

# Bunker Hill – A Zinc Mammoth Reborn

The northern parts of Siberia are full of the remains of woolly mammoths buried in the permafrost of the tundra. Such is their state of preservation that scientists, maybe inspired by Jurassic Park, have been tempted to take DNA and recreate these awesome creatures. In looking at the Bunker Hill mine, the word “mammoth” spring to mind due to its sheer size and its almost perfect state of preservation. The Bunker Hill Mine is one of the most storied base metal and silver mines in American history. Initial discovery and development of the property began in 1885, and from that time until the mine closed in 1981 it produced over 35.8 million tons of ore at an average mined grade of 8.76% Lead, 4.52 ounces per ton silver, and 3.67% zinc.

Bunker Hill Mining Incorporated (CSE: LSL), with its richness in Zinc (and Lead), two metals seeing a major rerating, provides a necessary piece of global puzzle of where future Zinc production will come from.

The reactivation of this mine would be the type of outcome commensurate with the Trumpite slogan of making “America Great Again”. Certainly it would make the United States less dependent upon external sources of key base metals. Therefore it is good to see the EPA’s eagerness to see Bunker Hill move off its books and reenter production.

At this stage in the Lead/Zinc mini-supercycle (if we may be so bold as to call it that), the price of Zinc makes attractive the reactivation of the mine (and financing thereof), even without Lead particularly moving much higher, pricewise.

## Background

The Bunker Hill Mine and Smelting Complex, was a large mine/smelter located in Kellogg, Idaho, in the Coeur d'Alene Basin. It is located in what became known as the Silver Valley of the Coeur d'Alene Basin, an area that for a century was a center of extensive silver and other metal mining and processing.



In the late 1880s, a boom in mining activity in Idaho's Silver Valley followed the construction of railroad lines.

The Bunker Hill mine, the largest of the Coeur d'Alene area mines, was founded after discovery of silver here in the 1880s by Noah Kellogg. Initially, the ore was shipped out of the Silver Valley by train for processing; but within a few years, mills and smelters were built on-site to extract the metals from the ore. The process used by the first mills, known as "jigging," was very inefficient, often recovering less than 75% of the metal from the ore. This meant that large amounts of lead and other metals remained in the tailings, which were dumped in nearby waterways.

Early mine development included numerous adits following various veins from surface outcrops, effectively creating a number of small mines on the large property and providing an indication of future mine size. In 1903, the 12,000 foot long

Kellogg Tunnel was completed, providing an underground link to all of the mines on the hill and providing access to new, though as yet undiscovered, orebodies and also provided a means of efficient haulage for transporting ore to the mill located near the tunnel portal. The tunnel required eight years to complete and was driven using hand steel for drilling blast holes, shovels for hand mucking blasted rounds and mules to haul loaded muck cars to the surface.

In September 1915, the Bunker Hill Mining & Smelting Company (BHMSC) announced that a smelter would be built in Kellogg and on July 5, 1917 lead smelting operations began. In 1927 the electrolytic zinc smelter was completed and zinc smelting commenced. The Bunker Hill Mine and Smelting Complex, by this stage, was the largest smelting facility in the world. This resulted in extensive contamination of water, land and air which was later to cause problems with the EPA and the closure of the complex with heavy remediation costs. .

From the time that development of the property began in 1885 until the mine closed in 1981, over 35.8 million tons of ore was mined at an average mined grade of 8.76% Pb, 4.52 ounces per ton Ag, and 3.67% Zn.

