



Report on a Geological Survey
Hopkins-Heintzman Gold Prospect
Glass Twp., Shoal Lake, Kenora, Ontario
By Albert Hopkins, Geologist, Hopkins Mining Consultants, Ltd.

Introduction

On 20th February, 1961 we contracted to perform this survey for you, and this report with attached maps is the result. In addition, 27 new contiguous mining claims were staked for you for protection and exploration, and 731 feet of standard diamond drilling was performed. An independent Photo Tectonic Interpretation survey was also performed by W. Walker, Geologist.

Property

This now consists of a block of ground comprising:

	<u>Acreage</u>
Patented Lot S.94 (yuu yuu).....	95
Patented Lot S.185.....	337
2 unpatented mining claims K.31935-6 approx.....	80
9 unpatented mining claims K.32450-8 incl.....	300
7 unpatented mining claims K.32663-9 incl.....	280
18 unpatented mining claims K.33007-24 incl.....	720
12 unpatented mining claims K.33153-64 incl.....	480
Approximate total.....	2352 acres

This would be equivalent to about 60 standard sized claims.

Location

The property lies in Glass Twp. in the N.E. portion of Shoal Lake, Kenora Mining Division, Ontario. This is 2 miles N.E. of Dupont Gold Mine on Cameron Island, 5 miles E. of Shoal Lake, Indian Reserve road landing, 2 air miles N.W. of Barbara Machin's Gold Point Lodge, 7 miles E. of the Manitoba frontier, 15 miles N. of Minnesota, and 20 air miles W.S.W. of Kenora Ontario. This is immediately W. of the old Olympia Gold Mines, immediately S. of the old Mikado gold mine and immediately S.W. of the old Cornucopia Gold Mine on Cedar Island.

Access

The property is readily reached from Kenora by air, water, or motor road and water. It is accessible from Winnipeg by rail and water or by motor road and water; as follows:-

Air:

Kenora to property by Air: G.C.A. or Parsons Airways
20 minutes - 20 miles - \$20.00

Boat:

Kenora to property by boat: Lorne Malmo's fish freight boat "Helen M"
5 hours - 50 miles - \$10.00

Kenora to property by Car:

Kenora-Shoal Lake road turnoff.....39 miles
Shoal Lake turnoff by car to Shoal lake landing.....11 miles-total 50 m.

hour taxi fare \$12.00
 1/2 hour by boat from landing to property 5 miles - \$10.00

Winnipeg- Shoal Lake by car:

Winnipeg to turn-off by car 2 hours 99 miles
 Shoal Lake turn-off by car to landing 11 miles
 Total 110 miles

Shoal Lake landing to property by boat- 5 miles - 1/2 hour \$10.00

Winnipeg to Property by Railway:

Winnipeg to Waugh station, Manitoba by G.W.W.D. Rlwy. thrice weekly-
 mixed train.

Waugh on Indian Bay to property by boat- 10 miles.

The Yum-Yum claim (S.94) is connected by old wagon roads to the nearby Mikado and Olympia Gold mines. There is a roadless gap of 5 to 6 miles between the Mikado Mine and Devlin's sawmill. The latter is inland between Clytie Bay and Crowduck Lake, and connected by a 3-mile side road to the Shoal Lake road.

Topography

The topography differs in no important respect from most parts of the Canadian shield. The drainage is probably better and the relief slightly greater than in some areas. Though the drift and soil is not heavy, the rock knolls and ridges are usually nearly covered with moss and lichens. For this reason good outcrops are rather scarce except along the lake shore and along the top of rocky ridges.

The ridges trend mainly N.E.-S.W. at an azimuth of about 25 degrees. This reflects both the tectonics, strike of the country rocks, and the latest glaciation, all three of which almost coincide.

General Geology:

The oldest rocks in the property area are Keewatin lava flows and sediments including:-

rhyolite
 andesite
 basalt
 pillow lava
 iron formation

Secondly, a series of basic intrusives and their metamorphic derivatives include:-

diorite
 gabbro
 pyroxenite
 peridotite
 amphibolite

Thirdly, a series of porphyry dykes have intruded all the above mentioned series, including:-

rhyolite porphyry
 felsite porphyry
 granite porphyry
 diorite porphyry

Finally, quartz and quartz carbonate stringers and veins have intruded tension cracks, shear and fault zones. Subsequently, sulphides have been deposited alone or with the quartz.

