Andromeda
METALS

ASX announcement

20 July 2017

Moonta copper

(100% owned), South Australia

Innovative in-situ recovery (ISR) copper production concept under evaluation

Summary

- The Wombat and Bruce deposits on the Moonta project have attributes that may allow copper production using innovative hydrometallurgical in-situ recovery (ISR).
- At both deposits copper mineralisation occurs in deep sub-vertical weathering troughs that extend hundreds of metres below the surface.
- Estimated combined Wombat and Bruce Exploration Target is 80 to 120 million tonnes at a grade of 0.18% to 0.23% copper (145,000 to 275,000 copper tonnes), comparable to resources at international ISR copper projects. The potential tonnage and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource, and it remains uncertain if further exploration will result in the estimation of a Mineral Resource.
- Weathered material in the troughs appears to be both porous and permeable, allowing lixiviant flow and copper phase contact, while the troughs are enclosed by fresh impermeable rock that can prevent lixiviant escape.
- Simple, preliminary leach tests on composite samples confirm copper solubility of up to 65%, and lixiviant studies to optimise copper into solution appear warranted.
- Both deposits are open along strike, and interpretation of exploration data has identified excellent opportunities to discover additional nearby mineralisation.
- Discussions are now underway with groups with ISR expertise and the technical capacity to advance the project.

Chris Drown
Managing Director

Andromeda Metals Limited
ABN: 75 061 503 375

Corporate details:

ASX Code: ADN

Cash: $0.13 million
(at 31 March 2017)

Issued Capital:
453,157,578 ordinary shares
23,616,235 listed options
52,703 unlisted options

Directors:

Colin G Jackson
Non-Executive Chairman
Chris Drown
Managing Director
Nick Harding
Executive Director and Company Secretary
Jonathan Buckley
Non-Executive Director

Contact details:

69 King William Road,
Unley, South Australia 5061

PO Box 1210
Unley BC SA 5061

Tel: +61 8 8271 0600
Fax: +61 8 8271 0033

admin@andromet.com.au
www.andromet.com.au

Fact:

ISR copper production is relatively non-invasive. An ISR operation could concievably co-exist without significant disruption to cereal cropping, and once completed leave little negative impact on future agricultural landuse.

Background

Andromeda Metals' holds the Moonta copper project, located on the Yorke Peninsula in South Australia (Figure 1).

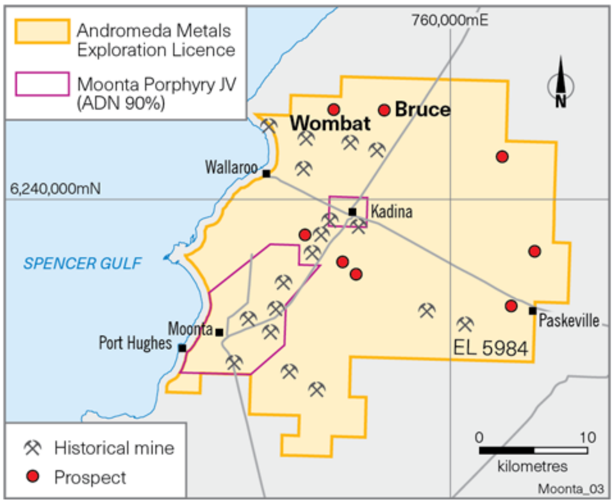

Figure 1: Moonta project location plan

The project area is highly mineralised and includes numerous historically mined deposits, as well as more recent copper discoveries including the Bruce Zone at Alford West and the Wombat deposit located approximately 3km to the west.

Past exploration efforts have focused on delineating deposits for conventional mining, however Bruce and Wombat have a number of critical attributes that may allow hydrometallurgical in-situ recovery (ISR) copper production.

What is in-situ recovery?

In-situ recovery (ISR) is a production process used to recover minerals using a fluid circulated via drilled wells. During the process a leaching solution (or "lixiviant"), is injected into the mineralisation via a

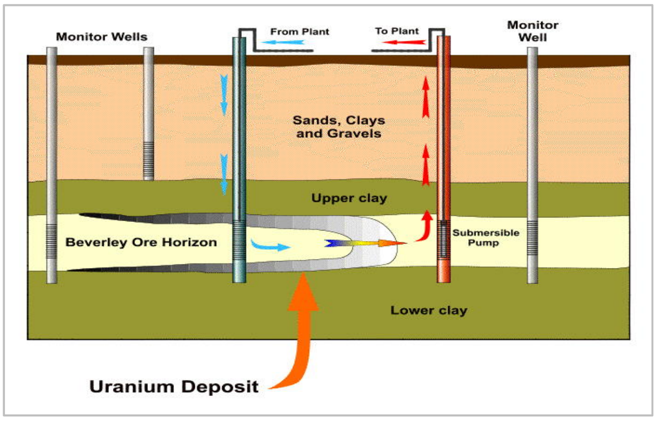

Figure 2: ISR schematic - Beverley mine example.

borehole, passes through the deposit leaching the target commodity, and is returned to the surface via a second bore where the dissolved metal is extracted from solution by SXEW or ion exchange in a processing plant (Figure 2).

ISR is used to produce salts, uranium and copper, with around 50% of the world's uranium now won using ISR, including at the Beverley uranium mine in South Australia.

The costs of ISR are substantially below those of conventional mining, allowing production from much lower grade deposits.

