

# ASX Announcement

19 April 2018

## ANNUAL MINERAL RESOURCES AND ORE RESERVES STATEMENT

Evolution Mining Limited (ASX: EVN) is pleased to release its annual Mineral Resources and Ore Reserves (MROR) estimates as at 31 December 2017. The Company remains committed to building a sustainable business that prospers through the cycle and has therefore used an unchanged and conservative gold price assumption of A\$1,350 per ounce (US\$1,050/oz)<sup>1</sup> and a copper price assumption of A\$6,000 per tonne (US\$4,680/t) to estimate Group Ore Reserves.

### Highlights

- Group Mineral Resources
  - Gold Mineral Resources increased by 68,000 ounces to **14.24 million ounces** after accounting for mining depletion of 842,000 ounces and divestment of 848,000 ounces at Edna May. The largest offset was due to resource extensions at Cowal of 1.04 million ounces
  - Copper Mineral Resources decreased 88,000 tonnes to **946,000 tonnes** after accounting for mining depletion and the re-estimation of Marsden Mineral Resources
- Group Ore Reserves
  - Gold Ore Reserves increased by 58,000 ounces to **7.05 million ounces** after accounting for mining depletion of 842,000 ounces and divestment of 426,000 ounces at Edna May. Cracow and Mungari both added to Ore Reserves post mining depletion. A maiden Ore Reserve for Marsden has been included contributing 835,000 ounces
  - Copper Ore Reserves increased by 352,000 tonnes to **564,000 tonnes** after accounting for mining depletion and the addition of 371,000 tonnes at Marsden (maiden Ore Reserve)

### Growth opportunities

- Further delineation and conversion of the significant mineral endowment at Cowal along the 3km long Gold Corridor between E46 and E41
- Evaluation of regional porphyry copper-gold potential within the Cowal Province
- Advancing the Mungari Provincial pipeline (>30 current targets) and continuation of the near-mine drilling programs with targets including deep extension drilling at Frog's Leg, evaluation of the White Foil underground, and near-surface extensions of mineralisation north of the White Foil open pit
- Further extensional and infill drilling at Cracow with targets on the known structural corridors including the Kilkenny to Empire trend
- Further resource definition drilling at Mt Carlton and continuation of testing for underground resource extensions
- Extensional drilling below the 1,200m level at Ernest Henry<sup>2</sup>

Commenting on the updated Mineral Resources and Ore Reserves estimate, Evolution Executive Chairman, Jake Klein, said:

*"To add to both our resources and reserves after accounting for mining depletion and the divestment of Edna May is a great result which demonstrates the sustainability of our business. A continued focus on extending our average mine life has resulted in further year-on-year improvements with the average Group reserve life now approximately nine years.*

*"We also have a strong pipeline of targeted exploration and resource definition drilling which gives us confidence we can continue to build on this success."*

1. Using an AUD:USD exchange rate of 0.78  
2. Subject to agreement with Glencore

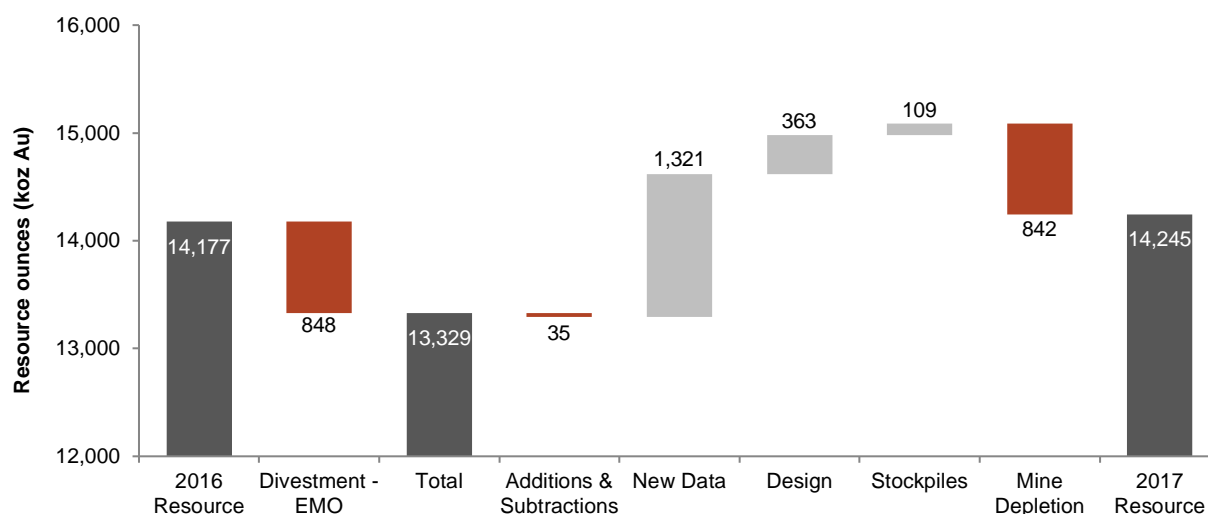
**Group Mineral Resources** as at 31 December 2017 are estimated at **14.24 million ounces of gold** and **946,000 tonnes of copper** compared with the estimate at 31 December 2016 of 14.18 million ounces of gold and 1.03 million tonnes of copper. The updated estimate accounts for mining depletion in 2017 of 842,000 ounces of gold. All Mineral Resources are constrained at an A\$1,800/oz economic threshold at Evolution's 100% owned assets.

Changes to the Group Mineral Resources estimate include:

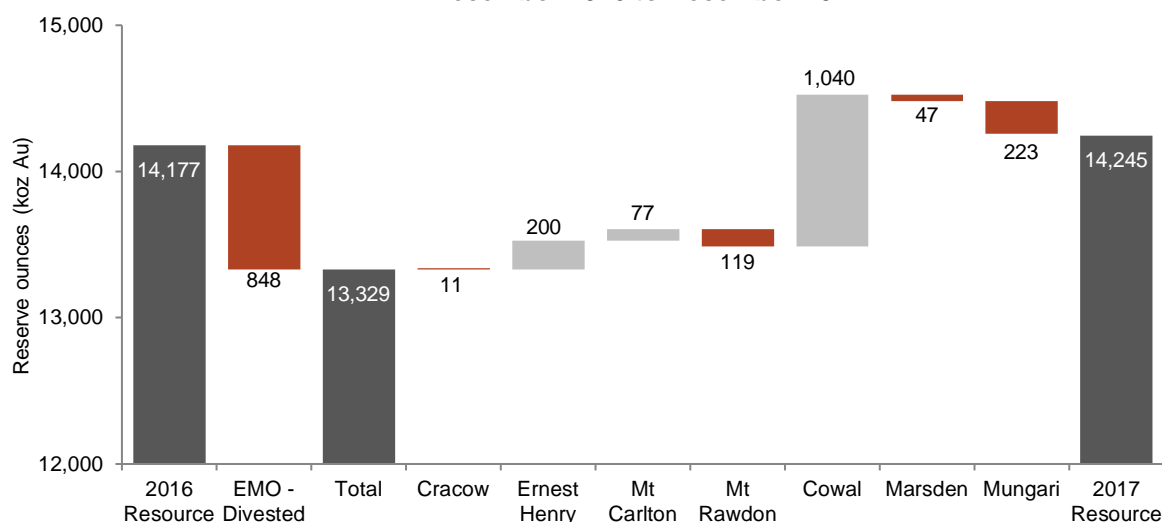
- Additions prior to mining depletion:
  - 1.35 million ounces of gold at Cowal including:
    - Addition of 816,000 ounces largely due to successful drilling programs at GRE46 Underground (603,000 ounces) and at E41 and GRE46 open pits (209,000 ounces)
    - Addition of 478,000 ounces through design changes at E41, E42 and E46 open pits to reflect lower mining costs and the planned increased plant recovery through the construction of the Float Tail Leach Plant that is currently underway
  - 200,000 gold ounces at Ernest Henry due to grade cut-off modifications
  - 225,000 gold ounces at Mt Carlton largely due positive impact of infill drilling
  - 97,000 gold ounces at Cracow (Coronation and Imperial)
- Decreases prior to mining depletion:
  - 109,000 gold ounces at Mungari prior to mining depletion largely due to model changes at lower areas of the Frog's Leg underground resource partially offset by increases due to resource definition drilling
  - 110,000 copper tonnes at Marsden due to variations in study costs and price assumptions since last estimated
- Removal of 848,000 gold ounces following the divestment of Edna May

The Group Mineral Resource Statement as at 31 December 2017 is provided below in Tables 1 and 3. Mineral Resources are reported inclusive of Ore Reserves and include all exploration and resource definition drilling information up to 31 December 2017 and have been depleted for mining to 31 December 2017.

**Group Gold Mineral Resource Changes  
December 2016 to December 2017**



**Group Gold Resource Net Changes Post Mining Depletion  
December 2016 to December 2017**



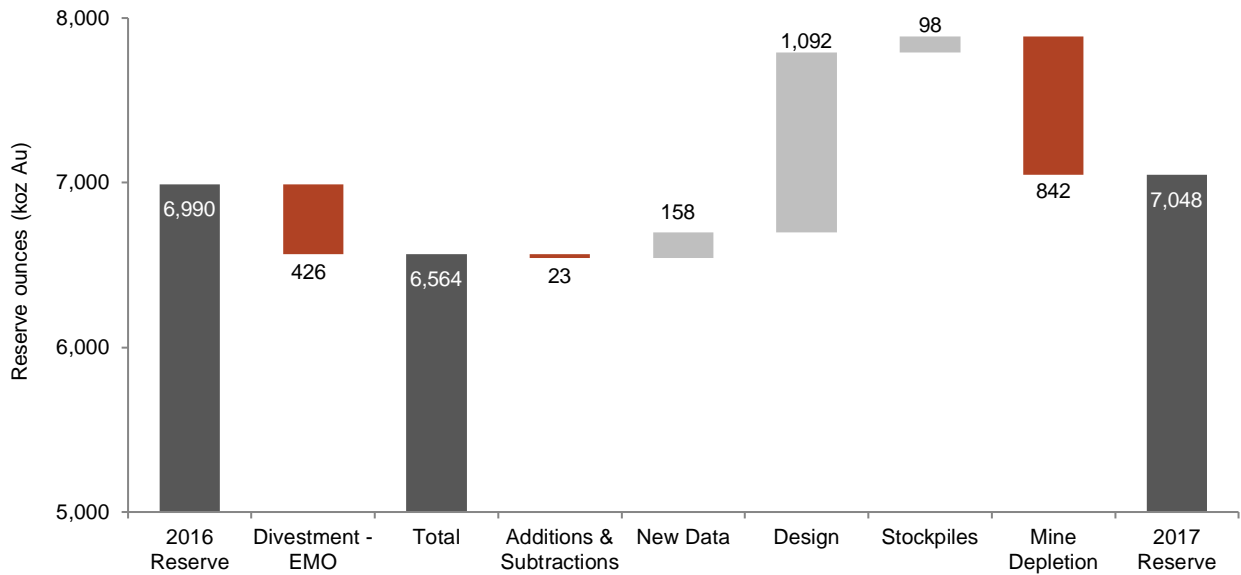
**Group Ore Reserves** as at 31 December 2017 are estimated at **7.05 million ounces of gold** and **564,000 tonnes of copper** compared with the 31 December 2016 estimate of 6.99 million ounces of gold and 212,000 tonnes of copper after accounting for mining depletion of 842,000 ounces of gold.

Changes to the Group Ore Reserves estimate include:

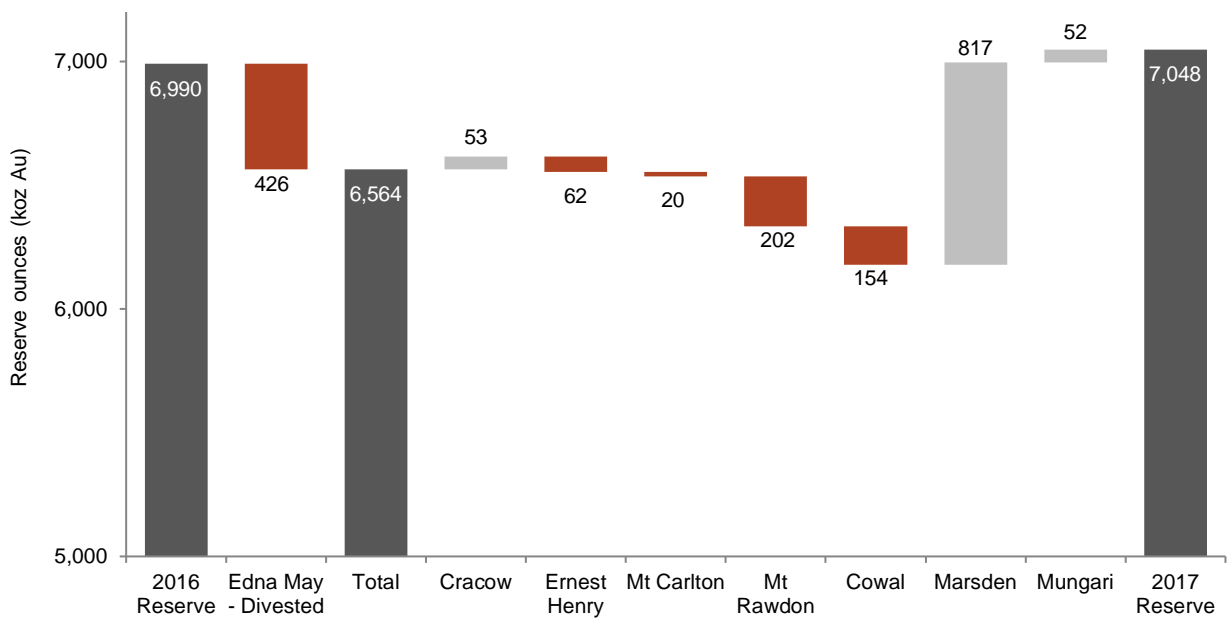
- Additions prior to mining depletion:
  - 817,000 gold ounces and 371,000 copper tonnes through the estimate of a maiden Ore Reserve at Marsden
  - 127,000 gold ounces at Mt Carlton largely due to resource definition drilling
  - 168,000 gold ounces at Mungari through resource definition drilling at Red Dam, Carbine North and Burgundy, and Evolution's 50% interest in Castle Hill Stage 1
  - 160,000 gold ounces at Cowal largely due to design changes through the anticipated improved recoveries from the Float Tail Leach Plant and some additional ounces being included in optimising the pit design for Stage H
  - 150,000 gold ounces at Cracow largely through resource definition drilling at Coronation and Imperial
- Decreases prior to mining depletion of 95,000 gold ounces at Mt Rawdon due to better understanding of geological structures and associated model changes
- Removal of 426,000 gold ounces due to the divestment of Edna May

The Group Ore Reserve Statement as at 31 December 2017 is provided in Tables 2 and 4.

**Group Gold Ore Reserve Changes  
December 2016 to December 2017**



**Group Gold Ore Reserve Changes  
December 2016 to December 2017**



## **Maiden Ore Reserve at Marsden**

The Marsden deposit is located 17km from the Cowal plant. A Pre-feasibility Study (PFS) was completed confirming an open pit Ore Reserve at Marsden of 65.2Mt at 0.39g/t Au and 0.57% Cu (1.07g/t AuEq<sup>1</sup>) for 835,000 ounces gold and 380,000 tonnes copper. The PFS involved re-logging core across key sections to re-estimate the Resource model, and assessing key considerations including capital, ore processing, pit design, scheduling, ore haulage and permitting. The project was assessed based on the conversion of and treatment through the Cowal processing plant to produce a copper concentrate.

These reserves will not be processed through the Cowal plant until the end of the current Cowal Life of Mine (currently scheduled out to 2032) and are subject to regulatory approval.

## **Waterfall Chart definitions**

### *Additions & Subtractions*

This is material that lies outside of the current Resource and Reserve base at each site but was mined during the year. It also includes Resources and Reserves that were not recovered due to misclassification errors.

### *New Data*

This occurs where change in the Resource and Reserve base is driven by a change in the either the methodology or interpretation of the resource estimate and incorporates the impact of new drilling data on the model.

### *Design change*

This occurs where a change in the input parameters used to generate the Reserve estimate are modified from the previous year and this impacts on the generation of either the A\$1,800/oz optimised shells used to constrain Resources for reporting, or the engineered pit or stope design used to constrain Reserves for reporting.

### *Stockpile*

This captures the net change to stockpiled material at each site in the twelve-month reporting period.

### *Mine depletion*

This is the Declared Ore Produced figure for each site reflecting what the mill has claimed for the year prior to processing.

## **Commodity Price Assumptions**

Commodity price assumptions used to estimate the December 2017 Mineral Resources and Ore Reserves are unchanged for gold, copper and silver to those used previously (December 2016 Mineral Resources and Ore Reserves). The A\$1,350/oz gold price assumption used to estimate Ore Reserves has been unchanged since 2012.

