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MARKET RELEASE

POTENTIAL DISCOVERY OF A NEW MAGMATIC SULPHIDE MINERAL SYSTEM IN THE BURRA REGION OF SA. COMPARISONS TO WORLD CLASS JINCHUAN SULPHIDE DEPOSIT.

Independent Expert Emeritus Professor Kenneth D Collerson was engaged to review and report findings on the latest Burra AMT & MT geophysical data, as recently announced by Ausmex (Refer ASX releases 7th & 14th August 2019).

Key findings from the study indicate:

(Full report available on the Ausmex Website - www.ausmexgroup.com.au)

- **A comparison of trace element analytical data has established that the mineralisation at Burra has a similar source to the world class, giant Jinchuan Deposit in China.**
- **The Jinchuan deposit is the largest single magmatic sulphide deposit on Earth with >500 Mt @ 1.2% Ni, 0.7% Cu, Cu/Ni 0.58, ~0.4 g/t PGE.**
- **Conductive zones A and B recently identified by Ausmex, to the west of Princess Royal, are likely targets for a Jinchuan type deposit** (Refer ASX releases 7th & 14th August 2019).
- **Jinchuan mineral system hosts lenticular pipe-like feeders that are similar to the conductive structures mapped at Burra.**
- **The previously unrecognized multi-element association (Cu-Co-Ni-PGE±Au) mineralisation at Burra indicates a similar source to the giant Jinchuan Deposit in China. This shows the potential for discovery of a new mineral system in the Burra region of SA.**
- **The conductive "MT flare" modelled below Burra is interpreted to represent a Neoproterozoic example of the plume generated metal-rich domain that formed below Olympic Dam during the Mesoproterozoic. This Neoproterozoic plume event could also have played a role in genesis of Olympic Dam mineral system, as Gairdner dykes also intrude this deposit.**

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Professor Collerson was engaged to:

- Review and comment on the nature of each of the MT/AMT and the magnetic structures and comment on their coincidence.
- Comment on the potential relationship between Princess Royal Targets A & B and the smaller AMT and magnetic structure at the historic Princess Royal workings.
- Discuss whether these structures potentially image the source and plumbing systems for sulphide mineralisation at Princess Royal.
- Integrate these geophysical constraints into the model for the Princess Royal/Burra Cu-Ni-Co-REE-Au mineral system proposed in an earlier ASX announcement (Refer ASX Release October 4th 2018).

Data discussed in the Collerson Report, supports the interpretation that mineralisation at Burra is related to the mantle plume induced dispersal of the late Precambrian supercontinent called Rodinia between ~800 and 850 Ma ago.

The same plume metallogenic event was responsible for formation of the Jinchuan deposit in China (Mao et al., 2019), one of the three largest Cu-Ni-PGE (platinum group element) deposits in the world, containing more than 500 Mt @ 1.2% Ni, 0.7% Cu, Cu/Ni 0.58, ~0.4 g/t PGE.

Although the supergene copper resource has been exploited at Burra, the potential for deeper sulphide-hosted Cu-Ni-Co with associated Au and PGE has not been tested.

The shallow conductive MT/AMT magnetic structures recently reported by Ausmex Mining Group Limited (refer ASX release 7th & 14th August 2019), are accessible by drilling and provide targets to test the presence of such ultramafic sourced mineralisation.

Further conclusions from Professor Collerson include:

- The multiple conductive regions seen in Ausmex's recently announced MT/AMT/Mag images (Targets "A" and "B" near Princess Royal) of the lower-to-middle crust at Burra, are interpreted as possible sulphide rich domains. (Refer ASX releases 7th & 14th August 2019).
- Metals in the Burra mineral system were derived from an ultramafic plume source.
- The Burra mineral system formed between ~800 and 830 Ma during the impact of a lower mantle plume below the late Precambrian supercontinent of Rodinia.

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- The Jinchuan deposit in China occurs in another dispersed component of Rodinia and is the largest single magmatic sulphide deposit on Earth with >500 Mt @ 1.2% Ni, 0.7% Cu, Cu/Ni 0.58, ~0.4 g/t PGE. **It formed during the same plume event as Burra and was also fed by multiple magmatic conduits.**

- Gairdner mafic dykes and samples from Jinchuan were emplaced during the plume magmatic event and have identical lower mantle normalised Ta/U and Nb/Th ratios of ~ unity. This confirms the lower mantle pedigree of their metal sources.

