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ENTERPRISE ACQUIRES NEW 697km^2 POTASH EXPLORATION PROJECT AT PERENJORI, WA

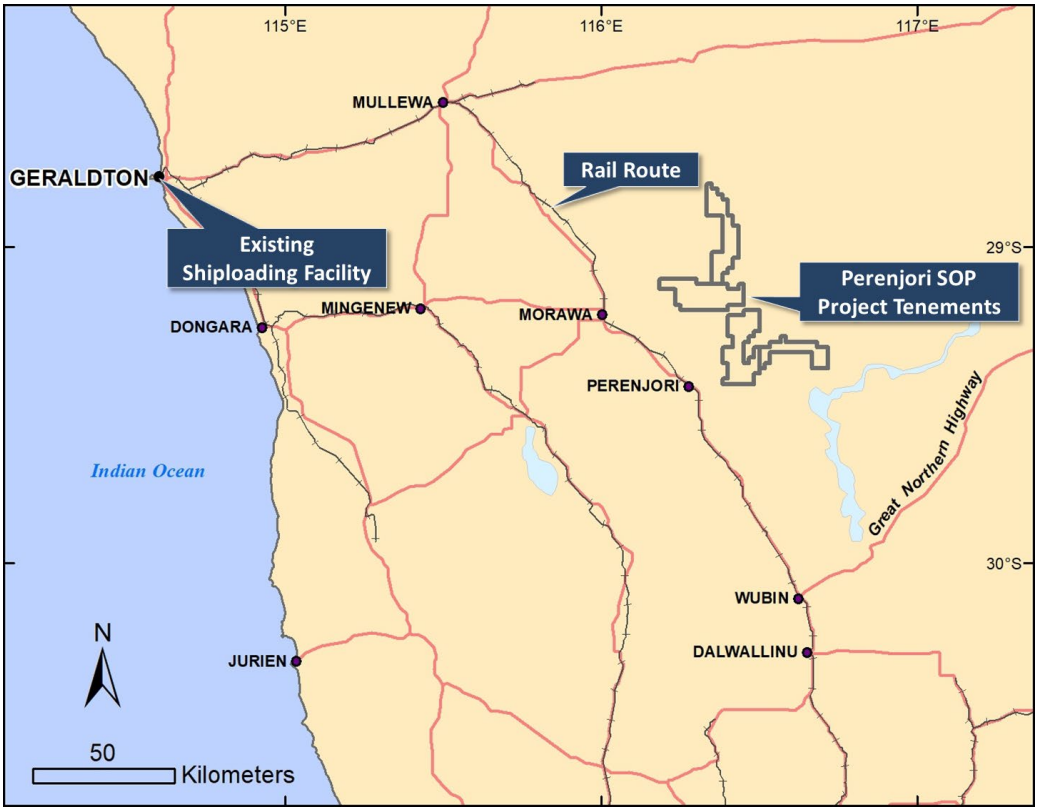
Enterprise Metals Limited (ASX: ENT) ("Enterprise" or the "Company") is pleased to advise that it has lodged four large exploration licences over deep palaeovalleys centred approximately 35km north-northeast of the wheatbelt town of Perenjori in Western Australia. Refer Figure 1.

The tenement applications have a total area of 697 km^2 and cover ~120 km of ancient (+34 million years old) drainage systems which have their headwaters in the central part of the Yilgarn Craton. Airborne geophysical surveys* conducted by Enterprise provide evidence that deeply incised (100m - 150m depth) palaeovalleys lie buried below the broad shallow valleys and lakes NNE of Perenjori.

Enterprise plans to explore the tenements for sub-surface ***brine deposits*** using a mineral systems approach, involving ***source, transport & deposition***. The ultimate goal is to produce Sulphate of Potash (K_2SO_4 or SOP) via surface evaporation and processing.

Unlike many other SOP projects in Western Australia, the Perenjori Project area is well serviced with a 245km railway from Perenjori to the port of Geraldton and has established infrastructure in the nearby wheatbelt towns of Morawa and Perenjori.

