Fireweed Zinc Announces Positive Preliminary Economic Assessment with Pre-Tax IRR of 32% and NPV (8%) of C$779M on Macmillan Pass Project

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VANCOUVER, British Columbia, May 23, 2018 (GLOBE NEWSWIRE) -- Fireweed Zinc Ltd. (“Fireweed” or the “Company”) (TSXV:FWZ) is pleased to announce the positive results of an independent Preliminary Economic Assessment (“PEA”) for its Macmillan Pass Project (the “Project”) in Yukon, Canada. The PEA was prepared in accordance with National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (“NI 43-101”) by JDS Energy and Mining, Inc. (JDS) with work on tailings and water by Knight Piesold Consulting, both of Vancouver, Canada.

Production and Economic Highlights:

• Long mine life and large-scale production:

- 18-year mine life with 32.7Mt of mineralization mined at 4,900 tonne-per-day average processing rate.
- 1.54Mt of Zinc, 0.88Mt of Lead, and 37Moz of Silver in concentrate shipped.
- Average yearly contained-metal production of 85kt Zinc, 48kt Lead and 2Moz Silver.

• Robust economics using metals prices of $1.21/lb Zn, $0.98/lb Pb, and $16.80/oz Ag:

- Pre-Tax NPV at 8% of $779M CAD and IRR of 32%.
- After-Tax NPV at 8% of $448M CAD and IRR of 24%.

• Manageable CAPEX and rapid payback:

- Pre-production CAPEX of $404M CAD.
- Payback period of 4 years.
- Starter-pits on Tom West and Jason Main zones reduce up-front capital.

• Significant Upside

- Numerous opportunities for significant economic improvement.
- Known zones remain open for expansion, including into high-grade areas.
- Highly prospective and large land package untested with modern exploration methods.

“This first NI43-101-compliant PEA on the Macmillan Pass Project represents a significant step for the Company as we progress the Project towards production. Project economics in the PEA demonstrate that Macmillan Pass is not just viable at the zinc, lead and silver prices levels contemplated in the study, but highly robust,” commented Brandon Macdonald, Chief Executive Officer. “With consideration of the exploration upside not just at the known zones, but also within the broader land package, the Project is steadily shaping up to be a premiere district-scale zinc mining camp in the mining-friendly Yukon Territory.”

Overview of PEA Results and Assumptions

Summary Table of Economic Inputs and Results

		Unit	Base Case	Spot Prices[2]
Inputs	Zinc Price	US$/lb	$1.21[1]	$1.42
	Lead Price	US$/lb	$0.98[1]	$1.05
	Silver Price	US$/oz	$16.80[1]	$16.38
	Exchange Rate	CAD/USD	0.77	0.78
Economics	Cash Flows (Undiscounted)	C$M	$1,735	$2,581
Pre-Tax	NPV at 8%	C$M	$779	$1,214
	IRR	%	32%	42%
	Payback Period	years	3	2.4
Economics	Cash Flows (Undiscounted)	C$M	$1,119	$1,669
Post-Tax	NPV at 8%	C$M	$448	$729
	IRR	%	24%	31%
	Payback Period	years	4	3
Unit Parameters	Net Smelter Return[3]	C$/tonne	$167.38	$193.28
Per Tonne Mined	Pit Mining Costs	C$/tonne	$4.45	$4.45
	Underground Mining Costs	C$/tonne	$52.02	$52.02
	Processing Costs	C$/tonne	$22.92	$22.92
	Site G&A	C$/tonne	$10.37	$10.37
	Total OPEX	C$/tonne	$82.00	$82.00
	Operating Margin	C$/tonne	$85.38	$111.28
	Sustaining Capital & Closure	C$/tonne	$19.88	$19.88
	Adjusted Operating Margin	C$/tonne	$65.50	$91.40

1. Base case prices for zinc, lead and silver are the average of three years past and projected two years forward by analysis of London Metal Exchange futures as of April 30, 2018.
2. Spot prices at close of London Metal Exchange on April 30, 2018.
3. Net smelter returns are net of off-site costs including TC/RCs, freight and penalties

