



ASX Announcement — 15 February 2017

## WALFORD CREEK PRELIMINARY ECONOMIC ASSESSMENT

Early start up Copper-Zinc-Cobalt project indicated for Vardy Zone  
2017 drill program focused on significant mine life extension and/or Project scale up

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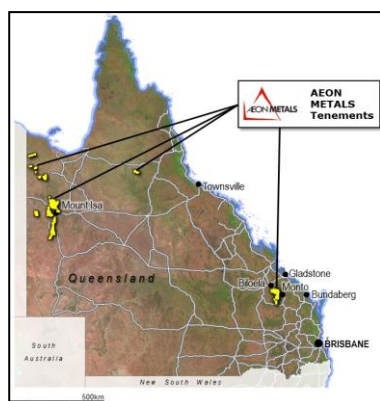
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#### ASX Code - AML

Shares on Issue: 347m  
Share Price: \$0.19  
Market Capitalisation: \$66m  
Cash (31 Dec 2016): \$4m

All mineral resources projects  
located in Queensland:



### HIGHLIGHTS

- Preliminary Economic Assessment (“PEA”) for development of the high grade Vardy Zone within Aeon 100% owned Walford Creek Project indicates a technically conventional and economically robust project.
- Projected life of mine revenue from copper, zinc, silver and cobalt of \$579 million.
- Operating cost of \$97/tonne of ROM production.
- Estimated capital cost to first production of \$97 million including \$7 million of contingency.
- Projected life-of mine (“LOM”) net cash flow of \$84 million (including capital) with average EBITDA of ~\$39 million per year.
- Subject to funding and necessary Government approvals, production of copper (with silver credits), zinc and cobalt concentrates planned to commence in Q1-2019 with an initial mine life of 6 years. 2017 drill program is to be focused on mine life extension and/or Project scale up.
- 600ktpa throughput plant resulting in LOM production of 38kt copper, 29kt zinc, and 3kt cobalt metals in concentrate.
- Resource inventory of 3.6Mt grading 1.15% copper, 1.06% zinc, 0.18% cobalt, and 26g/t silver.
- Over 70% of the tonnes included in the current Resource inventory are in the Measured & Indicated Resource category.
- In excess of \$25 million expected to be paid in Queensland royalties.
- Bankable Feasibility Study to be completed by Q4-2017 aiming for first production Q1-2019.
- Large scale pyrite roasting option identified to unlock global Resource value.

## PEA Parameters – Cautionary Statement

The PEA referred to in this announcement has been undertaken to determine the potential viability of an open pit mine and onsite sulphide floatation and cobalt-rich pyrite leaching processing of the Vardy Zone. It is a preliminary technical and economic study of the potential viability of the Vardy Zone within the global Walford Creek Resource. It is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work and appropriate studies are required before Aeon will be able to estimate any ore reserves or to provide any assurance of an economic development case.

Approximately 71% of the total LOM production target is in the Indicated Resource category with 29% in the Inferred Resource Category. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further infill drilling of the Vardy resource will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. Additionally, the selected optimised pit shell and practical pit design incorporated approximately 57° inter-ramp angle as determined by Aeon with further geotechnical assessment required to determine the appropriate angle.

The PEA is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Aeon considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PEA will be achieved.

To achieve the range of proposed feasibility studies and potential mine development outcomes indicated in the PEA, additional funding will likely be required. Investors should note that there is no certainty that Aeon will be able to raise funding when needed. The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement and believes that it has a “reasonable basis” to expect it will be able to fund the development of the project.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PEA.

## Summary

Aeon Metals Limited (“Aeon” or the “Company”) is pleased to announce results of the Preliminary Economic Assessment (“PEA”) for a proposed open pit mine and onsite processing of the Vardy Zone at the Walford Creek Project (“Project”) located in north west Queensland. The technical and associated financial outcomes of the PEA are highly encouraging and highlight the potential to expedite the development of the Vardy Zone. Aeon will now proceed with a Vardy Zone Bankable Feasibility Study (“BFS”).

The Vardy Zone development is a copper-zinc-cobalt mining project based on a Resource that will allow 6 years of open pit mining of the Vardy Zone at a production rate of 600 ktpa run-of-mine (“ROM”) material. The indicative start date contemplated for the Project is Q1-2019. Material reporting from the open pit will be processed through a conventional mill and hydrometallurgical plant to produce copper, zinc, and cobalt concentrates. Concentrates will be transported by road to Townsville for export to world markets.