Figure 1. Location Plan, Perenjori Potash Exploration Project



*Refer ENT:ASX release 5 Sept 2012

Suite 9, 12-14 Thelma Street, West Perth
Western Australia
www.enterprisemetals.com.au

PO Box 1014 West Perth WA 6872
Tel: (+61 8) 6381 0392
Email: admin@enterprisemetals.com.au

Source + Transport

A major interior plateau with lateritic duricrust once existed in central Western Australia which was probably the outcome of several cycles of deep weathering and stripping of the soft weathered material. The age of this plateau is estimated to be pre-Permian, that is >300 Million years ago. (Mabutt, J.A. 1988)

Sometime in the Eocene period (56 – 34Myo) the Archaean Yilgarn Craton was uplifted and the climate became much wetter. As a result, two sets of almost mirror image major drainage systems originated from central Western Australia. One set of rivers carved their way west and southwesterly towards the Carnarvon and Perth Basins and the Indian Ocean, and the second set of rivers carved their way southeastly towards the Eucla Basin and Southern Ocean, with sea level changes on occasion flooding the ancient palaeovalleys up to 400km inland. (Hou, B. 2007)

These 300-400km long rivers cut deep channels into the weathered land surface and transported large volumes of the weathering products of Archaean granitoids, that is, gravel, quartz sand and clay towards the coast. Along with these physical products, acid sulphate and chloride solutions (‘**brines’**) transported metals such as potassium, calcium, lithium and others in solution.

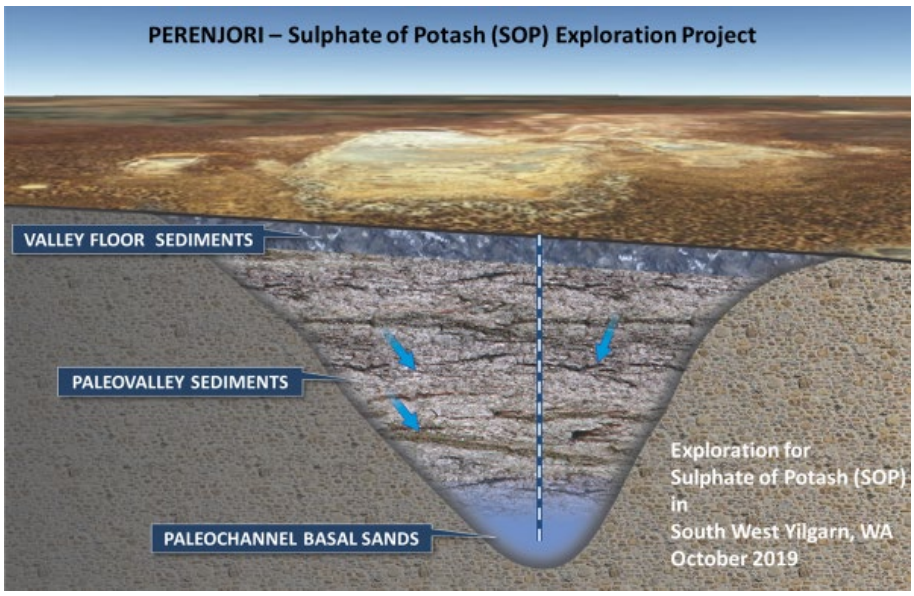
Trap + Deposition

The direction and depth of the valleys carved out of weathered bedrock were controlled by structure (fractures in the basement) and lithological changes, (Eg. hard rock bars such as Proterozoic dolerites). The floors of these rivers valleys did not have a constant gradient, but moved downwards via a series of ‘steps’ over rock bars.

As a result, these valleys eventually filled with gravel, sand, clay, and were then later covered with red dune sand. The hypersaline fluids (brines) carrying dissolved metals continued to flow underground through permeable sand and gravel layers, with ponding occurring where rock bars and clay layers (‘aquicludes’ and ‘aquitards’) formed physical barriers. During periods of higher rainfall, the aeolian sand would be washed away and large salt lakes would develop.

