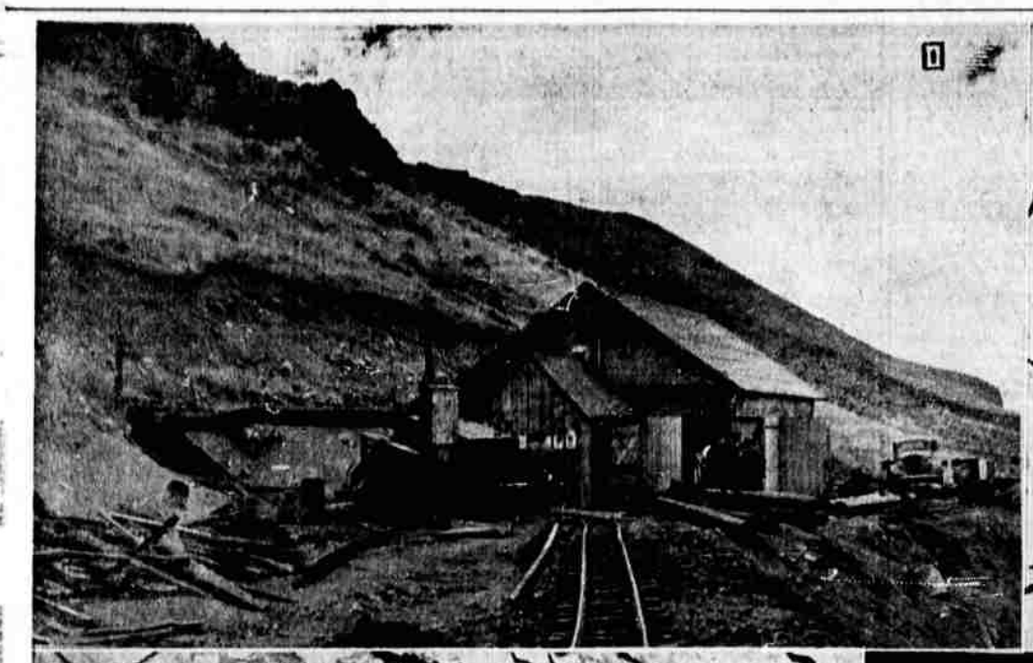
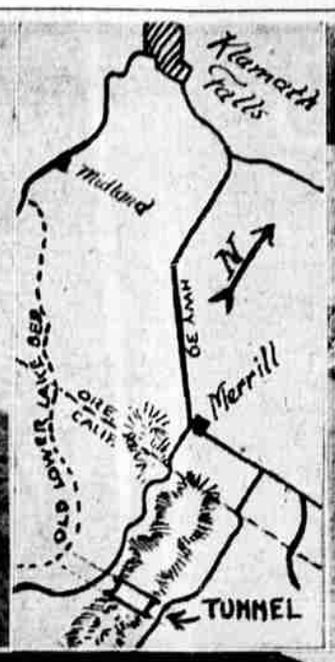
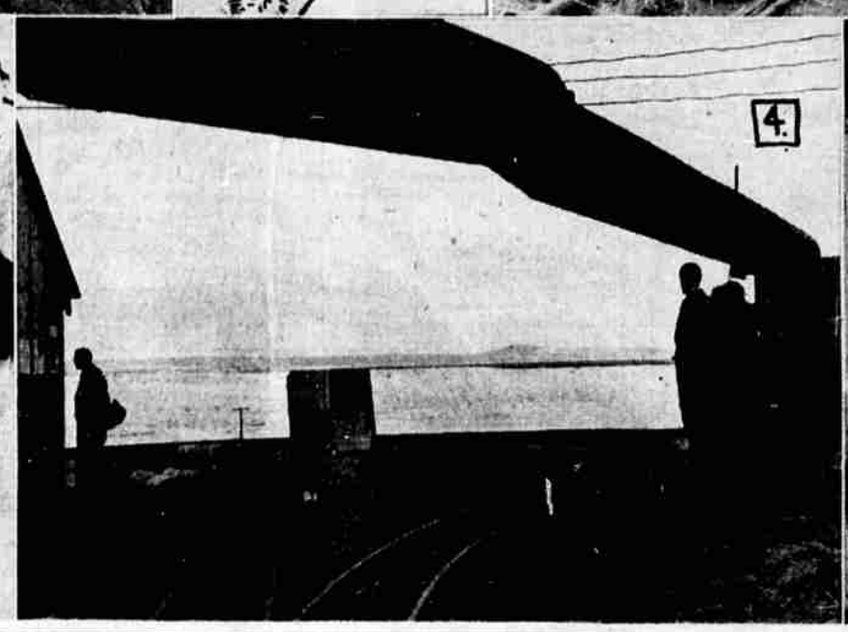
News-Herald Week-End Photo-Magazine Page







Tunnel Drive Making Legend Come True

By MALCOLM EPLEY

Deep within a curiously constituted Klamath mountain, two crews of grimy men, looking for all the world like the gun crews in war pictures, are boring toward each other in a project that soon will make reality of an ancient legend.

