



PRESS RELEASE

CZN-TSX
CZICF-OTCQB

FOR IMMEDIATE RELEASE
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CANADIAN ZINC REPORTS FINANCIAL RESULTS FOR SECOND QUARTER 2012

Vancouver, British Columbia, August 10, 2012 – Canadian Zinc Corporation (TSX: CZN; OTCQB: CZICF) (the “Company” or “Canadian Zinc”) announces its financial results for the three and six month periods ended June 30, 2012.

This press release should be read in conjunction with the unaudited interim financial statements and notes thereto, and management’s discussion & analysis (“MD&A”) for the three and six month periods ended June 30, 2012, both available on SEDAR at www.sedar.com.

Financial Results June 30, 2012

For the three and six month periods ended June 30, 2012, the Company reported a net loss and comprehensive loss of \$9,423,000 and \$11,955,000 respectively, compared to a net loss and comprehensive loss of \$10,307,000 and \$24,551,000 for the same periods respectively ending June 30, 2011. The net loss in the three and six month periods ended June 30, 2012 included a mark-to-market loss of \$6,521,000 and \$8,030,000, respectively on the Company’s shares in Vatukoula Gold Mines plc, compared to a mark-to-market loss of \$8,154,000 and \$21,034,000 for the comparative periods. Excluding the loss on the shares in Vatukoula, the Company recorded a loss of \$2,902,000 in the second quarter and a loss of \$3,925,000 in the six months ended June 30, 2012 compared to a similar loss of \$2,153,000 and \$3,517,000 in the same periods last year.

At June 30, 2012, the Company had a positive working capital balance of \$17,710,000 including cash and cash equivalents of \$914,000, short term investments of \$12,101,000 and marketable securities of \$5,677,000 (for a total of \$18,692,000). At December 31, 2011, the Company had cash and cash equivalents of \$2,975,000, short term investments of \$5,407,000, marketable securities of \$13,707,000, and a positive working capital balance of \$21,175,000.

Canadian Zinc currently holds 12.57 million shares of Vatukoula Gold Mines plc (“VGM”), which represents approximately 13% of VGM's issued share capital. VGM is a UK company listed on AIM (part of the London Stock Exchange), which currently owns and operates the Vatukoula Gold Mine located in Fiji. The investment in VGM was acquired during 2009 and represents

100% of the total market value of CZN's marketable securities at June 30, 2012 of \$5.7 million. The market value of the Company's investment in VGM at August 8, 2012 was \$5.7 million.

Prairie Creek Work Plan and Directive on Class 'A' Water Licence

In January 2012, following the completion of the Environmental Assessment in December 2011, the Water Board commenced the regulatory process for the issue of a Class "A" Water Licence and Land Use Permit for the operation of the Prairie Creek Mine.

The Water Board has completed its review of the information contained in the application, Environmental Assessment and the CPD and in May 2012, issued a Directive on the additional information that is required by the Water Board at this stage of the Regulatory Process. The Water Board has also issued a Work Plan to be followed towards the issue of these permits which envisages completion of the Public Hearing, required by the Mackenzie Valley Resource Management Act, in November and the issue of a draft water licence by December 23, 2012. The expectation is that the final Water Licence will be sent to the Minister of Aboriginal Affairs and Northern Development for signature in February 2013.

The Work Plan and schedule issued by the Water Board are generally as expected by the Company and provide a schedule and key dates for the issue of a draft Water Licence before the end of the current year.

The Company's response to Water Board will be submitted later this year and will incorporate the results of the water quality/treatment studies.

Documentation related to this regulatory process is posted on the Water Board website at <http://www.mvlwb.ca/mv/registry.aspx> (Year 2008, Canadian Zinc MV2008L2-0002).

New Permits Issued

In May 2012, the Water Board issued a new Class 'A' Land Use Permit, MV2012C0008, for the activity of underground decline development, valid for a period of five years commencing May 10, 2012 and expiring May 9, 2017. The new Land Use Permit entitles CZN to conduct mining exploration and associated activities, including underground decline development, at the Prairie Creek Mine.