Capital & Operating Cost Estimates

Table of Initial and Sustaining Capital Costs

Area	Initial (C$000)	Sustaining (C$000)	Total (C$000)
Mining	30,300	378,400	408,700
Site Development	12,000	1,100	13,100
Mineral Processing	70,600	5,500	76,100
Tailings Management	32,700	113,900	146,600
On-site Infrastructure	51,400	14,800	66,200
Off-site Infrastructure (Canol Road)	78,300	6,700	85,000
Project Indirects	43,000	-	43,000
Engineering & Project Management	20,500	-	20,500
Owner Costs	7,000	-	7,000
Closure	-	56,700	56,700
Contingencies[1]	58,600	72,300	130,900
TOTAL PROJECT	404,400	649,400	1,053,800

1. Note on contingencies: Contingencies were assigned according to the level of engineering in the various project areas as follows: mining infrastructure 20%, process plant/site infrastructure/indirects 20%, tailings 35%, off-site infrastructure 10%. JDS terms this method “fit for purpose.” An example is the process equipment cost. JDS used vendor quotes on nearly all the equipment. Vendor quotes can generally be assessed a contingency of 5-10%. On the other hand, Knight Piesold had little data on the soils to be excavated for the tailings management facility embankment. They applied a contingency of 35% in that case.

Off-site Charges

Off-site charges include concentrate transport to Skagway for loading onto ocean-going cargo ships bound for smelter destinations yet to be determined but assumed to be in Asia. The charges also include treatment charges and penalties as shown in the table below.

Table of Off-site Charges

Off-site Charges	Units	Zinc Concentrate	Lead Concentrate
Transport to Smelter	CAD/wmt conc.	$211.85	
Smelter Treatment Charge	US$/dmt conc.	$170.00	
Silver Refining	US$/oz	$1.50	
Mercury (Hg) Penalty	US$/dmt conc.	$0.96	
Silica (SiO_2) Penalty	US$/dmt conc.	$2.00	

Operating Costs

The estimated operating costs, over the life of the Project, are presented below:

Table of Operating Costs (OPEX)

Open Pit Mining	C$/tonne mined	$4.45
Underground Mining	C$/tonne mined	$52.02
Processing	C$/tonne	$22.92
G&A	C$/tonne	$10.37
All-In OPEX	C$/tonne	82.00

Mineral Resources

This PEA is based on a mine plan for delivery of 32.66 Mt at a diluted head grade of 9.07% zinc equivalent (5.31% zinc, 3.56% lead and 43.41g.t silver) delivered to the processing plant. The table below outlines the total base case Indicated and Inferred Mineral Resources, including those that were not included in this mine plan.

Table of Base Case Mineral Resource Estimates (at NSR cutoff grade of $65 CAD)

Category	Tonnes (Mt)	ZnEq %	Zn %	Pb %	Ag g/t	B lbs Zn	B lbs Pb	MOz Ag
Indicated	11.21	9.61	6.59	2.48	21.33	1.63	0.61	7.69
Inferred	39.47	10.00	5.84	3.14	38.15	5.08	2.73	48.41

Details, supporting information and Qualified Person statements for these Mineral Resources are described in the Company’s news release and the Technical Report both dated January 10, 2018 and both filed on www.sedar.com.

Mining

Initial material will be recovered at a rate of about 5,000 tonnes per day by conventional truck and shovel surface mining from both the Tom and Jason deposits. During the third year, production will transition to underground mining using Avoca-style sub-level retreat longhole (LH) stoping, vertical crater retreat (VCR) and alimak stoping. Stopes will be filled with a combination of waste rock and paste and cemented rock fill.

Open pit mining accounts for 13% or 4.2M tonnes of the total 32.7M tonnes of material mined and processed. VCR and LH methods account for 75% of the material mined and processed by underground methods.

Mining recovery and dilution factors were applied by mining method. Average open pit mining recovery and dilution were 95% and 10% respectively. Average underground mining recovery and dilution were 92% and 21% respectively.

Existing surface roads and underground development will be rehabilitated and utilized as part of the mine plan. Mine access portals at multiple elevations are planned to maximize natural ventilation and dewatering of underground operations. Open pits have been designed to maintain safe working distance from all major water ways.

Diesel powered mobile equipment would be used to conduct all open pit and underground mining activities. Underground crushing and conveying would provide low cost mineral transport from the Tom deposit, while the Jason mine being further from the mill site would utilize truck transport.