That legend is that Tule lake has an outlet. When, some day in May, those drilling crews meet in the rocky heart of the mountain, breaking through the final barrier separating them, they will have completed the first major phase of the million dollar job of giving Tule lake an exit for its unwanted surplus water.

Only a thousand feet of rock now separates the crews who are boring a 6600-foot tunnel through the mountain lying between Tule lake and Lower Klamath lake. It is through this passage that Tule lake water will be delivered to thirsty soil on the Lower Klamath side, possibly by the first of the coming year.

It was my good fortune this week to go on a "conducted tour" of the Tule lake tunnel in the company of a congenial party of Klamath business men. In the group were Elmer Balsiger, R. E. Hooker, Verne Owens, Mitchell Tillotson, Photographer Wesley Guderian and myself.

Wildlife Country

We visited the Tule lake end of the tunnel construction project, reaching the operation by the west side road.

The roadside there is simply alive with pheasants. Strutting cocks and fat hens pay as little attention to passing cars as would barnyard fowl. All the way along coveys of quail may be seen clearing the road in front. Along the lake side less than 100 feet from the road, we saw honker geese sunning themselves, while out over the water geese and ducks wheeled against the rugged peninsula skyline.

But we were on a tour of an engineering project, not a nature study trip, and moved on to the Tule lake portal of the tunnel. Here the J. A. Terteling company, contractor on the tunnel boring project, has set up a few small buildings amid the rocks and sagebrush, one of which serves as a field office.

We were greeted by Eugene Williams, superintendent of the project for the company, and E. C. Enebeck, next in command. Congenial and obliging, these gentlemen knew beforehand we were coming and lost no time in getting our tour underway.

Low Bridge

First order of business was to discard our felts for brick-colored composition helmets, an unquestioned warning that we were going under a few low bridges. Then we hiked briskly up a steep incline to the mouth of the tunnel, which lies about 150 yards from the west side road.

Here we paused briefly for an inspection of the small building housing the air compressor and tool shop. Copco power lines have been strung to this building to provide power for the compressor and blower, and lights which have been spaced along the length of the tunnel.

As we approached a train of cars was dumping rocks that had been hauled from the depths of the mountain. There is a sizeable pile of "tailings" at the tunnel mouth, all hauled out by a little locomotive and small cars familiar to anyone who has visited the mines. The miniature railway tracks are laid along the entire length of the tunnel floor.

Noisy Blower

Most impressive mechanical equipment at the tunnel portal is the big blower and connecting 12-inch tin pipe which runs from this point back through the tunnel, hung to the ceiling the whole distance. This is also the source of the tremendous noise that makes conversation virtually impossible at this point. The purpose served by this apparatus is purely ventilation. Smaller pipes, strung along the ground on either side of the tracks, carry the compressed air and water to the drilling crew.

Here we learned one of the most interesting features of this project, the thing that led us to mention the curious make-up of the mountain. Ordinarily, Mr. Williams explained to us, it is necessary to suck smoke and bad air out of a tunnel such as this one.

But in this instance, that's not necessary because the smoke seeps into the porous lava formation of the mountain and finds its way out by itself. He later showed us crevices in the tunnel ceiling that provide exit for the smoke, and the distance to the earth surface from some of these crevices is as much as 900 feet.

Another curious angle on this is that on days when the wind is blowing a certain way, this natural ventilation system does not work so well.

Indian Fashion

We were now prepared to enter the tunnel. There was the inevitable pause for pictures, and in we filed, Indian fashion.

The tunnel is a little over six feet high, so the man of ordinary height can walk upright. But there is that big pipe hanging overhead, ready to biff you if you are not careful, and when it does you give thanks for the helmet. They do a first rate job of protecting the cranium.

As you enter, the passageway is literally filled with the metallic roar of the blower and the big air pipe. It's deafening, and you are pleased to notice it dying away as you get farther from the blower outside.

