

# Get the dirt

## *McArthur River big on being clean*

Oct. 9, 2002

They worry a lot about dirt down here, more than half a kilometre under the earth's surface.

"Cleanliness is next to godliness," Cameco media relations manager Jamie McIntyre reminds reporters as they line up to wash their company-supplied rubber boots on a small, motorized wheel at McArthur River, the world's highest grade uranium mine.

The boot wash is mandatory, McIntyre explains, because we are about to enter the spic-and-span control room on 640-metre level, the deepest production level of the mine. In that sterile room, filled with television monitors and computerized controls (including a large joystick to lever a mechanical claw somewhere on this level), employees normally wear, again, company-supplied slippers, commonly referred to as "booties". In the interest of time and convenience, we are being allowed in with our boots. As soon as we leave, the floor will be washed to bring the room back up to standard again.

These kinds of precautions are par for the course at McArthur River, Cameco Corporation's flagship mine. Since the mine was licensed and began production in late 1999, safety — for the site's 25 hectares of land (approximately 20 city blocks) and for the people who work within it — has been one of Cameco's primary concerns.

That concern shows up everywhere McIntyre, mine manager Dave Bronkhorst and foreman Carl Leia take the visiting reporters.

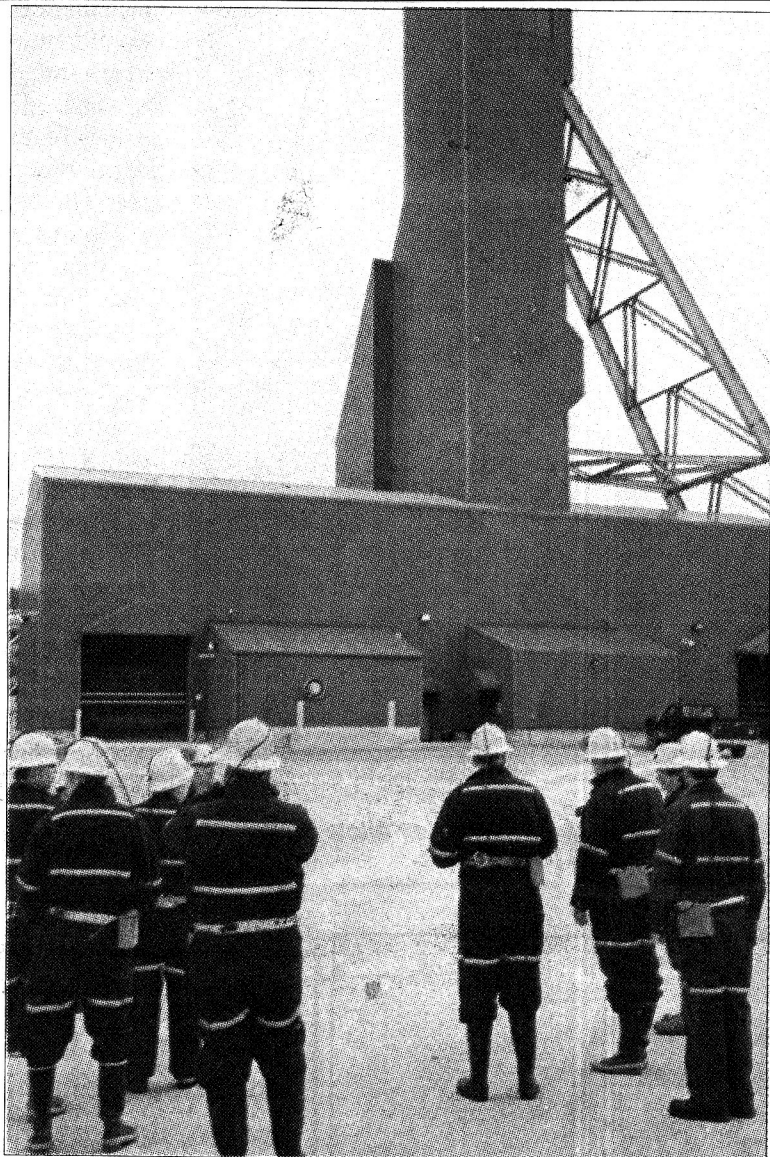


Photo by Carmen Pauls

**Continued on p. 2**

**Reporters prepare to tour McArthur River uranium mine.**

# Remote mining methods put focus on safety

## Continued from page 1

The ore at McArthur River is of a grade unprecedented in world uranium circles, running at an average 20 per cent to 23 per cent  $U_3O_8$ , more than 50 per cent higher than Cameco's nearest foreign competitor.

