



## 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)

### Latest News

[www.sovereigngold.com.au](http://www.sovereigngold.com.au)

### 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.

ASX Release  
5 August 2016

## Geophysics to Target Potential Additional High Grade Gold Reefs

### HIGHLIGHTS

- Valuable geophysical and geochemical database previously unprocessed with advanced modern software technology
- Extensive 3,900 line kilometers of high resolution airborne magnetic and radiometric survey to be processed
- Leading Scientists to Head Research Team in continuation of Sovereign's Pioneering IRGS Research & Development program
- New and modified techniques to generate significant advances in knowledge on the understanding, recognition and definition of the Mt Adrah IRGS
- 3D mapping structures and fluid pathways to identify potential repetitions of Hobbs Pipe look-a-like targets combined with walk-up drill targets to test for shallow potential high grade reef structures
- Drill targets to be identified and released shortly

Sovereign Gold Company Limited (ASX: SOC) (**Sovereign Gold** or the **Company**) is delighted to announce that the significant database collected at Mt Adrah by Sovereign Gold and past explorers will be assessed using recent and advanced modern software technology. The Company is confident that interpretation of this data will lead to potentially another Hobbs Pipe style mineralisation and assist in targeting additional shallow high grade reef structures.

As part of its core R&D activity into Intrusion-Related Gold Systems (IRGS), Sovereign Gold has assembled a research team comprising some of Australia's leading geoscientists. Data collected by previous explorers will be interrogated through the development of new and modified processing techniques to define the scale and 3D structure of the Mt Adrah IRGS.

Managing Director Rocco Tassone commented, "We are in possession of geophysical data worth more than \$200,000. This data will be interpreted using the latest technology to assist us in finding additional Hobb's Pipe style mineralisations and identify our next high grade walk up targets.

"Interpretation of this data will enable Sovereign Gold to continue its significant R&D work on IRGS systems. The R&D work conducted by Sovereign Gold has previously been recognised through R&D tax offsets. Government R&D incentives are applied to further our knowledge of IRGS."

Figure 1 was created using independently acquired close-spaced exploration helicopter magnetic data and Figure 2 was generated from Government airborne magnetic data<sup>1</sup>. Both datasets clearly



show a significant portion of the Gilmore Suture trending north-west through Sovereign Gold's tenements. Numerous gold occurrences have been discovered.

The Heliborne Geophysical Survey combined with new and modified techniques will open new opportunities to define the IRGS System in 3D and target for repetitions of potential Hobbs Pipe style targets and potential high grade reefs.

