



## Quarterly Activities Report - 31 December 2018

### Highlights

- **First integrated exploration program in 20 years completed at the Superior Lake Zinc Project, Canada**
  - Drilling discovered a new footwall zone and confirmed high-grade mineralisation
  - Intersections include:
    - New footwall zone - 0.35m @ 25.2% Zn, 0.18% Cu; and
    - Mid-Pick - 1.56m @ 20.12% Zn, 0.8% Cu.
  - Both areas are outside the current JORC resource, giving potential to increase it
  - Results to date have potential to increase 6.5-year mine life, lift production and lower costs.
- **Geophysics Program to commence in Q1, 2019**
  - Includes high powered surface and DHTEM to test up to 1,000m of near-surface and brownfield potential
- **Key consultants and contractors selected to undertake Definitive Feasibility Study, targeted completion by end of Q2, 2019.**

**Superior Lake Resources Limited (ASX: SUP)** ("Superior Lake" or the "Company") is pleased to provide shareholders with a report on its activities for the quarter ending 31 December 2018.

Following completion of an October 2018 Restart Study, which forecasted the Superior Lake Zinc Project ("Project") will produce approximately 46,000tpa Zn over an initial 6.5-year mine life, with an AISC of US\$0.51/lb (see ASX announcement dated 10 October 2018), the Company commenced a fully-funded Definitive Feasibility Study ("DFS") and an exploration drill program. This exploration drill program is the first drill program at the Project in more than 20 years.

### Superior Lake Project, Canada

#### Mid-Pick drill program

During the December quarter, the Company commenced an exploration drill program at the Project, the first drill program at the Project in more than 20 years. The Pick Lake deposit comprises high-grade zinc mineralisation that extends over a downdip distance of 1,200m and has a JORC resource of 2.15 Mt @ 17.7% Zn, 0.9% Cu.

While the upper and lower areas have been intensively drilled from underground, the area between the upper and lower Pick, known as Mid-Pick, sits outside the resource and requires additional drilling to fully test this area. This zone is outside of the current mine plan detailed in Superior Lake's recent Restart Study and JORC resource of 2.15Mt at 17.7% Zn, 0.9% Cu, 0.4g/t Au and 33.5g/t Ag (Table 1).

The Company was pleased to confirm that this program intersected high-grade zinc at the Mid Pick zone and identified a new footwall zone within 9m of the Pick Lake deposit.



Results included:

- Mid-Pick zone: 1.56m @ 20.12% Zn, 0.8% Cu
- New footwall zone: 0.35m @ 25.2% Zn 0.18% Cu.

