

# Maiden Declarations Add to Yamarna Ore Reserves and Mineral Resources

Well-funded mid-tier gold development and exploration company, Gold Road Resources Limited (Gold Road or the Company) presents this update to the Yamarna Mineral Resource and Ore Reserve statement as at December 2017. The Yamarna tenements comprise Yamarna (100% Gold Road) and the Gruyere Project Joint Venture (Gruyere JV) a 50:50 joint venture with Gold Fields Limited (Gold Fields). Gold Road, on behalf of the Gruyere JV, manages the exploration activities. Through 2017, exploration programmes targeted additional high margin deposits to supplement the Gruyere Project. All Mineral Resources and Ore Reserves are currently located within the Gruyere JV (Figure 1).

# **Highlights**

- Yamarna Ore Reserve increased by 6% to 3.74 million ounces¹ (+223,000 ounces)
  - Attila and Alaric Maiden Ore Reserves: 3.59 million tonnes at 1.55 g/t Au for 179,000 ounces
  - Gruyere Ore Reserve increases by 44,000 ounces
- Yamarna Mineral Resource decreased by 4% to 6.51 million ounces (-256,000 ounces)
  - YAM14 Maiden Mineral Resource: 0.87 million tonnes at 1.21 g/t Au for 34,000 ounces
  - Attila-Alaric Trend Mineral Resource: 12.32 million tonnes at 1.50 g/t Au for 596,000 ounces, including 207,000 ounces from the Montagne and Argos deposits
  - Gruyere Mineral Resource decreases by 4.6% (-282,000 ounces)
  - Central Bore removed from Mineral Resource (-183,000 ounces)

Gold Road is focussed on discovering multi-million ounce gold deposits capable of supporting the development of stand-alone mining operations within its 100% owned Yamarna tenements. The 2018 exploration campaign will focus on the best quality targets giving Gold Road the highest probability to make the next significant discovery.

Commenting on the increase to the Ore Reserves, Ian Murray, Managing Director and CEO said "Good technical work completed by the combined Gold Road exploration and Gruyere JV teams has increased the Yamarna Ore Reserve by 6%, providing further growth and value from the Yamarna Belt. Work on the Attila-Alaric Trend has resulted in two Maiden Ore Reserve additions (179,000 ounces) and two Mineral Resource updates, increasing the total Mineral Resource base of the Trend to 596,000 ounces. Extensional exploration planned for 2018 will focus on further development of this Trend with the potential to increase the Gruyere mine life."

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#### COMPANY DIRECTORS

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<sup>&</sup>lt;sup>1</sup> Figures are reported on a 100% basis unless otherwise specified



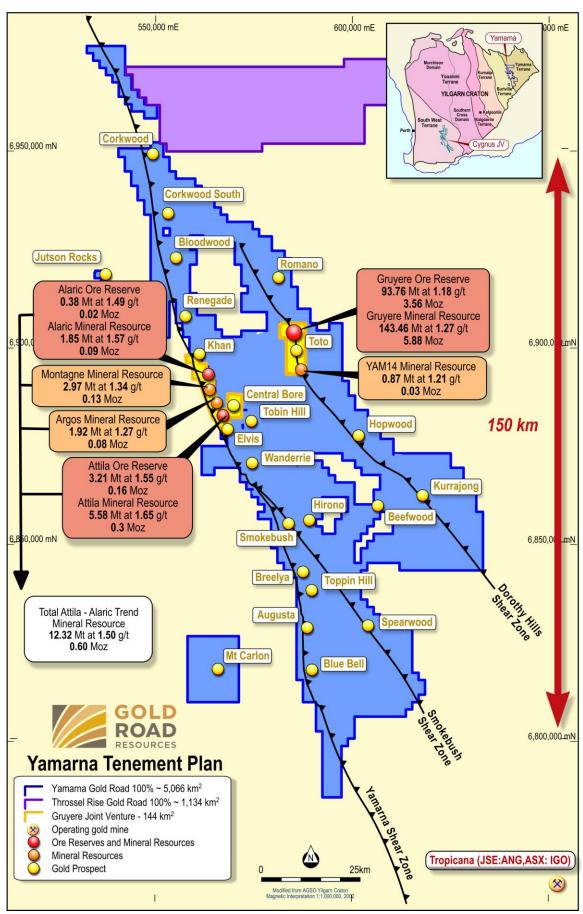


Figure 1: Yamarna tenement plan with Ore Reserves and Mineral Resources as at December 2017



# **Ore Reserve Summary**

The Ore Reserve for Yamarna comprises the Gruyere Deposit, and Maiden declarations for the Attila and Alaric Deposits (Figure 3) which are based on a recently completed Pre-Feasibility Study (PFS). Ore Reserves total 97.35 million tonnes at 1.20 g/t Au for 3.74 million ounces of gold. Ore Reserves are reported on a 100% basis at a A\$1,600/oz gold price (US\$1,200 at US\$0.75:A\$1.00) (Table 1 and Figure 2). This represents an Ore Reserve increase of 223,000 ounces (+6.3%) from June 2017.

The Ore Reserves are estimated from their respective Mineral Resources after consideration of the level of confidence in the Mineral Resource and taking account of material and relevant modifying factors. The Proved Ore Reserve estimate is based on the Mineral Resources classified as Measured. The Probable Ore Reserve estimate is based on the Mineral Resources classified as Indicated. No Inferred Mineral Resources have been included in the Ore Reserve.

Table 1: Yamarna Ore Reserve comparison to previous (total Proved and Probable)

	Ore R	eserve – Decemb	er 2017	Previous Ore Reserve – June 2017			
Project Name	Tonnes	Tonnes Grade		Tonnes	Grade	Contained Metal	
	(Mt)	(g/t Au)	(Moz Au)	(Mt)	(g/t Au)	(Moz Au)	
Gruyere Total	93.76	1.18	3.56	91.57	1.20	3.52	
Attila Total	3.21	1.55	0.16	-	-	-	
Alaric Total	0.38	1.49	0.02	-	-	-	
Total	97.35	1.20	3.74	91.57	1.20	3.52	

#### Notes:

- All Ore Reserves are completed in accordance with the JORC Code 2012 Edition
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited, a wholly owned Australian subsidiary of Gold Fields. Figures are reported on a 100% basis unless otherwise specified
- Gold Road holds an uncapped 1.5% net smelter return royalty on Gold Fields' share of production from the Gruyere JV once total gold production from the Gruyere JV exceeds 2 million ounces
- The Ore Reserves are constrained within a A\$1,600/oz mine design derived from mining, processing and geotechnical parameters as
  defined by Pre-Feasibility Study (Attila Alaric) and operational studies (Gruyere)
- The Ore Reserve is evaluated using variable cut off grades: Gruyere: 0.34 g/t Au (fresh), 0.30 g/t Au (transition), 0.29 g/t Au (oxide). Attila: 0.70 g/t Au (fresh), 0.60 g/t Au (transition), 0.55 g/t Au (oxide). Alaric: 0.67 g/t Au (fresh), 0.62 g/t Au (transition), 0.57 g/t Au (oxide)
- Ore block tonnage dilution averages and gold loss estimates: Gruyere: 4.9% and 0.4%. Attila: 14% and 3%. Alaric: 20% and 6%.
- All dollar amounts are in Australian dollars

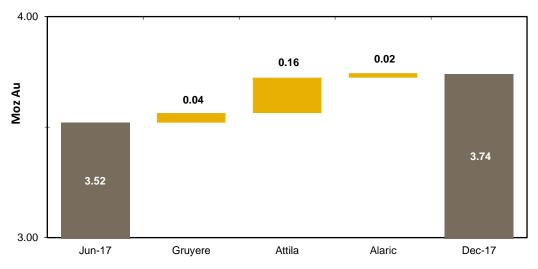


Figure 2: Waterfall chart showing contribution to the increase in Yamarna Ore Reserve Contained Metal (ounces of gold)



During 2017, responsibility for the Gruyere Ore Reserve estimate transitioned from Gold Road to Gold Fields, as Manager of the Gruyere JV. Gold Road's Competent Persons maintained a detailed peer review process with its joint venture partner. The Ore Reserve at Gruyere has increased by 44,000 ounces of gold, following modifications to the mine design submitted for the operational plan (Figure 2). Further details of the changes to mining and processing costs, dilution assumptions, and pit design are contained in the Material Information Summaries.

Maiden Ore Reserves are declared for the Attila and Alaric deposits derived from a PFS into open pit mining extraction. Attila and Alaric are within economic trucking distance of the Gruyere Process Plant and offer a source of supplementary mill feed during the Gruyere mine life. A total of 160,400 ounces of gold is contained within the Attila pit design, while the Alaric deposit contributes a further 18,100 ounces to the Yamarna Ore Reserve (Figure 2). The Attila and Alaric Ore Reserves were compiled and reviewed internally by Gold Road Competent Persons, and reviewed by Gold Fields Competent Persons. Further details of the PFS are documented in the Material Information Summaries.

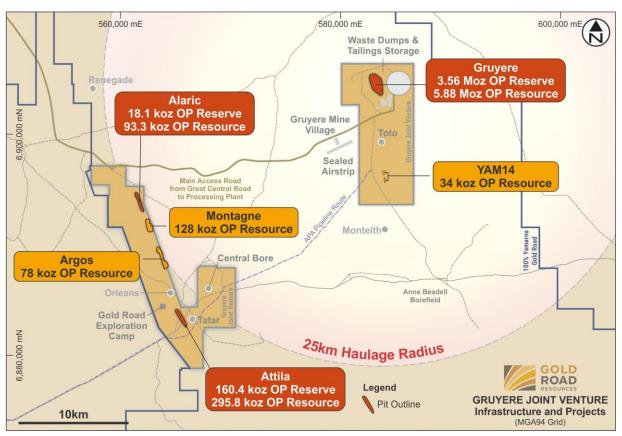


Figure 3: Gruyere JV infrastructure plan with Mineral Resource and Ore Reserve locations

# Yamarna Mineral Resource Summary

The Mineral Resource at Yamarna includes Gruyere, the Attila – Alaric Trend deposits, and a Maiden Resource at YAM14 (Figure 3). As at December 2017, the Mineral Resource for Yamarna is **156.65 million tonnes at 1.29 g/t Au for 6.51 million ounces**, a decrease of 4% from the Mineral Resource reported at 30 June 2017 (Table 2 and Figure 4). Mineral Resources are reported on a 100% basis and are constrained within optimised pit shells based on a A\$1,850/oz gold price and deposit-specific modifying factors and cut-off grades.



Table 2: Yamarna Mineral Resource comparison to previous (total Measured, Indicated and Inferred categories)

	Mineral F	Resource - Decem	ber 2017	Previous M	lineral Resource -	June 2017
Project Name	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal
	(Mt)	(g/t Au)	(Moz Au)	(Mt)	(g/t Au)	(Moz Au)
Gruyere	143.46	1.27	5.88	147.71	1.30	6.16
Attila	5.58	1.65	0.30	6.57	1.55	0.33
Alaric	1.85	1.57	0.09	1.92	1.51	0.09
Montagne	2.97	1.34	0.13	-	-	-
Argos	1.92	1.27	0.08	-	-	-
YAM14	0.87	1.21	0.03	-	1	-
Central Bore	-	-	-	0.63	9.02	0.18
Total	156.65	1.29	6.51	156.83	1.34	6.76

#### Notes:

- All Mineral Resources are completed in accordance with the JORC Code 2012 Edition
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding
- Mineral Resources are inclusive of Ore Reserves
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary
  of Gold Fields. Figures are reported on a 100% basis unless otherwise specified
- All Mineral Resources reported at various cut-off grades according to material type, metallurgical recovery and distance to the Gruyere Mill (in construction). Gruyere: 0.34 g/t Au (fresh), 0.30 g/t Au (transition), 0.29 g/t Au (Oxide). Attila, Argos, Montagne and Alaric: 0.50 g/t Au. YAM14: 0.40 g/t Au
- All Mineral Resources are constrained within a A\$1,850/oz optimised pit shell derived from mining, processing and geotechnical parameters from ongoing Pre-Feasibility Studies and operational studies
- Central Bore Mineral Resource reported at 1.0 g/t Au cut-off (2014 Annual Report).
- All dollar amounts are in Australian dollars

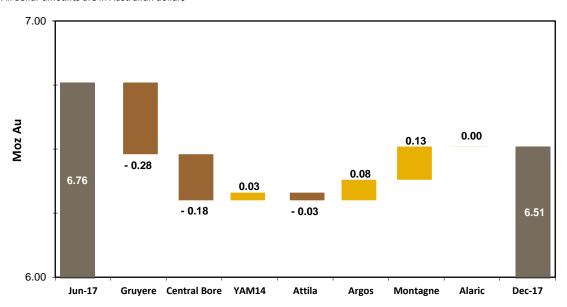


Figure 4: Waterfall chart showing variations to the Yamarna Mineral Resource Contained Metal (ounces of gold)

The Gruyere Mineral Resource decreased by 4.6% to 143.46 million tonnes at 1.27 g/t Au for 5.88 million ounces due to new drilling at depth and changes to assumptions utilised in the pit optimisation process. The deeper drill intersections added to the database returned slightly lower grades and narrower widths than previously estimated. Optimisation parameters at the base of a deep pit are highly sensitive to grade and economic variables which resulted in a slightly shallower constraining pit shell. The new drill information, combined with minor changes to mining cost assumptions and updated geotechnical parameters, resulted in a 282,000 ounce reduction compared to the previous Mineral Resource evaluation. Further details regarding the changes can be found in the Material Information Summaries.



Central Bore (183,000 ounces) has been downgraded as a Mineral Resource as the previously applied 1.0 g/t Au cut-off is deemed too low for potential economic underground extraction. The very high gold grades present at Central Bore retain its status as a viable exploration prospect, and further assessment remains a future option.

A Maiden Mineral Resource for the YAM14 deposit was declared at **866,200 tonnes at 1.21 g/t Au for 34,000 ounces**. YAM14 is a deeply weathered, shallow open pit position that could potentially provide supplementary feed to the Gruyere Process Plant, which is situated 8 kilometres north of the deposit. Further details regarding the Mineral Resource can be found in the Material Information Summaries.

The Mineral Resource for the Attila-Alaric Trend satellite deposits, 25 kilometres to the west of Gruyere, increased by 175,000 ounces to 596,000 ounces with the addition of new estimates for the Argos and Montagne deposits (historically reported as Alaric 1 and Alaric 2 respectively), and minor reductions in the Attila and Alaric deposits.

The Attila Mineral Resource decreased by 10% (31,600 ounces) to **5.6 million tonnes at 1.65 g/t Au for 295,800 ounces**. This reduction is a result of the application of lower metallurgical recoveries to the Mineral Resource evaluation based on new studies completed as part of the Attila-Alaric PFS. The Alaric Mineral Resource remains stable with the application of updated modifying factors, including lower metallurgical recovery data, to the Mineral Resource evaluation. The Alaric Mineral Resource is now **1.8 million tonnes at 1.57 g/t Au for 93,300 ounces**. Further details regarding the Mineral Resource can be found in the Material Information Summaries.

New resource estimates completed for the Argos and Montagne deposits along the Attila-Alaric Trend have added 1.9 million tonnes at 1.27 g/t Au for 78,300 ounces and 2.9 million tonnes at 1.34 g/t Au for 128,400 ounces respectively. Further details regarding the Mineral Resource can be found in the Material Information Summaries.

# **JORC Code 2012 Edition and ASX Listing Rules Requirement**

The Company governs its activities in accordance with industry best practice. The Ore Reserve and Mineral Resource for Yamarna is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code 2012 Edition), Chapter 5 of the ASX Listing Rules and ASX Guidance Note 31.

Material information summaries for each of the contributors to this Mineral Resource and Ore Reserve Statement are provided in accordance with ASX Listing Rules 5.8 and 5.9 and the Assessment and Reporting Criteria, JORC Code 2012 Edition requirements. These summaries can be found on pages 10 onwards.

The Gruyere Mineral Resource estimate was compiled by Gold Fields Competent Persons and reviewed by Gold Road Competent Persons. The Attila-Alaric Trend (Attila, Argos, Montagne and Alaric Mineral Resources) and the YAM14 Mineral Resource were compiled by Gold Road Competent Persons and reviewed by Gold Fields Competent Persons. All Mineral Resources were subject to internal geological peer review and validation, and documented handover meetings with the internal mining team for Resource evaluation.

For further information, please visit www.goldroad.com.au or contact:

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# **About Gold Road**

Gold Road is pioneering development of Australia's newest goldfield, the Yamarna Belt, 200 kilometres east of Laverton in Western Australia. The Company holds interests in tenements covering approximately 6,000 square kilometres in the region, which is historically underexplored and highly prospective for gold mineralisation. In November 2016, Gold Road entered into a 50:50 joint venture with Gold Fields Ltd for the Gruyere Joint Venture covering 144 square kilometres.

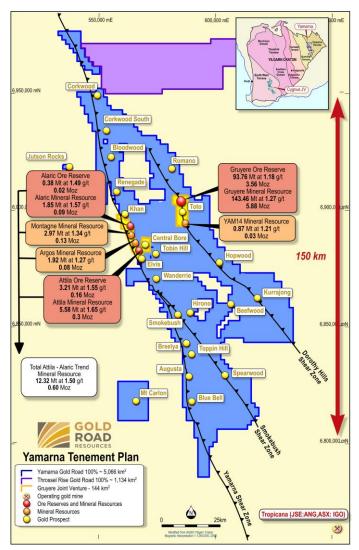
The Yamarna leases contain a gold resource of 6.5 million ounces, including 5.9 million ounces at the Gruyere Deposit. All current Mineral Resources and Ore Reserves are contained within the Gruyere JV project areas of which the Company owns 50%.

The current Operational Plan for Gruyere indicates the Project's Ore Reserve supports an average annualised production of 270,000 ounces for at least 13 years. Construction is underway at the Gruyere Project with first gold pour scheduled for the end of the March 2019 quarter.

Gold Road continues to explore for multi-million ounce discoveries on its 100% owned Yamarna tenements, and additional high-value deposits to add mine life to the Gruyere JV.

Gold Road is focussed on Unlocking Potential of the Yamarna Belt and has an extensive exploration plan for 2018 focussing on new gold discoveries in the region.

In October 2017, Gold Road entered into an earn-in joint venture with Cygnus Gold Ltd to initiate greenfields exploration in a new region of Western Australia. The Wadderin and the Lake Grace exploration projects, covering an area of approximately 3,400 square kilometres, are in the underexplored south-west Yilgarn of Western Australia (ASX announcement dated 10 October 2017).



Location and Geology of the Yamarna Tenements (plan view MGA Grid) showing Gold Road's 100% tenements (blue outline) and Gold Road-Gold Fields Gruyere JV tenements (yellow outline), Mineral Resources, Ore Reserves (100% basis) and main Exploration Projects.

Inset map shows location of Cygnus JV tenements.



#### Mineral Resource Estimate for the Yamarna Leases - December 2017

	Gruyere Pro	ject Joint Ven basis	ture - 100%	G	old Road - 50	%
Project Name / Category	Tonnes (Mt)	Grade (g/t Au)	Contained Metal (Moz Au)	Tonnes (Mt)	Grade (g/t Au)	Contained Metal (Moz Au)
Gruyere Total	143.46	1.27	5.88	71.73	1.27	2.94
Measured	14.06	1.16	0.53	7.03	1.16	0.26
Indicated	91.52	1.27	3.73	45.76	1.27	1.87
Measured and Indicated	105.58	1.25	4.26	52.79	1.25	2.13
Inferred	37.88	1.33	1.62	18.94	1.33	0.81
Attila + Alaric + Montagne + Argos + YAM14 Total	13.19	1.48	0.63	6.59	1.48	0.31
Measured	0.29	1.99	0.02	0.14	1.99	0.01
Indicated	7.11	1.63	0.37	3.56	1.63	0.19
Measured and Indicated	7.40	1.64	0.39	3.70	1.64	0.20
Inferred	5.79	1.28	0.24	2.89	1.28	0.12
Total Yamarna	156.65	1.29	6.51	78.32	1.29	3.25
Measured	14.35	1.18	0.54	7.17	1.18	0.27
Indicated	98.63	1.29	4.10	49.31	1.29	2.05
Measured and Indicated	112.98	1.28	4.65	56.49	1.28	2.32
Inferred	43.67	1.32	1.86	21.83	1.32	0.93

#### Ore Reserve Estimate for the Yamarna Leases - December 2017

	Gruyere Pr	oject Joint Ven	ture - 100% basis	Gold Road - 50%			
Project Name / Category	Tonnes Grade		Contained Metal (Moz Au)	Tonnes (Mt)	Grade (g/t Au)	Contained Metal (Moz Au)	
Gruyere Total	93.76	1.18	3.56	46.88	1.18	1.78	
Proved	14.91	1.09	0.52	7.45	1.09	0.26	
Probable	78.85	1.20	3.04	39.43	1.20	1.52	
Attila + Alaric Total	3.59	1.5	0.18	1.80	1.5	0.09	
Proved	0.32	1.7	0.02	0.16	1.7	0.01	
Probable	3.27	1.5	0.16	1.63	1.5	0.08	
Total Yamarna	97.35	1.20	3.74	48.68	1.20	1.87	
Proved	15.23	1.11	0.54	7.62	1.11	0.27	
Probable	82.12	1.21	3.20	41.06	1.21	1.60	

#### Notes:

- All Mineral Resources and Ore Reserves are completed in accordance with the JORC Code 2012 Edition
- Mineral Resources are inclusive of Ore Reserves
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding
- All dollar amounts are in Australian dollars
- All Mineral Resources are reported at various cut-off grades according to material type, metallurgical recovery and distance to the Gruyere Mill (in construction). Gruyere 0.34 g/t Au (fresh), 0.30 g/t Au (transition), 0.29 g/t Au (Oxide). Attila, Argos, Montagne and Alaric 0.50 g/t Au. YAM14 0.40 g/t Au. All Mineral Resources are constrained within a \$1,850/oz optimised pit shell derived from mining, processing and geotechnical parameters from ongoing Pre-Feasibility Studies and operational studies
- The **Ore Reserves** are evaluated using variable **cut off grades**: Gruyere 0.34 g/t Au (fresh), 0.30 g/t Au (transition), 0.29 g/t Au (oxide). Attila 0.70 g/t Au (fresh), 0.60 g/t Au (transition), 0.55 g/t Au (oxide). Alaric 0.67 g/t Au (fresh), 0.62 g/t Au (transition), 0.57 g/t Au (oxide). The Ore Reserves are constrained within a **\$1,600/oz mine design** derived from mining, processing and geotechnical parameters as defined by Pre-Feasibility Studies and operational studies. **Ore block tonnage dilution averages and gold loss estimates**: Gruyere 4.9% and 0.4%. Attila 14% and 3%. Alaric 20% and 6%. The 2016 Ore Reserve was evaluated using a gold price of A\$1,400/oz (ASX announcement dated 8 February 2016)
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary
  of Gold Fields. Figures are reported on a 100% basis unless otherwise specified
- Gold Road holds an uncapped 1.5% net smelter return royalty on Gold Fields' share of production from the Gruyere JV once total gold production from the Gruyere JV exceeds 2 million ounces



#### **Competent Persons Statements**

#### **Exploration Results**

The information in this report which relates to Exploration Results is based on information compiled by Mr Justin Osborne, Executive Director-Exploration and Growth for Gold Road. Mr Osborne is an employee of Gold Road, and a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM 209333). Mr Osborne is a shareholder and a holder of Performance Rights. Mr Osborne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Osborne consents to the inclusion in the report of the matters based on this information in the form and context in which it appears

#### **Mineral Resources**

The information in this report that relates to the Mineral Resource for Gruyere is based on information compiled by Mr Mark Roux. Mr Roux is an employee of Gold Fields Australia and is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM 324099) and is registered as a Professional Natural Scientist (400136/09) with the South African Council for Natural Scientific Professions. Mr Justin Osborne, Executive Director-Exploration and Growth for Gold Road and Mr John Donaldson, General Manager Geology for Gold Road have endorsed the Mineral Resource for Gruyere on behalf of Gold Road.

- Mr Osborne is an employee of Gold Road and a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM 209333). Mr Osborne is a shareholder and a holder of Performance Rights.
- Mr Donaldson is an employee of Gold Road and a Member of the Australian Institute of Geoscientists and a Registered Professional Geoscientist (MAIG RPGeo Mining 10147). Mr Donaldson is a shareholder and a holder of Performance Rights.

The information in this report that relates to the Mineral Resource Estimation for Attila, Argos, Montagne, Alaric and YAM14 is based on information compiled by Mr Justin Osborne, Executive Director-Exploration and Growth for Gold Road, Mr John Donaldson, General Manager Geology for Gold Road and Mrs Jane Levett, Principal Resource Geologist for Gold Road.

Mrs Levett is an employee of Gold Road and is a Member of the Australasian Institute of Mining and Metallurgy and a Chartered Professional (MAusIMM CP 112232).

Messrs Roux, Osborne and Donaldson and Mrs Levett have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Messrs Roux, Osborne and Donaldson and Mrs Levett consent to the inclusion in the report of the matters based on this information in the form and context in which it appears.

#### Ore Reserves

The information in this report that relates to the Ore Reserve for Gruyere is based on information compiled by Mr Daniel Worthy. Mr Worthy is an employee of Gruyere Mining Company Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM 208354). Mr Max Sheppard, Principal Mining Engineer for Gold Road has endorsed the Ore Reserve for Gruyere on behalf of Gold Road.

Mr Sheppard is an employee of Gold Road and is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM 106864).

The information in this report that relates to the Ore Reserve for Attila and Alaric is based on information compiled by Mr Max Sheppard, Principal Mining Engineer for Gold Road.

Mr Worthy and Mr Sheppard have sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity currently being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Worthy and Mr Sheppard consent to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

#### New Information or Data

Gold Road confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources and Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not materially changed from the original market announcement.



# **Material Information Summaries**

**Gruyere Mineral Resource** 

**Gruyere Ore Reserve** 

**Attila and Alaric Mineral Resource** 

**Attila and Alaric Maiden Ore Reserve** 

**YAM14 Maiden Mineral Resource** 

**Argos Mineral Resource Update** 

**Montagne Mineral Resource Update** 



# **Gruyere Mineral Resource**

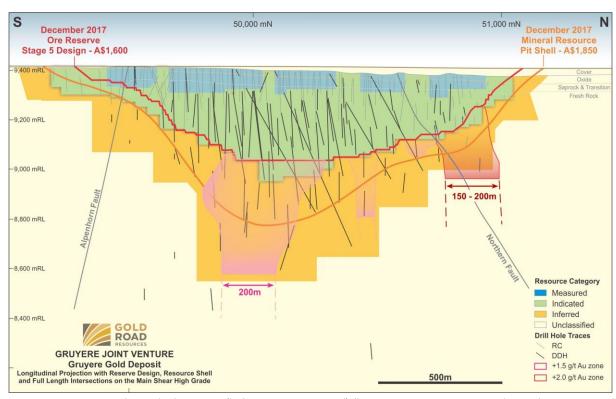
Responsibility for the December 2017 update for the Gruyere Project transitioned from Gold Road to Gold Fields as Manager of the Gruyere JV. Gold Road Competent Persons maintained a detailed peer review process with its joint venture partner and is satisfied the Mineral Resource has been completed in accordance with the JORC Code 2012 Edition. The Mineral Resource is constrained within an A\$1,850 per ounce Whittle optimised pit shell and quoted at varying cut-off grades depending on material type, starting at 0.34 g/t Au for fresh, 0.30 g/t Au for transitional and 0.29 g/t Au for oxide. The December 2017 Mineral Resource totals 143,461,000 tonnes at 1.27 g/t Au for a total of 5,878,000 ounces of gold (Table 3 and Figure 5).

Table 3: Summary of the Gruyere December 2017 Mineral Resource

Project Mineral Resource - June 20			une 2017	Mineral Res		Change %			
Name / Category	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal	Tonnes	Grade	Ounces
,	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz)
Gruyere									
Total	147,709,600	1.30	6,160,000	143,461,000	1.27	5,878,000	-2.9%	-1.8%	-4.6%
Measured	13,863,400	1.18	525,700	14,060,000	1.16	526,000	1%	-1%	0%
Indicated	91,117,400	1.29	3,786,600	91,518,000	1.27	3,732,000	0%	-2%	-1%
Inferred	42,728,800	1.35	1,847,700	37,883,000	1.33	1,620,000	-11%	-1%	-12%

#### Notes:

- All Mineral Resources are completed in accordance with the JORC Code 2012 Edition
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding
- Mineral Resources are inclusive of Ore Reserves
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary
  of Gold Fields Ltd. Figures are reported on a 100% basis unless otherwise specified
- Cut-off Grade (g/t Au) = 0.34 (fresh), 0.30 (transitional), 0.29 (oxide) and constraining optimised pit shell Gold Price (A\$/oz Au) = \$1,850
- Mining, processing and geotechnical parameters for evaluation were derived from ongoing operational planning studies.



**Figure 5:** Gruyere Deposit longitudinal projection (looking west, Gruyere Grid) illustrating resource categories and December 2017 Mineral Resource constraining pit shell and Ore Reserve stage 5 pit design. Shaded pink (+1.5 g/t Au) and red (+2.0 g/t Au) areas represent higher grade shoots with possible future underground potential to be assessed.



#### **Mineral Resource Variance**

The Gruyere Mineral Resource decreased by 4.6% to 5.88 million ounces due to: new drilling at depth which intersected lower grade mineralisation in the vicinity of the base of the Mineral Resource pit shell; changes to mining cost assumptions aligned with recently awarded mining contract costs; and updated geotechnical parameters (resulting in overall slightly shallower slope angles) compared to the previous Mineral Resource evaluation.

# **Mineral Resource Sensitivity**

Sensitivities for the Gruyere Mineral Resource were not completed as this is now a mining project, and not considered material.

# **Gruyere Geology**

The Gruyere Deposit comprises a narrow to wide porphyry intrusive dyke (Gruyere Porphyry – a Quartz Monzonite) which is between 5 to 10 metres, at its narrowest, to a maximum 190 metres in width and with a mineralised strike over a current known length of 2,200 metres. The Gruyere Porphyry dips steeply (65-80 degrees) to the east. A sequence of intermediate to mafic volcaniclastic rocks defines the stratigraphy to the west of the intrusive, while intermediate to mafic volcanics and a tholeiitic basalt unit occur to the east.

Mineralisation is confined ubiquitously to the Gruyere Porphyry and is associated with pervasive overprinting albite-sericite-chlorite-pyrite (±pyrhhotite±arsenopyrite) alteration which has obliterated the primary texture of the rock. Minor fine quartz-carbonate veining occurs throughout. Pyrite is the primary sulphide mineral and some visible gold has been observed in logged diamond drill core.

The Gruyere Deposit is situated at the north end of the Dorothy Hills camp-scale target identified by Gold Road during its regional targeting campaign completed in early 2013. The Gruyere Deposit comprises coincident structural and geochemical features within a major regional-scale structural corridor associated with the Dorothy Hills Shear Zone. This zone occurs within the Dorothy Hills Greenstone Belt at Yamarna in the eastern part of the Archaean Yilgarn Craton. The Dorothy Hills Greenstone is the most easterly known occurrence of outcropping to sub-cropping greenstone in the Yilgarn province of Western Australia.

#### **Gruyere Project History**

In 2012 Gold Road completed detailed aeromagnetic and radiometric surveys across its Yamarna tenement holdings. This dataset was the foundation for a major regional targeting program which combined multiple data sets and multi-scale concepts to identify discrete Camp Scale Targets capable of hosting multi-million ounce gold systems. A total of ten Camp Scale Targets were defined. The first target tested in July 2013, the South Dorothy Hills Camp, a combined structural and redox target, defined low level gold anomalism from shallow RAB and auger drilling. Follow-up Reverse Circulation (RC) drilling completed in September 2013 intersected gold mineralisation in all seven holes at the Gruyere target. Subsequent extensional and resource drilling completed to June 2014 (38,000 metres comprising 26,000 metres RC and 12,000 metres Diamond) allowed declaration of a JORC Code 2012 Edition Maiden Resource estimate in August 2014, only nine months from discovery.

Successful completion of pre-feasibility studies in February 2016 and a feasibility study in October 2016, was followed by the 50:50 joint venture agreement with Gold Fields Australia to construct and operate the Gruyere Project.



# **Gruyere Deposit Geology**

## **Geology and Geological Interpretation**

The Gruyere stratigraphic sequence comprises upper greenschist-facies tholeiitic meta-basalt overlain by a sequence of mafic to intermediate volcaniclastic rocks and thin-bedded epiclastic meta-sediments. The Gruyere porphyry has intruded this sequence along the Dorothy Hills shear zone. The meta-basalt occurs in the immediate hanging wall of the Gruyere porphyry south of the cross-cutting Alpenhorn Fault, volcaniclastic rocks of intermediate composition form the hanging wall north of the fault and the footwall of the porphyry. An unmineralised intermediate porphyry, texturally similar to the Gruyere porphyry, is present south of the Alpenhorn fault.

Averaging 90 metres in thickness, the Gruyere porphyry ranges from 5 to 10 metres wide at its northern and southern extremities, to a maximum width of 190 metres in the centre of the deposit. Narrow unmineralised extensions to the porphyry have been traced up to 1,000 metres north and over 1,500 metres south of the current defined deposit. A steep dipping, strike parallel mafic dyke, one to five metres wide, is observed proximal to the hanging wall along the full length of the deposit. Other narrow sub-parallel, intensely sheared, mafic to intermediate dykes and/or rafts of country rock are interpreted as being developed during the intrusion of the porphyry or development of the Dorothy Hills shear zone.

# **Regolith and Weathering**

Quaternary aeolian sands one to three metres thick, with localised dunes up to 10 metres in height, cover the entire surface at Gruyere. A semi-consolidated sequence of Cenozoic channel sediments that underlies the aeolian sand is absent over the southern part of the Gruyere porphyry, but gradually increases in thickness to 25 to 30 metres at the northern end. The depth of weathering in the Archean rocks increases from the south (45 metres) to the north (85 metres) where a truncated profile of kaolin rich upper saprolite grades into fresh bedrock. Mineralisation is present in the weathered zone but approximately 85% of the total resource is in fresh rock.

#### **Gold Mineralisation**

The entire Gruyere porphyry is variably altered. Weak to strong gold mineralisation is associated with muscovite-sericite-biotite, chlorite-muscovite-biotite, chlorite-albite, and strong albite alteration. The sulphides commonly associated with gold are pyrite, with pyrrhotite and arsenopyrite associated with higher grade zones. There are multiple generations of quartz ± carbonate vein sets: early veins parallel to the shear foliation; late tabular veins (1-100 cm thick) at a high angle to the foliation with variable albite alteration selvages; veins with chlorite margins; chlorite fractures ± albite halos; and fine stockwork veins in areas of intense alteration.

Mineralisation is interpreted to be related to the complex shear deformation; the porphyry, which is more competent and brittle compared to relatively ductile host rocks, fractured creating increased permeability relative to the country rocks. This allowed gold bearing mineralising fluids to flow through the rock mass resulting in relatively uniform disseminated gold mineralisation confined to the porphyry. Northwest striking, crosscutting thrust faults, initially interpreted from magnetic data and changes in stratigraphy are an important control to mineralisation. The faults are coincident with zones of thickening of the porphyry (Alpenhorn Fault) and with areas of high-grade in the north (Northern Fault), and are interpreted to have acted as additional conduits, although non-mineralised, to fluid flow through the porphyry during the gold mineralising event.



# Drilling Techniques, Sampling and Sub-sampling Techniques, and Sample Analysis

Sampling of the Gruyere Deposit has been carried out using a combination of RC and diamond drilling. Drilling was completed between 2013 and 2017 and was undertaken by several different companies. The orientation of the drilling is approximately perpendicular to the regional dip and strike of the targeted mineralisation and a local grid is utilised for both drilling and modelling.

Drill core is cut in half by a diamond saw and half core samples collected to geological contacts, at an average length of one metre, and submitted for assay analysis. One metre RC drill samples are channelled through a cone splitter, and an average 2 to 3 kilogram sample is collected in a calico bag that is submitted for assay analysis. Gold Road has protocols in place to ensure sample quality is kept to high standards. At the assay laboratory all samples are fully pulverised to -75  $\mu$ m (90% passing 75  $\mu$ m or 90p75), to produce a 50 gram charge for Fire Assay with either AAS or ICPOES finish.

## **Mineral Resource Model**

The bulk of the mineralisation has been constrained to the host intrusive (Gruyere Porphyry) below the base of Quaternary and Cenozoic cover utilising wireframes constructed using cross-sectional methods. Several north-northwest dipping cross-cutting arcuate and linear faults have been interpreted from airborne magnetics, the distribution of lithology and diamond core intersections of faults. The Alpenhorn Fault and to a lesser degree the Northern Fault have been used to constrain the distribution of mineralisation.

Mineralisation within the intrusive host has been implicitly modelled to the mineralisation trends discussed below at a constraining 0.3 g/t cut-off.

