



17 October 2019

**ASX ANNOUNCEMENT**

**ASX: ASN**

## Anson Achieves Lithium Hydroxide Solution Milestone

### Highlights:

- Concentrated LiCl converted to produce lithium hydroxide solution and chlorine gas using electrolysis
- Lithium hydroxide solution will be processed into LiOH.H<sub>2</sub>O and Li<sub>2</sub>CO<sub>3</sub>
- Innovative Lithium Hydroxide Electrolysis process avoids the need to first produce Li<sub>2</sub>CO<sub>3</sub> reducing LiOH.H<sub>2</sub>O production costs
- Chlorine Gas will be used in Bromine extraction process reducing production costs
- Hydrochloric Acid required for both bromine and lithium extraction will also be produced reducing Bromine and Lithium production costs

Anson Resources Limited (Anson) is pleased to announce that as part of its current program to produce high quality, low impurity samples for testing by end-users and offtake partners, it developed and tested an innovative process which has successfully separated highly concentrated lithium chloride into liquid lithium hydroxide and chlorine using electrolysis.

This innovative production process has been designed by Anson's technical advisor, Tom Currin, from Southwest Technologies.

Lithium hydroxide produced from brine is traditionally produced from an intermediate step of first producing lithium carbonate. Anson's breakthrough technology is expected to lower the cost of producing lithium hydroxide from lithium concentrated brines as the lithium carbonate production step is not required in Anson's process to produce lithium hydroxide. It is understood that Anson has been the first to achieve this result from a commercial brine.

Tom Currin commented, "We are pleased to have assisted Anson in the achievement of this important processing milestone. The successful demonstration of the integrated process with Anson's brine aligns the project with the multiple products and low production cost business models utilized by the major South American lithium producers."

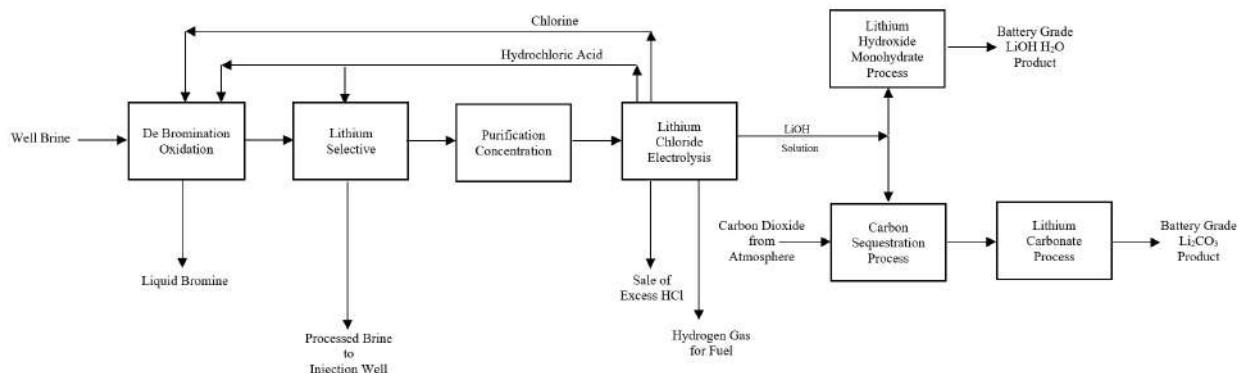
Significantly, the chlorine that will be produced from this electrolysis process will be fed into the bromine extraction process negating the need to purchase chlorine as part of the bromine production process. Further, some of the chlorine that is produced will be converted to hydrochloric acid (HCl) for use in both the bromine and lithium extraction processes, removing the need to purchase HCl and assisting to minimise production costs.

As a result of this breakthrough, Anson has developed an updated flow sheet incorporating this process, which is shown in Figure 1.

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**Figure 1: Updated Simplified Commercial Plant Conceptual Flow Sheet**

In line with Anson's multiple mineral/multiple revenue stream strategy, the flowsheet designed by Southwest will produce six products: bromine, lithium hydroxide, lithium carbonate, chlorine, hydrogen gas and hydrochloric acid. The latter three products will be used in the production process thereby reducing costs which would otherwise be incurred.

This achievement represents another major step forward for Anson as it provides flexibility to respond to changing lithium market product preferences and increases the number of potential end-users and customers as both lithium carbonate and lithium hydroxide products can be produced from lithium hydroxide solution.

The lithium hydroxide solution was produced from lithium chlorine eluate that was concentrated and purified to 57,890ppm. See *announcement of 24 September 2019*. This eluate was then processed using electrolysis which separated the concentrated lithium chlorine eluate to produce lithium hydroxide solution and chlorine.

The lithium hydroxide solution will next be processed into lithium carbonate by Southwest Technologies and lithium hydroxide monohydrate by Veolia Water Technologies Inc. See *announcement of 30 September 2019*.

Once these final products have been produced, they will be offered to potential customers and end-users for qualification test work.

As a result of this integrated production flowsheet, costs are expected to be substantially reduced as the major chemical inputs are provided or replaced by the complimentary extraction plants.

Further, the bromine extraction plant acts as a pre-treatment plant for the lithium extraction plant avoiding the purchase of chemicals for the pre-treatment.

The lithium extraction process generates a lithium chlorine eluate which is then purified and concentrated and then converted using electrolysis into lithium hydroxide solution, hydrochloric acid, hydrogen and chlorine.

Importantly, both the  $\text{Li}_2\text{CO}_3$  and  $\text{LiOH}\cdot\text{H}_2\text{O}$  products as well as the chlorine, hydrogen gas and hydrochloric acid by-products are being produced by equipment that can be upscaled to be included in a commercial production plant, as is also the case with the equipment being tested for the production of bromine products.

The data generated throughout the entire flowsheet designed by Southwest will be fed into the planned preliminary economic assessment (PEA) / pre-feasibility study (PFS) that is scheduled to be conducted in Q1 2020.

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**Forward Looking Statements:** Statements regarding plans with respect to Anson's mineral projects are forward looking statements. There can be no assurance that Anson's plans for development of its projects will proceed as expected and there can be no assurance that Anson will be able to confirm the presence of mineral deposits, that mineralisation may prove to be economic or that a project will be developed.

**Competent Person's Statement:** The information in this Announcement that relates to exploration results and geology is based on information compiled and/or reviewed by Mr Greg Knox, a member in good standing of the Australasian Institute of Mining and Metallurgy. Mr Knox is a geologist who has sufficient experience which is relevant to the style of mineralisation under consideration and to the activity being undertaken to qualify as a "Competent Person", as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and consents to the inclusion in this report of the matters based on information in the form and context in which they appear. Mr Knox has reviewed and validated the metallurgical data and consents to the inclusion in this Announcement of this information in the form and context in which it appears. Mr Knox is a director of Anson and a consultant to Anson.

**Chemical Engineer's Statement:** The information in this Announcement that relates to metallurgical data, chemistry and processing is based on information compiled and/or reviewed by Mr Tom Currin. Mr Currin is a chemical engineer with a BS degree in Chemical Engineering from North Carolina State University. Mr. Currin has sufficient experience which is relevant to brine chemistry and processing and processing. Mr Currin is a consultant to Anson.

**About the Paradox Brine Project**

Anson is targeting mineral rich brines in the deepest part of the Paradox Basin in close proximity to Moab, Utah. The location of Anson's claims within the Paradox Basin is shown below:

