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## NEWS RELEASE

# Trevalli sees positive initial results from Caribou Zinc Mine paste backfill study

## Additional potential plant feed of up to 1.33 million tonnes identified

TV-NR-15-08

April 23, 2015

Vancouver, British Columbia...Trevalli Mining Corporation (“Trevalli” or the “Company”) (TSX: TV; BVL: TV; OTCQX: TREVF; Frankfurt: 4TI) provides an update on the recommended paste backfill test work at its Caribou Zinc Mine in the Bathurst Mining Camp of New Brunswick, Canada.

There are 6.15 million tonnes grading 6.11% Zn, 2.49% Pb, 0.34% Cu, 67.8 g/t Ag and 0.86 g/t Au of estimated life-of-mine plant feed in the current Caribou mine re-start plan (see May 13th, 2014 news release TV-NR-14-07 and June 26, 2014 SRK Consulting PEA report “Technical Report on Preliminary Economic Assessment for the Caribou Massive Sulphide Zinc-Lead-Silver Project, Bathurst, New Brunswick, Canada”). Several of the key optimization opportunities and recommendations identified in the 2014 report include additional exploration drilling to fully define the Caribou geological system, which remains open for expansion, and the potential to maximize or increase the estimated life-of-mine plant feed by using paste backfill technology in particular to recover a significant portion of the 1.33 million tonnes of mineralization (comprised within the current resource) in the sill pillars that are currently excluded from the PEA mine plan.

Recent proof of concept exploration drill results clearly demonstrate that the Caribou deposit remains open for expansion – a 200-metre step-out drill hole intersected 50.9 metres of massive sulphide returning 5.08% Zn, 1.76% Pb, 0.37% Cu, 59.6 g/t Ag and 1.63 g/t Au (see April 16, 2015 news release NR-TV-15-07 for details).

### **POTENTIAL PASTE BACKFILL ADVANTAGES AT CARIBOU**

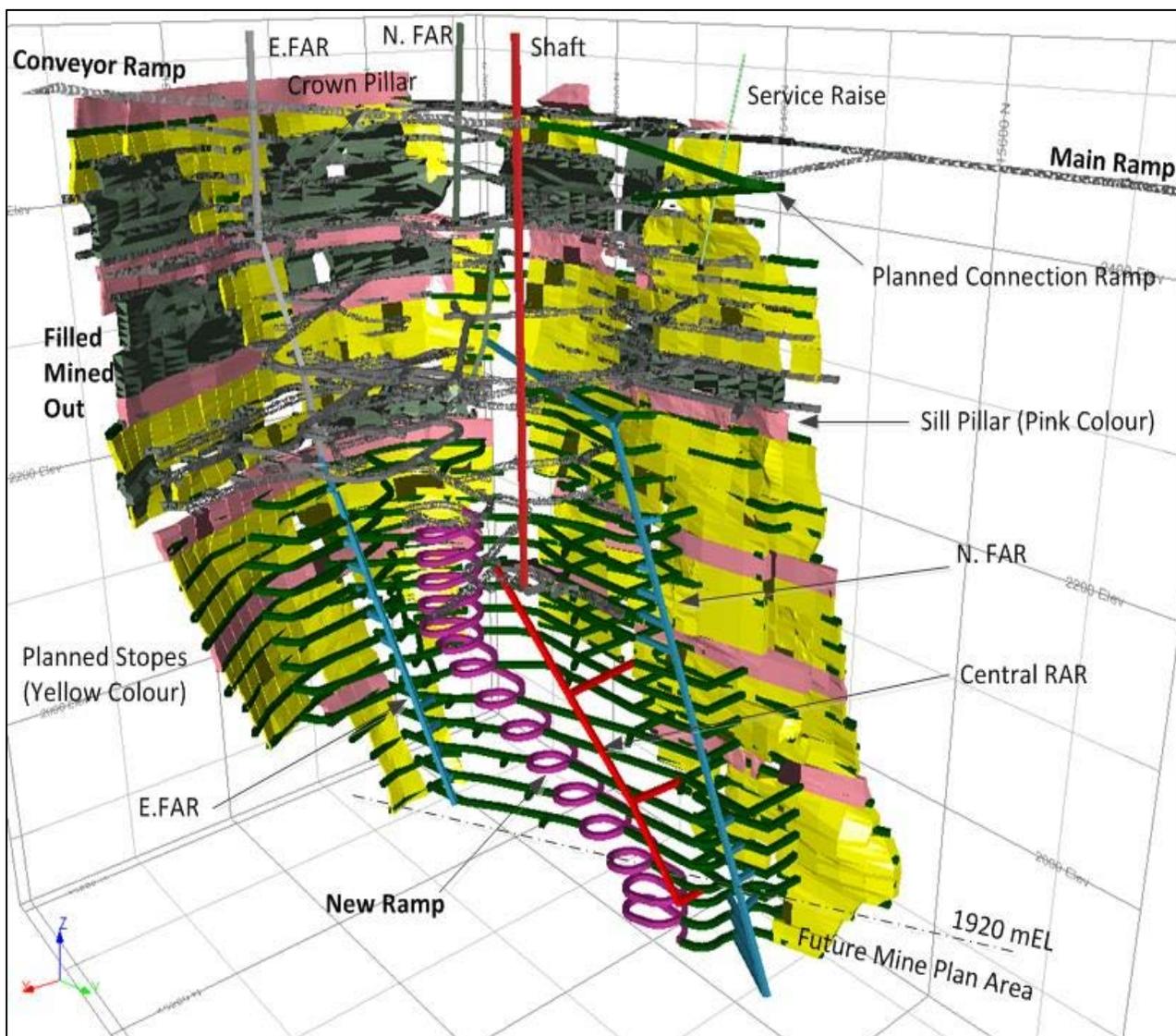
Contingent on ongoing positive technical analysis, adoption and implementation of a paste backfill system at Caribou could have multiple advantages including:

- **Increasing Life Of Mine**

#### *Sill Pillars*

The current mine plan utilizes dry waste-rock backfill, which due to its strength characteristics limits the estimated amount of the horizontal sills that can be recovered (Figure 1). Paste backfill, with its significantly superior strength and ground support characteristics, would allow extraction of a greater portion of tonnages currently ‘locked’ in these sills:

Total sill pillar tonnage available	1,931,000 tonnes
Current PEA mine plan sill tonnage extraction	601,000 tonnes
Additional sill tonnage extraction range utilizing paste backfill	717,000 to 1,330,000 tonnes

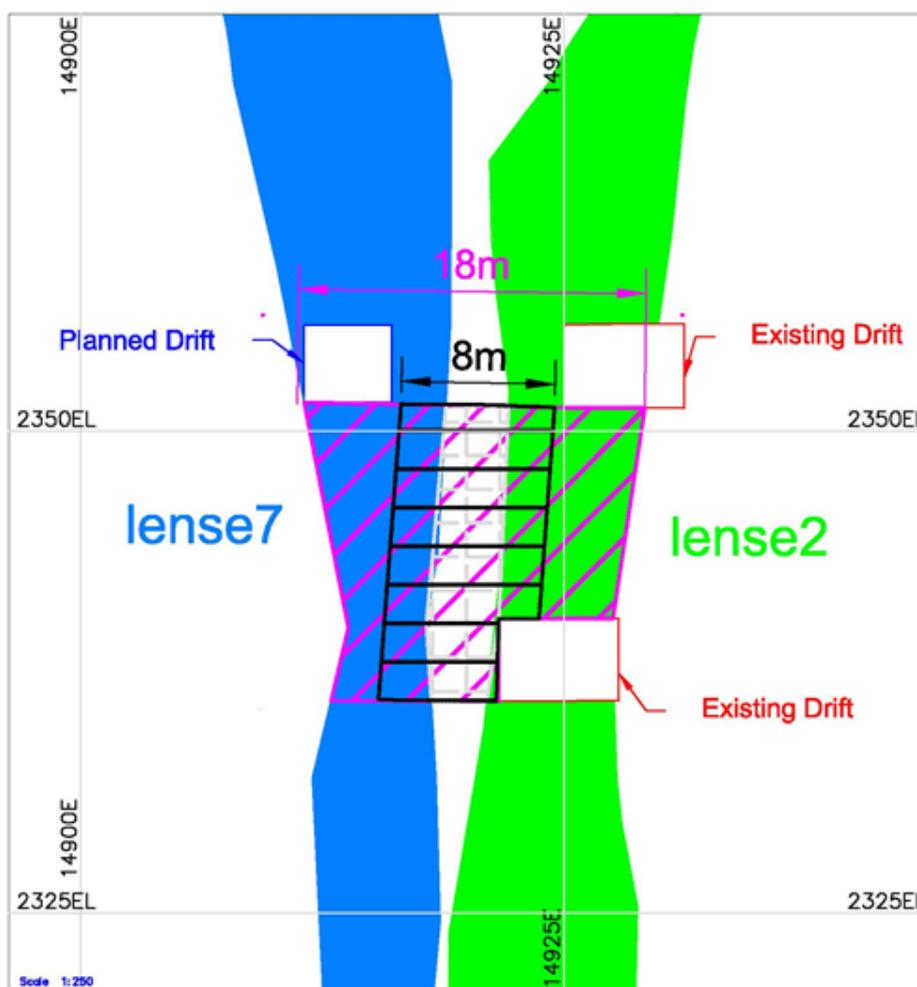


**Figure 1:** 3D Mine Model Isometric View of the Caribou Mine Plan Looking Southwest (Yellow represents Planned Stopes; Pink represents Sill Pillar; Gray represents Previously Mines Stopes and Fill)

### Multiple Lens Zones

In areas of multiple zones, in particular at intermediate-to-deeper levels on the Caribou North Limb, it is estimated that up to 75% of the massive sulphide occurs in multiple lens zones. In order to maintain a stable, competent vertical pillar between these lenses, minimum stand-off distances are established to support the waste-rock fill that in turn can lead to lower mining recoveries (Figure 2).

Figure 2 illustrates an example where under the current waste-rock backfill method only one lens, Lens 2 in this case, can be safely extracted locally resulting in poor overall mining recovery of approximately 47% of the mineralization. Paste backfill, an engineered fill, would allow for additional recovery of the mineralized material locked up within the vertical pillars as the minimum stand-off distance can be reduced, the width of the vertical pillar can be reduced or alternatively the majority of the mineralization can be sequentially extracted to approach a more typical recovery of approximately 94% of the mineralization. Ongoing work will model the potential additional accessible tonnages available from these areas.