Four mineralisation Domains have been modelled:

- 1. The Primary Domain corresponds to mineralisation hosted in fresh, transitional and saprock Gruyere Porphyry. The mineralisation trend is along strike and steeply down dip.
- 2. A Weathered Domain corresponds to mineralisation hosted in deeply weathered (saprolite) Gruyere Porphyry. The mineralisation trend is flat lying, reflecting the weathering processes.
- 3. A minor Domain corresponds to a flat lying, 4 to 5 metres thick, gold dispersion blanket interpreted near the saprolite boundary and hosted within hangingwall and footwall lithologies.
- 4. A background Domain was used to constrain very weakly mineralised Gruyere Porphyry, this domain is not classified.

Analysis shows this model reconciles very well at both the global and local scales against the previously released model. At a 0.5 g/t cut-off within the 2016 Mineral Resource shell there is a minimal global variance of -1% for tonnes, 0% for grade and -2% for ounces in comparison to the previous model. At a 1.0 g/t cut-off within the 2016 Mineral Resource shell, there is a minimal global variance of -7% for tonnes, +3% for grade and -4% for ounces in comparison to the previous model.

Several internal models and four published resource estimates were produced prior to the publication of this Mineral Resource. These were used to plan drilling programs, manage performance and expectation, and test geological interpretation on an ongoing basis during and after the various drilling campaigns.



# **Estimation Methodology**

Gold grade is estimated using a conditional simulation approach. One hundred realisations of point-scale gold grade simulations, on a 5 metres X by 12.5 metres Y by 5 metres Z grid, were developed to simulate a future grade control pattern and grade distributions. From this simulated pattern 100 kriged grade control models were estimated. Re-blocking and Localised Uniform Conditioning (LUC) processes were then used to develop a single simulation realisation for reporting the resource and evaluation or Ore Reserves. This simulation is approximately representative of the median simulation (although all simulation realisations are considered equally probable). The technique is globally accurate and provides a refined estimate of the grade tonnage curve that is not overly smoothed (as in conventional Ordinary Kriging) resulting in less tonnes at higher grade above a given cut-off, and which adds value to economic evaluation at higher cut-offs (e.g. 1.0 g/t) to enable more effective and realistic mine planning. The models created before this resource (and post September 2015) utilised a Localised Uniform Conditioning technique which produces similar results.

Top-cuts were applied to 2 metre composite assay data selected within mineralisation wireframes. The selection methodology to derive the top-cut value combines interrogation of disintegration points on the histogram with detailed analysis of the cumulative distribution plots.

# **Criteria Used for Classification**

The Mineral Resource has been constrained within an optimised Whittle pit shell. Blocks in the geological model within that shell have been classified as Measured, Indicated or Inferred. Several factors have been used in combination to aid the classification including drill hole spacing, geological and grade continuity, and estimation quality parameters (Table 4).

Table 4: Gruyere resource classification criteria

Domain	Criteria	Measured	Indicated	Inferred	Unclassified
	Target Spacing	25 m X by 25 m Y	50 m X by 100 m Y	100 m X by 100 m Y	
	Actual Spacing	12.5 m X by 12.5 m Y to	25 m X to 65 m X by 100 m Y with	100 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.
Primary	Actual Spacing	25 m X by 25 m Y	extra holes on 50 m Y	Footwall contact of along strike hole 14GYDD0061	
,	Boundary Extension	10 to 15 m along strike	25 m along strike	50 - 100 m along strike	
		Closet 5 m RI from bottom of hole	Minimal down dip - except North end 30 m from drilling. Drilling needs to define full width of intrusive host.	Minimal down dip - except North end 50 m from Indicated boundary	
Weathered	Target Spacing	12.5 to 25 m X by 25 m Y	50 m X by 100 m Y		
	Actual Spacing	12.5 m X by 12.5 m Y to 25 m X by 25 m Y	25 m X to 50 m E by 100 m Y with extra holes on 50 m Y		
Dispersion Blanket	Actual Spacing			25 to 50 m X by 25 to 100 m Y	"Potential" beyond Inferred to limits of geological model.

# Mining methods, metallurgical parameters, and other modifying factors

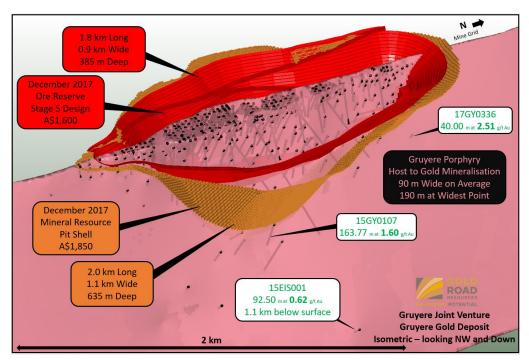
The Mineral Resources has been constrained by an optimised Whittle pit shell to determine the portion of the total mineralised inventory that has a reasonable prospect of eventual economic extraction. Only Measured, Indicated and Inferred resource categories of mineralisation that fall within this optimised pit shell have been reported as Mineral Resource. The cut-off grade used for reporting the resource contained within the optimised shell is 0.34 g/t Au (fresh), 0.30 g/t Au (transitional), 0.29 g/t Au (oxide). The mining strategy assumes conventional open pit methods with a contract mining fleet appropriately scaled to the size of the deposit. De facto minimum mining width is a function of parent cell size during optimisation (5 metres X by 12.5 metres Y by 5 metres Z). No allowance for dilution or mining recovery has been made as this is allowed for in the block size used in the estimate which represents the assumed Standard Mining Unit (SMU). Modifying factors have been adapted from the latest mining and geotechnical parameters, processing costs and metallurgical recoveries established during ongoing operational studies.



# **Gruyere Ore Reserve**

# **Highlights**

The December 2017 Gruyere Ore Reserve stands at **93,761,200 tonnes at 1.18 g/t containing 3,563,000 ounces** of gold and represents a modest increase of 44,000 ounces compared to the previous Ore Reserve declared in October 2016 as defined by the Gruyere Feasibility Study (Figure 6). The variance takes into consideration an updated geological model incorporating additional resource drilling at depth and near-surface grade control drilling, and reflects an updated 5-stage mine design consistent with the Gruyere JV 2018 Business Plan.



**Figure 6**: Gruyere Deposit isometric (looking north-west and down) showing December 2017 Mineral Resource constraining pit shell and Ore Reserve stage 5 pit design and dimensions

# **Gruyere Ore Reserve**

The Ore Reserve for the Gruyere Project is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 Edition). The Mineral Resource was converted to Ore Reserve in consideration of the level of confidence in the Mineral Resource estimates and reflecting appropriate modifying factors. Mineral Resource estimates are reported inclusive of those Mineral Resources converted to Ore Reserves. The proved Ore Reserve estimate is based on Mineral Resource classified as Measured. The Probable Ore Reserve estimate is based on Mineral Resource classified as Indicated. Table 5 presents a summary of the Gruyere Ore Reserve on a 100% Project basis at an A\$1,600/oz gold price.

Table 5: Gruyere Ore Reserve

Ore	Ore R	Ore Reserve – June 2017			rve - Decem	ber 2017	Variance		
Reserve Category	Tonnes (Mt)	Grade (g/t)	Contained Metal (koz Au)	Tonnes (Mt)	Grade (g/t)	Contained Metal (koz Au)	Tonnes (Mt)	Grade (g/t)	Contained Metal (koz Au)
Proved	14.9	1.09	520	14.9	1.09	524	0.0	-0.01	5
Probable	76.7	1.22	3,000	78.8	1.20	3,039	2.1	0.00	39
Proved + Probable	91.6	1.20	3,520	93.8	1.18	3,563	2.2	-0.02	44



# **Key Modifying Factors Applied in Deriving the Gruyere Ore Reserve**

Table 6 provides details of the Mineral Resource and Mineral Reserve declaration prices and Table 7 details of the key modifying factors.

Table 6: Mineral Resource and Mineral Reserve gold prices

Mineral Resource and Mineral Reserve Declaration Prices									
	June	2017	December 2017						
	Resources	Reserves	Resources	Reserves					
US\$/oz	1,241	1,095	1,388	1,200					
A\$/oz	1,700	1,500	1,850	1,600					
Exchange Rate (US\$:A\$)	0.73 0.73 0.75								

Table 7: Key Modifying Factors

Modifying factors	Units	June 2017	December 2017
	US\$/oz	1,241	1,388
Mineral Resource gold price	US\$/A\$	0.73	0.75
	A\$/oz	1,700	1,850
Cut-off for open pit	g/t	0.50	0.29 - 0.34
	US\$/oz	1,125	1,200
Mineral Reserve gold price	US\$/A\$	0.75	0.75
	A\$/oz	1,500	1,600
Cut-off for oxide ore	g/t	0.35	0.34
Cut-off for transitional ore	g/t	0.39	0.38
Cut-off for fresh ore	g/t	0.43	0.42
Cut-off for mill feed open pit	g/t	0.35 - 0.43	0.34 - 0.42
Mining recovery factor (open pit)	%	98.6	99.6
Dilution open pit	%	3.2	4.9
Plant recovery factor	%	87 - 95	88 - 94
Processing capacity	Mtpa	7.5 – 8.8	7.5 – 8.8

# **Gruyere Mining Operations**

# Life of Mine Plan

Mining methods used at Gruyere Gold Mine will be contract Open Pit mining with excavator and truck configuration. Infrastructure will include but not be limited to: offices, workshops, haul roads, processing plant and tailings storage facility.

The current Mineral Reserves at Gruyere provides a mine life until 2031. First gold production from the Gruyere Processing Plant is scheduled for March 2019.

# **Mineral Processing**

Processing will be via a 7.5 to 8.8 Mtpa SABC crushing and comminution circuit with gravity and Carbon in Leach (CIL) gold recovery at the Gruyere processing plant. Run of mine (ROM) ore will be trucked and tipped into the primary gyratory crusher or stockpiled on the ROM pad. Discharge from the primary crusher will be transferred via conveyors onto a coarse ore stockpile (COS).



The COS capacity is 70,000 t. Apron feeders under the COS stockpile reclaim and transfer ore to the SAG mill feed conveyor which feeds the two-stage grinding circuit. The first stage is a grate discharge SAG mill in open circuit (with closed circuit pebble crushing) and the second stage is an overflow discharge ball mill in closed circuit. This is followed by a gravity concentration and in-line leach reactor, and a hybrid CIL recovery circuit consisting of 1 leach tank, 6 adsorption tanks and an elution circuit.

The gold in the pregnant solutions from the intensive leaching and elution circuit will be recovered via electrowinning in the gold room. The recovered gold is smelted in a furnace to produce the final gold product (doré bars).

# **Tailings Disposal**

A single Tailings Storage Facility (**TSF**) at Gruyere is currently being constructed immediately east of the Gruyere pit and north-east of the processing plant. The Integrated Waste Landform (IWF) (i.e. a TSF built within a Waste Rock Landform) will be constructed in stages over the project life to store tailings from the processing plant. This facility will have a total capacity of 92.43Mt.

TSF management and monitoring plans, including annual audits by a third party geotechnical engineer, will be in place to effectively manage all aspects of the TSF.

Capital costs are included in the reserve-only financial model to cover construction of the initial lift of the TSF in 2018.

Gruyere is a signatory to the International Cyanide Management Code. Cyanide discharge concentrations to the TSF will be managed by controlling cyanide addition at the plant.

#### Infrastructure

On-site power is currently provided by diesel generators located at the camp, offices and bore fields.

Future on-site power will be provided via a 45 megawatt gas-fired power station with a 198 km gas pipeline extending from the Eastern Goldfields Gas Pipeline to site. The APA Group is designing and building their own pipeline and power station to provide power to the project on a 15 year take-or-pay contract.

Desert Sands, a locally based business, completed the initial earthworks including ground works for the Gruyere Village Stage 1 and 2, upgrading of existing roads and tracks and installation of new tracks as part of the Early Works Programme.

MACA Civil Pty Ltd (MACA) were awarded the bulk earthworks contract for developing the main access road, bore field access tracks, airstrip, process plant earthworks and tailings storage facility. Additional work has included stripping topsoil from the Stage 1 pit, ROM pad construction, diversion drain construction and excavation of a borrow pit for sourcing material for the TSF embankment walls.

The Engineering, Procurement and Construction (EPC) contract was awarded to Amec Foster Wheeler Civmec Joint Venture (ACJV). The EPC contract was awarded on a fixed-price lump-sum basis (A\$300 million contract) with scope of work covering the detailed design, procurement and installation of the process plant, administration office, workshop, warehouse as well as the main pipelines and powerlines to the bore field. A concrete batch plant was commissioned onsite to provide concrete for construction in the plant area. The fabrication of all steel is being performed at Civmec's Henderson facility in Western Australia, using Australian sourced steel.



Gruyere Village Stage 1 installation consisted of 288 rooms and was completed by the McNally Group in March 2017. An additional 360 rooms were installed in Stage 2 and completed in May 2017. The 648-room camp, offices and recreational facilities were completed in June 2017. Accommodation and messing services for the camp are provided by Compass Group.

Flights are chartered and currently use the sealed airstrip adjacent to the Gruyere village. The sealed airstrip is Civil Aviation Safety Authority (CASA) compliant and is suitable for up to 100 seat jet aircraft. The airstrip has a 2.1 kilometre long runway with a secure airport terminal.

GR Engineering services constructed and commissioned the eight-bore Anne Beadell Bore Field which provides the water required for construction works and potable water for the Gruyere Village. Potable water is processed via reverse osmosis and is disinfected using ultra-violet light filtration systems.

The Yeo bore field is being developed jointly by MACA and ACJV and will be the main source of water for the processing plant. The processing plant will require approximately 20,500 kl/d. Water will also be harvested and recycled from the TSF and returned to the processing plant.

#### **Capital Expenditure**

Capital costs for Gruyere are based on items that will maintain operations for planned Reserve-Only life of mine. Major budgeted capital expenditure items for 2017 include: process plant construction and project infrastructure development (bore fields, airstrip, access roads, and tailings storage facility).

Approved Project Capital expenditure remains at A\$532 million.

# **Operating Costs**

The total operating cost in the business plan financial model for the Reserve-Only case for Gruyere is A\$36.05 per tonne of ore.

Operating costs have been broken into three main areas, with the following average costs over the Reserve-Only life of mine:

- Mining (A\$14/t ore)
- Processing (A\$16/t ore)
- General and Administration (A\$6/t ore)

Gruyere has a total estimated rehabilitation liability of A\$62.8 million, which is not included in the Reserve-only financial model for 2017, as per regional guidance.

# **Legal Aspects and Tenure**

# **Nature of Rights**

Gruyere is located within the Yamarna Pastoral Lease (LA3114/854). The Yamarna Pastoral Lease covers an area of 149,000 ha and is wholly owned and managed by Gold Road. The lease renewal was granted on 1 July 2015 with the expiry date being 14 July 2062.

The Gruyere combined tenements cover an area of approximately 201,068 ha consisting of a total of 68 granted leases. Gruyere has 100% interest in all mineral rights to 12 mining leases for a total area of 13,286 ha. In addition, Gruyere holds 1,055 ha of exploration leases (2), 186,691 ha of miscellaneous licences (53) for mine infrastructure such as pipelines and power lines, and 36 ha for a single prospecting licence.

The tenements are subject to the Mining Act 1978 (WA).



The operation of the Gruyere Project and associated activities are governed by numerous Western Australian statutes. Gruyere also holds specific licences for ground water extraction, rubbish and sewerage disposal.

#### Royalty

The tenements are subject to the Mining Act 1978 (WA) and as part of this legislation annual rental payments for each tenement and a 2.5% royalty on gold sold is payable to the Government of Western Australia.

## **Security of Tenure**

In Australia, with few exceptions, all onshore mineral rights are reserved to the government of the relevant state or territory. The Mining Act 1978 (WA) (the **WA Mining Act**), is the principal piece of legislation governing exploration and mining on land in Western Australia. Licenses and leases for, among other things, prospecting, exploration and mining must be obtained pursuant to the requirements of the WA Mining Act before the relevant activity can begin. Where native title has not been extinguished, native title legislation may apply to the grant of tenure and some subsequent administrative processes. Heritage legislation may operate to preclude or regulate the disturbance of a particular area.

The maximum initial term of a mining lease is 21 years and the holder has the right to renew the lease for a further period of 21 years. Subsequent renewals are subject to the minister's discretion and the lease can only be assigned with the consent of the relevant minister. Royalties are payable as specified in the relevant legislation in each state or territory. A general-purpose lease may also be granted for one or more of a number of permitted purposes.

Gruyere has security of tenure for all current exploration and mining leases that contribute to future ore reserves as reported in this release. If mining expansion is required into additional areas currently held under exploration, it would need to convert the relevant exploration licenses prior to commencing mining. There are no current resources reported on exploration tenements. All other permitting and licensing procedures required to start any future mining operation: inclusive but not limited to issues of native title, heritage, local disturbance, clearing, environmental, power and water extraction / disposal permitting; and follow well established legal and effective state/ mine authorisation protocols with the relevant state authorities. Experience to date and knowledge of local legislation indicate that this will continue for the foreseeable future and should not adversely impact any future mining of reserves.

# **Environment and Community**

## **Environment**

Gruyere is entitled to mine all declared material falling within its respective mineral rights and/ or mining rights. All necessary statutory mining authorisations and permits are in place. Currently, there are no legal, NGO, or stakeholder issues that will impact the operation. Mining operations on tenements in Western Australia must be developed and operated in compliance with the Commonwealth and State environmental legislative requirements.

#### Community

The Gruyere Project is located approximately 150 kilometres to the north-west of Laverton, within the land on which the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011) native title claim area was determined by the Federal Court on 27 September 2017. The common law of Australia recognises a form of Native Title which reflects the entitlement of indigenous people, in accordance with their laws or customs, to enjoy their traditional lands.



Cosmo Newberry is a small indigenous community located approximately 100 kilometres by road north-west of the project area. The community is managed through its corporate body, CNAC, incorporated under the Aboriginal Councils and Associations Act 1976 in 1991. In 1994 the community made the decision to become affiliated with Ngaanyatjarra Council.

The Gruyere JV values the relationship which has been established with the Traditional Owners of the Land on which the projects are located and has formed good working relations with the Yilka people and a developing understanding of their cultural heritage.

The Gruyere JV is committed to maintaining a long term partnership with the Yilka people to ensure JV projects can bring a range of benefits to the traditional owners including direct and indirect employment.

The Gruyere JV recognises the positive impacts that mining operations such as Gruyere can bring to remote communities, such as possible business opportunities and economic benefits through rates, charges and community investment.



# **Attila and Alaric Mineral Resource**

Gold Road has completed a Mineral Resource update for the Attila and Alaric deposits, in accordance with the JORC Code 2012 Edition. The December 2017 Maiden Mineral Resource is constrained within an A\$1,850 per ounce Whittle optimised pit shell and quoted at a 0.5 g/t Au cut-off.

The December 2017 Mineral Resource at Attila totals **5.58 million tonnes at 1.65 g/t Au for a total of 295,800 ounces** of gold, and the Mineral Resource at Alaric totals **1.85 million tonnes at 1.57 g/t Au for a total of 93,300 ounces** of gold (Table 8 and 7, Figure 7 and 4). While the Mineral Resource estimation for these two deposits remains unchanged from the iterations published in May (Attila) and July (Alaric) 2017, the final reported quantities have reduced in this new report based on updated metallurgical studies completed as part of a Prefeasibility Study, which demonstrated lower gold recoveries than previously applied for the fresh rock component of the mineralisation.

Table 8: Summary comparison of the May 2017 and December 2017 Attila Mineral Resource

	Mineral I	Mineral Resource – May 2017			ource – Dece	mber 2017	Change %		
Resource Category	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal
	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz Au)
M, I & I	6,570,900	1.55	327,400	5,577,600	1.65	295,800	-15%	6%	-10%
Measured	314,600	1.90	19,200	289,000	1.99	18,500	-8%	5%	-4%
Indicated	5,678,500	1.53	280,100	4,994,900	1.63	261,100	-12%	6%	-7%
Inferred	577,800	1.51	28,100	293,700	1.71	16,200	-49%	13%	-42%

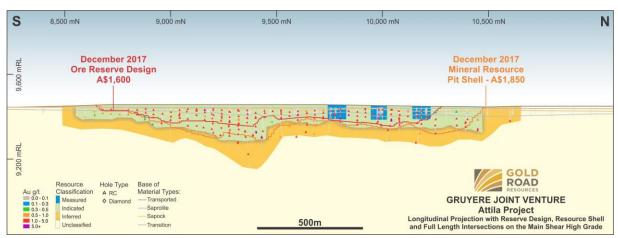
Table 9: Summary comparison of the July 2017 and December 2017 Alaric Mineral Resource

	Mineral	Mineral Resource - July 2017			Mineral Resource – December 2017			Change %		
Resource Category	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal	Tonnes	Grade	Contained Metal	
	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz Au)	(t)	(g/t Au)	(oz Au)	
M, I & I	1,920,900	1.51	93,400	1,849,100	1.57	93,300	-4%	4%	0%	
Measured	-	-	-	-	-	-				
Indicated	1,236,500	1.70	67,500	1,199,100	1.74	67,000	-3%	2%	-1%	
Inferred	684,400	1.18	25,900	649,900	1.26	26,300	-5%	7%	2%	

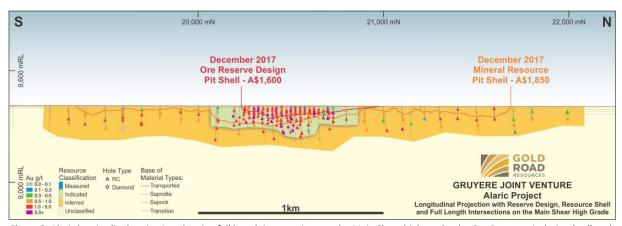
#### Notes:

- All Mineral Resources are completed in compliance with the JORC Code 2012 Edition
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary
  of Gold Fields Ltd. Figures are reported on a 100% basis unless otherwise specified
- The Attila and Alaric Mineral Resources are reported at a cut-off grade of 0.50 g/t Au and constrained within a A\$1,850 per ounce optimised pit shell
- Attila May 2017 figures published in ASX announcement "Open Pit Resource Increases by 100,000 ounces Addendum dated 25 May
- Alaric July 2017 figures published in ASX announcement "Mineral Resource Doubled 24 July 2017"
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.





**Figure 7:** Attila longitudinal projection showing full length intersections on the Main Shear high grade, the Ore Reserve pit design (red) and the Mineral Resource shell (orange).



**Figure 8:** Alaric longitudinal projection showing full length intersections on the Main Shear high grade, the Ore Reserve pit design (red) and the Mineral Resource shell (orange).

## **Mineral Resource Variance**

The estimation model input to the Mineral Resource optimisation remains unchanged from those announced in May and July 2017 for Attila and Alaric respectively. Changes have been made to the modifying factors during the optimisation process based on data derived from pre-feasibility studies conducted over the two deposit areas. The variance in the Mineral Resources from May and July 2017 (Attila and Alaric respectively) to December 2017 are based solely on the optimisation process principally driven by application of lower gold recovery factors for the fresh rock mineralisation components of both resources, as derived from updated metallurgical studies completed as part of the mining Pre-Feasibility Study.

# **Mineral Resource Sensitivity**

The December 2017 Attila and Alaric Mineral Resource models have been evaluated within pit shells optimised at different gold prices to determine sensitivity to modifying factor assumptions used in the optimisation. Results are reported at 0.5 g/t Au cut-off for a variety of gold prices from A\$1,500 to A\$2,000 per ounce (Table 10 and 9, Figure 9 and 6). The December 2017 Mineral Resource model is sensitive to changes in gold price as a modifying factor, varying from -33% to +4% (Attila) and from -54% to +12% (Alaric) with fluctuations of +/- A\$200 per ounce in gold price.



**Table 10:** Attila Mineral Resource sensitivity to constraining price pit shells.

		Total M, I & I		M, I & I variance of Contained Metal from A\$1,850		
Gold Price (A\$/oz)	Tonnes (Mt)	Grade Contained Metal (koz Au)		Contained Metal variance (koz Au)	Percentage variance (%)	
1,500	3.47	1.78	198.7	-97.0	-33	
1,600	4.10	1.69	223.1	-72.7	-25	
1,700	4.49	1.66	240.0	-55.7	-19	
1,850	5.58	1.65	295.7			
1,900	5.89	1.63	308.0	12.3	4	
2,000	6.19	1.61	319.6	11.6	4	



Figure 9: Attila Mineral Resource model sensitivity to gold price. Gold bar represents the December 2017 Mineral Resource

**Table 11:** Alaric Mineral Resource sensitivity to constraining price pit shells.

Gold Price		Total M, I & I		M, I & I variance of Contained	Metal from A\$1,850
(A\$/oz)	Tonnes (Mt)			Contained Metal variance (koz Au)	Percentage variance (%)
1,500	0.75	1.81	43.3	-50.0	-54
1,600	1.25	1.67	66.9	-26.4	-28
1,700	1.47	1.64	77.7	-15.5	-17
1,850	1.85	1.57	93.2		
1,900	2.13	1.55	105.7	12.5	13
2,000	2.42	1.50	116.5	10.8	12



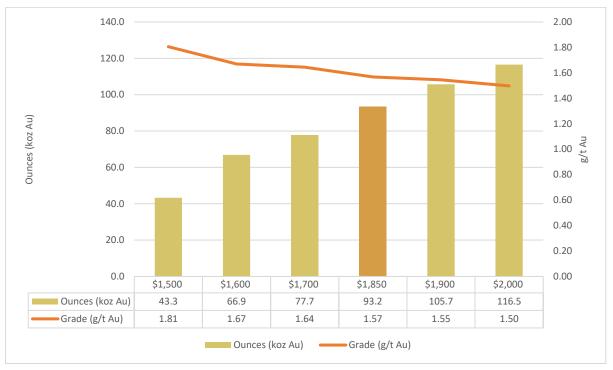


Figure 10: Alaric Mineral Resource model sensitivity to gold price. Gold bar represents the December 2017 Mineral Resource

# **Attila-Alaric Trend Geology**

The Attila-Alaric Trend, which includes the resources at Attila and Alaric, is located on the western side of the Yamarna Greenstone Belt within the Archaean Yilgarn Craton. Most of the greenstone sequence is obscured by a veneer of Quaternary sand and lake deposits.

Mapping of the limited outcrop, logging of drill holes, and interpretation of the aeromagnetic, gravity and seismic data, indicate that the Yamarna Greenstone Belt comprises an upright, highly deformed and metamorphosed greenstone sequence up to 12 kilometres in thickness that can be subdivided into several narrow and elongate units. The metamorphic, structural and alteration overprint makes identification of the original rock types difficult, the mineralised sequence comprises mixed mafic volcanics (basalts, dolerites and gabbros), interflow sediments (including chert, black shale and BIF) and intermediate tuffs and intrusives.

The western side of the Yamarna Greenstone Belt is dominated by a strong, pervasive north-northwest trending and steeply dipping foliation. The aeromagnetic images highlight the attenuated 'train track' nature of the rock units and structures. The Attila and Alaric mineralisation appears to be localised on areas where interpreted cross faulting increases the structural complexity of the otherwise uniform strike orientation.

# **Attila-Alaric Trend Project History**

Gold was first discovered on the Yamarna Greenstone Belt in the early 1980's and the first Resource completed in 1994 on the Attila Project to the south of Alaric. Subsequent exploration focussed on this mineralised trend of highly sheared mafic and intermediate volcanics and sediments parallel to the Yamarna Shear Zone. Mineralisation has been traced over 50 kilometres in strike. The Attila and Alaric Mineral Resources were updated to comply with JORC Code 2012 Edition standards in 2015. Following positive economic evaluation of both the Attila and Alaric deposits, further drilling was completed during 2016 and 2017.



# **Attila and Alaric Deposit Geology**

#### **Geology and Geological Interpretation**

Host rocks to gold mineralisation at Attila are dominated by a sequence of mafic and felsic volcanic intrusives and sediments. The sequence is metamorphosed to upper greenschist – lower amphibolite facies and is strongly foliated. The sequence strikes northwest and dips steeply to the east. A felsic volcanoclastic (Gotham Tuff) marker is noted to the east of the sequence.

At Alaric, a higher proportion of mafic intrusives are noted within a sequence of a intercalated mafic and intermediate volcanic intrusives and sediments. The Main Shear is hosted within a mafic unit, which has a chrome rich doleritic base, 5 to 10 metres in thickness and has been traced the length of the deposit. This dolerite is considered an important chemically reduced unit within the stratigraphic package. The sequence is metamorphosed to upper greenschist – lower amphibolite facies and is strongly foliated.

Gold mineralisation at Attila and Alaric is hosted within north-west striking, steeply east dipping shear zones characterised by laminated quartz-mica-amphibole units. High-grade mineralisation occurs as 3 to 5 metre wide zones proximal to the core of the shear zones, and demonstrate strike continuity.

Mineralisation within the sheared package has been modelled at a 0.2 g/t Au cut-off for Alaric and 0.3 g/t Au cut-off at Attila, including up to 2 metres of internal waste. Internal high-grade zones utilise a 0.5 g/t or a 0.6 g/t Au cut-off respectively. The cut-off values at both deposits were recognised as inflection points in the gold assay data which correspond to the non-mineralised, mineralised, and high-grade populations respectively. Internal high-grade zones also show coincidence with greater intensity of alteration, increased presence of sulphides, and a greater density of fine quartz veining. The low-grade sheared package exhibits a lower intensity of similar alteration and lesser veining.

## **Regolith and Weathering**

The transported cover thickness at Attila and Alaric is minimal. Weathering at Alaric ranges in depth from 10 metres in the south to 40 metres in the north. At Attila the depth of weathering averages 40 metres, with the top 8 to 10 metres generally depleted of gold through leaching processes. The regolith profiles at both deposits is considered stripped, with saprolite thickness of less than 10 metres, and upper saprolitic material and above absent.

#### **Gold Mineralisation**

Gold mineralisation has been identified along the Yamarna Shear Zone, including the Attila-Alaric structural trend, for almost 50 kilometres strike. Mineralisation occurs parallel to the local foliation, principally in the more mafic parts of a sequence of intermediate volcanics and sediments. Multiple parallel zones of mineralisation are common. Mineralisation is associated with early amphibole-albite-biotite-sericite-quartz-garnet-carbonate alteration. The principal sulphide is pyrite, with rare disseminated arsenopyrite and pyrrhotite also observed. A later stage haematite-quartz alteration is interpreted to be associated with oxidised fluids introduced by late stage north-east trending faults which cut the stratigraphy of the Attila-Alaric Trend.

Individual mineralised zones are generally narrow with strong continuity along strike and down-dip. High-grade intervals show increased variability and shorter range in continuity observed in the geostatistical analysis.



# Drilling Techniques, Sampling and Sub-sampling Techniques, and Sample Analysis

Sampling along the Attila-Alaric Trend has been carried out using a combination of RC and diamond drilling. Drilling was completed between 1994 and 2017 and was undertaken by several different companies. The orientation of the drilling is approximately perpendicular to the regional dip and strike of the targeted mineralisation and a local grid is utilised for both drilling and modelling.

Drill core is cut in half by a diamond saw and half core samples collected to geological contacts, at an average length of one metre, and submitted for assay analysis. One metre RC drill samples are channelled through a cone splitter, and an average 2 to 3 kilogram sample is collected in a calico bag that is submitted for assay analysis. Gold Road has protocols in place to ensure sample quality is kept to high standards. At the assay laboratory all samples are fully pulverised to -75  $\mu$ m (90% passing 75  $\mu$ m or 90p75), to produce a 50 gram charge for Fire Assay with either AAS or ICPOES finish.

# **Mineral Resource Model**

The Mineral Resource Models for Attila and Alaric, used as input to this updated Resource Optimisation, remain unchanged from the models published in May<sup>2</sup> and July<sup>3</sup> 2017 (for Attila and Alaric respectively).

Drilling completed during 2016 and 2017 at Attila and Alaric, including specifically targeted diamond holes, enabled a refinement of the interpretation of the mineralisation domains applied in the 2017 Mineral Resource Estimate. The major changes include:

- Definition of mineralised structures which are modelled as mineralisation envelopes with high-grade internal zones
- Mineralisation is defined by increasing shear intensity, vein density, and albite-biotite-pyrite alteration associated with higher grades
- High-grade zones are modelled to an approximate 0.5 g/t Au cut-off using hard boundaries, based on geological and geostatistical observations, which are utilised in the estimation of these mineralisation domains.

# **Estimation Methodology**

Wireframes of regolith boundaries, lithology and mineralisation were constructed utilising a cross sectional interval selection method that was validated in other orientations. The wireframes were applied as hard boundaries in the grade estimation. Appropriate top cuts were applied per domain to limit the effect of extreme gold grade values. Bulk density values are applied according to material type (weathering) and are based on diamond core measurements taken locally and regionally.

The geological block model was created by filling interpreted mineralisation wireframes with appropriately subcelled 5 metres X by 25 metres Y by 5 metres Z parent cells. Assay data was selected within the wireframes, composited to one metre lengths and a top-cut applied according to domain and grade statistics. Estimation by domain was completed using Ordinary Kriging methods with optimised search neighbourhoods aligned with the interpreted mineralisation trend. Validation steps included comparison of input assay data to the output model grade estimate to ensure minimal bias. A test estimate using an alternative estimation methodology (Inverse Distance) was completed to validate the Ordinary Kriging estimate and produced a result that was not materially different.

<sup>&</sup>lt;sup>2</sup> ASX announcement Attila Open Pit Resource Increases by 100,000 ounces – Addendum dated 25 May 2017

<sup>&</sup>lt;sup>3</sup> ASX announcement Alaric Mineral Resource Doubled 24 July 2017



## Criteria Used for Classification

The 2017 Mineral Resource is constrained by a Whittle optimised pit shell that considers all available mineralisation in the geological model with at least an Inferred level of confidence. Several factors have been used in combination to derive the Resource classification categories for mineralisation:

- **Drill hole spacing:** classification is influenced by the data spacing, as indicated in Table 12. Material at Alaric previously classified as Measured is now classified Indicated.
- **Geological continuity:** Alaric geological continuity is high, the position and width of mineralised lodes is predictable and repeatable.
- **Grade continuity:** the continuity of mineralisation grade is less reliable than the geology, in well drilled areas the data density is such that continuity can only be assumed.
- **Estimation quality parameters.** Derived from the Ordinary Kriging process and assessed using Kriging Neighbourhood Analysis methods provide a guide to the quality of the estimate.

Table 12: Drill hole spacing by Minera	Resource Classification category	Attila and Alaric Denosits
Table 12. Drill Hole spacing by Williera	nesource classification category	Attila alla Alalic Deposits

	Inventory Classification									
Domain	Criteria	Measured	Indicated	Inferred	Unclassified					
	Target Spacing	Require grade control spacing	20 m X by 20 m Y	40 m X by 80 m Y						
Attila	Actual Spacing	20 m X by 20 m Y only on D5500 and D5600 and their internal HG	20 m X to 40 m Y	50 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.					
	Boundary Extension		50 m along strike 30 m down dip	40 m along strike 40 down dip -						
	Target Spacing	Require grade control spacing	20 m X by 20 m Y	40 m X by 80 m Y						
Alaric	Actual Spacing		10 m X by 20 m Y to 20 m X by 20 m Y to 20 m X to 40 m Y	50 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.					
	Boundary Extension		50 m along strike 30 m down dip	40 m along strike 40 down dip -						

The 2015 Mineral Resource included a volume of material classified Measured. Although the geological continuity at Alaric is considered high, the continuity of grade tenor is less reliable. Detailed analysis using geostatistics and spatial variance (variography) indicate that a relatively high nugget and high variances of gold grades at short distances require significantly more detailed drilling than currently exists to be classified as Measured. The drill hole spacing of 10 to 20 metres east by 20 metres north over 500 metres in strike is not sufficient to confirm grade continuity and as such, previous Measured Resource is now classified Indicated.

# Mining methods, metallurgical parameters, and other modifying factors

The Attila and Alaric Mineral Resources have been constrained by an optimised Whittle pit shell to determine the portion of the total mineralised inventory that has a reasonable prospect of eventual economic extraction. Only Measured, Indicated and Inferred resource categories of mineralisation that fall within this optimised pit shell have been reported as Mineral Resource. The cut-off grade used for reporting resource contained within the optimised shell is 0.5 g/t Au. The mining strategy assumes conventional open pit methods with a contract mining fleet appropriately scaled to the size of the deposit. De facto minimum mining width is a function of optimisation parent cell size (5 metres X by 12.5 metres Y by 5 metres Z). No allowance for dilution or mining recovery has been made. Modifying factors have been adapted from the latest mining and geotechnical parameters established from mining studies completed over the previous 12 months as part of a Pre-feasibility Study. Processing costs are based on projected Gruyere Mill operating costs and include costs to cover mine to mill haulage (and rehandle) of approximately 27 kilometres for Attila and 24 kilometres for Alaric, and allowances for administration costs and sustaining capital (Table 12).



Attila metallurgical test-work programmes have been completed indicating variable recovery between 92% (oxide) and 80% (fresh), depending on weathering profile and grade, and have been applied accordingly in the optimisation. Alaric metallurgical test-work programmes have been completed indicating variable recovery between 92% (oxide) and 85% (fresh), depending on weathering profile and grade, and have been applied accordingly in the optimisation. All metallurgical recoveries assume a grind size of 125  $\mu$ m consistent with the Gruyere Mill design.

