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# High-Grade Lead-Silver-Copper-Gold Kooline Exploration Update

## Highlights:

- **Intra-cratonic magmatic copper-gold (IMCG) mineral system**
- **Extensive untested areas of structural complexity, and thin cover that could host Lead–Silver-Copper-Gold mineralisation**
- **Gold and Copper potential largely untested**

**Surefire Resources NL** (ASX: “**SRN**” or “**the Company**”) is pleased to provide an exploration update on the 48 km of contiguously striking licences that link numerous clusters of high-grade historic artisanal Lead-Silver-Copper workings at the Company’s Kooline project in the Ashburton Province, Western Australia (Figure 1). Exploration activity on the project has consisted of two complimentary reviews to determine the styles of mineralisation and generate targets for future work.

## Background

The Kooline Project is centred 55 kilometres south of the Paulsen’s goldmine and 190 kilometres WNW of Paraburdoo within the Ashburton province of Western Australia. The project area tenements consists of granted Exploration Licence, E08/2373 and ELA 08/2956 (Figure 1)

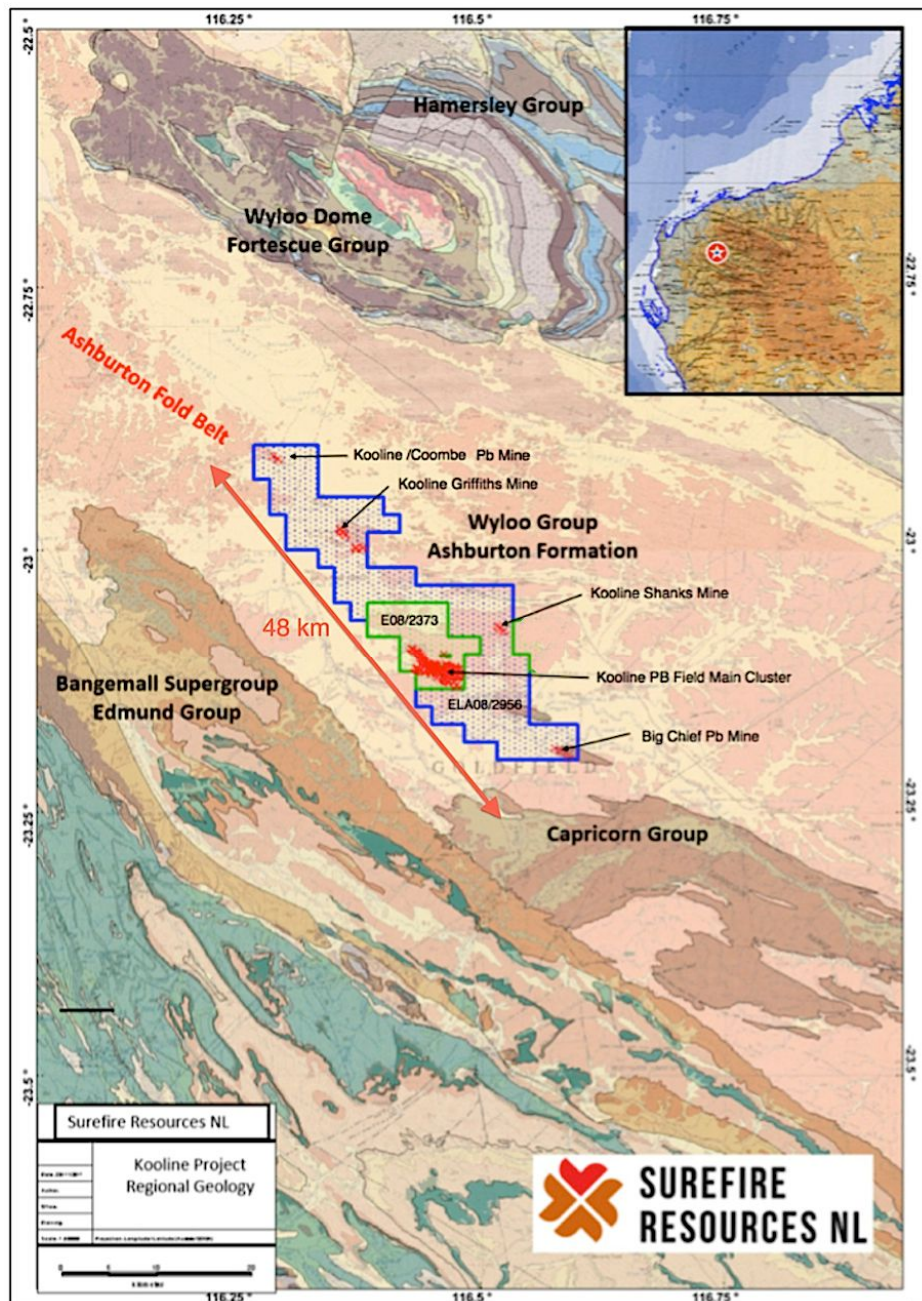


Figure 1: Project tenements and location.

Field reconnaissance and mapping (Figure 2 & Figure 3) of the historic Kooline workings by consultants Unearthed Elements (M. Dormer), confirmed, identified and updated information on the historic high-grade Lead-Silver-Copper workings and provided the following significant observations:

- Evidence for pinch and swell and é-n-echelon vein systems indicate the potential for the historic high-grade Lead-Silver-Copper veins to thicken or be repeated along-strike and at depth,
