

WEST SHINING TREE GOLD AREA*

By R. B. Stewart.

Late in May, 1912, the writer was instructed by the Provincial Geologist of Ontario to proceed to West Shining Tree and continue the examination of that area made during September, 1911. Mr. Dowler Freeman served as assistant.

Transportation facilities have improved during the year. The regular train service on the Canadian Northern railway has been extended to Ruel, sixty-six miles from Sudbury. Two dams were built in the fall of 1911 on the Opickinimika river in order to deepen its shallow portions. This enables small gasoline boats or pointers to run from Ruel to the north end of Allin lake, which is $1\frac{1}{2}$ miles from West Shining Tree lake. Mr. Thomas Clemow, of Ruel, had two boats on the route during the season, giving a tri-weekly service to West Shining Tree lake.

A wagon road will be built during the coming season into the area from mileage 80 on the Canadian Northern railway.

Mr. John Moore, of Sudbury, has established a general store and accommodation for travellers on the south side of West Shining Tree lake. In September, a post office (Tungsten) was established at the store with Mr. Moore as postmaster.

During the year considerable development work has been done. Assessment work was performed on a large number of claims, and a number of the most promising properties and adjacent holdings have been surveyed. In several places, shafts 20 to 50 feet deep have been sunk, and in other places open cuts have been made, chiefly on properties under option.

Geology of the Area.—The rocks of the area are chiefly of Keewatin age. They consist of ellipsoidal basalts, altered diabases, amphibolite and hornblende schist. The ellipsoidal rocks predominate. Small areas of quartz porphyry, syenitic porphyry and felsite resembling rhyolite are also present.

A schistose structure exists in most of the Keewatin, but is most pronounced in narrow shear zones that have a general east-west trend, and the developed schists dip nearly vertical. Ferruginous calcium and magnesium carbonates are present in much of the schist.

A lamprophyre dike cutting the older Keewatin rocks was observed on the boundary between Churchill and McMurchy, about 20 chains from the southwest corner of the latter township.

Numerous dikes and small areas of fresh quartz and olivine diabase are found in the area. The diabase dikes intrude all other rocks, and also cut the gold-bearing veins.

Auriferous Quartz Veins.—A large number of quartz veins occur in the Keewatin rocks and many of them contain visible gold. Most of the veins are in the ellipsoidal basalt, but two gold-bearing veins have been found in the hornblende schist.

The veins vary in width from 15 feet to a few inches, but most of them are less than 4 to 6 feet across in the widest parts. They present little uniformity in width. They pinch out or narrow to mere stringers in a few yards, then widen again or break up into

stringers. The dip of the veins is usually nearly vertical, but several dip at much lower angles—45 degrees or less.

Considerable variation is presented in the strike of the veins. Many veins occur in the east-west shear zones and conform in a general way to the strike and dip of the enclosing schists. Others having an approximate north-south strike occur in the more massive rocks.

Several irregular masses of quartz or quartz and schist occur. The largest one that has been found, so far, is on W.D. 1157. It is roughly 160 feet long and 60 feet wide.

The veins and adjacent country rock are usually well mineralized with iron pyrites. Specular hematite and barite are sometimes present. Much rusty decomposed material resulting from the oxidation of the pyrites and the decomposition of the ferruginous carbonates is almost invariably associated with the veins.

Several small areas of felsite and porphyritic syenite are found in the vicinity of the veins just east of West Shining Tree lake. The latter rock occasionally contains many stringers of quartz cutting it in a very irregular manner and sometimes veins of quartz 3 to 4 feet wide.

Gold occurs in many of the quartz veins and to a small extent in the enclosing schists. Much of the gold in the quartz is in a fine state of division, but nuggets several grains in weight are frequently found. Examination of several specimens showed that a large amount of the gold has been deposited along fracture lines in the quartz. The schist immediately adjacent to the veins appears to be impregnated with quartz to a certain extent, and contains some gold, but assays of several samples of schist taken in the vicinity of the veins do not indicate that the amount of gold in the schist is of importance.

Gold Claims.

Gosselin.—The mining locations, W.D. 1151-52 and W.D. 1155-56-57-58 and 59, are commonly known as the Gosselin claims. The first discovery of gold in the area was made on these claims. A mass of quartz about 160 feet in length and 60 feet wide occurs on W.D. 1157. Gold has been found in this outcrop. Just east of this quartz body is a vein 3 or 4 feet wide, striking about north and uncovered for about 100 feet. About three chains to the north of this vein is a mass of quartz 50 feet long and about 15 feet wide that contains some visible gold, and immediately east of here on W.D. 1175 is a mass of quartz extending 70 feet in a northeasterly direction and about 15 feet wide. Near the northern boundary of W.D. 1151 is a vein $1\frac{1}{2}$ to $2\frac{1}{2}$ feet wide, having an east-west strike and dipping to the north at about 45 degrees. Gold was observed in this vein. Another vein has been located southeast of this claim and extends into W.D. 1156. It has been traced for 8 or 9 chains. The vein strikes a little west of north and varies in width from a few inches to 15 feet. Gold was seen in several places. This is a promising looking vein.

A Duluth company had an option on the property early in the year. Surface work was carried on to determine the extent of the quartz bodies and these were

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