



PRESS RELEASE

CZN-TSX
CZICF-OTCBB

FOR IMMEDIATE RELEASE
August 21, 2008

-
- PERMITTING UPDATE
 - ROAD CONSTRUCTION UNDERWAY
 - OFF-SITE CHEMICAL DISPOSAL
-

Vancouver, British Columbia, August 21, 2008 - Canadian Zinc Corporation (TSX: CZN; OTCBB: CZICF) (the “Company” or “Canadian Zinc”) is pleased to announce that the applications for the operating permits for the Prairie Creek Mine have been referred for Environmental Assessment to the Mackenzie Valley Environmental Impact and Review Board, which is now the next phase in the permitting process.

Permitting Update:

As reported in the Company’s August 7, 2008 news release, applications to the Mackenzie Valley Land and Water Board (the “MVLWB”) for operating permits for the Prairie Creek Mine were deemed to be complete and the MVLWB initiated the preliminary screening process and requested comments from interested parties.

The MVLWB has now received comments from a number of parties, including Indian and Northern Affairs Canada (“INAC”) and various First Nations. Following a request from the Nahanni Butte Dene Band, as per Article 12 of the Settlement Agreement between the Dehcho First Nations and the Government of Canada, INAC referred the proposed development to environmental assessment.

In its referral INAC letter stated that “*INAC supports responsible economic development within a sound regulatory regime in the Northwest Territories.*” In particular, INAC cited specific changes or additions to existing infrastructure proposed by Canadian Zinc that need to be further assessed, such as, “*the changes to subsurface tailings disposal, use of the original surface tailings pond as a water management facility, waste rock management plans, sewage treatment plant and power plant upgrade plans.*”

The Company has received formal notice from the Mackenzie Valley Environmental Impact and Review Board (the “MVEIRB”) on August 11, 2008 of the referral of the applications to Environmental Assessment. The MVEIRB has created a public registry, available on line at www.mveirb.nt.ca/registry, and is now in the process of determining the scope and terms of reference of the assessment in consultation with interested parties.

Various aspects of the Prairie Creek project have previously been the subject of five separate environmental assessments by the MVEIRB, all of which recommended that the proposed projects should proceed. During these previous assessments a considerable amount of information and data has been generated which should assist and expedite the current review process.

Operations Update:

The Company is also pleased to report that good progress has been made on re-opening the road which connects the Prairie Creek mine to the Liard Highway. A new base for the roadbed has now been re-established in the areas adjacent to active fish bearing water, and fish habitat compensation is now being assessed. The construction crews are currently working away from active flowing water and carrying out repairs to further protect the road bed from future erosion. In addition, the road route has been slightly realigned in places to remove it from direct proximity to Prairie Creek. Ongoing roadwork is anticipated to continue for the remainder of the year.

As noted in a previous press release, Canadian Zinc recently received all the necessary approvals and permits required to proceed with rehabilitation work on the access road. These included an authorization from the Department of Fisheries and Oceans of Canada, a Class B Water Licence from the MVLWB and a Quarry Permit from INAC.

Off-Site Transport and Disposal of Hazardous Material:

Ongoing site preparation and care and maintenance work, including environmental management and water treatment, is continuing at the Prairie Creek mine site in preparing the infrastructure as the Prairie Creek mine advances towards operation.

In response to local concerns and environmental sensitivities Canadian Zinc has recently removed from the Prairie Creek site drums of sodium cyanide that have been stored on the property since 1982. The material had been safely stored and monitored in an engineered and covered storage facility. Commencing in 2007, under the direction of Hazco Environmental Services Ltd. ("Hazco"), Canadian Zinc undertook a program to repack the old sodium cyanide drums into new overpack drums suitable for transport off-site. Following receipt of the necessary regulatory approvals, an airlift of the repacked sodium cyanide drums and associated repackaging waste took place utilizing a DHC-5 rear loading Buffalo aircraft, which shuttled the material from the Prairie Creek mine site to Ft. Simpson. From Ft. Simpson Hazco transported the cyanide by truck to Cyanide Destruct Systems in Barrie, Ontario and the repackaging waste was removed to Earth Tech's Swan Hills Treatment Centre in Alberta for destruction and disposal.

Canadian Zinc has determined that sodium cyanide will not be used in any future mining process.

Commenting on the disposal of the sodium cyanide, Mr. John Kearney, President and CEO of Canadian Zinc, stated that, "*Canadian Zinc believes that operating to the highest environmental standards is paramount to our future plans and, as a Company, we have continually strived to*

both operate and plan for the future in an environmentally sensitive manner. This has included working with, and listening to, the local communities in order to address their concerns. We are very pleased that we have been able to plan for the future without the use of sodium cyanide such that the Prairie Creek mine will be able to operate in an environmentally responsible manner while providing a tremendous economic boost to the local area.”

Background:

Canadian Zinc's 100% owned Prairie Creek (lead/zinc/silver) Project, located in the Northwest Territories, includes a partially developed underground mine with an existing 1,000 ton per day mill and related infrastructure and equipment. The Prairie Creek Property hosts a major mineral deposit with a Measured and Indicated mineral resource in the Vein and Stratabound deposits of 5.2 million tonnes grading 11.4% Zn, 10.9% Pb, 176 g/t Ag and 0.3% Cu along with an open ended Inferred resource of 5.5 million tonnes of 13.5% Zn, 11.4% Pb, 215 g/t Ag and 0.5% Cu. [Technical Report NI 43-101 – David M. Stone, Minefill Services, Inc., Qualified Person, October 2007 filed on SEDAR].

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, 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.

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