- Gold: A\$1,350/oz for Ore Reserves, A\$1,800/oz for Mineral Resources
- Silver: A\$20.00/oz for Ore Reserves, A\$26.00/oz for Mineral Resources
- Copper: A\$6,000/t for Ore Reserves, A\$9,000/t for Mineral Resources

## **JORC 2012 and ASX Listing Rules Requirements**

The Mineral Resources and Ore Reserves statement included with this announcement has been prepared in accordance with the 2012 Edition of the “Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves” (the JORC Code 2012) for all projects.

Group Mineral Resources and Ore Reserves summaries are tabulated on the following pages. Material Information summaries are also provided for GRE46 Underground Mineral Resource at Cowal and the Marsden Mineral resource and Ore Reserve pursuant to ASX Listing Rules 5.8 and 5.9 and the Assessment and Reporting Criteria in accordance with JORC Code 2012 requirements.

1. The gold equivalence calculation represents total metal value for each metal summed and expressed in equivalent gold grade and ounces.  
 1 Troy Ounce = 31.1034768 grams  

$$\text{AuEq for Copper} = \frac{((\text{Cu metal kt}) \times (\text{Price Cu per tonne}) \times (\text{Cu Recovery}))}{(\text{Price Au per Oz})} + \text{Au Metal koz}$$

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**About Evolution Mining**

Evolution is a leading, growth-focussed Australian gold miner. Evolution operates five wholly-owned mines – Cowal in New South Wales; Mt Carlton, Mt Rawdon, and Cracow, in Queensland; and Mungari in Western Australia. In addition, Evolution holds an economic interest in the Ernest Henry copper-gold mine that will deliver 100% of future gold and 30% of future copper and silver produced from an agreed life of mine area. Outside of this life of mine area Evolution will have a 49% interest in future copper, gold and silver production at Ernest Henry.

FY18 Group gold production guidance is 750,000 – 805,000 ounces at an AISC of A\$820 – A\$870 per ounce.

## Competent Persons Statement

The information in this statement that relates to the Mineral Resources and Ore Reserves listed in the table below is based on, and fairly represents, information and supporting documentation prepared by the Competent Person whose name appears in the same row, who is employed on a full-time basis by Evolution Mining Limited and is a member of the institute named in that row. Each person named in the table below has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the JORC Code 2012. Each person named in the table below is a member of the Australasian Institute of Mining and Metallurgy and consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

Evolution employees acting as a Competent Person may hold equity in Evolution Mining Limited and may be entitled to participate in Evolution's executive equity long-term incentive plan, details of which are included in Evolution's annual Remuneration Report. Annual replacement of depleted Ore Reserves is one of the performance measures of Evolution's long-term incentive plans.

Activity	Competent Person
Cowal Mineral Resource	James Biggam
Cowal Ore Reserve	Ryan Kare
Mungari Mineral Resource	Andrew Engelbrecht
Mungari Ore Reserve	Matt Varvari
Mt Carlton Mineral Resource	Matthew Obiri-Yeboah
Mt Carlton Open Pit Ore Reserve	Anton Kruger
Mt Carlton Underground Ore Reserve	Tully Davies
Cracow Mineral Resource	Chris Wilson
Cracow Ore Reserve	Phillip Jones
Mt Rawdon Mineral Resource	Timothy Murphy
Mt Rawdon Ore Reserve	Dimitri Tahan
Marsden Mineral Resources	Michael Andrew
Marsden Ore Reserve	Anton Kruger

Full details of the Ernest Henry Mineral Resources and Ore Reserves are provided in the report entitled "Glencore Resources and Reserves as at 31 December 2017" released February 2018 and available to view at [www.glencore.com](http://www.glencore.com). The information in this statement that relates to the Ernest Henry Mineral Resource and Ore Reserve is based on, and fairly represents, information and supporting documentation prepared by Colin Stelzer and Mark Jamieson respectively. Colin and Mark are members of the Australasian Institute of Mining and Metallurgy and are full-time employees of Glencore. The Company confirms that all material assumptions and technical parameters underpinning the estimates in Glencore's market release continue to apply and have not materially changed. Colin Stelzer and Mark Jamieson consent to the inclusion in this report of the matters based on their information in the form and context in which it appears. Ernest Henry Resource is reported on a 100% basis for gold and 30% for copper (Evolution Mining has rights to 100% of the revenue from future gold production and 30% of future copper and silver produced from an agreed life of mine area and 49% of future gold, copper and silver produced from the Ernest Henry Resource outside the agreed life of mine area). Apportioning of the resource into the specific rights does not constitute a material change to the reported figures.

## **Forward looking statements**

This report prepared by Evolution Mining Limited (or “the Company”) include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licenses and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation. Forward looking statements are based on the Company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company’s business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company’s control. Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.



**Table 1: December 2017 Group Gold Mineral Resource Statement**

Gold			Measured			Indicated			Inferred			Total Resource			CP <sup>3</sup>	Dec 16 Resource Gold Metal (koz)
Project	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)		
Cowal <sup>1</sup>	Open pit	0.4	46.64	0.70	1,049	141.99	0.91	4,173	5.27	1.50	255	193.90	0.88	5,476		
Cowal	Underground	3	-	-	-	-	-	-	5.90	3.17	603	5.90	3.17	603		
<b>Cowal<sup>1</sup></b>	<b>Total</b>	<b>0.4</b>	<b>46.64</b>	<b>0.70</b>	<b>1,049</b>	<b>141.99</b>	<b>0.91</b>	<b>4,173</b>	<b>11.17</b>	<b>2.39</b>	<b>858</b>	<b>199.80</b>	<b>0.95</b>	<b>6,079</b>	<b>1</b>	<b>5,039</b>
<b>Cracow<sup>1</sup></b>	<b>Total</b>	<b>2.8</b>	<b>0.17</b>	<b>8.52</b>	<b>46</b>	<b>1.40</b>	<b>7.13</b>	<b>321</b>	<b>1.56</b>	<b>2.87</b>	<b>144</b>	<b>3.13</b>	<b>5.08</b>	<b>511</b>	<b>2</b>	<b>522</b>
<b>Edna May</b>	<b>Divested</b>		-	-	-	-	-	-	-	-	-	-	-	-		<b>848</b>
Mt Carlton <sup>1</sup>	Open pit	0.35	0.59	3.65	69	10.36	2.38	793	0.69	4.58	101	11.64	2.57	963		923
Mt Carlton	Underground	2.4	-	-	-	0.21	11.56	78	0.05	10.38	15	0.25	11.35	93		56
<b>Mt Carlton<sup>1</sup></b>	<b>Total</b>		<b>0.59</b>	<b>3.65</b>	<b>69</b>	<b>10.57</b>	<b>2.60</b>	<b>870</b>	<b>0.73</b>	<b>4.90</b>	<b>117</b>	<b>11.89</b>	<b>2.76</b>	<b>1,056</b>	<b>4</b>	<b>979</b>
<b>Mt Rawdon<sup>1</sup></b>	<b>Total</b>	<b>0.2</b>	<b>2.89</b>	<b>0.58</b>	<b>54</b>	<b>39.79</b>	<b>0.71</b>	<b>905</b>	<b>5.77</b>	<b>0.58</b>	<b>108</b>	<b>48.44</b>	<b>0.69</b>	<b>1,067</b>	<b>5</b>	<b>1,186</b>
Mungari <sup>1</sup>	Open pit	0.5	0.18	0.94	5	37.10	1.15	1,373	11.38	1.50	548	48.66	1.23	1,927		1,968
Mungari	Underground	2.5/1.5	0.41	9.46	124	1.48	4.50	214	3.70	2.47	294	5.59	3.52	633		815
<b>Mungari<sup>1</sup></b>	<b>Total</b>		<b>0.59</b>	<b>6.84</b>	<b>130</b>	<b>38.58</b>	<b>1.28</b>	<b>1,587</b>	<b>15.08</b>	<b>1.74</b>	<b>842</b>	<b>54.26</b>	<b>1.47</b>	<b>2,560</b>	<b>3</b>	<b>2,783</b>
<b>Ernest Henry<sup>2</sup></b>	<b>Total</b>	<b>0.9</b>	<b>13.20</b>	<b>0.69</b>	<b>293</b>	<b>67.10</b>	<b>0.62</b>	<b>1,338</b>	<b>15.00</b>	<b>0.60</b>	<b>289</b>	<b>95.30</b>	<b>0.63</b>	<b>1,920</b>	<b>6</b>	<b>1,720</b>
<b>Marsden</b>	<b>Total</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>119.83</b>	<b>0.27</b>	<b>1,031</b>	<b>3.14</b>	<b>0.22</b>	<b>22</b>	<b>122.97</b>	<b>0.27</b>	<b>1,053</b>	<b>7</b>	<b>1,100</b>
<b>Total</b>			<b>64.07</b>	<b>0.80</b>	<b>1,640</b>	<b>419.27</b>	<b>0.76</b>	<b>10,226</b>	<b>52.46</b>	<b>1.41</b>	<b>2,380</b>	<b>535.79</b>	<b>0.83</b>	<b>14,245</b>		<b>14,177</b>

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding. Mineral Resources are reported inclusive of Ore Reserves.

<sup>1</sup> Includes stockpiles

<sup>2</sup> Ernest Henry Operation cut-off 0.9% CuEq

**Group Mineral Resources Competent Person<sup>3</sup> (CP) Notes refer to** 1. James Biggam; 2. Chris Wilson; 3. Andrew Engelbrecht; 4. Matthew Obiri-Yeboah; 5. Tim Murphy; 6. Colin Stelzer (Glencore); 7. Michael Andrew. Full details of the Ernest Henry Mineral Resources and Ore Reserves are provided in the report entitled "Glencore Resources and Reserves as at 31 December 2016" released February 2018 and available to view at [www.glencore.com](http://www.glencore.com). The Company confirms that it is not aware of any new information or data that materially affects the information included in the Report and that all material assumptions and parameters underpinning the estimates in the Report continue to apply and have not materially changed. Colin Stelzer consents to the inclusion in this report of the matters based on their information in the form and context in which it appears. Ernest Henry Resource is reported on a 100% basis for gold and 30% for copper (Evolution Mining has rights to 100% of the revenue from future gold production and 30% of future copper and silver produced from an agreed life of mine area and 49% of future gold, copper and silver produced from the Ernest Henry Resource outside the agreed life of mine area). Apportioning of the resource into the specific rights does not constitute a material change to the reported figures.

Table 2: December 2017 Group Gold Ore Reserve Statement

Project	Gold		Proved			Probable			Total Reserve			CP <sup>3</sup>	Dec 16 Reserves Gold Metal (koz)
	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)		
Cowal <sup>1</sup>	Open pit	0.4	46.64	0.70	1049	69.64	0.89	1,998	116.28	0.81	3,046	1	3,200
Cracow <sup>1</sup>	Underground	3.4	0.17	5.72	32	1.31	5.08	213	1.48	5.14	245	2	192
Edna May	Divested	-	-	-	-	-	-	-	-	-	-	-	426
Mt Carlton <sup>1</sup>	Open pit	0.8	0.59	3.65	69	3.63	4.96	578	4.22	4.77	647	3	691
Mt Carlton	Underground	3.7	-	-	-	0.28	7.2	65	0.28	7.22	65	6	42
<b>Mt Carlton<sup>1</sup></b>	<b>Total</b>		<b>0.59</b>	<b>3.65</b>	<b>69</b>	<b>3.91</b>	<b>5.11</b>	<b>643</b>	<b>4.50</b>	<b>4.92</b>	<b>712</b>		<b>733</b>
<b>Mt Rawdon<sup>1</sup></b>	<b>Open pit</b>	<b>0.3</b>	<b>2.89</b>	<b>0.58</b>	<b>54</b>	<b>23.56</b>	<b>0.81</b>	<b>617</b>	<b>26.44</b>	<b>0.79</b>	<b>671</b>	<b>4</b>	<b>873</b>
Mungari	Underground	2.75	0.37	5.86	70	0.71	4.70	107	1.08	5.10	177		303
Mungari <sup>1</sup>	Open pit	0.7	0.18	0.94	5	9.45	1.56	474	9.63	1.55	479		299
<b>Mungari<sup>1</sup></b>	<b>Total</b>		<b>0.55</b>	<b>4.24</b>	<b>75</b>	<b>10.16</b>	<b>1.78</b>	<b>581</b>	<b>10.71</b>	<b>1.91</b>	<b>656</b>	<b>5</b>	<b>602</b>
Ernest Henry <sup>2</sup>	Underground	0.9	10.20	0.77	253	41.20	0.49	649	51.40	0.55	902	7	964
Marsden	Open pit	0.3	-	-	-	65.17	0.39	817	65.17	0.39	817	3	0
<b>Total</b>			<b>61.03</b>	<b>0.78</b>	<b>1,530</b>	<b>214.95</b>	<b>0.8</b>	<b>5,518</b>	<b>275.99</b>	<b>0.79</b>	<b>7,048</b>		<b>6,990</b>

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding

<sup>1</sup> Includes stockpiles

<sup>2</sup> Ernest Henry Operation cut-off 0.9% CuEq

**Group Ore Reserve Competent Person<sup>3</sup> (CP) Notes refer to** 1. Ryan Kare; 2. Phillip Jones; 3. Anton Kruger; 4. Dimitri Tahan; 5. Matt Varvari; 6. Tully Davies; 7. Mark Jamieson (Glencore).

Full details of the Ernest Henry Mineral Resources and Ore Reserves are provided in the report entitled "Glencore Resources and Reserves as at 31 December 2017" released February 2018 and available to view at [www.glencore.com](http://www.glencore.com). The Company confirms that it is not aware of any new information or data that materially affects the information included in the Report and that all material assumptions and parameters underpinning the estimates in the Report continue to apply and have not materially changed. Mark Jamieson consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

**Table 3: December 2017 Group Copper Mineral Resource Statement**

Copper			Measured			Indicated			Inferred			Total Resource			CP <sup>3</sup>	Dec 16 Resources Copper Metal (kt)
Project	Type	Cut-Off	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)		
Marsden	Total	0.2	-	-	-	119.83	0.46	553	3.14	0.24	7	122.97	0.46	560	7	670
Ernest Henry <sup>2</sup>	Total	0.9	3.96	1.30	51	20.13	1.18	238	4.50	1.00	45	28.59	1.17	334	6	315
Mt Carlton <sup>1</sup>	Open pit	0.35	0.59	0.37	2	10.36	0.41	43	0.69	0.68	5	11.64	0.43	50		47
Mt Carlton	Underground	2.4	-	-	-	0.21	0.99	2	0.05	1.40	1	0.25	1.06	3		2
<b>Mt Carlton<sup>1</sup></b>	<b>Total</b>		<b>0.59</b>	<b>0.37</b>	<b>2</b>	<b>10.57</b>	<b>0.43</b>	<b>45</b>	<b>0.74</b>	<b>0.73</b>	<b>5</b>	<b>11.89</b>	<b>0.44</b>	<b>52</b>	<b>4</b>	<b>49</b>
<b>Total</b>			<b>4.55</b>	<b>1.18</b>	<b>54</b>	<b>150.53</b>	<b>0.56</b>	<b>836</b>	<b>8.38</b>	<b>0.68</b>	<b>57.0</b>	<b>163.45</b>	<b>0.58</b>	<b>946</b>		<b>1,034</b>

Group Mineral Resources Competent Person<sup>3</sup> (CP) Notes refer to 1. James Biggam; 2. Chris Wilson; 3. Andrew Engelbrecht; 4. Matthew Obiri-Yeboah; 5. Tim Murphy; 6. Colin Stelzer (Glencore); 7. Michael Andrew

**Table 4: December 2017 Group Copper Ore Reserve Statement**

Copper			Proved			Probable			Total Reserve			CP <sup>3</sup>	Dec 16 Reserves Copper Metal (kt)
Project	Type	Cut-Off	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)		
Marsden		0.3	-	-	-	65.17	0.57	371	65.17	0.57	371	3	0
Ernest Henry <sup>2</sup>	Total	0.9	3.06	1.50	46	12.36	0.96	119	15.42	1.07	165	7	182
Mt Carlton <sup>1</sup>	Open pit	0.8	0.59	0.37	2	3.63	0.70	25	4.22	0.64	27	3	29
Mt Carlton	Underground	3.7	-	-	-	0.28	0.37	1	0.28	0.36	1	6	1
<b>Mt Carlton<sup>1</sup></b>	<b>Total</b>		<b>0.59</b>	<b>0.37</b>	<b>2</b>	<b>3.91</b>	<b>0.66</b>	<b>26</b>	<b>4.50</b>	<b>0.62</b>	<b>28</b>		<b>30</b>
<b>Total</b>			<b>3.65</b>	<b>1.32</b>	<b>48</b>	<b>81.44</b>	<b>0.63</b>	<b>516</b>	<b>85.09</b>	<b>0.66</b>	<b>564</b>		<b>212</b>

Group Ore Reserve Competent Person<sup>3</sup> (CP) Notes refer to 1. Ryan Kare; 2. Phillip Jones; 3. Anton Kruger; 4. Dimitri Tahan; 5. Matt Varvari; 6. Tully Davies; 7. Mark Jamieson (Glencore).

