



PRESS RELEASE

CZN-TSX
CZICF-OTCBB

FOR IMMEDIATE RELEASE
August 6, 2010

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- CANADIAN ZINC REPORTS HALF YEAR AND SECOND QUARTER 2010 RESULTS
 - NET INCOME OF \$2.578 MILLION FOR SIX MONTHS
 - DIAMOND DRILL PROGRAM COMMENCING AT PRAIRIE CREEK
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Vancouver, British Columbia, August 6, 2010 - Canadian Zinc Corporation (TSX: CZN; OTCBB: CZICF) (the “Company” or “Canadian Zinc”) announces its financial results for the three and six months ended June 30, 2010.

This press release should be read in conjunction with the unaudited financial statements and notes thereto for the period ended June 30, 2010, and management’s discussion & analysis (“MD&A”) for the period ended June 30, 2010 available on SEDAR at www.sedar.com.

Financial Results June 30, 2010

For the six months ended June 30, 2010, the Company reported net income of \$2.578 million compared to a loss of \$1.019 million for the comparative period in 2009. For the three months ended June 30, 2010, the Company reported a net loss of \$4.661 million compared to a loss of \$722,000 for the three months end June 30, 2009. The net income in the first six months of 2010 was primarily attributable to gains on the Company’s marketable securities during the early part of the year that were partly offset by subsequent decreases in values which were the main contributors to the loss in the second quarter.

For the six months ended June 30, 2010, the Company recorded overall gains on its marketable securities of \$5.056 million compared to gains of \$850,000 in the comparative 2009 period. The Company recorded overall losses on its marketable securities of \$3.038 million for the three months ended June 30, 2010 compared to gains of \$519,000 for the equivalent prior year period. The primary contribution to the gain for the period ended June 30, 2010, was the increase (since December 31, 2009) in the market value of the shares held in Vatukoula Gold Mines Plc (“VGM”).

As at June 30, 2010, the Company had cash and cash equivalents of \$6.997 million, short term investments of \$1.126 million and marketable securities of \$20.284 million (for a total of \$28.407 million). The Company also had a positive working capital balance of \$28.211 million. As at December 31, 2009, the Company had cash and cash equivalents of \$5.197

million, short term investments of \$2.246 million, marketable securities of \$15.382 million and a positive working capital balance of \$22.476 million.

In June 2010 the Company completed a brokered private placement for total proceeds of \$2,500,000 (\$2,281,000 net of issuance costs) consisting of 6,250,000 in Flow-Through Shares at \$0.40 per share. The Company intends to use the net proceeds of the private placement, which must be used for qualifying exploration expenditures, to finance a diamond drill exploration program at the Prairie Creek Project.

The Prairie Creek Mine

Canadian Zinc's principal focus is to advance the Prairie Creek Mine, a zinc/lead/silver property located in the Northwest Territories of Canada, towards production. The Prairie Creek Property hosts total Measured and Indicated Resources of 5,840,329 tonnes grading 10.71% zinc, 9.90% lead, 0.326% copper, and 161.12 grams silver per tonne, a large Inferred Resource of 5,541,576 tonnes grading 13.53% zinc, 11.43% lead, 0.514% copper and 215 grams silver per tonne and additional exploration potential. The Mine is partially developed with an existing 1,000 tonne per day mill and related infrastructure.

The Prairie Creek mineral deposit contains substantial quantities of zinc, lead and silver. The Measured and Indicated Resource is capable of supporting a mine life in excess of fourteen years at the planned initial rate of 600 tonnes per day, which will increase to 1,200 tonnes per day, and the future inclusion of Inferred Resources is expected to extend the mine life to at least 20 years.

In March 2010, the Company submitted its Developer's Assessment Report ("DAR") for filing with the Mackenzie Valley Environmental Impact Review Board ("MVEIRB" or "Review Board") and on May 20, submitted an Addendum to the DAR to the Review Board. In a subsequent letter, dated May 28, 2010, the Review Board determined that the DAR is in conformity with the Terms of Reference and the environmental assessment of the Prairie Creek Mine can proceed to the next stage.

An updated Work Plan, including an estimated schedule for the EA, was announced by the Review Board on May 28, 2010. The estimated schedule indicated the Analytical phase of the EA to continue to October 2010, followed by a Hearing phase and Close of the public registry by December 2010, with a Decision from the Review Board by March 2011. The schedule is an estimate only and may involve a number of additional information Requests if required.

The Prairie Creek minesite was reopened June 2, 2010 to continue care and maintenance, environmental monitoring programs and also prepare for the upcoming diamond drill exploration program.

Deep Hole Exploration Program

The Company has contracted SCS Diamond Drilling to undertake a deep-hole diamond drill exploration program to test for possible extensions of the defined mineral resource within the

main zone at Prairie Creek mine. The collar of the new hole, PC-10-185, is approximately 1.5 kilometres north of the last drill hole (PC-95-125) that is within the defined mineral resource.

The northernmost drill hole (PC-95-125) within the presently defined mineral resource at the Prairie Creek mine returned multiple significant mineralized vein intersections 750 metres down the hole including a 6.3 metre core intercept grading 18.7% zinc, 8.5% lead and 239 grams per tonne silver. Similar continuous surface geology, along with the presence of surface metal anomalies in soil and the existence of the high grade Rico Showing at surface 2.4 kilometres further north of the planned drill hole, all indicate excellent potential that mineralization may continue at depth north from the existing defined mineral resource.

In order to complete such a deep hole (1500 metres) a complete HTM2500 diamond drill rig has been airlifted to the property by a Buffalo aircraft. The drill rig has now been reassembled on site at Prairie Creek and is being moved to the collar location on Casket Creek, approximately 4 kilometres north of the minesite. It is expected that drilling will commence on the initial hole within the next few days. It is also planned to drill off a number of wedges from the initial deep-hole in order to further explore the target area.

Outlook

For the remainder of 2010, Canadian Zinc's primary focus will continue to be moving forward in the environmental assessment process for the operating permits for the Prairie Creek Mine. The Company has received the first round of formal information Requests and anticipates responding to these in August with a view to adhering to the estimated timelines that were issued by the Review Board on May 28, 2010. It is expected that the deep drilling program will continue until November or December.

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, 2010, 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 advised 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, 2009, 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 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. 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, 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 of VGM, capital costs, mine production costs, demand and market outlook for metals, future metal prices and treatment and refining charges, 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 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. 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>.

For further information contact:

John F. Kearney
Chairman
(416) 362- 6686

Suite 700 – 220 Bay Street
Toronto, ON M5J 2W4
Tel: (416) 362-6686 Fax: (416) 368-5344

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

Suite 1710-650 West Georgia Street, Vancouver, BC
V6B 4N9 Tel: (604) 688-2001 Fax: (604) 688-2043
Tollfree:1-866-688-2001

E-mail: invest@canadianzinc.com

Website: www.canadianzinc.com