

# Fireweed Commences Metallurgical and Ore Sorting Test Work on Boundary Zone

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VANCOUVER, May 18, 2021 - [Fireweed Zinc Ltd.](#) ("Fireweed") (TSXV: FWZ) is pleased to announce the start of a metallurgical test program at Boundary Zone that includes both traditional methods and ore-sorting - an innovative and proven technology deployed at many mines worldwide to upgrade mill-feed at low cost. Boundary Zone is an advanced exploration prospect with widespread zinc mineralization occurring at surface and in drill holes, 15 km west of Fireweed's Jason Zn-Pb-Ag deposit, Macmillan Pass, Yukon, Canada.

## Highlights

- Metallurgical test work has been commissioned on both ore-sorted and unsorted samples.
- Composites from a one-tonne sample have been crushed and screened and coarser fractions will be tested on a full-scale multi-sensor ore sorter.
- X-Ray Fluorescence (XRF) sorting has previously shown promising upside at Boundary Zone and this test work will better quantify the potential benefits.

## CEO Statement

Brandon Macdonald, CEO, stated "This is an important step forward in realizing the economic potential of Boundary Zone. This is the first metallurgical test work conducted on Boundary Zone and will complement the metallurgical data we have on our Tom and Jason deposits. The full-scale ore sorting tests will determine if there is potential to increase mill feed grades while simultaneously improving grinding costs. The sorting tests on bulk samples using full-scale sorting equipment will be more robust than the bench-scale test work conducted in 2019. Flotation and grinding test work are being carried out on sorted and unsorted material to support both possible processing scenarios. Together, the metallurgical and sorting test work will give Fireweed holistic insight to help optimize the processing flowsheet for the Macmillan Pass project."

## Boundary Zone Ore Sorting and Metallurgical Test Work

Two identical 1.2 tonne samples of quartered drill core were taken from holes NB19-001 and NB19-002 at Boundary Zone Main for a total of 2.4 tonnes of material. This will allow direct comparison of two streams of test work, using one sample for ore sorting and the other sample for unsorted flotation and grinding tests. Both samples have been subdivided into the same nine separate composites representing the range of grade profiles, mineralization styles and host rocks present at Boundary Zone Main. The composites selected for ore sorting have been crushed and screened, sized from 0.5" to 2" (13 to 50 mm) with the fines being collected for subsequent testing. Over 600 kg of screened composite material have been selected for ore sorting from one of the 1.2 tonne samples of quarter drill core. The remaining ~600 kg comprises high grade composites and waste rock composites. High-grade composites will not be tested for ore sorting to avoid potential metal losses during sorting. Waste composites will not be tested for ore sorting although appropriate lengths of adjacent waste material have been included in robust composites to account for mining dilution.

Ore sorting test work is being conducted by Steinert, a leading producer of sorting technology for the mining and recycling industries, at their test facility in Germany. Samples have arrived in Germany and the sorting trial will be completed in June. A range of sensors will be tested including X-Ray Transmission (XRT), X-Ray Fluorescence (XRF), optical colour, laser surface, and electromagnetic induction. Previous bench-scale ore sorting test work indicated that Boundary Zone material responded well to XRF sensors with potential to upgrade mill feed from 2.5% Zn to approximately 5% Zn with zinc recoveries of 80-85% at low cost (see Fireweed news release dated July 31<sup>st</sup>, 2019). The sorted products of each of the composites will be returned to Base Metallurgical Laboratories in Kamloops, Canada, where they will be analyzed and the potential for preconcentration and upgrading will be assessed. If sorting results are favourable, sorting products will be combined with the fines generated during crushing and then will be subjected to flotation test work to determine metal recoveries.

The composites from the identical unsorted sample of quarter drill core will be subjected to SMC tests for

comminution, Bond Work Index tests, bulk mineral content analysis, and rougher and cleaner flotation testing to determine processing characteristics.

#### *Ore Sorting Technology*

Sensor-based ore sorting is currently in use at over 50 mining operations across the world<sup>1</sup>. A range of sensors can be used, depending on ore properties. Typically, sensors infer metal abundances on rock pieces moving on an enclosed conveyor belt unit and high-speed discriminating software distinguishes rocks with grades above and below a set threshold. At the end of the conveyor belt, focussed high pressure air jets or mechanical levers separate the designated higher grade rock pieces for processing and reject low-grade and waste pieces. Sorting therefore increases the metal grade reporting to downstream mineral processing operations, which is known as preconcentration. XRF is one sensing type that is applied in sensor-based sorting, for example at AngloAmerican's Mogalakwena mine in South Africa. The amenability to ore sorting depends on the material characteristics of the mined rock. The Boundary Zone samples responded positively to previous XRF testing because zinc values on the surfaces of individual rock pieces correlate closely with the overall zinc assays of those rocks and the Boundary Zone mineralization is highly heterogeneous (see Fireweed news release dated July 31<sup>st</sup>, 2019).