Local Geology: (see attached map, scale 1"=300')

True rhyolite was found at only one location on the property namely between 8500 and 8700 ft. E., 2800 and 3100 ft. N. Although rhyolite-felsite (?) porphyry is widespread in occurrence and resembles rhyolite at first sight, on closer examination, fine-grained quartz phenocrysts may be discerned in it. The true rhyolite is a fine-grained, hard, grey flinty-looking rock in this area.

Andesite occurs in four main bands trending N.E. at about 25 degrees across the property:-

- a) Northeastward from Ennis Bay parallel to the shore of Shoal Lake.
- b) Between line 42E and 54E claim S.185.
- c) Northeastward from Pancake Bay between lines 44E and 51E and
- d) in the east central part of the Yum-Yum claim S.94

The andesite grades into basalt on the one hand, and into fine-grained diorite on the other. It is composed chiefly of felspar (plagioclase) and hornblende, Secondary minerals such as chlorite, epidote, and sericite have formed owing to alteration.

Basalt occurs in three small areas on the property namely:-

- a) At Little Starting point and northward along the shore of Shoal Lake.
- b) Between line 24E and 31E, 100N. and 108N. on claim S.185.
- c) Northeast of Woodtick Bay on S.94 between 62E and 69E, 28N and 35N.

The basalt grades into andesite on one hand and into pillow lava on the other.

Pillow Lava occurs in four small areas on the property as follows:-

- a) On the mainland just east of Little Starting point.
- b) On the east shore of Ennis Bay.
- c) From the point between Miner's Bay and Pancake Bay, trending northeastward along the N. shore of Woodtick Bay to line 63E.
- d) A single outcrop on the N. boundary of claim K.32454 between lines 51E and 54E.

Sometimes the pillows are of great size, one 14 feet long being noted by Dr. W. L. Greer. In locations (a) and (b) the pillow lava is sometimes so sheared that it might almost be called a greenstone schist.

Iron Formation is rare, but what is believed to be an altered remnant of it occurs at Gossan Bay trending N.30 degrees E., through claims K.32666 and K.32667, across the Sirdar Peninsula to Clytie Bay. It is largely replaced by pyrrhotite.

Picrite occurs in four main areas of the property, namely:-

- a) From the south boundary of claim K.31935 east of Angus Bay northeastward through the centre of claim S.185 to a point 3000E 10,100' N.

- b) From the S.W. corner of claim K.31936 northeasterly through S.185 to the S.E. corner of claim K.33009.
- c) From Miner's Bay northeasterly to the N.W. corner of Claim S.94.
- d) From Yum-Yum point northeasterly through the centre of the Yum-Yum Peninsula.

The diorite grades into andesite on the fine-grained side, into gabbro on the basic side, and into amphibolite on the metamorphosed side. There is often no sharp dividing line between them.

Gabbro occurs in the N.E. corner of S.185 between 3700E and 5100E and between 9200N. and 11200N. It varies from fine-grained to medium-grained texture, is an almost black colour, and very magnetic in places. It is obviously iron-rich, and must contain much magnetite.

Pyroxenite occurs in four small areas, as follows:-

- a) On the shore of Shoal Lake on the west boundary of S.185 at 10100N.
- b) On S.185 at 2900E, 8800N.
- c) On S.185 between 3500E and 3800E and between 7200N and 7700N.
- d) In the N.W. corner of S.94 between lines 84E and 87E.

The pyroxenite is medium-grained, iron-rich and magnetic, and grades into peridotite.

Peridotite No true peridotite has been identified on the property to date, but some of the pyroxenite may have been mistaken for peridotite.

Amphibolite This occurs in ten localities as follows:-

- a) A few hundred feet inland and parallel to the west shore of S.185 from 7800N to 10800N.
- b) On S.185 from 7500N to 7900N between lines 16E and 17E.
- c) On S.185 from 8900N to 9400N between lines 20E and 22E.
- d) From the south boundary of K.31936 between lines 29E and 34E northward through the centre of S.185 to near its north boundary between lines 31E and 39E.
- e) From the south boundary of S.185 between lines 43E and 47E northward to a point 100 yards east of the northeast corner of S.185.
- f) Along the west shore of K.32455 on Heintzman bay.
- g) On the shore of Miner's bay at 3900E, 2150N to 4600E, 2800N.
- h) Along the west shore of Yum Yum from 1600N to 2250N and inland from the latter point.
- i) On S.94 from 6700E, 3150N to 7000E, 3450N.
- j) On S.94 from 6750E, 3850N to 7000E, 3300N.