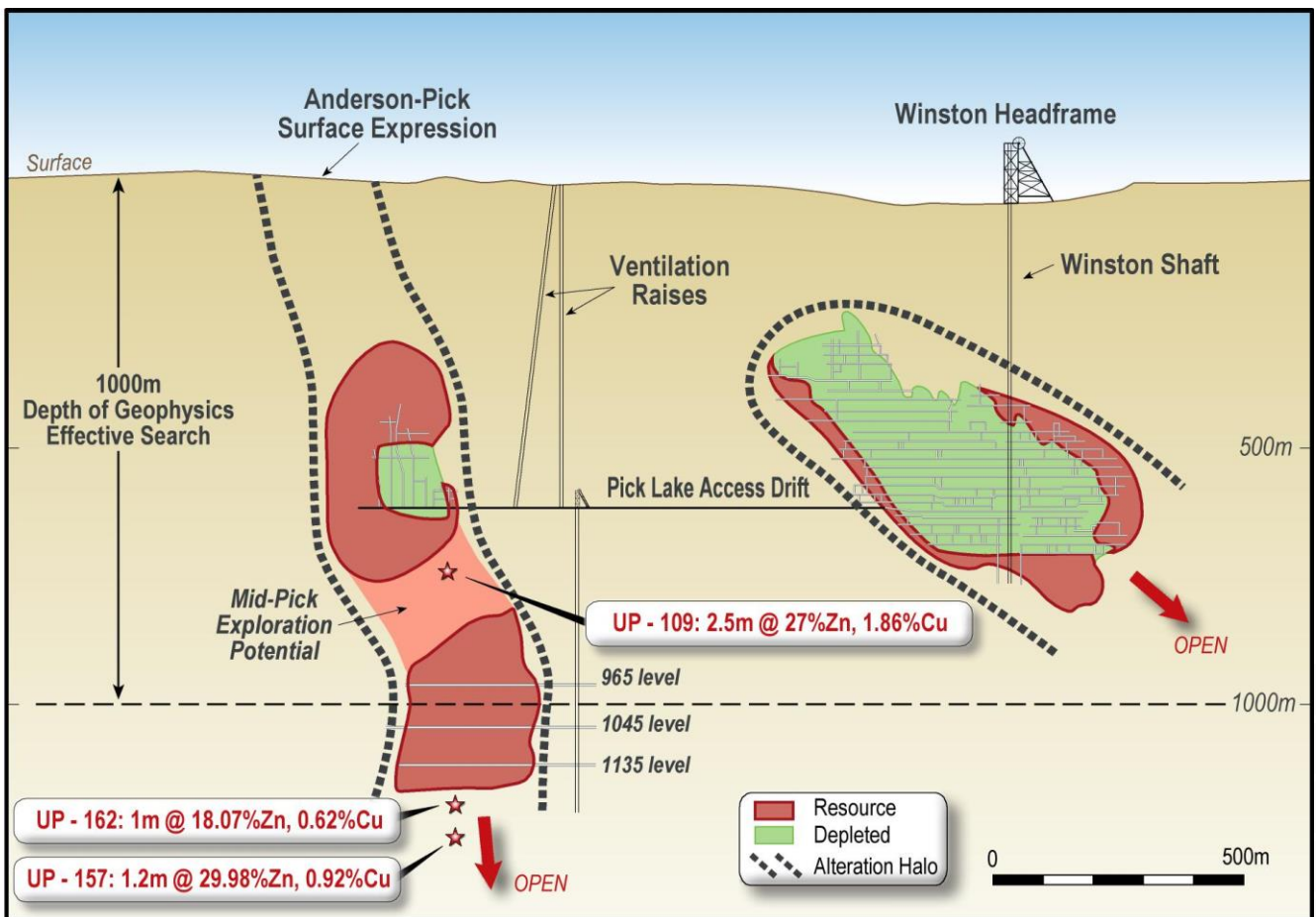
Information relating to this program was initially reported to the ASX on 18 December 2018<sup>1</sup>. These results have the potential to further improve project economics for Superior Lake.

**Figure 1: High-Grade Intersection PL-18-01**



The drilling program comprises approximately 1,750m, with a single parent hole combined with 'daughter' holes testing the up dip and strike of the area of interest.

**Figure 2: Significant Brownfields Exploration Potential**



<sup>1</sup> The Company is not aware of any new information or data that materially affects the information included in the relevant announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcements.



The intersection of a new zone 9m into the footwall, 0.35m @ 25.2% Zn, 0.18% Cu, will require follow-up work reviewing the Pick Lake drilling database, additional intercepts of the present drill program, and geophysics. This high-grade zone of predominately sphalerite was intersected in hole PL-18-01 and PL-18-01-W1 (currently awaiting assays).