For example, a recent feasibility study by TSX listed Excelsior Mining Corp for its Gunnison ISR copper project in Arizona(1) is based on a Probable Mineral Reserve of 782 million short tons at a grade of 0.29% copper. ISR is planned to recover around 49% of the copper reserve with capital costs estimated to be US$46.9 million, and life of mine operating costs of US$0.65/lb.

As no significant surface disturbance is required, an ISR operation could concievably be conducted in conjunction with current agricultural landuse, and once completed have little on-going impact.

Critical deposit characteristics for ISR

For a copper deposit to be amenable to ISR production it must possess a number of critical natural mineralogical and hydrological characteristics, including:

- Copper must be present in minerals that are soluble, such as carbonates, oxides and some secondary sulphides.
- Mineralised material must be both porous and permeable, allowing lixiviant-copper mineral contact and through flow.
- Non-target mineral phases which consume lixiviant should not be present in significant amounts.
- Mineralisation should be below the natural water table to enable control of the lixiviant flow path.
- Non-permeable barriers ("aquacludes") should be present to restrict the lixiviant to the mineralisation and prevent ground water contamination.

(1) See Excelsior Mining Corp TSX-V announcement dated 5 Dec 2016 titled "Excelsior releases feasibility study with post-tax NPV of $807 million.

The Wombat and Bruce deposits

The Wombat and Bruce prospects are located in the north of the project tenement, with Bruce one of several mineralised zones discovered at the Alford West prospect.

Both deposits are characterised by deeply developed weathering troughs that extend for hundreds of metres below the surface. Figure 3 shows a cross section through the Wombat deposit illustrating the weathering trough at that deposit. The weathering troughs can be traced between drill sections and extend for the entire strike length of both deposits.

The rocks to both the north and south of the weathering troughs are fresh and impermeable (Photos 1 and 3), while the trough material is oxidised, porous and likely permeable (Photo 2).

The majority of the weathered material contained in the troughs is mineralised. Wombat hole MPD-06-22 hit 174 metres at 0.20% copper, while WOMDD001 intersected 115 metres at 0.53% copper, with very few samples assaying less than 0.05% copper, a commonly quoted lower cut-off grade used for ISR resources.

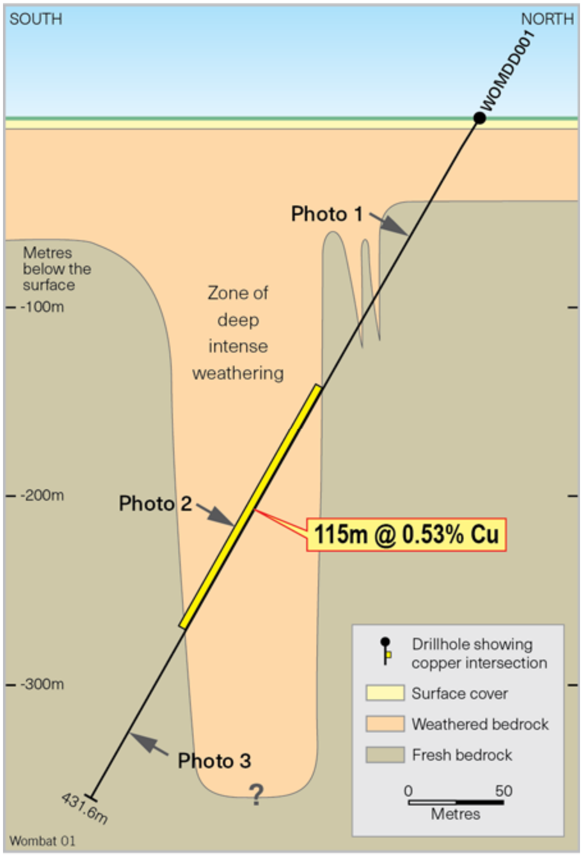

Figure 3: Wombat section showing weathering trough.

At Bruce, significant drill intersections of trough material include 115 metres at 0.27% copper in hole AWRC006, and 168 metres at 0.28% copper in hole DDH-132.

Copper minerals observed in the weathering trough mineralisation include those typically seen in the weathered profile of copper sulphide deposits. These include chalcocite (Cu_2S), native copper, rare copper carbonates, and a black oxide phase tentatively identified as tenorite (CuO). Chalcopyrite is present but rare.

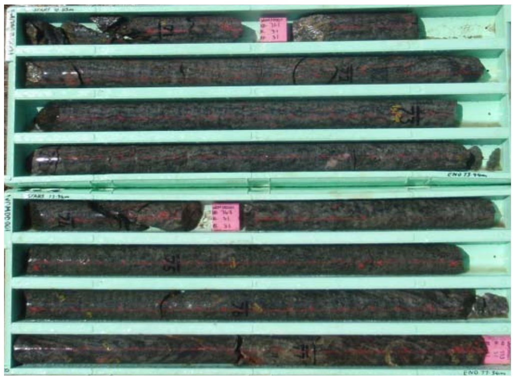

Photo 1: WOMDD001 core 70-77m downhole. Fresh, impermeable metasediment

Photo 2: WOMDD001 core 253-267m downhole. Porous, permeable, mineralised material.

Photo 3: WOMDD001 core 396-405m downhole. Fresh, impermeable metasediment.

