DREGS 2020 Fall Field Trip
by Steve Zahony - DREGS Field Trip Leader

DREGS' 2020 Fall Field Trip took place on September 22, 2020, visiting the Central City Mining District.

Jim Paschis chips vein at a hydrated copper oxide-encrusted pyritic gold vein of the Clay County Mine (courtesy of Roger Newell).

GS Mining Company and its affiliate Black Fox Mining Company hosted the DREGS group to a tour of their Clay County Mine followed by a stop at their exciting Bates-Hunter project. We thank Matt Collins, manager of both projects, and company geologist Jared Tadla for allowing us to visit both sites. Our group assembled at the Clay County mine and went underground after a short geologic description of the Central City district and a brief mine safety session.

Like most mines of the district, the Clay County mine has lain dormant since the early part of the past century, but in 1979 an ambitious project was initiated of reopening the mine by means of a decline. Paralleling the main vein, the decline heads into the hillside to a switchback point from where it turns into a spiral descent, all at a 12o decline. In the mid-1980's the project was abandoned due to falling gold prices. GS mining, now the lease holders of the property, recently mucked out the entire decline, which is amazingly clean and dry, that allowed DREGS members to have a remarkable view of this classical Central City vein system in its unoxidized state. The 1,500-foot decline stays close to the veins, and at fifty foot intervals crosscuts expose the three main veins. This gave trip participants a view of the pristine pyritic veins.

Like most vein systems of Central City, the Clay County veins strike northeasterly and dip steeply, generally to the northwest. The veins consist predominantly of quartz and pyrite but contain minor amounts of base metal sulfides, mostly chalcopyrite, tennantite, and sphalerite. Gold is associated with the copper minerals. Since the opening of the decline, now over 40 years ago, hydrous copper oxide bloom covers the better gold-assaying portions of the veins, but a rock hammer's blow readily exposes the unoxidized vein material.

Associated with the veins are bodies of bostonite and quartz bostonite, and near the bottom of the decline a large mass of totally silicified pyrite-bearing bostonite is exposed in the main drift and nearby crosscut. Much pyrite occurs along schistose planes within the unsilicified gneissic Precambrian host rocks, suggesting the bostonite's intimate association with ore formation.

After the underground tour the DREGS group drove to the Bates-Hunter shaft where Jason Tadla described the project's development, which is a major shaft rehabilitation venture to get back to the bottom of the shaft at a depth of 745 feet below the collar. Like other mines in this most productive part of the mining district, the Bates-Hunter ore was quite high grade, +1 opt Au, much of it significantly higher grade as hand-cobbed direct smelting ore. Nearby high-grade mines persisted in good ore to much greater depths, generally to 1,500 feet depths, but Bates-Hunter production and deeper development were halted by long lasting litigation. The present project' goal is to clear the old caved shaft to the 745 level and continue mine development and production.

Deeper diamond drilling has confirmed that high-grade ore persists at depth for at least 2,000 feet from the shaft collar.

From the Bates-Hunter shaft the DREGS caravan of 13 vehicles continued on to the Gold Cup intrusion breccia pipe at the north end of the district. This large altered breccia cuts several dike types but is transected by gold-bearing quartz-galena-sphalerite veins, some of which were stoped to the surface. The altered breccia pipe underlies a broad green valley where the DREGS group took their late lunch.

Group sampling the Powers dump. Enargite is found here (courtesy of Lew Kleinhans).

The final stop of the trip was to view two veins at the southeastern region of the district. Besides having been mined for their gold contents, veins and breccias here contain fluorite, molybdenite, telluride minerals, enargite, and tennantite. This part of the district has been considered in several Economic Geology articles by British academicians as being a region of breccia pipes and veins indicative of a molybdenum-rich porphyry system at depth; "good show" we say to the Brits. The trip ended here on a happy note as all participants found interesting ore samples and the weather conditions had been perfect for touring throughout the day.

Gold cup breccia samples (courtesy of Lew Kleinhans).