



PRESS RELEASE

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CANADIAN ZINC REPORTS FINANCIAL RESULTS FOR SECOND QUARTER 2013

- Final Water Licence for Prairie Creek Mine sent to Federal Minister for Approval
 - Company raises US\$10 million from the sale of 1.2% NSR
- Exploration programs being planned for Prairie Creek and South Tally Pond

Vancouver, British Columbia, August 13, 2013 - Canadian Zinc Corporation (TSX: CZN; OTCQB: CZICF) ("the Company" or "Canadian Zinc") announces its financial results for the three month and six month periods ended June 30, 2013.

Financial Results June 30, 2013

For the three month period ended June 30, 2013, the Company reported net income and comprehensive income of \$2,792,000 and for the six month period ended June 30, 2013, the Company reported a net loss and comprehensive loss of \$1,881,000 compared to a net loss and comprehensive loss of \$9,423,000 and \$11,955,000 for the same periods respectively ending June 30, 2012.

The net income or loss in the three and six month periods ended June 30, 2013 included a loss of \$1,459,000 and \$3,778,000 respectively on the Company's marketable securities compared to loss of \$6,521,000 and \$8,030,000 for the comparative periods.

The Company also recorded a gain of \$5,545,000 on the sale of a net smelter royalty for the three and six month periods ended June 30, 2013 with no corresponding comparable transaction in the comparable periods.

Excluding the loss on marketable securities and gain on sale of the net smelter return royalty ("NSR"), the Company recorded a loss of \$1,294,000 in the second quarter of 2013 and a loss of \$3,648,000 in the six months ended June 30, 2013 compared to a loss of \$2,902,000 and \$3,925,000 in the same periods last year.

Permitting Progress

The Company's principal focus has been to advance the Company's wholly owned Prairie Creek Mine in the Northwest Territories towards receiving a Type "A" Water Licence and associated Land Use Permits, ("LUP" or "Land Use Permits") through the regulatory process established under the *Mackenzie Valley Resource Management Act*, that will permit the further development and subsequent mine production at Prairie Creek.

In June 2013, the Mackenzie Valley Land and Water Board ("MVLWB" or the "Water Board") issued LUP "MV2008D0014" which permits Canadian Zinc to extract ore and waste rock from the Prairie Creek Mine, operate a flotation mill concentrator to produce zinc and lead

concentrates, create a waste rock facility, and refurbish and develop site facilities in support of the mining operation, along with the eventual closure and reclamation of the mine site.

Also in June 2013, the MVLWB issued LUP “MV2008T0012” which permits Canadian Zinc to construct and operate the Liard Transfer Facility to be situated near the junction of the existing Prairie Creek Mine access road and the Liard Highway. The Liard Transfer Facility is a staging area at the south end of the winter access road designed to temporarily store outbound concentrate and inbound supplies.

Both new LUP permits issued in June 2013 are valid for a term of five years and with an optional two year extension.

Subsequent to the end of the quarter, the Water Board completed its regulatory process and finalized the Type “A” Water Licence for the Prairie Creek Mine and forwarded the Licence to the Federal Minister of Aboriginal Affairs and Northern Development Canada with the recommendation that the Minister approve and sign the Licence.

This Type “A” Water Licence is the key regulatory permit needed for the construction, development and operation of the Prairie Creek Mine. The successful completion of the regulatory process is the culmination of many years of effort by the Canadian Zinc team, the MVLWB, the various government agencies and all the stakeholders in the region. The positive recommendation of the Water Board demonstrates that a broad consensus has been achieved through the process.

In its recommendation to the Minister, the Water Board provided some comments on the issues faced and the decisions made in respect of this Licence. The Board accepted the site-specific water quality objectives derived by Canadian Zinc. These are almost all more stringent than the country-wide guideline values adopted by the Canadian Council of Ministers of the Environment. The Board also determined, after many months of review and study, that effluent quality criteria (“**EQC**”) using a variable load-based discharge approach, as proposed by Canadian Zinc, will be a more protective and practical way of controlling effluent discharge from the mine to Prairie Creek. The Board recognizes that this is a new approach compared to the standard fixed EQC, but believes that practical and effective mechanisms can be put in place to ensure compliance. On July 30, 2013 the MVLWB issued its Reasons for Decision, which describes the rationale behind the conditions finalized in the Water Licence, and these Reasons were forwarded to the Minister in Ottawa for background information.

