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METALS X LIMITED

Metals X Limited is a diversified group exploring and developing minerals and metals in Australia. It is Australia's largest tin producer and a significant copper producer with a pipeline of assets from exploration to development including the world class Wingellina Nickel Project.

CORPORATE DIRECTORY

ASX Code: **MLX**

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QUARTERLY REPORT

FOR THE PERIOD ENDING 31 DECEMBER 2016

HIGHLIGHTS OF THE QUARTER

CORPORATE

- Successful completion of the demerger of Metals X gold assets and listing of Westgold Resources Limited (ASX:WGX) (Westgold) on 1 December 2016. Westgold commenced trading on the ASX on 6 December 2016.
- Earnings rise as productivity and metal prices improve. Operating EBITDA from the copper and tin divisions for the quarter was $20.8 million (unaudited).
- Strong balance sheet with closing cash and working capital at the end of the quarter of $112 million plus investments of $15.3 million.

COPPER DIVISION – CASHFLOW POSITIVE AHEAD OF SCHEDULE

- Production of 7,909 tonnes of copper contained in concentrates at an all-in-cost of A$6,272 per tonne of copper or $A2.84/lb Cu (US$2.15/lb).
- EBITDA of $10.1 million and net cashflow of $7.2 million (unaudited).
- First exploration results from the recommencement of underground drilling returned excellent ore grade intercepts. Including:
  - » 10 m @ 3.89% Cu from NUG0003, and
  - » 21.6 m @ 2.64% Cu from NUG0012.

TIN DIVISION – STEADY PRODUCTION AND HIGHER RETURNS

- Production of 1,768 tonnes of tin contained in concentrates at an all-in-cost of $18,495 per tonne of tin.
- EBITDA of $10.7 million and net cashflow of $7.7 million (unaudited).
- Excellent ore sorting results provides a pathway to a 15-20% expansion of tin production.
- Rentails economics very attractive with partners considering revised development plans and updated feasibility study.

Note: all figures are AUD$ and relate to the December 2016 Quarter unless stated otherwise.

ENQUIRIES

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COPPER DIVISION

NIFTY OPERATIONS (MLX 100%)

Metals X took operational control of the Nifty mine after moving to compulsory acquisition of Aditya Birla Minerals Limited on 1 August 2016. During the December quarter Metals X completed the integration of the Nifty Copper operations into Metals X with excellent progress being made towards reducing operating costs, improving mining practices and opening up additional mining areas.

Copper production for the quarter was 7,909 tonnes of copper contained in concentrates, equivalent to an annualised production rate of over 31,000 tonnes of contained copper. Operating costs continued to improve with all-in-costs of $6,272/t Cu (A$2.84/lb Cu). The average LME copper price for the quarter was $7,044/t Cu ($3.19/lb Cu) resulting in an imputed net cashflow of $7.2 million and an EBITDA of $10.1 million for the operation.

The integration of the corporate office was completed with the realisation of significant non-operational cost savings. Implementation of Metals X policies, procedures and operational standards, and the integration of the management and data systems are close to completion. All operational roles have been deployed to site.

A new Nifty geological model, incorporating available stratigraphy and depletion data, was updated to provide a further picture of the mine geology and mining areas. The geological model is now being utilised at Nifty to assist planning and the development of a five-year production plan. It will also form a basis for an updated resource and reserve model.

The short-term focus at Nifty is to exploit additional ore along strike of already developed mining areas and to review all remaining stoping blocks within the checkerboard with an objective of maximising production whilst minimising dilution.

The immediate strategic objective is to increase mine production to enable a return to continuous production over the next 12 to 18 months. The processing plant currently has 30-40% spare capacity and is operating on a two-weeks-on and one-week-off campaign basis. Increased plant utilisation will significantly reduce overall unit costs and improve free cash flow as there is no requirement for additional plant capital and additional plant feed will incur only incremental operating costs.

Underground drilling commenced during the quarter returning excellent early results from drilling along strike at the 14 level defining strong mineralisation close to previous development. A substaintial tonnage of ore between the open pit and level 14 has now been defined and revised mine designs are currently being devised with the objective of bringing this area into production during the March quarter of 2017. The overall Nifty ore system remains open downplunge and an additional level (25 Level) was developed during the quarter and intercepted ore as expected. Drilling will continue to identify opportunities within close vicinity of current developed areas and down plunge of the existing ore body.



Picture: Nifty Copper Concentrator

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Quarterly production and costs are tabulated below. The previous quarter only contains two months of data reflecting the date at which Metals X took over operational control:

		December 16 Quarter	Prev. Quarter	Rolling 12-months
Physical Summary	Units			
Production				
Ore Tonnes Mined	t	415,004	271,483	**1,675,277**
Ore Grade Mined	% Cu	2.09	1.68	**2.11**
Copper Concentrator				
Tonnes Processed	t	394,985	277,356	**1,662,690**
Ore Grade Processed	% Cu	2.11	1.73	**2.1**
Recovery	%	94.85	93.86	**96.20**
Copper Produced	t	7,909	4,504	**31,499**
Copper Sold	t	8,213	4,224	**32,818**
Copper price achieved	$	6,970	6,236	**6,128**
Cost Summary				
Mining	A$/t Cu	2,153	2,204	**2,363**
Processing	A$/t Cu	1,027	915	**1,025**
Admin	A$/t Cu	1,043	1,505	**1,122**
Stockpile Adj	A$/t Cu	-	-	-
C1 Cash Cost	A$/t Cu	4,223	4,625	**4,510**
Royalties	A$/t Cu	305	253	**274**
Marketing / Sales costs	A$/t Cu	1,229	1,347	**1,343**
Sustaining Capital	A$/t Cu	367	122	**510**
Reclamation & other Adj	A$/t Cu	108	1	**109**
All-in Sustaining Costs	A$/t Cu	6,232	6,348	**6,745**
Project Start-up costs	A$/t Cu	-	-	**-**
Exploration Costs	A$/t Cu	40	64	46
All-in Costs	A$/t Cu	6,272	6,412	6,791

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NIFTY EXPLORATION

At Nifty, after a substantial hiatus under past management, both underground and surface drilling activities recommenced during the quarter. This resumption of drilling operations has already provided encouraging results with significant intercepts returned in the Northern Limb area of the Nifty Syncline, including;

- 10.00 m at 3.89% Cu from 165.0 m in NUG0003.
- 26.52 m at 1.32% Cu from 153.5 m in NUG0006.
- 21.60 m at 2.64% Cu from 117.0 m in NUG0012.

The Northern Limb area already has extensive nearby capital development and, with the benefit of increased geological definition and confidence in grade distribution provided by the drill results, will provide a near-immediate additional source of production upon completion of drilling and geological modelling. As previously mentioned, drilling along strike at the 14 level identified strong mineralisation which is now being designed to bring into production.

