

- Preliminary Test Results Confirm Production of Selective Zinc, Lead and Copper Concentrates at Marketable Grades Using Common Flotation Flowsheet
- Ground Geophysical Surveys Underway on Priority Exploration Target Areas

VANCOUVER, Nov. 3, 2016 /CNW/ - Canadian Zinc Corporation (TSX: CZN; OTCQB: CZICF) ("the Company" or "Canadian Zinc") provides an update from the ongoing process development research program on a centralized milling facility for its Newfoundland Zn-Pb-Cu-Ag-Au deposits and on its 2016 exploration programs in Newfoundland.

#### Central Milling Facility & Research Project

Canadian Zinc and [Buchans Minerals Corp.](#) ("Buchans"), a wholly owned subsidiary of [Minco Plc](#) (AIM: MIO), are jointly undertaking a metallurgical test program aimed at investigating the technical viability of processing their respective central Newfoundland Zn-Pb-Cu-Ag-Au deposits through a centralized processing facility.

The metallurgical test program completed by Thibault & Associates Inc. of Fredericton, New Brunswick was based on an assessment of pre-concentrating the ore prior to flotation using Dense Media Separation ("DMS") technology and the development of a process relative to the metallurgical characteristics of five deposits under development.

The results of the bench scale test program have indicated an improved grade and recovery relationship for the production of Cu-Pb-Zn concentrates using a sequential flotation flowsheet. The preliminary test results confirm that selective zinc, lead and copper concentrates at marketable grades can be produced using a common flotation flowsheet. The positive results from the metallurgical test program strongly support the development of the sequential flotation technology for processing of the deposits using a centralized processing facility.

The research project was focused on four key NI43-101 compliant Zn-Pb-Cu-Ag-Au volcanogenic massive sulphide ("VMS") deposits located on the south side of Red Indian Lake in the Victoria Lake district of central Newfoundland (see attached map). Two of the deposits are held by Canadian Zinc (Lemarchant, Boomerang-Domino) and two of the deposits are held by BMC (Bobbys Pond, Daniels Pond). In June 2016, the research program was extended to include the Lundberg Cu-Pb-Zn-Ag deposit (100% held by Buchans).

The Lundberg deposit is a large, near-surface and potentially open-pit resource located on the north side of Red Indian Lake near the town of Buchans, NL. The key rationale to include the Lundberg deposit was to fully assess all the known deposits in the district and to determine if it could enhance the economics of a central milling facility and the future development of this region's mineral resources. The additional tonnage contribution from the Lundberg deposit to a central milling facility could add considerably to the life of mine in central Newfoundland.

#### Highlights of the Metallurgical Test Program

- Dense Media Separation - The bench scale DMS test program was completed to assess the amenability of mineralized samples from the deposits to physical upgrading (pre-concentration) at each site. Use of DMS processing technology would provide a potential means of reducing transportation costs from mine site to the milling facility and to maximize head grade and reduce downstream processing costs.

Results from pre-concentration of the samples by DMS (prior to flotation) was determined to be technically viable for semi-massive and stringer sulphide samples from the Lemarchant FW, Bobbys Pond samples and Lundberg deposit. An economic assessment of processing ores with DMS technology is in progress to determine if there is a net benefit in reducing the mass of ore to be processed compared to the loss of payable metals to the waste product. Results of the DMS testing are provided below.

#### Dense Media Separation Results

Sample Overall Metal Recovery to Sinks + Fines at 70% Mass Recovery

Sample	Cu (%)	Pb (%)	Zn (%)	Au (%)	Ag (%)
Lemarchant FW	94.6	97.7	95.4	97.4	96.4
Bobbys Pond SMS Comp	98.3	98.6	99.1	95.6	95.6
Lundberg Y1-3	98.3	96.6	96.5	89.6	95.3
Lundberg Y4-8	94.7	94.2	93.9	84.8	90.1

Sample Overall Upgrade Ratio (Sinks + Fines Relative to Feed)

Sample	Cu	Pb	Zn	Au	Ag
Lemarchant FW	1.35	1.4	1.36	1.39	1.38
Bobbys Pond SMS Comp	1.40	1.41	1.42	1.37	1.37
Lundberg Y1-3	1.40	1.38	1.38	1.28	1.36
Lundberg Y4-8	1.35	1.35	1.34	1.21	1.29

- Common Flotation Flowsheet - Initial bench scale batch flotation tests were designed to compare two flowsheet options: 1) a bulk Cu/Pb-Zn flotation flowsheet and 2) a sequential Cu-Pb-Zn flotation flowsheet using various reagent schemes and alternative grind specifications.

Results from the initial bench scale testing indicate the sequential Cu-Pb-Zn flowsheet provided the best overall performance for the four deposits tested. Subsequent testing of the Lundberg Deposit samples indicates it is also amenable to the sequential Cu-Pb-Zn flotation flowsheet with improved grade and recoveries over previous Lundberg metallurgical testing.

- Bench Scale Batch Flotation Testing - the bench scale metallurgical test work was aimed at assessing the amenability of the mineralized samples from the five deposits to a common flotation flowsheet. The test work serves as a first stage evaluation of developing a common process flowsheet.