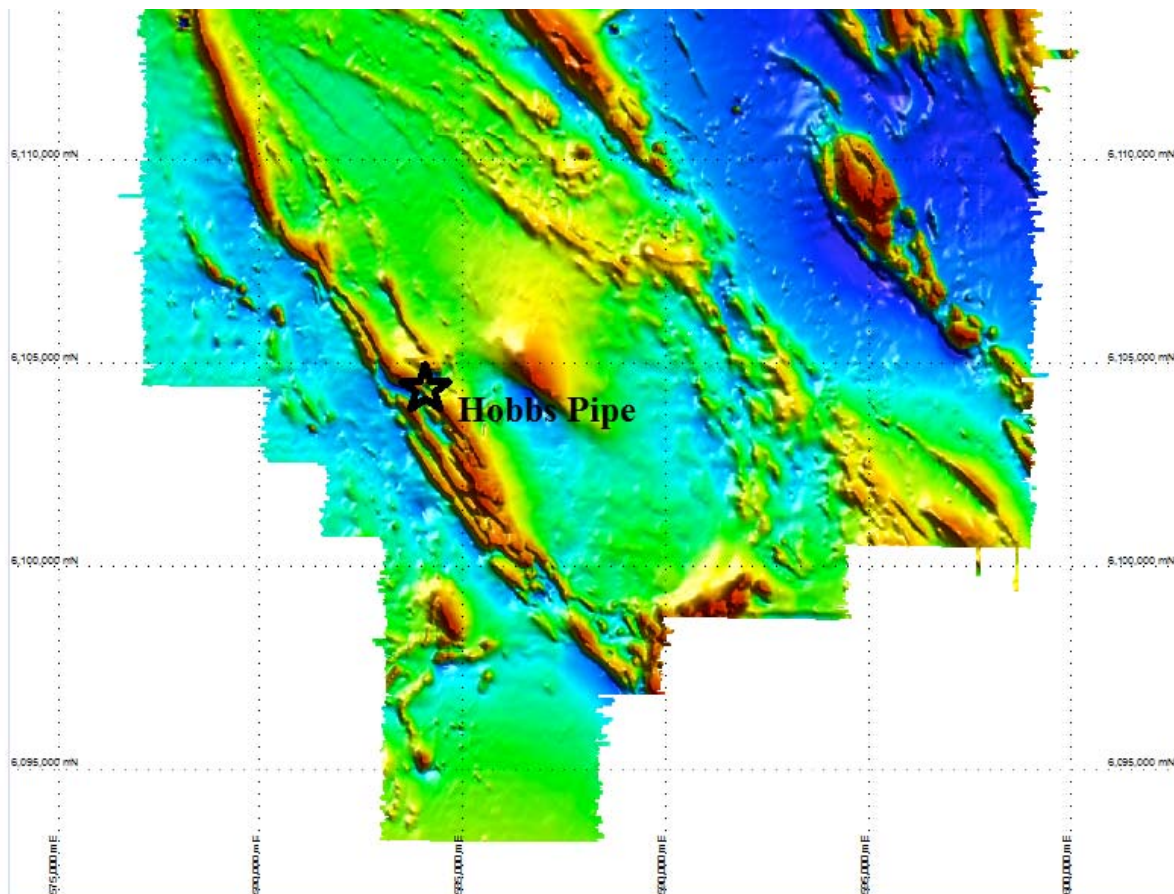


Figure 1: Airborne magnetic image of area covered (3,900 line kilometres) by high resolution heliborne magnetic and radiometric survey. Figure generated from 1997 exploration airborne data by Peter Gidley (Consultant Geophysicist, Principal Geophysicist, Eureka Consulting).

The interpretation of geophysical data will be undertaken by Peter Gidley (Consultant Geophysicist, MAUSIMM, Principal Geophysicist, Eureka Consulting) who will be reprocessing with advanced modern software tools 3,900 line kilometres of a High Resolution Airborne (helicopter) magnetic and radiometric survey that was flown in 1997 by Michelago Resources over a NW-SE corridor of Mount Adrah. Peter Gidley informed Sovereign Gold that the 1997 survey used a helicopter with proton magnetometer and 16 cubic inches of radiometric crystal.

Peter Gidley estimated today's equivalent cost for the airborne platform, acquisition costs including safety audit, data processing and delivery would range between \$50-\$70 per kilometre depending on the contractor and helicopter used. This places a value of \$195,000 - \$273,000 on the geophysical data that has not yet been interpreted with state-of-the-art new technology.

Peter will be pioneering the development of some modified and new processing methods, using various modified computational procedures that will be effective in defining a suite of identifiable geophysical characteristics of the IRGS system. These tailored processing stages have been assembled to be undertaken in a specific order that creates a wide range of gridded products, tailored with specific but variably targeted magnetic anomaly wavelengths. The highly specialised user-developed and proprietary filters and processing techniques will be designed to uniquely suit a specific dataset to generate new knowledge on IRGS, including defining structures, alteration mineral species, scale, fluid pathways and magma fractionation suites.



The Hobbs Pipe occurs along a major dilational zone within the Gilmore Suture. The Bangadang gold workings are linked with a major jog (dislocation) associated with a cross-cutting potential large scale orthogonal fault. The high resolution data available to Sovereign in conjunction with the development of new and modified filters will potentially reveal significant structural links in the IRGS. The Bangadang field includes the Southern Cross Reef Mine where channel sampling of underground workings by Sovereign returned 3m @7.22g/t Au (SOC ASX Release 22 July 2014).