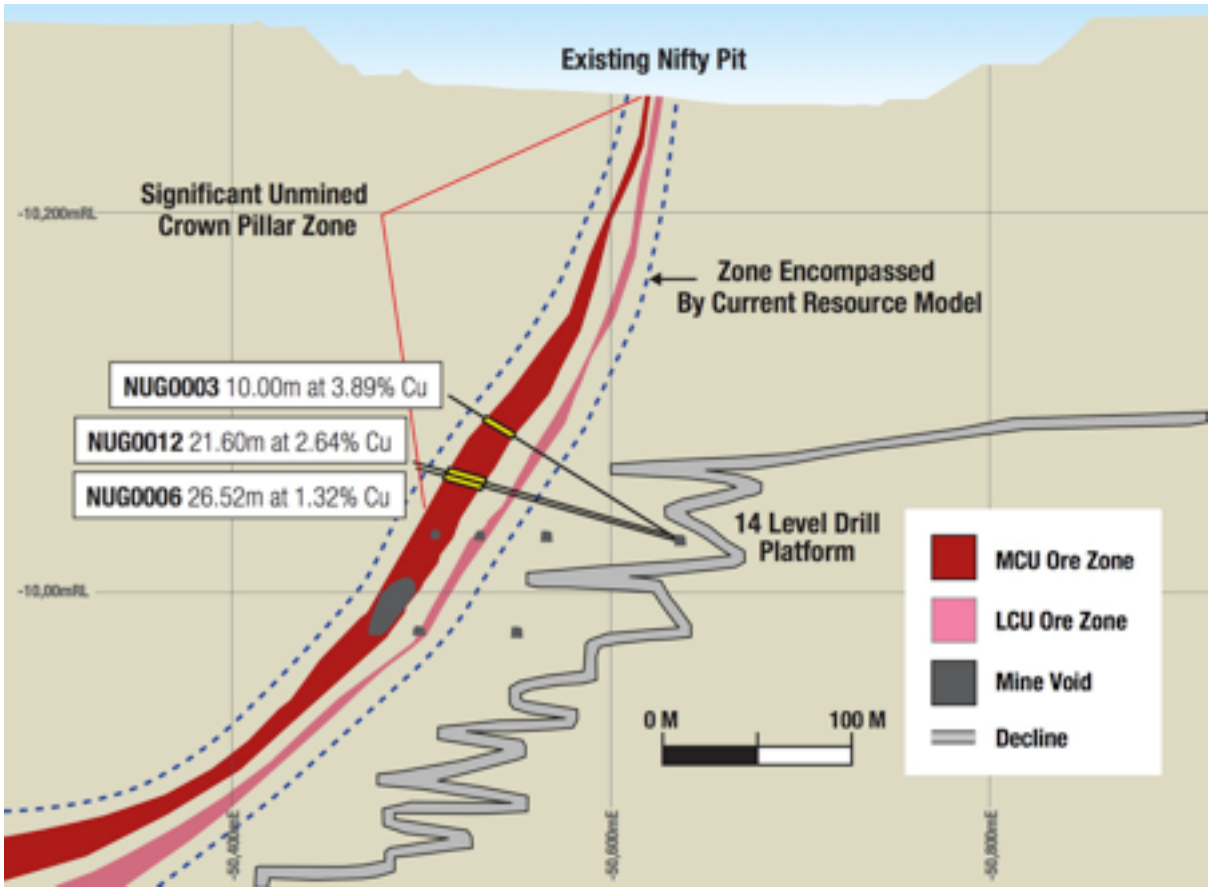


Figure 1: Drilling results above the 14 level

The Metal's X site exploration team have also developed a strategic plan to underpin the recommencement of grassroots exploration activities across the Company's large landholdings in the Patterson Province. Metal's X has prioritised targets away from the immediate mine area in preparation for recommencement of exploration activities upon the close of the wet season in early 2017.

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TIN DIVISION

RENISON PROJECT (MLX 50%)

Performance in the December quarter continued to benefit from the improvement in Australian dollar tin prices and the lower cost profile as owner operator. The tin price for the quarter increase by a further 10% during the quarter, trading above $29,000/t by quarter end which compares favourably to the AISC of $18,495/t tin for the quarter. EBITDA for the quarter was $10.7 million (MLX 50% share). Quarterly tin production of 1,768 tonnes of tin represented a 2.9% increase from the prior quarter.

All other production metrics (ore tonnes mined and processed, mined and processed grades and recoveries) remained consistent with the previous quarter, except process tonnes which made record highs for the quarter.

Mine production remains in excess of processed tonnes and a significant stockpile (+30,000 tonnes) of ore has now been accumulated providing additional surety and flexibility.

During the quarter the Joint Venture (JV) completed its testing and evaluation of ore sorting. Previous vendor trials have indicated that approximately 25% of waste can be rejected from the underground ore with tin losses of less than 3%. Ore sorting would enable a cost effective expansion at the Renison tin operation which would result in being able to increase head grade and mining production without the requirement to expand the processing plant. The ore sorter would be installed in a new expanded and purpose built crushing plant. Engineering has been completed and final economic modelling is underway with a decision expected to be made in early 2017.

The conceptual design would require an increase in mine capacity over the next 18 months to 920,000 tonnes while maintaining the processing plant at a rate of approximately 720,000 tonnes. It is anticipated that tin production would be increased by approximately 15-20% from current levels of around 7,100 tonnes and allow additional optimisation of the current resource.

Operating costs for the quarter were slightly higher than the previous quarter (approximately 8.5%) which is within expected operating and timing variability in consideration of the reduction in C1 cost of 37% in the September quarter. The C1 costs for the quarter and AISC were $11,980/t tin and $18,495/t tin respectively, an increase of 8.5% and 6.4% for the quarter.



Picture: Renison Accommodation Village in Zeehan, TAS.

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Physical outputs for the quarter are summarised below comparing the previous quarter and the rolling 12 month totals:

		December 16 Quarter	Prev. Quarter	Rolling 12-months
Physical Summary	Units			
Production				
Ore Tonnes Mined	t	197,650	199,023	**738,932**
Ore Grade Mined	% Sn	1.28	1.26	**1.23**
Tin Concentrator				
Tonnes Processed	t	190,438	188,631	**717,330**
Ore Grade Processed	% Sn	1.29	1.28	**1.24**
Recovery	%	72.33	71.07	**70.70**
Tails grade	%	0.36	0.36	**0.36**
Tin Produced	t	1,768	1,718	**6,314**
Tin Sold	t	1,868	1,394	**6,492**
Tin price achieved	$	27,911	24,727	**24,021**
Cost Summary				
Mining	A$/t Sn	6,937	5,953	**7,811**
Processing	A$/t Sn	4,313	4,643	**4,795**
Admin	A$/t Sn	1,081	984	**1,075**
Stockpile Adj	A$/t Sn	(351)	(551)	(297)
C1 Cash Cost	A$/t Sn	11,980	11,028	**13,384**
Royalties	A$/t Sn	1,623	747	**1,107**
Marketing / Sales costs	A$/t Sn	2,388	2,320	**2,240**
Sustaining Capital	A$/t Sn	2,478	3,251	**2,836**
Reclamation & other Adj	A$/t Sn	26	(2)	**38**
All-in Sustaining Costs	A$/t Sn	18,495	17,344	**19,605**
Project Start-up costs	A$/t Sn	-	-	**-**
All-in Costs	A$/t Sn	18,495	17,344	20,351

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RENISON EXPLORATION AND DEVELOPMENT

A significant amount of in-mine and extensional drilling was conducted by the Renison Geology team during the quarter, with a second underground drill rig mobilised to site late in the quarter to assist in advancing resource definition work at a series of new targets including Upper Huon North, Mid-South Federal Bassett, and South Bassett.