- Princess Royal samples have non-chondritic Y/Ho and both negative and positive Ce/*Ce anomalies. The non-chondritic Y/Ho ratios indicate that the hydrothermal system was halogen-rich (fluorine-rich).

- The negative and positive Ce/*Ce anomalies indicate that the fluids were oxidising.

- Metals at Burra were transported as F-complexes in halogen-rich fluids and as sulphides in pipe-like conduits and were precipitated when fluids interacted with Neoproterozoic carbonate lithologies.

- Willalo rock chip samples from Burra display significant coherent enrichment in Co, Cu and Ni. This is interpreted to indicate proximity to the mafic and ultramafic source of metals in the Burra mineral system.

- **This previously unrecognized association of Cu-Co-Ni-PGE mineralisation at Burra with a similar source to the giant Jinchuan Deposit in China, shows the potential for discovery of a new mineral system in the Burra region of SA.**

- The primary metal source for Burra mineral system is inferred to be ~300 Ma older than folding in the region associated with the late Precambrian Delamerian Orogeny. *(This has potential to revolutionize consideration of the geology and mineral prospectivity of the entire Burra region).*

- Mobilisation of mineralisation during this event is likely to have produced zones of sulphide enrichment.

- This previously unrecognized association Cu-Co-Ni-PGE-Au mineralisation at Burra has a similar source to the giant Jinchuan Deposit in China.

- An othomagmatic ultramafic source explains this association of metals.

- It is recommended that a gravity survey be undertaken to delineate these conductive zones and to define drilling targets.

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- The conductive "MT flare" modelled below Burra is interpreted to represent a Neoproterozoic example of the plume generated metal-rich domain that formed below Olympic Dam during the Mesoproterozoic. This plume event could also have played a role in genesis of Olympic Dam mineral system, as Gairdner dykes also intrude this deposit (Huang et al., 2015).

Burra Conductive Zones.

The conductive zones below the Burra mineralisation shown in Figures 1, 2, & 3, provide a direct link with the conductive MT flare previously imaged in the mid-crust beneath Burra (Figure 4).

As target A correlates with known mineralisation at Princess Royal, it is likely that the zones of high electrical conductivity also reflect the presence of mineralisation at depth.

