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Titan to restart Empire State zinc mine in upstate NY

The administrative building at Titan Mining's Empire State zinc mine in Gouverneur, New York. Credit: Titan Mining.

POSTED BY: MATTHEW KEEVIL NOVEMBER 16, 2017

VANCOUVER — **Titan Mining** (TSX: TI) is fully funded to restart operations at the long-standing Empire State zinc project near the town of Gouverneur in upstate New York.

On Nov. 6, the company — part of Titan president and CEO Richard Warke's Augusta Group — finalized a $52-million initial public offering on the Toronto Stock Exchange of 36.95 million shares priced at $1.40 each. Since then, Titan shares have traded in a range of $1.26 and $1.40 per share, and closed at $1.32 per share at the time of writing. Titan has 100.8 million shares outstanding for a $135 million market capitalization.

Titan's flagship property sits in the Balmat-Edwards district 145 km southwest of Ottawa, Ontario. It hosts four zinc mines that underpinned nearly continuous production between 1915 and 2008, namely: Edwards, Balmat, Pierrepont, and Hyatt. Titan has worked on the asset privately for the past 11 months and is targeting first production in early 2018.

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Hudbay Minerals (TSX: HBM; NYSE: HBM) was the most recent operator, but it was forced to put the asset on care and maintenance after zinc prices plunged in 2008.

"We plan to ramp-up production from essentially where Hudbay left off. So we're leveraging a lot of capital they had invested in the project, but never got to realize," explains Titan COO Keith Boyle during an interview.

"They had upgraded the hoists, the ventilation circuit, and a good portion of the mine-equipment fleet. The operation was shut down abruptly so the entire infrastructure is very well maintained. We're taking advantage of two high-grade zones — called Mahler and New Fold — that they were preparing to mine when the operation went offline," he adds.

Hudbay produced 81 million lb. of zinc at the site between mid-2006 and August 2008.

At Titan Mining's Empire State zinc mine in upstate New York, from left: Michael Kirschbaum, consulting exploration manager; Roger Lacerte, general manager; Keith Boyle, chief operating officer. Credit: Titan Mining.

Titan released a preliminary economic assessment (PEA) that envisions mining from four mineralized zones within the fully-permitted Balmat area, which it now calls Empire.

The company's startup activities will focus on higher-grade material from the Mahler, Mud Pond and New Fold zones. Titan will restart underground mining in January at a rate of 800 tonnes per day and plans to expand to 1,800 tonnes per day within 13 months.

Existing infrastructure on the property includes a 5,000-tonnes-per-day mill next to the mine shaft. The company reports that the coarse grind of the soft ore should permit the concentrator to hit design throughput and recovery rates relatively quickly.

Empire hosts sedimentary exhalative (or sedex) mineralization, which Titan says is unique due to the dominance of massive and semi-massive zinc-bearing sphalerite, with only minor galena (lead and silver sulphide) and pyrite. The Empire property contains 14 known zones of zinc mineralization that tend to occur in clusters.

The PEA considers measured and indicated resources totaling 2 million tonnes of 13.29% zinc, and inferred resources of 2.1 million tonnes of 13.37% zinc. Hudbay operated Empire from 2006 to 2008 with mill head grades averaging 7% to 8% zinc, while Titan assumes grade reconciliation around 9.2% zinc.

“The ore bodies are what I call a number of ‘ribbons’ that have been folded, and dip at about thirty degrees overall. Due to the waves there are steeper sections that lend themselves to long-hole mining,” Boyle comments. “There are other parts that will require cut-and-fill, or room-and-pillar, mining to go along with it.”

Titan plans to improve head grades by designing tighter stopes; employing on-shift grade control geologist; and leveraging hand-held technology to assist miners in following the resource within each stope.

“We intend to have geologists to follow the mining faces and take photos for mapping purposes,” Boyle says. “The current software packages allow you to build three-dimensional models with the pictures, and that’ll be a major reconciliation tool for us to manage grade and dilution.”

Drillers underground at Titan Mining’s Empire State zinc mine in Gouverneur, New York. Credit: Titan Mining.

The redevelopment will require US$10.7 million in pre-production capital, and produce around 80 million lbs. payable zinc annually over an 8-year life at all-in sustaining costs of US78¢ per lb.

The PEA estimates a US$150 million after-tax net present value at an 8% discount rate, and a 121% internal rate of return.

The model assumes a sliding zinc price that would peak at US$1.45 per lb. in year two before declining to U$1.05 per lb. by year six.

“I like to say the first phase is extending the mine life and filling the shaft. So we’ll be focused on exploration in, and around, the existing infrastructure,” Boyle says. “The next phase involves extension to the Mahler and New Fold zones, which are wide open. We’ve also got historic reserves within the infrastructure itself that we’re bringing up to compliance. There are also remnant pillars from past operations, which we’ll also look at under modern methods.”

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Titan's longer-term strategy is fueled by regional exploration and potential satellite-deposit discoveries, which would allow it to leverage latent mill capacity, across over 300 sq. km of mineral rights it controls in the district.

The company intends to re-evaluate a 2008 versatile time domain electromagnetic survey to identify additional high-priority exploration targets, as well as fly another airborne gravity survey in the near term.

Titan has budgeted US$4.3 million for near-term exploration, with targets including the "Gap" zone between Sully and the Empire mine.

"The data vault has gotten just huge over the past hundred years, but a lot of it is still paper records. It's probably similar to the quantity of data Goldcorp is wrestling with up in the Red Lake camp," Boyle says.

"The first thing we're doing is digitizing all this information so we can start building our geological models and identifying trends. There are also reams of regional data from exploration over the past few decades that's never really been compiled and put together, including a number of historic drill holes," he adds.

"There's technology today that will help improve productivity, which can change the way we look at economic material," Boyle says. "We're talking about robotic scoops, drills operated from surface, and a lot of the innovation you're seeing at underground mines today. That's how we can get our costs down and transition Empire into a sustainable zinc operation for many years to come."

Scotia Capital analyst Orest Wowkodaw initiated coverage on Titan in early November with a "sector outperform" rating and a $1.80 per share one-year price target.

Wowkodaw notes that Titan is "uniquely positioned with 100% of revenue derived from zinc, our preferred near-term commodity exposure." He did caution, however, that Titan's balance sheet could be "vulnerable to execution risk during the ramp-up next year."