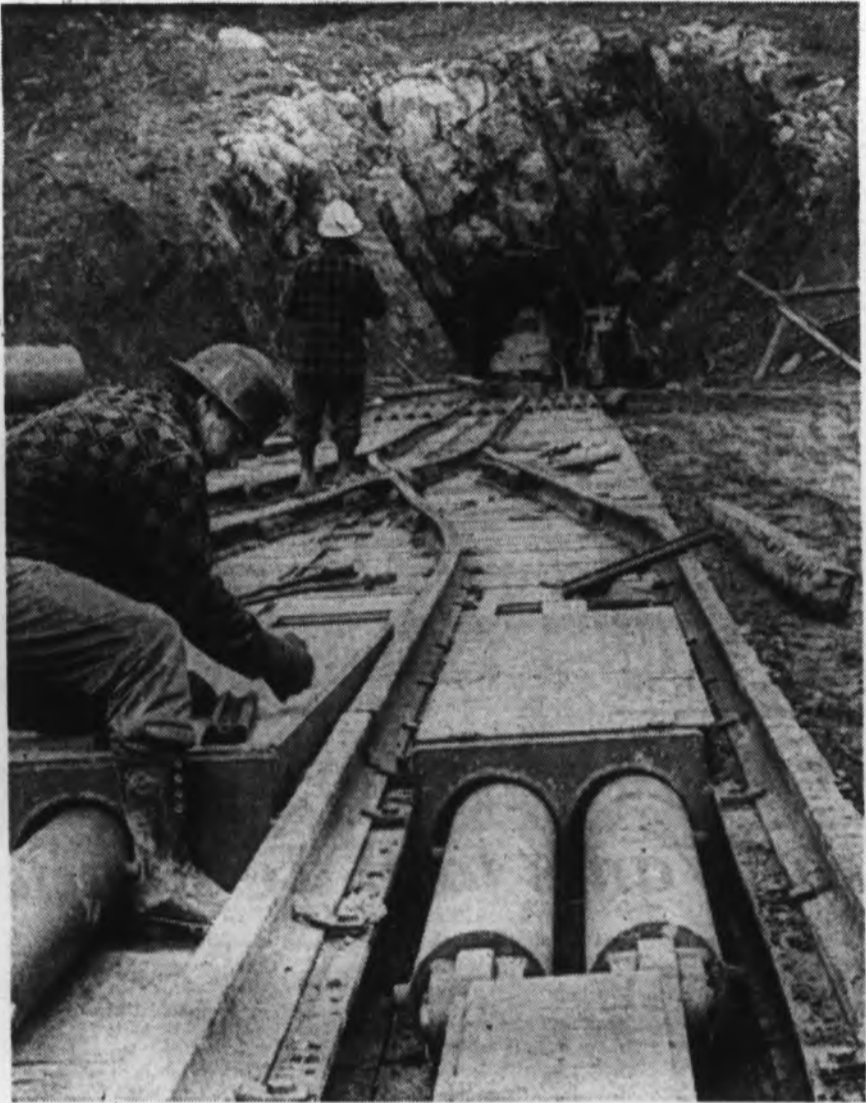


Rock face dwarfs 16-foot diameter flume tunnel and huge drilling machine



ONLY SECOND of its kind in Canada, this "magic carpet" narrow-gauge railway has moveable track and is used to alternately shuttle huge drilling and mucking machines.

At Jordan River

Hydro Project Hums

By CLEMENT CHAPPLE

The din of drilling steel in a hardwood tunnel is so loud it is all-pervading. It not only blots out every other sound, but it seems to demolish thought, leaving the driller with an uncanny sense of peace.

When a big automatic drift drill began recently to drive a 3 1/4-mile tunnel into bedrock 45 miles west of Victoria, the noise heralded a new chapter in the story of the Jordan River power development, begun in 1907 when horses and men provided the muscle.

In these days, too, there was plenty of cheap timber, and it took 6,000,000 feet of fir planks to construct the flume that eventually carried water

down to the powerhouse. The flume has been repaired several times, given a plywood lining, and was once punctured by a landslide. The new flume will be more permanent.

It will be 16 feet in diameter, representing 175,000 cubic yards of excavated rock. After each "round" is blasted, a giant mucking machine scoops up the debris and loads it onto rail cars.

Nothing short of a major earthquake could shift the tunnel's steel-reinforced

course. The force of the water that pours down the shaft will be spun through a turbine into 150,000 kilowatts, and fed into the Vancouver Island power grid at 138,000 volts.

At a cost of \$7,497,578, the tunnel is expected to take three years to complete. Emil Andersen Construction Company Ltd. of Hope are the contractors.

The pictures on this page show the opening at the south, lower end of the tunnel where

it will join up with a mile-long steel penstock leading into a new powerhouse near the mouth of the Jordan River.

The modern powerhouse will house a single turbine generator. The old power unit produces only 26,000 kilowatts. Since the first juice hummed through the lines to Victoria at 8:24 p.m., September 10, 1911, there have been many changes and improvements.

