Tungstar Mine

When Birkett Sherwin prospected lower Gable Creek in 1916, he stopped short of finding the rich outcrops that would be the basis for Pine Creek's second largest tungsten producer. The deposit remained undiscovered until 1937 when Yugoslav immigrant Bill Wasso and his partner Gerard Crawford, found scheelite-bearing rock above timberline on the western, windswept slope of Mt. Tom. Wasso was not a U.S. citizen and couldn't stake mining claims so all was done in Crawford's name. The two reportedly later sold out for $80,000. Early reports indicated the rock contained fist-sized chunks of scheelite, unusually rich for the area.

In 1938, the property was acquired by a group of investors from Hollywood, who were gambling on the potential of a prosperous tungsten market. The fortunes of several Hollywood celebrities were tapped to finance the venture. These included Reginald Owen, Walter Abel, Shirley Temple, and Randolph Scott. Temple, only 10 years old and at the height of her movie career, was represented by her business-manager father George Temple. P.N. Stevens was managing director and treasurer, and Temple, Vice President of the operation. This movie star connection provided the basis for the mine's name, "Tungstar." The investors lacked the experience needed to make a mine out of a raw ore deposit. To remedy the situation, they hired Walter Lenhart, superintendent of the recently closed Cardinal Mine on Bishop Creek, to develop the property. Lenhart, an experienced mining man, was the driving force in getting Tungstar off the ground. He brought with him several displaced Cardinal Mine workers. This included Ernest Kinney, recently married to Lenhart's daughter Yan, nephew Porter Whitson, Denman Jones, and Duke Cleland, who would became mayor of Bishop years later. Bemis Phelps was hired to consult on the geological and engineering aspects of the mine.

The Hollywood group was squeamish about the capital needed to develop a property in such a remote location. The extent of the deposit was unknown as no preliminary drilling had been done. Thus they were reluctant to invest large amounts of money in a deposit that might pinch out within a few feet. Subsequently the mine became a classic example of the old adage, "One never has the time or money to do something right the first time, but always manages to find the time and money to do it right the second time."

At 12,000 feet, the mine site proved inhospitable at times with snow drifts of 60 to 100 feet reported, along with high winds and avalanches. The mining phase of the operation was contracted to Joe Bee and his crew of miners. A platform was dug out of the talus slope and camp buildings erected to accommodate up to 25 men. Cost precluded a road, so a winding seven-mile trail was built from Brown's Camp up Gable Creek to the mine.

Initially, mining was done by open cuts, but underground glory holing soon followed, permitting year-round production. When one of the stopes caved, square-set timbering methods were used to hold up the back Hand-steel methods were used for drilling and blasting the rock and Tungstar was probably the last large mine in the district where these

slow labor-intensive methods were practiced. Air compressors and rock drills were packed up the mountain to speed production.

It became apparent to the developers that an aerial tramway was the only feasible method for getting the ore down off Mount Tom and to the nearest road. The road was located in Pine Creek Canyon, 4,500 vertical feet lower and 2.5 miles away. In 1939 the R.N. Riblet Tramway Company designed and built a system over terrain that was a challenge to the most intrepid of engineers.

There was some question as to the location of the upper tramway house. Should it be placed at the existing mining level, or further downslope at the portal of a yet-to-be-driven tunnel that would tap the lower portions of the ore body? In the end, a temporary system was designed, utilizing a low-cost jigback tramway. It would carry ore to a transfer bin 3,200 feet downslope from the lowest working level at the time. The ore would then be transferred to a 22-bucket continuous tramway for the last 10,500 foot run to the mill.

Mules were used to transport the heavy tramway construction materials including timbers, bull wheels and employees, up the mountain. According to some, it was the last big horse packing job done in the Eastern Sierra. George Brown, known for his ability to handle just about any type of load, was hired to do the packing. He kept his mules at Brown's Camp, located near the junction of Gable and Pine Creeks. The heavy timbers were tied two at a time across the mules backs, with the loose ends dragging on the ground. At regular intervals along the trail overhead supports were used to temporarily lift the weight of the timbers off the animals. This gave them a chance to rest before heading up the next section. Several mules were lost through missteps on the trail. On one trip to the mine the horse carrying the company bookkeeper stepped on a piece of sheet metal. The spooked horse bucked its rider off and he landed on his backside tearing the seat out of his pants. He was lucky that's all he tore.

