

# Toke Mountain's gold potential smokin'

**F**LIN FLON — Mining across northern Manitoba has yielded a legacy not only of prosperity, but also of toxicity.

Post-processing ore waste, known as tailings, has long posed disposal challenges for companies and communities whose lifeblood flows through the veins of mineral extraction.

But what if that waste, like the ore from which it was born, contained valuable metals? And what if, in extracting those metals, the tailings could be cleansed of their noxious components?

It's not pie in the sky, but rather the future of tailings reclamation — and northern Manitoba is about to become its epicentre.

This spring, BacTech Environmental Corp. plans to start building a new-to-North America bioleach plant in Snow Lake, with operations to launch in the first quarter of next year.

“With the ability of this new technology, what was once seen as a liability can turn into an asset,” says MaryAnn Mihychuk, the former provincial



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mines minister who now oversees BacTech's Manitoba division.

Carrying an estimated price tag of \$20 million, BacTech's plant will rely on six large tanks, each standing nearly eight metres tall. Inside, bacteria will draw iron and arsenic from tailings fed into the plant.

The two elements band together to form benign ferric arsenate, allowing the tailings to be safely disposed. At the same time, the process exposes leftover metals within the waste, permitting conventional recovery.

The plant is going up near its inaugural source of feed, a 1950s-era mound of dry tailings left over from Snow Lake's long-idle Nor Acme gold mine.

Resembling what Mihychuk calls “a very modest ski hill,” the mound's arsenic content is an environmental concern.

But the fact that it is known locally as “Toke Mountain” — an unobtrusive reference to its party-hangout roots — illustrates the undauntedness of Snow Laker.

It embodies some 250,000 tonnes of tailings within which, historical data suggests, more than two million grams of gold are trapped. The value in today's dollars is approaching \$120 million.

It's not as though operators of the Nor Acme

mine wanted to leave all that gold behind. It's just that with the technology available in the '50s, it was the best they could do.

Now BacTech expects to eat away at Toke Mountain over six to eight years, its plant operating around the clock with a workforce of some 30 people.

By then, if gold prices hold, BacTech will have turned a hefty profit. Yet its work will be far from over.

Manitoba has spawned 70-plus mines over the past century, mostly in the north, and each has generated waste.

While the plant will initially target gold (as well as silver), Mihychuk says base metals, like copper, could also be recovered where economical.

“Not every tailings will mean that it's profitable, but it does hold the opportunity,” she says.

Last month, BacTech signed a memorandum of understanding with northern miner Hudbay relative to Anderson Lake, near Snow Lake, where tailings from 10 defunct mines are stored.

And Manitoba is but one province. There is immense promise across Canada, as Mihychuk says a miner with concentrate in B.C. has shown interest in shipping the material to Snow Lake.

In such a resource-rich continent, it's surprising

the BacTech plant marks North America's first foray into this technology — not that it's prevalent elsewhere; as of a couple of years ago, there were only 20 bioleach plants in existence.

BacTech's arrival in Snow Lake comes at a time when the once-wobbly town of 800 to 900 is gearing up for massive growth.

Hudbay's colossal Lalor mine is in progress a short drive away. It's projected to last 20 years, but astute townsfolk have lengthier projections in mind.

There's still talk of restarting the gold mine from which Toke Mountain was spawned, and the area has been drawing prospectors like bees to honey.

BacTech's plant will never provide the job numbers of a major mine, but it may have remarkable staying power.

“For us to treat the amount of (tailings) that are out there, we might actually exceed the Lalor deposit,” says Mihychuk. “That would be incredible.”

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