# Pine Creek Misses Boom

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>
> Inyo Register, June 21, 1917

In the spring of 1916, the rocky walls of Pine Creek canyon echoed with the hammer-blows of two seasoned prospectors, Billie Vaughn and partner Arch Beauregard.

The son of one of the earliest settlers in Round Valley, Vaughn farmed as his chief occupation, but also had an interest in prospecting. He had found intriguing rocks on a previous trip up Pine Creek and wanted to take his brother-in-law Arch up for a closer look. Arch was the more experienced of the two, having learned the mining business from his father Charles who worked in several Nevada mining camps before settling near Bishop in 1906. Arch was said to have prospecting in his blood, never venturing far without his rock pick.

The pair worked their way up the canyon to Pine Creek falls at 8,000 feet and then up Morgan Creek. There the steep, rust-colored ridge east of a rocky basin above Morgan Lakes no doubt attracted their attention as it probably did the Sherwins twenty-one years earlier. They also noted a green-stained patch of rock on the ridge, characteristic of copper oxide minerals. Prospecting at the 11,000 foot level revealed the presence of the copper mineral chalcopyrite mixed with steel-gray metallic clots in a garnet-rich rock. Arch, a self-taught mineralogist, identified the gray clots as molybdenite. This molybdenum-bearing mineral was being used as a substitute for tungsten in the steel industry. It was in similar demand and brought prices as high as $2 per pound at the time.

The discovery prompted Vaughn and Beauregard to locate lode claims over the mineralized ground on April 22, 1916. They named them the Blizzard Numbers One-Three in reference to a snowstorm that hit them while on the prospecting trip. Vaughn wanted to add the name of his friend Jim Sproul to the original location notice so Arch added his father Charlie's name as well. The two headed back down the canyon to record their claims at the Inyo County courthouse in Independence before anyone else could claim the ground. Afterward, feeling in a secure position, they let word out, as the following note ap-peared in the Inyo Register on June 18, 1916:

> "Messrs. Vaughn, Sproul and Beauregard have some good specimens from a molybdenum location they have made on the north fork of Pine Creek, above Round Valley. The ledge matter varies from three to fifty feet, with bunches and spots of metal."

Birkett Sherwin rekindled an interest in the Pine Creek rocks at about the same time. Two weeks after the Blizzard Claims were staked, he located the Molybdenite Special and Go Getter claims half a mile up Gable Creek, a southern branch of Pine Creek. They were filed under his wife Christine's name along with three other partners. Could this have been a reaction to rumors of the molybdenite discovery by Beauregard and Vaughn on the old Sherwin ground to the north? Whatever the reason, Sherwin's discovery must have lacked significance as no assessment work was done and the claims lapsed after a year. Had he prospected further up Gable Creek, he might have discovered the scheelite-rich outcrops that would be the future site of the Tungstar Mine. This deposit would gain fame as the second largest tungsten producer in the area, but went undiscovered for another 21 years.

Arch encouraged his nephew, Clarence Adamson, to locate the Bluebird Claim in August 1916, just north of the Beauregard discovery. A viable ore body was later found there and the site became known as the Adamson Mine.

In April 1917, Vaughn and Sproul staked the Blizzard Number Four, a placer claim adjoining the three located the previous year. This same month, America declared war on Germany and Arch Beauregard volunteered for service in the U.S. Army. He spent the following year with the 115th Engineers in the European battlefields. This left his two bachelor brothers John and Simeon to work the Blizzard claims. By mid 1917, the partners had built a three-mile pack trail up Morgan Creek to the claims at 11,300 feet. This extended a seven-mile trail already built from Round Valley to the Pine Creek falls. Remnants of their trail can still be found on the north side of Morgan Creek.