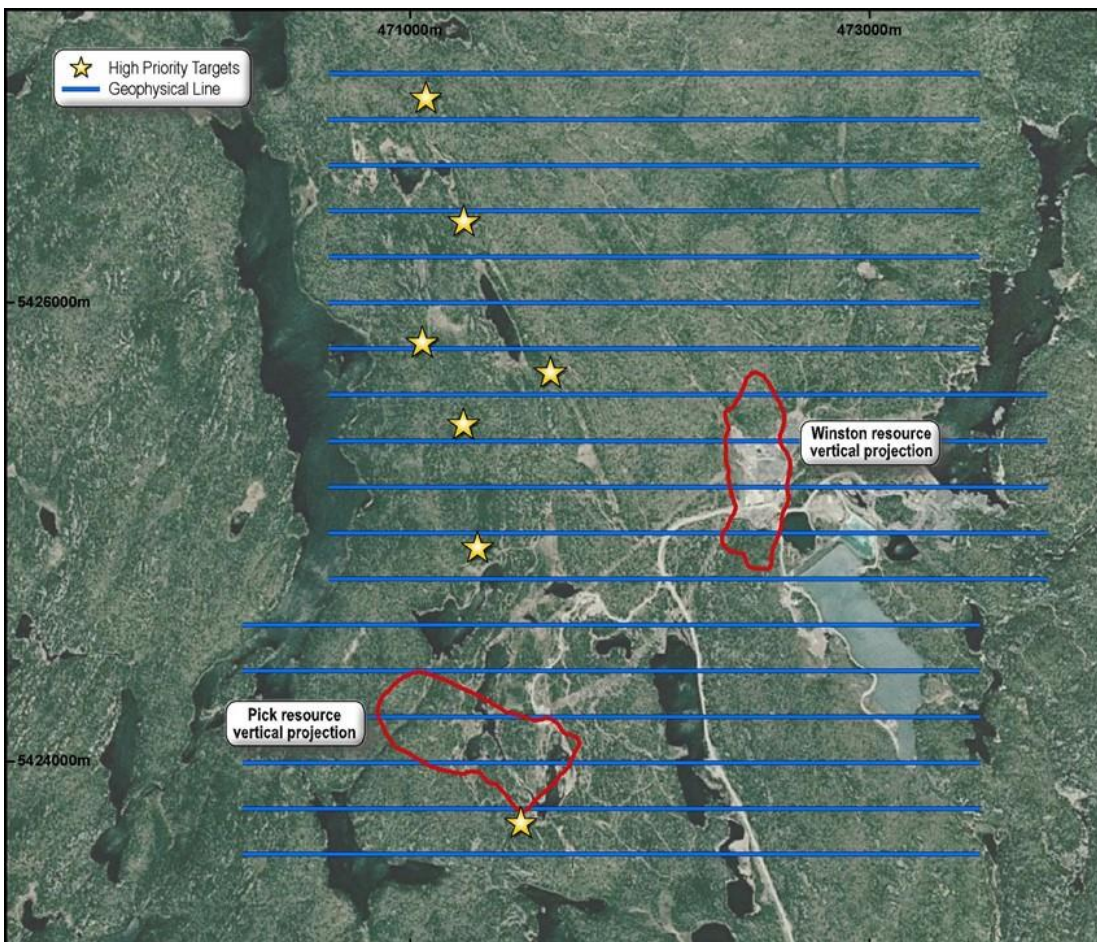
### Geophysics Program

Down-hole geophysics has successfully identified the higher grade and thickest portions of copper in the Pick Lake Ore Body and confirmed continuity of ore between upper and lower Pick resources. Superior Lake has planned follow-up work for February 2019 as part of a surface geophysics program over a 3km x 3km area, adjacent to the Winston and Pick deposits, that will test exploration potential to a depth of 1,000m.

This surface geophysics program is the first stage of an exploration strategy designed to test the area which hosts the Exploration Target\* of between 2.1 to 5.2 million tonnes at a grade ranging between 13.3% to 15.4% Zn (see ASX Announcement dated 26 September 2018).

*\*The potential quantity and grade of the Exploration Target is conceptual in nature and therefore is an approximation. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.*

**Figure 3: Proposed Geophysics Surface Program**



\*The exploration target is defined by a combination of drilling informed kriged block model estimation based on resource geological wireframes where the data density and sample support does not meet the criteria for either indicated or inferred classification and extrapolation of the block modelled exploration target into extensional zones that have not been tested by drilling but in which geological continuity is supported by either geological mapping or outlying mineralised drill hole intercepts below a 1% Zn cut off that suggest continuity. Grade assigned from global average grade estimate for modeled component. The Exploration Target is based largely on extensions of the reported classified resource into areas that have not been drill-tested in the past.



## Definitive Feasibility Study

Following the completion of an October 2018 Restart Study, which included preliminary mine planning and scheduling, capital cost estimates for both the refurbishment of the underground workings as well as all surface infrastructure associated with the mine and processing plant, the Company is progressing with the next stage of project development, the completion of a DFS.

The Company has now selected the key consultants and contractors, all of whom are industry recognised, to undertake the DFS with expected completion by the end of Q2, 2019.