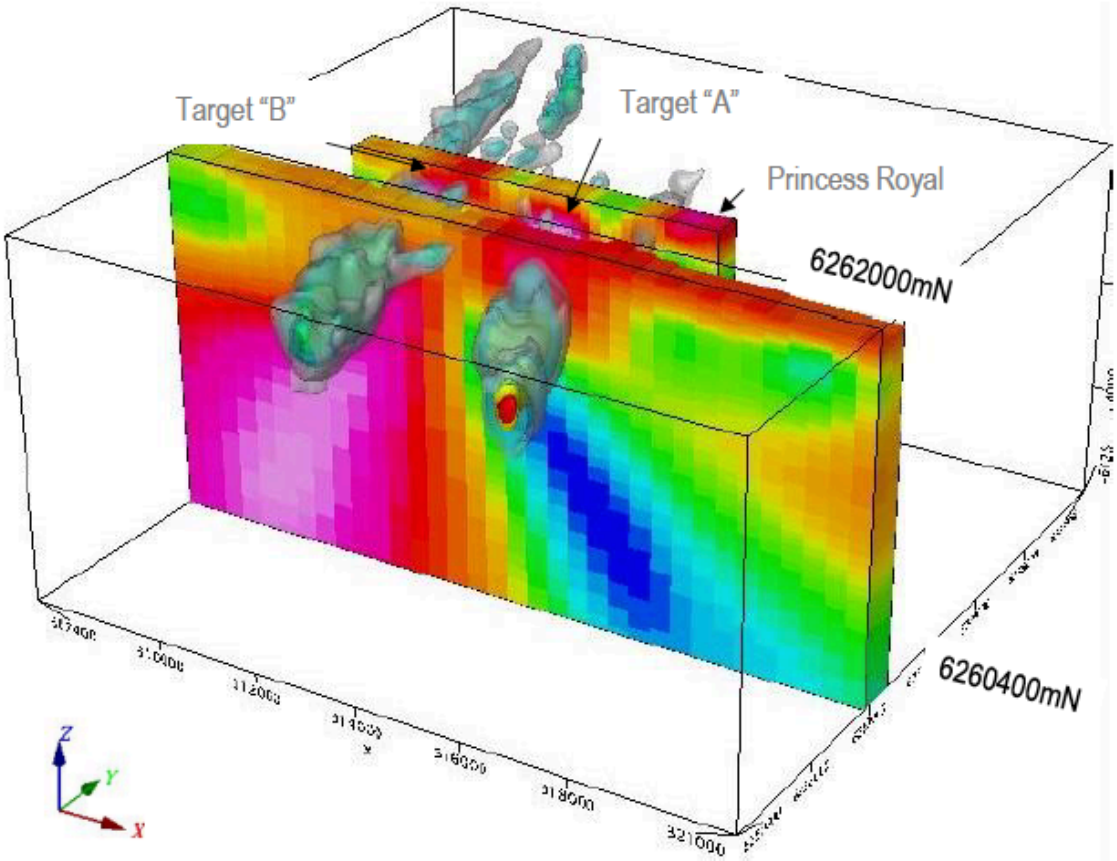

Figure 1: Model viewed to the NW showing targets A and B in relation to Princess Royal Deposit. Targets A and B are seen as large magnetic trends that coincide with a strongly conductive MT/AMT zone that extends to depth. Target A is several km in strike length and extends from near surface to ~1.7 km. (Refer ASX Release 7th & 14th August 2019)

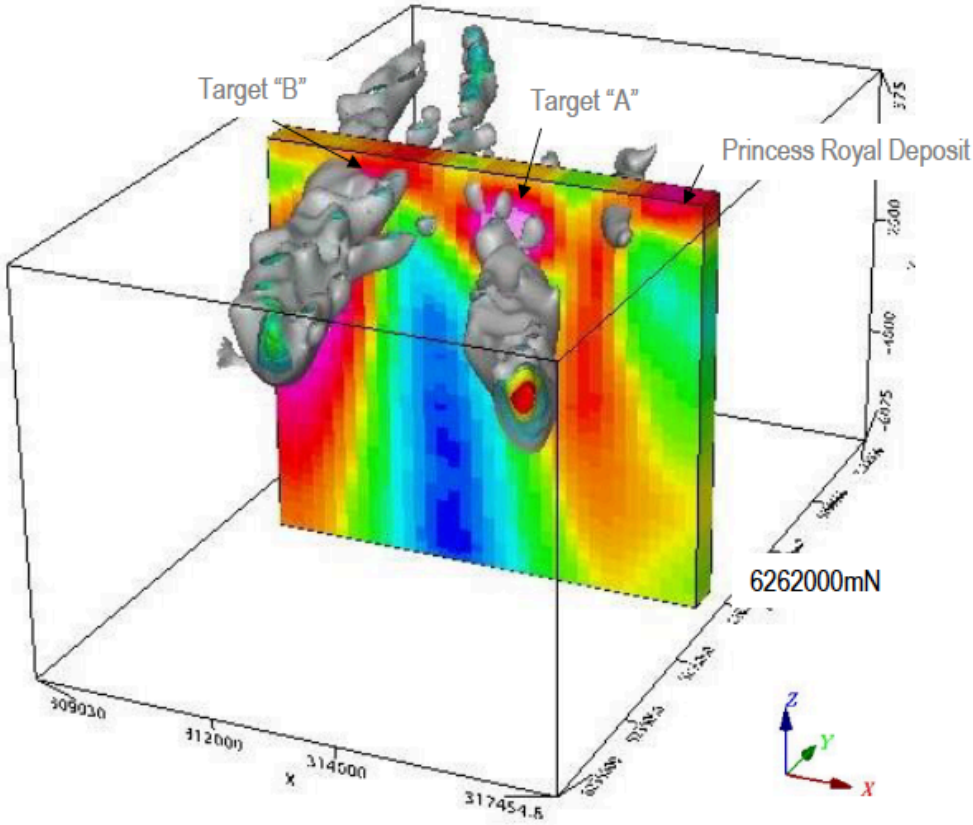

Figure 2: Model viewed to the NW showing targets A and B in relation to Princess Royal Deposit. Targets A and B are seen as large magnetic trends that coincide with a strongly conductive MT/AMT zone that extends to depth. (Refer ASX releases 7th & 14th August 2019).

