PRESS RELEASE

CRITICAL ELEMENTS CORPORATION ACHIEVES LITHIUM CARBONATE PURITY OF 99.98% DURING OPTIMIZATION TESTING PROGRAM

HYDROMETALLURGICAL PROCESS FOR THE PRODUCTION OF LITHIUM CARBONATE - Li_2CO_3

AUGUST 5, 2014 – MONTREAL, QUEBEC – **Critical Elements Corporation (or the "Company")** (TSX-V: CRE) (US OTCQX: CRECF) (FSE: F12) announces that laboratory scale hydrometallurgical testing is in progress at the **SGS Minerals Services** laboratory in Lakefield, Ontario as part of the feasibility study of the "**Rose Lithium -Tantalum**" project. The testing is a continuation of those made previously at the **ACMEMET laboratory** in Vancouver, as part of the projects Preliminary Economic Assessment Study (PEA). The objective of the present testing is highlighted below:

1. **Validating the Company's lithium carbonate manufacturing process.**
   - Determining the optimal parameters for each process stage.
   - Evaluating and optimizing recovery rates for each process stage.

2. **Purity of produced lithium carbonate.**
   - Ensuring that the lithium carbonate produced meets the quality requirement of Battery Grade Lithium Carbonate.

3. **Investigating the possibility to produce lithium hydroxide from lithium carbonate.**

4. **Assessing the possible recovery of valuable by-products.**

The results obtained from the tests to date have shown that the developed process can safely produce lithium carbonate with an overall recovery rate up to **96%**. The overall purity (calculated by difference, by subtracting the main impurities) gave values up to **99.98%**, and thus, surpassing the requirements of **battery grade lithium carbonate**. The success in producing this high purity product is directly related to the selected processing method (**sodium carbonate alkaline process**), which when compared to the **sulfuric acid process**, presents less risk to the environment and dissolve less impurities at the leaching stage, which minimizes difficulties relating to the final product purification.

Currently efforts are focused on the reduction of specific impurities (Mn, Al and Cu). Within this framework, a sensitivity study on the possible contamination from the laboratory equipment for two types of autoclaves (in Monel and Stainless Steel) was performed.

An evaluation of the performance of a two step decomposition process is also planned. The filtrate obtained after the first decomposition will be subjected to an ion exchange purification through a selective resin before being sent to the second decomposition. By doing so, we expect to substantially reduce all major impurities while at the same time, eliminating the risk of building those impurities through decomposition filtrates recycling in the process.

Tests to generate lithium hydroxide (LiOH) from lithium carbonate (Li_2CO_3) are also scheduled, expecting to prove an **integrated production system** for the two lithium products, and thus, flexibility in terms of market opportunities.

A final component of the planned testing is the investigation for possible recovery of certain by-products such as alumina (as alumina tri-hydrate -ATH), which is in great demand currently in the market primarily as fire retardant, and silica (as pure silicates). It is worthy to note that the recovery of these by-products,

in addition to the advantage of generating more value for the project, will also significantly reduce the solid residues from the process, i.e. the environmental impact of the project. These tests will be performed at the pyrometallurgical laboratory of XSTRATA (**XPS Consulting & Services Testwork**) located in Falconbridge, Ontario.

Jean-Sébastien Lavallée (OGQ #773), geologist, shareholder, President and Chief Executive Officer of the Company and a Qualified Person under NI 43-101, has reviewed and approved the technical content of this release.

"First, we want to thank all of our shareholders for their patience and continued support of Management since the discovery of the Rose Lithium-Tantalum Deposit, especially in the past year as the junior mining sector was out of favor and access to capital was challenging. Due to strong shareholder support, Management continues to be very motivated and focused on our main goal which is to produce battery grade lithium. We are extremely happy with the results obtained in our optimization phase. To date, we have increased our tantalum recovery by 50% to a now average of 76%. We have also upgraded one of the main flotation reagents to a lower cost product and improved the lithium concentration grade up to 6.4%. This should positively impact the global operation cost per ton. The optimization phase is a crucial step before the final feasibility plant design and we will be continuously testing to ensure Management controls, to the best of our abilities, the different potential obstacles that can occur ramping up the plant into production," said Jean-Sébastien Lavallée, President and Chief Executive Officer.

ABOUT CRITICAL ELEMENTS CORPORATION

Critical Elements is actively developing its 100%-owned Rose lithium-tantalum flagship project located in Quebec.

A recent financial analysis (Technical Report and preliminary economic assessment (PEA) on the Rose Lithium-Tantalim project, Genivar, December 2011) of the Rose project based on price forecasts of US$260/kg ($118/lb) for Ta_2O_5 contained in a tantalite concentrate and US$6,000/t for lithium carbonate (Li_2CO_3) showed an estimated after-tax Internal Rate of Return (IRR) of 25% for the Rose project, with an estimated Net Present Value (NPV) of CA$279 million at an 8% discount rate. The payback period is estimated at 4.1 years. The pre-tax IRR is estimated at 33% and the NPV at $488 million at a discount rate of 8%. (Mineral resources that are not mineral reserves and do not have demonstrated economic viability). (See press release dated November 21, 2011.)

The operation is scheduled to produce 26,606 tons of high purity (99.9% battery grade) Li_2CO_3 and 206,670 pounds of Ta_2O_5 per year over a 17-year mine life.

The project hosts a current **Indicated resource of 26.5 million tonnes of 1.30% Li_2O Eq. or 0.98% Li_2O and 163 ppm Ta_2O_5 and an Inferred resource of 10.7 million tonnes of 1.14% Li_2O Eq. or 0.86% Li_2O and 145 ppm Ta_2O_5.**

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CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This news release contains "forward-looking information" including without limitation statements relating to realization of resource estimates, reduction of capital and operating costs, success of mining operations and the ranking of the project in terms of production. Readers should not place undue reliance on forward-looking statements.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Until a positive feasibility study has been completed, and even with the completion of a positive feasibility study, there are no assurances that the Rose project will be placed into production. Factors that could affect the outcome include, among others: the actual results of development activities; project delays; inability to raise the funds necessary to complete development; general business, economic, competitive, political and social uncertainties; future prices of metals; availability of alternative lithium or tantalum sources; actual rates of recovery; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; accidents, labour disputes and other risks of the mining industry; political instability, terrorism, insurrection or war; delays in obtaining governmental approvals, necessary permitting or in the completion of development or construction activities. For a more detailed discussion of such risks and other factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements, refer to the Company's filings with Canadian securities regulators available on SEDAR at www.sedar.com.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. Forward-looking statements contained herein are made as of the date of this news release and the Company disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.

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