The following notes relate to Tables 3 and 4.

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding

Mineral Resources are reported inclusive of Ore Reserves.

<sup>1</sup> Includes stockpiles

<sup>2</sup> Ernest Henry Operation cut-off 0.9% CuEq

Full details of the Ernest Henry Mineral Resources and Ore Reserves are provided in the report entitled "Glencore Resources and Reserves as at 31 December 2017" released February 2018 and available to view at [www.glencore.com](http://www.glencore.com). The Company confirms that it is not aware of any new information or data that materially affects the information included in the Report and that all material assumptions and parameters underpinning the estimates in the Report continue to apply and have not materially changed. Colin Stelzer and Mark Jamieson consent to the inclusion in this report of the matters based on their information in the form and context in which it appears. Ernest Henry Resource is reported on a 100% basis for gold and 30% for copper (Evolution Mining has rights to 100% of the revenue from future gold production and 30% of future copper and silver produced from an agreed life of mine area and 49% of future gold, copper and silver produced from the Ernest Henry Resource outside the agreed life of mine area). Apportioning of the resource into the specific rights does not constitute a material change to the reported figures.

## MATERIAL INFORMATION SUMMARY

Material Information Summaries are provided for the GRE46 Underground Mineral Resource at Cowal and the Marsden Mineral Resource and Ore Reserve pursuant to ASX Listing Rules 5.8 and 5.9 and the Assessment and Reporting Criteria in accordance with JORC Code 2012 requirements. The Assessment and Reporting Criteria in accordance with JORC Code 2012 is presented in Appendix 1.

### 1.0 COWAL

#### Cowal Mineral Resource

The December 2017 Cowal Mineral Resource estimate of 199.80Mt at 1.03g/t gold for 6,079koz gold represents an increase of 1,040koz gold compared to the December 2016 estimate of 177.65Mt at 0.88g/t gold for 5,039koz gold.

Changes to the Mineral Resource estimate for Cowal are largely due to:

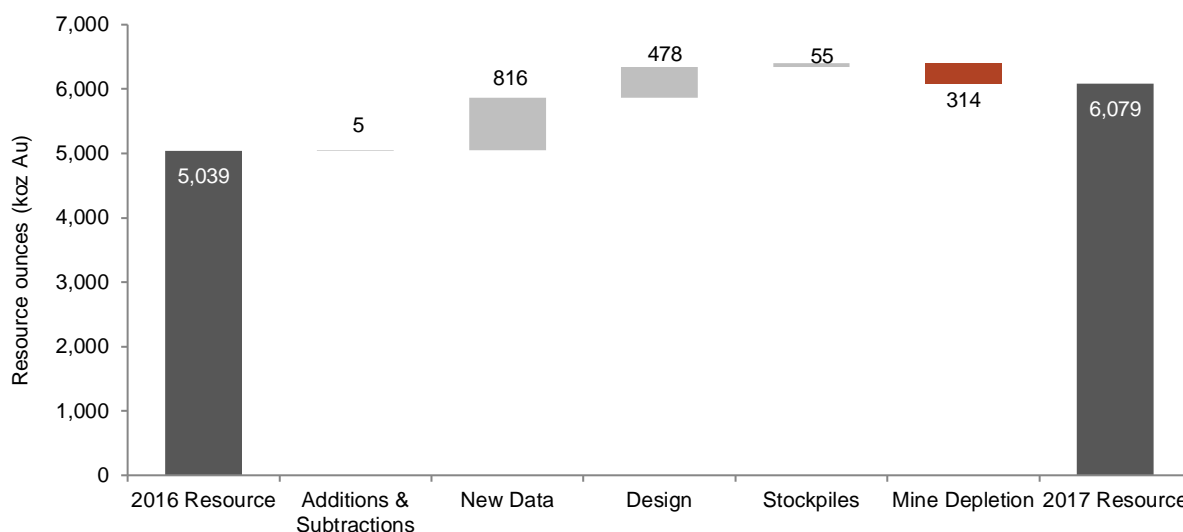
- Addition of 816koz due to resource growth largely due to drilling at GRE46 Underground (+603,000 ounces) and at E41 and GRE46 open pit (+206,000 ounces)
- Addition of 478,000 ounces through design changes at E41, E42 and E46 open pits to reflect lower mining costs and increased plant recovery (Float Tail Leach)
- Mining depletion during the period (-314koz)

#### Cowal Mineral Resource December 2017

Gold			Measured			Indicated			Inferred			Total Resource		
Project	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
Cowal <sup>1</sup>	OP	0.4	46.64	0.70	1,049	141.99	0.91	4,173	5.27	1.50	255	193.90	0.88	5,476
Cowal	UG	3.0	-	-	-	-	-	-	5.90	3.17	603	5.90	3.17	603
<b>Cowal<sup>1</sup></b>	<b>Total</b>		<b>46.64</b>	<b>0.70</b>	<b>1,049</b>	<b>141.99</b>	<b>0.91</b>	<b>4,173</b>	<b>11.17</b>	<b>2.39</b>	<b>858</b>	<b>199.80</b>	<b>0.95</b>	<b>6,079</b>

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding  
 Mineral Resources are reported inclusive of Ore Reserves. <sup>1</sup> Includes stockpiles  
 OP denotes open pit and UG denotes underground

### Cowal Mineral Resource Changes December 2016 to December 2017



## 1.1 GRE46 Underground Mineral Resource (Cowal)

### 1.1.1 Material Assumptions for Mineral Resources

The Cowal open pit Mineral Resource estimate is defined within an optimised pit shell using an A\$1,800/oz gold price assumption and based on the same detailed geotechnical design parameters, practical mining considerations and mining depletion at 31 December 2017 as the Cowal Ore Reserve. The Mineral Resource estimate also draws on the experience gained since mining commenced in April 2005 at Cowal.

The GRE46 underground Mineral Resource estimate is defined by an underground mining shape optimiser using an A\$1800/oz gold price assumption. The mining method is assumed to be a selective narrow vein style; design parameters and practical mining considerations have been applied accordingly. It is assumed that metallurgical recovery will be similar to the E42 ore body.

### 1.1.2 Geology and Geological Interpretation

The mineralisation at the Cowal Mine comprises four deposits: GRE46, E41, E42 and E46

The GRE46 deposit is subdivided into the open pit and underground resources. The GRE46 zone trends north-south, dips vertical to -70° west, and extends approximately 1500m along strike, 175m across strike and up to 800m down dip. Individual lenses in the GRE46 mineralised zone are 1.0m to 15m wide, 25m to 250m long, and extend 50m to 200m down dip. Lenses consist of narrow high-grade quartz carbonate, pyrite and base metal veins controlled within a structural north-south corridor, occasional zones of grade enrichment occur in dilatant structures within the deposit known as Quartz Sulphide Breccias. Host lithology varies from poorly mineralised massive intrusive diorites and fine volcanoclastic sediments through to the preferential host of trachyandesite lavas to the north and lenses of coarse to conglomeritic volcanoclastic sediments to the south.

The E41 West mineralisation strikes north-northeast and dips -70° east, and measures 750m along strike and 250 m across strike. Individual mineralised zones are 35 m to 50m wide and extend down dip for 125m. The E41 East mineralisation strikes east-west and dips -35° to -80° south, and measures 475m along strike and 500 m across strike. Individual mineralised zones are 35m to 50m wide and extend down dip for 225m.

The E42 deposit dips  $-35^{\circ}$  to  $-45^{\circ}$  to the south west with an approximate extent of 850m by 850m and extends 500m down dip. Mineralisation is contained within small discontinuous veins contained within larger mineralised envelopes approximately 50m wide.

The E46 deposit mineralisation trends north-northeast, dips  $-40^{\circ}$  west to flat-lying, and measures approximately 650m along strike and 17m across strike. Individual zones are approximately 50m wide and extend 200m down dip.

Confidence in the geological interpretation is good. The interpretation is based on drilling that ranges from a 25m by 25m spacing to 50m by 50m spacing. The interpretation also incorporates data gathered from the mapping of exposures created by open cut mining which has been in operation continuously since 2005. The mapping has assisted in understanding the controls on mineralisation to improve the confidence in the geological interpretation. All available data from drilling and mapping is used in the geological interpretation. Petrological, litho-geochemical and structural studies have also been undertaken and have been used to develop the geological interpretation.

The use of pit mapping and other production data such as grade control drill data has helped resolve local controls on mineralisation at E42 as such the current interpretations have applied this knowledge to surrounding deposits and is relatively robust. An iterative process has been adopted with respect to the geological interpretation to ensure that it reflects the current understanding of the geology and controls on mineralisation.

The factors that affect the continuity of grade and geology at the Cowal deposits are structure, lithology competency contrasts and alteration, in order of magnitude. Areas of higher grade are those where there is a greater frequency of structures intersecting a preferential host lithology sequence, such as the north of the GRE46 deposit where trachyandesite lavas and coarse volcanoclastic sediments which abut a competent diorite are cut by mineralising structures parallel to lithology boundaries. These factors have been addressed in the interpretation and domaining of the resource and the estimation process.

### *1.1.3 Sampling and Sub-sampling*

Diamond core is cut with a diamond saw or chisel. Core is cut to preserve the bottom of hole orientation mark and the top half of core is always sent for analysis to ensure no bias is introduced. During the 2016 Stage H drilling program a majority of the NQ daughter holes were whole core sampled to expedite sample processing and assay turnaround.

RC/AC Samples have been split using either a riffle splitter from a bulk sample collected at the rig or a rotary cone splitter attached to the cyclone. For most holes, chip samples were collected dry, but several areas have been affected by groundwater.

### *1.1.4 Sample Analysis Methods*

Early in the North Ltd program, samples were crushed to 95% minus 6mm and a sub-sample then pulverised to 95% minus  $75\mu\text{m}$ . Mid-way in the North Ltd program, specifications were modified to crushing to 95% minus 10mm to 15mm followed by pulverising to 85% minus  $75\mu\text{m}$ . Analysis of all the North Ltd samples was done at Australian Laboratory Services and Australian Assay Labs, Orange, NSW. Both independent facilities used fire assay of a 50g sample with an atomic absorption (AA) finish.

More recent sample preparation was conducted by SGS West Wyalong and consisted of:

Drying in the oven at  $105^{\circ}\text{C}$ ; crushing in a jaw crusher; fine crushing in a Boyd crusher to 2 – 3mm; rotary splitting a 3kg assay sub-sample if the sample is too large for the LM5 mill; pulverising in the LM5 mill to nominal; 90% passing  $75\mu\text{m}$ ; and a 50g fire assay charge was taken with an atomic absorption (AA) finish. The detection limit was 0.01g/t Au.

### *1.1.5 Drilling Techniques*

Most of the drilling used to generate the Mineral Resources at Cowal is diamond core for the primary portion of the deposit. RC and AC drilling was predominantly utilised to delineate the oxide areas.

Drill holes were drilled on a nominal even spaced grid pattern to avoid clustering and collar and down hole surveys were utilised to accurately record final locations. Industry standard sampling, assaying and Quality Assurance/Quality Control (QA/QC) practices were applied to all forms of drilling.

A majority of the resource definition holes are drilled with an HQ3 collar through the oxide and completed through the primary zone to target using NQ2 core. Due to the depth of holes into the north of the GRE46 deposit (650m Average) controlled diamond drilling with occasional directional diamond holes were utilised, this drilling consisted of a fence of NQ sized holes with a nominal 50x50m Spacing for deeper portions and 25x25 for the upper Open Pit resources.

Reverse Circulation and Air Core drilling was also used to delineate oxide areas of the resource utilising 4.5 - 5.5 inch face drill hammer. RC drilling was completed to base of oxide with some holes hosting diamond tails. Air Core drilling was conducted to refusal.

Core has been oriented using a variety of techniques in line with standard industry practice.

#### *1.1.6 Estimation Methodology*

GRE46 open pit model remained unchanged with a separate GRE46UG Model developed for underground resource optimisation.

A review was undertaken to define domains with similar features such as style of mineralisation, structure, lithology or grade characteristics. The resource estimation process has underlying assumptions that each domain shares similar characteristics.

Two main styles of mineralisation for domaining purposes are thought to be present in GRE46, one is broad supergene zones which overlay the deposit, the second consists moderately south to south east dipping primary mineralisation.

Interpretation of mineralised domains were based solely on gold grade and modelled using the vein function in Leapfrog Geo Software. High grade gold domain utilised a cut-off for interpretation of 0.8g/t, intercepts were interpreted from a top down approach with domains initially established from assay above 5g/t over 57-100m strike.

Top cutting of assay data is considered appropriate where outliers exist outside the lognormal distribution. These values have the potential to unduly bias grade estimates.

A review was completed to establish the optimum search parameters for the kriging process. Search distances and kriging weights were examined for the effect on kriging variance, slope of regression and negative kriging weights.

Individual domains were reviewed in terms of grade distribution using frequency histograms.

1m composites were formed for use in grade estimation for the GRE46UG model. The decision to use 1m composites for underground was based on a combination of the narrow nature of the veins and the interpreted ore domain widths. Surpac software was used to composite data.

The estimation process used relatively large search distances and sample numbers due to the high nugget values. This resulted in a relatively smoothed grade estimate due to less predictable grade distributions. A discretisation of 5 x 5 x 5 in the plane x, y, z was used with a minimum sample number of 4 and maximum of 32 for the estimate. The smoothing effect is constrained through the creation of appropriate ore domains based on grade and known trends from logging and applied mapping data from nearby deposits to ensure the smoothing effect is limited to only those zones that have a high confidence of being ore. Search ellipsoids are based on the modelled semi-variogram ranges for each domain.

Parent block size for the GRE46UG model was selected at 12.5m x 5m x 10m. Ordinary kriging was completed on all domains and block grades were compared with composite of cut data to ensure kriging grades were represented in block grades. Swath plots were used to compare the modelled gold distributions in relation to composites as well as visual validation on 25m sections.

An update of the E42 Open pit model was also conducted, historic modelling of E42 using the 2016 Model consistently over-estimated high-grade tonnes across the deposit with an under-estimation of grade for an overall slight overcall of ounces. To address this issue an analysis of the top cutting, composite lengths, block size, domaining and estimation techniques was conducted. As a result, the 2017 model update used new top cuts, adjusted estimation domains and decreased composite length from 9m to 3m for all the E42 domains. This resulted in a more accurate estimation of the grade and closer reconciliation of the ounces for E42. No material changes were made to the E41, E46 which were rerun using existing parameters.



Top cutting of assay data is considered appropriate where outliers exist outside the lognormal distribution. These values have the potential to unduly bias grade estimates.

Individual domains were reviewed in terms of grade distribution using frequency histograms.

3m composites were formed for use in grade estimation for open pit. The decision to use 3m composites for open pit was based on a combination of mine reconciliation data, previous modelling reconciliation and a mining bench height of 3m. Surpac software was used to composite data.

A review was completed to establish the optimum search parameters for the kriging process. Search distances and kriging weights were examined for the effect on kriging variance, slope of regression and negative kriging weights.

The estimation process used relatively large search distances and sample numbers due to the high nugget values. This resulted in a relatively smoothed grade estimate due to less predictable grade distributions. A discretisation of 5 x 5 x 3 in the plane x, y, z was used with a minimum sample number of 6 and maximum of 32 for the estimate. The smoothing effect is constrained through the creation of appropriate waste domains based on grade indicator models and known trends from grade control to ensure the smoothing effect is limited to only those zones that have a high confidence of being ore. Search ellipsoids are based on the modelled semi-variogram ranges for each domain.

Parent block size for the open pit model was selected at 15m x 15m x 9m. Ordinary kriging was completed on all domains and block grades were compared with composite of cut data to ensure kriging grades were represented in block grades. Swath plots were used to compare the modelled gold distributions in relation to composites as well as visual validation on 25m sections.

No assumption of mining selectivity has been incorporated in the estimate.

#### *1.1.7 Resource Classification*

The Mineral Resource classification is based on good confidence of the geological and grade continuity, 25m by 25m spaced drill hole density in the bulk of the resource and up to 50m by 50m spaced data in the peripheral parts of the resource. Ten years of continuous mining operations and the iterative use of 10 m by 10 m spaced grade control and production data have been used to refine the Mineral Resource estimate. Reconciliation of the Mineral Resource against production data supports the classification that has been applied to the Mineral Resource.

The Mineral Resource estimate appropriately reflects the view of the Competent Person and is assigned in accordance with the JORC 2012 guideline.

