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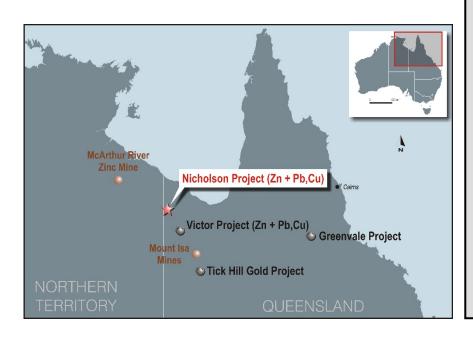
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# QUARTERLY ACTIVITIES REPORT Period ending 31 March 2017

#### **HIGHLIGHTS**

- Nicholson Project Teck Australia Pty Ltd Earn-in and JV finalised results from first phase AMT geophysical survey:
  - o AMT conductivity anomaly identified;
  - Permissive sub-basins identified for the targeting of Mt Isa-style zinc-lead mineralisation.
- New Zinc-Gold-Copper tenement EPM 26165 "Cockie South" granted on 30 January 2017, includes:
  - Steam Engine Gold Deposit;
  - Galah Dam Prospect.
- Drilling program and field work planning underway for Steam Engine and Galah Dam prospects.
- Tick Hill Gold Project Earn-in Period extended for 12 months to 31 December 2017.

#### **Project Locations**



# **Superior Resources Limited**

#### ASX:SPQ

#### **Board**

Carlos Fernicola – Chairman Peter Hwang – Managing Director Ken Harvey – Non-exec Director Carlos Fernicola – Company Secretary

#### **Securities**

Ordinary Shares – 376,537,372 Top 20 holders: 64.02% issued capital

#### Summary

Superior Resources Limited is a Brisbane based ASX-listed mineral explorer whose principle aim is the discovery of large base metal deposits in northern Queensland. Superior holds several exploration projects in northwest Queensland for large Mount Isa type copper and lead-zinc-silver deposits and exploration projects in northeast Queensland for copper-gold-lead-zinc-silver deposits. Superior also holds gold and uranium tenements.

#### **Share Registry**

Link Market Services Level 15, 324 Queens Street Brisbane, QLD, 4000

#### Web Site

www.superiorresources.com.au

#### Contact

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Carlos Fernicola (07) 3831 3922

#### **SUMMARY**

The main operational and corporate activities of Superior Resources Limited (**Superior** or **Company**) during the period comprised the following:

- new Zinc-Gold-Copper tenement EPM 26165 "Cockie South" granted on 30 January 2017;
- preparation of drilling and field programs for the Steam Engine and Galah Dam prospects;
- Nicholson Project Teck Australia Pty Ltd (**Teck**) Earn-in and JV receipt of final results from AMT geophysical survey; and
- Tick Hill Gold Project received confirmation from Diatreme Resources Limited (**DRX**) of a 12 month extension to the Earn-in Period.

#### **PROJECT ACTIVITIES**

#### New EPM26165 "Cockie South"

On 30 January 2017, the Department of Natural Resources and Mines granted the Company's new Exploration Permit for Minerals (**EPM**) application, EPM26165 "Cockie South" (Figure 1).

EPM26165 covers the highly prospective Steam Engine Gold Deposit (Figure 2) and the Galah Dam Gold-Zinc-Copper Prospect (Figure 4).

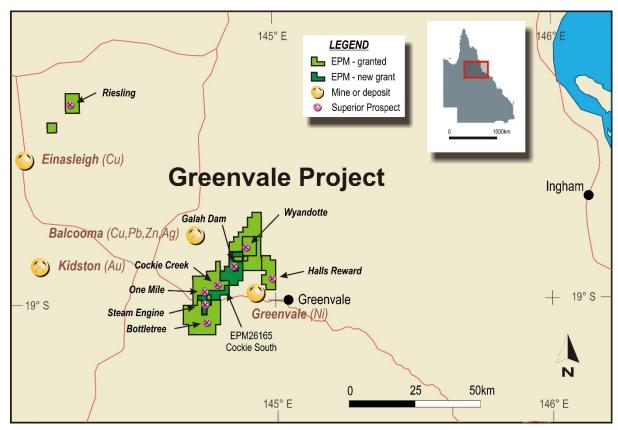


Figure 1. Location of the Greenvale Project tenements showing the location of Superior's newly granted tenement (in dark green).