The Vardy Zone is open along strike to the north-east and extension drilling is planned to commence in Q2-2017. In addition, drilling to the west and within the current Global Resource will seek to identify additional near surface open pit resources to significantly extend the current projected mine life and/or increase the annual production rate of the Vardy Zone Project.

The PEA was compiled in conjunction with AMEC Foster Wheeler, a global consultancy, engineering and project management company focused on the resources industry. The following table details the study contributors to the PEA report.

Table 1 Party Responsible for the Order of magnitude PEA Report Sections	
Section Title	Contributor
Resource Estimation	H&S Consultants Pty Ltd
Mining	Australian Mine Design and Development ("AMDAD")
Process Plant	AMEC Foster Wheeler
Tailings Storage Facility	Beca
Off-Site Infrastructure	Aeon
Transportation	Aeon
Environmental, Permitting, Social & Community	Animal Plant Mineral
Operations Plan	Aeon
Project Execution Plan	AMEC Foster Wheeler
Capital Costs	AMEC Foster Wheeler/AMDAD
Operating Costs	AMEC Foster Wheeler/AMDAD
Market Studies	Aeon
Economic Assessment	Aeon
Risk and Opportunities	Aeon/AMEC Foster Wheeler/AMDAD

All consultants/contractors engaged by Aeon in the preparation of the PEA have provided their consent to the data and interpretations contained in this announcement.

## Mineral Resource

The PEA is based on the Vardy Resource, announced on 22 December 2016 and summarised in Tables 2 and 3 below:

Table 2 Walford Creek Vardy Resource Statement							
Category	Mt	Cu %	Pb %	Zn %	Ag ppm	Co ppm	Pyrite %
Measured	1.0	1.14	0.84	0.83	25.9	1677	46.0
Indicated	2.2	1.26	0.80	0.93	26.4	1811	42.2
Inferred	3.4	1.28	0.68	0.63	25.0	1518	36.5
<b>Total</b>	<b>6.6</b>	<b>1.25</b>	<b>0.74</b>	<b>0.76</b>	<b>25.6</b>	<b>1640</b>	<b>39.8</b>

(minor rounding errors)

Table 3 Walford Creek Vardy Resource Statement Contained Metal							
Category	Cu kt	Pb kt	Zn kt	Ag Mozs	Co kt	Py kt	Density t/m <sup>3</sup>
Measured	11	8	8	0.8	1.6	445	3.40
Indicated	28	18	21	1.9	4.0	932	3.42
Inferred	43	23	21	2.7	5.2	1,244	3.33
<b>Total</b>	<b>82</b>	<b>49</b>	<b>50</b>	<b>5.4</b>	<b>10.8</b>	<b>2,621</b>	<b>3.37</b>

