

## WALFORD CREEK PROJECT HIGHLY ECONOMIC

Aeon Metals Limited (ASX:AML) (**Aeon** or the **Company**) is pleased to announce the key outcomes of a Scoping Study completed on its 100%-owned Walford Creek Copper-Cobalt Project (**Walford Creek Project**) in north-west Queensland.

The Scoping Study has demonstrated that this high-grade polymetallic asset is amenable to development – both technically and economically. The Scoping Study has only considered Mineral Resources defined within the Vardy and Marley zones.

The Pre-Feasibility Study (**PFS**) on the Walford Creek Project is now targeted for completion in Q2 2020. The PFS will incorporate updated Mineral Resources inclusive of 2019 drilling in the Amy zone, which represents a further approximately 6km of strike length from Vardy/Marley (3.6km strike).

### SCOPING STUDY HIGHLIGHTS (all forecast numbers are necessarily approximations)

- Conventional open pit and underground mining of existing Vardy and Marley deposits delivering an initial operating life of approx. 11 years.
- 1.5Mtpa heap leach of lower-grade material combined with 2.0Mtpa flotation process plant to treat higher grade material. Commercially proven bio-leaching of cobalt concentrate.
- Final product streams of copper, lead and zinc concentrates plus cobalt-nickel sulphide and zinc sulphide.
- Total contained production of 146kt copper and 22kt cobalt (plus zinc, lead, silver and nickel). Total copper equivalent (CuEq) production of 446kt and average annual CuEq output of 42.5kt.<sup>1</sup>
- Forecast LOM net revenue split of 33% copper, 39% cobalt, 9% zinc, 7% lead, 7% silver and 5% nickel (LOM avg price assumptions of US\$3.09/lb Cu, US\$23.31/lb Co and 0.725 A\$/US\$).
- Average cash operating cost of US\$1.52/lb CuEq and All-In-Sustaining-Cost (AISC) of US\$1.56/lb CuEq.<sup>1</sup>
- Forecast pre-production capital expenditure of A\$323M, representing a globally attractive pre-production capital intensity of approximately US\$5,500/t of annual CuEq output.
- Ungeared, real, post-tax NPV<sub>8%</sub> of A\$431M. Post-tax internal rate of return (IRR) of 34% and payback of 3 years.
- Projected LOM and average annual positive net cashflow of A\$894M and A\$111M respectively.
- Significant mine life extension and expansion upside potential from inclusion of additional Mineral Resources (Amy Inferred Resource not included in Scoping Study), plus further opportunity for acceleration of high-grade material.

The revised timing of the PFS has been driven by the success achieved to date in the 2019 drilling program. It represents a strategic decision to expand the PFS scope in order to allow incorporation of expected significant Mineral Resource updates at Vardy, Marley and Amy into mine scheduling.

<sup>1</sup>. Refer to Section 15 of this release for full details on the calculation of copper equivalent (CuEq) and payable CuEq volumes.

### Cautionary Statement

The Scoping Study referred to in this ASX release has been undertaken for the purpose of initial evaluation of a potential development of the Walford Creek polymetallic deposits. It is a preliminary technical and economic study of the potential viability of the Walford Creek Project. The Scoping Study outcomes, production target and forecast financial information referred to in this release are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore Reserves. While each of the modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before Aeon will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Of the Mineral Resources scheduled for extraction in the Scoping Study production plan, approximately 18% are classified as Measured, 63% as Indicated and 19% as Inferred. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. Inferred Resources comprise less than 10% of the production schedule in the first year of operation and an average of 14% over the first three years of operation. Aeon confirms that the financial viability of the Walford Creek Project is not dependent on the inclusion of Inferred Resources in the production schedule.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person's Statement is found in Appendix A of this ASX release. For full details of the Mineral Resources estimate, please refer to Aeon ASX release dated 25 February 2019, *Walford Creek Copper-Cobalt Project Resource Upgrade*. Other than 2019 field season drilling results released to the ASX subsequently, Aeon confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

This release contains a series of forward-looking statements. Generally, the words "expect," "potential", "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this release regarding Aeon's business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties, such as Mineral Resource estimates, market prices of metals, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, and statements that describe Aeon's future plans, objectives or goals, including words to the effect that Aeon or management expects a stated condition or result to occur. Forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by Aeon, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

Aeon has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this release. This includes a reasonable basis to expect that it will be able to fund the development of the Walford Creek Project upon successful delivery of key development milestones and when required. The detailed reasons for these conclusions are outlined throughout this ASX release (including Section 17) and in Appendix B. While Aeon considers all of 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 Scoping Study will be achieved.

To achieve the range of outcomes indicated in the Scoping Study, pre-production funding in excess of A\$320M will likely be required. There is no certainty that Aeon will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Aeon's shares. It is also possible that Aeon could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Walford Creek Project. This could materially reduce Aeon's proportionate ownership of the Walford Creek Project.

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the production target and forecast financial information are based have been included in this ASX release.

**Commenting on the Scoping Study results, Aeon Managing Director, Hamish Collins, said:**

*“We are very excited to release this economic analysis for the Walford Creek Project. The analysis demonstrates that this world-class asset has the clear potential to deliver highly attractive financial returns from a technically undemanding and readily executable project development.*

*“The Scoping Study is based on the extensive infill drilling, geological modelling and metallurgical testwork that has been undertaken to date on the Vardy and Marley deposits. Importantly, many of the key project disciplines have already been advanced to a Pre-Feasibility Study level of confidence.*

*“The mine development and process facilities have been designed to maximise exploitation of the Walford Creek mineralisation. The Vardy and Marley deposits are set to be mined via a combination of conventional open pit and underground extraction methods. Base metal concentrates are produced via conventional heap leach and flotation processes. The selection of commercially proven bio-leaching to treat the intermediate cobalt concentrate delivers high cobalt extraction levels at modest project operating and capital cost.*

*“Base metals and silver output, equating to an average 42kt of copper equivalent production annually, is achieved at an attractive all-in-sustaining-cost of approximately US\$1.56 per pound of copper. Estimated pre-production capital of approximately A\$323 million sees upfront capital intensity of around US\$5,500/t of annual copper equivalent, a globally attractive level.*

*“The base metal product streams to be produced from Walford Creek offer metal price leverage to both conventional metal markets as well as the fast-growing EV battery and associated infrastructure space. In particular a high-value output such as cobalt sulphide is expected to be keenly sought after by downstream users and offers an attractive market entry opportunity for Aeon.*

*“There are few base metals projects with an initial operating life of more than 10 years that can deliver a forecast internal rate of return in excess of 30% post-tax. The Scoping Study demonstrates that a Walford Creek development has the potential to provide these attractive returns. The forecast project net present value of A\$431M results in a post-tax NPV-to-pre-production capital ratio of over 1.3 times – another strong indicator of its high projected return-on-investment metrics.*

*“It is important to note that these strong economic outcomes are based solely on the existing Mineral Resources at Vardy and Marley. The project outlined in the Scoping Study does not incorporate the current Amy Resource, or its broader potential. It does not include any drilling results delivered at Walford Creek during the 2019 field season, including at Amy where known strike now extends over 6 kilometres. The strong economic results of the current Scoping Study combined with these additional elements underpins the decision to continue to the PFS with the expectation of substantial potential mine life extension and/or production expansion upside to the base case economics presented in the Scoping Study.*

*“The Aeon Board considered it prudent to release the Scoping Study results as an interim update ahead of a more comprehensive study incorporating the results of the 2019 drilling program in the PFS. Mineral Resource updates resulting from the current year’s drilling activity will be incorporated in the mine scheduling workstream for the PFS.*

*“We now look forward to final assays of the 2019 drilling program at Walford Creek and finalisation of updated Resource estimates for the Vardy, Marley and Amy deposits. In the interim, other key PFS workstreams will continue to move forward with final PFS completion targeted for Q2 2020.”*

## Walford Creek Project Scoping Study: Key Physical Parameters

Key physical parameters	Unit	Total / LOM	Annual average
<b>Operations</b>			
Detailed engineering	months	12	na
Construction period	months	12	na
Initial production life	years	11	na
<b>Mining</b>			
<b>Mineral mined</b>	<b>Mt</b>	<b>35.5</b>	<b>3.2</b>
OP production mined	Mt	26.1	2.3
UG production mined	Mt	9.4	0.9
<b>Waste Mined</b>	<b>Mt</b>	<b>47.0</b>	<b>4.3</b>
<b>Processing</b>			
<b>Process Plant:</b>			
Process plant tonnes processed	Mt	20.0	2.0
Average copper head grade	% Cu	0.72%	0.72%
Average cobalt head grade	ppm Co	1,218	1,218
Average zinc head grade	% Zn	0.87%	0.87%
Average lead head grade	% Pb	0.77%	0.77%
Average silver head grade	g/t Ag	24	24
Average copper recovery	% Cu	95%	95%
Average cobalt recovery	% Co	72%	72%
<b>Heap Leach:</b>			
Heap leach tonnes processed	Mt	15.5	1.4
Average copper head grade	% Cu	0.11%	0.11%
Average cobalt head grade	ppm Co	382	382
Average copper recovery	% Cu	75%	75%
Average cobalt recovery	% Co	70%	70%
<b>Production</b>			
Contained copper production	kt	145.8	13.6
Contained cobalt production	kt	22.5	2.1
Contained zinc production	kt	109.6	10.6
Contained lead production	kt	95.7	9.3
Contained silver production	Moz	10.2	1.0
Contained nickel production	kt	10.9	1.0
<b>Contained copper equivalent production<sup>1</sup></b>	<b>kt</b>	<b>446.4</b>	<b>42.5</b>

<sup>1</sup>. Refer to Section 15 of this release for full details on the calculation of copper equivalent (CuEq) and payable CuEq volumes.

## Walford Creek Scoping Study: Key Economic Outcomes

Key financial outcomes	Unit	Total
<b>Price inputs<sup>2</sup></b>		
LOM average copper price	US\$/lb	3.09
LOM average cobalt price	US\$/lb	23.31
LOM average A\$/US\$	A\$/US\$	0.725
<b>Valuation, returns and key ratios</b>		
<b>NPV8% (post-tax, real basis, ungeared)</b>	<b>A\$M</b>	<b>431</b>
<b>IRR (post-tax, real basis, ungeared)</b>	<b>%</b>	<b>34%</b>
<b>Payback period (post-tax, from mine start)</b>	<b>years</b>	<b>3.0</b>
Post-tax NPV / Pre-production capex	x	1.3
<b>Cashflow summary</b>		
NSR copper	A\$M	1,200
NSR cobalt	A\$M	1,434
NSR other metal	A\$M	1,030
<b>Total NSR</b>	<b>A\$M</b>	<b>3,664</b>
Mining opex	A\$M	(641)
Processing opex (incl tailings)	A\$M	(1,063)
G&A (incl insurance) opex	A\$M	(85)
Product transport and port opex	A\$M	(118)
Royalties	A\$M	(155)
<b>Project operating surplus</b>	<b>A\$M</b>	<b>1,602</b>
Pre-production capital expenditure	A\$M	(323)
LOM sustaining capital expenditure	A\$M	(73)
<b>Project net cashflow (pre-tax)</b>	<b>A\$M</b>	<b>1,206</b>
<b>Project net cashflow (post-tax)</b>	<b>A\$M</b>	<b>894</b>
<b>Unit cash operating costs</b>		
Mining	A\$/t processed	18.1
Processing (incl tailings)	A\$/t processed	29.9
G&A (incl insurance)	A\$/t processed	2.4
Product transport and port	A\$/t processed	3.3
Royalties	A\$/t processed	4.4
<b>Total cash operating cost</b>	<b>A\$/t processed</b>	<b>58.1</b>
<b>Total cash operating cost</b>	<b>US\$/lb contained CuEq<sup>1</sup></b>	<b>1.52</b>
<b>All-in-sustaining-cost (AISC)</b>	<b>US\$/lb contained CuEq<sup>1</sup></b>	<b>1.56</b>

<sup>1</sup> Refer to Section 15 of this release for full details on the calculation of copper equivalent (CuEq) and payable CuEq volumes.

<sup>2</sup> Other LOM average prices: US\$1.23/lb zinc, US\$1.08/lb lead, US\$19.0/oz silver and US\$6.80/lb nickel

## ABOUT AEON METALS

Aeon Metals Limited (**Aeon**) is an Australian based mineral exploration and development company listed on the Australian Securities Exchange (ASX: AML). Aeon holds a 100% ownership interest in the Walford Creek Copper-Cobalt Project (**Walford Creek Project**) located in north-west Queensland, approximately 340km to the north north-west of Mount Isa. Aeon has completed a Scoping Study in October 2019 on the development of a 3.5Mtpa open pit and underground mining operation at the Walford Creek Project producing approximately 146kt copper and 22kt cobalt (plus zinc, lead, silver and nickel) for sale to global metal markets. This Scoping Study demonstrated that the Walford Creek Project represents a technically robust and highly economic mine development. A Pre-Feasibility Study (**PFS**) is targeted for completion in Q2 CY2020.



**October 2019**

**Executive Summary**

# **SCOPING STUDY**

**Walford Creek Copper-Cobalt Project**

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## 1. Introduction and Project Overview

The Walford Creek Copper-Cobalt Project (**Walford Creek Project** or the **Project**) is located approximately 340 km to the north north-west of Mount Isa and around 110 km to the north-west of the Century Zinc Mine near Lawn Hill. It is situated within granted EPM's 14220, 14854, 18552 and 26906.

The Project has Measured, Indicated and Inferred Mineral Resource estimates (February 2019) totalling:

- Vardy and Marley Copper Lodes: 17.6 Mt at 1.14% Cu, 0.87% Pb, 0.74% Zn, 28 g/t Ag, 0.13% Co;
- Vardy and Marley Cobalt Peripheral: 19.8 Mt at 0.16% Cu, 0.84% Pb, 0.99% Zn, 22 g/t Ag, 0.10% Co; and
- Amy Copper Lode: 1.8 Mt at 1.5% Cu, 0.75% Pb, 0.51% Zn, 32 g/t Ag, 0.15% Co.

This Scoping Study presents a stand-alone development pathway for the Walford Creek Project based on development of the existing Vardy and Marley Resources only. The chosen mine schedule and processing flowsheet are considered the most suitable development and operating approach following incorporation of all current technical and economic parameters pertaining to those deposits.

The mine schedule incorporates mining of the Vardy and Marley Resources utilising both open-pit and underground mining methods. Under existing Resource scale and the selected process route, optimal mine and process throughput has been established at a nameplate capacity of approximately 3.5Mtpa.

Processing of the Vardy and Marley feed will involve a combination of heap leach (1.5Mtpa) and flotation plant (2.0Mtpa) treatment. The lower grade feed will be heap leached with metal products recovered by precipitation from the pregnant solution. The high-grade feed, which comprises the majority of the process feed, will be treated by conventional flotation processing. This flotation process allows production of readily saleable copper and lead concentrates and zinc and intermediate cobalt-rich pyrite concentrates. The zinc and cobalt concentrate is then treated via commercially proven bio-leaching followed by precipitation to produce cobalt-nickel and zinc sulphide products. The flowsheet was established after extensive metallurgical testwork on the Walford Creek Project mineralisation.

Export of the concentrate and sulphide intermediate products is planned via trucking to the port of Townsville for shipping to global metal markets.

The Scoping Study has been completed to an overall forecast accuracy of +/- 35%. It should be noted that a number of the workstreams within the Scoping Study have already been undertaken to a more detailed standard of evaluation and definition.

