



## SOVEREIGN GOLD COMPANY LIMITED

Sovereign Gold Company Limited  
ACN 145 184 667

Level 2, 131 Macquarie Street  
Sydney NSW 2000  
Tel: +61 2 9251 7177  
Fax: +61 2 9251 7500

### Contact

Rocco Tassone, Managing Director

e: [corporate@sovereigngold.com.au](mailto:corporate@sovereigngold.com.au)

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### Directors / Officers

Charles Thomas (Chairman)  
Rocco Tassone (MD)  
Patrick Glovac

### 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.

## Clayton Valley Lithium – High Level Review

- Report prepared by Llyle Sawyer Senior Geological Consultant, JORC Code 2012 Competent Person lithium brines
- Excellent potential for hosting Li-bearing sediment for discovery of a surface or near surface solid Li resource and additional potential for the existence of reservoirs of brine within deeper aquifers proximal to basin defining structures
- Southern area of the Pure Energy claims likely to extend into the Sovereign Gold claims having a similar depositional history to lithium-bearing areas of Pure Energy and Silver Peak Operations
- Detailed first stage exploration program finalised
- Discussions underway with supplier of newly developed advanced processing and lithium recovery technology

“High Level Review of Lithium Potential, 111 Claims, Clayton Valley, Nevada” was undertaken by Senior Consultant (Geos Mining Mineral Consultants) Llyle Sawyer, MAIG, M. App. Sc., is VALMIN Code 2015 Specialist and JORC Code 2012 Competent Person (uranium, strategic minerals, lithium brines, potash, kaolin). He has extensive experience in exploration management, resource delineation, mining knowledge and skills in a broad range of commodities. He has undertaken hydrogeological project/studies reviews and environmental baseline studies.

### Findings of the High level Review

Sovereign Gold Company Limited (**Sovereign Gold**) (ASX: SOC) holds lease/option on 111 mineral claims (Figures 1 & 2) covering ground east of the Clayton Valley playa lake system, Nevada (**Sovereign Gold Project**). The lake has historical production of lithium-bearing brines dating from the mid-1960s from Silver Peak operations and is the only lithium (Li) producer in North America.

The Sovereign Gold Project is considered to have excellent potential for hosting Li-bearing sediment for discovery of at surface or near surface solid Li resource. The Sovereign Gold Project is also considered to have moderate potential for the existence of reservoirs of brine within deeper aquifers proximal to basin defining structures that could contain economically viable concentrations of lithium and other alkali metals.

The conceptual resource models for the Sovereign Gold Project have been adapted from the known deposits and reported exploration results. Six different brine-bearing formations or aquifers have been identified by Chemetall (Zampirro 2003). These are specific sedimentary units within the valley-fill sedimentary sequence that are either saturated in lithium-enriched brine or contain salt or clay minerals with anomalously high Li values. Uplifted faulted blocks of these lake sedimentary units occur within Sovereign Gold Project area and adjacent claim areas held by other companies reporting high Li values in sediments.

Sufficient lithium concentration levels of brine would warrant detailed groundwater investigations to be conducted to determine the hydrogeological characteristics of the identified aquifers.

The acquisition of a sufficient volume of lithium bearing brine from the Sovereign Gold claims project could then be used in proof of



concept laboratory testing.

A staged exploration programme has been designed to better define the targets.

### Exploration Program

First Stage Exploration Program includes initial test drill holes (AC/RC) targeted based on mapping and TEM (Geophysical transient electromagnetic survey), drilled to basement.

- Analysis of sediments as well as brines to generate a stratigraphic picture of the lithium contents.
- Brine Sampling – air lift or by submersible pump pumping of encountered aquifer waters/brines downhole as the hole progresses from each hole to collect brine samples for each location.
- A more controlled method of using submersible pumps is with the use of hole packing system to test specific aquifers, particularly for deeper aquifers.
- Collection of ~50L of brine sample for bench scale laboratory testwork.
- Down hole geophysical probe surveys – natural gamma, neutron gamma (density), conductivity.

