

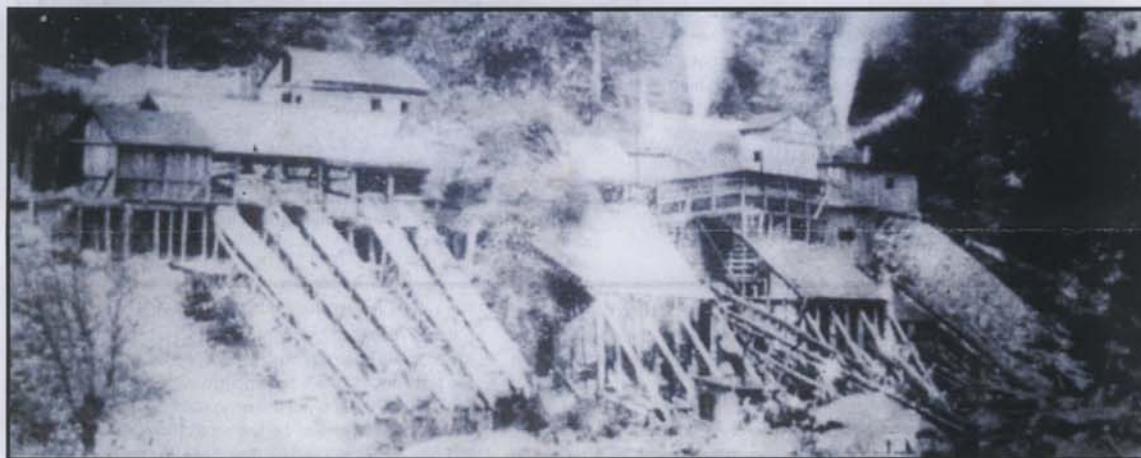
Prince William Forest Park

National Park Service
U.S. Department of the Interior

18100 Park Headquarters Road
Triangle, VA 22172
www.nps.gov/prwi



The Cabin Branch Pyrite Mine



The mill at the old Cabin Branch Pyrite Mine in full operation in 1907. Turn over this brochure to see a photo of this same hillside today.
Photograph courtesy: National Park Service.

Overview

Today, Pyrite Mine Road, North Valley Trail, and Cabin Branch Mine Trail all lead to a peaceful place where trees grow, birds sing, and Quantico Creek trickles by. From 1889 to 1920, a person in that very spot would hear the chugging of a narrow gauge railway, the grinding sounds of a mill, and the hoots and hollars of miners hard at work. The Cabin Branch Pyrite Mine employed up to 300 men and children and was the backbone of the local economy. When the mine closed its doors due to local and international events, it scarred the community and the environment.

The Perfect Place to Mine

The Detrick and Bradley families formed the Cabin Branch Mining Company in 1889. Oral histories tell us that Mr. Detrick saw the sparkling glitter of pyrite, or 'Fool's Gold,' and made a 200 foot deep shaft in the ground. His efforts were rewarded. The pyrite ore lens at the Cabin Branch Pyrite Mine was huge - over 1000 feet long and 1000 feet wide, with an average thickness of 14 to 18 feet. In 1916, the American Agricultural Chemical Company began its 4 year ownership of the mine.

The Cabin Branch Pyrite Mine was the only pyrite mine in Prince William County and the greatest boost to the local economy in over 100 years. It provided a reliable source of income to both African American and Caucasian families living in the area and new businesses, such as boarding houses and saloons opened up in Dumfries to support the mine and its workers. By 1917, Virginia produced more pyrite than any other state in the union, making up 37% of all US production.

Why Mine Pyrite?

The soils of Virginia contain many important minerals and ores, including iron sulfite, or pyrite (FeS_2). By the turn of the 20th century, Pyrite had long been one of the major sources of sulfuric acid, an important chemical agent of the time. The sulfuric acid was released from the pyrite by heating or "roasting" the crushed pyrite ore in a chamber to which air is introduced. At high temperatures, the sulfur in the ore vaporizes and joins with the oxygen to form sulfur dioxide. The gas was then captured and purified into sulfuric acid.