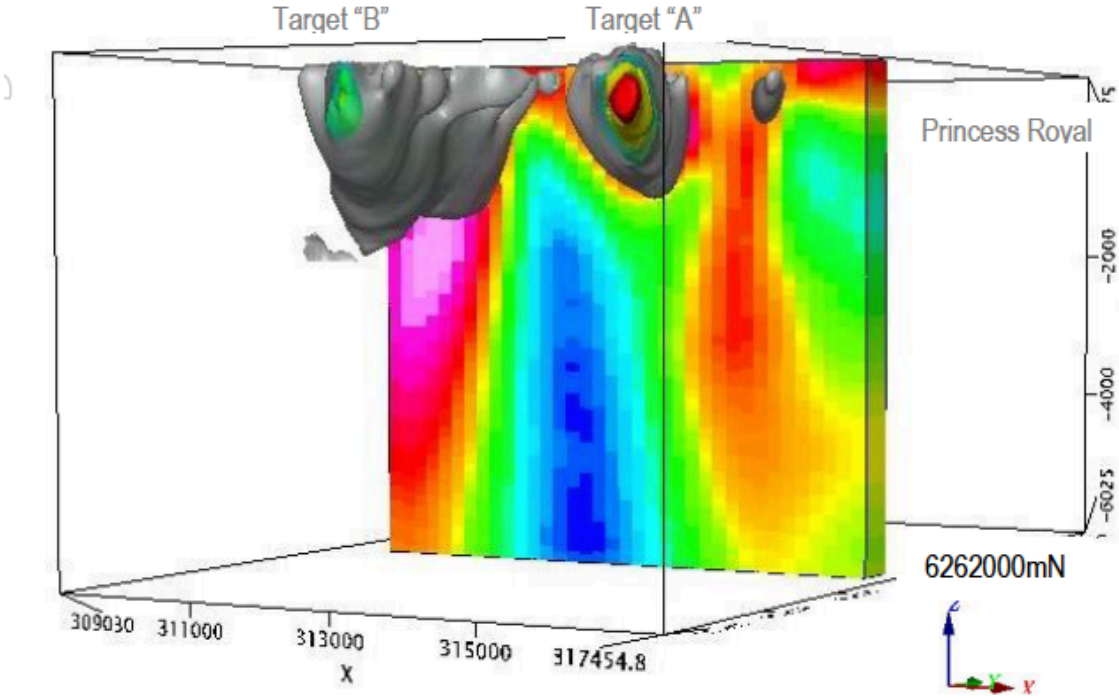

Figure 3: Model viewed to the NW showing targets A and B in relation to Princess Royal Deposit. (Refer ASX releases 7th & 14th August 2019).

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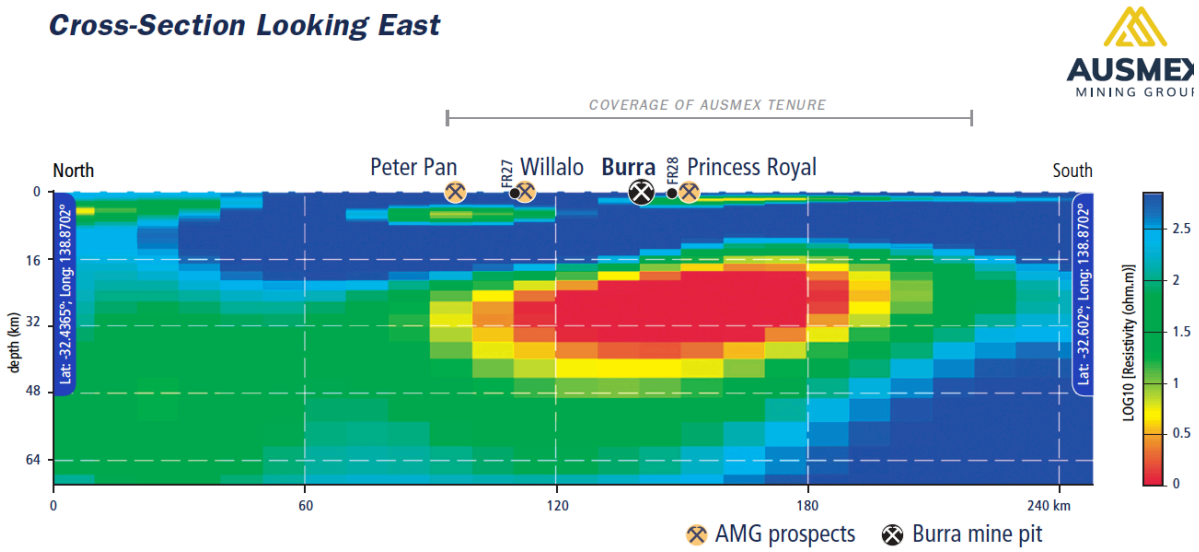