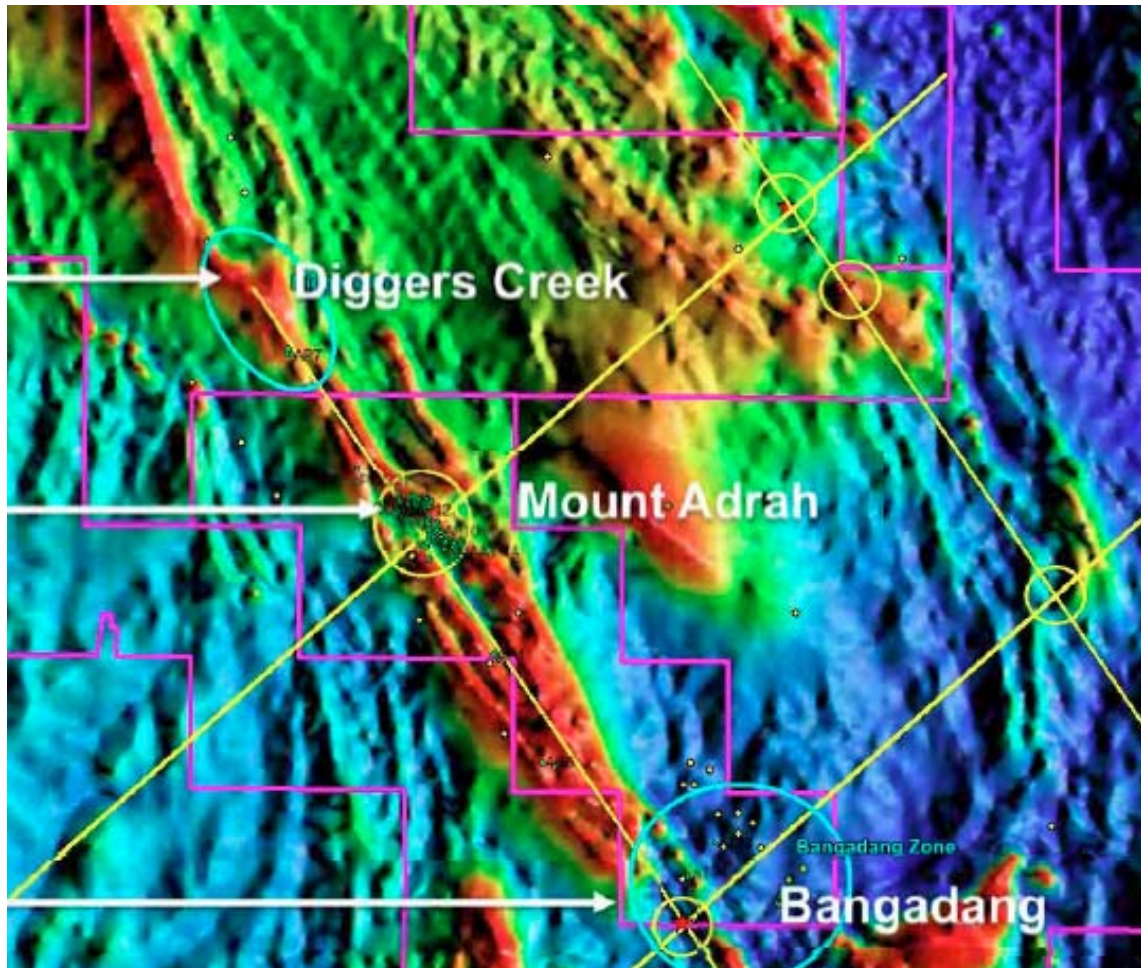


Figure 2: R&D will focus on gold endowed Gilmore Suture. Plotted on the airborne magnetic image and clearly located on the Gilmore Suture (north-west trending structure) are Mount Adrah/Hobbs Pipe and the historic gold workings of Diggers Creek and Bangadang. Yellow dots are historic gold occurrences. Yellow straight lines are interpreted structures. (image generated from Government airborne magnetics, reduction to pole; distance Mt Adrah to Bangadang, 7km south-east along Gilmore Suture). (Hobbs Pipe ADG94, Zone 55H, 6104584mN, 583474mE, centre yellow circle besides Mt Adrah).

Regional airborne geophysics coverage from Government data<sup>1</sup> for the Wagga Wagga 1:250,000 sheet is available with both aeromagnetics and radiometrics acquired along east-west traverses at 250m separations. This data has been used for some structural and intrusive identification work and this forms a good basis for a regional overview (Figure 2).

The high resolution heliborne data was acquired using 50m infill line separations over a NW-SE corridor of Mount Adrah. Further, around the deposit, line separation was at 100m. This data will allow far greater detailed interpretation of the IRGS System around the Mt Adrah to Bangadang areas. The Mt Adrah area has clear potential to host several deep tapping pipe-like intrusives like the Hobbs Gold Deposit.

<sup>1</sup><http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/geoscience-information/products-and-data/geophysical-images-and-data/regional-geophysics/wagga-wagga-geophysical-survey>



Sovereign Gold is also in possession of an extensive geochemical (soil samples) database that extends from the north-west to south-east through the Hobbs Pipe/Castor Reef area to Bangadang.

Dr Helen Degeling is a specialist geochemist with a PhD in trace element geochemistry. She is able to seamlessly blend disparate and disjointed data sets from multiple sources into a coherent and usable database. She will identify relevant indicator elements that define the intrusion-related gold system's structure and alteration to construct 2D and 3D conceptual models of the geology, geochemistry, structures and mineralisation, including geochemistry and mineralisation zoning.

Key outcomes of the R&D will be to define new knowledge on the understanding, recognition and definition of diagnostic characteristics of the Mt Adrah IRGS. We are also confident that mapping the structures, fluid pathways and generating 3D models will identify potential repetitions of Hobbs Pipe look-a-like targets and walk-up drill targets to test for shallow potential high grade reef structures.

Sovereign Gold's tenements cover a significant gold endowed portion of the Gilmore Suture, a structural lineament associated with some of the major mines and mineral deposits of the Lachlan Fold Belt in NSW.



For further information please contact:

Rocco Tassone,  
Managing Director  
Sovereign Gold Company Limited

Telephone: +61 2 9251 7177