## 2. Study Team

Key external contributors and consultants involved in the preparation of this Scoping Study included:

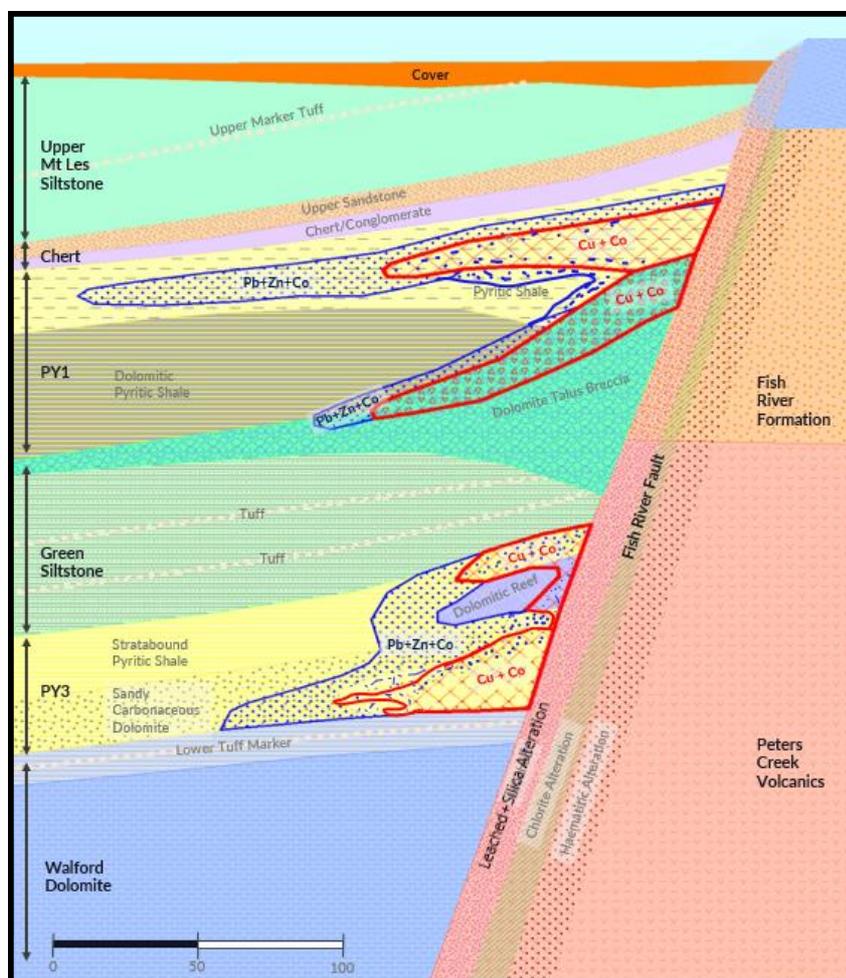
<b>H&amp;SC</b>	Mineral Resource estimation
<b>PSM</b>	Geotechnical
<b>AMDAD</b>	Mining, capital and operating costs
<b>Geometcon</b>	Processing, capital and operating costs
<b>Ed Newman &amp; Associates</b>	Environment, permitting, social and community
<b>Orange gum Consulting</b>	Environment, permitting, social and community

### 3. Geology and Mineral Resource Estimate

The Project is situated on the northern margin of the Mount Isa Inlier where it is faulted against and onlaps onto the Murphy Tectonic Ridge. This ridge is a major basement inlier trending east-west and comprising of Proterozoic granites and volcanics with underlying metamorphics. Overlying these older rocks are the Wire Creek Sandstone and the Peters Creek Volcanics. The Peters Creek Volcanics are unconformably overlain by the mid-Proterozoic Fickling Group, akin to the Mount Isa Group and consisting of the basal Fish River Sandstone overlain by the Walford Dolomite, then the prospective Mt Les Siltstone and above that the Doomadgee Formation.

The Fish River Fault (**FRF**) is a long-lived growth fault which was active during the deposition of the mineral bearing sulphidic shallow-basin sediments of the Fickling Group, particularly the Mt Les Siltstone, that hosts the base metal mineralisation south of the strike extensive FRF. It is a normal fault with south block down relative to the north block.

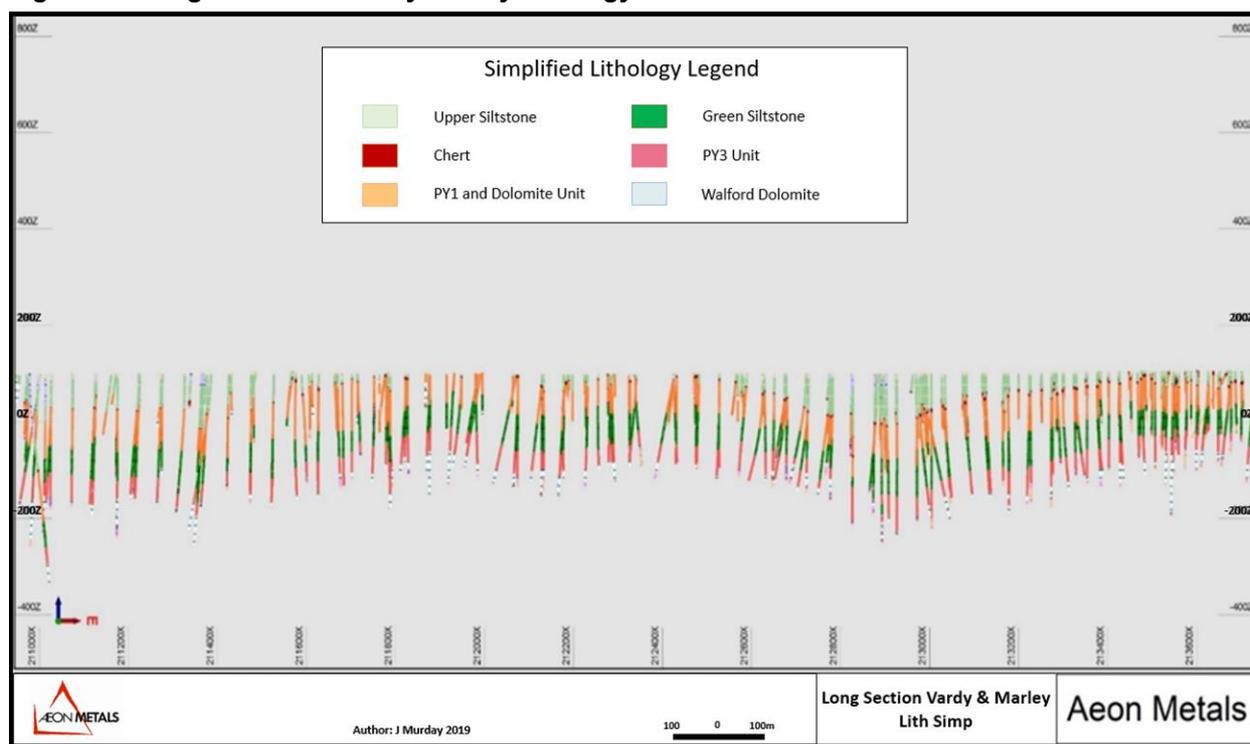
**Figure 1: Walford Creek Project schematic geological cross section**



The most significant mineralisation in the Project area consistently abuts the steeply dipping, broadly east-west trending FRF zone where it coincides with particularly the pyritic sediments of the Mt Les Siltstone. Currently, known mineralisation parallels the fault over approximately 10 kms from Vardy in the east into Marley and west into the Amy zone.

The Mt Les Formation comprises a series of interbedded fine-grained dolomitic sandstones, siltstones and shales with variable amounts of both dolomitised rock and pyritic rich sediments. The dominant mineral zones are within what are known as the upper Py1 (PY1) and associated dolomite and the lower Py3 unit (PY3). These are separated by a distinctive, mostly barren green siltstone unit. These shallow, south dipping gently folded layered sediments are broadly continuous across the entire drilled strike of known mineralisation at Walford Creek Project. This continuity of geology, defined by over 70 km of drilling, is reflected in both the schematic cross section and the long section shown in Figures 1 and 2.

**Figure 2: Long section of Vardy/Marley lithology**



The existing global Mineral Resource estimates for the Walford Creek Project (February 2019) are outlined in Table 1. These Resources are presently delineated across three defined areas of similar mineral nature: Vardy, Marley and Amy.

The Resource estimates are divided into two components: a Copper Lode Resource and a Cobalt Peripheral Resource.

The Copper Lode Resource estimates are reported from block centroids within the copper mineral wireframes at a 0.5% copper cut off. Measured and Indicated Resources constitute 76% of the total Vardy/Marley Copper Lode Resource.

The Cobalt Peripheral Resource estimates comprise two subsets: block centroids inside the Copper Lode wireframes with a copper grade range of 0.0-0.5% and block centroids inside the Cobalt Peripheral wireframes but outside the Copper Lode (both at a 600ppm cobalt cut off). Measured and Indicated Resources constitute 68% of the total Vardy/Marley Cobalt Peripheral Resource.

**Table 1: Walford Creek Project Global Mineral Resource estimates**

*Vardy/Marley Copper Lode*

Category	Mt	Cu %	Pb %	Zn %	Ag g/t	Co %
Measured	2.9	1.19	0.93	0.94	25.9	0.15
Indicated	10.6	1.12	0.89	0.76	27.5	0.13
Inferred	4.1	1.16	0.78	0.57	29.1	0.13
<b>Total</b>	<b>17.6</b>	<b>1.14</b>	<b>0.87</b>	<b>0.74</b>	<b>27.6</b>	<b>0.13</b>

*Vardy/Marley Cobalt Peripheral*

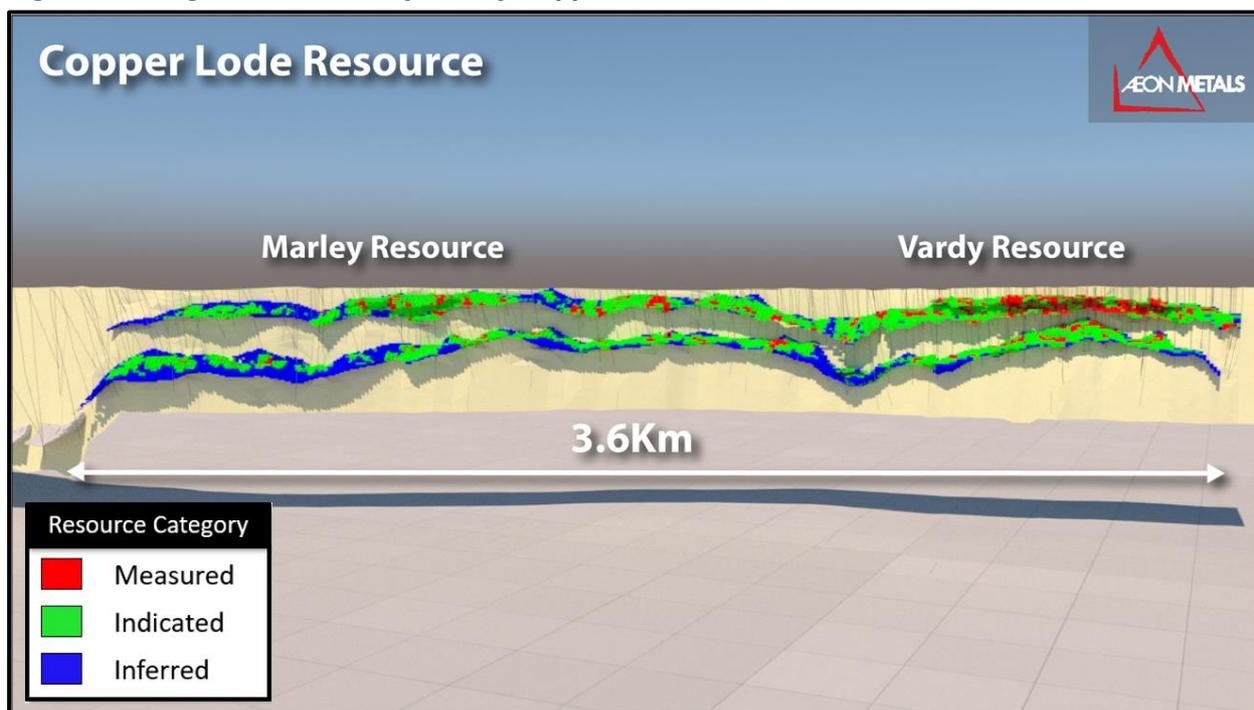
Category	Mt	Cu %	Pb %	Zn %	Ag g/t	Co %
Measured	2.4	0.14	0.81	1.34	19.6	0.11
Indicated	11.0	0.17	0.80	1.00	20.9	0.10
Inferred	6.4	0.15	0.92	0.83	24.3	0.10
<b>Total</b>	<b>19.8</b>	<b>0.16</b>	<b>0.84</b>	<b>0.99</b>	<b>21.9</b>	<b>0.10</b>

*Amy Copper Lode*

Category	Mt	Cu %	Pb %	Zn %	Ag g/t	Co %
Inferred	1.8	1.5	0.75	0.51	32.5	0.15

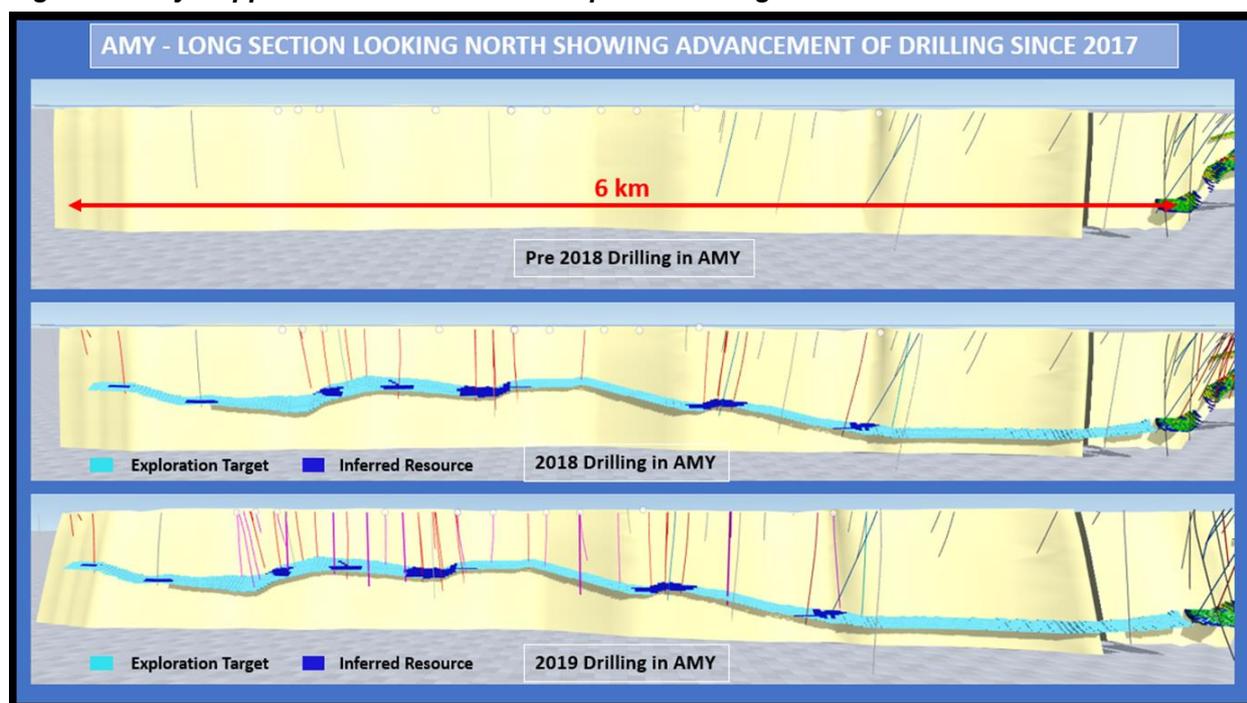
A long section of the Vardy/Marley Copper Lode Resource is depicted in Figure 3.

**Figure 3: Long section of Vardy/Marley Copper Lode Resources**



There is also an Exploration Target Range (ETR) delineated across the Amy zone, which reflects the clear potential for additional Copper Lodes within the interpreted PY3 mineral wireframe. The approximate 7 km of drilling within the shallower 2.5km portion of Amy in 2019 has confirmed the excellent mineral potential of the PY3 stratigraphy and provides great confidence of further definition of economic base metals mineralisation.

**Figure 4: Amy Copper Lode Resource and Exploration Target**



The ETR is based on actual drilling results, particularly from the 2018 program. It is derived from approximately 50% of the blocks with no interpolated grades within the PY3 Copper Lode extension. The lode interpretation is based on logged geology and base metal assays from diamond drilling of the Amy deposit, in conjunction with geological sense.

The ETR estimate (at a 0.5% Cu cut off) is outlined in Table 2.

