

From the Mineral Inventory Files

The Hirschfield Pb Prospect: Is There an Eastville Connection?

For many years I've thought of the Hirschfield Pb prospect as an orphan without siblings. The prospect consists of a 230 m adit driven on two galena-bearing fissure veins along the south bank of the West River St. Marys 3.3 km west of Glenelg, Guysborough County (Fig. 1). How is it that such impressive veins are the only example of their kind in the Meguma Terrane? My recent field studies made me realize that there are actually several other base metal occurrences nearby that share a similar structural control.

Hirschfield was discovered in 1873 and by 1930 the adit and a 35 m crosscut had been excavated. A second 'upper' adit was driven off the first to meet the river bank 5 m above and immediately east of the main portal (see inset, Fig. 1). Total production appears to have been about 16 tons of galena concentrate. Since the 1930s the site has remained abandoned.

The two veins of argentiferous galena intrude metawacke of the Cambro-Ordovician Goldenville Formation. An east vein trends 160° and has a

maximum thickness of 15 cm. A west vein trends 130° with a maximum width of 21 cm. The west vein also has a 0.8 m thick, mineralized fault breccia along its west (footwall) margin. The veins consist predominantly of galena, although some carbonate and minor quartz also occur. Cerussite, a carbonate of lead, is also reported, and the galena contains up to 16 oz. Ag per ton.

The mineralized veins are found only along the first half of the 230 m adit. Beyond that the adit passes through barren metawacke until it enters a leucomonzogranite intrusion approximately 15 m from the end. Early workers considered this intrusion to be the source of mineralizing fluids but no subsequent work has tested this theory. It is interesting that extensional quartz veins intrude the granite and adjacent metasediments in the last 50 m of the tunnel.

Let's look a little farther afield. Figure 1 shows several base metal occurrences and stream sediment geochemical anomalies along the West River St. Marys. Marys Fault between Glenelg and Eastville. This fault is the southernmost su-

ture of the Cobequid-Chedabucto Fault Zone (CCFZ). Except for the Eastville deposit, little information exists for most of these mineral occurrences, but in almost all cases the base metal sulphides occur as smears on fracture surfaces and in fault breccia and gouge. In the last issue I discussed a possible structural control for Zn-Pb mineralization in the Eastville deposit. T. R. Stokes (1986, unpublished DNR data), in a structural study of the Eastville deposit, found that one of the two sets of sphalerite veinlets he recognized trended 173° and a series of quartz tension-gash veins trended 163°. These orientations coincide with the vein trend at Hirschfield and are consistent with an east-trending, regional scale fault zone like the CCFZ.

Could it be that mineralizing fluids, derived from granite plutons in the Liscomb Complex and farther east toward Glenelg, were channeled along fractures opened by movements along the CCFZ? Pervasive mineralization at Eastville could be due to the presence there of beds chemically receptive to the mineralizing fluids. These beds are absent at the other sites.

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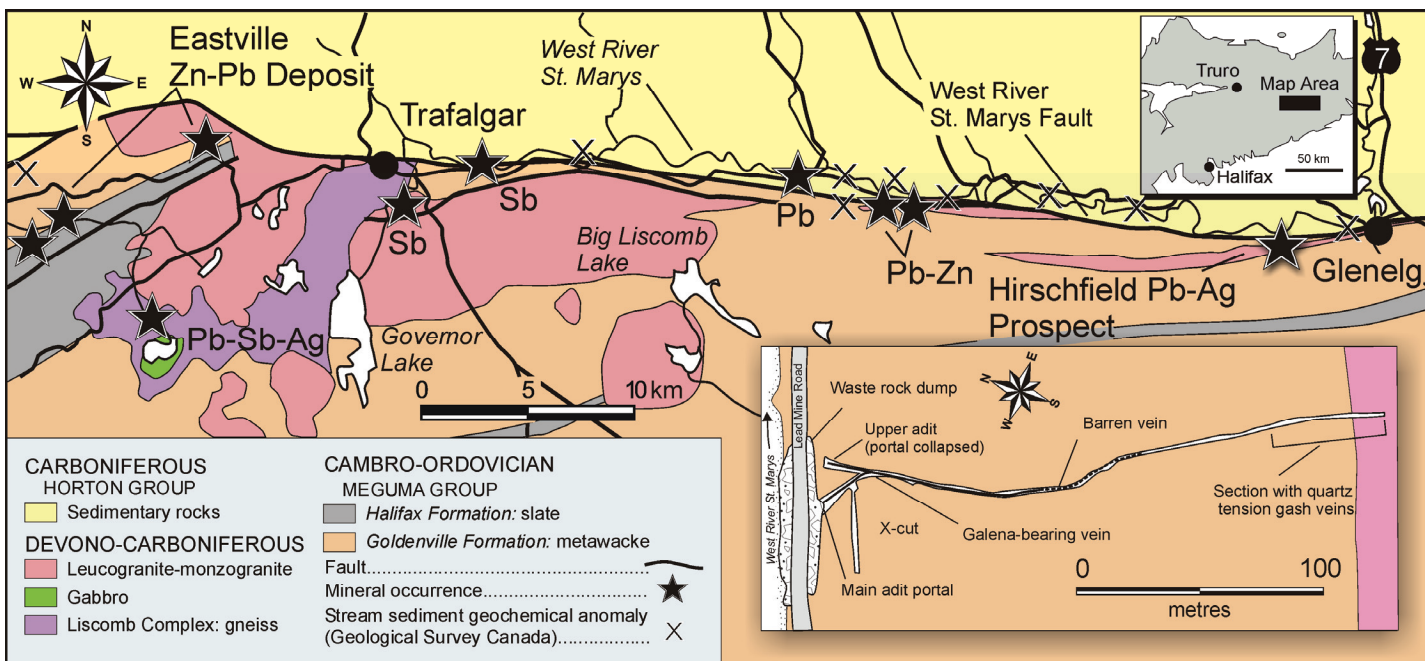


Figure 1. Geology, mineral occurrences and geochemical anomalies along the West River St. Marys Fault from Eastville to Glenelg.