



NEWS RELEASE

CZN-TSX
CZICF-OTCQB

FOR IMMEDIATE RELEASE
September 14, 2016

CANADIAN ZINC MODIFIES 2016 PRELIMINARY FEASIBILITY STUDY

Amended Technical Report to be filed

Vancouver, British Columbia, September 14, 2016 - Canadian Zinc Corporation (TSX: CZN; OTCQB: CZICF) reports that, as part of its ongoing financing and concentrate marketing activities for its 100% owned Prairie Creek lead, zinc, silver mine in the Northwest Territories, the Company has identified an error in the life-of-mine economic model included in its 2016 Preliminary Feasibility Study.

The error caused an overstatement in gross smelter revenue to \$3.7 billion from \$3.3 billion, over the projected 17-year life of the Prairie Creek Mine. The gross metal value of production (using the same assumptions) remains unchanged. The overestimation resulted from the inclusion in the economic model of smelter revenue for bi-product metals in primary concentrates that may not be payable, depending on final concentrate contract terms.

All other inputs into the economic model and all technical aspects of the 2016 Preliminary Feasibility Study (“PFS”) remain unchanged, including all mineral resource and reserve estimates, mining plans and production rates and estimates of capital and operating costs and assumptions on concentrate treatment charges and penalties. However, royalties and taxes payable also reduce by \$153 million over the projected life of the mine, partially offsetting the impact of lower revenue.

“It is important to note that the error in the economic model has no impact on reserve estimates, metal production or mine life and, notwithstanding the reduction in revenue, the revised financial results remain strongly positive and continue to demonstrate a robust project with undiscounted cumulative cash flow of \$710 million at metal prices of US\$1.00/lb for zinc and lead and US\$19/oz for silver”, said **John Kearney, Chairman and Chief Executive**. *“The revised financial model yields a Pre-tax NPV of \$284 million at an 8% discount rate, with an IRR of 23%, and a Post-tax NPV of \$155 million, with a post-tax IRR of 18%.”*

Revised Financial Analysis

The net effect on projected cash flows of the adjustment in smelter revenue, with all other factors and inputs remaining unchanged, at metal prices of US\$1.00/lb for zinc and lead and US\$19/oz for silver and Cdn/US exchange rate of 1.25:1, results in an undiscounted cumulative cash flow of \$710 million at the base case with a Pre-tax Net Present Value (“NPV”) of \$284 million, using an 8% discount rate, with an Internal Rate of Return (“IRR”) of 23% and a Post-tax NPV of \$155 million, with a post-tax IRR of 18%, compared to a NPV of \$509 million using an 8% discount rate, with an IRR of 32%, and a Post-tax NPV of \$302 million, with a Post-tax IRR

of 26%, as originally reported in the PFS. The pre-tax payback period increases from three years to four years out of the projected 17 year mine life.

The table below shows revised Pre and Post-tax NPVs, at 5% and 8% discount rates, and Internal Rates of Return (IRR), all at a Cdn/US exchange rate of 1.25:1 and demonstrate the sensitivity and leverage of the Prairie Creek Mine to various metal price scenarios.

Metal Prices		Pre-Tax				Post-Tax			
Zinc/Lead US\$/lb	Silver US\$/oz	Undiscounted \$M	NPV (5%) \$M	NPV (8%) \$M	IRR %	Undiscounted \$M	NPV (5%) \$M	NPV (8%) \$M	IRR %
0.80	17.00	99	-	(42)	5.0	35	(38)	(70)	2.2
0.90	18.00	405	202	121	15.0	233	100	44	11.1
1.00	19.00	710	405	284	22.5	431	235	155	17.9
1.00¹	19.00¹	979	585	429	28.5	598	349	249	23.1
1.10	20.00	1,016	608	447	29.1	623	366	262	23.8
1.20	21.00	1,322	811	611	35.2	810	493	366	29.0
1.30	22.00	1,627	1,014	774	40.9	1,002	624	473	34.1

1. Foreign Exchange assumed to be \$1.375CAD:\$1.00US on this line only

An Amended Technical Report in accordance with National Instrument 43-101 Standards for Disclosure for Mineral Projects (“NI 43-101”) will be prepared and filed on SEDAR as soon as possible as part of which the economic model will be rechecked again.

