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ASX Announcement ASX Codes: SRN and SRNOC

## **KOOLINE PROJECT (100%)**

## MAJOR COPPER-GOLD POTENTIAL IDENTIFIED

# \$150,000 Co-funding for Drilling from WA Government

Surefire Resources NL (ASX: SRN, "Surefire", "the Company" or "SRN") is pleased to announce that re-processing and interpretation of geophysical data has identified potential for a large intrusive related silver-lead to copper-gold system immediately along strike from the very-high grade Kooline silver-lead-copper Project.

• Previous channel sampling of the Kooline lead-silver workings produced very high-grade silver-lead grades with increasing copper grades to the west (SRN ASX release 22/05/2018):

	Ag	Pb	Cu	
KRK002	<b>36</b> g/t	30.9 %	1.23 %	Rainbow
KRK005	<b>249</b> g/t	<b>55.3</b> %		Bilrose
KRK006	<b>170</b> g/t	48.1 %	0.93 %	June Audrey
KRK008	<b>232</b> g/t	<b>79.3</b> %	0.13 %	June Audrey
KRK009	<b>78</b> g/t	<b>12.0</b> %	2.62 %	Phar Lap – western side of field

- Immediately west of the Kooline workings Surefire has identified VTEM conductors under cover, next to an intrusive heat-source, where a major copper-gold system is targeted
- The Company has been granted \$150,000 of drilling co-funding by the WA Government to drill-test this key copper-gold target below/along strike from the Kooline lodes
- Also identified: high-grade gold targets with previous rockchips up to 38 g/t gold projecting into area of cover where magnetics indicates extensions of structural corridor

The Kooline Project tenements cover an almost 50km strike length of mineralised Ashburton Formation and are located 55 kilometres south of the 1 Moz Paulsen's gold mine and 190 kilometres WNW of Paraburdoo within the Ashburton province of Western Australia (see Figure 3).

The tenements include the previously mined high-grade lead (Pb) – silver (Ag) +/- Copper (Cu) lodes of the Kooline Mineral Field (see Figure 1) where previous rockchip sampling of the exposed lode structures produced lead-silver grades of up to **55.3% Pb** and **249 g/t Ag** from the Bilrose workings and copper grades of up to **2.62% Cu** (12% Pb) from the Phar Lap workings at the western end of the Mineral Field (SRN:ASX release 22/05/2018).

Data from a previous Versatile Time Domain Electromagnetics or "VTEM" survey has been reprocessed and interpreted, highlighting a large intrusive body and a series of VTEM conductors along strike to the west of the Kooline Mineral Field (Figure 1). The VTEM conductors are located on the south-eastern side of the interpreted intrusive body, possibly representing a heat and potential mineralised magmatic fluid source for an intrusive related "intracratonic magmatic copper-gold" or IMCG system (SRN:ASX release 14/12/2018).

The high-grade Pb-Ag lodes at Kooline are interpreted to represent the distal (cooler) zone of this IMCG mineralised system, that shows increasing copper (Cu) content in workings on the western side of the Mineral Field, projecting into an area of cover closer to the intrusive. The VTEM conductors between the intrusive and the Kooline workings may indicate Cu-Au mineralisation close to the intrusive, representing a key target for the discovery of a major copper-gold system (Figures 1 and 2).

The key target area on Figures 1 and 2 includes VTEM conductors within a 2km x 2km area, that correspond with an area of deep erosion / transported cover immediately along strike from the Ag-Pb workings. This area is essentially un-tested and a series of deep pre-collared diamond drillholes have been planned and approved by the WA Government for Exploration Incentive Scheme (EIS) co-funding of up to \$150,000 direct drilling costs. The drilling will target both high-grade extensions of the Ag-Pb lode structures as well as Cu-Au mineralisation closer to the interpreted intrusive (Figure 2).