#### *1.1.8 Cut-off Grade*

Mineral Resources for open pit are reported using a cut-off grade of 0.4g/t Au this reflects the cost and price assumptions derived from operational performance. GRE46UG Mineral resources used a 3g/t Au cut-off grade which reflects the increased costs and price assumptions from an underground operational performance.

#### *1.1.9 Mining and Metallurgical Methods and parameters and other modifying factors considered to date*

Mining factors are based on the current operation at Cowal, which has been operating continuously since 2005. The mining factors applied reflect the current open cut operation.

The Mineral Resource spatial constraining shells for the open pits are based on the cost structure of the owner mining rates at E42 Open Pit. The GRE46 Underground has been assumed to be mined by selective narrow vein techniques. The model has been developed that is fit for purpose considering this mining method.

Metallurgical assumptions are based on the performance of the Cowal processing plant which has been in continuous operation since 2006. All ore to date has been sourced from the E42 open pit. Oxide ore is stockpiled for later treatment. Sulphide ore is processed by crushing, two stage grinding, sulphide flotation, regrind, and CIL recovery. The plant currently processes 7.5Mtpa.

Although the new resources are located within the existing mining lease, any proposed mining extraction and processing will be subject to permitting and the completion of an Environmental Impact Study.



## 2.0 MARSDEN

### Mineral Resource

Marsden is a copper-gold porphyry deposit located 17km to the south-east of Evolution's Cowal gold mine in New South Wales.

The December 2017 Marsden Mineral Resource estimate of 122.97Mt at 0.27g/t gold and 0.46% copper for 1,053koz gold and 560kt copper which represents a decrease of 47koz gold and decrease of 110kt copper post mining depletion compared to the December 2016 estimate of 180Mt at 0.20g/t gold and 0.38% copper for 1,100koz gold and 670kt copper.

Based on prices of A\$1,800/oz and A\$9,000/t for gold and copper respectively and using recoveries of 71% and 88% for gold and copper respectively Marsden can be considered in terms of gold equivalent as 122.97Mt at 0.88g/t gold equivalent for 3.49Moz gold equivalent.

Changes to the Mineral Resource estimate for Marsden are largely due to:

- 47koz decrease in gold due to variations in study costs and price assumptions since last estimated
- 110kt decrease in copper due to variations in study costs and price assumptions since last estimated

#### Marsden Gold Mineral Resource December 2017

Gold			Measured			Indicated			Inferred			Total Resource		
Project	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
<b>Marsden</b>	<b>Total</b>	0.2	-	-	-	<b>119.83</b>	<b>0.27</b>	<b>1,031</b>	<b>3.14</b>	<b>0.22</b>	<b>22</b>	<b>122.97</b>	<b>0.27</b>	<b>1,053</b>

#### Marsden Copper Mineral Resource December 2017

Copper			Measured			Indicated			Inferred			Total Resource		
Project	Type	Cut-Off	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)
<b>Marsden</b>	<b>Total</b>	0.2	-	-	-	<b>119.83</b>	<b>0.46</b>	<b>553</b>	<b>3.14</b>	<b>0.24</b>	<b>7</b>	<b>122.97</b>	<b>0.46</b>	<b>560</b>

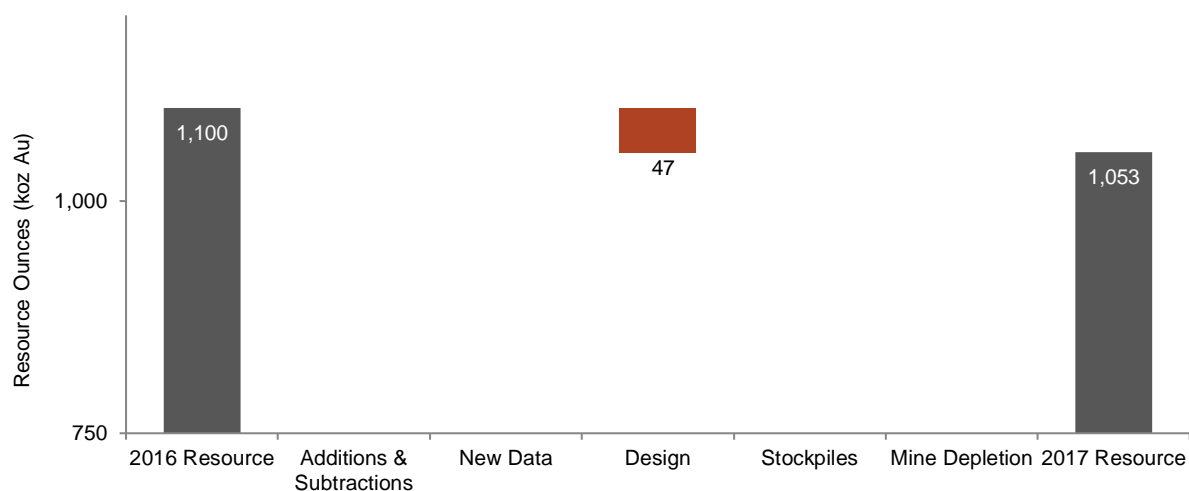
Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding. Mineral Resources are reported inclusive of Ore Reserves.

The gold equivalence calculation represents total metal value for each metal summed and expressed in equivalent gold grade and ounces.

1 Troy Ounce = 31.1034768 grams

Au Eq for Copper = (((Cu metal kt) x (Price Cu per tonne) x (Cu Recovery)) / (Price Au per Oz)) + Au Metal koz

### Marsden Mineral Resource Changes December 2016 to December 2017



#### Ore Reserve

The December 2017 Marsden Ore Reserve estimate of 65.17Mt at 0.39g/t gold for 817koz and 65.17Mt at 0.57% copper for 371kt represents a maiden ore reserve estimate for Marsden.

Based on prices of A\$1,350/oz and A\$6,000/t for gold and copper respectively and using recoveries of 71% and 88% for gold and copper respectively, Marsden can be considered in terms of gold equivalent as 65.17Mt at 1.07g/t gold equivalent for 2.25Moz gold equivalent.

The Ore Reserve is based on a Pre-feasibility Study completed during 2017.

#### Marsden Gold Ore Reserve December 2017

Gold			Proved			Probable			Total Reserve		
Project	Type	Cut-off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
Marsden	Open pit	0.3	-	-	-	65.17	0.39	817	65.17	0.39	817

#### Marsden Copper Ore Reserve December 2017

Gold			Proved			Probable			Total Reserve		
Project	Type	Cut-off	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)	Tonnes (Mt)	Copper Grade (%)	Copper Metal (kt)
Marsden	Open pit	0.3	-	-	-	65.17	0.57	371	65.17	0.57	371

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding

Ore Reserves are reported above a 0.40g/t gold cut-off

The gold equivalence calculation represents total metal value for each metal summed and expressed in equivalent gold grade and ounces.

1 Troy Ounce = 31.1034768 grams

Au Eq for Copper = (((Cu metal kt) x (Price Cu per tonne) x (Cu Recovery)) / (Price Au per Oz)) + Au Metal koz

## 2.1 Marsden Mineral Resource

### 2.1.1 Geology and Geological Interpretation

The Marsden deposit is covered by approximately 100m of grey transported clay and silty clay. Basement lithologies include: Diorite, Granodiorite and Monzonitic (Monzonite to Monzodiorite) intrusions. These lithologies are cross-cut by an east-west striking post-mineralisation mafic dyke (PMD). The entire Ordovician sequence has been truncated by a west-dipping listric fault, the Marsden Thrust. Petrological investigations have identified two intrusive suites: 1) quartz rich, mod-low potassic diorite to granodiorite suite, and 2) a quartz-poor, high potassic monzodiorite to aplite suite. Within the high quartz suite, quartz is almost ubiquitous.

In the footwall of the Marsden Thrust a thick package of poorly bedded, red coloured, fine siltstone/sandstone is interpreted to belong to the Devonian aged Hervey Group.

The mineralisation of the Marsden Mineral Resource is porphyry-style hosting gold, copper and molybdenum beneath approximately 110m of younger mineralised sediments. Mineralisation consists of quartz + calcite + chalcopyrite veining with accessory magnetite, bomite and molybdenite. There is generally close correspondence between the abundance of quartz veins and copper and gold grades. The most strongly developed veining and alteration, and the highest copper and gold grades, occur within the diorite.

### 2.1.2 Sampling and Sub-Sampling

Drill core was halved with a diamond saw. The core was cut along the long axis, adjacent to the orientation line, where present. The half of the core with the orientation line was placed back in the trays. The half core was saw cut to metre marks and sampled on 1m intervals up to hole ACDMN056, and on 2m intervals thereafter. The decision to sample on 2m intervals reflected the acknowledgement of probable bulk mining nature of the mineralisation. Aircore samples were collected via 'spearing' from the bulk one metre samples. Three spear passes were made: one through the centre of the bulk sample bag, and one angled to each side.

Sample preparation for analysis is as follows: Samples are dried in an oven for several hours. Samples are crushed to 2mm nominal diameter and split to 67%-33% with a rotary splitter. Each 3kg sample is pulverised using a LMS pulverising mill to specified grind parameters of 90% passing 75µm. A 250-300g sub-sample is collected for analysis. Pulp replicates and crushed coarse reject duplicates are routinely undertaken.

The sample size is considered appropriate for assessment of bulk tonnage mineral deposits of this type.

### 2.1.3 Sample Analysis Methods

Samples are routinely assayed for copper, gold and sulphur. Copper analysis was by ICP techniques. Gold analysis is by fire assay with 50g charge and Atomic Absorption Spectroscopy (AAS) finish and detection limit of 0.01ppm (g/t).

### 2.1.4 Drilling Techniques

Drilling is the primary source of data for Mineral Resource estimation at Marsden. Data is obtained from diamond coring. Holes comprise aircore or rotary precollars through the Marsden Thrust followed by diamond tails (NQ3) to end of hole.

Drill holes were drilled on a nominal even spaced grid pattern to avoid clustering and collar and down hole surveys were utilised to accurately record final locations. Industry standard sampling, assaying and Quality Assurance/Quality Control (QA/QC) practices were applied to all forms of drilling.

### 2.1.5 Estimation Methodology

The Mineral Resource model for the Marsden deposit has been created using methods consistent with current industry established practices. All modelling and estimation are completed in commercially available software supplemented with specialised algorithms coded within the package as required.

The Marsden Resource estimate contains estimates for gold, copper, molybdenum and sulphur. Copper and gold are the primary economic metal with estimates of minor elements required to assist with overall economic evaluation.

The Marsden Resource was estimated using data obtained from 148 drill holes including: 107 diamond holes with mud rotary/aircore pre-collars (total 32,917m) and 41 AC only drill holes. For gold, copper, molybdenum

and sulphur a composite length of 2m was used. Nine major geological domains were interpreted for the Marsden Resource. The estimation domains used to create the model are based on the interpreted geological domains. Categorical indicators were used within the diorite domain to help constrain the higher copper and gold part of the resource. The estimation for each element was undertaken using ordinary kriging.

Grade caps were applied as required by domain to the estimated elements.

Grade was estimated into a domain flagged, 3D block model. Grade interpolation was performed using Ordinary Block Kriging into 25m x 25m x 15m parent cells with sub celling down to 5 x 5 x 3m. A 25m parent cell was chosen as this approximately equates to half the drill spacing within the well drilled area. Sub-celling was chosen to honour geological and thus estimation boundaries. Densities are directly assigned by domain (based on rock type). No densities are interpolated. Estimation parameters were derived from spatial analysis of the estimated elements on domain by domain basis.

Validation of the resource against the input data comprised statistical comparisons of the block data against the input data, visual inspection of the estimate against the informing data and swath plots were used to check that the data trends of the informing data were replicated in the Mineral Resource estimate.

No assumption of mining selectivity has been incorporated in the estimate.

#### *2.1.6 Resource Classification*

The Mineral Resource classification is based on demonstrated geological and grade continuity, style of mineralisation, data quality, QA/QC, mining selectivity and confidence in the grade estimation.

The diorite domain has been classified in the indicated category and is the only domain to carry this classification. The remainder of the resource has been classified as Inferred.

The Mineral Resource estimate appropriately reflects the view of the Competent Person and is assigned in accordance with the JORC 2012 guideline.

#### *2.1.7 Cut-off Grade*

The Mineral Resources are based on an NSR value calculation that determines a block margin for every block in the resource model. All blocks with a margin larger than zero (0) have been included in the estimate. The NSR considers the cost of processing ore (including site general and administration costs), additional incremental ore mining costs, metallurgical recoveries, royalties, concentrate transport and shipping, refining, marketing and selling costs into account. The NSR produces a value cut-off (by block) that is approximately equivalent to a 0.2g/t gold cut-off.

#### *2.1.8 Mining and Metallurgical methods, parameters and other modifying factors considered to date*

See sections 2.2.3 and 2.2.4 below.

## **2.2 Marsden Ore Reserves**

### *2.2.1 Material Assumptions for Ore Reserves*

The Marsden open pit Ore Reserve estimate is based on a pre-feasibility study that was completed during 2017 – 2018. The study includes mining, geotechnical, hydrology and ore processing studies. Final pit designs have been developed from pit optimisations with practical pit designs incorporated. The updated Ore Reserve cost base assumptions are based on first principles and extensions of previous studies and for comparable items, validated on demonstrated performance (Cowan) and vary in line with changing activity levels at the site over the life of operation. The open pit Ore Reserves are defined using a NSR (net smelter return) approach.

These reserves will not be processed through the Cowal plant until the end of the current Cowal Life of Mine (currently scheduled out to 2032) and are awaiting planning approval.

### *2.2.2 Ore Reserve Classification*

The in-situ Ore Reserves are currently derived from Indicated Resources. No Proved Reserves are reported.

### *2.2.3 Mining Method*

The Intended mining method at Marsden is an automated scraper, truck and shovel, with standard waste rock dumps, ore stockpiling and eventual reclaim of lower grade ore. This fleet will be utilised for bulk mining ore material and waste from a 10m design bench height. Ore dilution is accounted for in the resource modelling process and no additional mining dilution factors are applied. An ore recovery loss of 5% have been applied in the pit optimisation process. Comparable copper gold porphyry deposits demonstrate the appropriateness of this mining method as the basis of the Ore Reserve estimate.

#### *2.2.4 Processing method*

The Ore Reserve estimate is based on the conversion of the Cowal ore processing plant to recover copper from the Marsden deposit. Ore processing studies identified a modified plant layout, processing ore at a rate of 7.2Mtpa. A detailed ore processing study as well as Cowal operating experience supports the metallurgical parameters used in the Ore Reserve estimation.

#### *2.2.5 Cut-off Grade*

An NSR (net smelter return) algorithm has been developed as the basis for estimating the cut-off value for the Ore Reserve. The NSR considers the cost of processing ore (including site general and administration costs), additional metallurgical recoveries, royalties, concentrate transport and shipping, refining, marketing and selling costs into account. The NSR produces a value cut-off (by block) that is approximately equivalent to a 0.3g/t gold cut-off.

#### *2.2.6 Estimation Methodology*

See section 2.1.5 above.

#### *2.2.7 Material Modifying Factors*

The Marsden Ore Reserve is underpinned by a pre-feasibility study as well as over ten years of continuous operating (mining since April 2005 and processing since April 2006) experience at Cowal. Inputs for the Ore Reserve estimate are generally based on first principles, extensions of previous studies and substantiated through additional technical studies to derive these inputs. The pre-feasibility study has also been externally peer reviewed by independent expert mining, geotechnical, metallurgical and geological consultants. For this reason, the analysis is considered to be at an appropriate level of confidence and rigour to include as an Ore Reserve estimate.

Mining and ore processing operations at Marsden will be conducted pursuant to a granted mining lease, exploration licences, general purpose leases and miscellaneous licences and associated environmental and other approvals.

## APPENDIX 1: JORC CODE 2012 ASSESMENT AND REPORTING CRITERIA

The following information is provided in accordance with Table 1 of Appendix 5A of the JORC Code 2012 - Section 1 (Sampling Techniques and Data), Section 2 (Reporting of Exploration Results), Section 3 (Estimation and Reporting of Mineral Resources) and Section 4 (Estimation and Reporting of Ore Reserves).

