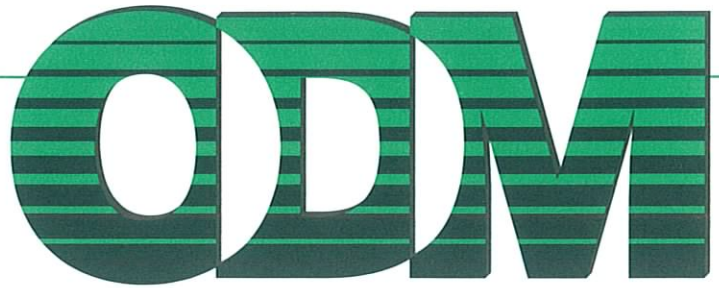


EXPLORING HEAVY MINERALS



June 22, 2010

Mr. Donald Elsenheimer:
Minnesota Department of Natural Resources
500 Lafayette Rd
St. Paul, MN
55155-4045 USA

Dear Mr. Elsenheimer:

Re: High Resolution Images of Toroidal Gold Grains, Bigfork Lake Area, Minnesota

As requested, we re-examined by scanning electron microscopy (SEM) some of the unusual gold grains that we reported from your BFT and BF series of samples in December, 2009. These grains were unusual in that they: a) were highly concentrated despite occurring in till that consisted mostly of recycled silty sand rather than glacially comminuted bedrock; b) had been physically sorted to the same grain size as this silty sand; and c) had been reshaped to a toroidal form (i.e. flat disks with raised "donut" rims), suggesting that the reshaping occurred in a beach placer environment where sand grains slide to and fro rather than in an alluvial environment where reshaping is effected primarily by peening, producing flattened flakes, or within glacial ice where it is effected by compression, preserving the original grain dimensions.

We repanned three of the anomalous samples, Nos. BFT-41 and BF-08 and 38, and hydraulically transferred a representative cluster of gold grains from each sample onto a single SEM mount. A preliminary inspection showed that all of the grains were very similar and that grains from just one sample satisfy the present study. We elected to use No. BFT-41.

Photo 1 illustrates the toroidal to semi-toroidal form of all of the grains within the cluster and Photos 2, 3 and 4 show three grains in greater detail. We checked the surface fineness (purity) of these three grains and found that all three were of 1000 fineness and thus completely leached of their primary alloyed silver. A random check of six other grains in the cluster showed the same 1000 fineness. This indicates that the beach sands from which the gold grains are inferred to be derived were preglacial, not glaciolacustrine as proposed in my December 9, 2009 report, as hundreds of thousands to millions of years of leaching would normally be required to completely remove all silver from even the rims of gold grains. (Note: We could prepare a polished mount and check the fineness of the grain cores but would probably lose half of the grains during polishing due to their small size). The real enigma, then, is how these paleobeach sediments were sheltered from erosion and remained intact until the final stages of glaciation when copious amounts were evidently eroded to produce the observed gold-rich till. The answer to this question may lie in the orientation of protective bedrock structures relative to the differing ice flow directions of the early and late ice lobes that influenced the Bigfork Lake area.

