

A Partial History of the Gila Lumber and Milling Company

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This particular **GuruGram** is somewhat different than our usual technical fare.

I have long been fascinated by the **Mount Graham Aerial Tramway**. Which was a spectacular local lumber tramway (circa 1924) that operated over **one vertical mile** of incredibly hostile terrain. And, while uniquely engineered, turned out to have been an economic failure, lasting only a little over one year of operation.

At any rate, one of **the** key historical documents was L.O. Martini's **A Partial History of the Gila Lumber and Milling Company**.

While just about everybody locally can find a shopworn illegible copy-of-a-copy, clean text in machine readable and web friendly form seemed to be conspicuously absent.

A fairly accurate copy of the original historic paper follows...

A Partial History of the Gila Lumber and Milling Company

by L. O. Martini

On Mt. Graham there exists one of the largest stands of Douglas Firs in the southwest part of the United States--Douglas Fir timber being one of the best of the soft woods for structural purposes and one that is extensively used for support timbers in mines. About 90 miles North of Pima in the Globe-Miami area there existed one of the best markets for Douglas Fir timber in the State of Arizona. These facts, coupled with the local need for lumber, caused several people to establish lumber mills on Mt.Graham.

My account will be a partial history of one of the projects--a Mill located in the upper end of Ash Creek Canyon about two miles south of what was then known as Columbine Ranger Station, which was on the top of Mt. Graham. This Mill in 1911 was owned by Moody and Welker families--very prominent families in the Pima-Safford area of the Gila Valley.

Early in 1916 three men, former employees of the Arizona Lumber and Timber Company of Flagstaff, Arizona, became interested in this lumbering project. These three men were by no means new to the lumbering industry having a total number of years experience of exceeding 60 years.

They were Mr. F.C. Fisher, former superintendent of machine shop, railroad, and logging operations, Mr. Ransom Freeman, Machinist, and Mr. George F. Martini (my father) who was superintendent of the Planning Mill and Box Factor of the Flagstaff mill for 23 years.

The three of them with Mr. Freeman's wife, Helen, went to the valley in the spring of 1916 to inspect the Moody and Welker project. They found a flume was used to transport lumber from the mill to the valley floor. This flume was approximately 9 miles long.

There were a number of places where the flume was broken down. The worst of these was a trestle about 75 feet high and 150 feet long that crossed Ash Creek Canyon at the foot of what was known as Trestle Hill. In those days the principles of hydraulics were not as well known as they are today, for if they were, the flume would never have been built, for in the length of the flume there were three hills--Oak Flat Hill, Bellows Hill, and Trestle Hill, the latter stood about 57 degrees above horizontal and the other two approximately 45 degrees above horizontal. For the entire length of the flume there was no stretch where the flow of the water was what is known as uniform. The water flowed in surges or slugs being 6 to 12 inches deep, then tapering back to 1 to 2 inches deep, then to

another slug. This made the transportation of lumber very difficult, for on the steep hills the pieces of lumber would travel faster than the water, creating a large fan six feet high in front and leaving a practically dry flume behind. Lumber following would hit the dry flume and gain such speed that it would become airborne and leave the flume and even lodge in some of the trees. This real problem was not appreciated by the three men and they formed a partnership and decided to operate the project.

After this decision was made my mother Annette Martini, my brother George, and my sister Wanda and I joined my father at what was then known as the Flume Camp, which consisted of one large shack and several smaller ones at the lower end of the flume which was at that time about 1/4 mile west of the Cluff Ponds in the lower end of Ash Creek Canyon and adjacent to what was known at that time as the Goodman Ranch. One item of interest about the Flume Camp was that adjacent to the main shack, there was the largest cottonwood tree in the State of Arizona. The main trunk was approximately 10 feet in diameter. Work began on the flume which lasted a good part of the first summer.

We had to rebuild the Ash Creek trail, making it passable for pack animals, consisting of donkeys and small mules. Supplies of all kinds, including bales of hay, grain, crates of eggs, sacks of flour, beans, etc., had to be packed in to the mill. The bushes and trees had to be cleared away so the loaded animals could get through with a bale of hay on each side.