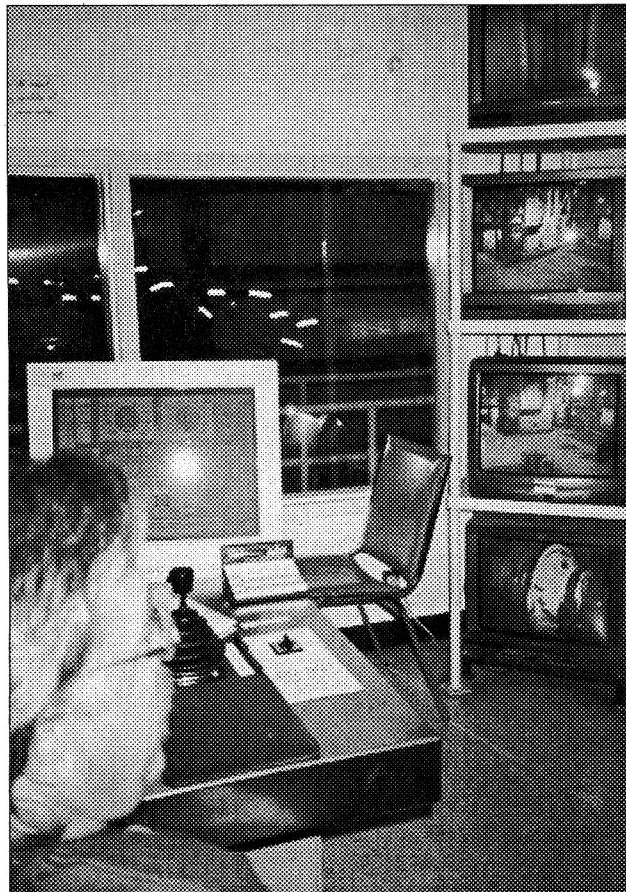
With such high-grade ore, Cameco has to take steps to reduce employees' direct exposure to radiation. The mine tunnels are designed with fresh air ventilation systems (pumping out 300 cubic metres of air per second), so that there is always a soft breeze blowing. The walls and floors are also sprayed with concrete, giving the uneven surfaces the "fake rock" appearance of museum displays. (On gravel floors, the uranium particles couldn't be washed away as easily.)

All of the main tunnels are wide and brightly-lit, and each level has both an escape route to another level and a secure refuge station in case of emergencies. Employees also have access to movable radiation shields, resembling large, white plastic Lego blocks, which can be filled with water, stacked and placed in high-risk areas.

The employees themselves are equipped with radiation badges, which provide an instant source of data on the amount of radiation they have been exposed to, while rooms within the mine sport radon monitors with green, yellow and red lights to serve as an advance warning to anyone entering the room. The mine workers are also tested

monthly, and the results are sent both to Health Canada and to the employees themselves.

Likely the most innovative (and expensive) way that Cameco protects its



Photos by Carmen Pauls

**Control rooms at McArthur River allow for remote supervision of many duties.**

McArthur River employees is with its remote control mining methods. At the 530-metre level, a large machine called a raiseborer drills slowly through the solid ore zone, while down below, at the 640-metre level, a scoop operator uses a small device to manoeuvre his scoop into the ore shaft to collect the drilled ore. Once the scoop is full, the operator moves the machine a safe distance from the shaft, climbs into an enclosed cabin, and drives the full scoop to a grading area. The high-grade ore is ground into a thick slurry and is then pumped to the surface, where it is placed on a specially-designed truck and sent to Key Lake, 80 km away, to be processed. Approximately 140 tons of  $U_3O_8$  leave this way every day — 18 million pounds over the space of a year, although Cameco is currently investigating the possibility of upgrading this production level to 21 million pounds annually.

So much of the process is done without manual labour, in fact, that Cameco has discovered a surprising side effect:



**An operator runs a scoop remotely to move ore out of the ore shaft.**

weight gain. Thanks to the company's caterers, McArthur River employees gain an average of 15 to 20 pounds in the first year.

Fortunately, there are lots of ways to get the weight off: a weight room and a racquetball court are part of the facilities, as is a hot tub for soaking. And yes, there are plenty of showers. After all, they've got to stay clean.

Carmen Pauls

Staff