Better drill results returned this quarter include 7.1 m at 1.93% Sn and 0.13% Cu from 54 m in U5820 and 8 m at 1.67% Sn and 0.21% Cu from 79 m in U5822, both from the Blackwood's orebody. Blackwood's is a historical production source that the Renison team are currently re-evaluating in today's elevated tin price environment.

Encouraging results, such as 11.1 m at 1.24% Sn and 0.61% Cu in U5879, have also been returned from the Upper Federal part of the mine. Upper Federal is a historically significant source of production that the Renison team exploit on an incremental basis as supplementary feed to the main production sources of Lower Federal, Area 4 and CFB, lower in the mine. Such results demonstrate the considerable metal endowment and standalone prospectivity of this large mineralised zone.

Additionally work in re-evaluating remnant mineralisation in the substantial stratabound footwall ore system at the top of the mine is ongoing. This large, historically mined zone with favourable metallurgical characteristics was the basis for the commencement of the current mechanised Renison Bell mine. It has not previously been subject to modern geological modelling techniques and mining review.

RENISON EXPANSION (RENTAILS) PROJECT

The objective of the Rentails Project is to re-process an estimated 22.5 million tonnes of tailings, at an average grade of 0.45% tin and 0.22% copper, from the historical processing of tin ore. The project has a Measured Resource containing over 100,000 tonnes of tin and 50,000 tonnes of copper.[†]

Metals X completed a Definitive Feasibility Study into the mining and re-processing of the tailings for the recovery of tin and copper in 2009. The financial evaluation estimated total cash cost of sales of $11,875 per tonne of tin after copper credits, assuming a copper price of $6,250/t (the current copper price is approximately $7,700/t). Capital costs, at an accuracy of estimate of +/- 15%, were estimated at approximately $194 million. At current metal prices for both tin and copper the economics of the Rentails Project looks very encouraging.

During the quarter a review of the feasibility study was undertaken to update the capital and operating costs of the 2009 Feasibility Study. The update will be completed early in 2017. However, preliminary analysis indicates that only a minor increase in capital (~2%) and operating costs (~15%) is expected, which would result in a strong business case for the project at prevailing tin prices. Final updates and modelling will be completed during the following quarter at which point it is proposed to consider financing options for the development of the project.

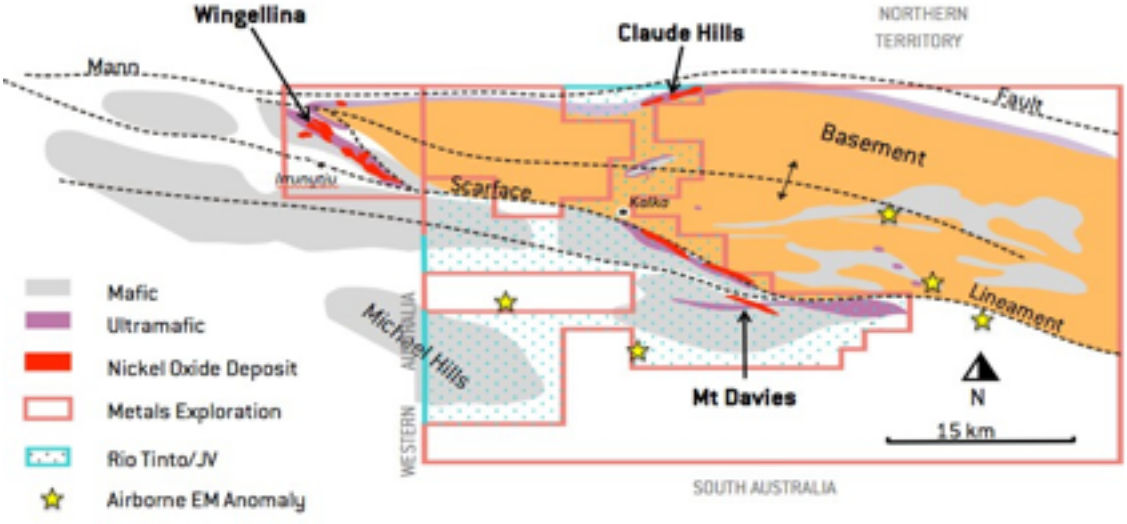
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NICKEL DIVISION

WINGELLINA NICKEL PROJECT (MLX 100%)

The Wingellina Nickel-Cobalt Project remains one of the largest undeveloped Nickel – Cobalt – Scandium deposits in the world. Since Metals X's first involvement in the project in 2005 it has accumulated 100% of the project along with a significant highly potential exploration land position straddling the Western Australia – South Australia border near its triple-point with the Northern Territory. This area is referred to as the Central Musgrave Ranges.

Metals X has defined a Mineral Resource estimate of approximately 168 million tonnes containing 1.56 million tonnes of nickel, 122,000 tonnes of cobalt and a significant inventory of scandium and iron.† The mineralisation is similar in style to Ambatovy in Madagascar and Moa Bay in Cuba, where Sherritt Gordon developed and have successfully operated High Pressure Acid Leach (HPAL) for over 50 years. There are also numerous other identified mineral accumulations within the area; Metals X has defined a further Inferred Resource (JORC) of 33 million tonnes with a grade of 0.81% Ni, 0.07% Co and 39% Fe_2O_3, at its Claude Hill Prospect located approximately 25 km to the east of Wingellina.† Many other occurrences of nickel mineralisation remain untested.



In 2009 the Company completed a feasibility study (+/-25%) which concluded a robust 40 year project based on Ore Reserves, producing 40,000 tonnes of nickel and 3,000 tonnes of cobalt per annum at a production cost of US$3.34/lb after cobalt credits.

In mid 2010 Metals X signed a landmark agreement with the Traditional Owners and granted Native Title holders of the Wingellina project which provides consent to undertake mining activities.

In late 2012 Metals X signed an MOU with Samsung C&T to work together to bring the massive Wingellina Ni-Co Project into production. Under the MOU, Samsung C&T would provide its technical expertise in engineering, feasibility studies and construction and would use its financial reputation and capacity to assist Metals X with the financing and development proposals for the Project.

In early 2013 SNC-Lavalin was appointed the Principal Engineer for a Definitive Feasibility Study (DFS) and was awarded the engineering contract for the Processing and plant infrastructure. Due to the deterioration of the nickel price and the strength of the Australian dollar through 2013, the Board of Metals X reassessed the timing of the DFS and, in consultation with Samsung C&T and SNC, made a decision to place the project on hold until the project economics improved.

