



SOVEREIGN GOLD COMPANY LIMITED

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Latest News

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ASX: SOC

Qualifying Statements

The information in this Report that relates to Exploration Information is based on information compiled by Michael Leu who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists.

Mr Leu is a qualified geologist and is the Chief Geologist of Sovereign Gold Company Limited.

Mr Leu has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which he is undertaking 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 Resources. Mr Leu consents to the inclusion in this announcement of the Exploration Information in the form and context in which it appears.

ASX Release
2 August 2016

Lithium Recovery Technology - Clayton Valley

- Discussions commenced with a supplier of newly developed advanced processing and lithium recovery technology
- Impressively extracts lithium product from Li bearing brines in a matter of hours
- No requirement for large expansive areas of evaporation ponds
- Processed brine suitable to be reinjected into source
- No foreseen non-compliance with US regulatory requirements
- Additional extraction methods remain available and the company continues to assess all options.
- In-country exploration team will be contracted to undertake a drill program to recover lithium-bearing sediments and Lithium brine for test work.
- Drill targets to be identified shortly.

Sovereign Gold Company Limited (ASX: SOC) (**Sovereign** or the **Company**) advises details of discussions with a supplier of newly developed advanced processing and Lithium recovery technology, Tenova Bateman Technologies (**Tenova**).

Sovereign Gold will contract an in-country exploration team to undertake a drilling program to recover Lithium-bearing sediments and Lithium brine for test work by Tenova.

This new processing technology was developed by Tenova as a unique (LiSX™), advanced lithium recovery process that can be applied to all sources of lithium including lithium brine, lithium in clays, recycled batteries etc. which have concentration of lithium as low as 20ppm Li. The technology consists of three distinct processing phases:

- LiP™ - Physical removal of alkali earth elements, using membranes.
- LiSX™ - Recovery of lithium into solution utilizing customised organic solvent extraction processes.
 - The organic solvent is separated from the aqueous brine and stripped of lithium by the addition of acid, producing a lithium salt and a barren solvent, which can be reused.
- LiEL™ - conversion of the Li₂SO₄ solution into LiOH solution, using electrolysis followed by downstream crystallization.

The full proprietary process has been developed to provide a "Total Solution" from feed stock through to final product. The LiSX™ is stated to have recoveries of more than 99% (Tenova, TBT_LiSX Brochure_small.pdf) and can produce different lithium end-products such as carbonate, chloride, and hydroxide. These products are stated by Tenova to be at high purity, battery grade and above.

A supplied (Tenova, 2016) comparison of the proprietary developed technology of Tenova with more traditional evaporation methods of lithium extraction from brines is shown in Figure 1 below.



**Typical Capex & Opex –
20,000tpa Li₂CO₃ Plant**

Feature	LiSX™	Traditional
Total Solution CAPEX	\$140M~\$180M	\$250M~\$350M
Total Solution OPEX	\$1.25-1.75/Kg Li ₂ CO ₃	\$2-3/Kg Li ₂ CO ₃
Processing Time (from wells to end project)	Hours	18 Months
Recovery	Nearly 100%	Between 30% - 60%

Figure 1: Comparison of Tenova LiSX™ to evaporation brine processing

Several assertions of the Tenova Bateman Technologies are highly attractive:

- High recovery rate
- The ability to extract lithium product from Li bearing brines in a matter of hours
- No requirement for large expansive areas of evaporation ponds
- Processed brine is free of solvent, <1ppm Li content, and hence suitable to be reinjected into source
- No foreseen non-compliance with US regulatory requirements
- Lower CAPEX and OPEX indicated than traditional methods

It should be recognised that this process is highly dependent upon the use of electricity and chemical reagents, therefore any increase in the cost of supply of these will impact the overall OPEX and potentially the CAPEX if a power source is required to be built. In addition, the continuity of supply of these items is critical to the process and hence production.

Laboratory scale bench test work will be investigated for the purpose of proof of concept of the Tenova processes and to obtain preliminary results from approximately 50 litres of brine from the Sovereign Gold claims project.

Amir Yanai, General Manager - Lithium, Tenova Bateman Technologies advised Sovereign, "In all cases we have studied, the implementation of LiSX™ will lead to significant savings in CAPEX and OPEX as presented in the attached slide (Figure 1).

"As for your question with regards to approvals from regulatory authorities within the USA, our flow sheet is such that we are recovering the organic components in the raffinate stream prior to reinjection so we do not foresee issues with reinjection".

Managing Director, Mr Rocco Tassone commented, "The Tenova Bateman process is just one of the extraction methods our team will assess, although the elimination of excessive water demand, coupled with monetary, recovery and time advantages of this process is highly encouraging.

"The Clayton Valley region has a history of Lithium production with neighbouring land holder Albemarle Corp (NYSE: ALB) Market Cap US\$8.55bn, the largest Lithium Producer in the USA, producing since 1967. Additional players in the region include, Lithium X (TSX-V: LIX) Market Cap US\$80M and Pure Energy Minerals (TSX-V: PE) Market Cap US\$25M". I look forward to updating the market once the in-country exploration team has been appointed and drill target identified".

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