Table of Mine Production Statistics

Total Production Life of Mine	M tonnes	32.66
Mine Life	years	18
Average Production Rate	tpd	4,900
Average Head Grades		
Ag	g/t	43
Pb	%	3.6%
Zn	%	5.3%

Processing

The Company reported details of metallurgical testing with excellent results in a news release dated May 15, 2018.

The Project incorporates a standard comminution, flotation separation flow sheet including a primary crusher feeding a single semi-autogenous (SAG) mill, thence a ball mill, followed by selective two and three-stage flotation to produce two concentrate products for shipment to offsite smelters. Table 3 provides pertinent feed, recovery, and grade levels.

Summary Table of Macmillan Pass Global (65% Tom + 35% Jason) Composite Metallurgical Results

Product	Grade			Metal Recoveries (%)		
	Zinc (%)	Lead (%)	Silver (g/t)	Lead	Zinc	Silver
Feed	7.3	3.2	44	100	100	100
Lead Concentrate	8.9	61.5	688	75	5	59
Zinc Concentrate	58.4	2.2	88	7	89	22

The iron levels are low, at about 1.5%, a feature desired by zinc smelters. Deleterious element levels were generally low, except for mercury at 155 ppm and SiO_2 at 4% in the global zinc concentrate. Either or both may incur modest smelter penalties.

Table of Processing Statistics

Zn Recovered	Life of Mine - M lbs	3,397
	avg M lbs/yr	188
Pb Recovered	Life of Mine - M lbs	1,929
	avg M lbs/yr	107
Ag Recovered	Life of Mine - k oz	37,191
	avg k oz/yr	2,053

Payable Zn	Life of Mine - M lbs	2,887
	avg M lbs/yr	159
Payable Pb	Life of Mine - M lbs	1,833
	avg M lbs/yr	101
Zn Concentrate	Life of Mine – 000 dmt	2,638
	avg 000 dmt/yr	147
Pb Concentrate	Life of Mine – 000 dmt	1,422
	avg 000 dmt/yr	79

Infrastructure

Access

Site access for most raw materials, fuel and supplies will be via the existing Canol Road (Yukon Highway 6). The Project site also has a 740m long gravel airstrip. The unpaved road runs 229-km from paved Highway 4, the Robert Campbell Highway at Ross River, to the Project site. It will require upgrade and repairs to accommodate dual-trailer concentrate trucks with a 40-tonne payload. Maximum travel speed will be 50 km/hr as the design basis for difficult sections, and 80 km/hr where the upgrades are not cost prohibitive. The route includes a barge crossing over the Pelly River at Ross River.

Power

The estimated connected load for the project is 10.6 MW, and the operating demand is 68,432 MWhr/year. Power is to be supplied by on-site liquified natural gas (LNG) fired generators. LNG will be trucked from Dawson Creek, BC, and stored on-site.

Water Management

No specific designs or plans were undertaken for water supply but a water management system for plant make-up water is budgeted. Water is plentiful in the area. Local surface water supplies should be more than adequate for process and potable needs. Tailings return water will somewhat reduce the need for process water. Package sanitary plants are readily available and work well for sanitary needs of the camp, dries, and process area restrooms.

Tailings Disposal

The study base case for the nearby tailings management facility is conventional tailings slurry disposal in a valley fill arrangement with the tailings embankment designed to be a rock-filled structure with granular filter zones on the upstream face. The embankment construction material will be borrowed from the tailings management facility impoundment where possible and the entire facility will be lined with a HDPE geomembrane liner.

Airstrip & Camp

The existing airstrip to be upgraded to 1,100 m useable length, complete with lights and navigation equipment for all weather flying. It will be able to accommodate a Dash 8-100 40-person charter aircraft. An all-weather modular construction, 270-person camp for construction and operation will include dormitories, kitchen, dining, laundry, boot room, recreation area, and storage, all connected with arctic corridors. Camp is complete with potable water treatment system, sewage and waste disposal facilities.

Sensitivity Analysis

The Project is highly leveraged to metal prices; a 15% increase in metal prices results in an 74% increase in

NPV.