Figure 1: Large conductive MT flare (~ 100 km in diameter) within the mid-to-lower crust directly beneath Ausmex's tenure at Burra (cf., Heinson et al., 2018).(Refer ASX Release 4th October 2018)

Exploration Implications for Burra

The Rodinia plume model explains the metal association (Cu-Co-Ni-Au) seen in Ausmex's Burra tenements and thus, has significant exploration implications.

For example, samples from Princess Royal and Willalo exhibit similar ranges in Ni, Cu and Co to lithologies of the Jinchuan intrusion. The significant enrichment in Cu, Ni and Co clearly indicates that the Burra mineral systems was derived from an ultramafic to mafic source, that is similar to the host of the Jinchuan deposit.

The Burra area is highly prospective because of its position in Rodinia relative to the plume head. The terrain lying between the Gawler and Curnamona Cratons is the most proximal region of non-Chinese lithosphere to have experienced plume induced magmatism associated with the breakup of Rodinia at ~820 Ma. This is confirmed by the plume signatures shown by the Gairdner dykes.

The conductive regions seen in the MT and AMT images of the lower-to-middle crust below Burra continue to shallow crustal depths. **These conductive zones are interpreted to reflect the presence of a mineral system similar to the Jinchuan mineral deposit in the Burra area.**

Geodynamic Controls on the Burra Mineral System

In an earlier ASX release (October 4th, 2018) it was suggested that mineralisation at Burra and at the giant Jinchuan deposit, which is of similar age, was associated with the same magmatic plume event that caused the break-up of Rodinia.

A recent publication on the Jinchuan deposit by Mao et al., (2019) presents geochemical and minerals system data that supports this hypothesis. Furthermore, Mao et al., (2019)

suggested that the Jinchuan mineral system was feed by multiple magmatic conduits (Figure 5 below).