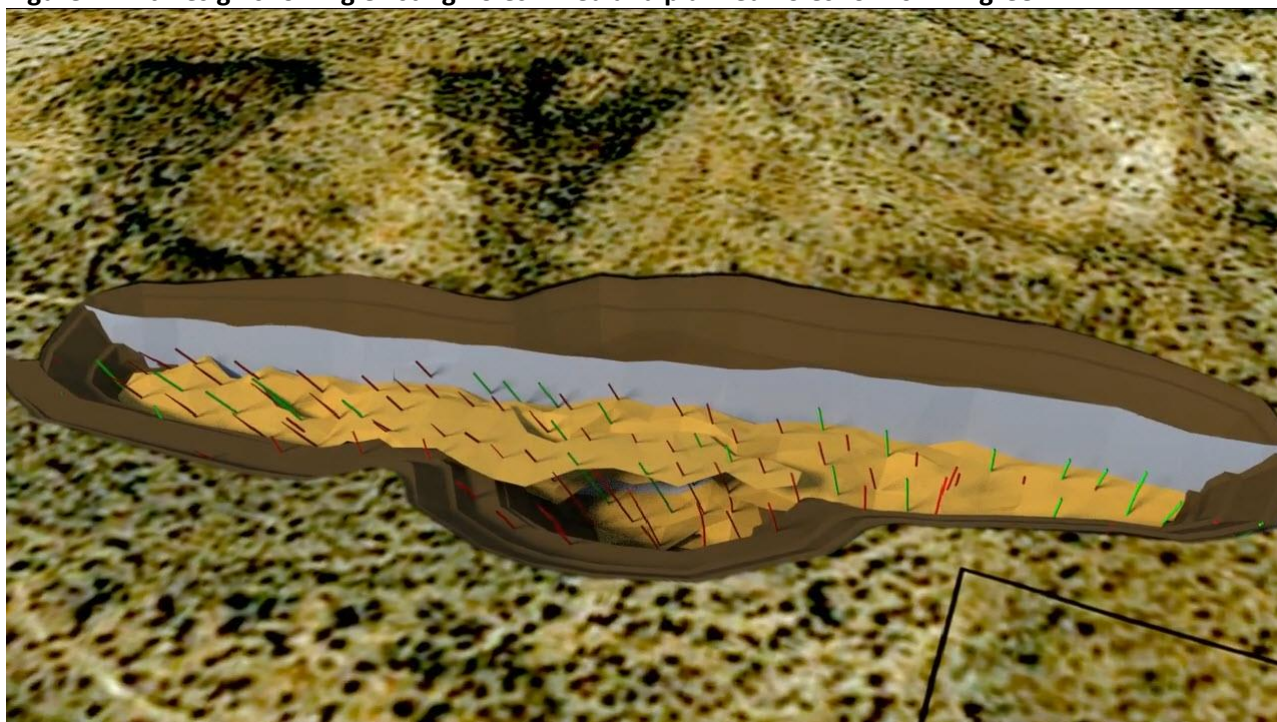
(minor rounding errors)

Measured and Indicated Resource categories make up on average 71% of the mill feed for the LOM schedule.

## Mining

The mining PEA study has been prepared based on conventional truck and hydraulic excavator operation, with an overall material movement rate of up to approximately 5.0 Mtpa to achieve the required 600 ktpa mill feed rate. The mine plan incorporates an intermediate pit stage located in the pit centre before a pushback to the final pit east and west of the initial stage.

**Figure 1: Pit Design showing existing holes in red and planned holes for 2017 in green**



The LOM schedule was prepared on an annual basis for the designed pit stages. The LOM Schedule is presented in the following table.



Table 4 LOM Schedule									
Period	Strip	Total	Waste	Feed	Grades				
Yr	ratio	Mt	Mt	Mt	Cu %	Pb %	Zn %	Co ppm	Ag g/t
-1	-	4.2	4.2	0.0	0.00	0.00	0.00	0	0
1	6.8	4.7	3.9	0.6	1.73	0.75	0.59	1,805	27
2	8.0	5.4	4.8	0.6	1.11	0.76	1.11	2,092	25
3	4.6	3.4	2.8	0.6	1.14	0.46	1.55	1,848	21
4	6.2	4.3	3.7	0.6	0.94	0.79	0.70	1,779	28
5	2.6	2.2	1.6	0.6	0.92	1.08	1.60	2,118	27
6	6.0	2.6	2.2	0.6	1.04	1.31	0.79	1,397	28
<b>Total</b>	<b>6.4</b>	<b>26.7</b>	<b>23.1</b>	<b>3.6</b>	<b>1.15</b>	<b>0.85</b>	<b>1.06</b>	<b>1,842</b>	<b>26</b>

## Process Engineering

Engineering consultant AMEC Foster Wheeler compiled the PEA including a review of processing options, which has resulted in a plant design based on processing 600 ktpa through conventional sulphide flotation and cobalt rich pyrite leaching circuits. The process plant is designed to process ore at a head grade of 1.73% Cu, 1.60% Zn, 50.89% FeS<sub>2</sub>, and 2118 g/t Co.

The process flowsheet for Walford Creek will include the following facilities:

- Ore delivery to a primary crushing circuit
- Ore storage and reclaim
- Sag and ball mill comminution circuit
- Cobalt pre-flotation circuit
- Copper rougher with concentrate regrind and two stage cleaning flotation circuit
- Zinc rougher with concentrate regrind and three stage cleaning flotation circuit
- Pyrite rougher with two stage cleaning flotation circuit
- Concentrate thickening and filtration
- Cobalt-rich pyrite concentrate regrind, leaching and precipitation circuits.