Significant Exploration Target estimated

3-dimensional models of the weathering troughs at both Wombat and Bruce were constructed using available drillhole data (Figures 4 and 5) and tonnage ranges estimated by applying a density factor of 1.8 t/m^3 to the model volumes.

The 3-D models are restricted to the troughs where they fall below the water table and below the normal depth of weathering.

Copper grade ranges were estimated by length weighted averaging of all assayed drill samples captured within the 3-D trough model volumes. No lower cut-off copper grade was employed.

Based upon this work Andromeda Metals estimates a combined Exploration Target for the Wombat and Bruce troughs of 80 to 120 million tonnes at a grade ranging between 0.18 to 0.23% copper for 145,000 to 275,000 tonnes of copper.

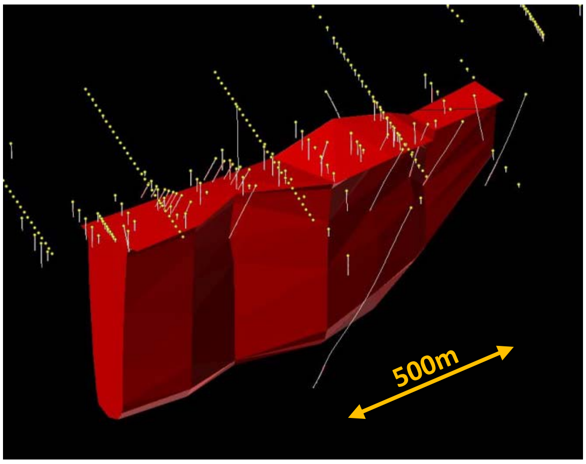

Figure 4: 3-D model of Wombat trough.

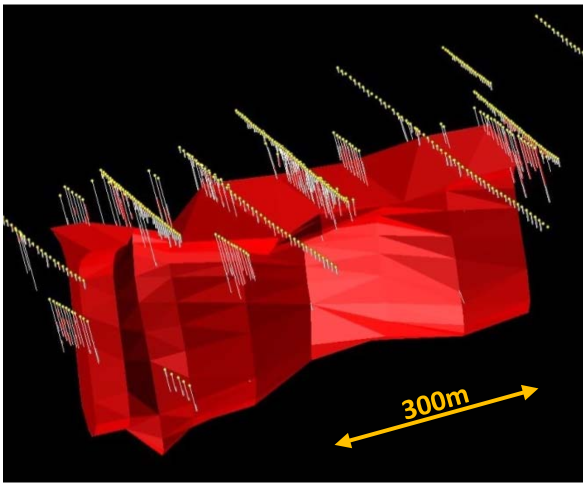

Figure 5: 3-D model of Bruce trough.

The potential tonnage and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource, and it remains uncertain if further exploration will result in the estimation of a Mineral Resource.

The depth of the troughs is the least known variable. A single hole at Wombat has passed beneath the trough giving an indication of depth, however no holes pass below the Bruce trough.

As currently modelled, the Wombat trough represents the larger of the two deposits, contributing approximately 70% of the Exploration Target tonnage. The estimated grades of both deposits are very similar.

The Exploration Target tonnage and grade range is comparable to the resource metrics of international ISR copper projects.

While the weathering troughs at both Wombat and Bruce are fairly uniformly mineralised, there are internal zones of higher grade copper which would allow estimation of higher grade resources.

A description of the historic exploration activity upon which the Exploration Target is based is included in Appendix 1. Table 2 lists all drill intersections that fall in the 3-D model volume shells for the two prospects.

Further exploration potential

Both the Wombat and Bruce troughs remain open along strike and potential to increase the Exploration Target, and ultimately Mineral Resources, is high.

Very limited drilling has tested the 3km interval between the two deposits and this area represents an excellent target area to find additional mineralisation (Figure 6).

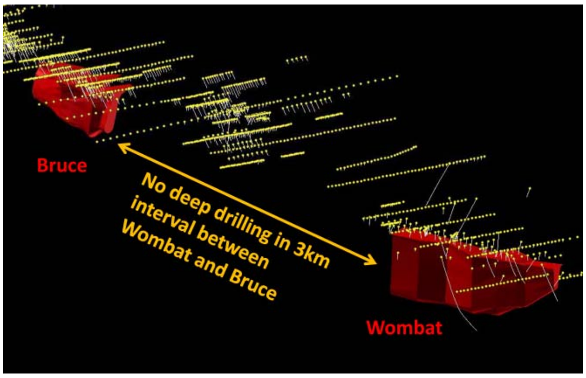

Figure 6: Exploration potential.

Preliminary copper solubility testwork

Following advice from a CSIRO scientist with expertise in ISR technology, 24 composited samples of trough material from Wombat and Bruce were submitted for a simple first pass acid solubility test.

The composite samples were collected from Wombat diamond holes WOMDD001 and WOMDD002, and Bruce RC holes AWRC006 and AWRC008. Composited downhole lengths ranged between 5 and 10 metres, with the composites selected to give uniform coverage of the trough material where original assays confirmed the presence of copper mineralisation.

Acid soluble analyses were conducted on pulverized samples using 4% H_2SO_4 agitated for 1 hour, with the solutions then read for copper. Soluble copper ranges up to 0.97% at Wombat and 0.48% at Bruce.