I have waded through the slimy tunnels of mines in northern Idaho, so prepared my feet with a pair of galoshes. But soon I discovered they merely served to make my wearying extremeties hot. The tunnel floor is dustily dry throughout, and even if a vein of water were tapped, it would run off immediately through the porous formation.

Observing the tunnel sides as we went along, we noticed first conglomerate rock, then lava cinders, then lava gravel, and then more cinders.

For a comparatively short distance near the entrance, steel arches have been placed in the tunnel. Otherwise, there is no timbering and there has been no problem at all of crumbling or cave-ins. We ventured a question to Mr. Williams as to whether he had run into any rock that was too hard to get through, and he answered: "There isn't any such rock."

Back we went into the tunnel, puffing a little and getting warmer all the time. Intervals between lights sometimes were far enough to make the going very much in the dark, but the tunnel floor is smooth. Finally, after more than half a mile hike back into the mountain, we realized we were getting to the end of the hole. We sidled around half a dozen muck cars, and came out at the scene of the drilling operations.

Here again we encountered noise — the roar of the jackhammers. The drilling crew, as we have mentioned, looked like a gun outfit. The men stood around the rattling machinery, grimy, wet and perspiring, with heads in helmets, braced against the drills or turning the little cranks that sent the bit deeper and deeper into the rock.

Compressed air provides the force behind the drilling, while water under pressure is forced through the rod that bores a two-inch hole into the rock for about six feet. This water passes through a 32nd of an inch opening through the rod, keeping the bit cool and carrying the ground-up rock out of the hole. Around the jack-hammers there is a constant spray, evidently of both dust and water, and you know what that does to the clothing, faces and hands of the hard-working crew.

They Like It Tough

Conditions, we would say, were tough, but it's traditional in the mines and tunnels that men who do this work become attached to it and wouldn't work anywhere else.

I was impressed with the ruggedness, the efficiency and the good nature of this little group of men we found far back in the heart of a lonely mountain, working in an eerie light amid deafening noise, flying dust and water particles and in an atmosphere that had the sweat rolling off the brows of all of us.

I did a little personal tinkering with the jack-hammers, twisting the cranks and feeling the bit bite into the hard barrier.

The usual method is to bore 12 or 13 holes, six feet deep, tamp in the explosive, detonate it, muck out, and start the jackhammers again. The crew on the Tulelake side, which is in tougher stuff, makes from 25 to 35 feet a day, while that on the Lower Klamath side makes about 40 feet a day.

On the day of our visit, the Tulelake crew was 3172 feet into the mountain. The Lower Klamath crew was 2385 feet in. The length of the tunnel is 6600 feet. The two crews are now about 1000 feet apart.

After watching the crew at work, we began the long trek out to daylight, noting again as we approached the portal the mounting roar in the ventilation pipe.

Lift of 62 Feet

At the opening, we paused to look over the watered wastes of the Tule lake sump area, to be partially reclaimed through the project of which the tunnel is the major feature. Pumps will lift water from the lake 62 feet, and from there it will roll through the tunnel and out on the Lower Klamath side, where it will be used for a bird sanctuary and irrigation. Removal of the surplus water from Tule lake will make possible permanent cultivation of 21,000 acres, and will halt the steady encroachment of waters on valuable farming land that has been going on for several years.

Tule lake, without the tunnel, is a reservoir without an outlet for the drainage water of the heavily irrigated Klamath basin. In the dry cycle, water covered only about 10,000 acres, but now it covers 23,00 acres. All of this, of course, lies outside the entered lands of the homestead area, but in the so-called sump there is rich farming land that has yielded millions of dollars worth of crops to farmers who have leased it from the government. The tunnel will make possible leasing and farming of this land except during possible periods of exceptional storm runoff when it might be required as temporary sumpage, thus assuring this additional agricultural resource for the Klamath basin.

Look For Exit

Only the fact it had no outlet prevented Tule lake from becoming an agricultural empire to the last acre. Legend had it that somewhere there was an outlet, down through a lava crack or some such place, and the government has spent money looking for such an exit. But nothing worth while was ever found, and at last the tunnel project was started as a means of removing the only major imperfection of the Klamath reclamation plan.

Pausing at the tunnel mouth, we learned the bore is 6 feet 4 inches in diameter, but inside the concrete lining yet to be installed it will be 5 feet 9 inches. The concrete pouring operation, to start some time in May and last a month, promises to be well worth a story in itself.