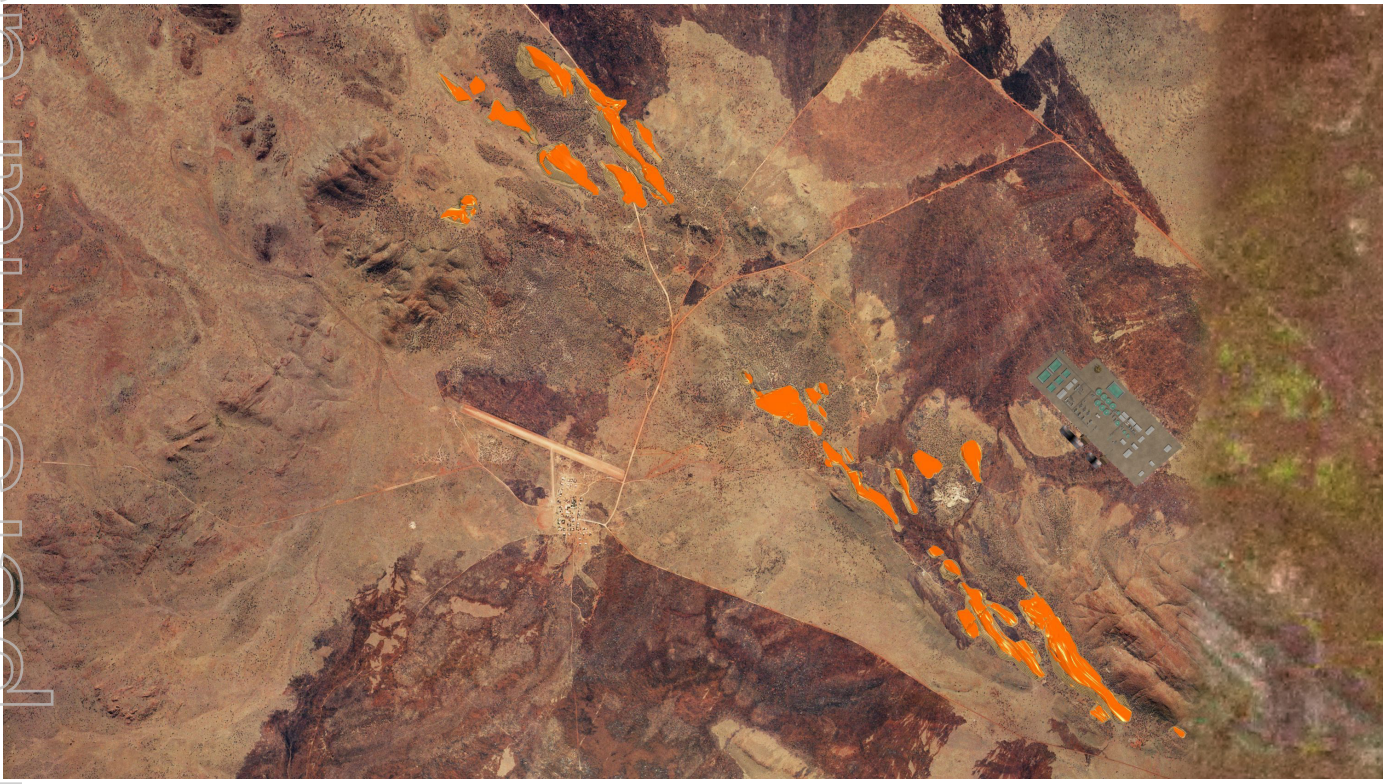
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In late 2014 Metals X was invited to pilot test 100 tonnes of Wingellina ore through POSCO's PosNEP fully upgraded and automated pilot plant in Korea. The purpose of the pilot was to trial an alternative processing route for high iron, low magnesium nickel ores. The trials were successful and discussions are ongoing as to the next steps in the possible commercialisation of the PosNEP process and the Wingellina project. The PosNEP process has the capability of being modularised into smaller production trains of approximately 10,000 tpa contained nickel for which additional trains can be added. In addition the process uses minimal water compared to other processes and recycles the main reagents. Overall this will significantly reduce the capital hurdle by starting production with one to two process trains and building adding additional trains at a subsequent date.

In November 2016, Metals X received EPA approval for the development of the Wingellina project subject to meeting various standard conditions.

Metals X's objective is to ensure that the project is ready for development once the nickel market improves. The project comprises a significant 40+ year Ore Reserve† at a proposed production rate of 40,000 tonnes per annum, a well defined and tested water source for the life of the project, an access and development agreement with the Traditional Owners and EPA approval.

The NT Government, in recognition of the potential benefits of the project to the Territory, has provided a Project Manager to assist in coordinating the approval of various logistic options. The Company is awaiting a final scope from the Project Manager after which it will commence assessing the most optimal logistic options.



Conceptual render of Wingellina pit design and process plant.

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CORPORATE

Metals X held an Extraordinary General meeting on 24 November 2016 for shareholders to consider a demerger of Metals X gold assets via a capital reduction and in specie distribution of all the shares in Westgold Resources Limited. Shareholders overwhelmingly endorsed the demerger and Westgold commenced trading on 6 December 2016.

As a result of the demerger Peter Cook stepped down to a Non-Executive Director of Metals X to take up the role of Managing Director of Westgold while Warren Hallam, Metals X Executive Director, was appointed as the Managing Director of Metals X.

Metals X has also appointed Mr Stephen Robinson as a Non-Executive Director. Mr Robinson is an experienced Australian mining executive and a Rhodes Scholar. He is currently a Director of independent advisory firm Lincoln Capital Pty Ltd and Non-Executive Chairman of Sumatra Copper and Gold PLC and has held numerous other senior roles with Barrick, Iluka Resources and WMC Resources.

Allan King who has overseen the Renison Tin JV for the past few years, that has seen significant cost reductions and productivity improvements, has accepted the role of Metals X Chief Operating Officer (COO).

Metals X closed the quarter with cash and working capital of $112 million and investments of $15.3 million.

COPPER HEDGING

During the quarter Metals X took advantage of the upsurge in copper prices in December to hedge 1,500 tonnes of copper per month for January through to June 2017 by establishing a collar structure to preserve the prices over approximately half of its expected production. The company has granted calls at A$8,100 per tonne of LME Copper and brought puts at A$7,500 per tonne of LME copper.

ISSUED CAPITAL

As a result of the demerger 3,388,155 performance rights vesting during the period. The issued capital of Metals X as of 31 December 2016 was 609,340,903 shares.

MAJOR SHAREHOLDERS

The current major shareholders of the Company are:

APAC Resources (HKEX:1104)	12.86%
Blackrock Group	12.84%
Jinchuan Group	7.22%
Ausbil Investment Management	5.27%

COMPETENT PERSONS STATEMENTS

† Please refer to Metals X (ASX:MLX) announcement of 18 August 2016 for full details of Mineral Resource and Ore Reserve Estimates.