Head assays using a total digest method were completed to allow calculation of copper recovered to the leaching solution. At Bruce the percentage of the total copper leached from each composite ranged from 41% to 56%, averaging 49%. At Wombat, soluble copper recoveries ranged from 0% to 65%, averaging 35%. The results are listed in Table 1.

Significant copper is leaching into solution after one hour, confirming it to be present in soluble mineral phases. Trialing of different leaching times and reagents, or the addition of reagents to assist copper solubility, are considered likely to improve the recoveries to solution.

Drill hole assay data and acid drop tests on the weathered drill samples do not indicate the presence of non-copper bearing, acid consuming phases such as carbonate.

Table 1: Wombat and Bruce first pass copper solubility results.

Hole ID	From (m)	To (m)	Interval (m)	Composite Sample No.	Cu% (total)	Cu% (soluble)	Cu recovery (%)
Wombat Prospect							
WOMDD001	167	173	6	WOMAS001	0.67	0.10	15
	195	201	6	WOMAS002	1.50	0.97	65
	228	233	5	WOMAS003	0.18	0.12	65
	247	253	6	WOMAS004	0.78	0.42	53
	272	278	6	WOMAS005	0.57	0.30	52
	286	291	5	WOMAS006	0.22	<0.01	0
	295	302	7	WOMAS007	2.68	0.81	30
WOMDD002	127	132	5	WOMAS008	0.36	0.20	55
	158	165	7	WOMAS009	0.63	0.22	35
	186	193	7	WOMAS010	0.46	0.14	30
	200	206	6	WOMAS011	0.18	0.10	56
	228	236	8	WOMAS012	0.29	0.02	7
	238	244	6	WOMAS013	0.19	0.02	11
	273	282	9	WOMAS014	0.41	0.12	29
Bruce Prospect							
AWRC006	135	141	6	ALFAS001	1.16	0.48	41
	156	162	6	ALFAS002	0.48	0.22	46
	173	179	6	ALFAS003	0.28	0.14	50
	194	200	6	ALFAS004	0.53	0.30	56
	206	212	6	ALFAS005	0.32	0.16	50
AWRC008	159	165	6	ALFAS006	0.72	0.30	42
	170	180	10	ALFAS007	0.96	0.47	49
	195	202	7	ALFAS008	0.61	0.32	52
	208	214	6	ALFAS009	0.18	0.10	56
	224	230	6	ALFAS010	0.26	0.12	46

Samples prepared by compositing equal volumes of 1-metre stored assay pulps. Total copper determined by four acid digest and ICP-AES finish. Soluble copper determined by leaching agitated sample in 4% H_2SO_4 for 1 hour then finished by ICP-OES.

Summary

Modelling of weathering trough hosted copper mineralisation at Wombat and Bruce supports an Exploration Target ranging from 80-120 million tonnes at a grade ranging from 0.18-0.23% copper, comparable to the resource metrics of international ISR copper projects.

Both deposits remain open along strike, presenting opportunities to find further mineralisation in the trough extensions.

The hydrological characteristics are positive. The mineralised material in the weathering troughs is porous and likely permeable, and sits below the water table and below sea level. The troughs are bounded to both the north and south by fresh and impermeable bedrock that form natural aquacludes.

Preliminary metallurgical testwork confirms that copper is present in phases amenable to leaching, with improved recoveries anticipated with leachant optimisation.

Non-copper bearing minerals that might consume ISR leachant, such as carbonates, have not been observed in the weathering trough hosted mineralisation.

The sub-vertical morphology of the weathering troughs could allow both injection and extraction wells to access hundreds of vertical metres of mineralisation with positive implications for the number of injection and recovery wells required and hence capital costs.

The natural ground water is highly saline and consequently is not used for any domestic, agricultural or industrial purpose, minimising third party impact.

The area required for surface installations of an ISR operation are modest compared to conventional mining. An ISR operation could concievably coexist with agricultural landuse and leave little post-production impact.

Next steps

Technical investigations required to advance evaluation of the ISR potential of Wombat and Bruce include:

- Trialing of different copper leaching agents and additives to optimise copper recovery to solution.
- Investigation into the leachability of gold and cobalt which accompany copper mineralisation at grades potentially material in an ISR operation.
- Laboratory and field tests to establish the permeability of the mineralised zones, leading to pilot field leach tests.
- Preparation of new 3-D mineralisation models using copper grade boundaries instead of weathering trough boundaries to highlight better grade sub-zones.
- Infill drilling to allow estimation of Mineral Resources, coupled with exploratory drilling to grow resources.

Andromeda Metals is currently in discussion with three groups regarding a deal on the Moonta project. Two of these groups have recognised the ISR potential at Wombat and Bruce and, importantly, have the in-house technical expertise to advance an ISR project.

The Company trusts that the substantial resource potential and positive technical and hydrological attributes already established at Wombat and Bruce will be positively regarded by the third parties.

Competent Person Statement and 2012 JORC Compliance Notes

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Chris Drown, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Drown is employed by Drown Geological Services Pty Ltd and consults to the Company on a full time basis. Mr Drown has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Mr Drown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information contained in the report relating to exploration completed prior to 1 Dec 2013 by the Company and other explorers was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The information contained in the report relating to exploration completed since 1 Dec 2013 has previously been reported in accordance with the JORC Code 2012.

