Michigan Tech Researchers Uncover the Past at the Cliff Mine

June 28 2010, By John Gagnon

The Cliff Mine site, near Phoenix, Mich.

(PhysOrg.com) -- Midway up Michigan's Keweenaw Peninsula, just south of tiny Phoenix, the cliffs rise precipitously above the tableland. Years ago, a company town, a mining operation, and two cemeteries were tucked in, on, and around the bluff -- all of it providing the needs of a lifetime: a place to live, work and die.

Here is all that's left of Upper Michigan's storied Cliff Mine, and Michigan Tech faculty and students are taking the measure of this legacy, pinpointing the remains, unearthing the past.

The Cliff opened in 1844. At its peak, it employed 850 workers. Over 25 years, the miners wrested 34 million pounds of copper up its 1,500-foot-deep shafts.

Michigan Tech Associate Professor Tim Scarlett and Assistant Professor Sam Sweitz are overseeing a field school at the mine. Students, with pencil, paper, tape measure and GPS, attempt to locate features of a mining operation that Scarlett describes as "fascinating"—"one of the most important mines in 19th-century America, historically, socially, technologically and economically." He says it was the first successful mine—that is, the first to pay a return on investment. Production stopped in 1878. Exploratory shafts were dug later, but unsuccessfully, for the lode was exhausted.

Scarlett is in his element. Ghost towns and mining ruins have substance, he says. "What they represent has fallen from the public consciousness. People are almost entirely divorced from the work needed to produce the materials we consume." Turn the lights on? You need copper wire. "It's not magic," he says. "It's based on an extraction and production process that meets a demand. It teaches us. It reminds us. We look to the past to think about the future."

Amid their duties, faculty and students have been giving tours of the mining site. The word has spread, and people from as far as Indiana and Illinois have shown up this summer. Upwards of 50 people enjoy tours on Saturdays. "There's a sense of excitement in the community broadly," Scarlett says.

As well as in the person of Sean Gohman. He is working on his master's in industrial archeology and is the project manager for this enterprise. A native of Minnesota, he says the past is an irresistible tug. "I like anybody's local history. I like spending time in the woods. I like historic preservation. So this is the perfect place to be. It's not what I thought I'd be doing, but I'm glad I'm here. I lucked out."

The footprints of the past that he searches for are scattered on and around the bluff. Pictures of the historic area show the base of the bluff

bare of vegetation. Now the resilience of nature obscures the resourcefulness of man, for evergreens and white birch have reclaimed the landscape. Tucked into their embrace are the remnants of adits (there were seven of these near-horizontal passages into the mine), shaft houses, chimneys, walls and buildings. "Stuff--material culture--is our bread and butter," Gohman says.

Wednesday sees 15 faculty, students, volunteers, and tourists gather at the Cliff. The day is cool, the sky is gray, the breeze knocks the bugs down, and a half-hearted rain isn't a bother.

The group ventures up a poor rock pile and into the woods, where the path is marked with orange ribbons. They discover one wall, 20 feet high and 15 feet long, that is made of mine rock, with not a drop of mortar. It has stood the test of time—about 150 years in this case. "Amazing," says one student. He likens it to Inca ruins rising above the jungle. "An exaggeration," he says, "but not by much."

The watchword is safety. The students and faculty have identified some filled shafts. "We don't walk on them," Scarlett says. But the group can only guess where adits and underground workings were. The students point out dangerous depressions and questionable areas as visitors move around. Everybody treads carefully.

The students have been working at the site for six weeks. Some of what they've found is a riddle.

"The more we do, the more we don't get answers," Gohman says.

Tech has a world-renowned program in industrial heritage and archaeology, and Gohman likes to be a part of it. He plans to pursue a PhD here.

He is especially interested in how landscape fashions technology, and he likes to piece together what this mining operation was like. "That big cliff decided what they could or could not do," he says. Huge pieces of ore, weighing tons, were unique to the Cliff Mine, so the whims used to raise them were first were cranked by men, then pulled by horses, then powered by steam.

The leftovers at the site impresses one observer, who says, "It takes your breath away."

After two hours of negotiating rock and ruin, beneath a lowering sky, the group breaks up—tourists to continue their travels, students to do their work.

The long-range goal at the Cliff is historic preservation: "Before you do that," Gohman says, "you have to know what's there."

Perhaps the prospects of showing it all off some day will assuage the concerns of one person in the group. "It's sad," he says at the conclusion of the tour, "that people drive by and don't see it."

The mapping project at the Cliff Mine is being funded by the Keweenaw National Historical Park Advisory Council and the LSGI Technology Venture Fund LP.

Provided by Michigan Technological University