## Next Steps for Superior Lake Zinc Project

The next steps proposed for the Superior Lake Zinc Project include:

- Exploration Activities
  - Complete drilling program on the mid-Pick area in January 2019;
  - Commence a surface geophysics program on the near-surface areas of both Pick Lake and Winston Lake deposits to be completed in February 2019; and
- Studies
  - Deliver the Definitive Feasibility Study by the end of Q2, 2019.
- Environmental & Permitting
  - Continue the permitting process, which was commenced in Q4, 2018.

## Corporate

The Company had approximately \$4.2 million cash at bank at the end of the December quarter.

The Company also advised that it had changed its provider for shareholder registry services from Security Transfer Australia Pty Ltd to Automic. Shareholders with queries in relation to their holding with the Company should contact Automic at [hello@automic.com.au](mailto:hello@automic.com.au) or on 1300 288 664 (within Australia) or +61 2 9698 5414 (outside Australia).



## About the Company

### Superior Lake Resources Limited

Superior Lake Resources Limited (ASX: SUP) is focused on the redevelopment of the Superior Lake Zinc Project in North Western Ontario, Canada. The Project is one of the highest-grade zinc deposits globally with a JORC resource of 2.15 Mt at 17.7% Zn, 0.9% Cu, 0.4 g/t Au and 33.5 g/t Ag. A Restart Study completed in 2018, forecasted the Project will produce approximately 46,000tpa Zn over an initial 6.5-year mine life, with an AISC of US\$0.51/lb, putting the Project in the lowest cost quartile globally. The Company is currently working towards the release of a Definitive Feasibility Study by mid-2019.

**Table 1: Superior Lake Project - Total Mineral Resource at 3% Zn cut-off grade**

Classification	Tonnage	Zn%	Cu%	Au g/t	Ag g/t
Indicated	1,992,000	17.8%	0.9%	0.4 g/t	33.7 g/t
Inferred	152,000	15.4%	0.9%	0.4 g/t	31.2 g/t
<b>Total</b>	<b>2,145,000</b>	<b>17.7%</b>	<b>0.9%</b>	<b>0.4 g/t</b>	<b>33.5 g/t</b>

To learn more about the Company, please visit [www.superiorlake.com.au](http://www.superiorlake.com.au), or contact:

David Woodall      Chief Executive Officer      +61 8 6143 6740

## Competent Person Statement

### Exploration Target and Exploration Results

The information contained in this announcement that relates to the exploration target was first reported by the Company to the ASX on 26 September 2018. The information contained in this announcement that relates to exploration results was first reported by the Company to the ASX on 18 December 2018. The Company is not aware of any new information or data that materially affects the information included in the relevant announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcements.

### Mineral Resources

The information in this announcement that relates to the Mineral Resources on the Superior Lake Project was first reported by the Company to ASX on 3 July 2018. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



## Information required under ASX Listing Rule 5.3.3

List of current mining and exploration tenements (as at 31 December 2018):

Country	Tenement	Interest	Status
Ontario, Canada	4287909	70%	Granted
Ontario, Canada	4287910	70%	Granted
Ontario, Canada	4287911	70%	Granted
Ontario, Canada	4274196	70%	Granted
Ontario, Canada	4274197	70%	Granted
Ontario, Canada	4244161	70%	Granted
Ontario, Canada	4244162	70%	Granted
Ontario, Canada	4244163	70%	Granted
Ontario, Canada	4244751	70%	Granted
Ontario, Canada	4274195	70%	Granted
Ontario, Canada	3001231	70%	Granted
Ontario, Canada	4284603	70%	Granted
Ontario, Canada	4287912	70%	Granted
Ontario, Canada	4287913	70%	Granted
Ontario, Canada	4287914	70%	Granted
Ontario, Canada	4287915	70%	Granted
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Ontario, Canada	4284624	70%	Granted
Ontario, Canada	4284625	70%	Granted
Ontario, Canada	4284626	70%	Granted
Ontario, Canada	4284627	70%	Granted
Western Australia, Australia	E33/477	100%	Granted

No tenements were acquired or disposed of during the quarter.