The summary of the impact of the overstatement in the calculation of smelter revenue in the economic model presented in the 2016 Preliminary Feasibility Study and the summary of the revised financial cash flow model reported in this news release are preliminary and subject to further review, restatement and/or confirmation in the Amended Technical Report.

2016 Preliminary Feasibility Study

The 2016 PFS and the *Prairie Creek Property Prefeasibility Update NI43-101 Technical Report* (filed on SEDAR on May 12, 2016) were completed by AMC Mining Consultants (Canada) Ltd., (“AMC”) and Tetra Tech Inc. with input from Canadian Zinc personnel and consultants. Canadian Zinc personnel were primarily responsible for the financial model and inputs and the financial analysis and for Section 22 “Economic analysis” of the Technical Report.

The 2016 PFS was undertaken to incorporate the increased mineral resources and mineral reserves, construction and use of an all season road, advanced engineering details and updated capital and operating costs.

The projected average annual mine production, which remains unchanged, consists of approximately 60,000 tonnes of zinc concentrate and 55,000 tonnes of lead concentrate containing approximately 86 million pounds of zinc, 82 million pounds of lead, 1.9 million pounds of copper and 1.7 million ounces of silver.

In the 2016 PFS, the Company generated estimates for indicative “world smelter terms” with respect to payables, treatment charges and other standard terms. However in the 2016 PFS economic model revenue credits were included for all contained metal, and the payability revenue for lead and zinc was calculated incorrectly in the model. In addition, it is projected that, over its life, the mine will produce 14,000 tonnes of copper, contained mostly in lead concentrate, and the assumed value of this copper was included in gross revenue calculations

in the economic model. This copper revenue is unlikely to be achieved unless a separate copper concentrate is produced, which was not incorporated in the PFS.

Canadian Zinc has signed MOUs with each of Korea Zinc and Boliden for the sale of zinc and lead concentrates. The MOUs set out the good faith intentions of Canadian Zinc and each of Korea Zinc and Boliden to enter into concentrate sales agreements for the concentrates to be produced from the Prairie Creek Mine on the general terms set out in the MOUs, including commercial terms that are to be kept confidential. No formal concentrate sales contracts have yet been concluded. The MOUs do not provide for agreed or fixed payable percentages or deductions and provide that payables, treatment charges and penalties will be negotiated in good faith annually during the fourth quarter of the preceding year. The MOUs reflect the understanding of the parties and constitute the basis for continued negotiation of definitive binding sales agreements, which the Company expects to negotiate and conclude in parallel with concluding senior financing for the development of the Prairie Creek Mine.

Conclusion

The revised base case economic model continues to indicate a robust project at consensus forecasts for the long-term prices of lead and zinc and there remains good potential for additional project optimization, enhanced economics and further extending the life of the Prairie Creek Mine.

There are a number of recommendations for potential enhanced economics identified in the 2016 PFS, including:

- Additional mill studies to further optimize the mill circuit capacity to increase both ore throughput and metal recoveries, including possible mill expansion.
- Further metallurgical tests to optimize the process flowsheet, particularly reagent regimes.
- Further study of on-site or off-site processes to reduce deleterious components of concentrate, thereby reducing smelting penalties.

Any improvements that can be achieved in the metallurgical process to enhance the quality of the concentrates and improve payability will increase the net smelter revenue and enhance the realization of as much as possible of the contained gross metal value.

The long term outlook for lead and zinc remains very positive and Canadian Zinc plans to continue to work towards completion of a definitive bankable feasibility study and evaluate all alternatives and possibilities for raising the financing necessary to complete development and put the Prairie Creek Mine into production.

Qualified Person

This news release has been reviewed and approved by Alan Taylor P.Geo. COO & VP Exploration and a Director of Canadian Zinc, who is a Non-Independent QP under NI 43-101.