- Broad areas of outcrop contain mineralised thin net-veins that were not historically mined. These areas indicate a broader mineralised system could be present and host a greater volume of Lead-Silver-Copper to complement the historic artisanal mined high-grade veins,

- Structures and stratigraphy that host mineralised high-grade Lead-Silver-Copper and Gold veins trend under thin cover, but have never been tested,
- Shallow historic workings are typically less than 10 metres deep, with only the main working at the Gift mine reaching a depth of 52 metres.
- Field evidence and structural mapping suggests that the few RC drill holes that are recorded in the area, have been largely ineffective at testing either the high-grade Lead-Silver-Copper veins or the broader net-veined Lead-Silver-Copper areas
- Rock chips containing very high-grade galena, cerussite and silver were collected with results<sup>1</sup> previously reported of up to 79% Pb and 232g/t Ag indicating plenty of untested potential.

All the observations above suggest the area has not been effectively explored, spatially or at depth. In addition, the historic focus has been on the high-grade Lead-Silver-Copper veins associated with the artisanal workings. There has been no coherent exploration to define the potential for large volume Lead-Silver-Copper deposits. Copper appears to have been treated as a by-product and Gold despite an historic intercept<sup>2</sup> of 1m @ 3.87g/t (AK09RC04 at 25m) at the Bilrose working and minor artisanal gold workings in the area, has not been the focus of a coherent exploration programme.