**Figure 2:** Example of multiple lenses on the Caribou North Limb that could benefit from an engineered backfill.

- **Decreasing Waste Rock Dilution – Increasing Mill Head Grade**

The current mine plan includes 16% waste-rock dilution – paste backfill is estimated to decrease dilution to 8-10% thereby boosting overall head grade and metal units delivered to the mill.

It may also add potential incremental tonnes to the mine plan, that is, tonnes currently not viable for a variety of reasons but typically those marginally below the cut-off-grade of the mine plan and contingent on commodity prices at time of extraction.

- **Improve Stope Cycle Time – Improved Efficiencies**

Utilization of paste backfill will decrease stope cycle times by an estimated 25-30% in addition to dropping backfill costs due to decreased re-handling of material and decreased mining fleet requirements.

- **Decreased Surface Tailings Requirements**

Paste backfill is estimated to conservatively reduce surface tailings volumes by 40-50%.

- **Facilitates Deeper Mining**

Longer term, as anticipated mining accesses the deeper portions of the deposit (which remains open for expansion), the strength and mining benefits of paste backfill increase proportionally and could ultimately render these areas viable versus a dry-waste backfill method.

- **Decreased Ventilation Requirements**

Paste backfill is delivered to post-mining open voids via a network of boreholes and pipes from a surface plant whereas waste-rock backfill is transported to voids using vertical raises and mobile diesel Load-Haul-Dump (“LHD”) equipment. Paste backfill reduces the underground equipment (LHD’s and truck) requirements, which in turn reduce the overall ventilation requirements in the mine.

- **Regional Ground Stability**

Faster cycle times and tight filling of voids with paste backfill improves the overall regional ground stability in the mine.