**Table 2: Walford Creek Project Exploration Target Range (ETR) estimates**

*Amy Copper Lode*

Category	Mt	Cu %	Pb %	Zn %	Ag g/t	Co %
ETR	6 - 13	1.0 - 2.0	0.7 - 0.9	0.35 - 0.55	25 - 35	0.11 - 0.20

The potential quantity and quality of the ETR is conceptual in nature. Insufficient exploration has been undertaken to estimate a Mineral Resource and it is uncertain that further exploration will result in the estimation of a Mineral Resource.

It is important to note that neither the Amy Inferred Resource nor any Amy exploration potential (as estimated by the Amy ETR) has been incorporated in the Scoping Study forecast mine and process

schedule. The Scoping Study does not include any of the additional drilling results from the 2019 field program, at any of Vardy, Marley or Amy.

Updates to the Walford Creek Project Mineral Resource estimates, which will incorporate drilling results from the 2019 field program, are expected in Q4 2019.

For full details of the Mineral Resources and Exploration Target Range estimates, please refer to Aeon ASX release dated 25 February 2019, *Walford Creek Copper-Cobalt Project Resource Upgrade*. Other than 2019 field season drilling results released to the ASX subsequently, Aeon confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

#### 4. Geotechnical and Hydrogeology

Geotechnical assessment was carried out by PSM (Consultants) for the proposed open pit and underground mines. Both sections of the Scoping Study were produced to the confidence level of Pre-Feasibility Study. A summary of the outputs for both the open pit and the underground can be found in the following section.

**Table 3: Vardy pit wall recommendations**

Wall	Rock Mass Unit <sup>1</sup>	Bench Face Angle (°)	Berm Width (M)	Bench Height (M)	Inter-Ramp Angle (°)
Footwall (North)	Surface to TOFR	45	10	20	33
	TOFR to 10 m Intersection of FRF	70	8	20	53
	10 m Intersection of FRF to Pit Floor	70	10	20	49
Hanging Wall (South)	Surface to TOFR	45	10	20	33
	TOFR to Pit Floor	70	8	20	53

It should be noted that no geotechnical testwork has been carried out for the Marley pit, however the geology is similar to the Vardy area and has been assumed to require the same geotechnical considerations.

The underground mine was divided up into various geotechnical domains and stability parameters calculated for each domain. The table below presents a summary and average range of recommendations for slope heights of 25m for domains other than the FRF Fault Zone. Within the fault zone slope walls are likely to be unstable and stoping should therefore be conducted in retreat from hangingwall to footwall with stopes adjacent to the fault mined last.

**Table 4: Stope design recommendations**

	Hydraulic Radius m		Max Stope Width m	
	Typical	Range	Typical	Range
Hanging Wall and Footwall	7.6	2.5 - 18.2	6	6 - 86
Backs (widths for square spans)	4.1	1.8 — 6.6	16.5	7 - 27
End / Side Walls	8.3	3.51 – 11.2	38.5	9 - 89

The main access development will be in the footwall of the FRF (north side) where ventilation shafts of 4 to 6m in diameter are expected to be stable in all rock units other than the fault zone or surface cover

material. Bolt lengths for decline and level development are assumed to be 2.4m for up to 5m wide and 3m for poor ground conditions such as around the FRF.

**Table 5: Decline and drive support recommendations**

	Bolt Spacing m		Shotcrete/Mesh
	Typical	Range	
Decline and Drive (5m wide)	1.6	1.0 – 2.2	Mesh + 100mm to 120mm shotcrete in FRF
Intersections (additional)	2		6m Cable bolts
Stope brows in fault zone	1.5		2 x 6m cable bolts plus up to 200mm shotcrete

The geotechnical recommendations anticipate the impact of ground water on ground stability. Further testing will be carried out during the next phases study.

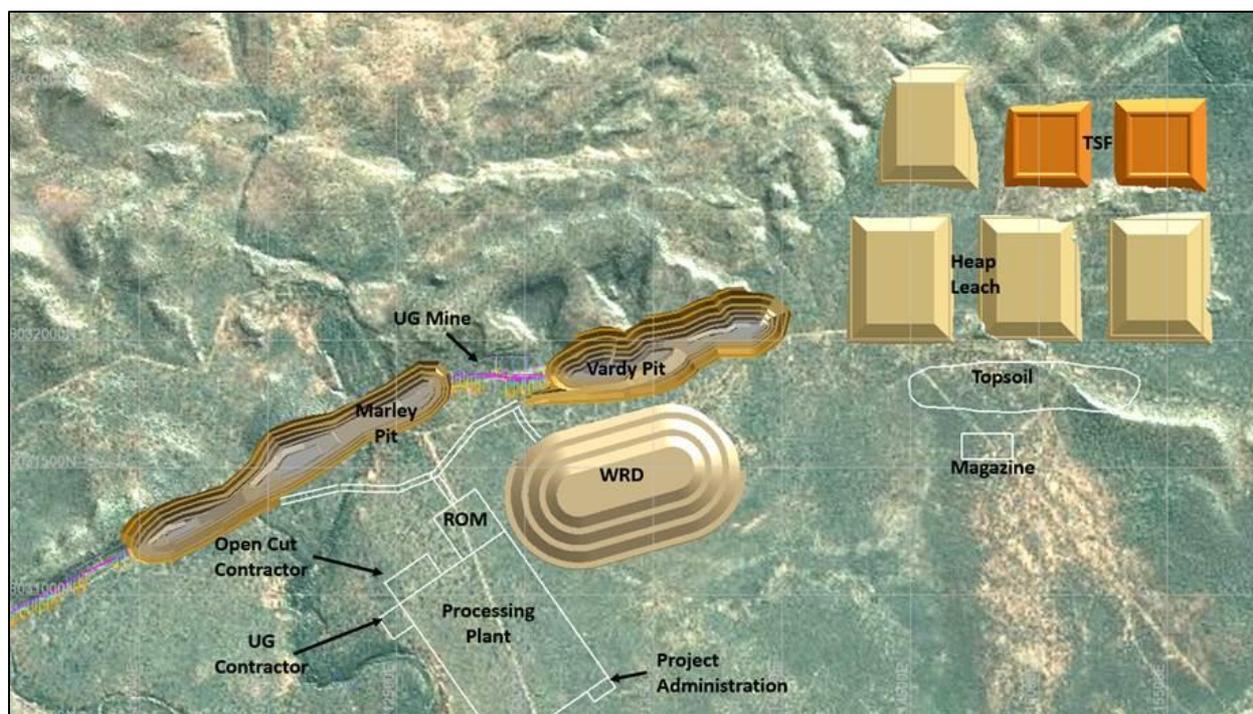
The first round of pump tests were recently carried out on the anticipated Vardy pit area. The pump tests showed limited water ingress, a relatively fast depression of the water table and a very slow recovery. These results along with a second round of pump tests will be incorporated into future geotechnical studies.

## 5. Mining Method and Schedule

The Scoping Study mining schedule allows for optimal extraction of the Vardy and Marley Resources through a combination of open pit and underground mining.

The open pit schedule is based on three main phases: starter pits at both Vardy and Marley, followed by an intermediate pushback of both pits as well as commencement of an additional pit at Marley, before a final pushback to leave a single pit at each of Vardy and Marley.

**Figure 5: Mine design and site layout in plan view**



Total open pit production mined is 26.1Mt with total waste movements of 47.0Mt, which equates to a strip ratio of approximately 1.8:1. Open pit mining activities extend across the initial processing life of the Project.

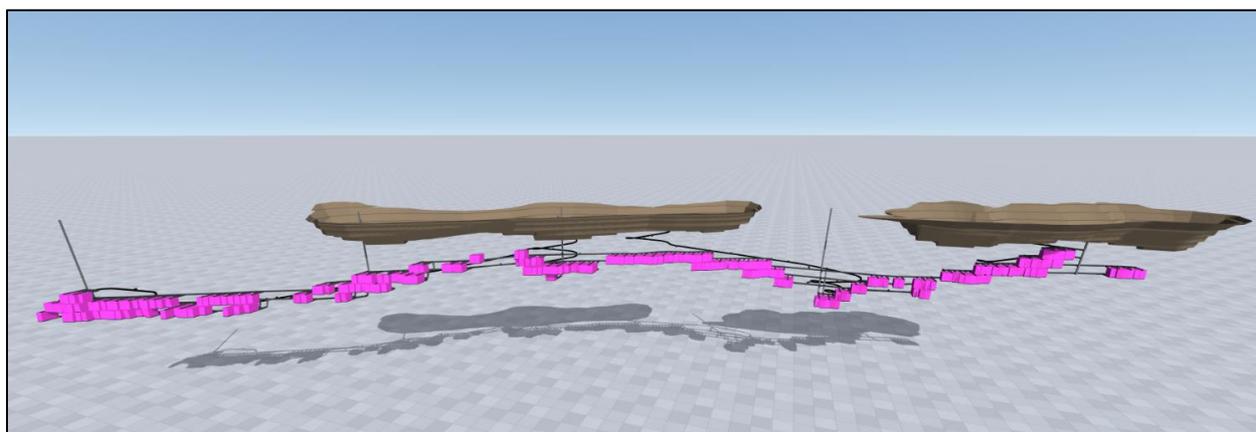
Open pit mining will be carried out by a specialised open pit contractor. The fleet is expected to consist of 120t to 190t backhoe configured excavators matched to 90t trucks. Truck numbers will vary throughout the mine life according to pit depths and strip ratio.

The deeper PY3 lode is to be mined entirely from underground. The top of the PY3 starts at approximately 120m below surface and extends to approximately 300m depth. Access is planned to be via conventional declines developed from the open pit voids.

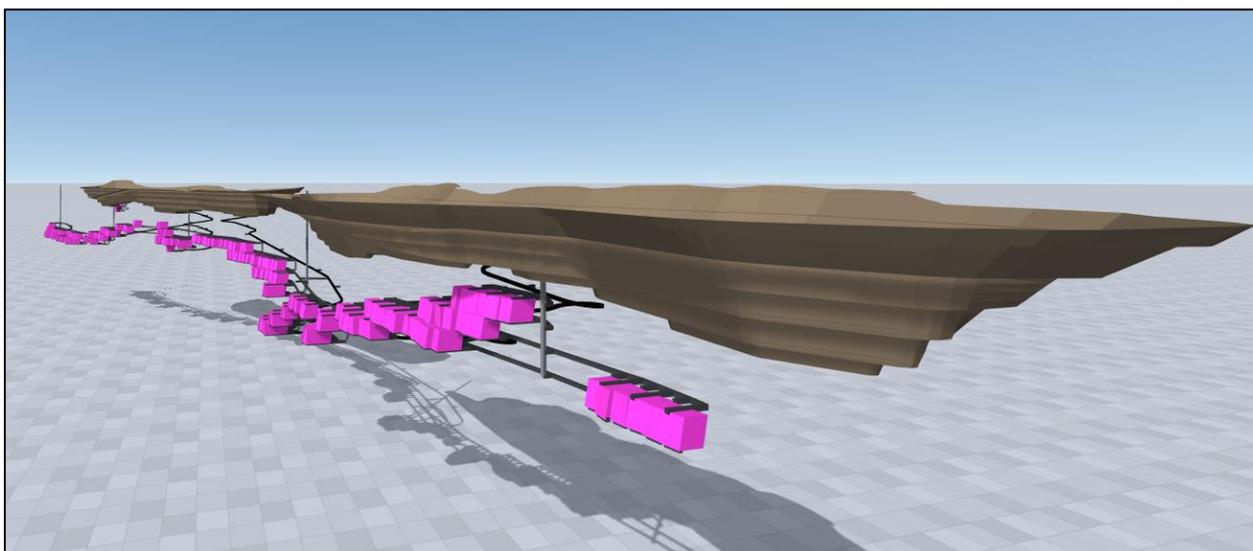
Once each decline reaches target depth, a largely horizontal access drive will be driven to the east and the west. This drive will be located in the footwall, on the north side of the FRF and approximately 20m north of the mineralisation.

Extraction will be by a transverse retreat open stoping method. This will require development drives (largely in mineralised material) on 15m centres to be driven from the access drive through the FRF and then extended to the southern extent of the mineralisation, which is up to a 60m distance.

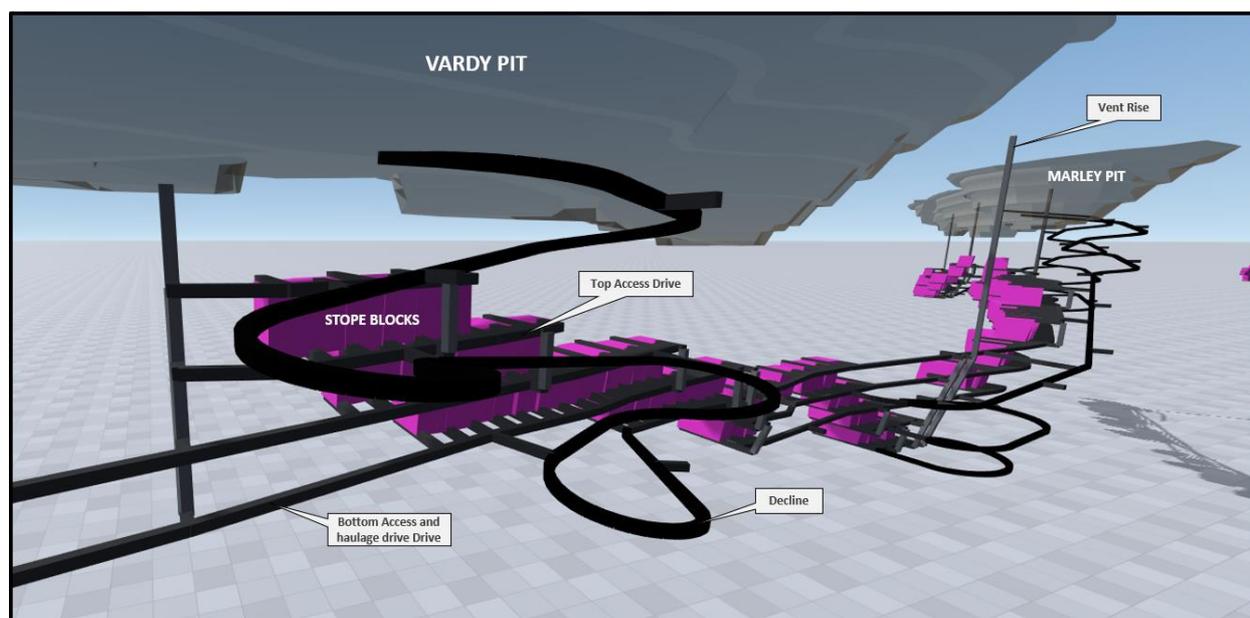
**Figure 6: Vardy/Marley underground mine design in longitudinal projection looking north**



**Figure 7: Vardy/Marley underground mine design looking north-west**



**Figure 8: Schematic showing Vardy PY3 stope access**



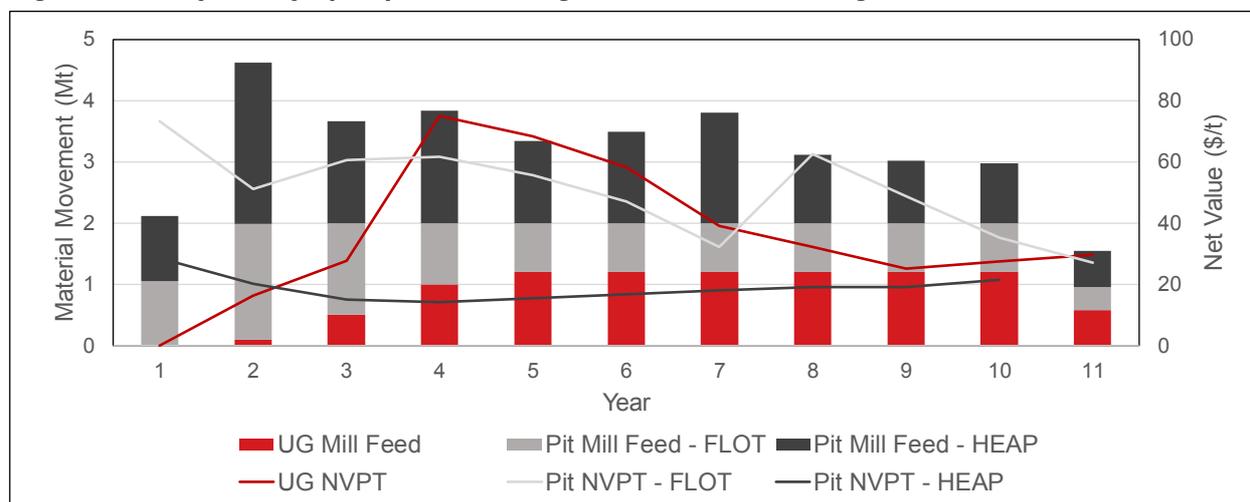
Development of two declines from the Marley pit is planned to commence in Year 1, with underground production mining starting in Year 2. A third decline, from the Vardy pit, is targeted to be established in Year 3, allowing ramp up to maximum underground production tonnages of approximately 1.2 Mtpa from Year 5. Mining of higher-value mill feed is focussed across Years 2 to 5 and typically contains elevated grades for both copper and cobalt.

