

## ASX ANNOUNCEMENT

RRL1782D

06 October 2021

# Youanmi Deeps Metallurgical Testwork Achieves 96% Gold Extraction

### ROX RESOURCES LIMITED

ASX: RXL

*Rox Resources Limited (ASX: RXL) is an Australian listed company with advanced gold and nickel projects in Western Australia: the Youanmi Gold Project, Mt Fisher Gold project, and the Fisher East and Collurabie Nickel projects.*

### DIRECTORS

**Mr Stephen Dennis**  
*Chairman*

**Mr Alex Passmore**  
*Managing Director*

**Dr John Mair**  
*Non-Executive Director*

<b>Shares on Issue</b>	157.6m
<b>Share Price</b>	\$0.37
<b>Market Cap.</b>	\$58.3m
<b>Cash &amp; Receivables</b>	\$15.0m

(incl \$3.1m  
receivable, cash as  
at 30 June 2021)

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### Highlights:

- **September 2021 testwork delivers substantial improvement in gold extraction for Youanmi Deeps**
- **Historical production averaged 86.8% gold recovery, with new testwork improving extraction to 95.6%**
- **Testwork overseen by OMC (Orway Mineral Consultants) and draws on new methodologies not previously utilised at Youanmi**
- **Como Engineers engaged to complete scoping level process plant design and costing - work commenced September 2021**

West Australian focused gold exploration and development company, Rox Resources Limited ("Rox" or "the Company") (ASX: RXL), in conjunction with its joint venture partner Venus Metals Corporation Limited (ASX: VMC) is pleased to provide an update on metallurgical testwork recently conducted on the Youanmi Deeps Resource, located within the OYG JV area (Rox 70% and Manager, VMC 30%).

The work forms part of development studies currently underway into potential future production at the Youanmi Gold Project. This preliminary part of the study will establish processing pathways to optimise gold recovery prior to progressing to more extensive and detailed "feasibility study level" metallurgical testwork.

### Managing Director Alex Passmore commented:

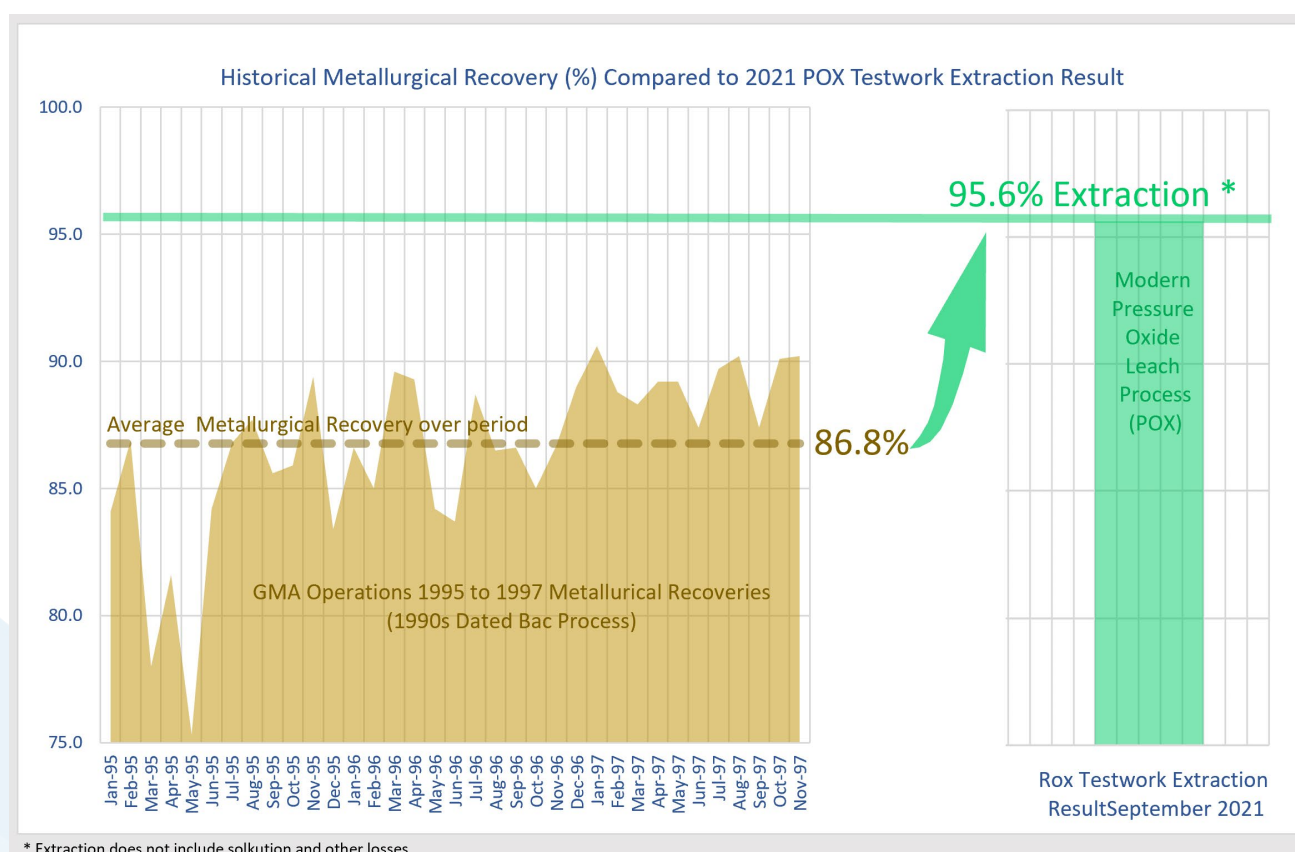
*"In June 2021 (ASX release 23 June 2021) we reported a 30% increase in the Youanmi Deeps Resource, and now we are pleased to report that advances in gold extraction technology over the last 30 years (since GMA built its processing plant) have made a significant difference in gold recovery.*

*"Preliminary metallurgical testwork indicates a 10% increase on historical gold recoveries by utilising a pressure oxidation leach process (i.e. POX).*

*"Furthermore, we look forward to results of (scoping level) process plant design and costing later this year being undertaken by Como Engineers who have a long track record of success for both design and development of similar sized gold processing facilities in WA with a variety of flowsheet designs."*

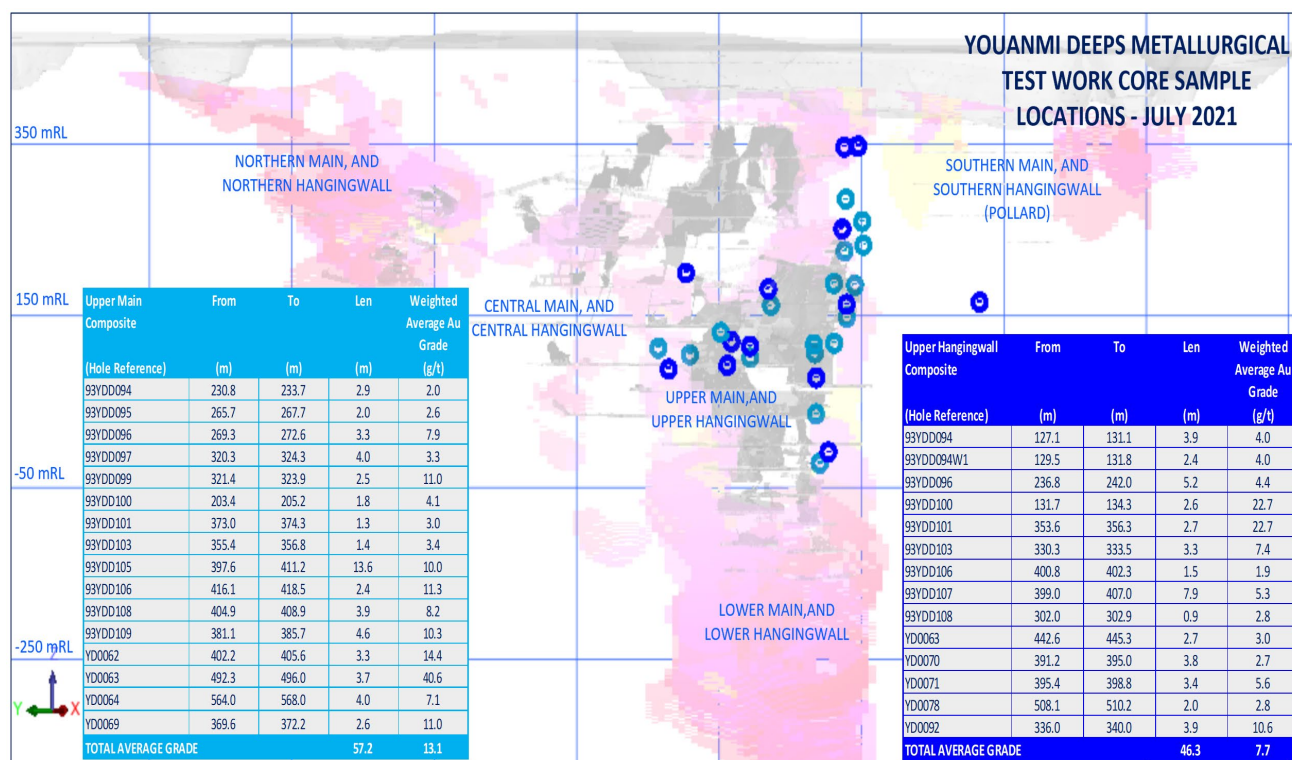
## Comparison to Historical Data

The principal past producer at Youanmi, Gold Mines of Australia (GMA) operated the Youanmi Deeps underground mine in the 1990s. At which time GMA also operated a 600ktpa oxide ore CIL plant configured to handle 270ktpa of sulphide (i.e. Youanmi Deeps) feed through a bacterial oxidation plant (Bachtech technology). During this period the operation achieved an average of around 87% metallurgical recovery up until the plant shut down in November 1997 (Figure 1).



