April 23, 2026

Field Trip Report: April 18, 2026, Field Trip to the Old Soldier Mine, Lyon County, NV

Report by: Storm Sears

I. Deposit

This year's NCMA field trip was to the Old Soldier Mine, in Lyon County, Nevada. This is small, Pb-Cu base metal deposit which is somewhat unique for the Nevada region. This deposit continues to yield a wide variety of well-crystallized Pb-Cu-Mo micro specimens, as well as some rarer Cl-halide, phosphate, and vanadate species. For a small deposit, it has incredible diversity. Verified species that have occurred in well-crystallized specimens include:

Anglesite
Atacamite
Brochantite
Caledonite
Cerussite
Linarite
Malchite
Paratacamite (FTIR, Petrographic, Raman verification, 2025)
Tsumebite (PXRD verification, 2024)
Wulfenite

In addition, there are a few probable species which require a bit more testing:

Cechite (SEM/EDS testing & morphology indicate cechite however, it could use PXRD)
Pyromorphite (Small crystals, more likely than mimetite due to lack of AsO4 chemistry)
Herbertsmithite (awaiting more testing, refer to Photo 1)

I made a trip up to the locality a few days in advance of the field trip to check the status of the deposit. As is typical, I found the pit workings backfilled with detritus; refer to Photo 2. It appeared that some individuals were attempting to gain access to the portal of the historical workings as seen in Photo 2. This would be fruitless however, because during reclamation, the historical workings were backfilled with rock and dirt. In addition, the extent of the historical adit was only a few feet to begin with, and it was precarious and difficult to maneuver in. All the exposed vein material had been cobbled clean on the interior of the adit and it was difficult to get a good swing at the hard quartz veins due to the boulders that had collapsed into the adit. It has been much more productive to attack these mineralized veins from the top via the new trench workings.

Photo 1: Probable herbertsmithite with atacamite, cerussite, and linarite, FOV 1.1mm

On my trip to clean up the mine site, I noticed a new claim marker downhill from the Old Soldier workings in the large trench working that had been created several years back by one of the major exploration companies. Examination of the new claim indicates that it is called the Mountain View, which was filed by an individual in Reno, NV, back in September 2025. The extent of the claim is described as 300 yards west x 1500 yards east of the main marker with a width of 600 yards; no corner markers were in evidence. I later researched the claim on the Nevada Division of Minerals website and plotted the extents based on the claim description and concluded that the Old Soldier workings are outside of the current claim boundary. However, I did notice after mucking out the workings (refer to Photo 3), that someone had marked the vein with marker paint. I don't know if the person that marked the vein is also the adjacent claimant. There was no evidence of any work being done in the area at the time of examination. The only point that I would make is that claim status changes rapidly in Nevada and that anyone visiting this site should be cognizant of potential claims in the area.