The Water Board also approved an amendment and extension to the Company's existing Class "B" Water Licence, MV2001L2-0003, for the management, treatment and discharge of mine water from the mine site. The Water Licence has now been amended to cover the underground development of the new decline from the existing 870m level, including pumping, treatment and discharge of water inflows using the existing water treatment infrastructure, and placement of waste rock on an existing waste rock pile. The term of the Water Licence has been extended to September 9, 2019.

Land use permits and water licences relating to the road that connects the Prairie Creek Mine to the Liard Highway, part of which passes over Crown land and part through the expanded Nahanni National Park Reserve, are now multi-jurisdictional and the Company has applied to both the Water Board and Parks Canada for these road related permits and licences.

In April 2012, the Water Board approved an extension of the Company's Land Use Permit ("LUP"), MV2003F0028, for the use of the road that connects the Prairie Creek Mine to the Liard Highway. The LUP for use and maintenance of the existing access road alignment was extended for a term of two years until April 2014. In July 2012, Parks Canada extended the LUP for that portion of the road that passes through the expanded Nahanni National Park Reserve for an additional term of two years to April 2014.

Prairie Creek Preliminary Feasibility Study, Development Plan and Technical Report

A Preliminary Feasibility Study ("PFS") prepared by SNC-Lavalin Inc. ("SNC") of Vancouver was submitted to the Company in June 2012. The PFS indicates a pre-tax net present value of \$253 million using an 8% discount, with an internal rate of return of 40.4% and payback period of 3 years. (see Canadian Zinc press release dated June 27, 2012).

In support of the PFS, Canadian Zinc today has filed a National Instrument ("NI") 43-101 Technical Report entitled *Prairie Creek Property Northwest Territories, Canada Technical Report for Canadian Zinc Corporation*, Qualified Persons J. M. Shannon, P. Geo., AMC Mining Consultants Ltd.; D. Nussipakynova, P. Geo., AMC Mining Consultants Ltd.; JB Hancock, P. Eng., Barrie Hancock & Associates Inc.; and B MacLean, P. Eng., SNC-Lavalin Inc. and dated June 15, 2012. There are no material differences between this Technical Report and information disclosed in the June 27, 2012 press release with respect to the capital cost estimates, working capital estimates, mineral resource and mineral reserve estimates. The technical report is available on SEDAR at www.sedar.com and on CZN's website at www.canadianzinc.com.

Mineral Resource Estimate

A new independent mineral resource was also completed by Qualified Persons ("QP"), as defined by National Instrument 43-101 ("NI 43-101"), J. Morton Shannon, P. Geo. and Dinara Nussipakynova, P. Geo. of AMC reporting a Measured and Indicated resource of 5.43 million tonnes at a grade of 10.8% Zn and 10.2% Pb with 160 g/t Ag per tonne and an Inferred resource of 6.24 million tonnes at a grade of 14.5% Zn and 11.5% Pb with 229 g/t Ag per tonne. (See Technical Report filed on SEDAR).

AMC confirms that the Prairie Creek deposit contains a significant amount of Inferred Resources which, upon further delineation, has the potential to double the life of the mine. Furthermore, on-going drill exploration programs are indicating the potential continuation of the primary mineralized structure a further 1.5 km along strike, with the potential to further enhance the size of the resource.