The metal bearing brines trapped within these deep palaeovalleys are the primary exploration targets for Enterprise Metals.

Figure 2. Model of Deep Palaeochannel with Basal Sands Hosting Brines



Enterprise's SOP Targets

The Company's four exploration licence applications shown below were selected using satellite imagery, topography, airborne radiometric imagery and airborne electromagnetic survey data.

Tenement Application No.	Area (km^2)
E59/2393	170.9
E59/2394	110.5
E70/5307	206.5
E70/5308	209.2

Figure 3. Perenjori Project Tenements over Satellite Image

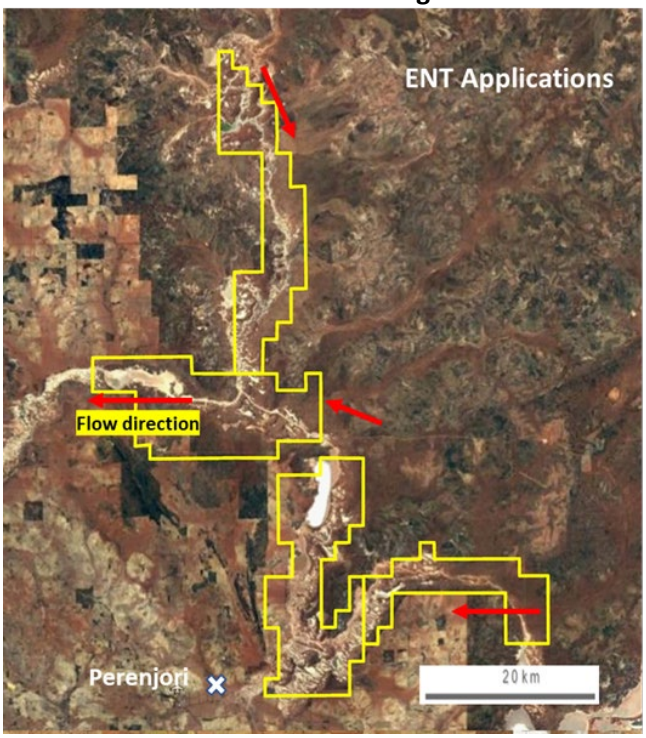
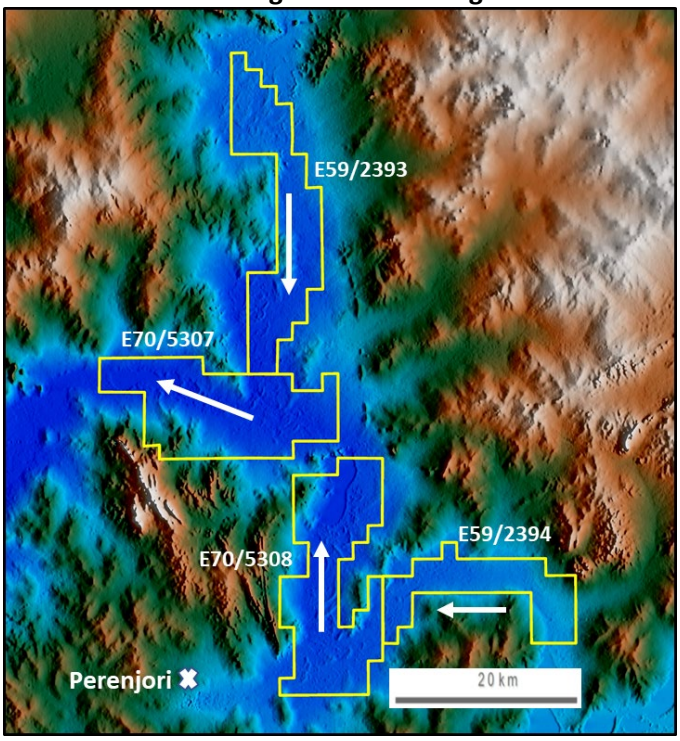


Figure 4. Perenjori Project Tenements over Digital Terrain Image



Transient Electromagnetic (TEM) Surveys

Enterprise has previously flown reconnaissance TEM surveys over the broad valleys and ephemeral dry lakes northeast of Perenjori. TEM surveys can map out and profile electrically conductive bodies below ground and are often used to discover conductive massive sulphide bodies. Palaeovalleys containing brine saturated sediments are also conductive.