The information in this report that relates to Exploration Targets, Exploration Results and Mineral Resources is compiled by Metals X technical employees and contractors under the supervision of Mr. Jake Russell B.Sc. (Hons), who is a member of the Australian Institute of Geoscientists. Mr Russell is a contractor to the company, and has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activities 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. Mr Russell consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relate to Ore Reserves has been compiled by Metals X technical employees under the supervision of Mr Michael Poepjes BEng (Mining Engineering), MSc (Min. Econ) M.AusIMM. Mr Poepjes is a full-time employee of the company. Mr Poepjes has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activities which he is undertaking to qualify as a Competent Person as de ned in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Poepjes consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. Mr Poepjes is eligible to participate in short and long term incentive plans and holds performance rights in the Company as has been previously disclosed. Mr Poepjes is eligible to participate in short and long term incentive plans of the company.

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RENISON TIN PROJECT

Lode	Hole	Intercept N	Intercept E	Intercept RL	Intercept (True Width)	From (m)	Dip	Azi
Blackwood	U5817	66,829	44,254	1,781	2.1m at 1.47% Sn and 0.04% Cu	69.0	-6	78
					2.1m at 1% Sn and 0.26% Cu	78.1		
	U5818	66,801	44,231	1,782	3.5m at 1.02% Sn and 0.1% Cu	54.5	-11	70
	U5819				NSI			
	U5820	66,780	44,235	1,779	7.1m at 1.93% Sn and 0.13% Cu	54.0	-14	91
					4.8m at 3.07% Sn and 0.14% Cu	73.0		
	U5821	66,758	44,237	1,805	1.6m at 2.7% Sn and 0.14% Cu	63.2	10	111
					1m at 1.91% Sn and 0.14% Cu	86.9		
	U5822	66,742	44,255	1,780	8.8m at 1.67% Sn and 0.21% Cu	79.0	-11	92
					3.2m at 1.18% Sn and 0.97% Cu	99.2		
	U5823	66,728	44,264	1,812	3m at 3.8% Sn and 0.07% Cu	92.9	8	100
	U5824	66,722	44,256	1,777	2.4m at 1.18% Sn and 0.26% Cu	87.9	-13	105
	U5833	66,593	44,302	1,779	2.9m at 2.13% Sn and 0.29% Cu	72.7	-18	43
CFB	U5779				NSI			
	U5782	66,200	44,498	1,480	3m at 2.11% Sn and 0.72% Cu	42.0	-27	90
	U5785	66,221	44,490	1,530	3.6m at 1.28% Sn and 0.08% Cu	43.0	36	82
	U5788				NSI			
	U5790	66,245	44,492	1,542	3.7m at 1.51% Sn and 0.64% Cu	100.8	3	87
	U5800	66,334	44,475	1,536	2.3m at 0.98% Sn and 0.08% Cu	120.4	-0	45
	U5801				NSI			
	U5802	66,373	44,458	1,517	2.1m at 1.03% Sn and 0.55% Cu	142.5	-7	29
	U5803				NSI			
	U5804				NSI			
	U5806	66,362	44,450	1,590	2.4m at 0.76% Sn and 0.83% Cu	138.0	22	28
	U5889	66,013	44,485	1,492	1.4m at 1.3% Sn and 0.18% Cu	19.0	-26	65
					2.8m at 1.37% Sn and 0.16% Cu	33.0		
					2.3m at 1.56% Sn and 1.4% Cu	44.4		
	U5890				NSI			
	U5891	65,989	44,493	1,487	2.4m at 0.96% Sn and 1.59% Cu	28.3	-29	115
					2m at 0.8% Sn and 0.15% Cu	35.0		
	U5892	66,038	44,509	1,474	3.4m at 1.33% Sn and 0.41% Cu	140.0	-9	68
	U5893				NSI			

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RENISON TIN PROJECT (CONTINUED)

Lode	Hole	Intercept N	Intercept E	Intercept RL	Intercept (True Width)	From (m)	Dip	Azi
	U5894	65,956	44,504	1,517	1.5m at 3.88% Sn and 0.04% Cu	126.5	8	55
		U5895				NSI		
	U5896	65,937	44,461	1,488	1m at 1.29% Sn and 0.16% Cu	92.0	-6	119
	U5897	65,908	44,446	1,506	1.2m at 3.23% Sn and 0.12% Cu	77.5	4	139
	U5898				NSI			
	U5899				NSI			
	U5900	65,911	44,480	1,472	0.6m at 3.03% Sn and 1.26% Cu	124.7	-12	126
Flinders	U5825	66,690	44,270	1,790	1.3m at 2.79% Sn and 0.69% Cu	105.3	-7	91
					2m at 1.82% Sn and 0.4% Cu	114.6		
	U5826				NSI			
	U5827	66,586	44,318	1,751	1.8m at 0.56% Sn and 0.15% Cu	93.2	-33	55
	U5828				NSI			
	U5829	66,541	44,334	1,748	1.1m at 1.66% Sn and 0.19% Cu	95.5	-35	89
	U5830				NSI			
	U5831				NSI			
	U5832	66,425	44,343	1,769	0m at 0% Sn and 0% Cu	-	-20	107
	U5834	66,573	44,312	1,775	0.7m at 2.19% Sn and 0.29% Cu	71.3	-22	61
	U5835				NSI			
	U5836	66,437	44,350	1,776	2.1m at 2.35% Sn and 0.28% Cu	67.0	-13	96
Huon Flexure	U4757				NSI			
	U4758				NSI			
	U4759				NSI			
	U4760				NSI			
	U4761	66,985	44,378	1,557	2.4m at 0.81% Sn and 1.29% Cu	59.4	37	78
	U4762				NSI			
	U4764				NSI			
	U4765	67,041	44,359	1,583	2.8m at 3.51% Sn and 0.25% Cu	75.9	56	30
	U4766				NSI			
	U5814	66,953	44,408	1,494	2m at 1.16% Sn and 0.17% Cu	78.9	-15	93
	U5815	67,026	44,426	1,466	1m at 1.62% Sn and 0.2% Cu	111.5	-25	71
Mid Federal South	U5850				NSI			
	U5851				NSI			
	U5852	65,401	44,534	1,547	1.4m at 1.25% Sn and 0.17% Cu	141.8	-33	130
Upper Federal	U5867	65,765	44,340	1,983	2.8m at 1.18% Sn and 1.06% Cu	-	-	103