Up this steep 3,300 foot slope the partners hauled a 6 x 15 foot *Wilfley* concentrating table that Arch had purchased earlier for a $20 gold piece. The table was cut up in sections that would fit on the backs of the mules used for transport. Once in place, a stream of water mixed with sand-sized material was run across the table surface which vibrated with a side-jerking motion. This allowed minerals with high specific gravities such as molybdenite and scheelite to concentrate at one end of the table and worthless sand at the other. Power was provided by a belt drive attached to a homemade waterwheel. The brothers had been unable to pack in the heavy rock-crushing equipment needed to grind the ore to sand size. Instead they screened the alluvial material found beneath the outcrops and ran it across the table. The resulting molybdenum-rich concentrate was then packed down the mountain on mule back. This primitive mill was set up near a dependable source of water at Morgan Lakes and the ore hauled to it from outcrops over a mile away.

Having returned from military service, Arch was operating the table when he noticed white grains mixed in with the molybdenite concentrate. From previous experience in the Tungsten Hills, he recognized them as scheelite. This proved an exciting discovery as tungsten was also fetching a high price at the time. The partners rejoiced in the fact they now had a tungsten as well as a molybdenum deposit. The mill ran only a short time, but produced the first scheelite/molybdenite concentrates to come out of Pine Creek.

The Beauregards soon realized that they did not have the financial means available to develop the Pine Creek deposit on a large enough scale to make it profitable. They searched for financial backing and found it through Cooper Shapely, superintendent at the successful Round Valley Tungsten Mine. This operation was located in the Tungsten Hills, nine miles east and 6,000 feet lower in elevation than the Beauregard find. Thus it was not susceptible to the deep snows and harsh weather conditions of the Blizzard claims. Even so they apparently convinced Shapely to visit the property sometime in 1917. Impressed by the mineralized outcrops, he began a relationship with the claims that lasted nearly eighteen years. Shapely found the deposit to be "naturally developed." Mineralization occurred in near-vertical tabular bodies, exposed for almost a mile parallel to the steep ridge front. Gullies eroded into the ridge had exposed the ore, revealing thicknesses up to 150 feet. Shapely reported the prospect to "contain streaks of nearly pure scheelite" with assays of up to 3% $WO_3$. These were very encouraging numbers as the Tungsten Hills mines were only averaging only 0.5% $WO_3$.

Shapely was shrewd enough to realize that the deposit had the potential for an ore body larger than all the Tungsten Hills deposits combined. Exploiting it on a large scale would be difficult as the site was high and remote. To obtain the capital required he promoted the prospect to outside interests. He found a backer in Southern California by the name of Fred Close, whose word reportedly "opened money chests freely." Close sent mining engineer E.R. McIntyre of the firm McIntyre and Carpenter to examine the property. Meanwhile Shapely stated optimistically to the Inyo Register, "The outlook is that the thing is a go." In the same article the Inyo Register stated, "Many hundred thousand tons of unmined wealth are up there among the snows, and indications are that active steps for cashing some of it will speedily begin." McIntyre must have made a favorable report because the money did start to flow.

In January 1918 the Inyo Register reported a deal had been made between Shapely and the original claimants for opening up their locations on the side of Mt. Morgan. The Pine Creek Tungsten Company was organized, with Shapely as president.

Additional claims were located at nearby Morgan Lakes, the site for a proposed mill and camp. During the winter of 1918, Shapely announced that once material was on site and snow conditions permitted, a 300 ton-per-day mill would be built within 90 days. A bold statement for so formidable a task considering the terrain to be surmounted. Shapely, an experienced mining man with several successes under his belt, was not to be deterred. He knew time was of the essence as the currently phenomenal tungsten prices would probably not last forever and the construction season at 11,000 feet very short. Luckily, the winter of 1917-18 was a light one and Sierra snows melted off earlier than normal. It worked to his advantage.