#### *Boundary Zone Background*

Boundary Zone mineralization consists of sphalerite-siderite-pyrite and minor galena in veins, stockworks, disseminations, and as replacement of matrix and clasts within coarse clastic rocks. Drilling in 2020 at Boundary Zone West also identified stratiform mineralization similar to the Tom and Jason deposits (see news release dated November 24<sup>th</sup>, 2020).

Historical exploration work at Boundary Zone included geochemical and geophysical surveys as well as 24 drill holes that defined a central 200 x 800 m mineralized zone of zinc (-lead-silver) mineralization within a broader system over 2 km in strike length. In 2019, Fireweed drilled two holes into Boundary Zone Main. Both holes intersected wide zones of high-grade replacement-style and vein- and breccia-hosted zinc mineralization, including 100.0 m (true width) of 8.73% zinc from surface including 6.4 m of 43.53% zinc within 230.0 m of 4.51% zinc (see Fireweed news releases dated October 16<sup>th</sup>, 2019 and November 5<sup>th</sup>, 2019). In 2020 Fireweed drilled the discovery holes into the Boundary West Zone (see Fireweed news release dated 25<sup>th</sup> February 2021).

#### *Qualified Person Statement*

Technical information in this news release has been approved by Jack Milton, P.Geo., Chief Geologist and a 'Qualified Person' as defined under Canadian National Instrument 43-101.

#### *Sampling notes*

Drill core was cut into quarters lengthwise with a core saw on site. One quarter core sample was sent for assay (results reported in Fireweed news releases dated October 16<sup>th</sup>, 2019 and November 5<sup>th</sup>, 2019); one quarter core was taken for metallurgical Sample 1 for ore sorting tests; one quarter core was taken for metallurgical Sample 2 for unsorted tests; and the last quarter of core was placed back into the core box for archival purposes. Metallurgical samples 1 and 2 were taken from site to secure storage in Whitehorse, Yukon, in 2019. In 2021, metallurgical samples were shipped by transport truck to Base Metallurgical Laboratories in Kamloops, B.C. for compositing and coarse crushing before forwarding selected composites by air freight for ore-sorting test work to Steinert's testing facility in Germany.

About Fireweed Zinc Ltd. (TSXV: FWZ): Fireweed Zinc is a public mineral exploration company focused on zinc-lead-silver and managed by a veteran team of mining industry professionals. The Company is advancing its district-scale 940 km<sup>2</sup> Macmillan Pass Project in Yukon, Canada, which is host to the 100% owned Tom and Jason zinc-lead-silver deposits with current Mineral Resources and a PEA economic study (see Fireweed news releases dated January 10, 2018, and May 23, 2018, respectively, and reports filed on [www.sedar.com](http://www.sedar.com) for details) as well as the Boundary Zone, Tom North Zone and End Zone which have significant zinc-lead-silver mineralization drilled but not yet classified as mineral resources. The project also includes large blocks of adjacent claims (MAC, MC, MP, Jerry, BR, NS, Oro, Sol, Ben, and Stump) which cover exploration targets in the district where previous and recent work identified zinc, lead and silver prospects, and geophysical and geochemical anomalies in prospective host geology.

Additional information about Fireweed Zinc and its Macmillan Pass Zinc Project including maps and drill sections can be found on the Company's website at [www.FireweedZinc.com](http://www.FireweedZinc.com) and at [www.sedar.com](http://www.sedar.com).

ON BEHALF OF [Fireweed Zinc Ltd.](#)

"Brandon Macdonald"

CEO & Director

Contact  
Brandon MacDonald  
Phone: (604) 646-8361

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This news release may contain "forward-looking" statements and information relating to the Company and the Macmillan Pass Project that are based on the beliefs of Company management, as well as assumptions made by and information currently available to Company management. Such statements reflect the current risks, uncertainties and assumptions related to certain factors including but not limited to, without limitations, exploration and development risks, expenditure and financing requirements, general economic conditions, changes in financial markets, the ability to properly and efficiently staff the Company's operations, the sufficiency of working capital and funding for continued operations, title matters, First Nations relations, operating hazards, political and economic factors, competitive factors, metal prices, relationships with vendors and strategic partners, governmental regulations and oversight, permitting, seasonality and weather, technological change, industry practices, and one-time events. Additional risks are set out in the Company's prospectus dated May 9, 2017, and filed under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com). Should any one or more risks or uncertainties materialize or change, or should any underlying assumptions prove incorrect, actual results and forward-looking statements may vary materially from those described herein. The Company does not undertake to update forward-looking statements or forward-looking information, except as required by law.

#### 1. References for commercial XRF ore sorting operations:

<https://steinertglobal.com/magnets-sensor-sorting-units/sensor-sorting/x-ray-sorting-systems/steinert-kss-xf-l/>  
<http://www.radosxrf.com/wp-content/uploads/2015/12/Run-of-Mine-Ore-Sorting-Proof-of-Concept-Plant-videos-R>

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