#### **ABOUT PASTE BACKFILL**

In summary, paste backfill is a well-established mining industry method of utilizing the waste ground rock material from the mineral processing plant once metals have been extracted, adding various binding components to it and injecting it back underground into the post-mining open voids or stopes. It has multiple advantages over open voids or dry waste-rock backfill but principally its superior strength and ground support characteristics typically allows greater extraction of the mineral deposit, decreases dilution of extracted mineralization by lower grade or zero grade waste-rock material following blasting and decreases the size and footprint of surface tailings management facilities.

#### **TESTWORK RESULTS**

At Caribou, the paste backfill test work has been designed, supervised and conducted by Kovit Engineering, a Sudbury-based specialist in paste backfill consultancy. Testing, which is ongoing, utilized both historic and laboratory prepared tailings material. Results to date indicate that it is technically feasible to produce a paste backfill with the desired strength and flow characteristics from Caribou tailings material.

In summary, optimum results using a 5% binder addition achieved strengths between 700 and 1300 kPa at 7 days, 500-to-2500 kPa at 28 days and 250-to-850 kPa at 90 days. For reference, approximately 400 kPa at 14 days is required for mining stability of the hanging and foot wall rock and paste fill face.

Phase I test work focused on 100% Caribou tailings feed with modest cement addition to achieve desired strength requirements. Three binder types were tested: 90:10 general use cement/slag, high-sulphide cement, and general use cement.

Phase II test work, most recently completed, examined the potential advantages of utilizing local sand deposits located on the Caribou property as part of the paste backfill process in order to further improve paste characteristics and decrease estimated capital expenditure requirements by decreasing paste plant filtering requirements.

The estimated capital expenditure from basic engineering for a new tailings-sand backfill plant including new equipment, installation and initial surface and underground distribution network is estimated to range from \$9-12 million including a 30% contingency. Estimated operating expenditure for a paste-plant is estimated at \$8.50 per tonne versus \$13.50 per tonne for dry backfill in the current PEA report.

Phase III test work will involve more detailed follow-up and optimization of sand-paste characteristics, detailed geological fieldwork on several sand deposits located on the Caribou property (four of which have been identified from the Geological Survey of New Brunswick databases and records), larger-scale test work using 'fresh' tailings from the Caribou plant once commissioning commences and ongoing mine plan optimization of potential additional tonnages available.

Contingent on the above results, detailed stope optimization, cost-benefit analysis and detailed engineering will follow.

### **Qualified Person and Quality Control/Quality Assurance**

EurGeol Dr. Mark D. Cruise, Trevali's President and CEO and Mr. Paul Keller, P.Eng, Trevali's Chief Operating Officer, are qualified persons as defined by NI 43-101 and have supervised the preparation of the scientific and technical information that forms the basis for this news release. Dr. Cruise is not independent of the Company, as he is an officer, director and shareholder. Mr. Keller is not independent of the Company as he is an officer and shareholder. On-site personnel at the project rigorously collect and track samples which are then security sealed and shipped to ACME Laboratories (ACME) preparation facility in Val D'Or, Quebec for crushing and splitting and coarse rejects were assayed at ACME in Vancouver, BC. ACME quality system complies with the requirements for the International Standards ISO 9001:2000 and ISO 17025: 1999. Analytical accuracy and precision are monitored by the analysis of reagent blanks, reference material and replicate samples. Quality control is further assured by the use of international and in-house standards. Blind certified reference material is inserted at regular intervals into the sample sequence by Trevali personnel in order to independently assess analytical accuracy. Finally, representative blind duplicate samples are routinely forwarded to an ISO compliant third party laboratory for additional quality control.

## ABOUT TREVALI MINING CORPORATION

Trevali is a zinc-focused, base metals mining company with one producing operation in Peru and an advanced-stage mine under development in Canada.

In Peru, the Company is actively producing zinc and lead-silver concentrates from its Santander mine and 2,000-tonne-per-day metallurgical plant.

In Canada, Trevali owns the Caribou mine and mill, Halfmile mine and Stratmat deposit all located in the Bathurst Mining Camp of northern New Brunswick. The Company is currently advancing its 3,000-tonne-per-day Caribou Mill Complex and mine towards scheduled Q2-2015 production.

All of the Company's deposits remain open for expansion.