In many cases the amphibolite grades into diorite with no clear-out demarcation line. It varies from a fine-grained to coarse-grained black rock.

Rhyolite porphyry is either related to the felsite porphyry, or is very similar to it. It is light in colour, with fine-grained quartz phenocrysts in it. It occurs in two locations:-

- a) from the west coast of S.185 on Shoal lake at 9900N going inland northeasterly to 10200N.
- b) On S.185 from 20E to 22E, from 9700N to 9850N.

Felsite porphyry resembles the rhyolite porphyry and is widespread in occurrence:-

- a) All of Starting point and northerly along the west coast of S.185 and a few hundred yards inland to 9300N.
- b) A dyke in andesite at 3300N from 4600 to 4700E.
- c) On S.94 at 2900N from 7000E to 7150E.
- d) From the tip of Yum Yum point northeasterly along the west shore of Yum Yum bay to a swamp at 3225N, 8200E.

Two Granite Porphyry dykes occur on the west shore of Woodtick bay at 1700N and 2000N. There are also several granite porphyry dykes exposed along the Shoal lake shore of K.32667. They strike about 30°.

Diorite Porphyry occurs in two areas:-

- a) A large area trending northeast from 1900N, 2400E to 11,000N, 3800E.
- b) A 20-30 foot dyke trending northeasterly along the west shore of Yum-Yum bay from 1900N to 2600N.

Tectonic Geology

This may best be described by quoting from a report by Chew-Walker Associates of Toronto on a study of Air Photos of the Property.

"Gold deposits in the Helldiver Bay and Bag Bay areas of Shoal Lake are shown in relation to fracturing in the region, as recognized on aerial photographs. A system of shears, with a roughly regular spacing, is superimposed on more random fracturing. It is suggested that intersections of shears are most suitable places for prospecting.

"The purpose of the study is to delineate those features most readily seen from above which may control ore deposition. In this area fracturing is the principal topographic control.

"Aerial photographs at a scale of about 1320 feet to the inch and appropriate enlargements to a scale of about 400 feet to the inch were provided for the study by the Ontario Department of Lands and Forests.

The Technique

The 1320 ft. to the inch photographs were laid in mosaic form and more obvious fracture zones differentiated from minor fractures. The mosaic was then disassembled and the photographs viewed stereoscopically, to verify and add detail.

The 400 ft. to the inch photographs were similarly mosaiced and a comparison made with data from the small scale photographs.

The compilation of data from photographs to base map forms an opportune time for restudy in light of known geology, and formulation of ideas on significance of the results.

The differentiation of types of fractures appears valid from similar data in the Whitefish Bay, area, on the east side of Lake of the Woods.

Greer has mapped the area as dominantly greenstones with small amounts of slaty sediments, of Keewatin age, intruded by felsite and quartz porphyry and the C^{noe} Lake batholith of

Algonian (?) Age. The reports cited show minor intrusives in the better mapped mine areas. No further evidence is derived from the present study.

The anticline which trends northeast across the area and is occupied by the Canoe Lake batholith presumably gives rise to the topography of Clytie Bay, the headland on which the properties are situated, and Shoal Lake Narrows.

Faulting crosses volcanics and intrusive without change. Pervasive intrusion (rather than forceful) appears to have left relict structures. Post intrusive faulting might equally have caused such lack of change, but smaller crossing fractures in the Cameron Lake area appear to control mineralisation.

There is no evidence of minor folding or drags, such as have been recognised in a few places in Kwert Twp, a few miles to the north. There is a faint suggestion of foliation on the headland, and the NNE lineation which parallels the west shore of the headland also may be partly foliation.

With the negative aspects of the interpretation of lithology, foliation, and folding, the study, in essence, is of fracturing.

In the area east of Lake of the Woods where shears have been differentiated from other fractures, field evidence tends to confirm the differentiation, and as gold has been found in shears, perhaps concentrated near acid dykes which show as minor fractures, a similar differentiation has been made in the present area.