Mineral Resource Estimate for Prairie Creek Mine

Zone	Class	Tonnes (Mt)	Zn (%)	Pb (%)	Ag (g/t)	Cu (%)
Main Quartz Vein	Measured	1.055	13.2	11.5	209	0.45
	Indicated	2.680	10.5	12.7	200	0.43
	Measured + Indicated	3.736	11.3	12.4	202	0.43
	Inferred	6.236	14.5	11.5	229	0.57
Stockwork	Indicated	0.410	7.7	3.7	69	0.15
Stratabound	Measured	0.640	10.5	6.8	67	0.00
	Indicated	0.641	10.6	5.4	63	0.00
	Measured + Indicated	1.281	10.5	6.1	65	0.00
	Inferred	0.003	12.4	5.1	46	0.00
Totals	Measured	1.700	12.1	9.7	155	0.28
	Indicated	3.731	10.2	10.5	162	0.32
	Measured + Indicated	5.431	10.8	10.2	160	0.31
	Inferred	6.239	14.5	11.5	229	0.57

Notes:

1. Mineral Resources are stated as of May 31, 2012
2. Mineral Resources include Mineral Reserves
3. Stated at a cut-off grade of 8% Zn-Eq based prices of \$1.30/lb for both zinc and lead, and \$35/oz for silver.
4. Average processing recovery factors of 78% for Zn, 89% for Pb and 93% for Ag.
5. Average payables of 85% for Zn, 95% for Pb and 81% for Ag.
6. \$ Exchange rate = 1 CD/USD

Mineral Reserve Estimate and Mine Plan

A portion of the Mineral Resources was converted to Mineral Reserves through application of suitable dilution factors in stoping blocks (averaging 22% for MQV and 10% for SMS) utilizing the cut-and-fill mining method for MQV and room and pillar for SMS

Mineral Reserve Estimate for Prairie Creek Mine

Zone	Class	Tonnes (Mt)	Zn (%)	Pb (%)	Ag (g/t)
Main Quartz Vein	Proven	1.278	10.8	9.4	172
	Probable	3.140	8.7	10.5	165
	Proven and Probable	4.418	9.4	10.2	167
Stratabound	Probable	0.803	9.5	5.7	62
Total Mineral Reserves		5.222	9.4	9.5	151

Notes:

1. Mineral Reserves are stated as of May 31, 2012
2. Mining cut-off grade of 10% Zn-Eq based upon total variable operating cost of \$162/t including mining, processing and transportation.
3. Metal prices assumed are Zn = \$1.10/lb, Pb = \$1.10/lb and Ag = \$28/oz.
4. Average processing recovery factors of 75% for Zn, 88% for Pb and 92% for Ag.
5. Average payables of 85% for Zn, 95% for Pb and 81% for Ag.
6. \$ Exchange rate = 1 CD/USD

Development Schedule

The Company plans in 2012 to complete geotechnical assessments and engineering details of various surface facilities, including the Winter Road, in order to prepare for construction; financial negotiations to secure funds for capital development and off-take; to enter into an EPCM contract for site planning, detailed engineering and procurement of long-lead items; and continue permitting activities with the Mackenzie Valley Land and Water Board (“MVLWB”).

During 2013, consideration will be given to open the road for supplies and equipment. Pre-mine development, site preparation and further optimization will be carried out along with completion of procurement of equipment and supplies for delivery in the fourth quarter of 2013. This will allow pre-construction site preparation and early works programs to expedite construction completion in 2014.

During 2014, the Company plans to open the winter road in the first quarter and mobilize all supplies and equipment into site. During the course of the year, construction activities at the Project could prepare the site for operations including underground development. Commissioning of the mine and mill would take place in the fourth quarter of 2014.

There are a number of recommendations listed in the PFS and the Company is currently evaluating these recommendations.

2012 Prairie Creek Site Programs

The Prairie Creek Mine Site was re-opened in early April 2012. With a flow-through exploration budget of \$2.5 million, the Company plans to utilize both fully owned drills and has contracted Cabo Drilling (Pacific) Corp to supply manpower and technical supervision for the 2012 drilling program.