Acid mine drainage prediction analysis has been completed and indicates that the waste material is not considered to be net acid producing and unlikely to produce acidic run-off.

 Table 13: Summary of input parameters used to constrain the Attila December 2017 Mineral Resource

Optimisation Parameter	Previous Value	Updated Value	Comment
Cut-off Grade (g/t Au)	0.45	0.50	Revision references estimated surface haulage costs, projected Gruyere processing costs and metallurgical recovery
Gold Price (A\$/oz)	1,850	1,850	Unchanged from previous
Overall Mining Cost (A\$/t)	4.15	3.88	Derived from recent contractor mining cost estimates
Overall Slope Angle Weathered	37° - 45°	37° - 45°	Verified against recently updated Geotechnical Rock Mass Model
Overall Slope Angle Fresh	46° - 58°	46° - 58°	Verified against recently updated Geotechnical Rock Mass Model
Process Recovery	92%	92% - 80%	Recovery varies by rock-type and grade and was revised based on latest metallurgical test-work. Average recovery is 86%
Processing Cost* (A\$/t)	23.39	24.14	Based on projected Gruyere Processing costs

<sup>\*</sup>Includes surface haulage, administration and sustaining capital cost.



Table 14: Summary of input parameters used to constrain the Alaric December 2017 Mineral Resource

Optimisation Parameter	Previous Value	Updated Value	Comment
Cut-off Grade (g/t Au)	0.45	0.50	Revision references estimated surface haulage costs, projected Gruyere processing costs and metallurgical recovery
Gold Price (A\$/oz)	1,850	1,850	Unchanged from previous
Overall Mining Cost (A\$/t)	4.15	4.07	Derived from recent contractor mining cost estimates
Overall Slope Angle Weathered	37° - 45°	45°	Verified against recently updated Geotechnical Rock Mass Model
Overall Slope Angle Fresh	46° - 58°	50°	Verified against recently updated Geotechnical Rock Mass Model
Process Recovery	92%	92% - 85%	Recovery varies by rock-type and grade and was revised based on latest metallurgical test-work. Average recovery is 87%
Processing Cost* (A\$/t)	23.39	25.10	Based on projected Gruyere Processing costs

<sup>\*</sup>Includes surface haulage, administration and sustaining capital cost.

# **Attila and Alaric Maiden Ore Reserve**

# **Highlights**

The Attila and Alaric Pre-Feasibility Study (**PFS**) was completed during 2017. The PFS confirms that the Attila and Alaric open pits could be mined simultaneously as satellite operations to the Gruyere Project, producing a supplementary ore source for the Gruyere Process Plant. The PFS confirms that Attila and Alaric are both technically and economically feasible. Attila and Alaric present an opportunity for unlocking potential through provision of additional higher grade, softer oxide ore feed to the Gruyere Processing Plant thereby increasing throughput and gold production

The combined Maiden Ore Reserve at Attila and Alaric is **3.6 Mt at 1.55 g/t containing 178,500 ounces** and production will extend over approximately a 30-month period. Life of Mine (**LOM**) analyses indicates Project NPV is maximised with production from Attila and Alaric commencing in 2024 by off-setting operational constraints as the Gruyere pit enters a cut-back stage. Key outcomes from the PFS shown in Table 15 below:



Table 15: Key Metrics for Attila and Alaric PFS

Measure	Attila	Alaric	7,426.6 kt at 1.63 g/t Au Containing 389.1 koz				
Mineral Resource	5,577.6 kt at 1.65 g/t Au Containing 295.8k oz	1,849.0kt at 1.57g/t Au Containing 93.3 koz					
Ore Reserve	3,211.6 kt at 1.55 g/t Au Containing 160.4 koz	378.6 kt at 1.49 g/t Au Containing 18.1 koz	3,590.2 kt at 1.55 g/t Au Containing 178.5 koz				
Stripping Ratio (Waste:Ore)	5.78	6.33	5.84				
Production Rate	Total material movement approx Ore production target approxima						
Metallurgical Recovery	86%	87%	86%				
Recovered Gold LOM (koz)	141.1	15.8	156.9				
Mining Method	Contract open pit mining utilising	conventional drill and blast,	load and haul				
Processing	Primary crushing with SABC grind	Primary crushing with SABC grinding at Gruyere Processing Plant					
Surface Haulage	Road train haulage approximately	y 25km to Gruyere Processing	sing Plant				
Free-Cash flow Pre-tax (A\$M)	59.8	2.8	62.6				
All in Sustaining Costs (A\$/oz)	1,156	1,395	1,180				
All in Costs (A\$/oz)	1,174	1,445	1,201				
Development Capital (A\$M)	2.5	0.8	3.3				
Development Capital Cost Produced (A\$/oz)	17.70	50.60	21.00				
C1 (A\$/oz)	1,088	1,327	1,112				
C2 (A\$/oz)	1,119	1,390	1,147				
C3 (A\$/oz)	1,174	1,445	1,201				
Payback (Months)	16	7	13				
LOM (Months)	30	12	30				
Payback: LOM	53%	58%	43%				
Project LOM Cost (A\$M)	166	23	189				

# **Attila and Alaric Mineral Resource**

The December 2017 JORC 2012 compliant Mineral Resource estimate as shown in Table 16 (7.42 Mt at 1.63 g/t Au for 389,100 ounces), as described earlier in this release, was used as the basis for the PFS.

Table 16: Attila and Alaric Mineral Resource

Mineral Resource Category		Attila		Alaric			Combined		
	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)
Measured	289.0	1.99	18.5	=	-	-	289.0	1.99	18.5
Indicated	4,994.9	1.63	261.1	1,199.1	1.74	67.0	6,194.0	1.65	328.1
Measured +Indicated	5,283.9	1.65	279.6	1,199.1	1.74	67.0	6,483.0	1.66	346.6
Inferred	293.7	1.71	16.2	649.9	1.26	26.3	943.6	1.40	42.5
Measured +Indicated +Inferred	5,577.6	1.65	295.8	1,849.0	1.57	93.3	7,426.6	1.63	389.1



## **Attila and Alaric Ore Reserve**

The Ore Reserve for the Attila and Alaric Project is reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). The Mineral Resource was converted to Ore Reserve in consideration of the level of confidence in the Mineral Resource estimates and reflecting appropriate modifying factors. Mineral Resource estimates are reported inclusive of those Mineral Resources converted to Ore Reserves. The Proved Ore Reserve estimate is based on Mineral Resource classified as Measured. The Probable Ore Reserve estimate is based on Mineral Resource classified as Indicated. Table 17 presents a summary of the Attila and Alaric Ore Reserves on a 100% Project basis at an A\$1,600/oz gold price.

Table 17: Attila and Alaric Ore Reserve

Ore Reserve Category		Attila		Alaric			Combined		
	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)	Tonnes (kt)	Grade (g/t Au)	Contained Metal (koz Au)
Proved	323.1	1.68	17.4	-	-	1	323.1	1.68	17.4
Probable	2,888.5	1.54	143.0	378.6	1.49	18.1	3,267.1	1.53	161.1
Proved + Probable	3,211.6	1.55	160.4	378.6	1.49	18.1	3,590.2	1.55	178.5

# **Attila and Alaric Mining Operations**

Gold Road engaged Orelogy Consultants to undertake the mining engineering study for the PFS. Earthmoving will be performed by a mining contractor with mining technical services and managerial direction provided by the Gruyere JV.

Grade control will be completed using RC drilling over 20 metre benches on a 5 metre by 12.5 metre pattern. Material will be blasted on 5 metre benches with mining to take place on 2.5 metre flitches. Ore will be stockpiled on a ROM pad adjacent to the pit crest prior to transportation to the Gruyere Process Plant by road-train.

#### **Ore Dilution**

Several modifying factors were considered in modelling the mining process, with ore dilution and losses resulting from mining being of primary consideration. Modelling of ore dilution was completed by converting the orebody model to a uniform block size, representative of the smallest practical block size that can be marked out and mined (5 metres x 25 metres x 5 metres). After assessing the geometry of the ore-waste contact, a 0.5 metre skin width was selected to represent the selectivity that should be achievable by excavation. The dilution skin was applied to identified edge blocks assuming a diluent grade of 0.01 g/t Au, equivalent to background gold grade. On a section by section basis, in a 5 metres x 25 metres block the assumed 0.5 metre of dilution "skin" equates to 10% additional diluent material being added to edge ore blocks, with the grade reduced accordingly.

# **Geotechnical Investigation**

Gold Road engaged consultants Dempers and Seymour to undertake geotechnical analysis of the rock mass conditions and to recommend slope design parameters for the open pit design. Geotechnical modelling was based on field logging and testing of selected diamond drill core samples. The recommended geotechnical design parameters assume dry slopes requiring adequate dewatering ahead of mining.



# **Open Pit Optimisation**

The open pit optimisations were undertaken utilising the Dassault Systemes (Geovia) Whittle implementation of the Lerchs-Grossman algorithm to determine optimal pit limits. Mining, processing and administration costs and metallurgical recovery information were used in the pit optimisation process to produce a series of nested pit shells each representing the optimal mining limits at a given gold price. The shells selected as guidance for pit designs were the shells that generated the maximum cash-flow at A\$1,600/oz.

Additional optimisation runs were undertaken to establish the sensitivity of the selected shell to key variables including gold price, mine and processing operating costs, and processing recovery. The sensitivity analysis indicates that the Attila and Alaric projects are most sensitive to changes in gold price and processing recovery. Figure 11 and Figure 12 below show the results of the sensitivity analysis

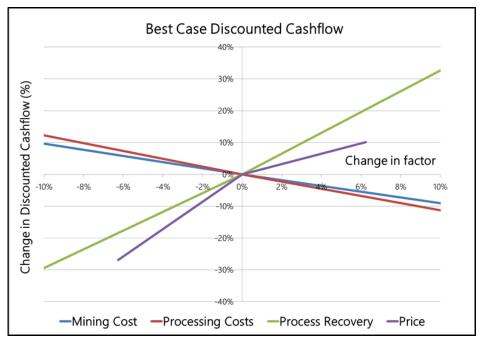


Figure 11: Attila Sensitivity

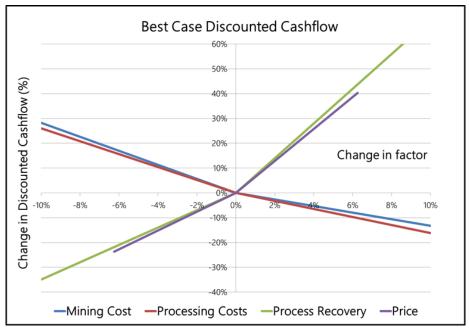


Figure 12: Alaric Sensitivity



# **Attila and Alaric Pit Design**

Slope design parameters were provided by Dempers & Seymour with batters and berm configurations assigned by wall orientation. Except for the initial berm, at 10 metre depth, batter heights were 20 metres with berm widths of either 5 metres or 6 metres. Batter slope angles were generally 50° in oxide material and 65° in transitional and fresh. Ramp widths were 25 metres wide for dual lane and 14 metres wide for single lane. Minimum mining width applied was 15 metres with a 5 metre deep "goodbye cut" at the base of pits and on some of the ramps.

To minimise the waste required to mine the Attila open pit, a single dual-lane access ramp was designed for the top 30 metres, down to the 9,410 mRL. From this bench, the pit separates into north and south areas, with a small ramp directly north-east of the first switchback utilised to access ore. Another switchback is included at 9,377.5 mRL to gain depth, also providing access to the areas further to the south. Additionally, in the ultimate pit design, drop cuts have been placed in ramps overlying ore to improve ore recovery. The final pit design for Attila is shown in Figure 13.

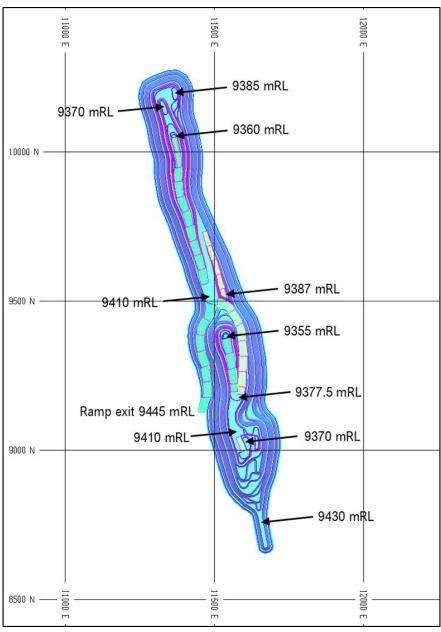


Figure 13: Attila Final Pit Design



At Alaric, a single lane ramp was maintained for its full depth due to the narrow width of the deposit. To improve productivity, two passing bays were designed to allow flexibility in use of the ramp, at 9,370 mRL and 9,390 mRL. Adequate working room is maintained until the last three benches, where mining will be more constrained. The final Alaric pit design is illustrated in Figure 10.

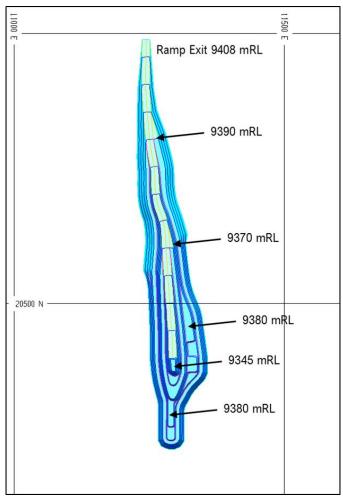


Figure 14: Alaric Final Pit Design

# **Mining Schedule**

Total material movement schedules are based on productivity estimates to determine the optimum amount of material that can be mined in a specified period. The schedules are based on either a single 200-tonne class backhoe excavator or a combination of digging units such as a 200-tonne class excavator matched with a 120-tonne class excavator yielding an overall productivity of approximately 12 Mtpa.

The Attila and Alaric pits were scheduled using Maptek Evolution™ scheduling software. Due to the size of the Attila and Alaric pits, and their status as satellite deposits to Gruyere, they were not staged and no cut-off grade optimisation was undertaken. A simple breakeven cut-off grade was used to classify ore, and for the mining schedule. Due to the narrow nature of the orebody in the Attila deposit, bench turnover is the limiting factor in development of the pit. The schedule also determined the optimal timing for introduction of the Attila-Alaric material into the Gruyere mine plan.

A maximum processing throughput rate of 2.0 Mtpa was set to correspond to the mining rate of 12 Mtpa. Attila and Alaric ore will be processed through the Gruyere Process Plant as supplemental feed, and therefore the processing throughput rate is not as important as the mining rate in determining project scheduling parameters. Mining and production schedules are detailed in Figure 15 to Figure 19.



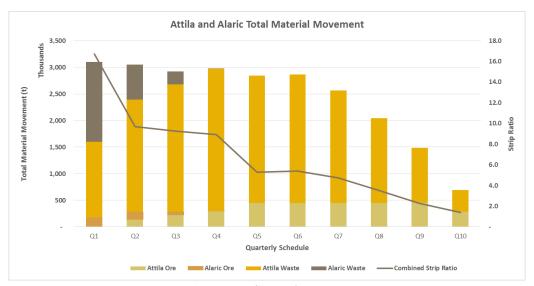


Figure 15: Total Material Movement

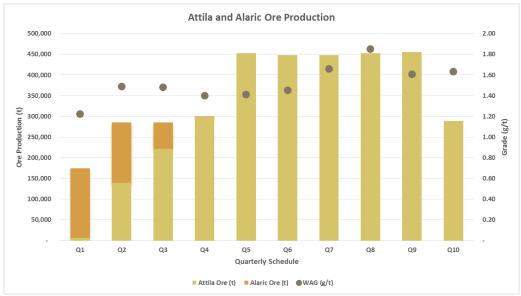


Figure 16: Ore production Schedule

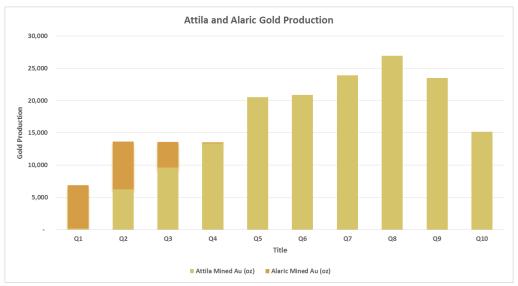


Figure 17: Gold Production Schedule



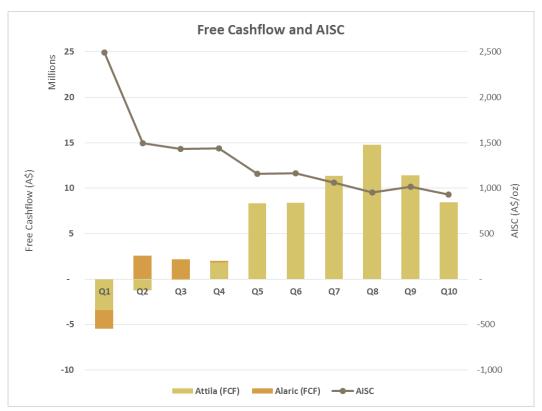


Figure 18: Gold Production Schedule

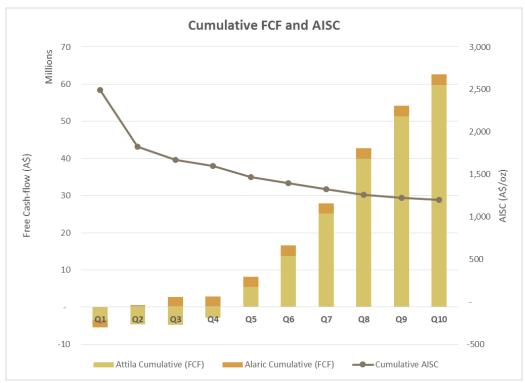


Figure 19: Gold Production Schedule



# **Mine Operations and Management**

Conventional open pit mining methods utilising truck and excavator, with drill and blast, will be employed to extract ore and waste.

Five metre benches will be drilled using a small fleet of percussion drills and blasted using bulk explosives media (ANFO and emulsion)

A 200-tonne class excavator in backhoe configuration will load blasted material mined on 2.5 metre flitches (2 flitches per 5 metre bench height) into 90-tonne class mechanical drive dump trucks. Ore will be stockpiled on a local ROM pad adjacent to the pit and subsequently transported to the Gruyere processing plant in side tipping road trains. Material will be stockpiled at Gruyere and rehandled to the Gruyere ROM pad, costs which are included in the processing cost assumptions for this study.

Mining activities will be completed by a mining contractor with technical and managerial direction provided by the Gruyere JV.

The workforce will be FIFO and accommodated utilising excess capacity available at the Gruyere Village camp during rostered days on. An on-site sealed airstrip has been built, and received CASA certification, adjacent to the Gruyere Village camp.

# **Mining Infrastructure**

Infrastructure requirements at Attila and Alaric will be minimal as the projects will be operated as satellite operations to Gruyere and as such will utilise as much of the infrastructure established at Gruyere as possible. Site based infrastructure requirements will be limited to demountable office buildings housing contractor administrative staff and technical services personnel. Minor equipment repair and servicing will utilise temporary demountable "igloo" style workshops.

ROM pads of adequate capacity to stock-pile ore, waste rock dumps and contractor laydown areas will be established adjacent to the pit crest. Proposed site layouts are shown in Figure 20 and Figure 21.



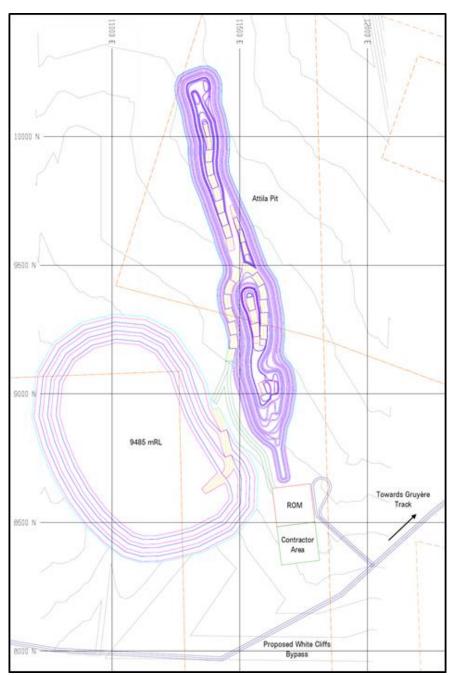


Figure 20: Attila Site Layout



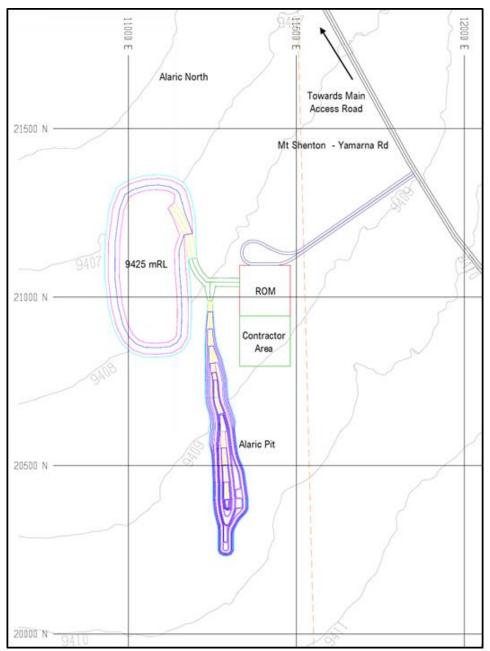


Figure 21: Alaric Site Layout

# **Mine Closure Plan**

The Gruyere JV aims to prevent or minimise long-term environmental impacts and to create a self-sustaining natural ecosystem or alternate land use following mine closure.

Reclamation and rehabilitation will be undertaken during and after mining activities to ensure adverse environmental or other impacts are minimised. Closure strategies will be developed as part of the planning stages of the projects.

Waste rock characterisation and waste dump design was completed as part of the PFS. Waste characterisation determined that all waste is most likely to be non-acid forming with levels of metals leached unlikely to pose any risk to the surrounding environment or water usage.

A Mine Closure Plan will be developed based on statutory guidelines.



# **Mineral Processing**

### **Processing and Metallurgy**

Significant comminution, extraction, and materials handling testing was carried out on 27 diamond drill core and RC composite samples as part of the PFS. The test-work was completed on oxide, saprock, transitional, and fresh ore types which were obtained across the Attila and Alaric deposit from depths ranging between 20m and 167m. Estimated plant gold recovery ranges from 74% to 94% at 125µm p80 grind size depending on head grade and ore type. A variable metallurgical recovery was applied accordingly in the PFS.

### **Processing Plant**

Ore from Attila and Alaric will be processed at the Gruyere processing plant (under construction). The Gruyere process flowsheet consists of a single stage primary crush, Semi Autogenous Grinding and Ball Milling with Pebble Crushing (SABC) comminution circuit followed by a conventional gravity and carbon in leach (CIL) process is proposed. Comminution and materials handling test-work has confirmed Attila and Alaric ore types are compatible with the Gruyere process plant.

# **Approvals**

## **Mining Lease**

The Attila and Alaric Projects are located on granted mining tenements. The Gruyere JV is the holder of all tenements required for the Attila and Alaric operations.

### **Native Title**

Gold Road entered into the Gruyere Central Bore Native Title Agreement (**GCBNTA**) in May 2016 with the Yilka People and Cosmo Newberry Aboriginal Corporation over their respective claim areas following community consultation and negotiation meetings. As part of the formation of Gruyere JV, Gold Road assigned 50% of its rights under the GCBNTA to Gruyere Mining Company and Gruyere Mining Company agreed to assume 50% of the obligations under the GCBNTA. This agreement covers all the Attila and Alaric mining tenements.

The GCBNTA includes obligations on the Gruyere JV regarding heritage and the conduct of heritage surveys, pursuant to a Cultural Heritage Management Plan.

### **Project Infrastructure**

Planned infrastructure is situated within granted Mining Leases. The Gruyere gas pipeline will lie within a Miscellaneous Licence infrastructure corridor adjacent to Attila. The White Cliffs Road currently runs through the proposed Attila pit footprint and approximately 6.5 kilometre will be required to be re-routed along this pipeline corridor.

### Environmental

Flora and Fauna surveys have previously been completed over the Attila and Alaric project area and indicate no significant issues. These surveys will need to be re-visited ahead of obtaining environmental permits and approvals.

# **Capital Costs**

# Site Establishment and Infrastructure

Capital cost is minimised with only minor infrastructure requirements at Attila and Alaric as the projects will be operated as satellite operations to Gruyere and as such will utilise as much of the infrastructure established at Gruyere as possible.



Capital costs to develop the Attila and Alaric pits are based on mining contractor budget estimates. Total capital costs are estimated at approximately A\$4.46 million which includes mobilisation, site establishment, allowance for White Cliffs Road re-alignment, and a sustaining capital component.

No minor capital items were included in the capital cost estimate on the assumption that due to the short mine life, light vehicles and a generator for power are assumed to be hired for the duration of the operation.

Construction of a diversion road for the existing White Cliffs Road is required prior to commencement of the Attila mine. The estimate for the capital cost for the construction of this road is based on construction costs associated with the recently completed Gruyere Main Access Road.

# **Operating Costs**

The total estimated operating cost for the Attila and Alaric projects is A\$183.7 million. No escalation has been applied to operating costs. Table 18 and Figure 22 provides a summary of operating costs by major area.

Table 18: Summary of Operating Costs

ltem	LOM Cost	Unit Cost per Tonne Milled	Unit Cost per Ounce Produced
	(A\$M)	(A\$/t)	(A\$/oz)
Mining	84.2	23.46	537
Surface Ore Haulage	25.8	7.18	164
Processing	53.0	14.76	338
Transport and Refining	0.3	0.07	2
Owner Cost G&A	10.2	2.84	65
Sub-total Opex	173.4	48.31	1,105
Royalties	10.3	2.87	66
Total Operating Costs	183.7	51.17	1,171

# **Mine Overhead Costs**

The Owners operating costs comprise the following:

- Gruyere JV Staff with on-cost rate of 35% applied
- Flights and Accommodation
- General operating overheads

The annual cost for the Owners overheads varies with the number of contractor personnel on site.

### **Load and Haul**

Load and haul rates were inclusive of the following:

- Loading ore and waste into dump trucks
- Hauling the ore to the stockpile pad and hauling the waste to the waste dumps
- Tip-head management of the stockpiles and waste dump
- Road maintenance and dust suppression
- Dewatering activities
- Contractor overheads for management, etc

Load and haul rates were derived from contract budget estimates to ensure that the mining costs were applied with a reasonable level of certainty. The load and haul rates were applied using the volumes of ore and waste reported by bench from the mining schedule.



#### **Drill and Blast**

All-in rates for Drill and Blast are based on contractor budget estimates predicated on blasting a 5 metre bench height with varying powder factors according to rock type. Unit costs were calculated according to the rock-type code reported from the mine schedule. Overheads were included in the rates and explosives magazines are assumed to be based at the Gruyere site.

#### **Grade Control**

Given the narrow nature of the Attila and Alaric ore bodies, and the continuity along strike, a relatively tight grade control pattern is proposed based on defining edge boundaries of the ore zones. Rates for RC grade control drilling, sampling and assaying were sourced from the Gruyere FS.

### **Surface Haulage Costs**

Ore mined at Attila and Alaric will be stockpiled locally ahead of surface haulage to the Gruyere Process Plant. Contractor supplied unit rate estimates were used as the basis of estimating surface haulage costs. Surface haulage will utilise road-trains to haul the ore from Alaric and Attila to the Gruyere process plant. Ore will be stockpiled at Gruyere and rehandled to the ROM pad using a secondary small mining fleet, costs which are included in the processing cost below. Studies will be completed in the future assessing construction of a ROM ramp suitable for road trains to access for direct tipping to the ROM stockpile.

### **Process Operating Costs**

Processing cost estimates are based on average unit costs estimated for the Gruyere process plant for a blend of different ore types (fresh, transitional and oxide) and grind sizes at various throughput rates depending on ore type.

### **Transport and Refining Costs**

Gold bullion transportation charges are derived based on a quote provided by a leading industry bullion shipment organisation.

Treatment and refining charges are estimated based on a quote from a leading Perth Gold Refinery.

### **General and Administration Costs**

General and Administration costs include allowance for personnel relating to site management and administration.

### **Royalties**

An allowance has been made for all royalties, including an allowance of 2.5% of revenue for royalties payable to the Western Australian State Government and appropriate allowance for other royalties payable to private parties.



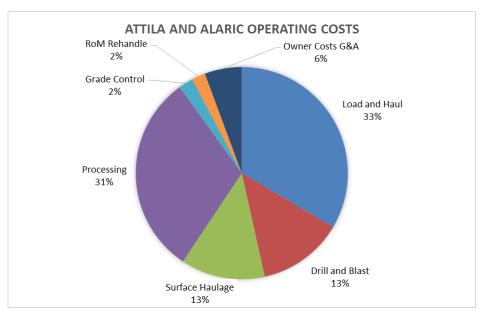


Figure 22: Operating Cost Contribution by Category

# **Environment and Community**

### **Environment**

Level 2 flora and fauna surveys have been completed over the project area and have not identified any significant species to date that would be impacted by development of the project. Further surveys will be completed as the project progresses to Feasibility Study. Preliminary hydrogeological investigations have been completed including preliminary pump testing from bores established within the pit boundaries. Expected water inflows are estimated as relatively minor. Further hydrogeological surveys will continue as the project progresses to Feasibility Study.

### Community

The Attila and Alaric projects are located approximately 150km to the north-west of Laverton within the land on which the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011) native title claim area was determined by the Federal Court on 27 September 2017. The common law of Australia recognises a form of Native Title which reflects the entitlement of indigenous people, in accordance with their laws or customs, to enjoy their traditional lands.

Cosmo Newberry is a small indigenous community located approximately 50km north-west of the project area. The community is managed through its corporate body, CNAC, incorporated under the Aboriginal Councils and Associations Act 1976 in 1991. In 1994 the community made the decision to become affiliated with Ngaanyatjarra Council.

The Gruyere JV values the relationship which has been established with the Traditional Owners of the Land on which the projects are located and has formed good working relations with the Yilka people and a developing understanding of their cultural heritage.

The Gruyere JV is committed to maintaining a long term partnership with the Yilka people to ensure JV projects can bring a range of benefits to the traditional owners including direct and indirect employment.

The Gruyere JV recognises the positive impacts that mining operations such as Attila and Alaric can bring to remote communities, such as possible business opportunities and economic benefits through rates, charges and community investment.



# **YAM14 Maiden Mineral Resource**

Gold Road has completed a Maiden Mineral Resource at the YAM14 deposit, in accordance with the JORC Code 2012 Edition. The December 2017 Maiden Mineral Resource is constrained within an A\$1,850 per ounce Whittle optimised pit shell and quoted at a 0.4 g/t Au cut-off.

This Mineral Resource totals **866,200 tonnes at 1.21 g/t Au for a total of 33,700 ounces** of gold (Table 19). A total of 31% of material within the optimised pit shell is classified as Indicated and 70% of material is classified as oxide.

Table 19: Summary of the 2017 YAM14 Maiden Mineral Resource

Resource Category	Tonnes (t)	Grade (g/t Au)	Contained Metal (oz Au)
М, I & I	866,200	1.21	33,700
Measured	-	-	-
Indicated	234,000	1.37	10,300
Inferred	632,200	1.15	23,400

### Notes:

- All Mineral Resources are completed in compliance with the JORC Code 2012 Edition
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary of Gold Fields Ltd. Figures are reported on a 100% basis unless otherwise specified
- The Maiden Mineral Resource is reported at a cut-off grade of 0.40 g/t Au and constrained within a A\$1,850 per ounce optimised pit shell
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.

### **Mineral Resource Variance**

No previous Mineral Resources have been reported for the YAM14 Deposit.

# **Mineral Resource Sensitivity**

The December 2017 Maiden Mineral Resource model has been evaluated within pit shells optimised at different gold prices to determine sensitivity to modifying factor assumptions used in the optimisation. Results are reported at 0.4 g/t Au cut-off for a variety of gold prices from A\$1,600 to A\$2,000 per ounce (Table 20 and Figure 23). The 2017 Maiden Mineral Resource model is sensitive to changes in gold price as a modifying factor, varying from -66% to +37% with fluctuations of +/- A\$200 per ounce in gold price.

**Table 20:** YAM14 Mineral Resource sensitivity to constraining price pit shells.

Gold Price		Total M, I & I	M, I & I variance of Contained Metal A\$1,850		
(A\$/oz)	Tonnes (kt)	Grade Containe (g/t Au) (koz		Contained Metal variance (koz Au)	Percentage variance (%)
1,600	268.2	1.33	11.5	-22.2	-66%
1,700	328.6	1.35	14.3	-19.4	-58%
1,850	866.2	1.21	33.7		
1,900	954.1	1.21	37.1	3.4	10%
2,000	1,182.8	1.21	46.1	12.4	37%



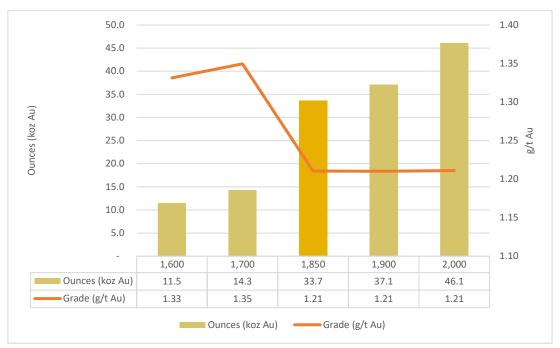


Figure 23: YAM14 Mineral Resource model sensitivity to gold price. Gold bar represents the December 2017 Maiden Mineral Resource

# YAM14 Geology

The YAM14 Maiden Mineral Resource, is situated in the Dorothy Hills Greenstone Belt within the Yamarna Terrane of the Archaean Yilgarn Craton. Most of the greenstone sequence is obscured by Tertiary basin fill, a veneer of Quaternary sand and lake deposits.

Logging of drill holes, and interpretation of the aeromagnetic, gravity and seismic data, indicate that the broad stratigraphy of the Dorothy Hills Greenstone Belt comprises low-thorium basalts to the east, a central portion of volcanoclastic sedimentary rocks and a volcano-sedimentary sequence to the west. The Dorothy Hills Shear Zone can be traced up the centre of the Dorothy Hills Greenstone Belt, is sigmoidal in shape, and is host to the multimillion ounce Gruyere Deposit, approximately 8 kilometres to the north of YAM14.

# YAM14 Project History

Gold was first discovered on the Dorothy Hills Greenstone Belt in 2013 following an extensive regional target identification programme. YAM14 and Gruyere were ranked as high priority redox and structural target areas respectively. Testing of the YAM14 area by auger commenced in early 2013 on a 200 metre by 50 metre grid and identified a 2 kilometre by 500 metre gold anomaly. In August 2013 a RAB drilling programme delineated a 900 metre zone of bedrock mineralisation, open to the north and south. Nine RC drill holes were completed in September 2013 with all holes intersecting mineralisation and a further 11 RC holes were completed during Quarter 1 2014. However, results were overshadowed by the success at Gruyere and no further work was completed over the area until 2016 when the first diamond drill holes were completed. Primary, shear hosted mineralisation was confirmed at depth, and the project's proximity to Gruyere and location on a granted mining lease provided the encouragement to better define the potential of the deposit. Initial resource drilling was completed during the second half of 2016 over the southern portion of the deposit. Extensional aircore drilling was completed along strike to the north to assess potential for extensions to mineralisation. Follow-up RC drilling of anomalous results 500 metres to the north of the known mineralisation intersected thick intersections of highgrade gold mineralisation coincident with a jog in the structure and stratigraphy. Three lines of drilling were completed at 100 metre spacing along strike and infilled to 50 metres on section. Several diamond holes were completed to twin RC intersections and better understand the mineralisation. An IP survey was completed in Q3 2017 and effectively delineated the stratigraphy.

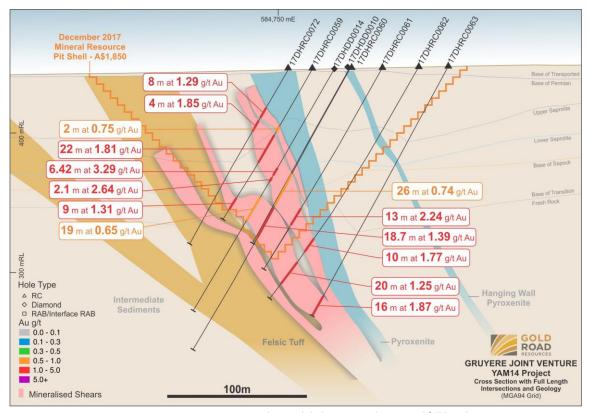


This Maiden Mineral Resource incorporates all RC and diamond drilling completed over the prospect between 2013 and December 2017. Aircore drilling was utilised to constrain the mineralisation interpretation but was not used in the estimation.

# **YAM14 Deposit Geology**

### **Geology and Geological Interpretation**

Host rocks to gold mineralisation at YAM14 are dominated by a felsic volcanoclastic sedimentary package (a Felsic Tuff (Stimson's) or **SFT**) and a sequence of intercalated mafic and intermediate sediments. The SFT is identifiable in IP and observable in drill chips and core, making a useful marker unit (Figure 24 and Figure 25). The majority of gold mineralisation is localised at the upper or lower contacts of the Tuff.