The preliminary results from the bench scale batch flotation tests confirmed the production of selective zinc, lead and copper concentrates at marketable grades.

The grade and recovery of concentrates for each deposit have been defined in the following table. These are based on bench scale batch flotation tests (as an open circuit without recycle) and process simulation of the sequential flowsheet mass balance relative to the test program, and are not representative of lock cycle or pilot testing of the proposed flowsheet.

## Flotation Test Results

Deposit	Cu Concentrate (Grade/Recovery)	Pb Concentrate (Grade /Recovery)	Zn Concentrate (Grade /Recovery)
Boomerang	25.7% / 63.4%	55.4% / 71.2%	49.8% / 91.7%
Lemarchant MS	33.7% / 78.1%	69.4% / 82.4%	60.8% / 90.7%
Lemarchant FW	31.0% / 90.1%	No concentrate	59.8% / 96.9%
Bobbys Pond	30.9% / 83.8%	76.5% / 69.3% <sup>1</sup>	64.8% / 93.1%
Daniels Pond	18.1% / 54.6%	74.0% / 76.8% <sup>1</sup>	61.0% / 90.1%
Lundberg Y1-3	30.1% / 86.2%	72.1% / 83.1%	61.1% / 78.7%

<sup>1</sup> Lead grade defined by the test program with added cleaning of the lead concentrate to reduce zinc and iron.

## Economic Assessment

The metallurgical test programs are being followed-up with a Process Simulation and Cost Assessment model (AAACE Class V &ndash; order of magnitude / conceptual assessment) to evaluate and identify the key factors impacting the operating economics of a centralized processing concept for the production of the base metal concentrates from the various base metal deposits in central Newfoundland.

Results from the conceptual economic assessment will be used to help optimize future exploration and development plans, by focusing on key factors that are critical to assessing the economic potential and viability of developing the central Newfoundland deposits through a centralized milling facility.

The overall research programs are partially funded by the Research & Development Corporation of Newfoundland and Labrador ("RDC") through the GeoEXPLORE Industry-led program and are scheduled to be completed in December, 2016.

## Central Newfoundland Exploration Work

As part of its 2016 exploration program, Canadian Zinc is undertaking ground geophysical surveys including magnetics, gravity, electromagnetics ("EM") and borehole EM on a number of high priority Cu-Pb-Zn-Ag-Au target areas on its South Tally Pond and Tulks South properties.

At the South Tally Pond property, five priority targets in the Lemarchant Deposit area are being evaluated by ground and borehole EM and two priority targets are being evaluated at the Lost Lake prospect located 6 kilometres northeast of the Lemarchant Deposit.

At the Tulks South property, a ground gravity survey is focused on the Tulks West and Dragon Pond copper prospects, where surface massive sulphide boulders containing up to 10.3% copper have been located.

The ground geophysical surveys are aimed at defining priority drill targets in each of the areas and are expected to be completed by the end of November. Based on successful results, a winter drill program will be undertaken to further explore selected priority targets. The central Newfoundland exploration work is being funded by flow through funding raised in the financing completed in July 2016.

## About Canadian Zinc

Canadian Zinc is a TSX-listed exploration and development company trading under the symbol "CZN".

Canadian Zinc owns an extensive land package in central Newfoundland that it is exploring for copper-lead-zinc-silver-gold deposits. These include the South Tally Pond project (Lemarchant deposit); Tulks South project (Boomerang-Domino and Tulks East deposits) and Long Lake project (Long Lake deposit). The Company's exploration strategy in central Newfoundland is to continue to build on its existing polymetallic resource base with the aim of developing either a stand-alone mine, similar to the past-producing mines at Buchans and Duck Pond, or a number of smaller deposits that could be developed simultaneously and processed in a central milling facility.

The Company's key project is the 100%-owned Prairie Creek Project, a fully permitted, advanced-stage zinc-lead-silver property, located in the Northwest Territories.

## Cautionary Statement &ndash; 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. 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.

Michael J. Vande Guchte, P.Geol., Vice President of [Canadian Zinc Corp.](#) is a Qualified Person as defined by NI 43-101 and has reviewed and approved the contents of this press release.

J. Dean Thibault, P.Eng., Senior Process Chemical Engineer of Thibault & Associates Inc. is a qualified person for this release and has reviewed the contents for accuracy and approved this release. Thibault & Associates Inc. are a process chemical engineering firm specializing in process flowsheet development, plant design and process intensification assessments.

#### 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.

SOURCE [Canadian Zinc Corp.](#)

#### Contact

Alan B. Taylor, Chief Operating Officer & Vice President Exploration, (604) 688-2001, Suite 1710 - 650 West Georgia Street, Vancouver, BC V6B 4N9, Tollfree:1-866-688-2001; Michael J. Vande Guchte, Vice President, Exploration NL, (604) 688-2001, Suite 1710 - 650 West Georgia Street, Vancouver, BC V6B 4N9, Tollfree:1-866-688-2001; Steve Dawson, Vice President, Corporate Development, (416) 203-1418, Suite 1805, 55 University Avenue, Toronto, ON M5J 2H7; E-mail: [invest@canadianzinc.com](mailto:invest@canadianzinc.com), Website: [www.canadianzinc.com](http://www.canadianzinc.com)