

# THE VICTORIA EXPRESS

## Rocks hide wet frenzy

### This mine runs uphill

One thing for certain about the copper mine at **Jordan River** — it's different.

Most mines you go down, then branch out. Here you go in, then climb up.

Most mines mill their ore-bearing rock at the surface. Not here. The mill is in the heart of a mountain, under 700 feet of rock.

Most mine sites are grim, desolate. But stand at the portal here and you can see the **river** mouth, where surfers paddle their boards out to challenge neatly curling breakers. Seiners and freighters slip up and down the strait, pretty as pictures. The Olympics beyond are calendar art.

This mine begins with a hole at the base of a rock wall, 45 miles west of Victoria. About 130 men — three shifts daily, seven days a week — ride a little train a mile and a half into a mountain to drill, blast and grind its innards away.

The innards are special, grey rock inlaid with glittering gold — "fool's gold" — actually a mix of copper and sulphur known as chalcopyrite. There's only about one to two per cent copper in the ore, but copper is fetching \$1.20 a pound these days.

Outside there is no hint of how busy things are at the end of that 7,700-foot tunnel. There's no sign or sound of the hammering air drills, the snorting scoop tram which picks up five yards of rubble at a bite, the jaw crusher, the cone crushers, the rod mills, the ball mills.

Even three hours in a mine can teach you a few things. It's dark in there, chilly and wet, not to mention cramped, and when those drills are hammering, the air fogs with dust and you can't hear yourself think.

The money may be good — about \$40 a day plus perhaps another \$30 in bonus, depending on progress — but it's a tough way to earn a living. Young people aren't exactly flocking to the mines, says superintendent Rollie Starklauf.

Back in 1915, George Winkler staked these claims. A lot of company names have come and gone since — Sunlock, Gabbro, Hedley Mascot, Sunro, Cowichan Copper. Ownership today is a baffling list of companies, controlled by other companies which in turn have parent companies. A maze, like the tunnels underground.

What is now **Jordan River** Mines Ltd. has been an on-again-off-again venture over the years, surviving a flood, soft markets, and more recently, a running battle with the provincial pollution control branch.

Eighteen months ago copper was selling for 43 cents a pound. With the price almost tripled, the mine is at last making money. But it lost \$1.4 million last year, says manager Ed Bettiol.

With the rest of the mining community, he is distressed by proposed new provincial legislation on mineral royalties. It could put a marginal operational like this mine out of business, he claims.

At **Jordan River**, the mining technique involves longhole drilling, boring 40 to 60-foot holes for blasting.

Miners have a language all their own, of course. They talk of drifts and stopes and raises and draw points. It takes some translating.

The back of the drift, for example, means the ceiling of the tunnel. And a raise is a hole, which goes down as well as up, between levels or floors in the mine. It's where you start to mine out a cavern or stope between drifts in the ore body.

The idea is simple enough, even if the execution isn't. You drill the ore body so you can blast it. You blast it so you can crush it. You crush it so you can extract the mineral.

The underground mill uses a flotation process for extraction, adding chemicals to the muddy mix of powdered ore and water to separate the copper concentrate.

In flotation troughs or cells, the copper floats to the surface looking like suds, a froth of muddy gold bubbles. These are scooped from the surface by revolving paddle wheels, then flushed to a tank where the water is extracted.

The concentrate, which looks like brown sand, is hauled in tiny cars out that 7,700-foot tunnel. It's trucked 60 miles to Hatch Point near Duncan, where it's loaded aboard ship, bound for Japan.

The Sumitomo Metal Mining Co. buys all the copper concentrate the **Jordan River** mine produces, about 900 tons a month.

