

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.

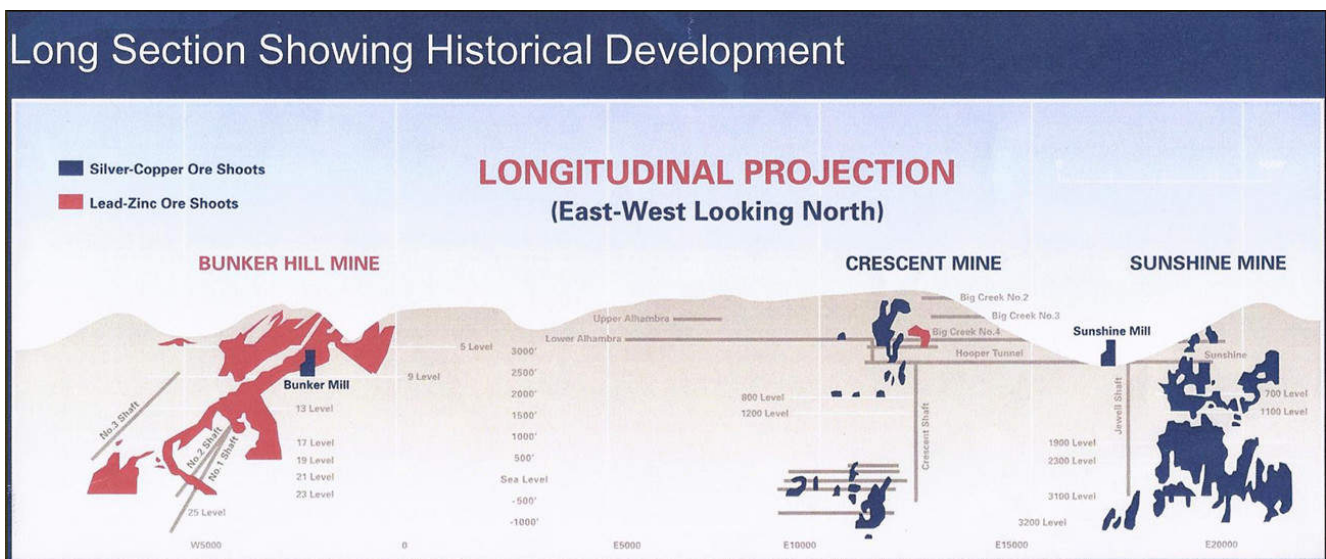
Bunker Hill - Historic Production					
	Tons	Pb %	Ag opt	Zn %	NSR/Ton
1887 - 1950	20,480,279	11.24%	5.37	3.74%	\$261
1950 - closure	15,299,119	5.24%	3.38	3.59%	\$151
Total	39,944,000	8.76%	4.52	3.67%	\$366

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](#).

Ecclestone's Five Reasons to be Cheerful in 2015

Recent years have all jockeyed for the title of *annus horribilis* but 2014 is up there with 2008 in the annals of *anni horribiles*!

☒ Over the years we have published a handful of pieces titled "Reasons to be Cheerful". Our first research pieces headed up this way were actually in the 1990s and referred to the state of the Argentine economy rather than anything to do with mining and metals. Frankly it was easier to feel bullish there than it has been in the minerals space in recent times. However we have toasted the New Year not with champagne and instead have supped deep on the Kool Aid and can indeed see reasons why 2015 should not be as bad as the year gone by.

1. A Better Year for Base Metals

The basic economic equation consists of supply and demand. Anyone would have thought over the last ten years that it was all about demand with China and some of the other BRICs being the only relevant issues. Maybe that was true. In a time of rising production having the matching or exceeding demand is a good thing. Of such stuff was the Supercycle born. The balance is now in the process of tipping.

Pundits are wringing their hands regarding slower Chinese demand, but slower growth doesn't mean declining demand. The thing that is declining though is the supply in many cases. A swathe of the key base metals have been wallowing in obscurity since before the 2008 crash with Zinc, Nickel and Lead never having seen again the levels that they enjoyed back in the heady years in the middle of last decade. Doomsters like

myself have predicted a day of reckoning eventually because one cannot have little to no investment in new mines and still hope to hold up future production.

Zinc and Lead were the obvious underinvested metals as there were several large legacy nickel projects of gargantuan size still coming down the pike at Goro and Ambatovy. Even in nickel extra spice has been added to the mix by the nickel export ban from Indonesia. Expect to see more of these types of bans of unelaborated metals in the next year or two to juice up the price of metals involved.

The chart below comes from Glencore which has an enormous vested interest in Zinc but also would be ridiculed if the projections were too far from what the rest of the Zinc space is thinking.



Nickel's rush this year was supply-motivated and the same will be the case for the other base metals. Sure China growth is important, but so is growth elsewhere. However the motor for price enhancement is now supply-side, not demand-side, and the chickens are coming home to roost.

2. Enhanced M&A

No sooner had we written our recent piece here on M&A than two companies that we hadn't mentioned Coeur D'Alene Mines (CDM) and Paramount Gold & Silver (PZG) decided to get hitched. This is not the start of the process because the ball is already rolling and the tally of marriages (shotgun or otherwise) will rise during the coming year.

The fact that there are so many assets still at bargain basement prices should mean it's a happy hunting ground for majors (or at least larger miners) in the darker corners of the TSX and ASX (and the bankruptcy courts).

