

# GM 18670

PRELIMINARY REPORT ON THE OPAWIKA LAKE AREA

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Énergie et Ressources  
naturelles

Québec 

PRELIMINARY REPORT ON THE OPAWIKA LAKE AREA  
NORTHERN QUEBEC.

Ministère des Richesses Naturelles, Québec  
SERVICE DE LA  
GÉOLOGIE ET GÉOLOGIE TECHNIQUE

Report to - Mr. A. F. Brigham.

Date:

No

GM-1670

Situation - The area is about 125 miles north of north east of Senneterre on the C. N. R., the boundaries being described as follows: Starting from the point where the 49 deg. 30 min. of north latitude intersects the 76 deg. west meridian for a distance of eight miles in a direction S62½ deg.W; thence for a distance of 50 miles in a direction S62½ deg.W; thence for a distance of 25 miles in a direction N62½ deg.E; thence for a distance of 50 miles in a direction S27½ deg.E; thence for a distance of 17 miles in a direction S62½ deg.W. to the starting point.

Accessibility - Three water routes give access to Opawika Lake.

1. Take the Bell River from Senneterre to the Mattagami Lake and from there the Waswanipi and Chibougamau rivers. There are 15 portages and many rapids which can be run or poled. This route is 250 miles long.

2. Leaving the Bell River at the Wedding River, go to the head of the Wedding River into Waswanipi Lake and up the small river which empties into Waswanipi Lake in the south east corner. This route leads through two small lakes not shown on the Nottaway sheet into Opawika Lake. This route is about 170 miles long and except for rapid water in the Wedding River is probably the best route.

3. Take the Bell River at Press, crossing the divide into the Wetetnagami River, and through Lichen Lake into Opawika. This is the most direct route but there are over 25 portages, and should not be attempted except in high water.

Physical Features - The area is traversed in an east and west direction by two large rivers, the Maikasagi and the Chibougamau, and by two chains of lakes.

The elevation is between 660 feet and 1000 feet above sea level, generally rather flat looking, interspersed with sand and rock ridges. A few gabbro knolls and ridges relieve the monotony. These are especially noticeable in the area between the Chibougamau and the Maikasagi rivers and extend eastward for many miles.

Economic Conditions -

Timber: The country around Opawika Lake is well wooded with spruce, birch and poplar. The size is generally around 6 inches to 10 inches, but occasional trees are found considerably larger than this. Scrub cedars are common around the lakes. Jack pine are almost unknown. This is the largest unburnt area for many miles around. Most of the

ridges have been burnt several times, the last fire occurring probably four years ago.

Overburden: Sand and gravel ridges are common south of the Chibougamau River extending in a south west direction. In the central and northern part there are more outcrops although spruce swamps are fairly frequent.

Water Powers: The largest and most easily developed power is at Kiask Chute on the Bell River. This is 65 miles south west of Opawika Lake. About 5000 horse power could be developed on the Opawika River at Sturgeon Falls.

Geology -

The probable time relationship is based partly on contact phenomena and partly on the physical state of the rock.

Keewatin: Ellipsoidal and spherulitic basalts, andesites, altered diabases, rhyolites and probably hornblendite. The rocks are found in all stages of alteration, and in places are intensely carbonated and silicified.

Laurentian: Granite and possibly granite porphyry. The granite is a coarsely crystalline, light pink rock generally containing a considerable quantity of biotite mica. The granite porphyry is a quartz feldspar rock with minor amounts of the ferro-magnesium minerals. The quartz eyes are up to  $\frac{1}{4}$  inch in diameter in a coarse-textured mass of feldspars. The rock has usually been much schistified and altered. It occurs as dykes from six inches to several chains in width. No quartz veins, which might indicate an excess of silica, were noticed in any of the dykes.

Temiskamian: Slate, greywacke, a siliceous banded rock resembling rhyolite, and possibly some fine conglomerate which now resembles a quartz or granite porphyry. On the south shore of Opawika Lake, the greywackes and slates are interbedded with and conformable to the siliceous, banded rock, and these all seem to be interbedded with a coarse granite porphyry. This would lead one to think that this rock and perhaps all similar rocks in the vicinity are conglomerates. However, further west this rock occurs as narrow dykes in the greenstone, both rocks being greatly folded. Moreover, in one place it appeared as though the slate and greywacke had been deposited on the porphyry, the slate containing small fragments of the porphyry. If this is true and we are right in the assumption that the slates are of Temiskamian age, then the porphyry must be Laurentian. However, a minor unconformity might explain this phenomenon.

Algonian: Red syenite and grano-diorite. The red syenite is a fresh-looking rock consisting mainly of feldspars with very little quartz or ferro-magnesium minerals. It encloses greenstone and

diabase fragments and has altered the surrounding rock to a hard felsitic greenish to reddish type with prominent feldspar phenocrysts. The grano-diorite is a narrow dyke with a few outliers, consisting of quartz phenocrysts and feldspars with considerable chlorite. The contacts are schistose, and the outcrops have a leached-out appearance.

Matachewan: Diabases and gabbros. These rocks are fresh-looking, and form the more prominent ridges of the district. In the Lichen Lake area and also in the area to the north east between the Maikasaga and Chibougamau rivers, granite dykes were seen cutting the gabbro. Diabase dykes were also seen cutting both the gabbro and the granite. It may be that there are gabbros and diabases of several ages, or the acid and basic rocks may be differentiation phases from a common magma in one period of activity.

Dynamical Aspects:

1. Folding. The only definite evidence of folding is in the south west bay of Opawika Lake where the greenstones and porphyry are intensely contorted. The attitude of the slates would also indicate post Temiskamian folding.

2. Faulting. Small faults having a vertical dip and a north and south strike occur in the gabbro. The west side has been dragged to the south.