Enterprise's airborne TEM surveys have defined 100-150m deep incised channels below the broad valleys identified from satellite imagery. These surveys narrow the search area down considerably and will allow drilling to be focused on the deepest part of the channels. Refer Figures 5 and 6 overleaf.

Figure 5. Digital Terrain Image with Location TEM Line 1007001N

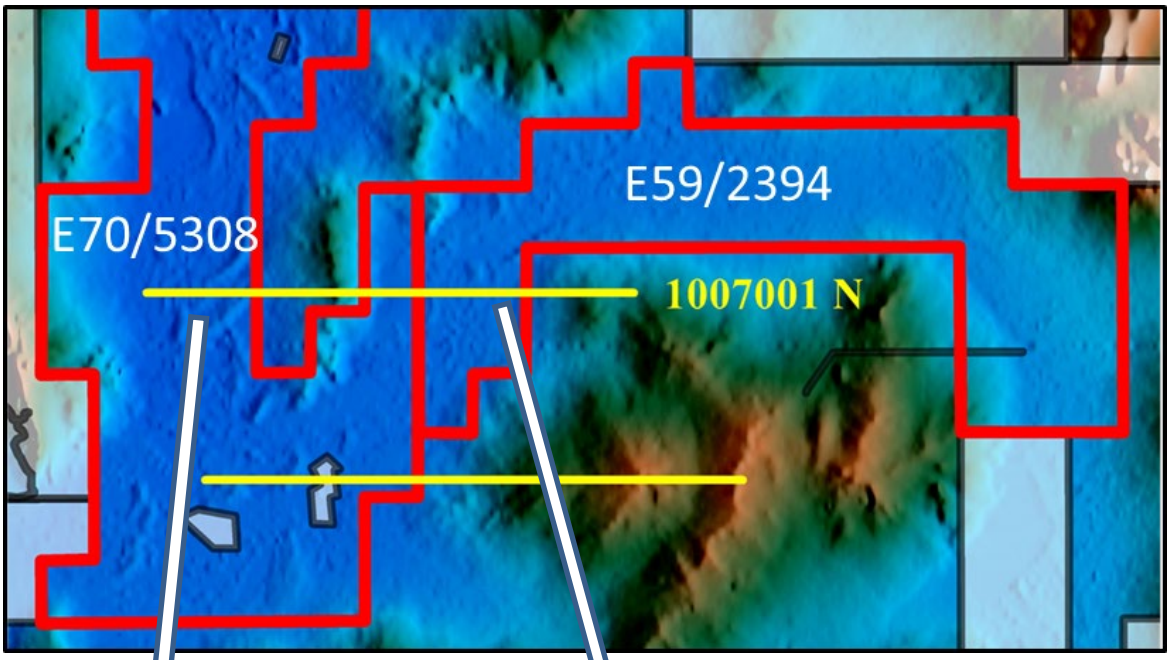


Figure 6. Sectional Model - TEM Line 1007001N

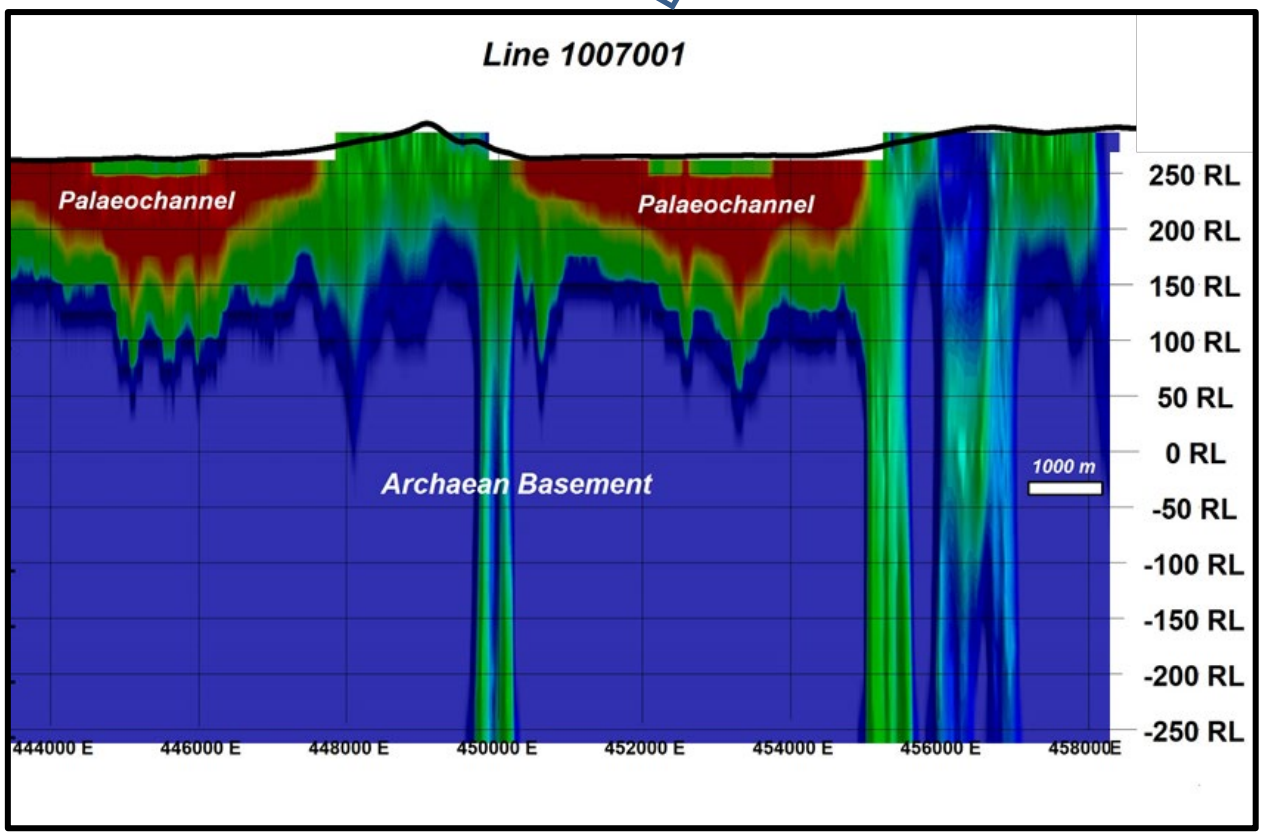


Figure 7. Digital Terrain Image with Location TEM Lines 1013001E, 1014001E & 1006001E