**Figure 1: Large improvement on historical treatment recovery**

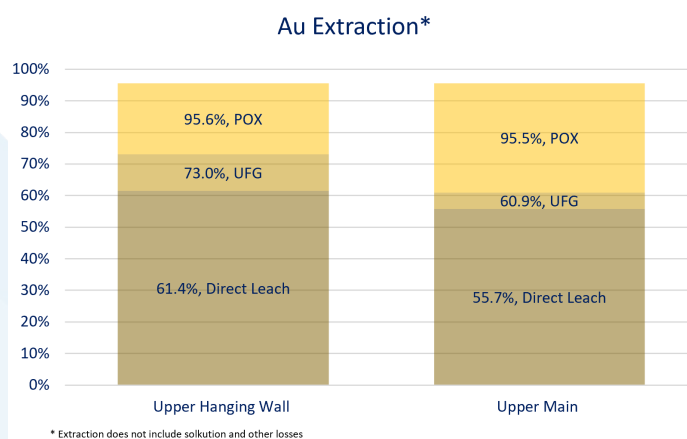
Rox's September 2021 testwork results included two composite samples taken from 30 individual diamond drill core intervals of historical drilling comprising of mainly half and quarter NQ drilling core, including 14 sections from the upper part of the Hangingwall Lode domain, and 16 sections from the upper part of the Main Lode domain. The Main Lode, and Hangingwall Lode domains combined represent over 30 percent of the entire Deeps Mineral Resource. Figure 2 and Table 2 contain the drill hole locations and sample intervals of the composites used in this metallurgical analysis.



**Figure 2: The locations of the two core sample composites used in the preliminary testwork**

## Testwork Results

Table 1 shows gold recovery results of direct leach only (grind to 75 micron), ultra fine grind (to 15 micron), and finally the very high overall gold recovery results from the pressure oxide leach process.



**Figure 3: Gold extraction results by ore zone and recovery method**

**Table 1: Results of preliminary testwork**

Treatment Route	Unit	Upper Hanging Wall			Upper Main		
		Direct Leach	UFG	POX	Direct Leach	UFG	POX
Flotation							
Feed Mass	(g)		12,000	12,000		12,000	12,000
Mass Pull	(%)		13.9	13.9		12.7	12.7
Mass Loss	(%)			22.7			16.8
Concentrate and Float Combined Tail Leach							
Gold Extracted	(g/t)	3.14	3.67	4.87	5.03	5.1	8.53
Gold in Tail	(g/t)	1.97	1.36	0.23	4.00	3.27	0.40
Gold Extraction	(%)	61.4	73.0	95.6	55.7	60.9	95.5
Calc. Head	(Au g/t)	5.11	5.03	5.10	9.03	8.37	8.93
NaCN	(kg/t)	0.60	2.24	7.68	0.53	2.16	2.10
Lime	(kg/t)	0.41	0.97	2.60	0.40	0.81	1.38

**Table 2: Drill hole location information**

Weathering Domain	HoleID	Depth From (m)	Depth To (m)	Downhole Width (m)	Collar North (GDA94)	Collar East (GDA94)	Collar RL (GDA94)	Dip (deg)	Azimuth (deg)	Hole Depth (m)	Met Composite Sample
Fresh	93YDD094	127.1	131.1	3.9	6,833,693	679,715	460	-57	69	243	Upper Hangingwall
Fresh	93YDD094W1	129.5	131.8	2.4	6,833,693	679,715	460	-54	62	215	Upper Hangingwall
Fresh	93YDD096	236.8	242.0	5.2	6,833,707	679,675	461	-57	77	294	Upper Hangingwall
Fresh	93YDD100	131.7	134.3	2.6	6,833,712	679,707	462	-58	62	240	Upper Hangingwall
Fresh	93YDD101	353.6	356.3	2.7	6,833,636	679,575	463	-54	64	435	Upper Hangingwall
Fresh	93YDD103	330.3	333.5	3.3	6,833,782	679,554	463	-55	81	387	Upper Hangingwall
Fresh	93YDD106	400.8	402.3	1.5	6,833,752	679,494	460	-54	64	452	Upper Hangingwall
Fresh	93YDD107	399.0	407.0	7.9	6,833,787	679,467	461	-52	67	447	Upper Hangingwall
Fresh	93YDD108	302.0	302.9	0.9	6,833,845	679,455	462	-58	74	441	Upper Hangingwall
Fresh	YD0063	442.6	445.3	2.7	6,833,601	679,455	460	-57	62	558	Upper Hangingwall
Fresh	YD0070	391.2	395.0	3.8	6,833,764	679,427	460	-64	67	511	Upper Hangingwall
Fresh	YD0071	395.4	398.8	3.4	6,833,841	679,402	460	-66	58	491	Upper Hangingwall
Fresh	YD0078	508.1	510.2	2.0	6,833,524	679,300	460	-60	64	746	Upper Hangingwall
Fresh	YD0092	336.0	340.0	3.9	6,833,371	679,532	460	-45	88	685	Upper Hangingwall
Fresh	93YDD094	230.8	233.7	2.9	6,833,693	679,715	460	-57	69	243	Upper Main
Fresh	93YDD095	265.7	267.7	2.0	6,833,678	679,685	460	-55	73	281	Upper Main
Fresh	93YDD096	269.3	272.6	3.3	6,833,707	679,675	461	-57	77	294	Upper Main
Fresh	93YDD097	320.3	324.3	4.0	6,833,656	679,650	460	-56	68	339	Upper Main
Fresh	93YDD099	321.4	323.9	2.5	6,833,690	679,593	461	-55	80	387	Upper Main
Fresh	93YDD100	203.4	205.2	1.8	6,833,712	679,707	462	-58	62	240	Upper Main
Fresh	93YDD101	373.0	374.3	1.3	6,833,636	679,575	463	-54	64	435	Upper Main
Fresh	93YDD103	355.4	356.8	1.4	6,833,782	679,554	463	-55	81	387	Upper Main
Fresh	93YDD105	397.6	411.2	13.6	6,833,676	679,520	460	-55	81	474	Upper Main
Fresh	93YDD106	416.1	418.5	2.4	6,833,752	679,494	460	-54	64	452	Upper Main
Fresh	93YDD108	404.9	408.9	3.9	6,833,845	679,455	462	-58	74	441	Upper Main
Fresh	93YDD109	381.1	385.7	4.6	6,833,941	679,515	481	-71	78	414	Upper Main
Fresh	YD0062	402.2	405.6	3.3	6,833,635	679,526	460	-54	63	484	Upper Main
Fresh	YD0063	492.3	496.0	3.7	6,833,601	679,455	460	-57	62	558	Upper Main
Fresh	YD0064	564.0	568.0	4.0	6,833,562	679,376	460	-55	58	623	Upper Main
Fresh	YD0069	369.6	372.2	2.6	6,833,812	679,524	463	-62	60	422	Upper Main

## Processing Plant Scoping Level Study

Como Engineers have been engaged to conduct scoping level design and costing including capital cost estimate and operating cost for a processing plant solution which will include utilising parts of the existing 1990s circuit where appropriate into a new build located away from the recently discovered Grace mineralisation.

The flowsheet design is based on utilising a standard crushing and grinding circuit to 75 microns, before performing conventional flotation to extract the high gold grade sulphides, after which float concentrates are re-ground to 15 microns before undergoing a pressure oxidation leach process to liberate gold at very high recovery rates. Float tails will also be leached to ensure highest possible gold recoveries overall.

The scoping level design work is based on a small processing plant of just 300 ktpa capacity incorporating a relatively small Pressure Oxidation Leach (POX) circuit as the base case option being considered. The size of the POX circuit is small comparable to other low grade high tonnage operations for two main reasons. Firstly, very low mass pulls achieved of under 15%, and secondly, the low tonnage nature of the plant required to treat very high head grade material from the Deeps Resource (noting resource grade is over 7.5 g/t Au).

Other oxidation process technologies are still under consideration to establish the most economically feasible solution going forward.