Photo 2: Old Soldier pit workings before cleanup

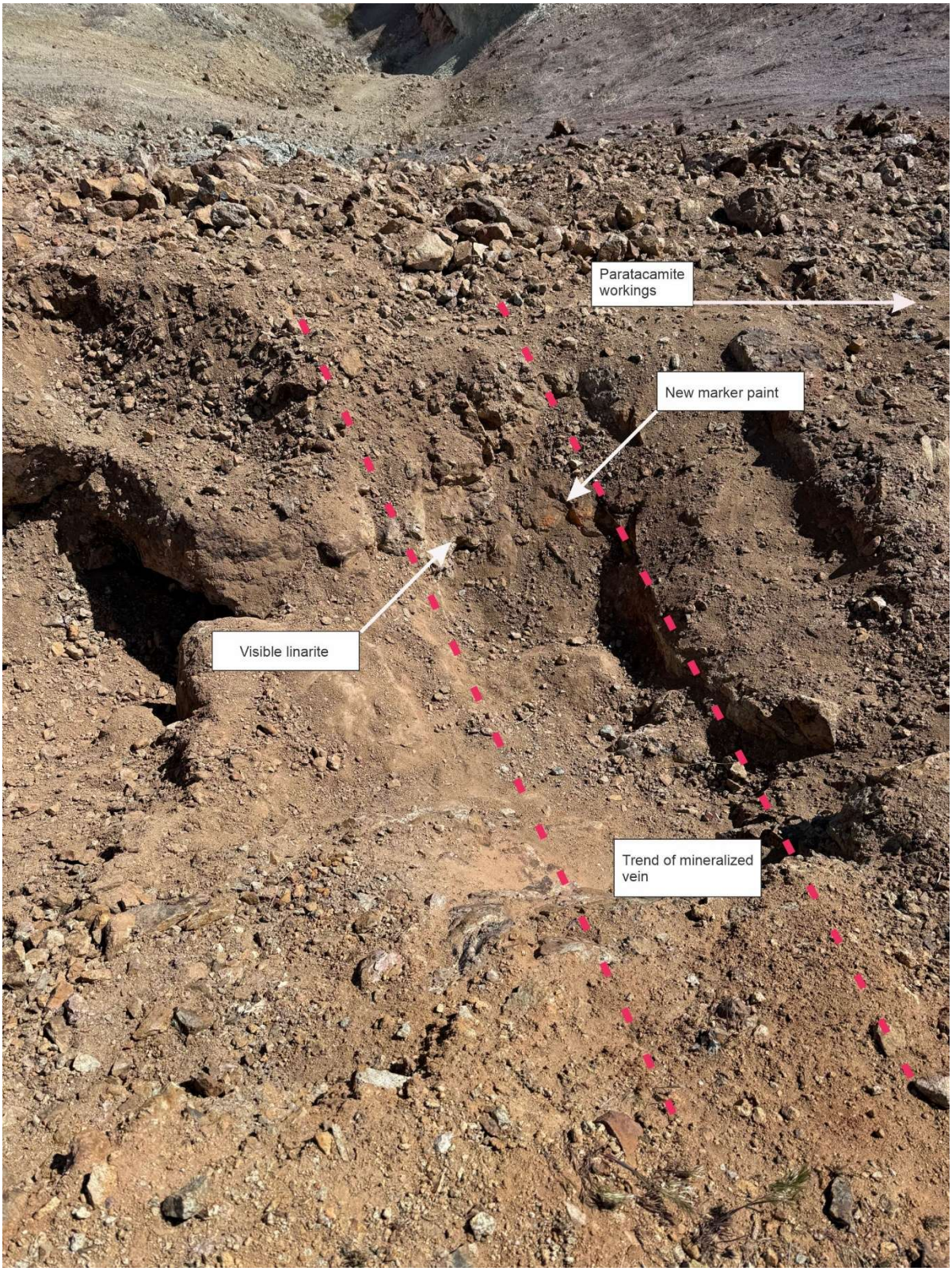

Photo 3: Workings after mucking out, showing features

As seen in Photo 3, one of the primary vein structures has been exposed by the surface trenching. The vein trends E-W, with a near vertical dip. Common minerals evident in this vein are linarite, brochantite, and cerussite along with massive galena. Less common minerals in the quartz vein are anglesite, caledonite, atacamite, paratacamite, and potential herbertsmithite. The quartz vein measures one to two feet in width and extends past the perimeter of the current trench.

Adjacent to the hard quartz vein is an oxidized area, containing both iron and manganese oxides. This material is a little less visually engaging, and I had to tell the field trip participants to "dig here". The manganese oxide coated material is commonly associated with wulfenite, which occurs in both blocky and bladed habits. Although the wulfenite tends to form in crystals less than 1mm in size, perfect for micros, crystals up to several millimeters suitable for thumbnail specimens have been noted.

A few feet to the south from the main pit, is a new trench started on a parallel vein. This vein yielded some outstanding paratacamite in 2025, along with wulfenite, malachite, cerussite, and anglesite.

The Old Soldier Mine is easily accessible to 4-wheel drive, high-clearance vehicles, and you can drive right up to the edge of the workings.

II. Field Trip Day

After several weeks of cold temperatures, high winds, and generally lousy weather in northern Nevada, the NCMA Field Trip had the great fortune to land on a perfect spring day, with temps in the mid-60's, no wind, and plenty of sunshine.

In attendance were Barb Matz, Zach Berghorst, and Siena McKim. The group started by simply collecting specimens from the dump of the trench workings; refer to Photo 5. After the dump has been washed by the rains, it is very easy to spot wulfenite specimens in the morning sunlight, due to the high refractive index of this species.

By midday, everyone had taken a turn at some serious digging along the exposed vein in the main trench. Eventually, we broke through into the historical adit, which is a new achievement; refer to Photo 6. This posed no danger as the adit was backfilled by rock and dirt. I could stick my foot through the opening, but my boot made contact with the backfill just inside the opening. A bigger issue was making sure that you didn't drop your specimen material down the hole. In total, 4 to 5 large flats of well-mineralized vein material were removed, including several exceptional hand specimens of linarite, brochantite, and wulfenite. There was no shortage of good specimen material. The vein material will have to be further processed into smaller pieces, as some of the best micro specimens from this locality occur in small vesicles within the quartz vein material.

During the field trip, I related some of my recent ventures with micrometeorite collecting on local playas. The group was intrigued by this, so around midday we adjourned to nearby Misfits Flat, for an introduction to micrometeorite collecting. One of the finds made by Zach and Siena was a Barred Olivine (BO) type micrometeorite with an intact Fe-Ni melt bead; refer to Photo 4.

Photo 4: Micrometeorite find from Misfits Flat near Stagecoach, Nevada

Photo 5: NCMA participants working some of the easy pickings on the dump

Photo 6: Working the vein material