A packing challenge presented itself when Riblet workers wanted a 1,400-foot length of one and a quarter-inch cable delivered up the moun-tain in one piece. To accommodate the load, Brown laid the cable out on the ground in a series of 100 pound coils. He then draped two coils on each animal with enough slack between to allow for a mule length. It required 15 mules to handle the entire load.

The finished tramway was over 13,700 feet long and cost $165,000 to build. It was 2,500 feet longer and dropped 1,600 feet further than the tramway built later by the U.S. Vanadium Corporation (U.S.V.) in Morgan Creek.

To process the ore, a mill was built near the junction of Gable and Pine Creeks at an elevation of 7,200 feet. The mill went into production in November 1939, and could process 40 tons per day. Mechanical problems were common, forcing the mill to operate at only 55% capacity.

Notwithstanding, the operation was able to operate at a profit. The first 17,000 tons of ore averaged 2.6% WO_3. This was more than twice the grade of the ore at U.S.V.'s operation up Morgan Creek. The first concentrates were shipped to the Metal Reserve Company in Salt Lake City, Utah.

By 1940, development work had blocked out a reported 100,000 tons of ore. With these reserves in sight, the investors decided to build a new mill which would replace the old problem-ridden one and increase production. The mill was designed and constructed by the Western-Knapp Engineering Company. It used rollers to crush the ore, eight gravity tables to recover the scheelite, and had a capacity of 60 tons-per-day. A battery of flotation cells was added to the circuit to enhance fine-grained scheelite recovery. By this time the concentrates were being processed at U.S.V's recently-completed Pine Creek Mill. Tungstar mill operators joked that their tailings contained as much tungsten as the mill heads at the neighboring Pine Creek operation.

Sometime in 1940, a man arrived at the mill wanting to talk with Lenhart. Speaking with a heavy German accent he offered to buy all the tungsten concentrates available, wanting them consigned to a small town near the Mexican border. To Lenhart, the man appeared to have all the mannerisms of a Nazi, except the uniform. Lenhart was suspicious and did not commit to any sale as there was a moratorium on shipments of tungsten to Germany at the time. He later contacted the Federal Bureau of Investigation who were not surprised as they had been tracking the fellow across the country. This action by Lenhart saved at least some tungsten from being fired back at Americans during the ensuing war.

Due to shortsightedness by the investors, the original tramway was built at minimal cost and was too lightweight to handle the tonnages required to keep the new mill running. The all-metal towers were constructed too low to operate satisfactorily during winter months and the tramway was prone to cable breaks which shut the operation down for weeks at a time while repairs were made. These breaks could be dangerous. Once a broken cable end came whiptailing down the mountain and into the lower tramway house, missing employees but cutting a metal stove in two.

The Western-Knapp Engineering Co., builder of the mill, was contracted to build a larger capacity and less troublesome tramway for the mine. The second tramway would go all the way to the mine site, eliminating the jig-back portion of the previous system.

The new tramway, finished in the fall of 1942, had 16 towers with a tension station near the midpoint, and an inclined length of 11,800 feet. The longest span was a 2,000 foot stretch suspended 500 feet over Gable Creek gorge. The tram cost an additional $135,000 to build, but could transport 100 tons in an eight-hour shift. It was mostly gravity operated, with the weight of the loaded buckets going downhill pulling the empties back up. An electric motor was used to get the tramway started, especially after shutdowns during winter when icy conditions froze the cables. The 10-foot diameter pulley at the upper end of the tramway operated a generator and provided braking power for the tramway. It also served the power needs of the mine camp. The improved system

increased production four and a half times, making Tungstar the second largest producer of tungsten in California from 1943 to 1944.

The mill was operated on a one-shift basis for most of 1942, sitting idle for three months while the tramway was being rebuilt. With increased ore feed, the new mill was now able to operate at peak production. Lenhart by this time was fed up with the penny-pinching of the Hollywood crowd and quit the operation. He moved on to run other mining operations around the West and eventually became a mining magazine editor.

