

# RP 108

ADVANCE REPORT ON THE JOSSELIN - DELESTRE MAP AREA, ABITIBI COUNTY

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Énergie et Ressources  
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Québec 

108- Région de Josselin-Delestre, Comté d'Abitibi, par  
H.M. Bannerman

(Ce rapport n'a pas été traduit en français,  
voir la version anglaise).

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Advance Report on the Delestre-Josselin Map-Area

by

H. M. Bannerman

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Abitibi County, Que.

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Field work was commenced on June 20th, continued until Sept. 28th. During this time the entire township of Delestre, all of Josselin except a small part of the northeast corner, and a strip from 2½ to 3 miles wide along the eastern boundary of Ducros and Bartouille townships were mapped geologically, - a total area of just over 200 square miles. In the course of the work, hitherto unmapped water routes were surveyed in Josselin, and other information of geographic interest was gleaned from various parts of the area.

The bed rock of the area was found to be conveniently divisible into three groups: a series of schistose lavas and associated sediments commonly referred to as "Keewatin"; and a number of remarkably fresh diabase dykes which cross cut the folded structures in each of the former groups.

The members of the "Keewatin" group extend southeasterly across the central part of Delestre township, underlie the western and northern part of Ducros and the eastern part of Bartouille, so far as examined, and swing northeasterly across the northwestern portion of Josselin. In Josselin the

the boundary between these schistose rocks and the gneisses lies approximately along a chain of northeasterly trending lakes. The group is composed mainly of andesitic lavas with interbedded tuffs intercalated with which are narrow bands of rhyolite and acidic tuffs and restricted bodies of rocks originally of argillaceous composition and cherty iron formations. All are highly altered; most of them strongly schistose.

Two bodies of the gneiss occur. Both are intrusive into the schists. One body of gneiss occupies the southeastern part of Ducros and southwest part of Delestre. It is grey to pink in colour, strongly gneisses, in places cataclastic, but noticeably banded; contains considerable quantities of epidote along with biotite as its ferro-magnesian constituent. The other body underlies the northern part of Delestre and southeastern half of Josselin. It is essentially a biotite gneiss, very variable in appearance, but mainly a drab grey rock strongly banded, and riddled with anastomosing dykes of pink pegmatite and aplite. The banding in this gneiss is in many localities unmistakably inherited. In large part the rock is hybrid, and the variance in its appearance from place to place ostensibly inherent upon the type of primary rock from which it was derived. The fold structures within this body of gneiss correspond precisely with those on the members of the "Keewatin" series, which are found to bound it on the three sides determined.

Structurally the schistose and gneissic rocks compose a rather broad anticlinorium with a plunge toward the west.

Strong fracturing and minor of setting in a northsouth direction and again in a northeasterly direction suggest the presence of faults of some significance, but the absence of outcrops within the proximity of formations that can safely be used as horizon markers render it difficult to delineate fault zones on the map.

The diabase dykes of group three are fresh. They trend northeast and east northeast; are sharply chilled against the older rocks; and range in size up to 300 feet in width. They hold up many of the high ridges on the area.

Glacial movement across this area was in a direction South 10 to South 20 West. Deposits of glacial and post-glacial origin cover a great percentage of the county. Much of the cover is composed of sand and muskeg but some areas of sandy clay, sandy boulder clay, and narrow bands of flood plain material, marginal to the rivers, occur which support a varied vegetation and are amenable to cultivation.

#### MINERAL DEPOSITS.-

Large deposits of pyrrhotite with some pyrite occur in association with banded iron formation on lots 27-8, Range 1, lots 25-26, Range 5, and on the small island just south of Wigwam Isl., Delestre township, and lots 71-2, Range 7 and lot 61, Range 9, Ducros township. These sulphides replace the iron formation and associated schistose rocks, but in the main they lie stratigraphically at the base of the iron formation. So far as observed they do not carry appreciable quantite of copper, and tests made by the Que. Bur. of Mines upon samples selected from

these deposits by the writer, failed to obtain more than traces of gold or silver.

Other rather extensive bodies of sulphide, - mainly pyrrhotite occur on lot 63, range 3, Bartouille township. These are emplaced in rhyolite tuff and siliceous sediments. They were subjected to drilling by Mining Corporation some 5 or 6 years ago, but are said to have failed to show values in either the precious or the base metals.

Another deposit of sulphides that has been accorded considerable attention is located near the portage on Josselin creek, (near the confluence of this creek with Bell River). It is composed mainly of pale coloured pyrite which replaces, and parallels the foliation in andesite. Macroscopically it shows no trace of copper. It is said by the owner to have yielded low values in gold.

Entirely similar deposits, though not opened, were observed in the carbonated andesites and tuffs in northwestern Josselin. None of the samples selected by the writer and tested by the Bureau of Mines yielded other than traces of precious metals however.

Small quartz veins are fairly prevalent in various parts of the area, and some veins of 5 to 6 foot widths were observed. Most of them are white glassy barren-looking quartz, seemingly of no commercial value. There are demonstrably older than the regional deformation. Others occur which can be shown to post-date the gneissic rocks, - some of which carry small quantities of carbonate and pyrite, - but none of those tested yielded interesting values in gold or silver, nor would they show colours when powdered and panned.

A map and report covering the results of this work in greater detail is in process of preparation.