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Lode	Hole	Intercept N	Intercept E	Intercept RL	Intercept (True Width)	From (m)	Dip	Azi
	U5868	65,766	44,330	1,984	2.2m at 0.8% Sn and 0.1% Cu	-	18	291
	U5869				NSI			
	U5870				NSI			
	U5871				NSI			
	U5872	65,741	44,341	1,980	5.4m at 1.01% Sn and 0.89% Cu	4.0	-16	117
	U5873	65,742	44,338	1,987	5.2m at 0.72% Sn and 0.31% Cu	2.3	27	116
	U5874				NSI			
	U5875				NSI			
	U5876	65,722	44,337	1,979	9.6m at 1.05% Sn and 0.56% Cu	5.1	-15	124
	U5877	65,701	44,337	1,988	5.8m at 1.44% Sn and 0.7% Cu	5.2	23	114
	U5878	65,704	44,329	1,981	6.9m at 1.07% Sn and 0.53% Cu	0.4	-15	115
	U5879	65,702	44,341	1,966	11.1m at 1.24% Sn and 0.61% Cu	5.0	-51	102
	U5880	65,707	44,322	1,983	2.3m at 1.18% Sn and 0.14% Cu	0.2	7	296
	U5881	65,686	44,336	1,979	9.6m at 1.17% Sn and 0.37% Cu	2.0	-17	89

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Lode	Hole	Intercept N	Intercept E	Intercept RL	Intercept (True Width)	From (m)	Dip	Azi
Northern Limb	NUG0002	7,603,879.0	352,854.0	-9.4	10.45m at 2.14% Cu	165.1	14	156
					14.00m at 2.48% Cu	182.0		
	NUG0003	7,603,918.8	352,846.3	-19.5	9.00m at 0.55% Cu	131.0	22	152
					10.00m at 3.89% Cu	165.0		
	NUG0004	7,603,909.8	352,860.1	-47.1	3.80m at 1.52% Cu	156.0	29	149
					3.90m at 2.91% Cu	162.0		
					5.30m at 1.19% Cu	170.7		
	NUG0006	7,603,918.5	352,823.8	6.6	2.97m at 2.26% Cu	117.1	12	163
					26.52m at 1.32% Cu	153.5		
	NUG0007	7,603,926.0	352,824.9	-12.3	4.00m at 1.51% Cu	113.9	20	159
					10.80m at 1.90% Cu	133.2		
					9.30m at 0.86% Cu	147.0		
	NUG0008	7,603,934.9	352,826.6	-23.6	3.20m at 1.55% Cu	112.0	28	155
					7.00m at 2.00% Cu	136.0		
					9.30m at 0.84% Cu	146.9		
	NUG0012	7,603,933.0	352,797.0	4.0	3.20m at 2.26% Cu	97.2	14	175
					21.60m at 2.64% Cu	117.0		
	NUG0015	7,603,924.3	352,783.7	7.4	14.45m at 1.58% Cu	104.9	11	183

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APPENDIX 2 – JORC 2012 TABLE 1 – TIN DIVISION
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 handheld 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 Drilling The bulk of the data used in resource calculations at Renison has been gathered from diamond core. Three sizes have been used historically NQ2 (45.1mm nominal core diameter), LTK60 (45.2mm nominal core diameter) and LTK48 (36.1mm nominal core diameter), with NQ2 currently in use. This core is geologically logged and subsequently halved for sampling. Grade control holes may be whole-cored to streamline the core handling process if required. NQ and HQ core sizes have been recorded as being used at Mount Bischoff. This core is geologically logged and subsequently halved for sampling. There is no diamond drilling for the Rentails Project. • Face Sampling Each development face / round is horizontally chip sampled at Renison. The sampling intervals are domained by geological constraints (e.g. rock type, veining and alteration / sulphidation etc.). Samples are taken in a range from 0.3m up to 1.2m in waste. All exposures within the orebody are sampled. A similar process would have been followed for historical Mount Bischoff face sampling. There is no face sampling for the Rentails Project. • Sludge Drilling Sludge drilling at Renison is performed with an underground production drill rig. It is an open hole drilling method using water as the flushing medium, with a 64mm (nominal) hole diameter. Sample intervals are ostensibly the length of the drill steel. Holes are drilled at sufficient angles to allow flushing of the hole with water following each interval to prevent contamination. There is no sludge drilling for the Mount Bischoff Project. There is no sludge drilling for the Rentails Project. • RC Drilling RC drilling has been utilised at Mount Bischoff. Drill cuttings are extracted from the RC return via cyclone. The underflow from each interval is transferred via bucket to a four tiered riffle splitter, delivering approximately three kilograms of the recovered material into calico bags for analysis. The residual material is retained on the ground near the hole. Composite samples are obtained from the residue material for initial analysis, with the split samples remaining with the individual residual piles until required for re-split analysis or eventual disposal. There is no RC drilling for the Renison Project. There is no RC drilling for the Rentails Project.
Drilling techniques	• Drill type (eg 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 oriented and if so, by what method, etc). • Method of recording and assessing core and chip sample recoveries and results assessed.	
Drill sample recovery	• Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	

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Criteria	JORC Code Explanation	Commentary
		• Percussion Drilling • This drilling method was used for the Rentails project and uses a rotary tubular drilling cutter which was driven percussively into the tailings. The head of the cutting tube consisted of a 50mm diameter hard tipped cutting head inside which were fitted 4 spring steel fingers which allowed the core sample to enter and then prevented it from falling out as the drill tube was withdrawn from the drill hole. • There is no percussion drilling for the Renison Project. • There is no percussion drilling for the Mount Bischoff Project. • All geology input is logged and validated by the relevant area geologists, incorporated into this is assessment of sample recovery. No defined relationship exists between sample recovery and grade. Nor has sample bias due to preferential loss or gain of fine or coarse material been noted.
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	• Diamond core is logged geologically and geotechnically. • RC chips are logged geologically. • Development faces are mapped geologically. • Logging is qualitative in nature. • All holes are logged completely, all faces are mapped completely.
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 representivity 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.	• Drill core is halved for sampling. Grade control holes may be whole-cored to streamline the core handling process if required. • Samples are dried at 90°C, then crushed to <3mm. Samples are then riffle split to obtain a sub-sample of approximately 100g which is then pulverized to 90% passing 75um. 2g of the pulp sample is then weighed with 12g of reagents including a binding agent, the weighed sample is then pulverised again for one minute. The sample is then compressed into a pressed powder tablet for introduction to the XRF. This preparation has been proven to be appropriate for the style of mineralisation being considered. • QA/QC is ensured during the sub-sampling stages process via the use of the systems of an independent NATA / ISO accredited laboratory contractor. • The sample size is considered appropriate for the grain size of the material being sampled. • The un-sampled half of diamond core is retained for check sampling if required. • For RC chips regular field duplicates are collected and analysed for significant variance to primary results.
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 model, reading times, calibrations factors applied and their derivation, etc. • Nature of 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.	• Assaying is undertaken via the pressed powder XRF technique. Sn, As and Cu have a detection limit 0.01%, Fe and S detection limits are 0.1%. These assay methodologies are appropriate for the resource in question. • All assay data has built in quality control checks. Each XRF batch of twenty consists of one blank, one internal standard, one duplicate and a replicate, anomalies are re-assayed to ensure quality control. • Specific gravity / density values for individual areas are routinely sampled during all diamond drilling where material is competent enough to do so.