### Local Geology

Tertiary lacustrine sediments and volcanics of the Esmeralda Formation, plus overlying Quaternary alluvial sediments and volcanics compose the aquifers hosting lithium brines in the Clayton Valley. Within the region of the Sovereign Gold claims on the east side of the Clayton Valley there is a notable occurrence of Tertiary lacustrine and tuffaceous volcanics (Ts3) which have been faulted upwards and now lay at surface. The contained volcanic beds contain notably higher levels of lithium than other similar units on adjoining properties. Such volcanic beds are believed to have weathered and been leached to provide lithium bearing groundwater.

The lithium bearing brines moved down sequence/aquifers to localised low points in the aquifer system. Such low points are proposed to be down faulted blocks of gently dipping lacustrine sediments abutting along steeply west dipping, striking 020°, valley bounding normal faults.

Satellite imagery shows several distinct areas of high light reflectance running approximately parallel to the faults through the Sovereign Gold Project area. These may correlate with Li bearing units which have been sampled on adjoining properties. These units and other units composing the Ts3 – Tertiary sedimentary sequence may be able to be discriminated from high resolution Landsat satellite imagery by principle component analysis or from other satellite based land mapping systems such as Aster and subsequent processing.

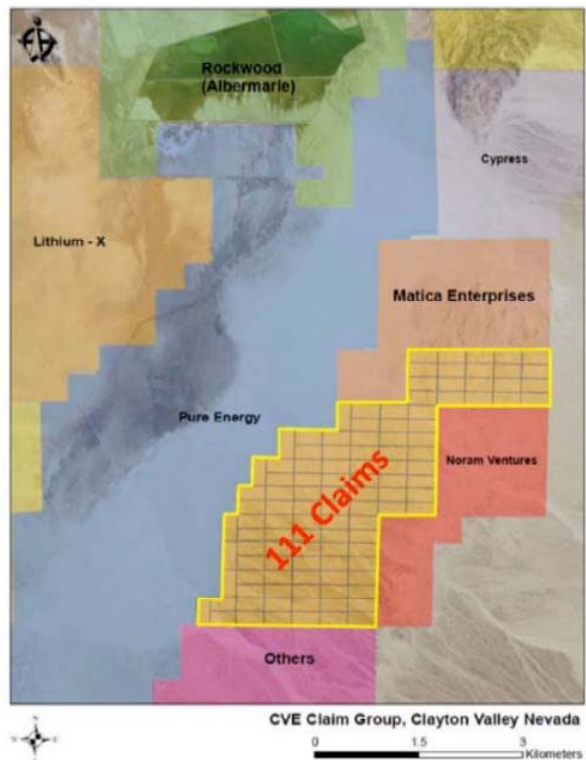


Figure 1: Sovereign Gold 111 mineral claims



Figure 2: View looking east across Clayton Valley towards Sovereign Gold claims on eastern margin of playa, centre image.



### Neighbouring Tenements

#### Pure Energy Minerals

Pure Energy is the only other company outside of the lithium producing Silver Peak Operations to have announced a resource in the Clayton Valley. A 816,000 metric tonnes Lithium Carbonate Equivalent (LCE) Inferred Resource was reported in the NI 43-101 report by Pure Energy entitled "Inferred Resource Estimate for Lithium, Clayton Valley South Project", July 17, 2015. This report was based on their successful phase 1 drill programme, consisting of 2 deep wells CV-1 and CV-2 (Figure 4) and drawdown pump testing from CV-1. The report was supported by gravity interpretation and seismic surveys along traverse across but mostly along the basin axis.

In the initial drilling Pure Energy encountered lithium-bearing brines from approximately 137m depth below surface, down to approximately 488m depth below surface. The lithium bearing brines are hosted within loose sediments (gravels, sands, silts etc.) that infill the extensive and deep basin beneath Pure Energy's claim area.

Drill cuttings and core returns from CV-4, CV-5 and CV-6 show geological lithologies that are consistent with the brine-bearing northern aquifers. These formations include intervals of volcanic ash, tuff, and laminated reduced silts and clays. It is therefore likely that the southern area of the Pure Energy claims and extending across into the Sovereign Gold claims project has a similar depositional history to lithium-bearing areas of Pure Energy and Silver Peak Operations (Figure 3).