Total decline development requirements are estimated at 5,103m. Forecast lateral development requirements total 28,601m and residual vertical development totals 1,466 metres.

Underground mining will be carried out by specialist underground contractor. It is expected that the fleet will consist of 17t payload, load-haul dump units matched with a fleet of 50t articulated trucks.

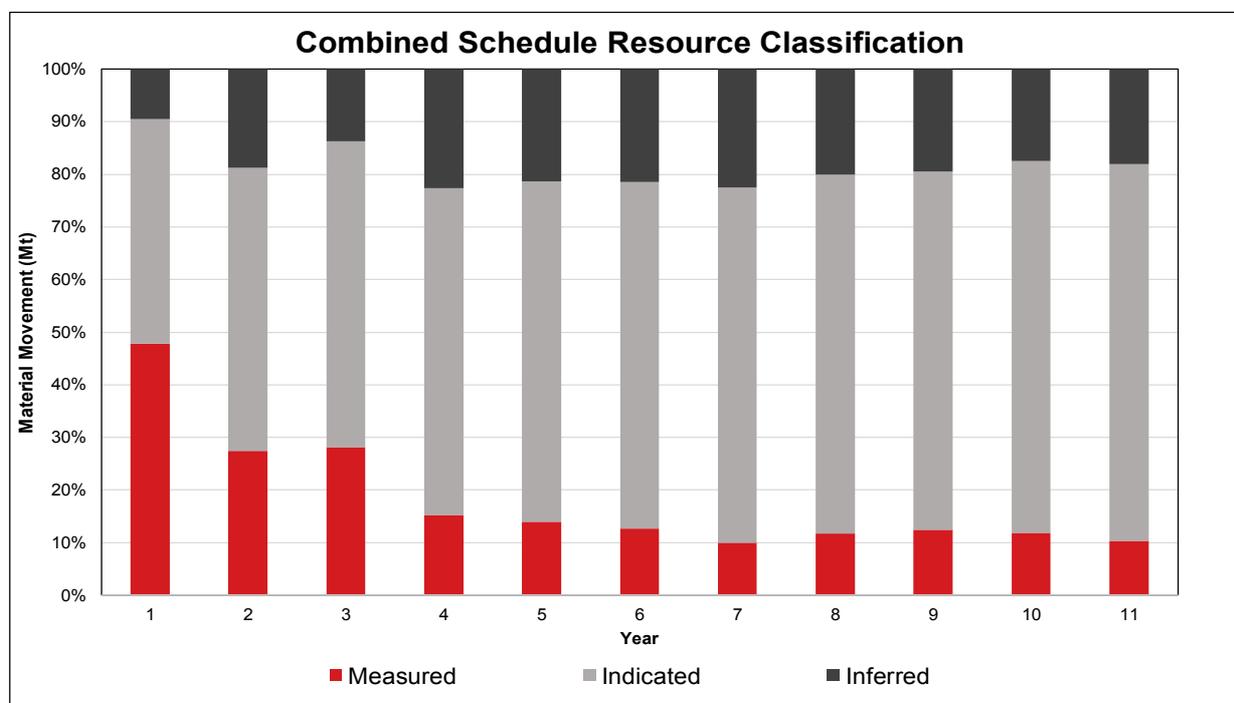
The overall Vardy/Marley mine and process schedule is outlined in Figure 9. The mining schedule has been developed on a Net Value Per Tonne (NVPT, A\$/t) breakeven basis (includes underground stoping and haulage costs plus process costs). Open pit material is to be treated through either the heap leach pad or flotation process plant, depending on grade. Underground material is planned to be treated solely through the flotation plant.

**Figure 9: Vardy/Marley open pit and underground mine scheduling**



The composition of this production schedule by Mineral Resource classification is shown in Figure 10. Inferred Resources constitute only 19% of the production schedule, including less than 10% in the first year of operation and less than 15% over the first three years of operation.

**Figure 10: Vardy/Marley open pit and underground mine scheduling**



## 6. Process Flowsheet and Plant Design

### Introduction

The Walford Creek Project treatment plant consists of a heap leach for low grade material and flotation, bio-leach and precipitation circuits for the higher-grade ore. The plant feed sourced from both discrete and mixed zones of copper, lead, zinc and cobalt mineralogy with minor amounts of silver and nickel.

The Walford Creek Project flotation circuit will produce the following:

- Copper concentrate;
- Lead concentrate;
- Variable amounts of silver will be recovered to the different concentrates;
- Zinc concentrate for downstream bio-leach and precipitation treatment; and
- Cobalt-pyrite concentrate for downstream bio-leach and precipitation treatment.

The Walford Creek Project bio-leach and precipitation circuit will produce the following:

- Copper sulphide precipitate with silver credits;
- Zinc sulphide precipitate; and
- Cobalt sulphide precipitate with nickel credits

### Testwork

Comminution: 24 samples representative of Vardy PY1, PY3 and transition and Marley PY3 have undergone comminution tests. Comminution parameter results for abrasion (Ai), Bond Ball Mill Work Index (BWI) and SMC tests (DWi and A\*b) indicate the deposit has moderate SAG mill competency, moderate ball mill hardness and low abrasion properties and would be suitable for a standard SAG-ball mill circuit.

Flotation: To date, 499 composite optimisation and variability tests have been conducted. The tests varied from roughing to regrind evaluation and open circuit cleaning tests. Thirteen locked cycle tests have been conducted including 10 evaluations of copper performance, 13 evaluating cobalt and one each evaluating lead and zinc performance, respectively.

Bio-leach: 16 semi-continuous bio-leach tests have been conducted at ALS Burnie. This testwork has been ongoing for over 6 months with results utilised in the Scoping Study.

Precipitation: At the time of writing, precipitation tests are in progress at ALS in Burnie and Outotec in Finland. Initial results have been used to inform the Scoping Study (see Aeon ASX release dated 30 July 2019, *Bioleach Selected for Process Flowsheet*).

Heap leach: Recoveries have been based on bio-leach reactor testwork and factored for the heap leach environment.

Based on the testwork noted above, Table 6 summarises the indicative average life-of-mine recoveries. Highlighted cells indicate metals that are considered saleable within the respective concentrate/precipitate. The heap leach is expected to achieve 75% copper extraction and 70% cobalt and nickel extraction. It is noted that during actual running the copper precipitate will be mixed with the copper flotation concentrate.

**Table 6: Indicative recovery to product**

Product	Cu	Co	Ni	Zn	Pb	Ag
	%	%	%	%	%	%
Copper Concentrate	80.2	5.1	5.1	7.2	3.8	12.9
Lead Concentrate	5.4	0.5	0.5	6.4	52.3	4.0
Zinc Precipitate	1.2	0.6	0.6	63.7	0.1	2.5
Copper Precipitate	10.1	0.4	0.4	4.4	0.0	49.7
Cobalt-Nickel Precipitate	0.0	72.1	72.1	3.5	0.0	0.1

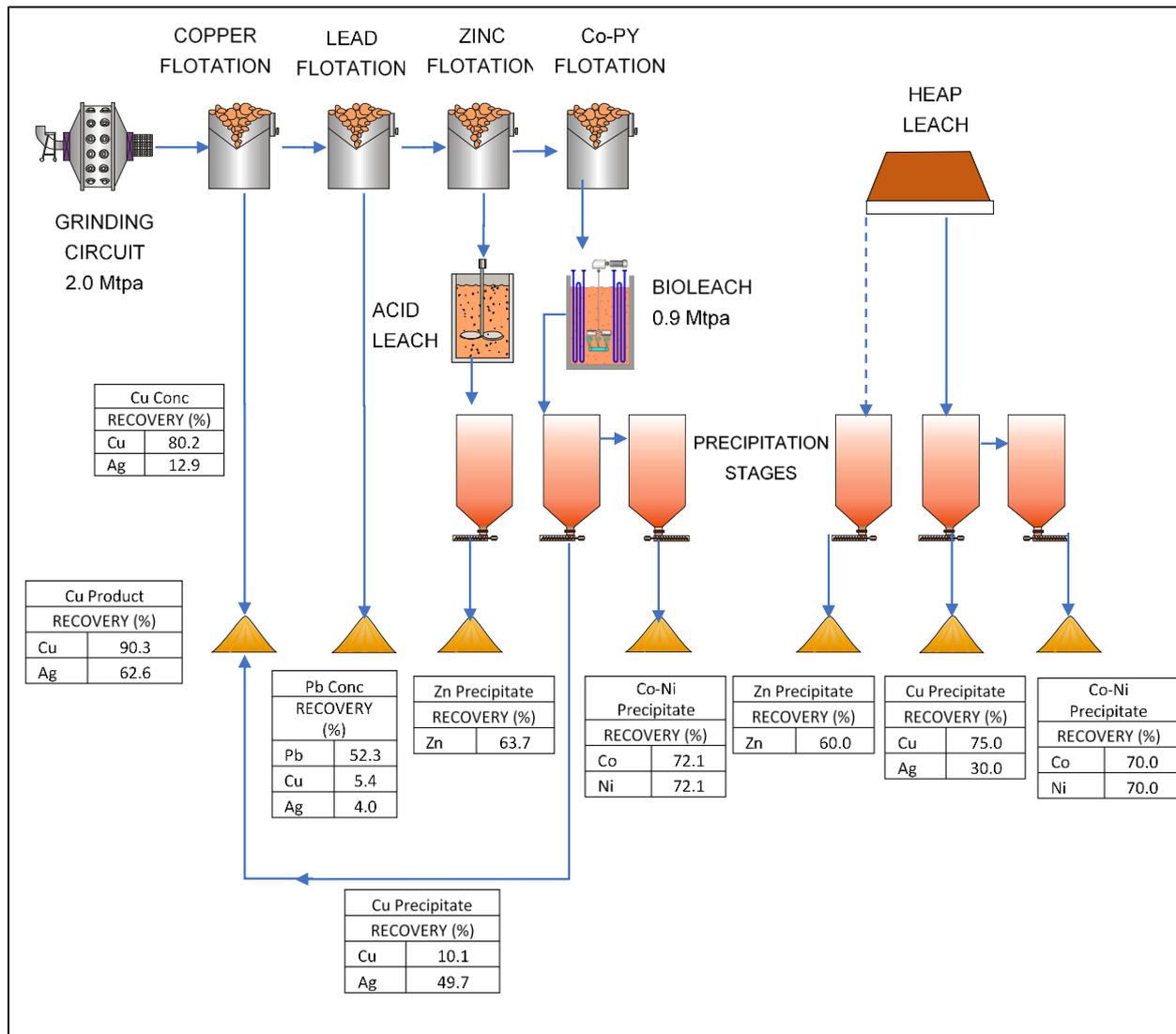
The distribution of nickel in the orebody was modelled as part of the Resource estimation process, however was not included in the mine planning process. Subsequent metallurgical testwork indicates that the nickel recovers to the cobalt precipitate in a saleable quantity. From the metallurgical testwork it is known that cobalt and nickel occur in the concentrates at a ratio of 2:1. This is the ratio that has been used to generate the nickel precipitate in the financial model. Further modelling of nickel will be undertaken in the PFS.

### Process Description

The Walford Creek Project metallurgical treatment consists of the following processes:

- Bio-leach assisted heap leach of low-grade ore at a nominal treatment rate of 1.5Mtpa;
- 2Mtpa flotation circuit consisting of crushing, SAG and ball milling, flotation, thickening and filtration, producing copper, lead, zinc and cobalt-pyrite concentrates;
- 900ktpa bio-leach circuit for treatment of cobalt-pyrite concentrate;
- Precipitation circuits for production of copper sulphide precipitate with silver by-product credits, zinc sulphide precipitate and cobalt sulphide precipitate with nickel by-product credits; and
- Sulphur burner and acid plant for generation of sulphuric acid.

**Figure 11: Walford Creek Project process flowsheet**



**Heap Leach:** The heap leach facility will consist of four leach pads over the mine life. The heap leach design feed grades over the mine life are 400ppm Co, 200 ppm Ni, 0.1% Cu, 0.3% Pb and 0.4% Zn. In addition, low grade cobalt pyrite concentrate will also be transferred for heap leaching.

The heap leach processing plant would comprise several industry standard processing units including:

1. Crushing, sizing to 10 mm;
2. Agglomeration of fines, with addition of a bio-leach culture and sulphuric acid;
3. Overland conveyors to the heap leach pad;
4. A stacking system for placing of ore in layers on the heap leach pad; and
5. Process ponds for storage of solutions for distribution to precipitation leach pads.

Pregnant solution from the leach pads will be treated in the main precipitation circuit for metal's recovery.

**Comminution Circuit:** The process plant process flowsheet includes ore delivery to a primary crushing circuit, ore sorting, ore storage and reclaim, a SAG and ball grinding mill.

**Flotation Circuit:** Ore is classified as being copper-cobalt ore, lead ore, zinc ore and cobalt ore. These ores will be treated in the flotation circuit, with low grade cobalt ore treated on the heap leach. The cobalt-pyrite concentrate will report to the bio-leach circuit.

**Acid Plant:** The process route chosen requires approximately 120ktpa of concentrated sulphuric acid which will be produced at site. This is achieved by burning sulphur to produce energy which contributes to site power generation and sulphur dioxide which is sent to the acid plant for the generation of sulphuric acid. The sulphuric acid is used in the bio-leach and precipitation circuits.

**Bio-leach Circuit:** The bio-leach circuit is designed to operate at a rate of 900ktpa. The cobalt-pyrite concentrate from the flotation circuit will be pumped to a series of mechanically agitated leach tanks, operating under atmospheric pressure conditions. The leach tanks each have sulphuric acid, nutrient and air injection facilities. Excess heat is removed from the tanks via a heat exchange system.

The leach discharge slurry is pumped to a series of counter-current-decantation (CCD) thickeners, for solid-liquid separation. High grade solution is stored in a process pond prior to feeding to the precipitation circuit and residue is pumped to the neutralisation circuit.

**Precipitation Circuit:** The precipitation circuit uses pH and the addition of sodium hydrosulphide to initiate the precipitation of the individual minerals. The process is designed to sequentially produce the following precipitates;

- Iron-Arsenic in a stable form for transfer to a dedicated tailings storage facility;
- Copper sulphide with silver credits, which is mixed with the copper flotation concentrate;
- Zinc sulphide;
- Cobalt sulphide with nickel credits; and
- Residue which is neutralised, thickened and transferred to the tailings storage facility.

