



PRESS RELEASE

CZN-TSX
CZICF-OTCBB

FOR IMMEDIATE RELEASE
August 17, 2009

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- CANADIAN ZINC REPORTS SECOND QUARTER 2009 RESULTS
 - PRAIRIE CREEK EXCLUDED FROM EXPANSION OF NAHANNI NATIONAL PARK RESERVE
 - TERMS OF REFERENCE ISSUED FOR ENVIRONMENTAL ASSESSMENT OF PERMITS
 - UPDATE ON VATUKOULA GOLD MINES AND TUVATU GOLD PROJECT
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Vancouver, British Columbia, August 17, 2009 - Canadian Zinc Corporation (TSX: CZN; OTCBB: CZICF) (the “Company” or “Canadian Zinc”) announces its financial results for the quarter ended June 30, 2009. This press release should be read in conjunction with the unaudited financial statements and notes thereto for the period ended June 30, 2009, and management’s discussion & analysis (“MD&A”) for the period ended June 30, 2009 available on SEDAR at www.sedar.com.

As at June 30, 2009, the Company had cash and cash equivalents of \$6.944 million, short term investments of \$6.038 million and marketable securities of \$511,000 (for a total of \$13.493 million). The Company also had a positive working capital balance of \$13.374 million.

For the quarter ended June 30, 2009, the Company reported a net loss of \$722,000 compared to a loss of \$1.129 million for the three months ended June 30, 2008. For the six months ended June 30, 2009, the Company reported a net loss of \$1.019 million compared to \$1.481 million in the equivalent 2008 period. The reduced loss in 2009 was primarily attributable to the winter shutdown of the Prairie Creek Mine site, reduced overall expenditures and unrealized gains on the Company’s marketable securities.

Expansion of Nahanni National Park

In June 2009 new legislation was enacted by the Canadian Parliament entitled “An Act to amend the Canada National Parks Act to enlarge Nahanni National Park Reserve of Canada” to provide for the expansion of Nahanni National Park, which has been expanded by 30,000 square kilometres, making it the third largest National Park in Canada. The enlarged Park covers most of the South Nahanni River watershed and completely encircles the Prairie Creek Mine. However, the Mine itself and a large surrounding area of approximately 300 square kilometres is specifically excluded from the Park and is not part of the expanded Park.

Section 7(1) of the new Act amended the Canada National Parks Act to enable the Minister of the Environment to enter into leases or licences of occupation of, and easements over, public lands situated in the expansion area for the purposes of a mining access road leading to the Prairie Creek Area, including the sites of storage and other facilities connected with that road. Heretofore, an access road to a mine through a National Park was not permitted under the Canada National Parks Act, and the Act was amended solely for Nahanni National Park Reserve and specifically for the purpose of providing access to the Prairie Creek Mine area.

In making the expansion the Government has recognized the importance of resource development in Canada's North and the decision on the expansion of Nahanni National Park reflects a balanced approach to conservation and to potential future economic benefits that development of the Prairie Creek Mine can bring to the people of the Dehcho. Canadian Zinc welcomes the long anticipated expansion of Nahanni National Park Reserve, with the exclusion of the Prairie Creek Mine area and the guarantee of access to the Mine through the enlarged Park. Canadian Zinc has agreed to manage the development of the Prairie Creek Mine so the mine does not, in its own right, negatively affect the expansion of the Nahanni Park.

Canadian Zinc believes that the Prairie Creek Mine and the enlarged Nahanni National Park can co-exist and that, properly planned and managed, the enlarged Park will not interfere with the operation of the Prairie Creek Mine and similarly that the operation of the Mine will not adversely impact upon the Park or its ecological integrity.

The proposed development and operation of the Prairie Creek Project is currently undergoing environmental assessment by the Mackenzie Valley Environmental Review Board. The exclusion of the Prairie Creek Mine from the Nahanni National Park Reserve expansion area has brought clarity to the land use and policy objectives for the region and will facilitate various aspects of the environmental assessment.

Applications for Operating Licence/Permit and Environmental Assessment

In May 2008, the Company applied to the Mackenzie Valley Land and Water Board ("MVLWB") for a Type "A" Water Licence and three Type "A" Land Use Permits ("LUPs"); one for the operation of the Prairie Creek Mine and the other two for Transfer Facilities along the road. A detailed Project Description Report was filed with the MVLWB as part of the permit applications.

In September 2008, following its preliminary screening the MVLWB determined that the proposed development might have a significant impact on the environment and might be of public concern and referred the applications to the Mackenzie Valley Environmental Impact Review Board ("MVEIRB") for Environmental Assessment ("EA"). The concerns were around water quality, wildlife, damage to landscape, and long term risk of contamination.

The MVEIRB issued Terms of Reference and a Work Plan for the EA on June 26, 2009. The Company is beginning the preparation of the Developer's Assessment Report to be submitted to the MVEIRB later this year. The MVEIRB has indicated that it anticipates concluding its Report of Environmental Assessment by October 2010. The MVEIRB will not be assessing construction impacts of already built structures. The MVEIRB has decided that assessment

of these facilities will be restricted to the effects of their ongoing operation in combination with the effects of other construction and operations necessary for the operation of the mine.