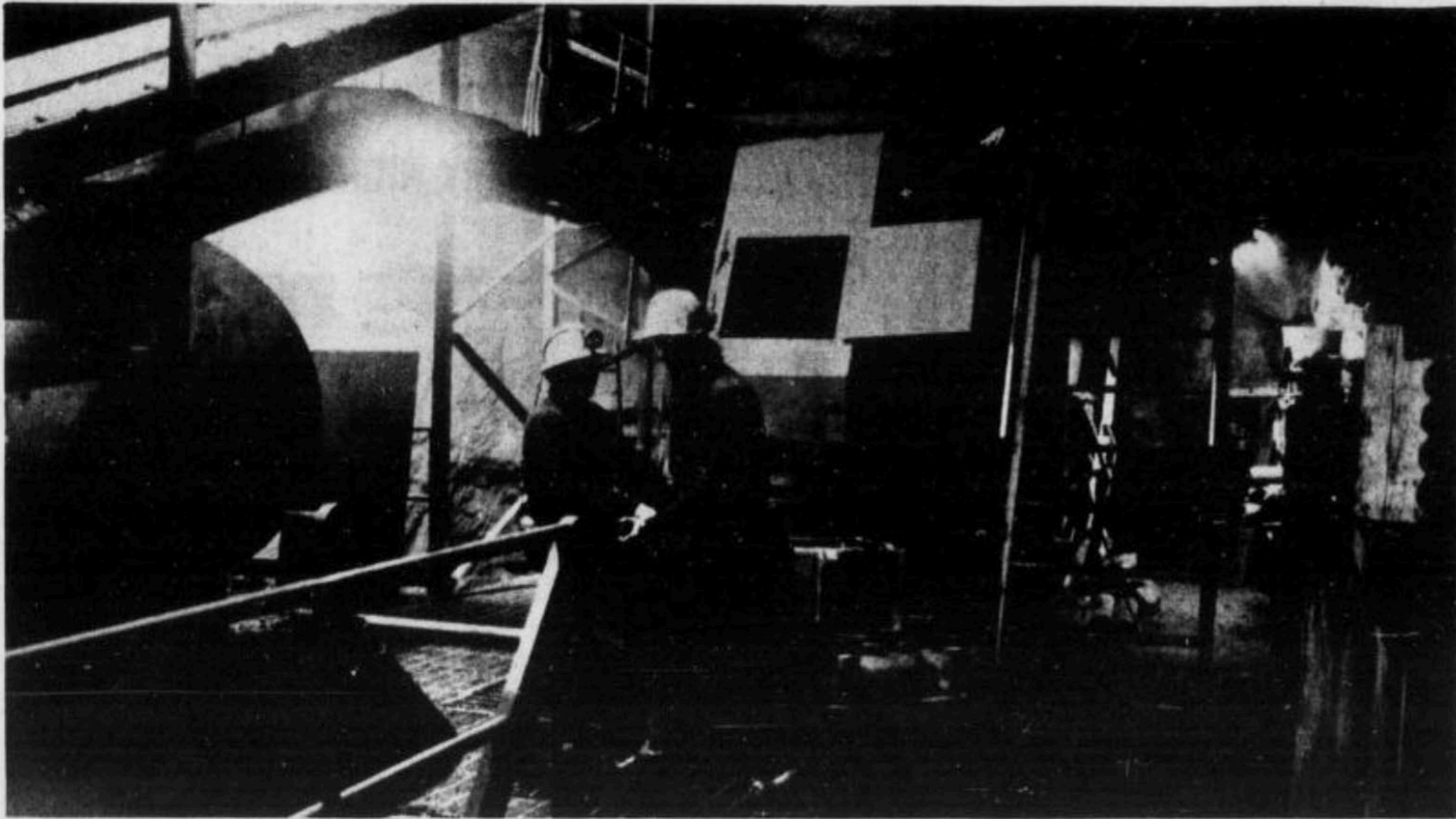
Perhaps you'll see some of it again, as wiring in your Datsun.



