie parallel to and about 200 feet below the mafic lava-peridotite contact, which dips steeply to the north. This lends support to the interpretation of Brownell (1941) that the ore zone is stratabound. The Number 2, Number 3, and Number 4 veins, though occurring within the mafic lavas, are at different levels, the Number 2 vein being in the feldspar-phyric lava immediately below the differentiated unit. In 1941, a "new vein" which assayed 0.22 ounce across 7 feet was intersected in a 1000-foot long exploratory drillhole to the north from the 1700-foot level. This hole passed through a major synclinal axis in the differentiated unit, and intersected the "new vein" within mafic lavas at what may be interpreted to be a similar stratigraphic level to the Number 1 vein.

There is, thus, some evidence that gold mineralization at and near the Wendigo Mine may be stratabound and at a specific level in the stratigraphy, namely, just below the differentiated ultramafic to mafic sill or flow. This concept could be extended both west and east of the Wendigo Mine, to Andrew Bay and towards Gibi Lake respectively. Only part of the area west of the Wendigo Mine has been mapped in detail (Davies 1967), but the mapping of Suffel (1931) shows extensive areas of possible differentiated ultramafic to mafic rocks. Eastward, Trowell, Logothetis, and Caldwell (1980) noted pyroxenites and layered ultramafic to mafic bodies close to Highway 71 at about the same stratigraphic level as those at the Wendigo Mine. Not only is this an excellent exploration and prospecting area for gold, but also for base metals.