The deep-hole diamond drill exploration program at Casket Creek is utilizing the Company's TM-2500 coring rig, approximately 1.6 kilometres north of the most northern drillhole that defines the present mineral resource. It is planned to continue for the first part of the summer in the Casket Creek area in order to complete wedging some drill holes around last year's intercept in hole PC-11-187W2 which intersected 5% Pb and 11% Zn over 3.5 metres of core length. Drilling began in May 2012 and is ongoing. After completion of this phase of drilling at Casket Creek the drill rig will be moved back south, closer to the Prairie Creek Mine Site, to drill in the area between the northern extent of the currently defined resource and the Casket Creek area.

At the same time the Company's Longyear drill rig is focusing on infill areas closer to minesite and within the defined resource. Drilling began in June 2012 and is ongoing. Specific targets are areas that have the potential to be upgraded from the inferred category to the indicated resource category. Most of these holes will be targeted at depth and along strike in the proximity of the known underground workings.

An airlift of equipment was undertaken in early May which included mobilization of an auger drill rig contracted from Mobile Augers and Research Ltd., in Edmonton. The auger drill has now completed a series of geotechnical holes within the existing water storage pond and proposed areas for the waste rock pile and possible second water pond areas, in order to detail further engineering studies for design and construction purposes. Drilling a series of hydrological wells

is planned to further monitor the groundwater hydrology of the site area in preparation for mining activities.

Field work for geotechnical evaluation and studies of the road route through Nahanni National Park Reserve and adjacent areas has been carried out. This included assessment of bridge crossings, reducing steep grades and further substratum assessment. A detailed aerial LIDAR survey was also carried out by McElhanney Surveying utilizing a fixed wing aircraft. This survey will provide an accurate baseline for route planning of the re-aligned road route areas, resulting from the recent Environmental Assessment, and also provide a solid basis for construction planning.

Training

The Company has commenced further onsite training programs at the Prairie Creek Mine Site. These training programs are being undertaken with assistance from the Federal Government, Human Resources and Skills Development Canada, in the *"More Than a Silver Lining"* aboriginal training program, specifically for the Prairie Creek Mine, and administered by the NWT Mine Training Society. These programs include training for safety officers, diamond drilling operators, geological field assistants and camp catering. Other training programs, which will occur off-site, are currently being planned and co-ordinated by the Company and the Mine Training Society which has opened an office and training center in Fort Simpson.

Agreements with Paragon Minerals Corporation

On July 31, 2012, the Company announced that it had entered into a binding arrangement agreement (the "Agreement") to complete a business combination (the "Merger") as well as a non-brokered private placement with Paragon Minerals Corporation (TSXV: PGR). Under the terms of the Agreement, Canadian Zinc will acquire all of the outstanding common shares of Paragon in exchange for common shares of Canadian Zinc on the basis of 0.136 of a share of Canadian Zinc for each share of Paragon. (See Canadian Zinc Press release July 31, 2012)

Paragon is a Canadian-based mineral exploration company focused on base-metal and gold exploration in Newfoundland and northwest Ontario. Completion of the Merger will be subject to the favourable vote of two thirds of the votes cast by Paragon shareholders and by a simple majority of the votes cast by "disinterested" Paragon shareholders pursuant to Multilateral Instrument 61-101 "Protection of Minority Shareholders in Special Transactions" at a special meeting called to approve the transaction which is expected to take place in September 2012. Approval of the Merger will allow Canadian Zinc to issue 7,296,298 common shares in exchange for all 53,649,254 common shares of Paragon currently outstanding. Canadian Zinc will be entitled to an immediate payment by Paragon of a "break fee of \$150,000 in the event the Merger is not approved by Paragon shareholders. Upon completion of the Merger, Canadian Zinc and Paragon shareholders will own approximately 96% and 4% of the combined company, respectively.

The Company has also agreed to purchase, in a non-brokered private placement financing, 7,000,000 common shares of Paragon at a price of \$0.07 per share for a total consideration of \$490,000. The completion of the private placement is not conditional upon the completion of the Merger. This private placement was completed on August 9, 2012 and Canadian Zinc currently holds approximately 11.54% of the issued share capital of Paragon.