As indicated in ASX announcements "Greenvale Project Update – New Projects and Drill Targets" (ASX announcement, 2 November 2016) and "Greenvale Project Exploration Update – Exciting Drill Targets Identified at Galah Dam Zinc-Gold-Copper Prospect" (ASX announcement, 14 February 2017), Superior is preparing to conduct exploration programs on the Steam Engine Gold Deposit and the Galah Dam prospect immediately after landholder and cultural heritage access arrangements are finalised.

# Steam Engine Prospect

The Steam Engine gold prospect comprises two main gold-bearing lodes, referred to as the Steam Engine Lode and the Eastern Ridge Lode (Figure 2). A small area of gold mineralisation (Southern Zone) is located between and to the south of these two lodes.

The lodes are north-north-east trending, west-dipping lodes and are essentially mineralised shear zones comprising pyrite-quartz-muscovite-carbonate schist within amphibolite, metasediment and/or metatonalite.

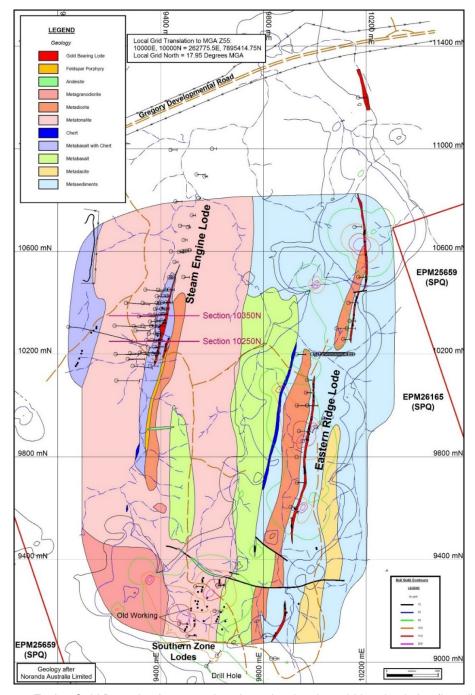


Figure 2. Steam Engine Gold Deposit – Interpreted geology showing the gold-bearing lodes (in red), historic drill holes and soil gold geochemistry (over the Eastern Ridge and Southern Zone).

Previous drilling at the Steam Engine Lode has generally been restricted to the near surface zone down to about 120m vertical depth (Figure 3).

Only one hole has been drilled to any significant depth (vertical depth of about 220m below surface).

This diamond hole intersected the lode near the bottom of the hole with 2.1m @ 5.5g/t Au.

Detailed drilling over a 300m section of this lode down to approximately 100m depth has allowed previous explorers to determine a non-JORC compliant mineral resource for this area.

At least 56 of the approximately 75 historic holes drilled at the Steam Engine Lode returned intersections with average grades above 1.5g/t Au.

Initial field work to validate historical exploration information and further exploration work will be conducted during the next Quarter of 2017 to enable the confirmation of a JORC 2012 compliant mineral resource for the Steam Engine deposit.

#### Exploration planned for Steam Engine

Preparations were underway to commence the following exploration programs on the Steam Engine prospect during the next Quarter.

#### Steam Engine Lode:

- initial field work to validate historical exploration information and further exploration work to be conducted for the purpose of confirming a JORC 2012 compliant mineral resource; and
- resource drilling to expand the known gold mineralisation at depth and along strike.

#### Eastern Ridge Zone:

- · drilling to delineate the extent of the gold mineralisation; and
- potential infill drilling to establish a mineral resource.

