See McHughen Lake

GOLD-COPPER PROSPECT OF THE BURWASH LAKE AREA

DISTRICT OF SUDBURY

By E.L. Evans

INTRODUCTION

The occurrence of mineralized quartz veins around Burwash lake was first reported in 1928 to J.J. McHughen and Alex. Bailey of Sudbury by A.V. Claus, a trapper on Burwash lake. That fall McHughen and Bailey staked a total of eight claims around the showings. They were forced to drop these claims in 1930 through lack of funds. No further work was done on the claims until 1938 when J.J. McHughen, A.Grant, and J. Sykes of Sudbury visited seven of the eight original claims. Lawrence L. Rodman of Sudbury staked four adjoining claims in 1939, one of which he dropped. In 1940 Rodman staked four additional claims. McHughen meanwhile purchased the claims of Grant and Sykes in the fall of 1939. Six adjacent claims were staked by John Selamic and two by William Nicholson in the spring of 1940.

The McHughen Lake Gold Mining Syndicate was formed in the winter of 1940-41 composed of a number of men from Sudbury with F.P. Suszek, president; J.J. McHughen, vice-president; Edward Marinoff, secretary; and A.J. De Diana, solicitor. The titles of all claims, with the exception of the eight claims of J. Selamic, were transferred to the officers of the Syndicate.

Location and Means of Access

The claims covering the gold-copper prospect of the McHughen Lake Gold Mining Syndicate are located on the east shore of Burwash lake along both sides of the boundary line between

Cotton and Valin townships. Burwash lake is situated in the district of Sudbury and about twelve miles east of Thor lake station on the main line of the Canadian National railway. A local train running from Capreol to Foleyette stops at Thor lake on Mondays, Wednesdays and Fridays on the way out, and Tuesdays and Thursdays and Saturdays on the return trip.

A tote road of the Spanish River Lumber Company leads from Thor lake to Burwash lake. This road may be used for motor transport.

An alternative route is used by the members of the Ontario Forestry Branch who have a station on Burwash lake. This route leads from Raphoe station, on the Canadian National railway, through a series of lakes with short, well-cut portages between, to the south end of Burwash lake, a total distance of about twelve miles.

GENERAL GEOLOGY

The main zone of mineralization in the area is located in the granite. The area covered by claims, however, includes a small portion of the Huronian sediments. The general geology of Burwash lake, which will be dealt with only briefly here, has been adequately covered by W.H. Collins.[1] The following table of formations is modified from Collins to include only those rocks in the area covered by the present report. The 'batholithic intrusives' of Collins have been referred to the Algoman and the 'schist Complex' to the Keewatin.

[1] W.H. Collins; Onaping Map Area. G.S.C. Mem. 95, 1917.

Table of Formations

PRE-CAMBRIAN

Keweenawan(?) :	Diabase dikes.
	Intrusive Contact
Huronian - Cobalt Series :	Lorrain quartzite
	Gowganda formation
	conglomerate
Algoman :	Granite
Keewatin :	Schist inclusions in granite

Keewatin.

The Schist Complex of Collins occurs only as abundant inclusions in the granite in the area studied. These inclusions vary in size from a few inches to two or three hundred feet across. They are believed to be remnants of Keewatin volcanics stoped off by the invading magma. The inclusions are for the most part highly altered to chlorite and hornblende schists with none of the original structures preserved. Many inclusions have angular outlines and sharp contacts with the granite. The majority, however, reveal various stages of digestion by the magma up to, in extreme cases, irregular dioritic patches in the granites.

Algoman.

Fresh granite, unbrecciated or uncontaminated by schist inclusions is relatively rare. Where found, it is a medium textured pink granite composed of feldspar and quartz with a very minor amount of ferromagnesian minerals such as hornblende or biotite. The granite in most exposures appears to be brecciated.

Fractures cut it in all directions, separating angular fragments which average about two inches across. The surface of the granite weathers light pink and slight depressions along the fractures on the weathered surface reveal its fragmented nature. A broken surface of this granite is darker in colour than the normal fresh granite. A dark material has been deposited in the fractures cementing them, and has also penetrated the fragments leaving only small round areas with the original colour and texture.

Huronian.

Gowganda conglomerate occurs in a narrow fringe about 200 feet wide and 1,000 feet long on the east shore of Burwash lake. The contact of the conglomerate with the granite was observed in a number of places. The conglomerate consists of angular to rounded boulders and unsorted pebbles of granite in a dark-green fine-grained matrix. The granite boulders appear to be identical with the granite on which the conglomerate lies.

Lorrain quartzite occupies the greater part of two northeast claims and extends into a third. The quartzite forms a high ridge which is a landmark in the surrounding country. It is a light-green coarsely crystalline rock with small erratic conglomerate bands containing pebbles of quartz and jasper.

Keewenawan(?).

Diabase dikes are of frequent occurrence in the area. None of them attain a width of more than sixty feet, and the majority are twenty feet or less. Because of their small size they are generally fine-grained. A few, however, are porphyritic and contain light-green feldspar phenocrysts up to one inch across.

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ECONOMIC GEOLOGY

The main mineralized shear zone on the property of the McHughen Lake Gold Mining Syndicate has been traced for over 6,000 feet in a northeast direction from the camp on Burwash lake to the east side of McHughen lake. The shearing has been exposed at intervals by stripping and trenching. It strikes consistently N. 0° - 42° E. and dips at high angles to the southeast. The width of the shear zone varies from five to twenty feet and averages about eight feet.