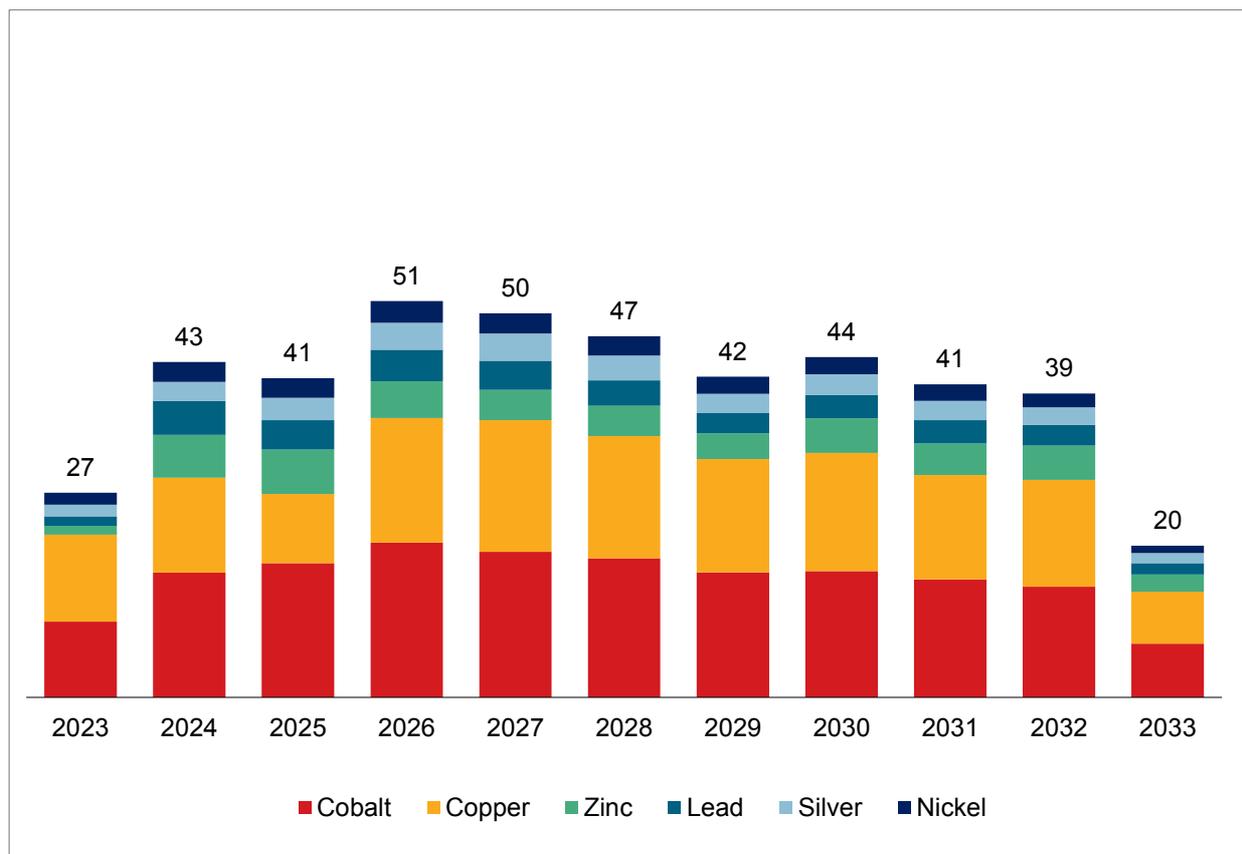
The life of mine process schedule is shown in Table 7.

**Table 7: Total process schedule (HL + plant) and average grades<sup>1</sup>**

Years		1	2	3	4	5	6	7	8	9	10	11	Total
HL feed	Mt	1.1	2.6	1.7	1.8	1.3	1.5	1.8	1.1	1.0	1.0	0.6	<b>15.5</b>
Plant feed	Mt	1.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	<b>20.0</b>
<b>Total feed</b>	<b>Mt</b>	<b>2.1</b>	<b>4.6</b>	<b>3.7</b>	<b>3.8</b>	<b>3.3</b>	<b>3.5</b>	<b>3.8</b>	<b>3.1</b>	<b>3.0</b>	<b>3.0</b>	<b>1.5</b>	<b>35.5</b>
Cu	%	0.55	0.30	0.35	0.46	0.55	0.49	0.43	0.51	0.48	0.50	0.48	<b>0.45</b>
Co	ppm	825	675	840	921	994	914	761	917	901	860	803	<b>852</b>
Zn	%	0.45	1.25	1.17	0.94	0.76	0.77	0.64	0.90	0.80	0.85	0.90	<b>0.88</b>
Pb	%	0.63	1.10	0.90	0.92	0.81	0.72	0.60	0.69	0.68	0.62	0.71	<b>0.78</b>
Ag	g/t	22	20	24	29	29	27	21	23	22	21	23	<b>24</b>

<sup>1.</sup> Cu and Co weighted average grade for heap leach and plant. Zn, Pb and Ag grades associated with plant throughput only.

**Figure 12: CuEquiv production (ktpa)**



## 7. Tailings Storage

The Scoping Study evaluates the use of a lined turkey’s-nest-style Tailings Storage Facility (TSF). Consideration will be given to converting the facility to a waste landform, thus significantly increasing the strength of the buttressing of the walls.

The location chosen for the TSF is to the east of the Vardy pit and to the south of the hill line created by the FRF. This location is favoured due to it being relatively flat, protected from any major run-off lines or catchment, and facilitates construction in a way that enables the Vardy pit void to act as an effective ‘fail-safe’ capture area.

Geochemical testwork has been undertaken to determine the expected characteristics of the Walford Creek Project tailings. This included a specific focus on the acid and metalloid generating potential of the tailings material. The testwork shows that if the tailings were to be co-disposed with waste rock the tailings would provide considerable pH buffering capability. The option of tailings / waste rock co-disposal will be investigated further in the PFS.

## 8. Water Supply

The Project will require around 2GL of water per annum to support planned operations. These water requirements are planned to be met by a combination of groundwater sources and surface water harvesting.

Based on available groundwater information and a review of the geological setting, there are a number of potential water sources for the Project including: deep artesian aquifers, indicated paleochannels, and artesian water in the FRF zone.

More detailed evaluation of potential water sources and the preferred water supply strategy is planned for the PFS.

## **9. Power Supply**

Total expected power requirement for the Project is 23MW. This is comprised of 17.5MW for the processing plant, 4.0MW for the underground and open pit mining operations, and 1.5MW for the camp facilities.

The Scoping Study assumes that power requirements for the Project will be generated by a combination of co-generation from the planned sulphur burner (part of the processing facilities) and a diesel fired generation facility. The cost of constructing an owner-operated power station has been included in the capital cost estimate for the Project. Forecast power operating cost is A\$0.27 per kWh.

The closest major powerline to the Project is Ergon's 220kV single circuit powerline from Mica Creek Power Station to the Century Zinc Mine. Century Mine is approximately 100 km south of the Walford Creek Project.

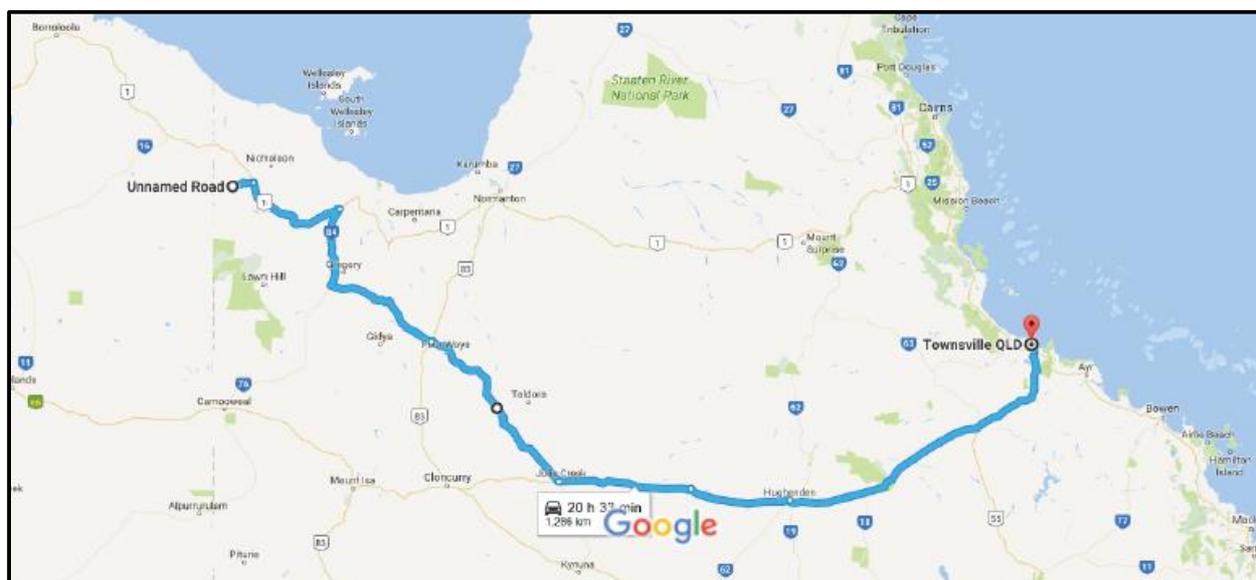
Further evaluation of power sourcing alternatives, including constructing a connection to the Century power supply, as well as other power generation mixes, such as solar, will be undertaken as part of the PFS.

## **10. Product Transportation and Logistics**

Townsville is the proposed port option for the transportation of all freight to and from the operation. The trucking distance is approximately 1,300km and the cost of container trucking to Townsville is estimated at approximately A\$110/t.

There are likely to be significant savings available in transportation by utilising the same type of container for general freight as for concentrate transport. This would allow general freight to be trucked to site and for trucks to return loaded with a concentrate.

**Figure 13: Preferred road route from Walford Creek Project to Townsville**



## 11. Environmental and Social

All exploration leases are in good standing.

The key overarching approval for the Walford Creek Project is the Environmental Authority application. Other key approvals that might be required for the Project under Commonwealth and Queensland legislation include: the EPBC Act (where the Project impacts threatened and migratory fauna); the Water Act (Qld), for taking and/or storage of surface and groundwater; and development and approval of a Progressive Rehabilitation and Closure Plan.

An EIS process would be targeted to take 12-18 months from the point at which a detailed project plan is finalised through to grant of Mining Lease(s) and Environmental Authority. There are reasonable grounds to believe that an EA and Mining Lease(s) would be granted in a timeframe consistent with the proposed project development timeline.

Preliminary environmental baseline work carried out during the 2015, 2016, 2017, 2018 and 2019 field seasons (5 years) is planned to be supplemented by additional work to bring these studies to EIS scope level (see Table 8).

**Table 8: Progress on key baseline studies for an EIS scope**

Item	Work completed to date	Work required for EIS scope
<b>Surface water</b>	Initial flood modelling complete Collection and analysis of surface water samples within and downstream of the EPM	Geomorphic assessment of wetlands and waterways. Ongoing seasonal and event-based sampling; collation of data to establish Environmental Values (EVs) for affected catchments (Walford, Hedleys, Nicholson) DEM data required for hydrological model calibration and development of site water management plan
<b>Groundwater</b>	Specific stratigraphic units targeted to determine potential as site water supply Stygofauna sampling of selected boreholes	Detailed groundwater impact assessment targeting potential groundwater dependent ecosystems Expanded sampling to meet criteria for stygofauna pilot study
<b>Waste</b>	Geochemical characterisation of waste rock in drilled areas	Ongoing characterisation of waste rock and other waste streams.

Item	Work completed to date	Work required for EIS scope
		Development of progressive rehabilitation and closure plan
<b>Terrestrial flora</b>	Detailed vegetation assessments across three field seasons	Detailed assessment of key map units; prepare site-scale vegetation map
<b>Terrestrial fauna</b>	Baseline fauna survey work over three field seasons	Targeted assessments for threatened and migratory fauna species
<b>Cultural heritage</b>	State and local heritage registers searched for EPM	Indigenous cultural heritage investigations to meet duty of care guidelines
<b>Social / economic</b>	Preliminary desktop review	Prepare social and economic impact assessments

## 12. Operating Costs

A breakdown of the Scoping Study operating cost estimates is provided in Table 9.

Mining costs include clearing, topsoil removal, drill and blast, load and haul, rehandling allowance and rehabilitation. All mining activities are planned to be via contract mining arrangements.

Processing cost is dominated by power and labour (approx. 50% and 32% respectively of total processing cost).

General and administrative (G&A) costs include management/administrative/HSE/general labour costs and other general expenses.

Product transport and port costs include trucking of concentrate and sulphide products to Townsville and export through this port facility.

Royalties comprise Queensland State government royalties.

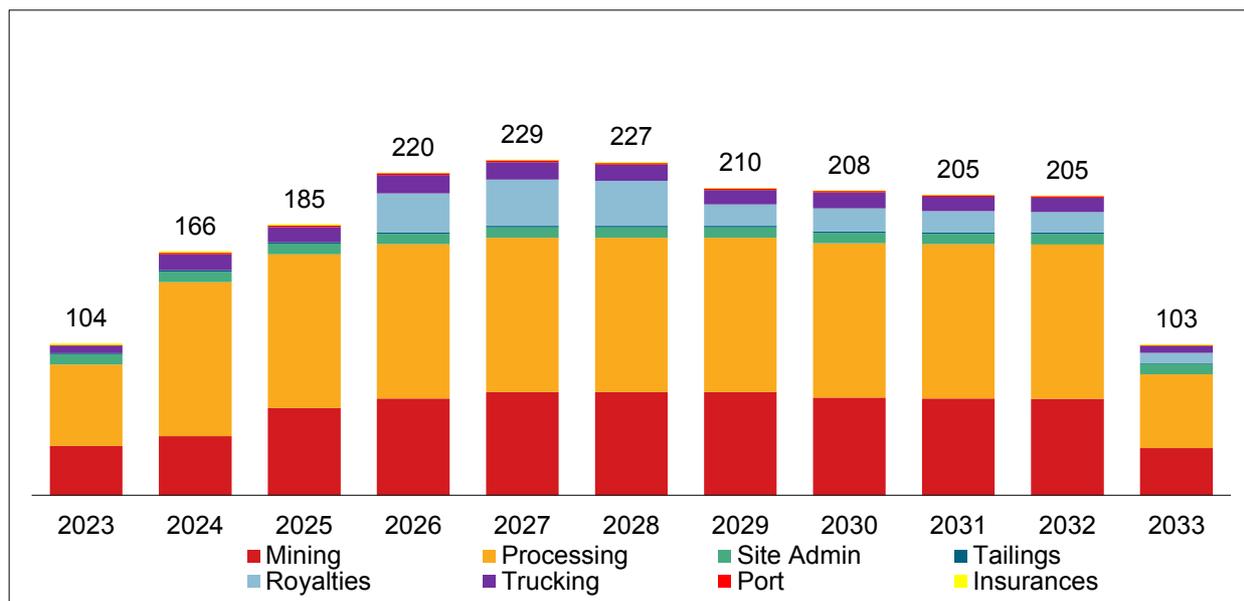
**Table 9: Operating cost estimates**

Operating cost component	A\$/t processed	A\$/t CuEq <sup>1</sup> produced	US\$/lb CuEq <sup>1</sup> produced	Proportion of total (%)
Mining	18.1	1,422	0.47	31%
Processing (incl tailings)	29.9	2,389	0.79	52%
G&A	2.4	192	0.06	4%
Product transport and port	3.3	264	0.09	6%
Royalties	4.4	325	0.11	7%
<b>Total</b>	<b>58.1</b>	<b>4,591</b>	<b>1.52</b>	<b>100%</b>

1. Refer to Section 15 of this release for full details on the calculation of copper equivalent (CuEq) and payable CuEq volumes.

On a life-of mine basis, mining costs account for approximately 31% of total operating costs (inclusive of royalties). The equivalent proportion for processing costs is approximately 52%. G&A and product distribution costs account for approximately 4%, and royalties for approximately 7%.

**Figure 14: Operating cost (A\$M) split (including royalties)**



### 13. Capital Costs

The capital costs are presented in Australian dollars to an overall estimated accuracy level of  $\pm 35\%$ . The total capital expenditure estimate (including sustaining capital) for the Project is A\$397M.

The scope of this estimate covers the capital costs for mining development, process plant, surface infrastructure, TSF and associated facilities to support operation of mining, processing and product transport activities in a steady state across the initial production life.

Pre-production capital expenditure is forecast at A\$323M. A summary of the pre-production capital estimate for the proposed mining, processing and other infrastructure is provided in Table 10.

**Table 10: Pre-production capital expenditure estimates**

Capital cost component	Pre-production capital expenditure (A\$M)
<b>Direct costs</b>	
Heap Leach	29
Process facilities	174
Power Station	14
Other – camp, TSF, port, roads	24
<b>Indirect costs</b>	
Accuracy and design growth	22
EPCM	35
Owner’s costs	2
<b>Contingency</b>	
Contingency	24
<b>Total</b>	<b>323</b>

(minor rounding)

Process capital estimates have been prepared on the basis that a specialist consultant will perform EPCM activities, with actual construction being performed by a construction contractor(s). No allowance has been included in the process plant capital estimates for escalation, or for possible future price increase/decrease due to demand for materials and equipment.