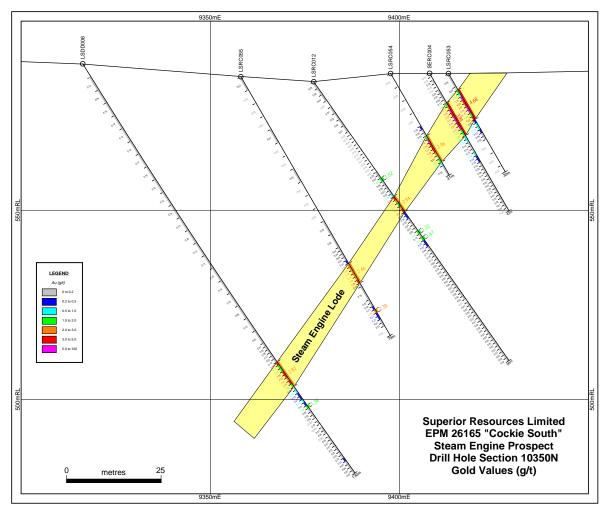


Figure 3. Steam Engine Lode – Drill hole assay section on line 10350N showing gold intersections. The lode shows good continuity with a westerly dip of about 55°.

# Galah Dam – A highly prospective VMS target

Superior has completed an extensive digital compilation and review of historic data over the "Old Galah Dam Prospect". This exercise included digital compilation of drill hole data and digital modelling of geophysical induced polarization (**IP**) and resistivity survey data.

The result of this review has revealed the following:

- Galah Dam is a large alteration zone, similar to the alteration zone at the Balcooma and Surveyor volcanogenic massive sulphide (VMS) deposits located 20km away;
- previous drilling at the Old Galah Dam Prospect confirmed the presence of zinc, gold and copper mineralisation within the alteration system;
- Superior's 3D IP modelling identified four high order chargeability anomalies that have not previously been drill-tested; and
- Galah Dam is very prospective for the presence of VMS zinc, gold and copper deposits.

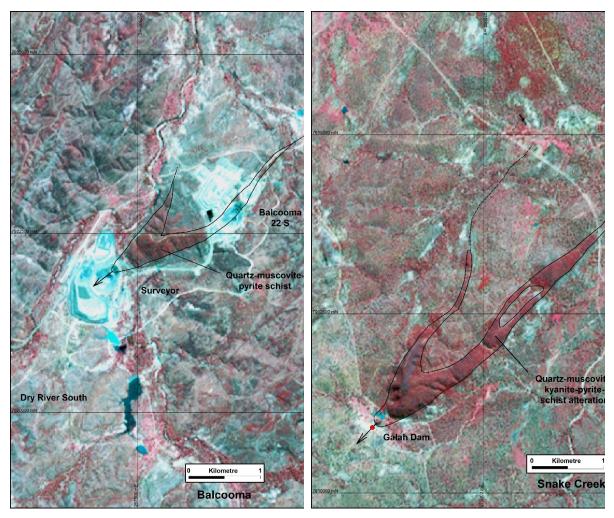


Figure 4. Aster satellite imagery of the folded Balcooma alteration zone (left) and the folded Snake Creek alteration zone (right) (The alteration zones are dark brown in the images and are outlined by a black line). At Balcooma, the Balcooma Deposit is located on the eastern limb of the folded alteration zone and the Surveyor Deposit is located on the fold axis or 'nose' of the fold. The known Galah Dam mineralisation is located on the 'nose' of the fold in the Snake Creek alteration zone in a similar position to the Surveyor Deposit at Balcooma. At Galah Dam, the drilling to date has been largely restricted to the Old Galah Dam Prospect on the fold 'nose' leaving the remainder of the Snake Creek alteration zone essentially untested by drilling. The Balcooma area is not held by Superior Resources Limited.

# 3D IP modelling

The IP modelling conducted during the period identified three high-order chargeability anomalies within the alteration zone to the north of the Old Galah Dam Prospect (Figure 5). A fourth high order chargeability anomaly lies outside of the alteration zone and to the west of the other anomalies.

None of these anomalies have previously been drilled.

#### Exploration planned for Galah Dam

An initial 600m RC drilling program is planned to be conducted during the next Quarter once full landholder access is obtained and drill hole collars have been established in the field.