## Relevance of Testwork to Youanmi Resource

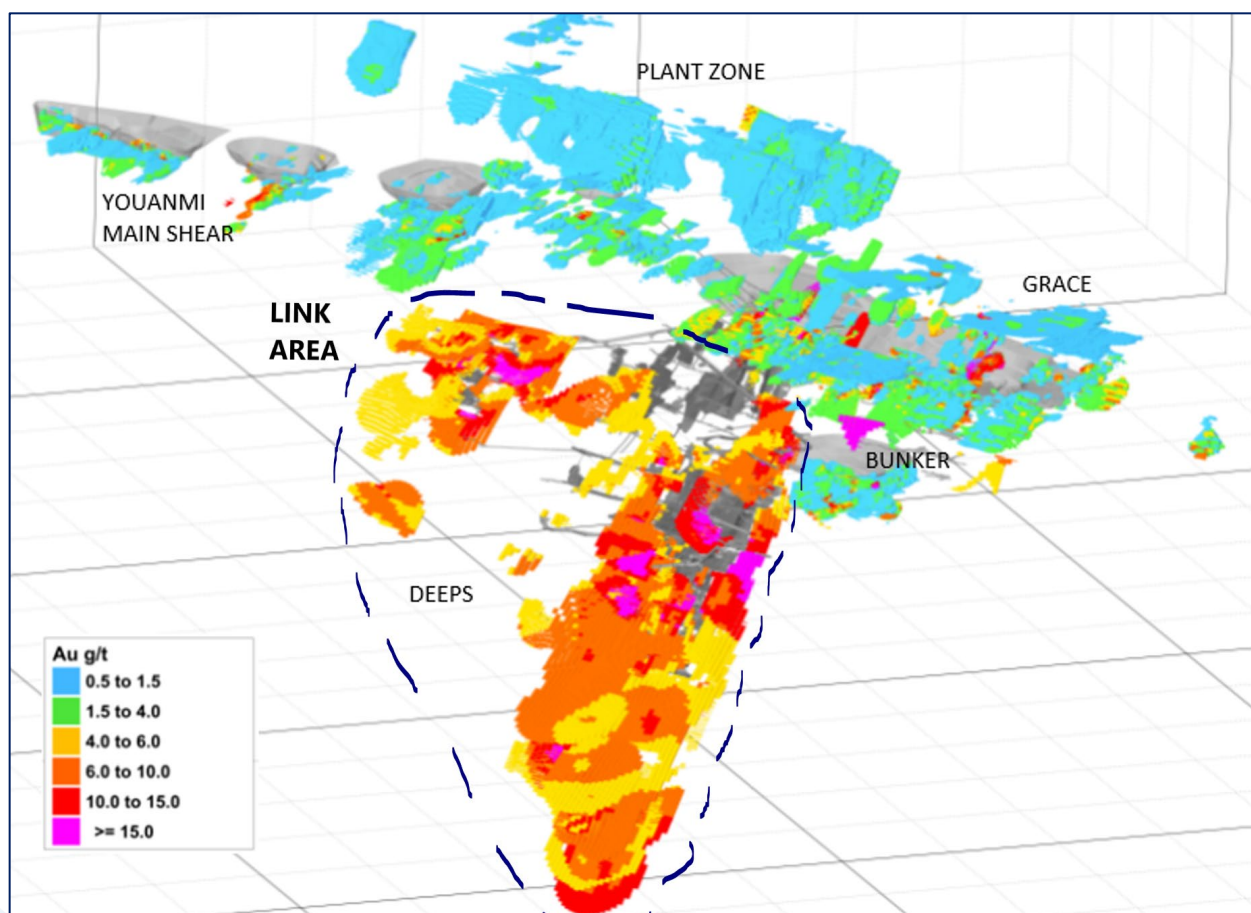
It is noted that this early stage testwork is relevant to the Youanmi Deeps Resource (ASX release 23 June 2021) which comprises just over half the total resource of 1.7 mil ounces (refer Table 3 below).

**Table 3: Summary of Youanmi Resources Remaining June 2021**

Youanmi Resources Remaining June 2021					
Area	Classification	Cut-Off	Tonnes (dmt)	Au Grade (g/t)	Au Metal (oz)
Near Surface	Indicated	0.5 g/t*	7,470,000	1.81	434,000
Deeps	Indicated	4.0 g/t	1,097,000	8.23	290,200
<b>SubTotal</b>	<b>Indicated</b>		<b>8,567,000</b>	<b>2.63</b>	<b>724,200</b>
Near Surface	Inferred	0.5 g/t*	7,240,000	1.57	366,000
Deeps	Inferred	4.0 g/t	2,279,000	7.73	566,200
<b>SubTotal</b>	<b>Inferred</b>		<b>9,519,000</b>	<b>3.05</b>	<b>932,200</b>
Near Surface	Ind + Inf	0.5 g/t*	14,710,000	1.69	800,000
Deeps	Ind + Inf	4.0 g/t	3,377,000	7.89	856,300
<b>Near Surface + Deeps</b>	<b>Ind + Inf</b>		<b>18,087,000</b>	<b>2.85</b>	<b>1,656,300</b>

\* Grace 1.5 g/t Cutoff





**Figure 4: View of Youanmi resource highlighting the Deeps component (856,000 ounces Au)**

## Next Steps

The testwork has demonstrated a well understood pathway to very high gold recoveries, something which was not achieved in the 1990s, and further testwork in combination with the costing studies will determine the optimal and most economical feasible process solution, exploring various other suitable processes.

Further testwork in combination with the costing studies will determine the optimal and most economical feasible process solution. The additional testwork is not only recovery related.

Incremental capital cost versus gold recovery analysis outcomes are being continuously examined with current flow sheet scenarios.

Future work is planned to include a wider range of underground resource domains for which the OYG JV has abundant samples in the form of diamond drill core, including the recently discovered Link area to the north of the current deeps resource, which after geological modelling has been completed will be included in the next resource update.

## **Background on Testwork Management - Orway Mineral Consultants**

The consultancy is recognised as the world leader in SAG sizing and comminution circuit design, providing modelling services using in-house and commercially available software. OMC's expertise has expanded to include comminution, beneficiation and hydrometallurgy services to large and small companies across the globe.

## **Appendix 1 - Petrographic Analysis**

Rox is undertaking gold deportment studies to determine the gold speciation, grain size and mode of occurrence as well as to generally characterise the mineralogical composition of the ore across the deposit. As part of this work petrographic analysis was completed on 11 sulphide rich diamond core samples across the Youanmi deposit with the aim of determining the mode of occurrence of gold within various ore zones. Appendix 1 contains details on the Petrographic analysis completed to date.

Authorised for release to the ASX by the Board of Rox Resources Limited.

**\*\*\* ENDS \*\*\***

### **For more information:**

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## **Competent Person Statements**

### **Results**

The information in this report that relates to metallurgical results is based on information compiled and reviewed by Mr Fred Kock a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy ("AusIMM") and Principal Metallurgist at Orway Mineral Consultants ("OMC"). Mr Kock has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Kock consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Where reference is made to previous releases of exploration results in this announcement, the Company confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the exploration results included in those announcements continue to apply and have not materially changed.

The information in this report that relates to previous Exploration Results, was either prepared and first disclosed under the JORC Code 2004 or under the JORC Code 2012 and has been properly and extensively cross-referenced in the text to the date of the original announcement to the ASX. In the case of the 2004 JORC Code Exploration Results and Mineral Resources, they have not been updated to comply with the JORC Code 2012.

### **Resource Statements**

The information in this report that relates to gold Mineral Resources for the Youanmi Project was reported to the ASX on 23 June 2021 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 23 June 2021, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 23 June 2021 continue to apply and have not materially changed.

The information in this report that relates to gold Mineral Resources for the Mt Fisher project was reported to the ASX on 11 July 2018 (JORC 2012). Rox confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 11 July 2018, and that all material assumptions and technical parameters underpinning the estimates in the announcement of 11 July 2018 continue to apply and have not materially changed.

### **Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Rox Resources Limited planned exploration program(s) and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should," and similar expressions are forward looking statements.

### **About Rox Resources**

Rox Resources (ASX:RXL) is a West Australian focused gold exploration and development company. It is 70 per cent owner and operator of the historic Youanmi Gold Project near Mt Magnet, approximately 480 kilometres northeast of Perth, and wholly-owns the Mt Fisher Gold project approximately 140 kilometres southeast of Wiluna. Youanmi has a Total Mineral Resource of 1,656 koz of contained gold, with potential for further expansion with the integration of existing prospects into the Resource and further drilling. Youanmi was a high-grade gold mine and produced 667,000oz of gold (at 5.47 g/t Au) before it closed in 1997. Youanmi is classified as a disturbed site and is on existing mining leases which has significant existing infrastructure to support a return to mining operations.



## **Appendix 1**

### **Petrographic Analysis**

## Introduction

Petrographic analysis was completed on 11 sulphide rich diamond core samples across the Youanmi deposit with the aim of determining the mode of occurrence of gold within various ore zones. Preparation of 11 polished thin sections and petrographic descriptions were completed by Diamantina Laboratories in Perth.

## Report Summary

Visible gold was observed in all samples. Gold particles sizes range from 2-150µm.

