

Placer Gold from the St. Croix Dalles, Minnesota and Wisconsin

Is it worth taking a gold pan down to the St. Croix River? Residents of St. Croix Falls, Wisconsin and Taylor's Falls, Minnesota found it worthwhile, according to an article in the August 23, 1902 issue of the Engineering and Mining Journal. The author, Kirby Thomas, notes that the Dalles would experience "an annual scramble to search the crannies of the river bed when the river is low" due to the closing of a logging dam upstream. At the Dalles the St. Croix River has cut a deep narrow channel through basalt lava flows that were extruded over a billion years ago. This gorge now forms the scenic center of Interstate Park. As the river runs through the gorge, gravels wash into the crevices and joints in the rocky river bed. At low water these gravels could be dug out and panned, with the frequent recovery of "attractive nuggets and gold dust". The largest nugget was reportedly worth \$7.00. Given the price of gold in 1902, this probably weighed about a third of an ounce. Apparently the river gorge acted as a natural sluice box for the St. Croix sediments, gathering the denser minerals along the irregularities in the river bed. But where did the gold in the sediments originate? It could easily have been reworked from a gravel bed found just to the north of the Dalles.

Upstream from the gorge of the Dalles, the St. Croix River flows through a much wider valley where the bedrock is relatively soft shales and sandstones deposited in the Cambrian Period, between 500 and 550 million years ago. The river, in fact, is backed up into this part of the valley behind a natural dam of hard basalt bedrock that is exposed in the Dalles. River and glacial sediment was deposited in this dammed up area, acting as a natural settling pond. Thomas reports that gravel found at the boundary between these most recent sediments and the older Cambrian shales were gold-bearing. This gravel layer could be traced along the river valley for at least three miles north of St. Croix Falls. Thomas found that panning these gravels yielded "one to ten colors per pan". Apparently at least one miner exploited these gravels one winter, digging a trench 300 feet long and mounting a sluicing operation. The gold recovered was reportedly worth between \$1,200 and \$1,400, reflecting a yield of about 60 ounces of gold.

Such placer deposits are too small to be of interest to today's mining companies. In fact, even back in 1902, Thomas was uncertain that the yield was worth the effort. But today's rock hounds and week end prospectors may well find it worth while dipping a few pans of gravel. It is important to find a spot where the river or its tributaries are cutting down through the gravel layer Thomas describes. Unfortunately, many of these exposures have been covered by water after the building of the power dam at St. Croix Falls. Still, careful prospecting could well find some interesting spots to work.

It is thus likely that the gold trapped in the crevices of the basalt came from the gravel bed upstream. But where did the gold in that gravel bed originate? These gravels came from rivers and glaciers draining from the north. Thomas notes that gold was found as tiny flecks in gabbro found on property worked by the Federal Mining Company in southwestern Douglas County. More recently companies and individuals have explored for gold at many sites in Wisconsin and Minnesota. Both states have poorly exposed areas of complex volcanic and sedimentary deposits known as greenstone belts. These host rich gold deposits in Canada. Gold is known to occur in such deposits at both the Bend Deposit and the Flambeau Mine in Wisconsin. These are almost certainly the original source of the gold found in the St. Croix gravels.

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