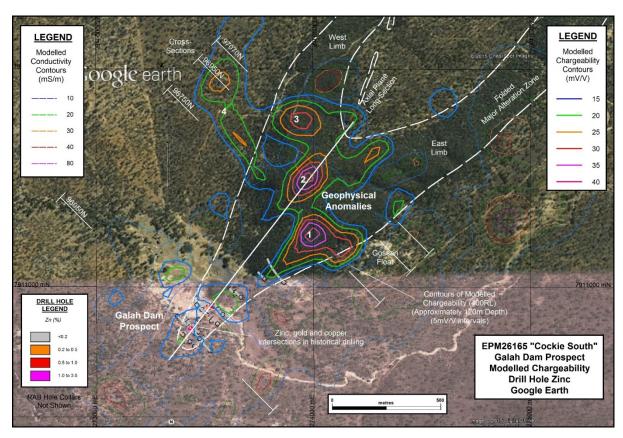


Figure 5. Galah Dam – Map in MGA Zone 55 projection showing a Google Earth image, the interpreted folded major alteration zone, historical drill hole zinc intersections at the Old Galah Dam Prospect and contours of the modelled chargeability and conductivity anomalies at 400RL (approximately 110-150m below surface).

#### Teck Australia Earn-in and Joint Venture – Nicholson Zinc-Lead-Silver Project

Final results from an Audio-frequency Magneto-Telluric (**AMT**) geophysical survey were received from Teck during the Quarter.

## 2016 AMT survey

The AMT survey comprised 24 survey stations over three lines totalling 19 kilometres. The survey targeted potential sub-basins identified through the integration of magnetics, seismic and gravity data and focussed on the south-western portions of the two tenements proximal to the Nicholson River Fault (Figure 6).

The results of the AMT survey will determine if a conductive body is developed within prospective stratigraphy defined by seismic interpretations.

The AMT survey is being undertaken to confirm the presence of key interpreted growth faults which provide conduits for mineralised fluids and to better determine the nature of interpreted sub-basin locations within EPM 15670 and EPM 18203, including the presence and extent of conductive pyritic

carbonaceous shale host units.

AMT electro-magnetic surveying and imaging techniques provide the potential to map geological structures to depths of 500 meters or more. AMT surveys provide the ability to determine the characteristics of base metal (and other) deposits and anomalies as well as investigate deep geological structures in greater clarity and at greater depths than other geophysical methods.

#### AMT results

Three lines of AMT were completed during the 2016 field season.

Permissive rock packages were believed to be detected to a depth of 1000m and located in the hanging-wall of the major Nicholson River (growth) Fault. Survey line #1 (Figure 6) identified a conductive anomaly at a depth of between 200 and 500 metres, which is interpreted by Teck to be hosted by the same geological package which hosts the Century Zinc Mine (Figure 7).

Follow-up and infill lines will be conducted during the coming 2017 field season.

# 2017 Field Program

Exploration work to progress the project during the current year will include:

- conducting follow-up and infill AMT lines to further define the currently identified AMT features; and
- 2. subject to results and budgetary and timing constraints, possibly drill the highest priority AMT target.

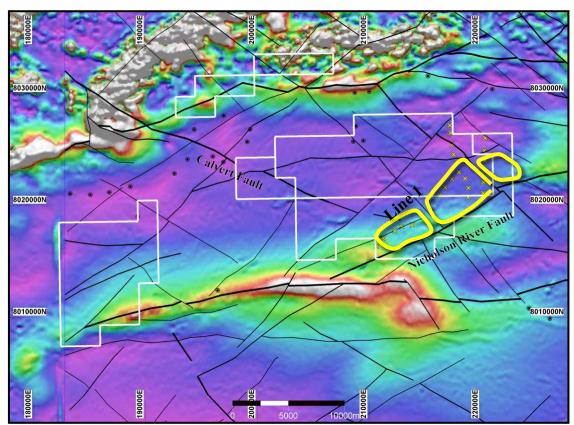


Figure 6. Interpreted sub-basins (outlined in yellow) and AMT survey lines (yellow crosses) superimposed on RTP magnetics and major structural features. AMT survey line #1, which traverses the two central sub-basins is labelled (2016 Nicholson Annual Report, Teck Australia Pty Ltd).