Then we had to rebuild the broken section of the flume. In some cases there was enough lumber at the sites to do this. In other cases new lumber had to be manufactured at the mill and floated down to the areas where it was needed. This meant going into the forest, falling the trees, cutting them into logs, hauling them to the mill and sawing them into the sizes needed, and putting water in the flume and floating the lumber to where it was needed.

To get the logs to the mill we had to build a log chute. For the first year or so the logs were pulled down the chute by horsepower. Later a steam engine, known as a Donkey was brought in and they were pulled by a cable. This chute was approximately 1/4 mile long.

Most of this preparatory work was done by the three owners, myself, and one or two local people. Later as things got organized, my father, mother, and brother George, and sister Wanda stayed at the Flume Camp. My mother drove into Pima, Central, Thatcher, or Safford and bought supplies. Those needed at the mill were packed on the pack animals and taken up the trail 9 miles to the mill by Tony Chavez, the packer, who was very dependable. The trip usually took all day with returning the 2nd day.

My father and brother handled the lumber shipped down the flume, sorted and stacked it and sold it to those who wanted it. Later a Moreland truck was purchased and the lumber was trucked to Central and shipped to Globe by rail.

Mr. Fisher, Mr. Freeman, myself and three or four local people worked the upper end. Under these conditions you learn many things. I learned how to fall trees, trim off the limbs, cut the trunks up into logs for the teams to haul to the chute. I learned the hazards involved when I was working with King Upton cutting off a tree that had fallen across the chute. He was on the lower side. We had to cut off the upper end and were cutting off the lower end, when it started to roll, and he tripped and fell. The log rolled over him, and he was killed instantly. I had been warned, but now I knew what could happen. I, with several others, carried him 14 miles on a stretcher to the valley.

The mill consisted of a wooden shed which housed two steam boilers, a steam engine shafting a pulley to drive a large circular saw 5 feet in diameter, a top circular saw 3 feet in diameter, an edger for trimming off the sides, a carriage that carried the logs back and forth past the circular saw, a trimmer that cut the ends off the board and timbers and bull chain that pulled the logs from the mill pond to the mill deck where they could be rolled on to the carriage.. My job at first was to go to the log pond, get a log, float it over the bull chain, (Needless to say, I fell in the pond sometimes.) which pulled it up to the level of the mill deck. I then helped Mr. Fisher roll the log on to the carriage, and by means of a ratchet lever move the log forward so that a slab could be cut off as the carriage passed the saw. Then the carriage was reversed and brought back to its original position, and Mr. Fisher, whose job was known as the sawyer, would indicate to me by sign language whether he wanted a 1" piece or a 2" piece or a 4" piece or 6" piece. From a dial on the carriage I would have to figure out how much to move the log forward allowing 3/8" for each saw cut. The time to do this was very short as the log would hardly clear the saw on the return trip when it was supposed to go forward again. The days output of lumber was controlled a great deal by the length of time between saw cuts, so I had to think and move very fast.

At first Mr. Freeman fired the boilers. We used sawdust as fuel, and he operated the steam engine. He had trouble keeping the steam pressure high enough to operate the mill. Other people tried it, but they could do no better. Finally someone said if you can get Jimmy Reed to come up and fire the boilers, you won't have any trouble. We finally got Jimmy Reed, a small man with red hair and beard, and it seemed all he had to do was open the fire box door, shake his beard at the fire, and the safety valves would pop off with a full head of steam. He had a knack of rapidly shoveling in sawdust at the right time and the right place to keep steam up.

In the rear of the mill there was a cut off saw about 2 feet in diameter. This saw was used to cut the slabs and waste pieces into lengths that could go up the waste conveyor and to the open pit burner at its end. One day while I was riding back and forth on the carriage, I saw a red blur in the corner of my eye and I looked to the rear. There I saw one of the employees, as I remembered his last name was Hatch, fall over backward. He had practically cut off his leg.

Then for the second time, I helped carry a man 14 miles on a stretcher to the valley floor. This time the doctor met us part way down and administered pain-relieving medicine to the poor man. Luckily they were able to save his leg, but I never saw him again.

The mill operated turning out 8 to 10 thousand board feet of lumber per day until the snow started falling. Then we shut down for the winter.