Upon receipt of Ministerial approval, the new Type “A” Water Licence “MV2008L2-0002” will permit Canadian Zinc to conduct mining, milling and processing activities at the Prairie Creek Mine Site, use local water, dewater the underground mine, and dispose of waste from mining and milling.

Road Land Use Permits (Operations)

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 (the “**Park**”), are multi-jurisdictional and the Company applied to both the Water Board and Parks Canada for these road related permits and licences in their respective jurisdictions.

On January 10, 2013, the MVLWB issued LUP “MV2012F007” for a period of five years, and permits the construction, maintenance, operation and use of the winter road connecting the Prairie Creek Mine to the Liard Highway. This permit allows the outbound transportation of the zinc and lead concentrates produced at the mine and the inbound transportation of fuel and other supplies during the operation of the Prairie Creek Mine. This road permit incorporates

realignment of the original route which will improve access and further reduce potential environmental impact.

At the same time the Water Board also issued a Type “B” Water Licence “MV2012L1-0005”, valid for a period of seven years commencing January 10, 2013, which permits the limited use of water and disposal of waste for road construction, maintenance, and operational activities.

This Land Use Permit and Water Licence apply to the portion of the winter road traversing Crown Land with both being under the jurisdiction of the Water Board. There are two sections to this portion of the road, the first being 17 kilometres of road from the mine site to the point where the road enters the Park and the second, being 80 kilometres of road from the eastern boundary of the Park to the Liard Highway.

Canadian Zinc also holds valid Land Use Permits and Type “B” Water Licences for the original winter road route, both on Crown land and within the Park, for the purpose of rehabilitation, site clean-up and supply and which may be utilized to support the on-going exploration and development of the Prairie Creek Project.

Parks Canada Permits and Licences

The Company has made separate applications to Parks Canada for a new LUP and water licence for the re-aligned route of the road within the Park. On April 5, 2013, Parks Canada posted Draft LUP “Parks 2012_L001” and Draft Water Licence “Parks 2012_W001” and requested comments. Interveners submitted comments and the Company responded with comments to the draft documents and Intervener comments at the end of May 2013. Further discussions took place during June and July and the Company submitted its final document to Parks Canada in July and expects that Parks Canada will issue a final Land Use Permit and Water Licence by late summer.

Diamond Drill Land Use Permit (Exploration)

On April 25, 2013, the MVLWB issued LUP “MC2013C0002” which enables the Company to carry out further surface exploration diamond drilling throughout the Prairie Creek Property. This LUP is valid for a five year period until April 25, 2018 and replaces a previous diamond drill exploration permit that has now expired.

Prairie Creek Site Activity

The Prairie Creek Mine site was re-opened in June 2013 and initiated ongoing care and maintenance programs including water treatment, servicing, repair and site re-organization, removal of redundant equipment and supplies, including diamond drill core, to other staging areas on site in order to create more room in the main yard. In addition work is continuing to improve the access road leading out from the mine site.

An airlift of over 100,000 litres of diesel fuel, together with other supplies was completed in June to support the 2013 site work.

Important training programs are being carried out utilizing a local workforce of former students from previous training programs with the Mine Training Society and the Prairie Creek Project. The objective of these training programs is to raise the knowledge level of workers to ensure they qualify for future employment opportunities that may arise during the operation of Prairie Creek Mine. Under these programs the employees’ wages are subsidized with assistance from the Federal Government, Human Resources and Skills Development Canada, in the \$4.2 million “More Than a Silver Lining” aboriginal training program, specifically for the Prairie Creek Mine, administered by the NWT Mine Training Society and assisted by the Government of the

Northwest Territories. A road construction training program was initiated in late July and is scheduled to carry on until August 30, 2013.

Financing for Prairie Creek

In May, Canadian Zinc raised US\$10 million by the sale to Sandstorm Metals & Energy Ltd. (“**Sandstorm**”) of a 1.2% net smelter return royalty on the Prairie Creek Mine. In addition, as part of the agreement, Sandstorm has granted Canadian Zinc the option, for a period of 30 months, to repurchase 100% of the NSR without premium or penalty for US\$10 million, if Canadian Zinc enters into a metal stream agreement with Sandstorm under which Sandstorm will provide Canadian Zinc with an upfront deposit of not less than US\$90 million to be used to finance part of the capital cost to develop the Prairie Creek Mine.