Pre-Tax NPV8 (C$M)	Input Factor						
Input	85%	90%	95%	100%	105%	110%	115%
Metal Prices	204	396	588	779	971	1,163	1,354
OPEX	973	908	844	779	715	650	586
CAPEX	891	854	817	779	742	705	667

Project Opportunities

The PEA identifies several project challenges and opportunities that were addressed to a level satisfactory for this PEA and represent optimization opportunities for the next study level to further enhance project economics. These include:

- The $404 million pre-production capex includes $105 million of capital cost required to upgrade the government-owned North Canol Road (Yukon Highway 6) including direct costs, owner’s costs, EPCM and contingency. The Company will continue to work with the Yukon government to consider options for upgrading the road which engineering is beyond the normal scope of a PEA.
- Optimization of the extent and configuration of the surface extraction in the starter pits, and the disposition of the related mine waste rock, require a depth of engineering analysis beyond PEA level.
- Further evaluation may reveal the existence of non acid-generating mine waste, resulting in a lower cost borrow alternative for construction of the tailings management facility embankment, a major cost item.
- Exploration potential remains open at depth at all deposits and significant upside remains as some high grade intersections are known at depth. Further drill testing is required to define and include this mineralization as mineral resources.
- Footprint of the current known deposits is very small compared to the overall land position. Exploration potential exists over the 470 square kilometre land package. Most of the area has never been explored using modern exploration methods.
- Further metallurgical test work will advance optimization of the recovery process to further improve metal recoveries and reduce the quantity of undesirable materials.

Upcoming Activities

- During Summer of 2018 the Company plans to commence a large drilling campaign with three drills and the goals to upgrade priority zones to measured and indicated resources, expand known zones through step-out holes, and drill new targets with aim to discover and define new deposits.
- Mapping, geochemistry and geophysics will be conducted toward new discoveries and guiding exploration of known zones.
- Continue baseline environmental studies toward advancing and further permitting of the Project.
- Continue work towards an upgraded economic study on the Project.

Qualified Person Statements

Michael Makarenko, P.Eng., Project Manager for JDS Energy and Mining, Inc., is independent of Fireweed Zinc Ltd. and a ‘Qualified Person’ as defined under Canadian National Instrument 43‑101. Mr. Makarenko is responsible for the PEA results and directly related information in this news release. Brandon Macdonald, P.Geo, a ‘Qualified Person’ as defined under Canadian National Instrument 43‑101, is responsible for the other technical information (information not directly related to the PEA) in this news release.

A technical report describing the details of the PEA study will be filed on www.sedar.com and posted on the Company website (www.FireweedZinc.com) within 45 days.

Conference Call

The Company will host a telephone conference call on Thursday, May 24, 2018 at 11:00 a.m. Eastern Time (8:00 a.m. Pacific) to discuss these results.

The conference call may be accessed by dialing 1-800-319-4610 in Canada and the United States, or +1-604-638-5340 internationally. No access code is needed. Callers should dial in 5 – 10 min prior to the scheduled start time and simply ask to join the Fireweed Zinc call.

The conference call will be archived for later playback until June 7, 2018 and can be accessed by dialing (800) 319-6413 in Canada and the United States, or (604) 638-9010 internationally and using the passcode 2354.

About Fireweed Zinc Ltd.: Fireweed Zinc is a public mineral exploration company focused on zinc and managed by a veteran team of mining industry professionals. The Company is advancing its large 470 km^2 Macmillan Pass Project in Yukon, Canada, which is host to the 100% owned Tom and Jason zinc-lead-silver deposits with recently announced new Mineral Resources (see Fireweed news release dated January 10, 2018 for details) and a new PEA economic study. The project also includes option agreements on large blocks of adjacent claims (MAC, MC, MP, Jerry, BR and NS) which cover projected extensions of mineralization from the Jason area and areas where previous exploration identified zinc, lead and silver geochemical anomalies in critical host geology.

Additional information about Fireweed Zinc and its Macmillan Pass Project, can be found on the Company’s website at www.FireweedZinc.com and on SEDAR at www.sedar.com.

ON BEHALF OF FIREWEED ZINC LTD.

“Brandon Macdonald”

CEO & Director

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

PEA Cautionary Note:

Readers are cautioned that the PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA results will be realized. Mineral resources that are not mineral reserves and do not have demonstrated economic viability. Additional work is needed to upgrade these mineral resources to mineral reserves.

Forward-Looking Statements

This news release contains “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. 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.

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