Late in the fall of 1916 Mr. Fisher thought I should learn to be a machinist. He arranged for me to start as an apprentice in the Santa Fe shops in Albuquerque, New Mexico. I had to be 16, so shortly after December 1, 1916, I went there and stayed 7 or 8 months when I contracted a slight case of Tuberculosis, so I went back to the mill and recovered shortly thereafter.

The mill operated during the spring, summer, and fall months of 1917, 1918, 1919, and 1920. During this period a small mill was built at the Flume Camp to process some of the lumber coming down the flume.

We also had a man, as I remember his name was Brown, whose job was to walk the flume to prevent jams that were occurring due to water shortages. One night he did not return, and the next day his body was found in the canyon below the 75 foot trestle. He had evidently slipped and fell to his death, and for the third time I helped carry a man to the valley floor.

As time went on financial problems became more severe and additional capital was badly needed. Mr. William Wholley of the Wholley Lumber Company in Globe became interested and was able to get financial help from several in the Globe area. It was also becoming more and more apparent that some other method than the flume was needed to get lumber from the mill to the valley floor. Also during this period I decided to continue my education, so I enrolled at the Gila Academy in Thatcher in January 1919. I rode horseback each day to Thatcher until school was out in the spring. It was there I became better acquainted with Louise Rogers of Pima. We had met several times before when groups of girls had gone to Camp Columbine for an outing, and I had been invited up for a picnic. Also, some of the girls had been riding in the flume and it broke down, and I was sent down to find out where, and she was in that group.

From the fall of 1919 to spring of 1920 my brother George, my sister Wanda, and I attended Gila Academy. I graduated in May 1920 with my sweetheart Louise Rogers.

I worked at the sawmill until the fall of 1920, when I went to Logan a Utah Agricultural College, mainly because Louise Rogers was there. From the fall of 1920 to the Spring of 1921, my brother George and sister Wanda continued at Gila Academy from which my brother graduated in 1921.

As I remember the mill ceased to operate in the fall of 1920, and my family moved to Coolidge, Arizona, where my father, my brother, and I worked during the summer of 1921.

I am not too familiar with the operation of the mill between fall of 1920 to the Spring of 1923. I know that Mr. Fisher, the Freemans, and my father were no longer connected with its operation, as they had gone to California. Mr. Wholley and those associated with him were still interested and had decided to build an aerial tram to move the lumber from the mill to a point on the mesa about two miles north of the old Flume Camp and about six miles more or less west of Pima.

When school at Logan was out in June 1923, I went back to the Flume Camp to work on the design of the aerial tram. The preliminary survey had been made by Hoyht Medler, one of the Medler Brothers Cattle Company who had been a surveyor in the construction of Roosevelt Dam. The preliminary survey had been sent to a cable company in the East and a preliminary layout for the tram made and the plans returned with an estimate of the cost of the final design. Mr. Wholley said their estimate was too high and that he would have it designed, and he gave me the job. From June 1923 to July 1925 I worked on the design, construction, and operation of the aerial tram--a very interesting experience.

The tram started at the mill, went east out of Ash Creek Canyon to the dividing ridge between Ash Creek and the main canyon to the north, the name of which I cannot remember. From the top of the ridge to the next point we had a single span of approximately 1800 feet with a drop of about 800 feet. The tram continued on in a straight line across the old wagon road to an angle point on the mesa along the wagon road about two miles above what was known as the Dugway. From there the tram turned 30 degrees more or less sly of the Ely Course and terminated on the mesa about two miles below the Dugway or about six miles from Pima.

I was furnished a book on the design of aerial trams and with this in hand, I started working. My office was at the old Flume Camp, and on the wall of the largest building I tacked up the profile and calculated tower height and locations, tension station locations, loading transfer and terminal station designs.

The overhead cables called track ropes consisted of 1 1/4 inch lock coil on the load side and 1 1/8 inch lock coil on the return side. Lock coil cable is a specially fabricated cable so that the surface is smooth like a pipe and not uneven like a normal cable. This is done to avoid excess wear on the cable strands and less friction on the carrier wheels that run on the track cable. The moving cable or traction cable was 5/8" normal type construction because greater flexibility was needed. It was necessary to maintain about 30,000 pounds tension on the overhead stationary cables and for this reason several tension stations were needed. At these stations the incoming stationary cables were fastened to a large suspended weight of approximately 30,000 pounds. The outgoing stationary cables were fastened to concrete weights buried in the ground. Transition between the incoming and outgoing cables was by means of small rails. The traction cable or moving cable was continuous through the tension stations. There were four or five of these tension stations. I don't remember exactly.