When the snow line started retreating up the mountain in the spring of 1918, things began to happen. Frank Campbell was contracted to build a road up Pine Creek, replacing the first seven miles of trail. An operation of such magnitude would also require more dependable electrical power than local streams could provide. The Southern Sierras Power Company, a subsidiary of the Nevada-California Electric

Corporation, had built a system of hydroelectric plants on Bishop Creek. They were contracted to bring a 12-mile long powerline to the property from the end of its existing line at the Round Valley Mine. W.H. Leffingwell, who had replaced Birkett Sherwin as Deputy Mineral Surveyor for Inyo County, was handling the design and construction phases of the project. The line would have to climb 6,000 vertical feet and need special requirements due to the ruggedness of the terrain and extreme weather conditions. Wire was to be quarter-inch twisted steel cable instead of the usual copper. This would help the line withstand the fierce winds, sleet, and snow loads at the 11,000 foot level. By mid May a large number of men were reported employed in preliminary work and excavation for the millsite was underway. Meanwhile Shapely was off acquiring two 150 ton-per-day ball mills and other milling machinery needed to crush and extract minerals from the unusually hard tactite host rock.

During this period of activity a mysterious figure appeared on the scene. In mid 1918, the Los Angeles Times reported a connection between a Russian, known only as K. Jouvraleff, and the Pine Creek prospect. He was from Petrograd, (Leningrad), Russia and reportedly engaged in the manufacture of ferrotungsten alloys in Baltimore, Maryland. After a trip to view the property, he reportedly financed the Pine Creek Tungsten Company with letters of credit for $2 million. Jouvraleff contracted for 1,500 tons of scheelite concentrates to be produced once the mill was running. At this point Jouvraleff disappeared, never to be heard from again. Whether or not he got any concentrates from the operation remains a mystery. If he did they may have aided in the production of arms to fuel the Russian Revolution. Meanwhile Shapely announced a partnership with S.F. and James Seager, along with Close. E.L. Haff was made superintendent of the operation with Alvin B. Carpenter in charge of mill construction. It was also announced that the Beauregard brothers, Vaughn, and Sproul were being bought out for $125,000. Later events in the Owens Valley were to deny them full payment of this amount.

The developers soon realized that a wagon road would be needed to transport the many tons of mining machinery and other equipment needed at the mine site. A route following the trail up Morgan Creek was decided against due to the ruggedness of the terrain. The engineers looked for an alternative and found it in the Rock Creek drainage on the north side of the mountain. Though more gradual, this route was longer, making for a fifty mile trip to the mine from Laws, a stop near Bishop on the Carson and Colorado Railroad. The heavy equipment was hauled into the Owens Valley via this rail line which served many of the transportation needs of the area. The route to the mine utilized the Sherwin's road north of Round Valley, branched off near Swall Meadows and went up Sand Canyon. From there it dropped over into Rock Creek near Rock Creek Lake.

Due to the steepness of the Sand Canyon route (24% grade) it was used only a short time. The road was then rerouted up Rock Creek canyon from Tom's Place. Cabins built at Rock Creek Lake, Mosquito Flats, and Heart Lake were used as way stations along the route. The road was extremely rough and any trip over it was hard on equipment and workers. Even so it was touted to be one of the most scenic tours found in that part of the

Sierra. (The existing hiking trail which goes from the Rock Creek trailhead into upper Little Lakes Valley and Morgan Pass follows this old road.)

By the fall of 1918 one hundred men were engaged in mill and road construction at a hurried pace to beat the coming winter snows. Initially axmen were employed to hew mill and mine timbers from the pine forest surrounding Morgan Lakes. When the powerline was completed in October, they were replaced by an electric-powered sawmill, packed in on mules. Miners started driving a tunnel, intended to undercut the scheelite-bearing rock and provide ore for the future mill. This tunneling blocked out 200,000 tons of ore, averaging 1.34% $WO_3$. Later named the South Ore Body, this mass of mineralized rock proved to be the second largest in the mine, producing ore through the end World War II. A glory hole mining method was to be used to extract the ore. Using this method, the ore between tunnel levels was blasted and dropped down by gravity to a haulage level where it was removed from the mine. A glory hole formed when the surface started to collapse into the under-ground voids left from mining.1s

With completion of the Rock Creek wagon road, milling machinery could be transported to the minesite, but financing difficulties delayed millsite preparation until August. Once started the mill was completed seventy-five days after the initial excavations. The original plan was to keep the Rock Creek route open all winter to transport the anticipated two to three tons of heavy scheelite concentrates produced daily by the mill. Plans were also made to keep the Pine Creek pack trail open to supply the operation throughout the winter.