In addition to the major VTEM targets, interpretation of detailed aeromagnetics has identified extensions to major crustal scale fault structures – including the Baring Downs Fault (see Figure 3), that continue into the northern end of the Kooline tenements.

Interpreted splays from this major structural corridor are associated with a key gold corridor, where previous rockchip results from sub-cropping quartz veins of up to 38 g/t Au have been located. These veins project into an area of untested cover, representing a key target corridor for high-grade orogenic gold of the Paulsens style (see Figure 1).

#### Surefire Resources Managing Director, Vladimir Nikolaenko, commented:

"Through re-processing and interpretation of geophysical data the Company has identified potential for a major silver-lead and copper-gold system at Kooline.

"A series of deep drillholes have been planned to test this exciting new target area, to be co-funded by the WA Government through the EIS program."

"We have also identified potential for high-grade gold similar to the one-million-ounce Paulsens deposit, and we will look to advance these targets in parallel with testing the major base and precious potential identified."

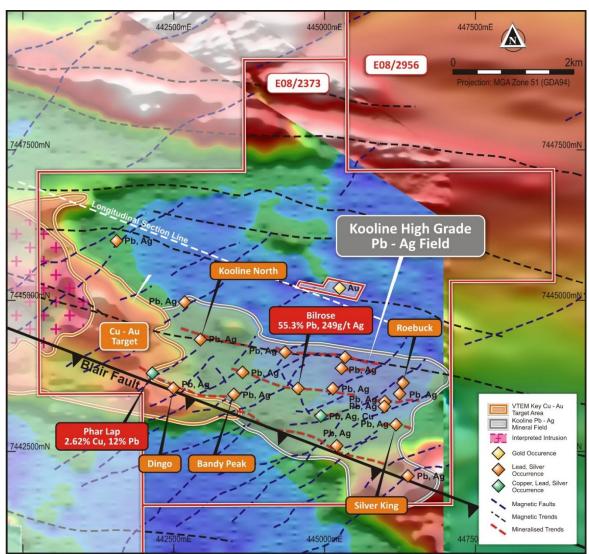


Figure 1: VTEM depth slice at Kooline Silver-Lead Field showing mineralised trends and key target area

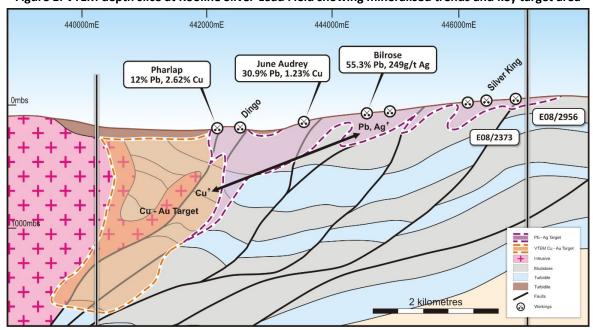


Figure 2: Schematic Longitudinal Section through VTEM targets, Pb-Ag workings

## Kooline Silver – Lead (Copper-Gold) Project

## Regional structural setting and prospectivity

The Kooline Project comprises two granted Exploration Licences, E08/2373 and EL 08/2956 (Figure 3), over a total area of 328 km<sup>2</sup> in the Ashburton region of Western Australia.

The Project area is under-explored and covers an almost 50km strike corridor linking the historical, high-grade, lead-silver workings of the Kooline mining centre (over 30 mines), as well as other lead-silver, copper-gold and gold only workings and historical mines (see Figure 3 below).