**Figure 2: Process Facility**



The following table details LOM production of mineral concentrates and contained metal. Over the life of mine, some 171,504 tonnes of copper concentrate, 53,295 tonnes of zinc concentrate and 8,301 tonnes of cobalt hydroxide are produced containing 38,158 tonnes of copper, 28,848 tonnes of zinc and 3,196 tonnes of cobalt metals. In addition, 480,000 ozs of silver is credited from the copper concentrate.

Table 5 Concentrate Production Profile – Six Years							
Commodity	2019	2020	2021	2022	2023	2024	Total
Metal Recovery (%)							
Copper	97.15	95.54	95.65	94.76	94.66	75.17	-
Zinc	57.26	77.52	84.02	64.39	84.69	65.73	-
Cobalt	48.4	48.4	48.4	48.4	48.4	48.4	-
Concentrate							
Copper (t)	40,917	27,823	28,390	25,684	25,789	22,897	<b>171,504</b>
Zinc (t)	4,317	9,338	13,582	5,427	14,492	6,145	<b>53,295</b>
Cobalt (t)	1,362	1,578	1,394	1,342	1,598	1,029	<b>8,301</b>

(minor rounding errors)

Table 6 Contained Metal							
Commodity	2019	2020	2021	2022	2023	2024	Total
Copper (t)	10,102	6,340	6,514	5,356	5,248	4,598	<b>38,158</b>
Zinc (t)	2,013	5,140	7,808	2,712	8,141	3,034	<b>28,848</b>
Cobalt (t)	524	607	537	517	615	396	<b>3,196</b>

(minor rounding errors)

## Infrastructure, Transport and Logistics

Water would be utilised from surface and groundwater sources in order to provide the required 1,200 ML of water per annum for the Project. Surface water would be sourced from a pump station installed on the Nicholson River approximately 6 km from the Project. The overall water demand would also be supplemented by water extracted from sub artesian bores close to the Project.

A number of options for the supply of power to the Project were considered. Options include extending the power line running from Mount Isa to the Century mine, solar power, and the option to install diesel generation which would equate to a higher power tariff but no upfront capital cost. The diesel generation option is utilised in the PEA based on valuation methodology.

Karumba and Townsville were considered as potential port options for export shipment of concentrate. Although Townsville is a greater distance from the Project, there is an existing facility that could handle the Project's product and therefore, at this stage of the studies, Townsville has been selected as the preferred port shipment of Aeon's product. This will be further assessed in the next phase of work.

## Capital Expenditure

The scope of the total estimate covers the capital costs for mining development, process plant, surface infrastructure, Tailings Storage Facility and associated facilities to support operation of mining activity in Q1-2019.

The capital costs are presented as of the Q4-2016 to an estimated accuracy level of  $\pm 30\%$ .

Table 7 Capital Cost Summary	
Item	Cost (A\$M)
Site Infrastructure	3.6
Mine Capital	15.1
Processing	42.3
Tailings Storage Facility	5.9
<b>Subtotal</b>	<b>66.9</b>
Accuracy & Growth Allowances	8.5
EPCM	5.2
Owners Costs	7.6
Capital Spares	1.5
Contingency	6.6
Commissioning	1.1
<b>Total Capital Cost</b>	<b>97.4</b>

## Operating Expenditure

A breakdown of operating cost estimates for the proposed Vardy Zone development is as follows:

Table 8 Average Project Operating Costs (Years 1-6)	
Item	Cost (A\$/t)
Mining	26.50
Processing	45.40
Water	0.09
Tailings	0.15
Concentrate Trucking	8.64
Port	0.79
Site Administration	7.62
Insurances	0.41
Royalties	7.12
<b>Total</b>	<b>96.7</b>