At least three gold species occur in order of abundance:

- Low-silver gold, is most prevalent, primarily on pyrite grain boundaries and with silicates and occasionally in micro-fractures and cavities; grain sizes from 10-150µm
- Argentian gold (silver-rich); within pyrite grains that lie in and/or along fractures and cavities; fine-grained (<10-20µm)
- Aurostibnite (Sb-rich), quite rare, very-fine grained (<10µm) in silicate matrix

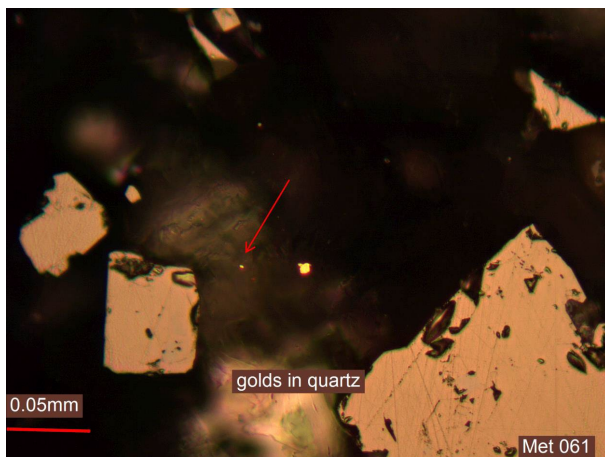
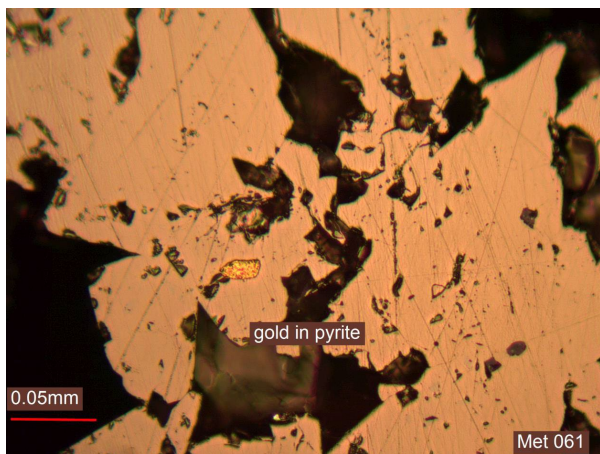
**The majority of gold particles observed occur on pyrite grain boundaries, with silicates and in both cavities, on grain boundaries and micro-fractures. This is important as gold particles not included within sulphide grains are more likely to be free milling. Only two examples of gold with arsenopyrite were observed.** The gangue mineralogy is predominantly quartz, sericite and dolomite. The sulphides are dominated by pyrite and lesser arsenopyrite, with uncommon stibnite.

## Petrographic Descriptions and Microphotographs

### MET061: (Upper) Youanmi Deeps

Classified as a pyrite quartz muscovite schist.

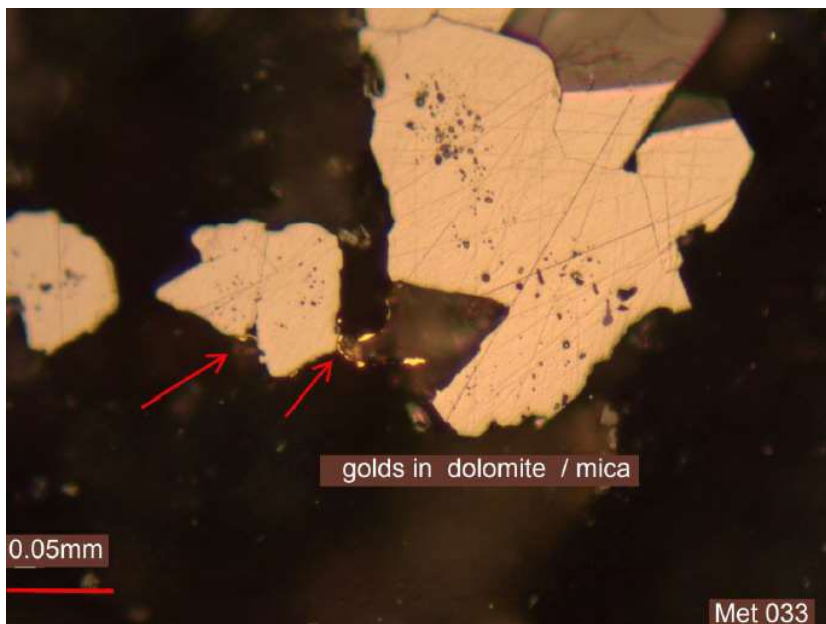
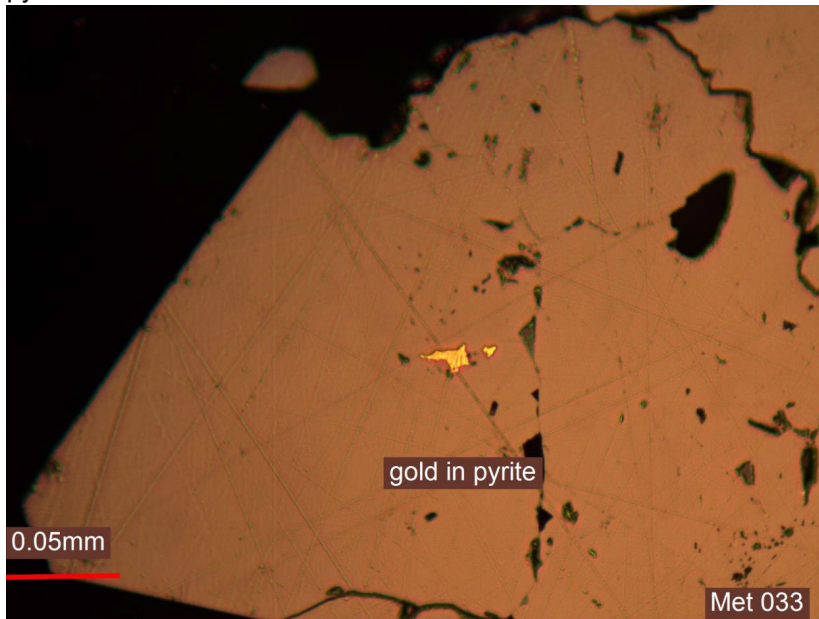
Eight gold occurrences were seen, all low-silver gold. Four as fine grains (6 - 15µm) in pyrite and four as grains in silicate matrix. Sulphides are pyrite and trace arsenopyrite or chalcopyrite; pyrite varies from coarse sub-mm clusters to <0.1mm euhedral disseminated grains. Rutile is sporadic, sometimes in contact with or host to fine grained pyrite. Figures 1-3.



### **MET033: Youanmi Deeps**

Classified as a dolomitized muscovite schist with mineralised dolomite veins.

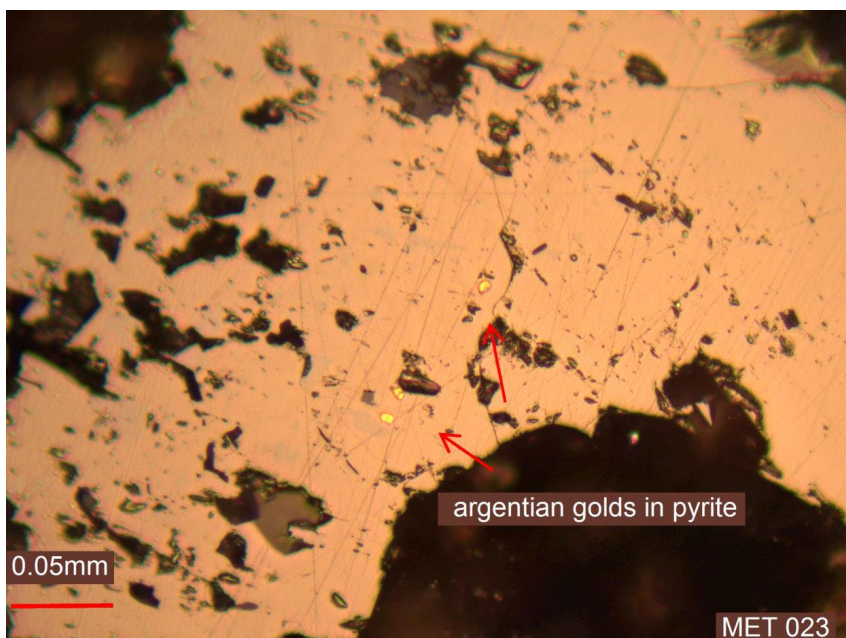
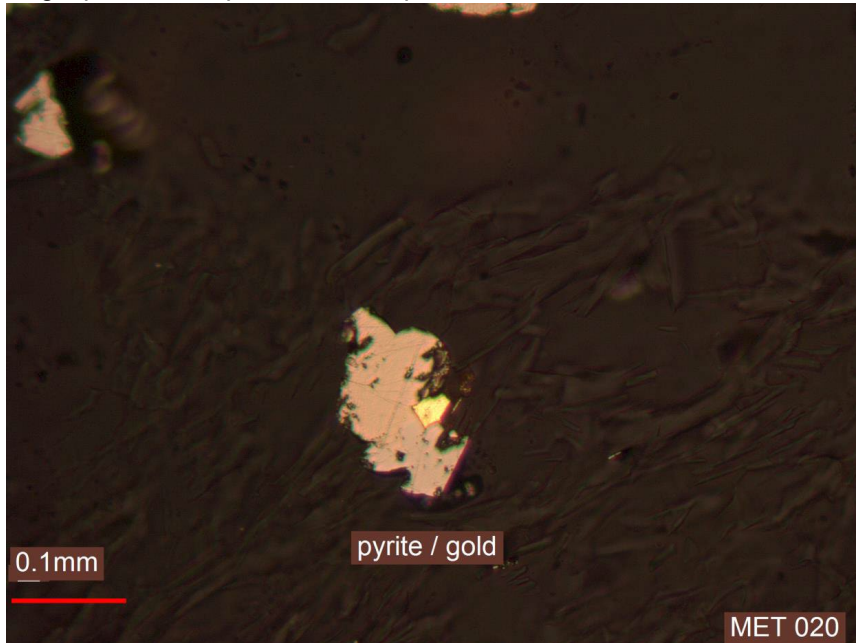
Mica schist extensively altered and crosscut by dolomite veins; fuchsite (Cr-rich mica) and rare biotite in matrix. Subhedral pyrite & Asp with minor stibnite and rare tetrahedrite associated with pyrite. Secondary rutile weakly disseminated throughout, up to 0.5mm grains; sometimes attached to sulphides or as inclusions in pyrite.