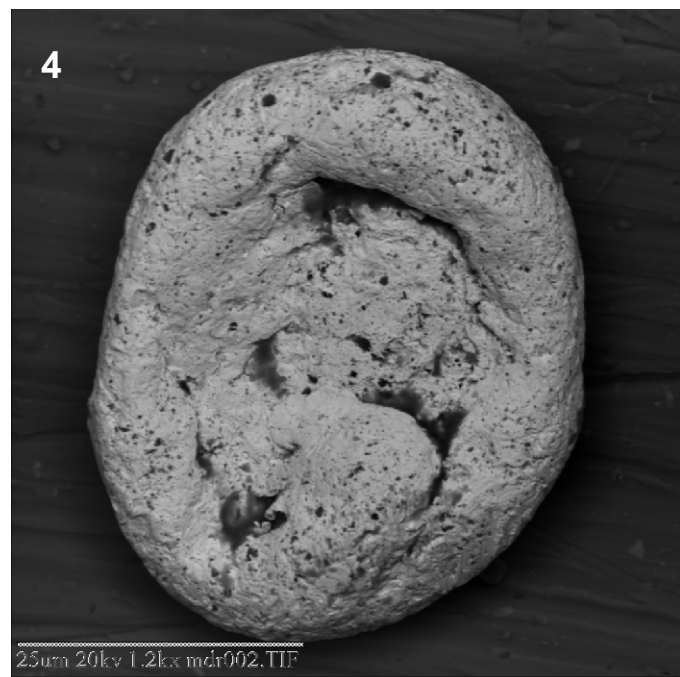
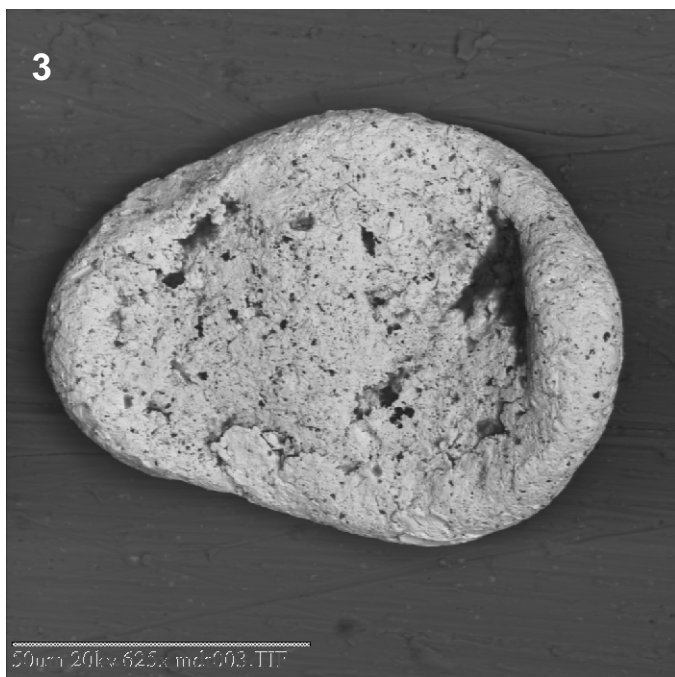
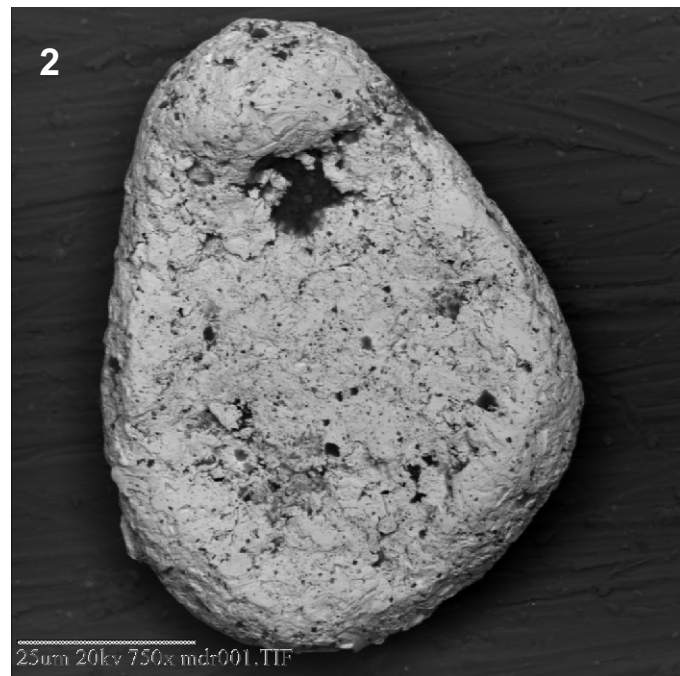
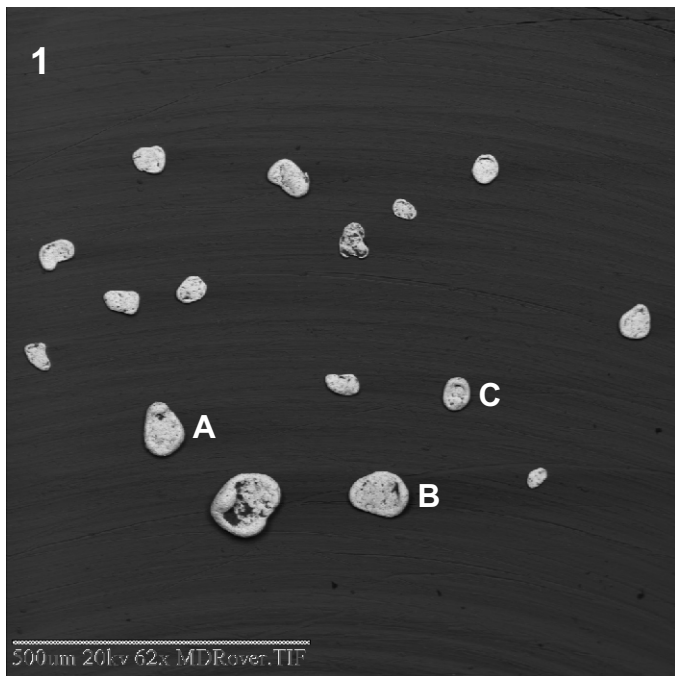
I hope these findings are helpful.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Stu Averill', is written over a white background.

Stu Averill., P.Geol., President

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Photos 1 to 4 – SEM images of representative gold grains from Sample BFT-41: 1) random selection of 16 grains illustrating uniform semi-toroidal to toroidal morphology; 2) detail of Grain A; 3) detail of Grain B; and 4) detail of Grain C. Scale bars in microns.