A parallelism of fractures is evident, and sets of shears have been lettered A to D, with members of these sets identified by number. A study of the shear pattern when it had been compiled showed a regular spacing of members. The members of set D, for example, are about 2000 feet apart.

Similar regularity of spacing has been noted in ore zones structurally controlled by Madsen Red Lake and Merrill Island for example,

The trend of sets is roughly:

- | | |
|----|------|
| A. | N75E |
| B. | N40E |
| C. | N60E |
| D. | N70W |

It is suggested that the location of gold deposits may be controlled by shearing, and perhaps particularly by intersecting shears. Within such zones, NW trending cooling fractures, as suggested by Greer (op. cit p 56), may have been particularly susceptible to mineralisation.

As centres of wide shears may have more gouge than their margins, and hence be dams rather than channelways, therefore borders of wide shears are more likely to be mineralised than centres.

"Shearing has been recognized on the ground at such places as the headland west of the south end of Cedar Island. The character of such shearing should be noted and looked for at the mines in the directions noted in the preceding section. If present, a further guide to prospecting will have been recognized."

"Trenching and drilling at overburden covered intersections may best follow prospecting the outcrop along the lines of shears. As present data indicates no particular rock type as a particularly favourable host, the benefit to be derived from geophysical surveys is doubtful. If geophysical techniques prove applicable they should be applied prior to drilling intersections of shears, which by their nature as lines of weakness may well be deeply eroded and filled with detritus, to extents depending on glacial scouring and deposition."

Neogenic Geology

Gold, the only economic mineral sought here at present, has widespread occurrence in the Kenora district. It occurs mainly in quartz fissure veins, siliceous shear zones, mineralized sheared and shattered porphyry intrusives, and associated with massive and disseminated sulphides. The sulphides are commonly arsenopyrite, chalcopyrite, sphalerite, pyrrhotite, pyrite, galena and molybdenite in a descending order of importance.

This Hopkins-Heintzman property lies immediately east of the large Duport group of claims (NE-SW trending lenses of arsenical gold ore), and immediately west of Cedar Island, Mikado, and Olypie former producing gold mines (NW-SE trending quartz veins or shear zones). Thus, gold may occur in economic quantities on this property associated with arsenopyrite bodies, in quartz veins, in shear zones, or otherwise, and in fact such occurrences, albeit small to date, have already been located on your property, as follows:-

- (a) E-D Arsenic Zone on Yum Yum claim S.94. This strikes about 110° and dips about 45° to N. at 2980N, 7300E. Gold occurs with disseminated arsenopyrite in a fracture zone with surprisingly little silica. Samples from here assay up to 1.5 oz. Au per ton.
- (b) No. 1 or Indian Joe Vein on Yum Yum claim near the No. 1 post of S.94, on former S.87 or S.97 reported by O.D.M. 1898 annual report to be 18" to five feet wide. It is composed of quartz and felsite, heavily mineralized with sphalerite and pyrite and has been stripped and test-pitted for 1000 feet in length. It strikes about 110°, but was not examined in this survey, due to the ancient No. 1 post not being located. It is said to occur in andesite, and averages 4.5' wide.
- (c) No. 2 Vein on Yum Yum claim no. S.94 is at 3940N, 8100E, striking about 120° and dipping 75° N. It has been traced 420 ft, with widths from 2 ft. to 6 ft. by pits and stripping. The vein material is quartz and felsite.

(d) No. 3 Vein, which is mostly on claim no. D.204, can be seen on Yum Yum claim no. S.94 at 6900E, 4050N. It strikes about 120° and dips 76° N. This is reported as one of the best veins on the old location and has been traced half a mile, with widths from 2 to 5 feet. A 6' by 12' shaft, 86 feet deep was sunk on the hanging wall 33 feet N. of the outcrop.

(e) No. 4 Vein can be seen at 7780 ft. E.3350 ft. N on Yum Yum claim no. S.94. It was considered one of the best on the property in the old days, and has a 9' pit 8' by 8' sunk on it from which 50 tons are reported to have been taken for a mill run. It is a felsite dyke, and has been traced 500 ft. with widths reported up to 12 and 14 ft.