It was a long trek down and back up the mountain to the Tungstar, so miners didn't get to town very often. Once down, they had two options to get up to the mine: walk the steep seven-mile trail, or ride one of the empty ore buckets going back up the hill. This latter practice was forbidden for insurance reasons. To get around that rule, workers starting up the trail would inform the tramway operator they might be riding the tramway. Upon arriving at the first tower, barely visible from the lower tramway house, they'd signal the operator down below, then hop into a passing empty bucket. Some oversize buckets had been added to the cable with this in mind. The operator knew to keep the tramway operating long enough for the rider to arrive at the upper tram house. Passengers rode with the fear that they might be suspended out over the canyon for some time should the tramway break down or stop for any reason.

Early in the operation, there was no telephone connection between the mine and the mill so miners listened to the radio to get news from the outside world. One evening in 1938, a description of an alien invasion of the U.S. came over the air waves. This caused considerable hysteria amongst employees who ran out of the buildings, scanning the night sky for alien space ships. It later turned out that they were listening to Orson Welles' alarmingly realistic version of H.G. Wells' War of the Worlds.

The company paid well to entice miners to the remote site. Many worked double shifts and could make up to $25 per day, excellent money at the time. Some miners would stay long enough to get a stake, then head down the hill to blow it in the bars and brothels of Bishop. Afterward, they might or might not come back to work. One big Swedish miner worked at the mine for nearly a year before taking a break to go to town and cash his paychecks. When asked if he was going to walk or ride the tramway the miner replied that he was not going to take any chances with so much money and proceeded to walk down the mountain. Mine foreman Joe Bee made frequent trips via the tramway to visit his new bride, then living near the mill. Other workers kidded that it was going to kill him someday which it did. During one trip, in 1942, the tramway cable broke, dropping a bucket with Joe in it, hundreds of feet to the bottom of Gable Creek.

With the second mill running, the mine was making money and the Hollywood investors wanted to think the ore body went "all the way to China." To their disappointment, ore grades started to drop off as the workings got deeper. By 1945, production decreased by 50% and mill heads decreased to near 1%. Later that year, George Temple announced that a new ore body had been discovered with indications that it extended not only laterally, but vertically as well. This was wishful thinking on the

part of management. Continued development showed the carrot-shaped ore body was actually starting to bottom out. A winze sunk down to the 320-foot level and core drilling from the bottom intersected little ore.

The operation was closed in November 1945, the owners stating they had difficulty getting workmen for the operation. A continual decrease in ore grade and a drop in tungsten prices were probably the real contributing factors. The mine buildings were ravaged by fire in October 1946. Workers at the nearby Hanging Valley Mine saw a person leaving the mine buildings a few hours before the blaze started and suspected arson. Tungstar Corporation later collected on an insurance claim related to the fire.

The mill processed some stockpiled ore into 1947, and in 1951 the mill was leased by Huntley Minerals of Bishop to process tungsten ore from mines in the Tungsten Hills. That year, when a hot water tank exploded in the mill, a workman was thrown through the mill wall, but he miraculously survived. The mill buildings were later wiped out by a massive avalanche in March 1952. The mine was reopened for a short time in the early 1950s by Clarence Hall and his Tungstar-Hanging Valley Mining Company. As part of this effort a road was extended to the property from the Hanging Valley Mine and a few hundred tons of ore were shipped along with some Hanging Valley production.

In the heydays of the 1940s, the operation employed up to 75 people including 12 miners. Total production from the deposit was 119,200 units from 70,774 tons of raw ore with an average mill head grade of 1.97% WO_3 and an 85.5% average mill recovery. Even with several expensive remakes during its history, the Tungstar Mine appears to have been a money-maker for the investors, including George Temple. Young Shirley was not to receive much in the way of benefits from her investments, however. By the time she reached her early twenties, the estimated $3,200,000 she received through her movies, was reduced to a mere $44,000. George was supposed to be putting half her earnings into a trust fund, but apparently was investing most of it in ventures like Tungstar. What happened to the Tungstar profits is unclear.

Due to fire and the ravages of nature, little remains of the Tungstar operation. The foundations of the mill lay just uphill from the Pine Creek trail parking lot and part of the original mine trail is now used by hikers heading to scenic Gable Lakes. The trail passes by some of the remaining tramway towers and others can be spotted across Gable Creek. The mine lies above at the end of an old road cutting across the skyline ridge west of Mt. Tom. The two big air compressors used to power the mine's rock drills still sit where they last ran over 45 years ago, and the nearby mine openings are now ice-filled-the remnants of a bygone era when miners matched the mountains that challenged them.