### GRE46 Underground at Cowal

#### JORC Code 2012 Edition – Table 1

##### Section 1 Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	<p>Most of the drilling used to generate the Mineral Resource at Cowal is diamond core for the primary portion of the deposit. Reverse Circulation and Air Core drilling was predominantly utilised to delineate the oxide areas.</p> <p>Drill holes were drilled on a nominal even spaced grid pattern to avoid clustering and collar and down hole surveys were utilised to accurately record final locations. Industry standard sampling, assaying and QA/QC practices were applied to all forms of drilling.</p> <p>Drill core was halved with a diamond saw in 1m intervals, irrespective of geological contacts. Oxide material that was too soft and friable to be cut with a diamond saw was split with a chisel. Core was cut to preserve the bottom of hole orientation mark and the top half of core sent for analysis to ensure no bias is introduced. Early RC/AC samples were collected as a bulk sample in 1m intervals from the drill rig and riffle-split to generate a sub-sample for the analytical lab. More recently RC/AC samples are taken using a rotary cone splitter at 1m intervals.</p> <p>Early in the North program, samples were crushed to 95% minus 6mm and a sub-sample then pulverised to 95% minus 75µm. Mid-way in the North program, specifications were modified to crushing to 95% minus 10mm to 15mm followed by pulverising to 85% minus 75µm. Analysis of all the North samples was done at Australian Laboratory Services and Australian Assay Labs, Orange, NSW. Both independent facilities used fire assay of a 50g sample with an atomic absorption (AA) finish. More recent sample preparation was conducted by SGS West Wyalong and consisted of:</p> <p>Drying in the oven at 105°C; crushing in a jaw crusher; fine crushing in a Boyd crusher to 2-3mm; rotary splitting a 3kg assay sub-sample if the sample is too large for the LM5 mill; pulverising in the LM5 mill to nominal; 90% passing 75µm; and a 50g fire assay charge was taken with an atomic absorption (AA) finish. The detection limit was 0.01 g/t Au.</p>
<i>Drilling techniques</i>	<p>A majority of the resource definition holes are drilled with an HQ3 collar through the oxide and completed through the primary zone to target using NQ2. Due to the depth of holes into the north of the GRE46 deposit (650m Average) controlled diamond drilling with occasional directional diamond holes were utilised, this drilling consisted of a fence of NQ sized holes with a nominal 50x50m spacing for deeper portions and 25x25 for the upper Open Pit resources.</p> <p>Reverse Circulation and Air Core drilling was also used to delineate oxide areas of the resource utilising 4.5 - 5.5 inch bits. RC drilling was completed to base of oxide with some holes hosting diamond tails. Air Core drilling was conducted to refusal. Additional RC drilling was completed from within the existing Stage G pit during 2016.</p> <p>Core has been oriented using a variety of techniques in line with standard industry practice.</p> <p>Provisions are made in the drilling contract to ensure that hole deviation is minimised and core/chip sample recovery is maximised. This is monitored by a geologist on a hole by hole basis. Core recovery is recorded in the database. There are no significant core loss or sample recovery issues. Core is reoriented and marked up at 1m intervals. Measurements of recovered core are made and reconciled to the driller's depth blocks, and if necessary, to the driller's rod counts.</p> <p>There is no apparent relationship between core-loss and grade.</p>
<i>Drill sample recovery</i>	<p>Provisions are made in the drilling contract to ensure that hole deviation is minimised and core/chip sample recovery is maximised. This is monitored by a geologist on a hole by hole basis. Core recovery is recorded in the database. There are no significant core loss or sample recovery issues.</p>



Criteria	Commentary
<i>Logging</i>	<p>Core is reoriented and marked up at 1m intervals. Measurements of recovered core are made and reconciled to the driller's depth blocks, and if necessary, to the driller's rod counts.</p> <p>There is no apparent relationship between core-loss and grade.</p> <p>All core intervals and RC/AC chips are logged.</p> <p>Historically RC chips were logged in the field onto a printed template and uploaded to the database in the office. Current practice is for RC chips to be inspected at the rig while drilling, with detailed logging taking place in the office via LogChief software which is validated and uploaded directly into the Datashed database. Chips are logged for rock-type, alteration, mineralisation and veining as well as point data for base of transported and base of oxide/top of primary rock.</p> <p>Geologists log core for lithology, alteration, structure, and veining. Logging was done directly onto laptop computers using a software package called Logchief.</p> <p>The Cowal logging system allows recording of both a primary and a secondary lithology and alteration. Geologists also record the colour, texture, grain size, sorting, rounding, fabric, and fabric intensity characterising each lithological interval.</p> <p>The logged structures include faults, shears, breccias, major veins, lithological contacts, and intrusive contacts. Structures are also recorded as point data to accommodate orientation measurements.</p> <p>Structural measurements are obtained using alpha and beta measurements then converted using the downhole survey measurements to obtain the dip and dip direction</p> <p>Geologists log vein data including vein frequency, vein percentage of interval, vein type, composition, sulphide percentage per metre, visible gold, sulphide type, and comments relative to each metre logged.</p> <p>Geotechnical logging is done by field technicians and geologists. Logging is on a per metre basis and includes percentage core recovery, percentage RQD, fracture count, and an estimate of hardness. The geotechnical data is entered into the database.</p> <p>All drill core, once logged, is digitally photographed on a core tray-by-tray basis. The digital image captures all metre marks, the orientation line (BOH) and geologist's lithology, alteration, mineralogy, and other pertinent demarcations. The geologists highlight geologically significant features such that they can be clearly referenced in the digital images.</p>
<i>Sub-sampling techniques and sample preparation</i>	<p>Diamond Core is cut with a diamond saw or chisel. Core is cut to preserve the bottom of hole orientation mark and the top half of core is always sent for analysis to ensure no bias is introduced. During the Stage H drilling program, a majority of the NQ daughter holes were whole core sampled to expedite sample processing and assay turnaround.</p> <p>RC/AC Samples have been split using either a riffle splitter from a bulk sample collected at the rig or a rotary cone splitter attached to the cyclone. For most holes, chip samples were collected dry, but several areas have been affected by groundwater.</p> <p>In 2003 Analytical Solutions Ltd conducted a Review of Sample Preparation, Assay and Quality Control Procedures for Cowal Gold Project. This study, combined with respective operating company policy and standards (North Ltd, Homestake, Barrick and Evolution) formed the framework for the sampling, assaying and QAQC protocols used at Cowal to ensure appropriate and representative sampling.</p> <p>Field duplicates are taken at regular intervals on RC/AC holes.</p> <p>Results per interval are reviewed for half core samples and if unexpected or anomalous assays are returned an additional quarter core may be submitted for assay.</p>
<i>Quality of assay data and laboratory tests</i>	<p>SGS West Wyalong acts as the Primary Laboratory and ALS Orange conducts independent Umpire checks. Both labs operate to international standards and procedures and take part in the Geostatistical Round Robin inter-laboratory test survey. The Cowal QA/QC program comprises blanks, Certified Reference Material (CRM), inter-laboratory duplicate checks, and grind checks. Typical protocols for QAQC checks are summarised below, however depending on sample submission batch sizes overall rates may vary slightly:</p> <p>1 in 30 fine crush residue samples has an assay duplicate. 1 in 20 pulp residue samples has an assay duplicate.</p> <p>Wet screen grind checks are performed on 1 in 20 pulp residue samples. A blank is submitted 1 in every 38 samples, CRM's are submitted 1 in every 20 samples. The frequency of repeat assays is set at 1 in 30 samples.</p> <p>All sample numbers, including standards and duplicates, are pre-assigned by a QA/QC Administrator and given to the sampler on a sample sheet. The QA/QC Administrator monitors the assay results for non-compliance and requests action when necessary. Batches with CRM's that</p>

Criteria	Commentary
<i>Verification of sampling and assaying</i>	<p>are outside the <math>\pm 2SD</math> acceptance criteria are re-assayed until acceptable results are returned. Material used for blanks is uncertified, sourced locally, comprising fine river gravel which has been determined to be below detection limit. A single blank is submitted every 38 samples. Results are reviewed by the QA/QC Administrator upon receipt for non-compliances. Any assay value greater than 0.1g/t Au will result in a notice to the laboratory. Blank assays above 0.20g/t Au result in re-assay of the entire batch. The duplicate assays (Au<sub>2</sub>) are taken by the laboratory during the subsampling at the crushing and pulverisation stages. The results were analysed using scatter plots and relative percentage difference (RPD) plots. Repeat assays represent approx. 10% of total samples assayed. Typically, there is a large variance at the lower grades which is common for low grade gold deposits, however, the variance decreases to less than 10% for grades above 0.40g/t Au, which is the cut-off grade used at Cowal.</p> <p>Approximately 5% of the pulps, representing a range of expected grades, are submitted to an umpire assay laboratory (ALS Orange) to check for repeatability and precision. Analysis of the data shows that the Principal Laboratory is performing to an acceptable level.</p> <p>Due to the high volume of samples generated during the 2016 Stage H drilling program, additional SGS and ALS labs in Townsville, Kalgoorlie and Orange were utilised to ensure turnaround of samples was met. All these labs meet industry accepted QAQC standards which were verified by both internal and external validation as per the above. Overall analysis of the QAQC from the laboratories used for the Stage H samples has not shown any significant issues between the laboratories; no biases or increased variability was noticed.</p> <p>No dedicated twinning drilling has been conducted however verification of significant intercepts has been conducted by Grade Control drilling and mining production and reconciliation has occurred at the E42 deposit since 2005.</p> <p>Cowal uses DataShed software system to maintain the database. Digital assay results are loaded directly into the database. The software performs verification checks including checking for missing sample numbers, matching sample numbers, changes in sampling codes, inconsistent “from-to” entries, and missing fields. Results are not entered into the database until the QA/QC Administrator approves of the results. A QA/QC report is completed for each drill hole and filed with the log, assay sheet, and other appropriate data. Only the Senior Resource Geologist and Database Manager have administrator rights to the database. Others can use and sort the database but not save or delete data.</p>
<i>Location of data points</i>	<p>All recent drill hole collars are surveyed using high definition DGPS. All drill holes were surveyed using a downhole survey camera. For all hole types, the first survey reading was approximately 18 m from surface, then at 30 m intervals and, finally, at the end of each hole.</p> <p>On completion of each angled drill hole, a down hole gyroscopic (Gyro) survey is conducted. The Gyro tool was referenced to the accurate surface surveyed position of each hole collar and readings were taken at intervals to the base of each hole (“in run”) and at intervals back to surface (“out run”). The results of these two surveys were then compared and a final survey produced if there was “closure” between surveys. The Gyro results were entered into the drill hole database without conversion or smoothing.</p> <p>An aerial survey was flown during 2003 by AAM Hatch. This digital data has been combined with surveyed drill hole collar positions and other features (tracks, lake shoreline) to create a digital terrain model (DTM). The survey was last updated in late 2014.</p> <p>In 2004, Cowal implemented a new mine grid system with the assistance of AAM Hatch. The current mine grid system covers all areas within the ML and ELs at Cowal with six digits.</p>
<i>Data spacing and distribution</i>	<p>Drilling at Cowal covers all mining and exploration licences, an approximate area of 20km (north-south) by 20km (east-west), with most of the drilling focused on E41, E42, E46, and GRE46. Drilling at the E41, E46, and GRE46 deposits has an average spacing of 50 m by 50 m both along and across strike, while E42 has a nominal drill hole spacing of 25 m by 25 m, extending to 50 m by 50 m on the periphery of the deposit.</p> <p>This drill spacing is generally sufficient to generate reliable Mineral Resource and Ore Reserve estimates utilising definitions and classifications consistent with the 2012 JORC Code. All drilling is sampled at 1 m intervals irrespective of drill type; samples are then composited to 3 m for estimation.</p>
<i>Orientation of data in relation to geological structure</i>	<p>Predominant drill direction at Cowal is east-west; this is considered the best orientation to intersect the main controls on mineralisation in a normal manner. There is no apparent bias in terms of the drill orientation that has been noted to date. A number of south-north holes have been strategically drilled to confirm the existence of oblique mineralised structures to assist with geological interpretation and modelling.</p>



Criteria	Commentary
	Additional holes that were drilled for the Stage H update were orientated at 030 or North-North-East for optimal mineralisation interception in the specific target area. Diamond holes were drilled from surface in an attempt to gain more geological understanding within the weathered top 100m of this area that had previously not been drilled. The majority of historical diamond holes were drilled at 60° inclination however parent holes of the FS were collared at 55° and following wedging and navigational cuts, some daughter holes finished as low as 20° inclination at EOH due to the target depth and pit wall angles limiting access. Infill drilling was done in some areas using in-pit RC to better define mineralisation directly below the existing Stage G pit floor.
<i>Sample security</i>	Drill contractors are issued with drill instructions by an Evolution geologist. The sheet provides drill hole names, details, sample requirements, and depths for each drill hole. Drill hole sample bags are pre-numbered. The drill holes are sampled by Evolution personnel who prepare sample submission sheets. The submission sheet is then emailed to the laboratory with a unique submission number assigned. This then allows individual drill holes to be tracked. An SGS West Wyalong (SGS) representative collects the samples from site twice daily, however, if samples are being sent to other laboratories a local freight company is used to collect the samples from site and deliver them to the laboratory. Upon arrival, the laboratory sorts each crate and compares the received samples with the supplied submission sheet. The laboratory assigns a unique batch number and dispatches a reconciliation sheet for each submission via email. The reconciliation sheet is checked, and any issues addressed. The new batch name and dispatch information is entered into the tracking sheet. The laboratory processes each batch separately and tracks all samples through the laboratory utilising the LIMS system. Upon completion, the laboratory emails Standard Industry Format (SIF) files with the results for each batch to Evolution personnel. The assay batch files are checked against the tracking spreadsheet and processed. The drill plan is marked off showing completed drill holes. Any sample or QA/QC issues with the results are tracked and resolved with the laboratory.
<i>Audits or reviews</i>	QA/QC Audits of the Primary SGS West Wyalong Laboratory are carried out on an approximately quarterly basis and for the Umpire ASL Orange Laboratory approximately on a six-monthly basis. Any issues are noted and agreed remedial actions assigned and dated for completion. Numerous internal audits of the database and systems have been undertaken by site geologists and company technical groups from North Ltd, Homestake, Barrick and Evolution. External audits were conducted in 2003 by RMI and QCS Ltd. and in 2011 and 2014 review and validation was conducted by RPA. Recent audits have found no significant issues with data management systems or data quality.

## Section 2 Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<p>The Cowal Mine is located on the western side of Lake Cowal in central New South Wales, approximately 38km north of West Wyalong and 350km west of Sydney. It is situated within the Bland Creek Valley, which is a region that supports mainly dry land agriculture with irrigation farming in the Jemalong/Wyldes Plains Irrigation Districts located to the northeast of the mining lease.</p> <p><b>Land and tenure</b></p> <p>Evolution has a total property holding of approximately 11,300ha at Cowal, which has been acquired to act as a physical buffer to reduce the effects of mining and processing activities on local landowners and the general public.</p> <p>Land within Mining Lease 1535 (ML) is a mixture of freehold owned by Evolution. A travelling stock reserve (TSR), a game reserve, and three unformed Crown roads were adjusted as part of the ML grant. The TSR has been relocated around the ML and the game reserve has been relocated to the south of the ML to maintain public access to Lake Cowal. The unformed Crown roads have been closed.</p> <p>Agricultural activities on Evolution landholdings are currently undertaken by a number of the previous owners and neighbours under licence agreements.</p> <p><b>Mineral Tenure</b></p> <p>The Cowal Mine tenement incorporates five contiguous exploration licences (EL) and one ML covering 1073 km<sup>2</sup>, as summarised in Table 1-1. All leases are 100% held by Evolution. The Cowal ML 1535 encompasses approximately 2,630 ha as allowed under the New South Wales Mining Act 1992.</p>