 $\textbf{Figure 24:} \ \textbf{YAM14 cross section 6,895,800 mN showing lithology, mineralisation and full length intersections}$ 



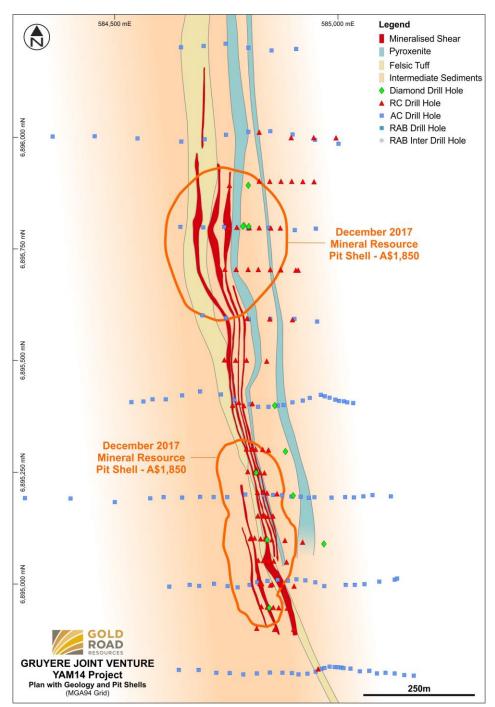


Figure 25: Plan view of the YAM14 Deposit area showing drilling, geology, mineralised domains, and resource shells

A lateral dispersion of anomalous gold is noted in the highly weathered portion of the Archean sequence. The weathered mineralisation is not considered a supergene enrichment, but rather a mechanical breakdown of the primary shear with some minor associated lateral dispersion.

Primary mineralisation is interpreted to be associated with the Dorothy Hills Shear Zone (DHSZ), which also hosts the Gruyere Deposit. In the YAM14 Deposit area, the Dorothy Hills Shear Zone displays a change in strike orientation, which is also reflected in the local stratigraphy (Figure 25). However, the mineralisation continues to strike generally north-south, with mineralisation located in the footwall of SFT in the south of the deposit and in the hangingwall of the SFT in the north of the deposit area. This interpretation is further supported by coincident arsenic anomalism in the fresh rock following the same trend.



Primary gold mineralisation in the north is hosted within north-south striking, moderately east dipping shear zones which are confined to a zone between the SFT and a high chrome marker unit in the intercalated mafic to intermediate sediments of the hangingwall package. In the southern portion of the deposit, the main mineralisation is located to the footwall of the SFT. Primary mineralisation in this southern area is not as well developed

Mineralisation is associated with increased quartz veining, sulphide content (pyrite-pyrrhotite) and sericite-chlorite-albite alteration.

Two major faults have been delineated, the Monocot Fault to the south and the Breakaway Fault in the north. These faults are interpreted from aeromagnetic and IP data. The faults appear to limit the strike extent of mineralisation, although the trend to the north of the Breakaway Fault has not been thoroughly tested.

# **Regolith and Weathering**

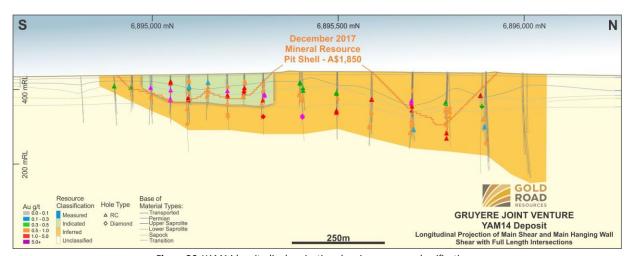
A shallow dune system of Quaternary sand, varying from 1 to 6 metres in thickness, overlies 1 to 5 metres of Permian and Tertiary sediments. The Archean rocks are weathered deeply, with fresh rock encountered on average 70 metres below surface in the south, deepening to approximately 120 metres below surface in the north.

Gold mineralisation demonstrates some lateral dispersion in the highly weathered lower saprolite material, particularly in the south portion of the deposit. The Archean weathering profile is stripped at YAM14, transitioning from transported material, straight into the weathered clays of the upper saprolite. A programme of close spaced drilling was completed over the laterally dispersed mineralisation at the southern end of the YAM14 Deposit to asses localised higher grade shoots and supergene zones, which successfully improved definition of the extent of the dispersion zone on each section.

### **Gold Mineralisation**

Gold mineralisation at YAM14 is noted as primary, hosted in the Archean sequence, and weathered, defined by a lateral dispersion of mineralisation hosted in highly weathered Archean material.

Primary Mineralisation is observed to occur sub-parallel to lithology and dips moderate-to-steeply to the east. The primary mineralisation delineates a subtle regional change in strike of the Dorothy Hills Shear Zone, from north-west to north trending. Mineralisation transects the SFT, being located in the footwall in the south and then the hangingwall to the north. In the hangingwall position, mineralisation is confined to a zone below a chrome rich marker bed of the mafic to intermediate volcanoclastic sediments and above the SFT (Figure 26).



**Figure 26:** YAM14 longitudinal projection showing resource classification, Mineral Resource shell, and full length intersections on the main shear.



# Drilling Techniques, Sampling and Sub-sampling Techniques, and Sample Analysis

The sampling has been carried out using a combination of RC and diamond drilling. Drilling was completed between 2013 and 2017 by Raglan Drilling, Ranger Drilling, Terra Drilling and DDH1. Aircore drilling was completed during this period to define anomalism but has not been used in the estimation. The orientation of the drilling is approximately perpendicular to the regional dip and strike of the targeted mineralisation and a MGA grid is utilised for both drilling and modelling.

Drill core is cut in half by a diamond saw and half core samples collected to geological contacts, at an average length of one metre, and submitted for assay analysis. One metre RC drill samples are channelled through a cone splitter, and an average 2 to 3 kilogram sample is collected in a calico bag that is submitted for assay analysis. Gold Road has protocols in place to ensure sample quality is kept to high standards. At the assay laboratory all samples are fully pulverised to -75  $\mu$ m (90% passing 75  $\mu$ m or 90p75), to produce a 50 gram charge for Fire Assay with either AAS or ICPOES finish.

### **Mineral Resource Model**

Several geological models and Mineral Resource Estimations have been completed since mineralisation was first defined at YAM14. These models consider varying interpretations of controls on the mineralisation, and have been used in the development of this Maiden Mineral Resource.

Mineralisation has been modelled at a 0.3 g/t Au cut-off, including up to 2 metres of internal waste. A minimum selection width of 2 metres (downhole) is applied, except in the weathered, laterally dispersed domains. A total of 8% of the samples within the A\$1,850 shell are a length one metre or less. These 8% of samples are low-grade (<0.55 g/t Au) and are included to demonstrate geological continuity. A total of eight primary domains and three weathered domains have been interpreted and modelled. Domains are constructed from cross-sectional definition of mineralised intervals, except for one weathered domain (3500) which is an implicit model created using LeapFrog software. A moderate northerly plunge to the orientation of mineralisation is noted in grade contours, variography and structural data.

Primary mineralisation occurs sub-parallel to lithology and dips moderate-to-steeply to the east. Primary mineralisation delineates a subtle change in strike, from north-west trending to north trending. Mineralisation transects the SFT, being located in the footwall in the south and then the hangingwall to the north. Weathered mineralisation is considered to be a sub-horizontal lateral dispersion about the primary lode position.

### **Estimation Methodology**

Wireframes of regolith boundaries, lithology and mineralisation were constructed utilising a cross sectional interval selection method that was validated in other orientations. The wireframes were applied as hard boundaries in the grade estimation. Appropriate top cuts were applied per domain to limit the effect of extreme gold grade values. Bulk density values are applied according to material type (weathering) and are based on diamond core measurements taken locally and regionally.



The geological block model was created by filling interpreted mineralisation wireframes with appropriately subcelled 5 metres X (east-west) by 12.5 metres Y (north-south) by 5 metres Z (vertical) parent cells. This block size has been tested for applicability across the deposit area, as significantly different drill spacing's are defined. Assay data was selected within the wireframes, composited to one metre lengths and a top-cut applied according to domain and grade statistics. Estimation by domain was completed using Ordinary Kriging methods with optimised search neighbourhoods aligned with the interpreted mineralisation trend. Dynamic Anisotropy was utilised for estimation of the primary domains. This process aligns the orientation of the variogram to the wireframe, and better accounts for local changes in dip and strike. Validation steps included comparison of input assay data to the output model grade estimate to ensure minimal bias

### **Criteria Used for Classification**

The 2017 Mineral Resource is constrained by a Whittle optimised pit shell that considers all available mineralisation in the geological model with at least an Inferred level of confidence. Several factors have been used in combination to derive the Resource classification categories for mineralisation:

- Drill hole spacing: classification is influenced by the data spacing, as indicated in Table 21
- Geological continuity: YAM14 geological continuity is moderately well understood, the position of mineralised lodes is predictable.
- **Grade continuity:** the continuity of mineralisation grade is less reliable than the geology, in well drilled areas the data density is such that continuity can only be assumed.
- **Estimation quality parameters.** Derived from the OK process and assessed using Kriging Neighbourhood Analysis methods to provide a guide to the quality of the estimate.
- Based on criteria used there is no Measured Resource classified at YAM14

Table 21: Drill hole spacing by Mineral Resource Classification category, YAM14 Deposit

Domain	Criteria	Measured	Indicated	Inferred	Unclassified
	Target Spacing	25 m X by 50 m Y	25 m X by 50 m Y	50 m X by 100 m Y	
Actual Spaci	Actual Spacing		12.5 m X to 25 m X by 50 m Y	50 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.
			25 m along strike	50 m along strike	
	Boundary Extension		<50m down dip from last drill hole	<50m down dip from last drill hole	
	Target Spacing	5 m X by 10 m Y	25 m X by 50 m Y	50 m X by 100 m Y	
Weathered	Actual Spacing		12.5 m X to 25 m X by 50 m Y	50 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.
	Boundary		25 m along strike	50 m along strike	
	Extension		<50m down dip from last drill hole	<50m down dip from last drill hole	

This Maiden Mineral Resource has been classified as Indicated and Inferred. Significant infill drilling in portions of the deposit is required to upgrade this classification.



# Mining and Metallurgical methods and parameters, and other modifying factors

The Mineral Resource has been constrained by an optimised Whittle pit shell to determine the portion of the total mineralised inventory that has a reasonable prospect of eventual economic extraction. Only Indicated and Inferred resource categories (no Measured resource exists in the model) of mineralisation that fall within this optimised pit shell have been reported as Mineral Resource. The cut-off grade used for reporting resource contained within the optimised shell is 0.4 g/t Au. The mining strategy assumes conventional open pit methods with a contract mining fleet appropriately scaled to the size of the deposit. De facto minimum mining width is a function of optimisation parent cell size (5 metres X by 12.5 metres Y by 5 metres Z). No allowance for dilution or mining recovery has been made. Modifying factors have been adapted from the latest mining and geotechnical parameters established from regional mining studies completed over the previous 12 months. Processing costs are based on projected Gruyere Mill operating costs and include costs to cover mine to mill haulage of approximately 8 kilometres and allowances for administration costs and sustaining capital (Table 22).

No metallurgical test-work programmes have been completed and these studies are planned to be undertaken during Pre-feasibility studies. Recoveries for weathered and primary mineralisation are assumed to be consistent with the neighbouring Gruyere deposit and are considered to be appropriate under Gruyere processing conditions and have been applied in the optimisation. These recoveries range from 94% to 91%, depending on ore type and weathering state.

No waste dump characterisation or test-work has been completed regarding potential acid mine drainage.

Table 22: Summary of input parameters used to constrain the 2018 Mineral Resource

Optimisation Parameter	Previous Value	Updated Value	Comment
Cut-off Grade (g/t Au)	N/A	0.40	Revised based on Gruyere Processing Costs
Gold Price (A\$/oz)	N/A	1,850	Gold price assumption aligned with Gruyere JV guidance
Overall Mining Cost (A\$/t mined)	N/A	3.63	Mining costs derived from contractor mining estimates
Overall Slope Angle Weathered	N/A	40°	Assumed
Overall Slope Angle Fresh	N/A	50°	Assumed
Process Recovery	N/A	94% - 91%	Based on Gruyere processing conditions. Average recovery 93%
Processing Cost* (A\$/t)	N/A	20.23	Based on projected Gruyere processing costs

 $<sup>{\</sup>it *Includes surface haulage, administration and sustaining capital cost.}$ 



# **Argos Mineral Resource Update**

Gold Road has completed a new Argos Open Pit Mineral Resource, in accordance with the JORC Code 2012 Edition. The December 2017 Mineral Resource is constrained within an A\$1,850 per ounce Whittle optimised pit shell and quoted at a 0.5 g/t Au cut-off.

The December 2017 Mineral Resource totals **1,923,000 tonnes at 1.27 g/t Au for 78,300 ounces** of gold (Table 23). In 2015 Gold Road removed Argos (previously named Alaric 1) from the Yamarna Mineral Resources as being non JORC 2012 compliant. New diamond and RC drilling completed during 2017 have been incorporated into a revised interpretation of mineralisation and stratigraphy at Argos which are included in this Mineral Resource Update.

All material within the December 2017 Mineral Resource optimised pit shell is classified as Inferred.

Table 23: Summary of the December 2017 Argos Mineral Resource

Resource Category	Tonnes (t)	Grade (g/t Au)	Contained Metal (oz Au)
M, I & I	1,923,000	1.27	78,300
Measured	-	-	-
Indicated	-	-	-
Inferred	1,923,000	1.27	78,300

#### Notes:

- All Mineral Resources are completed in accordance with the JORC Code 2012 Edition
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary
  of Gold Fields Ltd. Figures are reported on a 100% basis unless otherwise specified
- The 2017 Mineral Resource is reported at a cut-off grade of 0.50 g/t Au and constrained within a A\$1,850 per ounce optimised pit shell
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.

### Mineral Resource Variance

Argos, previously known as Alaric 1, was removed from the Yamarna Mineral Resource in 2015. This iteration of interpretation and estimation is based upon the development of geological understanding with detailed work conducted at Attila and Alaric, deposits to the south and north respectively. The current interpretation represents a more continuous delineation of mineralisation from that input to the previous estimation. By utilising a lower grade cut-off (Golden Highway) higher grade zones within this framework are much more readily defined and linked together.

# **Mineral Resource Sensitivity**

The December 2017 Mineral Resource model has been evaluated within pit shells optimised at varying prices to determine sensitivity to gold price assumptions. Results are reported at 0.5 g/t Au cut-off for a variety of gold prices from A\$1,500 to A\$2,000 per ounce (Table 24 and Figure 27).

The 2018 Mineral Resource model is sensitive to changes in gold price, varying from -35% to +19% with fluctuations of  $\pm$ - A\$200 per ounce in gold price.



**Table 24:** Argos Mineral Resource sensitivity to constraining price pit shells.

Gold Price		Total M, I & I		M, I & I variance of Contained Metal from A\$1,850	
(A\$/oz)	Tonnes (Mt)	Grade (g/t Au)	Contained Metal (koz Au)	Contained Metal variance (koz Au)	Percentage variance (%)
1,500	1.15	1.37	50.6	-28	-35%
1,600	1.31	1.33	56.1	-22.2	-28%
1,700	1.52	1.31	63.9	-14.5	-18%
1,850	1.92	1.27	78.3		
1,900	2.08	1.25	83.9	5.6	7%
2,000	2.50	1.23	98.6	14.7	19%



Figure 27: Argos Mineral Resource model sensitivity to gold price. Gold bar represents the December 2017 Mineral Resource.

# **Attila-Alaric Trend Geology**

The Argos Mineral Resource is located within the Attila-Alaric Trend, three kilometres south of the Alaric Resource, on the western side of the Yamarna Greenstone Belt within the Archaean Yilgarn Craton. Most of the greenstone sequence is obscured by a veneer of Quaternary sand.

Mapping of the limited outcrop, logging of drill holes, and interpretation of the aeromagnetic, gravity and seismic data, indicate that the Yamarna Greenstone Belt comprises an upright, highly deformed and metamorphosed greenstone sequence up to 12 kilometres in thickness that can be subdivided into several narrow and elongate units. The metamorphic, structural and alteration overprint makes identification of the original rock types difficult, the mineralised sequence comprises mixed mafic volcanics (basalts, dolerites and gabbros), interflow sediments (including chert, black shale and BIF) and intermediate tuffs and intrusives.

The western side of the Yamarna Greenstone Belt is dominated by a strong, pervasive north-northwest trending and steeply dipping foliation. The aeromagnetic images highlight the attenuated 'train track' nature of the rock units and structures. New, detailed IP surveys over the Attila-Alaric indicate cross cutting features are more complex than the aeromagnetic imagery suggests. This detail has been incorporated into the new interpretation and estimation.



# **Attila-Alaric Trend Project History**

Gold was first discovered on the Yamarna Greenstone Belt in the early 1980's and the first Resource completed in 1994 on the Attila Project to the south of Argos. Subsequent exploration focussed on this mineralised trend of highly sheared mafic and intermediate volcanics and sediments parallel to the Yamarna Shear Zone. Mineralisation has been traced over 50 kilometres in strike. The Attila and Alaric Mineral Resources were updated to comply with JORC Code 2012 Edition standards in 2015 and at the same time the resources at Montagne (previously Alaric 2), Argos (previously Alaric 1) and Orleans (previously Attila North) were removed from the Yamarna Mineral Resource. This current update incorporates further drilling completed in 2017 and a revised geological and mineralisation interpretation for the Argos Deposit.

# **Argos Deposit Geology**

# **Geology and Geological Interpretation**

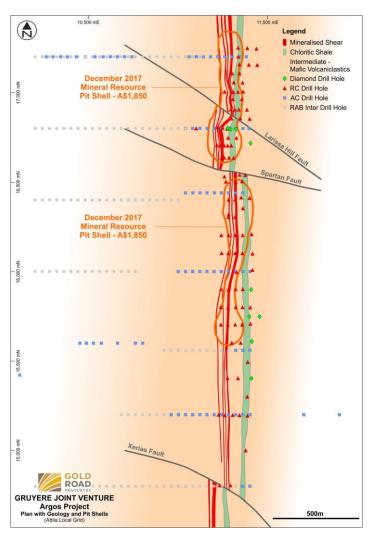
Host rocks to gold mineralisation at Argos are dominated by highly-strained intercalated mafic and intermediate sediments. Occasional mafic intrusives including biotite ± amphibole altered melanodolerites are common in the hangingwall, above the main mineralised shear. Other significant non-mineralised lithologies include a chloritic shale and Gotham tuff, two unique stratigraphic hangingwall marker units that can be traced over several kilometres of the Attila-Alaric trend. Footwall lithologies are dominated by intercalated mafic and intermediate sediments, with zones of elevated Cr and lamprophyre instrusives. The sequence is metamorphosed to upper greenschist – lower amphibolite facies (Figure 28).

Gold mineralisation is hosted within north-striking (Attila local grid), steeply east dipping shear zones. Multiple high-grade zones are 3 to 5 metres in thickness, proximal to the core of the shear zones, and are characterised by laminated quartz-mica-amphibole units. Internal high-grade zones also coincide with greater intensity of alteration, increased presence of disseminated pyrite ± pyrrhotite, and a greater density of fine quartz veining. The low-grade sheared package exhibits a lower intensity of similar alteration and lesser veining.

Mineralisation within the sheared package has been modelled at a 0.2 g/t Au cut-off, including up to 2 metres of internal waste and a minimum width of 2 metres. Internal high-grade zones utilise a 0.5 g/t Au cut-off. The values of 0.2 and 0.5 g/t Au were recognised as inflection points in the gold assay data which correspond to the non-mineralised, mineralised, and high-grade populations respectively. Internal high-grade zones also show coincidence with greater intensity of alteration, increased presence of sulphides, and a greater density of fine quartz veining. The low-grade sheared package exhibits a lower intensity of similar alteration and lesser veining (

Figure 29).





**Figure 28:** Plan view of the Argos deposit area showing drilling, geology, mineralised domains, and resource shells

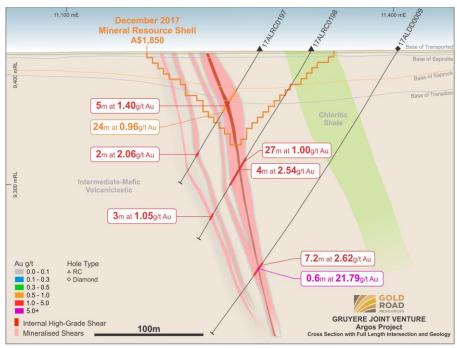


Figure 29: Argos cross section 16,740 mN showing lithology, mineralisation and full length intersections



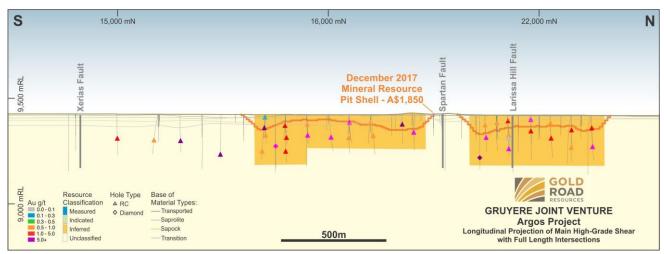
### **Regolith and Weathering**

The transported cover thickness at Argos is minimal, with Quaternary gravels and sands ranging in depth from less than a metre in the north up to 10 metres in the south. The regolith profile at Argos is stripped in the north with material above the upper saprolite absent and the weathering profile approximately 35 metres in depth. The thickness of the regolith profile deepens towards the south, increasing to 60 metres in depth.

#### **Gold Mineralisation**

Gold mineralisation at Argos occurs parallel to the local foliation, and predominantly in the more mafic units of a sequence of mafic and intermediate volcanics and sediments. Multiple parallel zones of gold mineralisation are common. Mineralisation is associated with early amphibole-albite-biotite-sericite-quartz alteration. The principal sulphide is pyrite, with rare disseminated pyrrhotite and arsenopyrite also being observed. A later stage haematite-quartz alteration which is present on either side of the main shear zone is interpreted to be associated with oxidised fluids introduced by late stage north-east trending faults which cut the stratigraphy of the Attila-Alaric Trend.

Individual mineralised zones are generally narrow (two to seven metres) with good continuity along strike and down-dip (Figure 30). However, poor drill density throughout areas of the deposit makes it difficult to evaluate geological continuity of some mineralised zones.



**Figure 30:** Argos longitudinal projection showing resource classification, Mineral Resource shell and full length intersections on the main shear internal high grade.

# Drilling Techniques, Sampling and Sub-sampling Techniques, and Sample Analysis

The sampling has been carried out using a combination of RC and diamond drilling. Drilling was completed between 1995 and 2017 and was undertaken by several different companies. The orientation of the drilling is approximately perpendicular to the regional dip and strike of the targeted mineralisation and a local grid is utilised for both drilling and modelling.

Drill core is cut in half by a diamond saw and half core samples collected to geological contacts, at an average length of one metre, and submitted for assay analysis. RC samples collected during 2017 are channelled through a static cone splitter, and an average 2 to 3 kilogram sample is collected in a calico bag that is submitted for assay analysis. Gold Road has protocols in place to ensure sample quality is kept to high standards. At the assay laboratory all samples are fully pulverised to -75  $\mu$ m (90% passing 75  $\mu$ m or 90p75), to produce a 50 gram charge for Fire Assay with a ICPOES finish.



# **Mineral Resource Model**

Recent improvements have been developed in the understanding of controls to mineralisation along the Attila-Alaric Trend based on new drilling information. Drilling completed at Argos during 2017, including specifically targeted diamond holes, enabled a refinement of the interpretation of the mineralisation domains applied in the 2017 Mineral Resource Estimate. The major changes include:

- Definition of six mineralised structures which are modelled as mineralisation envelopes with high-grade internal zones
- Mineralisation is defined by increasing shear intensity, vein density, and albite-biotite-pyrite alteration associated with higher grades. Broad zones of mineralisation surrounding high-grade shears are modelled as a low-grade envelope referred to as the 'golden highway' due to its continuity along the Yamarna Shear Zone
- High-grade zones are modelled to an approximate 0.5 g/t Au cut-off using hard boundaries, based on geological and geostatistical observations, which are utilised in the estimation of these mineralisation domains.
- New structural interpretation refined by detailed Induced Polarisation (IP) survey completed in 2017 resulting in application of three major faults across the deposit

# **Estimation Methodology**

Wireframes of regolith boundaries, lithology and mineralisation were constructed utilising a cross sectional interval selection method utilising Leapfrog software, these wireframes were validated in all orientations. The wireframes were applied as hard boundaries in the grade estimation. Appropriate top cuts were applied per domain to limit the effect of extreme gold grade values. Bulk density values are applied according to material type (weathering) and are based on diamond core measurements taken locally and regionally.

The geological block model was created by filling interpreted mineralisation wireframes with appropriately subcelled 5 metres X (east-west) by 25 metres Y (north-south) by 5 metres Z (vertical) parent cells. Assay data was selected within the wireframes, composited to one metre lengths and a top-cut applied according to domain and grade statistics. Estimation by domain was completed using Ordinary Kriging methods with optimised search neighbourhoods aligned to the interpreted mineralisation trend. Validation steps included comparison of input assay data to the output model grade estimate to ensure minimal bias.

### **Criteria Used for Classification**

The 2018 Mineral Resource Update is constrained by a Whittle optimised pit shell that considers all available mineralisation in the geological model with at least an Inferred level of confidence. Several factors have been used in combination to derive the Resource classification categories for mineralisation:

- **Drill hole spacing:** classification is influenced by the data spacing, as indicated in Table 25.
- Geological continuity: Argos geological continuity is good, the position and width of mineralised lodes is reasonably predictable.
- Grade continuity: the continuity of mineralisation grade is reasonable on the mineralised main shear, and less so on mineralised footwall structures. In poorly drilled areas the data density is such that continuity can only be assumed.
- **Estimation quality parameters.** Derived from the Ordinary Kriging process and assessed using Kriging Neighbourhood Analysis methods provide a guide to the quality of the estimate.
- Based on the defined criteria 100% of Argos is classified as Inferred Resource.



Table 25: Drill hole spacing by Mineral Resource Classification category, Argos Deposit

Inventory Classification							
Domain	Criteria	Measured	Indicated	Inferred	Unclassified		
	Target Spacing	-	-	50 m X by 100 m Y			
All mineralised	Actual Spacing		-	25 m X by 50 m Y 50 m X by 100 m Y	"Potential" beyond Inferred to limits of geological model.		
	Boundary	-	-	200 m along strike			
	Extension	-	-	40 m down dip -			

Detailed analysis using geostatistics and spatial variance (variography) indicate the Argos deposit data has a relatively low nugget with reasonable grade continuity along strike. Significantly more detailed drilling is required for material to be classified as Indicated or Measured. Current drill spacing of 50 metres by 100 metres is sufficient for proving geological continuity, although areas drilled at 25 metres by 50 metres do provide evidence to confirm good continuity of mineralisation.

Multi-phase folding has been identified around the main shear, with shallow dipping drag folds and tight highangle folding observed in deformed intermediate-mafic sediments. The intersection of these fold axes are oriented 25 degrees to the north, a plunge orientation also observed in the variogram analysis. Other orientations modelled reflect the strike and dip of mineralisation.

A total of 75% of the inferred resource is interpolated, originating from the main shear and internal high-grade domains (D5500 & D5555), while the remaining 25% is extrapolated from footwall sub-domains (D5200 – D5400).

# Mining methods, metallurgical parameters, and other modifying factors

The Mineral Resource has been constrained by an optimised Whittle pit shell to determine the portion of the total mineralised inventory that has a reasonable prospect of eventual economic extraction. Only Measured, Indicated and Inferred resource categories of mineralisation that fall within this optimised pit shell have been reported as Mineral Resource – in the case of Argos this is all Inferred material. The cut-off grade used for reporting resource contained within the optimised shell is 0.5 g/t Au. The mining strategy assumes conventional open pit methods with a contract mining fleet appropriately scaled to the size of the deposit. De facto minimum mining width is a function of the optimisation parent cell size (5 metres X by 12.5 metres Y by 5 metres Z). No allowance for dilution or mining recovery has been made, however the interval selection strategy applied to the domain interpretation, where a minimum interval of two metres down hole is specified, can be a proxy for minimum mining widths. Modifying factors have been adapted from the latest mining and geotechnical parameters established from regional mining studies completed over the previous twelve months. Processing costs are based on projected Gruyere Process Plant operating costs, include costs to cover mine to mill haulage of approximately 27 kilometres and allowances for administration costs and sustaining capital (Table 26).

Metallurgical recovery has been adapted from test-work completed on neighbouring deposits indicating variable recovery between 92% and 85%, depending on weathering profile and grade, and have been applied accordingly in the optimisation.



 Table 26: Summary of input parameters used to constrain the December 2017 Argos Mineral Resource

Optimisation Parameter	Updated Value	Comment
Cut-off Grade (g/t Au)	0.50	COG references estimated surface haulage costs, projected Gruyere processing costs and metallurgical recovery
Gold Price (A\$/oz)	1,850	Defined by GOR
Overall Mining Cost (A\$/t)	3.72	Derived from recent contractor mining cost estimates for neighbouring projects.
Overall Slope Angle Weathered	40°	Derived from recently updated Geotechnical Rock Mass Model for neighbouring project.
Overall Slope Angle Fresh	50°	Derived from recently updated Geotechnical Rock Mass Model for neighbouring project.
Process Recovery	92% - 85%	Adapted from recoveries established from metallurgical test-work completed on neighbouring deposit on the same geological trend. Average recovery is 89%
Processing Cost* (A\$/t)	25.10	Based on projected Gruyere Processing costs

<sup>\*</sup>Includes surface haulage, administration and sustaining capital cost.



# **Montagne Mineral Resource**

### **Mineral Resource Variance**

Gold Road has completed a new Montagne Open Pit Mineral Resource, in accordance with the JORC Code 2012 Edition. The December 2017 Mineral Resource is constrained within an A\$1,850 per ounce Whittle optimised pit shell and quoted at a 0.5 g/t Au cut-off.

The December 2017 Mineral Resource totals **2,970,683 tonnes at 1.34 g/t Au for 128,356 ounces** of gold (Table 27). In 2015 Gold Road removed Montagne (previously named Alaric 2) from the Yamarna Mineral Resources being considered non JORC 2012 compliant. New Diamond and RC drilling completed during 2017 have been incorporated into a revised interpretation of mineralisation and stratigraphy at Montagne and are included in this Mineral Resource Update.

Material within the December 2017 Mineral Resource optimised pit shell is classified as Indicated (26%) and Inferred (74%).

Table 27: Summary of the December 2017 Montagne Mineral Resource

Resource Category	Tonnes (t)	Grade (g/t Au)	Contained Metal (oz Au)
M, I & I	2,970,683	1.34	128,356
Measured	-	-	-
Indicated	683,495	1.53	33,675
Inferred	2,287,187	1.29	94,681

### Notes:

- All Mineral Resources are completed in accordance with the JORC Code 2012 Edition
- The Gruyere JV is a 50:50 joint venture between Gold Road and Gruyere Mining Company Pty Limited a wholly owned Australian subsidiary of Gold Fields Ltd. Figures are reported on a 100% basis unless otherwise specified
- The 2017 Mineral Resource is reported at a cut-off grade of 0.50 g/t Au and constrained within a A\$1,850 per ounce optimised pit shell
- All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.

# **Mineral Resource Sensitivity**

The December 2017 Mineral Resource model has been evaluated within pit shells optimised at varying prices to determine sensitivity to gold price assumptions. Results are reported at 0.5 g/t Au cut-off for a variety of gold prices from A\$1,500 to A\$2,000 per ounce (Table 28 and Figure 31). The 2018 Mineral Resource model is sensitive to changes in gold price, varying from -37% to +13% with fluctuations of +/- A\$200 per ounce in gold price.

Table 28: Argos Mineral Resource sensitivity to constraining price pit shells.

Gold Price		Total M, I 8	ξ.I	M, I & I variance of Contained Metal from A\$1,850	
(A\$/oz)	Tonnes (Mt)	Grade (g/t Au)	Contained Metal (koz Au)	Ounces variance (koz Au)	Percentage variance (%)
1,500	1.78	1.42	81.0	-47.0	-37
1,600	2.09	1.41	94.9	-33.5	-26
1,700	2.48	1.38	109.7	-18.7	-15
1,850	2.97	1.34	128.4		
1,900	3.04	1.34	130.9	2.5	2
2,000	3.43	1.34	147.3	16.4	13





Figure 31: Montagne Mineral Resource model sensitivity to gold price. Gold bar represents the 2018 Mineral Resource.

# **Attila-Alaric Trend Geology**

The Attila-Alaric Trend, which includes the Montagne Deposit, is located on the western side of the Yamarna Greenstone Belt within the Archaean Yilgarn Craton. The majority of the greenstone sequence is obscured by a veneer of Quaternary sands.

Mapping of the limited outcrop, logging of drill holes, and interpretation of the aeromagnetic, gravity and seismic data, indicate that the Yamarna Greenstone Belt comprises an upright, highly deformed and metamorphosed greenstone sequence up to 12 kilometres in thickness that can be subdivided into several narrow and elongate units. The metamorphic, structural and alteration overprint makes identification of the original rock types difficult, the mineralised sequence comprises mixed mafic volcanics (basalts, dolerites and gabbros), interflow sediments (including chert, black shale and BIF) and intermediate tuffs and intrusives.

The western side of the Yamarna Greenstone Belt is dominated by a strong, pervasive north-northwest trending and steeply dipping foliation. The aeromagnetic images highlight the attenuated 'train track' nature of the rock units and structures. The Attila-Alaric Trend mineralisation appears to be localised on areas where interpreted cross faulting increases the structural complexity of the otherwise uniform strike orientation.

# **Attila-Alaric Trend Project History**

Gold was first discovered on the Yamarna Greenstone Belt in the early 1980's and the first Resource completed in 1994 on the Attila Deposit. Subsequent exploration focussed on the trend of highly sheared mafic and intermediate volcanics and sediments parallel to the Yamarna Shear Zone between the Attila and Alaric deposits and identified a 16 kilometre long trend of continuous mineralisation. With continued exploration the mineralisation trend can now be traced over 50 kilometres in strike. The Attila and Alaric Mineral Resources were updated to comply with JORC 2012 standards in 2015 and at the same time the resources at Montagne (previously Alaric 2), Argos (previously Alaric 1) and Orleans (previously Attila North) were removed from the Yamarna Mineral Resource. This current update incorporates further drilling completed in 2017 and a revised geological and mineralisation interpretation.



# **Montagne Deposit Geology**

# **Geology and Geological Interpretation**

Host rocks to gold mineralisation at Montagne are dominated by highly-strained intercalated mafic and intermediate sediments. Occasional mafic intrusives including biotite ± amphibole altered melanodolerites are common in the hangingwall, above the main mineralised shear. Other significant non-mineralised lithologies include a chloritic shale and Gotham tuff, two unique stratigraphic hangingwall marker units that can be traced over several kilometres of the Attila-Alaric Trend. Footwall lithologies are dominated by intercalated mafic and intermediate sediments, with zones of elevated Cr and lamprophyre instrusives. The sequence is metamorphosed to upper greenschist – lower amphibolite facies. (Figure 32).

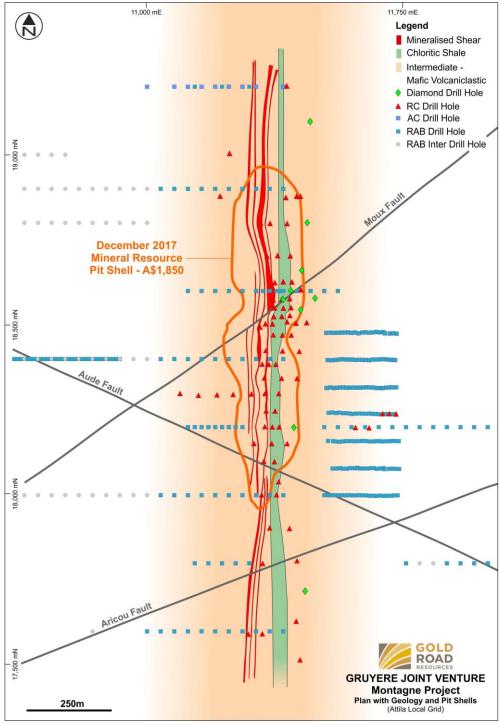


Figure 32: Plan view of the Montagne deposit area showing drilling, geology, mineralised domains, and resource shells



Gold mineralisation is hosted within north striking (Attila local grid), steeply east dipping shear zones characterised by laminated pyrite-biotite units +/- thin quartz veins. Mineralisation occurs as a consistent, 60 metre wide, moderately sheared, low grade envelope which can be traced the length of the Attila-Alaric Trend which contains multiple, discrete intense shear zones. High-grade mineralisation occurs as 2 to 15 metre wide zones proximal to the core of the intense local shears and is associated with increased pyrite alteration. High-grade mineralisation demonstrates consistent strike continuity but lesser short scale grade continuity.