Two 5,500-horsepower generators were installed in the beginning. Then in 1914 another 10,000 horsepower unit was added. Further additions by 1928 gave a maximum of 41,750 horsepower. This plus power

supplied by generators at Brentwood and Goldstream was sufficient to handle the power needs of southern Vancouver Island.

Life in the camp in the very early days was different, too. Tents were pitched in between stumps too large to remove. These contrast with the prefabricated homes in the construction camp today, though the site seems less attractive.

There have been no loud complaints of the food in the modern camp, unlike the early one. A catering firm did the cooking then, and the food was so bad the men went on strike. They were working seven days a week, 10 hours a day, for about 40¢ an hour.

There was, of course, no road from Victoria to Jordan River in the early 1900s. Everything was taken out by tug and hauled in the hard way. Nor was there a wharf at the little settlement named for the Jordan family, who settled there in 1862. The necessity to unload by barges added to the burden.

But much of the original power system remains today. The narrow-gauge "Toonerville trolley" is still partly there, plying tools and equipment up and down the length between dam and powerhouse. It has a modern engine.

There are two dams at present, the wooden flume, a fireway, penstock and the 26,000 kilowatt power plant. In the new complex, scheduled for operation in the fall of 1971, the two existing dams will be rehabilitated and a new concrete dam, 117 feet high and 430 feet long, will be built on the Jordan River.

It will be the Elliott Dam, named for J. M. Elliott, who worked in the generating station for 43 years, 22 of them as superintendent. The new power will transform the Island's potential by providing a secondary source of energy whenever there is surplus water.

The main hydro power produced on Vancouver Island comes from John Hart Dam on Upper Campbell Lake, which produces 120,000 kilowatts. A Mainland source, hooked up in 1956, also helps light Victoria homes. But new pulp mills, using up tremendous amounts of power have increased the possibility of "brown-outs," avoided thus far by judicious programming of mill use operation. The new unit at Jordan River will provide the "peaking power" necessary to guarantee full and constant power for everyone.

In 1955, it was observed by a student of the Island's power history that "Jordan River may have reached the limit of its water resources." "This need not cause concern as the development of up-Island plants will always be sufficient to the need through the B.C. Electric facilities," he said.

The name of the power people has changed since then to the B.C. Power and Hydro Authority and the face of the Jordan River power complex is also getting a new look, a new name.

But there are still 112 inches of rain falling every year out on the west coast, four times the rain that falls on Victoria. With the rain there and the power here, one might say Victorians will have their cake and eat it, too.



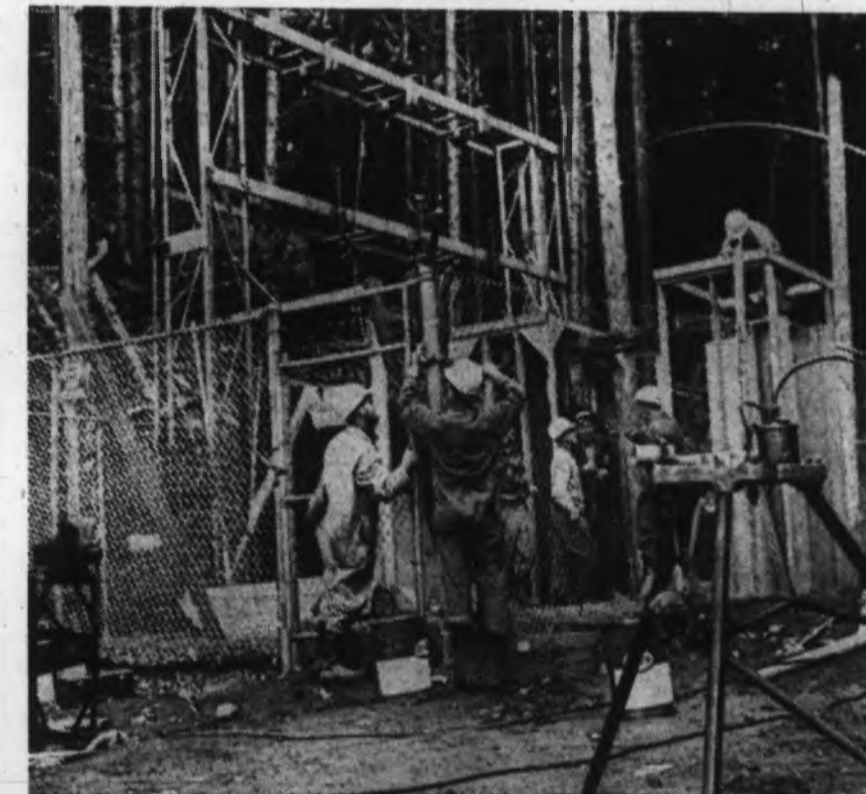
Old powerhouse at Jordan River is still producing



An early day construction camp at Jordan River project



Mucker moves in after blast, clears debris into rail cars



Substation goes up near tunnel to supply project with power



Prefabricated work camp includes TV room