It is likely, given the open ended nature of the Mackenzie Valley permitting process and Company's experience to date, that the environmental assessment and permitting process for the Prairie Creek Mine will extend for a considerable time.

Operations Update

Canadian Zinc's primary focus for 2009 is to move forward in the permitting process for the operating permits for the Prairie Creek Mine. The Prairie Creek site was re-opened in mid May 2009 and the main focus of summer work will be to continue rehabilitating the winter road which connects the Prairie Creek Mine site to the Liard Highway.

In light of the likely extended timeframe that the permitting process will require, the Company has determined that it will limit expenditures at Prairie Creek for the foreseeable future, operating only a limited work program in the summer months of 2009, and continuing to carry out projects and studies that will be of assistance for the EA process and also in determining and refining future anticipated mine plans.

Vatukoula Gold Mines Plc

In April 2009, the Company acquired 347,669,022 shares of Vatukoula Gold Mines Plc ("VGM") at a price of £0.0073 per share for total consideration of £2.538 million (\$4.554 million). VGM is a UK company, listed on the AIM Market ("AIM") of the London Stock Exchange, which currently owns and operates the Vatukoula Gold Mine located in Fiji.

In May 2009, Canadian Zinc entered into a Subscription Agreement (the "Subscription Agreement") with VGM to acquire a further 200,000,000 shares of VGM (the "Subscription Shares") for an investment of £1.2 million (£0.06 per share), or approximately \$2.169 million (the "Subscription"), subject to approval of VGM shareholders. On June 10, 2009, VGM shareholders approved the necessary resolutions and the Share Subscription was completed.

Canadian Zinc now holds a total of 547,669,022 ordinary shares, or approximately 20.01% of the issued share capital of VGM. In addition, two nominees of Canadian Zinc have been appointed to the Board of VGM.

The Company also granted Viso Gero Global, Inc. ("Viso Gero"), a subsidiary of Red Lion Management Ltd., the option until January 7, 2010, to purchase up to 200,000,000 of its VGM shares at an exercise price of £0.01 per share. Viso Gero is a private company from which Canadian Zinc acquired its initial 347,669,022 shares of VGM. Unless and until Viso Gero exercises its option, Viso Gero has no rights as a shareholder of VGM and Canadian Zinc is entitled to vote the VGM shares.

Under the terms of the Subscription Agreement with VGM, should Viso Gero exercise its option over 200,000,000 shares of VGM, Canadian Zinc is entitled to subscribe for up to 250,000,000 additional VGM shares so that the total percentage shareholding held by CZN in

VGM remains at 20.01%. The subscription price for any additional VGM shares will be 95% of the volume weighted average price of VGM shares for the five trading days prior to the exercise of the Viso Gero Call Option.

Under the Subscription Agreement VGM has also undertaken that, in the event of any future financing by VGM within the following twelve months, Canadian Zinc will be invited to participate on the same terms in such financing pro-rata to its holding so as to maintain its equity position in VGM immediately prior to the completion of such equity financing.

The Vatukoula Gold Mine has an operational history of over 70 years during which time it is reported to have produced some seven million ounces of gold and over two million ounces of silver from the treatment of around 22,500,000 tonnes of ore. Production at the mine was suspended by the previous owners in 2006, following which VGM acquired the mine and restarted operations.

For the quarter ended May 31, 2009 VGM reported that underground mine production at its Vatukoula Gold Mine increased to 54,618 tonnes compared to 47,113 tonnes in the previous quarter. As a result of the increase in underground mine production and higher mining grades, gold production for the quarter increased by approximately 17% to 8,711 ounces from 7,470 ounces in the previous quarter. Underground production for the period to May 31, 2009 increased by 16% to 54,618 tonnes, with an average mined grade of 7.46 grams of gold per tonne. The underground mining operations remain adversely affected by the availability of underground haulage equipment which has limited the amount of ore the Mine is able to transport to the shaft ore-pass complex.

Following completion of its recent financing activities, part of which was subscribed by Canadian Zinc, VGM began sourcing and ordering refurbished underground mobile equipment required to achieve targeted production levels. VGM has upgraded its underground pumping capacity with additional pumps and continues with the scheduled refurbishment program of the diesel power generators.

During the quarter ended May 31, 2009, VGM commenced construction of an "oxide circuit" allowing a second feed option to the Mill. This will allow the Vatukoula Treatment Plant to treat surface oxide ore separately from the underground sulphide ore. Pre-crushed material will be delivered from various sources and the gold will be recovered using a carbon-in-pulp recovery process. The oxide circuit started production in July 2009.

Subject to the ongoing refurbishment program and delivery of mobile equipment arriving on schedule, VGM believes that it will be able to achieve a pro-rata production rate of 110,000 ounces of gold during the first half of 2010.

The shares of VGM were acquired for investment purposes. Depending on the performance of the Vatukoula mine and on market and other conditions, Canadian Zinc may from time to time in the future increase or decrease its ownership, control or direction over the shares of VGM, through market transactions, private agreements or otherwise. The Company has also agreed that for a period of nine months it will not dispose of any of the Subscription Shares without the prior consent of the Board of VGM, except in certain defined circumstances.

Option Agreement – Tuvatu Gold Project, Fiji

In May 2009, the Company completed an Option Agreement on the Tuvatu Gold Project (“Tuvatu”) in Fiji. The Tuvatu Project is currently owned by American Eagle Resources Inc. (“American Eagle”), through its 100% owned Fijian subsidiary Lion One Limited.

Tuvatu is a high grade gold deposit located on the island of Viti Levu, Fiji, in the heart of the Pacific “Rim of Fire,” and located approximately 37 kilometres to the southwest of the 11 million ounce Vatukoula (Emperor) gold deposit. The Tuvatu Gold Project is situated approximately 15 kilometres by road from Nadi International Airport, the main international gateway to Fiji, and consists of two adjoining Special Prospecting Licences with a total area of approximately 3,265 hectares along with a pending application for a further 7,300 hectares Licence.

The Tuvatu property has been extensively drilled and has over 1,300 metres of underground workings of which the major part is in the form of a 600 metre decline. The underground workings crosscut through multiple moderate to steeply dipping narrow gold bearing mineralization zones hosted by an intrusive monzonite unit and volcanoclastic units. Historically the majority of exploration on the property was completed by Emperor Gold Mining Company Limited (“Emperor”), an Australian ASX listed company. During 1995-2001 extensive exploration was carried out on Tuvatu and it is reported that over \$20 million has been spent on project development to date.

The Tuvatu deposit remains open along strike and downdip leaving strong potential to expanding the existing gold resource. Further evidence of the expansion potential is indicated in over ten separate, under-explored mineralized structures which have been identified on surface within a vicinity of three kilometres of the drilled historical resource area.

Under the Option Agreement, the Company has made an option payment of \$1.811 million to the majority shareholder of American Eagle and has the option until October 30, 2009 to carry out further evaluation and exploration of the Tuvatu property. The Company has the option, at any time during the Option Period, to exercise such option to acquire Tuvatu, via amalgamation of American Eagle with a wholly-owned subsidiary of Canadian Zinc under which 16,250,000 shares of Canadian Zinc would be issued to the shareholders of American Eagle. During the option period, Canadian Zinc has agreed to maintain the property in good standing and continue with the current exploration program at an estimated cost of approximately \$670,000.

Risks and Uncertainties

This press release should be read in conjunction with the unaudited financial statements and notes thereto and management’s discussion & analysis (“MD&A”) for the period ended June 30, 2009, available on SEDAR at www.sedar.com.

The Company’s business and results of operations are subject to numerous risks and uncertainties, many of which are beyond its ability to control or predict. Because of these risks and uncertainties, actual results may differ materially from those expressed or implied

by forward-looking statements, and investors are cautioned not to place undue reliance on such statements, which speak only as of the date hereof.

Investors are urged to review the discussion of risk factors associated with the Company's business set out in the Company's Annual Information Form for the year ended December 31, 2008, which has been filed with the Canadian Securities Regulators on SEDAR (www.sedar.com). The risks and uncertainties, as summarized in the Company's MD&A and in other Canadian and U.S. filings, are not the only risks facing the Company. Additional risks and uncertainties not currently known to the Company, or that are currently deemed to be immaterial, also may materially adversely affect the Company's business, financial condition and/or operating results.

Alan Taylor, P.Geo., Chief Operating Officer, Vice President Exploration and a Director of Canadian Zinc Corporation, is responsible for the Company's exploration program, and is a Qualified Person for the purposes of National Instrument 43-101 and has approved this press release.

Cautionary Statement - Forward Looking Information

This press release contains certain forward-looking information, including, among other things, estimates relating to production volumes at the Vatukoula Gold Mine and the advancement of mineral exploration and development properties. This forward looking information includes, or may be based upon, estimates, forecasts, and statements as to management's expectations with respect to, among other things, future production at the Vatukoula Gold Mine, the timing and availability of capital equipment, the issue of permits, the size and quality of the company's mineral resources, future trends for the company, progress in development of mineral properties, future production and sales volumes, capital costs, mine production costs, demand and market outlook for metals, future metal prices and treatment and refining charges, the outcome of legal proceedings, the timing of exploration, development and mining activities and the financial results of the company. There can be no assurances that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. The Company does not currently hold a permit for the operation of the Prairie Creek Mine. 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 MD&A, such as "measured," "indicated," and "inferred" "resources," which the SEC guidelines prohibit U.S. registered companies from including in their filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F which may be secured from us, or from the SEC's website at <http://www.sec.gov/edgar.shtml>.

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