

Waste No More

Necessity is the mother of invention. Trite, perhaps, but very apropos when looking at the story of how Ross Guenther set about solving a weighty problem—what to do with tons of waste material that would result from re-opening Grass Valley's Idaho-Maryland Mine.

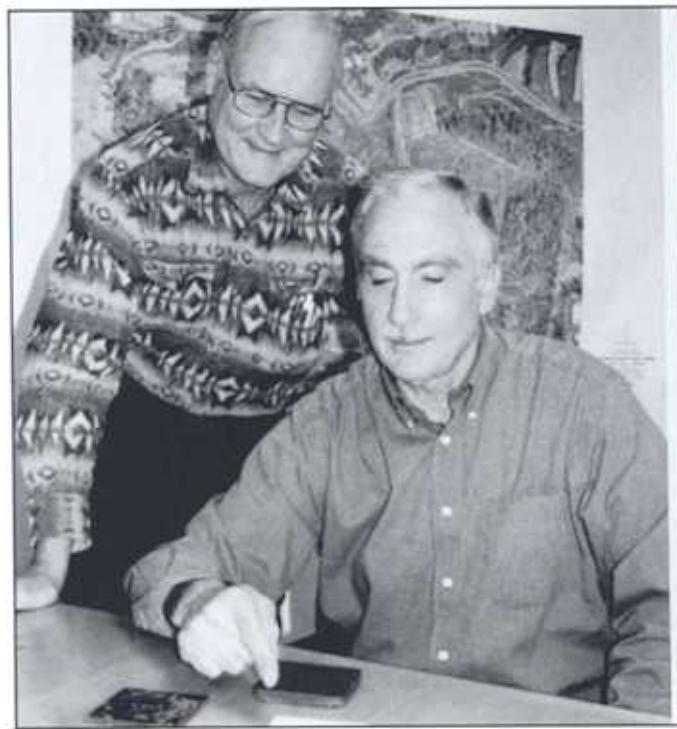
The issue for Guenther, a geologist, miner and "rediscoverer" of the Idaho-Maryland, was what to do with the non-gold-bearing rock produced when tunneling and "tailings," the material remaining after gold has been separated from the ore.

Typically, some rock is put back into the ground, the remainder ends up on the surface in impoundment areas which have economic, environmental and land-use impacts.

In 1996, Guenther invented a process that takes finely ground mine waste and turns it into high quality ceramic tiles and brick by means of hot vacuum extrusion. The result is a material stronger than traditional ceramics, non-pores and waterproof.

A new company, Golden Bear Ceramics, has been formed around the process and joins the Idaho-Maryland Mining Corporation as a subsidiary of Emgold Mining Corporation located in Vancouver, British Columbia. Both companies share a facility in Grass Valley on Clydesdale Court. There are currently 25 employees, 15 connected with Golden Bear, although there is some crossover.

While still in the research and development stage, progress has excellerated over the last five months, and the company believes a commercial plant could be possible in a year. Golden Bear is seeking opportunities



Carl Frahme (standing) and Ross Guenther examine examples of ceramic tile made from mine waste.

Photo: Paula C. Collins

to put its technology to work for other companies in the ceramic industry through joint ventures or licensing.

According to Carl Frahme, director of product development and marketing, "There is no question the process works. In fact, we'll probably make more on ceramics than on gold." He points to the fact that use of ceramic tile has doubled in the last seven years. Yet, in the United States, the per capital consumption is minuscule compared to the rest of the world.

While engineers work to make Golden Bear's pilot plant more efficient, the company is looking to the day when it will work side by side the Idaho-Maryland Mine on a 102 acre site located between Idaho-Maryland Road and Bennett Street, next to Whispering Pines Business Park.

Although it will be at least three years before production starts, plans call for a 159,000

square foot plant with the capability of making 2,000 tons of tile a day based on the mine running at full capacity. It is anticipated the plant will employ 200, and make high quality floor and wall tiles, roof tiles, bricks, pavers and other building materials.

The process Guenther invented called Ceramext can be used around the world to produce affordable, durable building products from a variety of waste materials including ash from coal fired power plants which has successfully been tested.

There was a positive reaction to the company's technology at the largest ceramic conference in the world held this spring in Baltimore, and those attending a fly ash convention were "blown away," according to Guenther.

It looks as if his solution to a very specific problem has much wider ramifications and may just revolutionize the manufacture of a host of ceramic products. *PCC*