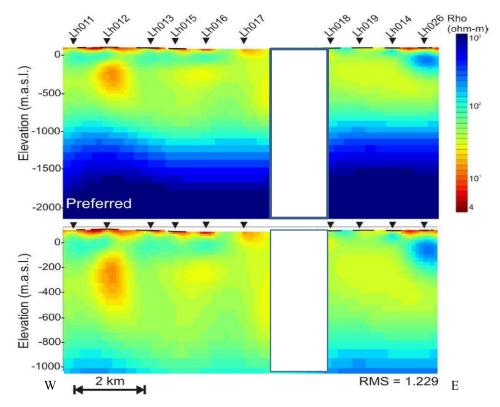


Figure 7. AMT survey line #1 – 2D inversion modelling of AMT data presented in section showing the variation of interpreted conductivity with depth. The top image is modelled to 2km and the bottom image modelled to 1km. AMT anomaly clearly present at station Lh012 (2016 Nicholson Annual Report, Teck Australia Pty Ltd).

#### Background: Nicholson Project - Teck JVA

Teck, a wholly-owned subsidiary of Canada's largest diversified resource company, Teck Resources Limited, commenced exploration work on Superior's Nicholson Project (**Project**) during the March quarter of 2016. Teck is conducting the work under an Earn-in and Joint Venture Agreement (**JVA**) with Superior that was entered into during October 2015.

The Nicholson Project (EPM15670 and EPM18203), located near the Walford Creek lead-zinc-silver-copper deposit, is considered to have the potential to contain sediment-hosted lead-zinc-silver massive sulphide deposits (**SHMS**), similar to Mount Isa and McArthur River (Figure 8).

Previous drilling by Superior of the Walford South Prospect confirmed the presence of substantial amounts of pyritic shale containing elevated zinc, which can be associated with SHMS deposits. An airborne VTEM survey conducted by Superior over the Project identified moderately deep conductivity anomalies at the Nicholson West and Kingfisher East prospects in a sequence similar to that hosting the Walford Creek deposit. This, together with outcropping rocks containing vein-lead mineralisation, supports the potential for the Project to host SHMS zinc-lead-silver mineralisation.

# Earn-in and Joint Venture Agreement

Under the original terms of the JVA, Superior granted Teck with the right to earn a 70% interest in the Nicholson Project by:

- (Initial Period) spending \$250,000 by 30 September 2016 (subsequently extended to 31 December 2016), with a mechanism to extend the period depending on the date of renewal of EPM15670; and
- (Earn-In Period) spending a further \$2,250,000 by 31 December 2018.

During November 2016 Teck confirmed that it had completed the \$250,000 expenditure for the Initial Period and that it will commit to the Earn-in Period, which requires expenditure of a further \$2,250,000 on or before 31 December 2018 (refer ASX Announcement 14 November 2016).

At the end of the Quarter, Teck had spent an approximate total of \$385,000 on the project.

The Earn-in and Joint Venture Agreement was entered into with Teck on 9 October 2015 (refer ASX announcement 3 November 2015).

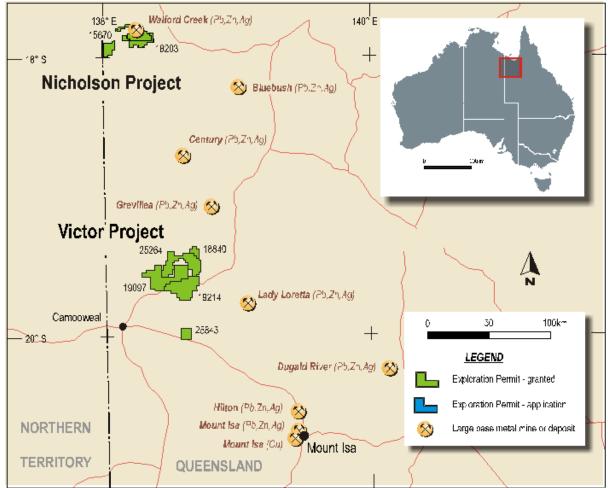


Figure 8. Location of the Nicholson Project tenements, also showing the location of Superior's 100% Victor Project.

# Tick Hill Gold Project

The Company received confirmation from Diatreme Resources Limited (**DRX**) of a 12-month extension to the Earn-in Period under the Tick Hill Exploration Farm-in and Joint Venture Agreement. Subject to any further extension of term, the Earn-in Period will expire on 31 December 2017.

The parties have agreed to conduct a full review of progress on the project on or around 30 September 2017 for the purpose of considering each parties' positions and future extensions of term.