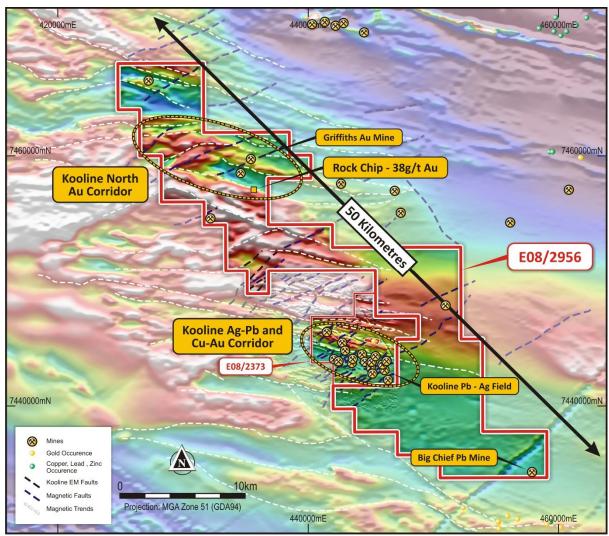


Figure 3: Regional 1st Vertical Derivative (1VD) magnetics with interpreted structures and prospect locations

The host geology of the Kooline Project is the Ashburton Basin and, more specifically the upper and lower Wyloo Group, a deep-marine sedimentary sequence comprising mudstone, siltstone and turbiditic sandstones and conglomerates, initially deposited in an intracratonic rift that evolved to a foreland basin with deposition of the Upper-Wyloo continuing during the early stages of the Capricorn Orogen at around 1,800Ma (Johnson et al 2013).

The Capricorn Orogeny continued to deform the Wyloo Group in a compressional – transpressional environment, resulting in upright folding / doming (D1/D2), reactivation of deep crustal structures and intrusive / hydrothermal activity corresponding with the intrusions of the Moorari supersuite and other poorly identified intrusions in the Ashburton Basin, as well as hydrothermal activity and deposition of mineralisation during the latter stages of the Capricorn Orogeny.

The critical aspects of the Capricorn orogeny that impact on the prospectivity of the Kooline Project tenements include:

- 1. The presence of the deep crustal fault structures, including the northeast dipping Baring Downs Fault (Figures 1 and 3) that has been identified in Seismic profiles to have accessed the deep crust at the margins of the Ashburton Formation and across the leading edge of the Pilbara Craton to the north. A second crustal scale structure identified was the Blair Fault, a southwest dipping crustal scale feature that forms the margin of a northwest-southeast trending regional dome evident in gravity imagery. The Kooline tenements centred on this regional dome between these two crustal scale structures representing a highly prospective structural high likely to have focused metals bearing hydrothermal and magmatic fluids from the deep crust/upper mantle during the latter stages of the Capricorn Orogen.
- 2. **Presence of high-level intrusives** a previous report by CSA Global Pty Ltd (CSA) in 2018 indicates that the Pb-Ag lodes at Kooline are the distal zone of a magmatic mineralising system broadly categorised as an "intracratonic magmatic copper-gold" or IMCG system. CSA identified regional scale gravity highs interpreted to represent deep seated intrusives, one of which is located on the western side of the Kooline tenements (see Figure 1). This broadly interpreted intrusive corridor sits to the northwest along strike of the Kooline Pb-Ag workings and may represent an important heat source driving the circulation of hydrothermal fluids that are likely to have deposited base and precious metals in structurally controlled zones around the intrusive bodies. Zonation around these intrusives is expected to be characterised by copper-gold in a proximal (hotter) position, closer to the intrusion and silver-lead in a distal (cooler) position, further away from the intrusion as observed at the Kooline mining centre.

### Processing and Interpretation of VTEM data indicates key prospective conductors

Southern Geoscience Consultants (SGC) completed new processing of the previously acquired VTEM data, regional aeromagnetic surveys and four gradient array dipole-dipole IP surveys in the Kooline workings area.

The VTEM survey was flown in December 2006 by Geotech Airborne Ltd on behalf of Athena Resources, on north-south oriented, 250m spaced lines and over an area of 117 km<sup>2</sup>. A number of images have been produced by SGC reflecting 'early time' (shallow) conductivity and 'late time' channels providing information about stronger and/or deeper conductors.