Work is underway to determine the road maintenance contribution that will be required to sustain the roads between the mine and the port of Townsville. A nominal allowance of A\$5M has been allocated for these capital works in the Scoping Study. A nominal allowance of A\$2.5M has also been added for potential works required at the Townsville port facility.

Owner's costs of A\$0.75M per annum have been assumed for the period of Year -2 through to Year 2 of production. This allowance is for AML specialists to be involved in the design, commissioning and ramp up of the Project.

A growth factor of 16% has been applied to all treatment plant items. EPCM has been factored at 10% of direct costs, a level which is consistent with similar projects. An overall project contingency of 10% has been applied to all capital items including process and mining.

Post-production and sustaining capital expenditure is forecast at A\$73M. This is predominantly comprised of underground mine development and a general sustaining capital allowance.

Mining capital expenditure includes allowances for: contractor mobilisation and demobilisation, owner capital items (including light vehicles, computers, and surveying equipment), establishment of in-pit portals for Vardy/Marley, three primary ventilation fans for Vardy/Marley and a paste plant to provide mining backfill.

## 14. Product Marketing

The Walford Creek Project is expected to produce the specific products outlined in Table 11.

**Table 11: Anticipated products and product grades**

Product	Cu	Co	Ni	Zn	Pb	Ag
	%	%	%	%	%	g/t
Copper Concentrate	22.2	0.2337	0.1169	2.4	1.1	116
Lead Concentrate	4.0	0.0585	0.0292	5.8	41.3	98
Zinc Precipitate	1.1	0.0867	0.0434	65.8	0.1	71.05
Copper Precipitate	43.1	0.2637	0.1319	22.5	0.2	6,957
Cobalt-Nickel Precipitate	0.1	34.7	17.3	12.1	0.1	12

The following is noted:

- Coloured cells are saleable products and reflect the contained production figures quoted through this document.
- Copper precipitate will be mixed with copper concentrate prior to sale.
- Precipitate outcomes are based on interim results from testwork that is currently in process.
- The cobalt precipitate contains significant nickel credits.
- The copper concentrate is well within the specifications of a readily saleable product.
- The lead concentrate is a mixed lead/copper concentrate with silver credits.

- The zinc precipitate is a high-quality saleable concentrate.
- The copper precipitate is saleable and will be blended with the copper concentrate.
- The cobalt precipitate with nickel credits will most likely be sold to a refiner, however further refining of the product by Aeon will be reviewed in the PFS.
- A separate zinc concentrate will be produced but this is classed as a low-grade zinc middling which may be saleable in some markets but has been assumed to be non-saleable for the Scoping Study.
- Silver contained in the copper concentrate, copper precipitate and lead concentrate will attract a silver credit, which has been modelled in the Scoping Study.

Copper is expected to exhibit long term trend demand growth. While global supply is growing, long term mine decline and the challenges associated with the next major phase of global copper developments means there is a ready need for new copper mine developments globally. New copper concentrate product is expected to be readily absorbed into global copper markets to meet projected demand growth.

Cobalt is expected to exhibit long term trend demand growth. While global supply is growing, long term mine decline and the challenges associated with many new cobalt developments means there is a ready need for new cobalt mine developments globally. Moreover the cobalt market is also expected to grow sharply as the EV vehicle market stabilizes and matures globally. This dynamic creates significant additional opportunity for new entrants with an attractive asset domicile in this market.

Supply, demand and price in key metal markets have been analysed as part of the Scoping Study and incorporated into the selected metal price assumptions utilised. The key metal products incorporated in the economic analysis of the Walford Creek Project in this Scoping Study are expected to be readily saleable in global metal markets.

Aeon's marketing strategy with respect to metal products from the Walford Creek Project is planned to be a price and volume maximizing one that also takes detailed account of any potential counterparty risk. The Company plans to seek to market its product to a wide audience of conventional concentrate/precipitate buyers, metal traders and (if appropriate) downstream users. This marketing strategy is expected to be further developed as part of the PFS process.

## 15. Economic Analysis

An economic evaluation of the Walford Creek Project was conducted as part of the Scoping Study utilising the physical and financial parameters outlined in the Scoping Study sections above. A project financial model was constructed utilising an annual Discounted Cashflow methodology to arrive at a Net Present Value (**NPV**) for the Walford Creek Project.

The copper and cobalt price assumptions utilised are consensus (mean) forecasts from 14 and 9 investment bank research teams (June/July 2019), respectively. Zinc, lead, silver, and nickel price assumptions are forward estimates which closely align with current prices. An historical average A\$/US\$ exchange rate was used.

**Table 12: Life-of-mine average metal and A\$/US\$ price assumptions**

Price inputs		
LOM average copper price	US\$/lb	3.09
LOM average cobalt price	US\$/lb	23.31
LOM average zinc price	US\$/lb	1.23

LOM average lead price	US\$/lb	1.08
LOM average silver price	US\$/oz	19.0
LOM average nickel price	US\$/lb	6.80
LOM average A\$/US\$	A\$/US\$	0.725

A summary of the key Scoping Study physical inputs utilised in the financial model are outlined in Table 13.

**Table 13: Key physical inputs**

Key physical inputs	Unit	Total / LOM	Annual average
<b>Operations</b>			
Detailed Engineering	months	12	na
Construction period	months	12	na
Initial production life	Years	11	na
<b>Mining</b>			
Production tonnes	Mt	35.5	3.2
Open pit production tonnes	Mt	26.1	2.3
Underground production tonnes	Mt	9.4	0.9
Waste mined	Mt	47.0	4.3
OP strip ratio (waste tonnes per tonne of feed)	x	1.8	1.9
<b>Processing</b>			
<b>Process Plant:</b>			
Process plant tonnes processed	Mt	20.0	2.0
Average copper head grade	% Cu	0.72%	0.72%
Average cobalt head grade	ppm Co	1,218	1,218
Average zinc head grade	% Zn	0.87%	0.87%
Average lead head grade	% Pb	0.77%	0.77%
Average silver head grade	g/t Ag	24	24
Average copper recovery	% Cu	95%	95%
Average cobalt recovery	% Co	72%	72%
<b>Heap Leach:</b>			
Heap leach tonnes processed	Mt	15.5	1.4
Average copper head grade	% Cu	0.11%	0.11%
Average cobalt head grade	ppm Co	382	382
Average copper recovery	% Cu	75%	75%
Average cobalt recovery	% Co	70%	70%

A summary of the key physical and economic outputs from the Scoping Study financial model are outlined in Tables 14 and 15.

**Table 14: Key physical outputs**

Key physical outputs	Unit	Total / LOM	Annual average
<b>Contained metal production</b>			
Contained copper production	kt	145.8	13.6
Contained cobalt production	kt	22.5	2.1
Contained zinc production	kt	109.6	10.6
Contained lead production	kt	95.7	9.3
Contained silver production	Moz	10.2	1.0
Contained nickel production	kt	10.9	1.0
<b>Contained copper equivalent production</b>	<b>kt</b>	<b>446.4</b>	<b>42.5</b>
<b>Payable metal production</b>			
Payable copper production	kt	140.7	13.2
Payable cobalt production	kt	20.2	1.9
Payable zinc production	kt	93.2	9.0
Payable lead production	kt	90.9	8.9
Payable silver production	Moz	9.7	0.9
Payable nickel production	kt	9.8	0.9
<b>Payable copper equivalent production</b>	<b>kt</b>	<b>410.9</b>	<b>39.0</b>

The copper equivalent (**CuEq**) as referenced in this document is calculated as follows:

$$\text{CuEq} = \text{Copper(t)} + \text{Zinc(t)} \times \text{Zinc Price} / \text{Copper Price} + \text{Lead(t)} \times \text{Lead Price} / \text{Copper Price} + \text{Silver(oz)} \times \text{Silver Price} / \text{Copper Price} + \text{Nickel(t)} \times \text{Nickel Price} / \text{Copper Price}.$$

Metal prices are as per long term assumptions outlined in Table 12.

Payable CuEq is calculated by applying the respective payability assumption for each metal (as listed below) to the conversion of each individual metal to CuEq in the equation above.

Assumed metal payables, as an average percentage of saleable metal produced, are as follows:

- Copper = 96.5%
- Cobalt = 90.0%
- Zinc = 85.0%
- Lead = 95.0%
- Silver = 95.0%
- Nickel = 90.0%

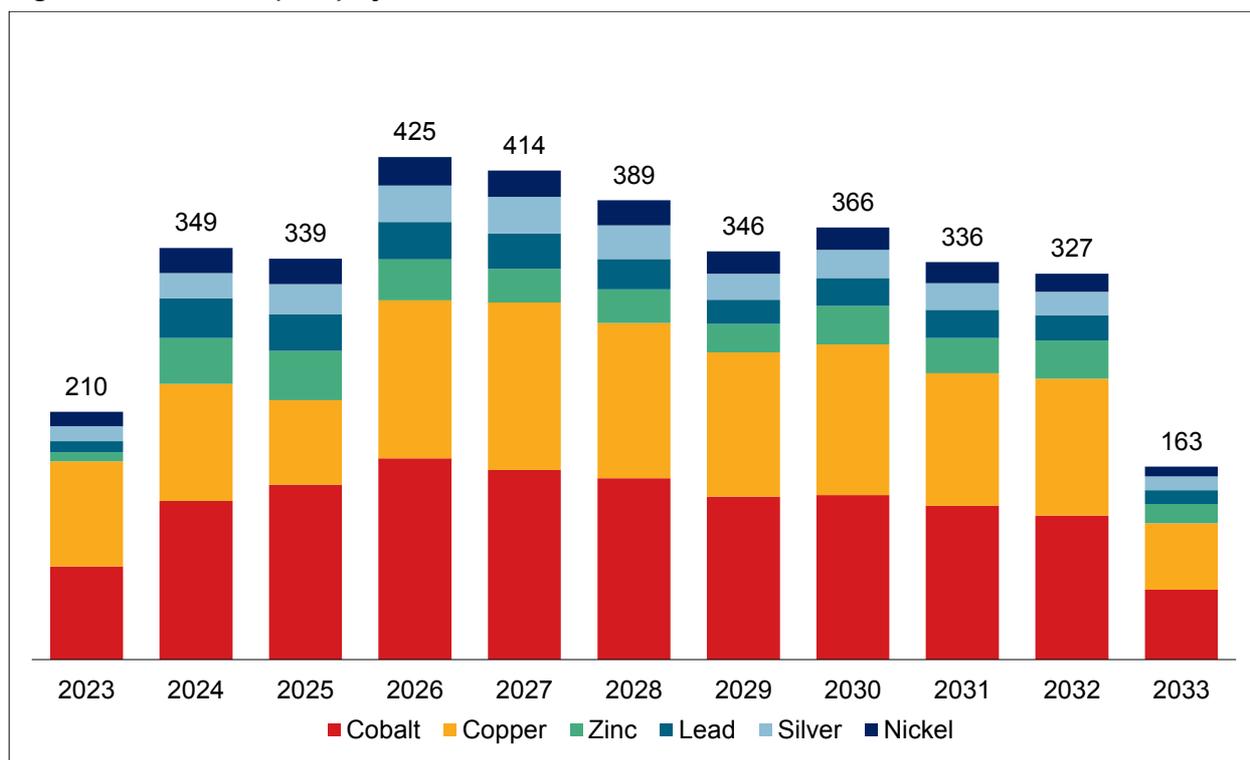
**Table 15: Key economic outcomes**

Key financial outcomes	Unit	Total
<b>Valuation, returns and key ratios</b>		
NPV8% (post-tax, real basis, ungeared)	A\$M	431
IRR (post-tax, real basis, ungeared)	%	34%
Payback period (post-tax, from mine start)	years	3.0
Post-tax NPV / Pre-production capex	x	1.3
<b>Cashflow summary</b>		
NSR copper	A\$M	1,200
NSR cobalt	A\$M	1,434
NSR zinc	A\$M	316
NSR lead	A\$M	262
NSR silver	A\$M	250
NSR nickel	A\$M	202
<b>Total net revenue (incl TC/RCs, freight)</b>	<b>A\$M</b>	<b>3,664</b>
Mining opex	A\$M	(641)
Processing opex (incl tailings)	A\$M	(1,063)
G&A (incl insurance) opex	A\$M	(85)
Product transport and port opex	A\$M	(118)
Royalties	A\$M	(155)
<b>Project operating surplus</b>	<b>A\$M</b>	<b>1,602</b>
Pre-production capital expenditure	A\$M	(323)
LOM sustaining capital expenditure	A\$M	(73)
<b>Project net cashflow (pre-tax)</b>	<b>A\$M</b>	<b>1,206</b>
Tax paid	A\$M	(312)
<b>Project net cashflow (post-tax)</b>	<b>A\$M</b>	<b>894</b>
<b>Unit cash operating costs</b>		
Mining	A\$/t processed	18.1
Processing (incl tailings)	A\$/t processed	29.9
G&A (incl insurance)	A\$/t processed	2.4
Product transport and port	A\$/t processed	3.3
Royalties	A\$/t processed	4.4
<b>Total cash operating cost</b>	<b>A\$/t processed</b>	<b>58.1</b>
<b>Total cash operating cost</b>	<b>US\$/lb contained CuEq<sup>1</sup></b>	<b>1.52</b>
<b>All-in-sustaining-cost (AISC)</b>	<b>US\$/lb containedCuEq<sup>1</sup></b>	<b>1.56</b>

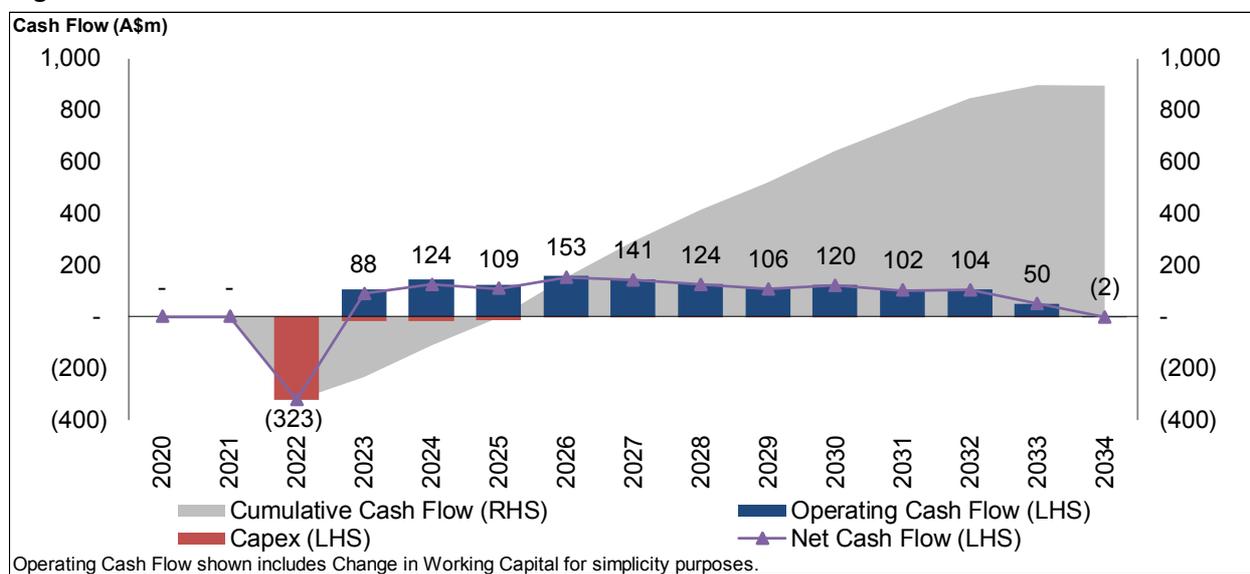
(minor rounding)

The financial outcomes indicate that the forecast Walford Creek Project economics are robust. Strong net cashflow over the 11-year mine life enables a 3-year payback period of capital and attractive post-tax, ungeared, real IRR of 34%. The post-tax, ungeared NPV<sub>8%</sub> of A\$431M is approximately 1.3 times the pre-production capital estimate (also a strong return), with any further mine life or production expansion opportunities being additive to this NPV estimate.