A lot of the hardware, such as tower saddles, traction rope sheaves, track cables, carrier frames and grips came from abandoned mining trams in southern Arizona. The carriers all had to be modified from ore bucket use to lumber carriers. Transportation of the material to the construction site was the big problem. Cement, rock, sand, and water had to be packed in on mules to each tower site to pour the foundations.

The timbers for the towers and stations had to be packed in swivel pack saddles so that the mules could make the turns in the trail. This was not easy as a piece of timber 6"x8"x20" feet long had to be placed on two mules, one on each end with a handler with each mule. Also, the track ropes had to be in one piece about 3000 feet long. This was done by making coils and putting two coils on each mule and continuing back to the next mule and the next until the end of the cable. The track cables were pulled into place by power wenchers once they were on the side. A smaller diameter cable was strung first to pull the traction or moving cable into place. This cable had to be spliced in a number of places as it was approximately 8 miles long on the upper section and 6 miles long on the lower section.

Mr. Wholley brought in Bert Green from Globe to supervise construction. He also brought in some Mexican construction workers to do the cement work. Some local men worked on the job. I remember Willie Weech was one of the chief carpenters.

After the paper work was done, I checked to be sure the right timbers went to the right location. I also worked on tensioning the track cables. In doing this we would pull up on the track rope by use of an anchored capstone turned by a horse. On one occasion a safety chain broke and I was struck in the mouth by the cable, driving my teeth through my tongue. At first they thought I had been killed.

After the construction was completed of the 7 1/2 mile tram, the operation problems started, and this was my problem. There was located at the upper end a ..."illegible writing"... approximately 8 feet in diameter lock grip sheave. As this sheave turned it moved the traction rope. To start the tram lumber would be stacked in two carriers and pushed along a rail until the carrier grips fastened on to the moving cable, and this load was then pulled out onto the track rope. Single empty carriers or carriers loaded with hay, grain, or supplies for the mill were fastened on at the tower end. Eventually there were enough loads of lumber coming down to pretty well pull the carriers back on the return side. Some power and control had to be exerted at the upper end. On the whole the operation worked fairly well. We had some trouble at times. Varying tensions would lift carriers off the track rope and they would hang up on the towers and stop the tram. then we would have to find out why and correct the problem. This was not always easy. Sometimes it involved sliding out in a rope sling with a hook over the track rope to a carrier several hundred feet above the ground and pry

the traction rope out of the grip and then hang on for dear life, as the track rope jumped up into the air and vibrated like a bowstring. Some of the local boys, who helped me a great deal and I thought a great deal of, were Bill Taylor and his brother, and Marcus Allen and his brother.

During the operation of the tram a very sad thing happened. Two young fellows (I remember one's last name was Bond and I think the other was Marcus Allen's brother) were working at the transfer station, which was at the angle point. The traction cable started slipping on one of the big smooth sheaves. The Bond boy picked up a hemp sack and slipped it between the sheave and the cable. As he did this, a hook on the glove he was wearing caught in the hemp and the traction rope started with a jerk and pulled the Bond boy into the framework of the structure, breaking his neck and killing him. This time we were able to bring him out by car, but that was a very sad trip for me.

During the time I was working on the tram, the operation at the mill was changing. They were increasing production and going to high lead cable logging.

Also, the mill at the Flume Camp was moved to a site in Pima along the railroad track and across the road from the Eyring home.

In July of 1925 my wife and I left the valley for the coast, where I had a job waiting for me with the city of Glendale.

Just how long the operation of the mill and the tram continued after that, I do not know. The company was having trouble financially when I left, and I understand they closed down and dismantled the tram within a year.

(end of transcription)

For More Help

Sourcecode for this **GuruGram** can be **found here**.

My paper on the Mount Graham aerial tramway **appears here**.

Additional resources may be gathered as time and funding permit. You can email me at **don@tinaja.com** or call **(928) 428-4073** for the latest info and updates.