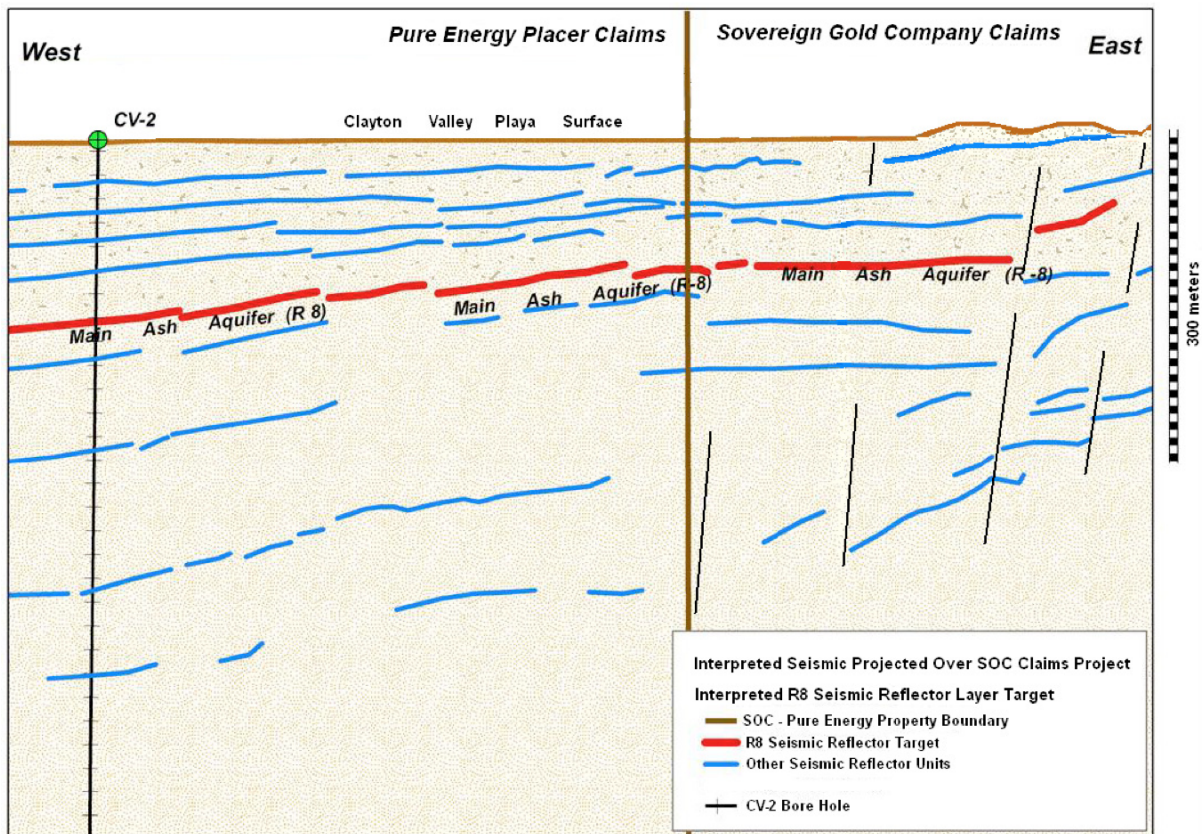


Figure 3: Seismic interpretation projected to western portion of Sovereign Gold Claims project (after Cypress Dev. Corp., 2016)



### Matica Enterprise

Matica have undertaken several phases of surface sampling and mapping of Li-bearing strata in their McGee claims, immediately north of the Sovereign Gold claims project (Figure 4). The surface samples of green clay rich, salty evaporite units have returned Li analyses of between 180 to 1070 ppm Li with an average of 755 ppm Li.