APPENDIX 1: Details of historical exploration upon which the Exploration Target is based

Ownership

The Moonta project tenement, Exploration License 5984, is largely owned 100% by Peninsula Resources Limited, a wholly owned subsidiary of Andromeda Metals Limited. A small area (the Moonta Porphyry JV) is owned 90% by Peninsula Resources and 10% by Minotaur Exploration Limited. The Wombat and Bruce deposits fall in that part of the tenement that is 100% owned by the Company. Other that the Minotaur interest there are no royalties or other third party interests in the tenement.

The Wombat and Bruce deposits fall on freehold land used for cereal cropping. Native Title is extinguished on freehold land.

Discovery history

The Wombat deposit was discovered in 2005 by a past joint venture between the Company and Phelps Dodge/Red Metal when drilling of a surface geochemical anomaly intersected significant copper mineralisation in the weathered basement below shallow cover sediments. Subsequent shallow aircore drilling defined a mineralised zone extending for over 1000 metres in strike. Deeper diamond drilling intersected broad intervals of copper mineralisation in the weathering trough described herein.

The first drill intersections of copper at Bruce were achieved in 1973 diamond holes drilled by Western Mining Corp in joint venture with North Broken Hill, with the holes targeting an extensive geochemical anomaly defined by shallow auger drilling. The presence of a coherent copper deposit at Bruce was confirmed by Andromeda Metals which systematically drilled the deposit to shallow depths using aircore and RC methods in 2013 to 2015.

Historical exploration details

Surface geochemistry over Wombat is predominantly calcrete sampling completed by Phelps Dodge/Red metal in joint venture with the Company. Calcrete samples were collected at 50 metre spacings on north south lines spaced 200 metres apart. Surface geochemistry at Bruce is dominated by shallow auger sampling completed by the WMC/NBH joint venture. Auger holes were drilled at 15 or 30 metre spacings on north south lines spaced about 150 metres apart.

Drilling at Wombat totals 87 aircore holes (2,996 metres) and 13 diamond drillholes (4,333 metres). Aircore holes are nominally spaced at 50 metre spacings along north south lines spaced 100 metres apart. Diamond holes were generally drilled towards the south. Drilling at Bruce totals 107 aircore and reverse circulation holes (8,072 metres) and 5 diamond holes (1,497 metres). Most aircore and RC holes were drilled towards the south at -60° inclinations. Most diamond holes also drilled towards the south.

Drill hole collars were pegged using DGPS or occasionally GPS instruments, with most collars also surveyed with DGPS after completion of drilling. Deeper RC and diamond holes were surveyed using down hole camera/compass systems. All drill holes were geologically logged with information relating to lithology, weathering, alteration and where possible structure captured. Representative geological samples for all aircore and RC holes drilled by Phelps Dodge/Red metal and Andromeda Metals were collected in chip trays which remain in the Company's possession. Drill core from all the diamond holes is stored at the SA Government's core storage facility.

At Wombat assay samples from aircore holes drilled by Phelps Dodge/Red Metal were of various downhole lengths ranging from 1 to 6 metres, and for diamond holes, were normally 2 metre ½ core samples. Copper was determined by AAS. At Bruce assay samples from ADN drilled aircore and RC holes were 1 metre lengths, with assaying by ICP-AES. Historical diamond holes drilled by WMC/NBH were sampled using imperial measurements, commonly 3 feet. Assays were by AAS.

For all ADN holes analytical standards, blanks and duplicate QA/QC samples were introduced on a routine basis. QA/QC work suggests acceptable laboratory performance was the norm.

Geology

The key geological feature at both Wombat and Bruce are the deeply developed weathering troughs. These persist for hundreds of metres below the surface, while regionally, the average depth of weathering is only about 50 metres.

Material in the troughs comprises hydrated and variably oxidised host rock. Past interpretations of the trough genesis generally involved hydrothermal alteration processes, however the material can better be interpreted to be of weathered origin, with the material now either oxidised upper saprolite (dominant at Wombat) or reduced but hydrated lower saprolite (dominant at Bruce). Additionally, the copper phases observed also support a weathering origin. It appears possible that pre-existing copper mineralisation, dominantly chalcopyrite, gas been remobilised by supergene processes to form the widespread mineralisation observed in the troughs.

The parent rock types were metasediments, including siltstones and possibly carbonate earing rocks. Primary textures are preserved in places and indicate very significant brecciation had affected the host rocks prior to the deep weathering event.

Metallurgy

Advice was sought from a CSIRO scientist with expertise in ISR technology, who recommended first pass testing of composited samples to confirm if any copper was soluble. Consequently 24 composited samples of trough material from Wombat and Bruce were submitted for a simple first pass acid solubility test.

The composite samples were collected from Wombat diamond holes WOMDD001 and WOMDD002, and Bruce RC holes AWRC006 and AWRC008. Composited downhole lengths ranged between 5 and 10 metres, with the composites selected to give uniform coverage of the trough material where original assays confirmed the presence of copper mineralisation.

Acid soluble analyses were conducted by Bureau Veritas using method MET2A. 0.5g of sample is extracted with 20ml of 4% Sulphuric Acid Solution, The sample is then shaken or tumbled for 60 minutes at room temperature, filtered, diluted to 100ml and analysed for copper by ICPOES. Soluble copper ranges up to 0.97% at Wombat and 0.48% at Bruce.