With big dumb majors shedding assets in rather a “baby out with bathwater” style there should be much that a cashed-up predator can Hoover up. However not finding willing takers for sales in single lots (standalone mines) or job lots (like Nickel West) the majors are now resorting to a sort of reverse osmosis where they divide and replicate by carving off big chunks of their asset bases into standalone vehicles. If this results in the creation of more majors it is a welcome development in our book as the concentration at the top resulted in a near extinction of the mid-sized miner over the last ten years which goes a long way to explaining why normal Darwinian forces of rationalization and regeneration have eluded the mining sector... However what it also does is remove those with the biggest balance sheets, cash-flows and cashpiles from the mating dance of mining M&A.

However the ideal scenario does not need piles of cash. In theory deals that are synergistic and accretive should simply involve one plus one equaling three. Those transactions alone would add value to the market.

These newly minted majors may be in condition and the mood to transact when they have digested their reorganizations and listings (in 2016), which is still a ways off, but the mere expectation that a Predator’s Ball is likely to break out should start to push up valuations of those seen as potential victims. With every Paramount-like deal done there is one less target available which lifts the scarcity value of those putative producers and advanced development stories remaining to be snapped up.

Despite the current state of flux amongst majors there are more than enough predators and no end of prey further down the mining food chain. For once we would not complain if a feeding frenzy broke out... we are long overdue for some rational exuberance...

3. Stability in Gold and Silver

The gold bugs would recoil in horror to hear that prices staying where they are a good thing. But if the alternative is prices plunging then staying in the range of \$1,100 to \$1,300 for gold is indeed a sweeter spot. Then we hear the wringing of hands because of the number of gold producers that have cash costs that are at, or near, or below the current gold price. The response to that is the old Biblical injunction "Physician, heal thyself". The price of mining gold has not rocketed because the inputs have risen by 400% since 2003, it has risen because of sloppy management. Minebuilders and operators were the most price insensitive buyers of goods and services on the planet. They made the Middle Eastern buyers of London real estate look positively stingy when it came to "letting it rip" on buying tyres, hiring FiFo employees and the like. How long would a manager at McDonald's last if he was instructed to make burgers that sold for \$1 and let the cost of the ingredient component blowout from 80cts to \$3.50?

The greatest indictment in recent times was Metals X (MLX.ax) buying the "marginally profitable" mines in Australia of Alacer (ASR.to) and in short order taking them from Alacer's cash cost of \$1,268 per oz down to \$903 per oz. Then there is the case of Galane Gold pushing back its cash costs from the levels it inherited from IAMgold at its mines in Botswana.

The coming year will be the Year of the Manager. Those companies that show they can make a buck when all about them are blaming the "weak" gold price will be the standouts.

As for silver we see it outperforming gold and would not be surprised to see it top \$18 per oz sometime over the coming 12 months with the motor being industrial applications NOT speculative froth.

4. The Oil Eclipse "Bonanza"

We might call this the fourth oil shock... the first two were in the 1970s and early 1980s... and involved steep upmoves.. the

late 1990s had prices plunge to \$13 per bbl and now we have had a fairly stunning move from over \$100 per bbl down closer to \$60 in pretty short order.



Like the move of the 1990s we feel the current move will be good for miners in many ways.. lower operating costs are the obvious benefit... followed by eclipse of the go-go energy sector which has stolen the thunder of the mining industry in the resources space for four years now. And, overarchingly, we have the benefit for Western and emerging economies of reversing the flow of export income into oil producers with their decadent wasteful ways.

The oil price fall will be redistributive, and like Oliver Twist, the mining industry will be out with its begging bowl wanting its fair share after so much deprivation in recent times.

It should also be mentioned that is likely to be one happy corner of the otherwise bleak energy space and that should be nuclear energy and uranium mining. Look for U_3O_8 to top \$50 in the spot market before mid-year.

5. Rotation into Mining

They say every dog has its day, but it's a fair while since the mining sector has had its day in the sun (or out of the doghouse).. With major markets continuing ebullient (though fearful) and emerging markets in the doldrums the potential for someday, somehow the collective genius of the investment community to say "what haven't we pumped to the sky yet?" and lighting upon bedraggled mining sector as the next horse out of the gates.

We have two scenarios here, either major markets correct down and stay there, or the markets stay up (or go higher) and in this case the market participants (at least the canner ones)

will be in search of the few stones left unturned in the hunt for less over-priced stocks. The only stones out there which are still representing value are those miners that are in production and have cashflow. If they start to move then the ETFs for the miners will move also (GDX and GDXJ) and thus manager of those ETFs will have to buy up those non-producers that make up the ETFs. As majors rise then dedicated mining investors will spill out of them into smaller names in the search for undervalued situations and the cycle goes on. Note that we are not necessarily forecasting that this reactivation of interest will have anything to do with metals prices (particularly gold) but rather to the mechanics of the broader market.

A rising tide lifts all boats, though some stricken juniors that are fatally holed will disappear beneath the waves.

Conclusion

It's too easy for us to claim things can't get worse, as 2014 was so grim but those who remember the late 1970s, would not be so fast to make such a claim. However, we are, at least, not in an era of stagflation.

The current situation appears to us to be rather binary. Either Western economies will drift into a sort of perma-recession (the economic zombies... undead, but not alive either) or the nascent recovery in those that are bubbling (plus those emerging economies that are NOT QE-junkies) combined with the oil price "dividend" will kick start a period of modest but broader growth spreading through the more torpid of the European economies. Simply put better economies and more money on the table (and in the pockets) of Western consumers will lift the mining space in 2015.