### **MET020/023: Youanmi Deeps**

Classified as an pyrite arsenopyrite quartz muscovite schist.

Subhedral pyrite grains (0.2-0.5mm) with euhedral orthorhombic arsenopyrite often enclosed in coarse pyrite. Clusters of coarse euhedral arsenopyrite are common. Leucoxene replacing rutile occurs as disseminated single particles, separate from sulphides.

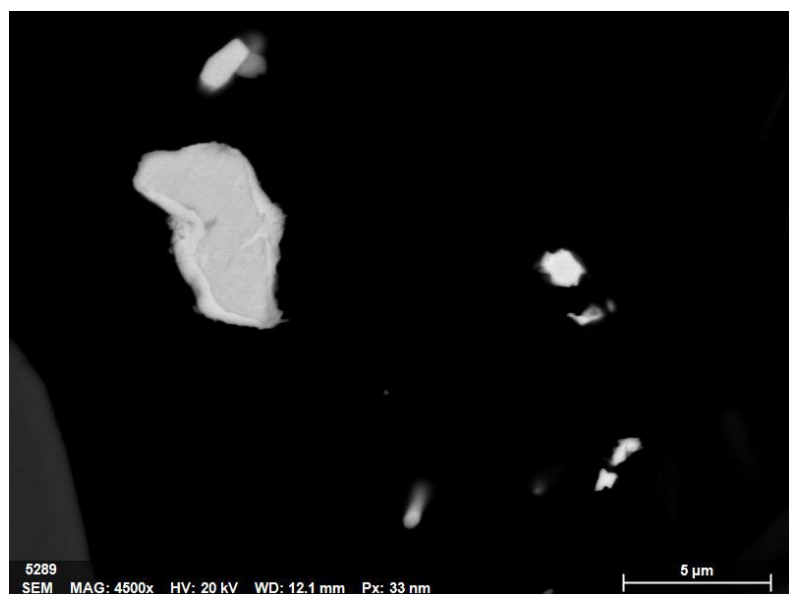




### **MET001: Youanmi Deeps**

Classified as a brecciated pyrite arsenopyrite muscovite quartzite heavily veined by dolomite with a coarse fragment of mineralised quartzite.

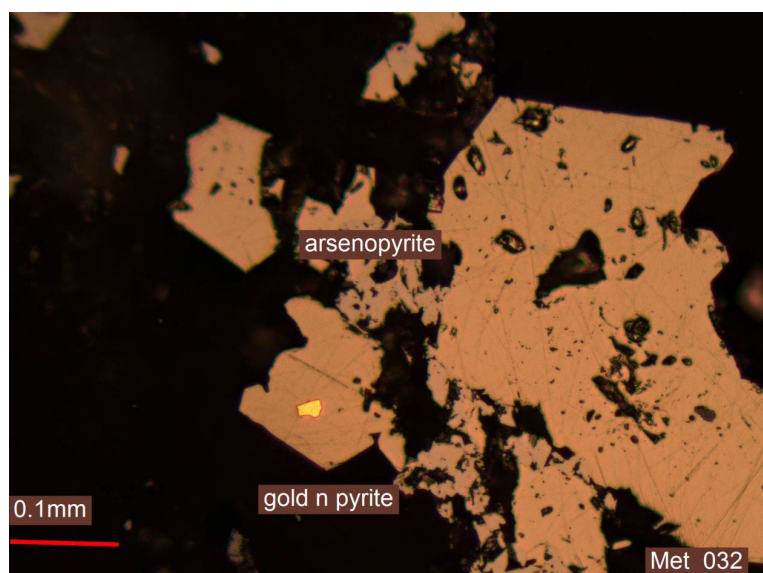
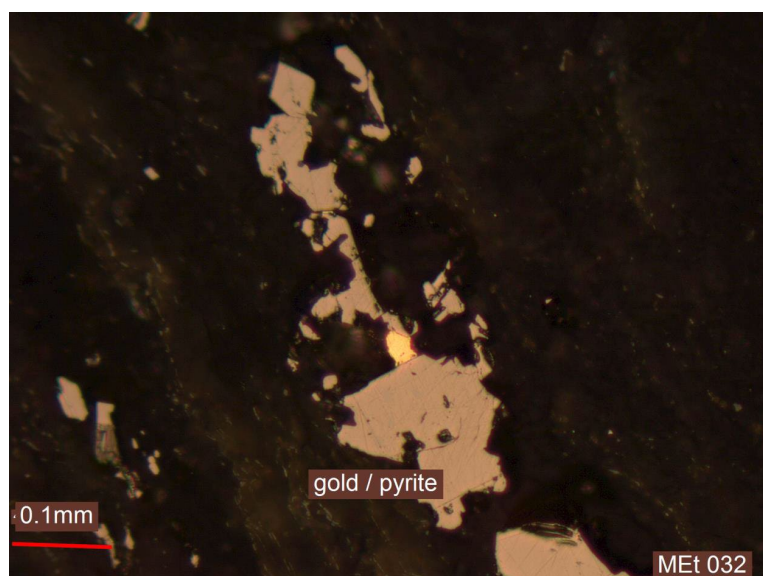
Abundance of coarse ferroan dolomite veins (Fe, Ca)MgCO<sub>3</sub>). Unaltered pyrite is dominant sulphide, occurring both as: (i) <1cm semi-massive aggregates and (ii) fine, subhedral disseminations. Tetrahedrite is rare and mostly in the quartz/carbonate and mica groundmass and fines in quartzite clast. Rarely stibnite occurs in both silicate matrix and in pyrite.



### **MET032: Youanmi Deeps**

Classified as a quartz muscovite schist with pyrite quartz vein.

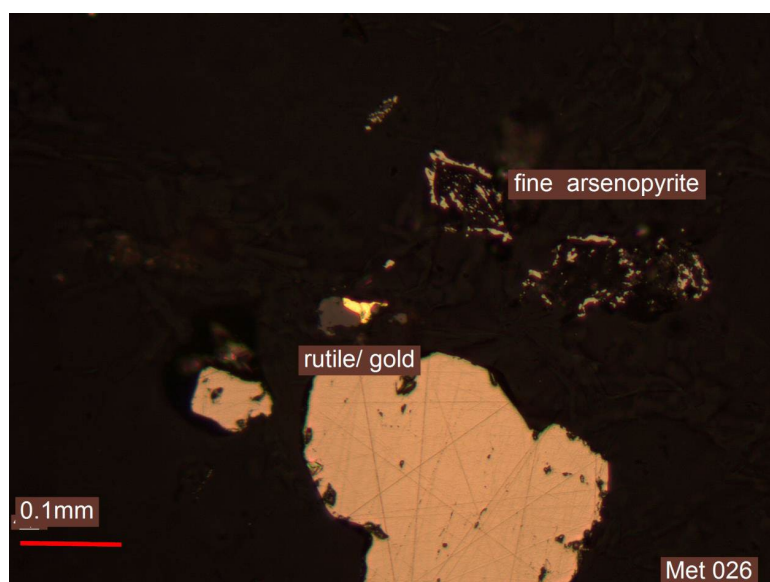
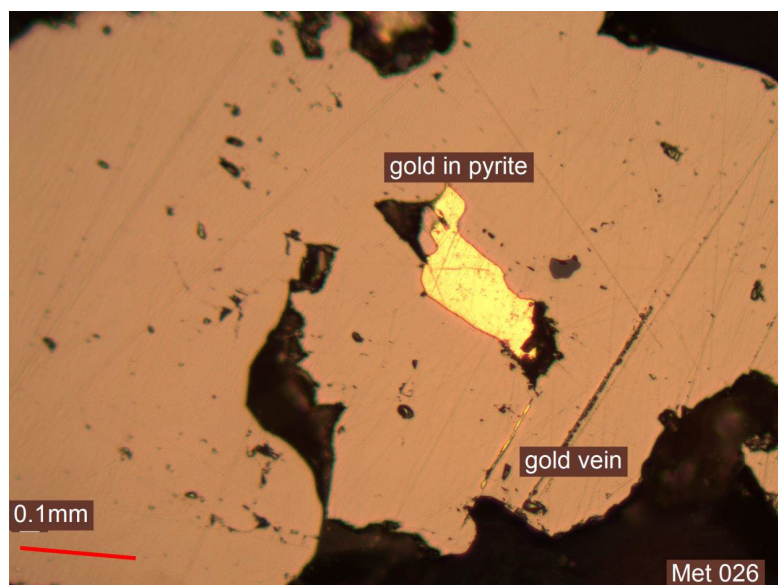
Opaque minerals are pyrite and arsenopyrite with rare stibnite. Pyrite occurs as medium to fine grained concentrations associated with fine arsenopyrite. Pyrite also forms as semi-massive 5mm wide halo flanking a 1cm wide quartz vein. Quartz vein has coarse sub-rounded grains of apatite ( $\text{Ca}_5(\text{PO}_4)_3$ ) on its margin. Quartz vein is crosscut by stibnite and euhedral pyrite containing minor, low-Fe sphalerite. Eight occurrences of gold were observed, mainly low-Ag gold in coarse pyrite.