**Figure 15: Revenue (A\$M) by metal**

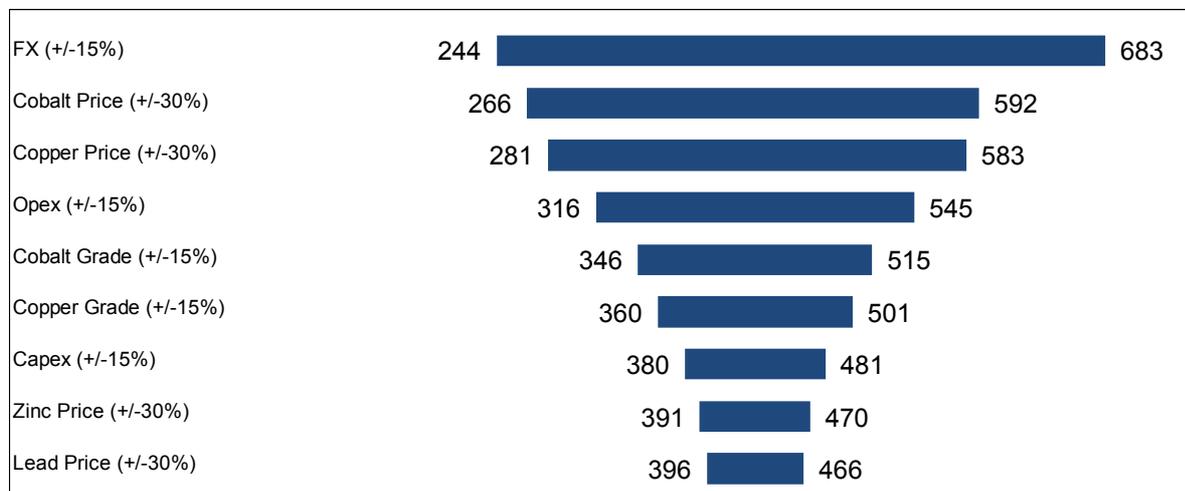


**Figure 16: Annual cashflow**

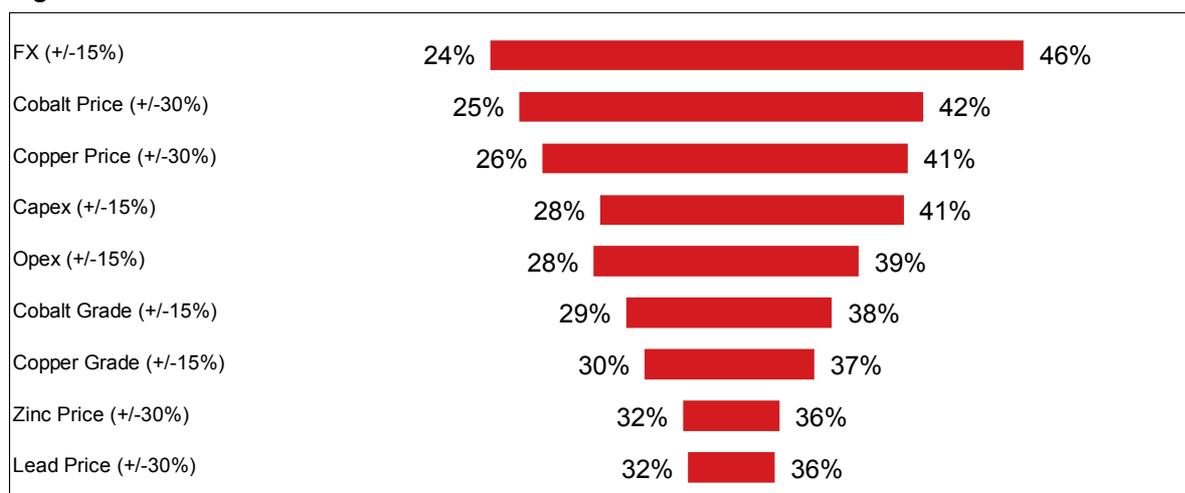


Sensitivities were undertaken on key metal prices, copper and cobalt grades, operating and capital costs, and FX. The following are charts with the sensitivity outcomes of key project drivers and highlight the major drivers of leverage as FX, and cobalt and copper prices.

**Figure 17: NPV (A\$M) sensitivities**



**Figure 18: IRR sensitivities**



## 16. Project Execution

Project development is currently planned to be via an Engineering, Procurement, Construction and Management (**EPCM**) contract. The PFS will however evaluate a number of contracting strategies including EPCM, EPC and agreed maximum price models.

In order to facilitate a coordinated and integrated approach to the Project, a dedicated Owner's Team is planned to be established during the Definitive Feasibility Study (**DFS**) process in preparation for Project construction and commissioning.

Forecast EPCM and Owner's Team costs have been included in the Scoping Study capital cost estimates.

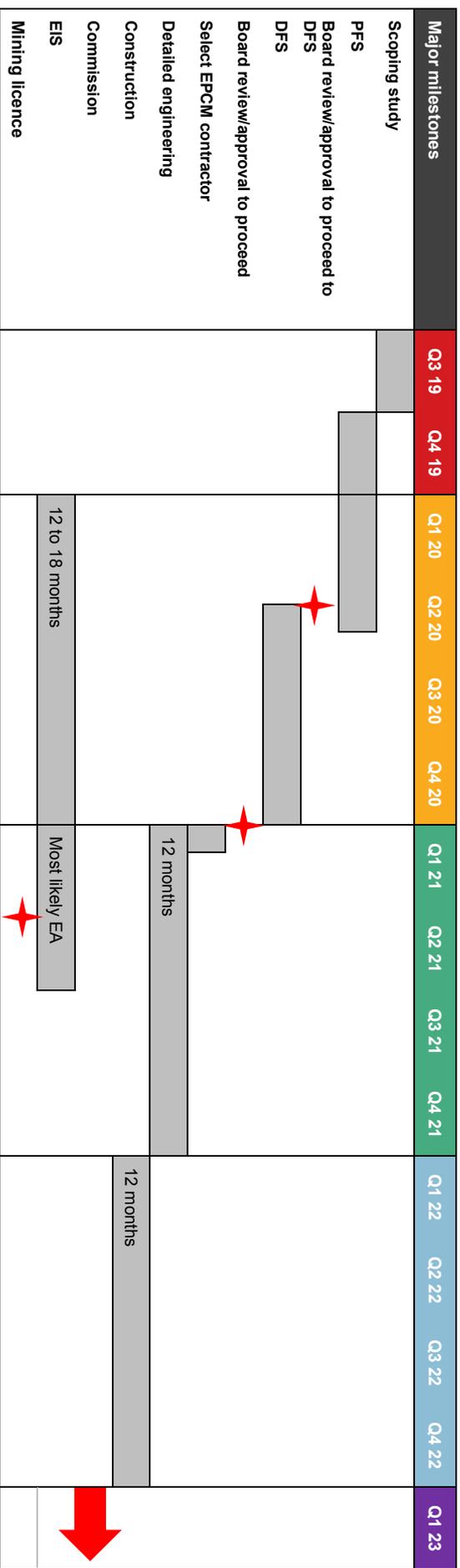
Open pit and underground mining activities are planned and costed on a contractor basis. Ore processing and overall operational management is to be carried out by Aeon employees.

The operation is planned to function on a fly-in fly-out basis. The all-weather commercial air strip at Doornadgee can be utilised and employees are planned to be transported by bus the remaining 70 km to site.

Logistics activities including trucking and port operations (product storage and ship loading) is expected to be contracted and handled by third parties.

The targeted development schedule for the Project is outlined in Figure 19.

**Figure 19: Targeted project development schedule**



## 17. Reasonable Basis for Funding Assumption

To achieve the range of outcomes indicated in the Scoping Study, pre-production funding in excess of A\$320M will likely be required.

There is no certainty that Aeon will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Aeon's shares. It is also possible that Aeon could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Walford Creek Project. This could materially reduce Aeon's proportionate ownership of the Walford Creek Project.

An assessment of various funding alternatives for the Walford Creek Project has been made based on precedent funding transactions in the base and polymetallic metals mining industry.

Aeon has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Walford Creek Project will be available when required. There are a number of grounds on which this reasonable basis is established:

- Global debt and equity finance availability for high-quality base and polymetallic metal projects remains robust. Recent examples of significant funding being made available for progression or construction of such projects in Australia include:
  - Heron Resources Limited (ASX: HRR) achieving debt, equity and metal stream funding packages totalling A\$240 million (June 2017) and A\$91M (October 2019) for its Woodlawn Zinc-Copper Project in New South Wales;
  - Venturex Resources Limited (ASX: VXR) achieving an approved term sheet for A\$100M of senior debt funding (August 2019) for its Sulphur Springs Copper-Zinc Project in Western Australia;
  - New Century Resources Limited (ASX: NCZ) achieving equity placements of A\$53M (November 2017) and A\$40M (April 2018) and for its Century Zinc Project in Queensland;
  - Panoramic Resources Limited (ASX: PAN) achieving a project loan of A\$40M (July 2018) and equity raising of A\$28M (September 2019) for its Savannah North Nickel-Copper-Cobalt Project in Western Australia; and
  - Capricorn Copper Holdings Pty Ltd achieving a A\$45M debt facility (July 2017) for its Capricorn Copper Project in Queensland.
- Aeon has held preliminary, confidential discussions with respect to project and corporate funding/ownership with a number of potential strategic partners and financiers. These include international mining companies, trading houses, senior lenders and other parties capable of providing up to 100% of the financing required to develop the Project. These discussions have indicated that the Project possesses physical and financial attributes that deliver Aeon a reasonable likelihood of securing the requisite funding for its development as it is required.
- The technical and financial parameters detailed in the Walford Creek Project Scoping Study are robust and economically attractive (A\$431M NPV<sub>8%</sub> (post-tax, ungeared, real basis) and 34% IRR). The Project is ideally located in a first world country and within the well-established and low-risk mining jurisdiction of Queensland. Release of these Scoping Study fundamentals also now provides a platform for Aeon to advance discussions with potential strategic partners, off-takers, debt providers and equity investors.
- Aeon owns 100% of the Project. The Company has an uncomplicated, clean corporate and capital structure. Finally, 100% of the forecast copper, cobalt and other metal production from the Project remains uncommitted. These are all factors expected to be highly attractive to potential strategic

investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.

- The Aeon Board and management team has extensive experience in the broader resources industry. They have played leading roles previously in the exploration and development, including project financing of several large and diverse mining projects in Australia. In this regard, key Aeon personnel have a demonstrated track record of success in identifying, acquiring, defining, funding, developing and operating quality mineral assets of significant scale.
- Aeon has a current market capitalisation of approximately A\$80 million. The Company's only debt is a A\$13M limited recourse vendor loan. Aeon also has an uncomplicated, clean corporate and capital structure. These are all factors expected to be attractive to potential project financiers, strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.
- The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Walford Creek Project. Aeon's prior equity raising was a A\$30M institutional placement that was successfully undertaken in December 2017.
- Funding for Walford Creek Project pre-production and initial working capital is not expected to be required until close to or post completion of a Definitive Feasibility Study (**DFS**) on the Project. Finalisation of a DFS on the Project is not expected before late 2020. The majority of market analysts/commentators globally forecast demand, and market prices, for high quality copper and cobalt products to increase from their current levels over the intervening period.
- Aeon is targeting total pre-production and working capital funding being comprised of one, some or all of: senior project debt, mezzanine debt, offtake prepayment, sale of a strategic asset interest, equity issuance and/or royalty/stream funding. As noted earlier, total pre-production funding (or equivalent) in excess of A\$320M will likely be required. The final mix will depend on general market and mineral industry conditions, specific counterparty appetite and terms, and the Aeon Board's prevailing views on optimal funding mix and balance sheet configuration.
- It should be noted that this funding strategy is subject to change at the Aeon Board's discretion at any point. It should also be noted that, while the Aeon Board holds a reasonable basis to believe that funding will be available as required, there is no assurance that the requisite funding for the Project will be secured.

## 18. Key Risks

Key risks identified as part of the Scoping Study risk assessment process are outlined in Table 16.

**Table 16: Key project risks**

Area	Key risks
<b>Market</b>	Copper and cobalt prices, A\$/US\$ exchange rate, product marketing
<b>Geology</b>	Complexity associated with splay/parallel faults
<b>Mining</b>	Contract mining rates, ore type control, and stope sequencing.
<b>Processing</b>	Heap leach testwork to be completed. Ore selectivity and scheduling associated with different ore types. Labour skills and costs.
<b>Tailings</b>	Approval for storage of deleterious elements.
<b>Environmental</b>	Time to approve EA.

These risks are planned to be reduced and appropriately managed through more detailed evaluation and testwork during the proposed PFS and DFS stages of project assessment.

## 19. Key Opportunities

Opportunities for additional mineralisation to deliver life extension and/or expansion potential are the Amy zone, exploration along strike to the east and west of the defined Walford Creek deposits, and regional exploration within newly applied for EPM's known as the Basin Edge Project.

### Amy zone

To the west of the Marley zone is an approximate 6km area strike extent known as the Amy zone. As a result of drilling in 2018, Aeon previously defined an Inferred Resource in the PY3 mineralisation in parts of the Amy zone.

#### Amy Copper Lode

Category	Mt	Cu %	Pb %	Zn %	Ag ppm	Co ppm	Py %
Inferred	1.8	1.5	0.75	0.51	32.5	1,525	40.4

In addition, an Exploration Target Range (ETR) has been delineated across the Amy zone, which reflects the consistent geological stratigraphy and shows the clear potential for additional Copper Lodes within the interpreted PY3 mineral wireframe.

The ETR is based on actual drilling results. It is derived from approximately 50% of the blocks with no interpolated grades within the PY3 Copper Lode extension. The lode interpretation is based on logged geology and base metal assays from diamond drilling of the Amy deposit, in conjunction with geological sense.

The ETR estimate (at a 0.5% Cu cut off) is outlined in Table 17.

**Table 17: Walford Creek Project Exploration Target Range (ETR) estimates**

#### Amy Copper Lode

Category	Mt	Cu %	Pb %	Zn %	Ag ppm	Co %
ETR	6 - 13	1.0 - 2.0	0.7 - 0.9	0.35 - 0.55	25 - 35	0.11 - 0.20

*Note all numbers are approximations.*

The potential quantity and quality of the ETR is conceptual in nature. Insufficient exploration has been undertaken to estimate a Mineral Resource and it is uncertain that further exploration will result in the estimation of a Mineral Resource.

It is important to note that neither the Amy Inferred Resource nor any Amy exploration potential (as estimated by the Amy ETR) has been incorporated in the Scoping Study forecast mine and process schedule. Some 7,000 metres of drilling have been completed in the 2019 field season into the Amy Inferred Resource and ETR. Aeon is confident that additional Resources will be reported in these areas in the forthcoming Resource update, reflecting the results of the 2019 field program.

Additional Resources in the Amy zone have the potential to increase the operating life and possibly provide additional ore sources that may improve average grade enhancement and operating optionality with the availability of a range of new stopes.

### **Exploration along strike to the east and west**

From the end of the Amy zone to the western end of the Walford Creek Project area there remains some 12 km of prospective strike which has been only lightly explored. There is some 8 km to the east of Vardy which is also underexplored. The Resources considered for this Scoping Study cover only approximately 3.6 km of strike of the Vardy and Marley Zones.

### **Basin Edge Project**

Aeon has applied for 5 EPM's which will add a further 130km of potential strike extent to the east starting immediately from the eastern boundary of the Walford Creek Project tenements.

## **20. Conclusions and Next Steps**

The Scoping Study has demonstrated that the Walford Creek Project has a strong potential to be a technically robust and highly economic mine development.

The Aeon Board has approved the completion of the PFS on the Walford Creek Project. Given the breadth of existing study work that is close to, or already at, a PFS level of detail, completion of the PFS is targeted for Q2 CY2020.

In the intervening period it is expected that the 2019 drilling program will result in increased Resource estimates for the Vardy, Marley and Amy deposits. These additional Resources naturally offer significant potential upside in any contribution to the final mine schedule adopted for the PFS.

## **Appendix A: Competent Person's Statement**

The information in this report that relates to Exploration Results and Exploration Targets for the Walford Creek Project Deposit is based on and fairly represents information compiled 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 Targets and Exploration Results in the form and context in which they appear.

The data in this report that relates to Mineral Resource Estimates, including those that underpin the production target, is based on and fairly represents 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 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 Tear is a Director of H&S Consultants Pty Ltd and he consents to the inclusion in the report of the Mineral Resources in the form and context in which they appear.