3. Schisting. Most of the rocks show some signs of schisting. The greenstones on the south side of Opawika Lake are highly schistose. A fair amount of schisting was also noticed at several points in the band of greenstone east and west of Puskitamika Lake, and in the greenstones north of the Chibougami river.

Economic Aspects:

1. Mineralization. All the rocks with the exception of the grano-diorite show scattered mineralization. However, only the greenstones and gabbro show any concentration. The greenstone, especially in the south west corner of Opawika Lake, is well mineralized with pyrite and chalcopryrite, disseminated and in bunches. The best of these is on Lichen Lake near the narrows to Opawika Lake.

2. Veins. Small irregular quartz veins occur sparingly in the greenstones and sediments. They are generally quite barren. Larger veins containing some mineral are described on the attached assay sheet. Other veins were noticed from the air north and west of the extreme west end of Lichen Lake, and in the greenstones about one half to one mile south of the west end of Puskitamika Lake.

Remarks on the Organization of the Work-

The party consists of eight men which has been divided into four groups of two men each. The headquarters party is prospecting the ground around Opawika Lake. Number One party is working eastward, first prospecting the ground around the two small lakes just east of Opawika and later traversing northward from the east end of Lichen Lake. Number two party has examined the Opawika and Waswanipi rivers, and are now working on the chain of lakes to the north, starting on the western end. Number Three party has examined the ground around the two small lakes just west of Opawika Lake, and are now working south west along the west end of Lichen Lake.

The plane hired from the Western Canada Airways at Hudson is charged for at the following rate:

Transportation, flying Hudson to Senneterre  
and return -----\$40.00 per hr  
Flying done at Senneterre ----- 60.00 per hr  
Rate for machine -----300.00 per wk  
For period extending over one week----- 50.00 per day

The uses of a plane are great on this work, but if it should ever be thought advisable to buy one, slight alterations should be made to the Fokker. The observer should sit either in front of the pilot or he should have some method of examining the ground immediately in front of and below him. Also, the plane should be fitted with a camera.

Conclusion- An examination of the area from the air lead to the conclusion that the areas south west and north east of Opawika Lake have as favourable a formation as the area around Opawika Lake, and due to the large burns are easier to prospect. Several veins were seen in the country south west of Puskitamika Lake.

Sample  
Number

D E S C R I P T I O N

Value  
Gold    Silver

Sample Number	Description	Gold	Silver
131	Chalcopyrite and iron pyrite occurring near the north contact of a gabbro intrusive, pt. 231 Lichen Lake. Iron cap approx. 10" wide and traced for thirty feet into lake and overburden. Mineralization minus the chalco occurs across the bay 6 chains south. There appears to be neither break nor vein.	Trace	Nil
290	Chalcopyrite and iron pyrite occurring in a carbonate seam 3" wide traced for twenty five feet into water and overburden. The rock is greenschist with inclusion of banded material which is also mineralized in spots. Occurrence is at east end south shore of Opawika and is near a granite Porphyry contact.	Tr	Nil
264	Chalcopyrite with copper stains occurring in a seam being the contact between green schist and granite porphyry, at west end of Opawika.	.80	"
244	Quartz stringers with iron pyrite and a little chalcopyrite occupying fractures therein. Occurrence appears to be a series of small quartz strcs cutting the basic schist at a slight angle. Width or length not known, but width appeared to be roughly 8' at least. Located three miles west of Opawika.	Tr	"
213	Rusty basic schist band 4' wide in chloritic south shore east end of Opawika. Pt. 174.	"	"
275	Rust quartz vein in granite porphyry. Pt 198 west outlet of Lichen Lake.	"	"
242	Rusty schist with small quartz str in intensely schist-ed chlorite schist. Pt A S-W corner of Opawika.	"	"
150	Iron cap or lenses of mineralized carbonate rock in green schist Pt A S-W corner of Opawika.	"	"
139	Mineralized diabase at contact with granodiorite(?) a few chains north of sample 275. Pt 206.	.40	"
185	Quartz str. in basic schist and granite porphyry. Pt. 112 half way between two outlets of Lichen Lake on south shore of Opawika.	Tr	"
354	Mineralized basic schist and small quartz strcs. Pt. 79 approx 20 chains north of number 139.	"	"

## Grab Samples

NumberD E S C R I P T I O NValue  
Gold Silver

<u>Number</u>	<u>D E S C R I P T I O N</u>	<u>Gold</u>	<u>Silver</u>
183	4' quartz str slightly mineralized with iron pyrite; $\frac{1}{2}$ mile N-W of falls on Porphyry creek, Waswanipi River.	Tr.	Nil.
179	3 $\frac{1}{2}$ ' quartz vein very slightly mineralized with iron pyrite right bank Waswanipi River East of Camp. (3)	"	"
164	Angular qtz float fairly well mineralized (4) left Bank Waswanipi River near camp.	"	"
154	Qtz carbonate vein in places fairly well mineralized with iron pyrite and hematite? Left Bank of Opawika River below first falls or rapids.	"	"
266	A mineralized por rock near an intrusion of red syenite it appears fractured with mineral more or less concentrated in the fractures which in places cut the feldspar phenocrysts. North side of the large is. Opawika Lake.	"	"
177	Strong qtz vein, barren except for localized mineralization West of Lichen Lake and south of Lake No.1	"	"
270	Same location as 244.	"	"
138	Qtz str in andesite? Sl mineralized andesite hill S. Lake No.1.	"	"
10	Sample of stringers and fairly well mineralized silicified schist from West side of Opawika River, $\frac{1}{2}$ mile below Opawika Lake. Mineralized material about 6 feet wide.	"	"
11	Float from same locality as #10, showing galena.	"	"

MSP:  
Aug. 15/1927.