## Projected Revenue and Commodity Price Assumptions

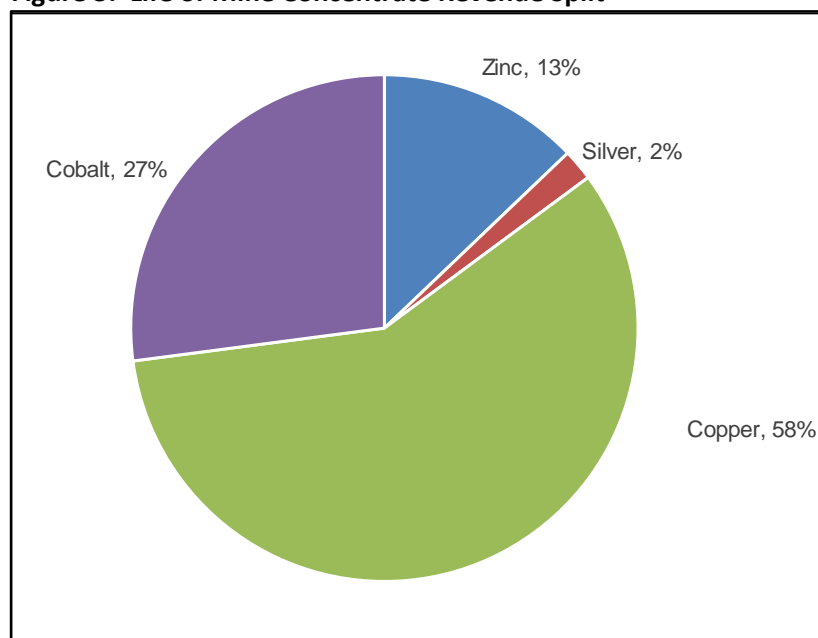
Revenue and cash flow forecasts have been derived from a combination of broker and industry analyst forecasts for copper, zinc, silver and cobalt price as well as the exchange rate from 2019.

Table 9 Economic and Commodity Price Assumptions	
Item	Value
Exchange Rate (US\$:A\$)	0.725
<b>Commodity Prices</b>	
Copper (US\$/lb)	3.30
Zinc (US\$/lb)	1.25
Lead (US\$/lb)	0.86
Silver (US\$/oz)	20.00
Cobalt (US\$/lb)	20.41



Over the 6 years of production, copper concentrate revenue represents approximately 58% of total revenue. Cobalt concentrate revenue represents the next largest proportion at 27% followed by zinc representing 13% of revenue. Silver credits account for the remaining 2% of revenue.

**Figure 3: Life of Mine Concentrate Revenue Split**



The concentrate off-take remains uncommitted, allowing maximum market flexibility.

### Indicative Timeline to Production

The PEA contemplates the commencement of construction in Q1-2018 with planned first concentrate production in Q1-2019. The following is an indicative timeline for Vardy Zone development:

Project Implementation	2017				2018				2019	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Environmental Approvals/Permitting	→	→	→	→						
Vardy Infill & Extension Drilling		→	→	→						
Bankable Feasibility Study	→	→	→	→						
Detailed Design			→	→						
Site Preparation and Pre Strip					→	→	→	→		
Construction					→	→	→	→		
Commissioning								→	→	
First Production									★	