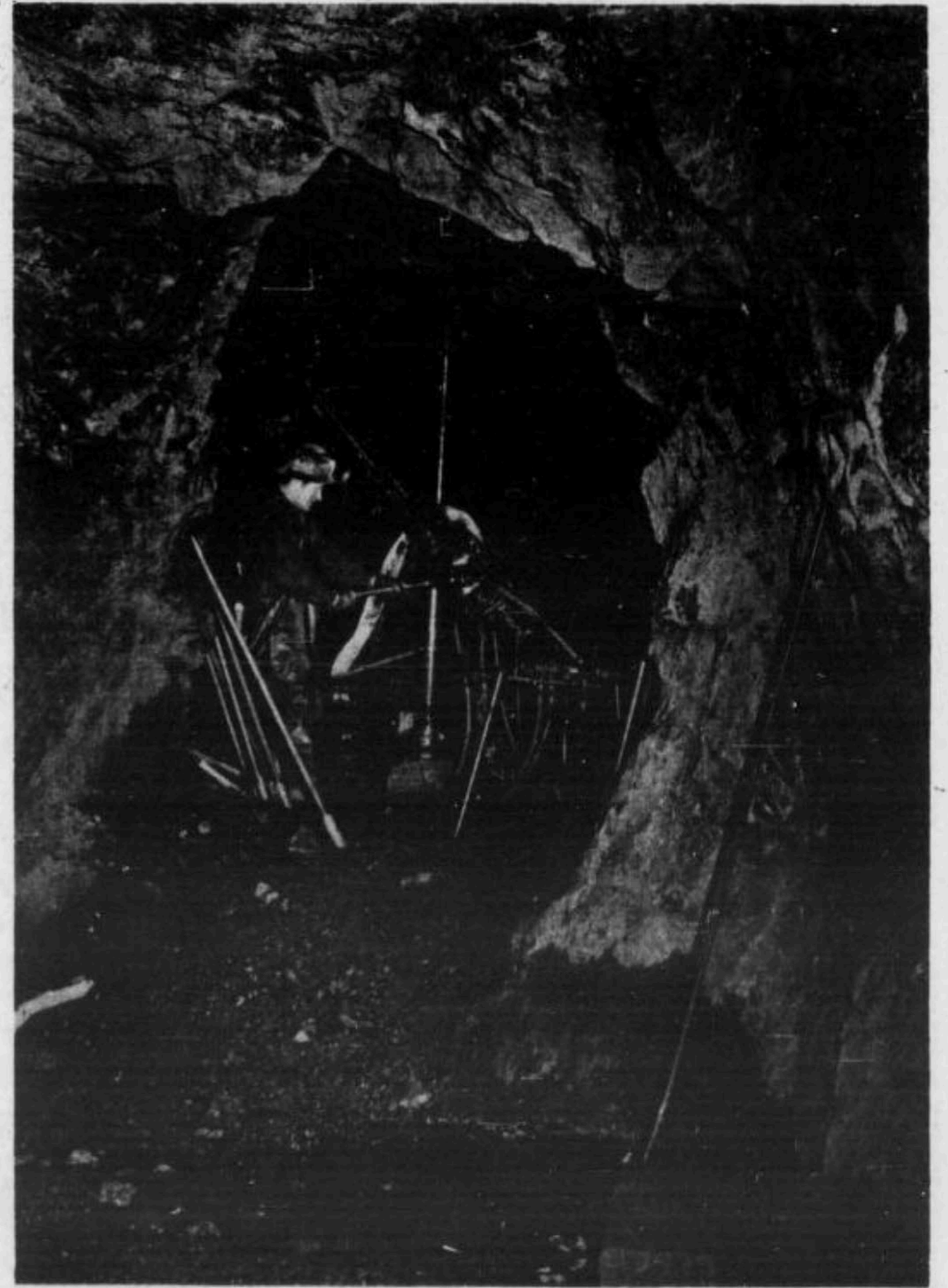
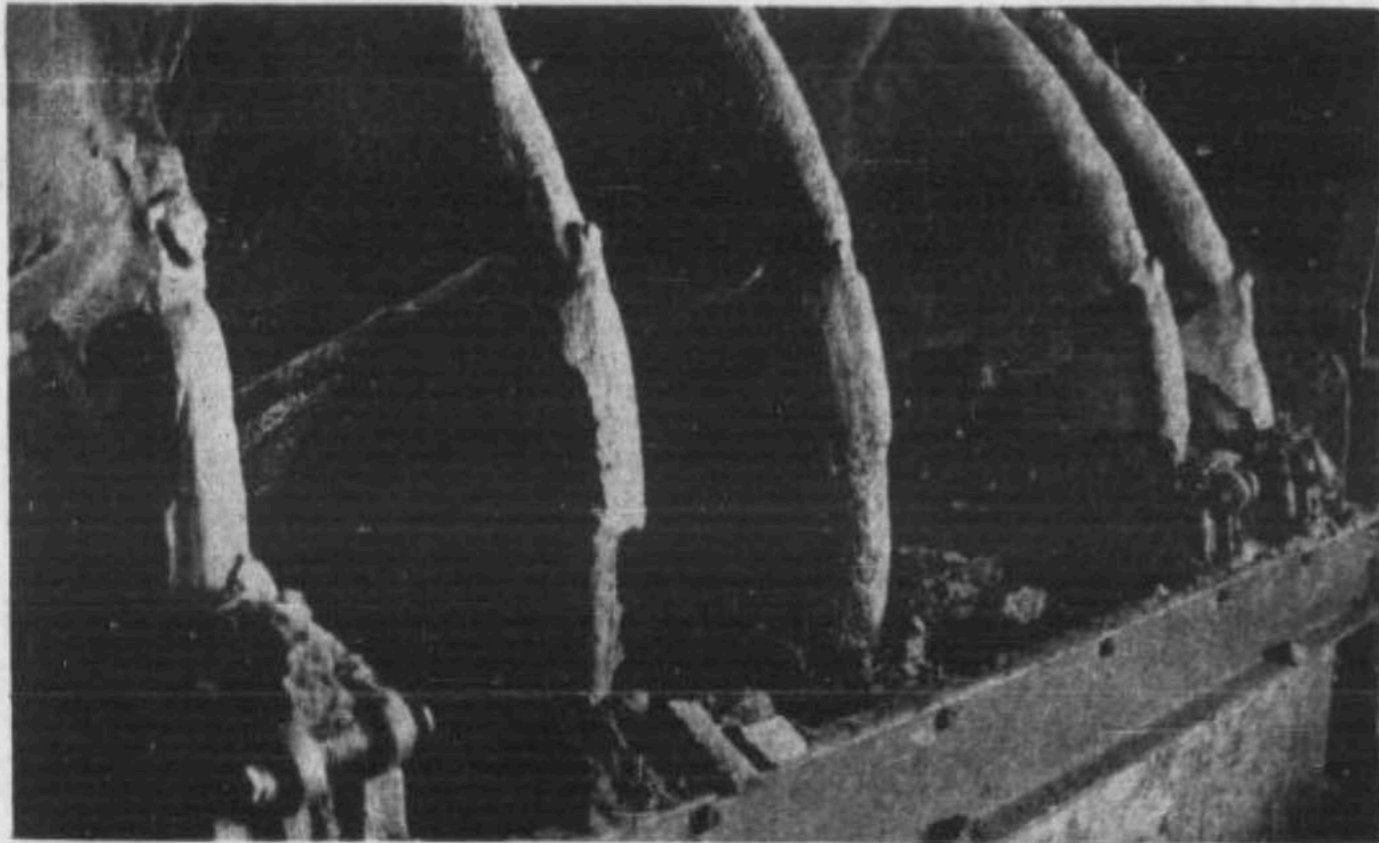
Jointed scooper tight squeeze in dark tunnel



Lunch break down under: Rick Robertson, Tony Carroll, Cliff Linn



**Main mill's  
rocky roof  
700 feet thick**



**Longhole drill  
puts charges  
as deep  
as 60 feet**