Paragon's flagship project is its 100% interest in the South Tally Pond Property, which includes the Lemarchant deposit, and is located in a proven mining district near Buchans, Newfoundland. The South Tally Pond Property covers 261 km² and is immediately adjacent to Teck Resources Limited's Duck Pond Cu-Zn mine and mill complex. The Lemarchant deposit is a significant precious metal-rich copper-lead-zinc Volcanogenic Massive Sulphide ("VMS") discovery with a potential opportunity to develop into a viable economic resource. An initial National Instrument ("NI") 43-101 mineral resource estimate that was recently completed on the Lemarchant deposit includes the following defined mineral resources:

- Indicated resource estimate: 1.24 million tonnes at an average grade of 5.38% Zn, 0.58% Cu, 1.19% Pb, 1.10 g/t Au and 59.17 g/t Ag; and
- Inferred resource estimate: 1.34 million tonnes at an average grade of 3.70% Zn, 0.41% Cu, 0.86% Pb, 1.00 g/t Au and 50.41 g/t Ag.

(See Paragon Technical Report and Mineral Resource Estimate on Lemarchant Deposit, South Tally Pond VMS Project, Central Newfoundland, dated March 2, 2012, filed on SEDAR.)

The Lemarchant deposit has been defined to a 210 m depth and remains open along strike and at depth. The exploration potential outside of the Lemarchant area of the South Tally Pond Property is still relatively untapped with numerous priority VMS targets that have seen limited or no drilling. Paragon is also exploring an excellent portfolio of gold properties through partner-funded and company-funded exploration programs.

Outlook

Canadian Zinc's continued focus for 2012 will be to advance the Prairie Creek permit applications through the regulatory phase, to the issue of permits allowing for production. The recent issue in May 2012 of a new underground development permit and the extensions of the current water licence and road permits represent significant steps forward that will enable the continuation of the ongoing development of the Prairie Creek Mine. Further data gathering and testing of specific mine aspects, mainly related to water treatment and management, are being completed for submission to the Water Board at the end of August.

Working with SNC Lavalin and other consultants, the Company plans to advance the development of the Prairie Creek Project. The Pre-Feasibility Study was delivered to the Company in June 2012. Further site investigation and geo-technical work, under the direction of SNC, has begun and will continue during the summer of 2012. The Company is conducting further technical work to assist in this process which involves further planning and design, site investigations to further assess the existing infrastructure, optimizing the mill plan layout and further assessing the transportation corridor.

As part of the ongoing mine development process the Company also plans to engage in discussions with various smelters and metal traders with regard to the processing and marketing of the lead and zinc concentrates expected to be produced by the Prairie Creek Mine.

At June 30, 2012, the Company had working capital of \$17.7 million and is well positioned to carry out its planned 2012 programs. With an exploration budget of \$2.5 million, the Company plans to continue the deep-hole diamond drill exploration program at Casket Creek, and also to continue exploration in the immediate vicinity of the Prairie Creek Mine.

Completion of the proposed merger with Paragon, expected to take place in the third quarter of 2012, subject to approval of Paragon's shareholders, will create a premier base and precious metals exploration and development company with a portfolio of projects in established mining jurisdictions in Canada. The addition of Paragon's advanced exploration assets, such as the South Tally Pond VMS project in central Newfoundland, will be a major step towards creating a strong intermediate base metal company with an attractive growth profile focused on enhancing shareholder value.

Qualified Person

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

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Risk and Uncertainties

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, 2011, 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 Non-Independent 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 reserves and resources, future trends for the company, progress in development of mineral properties, the timing of exploration, development and mining activities, completion of financings and the merger, capital costs, mine production costs, demand and market outlook for metals, future metal prices and treatment and refining charges, the financial results of the company and future gold production and profitability of Vatukoula Gold Mines in which the Company has a significant shareholding. 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 40-F which may be secured from us, or from the SEC's website at <http://www.sec.gov/edgar.shtml>.