(f) No. 5 Vein occurs just N. of the Boundary of K.32454 at approx. 5500E, 3250N. It is traceable for about 100 ft. and is from 1 1/2 to 3 ft. wide. It strikes about 110° with a vertical dip.

(g) Miner's Vein on the lakeshore of Miner's Bay on claim no. K32456 (formerly K9678) at 8350E, 1890N is exposed when the lake water level is low. It strikes about 100° and dips 80° N. It is a quartz vein with widths up to 5 ft., mineralized spasmodically with sphalerite, chalcopyrite, galena, and pyrite, and assays erratically up to 0.25 oz. Au per ton.

(h) B Zone occurs on claim no. K31936 at 3900E, 6320N. It is a fractured arsenopyrite zone striking 80° dipping vertically. A 5' by 8' pit has been sunk on it to a depth of 8 ft. in andesite, and assays up to 0.1 oz. Au per ton have been obtained. Widths appear to be less than 3 ft.

(i) Q Zone occurs on claim K31936 at 3270E, 6600N, striking 30° and dipping steeply to the East with widths up to 5 ft. It is a silicified zone, heavily mineralized in places with sphalerite, chalcopyrite, pyrrhotite, pyrite and galena, in a descending order of importance, in diorite hostrock. Assays have been obtained up to 0.36 oz. Au per ton, although most assays are very low.

(j) P.E.H. Grab Sample near South boundary of K31936 assayed from \$3.85 to \$4.99 per ton. This was not definitely relocated, but is thought to be an old rock pit 5' by 7' deep at 3350E, 5760N. It consists of quartz stringers striking 40° and dipping steeply to SE. It may be a southern extension of the Q Zone.

(k) A Quartz Vein reported by M.Y. Cameron of Kenora near the middle of claim S.185 was not relocated during this survey. His father's diary is reported to describe it as assaying \$9 across 12' or \$12 across 9'. There are other rumours of its existence.

(l) Tom Johnson's N-S Shear Zone reported to have panned gold and assayed grab \$4.20 au per ton, near the NE corner of S.185. This was not definitely relocated during this survey, but may be important, as it lies on the approximate NW strike of the Cedar Island (Cornucopia) vein system.

(m) Sirdar zones A, B, and C on claim no. K32667. Here 3 parallel gold-bearing mineralized zones strike 17° on the average. They are siliceous, and are believed related to a tongue of medium-grained quartz-felspar porphyry. This porphyry is believed to be a tongue intruded from the Canoe Lake granite batholith at the narrows between Clytie and Bag bays southwestward. Although this porphyry near

near the showings was only exposed by our trenching, stripping and diamond drilling, similar tongues are well exposed along the shore of Shoal Lake a few hundred yards to the northwest. The mineralization is pyrrhotite (very magnetic), sphalerite, arsenopyrite, pyrite, galena and chalcopyrite in this descending order. Assays have been obtained here as high as 0.72 gold per ton with 7.46% zinc and 0.10% nickel.

Outcrops are very scarce in this area, so our exploration of this zone is very incomplete. However, three holes were drilled here with disappointing results, but one of these holes should perhaps be deepened in the future (No E-5). Geophysical and geological surveys should also be performed in this area, as well as saturation prospecting.

Diamond Drilling:-

<u>Hole No.</u>	<u>Hole Strike</u>	<u>Hole Dip</u>	<u>Slope Length</u>	<u>Claim No.</u>	<u>Co-ordinates of Collar</u>	<u>Remarks</u>
E-1	287°	-39°	264'	K.32667	29°W, 1400°S	To test Sirdar 'A' Zone and low ground to the west of Pit A-4
E-2	120°	-45°	204'	K.31936	3240°E, 6600°N	To test Q' Zone and the draw to its east, under northernmost showing.
E-3	120°	-50°	53.5'	K.31936	3227°E, 6549°N	To test the Q Zone under the southernmost showing, i.e. 51 ft. S. of hole E-2
E-4	287°	-60°	101'	K.32667	0°E, 1445°S	Sirdar Zone Hole wholly porphyry.
E-5	107°	-45°	108'	K.23667	85°W, 1500°S	This hole should be deepened to intersect Sirdar Zones B and C.

Total 730 feet.

