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ASX ANNOUNCEMENT ASX: ASN, ASNOC

# Intial Novonix Battery Results Indicate Paradox Brine Lithium Products Outperform Commercial Grade Battery

## Highlights:

- Positive results received from Novonix for both Li<sub>2</sub>CO<sub>3</sub> & LiOH.H<sub>2</sub>O bulk sample products produced from Anson's Paradox brine
- 99.9% purity Li<sub>2</sub>CO<sub>3</sub> electrochemical behaviour performance exceeded commercial battery grade lithium-ion batteries
- LiOH.H<sub>2</sub>O demonstrated similar performance to existing commercial products
- Test work included SEM/XRD analysis and electrochemical evaluation
- Next stage of the testing program to measure performance in batteries at a larger scale is expected to be completed in May 2021

Anson Resources Limited (ASX: ASN, ASNOC) (Anson or the Company) is pleased to report positive results from the intial test work conducted by Novonix Battery Technology Solutions in Nova Scotia, Canada (parent Novonix Limited, ASX: NVX, OTCQX: NVNXF) using Anson's lithium hydroxide (LiOH.H<sub>2</sub>O) and lithium carbonate (Li<sub>2</sub>CO<sub>3</sub>) bulk samples extracted from the Company's flagship Paradox Brine Project in Utah.

Initial test work has indicated a lithium quality that exceeds commercially available Tier 1 products currently used in the production of high-performance lithium-ion batteries.

Novonix sintered commercial NMC622-hydroxide precursor powders with Tier 1 commercial lithium products, Anson's Li<sub>2</sub>CO<sub>3</sub> and LiOH.H<sub>2</sub>O and conducted an electrochemical evaluation of the respective performance in coin half-cells. The batteries were charged and discharged for up to 10 cycles (cycle testing on-going). From coin cells, capacity retention and impedance growth were measured. Anson's Li<sub>2</sub>CO<sub>3</sub> out-performed the commercial product blend while its LiOH.H<sub>2</sub>O performed similarly to the market available product. In particular Anson's Li<sub>2</sub>CO<sub>3</sub> showed improved capacity retention over commercial grade Li<sub>2</sub>CO<sub>3</sub>. Capacity retention improvement in batteries is a key objective in the lithium-ion battery industry to extend battery life.

Both Scanning Electron Microscopy (SEM) and X-ray Diffraction (XRD) analyses were conducted to create an understanding of the crystal structure of both of Anson's lithium products and the resultant LiNi<sub>0.6</sub>Mn<sub>0.2</sub>Co<sub>0.2</sub>O<sub>2</sub> (NMC622) cathode powders. It was determined that both of Anson's lithium products produced a "well ordered structure" showing phase-purity compared to commercial lithium products. This determination was made to ensure suitability of Anson's lithium products for lithiation prior to the commencement of the comparative performance test work.

Due to the success of the intial test work and its findings, Novonix is proceeding with a larger bulk sample test work program over the next several months which will include hundreds of charge and discharge cycles. The data collected from this test work will be used to calculate the comparative "fade



rate" which provides insight of the projected life span of the lithium-ion battery using Anson's lithium products.

Repeatability, homogeneity and cell characterisation and validation will also be conducted in full lithium-ion "pouch cells".

It is expected that the final test report will be provided in Q2 2021. Anson will provide the results to the market as soon as available.

Anson's Executive Chairman and CEO, Bruce Richardson, commented: "These are truly exciting results for Anson that support the commercial grade quality of the lithium products produced from our Paradox Brine. This ongoing test work with Novonix is an important step in the commercial development of the Paradox Project, and will provide battery makers and potential off-take partners with considerable confidence in our ability to produce a high purity product. I look forward to provide further updates on test work and other important work streams underway at Paradox in due course."

### **About Novonix**

Novonix Limited (ASX: NVX, OTCQX: NVNXF) provides high precision battery testing equipment to Tier 1 battery makers including Panasonic, CATL, Samsung, SK Innovation, LG Chem, Bosch, Honda and Dyson in addition to advanced R&D services for prototyping, designing, and evaluating lithium-ion battery technology.

This announcement has been authorised for release by the Executive Chairman and CEO.

#### **ENDS**

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