From

Blackburn, C.E. (1983) in

Report of Activities, Resident and

Regional Geologists 1982 OGS MP107

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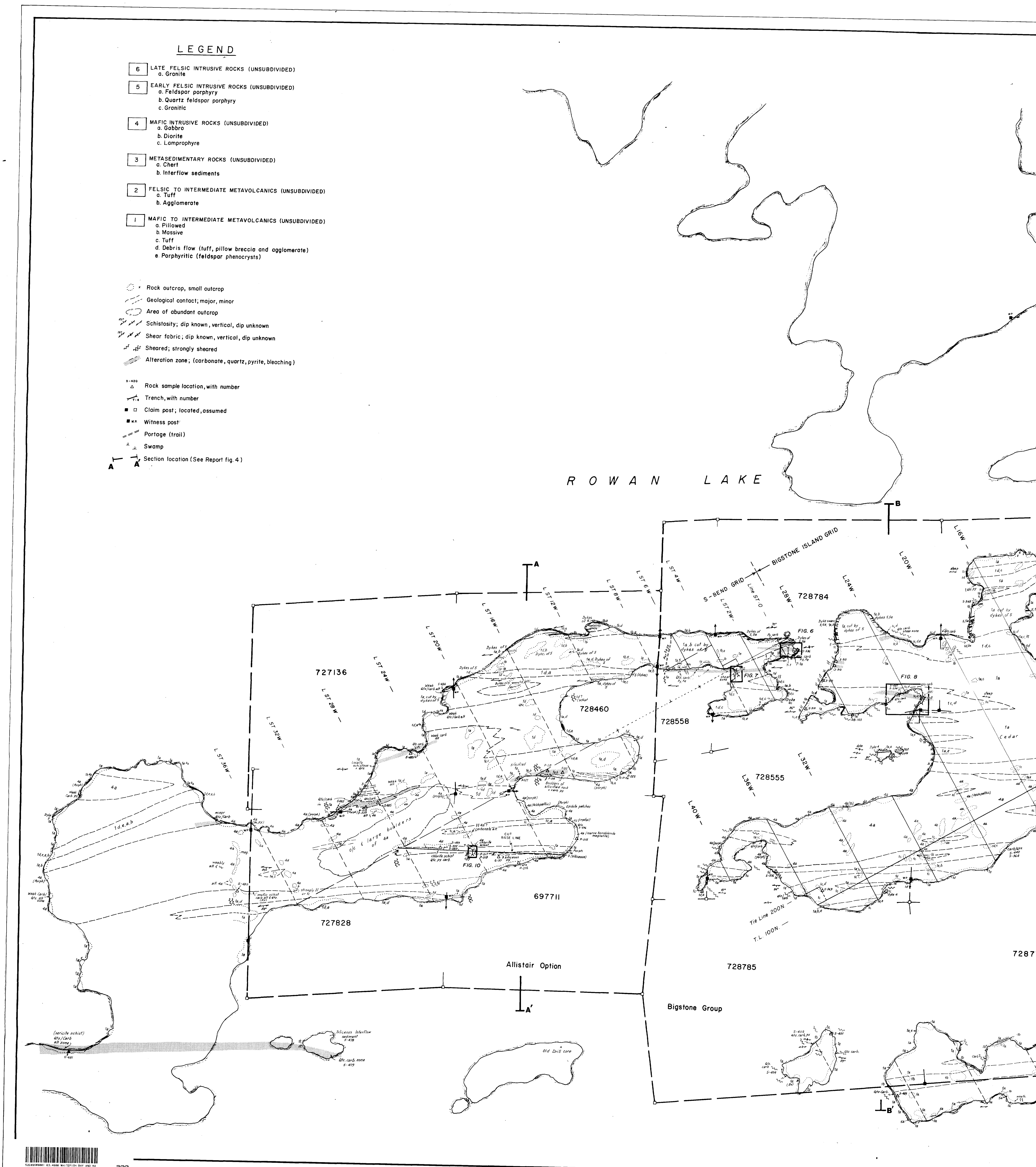
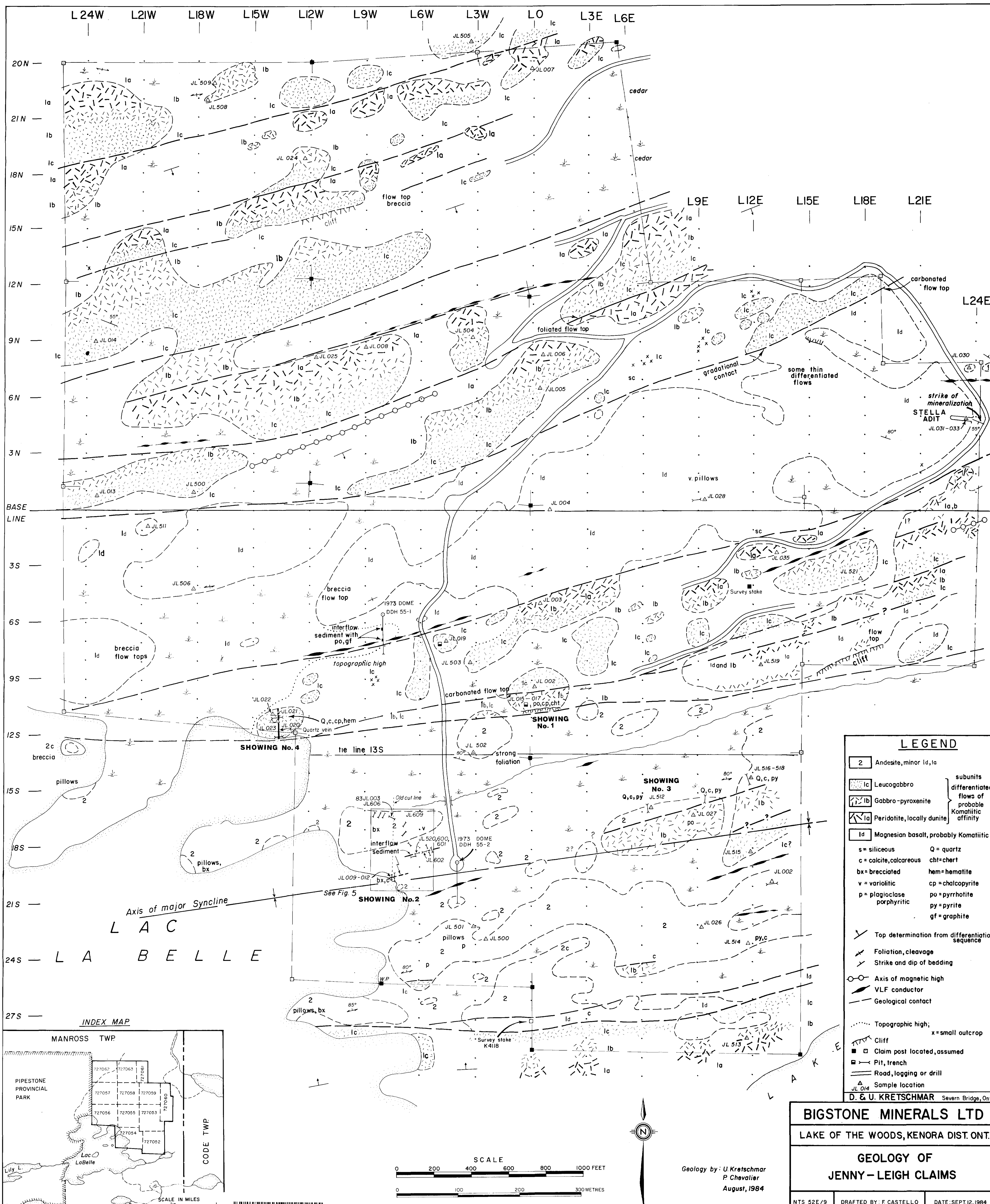
THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS. SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