The intrinsic value that this royalty transaction attributes to the Prairie Creek project confirms the Company’s belief that the Prairie Creek Mine has robust economics and outstanding long-term potential. The non-dilutive nature of an NSR or the potential metal stream is positive for shareholders.

Canadian Zinc has granted Sandstorm with a right of first refusal on any future royalty or stream financing for the Prairie Creek project. As Canadian Zinc moves forward to the construction stage it is gratifying to have strong financial partners like Sandstorm.

Newfoundland Exploration – South Tally Pond

Further geological modeling of the Lemarchant deposit on the South Tally Pond property in central Newfoundland was carried out and incorporated the results from the winter 2013 diamond drill program. A follow-up diamond drill program is being planned to further target the expansion of the Lemarchant deposit. Some prospecting and geological assessment of the Company’s other claim blocks in Newfoundland was undertaken to complete assessment requirements and to further explore for mineral potential.

Outlook

Canadian Zinc’s continued focus for the balance of 2013 and into 2014 will be to advance the Prairie Creek Project towards production.

During the quarter ended June 30, 2013, the Company successfully raised US\$10 million in a weak market for resource companies through the sale of a royalty and without diluting its share capital. At June 30, 2013, the Company had working capital of \$12.3 million and expects it will be able to meet current commitments and continue its planned 2013 and early 2014 programs. The Company continues to ensure that all of its activities are done in a measured, cash conservative manner.

Permit applications are being managed through the final regulatory phase to the issue of permits for construction and operation of the Prairie Creek Mine. Following the approval of the Type “A” Water Licence by the Minister, and receipt of a final LUP and a Type “B” Water Licence from Parks Canada for the portion of the realigned access road that runs through the Nahanni National Park Reserve, Canadian Zinc will have secured all of the water licences and land use permits required to operate the Prairie Creek Mine.

The Company is evaluating strategies for raising the financing necessary to complete the development and construction of the Prairie Creek Mine and begin operation. It is also formulating a concentrate marketing strategy and plan.

Using existing working capital the Company continues to advance the development and construction of the Prairie Creek Mine and has initiated preliminary site preparation work. Working with industry consultants and experts the Company will continue geo-technical work along with some further engineering activities later this year. Site programs also include further assessment of existing equipment and further upgrading the access road.

The Company has engaged JDS Energy & Mining Inc. to complete an initial optimization study of the capital costs required to place the Prairie Creek Mine into production. Subject to the findings, the Company may consider a more detailed study. The Company is also evaluating the possibility of opening the winter road for potential delivery of supplies and equipment in the first quarter of 2014.

With the announcement of an underwritten private placement of flow-through shares for gross proceeds of \$4 million, to be completed in late August, the Company plans to initiate a drill program on the Prairie Creek Property to follow up on a strong multi-channel electromagnetic anomaly discovered last year.

The Company is also planning for a follow-up drill program later in the year targeting the expansion of the Lemarchant deposit and further exploring the new zone of mineralization discovered northwest of Lemarchant at the South Tally Pond property in Newfoundland.

About Canadian Zinc

Canadian Zinc is a Toronto-listed exploration and development company. The Company's key project is the 100%-owned Prairie Creek Mine, an advanced-staged zinc-lead-silver property, located in the Northwest Territories in Canada. Prairie Creek is an underground operation that will utilize multiple mining methods to access readily available ore. Canadian Zinc has the majority of the required infrastructure in place including a 1,000 tonne per day mill, five kilometres of underground workings and related equipment, a heavy duty and light duty surface fleet, three exploration diamond drills and a 1,000 metre airstrip.

Canadian Zinc also holds a 100% interest in the South Tally Pond VMS project, along with other property interests in central Newfoundland, where a successful drilling program was carried out in winter 2013.

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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, 2012, 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.

Cautionary Statement – Forward-Looking Information

This press release contains certain forward-looking information, including, among other things, the expected completion of acquisitions and the advancement of mineral 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, the completion of transactions, the issue of permits, the size and quality of 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, acquisition of shares in other companies 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.