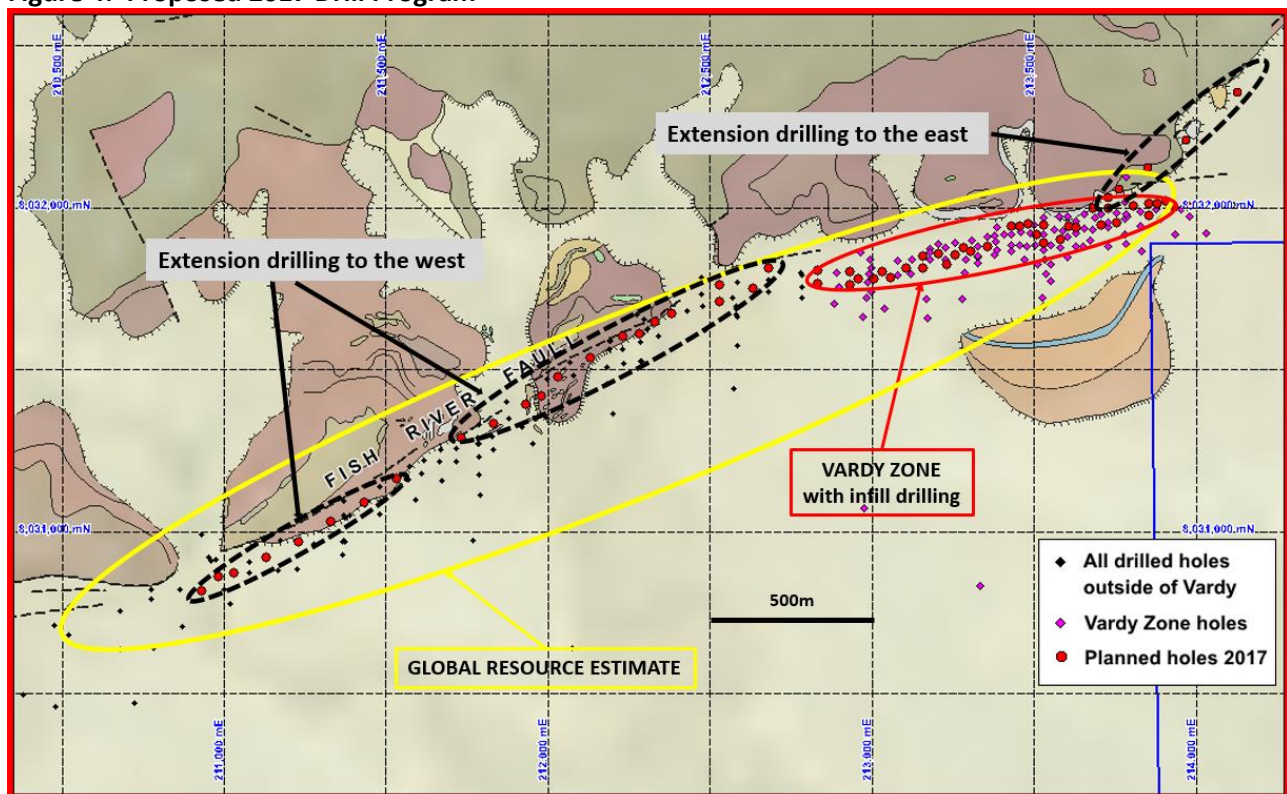
## Opportunity Assessment

### Mine Life Extension and/or Project Scale Up

The successful 2016 drilling, which was focused on the eastern portion of the Walford Global Resource, now referred to as the Vardy Zone, identified high value shallow mineralisation. This highlighted the opportunity of other high grade near surface copper/cobalt mineralisation immediately adjacent to the Fish River Fault along strike. Additional high-grade copper and cobalt close to surface offers significant mine life extension of the 600 ktpa Project outlined in the PEA and/or the ability to scale up the Project's production rate.

Three areas for 2017 Q2/Q3 drilling identified; infill at Vardy, extension exploration drilling to the north east and targeting of high grade zones within the current Global Resource west of the Vardy Zone.

**Figure 4: Proposed 2017 Drill Program**



### Large Scale Pyrite Roasting Option

When work commenced on this PEA the focus was the global Walford Resource and detailed technical work was undertaken to assess roasting with production of sulphur dioxide/acid and production of cobalt from the resulting calcined material. Studies indicate that this process would have to be pursued at a site where a use for the sulphur dioxide/acid was readily available and/or easily transportable. Currently there is no such site but as part of the PEA we have modelled the site at Mount Isa as that will encompass more proximate alternatives which may arise. This opportunity would require a 2.5 Mtpa ROM open pit project and the trucking of pyrite concentrate to Mount Isa for roasting. This would enable recovery of an average 1,300 tonnes of cobalt metal per year from the pyrite concentrate. Initial mine planning work indicates a potential mine life of 15-20 years at 2.5 Mtpa ROM. A concentrator could be built at Walford Creek to produce copper, zinc and pyrite concentrates. There would also be the potential to produce lead concentrate depending on ultimate grades reporting from the open pit.

## Next Steps

Following the robust PEA results, Aeon will now proceed with a Vardy Zone BFS as outlined in the *"Timeline to Production"* section above. The 2017 drill campaign will commence in the second quarter incorporating the Vardy Zone in-fill program as well as the near surface, along strike Vardy Zone extension drilling as outlined in the *"Opportunities"* section above.

For more information, please contact:

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## **APPENDIX 1 - COMPETENT PERSONS STATEMENT**

The data in this report that relates to Mineral Resource Estimates for the Walford Creek Deposit including the Vardy zone is based on information evaluated by Mr Simon Tear who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM) and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). Mr Tear is a Director of H&S Consultants Pty Ltd and he consents to the inclusion in the presentation of the Mineral Resources in the form and context in which they appear.

The information in this report that relates to Aeon Metals Limited's exploration results is based on information compiled by Mr Dan Johnson who is a Member of the Australian Institute of Geoscientists and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). Mr Dan Johnson is a full-time employee of Aeon Metals Limited and consents to the inclusion in the presentation of the exploration results in the form and context in which they appear.

## APPENDIX 2 – FORWARD LOOKING STATEMENTS

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