The common shares of Trevali are listed on the TSX (symbol TV), the OTCQX (symbol TREVF) and on the Lima Stock Exchange (symbol TV). For further details on Trevali, readers are referred to the Company's web site ([www.trevali.com](http://www.trevali.com)) and to Canadian regulatory filings on SEDAR at [www.sedar.com](http://www.sedar.com).

On Behalf of the Board of Directors of  
**TREVALI MINING CORPORATION**  
"Mark D. Cruise" (signed)  
Mark D. Cruise, President

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This news release contains "forward-looking statements" within the meaning of the United States private securities litigation reform act of 1995 and "forward-looking information" within the meaning of applicable Canadian securities legislation. Statements containing forward-looking information express, as at the date of this news release, the Company's plans, estimates, forecasts, projections, expectations, or beliefs as to future events or results and the company does not intend, and does not assume any obligation to, update such statements containing the forward-looking information. Such forward-looking statements and information include, but are not limited to statements as to: the accuracy of estimated mineral reserves and resources, anticipated results of future exploration, and forecast future metal prices, anticipated results of future electrical sales and expectations that environmental, permitting, legal, title, taxation, socio-economic, political, marketing or other issues will not materially affect estimates of mineral reserves. These statements reflect the Company's current views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by the Company, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies.

These statements reflect the Company's current views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by the company, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors, both known and unknown, could cause actual results, performance or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements contained in this news release and the company has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: fluctuations in spot and forward markets for silver, zinc, base metals and certain other commodities (such as natural gas, fuel oil and electricity); fluctuations in currency markets (such as the Peruvian sol versus the U.S. dollar); risks related to the technological and operational nature of the Company's business; changes in national and local government, legislation, taxation, controls or regulations and political or economic developments in Canada, the United States, Peru or other countries where the Company may carry on business in the future; risks and hazards associated with the business of mineral exploration,

development and mining (including environmental hazards, industrial accidents, unusual or unexpected geological or structural formations, pressures, cave-ins and flooding); risks relating to the credit worthiness or financial condition of suppliers, refiners and other parties with whom the Company does business; inadequate insurance, or inability to obtain insurance, to cover these risks and hazards; employee relations; relationships with and claims by local communities and indigenous populations; availability and increasing costs associated with mining inputs and labour; the speculative nature of mineral exploration and development, including the risks of obtaining necessary licenses and permits and the presence of laws and regulations that may impose restrictions on mining; diminishing quantities or grades of mineral reserves as properties are mined; global financial conditions; business opportunities that may be presented to, or pursued by, the Company; the Company's ability to complete and successfully integrate acquisitions and to mitigate other business combination risks; challenges to, or difficulty in maintaining, the Company's title to properties and continued ownership thereof; the actual results of current exploration activities, conclusions of economic evaluations, and changes in project parameters to deal with unanticipated economic or other factors; increased competition in the mining industry for properties, equipment, qualified personnel, and their costs. Investors are cautioned against attributing undue certainty or reliance on forward-looking statements. Although the Company has attempted to identify important factors that could cause actual results to differ materially, there may be other factors that cause results not to be as anticipated, estimated, described or intended. The Company does not intend, and does not assume any obligation, to update these forward-looking statements or information to reflect changes in assumptions or changes in circumstances or any other events affecting such statements or information, other than as required by applicable law.

Trevali's production plans at Caribou-Halfmile-Stratmat and Santander are based only on Indicated and Inferred Mineral Resources and not Mineral Reserves and do not have demonstrated economic viability. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is therefore no certainty that the conclusions of the production plans and Preliminary Economic Assessment (PEA) will be realized. Additionally where Trevali discusses exploration/expansion potential, any potential quantity and grade is conceptual in nature and there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource.

We advise US investors that while the terms "measured resources", "indicated resources" and "inferred resources" are recognized and required by Canadian regulations, the US Securities and Exchange Commission does not recognize these terms. US investors are cautioned not to assume that any part or all of the material in these categories will ever be converted into reserves.

This news release does not constitute an offer to sell or a solicitation of an offer to buy any of the securities in the United States. The securities described herein have not been and will not be registered under the United States Securities Act of 1933, as amended, or the securities laws of any state and may not be offered or sold within the United States, absent such registration or an applicable exemption from such registration requirements.

The TSX has not approved or disapproved of the contents of this news release.