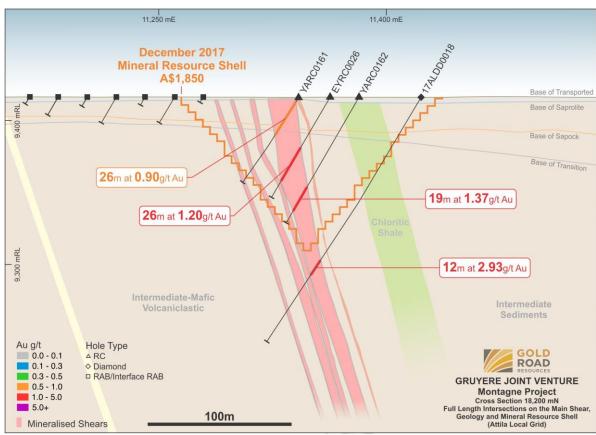


Figure 33: Montagne cross section 18,200 mN showing geology and mineralisation, and full length intersections on the main shear.

Mineralisation within the sheared package has been modelled at a 0.3 g/t Au cut-off, including up to 2 metres of internal waste. Internal high-grade zones utilise a 0.5 g/t Au cut-off. The value of 0.3 is recognised as an inflection point in the gold assay data which corresponds to the non-mineralised and mineralised populations. Visually, data above the 0.3g/t Au cut-off delineates a continuous mineralised trend, observed at a deposit and regional scale. High-grade zones, greater than 0.6 g/t Au, also show coincidence with greater intensity of alteration, increased presence of sulphides, and a greater density of fine quartz veining. The low-grade sheared package exhibits a lower intensity of similar alteration and lesser veining (Figure 33).

### **Regolith and Weathering**

The thickness of transported cover at Montagne is minimal, comprising 2 to 5 metres of aeolian sands, with weathering typically ranging in depth from 25 to 70 metres. The regolith profile is stripped, with material above the lower saprolite absent. The depth of weathering increases to the north, averaging 25 metres in the south, and 60 metres in the northern end of the Montagne deposit.



### **Gold Mineralisation**

Individual mineralised zones are generally narrow with strong continuity along strike and down-dip. High-grade intervals show increased variability and shorter range in continuity observed in the geostatistical analysis. The short-range variability of mineralisation is considered moderate with a 33% nugget value modelled in the variography parameters (Figure 34).

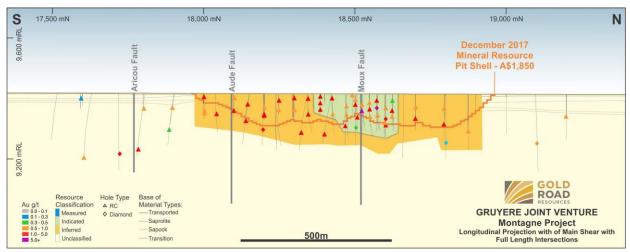


Figure 34: Montagne longitudinal projection showing resource classification, Mineral Resource shell and full length intersections on the main shear

# Drilling Techniques, Sampling and Sub-sampling Techniques, and Sample Analysis

The sampling has been carried out using a combination of RC and diamond drilling. Drilling was completed between 1994 and 2017 and was undertaken by several different companies. The orientation of the drilling is approximately perpendicular to the regional dip and strike of the targeted mineralisation and a local grid is utilised for both drilling and modelling.

Drill core is cut in half by a diamond saw and half core samples collected to geological contacts, at an average length of one metre, and submitted for assay analysis. One metre RC drill samples are channelled through a cone splitter, and an average 2 to 3 kilogram sample is collected in a calico bag that is submitted for assay analysis. Gold Road has protocols in place to ensure sample quality is kept to high standards. At the assay laboratory all samples are fully pulverised to -75  $\mu$ m (90% passing 75  $\mu$ m or 90p75), to produce a 50 gram charge for Fire Assay with either AAS or ICPOES finish.

# **Mineral Resource Model**

Targeted drilling completed in 2017, and new drilling along the entire Attila-Alaric Trend since early 2015 have significantly improved the understanding of geology and mineralisation at Montagne. This iteration of interpretation and estimation is based upon the development of geological understanding with detailed work conducted at Attila and Alaric, deposits to the south and north respectively. The current interpretation represents a more continuous delineation of mineralisation from that input to the previous estimation. By utilising a lower grade cut-off (Golden Highway) higher grade zones within this framework are much more readily defined and linked together.



# **Estimation Methodology**

Wireframes of regolith boundaries, lithology and mineralisation were constructed utilising a cross sectional interval selection method that was validated in other orientations. The wireframes were applied as hard boundaries in the grade estimation. Bulk density values are applied according to material type (weathering) and are based on diamond core measurements taken locally and regionally.

The geological block model was created by filling interpreted mineralisation wireframes with appropriately subcelled 5 metres X (east-west) by 25 metres Y (north-south) by 5 metres Z (vertical) parent cells. Assay data was selected within the wireframes, composited to two metre lengths and a top-cut applied according to domain and grade statistics. Estimation by domain was completed using Ordinary Kriging methods with optimised search neighbourhoods aligned with the interpreted mineralisation trend. Validation steps included comparison of input assay data to the output model grade estimate to ensure minimal bias.

#### (a) Criteria Used for Classification

The December 2017 Mineral Resource Update is constrained by a Whittle optimised pit shell that considers all available mineralisation in the geological model with at least an Inferred level of confidence. Several factors have been used in combination to derive the Resource classification categories for mineralisation:

- Drill hole spacing: classification is influenced by the data spacing, as indicated in Table 29.
- **Geological continuity:** Geological continuity at Montagne is high, the position and width of stratigraphy and mineralised lodes is predictable.
- Grade continuity: Mineralisation continuity is reasonable on the main shear, and main footwall and main hangingwall, and less continuous on mineralised footwall structures.
- **Estimation quality parameters.** Derived from the Ordinary Kriging process and assessed using Kriging Neighbourhood Analysis methods provide a guide to the quality of the estimate.
- No Measured Resource has been classified considering the criteria defined

Table 29: Drill hole spacing by Mineral Resource Classification category, Montagne Deposit

	Inventory Classification							
Domain	Criteria	Measured	Indicated	Inferred	Unclassified			
	Target Spacing	25 m X by 50 m Y	25 m X by 50 m Y	50 m X by 100 m Y				
All mineralised	Actual Spacing		25 m X to 50 m X by 25 m Y to 50 m Y	50 m X by 50 m Y to 100 m Y	"Potential" beyond Inferred to limits of geological model.			
	Boundary Extension		25 m along strike <50m down dip from last drill hole	50 m along strike <50m down dip from last drill hole				

Detailed analysis using geostatistics and spatial variance (variography) indicate the Montagne mineralisation exhibits a moderately low nugget with reasonable grade continuity along strike. The current drill spacing of 25 to 50 metres by 50 to 100 metres is sufficient for proving continuity, closer drill spacing confirms long scale continuity of mineralisation. More detailed drilling is required for the remainder of the deposit strike length to be classified as Indicated and grade control spaced drilling is required for Measured.

Multi-phase folding has been identified around the main shear, with shallow dipping drag folds and tight highangle folding observed in deformed intermediate-mafic sediments. Intersection of these fold axes delineate the shallow north dipping (10-25 degrees plunge orientation modelled. Other orientations reflect strike and dip of the modelled mineralisation.



# Mining methods, metallurgical parameters, and other modifying factors

The Mineral Resource has been constrained by an optimised Whittle pit shell to determine the portion of the total mineralised inventory that has a reasonable prospect of eventual economic extraction. Only Measured, Indicated and Inferred resource categories of mineralisation that fall within this optimised pit shell have been reported as Mineral Resource. The cut-off grade used for reporting resource contained within the optimised shell is 0.5 g/t Au. The mining strategy assumes conventional open pit methods with a contract mining fleet appropriately scaled to the size of the deposit. De facto minimum mining width is a function of optimisation parent cell size (5 metres X by 12.5 metres Y by 5 metres Z). No allowance for dilution or mining recovery has been made. Modifying factors have been adapted from the latest mining and geotechnical parameters established from regional mining studies completed over the previous 12 months. Processing costs are based on projected Gruyere Mill operating costs and include costs to cover mine to mill haulage of approximately 27 kilometres and allowances for administration costs and sustaining capital (Table 30).

Metallurgical recovery has been adapted from test-work completed on neighbouring deposits indicating variable recovery between 92% and 85%, depending on weathering profile and grade, and have been applied accordingly in the optimisation.

Table 30: Summary of input parameters used to constrain the December 2017 Montagne Mineral Resource

Optimisation Parameter	Updated Value	Comment
Cut-off Grade (g/t Au)	0.50	COG references estimated surface haulage costs, projected Gruyere processing costs and metallurgical recovery
Gold Price (A\$/oz)	1,850	Defined by GOR
Overall Mining Cost (A\$/t)	4.05	Derived from recent contractor mining cost estimates for neighbouring projects.
Overall Slope Angle Weathered	45°	Derived from recently updated Geotechnical Rock Mass Model for neighbouring project.
Overall Slope Angle Fresh	50°	Derived from recently updated Geotechnical Rock Mass Model for neighbouring project.
Process Recovery	92% - 85%	Adapted from recoveries established from metallurgical test-work completed on neighbouring deposit on the same geological trend. Average recovery is 89%
Processing Cost* (A\$/t)	24.91	Based on projected Gruyere Processing costs

<sup>\*</sup>Includes surface haulage, administration and sustaining capital cost.



# **Appendix 1**

# **GRUYERE**

# JORC CODE 2012 EDITION TABLE 1 - SECTIONS 1 TO 4

# **Section 1 Sampling Techniques and Data**

Note: Details for drilling data used in the Gruyere Mineral Resource has previously been reported in ASX announcements released between 14 October 2013 and 26 September 2017. The data for the 25 by 25 metre RC and 12.5 metre infill program has not been publicly released as it is considered to be operational in nature. These holes were treated with the same geological protocols as described in Table 1 below.

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

Criteria and JORC Code explanation	Commentary
Sampling techniques	
Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling (DDH).  RC drill samples are collected through a rig-mounted cone splitter designed to capture a one metre sample with optimum 2-3kg sample weight.  Drill core is logged geologically and marked up for assay at approximate one metre intervals based on geological observation. Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis.  Detailed descriptions of drilling orientation relative to deposit geometries, and full sample nature and quality are given below.
Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	Sampling was carried out under Gold Road's protocols and QAQC procedures as per industry best practice. See further details below.
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	RC holes were drilled with a 5.25 inch face-sampling bit, 1 m samples were collected through a cyclone and cone splitter to form a 2-3 kg sample. All holes with reported assays from RC drilling are from the original 1 m samples collected from the splitter except for 1% of RC samples, which were fourmetre composite samples collected through logged waste zones.  The 4 m composite samples were created by spear sampling of the total 1 m samples collected in large plastic bag from the drilling rig and were deposited into separate numbered calico bags for sample despatch.  No assays collected by four-metre composite sampling were used in the Mineral Resource Estimation.  Diamond drilling was completed using an HQ or NQ drill bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured intervals.  Both RC and diamond samples were fully pulverised at the laboratory to -75 um, to produce a 50 g charge for Fire Assay with an AAS finish up until May 2014 and ICPES finish post this date.
Drilling techniques  Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	RC drilling rigs, operated by Raglan Drilling, were used to collect the RC samples. The face-sampling RC bit has a diameter of 5.25 inches (13.3 cm). Diamond drilling rigs operated by Terra Drilling Pty Ltd and DDH1 collected the diamond core as NQ or HQ size. Some of the diamond holes used RC pre-collars to drill through barren hanging-wall zones to specified depth, followed by diamond coring at NQ size from the end of the pre-collar to the end of hole. This ensured diamond core recovery through the mineralised zones within the Gruyere Porphyry.  Core is oriented using downhole Reflex surveying tools, with orientation marks provided after each drill run.



Criteria and JORC Code explanation	Commentary
Drill sample recovery  Method of recording and assessing core and chip sample recoveries and results assessed.	The majority of RC samples were dry. Ground water egress occurred in some holes at variable depths between 100 and 400 m. Drill operators ensured that water was lifted from the face of the hole at each rod change to ensure that water did not interfere with drilling and that all samples were collected dry. When water was not able to be isolated from the sample stream the drill hole was stopped and drilling was completed with a diamond tail.  RC recoveries were visually estimated, and recoveries were recorded in the log as a percentage. Recovery of the samples was good, generally estimated to be close to 100%, except for some sample loss at the top of the hole.  All diamond core collected is dry. Drill operators measure core recoveries for every drill run completed using a 3 m core barrel. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery is calculated as a percentage recovery. Close to 100% recoveries were achieved for the majority of diamond drilling completed at Gruyere.
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC face-sampling bits and dust suppression were used to minimise sample loss. Drilling air pressure lifted the water column above the bottom of the hole to ensure dry sampling. RC samples were collected through a cyclone and rotary cone splitter. The rejects were deposited in a large plastic bag and retained for potential future use. The sample required for assay is collected directly into a calico sample bag at a designed 2 - 3 kg sample mass which is optimal for whole-of-sample pulverisation at the assay laboratory. Diamond drilling results in uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	All RC samples were dry with the exception of a few samples (<5%) that were reported as slightly damp to the end of the hole. Apart from the tops of the holes while drilling through the sand dune cover, there is no evidence of excessive loss of material and at this stage no information is available regarding possible bias due to sample loss.  There is no significant loss of material reported in any of the diamond core.
Logging Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	All chips and drill core were geologically logged by Gold Road geologists, using the Gold Road logging scheme. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Approximately 30% of holes have been surveyed using downhole optical (OTV) and/or acoustic (ATV) televiewer tools which provide additional information suitable for geotechnical and specific geological studies.  A full set (49,425 to 50,950 mN) of 25 m spaced manually interpreted cross-sections were geo-referenced and used to guide digital construction of material type wireframes. A weathering profile guide was developed as part of the process in order to document the features and provide a guide for further logging and open pit mapping.  An alteration assemblage guide was developed in order to document the features that control gold mineralisation and provide a guide for further logging and open pit mapping.  Nine specific geotechnical diamond holes were drilled to support the PFS and a further 12 drilled to support the FS. The holes were designed and logged in geotechnical detail by Dempers and Seymour Pty Ltd Geotechnical Mining Consultants. Collaboration between the geological and geotechnical groups has resulted in refinement of the geological interpretation, particularly the understanding of significant faults and shear zones.  Metallurgical composite samples selected over the life of the project have been based on the detailed logging information, gold grades and geological interpretation.



Criteria and JORC Code explanation	Commentary
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wetsieved and stored in a chip tray.  Logging of drill core records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, along with structural information from oriented drill core. All samples are stored in core trays. All core is photographed in the trays, with individual photographs taken of each tray both dry, and wet; all photos are uploaded to and stored in the Gold Road server database.
The total length and percentage of the relevant intersections logged	All RC and diamond holes were logged in full.
Sub-sampling techniques and sample preparation  If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half using an automated Corewise diamond saw.  Half core samples were collected for assay, and the remaining half core samples are stored in the core trays.
If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	One metre RC drill samples are collected via a cone-splitter, installed directly below a rig mounted cyclone, and an average 2-3 kg sample is collected in an un-numbered calico bag, and positioned on top of the plastic bag. >95% of samples were collected dry (dry to slightly damp).  Four-metre composite samples were created by spear sampling of the total 1 metre samples collected in large plastic bag from the drilling rig and deposited into separate numbered calico bags for sample despatch. A number of RC holes utilised 4 m composite samples for waste intervals. If composite samples returned anomalous gold values, the intervals were resampled as one metre samples by collecting the sample produced from the rotary cone-splitter. No 4 m sample assays were used in this Mineral Resource Estimate.
For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were prepared at the Intertek laboratory in Kalgoorlie. Samples were dried, and the whole sample (both RC and DDH) was pulverised to 80% passing 75 um, and a sub-sample of approx. 200 g was retained. A nominal 50 g was used for the analysis. The procedure is better than industry standard for this type of sample as most labs split the 2-3 kg prior to pulverising.
Quality control procedures adopted for all sub-sampling stages to maximise representation of samples.	A duplicate RC field sample is taken from the cone splitter at the same time as the primary sample a rate of approximately 1 in 40 samples.  A twinned half core sample is taken at a frequency of 1 in 40 samples, with one half representing the primary result and the second half representing a twinned result.  At the laboratory, regular laboratory-generated repeats and check samples are assayed, along with laboratory insertion of its own standards and blanks.
Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Duplicate samples were collected at a frequency of 1 in 40 for all drill holes.  RC duplicate samples are collected directly from the rig-mounted cone splitter.  Core twinned samples utilise the second half of core after cutting.
Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to give an indication of mineralisation given the particle size and the preference to keep the sample weight below a targeted 3 kg mass which is the optimal weight to ensure the requisite grind size in the LM5 sample mills used by Intertek in sample preparation.
Quality of assay data and laboratory tests  The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Samples were analysed at the Intertek laboratory in Perth. Fire Assay with either AAS or ICPES finish for gold is considered to be appropriate for the Gruyere material and mineralisation. ICPES provides improved quality compared to AAS and all fire assay protocols for Gold Road samples were changed to this finish during May 2014.



Criteria and JORC Code explanation	Commentary
For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Calibration of the hand-held XRF tools is applied at start-up. XRF results are only used for indicative assessment of lithogeochemistry and alteration to aid logging and subsequent interpretation.  Downhole survey of rock property information for selected holes reported has been completed. ABIMS is the contractor which compiled this work. This involved downhole surveying using a variety of tools with real time data
	capture and validation. The tools were calibrated on a regular basis. This data was partially used to help establish the specific gravity (SG) data for the Resource Model.
Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	The Gold Road protocol for RC programs is for Field Standards (Certified Reference Materials) and Blanks to be inserted at a rate of 3 Standards and 3 Blanks per 100 samples. RC Field Duplicates and DDH Field Twins are generally inserted at a rate of approximately 1 in 40. Regular DDH Field Twin sampling was stopped in 2017. Samples are processed at Intertek laboratories, where regular assay Repeats, Laboratory Standards, Checks and Blanks are inserted and analysed in addition to the blind Gold Road QAQC samples.  Results of the Field and Laboratory QAQC assays were checked on assay
	receipt using QAQCR software. All assays passed QAQC protocols, showing acceptable levels of contamination or sample bias, including diamond half core v. half core Field Twins. Previous QAQC reports and audits were completed and reported by Mr David Tullberg (Grassroots Data Services Pty Ltd) and Dr Paul Sauter (in-house consultant Sauter Geological Services Pty Ltd).  No specific QAQC reports were completed for this resource update due to the low number of drill holes and extensional nature of the drilling,
	however, all results passed Gold Road standard protocols. Extensional exploration drilling sample and QAQC sample numbers are included in ASX announcements.
Verification of sampling and assaying  The verification of significant intersections by either independent or alternative company personnel.	Significant results were compiled by the Database Manager and reported for release by the Exploration Manager/Executive Director. Data was routinely checked by the Senior Exploration and Project Geologist, Principal Resource Geologist or Consulting Geologists during drilling programs. All results, except for the 25 by 25 m and 12.5 m spaced RC data, which is considered operational, have been reported in previous ASX announcements.
The use of twinned holes.	Three twin RC holes were completed and data analysed in the reported resource, with their collars being less than 5 m distant from the parent collar.
	<ul> <li>14GYRC0026A (twin pair with hole 13GYRC0026)</li> <li>14GYRC0033A (twin pair with hole 14GYRC0033)</li> <li>14GYRC0060A (twin pair with hole 13GYRC0060)</li> <li>Two twin RC vs DDH sub-parallel holes were completed and data analysed in the reported resource, with their collars being less than 10 m distant from the parent collar.</li> </ul>
	■ 13GYDD0003 (twin pair with hole 13GYRC0027)
	■ 13GYDD0002 (twin pair with hole 13GYRC0049)  One diamond pair (14GYDD0012A and 14GYDD0012B) provide a twin data set over a length of 120 m at a spacing of less than less than 4 m apart. This twinned data provided accurate data for validating the nugget effect at Gruyere.
	As part of the Maiden Mineral Resource reported in August 2014 a detailed drill program was completed which included a number of holes on an approximate 12.5 by 12.5 m to 25 by 25 m drill spacing. The data derived from this drilling and the recent 12.5 to 25 by 25 m drilling was used to confirm short scale mineralisation continuity and refine statistical and geostatistical relationships in the data which are useful in resource estimation.



Criteria and JORC Code explanation	Commentary
Documentation of primary data, data entry procedures, data	All field logging is carried out on Toughbooks using LogChief data capture
verification, data storage (physical and electronic) protocols.	software. Logging data is submitted electronically to the Database
	Geologist in the Perth office. Assay files are received electronically from the
	Laboratory. All data is stored in a Datashed/SQL database system, and
	maintained by the Gold Road Database Manager.
Discuss any adjustment to assay data.	No assay data was adjusted. The laboratory's primary Au field is the one
	used for plotting and resource purposes. No averaging is employed.
Location of data points	
$\label{lem:continuous} \textit{Accuracy and quality of surveys used to locate drill holes (collar and a survey) and \textit{collar and a survey} and \textit{collar and a survey} and \textit{collar and a survey} are \textit{collar and a survey}.$	The drill hole locations were initially picked up by handheld GPS, with an
down-hole surveys), trenches, mine workings and other locations	accuracy of 5 m in northing and easting. All holes were later picked using
used in Mineral Resource estimation.	DGPS to a level of accuracy of 1 cm in elevation and position.
	For angled drill holes, the drill rig mast is set up using a clinometer, and rigs
	aligned by surveyed positions and/or compass.
	Drillers use an electronic single-shot camera to take dip and azimuth
	readings inside the stainless steel rods, at 50 m intervals, prior to August
	2014, and 30 m interval, post August 2014. Downhole directional surveying
	using north-seeking gyroscopic tool was completed on site and live (down
	drill rod string) or after the rod string had been removed from the hole.
	Most diamond drill holes were surveyed live whereas most RC holes were
	surveyed upon exiting the hole.
Specification of the grid system used.	A local grid (Gruyere Grid) was established by contract surveying group Land
	Surveys. The purpose of the local grid is to have an accurate and practical
	co-ordinate system along strike of the deposit. A high density survey control
	network and an accurate transformation between Gruyere Grid and
	MGA94-51 has been established. All ongoing studies, geological, resource
	and mining activities are now conducted in Gruyere Grid.
Quality and adequacy of topographic control.	An Aerial Lidar and Imagery Survey was completed January 2016 by Trans
	Wonderland Holdings as part of the ongoing FS covering 2,558 km <sup>2</sup> over the
	project area. One-metre contours from this survey were used to construct
	a new topography surface to constrain the resource model. The survey
	showed good agreement with the existing DGPS drill hole collar data.
	All drill holes used in the resource grade estimate have a final collars survey
	by DGPS which are has a 1 cm elevation accuracy.
Data spacing and distribution	
Data spacing for reporting of Exploration Results.	Drill spacing is at an approximate 50 m section spacing and 40 to 80 m on
	section over the top 200 vertical metres of the deposit; the spacing is at a
	100 m sections at 50 to 100 m spacing from 150 to 600 vertical metres.
	Approximately 75 % of the pit strike length has been drilled to 25 by 25 m
	spaced holes to a depth of 70 to 100 m below surface. Some sections have
	been drilled to 12.5 by 25 m.
	Drill spacing in relation to Resource Classification is discussed further in
	Section 3 below.
Whether the data spacing and distribution is sufficient to establish	Spacing of the reported drill holes is sufficient to demonstrate the geological
the degree of geological and grade continuity appropriate for the	and grade continuity of the deposit, and is appropriate for resource
Mineral Resource and Ore Reserve estimation procedure(s) and	estimation procedures. Detailed description of the relationship between
classifications applied.	drill spacing and Resource classification is provided in Section 3 below.
Whether sample compositing has been applied.	A total of 246 RC samples (out of a total 22,072 RC samples) featured
	compositing over waste intervals. This is the equivalent of <1% of all RC
	sample collected. <b>None</b> of these composited samples have been used in the
	Resource Estimate.
	No compositing has been employed in the diamond drilling.
	No sample compositing has been used during reporting – all reported
	intersections represent full length weighted average grades across the
	intersection length.



Criteria and JORC Code explanation			Commentary				
Orientation of data in relation to geological structure  Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.		Drill sections are oriented west to east (270° to 090° Gruyere Grid) with the majority of holes oriented approximately perpendicular to dip and strike at -60° to 270°, 14 holes in this orientation are shallow to dip and four are steep to dip. A small component of drilling has been drilled in a northward orientation, five of these are deep diamond drill holes drilled along the strike of the deposit (-60 towards 010°) to specifically test along strike continuity. Twenty-six holes are drilled to the northeast and east, and six are drilled to the south. The table below details the drilling orientation by drill type.					
	Azimuth (Gruyere Grid)	Dip	DDH	RC	Total	Comment	
	250 to 290	-40 to -50	7	7	14	Perpendicular to strike and shallow to dip	
	250 to 290	-51 to -75	77	303	380	Perpendicular to strike and dip	
	250 to 290	-76 to -85	2	2	4	Perpendicular to strike and steep to dip	
	291 to 020	-55 to -70	11		11	Along strike / down dip - includes 1 wedge	
	021 to 100	-60 to -80	12	14	26	To northeast and east	
	101 to 249	-60 to -70	2	4	6	To south	
	na	-90		2	2	Water bores	
		Total	111	332	443		
If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.		Detailed structural logging of diamond drill core identified important quartz veins sets with an approximate shallow dip to the east. Drilling angled at either -60 to the east or west does not introduce any directional bias given the current understanding of the structural orientations and the dip and strike of mineralisation.				Orilling angled at tional bias given	
Sample security	1						
The measures taken to ensure sample security.			For all RC drilling and diamond drilling pre-numbered calico sample bags were collected in plastic bags (five calico bags per single plastic bag), sealed, and transported by company transport to the Intertek laboratory in Kalgoorlie. Prepared pulps were then despatched by Intertek to its laboratory in Perth for assaying.			stic bag), sealed, k laboratory in	
Audits or review	vs						
The results of any audits or reviews of sampling techniques and data.			Sampling and assaying techniques are industry-standard. Internal and Consultant reviews of QAQC have been completed and documented. Company laboratory audits have been complete at the Intertek laboratory in Perth.  No independent laboratory or sample audits have been completed.				



## **Section 2 Reporting of Exploration Results**

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

Criteria and JORC Code explanation	Commentary
Mineral tenement and land tenure status  Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Mineral Resource occurs within tenement M38/1267, which is owned by the Gruyere JV a 50:50 joint venture between Gold Road and Gold Fields. The tenement is located on the Yamarna Pastoral Lease, which is owned and managed by Gold Road.  Tenement M38/1267 is located on tenements granted in respect of land in which non-exclusive native title has been determined to exist and to be held by a group of native title holders which includes the persons on whose behalf the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011) native title claims were brought. The determination was made by the Federal Court on 27 September 2017. The native title holders are required to nominate a body corporate to act as trustee of, or as their agent in future dealings relating to, their native title. Exploration activities in the specified "Gruyere and Central Bore Project Areas" within the Pastoral Lease are conducted in accordance with the 2016 "Gruyere and Central Bore Native Title Agreement" between Gold Road, the Yilka native title claim group and Cosmo Newberry Aboriginal Corporation. Exploration activities within the balance of the Pastoral Lease Heritage Protection Agreement" between Gold Road and Harvey Murray (the applicant in relation to the Yilka native title claim).
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenement is in good standing with the Western Australia Department of Mines, Infrastructure, Resource and Safety.
<b>Exploration done by other parties</b> Acknowledgment and appraisal of exploration by other parties.	No previous exploration has been completed on this prospect by other parties.
Geology Deposit type, geological setting and style of mineralisation.	The Gruyere Deposit comprises a narrow to wide porphyry intrusive dyke (Gruyere Porphyry – a Quartz Monzonite) which is between 35 and 190 m in width and which strikes over a current known length of 2,200 m. The Gruyere Porphyry dips steeply (65-80 degrees) to the east. A sequence of intermediate to mafic volcaniclastic rocks defines the stratigraphy to the west of the intrusive and intermediate to mafic volcanics and a tholeiitic basalt unit occur to the east.  Mineralisation is confined ubiquitously to the Gruyere Porphyry and is associated with pervasive overprinting albite-sericite-chlorite-pyrite (±pyrhhotite±arsenopyrite) alteration which has obliterated the primary texture of the rock. Minor fine quartz-carbonate veining occurs throughout. Pyrite is the primary sulphide mineral and some visible gold has been observed in logged diamond drill core.  The Gruyere Deposit is situated at the north end of the regional camp-scale South Dorothy Hills Target identified by Gold Road during its regional targeting campaign completed in early 2013. The Gruyere Deposit comprises coincident structural and geochemical targets within a major regional-scale structural corridor associated with the Dorothy Hills Shear Zone. This zone occurs within the Dorothy Hills Greenstone Belt at Yamarna in the eastern part of the Archaean Yilgarn Craton. The Dorothy Hills Greenstone is the most easterly known occurrence of outcropping to subcropping greenstone in the Yilgarn province of Western Australia.



Criteria and JORC Code explanation	Commentary
Drill hole Information	
A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in	All relevant RC and Diamond holes included in the reported resource estimation have been previously reported in AXS announcements. The 25 by 25 m and 12.5 m spaced RC data has not been reported in detail as it is considered operational.
metres) of the drill hole collar	
dip and azimuth of the hole	
down hole length and interception depth	
hole length.  If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	No top cuts have been applied to the reporting of the assay results.  Intersections lengths and grades are reported as down-hole length-weighted averages of grades above a cut-off and may include 1 to 2 m of grades below that cut-off. Cut-offs of 0.1, 0.3, 0.5, 1.0 and/or 5.0 g/t Au are used depending on the drill type and results.
Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Reported drill hole intersections at a cut-off include 1 to 2 m of grades below the reported cut-off.  Geologically selected intervals are used in more advanced stage projects. They are selected to honour interpreted thickness and grade from the currently established geological interpretation of mineralisation and may include varying grade lengths below the cut-off.
The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used.
Relationship between mineralisation widths and intercept lengths	
These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Mineralisation is hosted within a steep east-dipping, N-S striking porphyry. The porphyry is mineralised almost ubiquitously at greater than 0.3 g/t Au and is characterised by pervasive sub-vertical shear fabrics and sericite-chlorite-biotite-albite alteration with accessory sulphides dominated by pyrite-pyrrhotite-arsenopyrite. Higher grade zones occur in alteration packages characterised by albite-pyrrhotite-arsenopyrite alteration and quartz and quartz-carbonate veining. These vein packages dip at approximately -45° to the SSE, with strike extents of over 100 m. The general drill direction of 60° to 270° is approximately perpendicular to the main alteration packages and is a suitable drilling direction to avoid directional biases.
Diagrams  Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures and Tables in the body of this and previous ASX announcements.
Balanced reporting  Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All drill assay results (except for the previously mentioned 25 by 25 m and 12.5 m RC holes) used in this estimation of this resource have been published in previous ASX releases.



Criteria and JORC Code explanation	Commentary
Other substantive exploration data Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	In addition to the drilling efforts, several geophysical surveys have been conducted, or are in progress, in collaboration with Gold Fields on the Gruyere JV tenements. These surveys aim to identify the geophysical signatures of known mineralisation styles in order to aid further targeting and potentially directly detect mineralisation along the Attila-Alaric and Gruyere-YAM14 Trends. Other exploration activities have included reprocessing of aeromagnetic and gravity data with Fathom Geophysics over the entire Yamarna Belt to allow more detailed interpretation of geology and further target definition. A new belt scale geological interpretation and stratigraphic column has been completed in conjunction Concept to Discovery consulting.
Further work  The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Possible extensions at depth will be tested in a strategic manner.

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

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Geological metadata is stored centrally in a relational SQL database with a DataShed front end. Gold Road employs a Database Manager who is responsible for the integrity and efficient use of the system. Only the Database Manager or their Data Entry Clerk has permission to modify the data.  Sampling and geological logging data is collected in the field using LogChief software and uploaded digitally. The software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database.  Sampling data is sent to, and received from, the assay laboratory in digital format.  Drill hole collars are picked up by differential GPS (DGPS) and delivered to the database in digital format.
	The Mineral Resource estimate only uses Gold Road RC and DDH assay data.  There is no historical data.
Data validation procedures used.	DataShed software has validation procedures that include constraints, library tables, triggers and stored procedures. Data that does not pass validation tests must be corrected before upload.  The LogChief software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database. Geological logging data is checked visually in three dimensions against the existing data and geological interpretation.  Assay data must pass laboratory QAQC before database upload. Gold Road utilises QAQR software to further analyse QAQC data, and batches which do not meet pass criteria are requested to be re-assayed. Sample grades are checked visually in three dimensions against the logged geology and geological interpretation.  Drill hole collar pickups are checked against planned and/or actual collar locations.  A hierarchical system is used to identify the most reliable down hole survey data. Drill hole traces are checked visually in three dimensions. The project
	geologist and resource geologist are responsible for interpreting the down hole surveys to produce accurate drill hole traces.



Criteria and JORC Code explanation	Commentary
Site Visits	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	Justin Osborne is one of the Competent Persons and is Gold Road's Executive Director. He conducts regular site visits and is responsible for all aspects of the project.
	John Donaldson is the second Competent Person and is Gold Road's Principal Resource Geologist. He conducts regular specific site visits to focus on understanding the geology as it is revealed in the drilling data.
	Communication with the site geologists is key to ensuring the latest geological interpretations are incorporated into the resource models.  Both Competent Persons contribute to the continuous improvement of sampling and logging practices and procedures.  Mark Roux is one of Gold Fields Limited Competent Persons and has conducted site visits to view the diamond drill core and RC chips and project site. He confirmed the geological interpretation visually.
Geological interpretation	
Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The predominance of diamond drilling at Gruyere has allowed a robust geological interpretation to be developed, tested and refined over time. Early establishment of lithology and alteration coding and detailed structural logging has given insight into geological and grade trends that have been confirmed with geostatistical analysis, (including variography). Other sources of data (see next commentary) have also added confidence
	to the geological interpretation.  The type and thickness of host lithology and main hangingwall mafic dyke is predictable. Other non-mineralised mafic and intermediate dykes are less predictable.
	The footwall and hangingwall lithologies are less well known due to the focus of drilling on mineralised units. However, the hangingwall lithologies are understood better as holes are collared on this side of the deposit. Results from the EIS hole (ASX announcement dated 8 September 2015) have improved the understanding of hangingwall lithologies and this will
	improve with further study.
	Continued drilling has shown that the approximate tenor and thickness of mineralisation is also predictable, but to a lesser degree than the geology. Results from the 25 by 25 m and 12.5 m RC grade control drilling data have
	confirmed the geological interpretation and mineralisation model.  As the deposit has good grade and geological continuity, which has been confirmed by grade control drilling, the Competent Persons regard the confidence in the geological interpretation as high.
Nature of the data used and of any assumptions made.	All available data has been used to help build the geological interpretation.
	This includes geological logging data (lithology and structure), gold assay data (RC and DDH), portable XRF multi-element data (Niton and laboratory), geophysics (airborne magnetics and gravity), down hole Televiewer data (optical images and structural measurements, specific gravity, resistivity and natural gamma) and mineral mapping and multi-element data from research conducted in partnership with the CSIRO.
	An assumption regarding some gold remobilisation has been made at the more deeply weathered northern end of the deposit where a small flat lying gold dispersion blanket has been interpreted near the saprolite/ saprock boundary. This is believed to represent dispersion of gold due to weathering processes. Justification for this interpretation lies in the lack of visual control to the mineralisation and its position in the weathering profile.
The effect, if any, of alternative interpretations on Mineral Resource estimation.	A model constrained only by lithology (Gruyere Porphyry) was run to compare against the implicitly (and lithologically) constrained at 0.3 g/t model (actual model). Results showed that at 0 g/t cut-off the estimate of ounces was within 2%, and, as expected the lithologically constrained model had higher tonnage at lower grade. At 0.5 g/t, grade is 10% less and ounces are 7% less, and at 1.0 g/t grade is 1% less and ounces are 19% less in the lithologically constrained model.