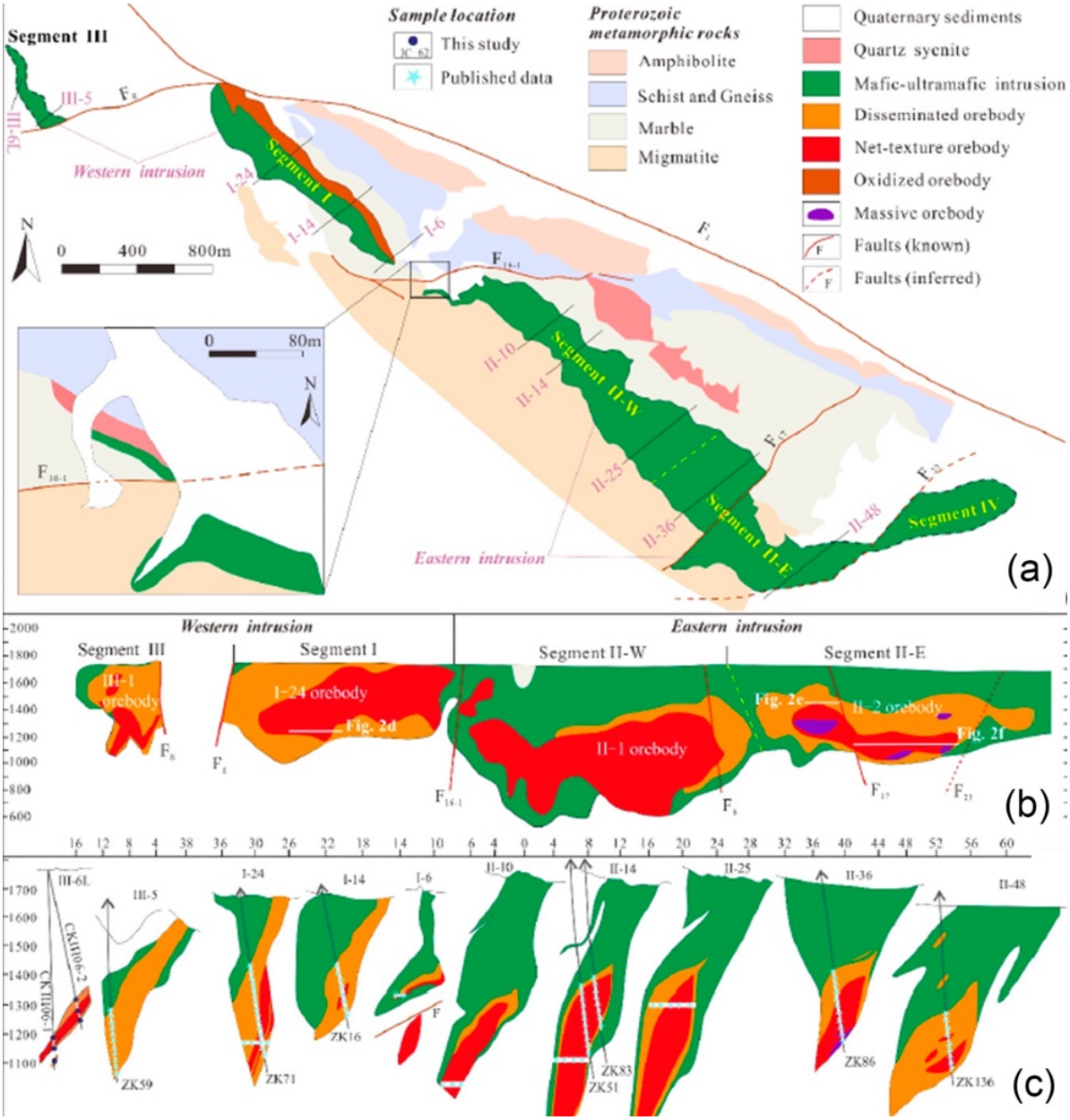

Figure 5: Map of Jinchuan mineral system showing lenticular pipe-like feeders that are similar to the conductive structures mapped at Burra (from Mao et al., 2019).

In view of the geodynamic connection between Burra and Jinchuan the conductive pipes imaged below Burra could therefore be related to the magmatic plumbing system that provided conduits for metal migration into the Burra mineral system, with the potential to host one or more world class magmatic sulphide deposits.

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The Full Independent Collerson Report is available on the Ausmex website.

References:

Mao, X., Li, L., Liu, Z., Zeng, R., Gick, J.M. Yue, B., Ai, Q. (2019) Multiple magma conduits model of Jinchuan Ni-Cu-(PGE) Deposit, North western China: Constraints from geochemistry of platinum-group elements. Minerals, 9: 187;, doi: 10.3390/min9030187.

Forward Looking Statements

The materials may include forward looking statements. Forward looking statements inherently involve subjective judgement, and analysis and are subject to significant uncertainties, risks, and contingencies, many of which are outside the control of, and may be unknown to, the company.

Actual results and developments may vary materially from that expressed in these materials. The types of uncertainties which are relevant to the company may include, but are not limited to, commodity prices, political uncertainty, changes to the regulatory framework which applies to the business of the company and general economic conditions. Given these uncertainties, readers are cautioned not to place undue reliance on forward looking statements.

Any forward-looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or relevant stock exchange listing rules, the company does not undertake any obligation to publicly update or revise any of the forward-looking statements, changes in events, conditions or circumstances on which any statement is based.

Competent Person Statement

Statements contained in this report relating to exploration results and potential are based on information compiled by Professor Ken Collerson, who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Professor Ken Collerson is an independent consultant to Ausmex Mining Group Limited and Geologist whom has sufficient relevant experience in relation to the mineralization styles being reported on to qualify as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012). Professor Ken Collerson consents to the use of this information in this report in the form and context in which it appears.

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