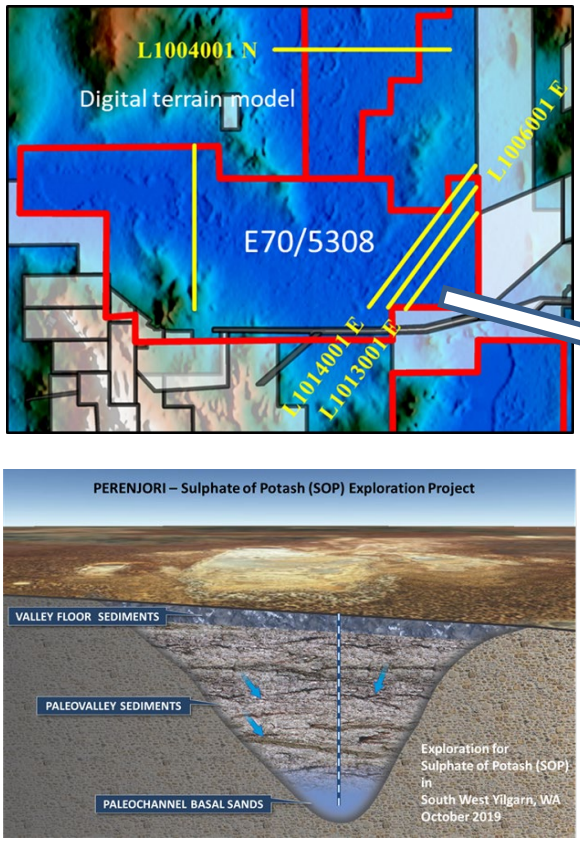
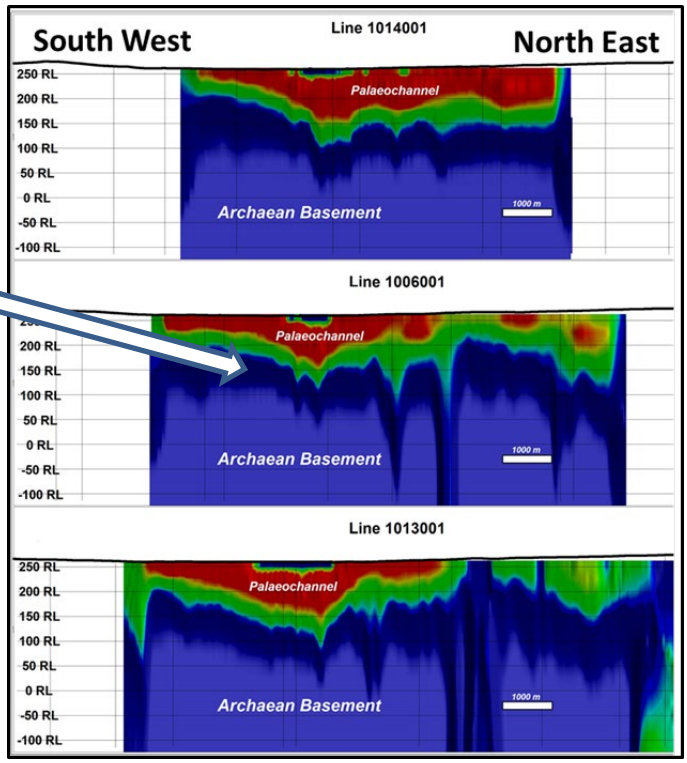


Figure 8. Cross Sectional Models



Next steps:

- ❑ Negotiate access agreements with landholders (pastoral, Gov't & native title holders).
- ❑ Obtain local community support for exploration and potential *In Situ Recovery* ('ISR') of 'hypersaline fluids'.
- ❑ Obtain grant of title.
- ❑ Undertake heritage and environmental surveys.
- ❑ Lodge Programs of work for drill testing, avoid sensitive lake environments.
- ❑ Drill reconnaissance aircore traverses across deep channels defined by ENT airborne EM surveys.
- ❑ Sample and analyse volume and contents of fluids in deep channels.
- ❑ Sample and analyse basal gravels for heavy minerals (inc. gold)
- ❑ Based on positive results above, further drilling to define in situ Potash Resources and potential Reserves.

ABOUT ENTERPRISE METALS LIMITED

Apart from the Perenjori Potash Exploration Project, Enterprise has three major active gold and base metals projects, all in Western Australia and all are being managed and fully funded by joint venture partners. Refer Figure 9 overleaf.

- Murchison Project(gold/copper/zinc)
- Doolgunna Project (copper/zinc/gold) and
- Fraser Range Project (nickel/copper)

Figure 9. Location of Enterprise's Projects in Western Australia

MURCHISON PROJECT: Au (Cu-Zn) ENT 100%, EVN Farm-In *(EVN have right to earn up to 80%)*

The Murchison Project landholdings are centred 30km north of Cue and 35km north-east of the Big Bell Gold Mine and form a semi-contiguous landholding of approximately 835km^2 over a buried greenstone belt. This portion of the greenstone belt has been under-explored due to the presence of regolith cover and lack of outcrop and represents an exciting exploration target for gold and copper/zinc.