Criteria and JORC Code explanation	Commentary
	Moreover, in previous updates, one other potential mineralised trend,
	keeping all other constraints constant, was been modelled and showed little
	effect on the global estimate of volume.
The use of geology in guiding and controlling Mineral Resource	Regionally the deposit is hosted in an Archaean basin to the East of the
estimation.	crustal scale Yamarna Shear Zone. The Gruyere Deposit is located on an
	inflection of the NW (MGA) striking Dorothy Hills Shear Zone which
	transects the basin. The Dorothy Hills Shear Zone is the first order control
	into which the host Gruyere Porphyry has intruded.
	The bulk of the mineralisation has been constrained to the host intrusive
	below the base of Quaternary and Cenozoic cover.
	Several NNE dipping cross-cutting arcuate and linear faults have been
	interpreted from airborne magnetics, the distribution of lithology and
	diamond core intersections of faults. The Alpenhorn Fault and to a lesser
	degree the Northern Fault have been used to constrain the distribution of
	mineralisation.
	Mineralisation within the intrusive host has been implicitly modelled to the
	mineralisation trends discussed below at a constraining 0.3 g/t cut-off. The
	cut-off was established using two lines of reasoning:
	1. All of the assay data internal to the host rock was plotted on a log
	probability plot; a value of 0.3 g/t was recognised as an inflection
	point subdividing the non-mineralised and mineralised populations.
	This is further supported through a reduction in the CV in the
	unconstrained case from 1.0 to 0.9 in the constrained case i.e. a
	reduction in stationarity supporting the domaining.
	2. 0.3 g/t corresponds to the approximate grade cut-off between barren
	to very weakly mineralised hematite-magnetite alteration and weak to
	strongly mineralised albite-sericite-carbonate ± pyrite, pyrrohotite,
	arsenopyrite alteration.
	Four mineralisation Domains have been modelled; Primary, Weathered,
	Dispersion Blanket and background.
	5. The Primary Domain corresponds to mineralisation hosted in fresh,
	transitional and saprock Gruyere Porphyry. The mineralisation trend
	is along strike and steeply down dip. The trend was established using
	observations of alteration, sulphide and gold grade distribution,
	together with the following structural observations from diamond
	core:
	The along strike component corresponds to the main foliation
	within the intrusive host.
	The steep down dip component corresponds to a strong down-dip
	lineation parallel to the axes of tight to isoclinal folds of the pre-
	existing foliation within the intrusive host.
	The strike and dip components for the Primary Domain were readily
	confirmed in the variography.
	6. A secondary Domain corresponds to mineralisation hosted in deeply
	weathered (saprolite) Gruyere Porphyry. The mineralisation trend is
	flat lying, reflecting the weathering processes. The trend was
	established using observations of gold grade distribution and the
	position relative to the weathering profile. The strike and dip
	components for the Weathered Domain were readily confirmed in the
	variography.
	7. A minor third Domain corresponds to a flat lying, 4 to 5 m thick, gold
	dispersion blanket interpreted near the saprolite boundary and hosted
	within hangingwall and footwall lithologies.
	Background – very weakly mineralised Gruyere Porphyry (not
	previously estimated and not classified).
The factors affecting continuity both of grade and geology.	Apart from the controls discussed previously, one narrow (1 to 5 m wide),
the factors affecting continuity both of grade and geology.	steeply dipping non-mineralised internal mafic dyke has been modelled as
	barren within the intrusive host. Other narrow (generally less than 1 m
	·-
	wide) mafic and intermediate intrusives/ dykes occur but have very short scale continuity and insignificant to the scale of mineralisation.



Criteria and JORC Code explanation	Commentary
Dimensions  The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Length along strike: 1,800 m  Horizontal Width: 7 to 190 m with an average of 90 m.  The vertical depth of Mineral Resource from surface to the upper limit is 2 m and to the lower limit is 600 m.  The Mineral Resource has been constrained by an optimised Whittle shell that only considers Measured, Indicated and Inferred mineralisation in the geological model. The optimisation utilises realistic mining, geotechnical and processing parameters from the latest information available from the ongoing operational planning process. The gold price used was A\$1,850/oz. Only Measured, Indicated and Inferred categories within this shell have been reported as Mineral Resource. Mineralisation in the geology model outside the shell has not been reported.
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	<ul> <li>■ Datashed – frontend to SQL database</li> <li>■ Mapinfo – geophysics and regional geology</li> <li>■ Stereonet – compilation and interpretation of diamond structural data.</li> <li>■ Core Profiler – compilation of downhole photographs in core trays for geo-referencing in 3D software.</li> <li>■ Leapfrog Geo – Drill hole validation, material type, lithology, alteration and faulting wireframes, domaining and mineralisation wireframes, geophysics and regional geology</li> <li>■ Snowden Supervisor - geostatistics, variography, declustering, kriging neighbourhood analysis (KNA), validation</li> <li>■ Datamine Studio RM – Drill hole validation, cross-section, plan and long-section plotting, block modelling, block model validation, classification, and reporting.</li> <li>■ Isatis – grade estimation and geostatistics</li> <li>Grade Estimation – Localisation of a Conditional Simulation technique:</li> <li>■ Gold grade is estimated using a conditional simulation approach. 100 realisations of point-scale gold grade simulations on a 5 by 12.5 by 5 m³ grid were developed to simulate a future grade control pattern. From this simulated pattern 100 kriged grade control models were estimated. Isatis's grade re-blocking and localized uniform conditioning processes were then used to develop a single simulation realization for reporting. This simulation is approximately the median simulation (but all simulation realisations are equally probable).</li> <li>■ The technique is globally accurate but the estimate of the grade tonnage curve is not over smoothed (as in conventional OK) resulting in less tonnes at higher grade above a given cut-off which adds value to economic evaluation at higher cut-offs (e.g. 1.0 g/t).</li> <li>■ The models previous to this Mineral Resource (and post September 2015) utilised a Localised Uniform Conditioning technique. The techniques produce similar results.</li> <li>■ In models prior to September 2015 grades were estimated using an OK metho</li></ul>



Criteria and JORC Code explanation	Commentary			
	Block model and estimation parameters:  Treatment of extreme grade values – Top-cuts (all samples included method) were applied to 2 m composites selected within mineralisation wireframes. The selection of the top-cut value is a combination of interrogating disintegration points on the histogram and the cumulative distribution plots.  Primary – 9 samples were cut using a 15 g/t top-cut  Weathered – 5 samples were cut using an 8 g/t top-cut  Dispersion Blanket – 3 samples were cut using a 3 g/t top-cut  Background – 4 samples were cut using a 2 g/t top-cut  Model rotation – none required – local Gruyere Grid used.  The Gruyere model applies a localisation of a conditional simulation technique. The broad process is briefed below:  A discrete gaussian model is applied to transform the data into gaussian space.  This transformed data is simulated in Isatis applying the direct block simulation process into SMIL sized blocks (5 m X by 12 5 m X by 5 m 7)			
	simulation process into SMU sized blocks (5 m $\times$ by 12.5 m $\times$ by 5 m Z).			
	Parameters in table below:    Domain			
	dimensions Samples per sector			
	5030 220m x 150m x None (major direction 4 8 10 orientated north)			
	5050 220m x 180m x 075°→000° 4 8 10 40m			
	5999 220m x 220m x None 4 8 10			
	7500 220m x 150m x None (major direction 4 8 10 20m orientated north)			
	<ul> <li>In addition to the block realisations, a support corrected punctual output is produced to be applied to include information effect into the final estimate.</li> <li>These points are linearly estimated (OK) into the SMU support resulting in 100 grade realisations per SMU.</li> <li>The SMU realisation results are reblocked into panels to produce the grade (Q), tonnage (T) and metal (M) against a set of cut-off grades.</li> <li>The Panel QTM outputs are localised into SMU support applying a background index ranking to determine final spacial position.</li> <li>Maximum distance of extrapolation from data points – 50 m from sample data to Inferred boundary</li> <li>Domain boundary conditions – Hard boundaries are applied at all domain boundaries.</li> </ul>			
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.				
	campaigns.  Analysis shows that this model has performed well globally and locally against the previously released model.  In particular, at a 0.5 g/t cut-off within the 2016 Mineral Resource shell, there has been minimal variance -1% for tonnes, 0 % for grade and -2% for ounces in comparison to the previous model. At a 1.0 g/t cut-off within the 2016 Mineral Resource shell, there has been minimal variance -7% for tonnes, +3% for grade and -4% for ounces in comparison to the previous model. There is no previous production.			



Criteria and JORC Code explanation	No deleterious elements of significance have been determined from metallurgical test work and mineralogical investigations. Waste rock characterisation work has been completed and all waste types and tailings are non-acid forming and have limited metal leachate potential.			
The assumptions made regarding recovery of by-products.  Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).				
In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.		U size	Panel size	SMU per Panel
		X by 12.5mY by 5mZ X by 12.5mY by 5mZ	40mX by 100mY by 5mZ 30mX by 125mY by 50mZ	64
	5999 5mX	X by 12.5mY by 5mZ	30mX by 125mY by 50mZ	600
	7500 5mX	X by 12.5mY by 5mZ	40mX by 100mY by 5mZ	64
Any assumptions behind modelling of selective mining units.	Sample spacing discussed below.  The selective mining unit (SMU) of 5 m X by 12.5 m Y by 5 m Z was chose as it corresponds well with currently selected mining equipment and mining flitch sizes.			
Any assumptions about correlation between variables.	No correlation betwee	en variables wa	s analysed or mad	e.
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control the estimation. If geostatistics, variography and/or visual checks of the model were difficult to interpret then the geological interpretation was questioned and refined.			
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when estimating block grades from assay data.			
The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	<ul> <li>The following validation checks were performed:</li> <li>Reproduction of the input variogram model against the DBS point simulation output.</li> <li>Comparison of the DBS point simulations against the point anamorphosis model.</li> <li>Comparison of the GC support corrected model against the GC support realisations and the final localised model.</li> <li>On-screen visual inspection comparison of drill hole composite grade to block grade estimates.</li> <li>Mean data grade against block grade by domain</li> <li>'Swath plot' moving window grade comparisons of composites compared to estimated block grades by domain. All validation checks gave suitable results. There has been no mining so no reconciliation data available.</li> </ul>			
Moisture Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	, , , , , , , , , , , , , , , , , , , ,			
<b>Cut-off parameters</b> The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grades used for reporting is 0.34 g/t Au (fresh), 0.30 g/t Au (transition), 0.29 g/t Au (Oxide). This has been determined from mining and processing parameters and input costs from the latest information available from the ongoing operation planning process.			
Mining factors or assumptions Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	m Y by 5 m Z).  No allowance for dilution or mining recovery has been made in the Mineral Resource estimate.			



#### Criteria and JORC Code explanation

#### Metallurgical factors or assumptions

The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.

#### Commentary

A single stage primary crush, Semi Autogenous Grinding and Ball Milling with Pebble Crushing (SABC) comminution circuit followed by a conventional gravity and carbon in leach (CIL) process is proposed. This process is considered appropriate for the Gruyere ore, which has been classified as free-milling.

The proposed metallurgical process is commonly used in the Australian and international gold mining industry and is considered to be well-tested technology.

Metallurgical recovery is applied to the resource model by material type and grind size (106μm, 125μm and 150μm) according to test work values for weathered material and grade recovery curves for fresh rock. 106μm was selected for input to optimisation. No recovery factors are applied to the Mineral Resource numbers themselves.

Significant comminution, extraction, and materials handling testing has been carried out on over 4,500 kg of half-core diamond drilling core samples (NQ core diameter = 47.6mm). The testing has been carried out on saprolite (oxide), saprock, transitional and fresh ore types which were selected to represent different grade ranges along the strike length of the deposit and to a depth of around 410 m. For the fresh rock samples, 62 composites representing four major mineralised zones (South, Central, North and High Grade North) were subjected to gold extractive test work by gravity separation and direct cyanidation of gravity tails. In total, 183 individual gravity-leach tests were completed at various grind size P80 ranging from 106  $\mu$ m to 150  $\mu$ m. Gravity gold recoveries are estimated at 35%.

Estimated plant gold recovery ranges from 87% to 96% depending on head grade, plant throughput, grind size and ore type and are summarised in the table below.

	Metallurgical Recovery at P80					
Material Type	106 μm	125 μm	150 μm	Comments		
Saprolite (oxide)	94%	93%	92%			
Saprock	94%	93%	92%			
Transition	93%	92%	91%			
Fresh 2.6130 x In head grade (g/t) + 92.199 %		3.1818 x In of head grade (g/t) + 90.362 %	3.3997 x In of head grade (g/t) + 88.929 %	capped at 96%		

No deleterious elements of significance have been determined from metallurgical test work and mineralogical investigations.

#### **Environmental factors or assumptions**

Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.

Surface waste dumps and infrastructure (e.g. tailings dam) will be used to store waste material from open pit mining.

Conventional storage facilities will be used for the process plant tailings.

Test work has been completed for potential acid mine drainage material types. Results show that all material types are non-acid forming and are unlikely to require any special treatment.

Baseline environmental studies of flora, vegetation, vertebrate fauna, short-range endemic invertebrates and subterranean fauna are completed.



Criteria and JO	RC Code explar	nation		Commentary		
ssumptions. Ij he frequency	f determined, th	ined. If assumed, the basi e method used, whether w surements, the nature, ples.	et or dry,	with data from red  1. DDH drilling –  1 m in weather core lengths.  2. RC drilling – d Ltd which pro The physical means compared to the d Good correlation weather two method The SG values were	een determined using 2 main cent metallurgical test work: weight in air / weight in watered every 10 m in fresh rock, ownhole rock property surveyide a density measurement asurements derived from the own hole tool measurements was observed between methodown-hole tool values for fresh and so were set aside. The reviewed for this resource increase from 1.85 to 2.00 weight in work.	er — measurements every using approximate 0.1 m ys completed by ABIMS Pty every 0.1 m downhole. he air/water method were and metallurgical test worlds for saprolite, saprock an esh rock did not match the update. The saprolite hos
					host rock values remained u	•
methods that o	adequately acco	erial must have been med ount for void spaces (vugs, between rock and alterat	porosity,	in the core.	gs were used where required een applied by lithology and	
evaluation prod	e classification o	lk density estimates use rent materials. of the Mineral Resources int		and weathering ty in agreement exce were derived bot moisture percenta for bulk density.  The Mineral Resou shell. Blocks in th as Measured, Ind	y method, lithology (including)  pe. The three methods were pet for the down hole tools value in by lithology and weather ages were made and account ages were ages and account ages were ages and account ages and account ages ages ages and account ages ages ages ages ages ages ages ages	e compared and found to blues for fresh rock. Averaging type. Assumptions feed for in the final value use thin an optimised Whittle pat shell have been classified.
				■ Drill hole space	ing:	
Domain	Criteria	Measured		Indicated	Inferred	Unclassified
	Target Spacing	25 m X by 25 m Y	50	m X by 100 m Y	100 m X by 100 m Y	
	Actual Spacing	12.5 m X by 12.5 m Y to 25 m X by 25 m Y		55 m X by 100 m Y with a holes on 50 m Y	100 m X by 100 m Y  Footwall contact of along strike	"Potential" beyond Inferred t limits of geological model.
Primary		10 to 15 m along strike	25	m along strike	hole 14GYDD0061 50 - 100 m along strike	
	Boundary Extension	Closet 5 m RI from bottom of hole	25 m along strike Minimal down dip - except North end 30 m from drilling. Drilling needs to define full width of intrusive host.		Minimal down dip - except North end 50 m from Indicated boundary	
	Target Spacing	12.5 to 25 m X by 25 m Y	50	m X by 100 m Y		
Weathered	Actual Spacing	12.5 m X by 12.5 m Y to 25 m X by 25 m Y	25 m X to 50 m E by 100 m Y with extra holes on 50 m Y			
Dispersion Blanket	Actual Spacing	22 27 23	CALL C		25 to 50 m X by 25 to 100 m Y	"Potential" beyond Inferred to limits of geological model.
Whether appro ie relative con nput data, cor	fidence in tonn	has been taken of all releva age/grade estimations, rel inuity of geology and met on of the data).	iability of	<ul> <li>Level of grade</li> </ul>	s have been taken into accou	
Whether the review of the dep		ely reflects the Competent	Person's	The Mineral Res Person's view of the	ource estimate appropriate he deposit.	ly reflects the Compete



#### Criteria and JORC Code explanation Commentary Audits or reviews The results of any audits or reviews of Mineral Resource estimates. The Mineral Resource estimate has been reviewed internally by Gold Fields Competent Persons and reviewed by Gold Road Competent Persons. No significant issues were found identified. lan Glacken (Director - Geology at Optiro consultants) was engaged to externally review the technical aspects of the four previous Mineral Resource estimates. A formal review was undertaken and suggestions for improvement were sought and applied where appropriate. An endorsement letter/summary report of the review has been completed for the four previous Mineral Resource estimates. Optiro was satisfied that those Mineral Resource estimates had been reported and classified according to the guidelines set out in the JORC Code (2012) and in line with good to best industry practice. An external database audit was not undertaken for this or the previous update due to the operational nature of the drilling. Lisa Bascombe of Optiro conducted audits for the three previous Mineral Resource estimates. Internal geological peer review by the Executive Director, Exploration manager and/or geological team, and handover meetings with the development and operational teams were held and documented at appropriate times. An informal internal peer review, as part of a board briefing, was conducted with the Non-executive Directors on the Gold Road board, who are also geologists, for the previous Mineral Resource estimate. A QAQC report was completed by Dr Paul Sauter (internal consultant -Sauter Geological Services Pty Ltd) for data collected for this update to the resource. Results are acceptable and an improvement on previous results. Recommendations include further umpire laboratory testing and changing the blanks to a more appropriate material. A QAQC report was completed by Mr Dave Tullberg (Grassroots Data Services Pty Ltd) for data collected for the Maiden Resource. A QAQC report was completed by Dr Paul Sauter (internal consultant - Sauter Geological Services Pty Ltd) for data collected for the previous two updates to the resource. This included analysis of umpire lab test-work. Discussion of relative accuracy/ confidence Where appropriate a statement of the relative accuracy and Variances to the tonnage, grade and metal of the Mineral Resource estimate confidence level in the Mineral Resource estimate using an are expected with further definition drilling. It is the opinion of the approach or procedure deemed appropriate by the Competent Competent Persons that these variances will not significantly affect Person. For example, the application of statistical or geostatistical economic extraction of the deposit. procedures to quantify the relative accuracy of the resource within Performance of the Indicated category has been assessed in the previous stated confidence limits, or, if such an approach is not deemed resource update when compared to previous estimates. At a 0.5 g/t cut-off, appropriate, a qualitative discussion of the factors that could affect the Measured (grade control defined) portion of the previous model (13.9 the relative accuracy and confidence of the estimate. Mt at 1.18 g/t for 526 koz) performed well against the same volume in the previous model (Indicated). The variance was minimal at +4% for tonnes, -

4 % for grade and +1% for ounces.

Indicated or Measured model.

Previous tests to determine the performance of the Inferred category as it has been upgraded with drilling to Indicated and Measured have been made. The results showed that a robust estimate of Inferred can be made as acceptable variances of tonnage, grade and/or metal were calculated from the original Inferred model in comparison to the same area in the

The model performance was also assessed visually. As new drilling data came in it was compared to the existing model; in the majority of cases the existing model matched the tenor and thickness of the new assay data.

Page **84** of **166** 



Criteria and JORC Code explanation	Commentary
The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Confidence in the Mineral Resource estimate is such that the Measured portions of the model will provide adequate accuracy for ore block design, monthly mill reconciliation and short to medium term scheduling.  For the Indicated and Inferred portions it will provide adequate accuracy for global resource evaluation and for more detailed evaluation at a large scale. Bench evaluations show that tonnages greater than 5 million may be mined over a 20 m vertical height. This is twice the parent cell vertical height of 10 m, so an unbiased estimate at that scale is expected. For Indicated this equates to annual and quarterly production windows and to an annual
	production window for Inferred.  Relative accuracy is expected to decrease at depth as smaller tonnages are mined as the pit width decreases.
These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining.

Section 4 Estimation and Reporting of Ore Reserves (Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria including JORC Code (2012) explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	
Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.  Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resource estimate for the Gruyere Deposit which formed the basis of this Ore Reserve estimate was compiled by the Gold Fields Competent Person(s) utilising relevant data. This Mineral Resource is described in detail in sections 1 to 3 of this Table.  The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case.	The Competent Person has undertaken numerous site visits.
Study status	
The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.  The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The Ore Reserve estimate is the result of a detailed Business Plan (BP) compiled post Feasibility Study (FS) and completed by a team consisting of Gruyere JV personnel and independent external consultants.  The proposed mine plan is technically achievable. All technical proposals made for the operational phase involve the application of conventional technology which is widely utilised in the goldfields of Western Australia. Financial modelling completed as part of the BP shows that the project is economically viable under current assumptions.  Material Modifying Factors (mining, processing, infrastructure, environmental, legal, social and commercial) have been considered during the Ore Reserve estimation process.
Cut-off parameters	·
The basis of the cut-off grade(s) or quality parameters applied.	Variable economic cut-off grades have been applied in estimating the Ore Reserve. Cut-off grade is calculated in consideration of the following parameters:  Gold price Operating costs
	<ul><li>Process recovery</li></ul>
	■ Transport and refining costs
	General and administrative cost
	Royalty costs.



#### Mining factors or assumptions

The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).

The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.

#### Commentary

Gruyere will be mined by open pit mining methods utilising conventional mining equipment. Final pit and interim stage designs were completed as part of the BP. The final pit design is the basis of the Ore Reserve estimate. The selected mining method, design and extraction sequence are tailored to suit orebody characteristics, minimise dilution and ore loss, defer waste movement and capital expenditure, utilise proposed process plant capacity and expedite free cash generation in a safe and environmentally sustainable manner.

The selected mining method, design and extraction sequence are tailored to suit orebody characteristics, minimise dilution and ore loss, defer waste movement and capital expenditure, utilise proposed process plant capacity and expedite free cash generation in a safe and environmentally sustainable manner.

Mining operating and capital costs were estimated as part of the BP and referenced against contractor tender submissions.

The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.

Geotechnical modelling has been completed by an external consultant on the basis of field logging and laboratory testing of selected dedicated diamond drill core samples. The recommended geotechnical design parameters assume dry slopes on the basis of adequate dewatering ahead of mining. Eleven geotechnical domains were identified:

#### Domain West 1:

- Weathered material: batter heights of 10m, batter angles of 50° -55° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 75° and berm widths of 9m.

#### Domain West 2AN:

- Weathered material: batter heights of 10m, batter angles of 55° -60° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 70° 80° and berm widths of 6m.

#### Domain West 2B:

- Weathered material: batter heights of 10m, batter angles of 55° -60° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 80° and berm widths of 12m.

#### Domain West 2AS:

- Weathered material: batter heights of 10m, batter angles of 55° -60° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 80° and berm widths of 6m.

#### Domain West 3, East 4:

- Weathered material: batter heights of 10m, batter angles of 55° -60° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 80° and berm widths of 9m.

#### Domain West 4:

- Weathered material: batter heights of 10m, batter angles of 50° -55° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 80° and berm widths of 8m.

#### Domain Fast 1:

- Weathered material: batter heights of 10m, batter angles of 50° -55° and berm widths of 5m
- Fresh material: batter heights of 20m, batter angles of 60° 80° and berm widths of 9m.
- Domain East 2:



Criteria including JORC Code (2012) explanation	Commentary
	<ul> <li>Weathered material: batter heights of 10m, batter angles of 55° - 60° and berm widths of 5m</li> <li>Fresh material: batter heights of 20m, batter angles of 60° - 80° and berm widths of 8m.</li> </ul>
	<ul> <li>Domain East 3:</li> <li>Weathered material: batter heights of 10m, batter angles of 55° and berm widths of 5m</li> <li>Fresh material: batter heights of 20m, batter angles of 60° - 80° and berm widths of 11m.</li> <li>Domain East 5:</li> <li>Weathered material: batter heights of 10m, batter angles of 55°</li> </ul>
	<ul> <li>and berm widths of 5m</li> <li>Fresh material: batter heights of 20m, batter angles of 55° and berm widths of 6m.</li> </ul>
The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	A separate hydrogeological report was prepared by independent consultants which considered the infrastructure required to effectively dewater the open pit and pit slopes. This study was supported by the development of test bores and field test pumping analysis.
<ul> <li>The mining dilution factors used.</li> <li>The mining recovery factors used</li> <li>Any minimum mining widths used</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion</li> <li>The infrastructure requirements of the selected mining methods</li> </ul>	Mining dilution and recovery modifying factors were simulated by modelling to a Selective Mining Unit (SMU) then applying a dilution skin at each ore to waste contact across the orebody, and then re-estimating the resultant tonnes and grades of neighbouring blocks due to the impact of including dilution at that contact. A configuration of 5 mE x 12.5 mN x 5 mRL with a 0.5 m dilution skin was applied which represents the capability of the selected mining fleet. The modelling yielded the following results:  Mining tonnage dilution factor of 4%
	<ul> <li>Mining grade dilution of 5%</li> <li>Mining recovery factor of 99% (gold loss of 1%)</li> <li>These values reflect the fact that Gruyere is a relatively simple continuous orebody with individual ore block designs of hundreds of metres along strike and 20 to 50 m wide.</li> <li>The mining schedule is based on supplying variable throughput rates to a processing plant with a name plate capacity of 7.5 Mtpa for fresh ore</li> </ul>
	material with the capability to treat up to 8.0 Mtpa of transition material and up to 8.8 Mtpa of oxide material.  The mining schedule is based on realistic mining productivity and equipment utilisation estimates and also considered the vertical rate of mining development.  Inferred Mineral Resources were considered as waste during the pit optimisation and production scheduling process.
	Waste material from mining activities will be disposed of as follows:  Topsoil will be disposed of at designated stockpiles for application in on-going rehabilitation activities  Initial saprolite waste will be utilised to construct the base and starter
	<ul> <li>embankment of the Tailings Storage Facility (TSF)</li> <li>Some waste rock will be utilised to construct the Run Of Mine (ROM) pad</li> </ul>
	Some waste rock will be utilised to construct on-going TSF lifts Excess waste rock will be disposed of at designated waste rock dumps.



#### Metallurgical factors or assumptions

The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.

Whether the metallurgical process is well-tested technology or novel in nature.

The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.

Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.

For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?

#### Commentary

A processing flowsheet, materials balance, water balance, equipment identification, mechanical and electrical layouts were all developed to FS standard.

A SABC comminution circuit followed by a conventional gravity and CIL process is proposed. This process is considered appropriate for the Gruyere ore, which is classified as free-milling.

The proposed metallurgical process is commonly used in the Australian and international gold mining industry and is considered to be well-tested and proven technology.

Significant comminution, extraction, and materials handling testing has been carried out on approximately 2,000 kg of half-NQ (NQ core diameter = 47.6 mm) diamond drilling core samples, and 480kg of RC chip samples. This has been carried out on oxide, saprock, transitional, and fresh ore types which were obtained across the Gruyere Deposit (South to North) and to a depth of approximately 300 m. Estimated plant gold recovery ranges from 87% to 95% depending on head grade, plant throughput, grind size and ore type. Significant comminution, extraction, and materials handling testing has been carried out on material selected from approximately 2,000 kg of half-NQ core.

No deleterious elements of significance have been determined from metallurgical test work and mineralogy investigations.

#### **Environmental**

The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.

Baseline environmental studies of flora, vegetation, vertebrate fauna, short-range endemic invertebrates and subterranean fauna are all completed. Environmental approvals for all aspects of the development of the project are in place.

Waste rock and tailings characterisation work has been completed and all waste types and tailings are non-acid forming and have limited metal leachate potential. Waste rock and tailings storage locations have been selected based on suitable geographical characteristics and proximity to the pit and plant.

#### Infrastructure

The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.

The project site is within economic distances of existing infrastructure of the Eastern Goldfields region. Services and consumable supplies will be delivered by existing roads from Laverton some 150 km to the west. A gas supply lateral from the Eastern Goldfields Pipeline is currently under construction from Laverton to site to supply gas to a purpose built gas-fired power station.

The workforce will be Fly In-Fly Out (FIFO) and based at a camp on site during rostered days on. A sealed on-site airstrip has been constructed as part of the project.

A borefield is currently under construction within the 65 km of tested aquifer at the Yeo and Anne Beadell palaeochannels, and will serve as the primary source of water for the project. In addition to the tested palaeochannel length, approximately 100 km of palaeochannel is available for potential development on tenements with granted miscellaneous water search licences.



#### Costs

The derivation of, or assumptions made, regarding projected capital costs in the study.

The methodology used to estimate operating costs.

Allowances made for the content of deleterious elements.

The source of exchange rates used in the study.

Derivation of transportation charges.

The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.

The allowances made for royalties payable, both Government and private.

#### Commentary

The project is currently under construction and capital estimates are based on currently executed construction contracts.

It is assumed that all mining equipment required for the project will be supplied by a mining contractor.

The capital cost estimate accuracy is -10% /+15%.

Mine development costs were developed from currently executed contracts including:

- Contract mining
- Mobilisation of mining equipment and personnel from Perth
- Earthworks quantities determined from detailed site inspections by a competent civil engineer and geological modelling
- Mine dewatering requirements developed from FS level hydrogeological modelling
- A mining schedule developed as part of the BP
- A contingency allowance on capital cost items calculated to reflect the relevant level of confidence in the estimate
- Budget pricing from local and international suppliers

Contingency allowances are calculated on a line by line basis relevant to the source and confidence in market rates

The operating cost estimate accuracy is -10% /+15%.

Operating costs assume a FIFO scenario with various rosters on site.

Mining operating costs have been estimated in the BP with reference to a currently executed mining contract with technical services supplied by Gruyere JV employees. Mine design and scheduling was prepared by competent mining engineers.

Process and infrastructure operating costs have been estimated by GR Engineering Services on the assumption that:

- A conventional SABC circuit will be utilised to treat ore at a rate of 7.5 Mtpa for fresh ore with the capability to treat up to 8.8 Mtpa of oxide material
- Comminution grind sizes will be in the range of 106μm to 150μm for all material types
- Power will be generated on site utilising gas delivered by pipeline
- The process plant will be operated by Gruyere JV employees.
- The operating cost estimate is considered to be appropriate for the current market in the eastern goldfields of WA.
- No allowance is made for deleterious elements since testwork to date on ore from Gruyere has not shown the presence of deleterious elements.
- Capital and Operating Costs are estimated in 2017 Australian dollars.
- Gold bullion transportation charges are derived on the basis of a quote provided by a leading industry bullion shipment organisation.
- Treatment and refining charges are estimated on the basis of a quote from a leading Perth Gold Refinery.
- An allowance has been made for all royalties, including an allowance of 2.5% of revenue for royalties payable to the Western Australian State Government and an allowance for other royalties payable to private parties (these royalties being commercially sensitive and covered by confidentiality).

#### Revenue factors

The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.

The mined ore head grades are estimated utilising industry accepted geostatistical techniques with the application of relevant mining modifying factors.

Gold price has been determined by agreement between Gruyere JV Partners.



Criteria including JORC Code (2012) explanation	Commentary
The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	A Life-of-mine (LOM) gold price forecast of A\$1,600/oz (Real 2017) is applied in the financial modelling for the Ore Reserve calculation process. This price forecast was established on the basis of historical A\$ gold price trends over the last 5 years.
Market assessment	
The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.  A customer and competitor analysis along with the identification of likely market windows for the product.  Price and volume forecasts and the basis for these forecasts.  For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	There is a transparent market for the sale of gold.
Economic	
The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Discounted cash flow modelling and sensitivity analysis has been completed to evaluate the economic performance of the Ore Reserve. Key value driver inputs into the financial model included:  Gold price at A\$1,600/oz based on historical trends over the last 5 years.  Discount rate of 5% as determined by Gruyere JV The Ore Reserve returns a positive NPV under the assumptions detailed herein. The project retains a suitable profit margin against reasonable future commodity price movements.
Social	
The status of agreements with key stakeholders and matters leading to social licence to operate.	A Native Title Mining Agreement has been signed for the Project.
Other	
To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:  Any identified material naturally occurring risks.  The status of material legal agreements and marketing arrangements.  The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	No material naturally occurring risks have been identified.  No significant species have been identified that would be significantly impacted by the Project in a manner that could not be adequately managed.  Mining and gas pipeline construction contracts have been executed. There are reasonable prospects to anticipate that contract terms as assumed in the Ore Reserves estimate will be achieved.  Project commissioning is estimated for Q1 2019.
Classification	
The basis for the classification of the Ore Reserves into varying confidence categories.  Whether the result appropriately reflects the Competent Person's view of the deposit.  The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The main basis of classification of Ore Reserves is the underlying Mineral Resource classification. All Proved Ore Reserves are derive from Measured Mineral Resources and all Probable Ore Reserves are derive from Indicated Mineral Resources in accordance with JORC Code (2012) guidelines. The results of the Ore Reserve estimate reflect the Competent Person's view of the deposit.  No Probable Ore Reserves are derived from Measured Mineral Resources. No inferred Mineral Resource is included in the Ore Reserves.  15% of the Ore Reserve is in the Proved category with the balance being Probable.



Criteria including JORC Code (2012) explanation	Commentary
Audits or reviews	
The results of any audits or reviews of Ore Reserve estimates.	<ul> <li>Metallurgical test-work completed at FS level was reviewed by Gold Road employees and confirmed to be adequate for the FS.</li> <li>Geotechnical input was reviewed by external independent consultants and found to be acceptable for a FS.</li> <li>Open pit designs, production schedules and mining cost models were reviewed Gold Road employees and externally by an independent technical expert.</li> <li>The construction of the process plant and infrastructure is currently under construction project management</li> <li>Capital expenditure is currently under construction project management</li> <li>The BP financial model applied to project valuation was reviewed by Gold Road personnel and externally by an independent technical expert and was considered to be appropriate.</li> </ul>
Discussion of relative accuracy/ confidence  Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.  It is recognised that this may not be possible or appropriate in all	The Gruyere BP resulted in a technically robust and economically viable business case. This is deemed to be an appropriate basis for a high level of confidence in the Ore Reserves estimate.  In the opinion of the Competent Person, cost assumptions and modifying factors applied in the process of estimating Ore Reserves are reasonable. Gold price and exchange rate assumptions were set out by the Gruyere JV and are subject to market forces and present an area of uncertainty. All relevant legal, environmental and social approvals to operate are granted.

 $confidence\ of\ the\ estimate\ should\ be\ compared\ with\ production$ 

data, where available.



## **ATTILA**

## JORC CODE 2012 EDITION TABLE 1 - SECTIONS 1 TO 4

## **Section 1 Sampling Techniques and Data**

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

(Criteria in this section apply to all succeeding sections.)	
Criteria and JORC Code explanation	Commentary
Sampling techniques	
Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling. Significant RAB and Aircore drilling covers the project area and is used in developing the lithological and mineralisation interpretation. However, this data is not used in the estimate and is not detailed here. Drilling was completed between 1994 and 2016 and was undertaken by several different companies:
	1330 1331 Wetan Willing Additional
	2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010)
	2010-November 2016 Gold Road
	November 2016 – Present Gold Road and Gold Fields (Gruyere JV)  352 RC and 34 Diamond holes were drilled angled at -60 degrees to 250 degrees azimuth (MGAn). Two diamond holes were drilled angled at-70 degrees to 077 degrees azimuth (MGAn).  Drill core is logged geologically and marked up for assay at approximately 1 metre intervals based on geological observation. Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis. RC chips are logged geologically and four-metre composite spear samples are submitted for assay. One metre RC split samples are submitted for re-assay if composites return anomalous results. The two diamond holes drilled towards 077 were sampled as slivers as they were drilled specifically for
	metallurgical test work; these sliver samples are not included in the estimation.
Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	Between 2010 and 2016 sampling was carried out under Gold Road's protocols and QAQC procedures as per industry best practice. 50% of the holes drilled on the Attila –Alaric trend were completed by Gold Road. Prior to 2010, sampling was carried out under the relevant company's protocols and procedures and is assumed to be industry standard practice for the time. Specific details for this historical drilling are not readily available.
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Details regarding sampling prior to 2010 are not readily available. Sampling under Gold Road's protocols comprises the following:  The RC holes were drilled with a 5¼"or 5¾" inch face-sampling bit, 1 m samples collected through a cyclone and riffle splitter, to form a 2-3 kg sample. Four-metre composite samples were created by spear sampling of the total reject of the 1 m samples collected in large plastic bag from the drilling rig and deposited into separate numbered calico bags for sample despatch. One-metre sample intervals were submitted for analysis when the composite interval returned anomalous results. A total of 103 (3%) 4 m composite samples were used in the resource estimate where no 1 m samples were available.  Diamond drilling was completed using an HQ or NQ drilling bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured lithological/mineralogical intervals.  All samples were fully pulverised at the lab to -75 µm, to produce a 50 g charge for Fire Assay with either AAS finish or ICPOES finish.



Criteria and JORC Code explanation	Commentary
Drilling techniques	
Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Available data indicates historical diamond drill hole diameters range in size from PQ to NQ. This drilling was completed by Wallis Drilling, DrillCorp and Sanderson Drilling. Historical RC drill holes were completed by Wallis Drilling using a face sampling bit with a diameter of 5½" or 3¾".  Holes drilled under GOR operations were completed by Terra Drilling and Wallis Drilling (DD – NQ core) and RC completed by Wallis and Raglan drilling using a 5½" and 5½" face sampling bit.
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed.	RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Where data is available recovery of the samples was good, generally estimated to be close to 100%, except for some sample loss at the top of the hole in the Quaternary cover.  All diamond core collected is dry. Drill operators measure core recoveries for every drill run completed using a 3 m core barrel. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery can be calculated as a percentage recovery. Almost 100% recoveries were achieved for diamond drilling.
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC face-sample bits and dust suppression were used to minimise sample loss. Drilling pressure airlifted the water column above the bottom of the hole to ensure dry sampling. RC samples are collected through a cyclone and riffle splitter (historical) and static cone splitter for RC after 2010. The rejects are deposited in a large plastic bag and retained for potential future use. The sample required for assay is collected directly into a calico sample bag at a designed 3 to 4 kg sample mass which is optimal for full sample crushing and pulverisation at the assay laboratory.  Diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.  Protocols for drilling undertaken prior to 2010 are not readily available.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	RC samples were generally dry with the exception of a few samples (<5%) that are reported as slightly damp to end of hole. Apart from for the top of the holes while drilling through the cover, there is no evidence of excessive loss of material, and at this stage no information is available regarding possible bias due to sample loss.
	There is no significant loss of material reported in any of the Diamond core.
Logging  Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource Estimation, mining studies and metallurgical studies.	All chips and drill core were geologically logged, using the relevant companies logging scheme. These logging codes have been developed over time and the historical codes translated to a scheme similar to the current Gold Road logging scheme in 2007. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Some holes are logged using hand held NITON XRF to assist in lithogeochemical analysis. From 2016 most fire assay results routinely include pXRF collected at the laboratory and used to validate logging.
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging of drill core captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural information from oriented drill core. All samples are stored in core trays. All core is photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the Gold Road server database.
The total length and percentage of the relevant intersections logged	All holes were logged in full.
Sub-sampling techniques and sample preparation  If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half and half core samples were collected for assay, with the remaining half core samples stored in the core trays. Two diamond drill holes were sampled as slivers. These holes were drilled for metallurgical test work which has not yet been undertaken.



Criteria and JORC Code explanation	Commentary		
If non-core, whether riffled, tube sampled, rotary split, etc and	Under Gold Road protocols 1 m RC drill	samples are cha	nnelled through a
whether sampled wet or dry.	cone splitter, and an average 2-3 kg sam	ple is collected in	an un-numbered
	calico bag, and positioned on top of the p	olastic bag.	
	Four-metre composite samples are gener		· -
	1 m samples collected in large plastic bag	_	
	into separate numbered calico bags for s		
	holes utilised four-metre composite s	· ·	
	composite samples returned anomalou	=	
	resampled as 1 m samples by collecting the	ne sampie produ	ced from the riffle
	splitter.	ara nat raadilu a	vailabla
For all cample times, the nature quality and appropriateness of the	Sampling procedures used prior to 2010		
For all sample types, the nature, quality and appropriateness of the	Samples were prepared and analysed at		
sample preparation technique.	prior to 2010 it is assumed the procedure for the time.	s unuer taken are	illuusti y stallual u
	Post 2010 samples were dried, and the	whole sample r	outverised to 80%
	passing 75 μm, and a sub-sample of appr		
	was used for the fire assay analysis. The	•	· ·
	this type of sample.	procedure is in	astry standard for
Quality control procedures adopted for all sub-sampling stages to	Details of historical QAQC procedures are	e not readily avai	ilable. Reviews of
maximise representation of samples.	QAQC and assay quality in 2002 (Golde	=	
	indicate there are no significant issue	•	
	historical assay data. Concerns regarding	•	
	drilling completed in 2011, 2012 and		
	compiled for the 2016 drilling (Sauter G		-
	issues were identified.	J	, 0
Measures taken to ensure that the sampling is representative of the	Gold Road protocols state duplicate samp	oles are collected	l at a frequency of
in situ material collected, including for instance results for field	1:40 for all drill holes.		. ,
duplicate/second-half sampling.	RC duplicate samples are collected dire	ectly from the R	lig-mounted cone
	splitter.		
	Details of historical duplicate sampling a	e not readily ava	ilable.
Whether sample sizes are appropriate to the grain size of the	Sample sizes are considered approp	riate to give	an indication of
material being sampled.	mineralisation given the particle size an	d preference to	keep the sample
	weight below 3 kg to ensure requisite gri	nd size in a LM5	sample mill.
Quality of assay data and laboratory tests			
The nature, quality and appropriateness of the assaying and	Samples were analysed at a variety of laborated	oratories using m	ethodologies that
laboratory procedures used and whether the technique is	Samples were analysed at a variety of laborate include:	oratories using m	ethodologies that
	include:	_	ethodologies that
laboratory procedures used and whether the technique is		oratories using m	ethodologies that
laboratory procedures used and whether the technique is	include:	_	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type	Total	ethodologies that
laboratory procedures used and whether the technique is	Analysis Type  50g Fire Assay with ICPMS finish	<b>Total</b> 7,327	ethodologies that
laboratory procedures used and whether the technique is	Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish	7,327 2,367	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish  50g Fire Assay with flame AAS finish	7,327 2,367 608	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish  50g Fire Assay with flame AAS finish  Aqua Regia digest with AAS finish	7,327 2,367 608 312	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish  50g Fire Assay with flame AAS finish  Aqua Regia digest with AAS finish  Aqua Regia digest with GAAS finish	7,327 2,367 608 312 138	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish  50g Fire Assay with flame AAS finish  Aqua Regia digest with AAS finish  Aqua Regia digest with GAAS finish  Aqua Regia digest with ICPMS finish	7,327 2,367 608 312 138	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish  50g Fire Assay with AAS finish  50g Fire Assay with flame AAS finish  Aqua Regia digest with AAS finish  Aqua Regia digest with GAAS finish  Aqua Regia digest with ICPMS finish  Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora	7,327 2,367 608 312 138	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth	7,327 2,367 608 312 138	ethodologies that
laboratory procedures used and whether the technique is	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth	7,327 2,367 608 312 138 1,129	
laboratory procedures used and whether the technique is considered partial or total.	Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were	7,327 2,367 608 312 138 1,129	the time.
laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments,	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were	7,327 2,367 608 312 138 1,129	the time.
laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were NITON handheld XRF was used on a smal of the hand-held XRF tools is applied at se	Total  7,327  2,367  608  312  138  1,129  e appropriate for Inumber of drill start-up. XRF res	the time. holes. Calibration ults are only used
laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were NITON handheld XRF was used on a smal of the hand-held XRF tools is applied at sfor indicative analysis of lithogeochemist	Total  7,327  2,367  608  312  138  1,129  e appropriate for I number of drill start-up. XRF resry and alteration	the time. holes. Calibration ults are only used and to aid logging
laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were NITON handheld XRF was used on a small of the hand-held XRF tools is applied at a for indicative analysis of lithogeochemist and subsequent interpretation. Four acid	7,327 2,367 608 312 138 1,129 e appropriate for I number of drill start-up. XRF resry and alteration d digest data is a	the time. holes. Calibration ults are only used and to aid logging also used to assist
laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors	include:  Analysis Type  50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish 50g Fire Assay with flame AAS finish Aqua Regia digest with AAS finish Aqua Regia digest with GAAS finish Aqua Regia digest with ICPMS finish Laboratories used include:  SGS – Kalgoorlie, Perth and Leonora Amdel – Perth Genalysis – Perth It is assumed laboratory procedures were NITON handheld XRF was used on a smal of the hand-held XRF tools is applied at sfor indicative analysis of lithogeochemist	7,327 2,367 608 312 138 1,129 e appropriate for I number of drill start-up. XRF reservy and alteration d digest data is a KRF analysis, co	the time. holes. Calibration ults are only used and to aid logging also used to assist onducted at the



Criteria and JORC Code explanation	Commentary		
Nature of quality control procedures adopted (eg standards, blanks,	Gold Road protocol is for Field Sta	ndards (Certified R	eference Materials)
duplicates, external laboratory checks) and whether acceptable	and Blanks inserted at a rate of 3 St	andards and 3 Blan	ks per 100 samples.
levels of accuracy (ie lack of bias) and precision have been	Field Duplicates are generally inserted at a rate of approximately 1 in 40. At		
established.	the laboratory, regular assay Repe	ats, Laboratory Sta	ndards, Checks and
	Blanks are analysed		
	For drilling along the Attila-Alaric	Trend the relevant	t assays and QAQC
	numbers are as follows:		
	Assay and QAQC Type	Number	
	Total Sample Submission	52,860	
	Field Blanks	235	
	Field Standards	234	
	Field Duplicates	162	
	Laboratory Blanks	292	
	Laboratory Checks	247	
	Laboratory Standards	259	
	Historical drilling QAQC has been re	eviewed by Maxwel	l (2012) and Golder
	Associates (2002) and deemed sa	tisfactory and fit for	or use in Resource
	Estimation.		
	Infill drilling completed in 2011, 20	· · · · · · · · · · · · · · · · · · ·	
	comparative reviews (twinned ho	•	
Madfaction of according to the contract of	mitigated many concerns with respe	ect to historical data	quality.
Verification of sampling and assaying	Cianificant vascilta are absolved by	the Drivernal Deep	Caalaaist and
The verification of significant intersections by either independent or alternative company personnel.	Significant results are checked by Executive Director. Additional ch	· ·	<del>-</del>
alternative company personner.	Manager.	ecks are complete	u by the Database
The use of twinned holes.	A total of five holes (RC and DDH) a	re drilled within 10	m and are suitable
	for review as twinned holes. Mineralisation location and tenor is consistent		
	across these areas of close spaced d	rilling.	
Documentation of primary data, data entry procedures, data	All logging data is stored in a D	atashed/ SQL dat	abase system, and
verification, data storage (physical and electronic) protocols.	maintained by the Gold Road Database Manager.		
Discuss any adjustment to assay data.	No assay data was adjusted. The la	aboratory's primary	Au field is the one
	used for plotting and resource purp	oses. No averaging	is employed.
Location of data points	The stell half to select a consequent to the		dhald CDC the co
Accuracy and quality of surveys used to locate drill holes (collar and	The drill hole locations were initial	v nicked un hv han	
down-hole surveys), trenches, mine workings and other locations	accuracy of 5 m in northing and eas	sting. Forty five hole	es were later picked
down-hole surveys), trenches, mine workings and other locations used in Mineral Resource Estimation.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of	ting. Forty five hold 1 cm in elevation a	es were later picked nd position.
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma	ting. Forty five hole 1 cm in elevation and ast is set up using a	es were later picked nd position.
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o	sting. Forty five hole  1 cm in elevation an  ast is set up using a  r compass.	es were later picked nd position. clinometer, and rigs
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-si	sting. Forty five hole  1 cm in elevation and  ast is set up using and  or compass.  not camera to tak	es were later picked nd position. clinometer, and rigs e dip and azimuth
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r	ting. Forty five hold 1 cm in elevation and ast is set up using a or compass. not camera to tak ods, at 50 m interv	es were later picked nd position. clinometer, and rigs e dip and azimuth rals, prior to August
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r 2014, and 30 m interval, post Augus	ting. Forty five hold 1 cm in elevation at a st is set up using a or compass. The transfer to take ods, at 50 m intervit 2014. Downhold of	es were later picked nd position. clinometer, and rigs e dip and azimuth rals, prior to August lirectional surveying
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool	ting. Forty five hold 1 cm in elevation and ast is set up using a or compass. not camera to tak ods, at 50 m intervit 2014. Downhole co was completed on	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down
	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r 2014, and 30 m interval, post Augus	sting. Forty five hold 1 cm in elevation and ast is set up using a r compass. not camera to tak ods, at 50 m intervit t 2014. Downhole of was completed on ing had been remo	es were later picked nd position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole.
	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/or Drillers use an electronic single-si readings inside the stainless steel reduction 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod string.	sting. Forty five hold 1 cm in elevation and ast is set up using a r compass. not camera to tak ods, at 50 m intervit t 2014. Downhole of was completed on ing had been remo	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole.
	accuracy of 5 m in northing and east using DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/or Drillers use an electronic single-streadings inside the stainless steel readings inside the stainless steel red14, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surv	sting. Forty five hold 1 cm in elevation and ast is set up using a r compass. not camera to tak ods, at 50 m intervit t 2014. Downhole of was completed on ing had been remo	es were later picked nd position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole.
used in Mineral Resource Estimation.	accuracy of 5 m in northing and eas using DGPS to a level of accuracy of For angled drill holes, the drill rig ma aligned by surveyed positions and/o Drillers use an electronic single-st readings inside the stainless steel r 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surv surveyed upon exiting the hole.	titing. Forty five hold 1 cm in elevation at ast is set up using a recompass. The compass are compass at 50 m intervit 2014. Downhole cowas completed on ing had been remedely the compass at 2014.	es were later picked and position. clinometer, and rigs e dip and azimuth vals, prior to August lirectional surveying site and live (down oved from the hole. most RC holes were
used in Mineral Resource Estimation.  Specification of the grid system used.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/or Drillers use an electronic singless readings inside the stainless steel recommendation 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod stream Most diamond drill holes were surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.	titing. Forty five hold 1 cm in elevation and ast is set up using a procompass. not camera to take ods, at 50 m intervit 2014. Downhold of was completed on ing had been remo- eyed live whereas in	es were later picked and position. clinometer, and rigs e dip and azimuth vals, prior to August directional surveying site and live (down oved from the hole. most RC holes were
used in Mineral Resource Estimation.  Specification of the grid system used.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/or Drillers use an electronic single-si readings inside the stainless steel re 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the discrepancy of the drill rod string and projection is GDA94.	titing. Forty five hold 1 cm in elevation at ast is set up using a recompass.  not camera to tak ods, at 50 m intervit 2014. Downhold owas completed on ing had been removed live whereas in the 2011 aeromagniects in the region),	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld
used in Mineral Resource Estimation.  Specification of the grid system used.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/or Drillers use an electronic single-si readings inside the stainless steel re 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the atopographic surface for other projection of the drive surveyed at the surface for other projection is GDA94.	atting. Forty five hold 1 cm in elevation and ast is set up using a part compass. The state of t	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August lirectional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld ed using LIDAR data
used in Mineral Resource Estimation.  Specification of the grid system used.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/od Drillers use an electronic single-si readings inside the stainless steel readings in stainless steel readings gyroscopic tool drill rod string) or after the rod stream Most diamond drill holes were surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the atopographic surface for other projects (NTv2) data. A topographic surface for other projects in the projects of the pro	ating. Forty five hold 1 cm in elevation and	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld and using LIDAR data do onto this surface
used in Mineral Resource Estimation.  Specification of the grid system used.	accuracy of 5 m in northing and easy using DGPS to a level of accuracy of For angled drill holes, the drill rig madigned by surveyed positions and/or Drillers use an electronic single-si readings inside the stainless steel readings in stainless steel readings gyroscopic tool drill rod string) or after the rod str. Most diamond drill holes were surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the atopographic surface for other projection is GDS (NTV2) data. A topographic surface for other projection in December 2015. Drill	ating. Forty five hold 1 cm in elevation are ast is set up using a property of the compass.  The compass of the	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld and using LIDAR data and onto this surface then collars picked up
specification of the grid system used.  Quality and adequacy of topographic control.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/o Drillers use an electronic single-si readings inside the stainless steel r 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surv surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between ta topographic surface for other proj GPS (NTv2) data. A topographic su collected in December 2015. Drill creating a more accurate collar RL.	ating. Forty five hold 1 cm in elevation are ast is set up using a property of the compass.  The compass of the	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld and using LIDAR data and onto this surface then collars picked up
Specification of the grid system used.  Quality and adequacy of topographic control.  Data spacing and distribution	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surv surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the atopographic surface for other proj GPS (NTv2) data. A topographic surcellected in December 2015. Drill creating a more accurate collar RL. A by DGPS and the LIDAR drape have a is considered acceptable.	titing. Forty five hold 1 cm in elevation at ast is set up using a property of the compass. The compass of the	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld et using LIDAR data do not this surface ten collars picked up -/- 0.2m in RL, which
specification of the grid system used.  Quality and adequacy of topographic control.	accuracy of 5 m in northing and easusing DGPS to a level of accuracy of For angled drill holes, the drill rig maligned by surveyed positions and/o Drillers use an electronic single-sl readings inside the stainless steel r 2014, and 30 m interval, post Augus using north-seeking gyroscopic tool drill rod string) or after the rod str Most diamond drill holes were surv surveyed upon exiting the hole.  Grid projection is GDA94, Zone 51.  A discrepancy in RL exists between the atopographic surface for other proj GPS (NTv2) data. A topographic surcellected in December 2015. Drill creating a more accurate collar RL. A by DGPS and the LIDAR drape have a	atting. Forty five hold 1 cm in elevation at a st is set up using a property of the compass. The compass of the	es were later picked and position. clinometer, and rigs e dip and azimuth rals, prior to August directional surveying site and live (down oved from the hole. most RC holes were etic surveys (used as DGPS and handheld ed using LIDAR data do nto this surface ten collars picked up-/- 0.2m in RL, which



Criteria and JORC Code explanation	Commentary
Whether the data spacing and distribution is sufficient to establish	Spacing of the reported drill holes is sufficient for the geological and grade
the degree of geological and grade continuity appropriate for the	continuity of the deposit, is appropriate for Resource Estimation procedures
Mineral Resource and Ore Reserve estimation procedure(s) and	and to report Measured, Indicated, and Inferred Resources.
classifications applied.	
Whether sample compositing has been applied.	251 RC holes out of a total 352 RC holes employed compositing over waste intervals.
Orientation of data in relation to geological structure	
Whether the orientation of sampling achieves unbiased sampling of	The orientation of the drill lines (250 degrees azimuth) is approximately
possible structures and the extent to which this is known,	perpendicular to the regional strike of the targeted mineralisation.
considering the deposit type.	
If the relationship between the drilling orientation and the	Drilling angled at -60 to the west does not introduce any directional bias
orientation of key mineralised structures is considered to have	given that structural orientations indicate a steep easterly dip and are
introduced a sampling bias, this should be assessed and reported if	normal to the current understanding of the mineralisation.
material.	
Sample security	
The measures taken to ensure sample security.	Pre-numbered calico bags are collected in plastic or poly weave bags and
	transported to the laboratory. Details regarding sample security of drilling
	prior to 2010 are not readily available.
Audits or reviews	
The results of any audits or reviews of sampling techniques and	Sampling and assaying techniques are industry-standard. No specific audits
data.	or reviews have been undertaken.

# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

(Criteria listed in the preceding section also apply to this Criteria and JORC Code explanation	,
	Commentary
Mineral tenement and land tenure status	
Type, reference name/number, location and ownership including	The RC and diamond exploration drilling was managed by Gold Road, which
agreements or material issues with third parties such as joint	since November 2016 has formed part of the 50:50 Gruyere JV with Gold
ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental	Fields. The tenements are located on the Yamarna Pastoral Lease which is owned and managed by Gold Road.
settings.	M38/435 and M38/436 are located on tenements granted in respect of land
settings.	in which non-exclusive native title has been determined to exist and to be
	held by a group of native title holders which includes the persons on whose
	behalf the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011)
	native title claims were brought. The determination was made by the
	Federal Court on 27 September 2017. The native title holders are required
	to nominate a body corporate to act as trustee of, or as their agent in future
	dealings relating to, their native title. Exploration activities in the specified
	"Gruyere and Central Bore Project Areas" within the Pastoral Lease are
	conducted in accordance with the 2016 "Gruyere and Central Bore Native
	Title Agreement" between Gold Road, the Yilka native title claim group and
	Cosmo Newberry Aboriginal Corporation. Exploration activities within the
	balance of the Pastoral Lease are conducted in accordance with the 2004
	"Yamarna Pastoral Lease Heritage Protection Agreement" between Gold
	Road and Harvey Murray (the applicant in relation to the Yilka native title
	claim).
The security of the tenure held at the time of reporting along with	The tenements are in good standing with the Western Australia Department
any known impediments to obtaining a licence to operate in the area	of Mines, Infrastructure, Resource and Safety.



Criteria and JORC Code explanation	Commentary
Exploration done by other parties	
Acknowledgment and appraisal of exploration by other parties.	Exploration has been completed by numerous other parties:
	■ 1990-1994 Metall Mining Australia
	■ 1994-1997 Zanex NL
	■ 1997-2006 Asarco Exploration Company Inc
	2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010)
	2010-November 2016 Gold Road
	November 2016 – Present Gold Road and Gold Fields (Gruyere JV) Gold Road understands that previous exploration has been completed to industry standard.
Geology	·
Deposit type, geological setting and style of mineralisation.	Gold mineralisation at Attila is hosted in a sequence of mafic and felsic volcanic intrusives and sediments on the western margin of the Yamarna Greenstone Belt. The sequence is metamorphosed to amphibolite facies and is strongly foliated, with the sequence striking northwest and dipping steeply to the east. A Felsic volcanoclastic (Gotham Tuff) marker is noted to the east of the sequence.  Gold mineralisation is defined by shear zones characterised by laminated quartz-mica-amphibole schist units. High-grade mineralisation occurs as 3 to 5+ m, gently north plunging, or horizontal, shoots. Mineralisation is laterally continuous. Mineralisation has both a lithological and structural control, being contained within the mafic, iron rich units of the sequence with the morphology of high-grade zones appearing to be structurally controlled  The deposit forms part of the anomalous structural corridor termed the Attila-Alaric Trend that has been defined over 17 km in strike.
Drill hole Information	Active Author French Charles Seen defined Sver 17 km in Strike.
A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole	A total of 18 RC and 9 diamond holes have been completed within the deposit area since the previous Resource Estimate, refer ASX announcement dated 16 September 2015. Details of this drilling are included in the ASX announcement dated 15 November 2016.
down hole length and interception depth	
• hole length.	
If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	
In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	No weighting or averaging of grades was undertaken.
Data aggregation methods	Grades are reported as down-hole length-weighted average grades across
Relationship between mineralisation widths and intercept lengths	the full width of mineralised domains. The drill angle generates an approximation of the true-width intersection.
Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical	No new exploration results are reported. Intersections quoted may not match those previously reported as they are selected for Mineral Resource Estimation purposes.
examples of such aggregations should be shown in detail.	
The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used.



Criteria and JORC Code explanation	Commentary
These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Mineralisation is hosted within a steep east dipping, NNW striking package of mafic to felsic intrusive and sedimentary rocks. Mineralisation is hosted in shear zones parallel to stratigraphy.  The general drill direction of 60° to 250 is approximately perpendicular to the lithological package and is a suitable drilling direction to avoid directional biases.
Diagrams  Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures and Tables in the body of text.
Balanced reporting  Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results used in this resource have been published in previous releases; please refer to Appendix 2 for a summary of previous releases.
Other substantive exploration data Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Regional Aeromagnetic and gravity data cover the project area and assist in the geological interpretation; including the strike orientation of the stratigraphy, location of cross-cutting faults and dykes, and general regional geology.  Handheld XRF data exists for some drill holes, pXRF conducted at the lab exists for most drill holes post 2016, and assists in lithogeochemical analysis. Initial metallurgical testwork indicates no deleterious elements are present and mineralisation is amenable to conventional cyanidation.
Further work  The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Mineralisation is not closed off at depth or along strike. Mining optimisation and feasibility studies may drive further drilling requirements.



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

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource Estimation purposes.  Data validation procedures used.	Geological metadata is stored centrally in a relational SQL database with a DataShed front end. Gold Road employs a Database Manager who is responsible for the integrity and efficient use of the system. Only the Database Manager or the Data Entry Clerk has permission to modify the data.  Sampling and geological logging data is collected in the field using LogChief
	software and uploaded digitally. The software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database.  Sampling data is sent to, and received from, the assay laboratory digitally.  Drill hole collars are picked up by differential GPS and delivered to the
	database digitally.  Down hole surveys are delivered to the database digitally.  The Mineral Resource estimate only uses a selection of RC and DDH assay data available; historical data is used and measures of integrity applied by
	previous companies are not readily available. Eighteen historic holes are excluded from the estimate due to non-standard sampling through the main part of mineralisation (four-metre composite samples). Two metallurgical testwork holes are also excluded as they are sampled by sliver only and oriented down the dip of mineralisation.
	DataShed software has validation procedures that include constraints, library tables, triggers and stored procedures. Data that does not pass validation must be corrected first.  The LogChief software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database. Geological logging data is checked visually in three dimensions against the existing data and geological interpretation.  Assay data must pass company QAQC hurdles. Gold Road utilises QAQCR software to further analyse QAQC data, and batches which do not meet criteria are requested to be re-assayed. Sample grades are checked visually in three dimensions against the located states of the second states.
	in three dimensions against the logged geology and geological interpretation.  Drill hole collar pickups are checked against planned and/or actual collar locations.  A hierarchical system is used to identify the most reliable down hole survey data. Drill hole traces are checked visually in three dimensions.  Data validation procedures of previous companies are not readily available.
Site visits  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case	Justin Osborne is Gold Road's Executive Director of Exploration & Growth and a Competent Person. He conducts regular site visits and covers all aspects of the Project. John Donaldson is Gold Road's General Manager Geology and a Competent Person. He has completed specific site visits to focus on understanding the geology of the Attila-Alaric Trend. Jane Levett is Gold Road's Senior Resource Geologist and a Competent Person and has three specific site visit to focus on understanding the geology of the Attila-Alaric Trend from field observations, historic diamond core and RC chips.
Geological interpretation  Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Diamond drilling allows a robust geological interpretation to be developed.  Airborne magnetic and ground IP data gives weight to the broad interpretation and breaks in the continuity of stratigraphy (fault offsets) provide an explanation for strike extents of mineralisation.  Type and thickness of host lithology, and mineralisation, is predictable along strike and down dip.  As the deposit has good grade and geological continuity the Competent Persons regard the confidence in the geological interpretation as high.



Criteria and JORC Code explanation	Commentary
Nature of the data used and of any assumptions made.	All available data has been used to help build the geological interpretation.
ivature of the data used and of any assumptions made.	This is includes geological logging data (lithology and structure), portable
	XRF multi-element data, gold assay data, and IP and airborne magnetic
	surveys.
The effect, if any, of alternative interpretations on Mineral Resource	Modelling of the mineralisation was conducted with reference to the
Estimation.	previous resource update, when comparison is made between the current
	interpretation and one completed in 2015, the differences are a result of
	refining the geological interpretation with further information.
The use of geology in guiding and controlling Mineral Resource	Regionally the deposit is hosted on the western margin of the Yamarna
Estimation.	Greenstone Belt. The Attila deposit is located on a flexure of the North West
	striking Yamarna Shear Zone, a ~1.5 km wide zone of mylonitic mafic and
	felsic volcanics and sediments.
	The bulk of the mineralisation is constrained within intermediate
	volcanoclastics of the Archaean package, below the base of cover. There
	does not appear to be any mineralisation associated with supergene
	processes and the mineralised domains are constrained to below a
	depletion boundary, roughly coincident with the saprolite-saprock
	boundary.
	Mineralisation within the sheared package has been modelled at a 0.3 g/t
	cut-off, including up to 2 m of internal waste. Internal higher grade zones
	apply a 0.6 g/t cut-off. The values of 0.3 and 0.6 g/t were recognised as
	inflection points in the drilling data corresponding to the non-mineralised,
	mineralised, and higher grade populations. Internal higher grade zones
	correspond to higher intensity alteration, presence of sulphides and a
	greater density of quartz veining. The lower grade sheared package is
	similarly altered and veined, but not to the same intensity.
	Several cross-cutting arcuate and linear faults have been interpreted from
	the magnetics and distribution of interpreted lithologies. These faults
	appear to bound different zones of mineralisation and have been used as a
	control in domaining mineralisation.
	The trend of the main mineralisation is interpreted to be steeply dipping to
	the east at 65-75°. Internal to this trend is a gentle plunge to the north
	associated with the intersection of the Footwall and Main shear zones.
	The mineralisation trend can be readily observed in areas of closely spaced
	drilling and easily interpreted in wider spaced areas.
	Spatial analysis of assay data using variography supports and helps to refine
	the mineralisation orientations during the interpretive process.
The factors affecting continuity both of grade and geology.	Cross-cutting features interpreted as faults from the aeromagnetic imagery
	(2011) appear to bound different zones of mineralisation.
Dimensions	
The extent and variability of the Mineral Resource expressed as	Length along strike: 1,800 m (pit shell constraint)
length (along strike or otherwise), plan width, and depth below	Horizontal Width: 75 m (comprising a series of 5 to 10 m wide mineralised
surface to the upper and lower limits of the Mineral Resource.	surfaces).
	Depth from surface to limit of Mineral Resource: 170 m.
	The Mineral Resource has been constrained by an optimised Whittle shell
	that considers all mineralisation in the geological model. The optimisation
	utilises mining, geotechnical and processing parameters from the Attila-
	Alaric Pre-Feasibility Study (this report) and an A\$1,850/oz gold price. Only
	Measured, Indicated and Inferred categories within this shell are reported
	as Mineral Resource. Mineralisation in the geology model outside the shell
	is not reported



Criteria and JORC Code explanation	Commentary
Estimation and modelling techniques	
The nature and appropriateness of the estimation technique(s)	Software used:
applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Leapfrog Geo – Drillhole validation, lithology, material type, mineralisation and fault wireframes  Datamine Studio RM – Drillhole validation, cross-section, plan and long-section plotting, block modelling, estimation, block model validation, classification, reporting.
	Snowden Supervisor — Statistics, variography, kriging neighbourhood analysis, block model validation  Block model and estimation parameters:  Treatment of extreme grade values (top cuts): 5 to 30 g/t Au top-cut applied to one-metre composites selected within mineralisation wireframes. Top cuts were determined by domain through analysis of histograms, log histograms, log probability plots and spatial analysis.  Estimation technique: Ordinary Kriging. KNA was undertaken to optimise the search neighbourhood used for the estimation and test the parent block size. The search ellipse and selected samples by block were viewed in three dimensions to verify the parameters.  A local grid is used with a rotation 20 degrees west of true north from MGA. Parent block size - 5 m X by 25 m Y by 5 m Z (parent cell estimation with full subset of points).  Smallest subcell – 1 m X by 5 m Y by 1 m Z (small X dimension is required to fill mineralisation wireframes and a small Z dimension is required to fill to material type boundaries).  Discretisation - 3 X by 5 Y by 2 Z (using number of points method).  Search ellipse – aligned to mineralisation trend, dimensions range from 55 to 150 m X by 90 to 200 m Y by 20 to 600 m Z depending on mineralisation domain.  Number of samples – maximum per drill hole = 5, first search 12 min / 40 max, second search 10 min / 60 max, volume factor 2, third search 5 min / 60 max, volume factor 4.  Domain boundary conditions – A hard boundary is applied to most domains. The internal domain to the main shear (D5556) is further subdivided into Domain 5557 and 5558 using 2D SELPER strings in Datamine. The estimation of these domains includes a semi-soft boundary along strike, where samples near the domain boundary from D5556 are used to inform the estimation of D5557 and 5558.
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate	The project has previously been estimated and reported using Ordinary Kriging methodologies in 2008, 2012 and 2015. Prior to 2008, estimates
takes appropriate account of such data.	utilised a Multiple Indicator Kriging approach.
The assumptions made regarding recovery of by-products.  Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No economic by-products.  Initial metallurgical test work indicates no deleterious elements.
In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block size of 5 m X by 25 m Y by 5 m Z is approximately one quarter of the average drill spacing of 20 m X by 40 m Y in Indicated and Measured areas.
Any assumptions behind modelling of selective mining units.	The Selective Mining Unit chosen is a function of the Whittle optimisation and parent block size of 5 m X by 12.5 m Y by 5 m Z.
Any assumptions about correlation between variables.	No correlation between variables analysed or made; the resource is gold-only.
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control the estimation. If geostatistics, variography and/or visual checks of the model were difficult to understand then the geological interpretation was questioned and refined.
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when using Ordinary Kriging.



Criteria and JORC Code explanation	Commentary
The process of validation, the checking process used, the	Validation checks performed:
comparison of model data to drill hole data, and use of reconciliation data if available.	<ul> <li>QQ plot of RC vs DDH input grades.</li> </ul>
	Volume of wireframe vs volume of block model
	<ul> <li>Sum of gram metres prior to compositing vs sum of gram metres post</li> </ul>
	compositing
	Negative gold grade check
	Model average grade vs declustered top-cut sample grade by Domain.
	Swath plots by Northing and elevation by Domain.
	Swatti piots by Northing and elevation by Domain.
	dimensions.
	All validation checks gave acceptable results.
	No mining, therefore no reconciliation data available.
Moisture	
Whether the tonnages are estimated on a dry basis or with natural	-
moisture, and the method of determination of the moisture	Average bulk density values are modified by a moisture percentage so that dry tonnages are reported. Percentage reductions were: overburden and
content.	saprolite 5%, saprock 3%, transition 2% and fresh 1%.
Cut-off parameters	Sapronte 570, Saprock 570, transition 270 and fresh 170.
The basis of the adopted cut-off grade(s) or quality parameters	The cut-off grade used for reporting is 0.5 g/t. This has been determined
applied.	from the latest regional mining, geotechnical and processing parameters
''	developed from the Attila-Alaric Pre Feasibility Study (this report). Mining
	costs include haulage to the proposed mill.
Mining factors or assumptions	
Assumptions made regarding possible mining methods, minimum	The mining method assumed is a conventional open pit with a contract
mining dimensions and internal (or, if applicable, external) mining	mining fleet appropriately scaled to the size of the deposit.
dilution. It is always necessary as part of the process of determining	De facto minimum mining width is a function of optimisation parent cell size
reasonable prospects for eventual economic extraction to consider	(5 m X by 12.5 m Y by 5 m Z).
potential mining methods, but the assumptions made regarding	No allowance for dilution or recovery has been made. However a minimum
mining methods and parameters when estimating Mineral	width of 2 m is used in construction of the mineralisation wireframes
Resources may not always be rigorous. Where this is the case, this	
should be reported with an explanation of the basis of the mining	
assumptions made.	
Metallurgical factors or assumptions	
The basis for assumptions or predictions regarding metallurgical	
amenability. It is always necessary as part of the process of	· · · · · · · · · · · · · · · · · · ·
determining reasonable prospects for eventual economic extraction	
to consider potential metallurgical methods, but the assumptions	
regarding metallurgical treatment processes and parameters made	
when reporting Mineral Resources may not always be rigorous.	
Where this is the case, this should be reported with an explanation	
of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions  Assumptions made regarding possible waste and process residue	Surface waste dumps will be used to store waste and said from a very
Assumptions made regarding possible waste and process residue	·
disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction	
to consider the potential environmental impacts of the mining and	
processing operation. While at this stage the determination of	
potential environmental impacts, particularly for a greenfields	
project, may not always be well advanced, the status of early	
consideration of these potential environmental impacts should be	
reported. Where these aspects have not been considered this	
should be reported with an explanation of the environmental	
should be reported with an explanation of the environmental	

assumptions made.



Critaria and IOBC Code evaluation	Commentary
Criteria and JORC Code explanation	Commentary
Bulk density  Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density has been determined using data available from the Attila-Alaric Trend drilling, and other more detailed bulk density data in the region. Historical data from Attila was collected using the weight in air/ weight density values were modified for fresh mineralised domains, this modification was informed by bulk density values from metallurgical holes drilled down dip in mineralisation and reflects the increased percentage of quartz material in mineralised zones compared to the mafic host rock.  Bulk density is applied by weathering (material) type and domain.
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Data was coded by weathering type (material) and domain (mineralisation). Assumptions for moisture percentages were made and accounted for in the final value used for bulk density.
Classification  The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource is constrained within a Whittle shell. Blocks in the geological model above that shell have been classified as Measured, Indicated or Inferred. Several factors have been used in combination to aid the classification;  Drill hole spacing Measured – 20 m East by 20 m North Indicated - 20 m East by 40 m North Inferred – Depth of drilling and 50 m along strike from extent of drilling. Extrapolation 40 m down dip from last drill hole intercept Geological continuity Grade continuity Estimation quality parameters derived from the Ordinary Kriging process
Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values,	All relevant factors have been taken into account in the classification of the Mineral Resource.
quality, quantity and distribution of the data).  Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Persons' view of the deposit.
Audits or reviews  The results of any audits or reviews of Mineral Resource estimates.	Internal geological peer reviews were held and documented.  An external review of the 2015 estimate was completed by Optiro Pty Ltd.  Reviews were completed with appropriate Gold Fields staff as part of the Gruyere JV requirements and considered geology, estimation and inputs to optimisation.
Discussion of relative accuracy/ confidence  Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	Variances to the tonnage, grade and metal of the Mineral Resource estimate are expected with further definition drilling. It is the opinion of the Competent Persons that these variances will not significantly affect economic extraction of the deposit.
The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  These statements of relative accuracy and confidence of the estimate should be compared with production data, where	The Mineral Resource relates to global tonnage and grade estimates.  No previous mining.
available.	



## **Section 4 Estimation and Reporting of Ore Reserves**

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria including JORC Code (2012) explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves  Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.  Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resource estimate for the Attila deposit which formed the basis of this Ore Reserve estimate was compiled by the Gold Road Competent Person(s) utilising relevant data. This Mineral Resource is described in detail in sections 1 to 3 of this Table.  The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case.	The Competent Person has completed several site visits during 2017 to undertake the following activities:  Site familiarisation and assessment of proposed locations for mining related infrastructure relative to proposed open pit locations.  Inspection of site access, waste dump and ROM locations and site drainage.  Inspection of surface haulage routes to the Gruyere Mill  Inspected selected diamond drill core to gain an understanding of weathering profiles
Study status  The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.  The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The Attila maiden Ore Reserve estimate is the result of a Pre-Feasibility Study (PFS) completed by Gold Road Resources and external consultants. The project is considered technically achievable and all aspects of operational phases involve the application of conventional technology and mining methods widely utilised in the Western Australian goldfields. Financial modelling shows the project to be economically viable under current assumptions and quoted rates.  Material modifying factors such as mining, processing, metallurgical, environmental, legal, social and commercial have been considered during the maiden Ore Reserve estimation process.
Cut-off parameters  The basis of the cut-off grade(s) or quality parameters applied.	Variable economic cut-off grades have been applied in estimating the Ore
	Reserve. Cut-off grade is calculated in consideration of the following parameters:  Gold price Operating costs Process recovery Transport and refining costs General and administrative cost Royalty costs.
Mining factors or assumptions  The method and assumptions used as reported in the Pre-Feasibility  The method and assumptions used as reported in the Pre-Feasibility	Attila will be mined by open pit mining methods utilising conventional
or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).  The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	mining equipment. A final pit design was completed as part of the PFS. The final pit design is the basis of the Ore Reserve estimate.  The selected mining method, design and extraction sequence are tailored to suit orebody characteristics, minimise dilution and ore loss, utilise proposed process plant capacity and expedite free cash generation in a safe and environmentally sustainable manner.  Mining operating and capital costs were estimated as part of the PFS and referenced against contractor budget quotes.