## Appendix B: Reasonable Basis for Forward-Looking Statements

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study production target and forecast financial information are based have been included in this release and disclosed in the table below.

### Consideration of Modifying Factors (in the form of Section 4 of the JORC Code (2012) Table 1)

Criteria	JORC Code explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li><b>No Ore Reserve has been declared.</b></li> <li>Refer to JORC Table 1 in previously released Mineral Resource information.</li> <li>The Feb 2019 resource reported Cu, Co, Pb, Zn and silver grades. As part of the estimation process the grade of nickel was also estimated but not reported as a significant mineral. Since publication of the resource, metallurgical testwork has shown that nickel reports to the cobalt precipitate and is saleable.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Site visits have been carried out by a competent person. The site is generally flat and where possible infrastructure will be set up at the upper end of the water catchment. There is one ephemeral creek that will need a temporary diversion. Setting up a mining, processing, waste rock and tailings storage facility is seen as feasible.</li> </ul>
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li><b>No Ore Reserve has been declared.</b></li> <li>This is a scoping study and work has been carried out to an appropriate standard for this level of study.</li> <li>Less than 20% Inferred material has been used in the mine plan.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Open Pit - All of the economic and processing parameters determining mill feed selection, including the grade-dependent metallurgical recovery formulae, were defined and applied within the Whittle program as a net value per tonne (NVPT) of feed. The open cut mill feed selection was effected accordingly on a marginal economic basis.</li> <li>Underground - The Minable Shape Optimiser by Datamine (MSO) was used for the underground modelling. Underground stope optimisation was driven by net value per tonne (NVPT), net of mining and processing cost)</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed</li> </ul>	<ul style="list-style-type: none"> <li><b>No Ore Reserve has been declared.</b></li> <li>Open pit mining was selected for the shallow mineralization and underground mining was selected for the deeper mineralization that was less economic to mine from open pit. The Whittle</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>design).</p> <ul style="list-style-type: none"> <li>• <i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li>• <i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></li> <li>• <i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li>• <i>The mining dilution factors used.</i></li> <li>• <i>The mining recovery factors used.</i></li> <li>• <i>Any minimum mining widths used.</i></li> <li>• <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li>• <i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<p>underground function was run to adjust the base of the open pit to optimize this transition. Open pit mining methods are conventional truck and excavator. Mineral exposure on each bench justifies the assumed productivity rates. Underground mining is by up hole retreat, which is an industry standard method. Most of the production will be by transverse stoping.</p> <ul style="list-style-type: none"> <li>• 5% dilution and 95% mining recovery was applied to both open pit and underground mining. For the underground this adjustment was in addition to the dilution included within the optimised stope shapes.</li> <li>• Payables and smelter charges were sourced from available NSR terms.</li> <li>• Royalty calculations were sourced from the QLD government.</li> <li>• Geotechnical parameters were provided by PSM consultants for both open pit and underground at PFS level.</li> <li>• Mining costs were based on indicative unit rates previously provided by mining contractors.</li> <li>• Productivity factors were based on industry standards for both open pit and underground.</li> <li>• Process costs were developed by Geometcon (Consultants).</li> <li>• Owners supervision costs were built up from manning numbers.</li> </ul>
<p><b>Metallurgical factors or assumptions</b></p>	<ul style="list-style-type: none"> <li>• <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li>• <i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li>• <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li>• <i>Any assumptions or allowances made for deleterious elements.</i></li> <li>• <i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<ul style="list-style-type: none"> <li>• The process selected is a standard industry flotation followed by a bio-leach and precipitation of metals.</li> <li>• The flotation, Bio-leach and precipitation technology is extensively used in the minerals processing industry.</li> <li>• Recoveries are estimated using the algorithm developed by Geometcon (consultants). The algorithm is based on extensive and representative testwork program.</li> <li>• Deleterious elements have been incorporated into the recovery algorithm and are either removed from the process stream and deposited in the tailings storage facility or are left in the final product. Any product containing deleterious elements is treated in accordance with a standard suit of penalty element charges and limits.</li> <li>• 24 representative comminution samples were tested</li> <li>• 499 representative composite optimisation and variability tests have been conducted</li> <li>• 13 representative locked cycle tests were conducted</li> <li>• 16 Bio-leach test have been conducted</li> <li>• At the time of writing precipitation tests are underway at ALS in Burnie and Outotec in</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>Finland. Initial results have been used to inform the Scoping Study</p> <ul style="list-style-type: none"> <li>• Heap leach recoveries have been based on bio-leach reactor testwork and factored for the heap leach environment.</li> <li>• Revenues derived in the model are based on industry standard saleable products. The composition of each product stream can be seen in the body of the Executive Summary Scoping Study report.</li> <li>• Geological modelling, metallurgical testwork and mineralogy show that cobalt and nickel exist together in the pyrite lattice throughout the orebody. The testwork showed that they occur in the final cobalt precipitate at a ratio of 1 Ni to 2 Co and that the nickel is saleable with an appropriate discount. The project cashflow includes the sale of nickel which makes up ~5% of the revenue stream.</li> <li>• The occurrence of nickel in the bio-leach solution was referenced in 30 July 2019, <i>Bio Leach Selected for Process Flow Sheet</i>, ASX announcement.</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• <i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Almost all environmental base-line data has been collected.</li> <li>• Waste rock characterisation in the form of kinetic leach tests has been running for over 12 months</li> <li>• Waste rock characterisation in terms of acid, metal leaching or neutralisation capacity has been undertaken and the results combined into the resource block model. Detailed waste handling and storage modelling will form part of the PFS.</li> <li>• Where possible tailings storage facilities, leach pads and waste dumps will be placed so that they drain towards the final pit void.</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	<ul style="list-style-type: none"> <li>• The state / local road network comes within 8km of the site. Some roads will require upgrading and costs have been allowed for this work.</li> <li>• A detailed logistics study is currently under way.</li> <li>• Roads exist between the site and the port of Townsville, where the concentrate will be shipped to and general freight will be sourced from. The New Century mine currently trucks general freight along this route to within 130km of Walford Creek Project.</li> <li>• The site is on a freehold station and there is sufficient space to develop the mine, process facilities, dumps, heap leach pads and accommodation village.</li> <li>• The site will be fly in fly out with charters to and from Doomadgee, located 70Km from the project.</li> </ul>
<b>Costs</b>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Project capital costs were developed by Geometcon (Consultants) and are based on vendor quotes for major items and</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>The methodology used to estimate operating costs.</i></li> <li>• <i>Allowances made for the content of deleterious elements.</i></li> <li>• <i>The source of exchange rates used in the study.</i></li> <li>• <i>Derivation of transportation charges.</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li>• <i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<p>factors for all other items.</p> <ul style="list-style-type: none"> <li>• Deleterious elements attract a penalty in the revenue calculation.</li> <li>• Exchange rates are based on a projected 0.725 AUD:USD rate.</li> <li>• Transport charges are based on budget quotes from a major road haulage firm and general sea freight and port costs are based on industry standards.</li> <li>• Treatment and refining charges are based on industry available rates.</li> <li>• Royalties are based on QLD state royalty charges and are estimated to total approx. A\$155M, and average approx. US\$0.11/lb copper produced, over the life-of-mine.</li> </ul>
<b>Revenue factors</b>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li>• <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Copper price of US\$3.09/lb is based on the long-term projections from 14 banking organisations.</li> <li>• Cobalt price of US\$23.31/lb is based on the long-term projections from 9 banking organisations</li> <li>• Lead, zinc, silver and nickel prices are based on long term historic prices.</li> <li>• Pb = US\$1.08/lb, Zn = US\$1.23/lb, Ag = US\$19.0/oz, Ni = US\$6.80/lb.</li> <li>• Treatment charges and penalties are based on historical industry rates.</li> </ul>
<b>Market assessment</b>	<ul style="list-style-type: none"> <li>• <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>• <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li>• <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>• <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Copper is expected to exhibit long term trend demand growth. While global supply is growing, long term mine decline and the challenges associated with the next major phase of global copper developments means there is a ready need for new copper mine developments globally. New copper concentrate product is expected to be readily absorbed into global copper markets to meet projected demand growth.</li> <li>• Cobalt is expected to exhibit long term trend demand growth. While global supply is growing, long term mine decline and the challenges associated with many new cobalt developments means there is a ready need for new cobalt mine developments globally. Moreover the cobalt market is also expected to grow sharply as the EV vehicle market stabilizes and matures globally. This dynamic creates significant additional opportunity for new entrants with an attractive asset domicile in this market.</li> <li>• Supply, demand and price in key metal markets have been analysed as part of the Scoping Study and incorporated into the selected metal price assumptions utilised.</li> <li>• The key metal products incorporated in the economic analysis of the Walford Creek Project in this Scoping Study are expected to be readily saleable in global metal markets.</li> </ul>

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		<ul style="list-style-type: none"> <li>• Aeon's marketing strategy with respect to metal products from the Walford Creek Project is planned to be a price and volume maximizing one that also takes detailed account of any potential counterparty risk. The Company plans to seek to market its product to a wide audience of conventional concentrate/precipitate buyers, metal traders and (if appropriate) downstream users. This marketing strategy is expected to be further developed as part of the PFS process.</li> </ul>
<p><b>Economic</b></p>	<ul style="list-style-type: none"> <li>• <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No inflation is included, ie real basis analysis.</li> <li>• A real discount rate of 8% was adopted based on a review of discount rates used to evaluate peer projects by listed companies.</li> <li>• Sensitivities were carried out on major inputs. These sensitivity ranges (for NPV and IRR) are presented in Figures 17 and 18 within the body of this ASX release.</li> <li>• To achieve the range of outcomes indicated in the Scoping Study, pre-production funding in excess of A\$320M will likely be required.</li> <li>• There is no certainty that Aeon will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Aeon's shares. It is also possible that Aeon could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Walford Creek Project. This could materially reduce Aeon's proportionate ownership of the Walford Creek Project.</li> <li>• An assessment of various funding alternatives for the Walford Creek Project has been made based on precedent funding transactions in the base and polymetallic metals mining industry.</li> <li>• Aeon has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Walford Creek Project will be available when required. There are a number of grounds on which this reasonable basis is established: <ul style="list-style-type: none"> <li>○ Global debt and equity finance availability for high-quality base and polymetallic metal projects remains robust. Recent examples of significant funding being made available for progression or construction of such projects include: <ul style="list-style-type: none"> <li>○ Heron Resources Limited (ASX: HRR) achieving debt, equity and metal stream funding packages totalling A\$240 million (June 2017) and</li> </ul> </li> </ul> </li> </ul>

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		<p>A\$91M (October 2019) for its Woodlawn Zinc-Copper Project in New South Wales;</p> <ul style="list-style-type: none"> <li>○ Venturex Resources Limited (ASX: VXR) achieving an approved term sheet for A\$100M of senior debt funding (August 2019) for its Sulphur Springs Copper-Zinc Project in Western Australia;</li> <li>○ New Century Resources Limited (ASX: NCZ) achieving equity placements of A\$53M (November 2017) and A\$40M (April 2018) and for its Century Zinc Project in Queensland;</li> <li>○ Panoramic Resources Limited (ASX: PAN) achieving a project loan of A\$40M (July 2018) and equity raising of A\$28M (September 2019) for its Savannah North Nickel-Copper-Cobalt Project in Western Australia; and</li> <li>○ Capricorn Copper Holdings Pty Ltd achieving a A\$45M debt facility (July 2017) for its Capricorn Copper Project in Queensland.</li> </ul> <ul style="list-style-type: none"> <li>○ Aeon has held preliminary, confidential discussions with respect to project and corporate funding/ownership with a number of potential strategic partners and financiers. These include international mining companies, trading houses, senior lenders and other parties capable of providing up to 100% of the financing required to develop the Project. These discussions have indicated that the Project possesses physical and financial attributes that deliver Aeon a reasonable likelihood of securing the requisite funding for its development as it is required.</li> <li>○ The technical and financial parameters detailed in the Walford Creek Project Scoping Study are robust and economically attractive (A\$431M NPV8% (post-tax, ungeared, real basis) and 34% IRR). The Project is ideally located in a first world country and within the well-established and low-risk mining jurisdiction of Queensland. Release of these Scoping Study fundamentals also now provides a platform for Aeon to advance discussions with potential strategic partners, off-takers, debt providers and equity investors.</li> <li>○ Aeon owns 100% of the Project. The Company has an uncomplicated, clean corporate and capital structure. Finally, 100% of the forecast copper,</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>cobalt and other metal production from the Project remains uncommitted. These are all factors expected to be highly attractive to potential strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.</p> <ul style="list-style-type: none"> <li>○ The Aeon Board and management team has extensive experience in the broader resources industry. They have played leading roles previously in the exploration and development, including project financing of several large and diverse mining projects in Australia. In this regard, key Aeon personnel have a demonstrated track record of success in identifying, acquiring, defining, funding, developing and operating quality mineral assets of significant scale.</li> <li>○ Aeon has a current market capitalisation of approximately A\$80 million. The Company's only debt is a A\$13M limited recourse vendor loan. Aeon also has an uncomplicated, clean corporate and capital structure. These are all factors expected to be attractive to potential project financiers, strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.</li> <li>○ The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Walford Creek Project. Aeon's prior equity raising was a A\$30M institutional placement that was successfully undertaken in December 2017.</li> <li>○ Funding for Walford Creek Project pre-production and initial working capital is not expected to be required until close to or post completion of a Definitive Feasibility Study (DFS) on the Project. Finalisation of a DFS on the Project is not expected before late 2020. The majority of market analysts/commentators globally forecast demand, and market prices, for high quality copper and cobalt products to increase from their current levels over the intervening period.</li> <li>○ Aeon is targeting total pre-production and working capital funding being comprised of one, some or all of: senior project debt, mezzanine debt, offtake prepayment, sale of a strategic asset interest, equity issuance and/or</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>royalty/stream funding. As noted earlier, total pre-production funding (or equivalent) in excess of A\$320M will likely be required. The final mix will depend on general market and mineral industry conditions, specific counterparty appetite and terms, and the Aeon Board's prevailing views on optimal funding mix and balance sheet configuration.</p> <p>It should be noted that this funding strategy is subject to change at the Aeon Board's discretion at any point. It should also be noted that, while the Aeon Board holds a reasonable basis to believe that funding will be available as required, there is no assurance that the requisite funding for the Project will be secured.</p>
<b>Social</b>	<ul style="list-style-type: none"> <li><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<ul style="list-style-type: none"> <li>There is no native title over the project area</li> <li>There is a Cultural Heritage Agreement in place.</li> <li>There is a Conduct and Compensation Agreement (CCA) in place with the landowner.</li> </ul>
<b>Other (incl Legal and Governmental)</b>	<ul style="list-style-type: none"> <li><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li><i>Any identified material naturally occurring risks.</i></li> <li><i>The status of material legal agreements and marketing arrangements.</i></li> <li><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<ul style="list-style-type: none"> <li>The area is in the tropics so will be impacted by the occasional cyclone. At the scoping level this has not been built into the productivity.</li> <li>There are no marketing agreements in place at this early stage of the project.</li> <li>The Project is situated within granted EPM's 14220, 14854, 18552 and 26906.</li> <li>All exploration leases are in good standing and there are no mining leases.</li> <li>There is no Mining Project Environmental Authority (EA) at this early stage of the project, however there are reasonable grounds to believe that an EA would be granted in a timeframe consistent with the proposed project development timeline.</li> <li>There are reasonable grounds to believe that a Mining Licence/Lease would be granted in a timeframe consistent with the proposed project development timeline.</li> <li>There is no royalty agreement in place at this early stage of the project.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<ul style="list-style-type: none"> <li><b>No Ore Reserve has been declared.</b></li> <li>Refer to JORC Table 1 in previously released Mineral Resource information.</li> <li>The production estimate includes 19% Inferred Resource. However Aeon confirms that inclusion of Inferred Resources in the production schedule is not a determining factor in the overall viability of the project.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li><b>No Ore Reserve has been declared.</b></li> <li>Refer to JORC Table 1 in previously released Mineral Resource information.</li> </ul>

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<p><b><i>Discussion of relative accuracy/ confidence</i></b></p>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <b>No Ore Reserve has been declared.</b></li> <li>• Refer to JORC Table 1 in previously released Mineral Resource information.</li> </ul>