The shear zone was observed only in the granite or where it cuts across schist inclusions. It is filled with angular fragments of granite, light-grey fine-grained material, and in places chlorite schist all cemented with an intricate network of quartz veinlets ranging from a fraction of an inch to a foot in width. No continuous quartz veins were observed. Drusy cavities lined with tiny quartz crystals and in a few places sulphides, are common in the quartz.

The whole zone is heavily mineralized with sulphides which have partially replaced both granite fragments and schist. In many places small lenses of massive sulphides are present.

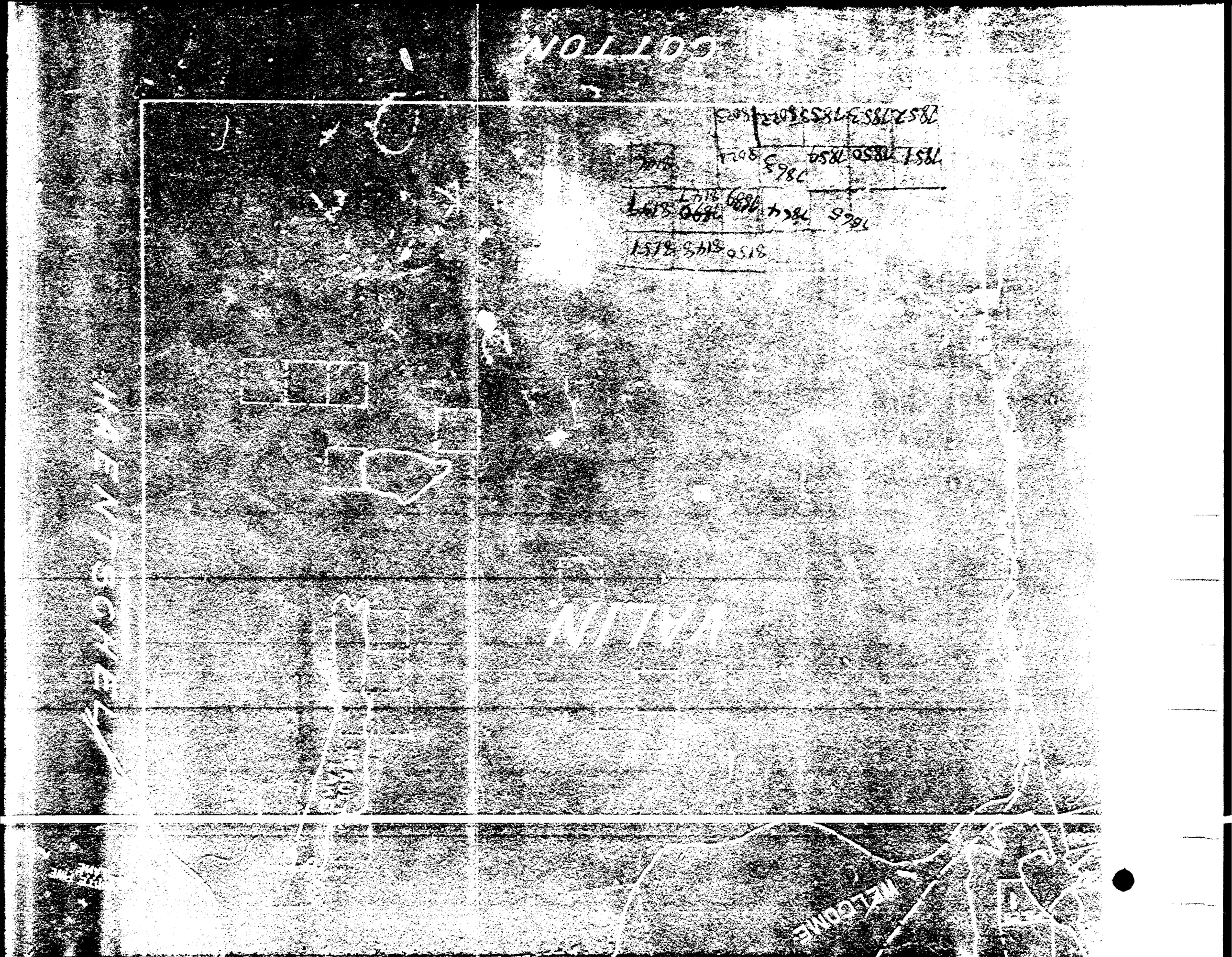
The main sulphides are pyrite and chalcopyrite with minor amounts of galena. The texture of the pyrite and chalcopyrite appears much coarser where they have replaced the granitic material. The schist is replaced by fine-grained sulphides which preserve the schistose structure. The pyrite has been badly fractured so that no well formed crystals can be observed.

The upper five feet of the deposit has been badly alt red by weathering. Both sooty and blue chalcocite occurs wit the chalcopyrite and pyrite in this zone. Native copper has been reported but was not seen by the writer.

Small carbonate veins up to two inches wide occur along the edges of the shear zone. These are reported to carry a lit tle native silver.

A second shear zone was located in two pits about 2,(00 feet southeast of the camp on Burwash lake. This shear zo e strikes N.135°E. and may intersect the main shear zone. Th zone is about five feet wide and does not appear to be heavily mi eralized. Very little work has been done on it up to the pr sent time.

June 16, 1941


NOLLOS

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BURWASH LAKE

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COTTON

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