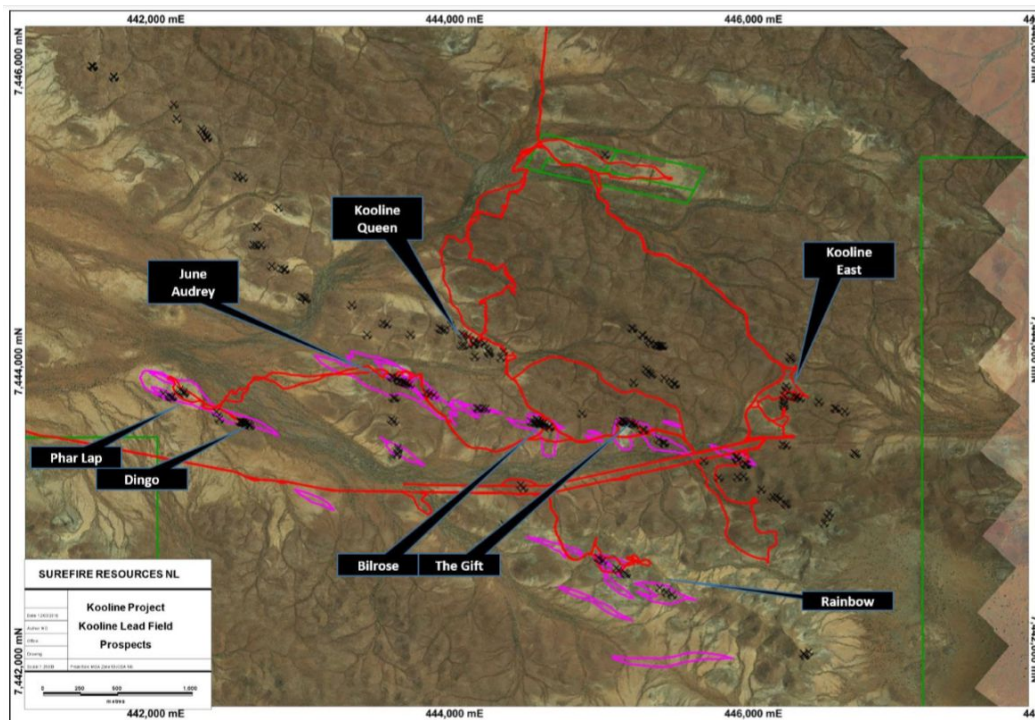


Figure 2: Prospects within the Kooline Lead Field investigated by consultants Unearthed Elements.

<sup>1</sup> ASX announcement by Surefire Resources NL, 22 May 2018

<sup>2</sup> ASX announcement by Black Ridge Mining NL, 2 November 2016



Figure 3: Field observations, top left, historic shallow open cut excavation at the Rainbow prospect; bottom left, overview of the June Audrey Prospect with Galena samples; right, Bilrose costean.

The second major activity was a comprehensive review of the regional geochemistry and target potential by CSA Global Pty Ltd (CSA). This work has indicated that the historic Kooline Pb-Ag-Cu workings are indicative of an IMCG mineralisation system. The IMCG deposit class is derived from magmatic fluids and is a broad group of deposits that include, Iron oxide copper gold (IOCG) and the Abra Pb-(Cu-Au) deposit.

The Kooline project is interpreted to lie immediately south of a major regional structure (the Baring Downs Suture) that channelled mineralised fluid into the project area (Figure 4). Compilation of all available historic geochemical data from surface sampling and drilling, clearly shows that less than half the project area has been tested and less than a quarter of the area has been tested effectively for all relevant minerals. Where the area has been tested, anomalous results are common.

From the evaluation of the available geochemical data, a handful of elements feature prominently in the element associations that are interpreted as mineralisation in surface and drill samples: Pb, Sb, As, Au, Cu, Ag, W and Bi. The first five of these elements have been analysed for most samples.

For the Kooline Project, CSA proposed the following metric:  $INDEX\_5 = \text{Log Pb} + \text{Log Au} + \text{Log Cu} + \text{Log As} + \text{Log Sb}$ , which they consider to be a very good way to highlight mineralisation. As shown in Figure 4 two clear trends are observed.

- Area 1, hosts highly anomalous results even with the broad spaced data and the area is also in close proximity to the potentially major mineralised fluid pathway in the Baring Downs Suture.
- Area 2 hosts the historic Kooline Pb-Ag-Cu workings plus additional anomalies, including gold either along strike or sub-parallel to the main mineralised trends
- Areas within the tenement package but outside of these two main trends simply cannot be evaluated from a geochemical perspective as there is no data, however the same lithological units and structures are inferred to continue.