Criteria	JORC Code Explanation	Commentary
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 and electronic) protocols. • Discuss any adjustment to assay data.	• Anomalous intervals as well as random intervals are routinely checked assayed as part of the internal QA/QC process. • Virtual twinned holes have been drilled in several instances across all sites with no significant issues highlighted. Drillhole data is also routinely confirmed by development assay data in the operating environment. • Primary data is loaded into the drillhole database system and then archived for reference. • All data used in the calculation of resources and reserves are compiled in databases (underground and open pit) which are overseen and validated by senior geologists. • No primary assays data is modified in any way.
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.	• All data is spatially oriented by survey controls via direct pickups by the survey department. Drillholes are all surveyed downhole, currently with a GyroSmart tool in the underground environment at Renison, and a multishot camera for the typically short surface diamond holes. • All drilling and resource estimation is undertaken in local mine grid at the various sites. • Topographic control is generated from remote sensing methods in general, with ground based surveys undertaken where additional detail is required. This methodology is adequate for the resource in question.
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 classifications applied. • Whether sample compositing has been applied.	• Drilling in the underground environment at Renison is nominally carried-out on 40m x 40m spacing in the south of the mine and 25m, x 25m spacing in the north of the mine prior to mining occurring. A lengthy history of mining has shown that this data spacing is appropriate for the Mineral Resource estimation process and to allow for classification of the resource as it stands. • Drilling at Mount Bischoff is variably spaced. A lengthy history of mining has shown that this data spacing is appropriate for the Mineral resource estimation process and to allow for classification of the resource as it stands. • Drilling at Rentails is usually carried out on a 100m centres. This is appropriate for the Mineral resource estimation process and to allow for classification of the resource as it stands. • Compositing is carried out based upon the modal sample length of each individual domain.
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.	• Drilling intersections are nominally designed to be normal to the orebody as far as underground infrastructure constraints / topography allows. • Development sampling is nominally undertaken normal to the various orebodies. • It is not considered that drilling orientation has introduced an appreciable sampling bias.
Sample security	• The measures taken to ensure sample security.	• At Renison, Mount Bischoff and Rentails samples are delivered directly to the on-site laboratory by the geotechnical crew where they are taken into custody by the independent laboratory contractor.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data	• Site generated resources and reserves and the parent geological data is routinely reviewed by the Metals X Corporate technical team.

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SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title 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 licence to operate in the area.	• All Tasmania resources are hosted within 12M1995 and 12M2006. Both tenements are standard Tasmanian mining leases. • No native title interests are recorded against the Tasmanian tenements. • Tasmanian tenements are held by the Bluestone Mines Tasmania Joint Venture of which Metals X has 50% ownership. • No royalties above legislated state royalties apply for the Tasmanian tenements. • Bluestone Mines Tasmania Joint Venture operates in accordance with all environmental conditions set down as conditions for grant of the mining leases. • There are no known issues regarding security of tenure.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other partie	• The Renison and Mount Bischoff areas have an exploration and production history in excess of 100 years. • Bluestone Mines Tasmania Joint Venture work has generally confirmed the veracity of historic exploration data.
Geology	• Deposit type, geological setting and style of mineralisation.	• Renison is one of the world's largest operating underground tin mines and Australia's largest primary tin producer. Renison is the largest of three major Skarn, carbonate replacement, pyrrhotite-cassiterite deposits within western Tasmania. The Renison Mine area is situated in the Dundas Trough, a province underlain by a thick sequence of Neoproterozoic-Cambrian siliciclastic and volcaniclastic rocks. At Renison there are three shallow-dipping dolomite horizons which host replacement mineralisation. • Mount Bischoff is the second of three major Skarn, carbonate replacement, pyrrhotite-cassiterite deposits within western Tasmania. The Mount Bischoff Mine area is situated within the Dundas Trough, a province underlain by a thick sequence of Neoproterozoic- Cambrian siliciclastic and volcaniclastic rocks. At Mount Bischoff folded and faulted shallow-dipping dolomite horizons host replacement mineralisation with fluid interpreted to be sourced from the forceful emplacement of a granite ridge and associated porphyry intrusions associated with the Devonian Meredith Granite, which resulted in the complex brittle / ductile deformation of the host rocks. Lithologies outside the current mining area are almost exclusively metamorphosed siltstones. Major porphyry dykes and faults such as the Giblin and Queen provided the major focus for ascending hydrothermal fluids from a buried ridge of the Meredith Granite. Mineralisation has resulted in tin-rich sulphide replacement in the dolomite lodes, greisen and sulphide lodes in the porphyry and fault / vein lodes in the major faults. All lodes contain tin as cassiterite within sulphide mineralisation with some coarse cassiterite as veins throughout the lodes. • The Rentails resource is contained within three Tailing Storage Facilities (TSF's) that have been built up from the processing of tin ore at the Renison Bell mine over the period 1968 to 2013.

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Criteria	JORC Code Explanation	Commentary
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: » easting and northing of the drill hole collar » elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar » dip and azimuth of the hole » down hole length and interception depth » 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 report, the Competent Person should clearly explain why this is the case.	• Excluded results are non-significant and do not materially affect understanding of the Renison deposit.
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 detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Results are reported on a length weighted average basis. • Results are reported above a 4%m Sn cut-off.
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').	• Interval widths are true width unless otherwise stated.
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.	• No new discoveries reported.
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.	• Presented above. • Excluded results are non-significant and do not materially affect understanding of the Renison deposit.
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, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• No relevant information to be presented.

Criteria	JORC Code Explanation	Commentary
Further work	• The nature and scale of planned further work (eg tests for 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.	• Exploration assessment and normal mine extensional drilling continues to take place at Renison. • Exploration assessment continues to progress at Mount Bischoff. • Project assessment continues to progress at Rentails.

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APPENDIX 3 – JORC 2012 TABLE 1 – COPPER DIVISION
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 handheld 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.	• The deposit has been drilled and sampled using various techniques with diamond and reverse circulation drilling utilised for mineral estimation. This information comes from surface and underground and is on variable spacing along and across strike. The total metres within the immediate vicinity of the Deposit are 143,497m. The holes are drilled on most occasions to intersect as near as possible perpendicularly the synclinal east plunge mineralisation. • The drilling programs have been ongoing since initial discovery to both expand the mineralisation and provided control for mining. The hole collars were surveyed by Company employees / contractors with the orientation recorded. Down holes survey is recorded using appropriate equipment. The diamond core was logged for lithology and other geological features. • The diamond core varied from HQ to NQ in diameter and mineralised intervals and adjacent locations were sampled by cutting the core in 1/2 based on observation from the core photographs. The RC samples were collected from the cyclone of the rig and spilt at site to approximate 2 to 3kg weight. The preparation and analysis was undertaken at an accredited commercial laboratory with the core dried, pulverised and split to produce a 30gm sample for assay by fire assay with either atomic absorption finish or gravimetric determination.
Drilling techniques	• Drill type (eg 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 oriented and if so, by what method, etc). • Method of recording and assessing core and chip sample recoveries and results assessed.	
Drill sample recovery	• Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• The drilling was completed using a combination of surface and underground drilling. In general the orientation of the drilling is appropriate given the given the strike and dip of the mineralisation. • The core recovery is recorded in the database and in most instances was in excess of 95%. This was assessed by measuring core length against core run. There is no record of the quantity (weight) of RC chips collected per sample length. • The ground condition in the mineralised zone is very competent. In areas of less competent material core return is maximised by controlling drill speed. RC samples from less competent material are identified in the log. • Whilst no assessment has been made, the competency of the material sampled would tend to preclude any potential issue of sampling bias.
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	• The routine logging of core and chips describes the general geology features including lithology, mineralisation, alteration etc. For the majority of holes this information is sufficient and appropriate to apply mineralisation constraints. Some core drilling is orientated and structural measurements of bedding, joints, veins etc. has been undertaken as well as facture densities. • Geological logging has recorded both summary and detailed lithology, mineralisation content, alteration, some angle to core axis information, vein type, incidence and frequency, magnetic content • The entire length of all holes, apart from surface casing, was logged.