The sulfuric acid was then used in the manufacture of glass, soap, bleach, textiles, paper, and medicine. It was used for cleaning and refining precious metals and, probably most importantly, gunpowder. As the US entered into World War I, pyrite became as important as ever. Prices per ton soared and the workers at the Cabin Branch Pyrite Mine were so needed by the war effort that they were exempted from military service. Ironically, the war that caused the largest demand for pyrite in history would soon bring about its demise.

How do you Mine Pyrite?

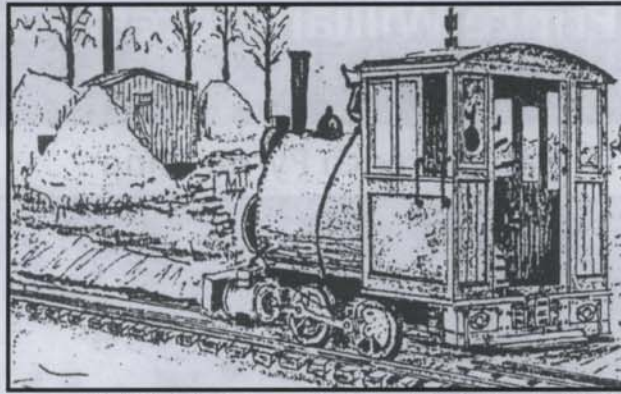
Most historical sources record the Cabin Branch Pyrite Mine as having had three shafts. Whether all three were worked for the entire 31-year history of the mine, or only one at a time is not clear. More recent archeological surveys have found up to 13 depressions at the mine site that could have been additional shafts.

Two of the known shafts at the site were nearly vertical and one was on an incline. The inclined shaft was reported as having been sunk to 1000 feet in 1907, 1800 feet in 1917 and 2400 feet in 1920. Elevators transported the ore and men in the vertical shafts and the men would walk directly into the incline shaft. Typically, the miners used 2 1/2 inch machine drills and sometimes hand drills for thinner ore.

Mining pyrite was dark, dirty, and dangerous work. Miners labored in 2 and 3 shifts a day for 6 days a week, with only the light from their lamps (see an example in the park visitor center) to guide them. Shifts were usually 10 hours long and lunch was eaten underground. There were multiple injuries and even deaths. Morse Reid, who is buried in the park, was recorded to have died from inhaling 'damp gas' in the mine. Another man was decapitated after grabbing onto a moving elevator. Miners' children often worked in the mine as well; making 50 cents a day they sorted pyrite ore into small, medium, and large piles. Once the pyrite was removed from the earth, sorted by the children, and milled into a fine powder, it was transported by a small gauge railway.

How do you Mine Pyrite?

At all periods of the mine's operation, a narrow-gauge railroad ran through the site, delivering coal to the boiler room, moving ore between buildings and binds, and picking up loads of ore for shipment. The main track ran six miles along Mine Road, through the town of Dumfries, and out to a siding at Barrow Point (also known as Barrow Siding or Possum Point) on the Potomac River. There the ore was either loaded onto railroad cars headed for Fredericksburg or shipped out onto boats. Three small steam engines, the Dewey, Virginia Creeper, and Little Dinkey (shown right) pulled the railroad cars. Whenever possible, children or miners would hop on the railroad to head down to the river to fish or just for a fun ride.



The "Little Dinkey" steam engine. Drawn by Lee Lansing, Dumfries VA.

The Cabin Branch Community

Most of the mine workers lived in the small communities of Batestown and Hickory Ridge. Together, these small clusters of homes, schools, churches and stores became known as the Cabin Branch Community.

