

**Garnets and Gold** by Dave Lines with pictures by Kim Jurkowski



“Every pan had garnets and most had a few small flecks of gold. From where did these treasures come, you ask?” A stream --- Contrary Creek by name. In the county of Louisa. Near the town of Mineral, Virginia --- aptly called because 31 minerals from the creek have been identified. Over 150 years ago, its adjacent hillsides were heavily mined for pyrite as a source for both iron and sulfur. And along the way, gold was discovered. One time, Contrary yielded a 9 pound nugget of that precious metal. It still resides in the Smithsonian.

Today, this stream bears the scars of these old mines. No life lives in it --- neither plant nor animal. The legacy of pyrite in the dumps and the creek lives on --- a very low pH --- acidic water. The chemical formula of pyrite is  $FeS_2$  --- iron sulfide. When water and oxygen are added to pyrite, it produces sulfuric acid ---  $H_2SO_4$ . And there is *plenty* of pyrite still in the stream gravels. Much more pyrite than black sand. And the color on the outside of all the rocks in the stream is usually orange ---

from the iron from the pyrite. An orange sludge is usually also over everything in the quiet, still portions of the stream. But not true this day, because of the recent abundant rainfall, Contrary Creek was clear and flowing fast --- and higher than usual for this time of year.

We used the high water to our advantage because the gravel bar just upstream from the Route 522 bridge was half covered by water. We simply dug down in the gravel until we hit a muddy layer. That mud had trapped the gold and the garnets as well as other interesting specimens like octahedral crystals of magnetite and small cubic crystals of pyrite.



There were only five (5) of us --- Rich, Kim, Orion and Dave plus a friend and former SMRMC member from the village of Goldvein --- John S. --- who is an expert gold finder and a long time member of the Central Virginia Gold Prospectors. John has had much success in Virginia streams over the years. Once, he showed us his riker mount with 2 ounces of gold nuggets that he found in Contrary Creek in a crack in the bedrock right under the bridge. Right where we were!

When Rich and I arrived at 7:30 am, John had already set up a small sluice box and was already finding gold and garnets. After greeting each other, John surveyed the gravel bar and pointed out where

a previous gold dredger had dug down to the mica schist bedrock. He suggested that we dig there first. I did, while Rich dug in an area about 20 feet downstream. I spent about an hour digging out and classifying a 5 gallon bucket of material for panning out. My “classifier screen” has  $\frac{1}{4}$  inch mesh, so I checked the larger gravel for big garnets. Only a few at first, but when I hit the mud layer, I found several of  $\frac{1}{2}$  inch diameter. Rich meanwhile was finding lots of excellent garnets still embedded in schist. His finds made very attractive specimens.

I was determined to find gold, so I panned about half of my five gallon bucket of classified material --- and found several very small specks of gold. I asked John to join me and try his luck panning some of the gravel and mud from the hole --- but he refused because he wanted us to find it. So I panned some of the material straight from the hole that contained a great amount of thick mud. It was full of garnets --- nice ones --- plus my first pan had two (2) larger pieces of gold. Eureka! They were not exactly “pickers”, but were definitely much bigger than what I had found up to then.

After getting a bit lost on the way down from Maryland, Orion and Kim joined us about 9:00 am and I invited them to dig material from the same hole where I was digging. John also started to dig from that hole. All of us found garnets and both John and I panned some gold. I also used a small magnet to successfully extract small crystals of magnetite from the material in each gold pan. None were perfect, but several were nearly so. All were interesting finds.



Throughout our field trip visit, the weather was great with the air temperature in the 80's. Very pleasant. John gave up about noon, while the rest of us stayed about another hour. Overall, another successful and fun trip to Contrary Creek.