#### Background - Exploration focus

Superior's focus on the Tick Hill Gold Project is two-fold:

- conduct exploration to identify a faulted extension to the earlier mined high grade mineralised zone, which averaged 22.6 grams per tonne; and
- Surface Gold Project: evaluate and if feasible, exploit "surface gold" surrounding the old mining operation, which will include potential alluvial gold, mine tailings and waste rock dumps.

#### JVA with Diatreme Resources Limited

Under the terms of an Exploration Farm-in and Joint Venture Agreement (**JVA**) with DRX, the tailings, alluvial-colluvial gold and all other surface sources of gold are being assessed in joint venture with DRX. The joint venture requires each party to contribute 50% of all costs associated with the operations.



All drilling operations associated with the surface gold assessment program have been conducted with a DRX-owned drill rig. These costs have been shared equally between the parties.

Under the JVA, Superior has the right to earn a 50% interest in the project by spending a minimum of \$750,000 on exploration, which will include substantial drilling over a two year earn-in period (which can be extended by agreement). All expenditure incurred by Superior on the Surface Gold Project will constitute earn-in expenditure and will be counted towards SPQ's \$750,000 minimum earn-in obligation.

During the earn-in period Superior will have the sole and exclusive right to access and conduct exploration on the project as well as to determine the nature of the exploration programs.

Upon a transfer of a 50% interest in the THGP to Superior, Superior will be required to pay DRX \$100,000 and an amount equal to 50% of the government security bond on the mining leases.

#### **INVESTMENTS**

Superior maintains an exposure in relation to ASX listed uranium focused company, Deep Yellow Limited (ASX:DYL). As at 31 March 2017, the company holds 350,000 DYL shares with a closing value of \$101,500.

## **ASX Listing Rule 5.3.3**

Appendix 1 sets out information that is required under ASX Listing Rule 5.3.3 (for exploration entities).

Peter Hwang Managing Director

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Further Information:

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# **Appendix 1**

# **DISCLOSURES REQUIRED UNDER ASX LISTING RULE 5.3.3**

# · Mining tenements held at the end of the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Hedleys 2	EPM15670	Nicholson	100%	SPQ	Granted
QLD	Hedleys South	EPM18203	Nicholson	100%	SPQ	Granted
QLD	Harris Creek	EPM18840	Victor	100%	SPQ	Granted
QLD	Tots Creek	EPM19097	Victor	100%	SPQ	Granted
QLD	Scrubby Creek	EPM19214	Victor	100%	SPQ	Granted
QLD	Cockie Creek	EPM18987	Greenvale	100%	SPQ	Granted
QLD	Cassidy Creek	EPM19247	Greenvale	100%	SPQ	Granted
QLD	Dinner Creek	EPM25659	Greenvale	100%	SPQ	Granted
QLD	Wyandotte	EPM25691	Greenvale	100%	SPQ	Granted
QLD	One Mile	ML6750	Greenvale	100%	SPQ	Granted
QLD	Tomahawk Creek	EPM25264	Victor	100%	SPQ	Granted
QLD	W Creek	EPM25843	Victor	100%	SPQ	Granted
QLD	Cockie South	EPM26165	Greenvale	100%	SPQ	Granted

# Mining tenements acquired and disposed of during the quarter and their location

State	Tenement Name	Tenement ID	Location	Interest	Holder	Comments
QLD	Cockie South	EPM26165	Greenvale	100%	SPQ	Granted

# · Beneficial percentage interests held in farm-in or farm-out agreements at end of the quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter by exploration entity or child entity	Comments
QLD	Tick Hill Gold Project	Farm-in Agreement	SPQ and DRX	0% on title 50% beneficial interest on surface gold	ML7094, ML7096 and ML7097
QLD	Nicholson Project	Farm-out JVA	SPQ and Teck Australia Pty Ltd	100%	EPM15670 and EPM18203 ASX announcement 3/11/15

Abbreviations:

EPM Exploration Permit for Minerals

EPM(A) Exploration Permit for Minerals (Application)

ML Mining Lease

SPQ Superior Resources Limited DRX Diatreme Resources Limited JVA Joint Venture Agreement