The 300 ton-per-day mill went into operation in early December, 1918. A 2,200 ft. three-rail gravity tramway brought the ore from the mine portal down to the mill in small skips. Water came to the millsite via a 2,000 ft. pipeline from a dam built on one of the Morgan Lakes. In the mill a jaw crusher and ball mill ground the ore into sand-size grains. These were mixed with water and run across a system of five concentrating tables, similar in design to the original used by the Beauregards. The tabled concentrates were dried and bagged for shipment and the waste or "tailings" impounded behind a dam built below the mill. Ore bins, a warehouse, and bunkhouses were built near Morgan Lakes and "everything done to lend to the comfort of the employees during the coming winter". Shapely had achieved his goal, four months behind schedule, but still a crowning achievement considering the circumstances. Everything was in place to produce tungsten concentrates and to pay back the estimated half-million dollars spent to get the operation on its feet. At 11,300 ft. it was estimated to be the highest working mine property in California.

In late 1918 the future looked bright for the Pine Creek Tungsten Company, but events on two other continents were to shake the very foundations of the operation. The ending of World War I and importation of cheaper Chinese concentrates had the same effect on Pine Creek as it had on the Tungsten Hills mines. Prices immediately began to plummet to as low as $12 per unit with no buyers in sight. No tungsten mine could afford to stay operating long under such economic conditions. Shapely was forced to close the Round Valley Mine in February 1919. The Pine Creek operation came to a

standstill the same month with 42 men laid off. He blamed the Pine Creek shut-down on a recent storm that dumped five feet of snow on the operation. Under normal circumstances it is doubtful that snow would stop a man like Shapely. Company officials probably did not want to give the public any sense that the operation was faltering due to economics.

The U.S. federal government, feeling somewhat responsible for the market stimulation, authorized the War Contracts Act to "pay net losses suffered by any person, firm or corporation in tungsten production…..for the need of the Nation in the prosecution of the war." The Pine Creek Tungsten Company filed a large claim under the act but no record exists of their receiving any reimbursement. At this point in time news of events at Pine Creek become conspicuously absent in the Bishop newspaper.

Before shutdown the Company's mill was able to process only 4371 tons of ore, barely enough to get the machinery running properly. Ore grade averaged 0.61% $WO_3$ which was lower than that originally predicted. Due to the primitive milling methods of the era, only about 65% of the scheelite was recovered, producing 1,736 units of $WO_3$.

The company had proven that a large operation could work at the high remote site, thus laying the groundwork for future enterprises. If the mine had started producing a year earlier things may have turned out differently. Shapely, the man who could beat a mountain, lost in a battle with the world's economic peaks and valleys. Nevertheless he was to stay associated with and promote the property into the 1930s.

Arch Beauregard would follow the mining business in the Bishop area for the rest of his life. Financed by his portion of the Pine Creek payments, he ,continued to prospect. He opened the Black Rock Mine near Benton and was producing scheelite concentrates when the stock market crash of 1929 hit. This forced him to sell them at a great loss. He learned, how to assay and practiced this trade at several operations in the Owens Valley including the Cardinal and Darwin mines. In the 1930s, he opened an assay office in Bishop which operated for many years. He gained a reputation for his uncanny ability to identify the source of various rocks brought in by prospectors from all over the Owens Valley. Beauregard never lost sight of the potential for the Pine Creek ore bodies and would bring them to the attention of those who would make them great. He returned to Pine Creek several times in later years to work as an assayer and his son Don worked at the mine as a shift boss. The prospector who lived to see his discovery grow into the largest tungsten mine in the U.S. died in 1985 at the age of ninety-four.