Head assays using a total digest method were completed to allow calculation of copper recovered to the leaching solution. At Bruce the percentage of the total copper leached from each composite ranged from 41% to 56%, averaging 49%. At Wombat, soluble copper recoveries ranged from 0% to 65%, averaging 35%. The results are listed in Table 1.

Significant copper is leaching into solution after one hour, confirming it to be present in soluble mineral phases. Trialing of different leaching times and reagents, or the addition of reagents to assist copper solubility, are considered likely to improve the recoveries to solution.

Deposit modelling and establishment of the Exploration Target

3-Dimensional modelling of the weathering troughs at the Wombat and Bruce deposits was completed using Micromine software. The troughs were modelled to a vertical depth just below the deepest drilling intersections (approximately 350m at Bruce and 500m at Wombat). Existing drilling suggests mineralisation is likely to continue to at depth.

The software allows calculation of the model volumes. A density factor of 1.8 was applied to the modelled trough volumes to arrive at the upper figure of the Exploration Target tonnage range. Wombat contributes approximately 70% and Bruce approximately 30% of the total Exploration Target tonnage.

The Exploration Target grade was estimated by simple length weighted averaging of laboratory assayed samples captured within the modelled volumes, then expressing as a range to take account of uncertainty. No lower cut-off grade was applied as the trough boundaries may be a more realistic boundary than an internal grade boundary in an ISR operation.

Table 2 presents a listing of all assayed intervals from each hole that falls within the modelled trough volumes at Bruce and Wombat.

Table 2: Drill intersections falling within modelled Bruce and Wombat weathering troughs.

Hole ID	Company	Easting (mga94)	Northing (mga94)	RL (m)	Hole Dip (°)	Azimuth (mga94)	Depth (m)	From (m)	To (m)	Interval (m)	Cu (%)
Bruce Prospect											
ALWAC0284	ADN	753299	6248252	40.3	-60	360	77.0	31.0	*77.0	46.0	0.20
ALWAC0256	ADN	753300	6248298	40.9	-60	180	32.0	27.0	*32.0	5.0	0.08
ALWAC0075	ADN	753301	6248281	40.7	-60	180	108.0	29.0	*64.0	35.0	0.12
ALWAC0074	ADN	753301	6248261	40.4	-60	180	101.0	35.0	*70.0	35.0	0.29
ALWAC0073	ADN	753301	6248236	40.0	-60	180	60.0	39.0	*60.0	21.0	0.25
ALWAC0072	ADN	753302	6248221	39.8	-60	180	54.0	42.0	*54.0	12.0	0.14
ALWAC0071	ADN	753302	6248201	39.4	-60	180	93.0	55.0	68.0	13.0	0.06
AL-03	Amalg	753235	6248249	39.8	-60	180	91.0	30.0	*88.0	58.0	0.13
AL-01	Amalg	753236	6248271	40.3	-60	180	134.0	30.0	*132.0	102.0	0.06
DDH-136	WMC/NBH	753200	6248267	40.1	-90	360	235.3	22.9	*235.0	212.1	0.11
ALWAC0258	ADN	753200	6248320	41.1	-60	180	101.0	59.0	*101.0	42.0	0.39
DDH-132	WMC/NBH	753200	6248374	42.2	-50	180	283.2	114.3	283.0	168.7	0.28
ALWAC0113	ADN	753100	6248200	38.0	-60	180	80.0	69.0	*80.0	11.0	0.32
ALWAC0114	ADN	753100	6248220	38.9	-60	180	84.0	51.0	*75.0	24.0	0.33
ALWAC0116	ADN	753101	6248260	40.0	-60	180	70.0	50.0	*70.0	20.0	0.29
ALWAC0117	ADN	753100	6248280	40.3	-60	180	75.0	50.0	*75.0	25.0	0.10
ALWAC0118	ADN	753100	6248300	40.6	-60	180	60.0	49.0	*60.0	11.0	0.09
ALWAC0120	ADN	753101	6248340	41.3	-60	180	59.0	48.0	*59.0	11.0	0.13
ALWAC0087	ADN	753017	6248248	38.6	-60	180	72.0	55.0	*72.0	17.0	0.08
ALWAC0088	ADN	753018	6248268	39.6	-60	180	83.0	55.0	*83.0	28.0	0.09
ALWAC0089	ADN	753018	6248287	40.6	-60	180	72.0	56.0	*72.0	16.0	0.44
ALWAC0090	ADN	753019	6248308	41.4	-60	180	72.0	56.0	*72.0	16.0	0.20
ALWAC0091	ADN	753019	6248330	41.6	-60	180	75.0	55.0	*75.0	20.0	0.12
ALWAC0094	ADN	753020	6248349	41.6	-60	180	93.0	55.0	*93.0	38.0	0.16
DDH-224	WMC/NBH	753007	6248380	42.0	-60	180	250.0	52.6	238.3	185.7	0.16
ALWAC0183	ADN	752899	6248157	35.0	-60	180	108.0	90.0	*108.0	18.0	0.11
ALWAC0184	ADN	752899	6248201	36.2	-60	180	99.0	57.0	*76.0	19.0	0.11
ALWAC0185	ADN	752900	6248239	37.5	-60	180	102.0	44.0	56.0	12.0	0.08
								73.0	*83.0	10.0	0.14
ALWAC0186	ADN	752899	6248276	38.6	-60	180	82.0	45.0	55.0	10.0	0.35
								70.0	*82.0	12.0	0.87
ALWAC0259	ADN	752900	6248296	39.7	-60	180	69.0	45.0	*69.0	24.0	0.30
ALWAC0298	ADN	752900	6248300	39.9	-60	180	120.0	50.0	67.0	17.0	0.81
								74.0	*120.0	46.0	0.28
ALWAC0187	ADN	752900	6248318	40.6	-60	180	64.0	45.0	*64.0	19.0	0.25
ALWAC0260	ADN	752898	6248335	41.5	-60	180	87.0	46.0	*87.0	41.0	0.12
DDH-129	WMC/NBH	752900	6248397	43.6	-60	180	342.0	185.6	339.8	154.2	0.10
ALWAC0290	ADN	752830	6248292	39.3	-60	180	99.0	87.0	*99.0	12.0	0.65
ALWAC0291	ADN	752830	6248315	39.8	-60	180	123.0	89.0	*123.0	34.0	0.68
AWRC006	ADN	752830	6248350	41.3	-60	180	252.0	137.0	*252.0	115.0	0.27

