



PRESS RELEASE

CRITICAL ELEMENTS SUCCESSFULLY COMPLETES PILOT PLANT WORK FOR LITHIUM CARBONATE CONVERSION

- High purity lithium carbonate with 99.9%
- High recovery of 88.4% vs market benchmark of 70 to 75%
- Overall recovery from spodumene to carbonate of 81.4% vs market benchmark of 65%

MAY 29, 2017 – MONTREAL, QUEBEC – **Critical Elements Corporation** (the “Corporation” or “Critical Elements”) (TSX-V: CRE) (US OTCQX: CRECF) (FSE: F12) is pleased to announce results from Pilot Plant program recently completed by the Company with Outotec to demonstrated that the conversion of Critical Elements spodumene resources into lithium carbonate battery quality using the thermal leaching process was easily achievable.

This well known conversion process (calcination, thermal leaching & bicarbonization & crystallization) from Spodumene concentrate to lithium carbonate showed extremely good results **with extraction rates of 88.4% with very high purity of lithium carbonate of 99.9%**. This extraction rate surpasses the worldwide average of between 70 to 75% in what is accepted as an industry standard.

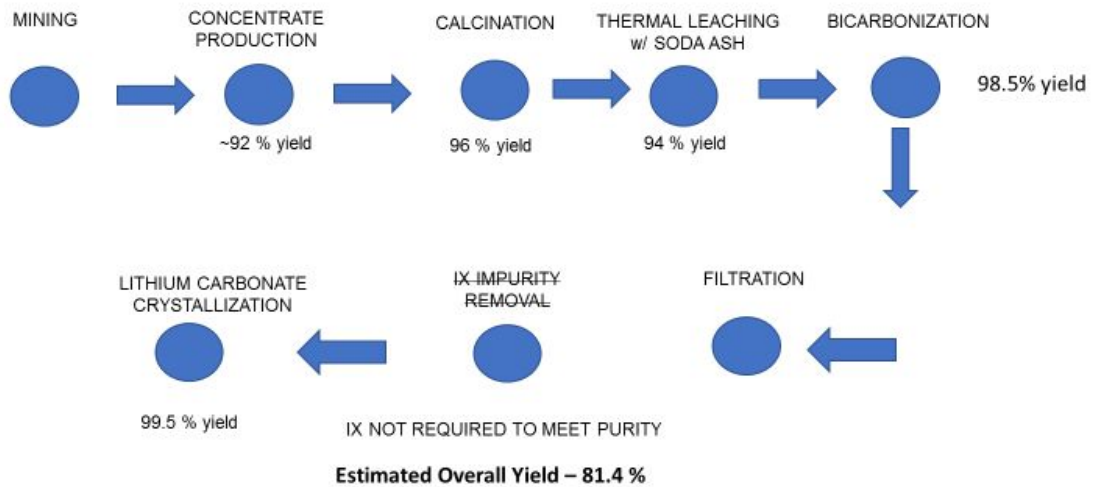
Purity of 99.9% was reached and the **impurity profile is outstanding with levels of sodium below 100 ppm, calcium below 200 ppm, iron below 20 ppm and heavy metals below 5 ppm.**

Li₂CO₃ analyses –impurity levels in Li₂CO₃

Date	OES										MS										
	Be ppm	Bi ppm	Ca ppm	Fe ppm	K ppm	Mg ppm	Mn ppm	Na ppm	P ppm	Ti ppm	Zn ppm	Cd ppm	Cr ppm	Cu ppm	Mn ppm	Ni ppm	Pb ppm	S ppm	Cl ppm	SiO2 %	Al ppm
3.5	<10	<20	138	15	<50	<10	36	81	141	<10	12	<5	<5	5	44	<5	6	<200	<100	0.1	
4.5	<10	<20	120	<10	<50	<10		63	120	<10	<10	<5	<5	6	41	<5	6	<200	<100	0.34	12
5.5	<10	<10	131	<10	<50	<10	27	77	110	<10	<10	<5	<5	6	32	<5	<5	<200	<100	0.14	
6.5	<10	<20	120	<10	<50	<10	25	85	103	<10	<10	<5	<5	10	29	<5	<5	<200	<100	<0.3	
7.5	<10	<20	123	<10	<50	<10	20	60	105	<10	<10	<5	<5	11	22	<5	<5	<200	<100	<0.3	
8.5	<10	<20	137	<10	<50	10	23	<50	97	<10	10	<5	<5	10	26	<5	<5	<200	<100	<0.3	
9.5	<10	<20	153	<10	<50	11	26	56	93	<10	14	<5	<5	9	29	<5	<5	<200	<100	<0.3	
10.5	<10	<20	188	14	<50	<10	19	45	108	<10	14	<5	<5	11.2	26.4	<5	<5	<200	<100	<0.3	
11.5	<10	<20	177	<10	<50	<10	15	38	113	<10	<10							<200	<100	<0.3	
12.5	<10	<20	102	11	<50	<10	<10	52	106	<10	<10			The pending analyses				<200	<100	<0.3	
13.5	<10	<20	45	<10	<50	<10	<10	70	100	<10	11							<200	<100	<0.3	
14.5	<10	<20	30	15	<50	<10	<10	69	108	<10	10							<200	<100	<0.3	
15.5	<10	<20	109	<10	<300	<10	10	<100	126	<10	<10	<5	<5	5	12.1	<5	<5	<200	<100	<0.3	
16.5	<10	<20	20	<10	<50	<10	<10	<100	86	<10	<10									<0.3	

These results demonstrated that Critical Elements approach to the lithium carbonate processing plant has been validated and do not require any additional cost intensive purification steps. The diagram below illustrates the Critical Elements process flow:

CRITICAL ELEMENTS PROCESS FLOW SHEET



"This supports the low impurity profile of our ore allows us the production of lithium carbonate battery quality at competitive costs without additional purification steps" said Jean-Sébastien Lavallée, Chairman and CEO of Critical Elements.