Criteria	Commentary																								
	<p>Table 1-1 Cowal Gold Mine Land Tenure Tenement</p> <table border="1"> <thead> <tr> <th></th> <th>Area (km<sup>2</sup>)</th> <th>Expiry Date</th> </tr> </thead> <tbody> <tr> <td>EL 7750</td> <td>596</td> <td>May 27, 2022</td> </tr> <tr> <td>EL8524</td> <td>270</td> <td>March 02, 2023</td> </tr> <tr> <td>EL5524</td> <td>110</td> <td>Sept 16, 2018</td> </tr> <tr> <td>EL6593</td> <td>10</td> <td>Jul 06, 2019</td> </tr> <tr> <td>EL 1590</td> <td>61</td> <td>May 12, 2019</td> </tr> <tr> <td>ML 1535</td> <td>26</td> <td>June 12, 2032</td> </tr> <tr> <td>Total</td> <td>1,073</td> <td></td> </tr> </tbody> </table> <p>The ML is granted by the Minister for Mineral Resources of the State of New South Wales (the Minister.) Obligations to retain the ML are detailed in the Conditions of Authority for the Mining Lease and outline all requirements for operating within the lease:</p> <p><b>Royalties</b> A New South Wales government royalty is applicable to Cowal, payable on the value of the processed gold. The royalty is calculated as follows:</p> <p>Royalty = 4% of {Total Revenue – Processing Costs – (33% of site Administration costs) – Depreciation}</p> <p>For financial evaluations, the 4% gross royalty has been equated to approximately 3% of the gold produced.</p> <p><b>Cultural Heritage</b></p> <p>A survey of aboriginal sites and artefacts on the mining lease was conducted under the Cowal Gold Mine Environmental Impact Statement submitted by North Ltd. (North) in 1998. The survey results and the registered Aboriginal sites identified in each management zone are outlined in the Cowal Gold Project Indigenous Archaeology and Cultural Heritage Management Plan (IACHMP) (Barrick, 2003).</p> <p>Aboriginal heritage sites which occur within ML 1535 and have been registered with the New South Wales Department of Environment, Climate and Water (DECCW). These sites range from open scatters to base camps to a sacred tree. Summaries of the survey results and the registered Aboriginal sites identified in each management zone are outlined in the IACHMP.</p> <p>All relevant permits and consents have been obtained under Section 87 and Section 90, respectively, pursuant to the National Parks and Wildlife (NPW) Act for the management of Aboriginal Heritage Artefacts at Cowal Gold Operation (CGO). All activities at CGO have been conducted in accordance with relevant permit and consent conditions and the IACHMP.</p> <p>All earthworks have been monitored and no non-compliances have been reported. Collection works have been undertaken at CGO by archaeologists with observation/participation of members of the Aboriginal community, in accordance with the permits and consents. All collected Aboriginal objects are currently retained in a Keeping Place within ML 1535.</p> <p>No items considered to be of important European heritage which cannot be disturbed have been found near the Project.</p> <p><b>Environmental status</b></p> <p>CGO has numerous documented operational phase environmental management strategies, management plans, and programs to meet the requirements of the February 1999 Development Consent and various Environmental Licences, Permits, and the Mining Operations Plan</p> <p>The E42 deposit has been developed generally in accordance with the Environmental Impact Statement (EIS) issued by North Ltd on March 13, 1998. This document details all environmental requirements that must be met prior to and during construction, during operations, and following the cessation of operations leading to the relinquishment of the tenements.</p> <p>Over the course of the mine life, CGO has submitted a number of applications to modify the development consent in line with various pit expansions, operating adjustments and mine life extensions. To Dec 2016 12 Modifications had been approved with Modification 13 permitted in February 2017 which gives regulatory approval to extend the mine life to 2032.</p> <p>There are no current environmental liabilities on the property. CGO has all required permits to conduct the proposed work on the property. There are not any other known significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.</p>		Area (km <sup>2</sup> )	Expiry Date	EL 7750	596	May 27, 2022	EL8524	270	March 02, 2023	EL5524	110	Sept 16, 2018	EL6593	10	Jul 06, 2019	EL 1590	61	May 12, 2019	ML 1535	26	June 12, 2032	Total	1,073	
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Criteria	Commentary
<p><i>Exploration done by other parties</i></p>	<p>Before 1980 limited exploration and shallow gold mining activities were mainly constrained to the west of Lake Cowal in areas of better outcrop. No investigation of the lake was made due to virtually nil outcrop and up to 80m of Recent lacustrine sediments and the cyclical flooding. Following upon the success in the Goonumbra area, (now the Northparkes group of mines), the exploration company, Geopeko, identified the Cowal area as having some potential for porphyry copper development and subsequently conducted reconnaissance RAB drilling. By 1988 the company had broadly delineated the geology of the Cowal Igneous Complex (CIC) and a number of low grade porphyry copper deposits in the south of the CIC and had outlined an anomalous 0.1 ppm Au “gold corridor”, (approximately 2km by 7.5km), along the western margin of the lake which now includes the E41, E42, Galway/Regal and E46 deposits.</p> <p>Exploration continued into the early 1990s and a feasibility study of the E42 deposit, was completed in 1995. Provisional mining consent was obtained in 1999. In 2000, Rio Tinto acquired North Ltd who subsequently sold to Homestake Mining in May 2001 by December 2001 Homestake had merged into Barrick Gold Corporation. Native title agreements were completed in 2003, culminating in the granting of ML1535 to Barrick Gold of Australia Limited. During this time extensive mineral resource/ore reserve definition drilling was undertaken. Construction began in 2004, with the first gold produced in 2006. The mine and exploration ground were purchased by Evolution Mining Ltd in 2015 and further drilling has continued to expand upon the resource of E42 and extend the gold corridor.</p>
<p><i>Geology</i></p>	<p><b>Regional Geology</b></p> <p>Middle Ordovician arc volcanism associated with westward subduction resulted in the deposition of widespread mafic to intermediate volcanoclastic and turbiditic rocks and intrusive activity with associated porphyry copper and gold mineralisation throughout the central west of New South Wales. Remnants of the arc complex extend from Junee to Nyngan and include lithologies comprising the Northparkes Volcanic Group and the Lake Cowal Volcanic Complex. Arc volcanism and sedimentation ceased during the Late Ordovician to Early Silurian Benambran Orogeny. Deformation associated with the Benambran Orogeny initiated the Gilmore, Parkes and Coolac-Narromine Fault Zones. Intermittent igneous and volcanic activity continued in the region through to the Late Silurian.</p> <p>At the end of the Silurian, extension and marine incursion, (likely resulting from the retreat of the subduction zone), initiated the deposition of the sedimentary and volcanic rocks of the Ootha and Deriwong Groups. Rifting within the Ordovician volcanic arc separated the Lake Cowal and Northparkes Volcanic Complexes and produced the Jemalong Trough which underwent deposition through to the Early Devonian. A change in tectonic regime from extension to compression resulted in reverse movement along reactivated structures within the Gilmore, Parkes and Coolac-Narromine Fault Zones and the formation of the Booberoi fault.</p> <p>The last orogeny to affect the region was the Late Devonian to Early Carboniferous Kanimblan Orogeny which produced the Tullamore Syncline and the Forbes Anticline and reactivated the earlier major fault zones. Limbs of synclines in the Jemalong Trough were steepened and overturned during reverse faulting and parts of the Lake Cowal Volcanic Complex were thrust eastwards along the Marsden Thrust.</p> <p>The Cowal gold deposits (E41, E42, E46, Galway, and Regal) occur within the 40 km long by 15 km wide Ordovician Lake Cowal Volcanic Complex, east of the Gilmore Fault Zone within the eastern portion of the Lachlan Fold Belt. There is sparse outcrop across the Lake Cowal Volcanic Complex and, as a consequence, the regional geology has largely been defined by interpretation of regional aeromagnetic and exploration drilling programs.</p> <p>The Lake Cowal Volcanic Complex contains potassium rich calc-alkaline to shoshonitic high level intrusive complexes, thick trachyandesitic volcanics, and volcanoclastic sediment piles. The Cowal Complex is a strong regional magnetic high anomaly with a sharp linear western margin, represented by the Gilmore Fault Zone, separating the Lake Cowal Volcanics from the relatively low magnetic response of sediments to the west.</p> <p>Similar Ordovician magmatic rocks are found over a large area of the eastern Lachlan Fold Belt and are commonly associated with copper-gold mineralisation (e.g., Northparkes, Cadia, Peak Hill, and Gidginbung). The main diorite intrusion at E42 has a K-Ar dating of <math>456 \pm 5</math> Ma (Early to Mid-Ordovician). The gold deposits at Cowal are structurally hosted, epithermal to mesothermal gold deposits occurring within and marginal to a 230 m thick dioritic to gabbroic sill intruding trachyandesitic volcanoclastic rocks and lavas.</p>

Criteria	Commentary
	<p>The overall structure of the gold deposits is complex but in general consists of a faulted antiform that plunges shallowly to the north-northeast. The deposits are aligned along a north-south orientated corridor with bounding faults, the Booberoi Fault on the western side and the Reflector Fault on the eastern side (the Gold Corridor).</p> <p><b>Mineralisation</b></p> <p>The mineralisation at the Cowal Mine comprises four deposits: GRE46, E41, E42 and E46</p> <p>The GRE46 deposit is subdivided into the open pit and underground resources. The GRE46 zone trends north-south, dips vertical to -70° west, and extends approximately 1500m along strike, 175m across strike and up to 800m down dip. Individual lenses in the GRE46 mineralised zone are 1.0m to 15m wide, 25m to 250m long, and extend 50m to 200m down dip. Lenses consist of narrow high-grade quartz carbonate, pyrite and base metal veins controlled within a structural north-south corridor, occasional zones of grade enrichment occur in dilatant structures within the deposit known as Quartz Sulphide Breccias. Host lithology varies from poorly mineralised massive intrusive diorites and fine volcanoclastic sediments through to the preferential host of trachyandesite lavas to the north and lenses of coarse to conglomeritic volcanoclastic sediments to the south.</p> <p>The E41 West mineralisation strikes north-northeast and dips -70° east, and measures 750m along strike and 250 m across strike. Individual mineralised zones are 35 m to 50m wide and extend down dip for 125m. The E41 East mineralisation strikes east-west and dips -35° to -80° south, and measures 475m along strike and 500 m across strike. Individual mineralised zones are 35m to 50m wide and extend down dip for 225m.</p> <p>The E42 deposit dips -35° to -45° to the south west with an approximate extent of 850m by 850m and extends 500m down dip. Mineralisation is contained within small discontinuous veins contained within larger mineralised envelopes approximately 50m wide.</p> <p>The E46 deposit mineralisation trends north-northeast, dips -40° west to flat-lying, and measures approximately 650m along strike and 17m across strike. Individual zones are approximately 50m wide and extend 200m down dip.</p>
<i>Drill hole Information</i>	No exploration results have been reported in this release.
<i>Data aggregation methods</i>	No exploration results have been reported in this release.
<i>Relationship between mineralisation widths and intercept lengths</i>	No exploration results have been reported in this release.
<i>Diagrams</i>	No exploration results have been reported in the release, therefore no diagrams have been produced.
<i>Balanced reporting</i>	No exploration results have been reported in the release.
<i>Other substantive exploration data</i>	No significant exploration activities have occurred during the reporting period.
<i>Further work</i>	Infill Resource definition is planned to convert Inferred category to Indicated category and to test for extensions to mineralisation along strike and down-dip.

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
<i>Database integrity</i>	Cowal uses DataShed software system to maintain the database. Assay results, returned from the laboratory as digital files, are loaded directly into the database. The software performs verification checks including checking for missing sample numbers, matching sample numbers, changes in sampling codes, inconsistent “from-to” entries, and missing fields. Results are not entered into the database until the QA/QC Administrator approves of the results. A QA/QC report is completed for each drill hole and filed with the log, assay sheet, and other appropriate data. Only the Senior Project Geologist and Database Manager have administrator rights to the database. Others can use and sort the database but not save or

Criteria	Commentary
	delete data.
<i>Site visits</i>	The Competent Person for the Cowal Mineral Resource estimates is based at Cowal Mine, is part of the operational management team and reviews all aspects of the Mineral Resource informing data and estimations.
<i>Geological interpretation</i>	<p>Confidence in the geological interpretation is considered to be good. The interpretation is based on drilling that ranges from a 25m by 25m spacing to 50m by 50m spacing. The interpretation also incorporates data gathered from the mapping of exposures created by open cut mining which has been in operation continuously since 2005. The mapping has assisted in understanding the controls on mineralisation to improve the confidence in the geological interpretation. All available data from drilling and mapping is used in the geological interpretation. Petrological, litho-geochemical and structural studies have also been undertaken and have been used to develop the geological interpretation.</p> <p>The use of pit mapping and other production data such as grade control drill data has helped resolve the controls on mineralisation as such the current interpretation is considered to be relatively robust. An iterative process has been adopted with respect to the geological interpretation to ensure that it reflects the current understanding of the geology and controls on mineralisation.</p> <p>The factors that affect the continuity of grade and geology at Cowal are structure, lithology and alteration, in order of magnitude. Areas of higher grade are those where there is a greater frequency of structures intersecting the host lithology, such as the core of the E42 resource. These factors have been addressed in the interpretation and domaining of the resource and the estimation process.</p>
<i>Dimensions</i>	The Mineral Resource area which incorporates the E41, E42, E46 and the GRE46 has the following dimensions, 4,200 m (north), 2,500 m (east) and 1,000 m (elevation).
<i>Estimation and modelling techniques</i>	<p>GRE46 open pit model remained unchanged with a separate GRE46UG Model developed for underground resource optimisation.</p> <p>A review was undertaken to define domains with similar features such as style of mineralisation, structure, lithology or grade characteristics. The resource estimation process has underlying assumptions that each domain shares similar characteristics.</p> <p>Two main styles of mineralisation for domaining purposes are thought to be present in GRE46, one is broad supergene zones which overlay the deposit, the second consists moderately south to south east dipping primary mineralisation.</p> <p>Interpretation of mineralised domains were based solely on gold grade and modelled using the vein function in Leapfrog Geo Software. High grade gold domain utilised a cut-off for interpretation of 0.8g/t, intercepts were interpreted from a top down approach with domains initially established from assay above 5g/t over 57-100m strike.</p> <p>Top cutting of assay data is considered appropriate where outliers exist outside the lognormal distribution. These values have the potential to unduly bias grade estimates.</p> <p>A review was completed to establish the optimum search parameters for the kriging process. Search distances and kriging weights were examined for the effect on kriging variance, slope of regression and negative kriging weights.</p> <p>Individual domains were reviewed in terms of grade distribution using frequency histograms.</p> <p>1m composites were formed for use in grade estimation for the GRE46UG model. The decision to use 1m composites for underground was based on a combination of the narrow nature of the veins and the interpreted ore domain widths. Surpac software was used to composite data.</p> <p>The estimation process used relatively large search distances and sample numbers due to the high nugget values. This resulted in a relatively smoothed grade estimate due to less predictable grade distributions. A discretisation of 5 x 5 x 5 in the plane x, y, z was used with a minimum sample number of 4 and maximum of 32 for the estimate. The smoothing effect is constrained through the creation of appropriate ore domains based on grade and known trends from logging and applied mapping data from nearby deposits to ensure the smoothing effect is limited to only those zones that have a high confidence of being ore. Search ellipsoids are based on the modelled semi-variogram ranges for each domain.</p> <p>Parent block size for the GRE46UG model was selected at 12.5m x 5m x 10m. Ordinary kriging was completed on all domains and block grades were compared with composite of cut data to ensure kriging grades were represented in block grades. Swath plots were used to compare the modelled gold distributions in relation to composites as well as visual validation on 25m</p>



Criteria	Commentary
	<p>sections. No assumption of mining selectivity has been incorporated in the estimate.</p> <p>An update of the E42 Open pit model was also conducted, historic modelling of E42 using the 2016 Model consistently over-estimated high-grade tonnes across the deposit with an under-estimation of grade for an overall slight overcall of ounces. To address this issue an analysis of the top cutting, composite lengths, block size, domaining and estimation techniques was conducted. As a result, the 2017 model update used new top cuts, adjusted estimation domains and decreased composite length from 9m to 3m for all the E42 domains. This resulted in a more accurate estimation of the grade and closer reconciliation of the ounces for E42. No material changes were made to the E41, E46 which were rerun using existing parameters.</p> <p>Top cutting of assay data is considered appropriate where outliers exist outside the lognormal distribution. These values have the potential to unduly bias grade estimates.</p> <p>Individual domains were reviewed in terms of grade distribution using frequency histograms.</p> <p>3m composites were formed for use in grade estimation for open pit. The decision to use 3m composites for open pit was based on a combination of mine reconciliation data, previous modelling reconciliation and a mining bench height of 3m. Surpac software was used to composite data.</p> <p>A review was completed to establish the optimum search parameters for the kriging process. Search distances and kriging weights were examined for the effect on kriging variance, slope of regression and negative kriging weights.</p> <p>The estimation process used relatively large search distances and sample numbers due to the high nugget values. This resulted in a relatively smoothed grade estimate due to less predictable grade distributions. A discretisation of 5 x 5 x 3 in the plane x, y, z was used with a minimum sample number of 6 and maximum of 32 for the estimate. The smoothing effect is constrained through the creation of appropriate waste domains based on grade indicator models and known trends from grade control to ensure the smoothing effect is limited to only those zones that have a high confidence of being ore. Search ellipsoids are based on the modelled semi-variogram ranges for each domain.</p> <p>Parent block size for the open pit model was selected at 15m x 15m x 9m. Ordinary kriging was completed on all domains and block grades were compared with composite of cut data to ensure kriging grades were represented in block grades. Swath plots were used to compare the modelled gold distributions in relation to composites as well as visual validation on 25m sections.</p> <p>No assumption of mining selectivity has been incorporated in the estimate.</p> <p>Only Au was estimated in the Mineral Resource, Ag which is a by-product of the processing has an assumed ratio of 1:1 with Au. Ag has not been accounted for in the estimation of Mineral Resources or Ore Reserves.</p> <p>Validation of the Mineral Resource comprised comparing block grades against the data used to inform the estimate on a domain by domain basis, visual comparison of the informing data against the estimate and the use of swath plots showing grade trends by easting northing and elevation of the input data against the estimate. For the E42 deposit the Mineral Resource was reconciled against production. To date reconciliation of the Mineral Resource against production is in line with resource classification applied and the expected confidence limits of the classification on a global basis.</p>
<i>Moisture</i>	Mineral Resource tonnage estimates are on a dry basis.
<i>Cut-off parameters</i>	Mineral Resources for open pit are reported using a cut-off grade of 0.4g/t Au this reflects the cost and price assumptions derived from operational performance. GRE46UG Mineral resources used a 3g/t Au cut-off grade which reflects the increased costs and price assumptions from an underground operational performance.
<i>Mining factors or assumptions</i>	<p>Mining factors are based on the current operation at Cowal, which has been operating continuously for the past thirteen years. The mining factors applied reflect the current open cut operation.</p> <p>The Cowal open pit Mineral Resource estimate is defined within an optimised pit shell using an A\$1,800/oz gold price assumption and based on the same detailed geotechnical design parameters, practical mining considerations and mining depletion at 31 December 2017 as the</p>