Matica state that their “McGee claims are underlain by interbedded clay rich evaporite units with interbedded ash tuffs. These units are exposed at surface in the eastern portion of the claims and are concealed by thin gravel cover units in the western portion adjacent to the current Pure Energy drill area.” [http://www.maticaenterprises.com/mining\\_projects](http://www.maticaenterprises.com/mining_projects)

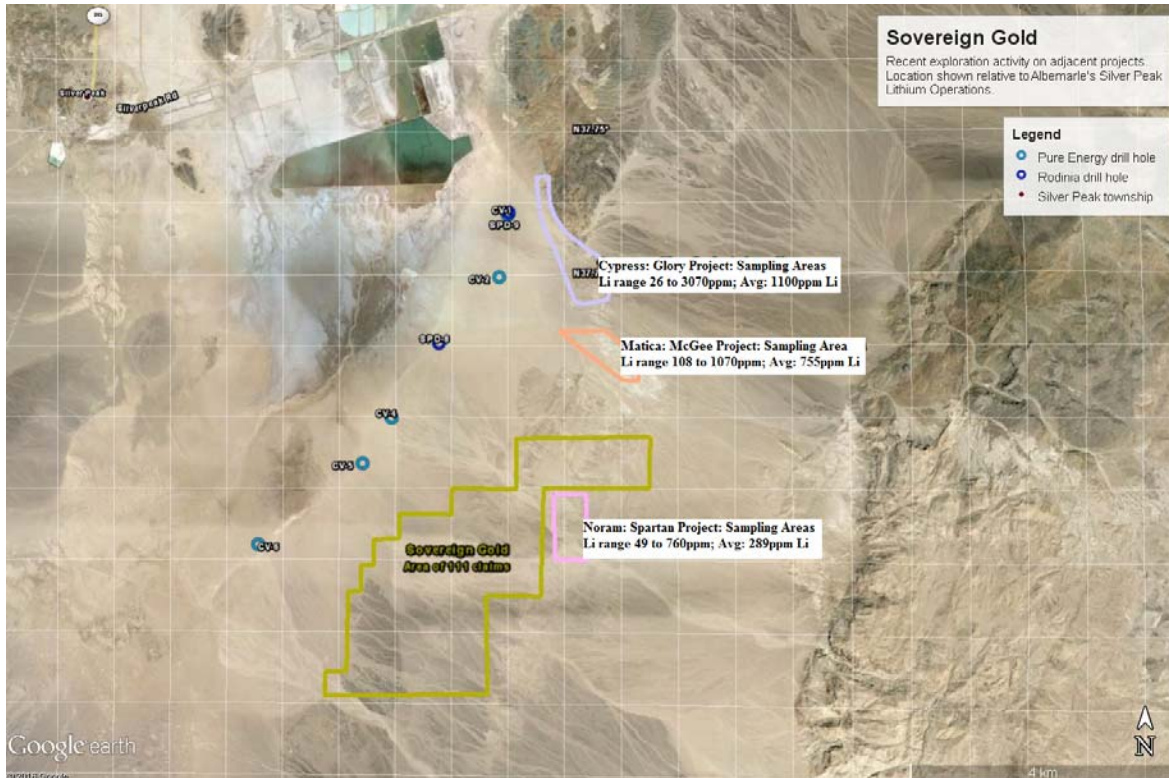


Figure 4: Recent exploration activity on claims adjacent to SOC project, satellite image background.

Matica report that the seven samples collected were from weather surface outcrops and since lithium is easily leached from surface exposures they are expecting to locate higher content of lithium in evaporates that are not weathered or at depth. At levels below the water table, Matica anticipate that lithium bearing brines may be found.

### Noram Ventures Inc.

Noram completed an initial sampling program which consisted of collecting 16 surface material grab samples. These samples were taken from claystone outcrops within the Zeus and Spartan claims, immediately east of Sovereign Gold claims project, within the pink outlined area in Figure 4. Assay results ranged from 49 to 760 ppm Li with an average value of 289 ppm Li. All assays were conducted using MS-ICP analysis by ALS in Reno, Nevada.

Noram propose that their claims are “extremely favourable both for the lithium brine potential and for the potential of the Tertiary Esmeralda Formation.”



### Materials Processing

Discussions commenced with a supplier of newly developed advanced processing and lithium recovery technology to extract lithium product from Li bearing brines.



Figure 5: Clayton Valley Location, Nevada

**For further information please contact:**

Rocco Tassone,  
Managing Director  
Sovereign Gold Company Limited  
Telephone: +61 2 9251 7177