

## **BUNKER HILL MINING CONTINUES TO ADVANCE ITS RAPID RESTART PROGRAM WITH THE SUCCESSFUL COMMISSIONING OF ITS WATER PRE-TREATMENT PLANT**

### **HIGHLIGHTS**

- **Proactive water management plan supports the rapid re-start of the historic Bunker Hill mine and underpins the Company's license to operate**
- **Successful commissioning of an in-house water pre-treatment plant achieves 70% reduction in metal-load discharged from the mine**
- **This water pre-treatment plant generates significant cost savings while reducing environmental footprint**
- **PEA remains on track for delivery in early Q2 2021**

TORONTO, Canada, February 11, 2021 – **Bunker Hill Mining Corporation** (the “**Company**”) (CSE: BNKR) announces the successful commissioning of its water pre-treatment plant, designed to significantly improve the quality of mine water discharge from the Bunker Hill mine. This supports a sustainable restart of mining operations based on modern zero-footprint techniques designed to enhance the quality of the environment.

Sam Ash, CEO of Bunker Hill Mining, stated: “Managing our mine water discharge is an essential part of a strategy designed to rapidly re-start the Bunker Hill mine as a low cost, modern, and sustainable operation. Together with our high-grade silver exploration program and delineation of our maiden NI 43-101 compliant resource, the successful commissioning of our pre-treatment plant marks another key milestone in achieving this goal and highlights our new team’s technical capabilities. We remain on track to deliver our PEA by early Q2 2021.”

Bradley Barnett, Vice President Sustainability of Bunker Hill Mining, who previously held the position of Head of Closure, Rehabilitation and Asset Re-Development at Barrick Gold, added: “I joined Bunker Hill last year because of the unique opportunity to re-start an iconic silver mine as a modern, sustainable operation in ways that improve the quality of the local environment. Commissioning of the water pre-treatment plant is an early demonstration of our commitment to delivering immediate and positive outcomes for the local communities living in Shoshone and Kootenai counties.”

### **THE WATER MANAGEMENT PROGRAM**

The Company began its water management program in September 2020 with the goal of improving the understanding of the mine’s water system and enacting immediate improvement in the water quality of effluent leaving the mine for treatment at the US Environmental Protection Agency’s (“EPA”) Central Treatment Plant (“CTP”). The recently commissioned pre-treatment system achieves this goal by reducing significantly the amount of treatment required at the CTP, and the associated costs, before the mine water is discharged into the south fork of the Coeur D’Alene River. The Company’s new pre-treatment system is removing over 70% of the metals from water before it leaves the mine, with the potential for further improvements.

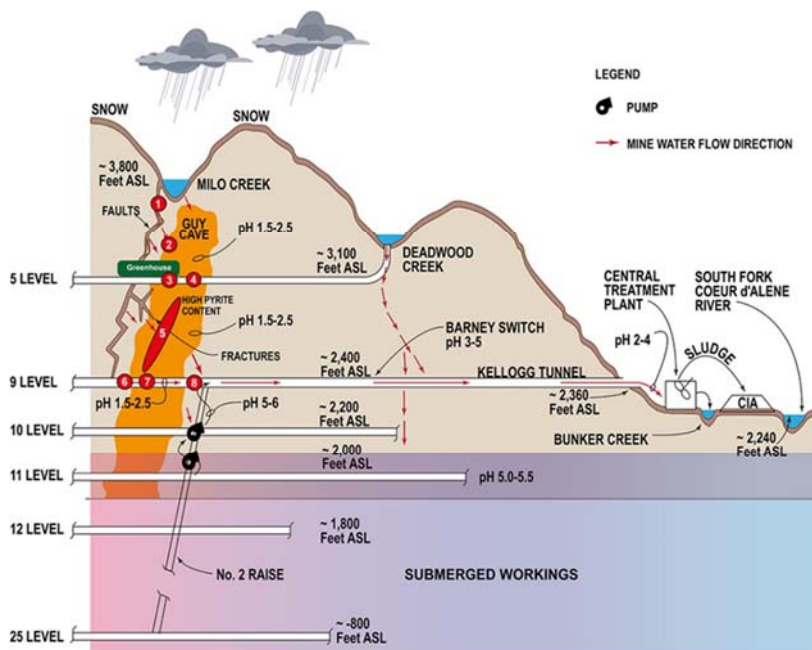
Informed by historical research provided by the EPA, the Company initiated a study of the water system of the mine to:

- (1) identify of the areas where Sulphuric acid (Acid Mine Drainage, or “AMD”) is generated in the greatest and most concentrated quantities, and
- (2) understand the general flow paths of AMD on its way through and out of the mine as it travels to the Central Treatment Plant.

Having completed this work, which largely confirmed the conclusions reached by the EPA’s own studies, the Company started by removing any obstacles that created pooling of acid water. The pooling of acidic mine water generally provides conditions that degrade and worsen water quality over time (see Figure 2 below). Eliminating these obstacles reduces the time that water spends in the mine and thereby improves its quality. These studies also allowed the Company to identify areas where the acidic water mixed with cleaner water. It was discovered that approximately 85% of the metal load in the mine effluent is contained in only 1% of the water flow, allowing the Company to isolate and treat these intense AMD zones in ways that further reduce the downstream treatment requirements and costs at the CTP.

By keeping the acidic water from mixing with the cleaner water, this allows Bunker Hill to focus on the treatment of a smaller stream of effluent, thus reducing the cost and scale of treatment. As shown in Figure 1, the Company achieved this by creating a channel system on the four levels of the mine where AMD production is greatest. These channels divert the AMD into to a pipe system that keeps them separate from the cleaner water.

The AMD then flows from the upper levels of the mine via these pipes to the Kellogg Tunnel, on the 9 Level. From there it is piped to the new treatment facility where a concentrated lime slurry is added to the AMD flow to increase the water’s pH to a neutral state and enable the precipitation of metals from the water before it leaves the mine.



1. Water enters through surface cracks and rock fissures in Wardner
2. Water contacts sulfide ore bodies, mixes with oxygen and becomes highly acidic – Acid Mine Drainage (AMD)
3. AMD pools under and around various structures in the upper levels of the mine (the greenhouse that reforested the Silver Valley is a good example)
4. Pooled AMD sits for long periods and slowly degrades, dissolving greater and greater concentrations of metals and intensifying through evaporation
5. Small volumes of intense AMD slowly move through chutes and raises making their way to the 9 Level
6. The small volume of intense AMD enters the 9 Level and mixes with cleaner water on the East Drift where large volumes of sludge are created
7. Sludge restricts flow of bad water on the 9 Level and further intensifies AMD in two drifts (Cherry Crosscut and Stanly Crosscut) – water in these drifts contains 90% of the metal leaving Bunker Hill Mine
8. Bad water flows of approximately 20gpm combine with good water flows of approximately 1380 and flow out of the Kellogg Tunnel to the Central Treatment Plant (CTP)

**Figure 1: Main events as water on the east side makes its way through the mine**

## WATER PRE-TREATMENT PLANT RESULTS

Results from the testing of mine effluent discharged from Kellogg Tunnel on February 2, 2021 indicate a significant reduction in its metal content when compared to previous time periods. Lab testing conducted by Silver Valley Analytical, Inc. an environmental testing laboratory based in Kellogg, Idaho, indicate a 71% reduction in zinc in the course of only a couple days of operation. Results for cadmium indicate similar results with dissolved levels reduced by 72% from the previous month.

Working with the EPA and other stakeholders, the Company will continue to monitor the mine’s internal water system and the quality of water discharged from the Kellogg Tunnel as a routine part of its environmental management plans, whilst seeking out ways to further improve the sustainability of its operations and development plans.



**Figure 2: Before and after pictures of ground water improvements**

### **Qualified Person**

Mr. Scott E. Wilson, CPG, President of Resource Development Associates Inc. and a consultant to the Company, is an Independent “Qualified Person” as defined by NI 43-101 and is acting at the Qualified Person for the Company. He has reviewed and approved the technical information summarized in this news release.

### **About Bunker Hill Mining Corp.**

Bunker Hill Mining Corp. has an option to acquire 100% of all saleable assets at the Bunker Hill Mine. Information about the Company is available on its website, [www.bunkerhillmining.com](http://www.bunkerhillmining.com), or within the SEDAR and EDGAR databases.



For additional information contact:

Sam Ash, President and Chief Executive Officer

+1 208 786 6999

[sa@bunkerhillmining.com](mailto:sa@bunkerhillmining.com)

## Cautionary Statements

*Certain statements in this news release are forward-looking and involve a number of risks and uncertainties. Such forward-looking statements are within the meaning of that term in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, as well as within the meaning of the phrase 'forward-looking information' in the Canadian Securities Administrators' National Instrument 51-102 – Continuous Disclosure Obligations. Forward-looking statements are not comprised of historical facts. Forward-looking statements include estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Forward-looking statements may be identified by such terms as "believes", "anticipates", "expects", "estimates", "may", "could", "would", "will", or "plan". Since forward-looking statements are based on assumptions and address future events and conditions, by their very nature they involve inherent risks and uncertainties. Although these statements are based on information currently available to the Company, the Company provides no assurance that actual results will meet management's expectations. Risks, uncertainties and other factors involved with forward-looking information could cause actual events, results, performance, prospects and opportunities to differ materially from those expressed or implied by such forward-looking information. Forward looking information in this news release includes, but is not limited to, the Company's intentions regarding its objectives, goals or future plans and statements. Factors that could cause actual results to differ materially from such forward-looking information include, but are not limited to: the ability to predict and counteract the effects of COVID-19 on the business of the Company, including but not limited to the effects of COVID-19 on the price of commodities, capital market conditions, restriction on labour and international travel and supply chains; failure to identify mineral resources; failure to convert estimated mineral resources to reserves; the inability to complete a feasibility study which recommends a production decision; the preliminary nature of metallurgical test results; delays in obtaining or failures to obtain required governmental, environmental or other project approvals; political risks; changes in equity markets; uncertainties relating to the availability and costs of financing needed in the future; the inability of the Company to budget and manage its liquidity in light of the failure to obtain additional financing, including the ability of the Company to complete the payments pursuant to the terms of the agreement to acquire the Bunker Hill Mine Complex; inflation; changes in exchange rates; fluctuations in commodity prices; delays in the development of projects; capital, operating and reclamation costs varying significantly from estimates and the other risks involved in the mineral exploration and development industry; and those risks set out in the Company's public documents filed on SEDAR. Although the Company believes that the assumptions and factors used in preparing the forward-looking information in this news release are reasonable, undue reliance should not be placed on such information, which only applies as of the date of this news release, and no assurance can be given that such events will occur in the disclosed time frames or at all. The Company disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law. No stock exchange, securities commission or other regulatory authority has approved or disapproved the information contained herein.*