Evolution Mining Limited entered into an earn-in joint venture agreement with Enterprise Metals over the Murchison Project in April 2019. Evolution made an initial cash payment to Enterprise of $150,000 on signing of the agreement and can earn an 80% interest in the Murchison Project by spending A$6 million on exploration over a four-year period. Evolution will make an additional cash payment to Enterprise of $150,000 should the agreement remain in place after two years. Evolution operating and wholly funding the project during the earn-in period.

Evolution Mining Ltd is currently planning drilling programs for the Murchison Project, to commence in Q4 2019.

DOOLGUNNA PROJECT: Cu-Zn (Au) ENT 100%, SFR Farm-In *(SFR have right to earn up to 75%)*

The Doolgunna Project covers over 60km of strike of the southern boundary of the Bryah Basin and the northern part of the Yerrida Basin. The southern Bryah Basin contains the Karalundi Formation which hosts the DeGrussa and Monty copper-gold deposits.

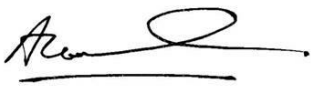
Sandfire Resources NL (ASX: SFR) entered into a farm-in agreement with Enterprise Metals in October 2016 to earn up to a 75% interest in Enterprise's Doolgunna Project by sole funding exploration on the tenements to define a JORC (2012) compliant mineral resource of at least 50,000 tonnes of contained copper or copper equivalent. Sandfire have been operating and wholly funding exploration on the project area over the past 3 years, and have undertaken extensive airborne surveys, aircore (AC), reverse circulation (RC) and diamond core (DC) drilling programs.

FRASER RANGE PROJECT: Ni-Cu (Au) ENT 30% free carried to BFS *(CR1: 70% managing/ funding)*

Apollo Minerals Ltd (ASX: AON) entered into a Sale and Joint Venture Agreement with Enterprise in February 2015. Apollo purchased a 70% interest in three mineral exploration licences and one mineral exploration licence application owned by Enterprise and agreed to free carry Enterprise's 30% interest to completion of a bankable feasibility stage (BFS) on any discovery. Apollo's interest in the Orpheus Joint Venture was subsequently transferred to Constellation Resources Ltd (ASX: CR1) which raised $7 million via an IPO and listed on the ASX on 30 July 2018.

The Fraser Range province is considered prospective for nickel, copper and gold, and has attracted significant exploration since the discovery of Independence Group NL's (ASX: IGO) Nova-Bollinger nickel and copper deposit in 2012. The bulk of the Project is strategically located along strike and mid-way between the Nova deposit to the northeast and Independence Company's Crux nickel prospect to the southwest. Recent work has confirmed a number of targets within the Orpheus Project tenements and Constellation Resources is undertaking systematic exploration to assess these targets.

Constellation have reported that planning for the drilling programs is underway. (Refer ASX: ENT June 2019 Quarterly Report, 31 July 2019)



Dr Allan Trench
Chairman

Competent Person Statement

The information in this report that relates to Exploration Activities and Results is based on information compiled by Mr Dermot Ryan, who is an employee of Xserv Pty Ltd and a Director and security holder of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, 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, Mineral Resources and Ore Reserves. Mr Ryan consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

References

Mabbutt, J.A, (1988)
A stripped land surface in Western Australia. Trans. Inst. Br. Geogr.. 29: 101-114. Mabbutt, J.A, 1963. Geomorphology of the Wiluna- Meekatharra area. In: JA Mabbutt et al. Lands of the Wiluna-Meekatharra Area. Western Australia. 1958. Land Research Series No. 7. CSIRO. - *Elsevier Earth-Science Reviews, 1988.*

Hou, B. Frakes, L A, Sandiford, M L, Worral, L, Keeling, I.J, and Alley, N F (2007)
Cenozoic Eucla Basin and associated palaeovalleys, southern Australia — Climatic and tectonic influences on landscape evolution, sedimentation and heavy mineral accumulation, *Elsevier, Sedimentary Geology, 203 (2008) 112-130*