

# Prefeasibility extends mine life at Canadian Zinc's Prairie Creek



An aerial view of Canadian Zinc's Prairie Creek Mine in the Northwest Territories. Credit: Canadian Zinc

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That mines and mining projects get recycled from one company to the next isn't new — it happens all the time.

What makes the Prairie Creek mine a little different is that **Canadian Zinc Corp.** (TSX: CZN; US-OTC: OTCQB) managed to pick up the permitted, fully built, and yet never operated, mine, for a song, thanks to the demise of the legendary Hunt brothers.

The Texas-based siblings acquired the Prairie Creek property, 500 km west of Yellowknife in the Northwest Territories' Mackenzie Mountain Range, in 1966. They completed exploration and a feasibility study, built a road connecting the property to the Liard Highway, and then financed and built the mine and mill. But lower silver prices and bankruptcy proceedings intervened in 1983, derailing their plans just at the time they hoped to flip the switch.

So when Canadian Zinc acquired the mine for about \$2 million in the early 1990s, the junior got a processing plant that was about 90% finished, a 1.5-million-tonne capacity tailings impoundment, a power plant and a water treatment plant.

“They invested about \$65 million [1982 dollars] and were just about to go into commissioning but were tripped up in the U.S. by allegations that they were trying to manipulate the silver price,” says Steve Dawson, Canadian Zinc’s vice president corporate development. “They were a few months away from being in production. So it just sat there, dormant. We’ve kept it on care and maintenance.”

Alan Taylor, the company’s vice president exploration and chief operating officer, who has been involved with the project for more than 15 years, estimates all of the infrastructure that the Hunts left behind is probably worth more than \$200 million in today’s dollars, such as the mill, the ancillary service buildings, and the roughly 5 km of underground adits that were dug into the ore body.

Since acquiring Prairie Creek a quarter of a century ago, Canadian Zinc has been busy drilling out the deposit and moving the project through six different stages of permitting. It now has all the permits it needs to start production, except for one that it needs to upgrade the current winter road to all-season use. The road connects the project to the Liard Highway, about 170 km away. (The company submitted their application in April 2014, and it is now undergoing environmental assessment before the Mackenzie Valley Review Board.)

Indeed, if financing wasn’t an issue — as it is for the vast majority of companies in the current downturn — Dawson and Taylor speculate that the company would be looking at about a two-year timeline to production.

While raising money won’t be easy, Canadian Zinc’s management team is optimistic that a confluence of factors should open doors and wallets relatively soon. These factors include: an expected zinc deficit, off-take agreements the company has recently signed with Korea Zinc and Boliden, and a recent prefeasibility study that indicates positive economics over a mine life of 17 years.

According to a prefeasibility study released March 31, Prairie Creek should produce an average each year of 60,000 tonnes of zinc concentrate and 55,000 tonnes of lead concentrate, containing about 86 million pounds of zinc, 82 million pounds of lead and 1.7 million ounces of silver.

Using metal price forecasts of US\$1.00 per lb. for both zinc and lead, and US\$19 per oz. silver, the mine should yield average annual earnings before interest, taxes, depreciation and amortization (EBITDA) of \$90 million, the study says.

Pre-production capital costs are estimated to come in at \$216 million. (Adding a contingency of \$28 million brings the total to \$244 million.) Payback should take about three years given a post-tax net present value at an 8% discount rate of around \$302 million and a post-tax internal rate of return of 26.1%.

Sustaining capital over the life of the mine is expected to be around \$70 million, 90% of which will be incurred during the first five years and relates mostly to mine development as the operation is expanded to deeper levels, as well as to the remaining balance of capital lease payments.

The study was based on a measured and indicated resource of 8.70 million tonnes grading 136 grams silver per tonne, 8.9% lead and 9.5% zinc. (The project's inferred resource, which currently stands at 7.05 million tonnes averaging 166 grams silver per tonne, 7.7% lead and 11.3% zinc, was not incorporated into the study.)

The mine will be an underground operation using long-hole stoping based primarily on mining the main quartz vein, with a steady state of production of 1,350 tonnes per day.

Tailings from the mill will be placed permanently underground as paste backfill, produced in a new paste backfill plant.

Once the concentrates reach the Liard Highway, they will be trucked to the railhead at Fort Nelson and transported by rail to the port of Vancouver for shipment to overseas smelters.

The memorandums of understanding Canadian Zinc has already announced with Korea Zinc and Boliden represent all of the planned production of zinc concentrate and about half of the planned production of lead concentrate, for the first five years that Prairie Creek operates.

Korea Zinc, which owns and operates zinc smelters in Korea and Australia (as well as a lead smelter, also in Korea), will buy about 20,000 to 30,000 wet metric tonnes of zinc sulphide concentrates a year, in addition to 15,000 to 20,000 wet metric tonnes of lead sulphide concentrates and 5,000 tonnes of lead oxide concentrates.

Boliden will purchase a minimum of 20,000 dry metric tonnes and up to 40,000 dry metric tonnes of zinc sulphide concentrates a year for a minimum of five years from the start of regular deliveries.

“The North is a very challenging place to be because of a number of factors such as the lack of infrastructure and the cost of carrying out work programs, but we believe we’re getting over a lot of these challenges and we think that the North will benefit greatly from Prairie Creek,” Taylor says. “This project is near and dear to me as I recognize it as a great opportunity, not just for the company but for the whole region, which is in dire need of economic development.”

**COMMODITIES:** SilverZinc-Lead

**REGIONS:** Canada