The VTEM survey area corresponds with the entire E59/2390 as well as an area extending northwest of the tenements and into E59/2956 (see Figure 1). Modelled VTEM conductors are interpreted to define the margins of two intrusive bodies – corresponding with the eastern side of the broad gravity high identified by CSA. The conductors on the south-eastern side of this interpreted intrusive corridor broadly correlates with projected extensions of the high-grade Ag-Pb lodes and associated workings of the Kooline mining centre, and intensify to the northwest, closer to the interpreted intrusive body (see Figure 3). Increasing copper (Cu) content in workings closer to the intrusive indicates that the conductors may be associated with increasing Cu-Au sulphides closer to the interpreted intrusive heat source (Figures 1 and 2).

The key target area indicated on Figures 1 and on the schematic longitudinal section, Figure 2, includes five conductors within a 2km x 2km area, that correspond with an area of deep erosion / transported cover immediately along strike from the Kooline high-grade Ag-Pb workings.

The VTEM targets are essentially un-tested and a series of deep pre-collared diamond drillholes have been planned and approved by the WA Government for Exploration Incentive Scheme (EIS) co-funding of up to \$150,000 direct drilling costs. The drilling will target both high-grade extensions of the Ag-Pb lode structures as well as Cu-Au mineralisation closer to the interpreted intrusive (Figure 2).

#### New high-grade gold targets identified in aeromagnetic imagery

Re-processing and interpretation of aeromagnetic imagery has been completed over the entire Kooline project area (see Figure 3).

Broadly, the Kooline tenements and numerous workings occur within a regional dome between the deep crustal scale Baring Downs Fault and the Blair Fault – that have been interpreted to continue into the Kooline tenements.

Key structural orientations include west-north-west trending subsidiary structures and a series of northeast-southwest trending cross faults that have offset the WNW trending structures.

The Kooline Ag-Pb field corresponds with a magnetic low bounded by WNW trending structures, broadly parallel with the structural "grain", and numerous cross cutting SW – NE trending structures. This corridor of Pb-Ag workings projects to the northwest into the key target area of VTEM conductors on the margins of the interpreted intrusive body – which is generally more magnetic.

A second key corridor at Kooline North broadly corresponds with a bend in the projection of the crustal-scale Baring Downs Fault from WNW to east-west, with a number of splays interpreted. Gold workings, including the historical True Grit and Sunken Treasure mines, occur along this trend to the east of the tenement area, and continue into the Kooline Project tenements (e.g. Griffiths Mine - see Figure 3).

Within the southern part of this corridor a series of sub-cropping, east-west trending, quartz – carbonate veins were mapped and sampled by Golden Deeps Ltd in the mid 1980's over an area of 300 x 400m (E 08/159, WAMEX Report A23240). One gossanous quartz vein produced a rockchip fire assay result of 38 g/t Au (repeat 31 g/t Au) with 450 ppm As. This quartz vein has a strike length of approximately 250m, trends WNW and projects into an area of deep erosion / transported cover that remains largely untested.

Kooline North represents a key target area for high-grade orogenic gold deposits associated with deep, crustal scale structures, similar to the 1 Moz Paulsens Deposit located immediately to the north of the Kooline tenements (see Figure 3). Evidence of high-grade veining projecting into covered, untested, areas will be targeted by aircore drilling currently being planned.

Authorised for ASX release by:

Vladimir Nikolaenko Managing Director

### **Competent Person Statement:**

The information in this report that relates to exploration results has been reviewed, compiled and fairly represented by Mr Jonathon Dugdale, a Fellow of the Australian Institute of Mining and Metallurgy ('FAusIMM') and a full time employee of Discover Resource Services Pty Ltd. Mr Dugdale has sufficient experience, including over 34 years' experience in exploration, resource evaluation, mine geology and finance, relevant to the style of mineralisation and type of deposits under consideration to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee ('JORC') Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves. Mr Dugdale consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

### Forward Looking Statements:

This announcement contains 'forward-looking information' that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.