

Nova Scotia Gold Grain Study: 2006 Follow-up Sampling

T. A. Goodwin

During the 2006 field season, ten 10 kg till samples were collected as part of the Nova Scotia Gold Grain Study. The study began during the 2004 field season and was designed to determine: (1) background concentrations of gold grains across the province, (2) anomalous gold grain concentrations and the associated dispersal pattern within a known gold district, and (3) the morphology of each of the grains recovered, which provides an estimate of the distance of glacial transport.

Gold grains recovered from till samples are generally classified into three categories: pristine, modified and reshaped. The distance of glacial transport from source can be estimated based on the gold grain morphology: pristine grains are indicative of minimal transport (ranging from 0-100 m), modified gold grains have travelled in the order of 500 m, and reshaped grains in excess of 1000 m. There are, of course, exceptions.

Samples from the 2006 field season were collected (1) down-ice from the anomalous 10 kg till samples initially collected in 2004 in the Beaver Dam Gold District (11E/02), and (2) near the Hillsvale vein system (11D/13 and 11E/04). All samples were collected from either roadside exposures or from small borrow pits. Sampling depths varied from approximately 1.0-1.5 m depth with a maximum sampling depth of 2.0 m.

The till samples collected in 2004 from the Beaver Dam Gold District were collected from one sample line extending approximately 1200 m down-ice from the Mill Shaft. The 2006 sampling involved the collection of an additional three samples down-ice from the southernmost sample collected in 2004, thus extending the line approximately 6000 m in the down-ice direction for a total length of approximately 7500 m down-ice from the Mill Shaft. One additional sample was collected approximately 6000 m up-ice from the Mill Shaft to establish regional background gold grain concentrations.

Five 10 kg till samples were also collected from the Hillsvale area in order to determine the local concentration of gold grains and their morphology. The Hillsvale area, discovered by Nova Scotia Department of Natural Resources geologists during the 2004 field season, is characterized by a series of bedding-parallel quartz veins. Limited sampling in 2004 of the quartz veins and till failed to reveal any significant gold concentrations.

All samples have been forwarded to Overburden Drilling Management Limited (ODM) of Nepean, Ontario. ODM will process the samples, and recover, count, and classify the gold grains according to their morphology. Results from these analyses are not yet available.