References

- Ont. Dept. of Mines, Annual Report 1898, Part 1, pp. 49-54
- Plan of Mining Location S.94 (Yum Yum) by Ont. Land Surveyor, Edmund Seager, 19 Aug., 1896
- Plan of Mining Location S.185 (337 acres) by Ont. Land Surveyor, Edmund Seager, 5 Jan., 1897.
- Geological Report and Map No. 39K by W.L. Greer, Ont. Dept. of Mines Annual Report, 1930, part 3 - "Shoal Lake Area."
- Geological Sketch of Shoal Lake Area by P.K. Hopkins, 1932 and 1947 - 1" = 1000'.
- Claim whiteprint of "Shoal Lake Area" by Ont. Dept. of Mines, Feb. 23, 1960, No. N.2339. 1" = $\frac{1}{2}$ Mile.
- Hydrographic Map of whole area of Lake of the Woods No. 6201, Surveys and Mapping Branch, Dept. of Mines, Ottawa, 1960
- Hydrographic Map of N.W. portion of Lake of the Woods (Shoal Lake) No. 6204, Surveys and Mapping Branch, Dept. of Mines, Ottawa, 1960.
- Claim Whiteprint of Glass Twp. No. M.2127, by Ont. Dept. of Mines.
- Claim whiteprint of Snowshoe Bay, No. M.2704, by Ontario Dept. of Mines.
- Claim Whiteprint of Shoal Lake, No. M.2339, by Ont. Dept. of Mines 26 May, 1961, (water claims only).
- Forest Resources Inventory Maps No. 495944 and 495951, Ont. Dept of Lands and Forests, 1" = $\frac{1}{4}$ Mile.
- Topographical Map of Kenora, 1" = 4 Miles, by Dept of Mines and Resources, Ottawa.
- Vertical Air Photos, 1" = $\frac{1}{4}$ Mile, Nos.
49-4928-21-47 to 53
49-4927-20-168 to 175
49-4926-20-41 to 47
49-4925-19-144 to 149
by Ont. Dept. of Lands and Forests.
- Photo-Interpretation Report on Hopkins' Shoal Lake Property by W. Walker, geologist, May 21, 1961.
- Annual Report of Duport Gold Mines Ltd., 1957.

Conclusions:

1. The Lake of the Woods section of Kenora district in general, and Shoal Lake in particular, are known to contain many gold deposits. Although some geologists believe that erosion in this area has been so extensive as to have left only the roots of large gold lodes in the Precambrian hostrocks, this writer believes that the best place to seek orebodies is in an area where gold deposition is widespread.
2. Duport Gold Mines Limited holds a large water property in Shoal Lake, immediately west of this Hopkins-Heintzman property. Diamond drilling from the ice, and limited underground work from a shaft on the small Ceron Island and three levels, has already indicated a quarter million tons of massive arsenical sulphide type ore averaging 0.41 ounces gold per ton. The ore occurs in lenses, but metallurgical problems as well as the danger of poisoning Winnipeg water supply have delayed production.
3. The strike of the Duport ore zone is NE-SW and strikes directly towards the Hopkins-Heintzman property.
4. To date gold associated with arsenopyrite has been found in two places on your property -- the DE zone on the Yum Yum and the Sirdar zone on K.32667. Although there are many small auriferous quartz fissure vein deposits known, they are felt by this writer to be secondary importance. It is felt that there is a good chance of developing economic deposits of arsenical gold orebodies on this property, either as a continuation of the Duport, or as distinct but similar deposits.
5. These sulphide zones are easily detected by geophysical methods, particularly Self Potential.
6. There are two gold deposits on lot S.185 that were not located by this writer, either one of which might be very important.
7. Further exploration of this large property is warranted, by means of geophysics, underwater prospecting by skin-divers and diamond drilling.

Recommendations

It is recommended by the writer that:-

1. A grid of picket lines be out at 200 ft. intervals across the Sirdar section of the property, preferably in the winter, so that the lines may be extended on the ice over the lake portions of the property.
2. At least the ice section of the property be surveyed by the Self Potential method using V.P. equipment. The land section could be left for the following summer.
3. The Sirdar section be geologically mapped and prospected in detail.
4. The following diamond drill holes be bored:
 - (a) 3 short holes on the E-D arsenical zone on S.94 (Yum Yum), as per sketch.
 - (b) 3 short holes on the Miner's Zone as per sketch.
 - (c) Hole B-5 be deepened 200 feet to intersect Sirdar Zones B and C.