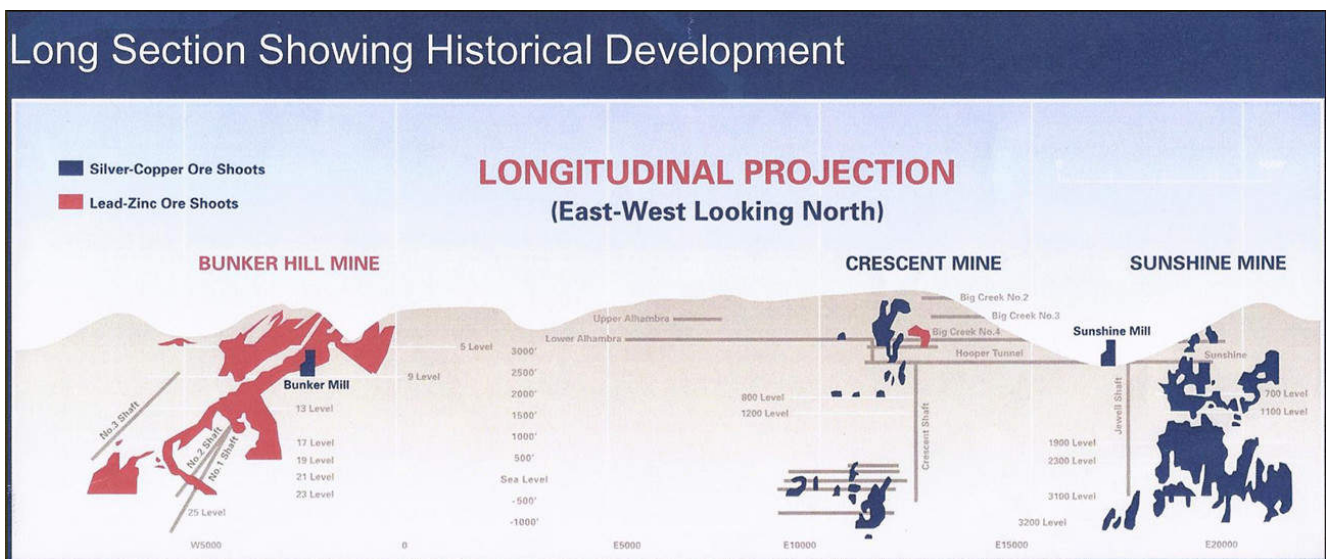
<b>Bunker Hill - Historic Production</b>					
	<b>Tons</b>	<b>Pb %</b>	<b>Ag opt</b>	<b>Zn %</b>	<b>NSR/Ton</b>
<b>1887 - 1950</b>	20,480,279	11.24%	5.37	3.74%	\$261
<b>1950 - closure</b>	15,299,119	5.24%	3.38	3.59%	\$151
<b>Total</b>	<b>39,944,000</b>	<b>8.76%</b>	<b>4.52</b>	<b>3.67%</b>	<b>\$366</b>

Throughout its long history, over 40 different zones were discovered and 24 of these zones were mined at the Bunker Hill, primarily consisting of Zinc-Lead-Silver mineralization.

## **The Mine**

Firstly, it is important to consider the regional dynamic. There are several reactivated mines in the region but the majority of the nearly 140 old mines are shuttered. There are however a number of mills in close proximity to Bunker Hill, including that at the former Sunshine Mine which has a capacity of 1,000tpd.

As can be noted on the cross section below the Crescent Mine is in closest proximity and there are drifts that nearly connect the two mines together.



The Sunshine mill has 1,000 tpd nameplate capacity, but has operated at as high as 1,200 tpd. The nearby Crescent Mine has no mill, but the Coeur Mill (currently on care & maintenance) is further east with capacity of 500 tpd. There is another available mill called the Jersey Mill which has 450 tpd capacity.

The plan is to mine both the regular and some of the stockpiled ore and then trucking it to one of the nearby mills which will be reactivated for the task of taking the Bunker throughput. The concentrate from the mill can then possibly be trucked in 50 tonne containers to Teck's Trail smelter, over the border in Canada. For the distance of around 120 miles the costs would be an estimated \$7.50 per tonne.

Such measures are just a short-term plan of action. Longer

term there is the whole mine to consider, with its 250 miles of tunnels it is a truly enormous complex. The underground infrastructure is in pristine condition as one can see here in a photo of the No 1 Hoist.



## **Conclusion**

*Bunker Hill is the right project at the right time in the*

*right place for the renascent Zinc/Lead mining space.* The dearth of Zinc plays that has evolved over the long grim years in which companies could not raise funds to advance projects (or even do basic exploration) has created a “scorched earth” scenario in the Zinc (and Lead) sub-space of the mining sector. This has set investors off on a hunt something like an Easter Egg Hunt, where there are actually few eggs to be found. We can number on the fingers of one hand the explorers that persevered with work on Zinc projects through this grim period. Meanwhile majors were shuttering exhausted mines and not expending effort on grooming new projects to fill the void from lost production.

The “project” that this company is pursuing is one that definitely had to wait its time. The Zinc price had to be right and the environmental remediation had to reach its current advanced stage. That time has now come in it being one of the few projects in the US that is relatively “oven-ready” with an extant mine in superlative condition and a number of unused mills (also in good condition) in the neighbourhood. The presence of the Trail smelter within easy trucking distance means the final smelting is not an issue.

With readily processable ore stacked in the stopes there is relatively easy kickstart cashflow to hand to fund exploration and preparation of a mine plan. The company can then either advance the mine to full production again or pass the reins over to a major, of the likes of Teck or Lundin.

Potential base metal mines of the calibre of Bunker Hill are rare. As such they have to be in the sights of majors who want to stay in the game, therefore the new owner’s strategy is not mistaken in licking the mine into shape and then waiting inevitably for the sharks to bite. As such Hallgarten & Company is rating Bunker Hill Mining as a **Long** position with a 12-month target price of CAD\$3.10.

To access the Hallgarten & Company report, [click here](#).