(1) Report on 1984 Drill Program, Patmour Showing, Bigstone Minerals Ltd., U. Kretschmar, Dec./84.	→ See ROWAN LAKE DDR #36, Report of Work #157 for 1984 (Kenora)
(2) Report on Geological Mapping Program on the Anomaly Claim Group, Bigstone Minerals Ltd/Anglo-Canadian Mining Corp., S.M. Sears, Dec 12/84.	→ See Report #2.7831, Report of Work #33 for 1985 (Kenora)
(3) Report on Airborne Magnetic + VLF-EM Survey, Rowan Lake Area, Wayne Whymark, R.K. Watson, Jan. 18/85	→ See Report #2.7704, Report of Work #289-84 and #154 for 1985 (Kenora)
(4) Geological Report on Shingwak Property, Bigstone Minerals Ltd., U. Kretschmar, Dec./84	→ See Report #2.8948, Report of Work #1 for 1986 (Kenora)
(5) Report on Geophysical Work on the Three Islands Property, Bigstone Minerals Ltd., R. Gosselin, Aug. 8/84.	→ See Report #2.7048, Report of Work #138 for 1984 (Kenora)
(6) Geological Report on the Jenny Leigh Property, Bigstone Minerals Ltd., U. Kretschmar, Jan./85	→ Similar to #2.8340 (R. of W. #127-85) BUT ADDITIONA INFO GIVEN IN OMEP SUBMISSION, SO IT WILL BE PLACED ON FILE AS NON COMPARABLE MATERIAL


LEGEND
6 LATE FELSIC INTRUSIVE ROCKS (UNSUBDIVIDED)
a. Granite
5 EARLY FELSIC INTRUSIVE ROCKS (UNSUBDIVIDED)
a. Feldspar porphyry
b. Quartz feldspar porphyry
c. Granitic
4 MAFIC INTRUSIVE ROCKS (UNSUBDIVIDED)
a. Gabbro
b. Diorite
c. Lamprophyre
3 METASEDIMENTARY ROCKS (UNSUBDIVIDED)
a. Chert
b. Interflow sediments
2 FELSIC TO INTERMEDIATE METAVOLCANICS (UNSUBDIVIDED)
a. Tuff
b. Agglomerate
1 MAFIC TO INTERMEDIATE METAVOLCANICS (UNSUBDIVIDED)
a. Pillowed
b. Massive
c. Tuff
d. Debris flow (tuff, pillow breccia and agglomerate)
e. Porphyritic (feldspar phenocrysts)
Rock outcrop, small outcrop
Geological contact; major, minor
Area of abundant outcrop
Schistosity; dip known, vertical, dip unknown
Shear fabric; dip known, vertical, dip unknown
Sheared; strongly sheared
Alteration zone; (carbonate, quartz, pyrite, bleaching)
Rock sample location, with number
Trench, with number
Claim post; located, assumed
Witness post
Portage (trail)
Swamp
Section location (See Report fig. 4)
ROWAN LAKE
S-BEND GRID
BIGSTONE ISLAND GRID
727136
728460
728558
728784
728555
697711
727828
728785
72877
Allistair Option
Bigstone Group
FIG. 6
FIG. 7
FIG. 8
FIG. 10
CUT BASE LINE
Tie Line 200N
T.L. 100N
Old Drill core
A
A'
B
B'



