



PRESS RELEASE

June 1, 2005
FOR IMMEDIATE RELEASE

- **Successful Metallurgical Results – Prairie Creek Mine**

Canadian Zinc Corporation (“TSX-CZN”) reports that the major metallurgical testing program on the ore from the Company’s Prairie Creek mine in the Northwest Territories has met with considerable success.

During 2004 representative bulk samples of vein mineralization were extracted from various locations within the existing underground workings at the Prairie Creek mine. In addition, diamond drill core samples of stratabound mineralization were also collected from this deeper lying deposit which has not yet been accessed by underground development. The Prairie Creek deposit contains two major types. One ore type is representative of the vein mineralization in the upper and lower level of existing developed underground workings. It is typically high in zinc, silver and lead in a mixture of sulphide and oxide minerals. The second ore type, the stratabound mineralization, contains zinc, lead, silver, and iron sulphide minerals.

The samples were shipped to SGS Lakefield Research Laboratories at Lakefield, Ontario where a total of 60 bench scale tests were undertaken over six months under the direction of the Company’s metallurgical consultant. The samples were first assayed for both sulphide and oxide mineralization and then combined into composite samples to ensure true representation of the Prairie Creek mineral deposit.

Very Positive Results

Alan Taylor, Chief Operating Officer said that: *“The metallurgical testwork completed by Lakefield Research over the past six months was very significant in demonstrating:*

- *that a notable improvement can be gained by gravity separation;*
- *that the oxide and sulphide mineralization and the vein and stratabound mineralization can both be commingled with no adverse impact on recoveries;*
- *that metal recoveries, particularly of stratabound ore, will be outstanding and higher than previously predicted; and*
- *that the Prairie Creek concentrates are readily marketable”.*

31% Upgrade of Mill Feed through Gravity Separation

Initially, a “run of mine” mineral/waste (crushed only) composite was tested in a heavy media gravity separation process for the removal of barren waste material (limestone, quartz etc.). The gravity separation studies indicate that the Prairie Creek “run of mine” ore is amenable to pre-concentration by heavy media gravity separation and that at a one half inch crush, 31% of the sample weight was removed as waste with only minimal metal loss.

The demonstrated success of the gravity separation process, and the reduction in waste rock, at the pre-milling stage will have a very positive economic impact since it will increase the metal head grade going on into the subsequent milling process stages and will also reduce overall power requirements.

This successful gravity separation will also have a very positive environmental benefit by reducing the overall amount of mill tailings for final deposition by 31%.

Optimized Mill Flow Sheet

Mineral samples from two separate zones of vein mineralization (Upper and Lower Zones), and including both sulphide and oxide mineralization, and from the stratabound zone, and additional composite samples from all three zones, were tested to develop and optimize the Prairie Creek mill flow sheet and to demonstrate that the two major ore types can be commingled in the milling process.

The batch and locked cycle tests provided extensive analytical information and very positive metallurgical results:

1. Importantly for the long term, the vein and stratabound ore types, which have different mineral characteristics, can be successfully commingled in the same milling process without adversely affecting metal recoveries. This will eliminate the need for a separate mill circuit, and/or eliminate the need for separate batch milling of the different ore types, which would have increased the costs and be much less efficient.
2. The oxide mineralization contained in the vein deposit can be successfully processed with acceptable recoveries in standard flotation processes without the use of cyanide, and can also be combined with the sulphide mineralization without any negative impact on metal recoveries. This is a very important result as historically there had been some concern that the oxide vein mineralization, which is extensively present in the upper level of the Prairie Creek orebody, might not be easily or successfully processed in a standard mill. This concern has now been eliminated.
3. The milling process can produce either a zinc concentrate and a lead concentrate, with the contained silver and copper being recovered in the lead concentrates; or a zinc concentrate, a lead concentrate and a separate copper concentrate, with the silver being recovered mostly in the copper concentrate. These different alternatives will provide important flexibility in the marketing of the Prairie Creek concentrates and will enable the Company to sell the product in the most optimum markets depending on prevailing market conditions.
4. The overall grade of the concentrates produced, using standard reagents, as demonstrated from the metallurgical studies is higher than the predicted metallurgical performance indicated in the Scoping Study completed in 2001. This will have a positive impact on project economics.
5. The testwork demonstrated excellent metal recoveries for these two ore types both separately and commingled, as follows:
 - (a) **Vein Mineralization (mixed sulphide / oxide ore)**
 - Zinc recovery 77% – 82% - with a zinc concentrate (sulphide and oxide combined) grade of 57% - 51% zinc.
 - Lead recovery 84% - 88% - with a lead concentrate (sulphide and oxide combined) grade of 72% – 56% lead.
 - Silver recovery 74%– 78% - at a grade of 750-860 grams silver per tonne in the lead concentrate (sulphide and oxide combined).
 - (b) **Stratabound Mineralization (sulphide ore)**
 - Zinc recovery 91% - with a zinc concentrate grade of 54% zinc.
 - Lead recovery 90% - with a lead concentrate grade of 60% lead.
 - Silver recovery 62% - at a grade of 400 grams/tonne silver in the lead concentrate.

(c) **Vein and Stratabound Mineralization (commingled)**

- Zinc recovery 79% - with a zinc concentrate (sulphide and oxide combined) grade of 55% zinc.
- Lead recovery 80% - with a lead concentrate (sulphide and oxide combined) grade of 60% lead.
- Silver recovery 73% - at a grade of 860 grams per tonne silver in the lead concentrate (sulphide and oxide combined).

Concentrate Samples Produced

The testwork has demonstrated that the concentrates that will be produced at the Prairie Creek Mine are readily marketable. The actual production of significant amounts of representative lead and zinc concentrates will enable the Company to undertake focused and specific marketing studies to determine the optimum marketing strategy for the Prairie Creek products. The Company has had preliminary discussions with smelters both in Canada and offshore and the availability of actual concentrate samples will enable the specific smelters to accurately evaluate the Prairie Creek products.

Furthermore, the actual production of both lead and zinc concentrates has enabled the identification of the best reagent processes to optimize recoveries and an accurate calculation of metal recoveries, rather than the predictive response utilized in the 2001 Scoping Study. The direct calculation will increase the confidence in and credibility of the proposed metallurgical process.

Mercury Tests

The testwork also enabled an accurate analysis of the characteristics of the Prairie Creek ores and concentrates. It was noted that the mercury content in the ore could not be liberated in a conventional milling process. That is, the contained mercury is encapsulated within the sulphide mineral crystal matrix and cannot escape or be liberated except under extreme high temperatures that would only be attained in a smelter which has specific processes for handling this product. Most sulphide ore, all over the world contains some level of mercury as it is normally associated with sulphide minerals. The mercury in the Prairie Creek ore, although at the high end of the normal range, is not at all unusual and in the form contained poses no health or environmental concerns.

Further Ongoing Testwork

Further tests are planned to be undertaken at SGS Lakefield Research over the coming months in efforts to further optimize the Prairie Creek metallurgy. It is planned to repeat some of the tests using the samples previously upgraded by gravity separation and in addition to produce and test a copper concentrate to evaluate optimum silver recoveries.

The research program was overviewed, designed and directed by the company's qualified metallurgical consultant Mr. Godfrey McDonald, member of the CIM, AIME, who has over 40 years experience in the mineral processing industry. Mr. McDonald worked closely with SGS Lakefield Inc. who performed the tests under the supervision of Mr. Srdjan Bulatovic P.Eng., in their accredited research facilities in Lakefield, Ontario.

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