As supported by these tests, and by choosing this technology (i.e. Thermal Leaching Process) Critical Elements has demonstrated their technological leadership, which will result in a superior product at the lowest possible cost.

PILOT PLANT WORK DETAILS

Details on piloting work program achieve over 336 hours at Outotec Pilot plant:

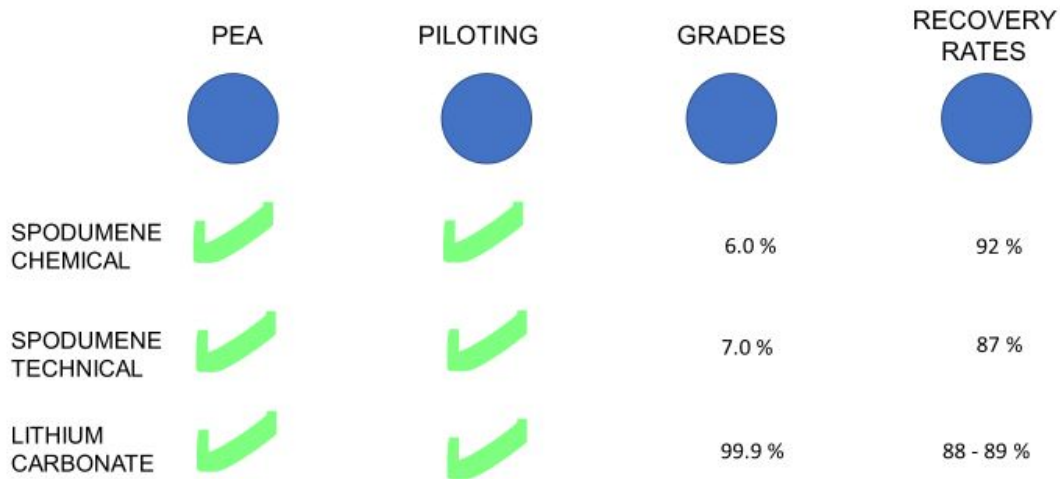
- **Pilot operated in 8 hour shifts 24 h/day, 7 days a week**
- **Pilot is operated for 14 days = 336 hours**
- **During 8 hour shift the following tasks are done**
 - Slurry preparation (Sample from PR)
 - Leaching + bicarbonization (Sample after BcR)
 - Leach residue filtration and washing (Sample from BC WW, residue to PSD analysis)
- **Polishing filtration of the filtrate (Sample from T1)**
 - Crystallization (Sample from S3 filtrate)
 - Caustification (Sample from pHR and T2)
- **Li₂CO₃ washing is done once a day**
 - Sample from S4_Li₂CO₃ and LC WW
- **In total 22 solution samples and 7 solids samples a day ~ 400 samples in total**

To date Critical Elements has completed the following testing and piloting work:

- Piloting of the chosen concentrator plant design (see Critical Elements' press release dated April 5, 2017)
- Piloting of the thermal conversion of the ore from α -spodumene to β -spodumene (See Critical Elements' press release dated April 13, 2017)
- Piloting of the Thermal Leaching Process currently being completed.

This is shown graphically below:

CRITICAL ELEMENTS PROCESS DEVELOPMENT STATUS



Based on the results of the above work and modelling conducted by Outotec, Critical Elements believes that the overall total recovery rate should approach 81% which compares very favorably to industry standards which are typically in the low to mid 60's.

This recovery is based on the following:

- Concentrator Plant Recovery-92% possible as indicated by Outotec's modelling
- Decrepitation Kiln Recovery-96% verified in pilot plant
- Thermal Leaching Process-94% as an average verified in pilot plant
- Bicarbonization/Lithium Carbonate crystallization- 98%
- **Overall yield- potentially as high as 81.4%**

Outotec is a leading technology company in multiple mining and extraction industries, including the lithium industry, with sites in Frankfurt, Germany and Pori, Finland, as well as other locations.

They offer competent knowledge of the various processing options for both beneficiating spodumene, as well as converting spodumene into saleable lithium salts. Their lithium expertise includes multiple years of research into various lithium processing options; including the understanding and optimizing the process Critical Elements has chosen for lithium extraction.

Jean-Sébastien Lavallée (OGQ #773), geologist, shareholder and Chairman 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.

ABOUT CRITICAL ELEMENTS CORPORATION

A recent financial analysis (Technical Report and Preliminary Economic Assessment (PEA) on the Rose lithium-tantalum Project, Genivar, December 2011) of the Rose project, 100% owned by Critical Elements, based on price forecasts of US \$260/kg (\$118/lb) for Ta₂O₅ contained in a tantalite concentrate and US \$6,000/t for lithium carbonate (Li₂CO₃) 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 CA \$488 million at a discount rate of 8%. (Mineral resources are not mineral reserves and do not have demonstrated economic viability). (The preliminary economic assessment is preliminary in nature). (See press release dated November 21, 2011.) The PEA includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized.

The conclusions of the PEA indicate that the operation would support a production rate of 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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