Hole ID	Company	Easting (mga94)	Northing (mga94)	RL (m)	Hole Dip (°)	Azimuth (mga94)	Depth (m)	From (m)	To (m)	Interval (m)	Cu (%)
ALWAC0297	ADN	752770	6248300	39.3	-60	180	105.0	76.0	*99.0	23.0	0.28
ALWAC0261	ADN	752773	6248315	39.7	-60	180	89.0	80.0	*89.0	9.0	1.45
ALWAC0289	ADN	752767	6248332	40.2	-60	180	141.0	90.0	*141.0	51.0	0.40
AWRC008	ADN	752750	6248360	41.5	-60	180	239.0	158.0	*230.0	72.0	0.33
AWRC007	ADN	752690	6248305	39.7	-60	180	216.0	184.0	*216.0	32.0	0.17
Wombat Prospect											
WOMAC011	ADN	749507	6248138	32.3	-60	148	65.0	58.0	*65.0	7.0	0.28
MPDAC-368	PD/RM	749529	6248121	31.9	-90	360	54.0	50.0	*54.0	4.0	0.86
WOMAC009	ADN	749501	6248149	32.5	-60	148	75.0	58.0	*75.0	17.0	0.28
WOMAC012	ADN	749496	6248157	32.7	-60	148	73.0	55.0	*73.0	18.0	0.19
WOMAC010	ADN	749488	6248170	32.9	-60	148	85.0	55.0	*85.0	30.0	0.12
MPD-05-20	PD/RM	749479	6248211	33.8	-63	155	315.0	102.0	202.0	100.0	0.11
MPD-05-19	PD/RM	749315	6248178	34.0	-57	160	294.0	196.0	272.0	76.0	0.21
WOMAC005	ADN	749303	6248085	31.8	-60	148	73.0	66.0	*73.0	7.0	0.07
MPDAC-358	PD/RM	749229	6248071	32.0	-90	360	60.0	58.0	*60.0	2.0	0.83
MPD-04-16	PD/RM	749094	6248001	31.7	-60	170	295.1	76.0	*295.1	219.1	0.07
MPDAC-384	PD/RM	749029	6247971	31.4	-90	360	60.0	48.0	*60.0	12.0	0.05
WOMDD002	ADN	748953	6248009	32.8	-58	160	359.1	120.0	245.0	125.0	0.21
								260.0	285.0	25.0	0.22
MPD-06-22	PD/RM	748944	6248096	34.0	-60	160	415.8	241.1	415.0	173.9	0.20
DDH-146	WMC/NBH	749015	6247732	27.3	-50	329	270.5	195.1	*268.2	73.2	0.08
WOMDD001	ADN	748852	6247985	32.6	-60	160	431.6	195.0	310.6	115.6	0.53
MPD-05-21	PD/RM	748773	6247998	33.2	-55	160	350.7	271.0	303.0	32.0	0.11

** Hole ended in weathering trough.*

ADN – Andromeda Metals;
Amalg – Amalg Resources;
WMC/NBH – Western Mining/North Broken Hill;
PD/RM – Phelps Dodge/Red Metal.

Intersections calculated by length weighted averaging of copper assays. For ADN drilled holes copper determined by multi acid digest followed by ICP-AES finish. For PD/RM and WMC/NBH holes copper determined by AAS. Assay method not reported for Amalg holes.

No cut-off grade applied – intersections are of all assayed intervals falling within trough model. Intersections are downhole lengths.

1 JORC Code, 2012 Edition – Table 1

1.1 Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or hand held XRF instruments, etc) These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Diamond, reverse circulation and aircore drilling was used to obtain samples which were pulverised to produce sub samples for lab assay for metals including copper.
Drilling Techniques	• *Drill type (air core, reverse circulation, open-hole hammer, rotary air blast , auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face sampling bit or other type, whether core is orientated and if so, by what method, etc).*	• Drill methods included diamond coring, reverse circulation and aircore. • Hole diameters varied for methods. • Some diamond core was triple tubed. • Face sampling hammers were used for RC holes.
Drill Sample Recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the sample.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of coarse/fine material.*	• Qualitative assessment of sample recovery and moisture content of all ADN drill samples was recorded. • Sample recoveries for other company holes variably recorded. • No relationship is known to exist between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All holes were geologically logged by on-site geologist, with lithological, mineralogical, weathering, alteration, mineralisation and veining information recorded. The holes have not been geotechnically logged. • Geological logging is qualitative. • Chip trays containing