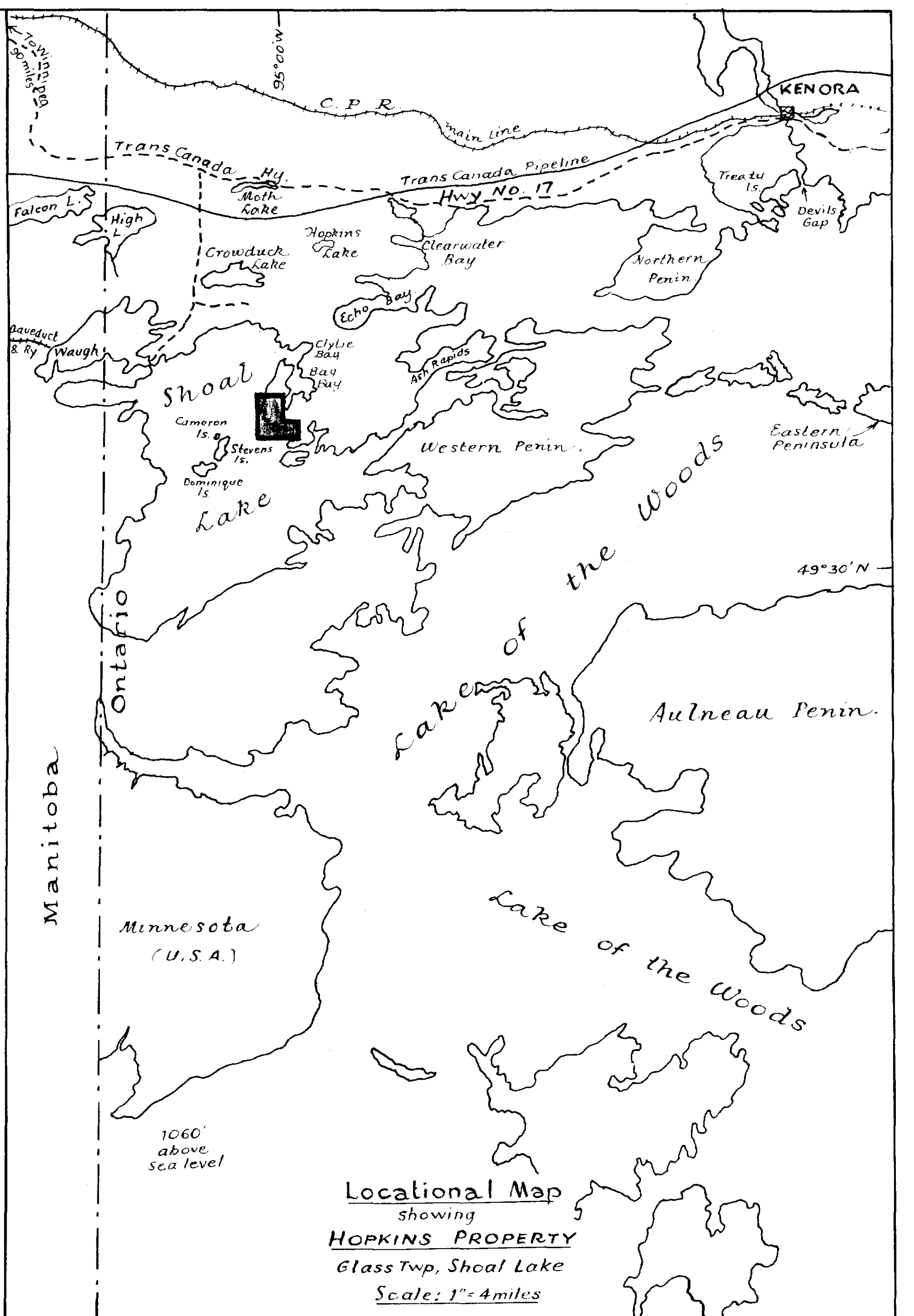
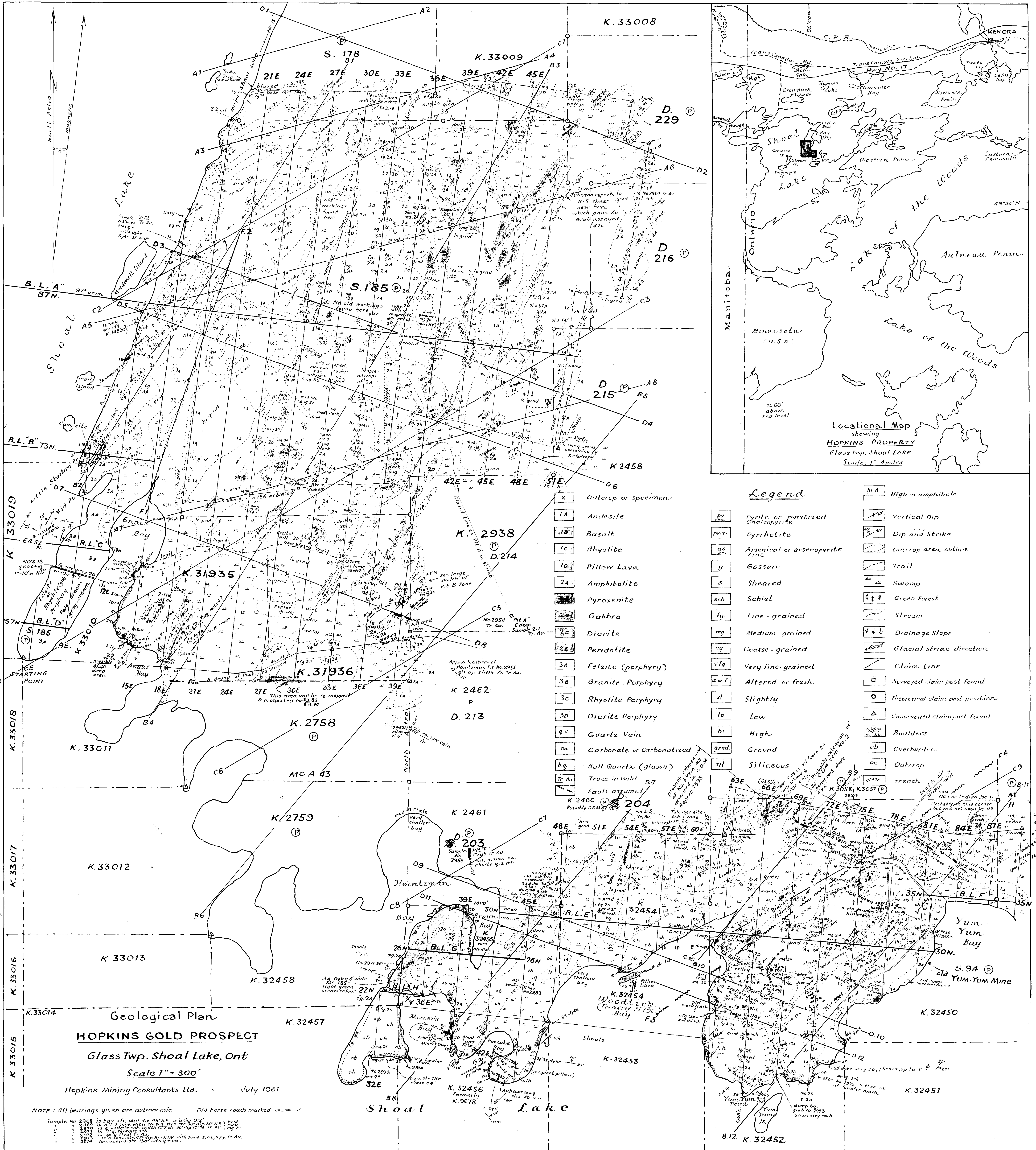
Further drilling would depend on the results of the preliminary drilling, the geophysical and geological surveys, and the prospecting.

All of which is respectfully submitted,

Toronto, Canada
18 Sept., 1961

Albert Hopkins, B.A. Sc.
Consulting Geologist.

Albert Hopkins



NOTE: All bearings given are astronomic. Old horse roads marked

Sample No. 2968 is bay str. 140° dip 45°NE, width 0.2' host
 2969 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g
 2970 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g
 2971 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g
 2972 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g
 2973 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g
 2974 is g. felsite ch. width 0.2' str. 30° dip 70°SE Tr Au mg 2g