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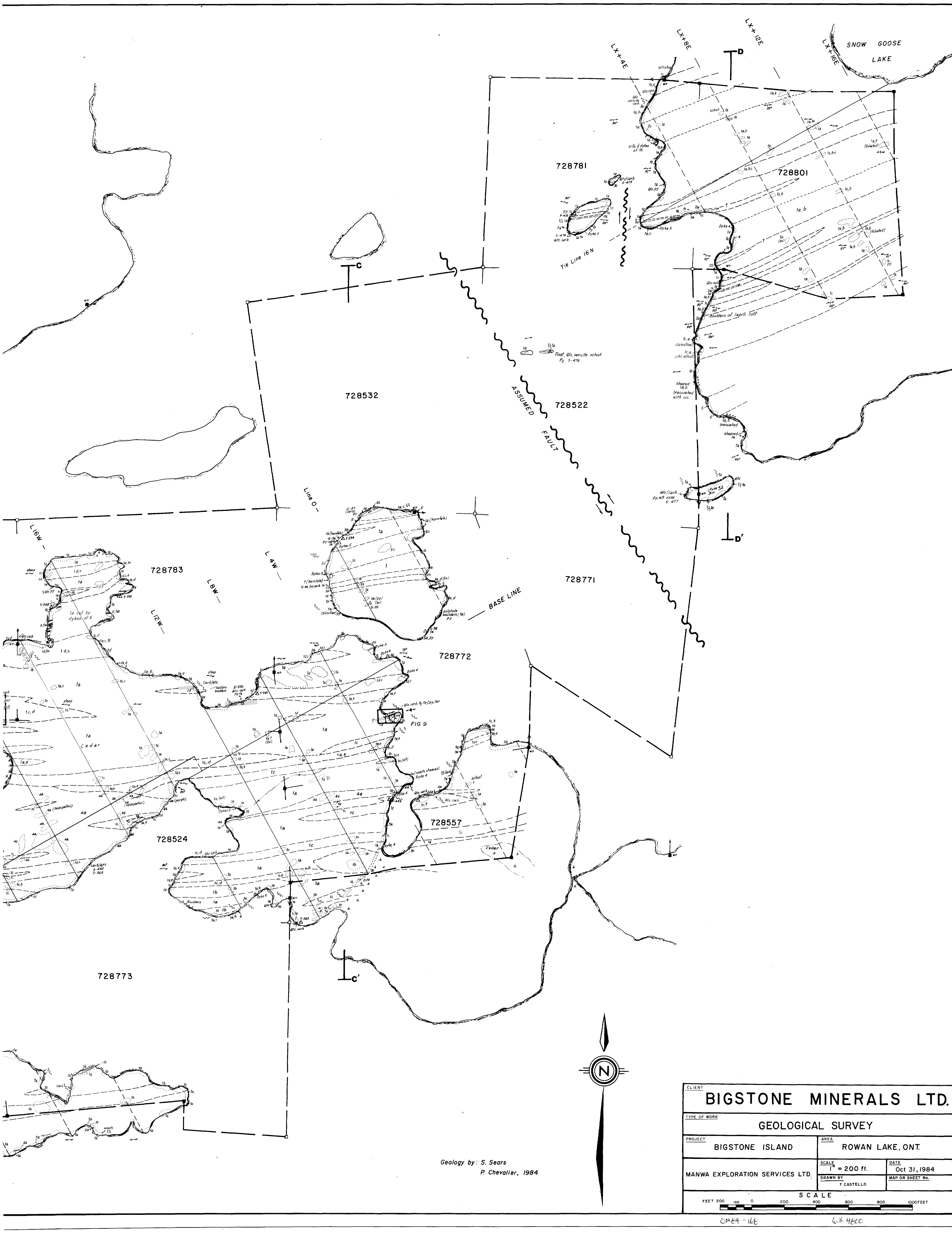

CLIENT
BIGSTONE MINERALS LTD.

TYPE OF WORK
GEOLOGICAL SURVEY

PROJECT
BIGSTONE ISLAND

AREA
ROWAN LAKE, ONT.

MANWA EXPLORATION SERVICES LTD.

SCALE
1" = 200 ft.

DATE
Oct 31, 1984

DRAWN BY
F. CASTELLO

MAP OR SHEET No.

SCALE
FEET 200 100 0 200 400 600 800 1000FEET

OM84-168 63.4800