About 60 men are employed by the Terteling company, which is operating three regular shifts and one weekly "crazy" shift to keep the job rolling continuously.

As the two ends of the bore stretch out toward each other in the heart of the mountain, the time when they will come together assumes increasing interest. There should be suspense and excitement there in that dark hole when the bits break through to nothing, the last thin wall of rock is blown away, and the two crews walk up and shake hands. I would like to be there.

The Pictures

1. Exterior view of the Tule lake portal of the sump project tunnel.

2. The party on the trip described in the accompanying article. Left to right: Elmer Balsiger, R. E. Hooker, Verne Owens, Malcolm Epley and Mitchell Tillotson. Wesley Guderian was operating the camera.

3. The drilling crew, boring into the rock in the very heart of the mountain. The tunnel was 3172 feet deep from the Tule lake end when this picture was taken.

4. What you see as you reach the tunnel mouth on the way out. In the distance, the watered wastes of Tule lake sump area, to be partially drained by the sump project operation. Above, the big pipe that carries air for ventilation purposes into the tunnel.

5. Eugene Williams, left, superintendent, and E. C. Enebeck, next in command, for the J. A. Terteling company, the sump contractors.

Local School Administration Explained

Elementary school principals are shown in conference with Superintendent Percy Wells. Standing, left to right: Lowell Kaup, Pelican school; Augusta Parker, Fremont, and C. W. Muender, Roosevelt. Seated: Agnes Bryan, Mills; Florense Ollman, Fairview; Verne Speirs, Riverside; Myrtle Helm, Conger, and Superintendent Wells. The accompanying story is another of a series on local schools by the League of Women Voters.

When J. P. Wells became city superintendent of the local schools, 20 years ago, the enrollment was 980 pupils. There were only four school buildings. These were Riverside, the largest with eight teachers; Central school, which was located where the Medical-Dental building now stands; Mills which now has 21 class rooms, but then had only four teachers; and the small school at Pelican Bay.

Wells was county superintendent of the schools in Jackson county before he accepted the position he now holds. His experience had included, also, work in the government schools in Alaska. His office is located on the second floor of the Fremont school, where he is available to parents or others interested in the work which the schools are doing in this city.

2-Year Term

The superintendent is selected by the school board for a two-year term. In him is centered the responsibility for carrying out the school program. He is charged with the duty of developing the curricula; for organization of the schools; for the selection of text-books; for the care of the school buildings and grounds; for planning the school budget, with the help of the clerk; for the ordering of supplies and equipment and for many other phases which keep the schools running smoothly.

The quality of the schools in any city is a reflection of the ability of the superintendent. He sets the educational policies; selects the teaching personnel, and is generally responsible for the standards of the schools under his supervision. Wells says that his greatest responsibility is the selection of teachers. The school board hires teachers on the recommendation of the superintendent. This is done each year, for Klamath Falls teachers do not have tenure.

There are seven elementary schools in the city, all modern but the Riverside school. All have some playground space, but it is very inadequate at some of the schools. The total enrollment last year was 2247 pupils. The peak year was in 1930-31, when the enrollment reached 2647. The lowest enrollment in the last 20 years was in the year 1932-33, when it dropped to 2221.

Working directly under Wells, and responsible to him, are the principals of the various schools. Each is charged with the responsibility of enforcing the rules of the school board and the instructions of the superintendent. They have charge of the buildings and grounds and the custodians report to them. They are responsible for the discipline and education of the pupils in their schools. Principals supervise the work of the teachers, as much as possible. All of the principals in our school teach, at least part of the time. In the larger schools they teach for half a day. In the smaller schools they carry a full teaching load.

Principals Listed

Following is a list of the principals, and the dates of their appointment to the positions as principals:

Agnes Bryan, Mills school, 1922.

Myrtle Helm, Conger school, 1924.

Lowell Kaup, Pelican school, 1934.

C. W. Muender, Roosevelt school, 1930.

Florence Ollman, Fairview school, 1930.

Augusta Parker, Fremont school, 1921.

Vernon Speirs, Riverside school, 1936.

Other members of the school personnel are:

One secretary to the superintendent, employed for 12 months.

Two office assistants, employed for 12 months.

One librarian, employed for 12 months.

One school nurse, employed for 12 months.

Seven custodians, employed for 12 months.

One custodian, employed for nine months.

Five part-time custodians, employed for nine months.

One bus driver, who is upkeep mechanic, employed for 12 months.