### **MET026 – (Lower) Youanmi Deeps**

Classified as an pyrite arsenopyrite quartz muscovite schist.

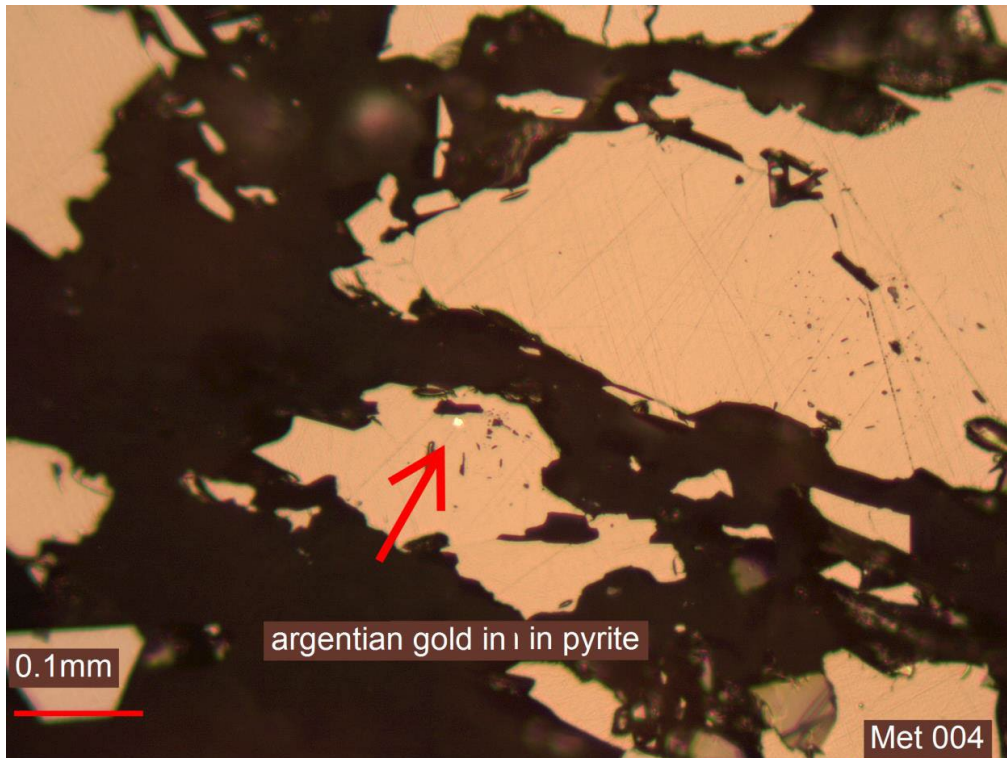
Low-Ag gold (~5-7% Ag / SEM analysis) predominantly associated with pyrite. Subhedral pyrite clusters (0.1-0.2 mm) aligned along foliation. Arsenopyrite occurs as medium-grained euhedral grains enclosed in and/or attached to pyrite. Numerous free gold grains (~5µm) in silicate groundmass. Leucoxene, after rutile, is aligned along mica foliation; rarely attached to or included in pyrite. SEM detected fine grained scheelite in quartz.



#### **MET004: Hill End Deep**

Classified as an pyrite arsenopyrite quartz muscovite schist.

Coarse pyrite grains are at times crosscut by either arsenopyrite or stibnite. Stibnite is commonly coarse (mm) and in contact with pyrite and arsenopyrite and as rims around pyrite. Stibnite can also occur as fine veins <1µm thick. Finely disseminated rutile grains occur aligned parallel to foliation. Trace coarse rutile crystals contain fine grains of pyrite or stibnite.

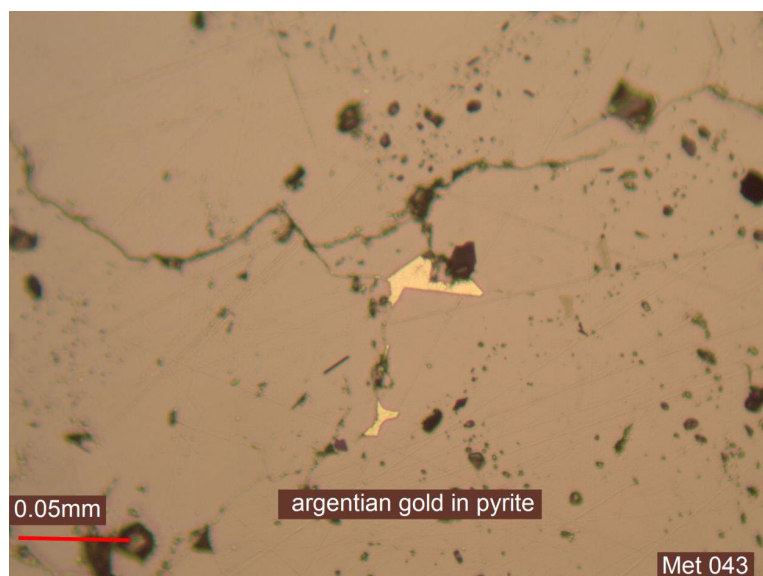
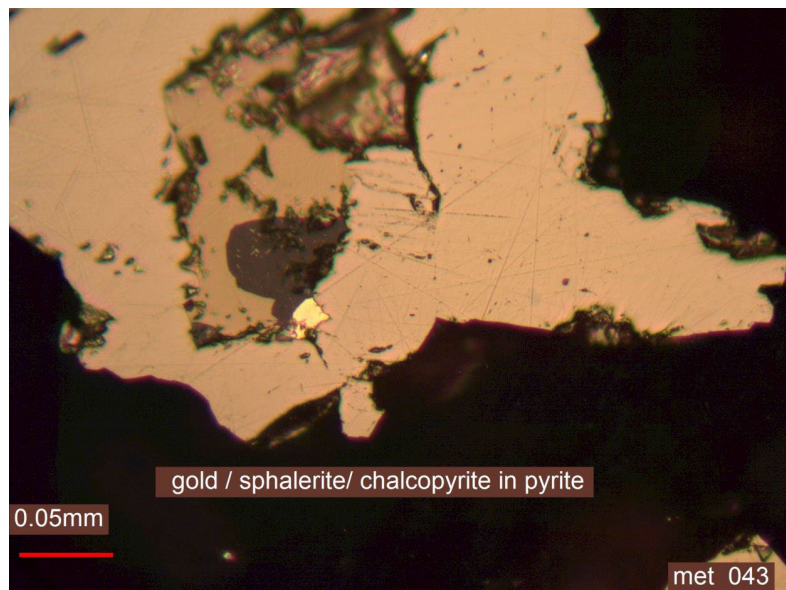




### **MET043: Hill End Deep**

Classified as a pyrite chlorite quartzite / quartz vein.