		geological sub-samples are photographed at the completion of the drilling program. • 100% of any reported intersections have been geologically logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Diamond samples collected by sawing core in half. • RC samples collected using splitter under cyclone if dry or by grab sample if wet. • Aircore samples collected from bulk sample using a trowel. • The majority of drill samples were wet. • Laboratory sample preparation includes drying and pulverising of submitted sample to target of P80 at 75um. • No ADN samples checked for size after pulverising failed to meet sizing target in the sample batches relevant to the report. • Duplicate and standard samples were introduced into ADN sample stream by the Company, while the laboratory completed double assays on many samples. QAQC measures undertaken by other companies not generally known. • Both ADN and laboratory introduced QAQC samples indicate acceptable analytical accuracy. • Laboratory analytical charge sizes are standard sizes and considered adequate for the material being assayed.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and mode, reading times, calibration factors applied and their derivation, etc.* • *Nature and quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• For ADN samples standard laboratory analyses completed for copper (4 acid digest with ICP-AES) and over range (>1%) copper (4 acid digest with AA finish). • The laboratory analytical methods are considered to be total. • For laboratory samples ADN introduced QA/QC samples at a ratio of one QA/QC sample for every 24 drill samples. The laboratory additionally introduced QA/QC samples (blanks, standards, checks) at a

		ratio of greater than 1 QA/QC sample for every 5 drill samples. • Both the Company introduced and laboratory introduced QA/QC samples indicate acceptable levels of accuracy and precision have been established.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical or electronic) protocols.* • *Discuss any adjustment to assay data.*	• A Company geologist calculated the list of intersections appearing in Table 1 of the report. A sub-set of these intersections have been checked by the Competent Person. • No twinned holes were drilled in the program the subject of the report. • No adjustments have been made to the laboratory assay data.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill hole collars for ADN and PD/RM holes were pegged using DGPS with an accuracy of +/- 0.5 metres. • WMC/NBH and Amalg holes appear to have been pegged by surveyor from a local grid. • Downhole surveys were completed on all RC and diamond holes using a compass based instrument. • GDA94 (Zone 53) • Collar RLs are estimates based upon a high resolution DTM acquired as part of an historical airborne geophysical survey. • Historical collar locations have been either digitised from reports.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classification applied.* • *Whether sample compositing has been applied.*	• At Wombat and Bruce most holes are drilled on 100m spaced lines at 25 metre intervals. The data spacing is considered sufficient to allow confident interpretation of the weathering troughs. • No sample compositing has been applied.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Drill lines oriented north-south across E-W trending lodes. The angle of incidence at the Bruce Zones is not considered to result in biased sampling. • At Wombat the drill lines are oriented approximately NW-SE.

Sample security	• *The measures taken to ensure sample security.*	• Measures for non ADN drilled holes unknown. • ADN samples were transported and delivered to the laboratory by Company staff.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data*	• No audits completed.

1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section may apply to this section)

Criteria	**JORC Code explanation**	**Commentary**
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements of material issues with third parties such as joint ventures, overriding royalties, native titles interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*	• The area the subject of this report falls within EL 5984, which is 100% owned by Peninsula Resources limited, a wholly owned subsidiary of Andromeda Metals Limited. • There are no non govt royalties, historical sites or environmental issues. Underlying land title is Freehold land which extinguishes native title. • EL 5984 is in good standing.
Exploration done by other parties	• *Acknowledgement and appraisal of exploration by other parties.*	• The general area the subject of this report has been explored in the past by various companies including Western Mining Corporation, North Broken Hill, Amalg Resources, and Phelps Dodge/Red Metal. The Company has reviewed past exploration data generated by these companies.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Deposits in the general region are considered to be of Iron Oxide Copper Gold affinity, related to the 1590Ma Hiltaba/GRV tectonothermal event. Cu-Au-Mo-Pb mineralisation is structurally controlled and associated with significant metasomatic alteration of host rocks.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *Easting and northing of the drill collar* o *Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill collar.* o *Dip and azimuth of the hole.* o *Down hole length and interception depth.* o *Hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of*	• The required information on drill holes that have intersections within the wireframe used to determine a Exploration Target tonnage and grade range are included in Table 2 of the report. Tabulated intersections were calculated using weighted average intersections in Micromine.

	the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/ or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in some detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Intersections are calculated by simple averaging of 1m assays. (There are a handful of sub-1m intervals within historical diamond holes which have been weighted accordingly. • No metal equivalents are reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• The disposition of the weathering troughs is described in the report. • The footnote to Table 2 advises that the intersections are downhole lengths.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate plans and sections with scales appear as Figures 1 to 6 in the report. A tabulation of intersections appears as Table 2 of the report.
Balanced Reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• The criteria used to determine if an intersection is listed in Table 2 is if it is within the "closed" trough wireframe which was used to determine the Exploration Target.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, ground water, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• There is no other meaningful or material exploration data that has been omitted from the report.
Further work	• *The nature and scale of planned further work (eg tests of lateral extensions or depth extensions or large scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work may involve further technical studies including lixiviant optimisation, permeability studies, possibility of recovering cobalt and gold etc.