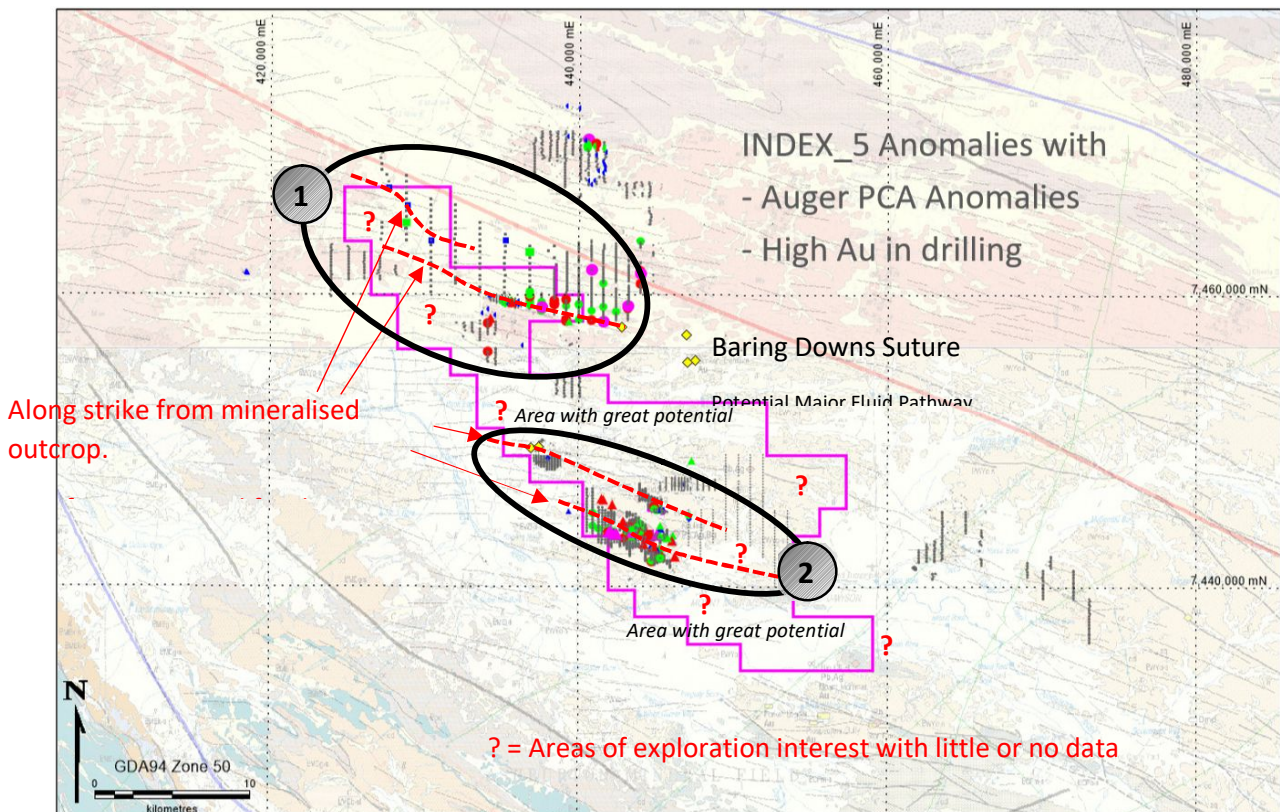


Figure 4: Anomalous INDEX 5 scores for combined surface and drill sample dataset combined with anomalous Fortescue Metals Auger samples and high-Au in Au-only drilling (background image from CSA 2018). Targets generated for this release.

Surefire’s Chairman, Mr Vladimir (Roger) Nikolaenko, comments

*“The recent exploration and project reviews by Unearthed Elements and CSA Global have both highlighted encouraging mineralisation potential.*

*The mineral system that could be present across the Kooline tenements presents numerous opportunities for further exploration. Lead-silver have been the historic minerals mined in this area, and the short- to mid-term market conditions for lead make this historically mined commodity an interesting proposition to pursue.*

*In addition, the exploration upside to potentially define other base-metals and gold in this area is extremely encouraging.”*

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Programmes will be planned to test the historic shallow Lead-Silver-Copper workings at depth and in areas of structural complexity where the mineralisation has the potential to increase in thickness. In addition, geochemical programmes will be planned to evaluate the potential along strike and under cover from known mineralisation where no work has previously been undertaken. Areas with gold potential will also be pursued.

**For further information contact:**

Vladimir (Roger) Nikolaenko

**Chairman**

**Competent Persons Statement**

*The Information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on and fairly represents information and supporting documentation compiled and reviewed by Dr Batty who is a Competent Person and member of the Australasian Institute of Geoscientists (AIG). Dr Batty is a consultant geologist.*

*Dr Batty has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities 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'. Dr Batty consents to the inclusion of such information in this report and context in which it appears.*

**Disclaimer - Forward-Looking Statements**

*This announcement contains forward-looking statements which involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.*