An Amended Technical Report in accordance with NI 43-101 will be filed on SEDAR as soon as possible. For the full details and further information with respect to the key assumptions, parameters, and risks associated with the results of the modified PFS, including the mineral resource and reserve estimates included therein, and other technical information, please refer to the complete Amended Technical Report when it is made available at SEDAR.

About Canadian Zinc

Canadian Zinc is a TSX-listed exploration and development company trading under the symbol “CZN”. The Company’s key project is the 100%-owned Prairie Creek Project, a fully permitted, advanced-staged zinc-lead-silver property, located in the Northwest Territories. Canadian Zinc also owns extensive mineral exploration licences in central Newfoundland.

Cautionary Statement – Forward-Looking Information

This news release contains “forward-looking information” within the meaning of applicable Canadian securities legislation and “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, “forward-looking statements”). Forward-looking statements in this news release include, but are not limited to: statements with respect to the extent and impact of the overstatement described in this news release; expectations regarding the filing of an amended technical report and the expected content of that technical report; statements with respect to the Company’s proposed Prairie Creek Mine operations, including life-of-mine, cash flow and other economic projections; the future mine grades, recoveries and production rates expected from the Prairie Creek Mine; the estimation of mineral reserves and mineral resources; the realization of mineral reserve and mineral resource estimates; the terms of any contracts the Company may ultimately enter with respect to the sale of zinc, lead, silver or copper concentrates; and the outlook for future prices of zinc, lead, silver and copper. Such forward-looking statements are made pursuant to the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995.

Since forward-looking statements are based on assumptions and address future events and conditions, by their very nature they involve inherent risks and uncertainties which could cause actual results or events to differ materially from those reflected in the forward-looking statements, including risks relating to, among other things: the preliminary nature of the calculations contained in this news release, mineral reserves, mineral resources (including with respect to the size, grade and recoverability of mineral resources), results of exploration, reclamation and other post-closure costs, capital and construction costs, mine production costs, the timing of exploration, development and mining activities, commodity prices and the terms of commodity sales agreements, and all of the other risks described under “Forward Looking Statements” in the Company’s Annual Report filed on SEDAR or EDGAR.

These forward-looking statements are based on certain assumptions which the Company believes are reasonable, including: that the preliminary calculations of the overstatement described in this news release, and the impact of that overstatement, are correct and will not be materially different from the complete calculations contained in an amended technical report; that the Company will file an amended technical report on the Prairie Creek Mine; sustained zinc, lead, silver and other commodity demand and prices, and that such prices will be materially consistent with those anticipated; the proposed development of the Company’s mineral projects will be viable operationally and economically and proceed as planned; the actual nature, size and grade of the Company’s mineral reserves and resources are materially consistent with estimates; and all of the assumptions described under “Forward Looking Statements” in the Company’s Annual Report filed on SEDAR or EDGAR. The Company does not undertake to update any forward-looking statements that may be made from time to time by the Company or on its behalf, except in accordance with applicable securities laws.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that mineral resources will be converted into mineral reserves.

Cautionary Note to United States Investors

The United States Securities and Exchange Commission (“SEC”) permits U.S. mining companies, in their filings with the SEC, to disclose only those mineral deposits that a company can economically and legally extract or produce. We use certain terms in this press release, such as “measured,” “indicated,” and “inferred” “resources,” which the SEC guidelines prohibit U.S. registered companies from including in their filings with the SEC.

For further information contact:

John F. Kearney
Chairman
(416) 362-6686

Alan B. Taylor
VP Exploration & Chief Operating Officer
(604) 688-2001

Steve Dawson
VP Corporate Development
(416) 203-1418

Suite 1805
55 University Avenue
Toronto, ON M5J 2H7

Suite 1710, 650 West Georgia Street,
Vancouver, BC V6B 4N9
Tollfree: 1-866-688-2001

Suite 1805
55 University Avenue
Toronto, ON M5J 2H7

E-mail: invest@canadianzinc.com

Website: www.canadianzinc.com