Criteria	Commentary
	<p>Cowal Ore Reserve. The Mineral Resource estimate also draws on the experience gained since mining commenced in April 2005 at Cowal.</p> <p>The GRE46 underground Mineral Resource estimate is defined by an underground mining shape optimiser using an A\$1800/oz gold price assumption. The mining method is assumed to be a selective narrow vein style; design parameters and practical mining considerations have been applied accordingly. It is assumed that metallurgical recovery will be similar to the E42 ore body.</p> <p>The Mineral Resource spatial constraining shells for the open pits are based on the cost structure of the owner mining rates at E42 Open Pit.</p> <p>The GRE46 Underground has been assumed to be mined by selective narrow vein techniques. A model has been developed that is fit for purpose considering this mining method.</p>
<i>Metallurgical factors or assumptions</i>	<p>Metallurgical assumptions are based on the performance of the Cowal processing plant which has been in continuous operation since 2006. All ore to date has been sourced from the E42 open pit. Oxide ore is stockpiled for later treatment. Sulphide ore is processed by crushing, two stage grinding, sulphide flotation, regrind, and CIL recovery. The plant currently processes 7.5Mtpa.</p>
<i>Environmental factors or assumptions</i>	<p>Cowal has a long history of mining and processing ore and waste dump and residue disposal facilities are all currently in place in accordance with the required statutory approvals The Cowal Mine has two Tailings Storage Facilities – the North Tailings Storage Facility (NTSF) and the South Tailings Storage Facility (STSF). The current TSFs are estimated to be sufficient to store the ore that will be processed according to the LOM plan.</p> <p>Cowal Mine has a Water Management System in place. The overall objective of the water management system is to contain potentially contaminated water generated within the Project area while diverting all other water around the perimeter of the site.</p> <p>The water management system has the following major components: Up-catchment diversion system; Lake isolation system (comprising the temporary isolation bund, lake protection bund and perimeter waste rock emplacement); and Internal catchment drainage system (comprising the permanent catchment divide and contained water storages).</p> <p>Although the new resources are located within the existing mining lease, any proposed mining extraction and processing will be subject to permitting and the completion of an Environmental Impact Study.</p>
<i>Bulk density</i>	<p>North Ltd. conducted density testing during the early stages of project development. These data were supplemented in 2002 by five dedicated holes across E42 to provide support for previous density estimates. Since production and mining began in 2005 systematic SG sampling has been conducted to continually validate resource model density.</p>
<i>Classification</i>	<p>The Mineral Resource classification is based on good confidence of the geological and grade continuity, 25m by 25m spaced drill hole density in the bulk of the resource and up to 50m by 50m spaced data in the peripheral parts of the resource. Ten years of continuous mining operations and the iterative use of 10m by 10m spaced grade control and production data have been used to refine the Mineral Resource estimate. Reconciliation of the Mineral Resource against production data supports the classification that has been applied to the Mineral Resource.</p> <p>Contiguous volumes were flagged with either Indicated or Inferred classification, no in-situ material is classified as Measured. Measured resources at Cowal are stockpiled material which has been grade controlled by very close spaced drilling.</p> <p>The Mineral Resource estimate appropriately reflects the view of the Competent Person and is assigned in accordance with the JORC 2012 guideline.</p>
<i>Audits or reviews</i>	<p>Roscoe Postle and Associates (RPA) audited the Resource Model in 2011 and 2014. No material issues were identified in the audits.</p>
<i>Discussion of relative accuracy/ confidence</i>	<p>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource in accordance with the guidelines of the 2012 JORC Code.</p> <p>The relative accuracy relates to a global mineral resource estimate of grade and tonnes.</p> <p>Reconciliation of the mineral resource estimate for the past calendar year reconciled 5% over on tonnes and 4% under on grade compared to the declared ore mined, with metal being less than 1% lower than predicted by the model. Historically at Cowal there has been a consistent</p>

Criteria	Commentary
	under-call of the Mineral Resource against production ranging 10% to 20% annually over the life of the mine. This under call has been addressed through adjustments to block size, composite length and domain analysis. No factoring has been applied to the tonnes, grade or metal in the resource model.

## MARSDEN

### JORC Code 2012 Edition – Table 1

#### Section 1 Marsden Sampling Techniques and Data

Criteria	Commentary
<b>Sampling techniques</b>	<p>Sampling activities have been developed to ensure that all drilling activities are conducted in a safe manner and appropriate for zones of mineralisation. Data used for resource estimation is obtained by two main drilling methods - diamond coring and reverse circulation (RC) drilling. All available drill holes are sampled with sample intervals being of either 1m or 2m. RC drilling was performed prior to 2002 with holes of diameter 5 %" down to depths of approximately 200m. Samples on length 1m were collected via a cyclone and split with a riffle splitter. Approximately 4- 5kg of sample was assayed.</p> <p>Sampling of aircore pre-collars for assay was completed on the last two metres of cover and all basement lithologies including saprolite/saprock. The aircore samples were collected via 'spearing' from the bulk one metre samples. Three spear passes were made: one through the centre of the bulk sample bag, and one angled to each side. These were composited into two metre assay samples of approximately 4-5kg.</p> <p>Mud rotary pre-collar drilling was not sampled due to the sample mixing during transit to surface.</p> <p>Newcrest has implemented standard procedures for the preparation and sampling of drill core, which adopt best practice to ensure quality assurance and quality control throughout the process of core mark up, digital core photography, geotechnical logging, geological logging, through to core cutting, sampling and sample dispatch.</p>
<b>Drilling techniques</b>	<p>Drilling is the primary source of data for Mineral Resource estimation at Marsden. Data is obtained from diamond coring. Holes comprise aircore or rotary precollars through the Marsden Thrust followed by diamond tails (NQ3) to end of hole.</p> <p>At Marsden, drilling is generally in three main orientations: the initial diamond drill holes and aircore holes were vertical but more recent holes have been drilled to the south or east at nominal 60 degrees.</p> <p>Core tails in the 42 drill holes up to and including drill hole ACDMN056 were drilled NQ3 triple tube, and subsequent tails were drilled HQ3 triple tube through the Ordovician basement to obtain larger more representative samples.</p> <p>Only core from the angled drill holes was orientated using either the Ball Mark system (ACDMN046 to ACDMN049) or the ACE core orientation tool (ACDMN050 to ACDMN070).</p> <p>Core orientation was completed where recoveries allowed.</p>
<b>Drill sample recovery</b>	<p>Core recovery was recorded and stored in an acQuire software database. There are only minor zones of core loss or poor core recovery associated with broken ground and areas of fault gauge. There is no identified relationship between core loss and grade and the style of mineralisation suggest this is unlikely.</p>
<b>Logging</b>	<p>Marsden core was transferred to CGO and logged and sampled at the core processing facility at the mine and all routine drill core samples were processed on site.</p> <p>All diamond drill holes are geologically and geotechnically logged. Due to the nature of the intense alteration core is qualitatively logged for lithology and alteration and quantitatively logged</p>



Criteria	Commentary
<p><b>Sub-sampling techniques and sample preparation</b></p>	<p>for structure and geotechnical parameters. All core is logged and photographed after marking up metre intervals and prior to cutting and sampling. Logging data are entered into the acquire database via a laptop computer or historically via manual data entry. Logging information was recorded and validated prior to merging into the database.</p> <p>Occasional random quality audits are conducted on the core mark-up, field logging and field sampling process by geologists.</p> <p>The sampling technique used is considered appropriate for the assessment of Marsden mineralisation. Marsden core was also measured for magnetic susceptibility. The density measurements of selected samples were determined using the weight in air, immersion weight method (no sealant used).</p> <p>At the completion of drill core logging the geologist defines which intervals of a drill hole are to be cut for analysis.</p> <p>The core was diamond saw cut along the long axis, adjacent to the orientation line, where present. The half of the core with the orientation line was placed back in the trays. The half core was saw cut to metre marks and sampled on 1m intervals up to hole ACDMN056, and on 2m intervals thereafter. The decision to sample on 2m intervals reflected the acknowledgement of probable bulk mining nature of the mineralisation. All core within the Ordovician 'wedge' was assayed, but sampling of the Devonian was less regular in later holes due to the consistently low values returned. Half is placed in a calico bag marked with the appropriate sample number and sent to assay laboratory for analysis. The remaining half core is stored in the original trays on pallets at the core processing facility.</p> <p>Aircore samples were collected via 'spearing' from the bulk one metre samples. Three spear passes were made: one through the centre of the bulk sample bag, and one angled to each side.</p> <p>Sample preparation for analysis is as follows: Samples are dried in an oven for several hours. Samples are crushed to 2mm nominal diameter and split to 67%-33% with a rotary splitter. Each 3kg sample is pulverised using a LMS pulverising mill to specified grind parameters of 90% passing 75µm. A 250-300g sub-sample is collected for analysis. Pulp replicates and crushed coarse reject duplicates are routinely undertaken.</p> <p>The sample size is considered appropriate for assessment of bulk tonnage mineral deposits of this type.</p>
<p><b>Quality of assay data and laboratory tests</b></p>	<p>Samples are routinely assayed for gold and sulphur. Gold analysis is by fire assay with 50g charge and Atomic Absorption Spectroscopy (AAS) finish and detection limit of 0.01ppm (g/t).</p> <p>A detailed QA/QC program was in place for on-going assessment of sampling and analytical procedures. Sampling and assaying quality control procedures in place include submission of standard material with all sample batches (at a frequency of at least 1:20 standards), submission of coarse blanks to assess potential sample preparation smearing, submission of 1:20 checks to umpire laboratories for analysis, comparison of duplicate assays with original assays, monitoring of screen fire assay sample mass and grind size and unannounced laboratory inspections.</p> <p>Newcrest had contracts with the laboratory to ensure the QAQC of the samples and analysis. Gold, gold - copper and gold -copper - sulphur standards were inserted in lab batches with a minimum of two standards and a blank per fire assay batch. Matrix matched certified reference materials (CRM) were quasi-randomly inserted in each lab batch at the rate of 1 in 20 samples. Some bias was given to higher gold and copper CRM's where elevated copper and gold were expected as identified from geological logging.</p> <p>Assay results were assessed on a per batch basis on receipt of assays to determine appropriate levels of accuracy and bias in gold and copper analyses. The acceptance of assays is in accordance with Newcrest QAQC protocols. Routine check assay programs were conducted on a periodic basis.</p> <p>Assessment of QAQC data from standard reference materials submitted with the latest round of sample assays, indicates insignificant overall lab bias for Au, Cu and S. The overall biases are for Au-0.5%, Cu +1.4% and S -0.92%. The assaying techniques and QA/QC protocols used are considered appropriate for the data to be used in the Mineral Resource estimate.</p>

Criteria	Commentary
<p><b>Verification of sampling and assaying</b></p>	<p>All data and interpretative inputs to Mineral Resource estimates were checked and verified in accordance with a range of Newcrest standard operating procedures. Procedures were also in place for all historical drilling programs at Marsden. Diamond drill core samples were processed in-house using a dedicated core processing facility, sample preparation and analytical laboratory. All resource logging data is automatically uploaded to the resource database via logging notebook computers. Digital assay files were received directly from the laboratory and input directly into the Datashed database. All assay data is validated against the paper copies of the certificates of analysis (two assays per assay results page checked by support staff against the database).</p> <p>Newcrest employed a centralised resource drill hole database team to check, verify and validate new data and to ensure the integrity of the total resource database. Day-to-day management of the resource data is undertaken by the database administrator on site using the acQuire database system.</p> <p>Regular internal and external reviews of all geological and Mineral Resource estimation processes are conducted to check the quality and integrity of these procedures. No adjustments have been made to assay data.</p>
<p><b>Location of data points</b></p>	<p>Surface drilling rigs were positioned using surveyed collar pegs and lined up using compass lines. The dip of each hole was established using an inclinometer.</p> <p>All completed drill hole collars were surveyed by DGPS. Since DGPS accuracy is relatively poor in the z-axis, collar RL's were assessed from the neighbouring topographic map spot RL's and set to a nominal 210m RL for drill holes up to ACDMN056. All holes with identifiers greater than ACDMN56 (except 075 and 076) have been surveyed by certified surveyors. Down hole azimuth and dip surveys were not completed on the first 31 holes (up to and including hole number ACOMN039), due to the holes being drilled vertically.</p> <p>The data used in this resource estimate is based on MGA94 held in the Marsden Database.</p> <p>A variety of methods have been used to measure down hole deviation (dip and azimuth), including conventional borehole camera, electronic single shot, Ranger multishot and gyroscopic methods. Down hole azimuth and dip surveys were not completed on the first 31 holes (up to and including hole number ACDMN039), due to the holes being drilled vertically. Most of the holes have been surveyed using conventional borehole camera methods. Single shot electronic surveys are completed at an initial depth of 50 m and thereafter every 50 m down hole thereafter.</p> <p>The grid applied is based on MGA 94. The surface topography is derived from the 1:50,000 scale topographic sheet contours.</p>
<p><b>Data spacing and distribution</b></p>	<p>Historical drilling was drilled vertically (31 holes preceding ACDMN046). Subsequent holes were angled holes drilled nominally at -60 degrees. In general core recovery in these holes was good, however broken and fault gouge zones often showed poorer recoveries.</p> <p>Half core was cut by saw to metre marks and sampled on 1m intervals up to drill hole ACDMN056, and on 2m intervals thereafter. The decision to sample on 2m intervals reflected the acknowledgement of probable bulk mining nature of the mineralisation. All core within the Ordovician 'wedge' was assayed, but sampling of the Devonian was less regular in later holes due to the consistently low values returned (generally less than detection for Au and &lt;500 ppm Cu).</p> <p>Aircore chip samples collected were composited into two metre assay samples.</p> <p>The Marsden Prospect was drilled at a spacing of 100m x 50m within the main mineralised zone. Beyond this area, the drill spacing is highly variable.</p> <p>The Mineral Resource has been classified into Indicated and Inferred Mineral Resource after assessing the following factors: drill hole spacing (only areas drilled to 100m x 50m drill density have been classified as Indicated Resource), style of mineralisation and geological continuity, data quality and associated QAQC, grade continuity and proposed mining selectivity and scale of mining. Refer Section 3 Resource Classification for further details.</p>

Criteria	Commentary
	The data spacing and distribution is sufficient to establish geological and grade continuity appropriate for Mineral Resource estimation.
<b>Orientation of data in relation to geological structure</b>	Initial holes were drilled vertically. Subsequent holes were drilled at -60 degrees. The stockwork nature of the mineralisation distribution is such that it is not overly sensitive to drill orientation with a wide variety of orientations have been used. The drilling was carried out in several campaigns predominantly between 1997 and 2000, and 2005 and 2008. Much of the early drilling was focused on delineating the extent of the deposit and to locating higher grade zones, and so, was not drilled to any particular grid spacing. During 2006-07 the drilling was focused on testing the higher-grade Cu zone and seeking extensions to higher grade zones and defining their boundaries. The 2008 drill program targeted the peripheral parts of the resource.
<b>Sample security</b>	The security of samples is controlled by tracking samples from drill rig to database. Samples were transported from drill site to Newcrest's core processing facility at Cadia. Samples were dispatched from here to ALS Orange for analysis. Sample dispatches were reconciled against Laboratory samples received and discrepancies reconciled by geology staff.
<b>Audits or reviews</b>	As part of the purchase of Marsden from Newcrest, Evolution undertook due diligence on the supplied data. No material issues were identified, and the data is considered appropriate to be used as the basis of a Mineral Resource estimate

## Section 2 Marsden Reporting of Exploration Results

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	The Marsden deposit is covered by two EL's, EL5524 and EL6593.
<b>Exploration done by other parties</b>	The Marsden Deposit is located within the southern portion of the Ordovician Junee-Narromine volcanic belt of the east Lachlan Fold Belt (LFB). This belt also contains Evolution's Cowal Mine, the CMOC E22, E26, E27, and E48 deposits at North Parkes, and several smaller deposits including Alkane's Tomingley deposits. Geopeko completed the first phase of modern exploration for porphyry-copper mineralisation in the region following on from their early success at North Parkes on the Goonumbla volcanic block to the north. They commenced exploration in the Cowal area in 1981 and were successful in discovering porphyry related mineralisation (E35, E39, E43) and structurally controlled mineralisation including E40, E41, E46 and E42 (now the Cowal Gold Mine). BHP Gold applied for a number of tenements around the Geopeko licenses covering aeromagnetic features interpreted to be part of the buried volcanic complex. These, however, did not cover the eventual Marsden discovery. Geopeko applied for the same areas at the same time. The allocation of the tenements between BHP Gold and Geopeko became the subject of a legal dispute which was not resolved until 1992. In 1993 parts of the original area were granted to Newcrest. Newcrest undertook drilling was in several campaigns predominantly between 1997 and 2000, and 2005 and 2008. Evolution has not undertaken any further activity on the leases since the purchase in October 2016 from Newcrest.
<b>Geology</b>	The Marsden deposit is covered by approximately 100m of grey transported clay and silty clay. Basement lithologies include: Diorite, Granodiorite and Monzonitic (Monzonite to Monzodiorite) intrusions. These lithologies are cross-cut by an east-west striking post-mineralisation mafic dyke (PMD). The entire Ordovician sequence has been truncated by a west-dipping listric fault, the Marsden Thrust. Petrological investigations have identified two intrusive suites: 1) quartz- rich, mod-low potassic diorite to granodiorite suite, and 2) a quartz-poor, high potassic monzodiorite to aplite suite. Within the high quartz suite, quartz is almost ubiquitous. In the footwall of the Marsden Thrust, a thick package of poorly bedded, red coloured, fine siltstone/sandstone is interpreted to belong to the Devonian aged Hervey Group.