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Criteria	JORC Code Explanation	Commentary
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 representivity 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.	• All core to be sampled was halved using a mechanical saw. • RC chip samples are collected via a cyclone which is cleaned with air blast between samples. The samples is riffled to collect between 2 and 3kg. Most samples are dry with any moisture noted on the logs. • Field sub-sampling for chip samples appears appropriate as is the method of generating halved core. Procedures adopted in the laboratories are industry standard practises including that in the mine site facility. • In field riffles are cleaned between sampling using compressed air. The diamond cutting equipment is cleaned during the process using water. All laboratories adopt appropriate industry practises to reduce sample size homogeneously to the required size. • No field duplicate information was observed. • The style of mineralisation and high sulphide content does not rely on grain size as being influential on grade. Thus there is confidence in the overall grade of the deposit being fairly represented by the sampling.
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 model, reading times, calibrations factors applied and their derivation, etc. • Nature of 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.	• The assay techniques are appropriate for the determination of the level of mineralisation in the sample. The technique was 4 acid digest with ICP finish. • No geophysical tools were utilised to ascertain grade • Standard and Blanks are included with all samples sent for analysis in the rate of between 1 in 20 and 1 in 30. The most recent reporting covering the majority of holes used in the estimate provide support for the quality of the Cu assays.
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 and electronic) protocols. • Discuss any adjustment to assay data.	• The extensive data set has been review by various parties including Maxwell Geoscience and DataGeo and the intersections within the mineralisation have been confirmed. • None observed but there is a significant amount of closely spaced supportive drilling results. • Field data is captured electronically, validated by responsible geologist and stored on corporate computer facilities. Protocols for drilling, sampling and QA/QC are contained with the company operating manuals. The information generated by the site geologist is loaded into a database by the company database manager and undergoes further validation at this point against standard acceptable codes for all variables. • No adjustments to the raw assay data has been made.
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.	• The collar positions were resurveyed by the Company surveyor or their contractors from a known datum. The survey is on a known local grid with demonstrated control. The orientation and dip at the collars is checked (aligned) by the geologist and down hole recording of azimuth and dip are taken at 30m intervals on most occasion using appropriate equipment. • The regional grid is GDA 94 Zone 50 and the drilling is laid out on a local grid. • Topographic control is from surface survey.

Criteria	JORC Code Explanation	Commentary
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 classifications applied. • Whether sample compositing has been applied.	• The majority of drilling utilised is on 40m x 20m grid specifically targeting lithological and hence mineralisation sequence definition. • The geological sequence is well understood from the mining which supports the current drill spacing as adequate for both grade continuity assessment and lithological modelling. • The sampling reflects the geological conditions. For mineral resource estimation a 1m composite length was chosen given that this is the dominant sample length in dataset.
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.	• Given the shape of the sequence the drilling as best as practically possible orientated to intersect the sequence perpendicularly. This is limited to drill sites from underground and surface. • No sampling bias is considered to have been introduced.
Sample security	• The measures taken to ensure sample security.	• The samples once collected and numbered are stored in the lockable site core yard chain. Batches of samples with each sample bag security tied and with sample number on the bag and inside on metal tags transported by commercial contractors to Perth. Upon receipt at the laboratory the samples are checked against the dispatch sheets to ensure all samples are present.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data	• Database management companies have over the past 2 years audited the drill hole database and found is representative of the information contained.

SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title 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 licence to operate in the area.	• State Royalty of 5% applies to all tenements. • NCO consists of 92 tenements including 33 exploration licenses, 20 mining leases, 6 miscellaneous licenses and 33 prospecting licenses, all held directly by the Company. • There are no known issues regarding security of tenure. • There are no known impediments to continued operation.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other partie	• NCO has a long history of exploration. The deposit was discovered during regional exploration by WMC in 1982. Since that time a significant exploration effort has been undertaken by WMC, and subsequently Straits Resources Limited and Aditya Birla Minerals Limited.

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Criteria	JORC Code Explanation	Commentary
Geology	• Deposit type, geological setting and style of mineralisation.	• The Nifty deposit is hosted within the folded late-Proterozoic Broadhurst Formation which is part of the Yeneena Group. The Broadhurst Formation is between 1,000m to 2,000m thick and consists of a stacked series of carbonaceous shales, turbiditic sandstones, dolomite and limestones. The Broadhurst Formation hosts all known significant base metal occurrences including the Nifty copper mine and the Maroochydore, Rainbow and Warrabarty prospects. • The Broadhurst Formation deposit is unconformably overlain by the Isdell Formation which consists of an approximately 1000 m thick sequence of carbonate rocks, siltstones and shales. The sequence below the Broadhurst Formation consists of the Coolbro Sandstone, a 4,000 m thick sequence of sandstones with minor siltstones, volcanics, conglomerates and shales. • The Nifty copper deposit is a structurally and lithologically controlled, stratabound body of massive, disseminated and vein-style chalcopyrite. Structurally, the dominant feature at the Nifty copper mine is the Nifty Syncline which strikes approximately southeast-northwest and plunges at about 6-12 degrees to the southeast. The copper mineralisation occurs as a structurally controlled, chalcopyrite-quartz-dolomite replacement of carbonaceous and dolomitic shale within the folded sequence. The copper mineralisation is largely confined to the keel of the syncline and the northern limb.
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: » easting and northing of the drill hole collar » elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar » dip and azimuth of the hole » down hole length and interception depth » 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 report, the Competent Person should clearly explain why this is the case.	• Excluded results are non-significant and do not materially affect understanding of the Nifty deposit.
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 detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Results are reported on a length weighted average basis. • Results are reported above a 5%m Cu cut-off.

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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').	• Interval widths are downhole width unless otherwise stated.
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.	• Presented in the body of the text above.
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.	• Presented above. • Excluded results are non-significant and do not materially affect understanding of the Nifty deposit.
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, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• No relevant information to be presented.
Further work	• The nature and scale of planned further work (eg tests for 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.	• Ongoing surface and underground exploration activities will be undertaken to support continuing mining activities at NCO.

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