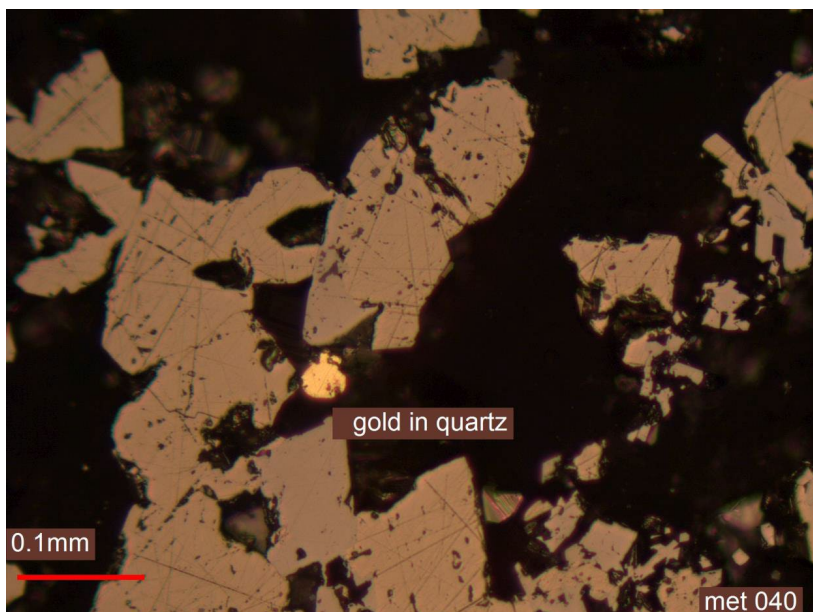
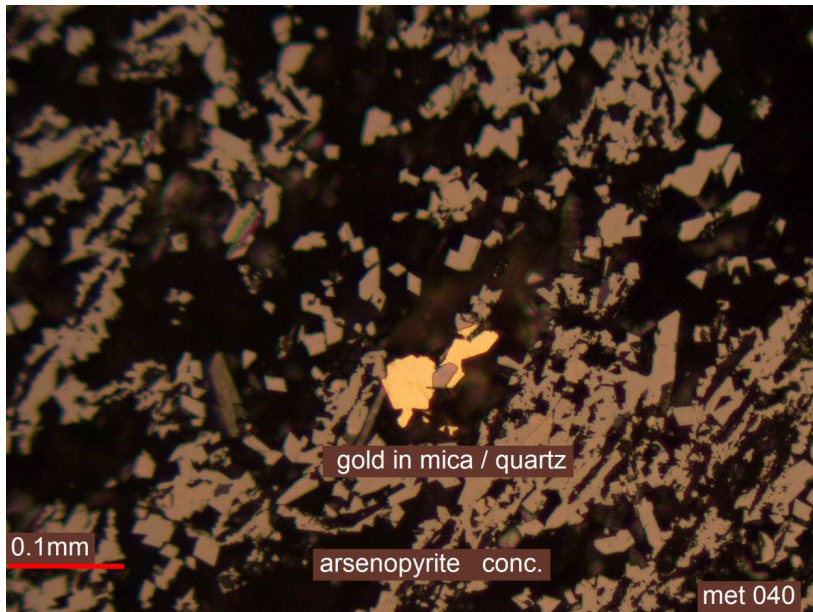
Seven grains of argentian gold ranging in sizes from 2-50µm with a single 15µm grain attached to sphalerite, with coarse chalcopyrite in pyrite. Subhedral magnetite clusters common with <0.1mm diameter grains, also ilmenite with sulphide rims. Arsenopyrite, chalcopyrite and pyrrhotite are also inclusions usually rounded and under 0.1mm.





#### **MET040: Kathleen**

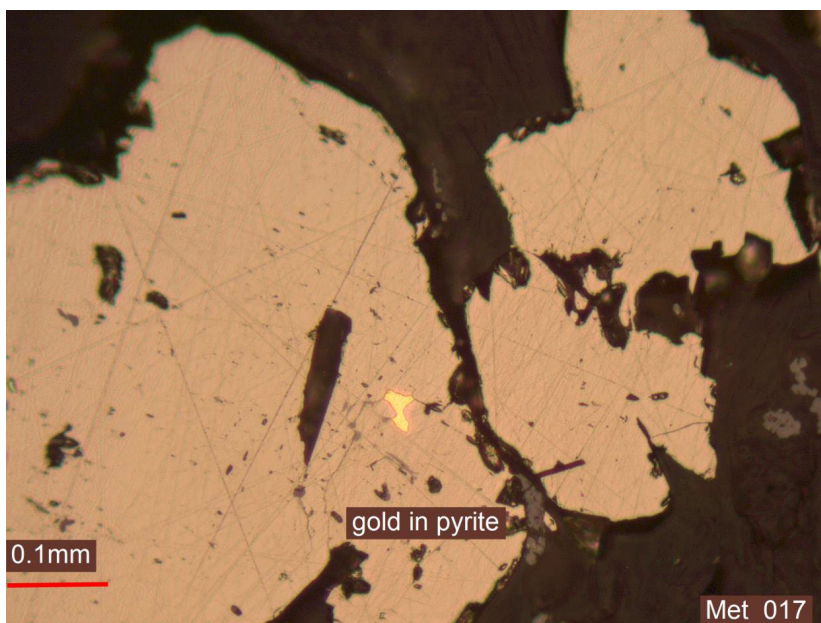
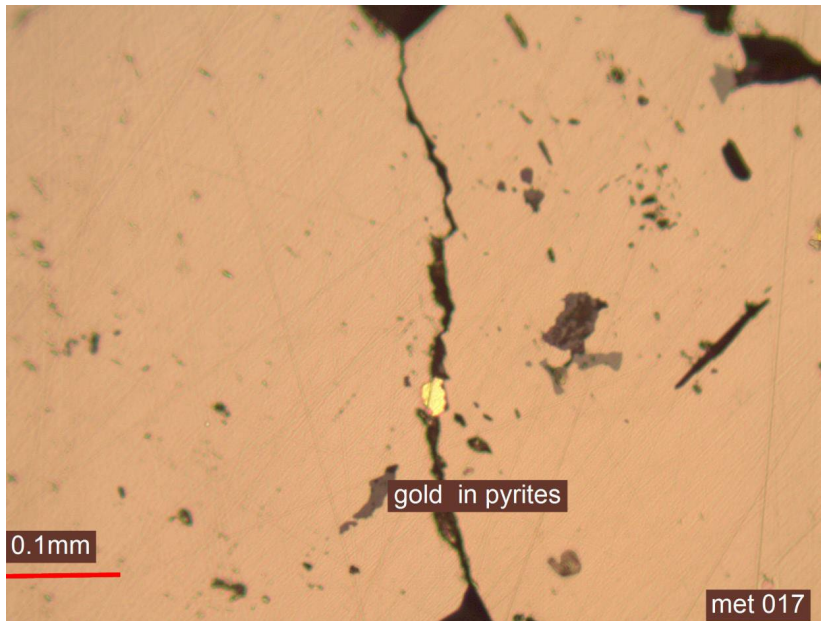
Classified a sulphide quartz muscovite schist hosting several sulphide bearing sericite quartz veins. Seven occurrences of gold were detected optically in the area scanned and one by SEM. Rutile (leucoxene) is prominent and exceeding 0.2mm diameter grains. Ores are fresh pyrite and arsenopyrite. Quartz vein contains zincian tetrahedrite, chalcopyrite and rare molybdenite.



### **MET017: Junction**

Classified as an arsenopyrite pyrite quartz muscovite schist.

Pyrite grains contain traces of tetrahedrite ((Cu,Fe)<sub>12</sub>Sb<sub>4</sub>S<sub>13</sub> – antimony sulfosalt). Traces of rutile (FeTiO<sub>2</sub>) occur intergrown with pyrite. Arsenopyrite occurs as composite grains attached to coarse pyrite crystals.



**Table 1. Sample and drill hole location information.**

Sample ID	Hole Id	From	To	Location	Collar East	Collar North	Collar RL	Dip	Azimuth	Hole Depth	Au_ppm
MET001	AYMD0002W4	462.5	463.1	Youanmi Deeps	679295.7	6833661.3	459.7	-86.1	49.7	766.2	15.56
MET004	YD0033	171.7	172.7	Hill End Deeps	679331.6	6834364.9	466.8	-70	60	274.5	16.7
MET017	RXRC353	94	95	Junction	679966.6	6833301.5	456.2	-56.5	71.2	252	4.64
MET020	YD0078	688.78	689.69	Youanmi Deeps	679300.1	6833523.9	460.3	-70.6	66	745.5	5.06
MET023	YUG061	70.9	72.2	Youanmi Deeps	679644	6833869.8	90.4	-55	270	76.2	14.35
MET026	YD0084	714.6	715.2	(Lower) Youanmi Deeps	679253	6833677.9	460.7	-79	63.5	766.15	69.05
MET032	YUG036	12.8	13.8	Youanmi Deeps	679671.6	6833763.2	58.9	-59	268	43.3	200
MET033	YUG061	45.2	46.2	Youanmi Deeps	679644	6833869.8	90.4	-55	270	76.2	36.69
MET040	94KRCD0355	102.9	104	Kathleen	679167.5	6834883.9	469.3	-70	64	109.8	28.22
MET043	YUG149	11.05	11.65	Hill End Deeps	679458.4	6834434.1	268.5	40	260	29.1	4.9
MET061	YUG015	37.15	37.71	(Upper) Youanmi Deeps	679750.1	6833810.9	207.8	2	59	47.3	7.5

## JORC Code, 2012 Edition – Table 1

### Section 1 Data and Sampling Techniques

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (e.g. 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.</i>	Diamond drill hole core size is comprising of predominantly half and quarter NQ drilling core size diameter through the mineralisation. Sampling of diamond holes was by cut half core as described further below.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used</i>	Drill holes were generally angled at -57° towards grid northeast (but see Table 2 for individual hole dips and azimuths) to intersect geology as close to perpendicular as possible.
	<i>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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information</i>	30 drillhole location sections were selected including 14 sections from the upper part of the Hangingwall Lode domain, and 16 sections from the upper part of the Main Lode domain. The selection was based on providing a representative diamond drill holes that each represent at least 20% of the proposed mining and mill feed inventory.
Drilling techniques	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).</i>	Diamond core was cut according to lithological intervals and dispatched to the laboratories. Sampling protocols and QAQC are as per industry best practice procedures.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed</i>	Drilling technique was diamond core (DD). The DD hole diameter was predominantly half and quarter NQ drilling core size diameter. Hole depths reported range from 50m to 215m to 745m for diamond.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples</i>	Limited records relating to diamond core sample recoveries have been identified. The sections selected from the Main Lode, and Hangingwall Lode domains combined represent over 30 percent of the entire Deeps Mineral Resource. This is above the target threshold for this analysis.
	<i>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.</i>	Diamond Drilling sampling documentation where available described, sampling and recovery procedures consistent with standard Australian industry standards (Yeates, R.J. 2003).  There is no observable relationship between recovery and grade, and therefore no sample bias.



Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<i>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.</i>	Detailed geological and geotechnical logs were carried out on all diamond drill holes for recovery, RQD, structures etc. which included structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness, fill material, and this data is stored in the database.  The geological data would be suitable for inclusion in a Mineral Resource estimate.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging of diamond core chips recorded lithology, mineralogy, mineralisation, weathering, colour, and other sample features.
	<i>The total length and percentage of the relevant intersections logged</i>	Detailed geological logs were carried out for the entire length of the selected sections
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Drill core was cut in half on site using a core saw. All samples were collected from the same side of the core, preserving the orientation mark in the kept core half.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	All selected sections were sourced from historical drill core from on site core storage
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	The sample preparation followed industry best practice. <ul style="list-style-type: none"> <li>• SMC, BWi and Ai comminution testwork to be conducted</li> <li>• Comprehensive head assay of each of the samples</li> <li>• Standard bottle roll cyanidation tests at two grind sizes (75 and 125µm) to establish a baseline</li> <li>• Mineralogy on each sample (QEMSCAN)</li> <li>• Scouting flotation tests to screen a few common reagents at the two grind sizes</li> <li>• Bulk flotation to produce concentrate for further testwork</li> <li>• Mineralogy on both the concentrate (QEMSCAN + gold search) and tail (XRD) sample</li> <li>• Comprehensive head assay on each concentrate</li> <li>• UFG testwork on each flotation concentrate to a range of sizes (15 micron)</li> <li>• Standard bottle roll test on each UFG sample as well as flotation tail</li> <li>• 2 stage roast and POX testwork</li> </ul>
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	QC procedures involved the calibration of testwork equipment with the use of Certified Reference Materials (CRM's), along with duplicates and blank samples.
	<i>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.</i>	Current metallurgical results for the selected sections we validated against historical analysis. No significant variation was observed in the validation.



Criteria	JORC Code explanation	Commentary
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample sizes are considered more than adequate to ensure that there are no particle size effects relating to the grain size of the mineralisation which lies in the percentage range.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The sample sizes are considered more than adequate to ensure that there are no particle size effects relating to the grain size of the mineralisation which lies in the percentage range.
	<i>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.</i>	No field equipment was used in the metallurgical analysis. All testwork was conducted at OMC laboratory facilities.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	Internal laboratory control procedures involve duplicate assaying of randomly selected assay pulps as well as internal laboratory standards.
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Results have been checked by the supervising Metallurgist. Senior personnel from the Company have visually inspected mineralisation within significant intersections
	<i>The use of twinned holes.</i>	
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Grades and recoveries undertaken on the metallurgical samples were provided in a specialised report covering the testwork undertaken.
	<i>Discuss any adjustment to assay data.</i>	No adjustments have been made to the assay data.
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Historical data was surveyed in a mixture of local and AMG84 coordinates.
	<i>Specification of the grid system used.</i>	All location and topographic data has subsequently been converted to the GDA94 Zone 50 Datum.
	<i>Quality and adequacy of topographic control.</i>	The topography of the mined open pits is well defined by monthly survey pickups.
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	RC and diamond drill hole spacing varies 40-200 metres between drill sections, with some areas at 40 metre drill section spacing. Down dip step-out distance varies 20-100 metres.

Criteria	JORC Code explanation	Commentary
	<i>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.</i>	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC(2012) classifications applied.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has occurred for diamond core drilling. Sample intervals are based on geological boundaries with even one metre samples between.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The mineralisation strikes generally NNW-SSE and dips to the west at approximately -50 degrees. The drill orientation was 065 and 245 degrees and -60 to -90 dip. Drilling is believed to be generally perpendicular to strike
	<i>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.</i>	No sampling bias is believed to have been introduced.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	The chain of custody for historical samples is not well documented, but was reviewed by RSG (Yeates, 2003) and found to be consistent with the standard practice for the time. A large number of samples these bags were transported by the Company directly to the assay laboratory. In some cases the sample were delivered by a transport contractor the assay laboratory. The assay laboratory audits the samples on arrival and reports any discrepancies back to the Company. No such discrepancies occurred.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Goldcrest conducted a thorough review of historical sampling and assay techniques and data in September, 2004. No other sampling audits have been carried out to date

**JORC Code, 2012 Edition – Table 1**

**Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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.</i>	Rox Resources Ltd is in a Joint Venture Agreement with Venus Metals Corporation Ltd under which it has a 70% interest in the Youanmi Gold Mine Joint Venture (OYG Joint Venture). Tenements in the JV consist of the following mining leases: M 57s /10, 51,76,97,109, 135, 160A, 164, 165, 166 and 167.
	<i>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.</i>	The tenement is in good standing and no known impediments exist
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Significant previous exploration has been carried out throughout the project by various companies, including AC/RAB, RC drilling and diamond drilling</p> <ul style="list-style-type: none"> <li>• 1971-1973 WMC: RAB, RC and surface diamond drilling</li> <li>• 1976 Newmont: 10 surface diamond drillholes (predominantly targeting base metals).</li> <li>• 1980-1986 BHP: RAB, RC and surface diamond drilling (predominantly targeting base metals).</li> <li>• 1986-1993 Eastmet: RAB, RC and surface diamond drilling.</li> <li>• 1993-1997 Goldmines of Australia: RAB, RC and surface diamond drilling. Underground mining and associated underground diamond drilling.</li> <li>• 2000-2003 Aquila Resources Ltd: Shallow RAB and RC drilling</li> <li>• 2004-2005 Goldcrest Resources Ltd: Shallow RAB and RC drilling; data validation.</li> <li>• 2007- 2013 Apex Minerals NL: 9 diamond holes targeting extensions to the Youanmi deeps resource.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Geology</b>		<p>The Youanmi Project straddles a 40km strike length of the Youanmi Greenstone Belt, lying within the Southern Cross Province of the Archaean Yilgarn Craton in Western Australia.</p> <p>The greenstone belt is approximately 80km long and 25km wide, and incorporates an arcuate, north-trending major crustal structure termed the Youanmi Fault Zone.</p> <p>This structure separates two discordant greenstone terrains, with the stratigraphy to the west characterised by a series of weakly deformed, layered mafic complexes (Windimurra, Black Range, Youanmi and Barrambie) enveloped by strongly deformed, north-northeast trending greenstones.</p> <p>Gold mineralisation is developed semi-continuously in shear zones over a strike length of 2,300m along the western margin of the Youanmi granite.</p> <p>The Youanmi gold lodes are invariably associated with a high pyrite and arsenopyrite content and the primary ore is partially to totally refractory.</p> <p>There are a series of major fault systems cutting through the Youanmi trend mineralisation that have generated some significant off-sets.</p> <p>The Youanmi Deeps project area is subdivided into three main areas or fault blocks by cross-cutting steep south-east trending faults; and these are named Pollard, Main, and Hill End from south to north respectively.</p> <p>Granite hosted gold mineralisation occurs at several sites, most notably Grace and the Plant Zone Prospects.</p> <p>Gold mineralization occurs as free particles within quartz-sericite altered granite shear zones.</p> <p>The Commonwealth-Connemarra mineralised trend is centred 4km northwest of the Youanmi plant. The geology comprises a sequence of folded mafic and felsic volcanic rocks intercalated with BIF and intruded by granite along the eastern margin. Gold mineralisation is developed over a 600m strike length, associated with a north trending and steeply west dipping shear zone that traverses the northwest trending succession.</p>
<b>Drill hole Information</b>	<p><i>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:</i></p> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length.</i></li> </ul>	Refer to details of drilling in table 2 in the body of this report.

Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	Only selected sections were assayed in this set of metallurgical testwork
	<i>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.</i>	Mineralisation over 0.5g/t Au has been included in the selected sections of diamond core.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values have been used or reported.
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></p>	The mineralisation strikes generally NNW-SSE and dips to the west at approximately -50 degrees. The drill orientation was 065 and 245 degrees and -60 to -90 dip. Drilling is believed to be generally perpendicular to strike. Given the angle of the drill holes and the interpreted dip of the host rocks and mineralisation (see Figures in the text), reported intercepts approximate true width.
<b>Diagrams</b>	<i>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.</i>	Appropriate maps and sections are available in the body of the report.
<b>Balanced reporting</b>	<i>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.</i>	The report is considered balanced and provided in context.
<b>Other substantive exploration data</b>	<i>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.</i>	All meaningful and material information has been included in the body of the announcement.
<b>Further work</b>	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive</i></p>	Further work is planned to include a wider range of underground resource domains using sections of of diamond drill core, including the recently discovered Link area to the north of the current deeps resource, which after geological modelling has been completed will be included in the next resource update.