Criteria	Commentary
	The mineralisation of the Marsden Resource is porphyry-style hosting gold, copper and molybdenum beneath approximately 110m of younger unmineralised sediments. Mineralisation consists of quartz + calcite + chalcopyrite veining with accessory magnetite, bomite and molybdenite. Generally, there is close correspondence between the abundance of quartz veins and Cu and Au grades. The most strongly developed veining and alteration, and the highest copper and gold grades, occur within the diorite.
<b>Drill hole Information</b>	No exploration has been reported in this release, therefore no drill hole information to report. Comments relating to drill hole information relevant to the Mineral Resource estimate can be found in Section 1 – “Sampling techniques” and “Drill sample recovery.”
<b>Data aggregation methods</b>	No exploration has been reported in this release, therefore there are no drill hole intercepts to report. Comments relating to data aggregation methods relevant to the Mineral Resource estimate can be found in Section 1 – “Sampling techniques” and “Drill sample recovery.”
<b>Relationship between mineralisation widths and intercept lengths</b>	No exploration has been reported in this release, therefore there are no relationships between mineralisation widths and intercept lengths to report.
<b>Diagrams</b>	No exploration has been reported in this release, therefore no exploration diagrams have been produced.
<b>Balanced reporting</b>	No exploration has been reported in this release, therefore there are no results to report.
<b>Other substantive exploration data</b>	No exploration results have been reported in this release.
<b>Further work</b>	No exploration results have been reported in this release.

### Section 3 Marsden Estimation and Reporting of Mineral Resources

Criteria	Commentary
<b>Database Integrity</b>	Cowal uses DataShed™ software system to maintain the database. Assay results, returned from the laboratory as digital files, are loaded directly into the database. The software performs verification checks including checking for missing sample numbers, matching sample numbers, changes in sampling codes, inconsistent “from-to” entries, and missing fields. Results are not entered into the database until the QA/QC Administrator approves of the results. A QA/QC report is completed for each drill hole and filed with the log, assay sheet, and other appropriate data. Only the Perth Database Administrator, Senior Project Geologist and Database Manager have administrator rights to the database. Others can use and sort the database but not save or delete data.
<b>Site Visits</b>	The CP is a full-time Employee of Evolution that has visited and reviewed the diamond core samples held at Cowal Mine. No site visit has been undertaken to Marsden given the thick cover sequence.
<b>Geological Interpretation</b>	The mineralisation is porphyry-style deposit hosting gold, copper and molybdenum beneath approximately 110m of younger unmineralised sediments.  Two intrusive suites host the Marsden deposit; a low potassium quartz diorite to granodiorite suite, and a quartz-poor high-potassium monzodiorite to monzonite suite. The volumetrically dominant host, intersected in most holes, is the quartz diorite. It is a grey-green, medium grained, slightly inequigranular to sub-porphyratic intrusive. It is composed of plagioclase, clinopyroxene and biotite (replaced in part by chlorite) as well as rare to trace quartz. Other minerals may have been present but have been destroyed by well-developed biotite-rich potassic alteration. The quartz diorite is interpreted to be intruded into basaltic volcanics that have only been observed in the northern part of the deposit.

Mineralisation consists of multiple stockwork sulphide quartz veining events, including quartz + calcite + chalcopyrite veining with accessory magnetite, bornite and molybdenite. Generally, there is a close correspondence between the abundance of quartz veins and Cu and Au grades. The most strongly developed veining and alteration, and the highest copper and gold grades, occur within the Diorite.

Alteration throughout the prospect area is dominated by a moderate to strong potassic event that was subject to limited retrograde propylitic alteration. The northern, and possibly the western and southern portions of the system also experienced a late phyllic event. The major structure at Marsden is the Marsden Thrust, a NNE-SSW striking fault with a listric geometry that dips variably to the west.

**Dimensions**

The extent of the mineralised system is around 600 metres E-W, 1,000 metres N-S, and varies between 0 and over 300 metres vertically within the Ordovician wedge above the Marsden Thrust.

**Estimation and modelling techniques**

The Mineral Resource model for the Marsden deposit has been created using methods consistent with current industry established practices. All modelling and estimation are completed in commercially available software supplemented with specialised algorithms coded within the package as required.

The Marsden resource estimate contains estimates for gold, copper, molybdenum and sulphur. Copper and gold are the primary economic metal with estimates of minor elements required to assist with overall economic evaluation.

The Marsden Resource was estimated using data obtained from 148 drill holes including: 107 diamond holes with mud rotary/aircore pre-collars (total 32,917m) and 41 AC only drill holes. For Au, Cu, Mo and S a composite length of 2m was used. Nine major geological domains were interpreted for the Marsden Resource. The estimation domains used to create the model are based on the interpreted geological domains. Categorical indicators were used within the diorite domain to help constrain the higher Cu and Au part of the resource. The estimation for each element was undertaken using ordinary kriging.

Grade caps were applied as required by domain to the estimated elements.

Grade was estimated into a domain flagged, 3D block model. Grade interpolation was performed using Ordinary Block Kriging into 25m x 25m x 15m parent cells with sub celling down to 5 x 5 x 3m). A 25m parent cell was chosen as this approximately equates to half the drill spacing within the well drilled area. Sub-celling was chosen to honour geological and thus estimation boundaries. Densities are directly assigned by domain (based on rock type). No densities are interpolated. Estimation parameters were derived from spatial analysis of the estimated elements on domain by domain basis.

Validation of the resource against the input data, comprised statistical comparisons of the block data against the input data, visual inspection of the estimate against the informing data and swath plots were used to check that the data trends of the informing data were replicated in the mineral resource estimate.

**Moisture**

Mineral Resource tonnage estimates are on a dry basis.

**Cut-off parameters**

The Mineral Resources are based on an NSR value calculation that determines a block margin for every block in the resource model. All blocks with a margin larger than zero (0) have been included in the estimate. The NSR considers the cost of processing ore (including site general and administration costs), additional incremental ore mining costs, metallurgical recoveries, royalties, concentrate transport and shipping, refining, marketing and selling costs into account. The NSR produces a value cut-off (by block) that is approximately equivalent to a 0.2g/t gold cut-off.

**Mining factors or assumptions**

The Mineral Resource estimate is reported within and constraining notional pit shell. The Marsden deposit is expected to be extracted via a large Open Cut using large scale mining with extraction by sulphide flotation recovery of gold and copper. Further explanations of Mining factors are detailed in Section 4 of this Table.

**Metallurgical factors or assumptions**

The Marsden mineralisation is predominately hosted within copper sulphide species. Sulphide ores are amenable to conventional comminution and flotation to produce a copper concentrate for third party treatment and refining. Further explanations of Metallurgical factors are detailed in Section 4 of this Table.



<b>Environmental factors or assumptions</b>	Mining and ore processing operations proposed for Marsden will be conducted pursuant to a series of granted environmental and other approvals. Further explanation of Environmental factors is detailed in Section 4 of this Table.
<b>Bulk density</b>	<p>Density measurements were collected for both the cover sequence, and the basement lithologies at the Marsden Prospect. All bulk density measurements are carried out in accordance with industry standard procedures for Specific Gravity.</p> <p>The physical determination of bulk density is undertaken on solid pieces of core, &gt;10cm in length. Intervals for bulk density determination are selected according to lithology or alteration / mineralisation type. The measurements are performed on site (as part of the logging process), by geologists or technicians. Measurements are generally taken at regular intervals down hole or more frequently if required. The density measurements of selected samples were determined using the weight in air immersion weight method (no sealant used).</p> <p>Bulk density remains a risk for the cover sequence material. The moisture content of the cover sequence is also a risk in this project. The current estimate of 7% moisture is based on 88 samples with a range of 1 to 26% moisture. The estimation of moisture impacts the cover sequence strip ratio, the poorly understood geotechnical characteristics of the cover sequence could similarly impact on the strip ratio.</p>
<b>Classification</b>	<p>The Mineral Resource classification is based on demonstrated geological and grade continuity, style of mineralisation, data quality, QA/QC, mining selectivity and confidence in the grade estimation. The diorite domain has been classified in the indicated category and is the only domain to carry this classification. The remainder of the resource has been classified as Inferred.</p> <p>The classification of Mineral Resource estimate appropriately reflects the view of the Competent Person.</p>
<b>Audits or reviews</b>	An internal review of the model was conducted by Evolution's Perth Technical Services Group together with an external peer review. No material issues were identified.
<b>Discussion of relative accuracy/ confidence</b>	<p>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource in accordance with the guidelines of the 2012 JORC Code.</p> <p>The relative accuracy relates to a global mineral resource estimate of grade and tonnes.</p>

## Section 4 Marsden Estimation and Reporting of Ore Reserves

Criteria	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<p>The Ore Reserve estimate is based on the current Mineral Resource estimate as described in Section 3.</p> <p>The Mineral Resources reported are inclusive of those Mineral Resources modified to produce the Ore Reserve estimate.</p>
<b>Site Visits</b>	The Competent Person is an employee of Evolution Mining Limited based in the Group Technical Services Department and conduct frequent site visits to all operations and projects.
<b>Study Status</b>	The Marsden Ore Reserve is underpinned by a pre-feasibility study as well as over ten years of continuous operating (mining since April 2005 and processing since April 2006) experience at Cowal. Inputs for the Ore Reserve estimate are generally based on first principles, extensions of previous studies and substantiated through additional technical studies to derive these inputs. The pre-feasibility study has also been externally peer reviewed by independent expert mining, geotechnical, metallurgical and geological consultants. For this reason, the analysis is considered to be at an appropriate level of confidence and rigour to include as and Ore Reserve estimate
<b>Cut-off parameters</b>	The Ore Reserves are based on an NSR value calculation that determines a block margin for every block in the resource model. All blocks with a margin larger than zero (0) have been included in the estimate. The NSR considers the cost of processing ore (including site general and administration costs), metallurgical recoveries, royalties, concentrate transport and shipping, refining, marketing and selling costs into account. The NSR produces a value cut-off

***Mining factors or assumptions***

(by block) that is approximately equivalent to a 0.3g/t gold cut-off.

The methodology used to convert the Mineral Resource to Ore Reserve includes optimisation of the resource through standard mine planning process steps of pit optimisation, mine design, mine schedule and financial modelling. Factors and assumptions applied in this process have been derived from first principles, extensions of previous studies and detailed technical studies as part of the PFS study as well as existing operating experience at Cowal.

Mining at Marsden is intended to be undertaken via conventional truck, shovel and scraper fleet to extract ore material to the ROM, waste material, including overburden stripping to the waste rock dumps and stockpiling and eventual reclaim of lower grade material. Ore dilution is accounted for in the resource modelling process and no additional mining dilution factors are applied. An ore recovery loss of 5% have been applied in the pit optimisation process. Comparable copper gold porphyry deposits demonstrate the appropriateness of this mining method as the basis of the Ore Reserve estimate.

A detailed external assessment of available geotechnical data has been carried out as part of the PFS.

Mining at Marsden is subject to construction of 3.7km barrier wall and extraction and re-injection bores to control groundwater inflows around the pit perimeter. The deposit is located within the Bland Creek Palaeochannel, a highly transmissive groundwater system. Groundwater inflows of up to 100ML/day (+/-50%) is expected. A detailed Hydrological study has been completed as part of the PFS that supports construction of a barrier wall to manage ground water.

Inferred material is excluded from the Ore Reserves and treated as waste material, which incurs a mining cost but is not processed and hence does not generate any revenue.

The selected mining method does not require additional infrastructure.

These reserves will not be processed through the Cowal plant until the end of the current Cowal Life of Mine (currently scheduled out to 2032) and does not yet include mining approval.

***Metallurgical factors or assumptions***

The ore is to be processed through the existing Cowal processing plant after conversion to incorporate copper flotation and concentrate handling facilities. The crushing circuit will be relocated to Marsden and crushed ore transported via dedicated 21km haulage route to Cowal. The estimated future average recovery for gold and copper is 71% and 88% respectively. A calculation is used to apply a mill recovery estimate for use in optimising the resource.

A detailed processing study as part of the PFS supports the metallurgical parameters used in the Ore Reserve estimation.

***Environmental factors or assumptions***

No environmental approvals have yet been granted, however an assessment of the work and timing required for the development of Marsden have been included in the PFS. Mining and ore processing operations at Marsden will be conducted pursuant to a granted mining lease, exploration licences, general purpose leases and miscellaneous licences and associated environmental and other approvals. These approvals are considered to be realistically achievable in the timeframes required to permit extraction of the Marsden Ore Reserves.

***Infrastructure***

Infrastructure requirement have been accounted for in the PFS. Significant infrastructure components include: the establishment of the crushing circuit at Marsden; the construction of an ore haulage route between Marsden and Cowal; and installation and construction of the barrier wall required for water management and establishment of an in-pit tailings storage facility. Appropriate technical studies and cost estimates have been included for these items in the PFS study completed.

***Costs***

Capital and operating costs have been determined based on first principles, extensions of previous studies as well as operating experience at Cowal. These are modified for changing activity levels and reasonable cost base reductions over the life of the mine.

Estimated unit costs are applied as break even site costs used to determine the ultimate pit shell as well as used to define ore waste cut-off boundary within the ultimate pit shell. The break-even cost base is underpinned by the inputs and assumptions in the PFS and have been externally peer reviewed by and expert mining consultant.

No cost impact is expected from deleterious elements and no costs have been included in the Ore Reserve estimate for these.

State Royalties are 4%, payable on the value of the processed gold and have been allowed for in the NSR calculation.

***Revenue factors***

Revenue is calculated using a gold price A\$1,350/oz and a copper price of A \$6000/t. A position has been set based on mean broker estimates and the Company's longer-term view

of these commodities.

**Market assessment**

Product from Marsden will be sold as a gold rich copper concentrate. A copper concentrate grade of approximately 24% have been estimated in the PFS. Market assessment on saleability of the concentrate suggested the following parameters:

- A\$90/dry tonne treatment charge
- Gold refining cost of US\$5/oz
- Copper refining charge US\$0.09/lb
- Payability:
  - gold – 93%
  - copper - 96.5%

**Economic**

To demonstrate the Ore Reserve as economic it has been evaluated through a high level financial model that includes project and sustaining capital estimates. This process has demonstrated that the Ore Reserves for the Marsden has a positive cash flow.

**Social**

No formal agreements between Evolution and traditional land owners have yet been entered into, however based on current relationships at Cowal it is likely achievable. Currently Evolution is on good terms with neighbouring pastoralists to Cowal.

**Classification**

The Ore Reserves are derived from Indicated Resources only. This classification is based on the density of drilling. It is the Competent Person's view that the classifications used for the Ore Reserves are appropriate.

**Audits or reviews**

This Ore Reserve has been verified internally by Evolution technical staff as well as an independent external peer review of the PFS study by independent expert mining, geotechnical, metallurgical and geological consultants.

**Discussion of relative accuracy/confidence**

The accuracy of the estimates within this Ore Reserve are mostly determined by the order of accuracy associated with the Mineral Resource model, the metallurgical input and the long-term cost adjustment factors used. It should also be noted that current estimates on the development timeline for Marsden is in the order of +10 years from this estimate. In the opinion of the Competent Person, the modifying factors and long-term cost assumptions used in the Ore Reserve estimate are reasonable.