Free African Americans were present in Prince William County as early as the mid-eighteenth century. After the Civil War, freed slaves joined other African American families in a community which developed near the Cabin Branch Creek. Batestown, as it came to be known, was located on the eastern boundary of the park, along the road currently known as Mine Road. Betsy Bates, considered the matriarch of the family, was born around 1795 and was the first of the Bates in the area of Cabin Branch creek. By end of the 19th century, Batestown counted 150 residents; by the beginning of 20th century, 75 residents called Batesville home. Descendants of the Bates family and Batestown community continue to reside in the area.

The community of Hickory Ridge developed west of the Cabin Branch Pyrite Mine near parking lot D. It grew out of the property originally purchased in 1869 by Zeal Williams, the first African American property owner in the area. Over time, his land was divided among heirs, sold to relatives, and eventually came to be known as Hickory Ridge. Hickory Ridge was always a racially mixed community but its leaders were African American. Some of prominent families were the Williamses, the Kendalls, the Reids, and the Byrds. Local residents of both Batestown and Hickory Ridge remembered 'foreigners' coming in to work at the mine as well. These Italian and Irish immigrants from the northern cities married into many of the local families in Hickory Ridge and Batestown. Most of the properties in Hickory Ridge became a part of Prince William Forest Park during the 1930s and 1940s.

Life in a Mine Town - before & after the mine

The Cabin Branch Pyrite Mine ran day and night. The day shift drilled and removed the ore, while the night shift removed water and waste materials. On-site housing was provided with several free standing dwellings for white workers, and small dormitories for black workers. Both the Cabin Branch Mining Company and the American Agricultural Chemical Company ran a company store where miners brought food and goods. Information on miner's pay varies widely. Typical pay ranged from \$3.50 to \$4.25 a day, though wages were often given out in script that could only be used at the company store. This helped the mining companies control the purchases of their employees and often created an employee who was dependent upon the credit of the company store.

Several factors contributed to the closing of the mine in 1920. Demand for gunpowder dropped sharply after the war. At the same time, cheaper sources of sulfur were being discovered elsewhere in the US and overseas through the new 'global' economy as a result of World War I. Closer to home, the miners, unaware of global markets and events, threatened to strike. The mine superintendent is reputed to have said: "I'll let the shafts fill in with water and the frogs jump in before I reopen the mine." Mine workers sought work elsewhere, at the Marine Corps Base at Quantico, at the waterfront in the town of Dumfries, or by timbering and working their own lands. The economic downturn started by the collapse of the Cabin Branch Pyrite Mine foreshadowed the "Great Depression" to come just ten years later.

A Defacement of the Earth's Surface

When the American Agricultural Chemical Company abandoned the Cabin Branch Pyrite Mine, they seem to have simply walked away. Much of the machinery was sold or scrapped, but buildings were left vacant and the large piles of pyrite tailings (debris) were left behind. Unbeknownst to the mine owners in 1920, the pyrite mine site would be left to create sulfuric acid for the next 60 years. This time however, the sulfuric acid was not bottled in a plant or used in soap making. Instead, with each rainfall, it would trickle into the Quantico Creek. By the time the National Park Service (NPS) tested the creek in 1971, the pH was 2.0 - the same as vinegar.

When the NPS began looking at the area as a recreation spot in 1935, they described the following scene, "Spoil banks, shafts, stray bits of mine equipment, and habitations of hangers-on to former subsistence plots form a picture of a defacement of the earth's surface." In truth, the large piles of spoil left behind by the mine opened an ecological can of worms that the National Park Service would spend over 30 years attempting to correct.

In 1995, the NPS, Environmental Protection Agency, and Virginia Department of Minerals and Mining began a large scale reclamation of the site. Covering the pyrite piles with sewage sludge and lime, the site is now considered 'healthy' and stream life has returned. The average pH has returned to around 5.5-6.0 (7 is considered normal) and school students study the site. Visit it today!



The Pyrite Mine site today. Photo courtesy: NPS.