### Criteria including JORC Code (2012) explanation Commentary The assumptions made regarding geotechnical parameters (eg pit Geotechnical modelling has been completed by an external consultant on slopes, stope sizes, etc), grade control and pre-production drilling. the basis of field logging and testing of selected diamond drill core samples. The recommended geotechnical design parameters assume dry slopes on the basis of adequate dewatering ahead of mining. Nine geotechnical domains were identified: Domain South West: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 20 m, batter angles of 50° and berm widths of 6 m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m. Domain South East: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 20 m, batter angles of 50° and berm widths of 6m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m. Domain West North West: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 20 m, batter angles of 50° and berm widths of 6 m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m. Domain East North East: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 20 m, batter angles of 50° and berm widths of 6 m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m. Domain North North West: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 2 0m, batter angles of 50° and berm widths of 6 m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m. Domain North North East: Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m Transitional Material: batter heights of 20 m, batter angles of 50° and berm widths of 6 m Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m.



The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).

The mining dilution factors used.

The mining recovery factors used.

Any minimum mining widths used.

The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.

#### Commentary

The resource model was imported from the original Datamine™ format and re-blocked in MineSight™ to produce the mining block model for optimisation and scheduling. The re-blocking process preserved the tonnes and gold content in the ore parcels with grade averaging within the final 5 m by 12.5 m by 5 m mining block size.

Edge dilution of  $0.5\,$  m was applied as a post process resulting in overall dilution of 16% and ore loss of 5%.

A minimum mining width of 5.0 m was applied consistent with ore block dimension.

Any Inferred Mineral Resources contained within the pit design has been considered as waste.

The proposed mine plan includes waste rock dumps, a ROM pad, mine access road, light and heavy vehicle workshop facilities, technical services and contractor administration facilities.

#### Metallurgical factors or assumptions

The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.

Whether the metallurgical process is well-tested technology or novel in nature.

The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.

Any assumptions or allowances made for deleterious elements.

The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.

For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?

Ore from Attila will be processed at the Gruyere Mill (under construction). The Gruyere process flowsheet consists of a single stage primary crush, SABC comminution circuit followed by a conventional gravity and CIL process is proposed. This process is considered appropriate for the Attila ore.

The proposed metallurgical process is commonly used in the Australian and international gold mining industry and is considered to be well-tested and proven technology.

In 2017, significant comminution, extraction, and materials handling testing was carried out on 19 diamond drill core composite samples. The testwork was completed on oxide, saprock, transitional, and fresh ore types which were obtained across the Attila deposit from depths ranging between 19.9 m and 130 m. Estimated plant gold recovery ranges from 74% to 94% at 125 µm P80 grind size depending on head grade and ore type. A variable metallurgical recovery was applied accordingly in the Attila PFS.

The head assay of the samples from the Attila deposit shows low concentrations of deleterious elements such as As, Te, Hg, Sb, organic carbon and base metals.

Significant comminution, extraction, and materials handling testing has also been carried out on material selected from the Attila composite samples to confirm compatibility with the Gruyere mill.

#### Environmental

The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.

Level 2 Flora and Fauna surveys have previously been completed over the Attila deposit however these will need refreshing ahead of project permitting and development.

Waste rock characterisation work has been completed and all waste types are non-acid forming and have limited metal leachate potential. Waste rock storage locations have been selected based on suitable geographical characteristics and proximity to the pit.

Attila ore is considered potentially acid forming and will be encapsulated within the Gruyere Tailings Storage Facility (TSF) comprising approximately 4% total project tailings volume.

#### Infrastructure

The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.

The Attila project site is within economic distances of existing infrastructure of the Eastern Goldfields region. Services and consumable supplies will be delivered by existing roads from Laverton some 150 km to the west.

The workforce will be Fly In-Fly Out and accommodated at the Gruyere camp during rostered days on. An on-site sealed airstrip has been built adjacent to the Gruyere camp.



Criteria including JORC Code (2012) explanation	Commentary
Costs  The derivation of, or assumptions made, regarding projected capital costs in the study.  The methodology used to estimate operating costs.  Allowances made for the content of deleterious elements.  The source of exchange rates used in the study.  Derivation of transportation charges.  The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.  The allowances made for royalties payable, both Government and private.	All capital estimates are based on contractor budget estimates supplied during 2017.  It is assumed that all mining equipment required for the project will be supplied by a mining contractor.  Mine development costs were developed from a combination of budget estimates supplied by reputable mining contractors. The basis of estimate is:  Contract mining  Mobilisation of mining equipment and personnel from Perth  Earthworks quantities determined from indicative site layout  A mining schedule developed on a monthly basis  The operating cost estimate accuracy is +/- 25%.  Operating costs assume a FIFO scenario with various rosters on site.  Mining operating costs and surface ore haulage costs have been estimated from a combination of budget estimates from reputable mining contractors on the basis of the contract mining of scheduled material movement and mining rates, with technical services supplied by Gold Road employees. Mine design and schedules were prepared by competent mining engineers. Process and infrastructure operating costs have been estimated from the Gruyere FS estimates on the assumption that:  A conventional SABC circuit will be utilised to treat ore at a rate of 7.5 Mtpa for fresh ore with the capability to treat up to 8.8 Mtpa of oxide material Comminution grind sizes will be in the range of 106 µm to 150 µm for all
	material types  Power will be generated on site utilising gas delivered by pipeline  The process plant will be operated by Gruyere JV employees.  The operating cost estimate is considered to be appropriate for the current market in the eastern goldfields of WA.  No allowance is made for deleterious elements since test-work to date on ore from Gruyere has not shown the presence of deleterious elements.  All costs are estimated in 2017 Australian dollars.  Transport charges - Gold bullion transportation charges are derived from the Gruyere FS on the basis of a quote provided by a leading industry bullion shipment organisation.  Treatment and refining charges are estimated from the Gruyere FS on the basis of a quote from a leading Perth Gold Refinery.  An allowance has been made for all royalties, including an allowance of 2.5%
	of revenue for royalties payable to the Western Australian State Government and an allowance for other royalties payable to private parties (these royalties being commercially sensitive and covered by confidentiality).
Revenue factors	
The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.  The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	The mined ore head grades are estimated utilising industry accepted geostatistical techniques with the application of relevant mining modifying factors.  Gold price and exchange rates have been determined from corporate guidance.  A Life-of-mine gold price forecast of A\$1,600/oz (Real 2017) is applied in the financial modelling for the Ore Reserve calculation process. This price forecast was established by Gold Road on the basis of historical gold price trends over the last 5 years.
Market assessment  The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.  A customer and competitor analysis along with the identification of likely market windows for the product.  Price and volume forecasts and the basis for these forecasts.	There is a transparent market for the sale of gold.



Criteria including JORC Code (2012) explanation	Commentary
For industrial minerals the customer specification, testing and	- Commentary
acceptance requirements prior to a supply contract.	
Economic	
The inputs to the economic analysis to produce the net present	Discounted cash flow modelling and sensitivity analysis has been completed
value (NPV) in the study, the source and confidence of these	to evaluate the economic performance of the Ore Reserve. Key value driver
economic inputs including estimated inflation, discount rate, etc.	inputs into the financial model included:
NPV ranges and sensitivity to variations in the significant	Gold price at A\$1,600/oz based on Gold Road corporate guidance
assumptions and inputs.	Discount rate of 5% based on Gold Road corporate guidance
	The Ore Reserve returns a positive NPV under the assumptions detailed
	herein.
	The Ore Reserve returns a positive NPV based on the assumed commodity
	price and the Competent Person is satisfied that the project economics that
	make up the Ore Reserve retains a suitable profit margin against reasonable
	future commodity price movements.
Social	
The status of agreements with key stakeholders and matters	A Native Title Mining Agreement has been signed covering the project area.
leading to social licence to operate.	
Other	
To the extent relevant, the impact of the following on the project	No material naturally occurring risks have been identified.
and/or on the estimation and classification of the Ore Reserves:	No significant species have been identified that would be significantly
Any identified material naturally occurring risks.  The status of material legal agreements and marketing	impacted by the Project in a manner that could not be adequately managed.  There are reasonable prospects to anticipate that contract terms as
arrangements.	assumed in the Ore Reserves estimate could be achieved.
The status of governmental agreements and approvals critical to	assumed in the ore neserves estimate could be defineded.
the viability of the project, such as mineral tenement status, and	
government and statutory approvals. There must be reasonable	
grounds to expect that all necessary Government approvals will be	
received within the timeframes anticipated in the Pre-Feasibility or	
Feasibility study. Highlight and discuss the materiality of any	
unresolved matter that is dependent on a third party on which	
extraction of the reserve is contingent.	
Classification	
The basis for the classification of the Ore Reserves into varying	The main basis of classification of Ore Reserves is the underlying Mineral
confidence categories.	Resource classification. All Proved Ore Reserves are derive from Measured Mineral Resources and all Probable Ore Reserves derive from Indicated
Whether the result appropriately reflects the Competent Person's view of the deposit.	Mineral Resources and all Probable Ore Reserves derive from indicated Mineral Resources in accordance with JORC Code (2012) guidelines.
The proportion of Probable Ore Reserves that have been derived	The results of the Ore Reserve estimate reflect the Competent Person's view
from Measured Mineral Resources (if any).	of the deposit.
, · · · · · · · · · · · · · · · · · · ·	No Probable Ore Reserves are derived from Measured Mineral Resources.
	No inferred Mineral Resource is included in the Ore Reserves.
	11% of the Ore Reserve is in the Proved category with the balance being
	Probable.
Audits or reviews	
The results of any audits or reviews of Ore Reserve estimates.	The PFS which forms the basis of the Ore Reserve estimate was subjected
	to various peer reviews:
	Metallurgical test-work was reviewed by Gold Road and peer reviewed
	by Gruyere JV technical experts and confirmed to be adequate for a PFS.
	<ul> <li>Geotechnical input was peer reviewed by the Gruyere JV technical expert and found to be acceptable for a PFS.</li> </ul>
	<ul> <li>Open pit designs, production schedules and mining cost model was peer reviewed by the Gruyere JV technical expert.</li> </ul>
	The financial model applied for project valuation and LOM analysis was
	reviewed by Gold Road and Gruyere JV technical expert and was
	considered to be appropriate for a PFS.
	The overall PFS was reviewed by an independent technical expert and was
	considered to be appropriate.



#### Discussion of relative accuracy/ confidence

Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.

The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.

Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.

It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

#### Commentary

The Attila PFS resulted in a technically robust and economically viable business case. This is deemed to be an appropriate basis for a high level of confidence in the Ore Reserves estimate.

In the opinion of the Competent Person, cost assumptions and modifying factors applied in the process of estimating Ore Reserves are reasonable. Gold price and exchange rate assumptions were set out by Gold Road and are subject to market forces and present an area of uncertainty.

In the opinion of the Competent Person, there are reasonable prospects to anticipate that all relevant legal, environmental and social approvals to operate will be granted within the project timeframe.



## **ALARIC**

## JORC CODE 2012 EDITION TABLE 1 - SECTIONS 1 TO 4

### **Section 1 Sampling Techniques and Data**

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

(Criteria in this section apply to all succeeding sections.)	
Criteria and JORC Code explanation	Commentary
Sampling techniques	
Sampling techniques  Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling. Significant RAB and Aircore drilling covers the project area and is used in developing the lithological and mineralisation interpretation. However, this data is not used in the estimate and is not detailed here. Drilling was completed between 1994 and 2017 and was undertaken by several different companies:  1990-1994 Metall Mining Australia 1994-1997 Zanex NL 1997-2006 Asarco Exploration Company Inc 2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010) 2010-November 2016 Gold Road November 2016 – Present Gold Road and Gold Fields (Gruyere IV)
	November 2016 – Present Gold Road and Gold Fields (Gruyere JV)  238 RC and 6 diamond holes were drilled angled at -60 degrees to 250 degrees azimuth (MGAn).  Drill core is logged geologically and marked up for assay at approximately 1 m intervals based on geological observation. Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis. RC chips are logged geologically and 4 m composite spear samples are submitted for assay. One metre RC split samples are submitted for re-assay if composites return anomalous results. One diamond hole was sampled as sliver as it was drilled specifically for metallurgical test work.
Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	Between 2010 and 2017 sampling was carried out under Gold Road's protocols and QAQC procedures as per industry best practice. 50% of the holes drilled on the Attila–Alaric Trend were completed by Gold Road. Prior to 2010, sampling was carried out under the relevant company's protocols and procedures and is assumed to be industry standard practice for the time. Specific details for this historical drilling are not readily available.
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Details regarding sampling prior to 2010 are not readily available. Sampling under Gold Road's protocols comprises the following:  The RC holes were drilled with a 5%" or 5%" inch face-sampling bit, 1 m samples collected through a cyclone and cone splitter, to form a 2-3 kg sample. 4 m composite samples were created by spear sampling of the total reject of the 1 m samples collected in large plastic bag from the drilling rig and deposited into separate numbered calico bags for sample despatch. 1 m sample intervals were submitted for analysis when the composite interval returned anomalous results. A total of 146 (2%) 4 m composite samples were used in the resource estimate where no 1 m samples were available. Comps were outside the main shear and all low grade.  Diamond drilling was completed using an HQ or NQ drilling bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured lithological/mineralogical intervals.  All samples were fully pulverised at the lab to -75 µm, to produce a 50 g charge for Fire Assay with either AAS finish or ICPOES finish.
Drilling techniques  Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Available data indicates historical diamond drill hole diameters range in size from PQ to NQ. This drilling was completed by Wallis Drilling, DrillCorp and Sanderson Drilling. Historical RC drill holes were completed by Wallis Drilling using a face sampling bit with a diameter of 5½" or 3½".  Holes drilled under GOR operations were completed by Terra Drilling, Wallis Drilling and DDH1 (DD – NQ core) and RC completed by Wallis and Raglan drilling using a 5½" and 5½" face sampling bit.



Criteria and JORC Code explanation	Commentary
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed.	RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Where data is available recovery of the samples was good, generally estimated to be close to 100%, except for some sample loss at the top of the hole in the Quaternary cover.  All diamond core collected is dry. Drill operators measure core recoveries for every drill run completed using a 3 m core barrel. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery can be calculated as a percentage recovery. Almost 100% recoveries were achieved for diamond drilling.
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC face-sample bits and dust suppression were used to minimise sample loss. Drilling pressure airlifted the water column above the bottom of the hole to ensure dry sampling. RC samples are collected through a cyclone and riffle splitter (historical) or static cone splitter after 2010. The rejects are deposited in a large plastic bag and retained for potential future use. The sample required for assay is collected directly into a calico sample bag at a designed 3 to 4 kg sample mass which is optimal for full sample crushing and pulverisation at the assay laboratory.  Diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.  Protocols for drilling undertaken prior to 2010 are not readily available.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	RC samples were generally dry with the exception of a few samples (<5%) that are reported as slightly damp to end of hole. Apart from for the top of the holes while drilling through the cover, there is no evidence of excessive loss of material, and at this stage no information is available regarding possible bias due to sample loss.  There is no significant loss of material reported in any of the Diamond core.
Logging  Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource Estimation, mining studies and metallurgical studies.	Logging of diamond hole core records lithology, mineralogy, mineralisation, alteration, structure, weathering, colour and other features of the samples. All core is photographed in the cores trays, with individual photographs taken of each tray both dry and wet.  Logging of RC chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wetsieved and stored in a chip tray.  Logging codes have been developed over time and the historical codes translated to a scheme similar to the current Gold Road logging scheme in 2007. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Some holes are logged using hand held NITON XRF to assist in lithogeochemical analysis. From 2016 most fire assay results routinely include pXRF collected at the lab and used to validate logging.
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wetsieved and stored in a chip tray.  Logging of drill core captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural information from oriented drill core. All samples are stored in core trays. All core is photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the Gold Road server database.
The total length and percentage of the relevant intersections logged  Sub-sampling techniques and sample preparation	All holes were logged in full.
If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half and half core samples were collected for assay, with the remaining half core samples stored in the core trays. One diamond drill hole was sampled as sliver. This hole was drilled for metallurgical test work results of which are pending.



, tube sampled, rotary split, etc and	Under Cold Bood		
	cone splitter, and calico bag, and por Four-metre comp 1 m samples colle into separate nur holes utilised 4 is samples returned 1 m samples by consampling procedu. Samples were pre prior to 2010 it is a for the time.	an average 2-3 kg sistioned on top of osite samples are cted in large plast inbered calico bag in composite sam anomalous gold offecting the samp ares used prior to epared and analys	generated by spear sampling of the four ic bag from the drilling rig and deposited is for sample despatch. A number of RC inples for waste intervals. If composite values, the intervals were resampled as alle produced from the riffle splitter.  2010 are not readily available.  It is a variety of laboratories. For data edures undertaken are industry standard
	passing 75 μm, ar was used for the this type of sampl	d a sub-sample o ire assay analysis e.	f approx. 200 g retained. A nominal 50 g . The procedure is industry standard for
	QAQC and assay indicate there an historical assay da drilling complete compiled for the	quality in 2002 ( re no significant ata. Concerns rega d in 2011, 2012 2016 drilling (Sau	res are not readily available. Reviews of Golder Associates) and 2012 (Maxwell) issues with regards to quality of the arding historical drilling are mitigated by and 2016. A QAQC report has been ster Geological Services) – no significant
ncluding for instance results for field ing.	Gold Road protoc 1 in 40 samples fo RC duplicate sam splitter. No diamond dup sampling are not	ols state duplicate or all drill holes. oples are collecte dicates were coll readily available.	
appropriate to the grain size of the	mineralisation giv	en the particle s	ppropriate to give an indication of ize and preference to keep the sample ite grind size in a LM5 sample mill.
ppropriateness of the assaying and	Samples were ana include:	llysed at a variety	of laboratories using methodologies that
Analysis Type		Total	
Fire Assay, flame AAS finish	า.	10496	
Fire Assay. Finish by ICP-M	S	71	
Fire Assay. Finish by ICP-OF	ES	3637	
Fire Assay, unspecified AAS fir	nish.	6537	
Aqua Regia Digest, unspecified AA	AS finish.	2215	
Fire Assay with unknown fini	ish.	135	
Fire Assay, graphite furnace AAS finish.		185	
	SGS – Kalgoo Amdel – Pert Genalysis – P It is assumed labo NITON handheld of the hand-held for indicative anal	rlie, Perth and Lec h erth ratory procedure KRF was used on a XRF tools is applie ysis of lithogeoch	
	Fire Assay, flame AAS finish  Fire Assay. Finish by ICP-OF  Fire Assay, unspecified AAS fin  Aqua Regia Digest, unspecified AAF  Fire Assay with unknown finith fire Assay, graphite furnace AAS  Fire Assay, graphite furnace AAS  Fire Assay, graphite furnace AAS	Four-metre comp 1 m samples colle into separate num holes utilised 4 m samples returned 1 m samples by colle into separate num holes utilised 4 m samples returned 1 m samples by colle Samples were pre prior to 2010 it is a for the time. Post-2010 sample passing 75 µm, an was used for the filt is type of samples.  Details of historic QAQC and assay indicate there ar historical assay da drilling complete compiled for the issues were identi Gold Road protoc 1 in 40 samples fo RC duplicate sam splitter. No diamond dup sampling are not 1 appropriate to the grain size of the and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests proprioteness of the assaying and and and whether the technique is subcratory tests subcratories used subcrato	1 m samples collected in large plast into separate numbered calico bag holes utilised 4 m composite san samples returned anomalous gold 1 m samples by collecting the samp Sampling procedures used prior to 2010 it is assumed the procedure.  Post-2010 samples were dried, an passing 75 µm, and a sub-sample of was used for the fire assay analysis this type of sample.  Details of historical QAQC procedu QAQC and assay quality in 2002 ( indicate there are no significant historical assay data. Concerns regardifling completed in 2011, 2012 compiled for the 2016 drilling (Sau issues were identified.  An at the sampling is representative of the including for instance results for field in 40 minutes are collected splitter.  No diamond duplicates were coll sampling are not readily available.  Sample sizes are considered a mineralisation given the particle sweight below 3 kg to ensure requise the assaying and and and whether the technique is  Price Assay, Finish by ICP-MS  Fire Assay, Inish by ICP-MS  Fire Assay, unspecified AAS finish.  Aqua Regia Digest, unspecified AAS finish.  Samples were analysed at a variety include:  Sample sizes are considered and mineralisation given the particle sweight below 3 kg to ensure requise the assaying and and and whether the technique is  Samples were analysed at a variety include:  Samples were analysed at a variety include:  Samples were analysed at a variety include:  Laboratories used include:  SGS – Kalgoorlie, Perth and Lec and Mederal Perth  Genalysis – Perth  it is assumed laboratory procedure  NITON handheld XRF was used on a of the hand-held XRF tools is applied to the particle of the hand-held XRF tools is applied to the hand-held XRF tools



Criteria and JORC Code explanation	Commentary	
Nature of quality control procedures adopted (eg standards, blanks,	•	andards (Certified Reference Materials
duplicates, external laboratory checks) and whether acceptable		tandards and 3 Blanks per 100 samples
levels of accuracy (ie lack of bias) and precision have been established.		ted at a rate of approximately 1 in 40. A
	- ' '	Lab Standards, Checks and Blanks ar
	analysed	
		trend the relevant assays and QAQ
	numbers are as follows:	
	Assay and QAQC Type	Number
	Total Sample Submission	24,225
	Field Blanks	628
	Field Standards	657
	Field Duplicates	567
	Laboratory Blanks	272
	Laboratory Checks	703
	Laboratory Standards	593
	<u> </u>	reviewed by Maxwell (2012) and Golde
	1	atisfactory and fit for use in Resource
	Estimation.	atisfactory and he for use in Resource
		Gold Road has allowed a comparativ
	_ :	rtaken which has highlighted the highl
	variable short scale continuity note	
Verification of sampling and assaying	,	
The verification of significant intersections by either independent or	Significant results are checked by	the Principal Resource Geologist an
alternative company personnel.	- :	ecks are completed by the Databas
ancernative company personnen	Manager.	constant completed 2, the Databas
The use of twinned holes.		drilled within 10 m and are suitable fo
The doc of thimsed notes.	, ,	sation location is consistent across th
		r between the twinned holes is variable
	highlighting the high variability in s	
Documentation of primary data, data entry procedures, data		Datashed/SQL database system, an
verification, data storage (physical and electronic) protocols.	maintained by the Gold Road Datal	·
Discuss any adjustment to assay data.	<u> </u>	ab's primary Au field is the one used fo
2.00000 any adjustment to assay auta.	plotting and resource purposes. No	
Location of data points	processing and a second party of the second pa	
Accuracy and quality of surveys used to locate drill holes (collar and	The drill hole locations were initia	lly picked up by handheld GPS, with a
down-hole surveys), trenches, mine workings and other locations		asting. Nineteen holes were later picke
used in Mineral Resource Estimation.	using DGPS to a level of accuracy of	= :
	_	nast is set up using a clinometer, and rig
	aligned by surveyed positions and/	
		shot camera to take dip and azimut
	=	rods, at 50 m intervals, prior to Augus
	_	st 2014. Downhole directional surveying
		ol was completed on site and live (dow
		ring had been removed from the hole
	<u> </u>	veyed live whereas most RC holes wer
	surveyed upon exiting the hole.	
Specification of the grid system used.	A local grid is used at Alaric (Attila Grid).	
Quality and adequacy of topographic control.	<u> </u>	erated using LIDAR data collected i
	December 2015.	
Data spacing and distribution		
Data spacing and distribution  Data spacing for reporting of Exploration Results.	Drill spacing at surface is approxim	nately 20 mE by 20 mN, and this spacin
Data spacing for reporting of Exploration Acousts.	extends to 40 mE by 100 mN at the	
Whather the data enging and distribution is sufficient to establish	· · · · · · · · · · · · · · · · · · ·	
Whether the data spacing and distribution is sufficient to establish	· - · ·	is sufficient for the geological and grad
the degree of geological and grade continuity appropriate for the		riate for Resource Estimation procedure
Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	and to report Indicated, and Inferre	eu nesources.
	130 PC holes and affected 200 PC	halos amplayad assessed to a second
Whether sample compositing has been applied.		holes employed compositing over wast
	intervals.	



Criteria and JORC Code explanation	Commentary
Orientation of data in relation to geological structure	
Whether the orientation of sampling achieves unbiased sampling of	The orientation of the drill lines (250 degrees azimuth) is approximately
possible structures and the extent to which this is known,	perpendicular to the regional strike of the targeted mineralisation.
considering the deposit type.	
If the relationship between the drilling orientation and the	Drilling angled at -60 to the west does not introduce any directional bias
orientation of key mineralised structures is considered to have	given that structural orientations indicate a steep easterly dip and are
introduced a sampling bias, this should be assessed and reported if	normal to the current understanding of the mineralisation.
material.	
Sample security	
The measures taken to ensure sample security.	Pre-numbered calico bags are collected in plastic bags and transported to
	the laboratory. Details regarding sample security of drilling prior to 2010 are
	not readily available.
Audits or reviews	
The results of any audits or reviews of sampling techniques and	Sampling and assaying techniques are industry-standard. No specific audits
data.	or reviews have been undertaken.

# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to

Criteria listed in the preceding section also apply to this	
Criteria and JORC Code explanation	Commentary
Mineral tenement and land tenure status  Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The RC and diamond exploration drilling was managed by Gold Road, which since November 2016 has formed part of the 50:50 Gruyere JV with Gold Fields. The tenement is located on the Yamarna Pastoral Lease, which is owned and managed by Gold Road.  Tenement M38/814 is located on tenements granted in respect of land in which non-exclusive native title has been determined to exist and to be held by a group of native title holders which includes the persons on whose behalf the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011) native title claims were brought. The determination was made by the Federal Court on 27 September 2017. The native title holders are required to nominate a body corporate to act as trustee of, or as their agent in future dealings relating to, their native title. Exploration activities in the specified "Gruyere and Central Bore Project Areas" within the Pastoral Lease are conducted in accordance with the 2016 "Gruyere and Central Bore Native Title Agreement" between Gold Road, the Yilka native title claim group and Cosmo Newberry Aboriginal Corporation. Exploration activities within the balance of the Pastoral Lease are conducted in accordance with the 2004 "Yamarna Pastoral Lease Heritage Protection Agreement" between Gold Road and Harvey Murray (the applicant in relation to the Yilka native title claim).
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area	The tenement is in good standing with the WA DMP.
Exploration done by other parties  Acknowledgment and appraisal of exploration by other parties.	Exploration has been completed by numerous other parties:  1990-1994 Metall Mining Australia 1994-1997 Zanex NL 1997-2006 Asarco Exploration Company Inc 2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010) 2010-November 2016 Gold Road November 2016 – Present Gold Road and Gold Fields (Gruyere JV) Gold Road understands that previous exploration has been completed to industry standard.



Criteria and JORC Code explanation	Commentary
Geology Deposit type, geological setting and style of mineralisation.	Gold mineralisation at Alaric is hosted in a sequence of mafic and felsic volcanic intrusives and sediments on the western margin of the Yamarna Greenstone Belt. The sequence is metamorphosed to upper-greenschist to lower-amphibolite facies and is strongly foliated, with the sequence striking northwest and dipping steeply to the east. A felsic volcanoclastic (Gotham Tuff) marker is noted to the east of the sequence, while a chrome-rich dolerite is noted to the west of the sequence, and is considered an important reducing unit proximal to the main mineralised shear. Gold mineralisation is defined by shear zones characterised by laminated quartz-mica-amphibole schist units. High grade mineralisation occurs as 3-5+metre, gently north plunging, or horizontal, shoots. Mineralisation is laterally continuous. Mineralisation has both a lithological and structural control, being contained within the mafic, iron rich units of the sequence with the morphology of high grade zones appearing to be structurally controlled  The deposit forms part of the anomalous structural corridor termed the Attila—Alaric Trend that has been defined over 17km in strike.
Drill hole Information  A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  easting and northing of the drill hole collar  elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  dip and azimuth of the hole  down hole length and interception depth	A total of 15 RC and 4 diamond holes have been completed within the deposit area since the 2015 Resource Estimate, refer ASX announcement dated 16 September 2015. Details of this drilling are included in the ASX announcement dated 17 October 2016 and 27 June 2017.
hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	No new exploration results are reported. Intersections quoted may not match those previously reported as they are selected for Resource Estimation purposes.
Data aggregation methods Relationship between mineralisation widths and intercept lengths Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.  The assumptions used for any reporting of metal equivalent values	No weighting or averaging of grades was undertaken. Grades are reported as down-hole length-weighted average grades across the full width of mineralised domains. The drill angle generates an approximation of the true-width intersection.  No metal equivalent values are used.
should be clearly stated.  These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Mineralisation is hosted within a steep east dipping, NNW striking package of mafic to felsic intrusive and sedimentary rocks. Mineralisation is hosted in shear zones parallel to stratigraphy.  The general drill direction of 60° to 250 is approximately perpendicular to the lithological package and is a suitable drilling direction to avoid directional biases.
Diagrams  Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures and Tables in the body of text.



Criteria and JORC Code explanation	Commentary
Balanced reporting  Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results used in this resource have been published in previous releases; please refer to Appendix 2 for a summary of previous releases.
Other substantive exploration data Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Local IP and regional Aeromagnetic and gravity data cover the project area and assist in the geological interpretation; including the strike orientation of the stratigraphy, location of cross-cutting faults and dykes, and general regional geology.  Handheld XRF data exists for some drill holes, pXRF conducted at the lab exists for most drill holes post 2016, and assists in lithogeochemical analysis. Initial metallurgical testwork indicates no deleterious elements are present and mineralisation is amenable to conventional cyanidation.
Further work  The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Mineralisation is not closed off along strike. Mining optimisation and feasibility studies may drive further drilling requirements.

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

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for	Geological metadata is stored centrally in a relational SQL database with a
example, transcription or keying errors, between its initial	DataShed front end. Gold Road employs a Database Manager who is
collection and its use for Mineral Resource Estimation purposes.	responsible for the integrity and efficient use of the system. Only the
	Database Manager or the Data Entry Clerk has permission to modify the
	data.
	Sampling and geological logging data is collected in the field using LogChief software and uploaded digitally. The software utilises lookup tables, fixed
	formatting and validation routines to ensure data integrity prior to upload
	to the central database.
	Sampling data is sent to, and received from, the assay laboratory digitally.
	Drillhole collars are picked up by differential GPS and delivered to the
	database digitally.
	Down hole surveys are delivered to the database digitally.
	The Mineral Resource estimate only uses a selection of RC and DDH assay
	data available; historical data is used and measures of integrity applied by
	previous companies are not readily available
Data validation procedures used.	DataShed software has validation procedures that include constraints,
	library tables, triggers and stored procedures. Data that does not pass
	validation must be corrected first.
	The LogChief software utilises lookup tables, fixed formatting and validation
	routines to ensure data integrity prior to upload to the central database.
	Geological logging data is checked visually in three dimensions against the
	existing data and geological interpretation.
	Assay data must pass company QAQC hurdles. Gold Road utilises QAQCR
	software to further analyse QAQC data, and batches which do not meet
	criteria are requested to be re-assayed. Sample grades are checked visually
	in three dimensions against the logged geology and geological
	interpretation.
	Drill hole collar pickups are checked against planned and/or actual collar
	locations.
	A hierarchical system is used to identify the most reliable down hole survey
	data. Drillhole traces are checked visually in three dimensions.
	Data validation procedures of previous companies are not readily available.



Criteria and JORC Code explanation	Commentary
Site visits	
Comment on any site visits undertaken by the Competent Person	Justin Osborne is Gold Road's Executive Director- Exploration and Growth
and the outcome of those visits.	and a Competent Person. He conducts regular site visits and covers all
If no site visits have been undertaken indicate why this is the case	aspects of the Project. John Donaldson is Gold Road's General Manager
ij no site visits nave been andertaken malcate why this is the case	1 .
	Geology and a Competent Person. He has completed specific site visits to
	focus on understanding the geology of the Attila–Alaric Trend. Jane Levett
	is Gold Road's Senior Resource Geologist and a Competent Person and has
	completed three specific site visits to focus on understanding the geology of
	the Attila–Alaric Trend from field observations, historic diamond core and
	RC chips.
Geological interpretation	
Confidence in (or conversely, the uncertainty of) the geological	Diamond drilling allows a robust geological interpretation to be developed.
interpretation of the mineral deposit.	Airborne magnetic data gives weight to the broad interpretation and breaks
	in the continuity of stratigraphy (fault offsets) provide an explanation for
	strike extents of mineralisation.
	Type and thickness of host lithology, and mineralisation, is predictable along
	strike and down dip.
	As the deposit has good grade and geological continuity the Competent
	Persons regard the confidence in the geological interpretation as high.
Nature of the data used and of any assumptions made.	All available data has been used to help build the geological interpretation.
	This is includes geological logging data (lithology and structure), portable
	XRF multi-element data, gold assay data, and airborne magnetics.
The effect, if any, of alternative interpretations on Mineral Resource	Modelling of the mineralisation was conducted with reference to the
Estimation.	previous resource update, when comparison is made between the current
	interpretation and one completed in 2015, the differences are a result of
	refining the geological interpretation with further information.
The use of geology in guiding and controlling Mineral Resource	Regionally the deposit is hosted on the western margin of the Yamarna
Estimation.	greenstone belt. The Alaric Deposit is located proximal to the North West
	striking Yamarna Shear Zone, a ~1.5 km wide zone of mylonitic mafic and
	felsic volcanics and sediments.
	The Main Shear, hosting the bulk of the mineralisation is constrained within
	a chrome rich doleritic portion of the mafic-felsic sequence of
	volcanoclastics and intrusives of the Archaean package, below the base of
	cover. There does not appear to be any mineralisation associated with
	supergene processes and the mineralised domains are constrained to below
	the saprolite-saprock boundary.
	Mineralisation within the sheared package has been modelled at a 0.2 g/t
	cut-off, including up to 2 m of internal waste. Internal higher grade zones
	apply a 0.5 g/t cut-off. The values of 0.2 and 0.5 g/t were recognised as
	inflection points in the drilling data corresponding to the non-mineralised,
	mineralised, and higher grade populations. Internal higher grade zones
	correspond to higher intensity alteration, presence of sulphides and a
	greater density of quartz veining. The lower grade sheared package is
	similarly altered and veined, but not to the same intensity.
	Several cross-cutting faults have been interpreted from the magnetics and
	distribution of interpreted lithologies. These faults appear to bound
	different zones of mineralisation and have been used as a control in
	domaining mineralisation.
	The trend of the main mineralisation is interpreted to be steeply dipping to
	the east at 65-75°.
	The mineralisation trend can be readily observed in areas of closely spaced
	drilling and easily interpreted in wider spaced areas.
	Spatial analysis of assay data using variography supports and helps to refine
The factors offertion and in the health of and and and and	the mineralisation orientations during the interpretive process.
The factors affecting continuity both of grade and geology.	Cross-cutting features interpreted as faults from the aeromagnetic imagery
	and IP surverys (2011 and 2017) appear to bound different zones of
	mineralisation.



Criteria and JORC Code explanation	Commentary
Dimensions  The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Length along strike: 2,100 m (pit shell constraint, three individual shells) Horizontal Width: 50 m (comprising a series of 5-10 m wide mineralised surfaces). Depth from surface to limit of Mineral Resource: 100 m. The Mineral Resource has been constrained by an optimised Whittle shell that considers all mineralisation in the geological model. The optimisation utilises mining, geotechnical and processing parameters from Gruyere Feasibility Study and an A\$1,850 per ounce gold price. Only Measured, Indicated and Inferred categories within this shell are reported as Mineral Resource. Mineralisation in the geology model outside the shell is not reported.
Estimation and modelling techniques.	
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Software used:  Leapfrog Geo – Drillhole validation, lithology, material type, mineralisation and fault wireframes  Datamine Studio RM – Drillhole validation, cross-section, plan and long-section plotting, block modelling, estimation, block model validation, classification, reporting.  Snowden Supervisor – Statistics, variography, kriging neighbourhood analysis, block model validation  Block model and estimation parameters:  Treatment of extreme grade values (top cuts): 5 to 25 g/t Au top-cut applied to 1 m composites selected within mineralisation wireframes. Top cuts were determined by domain through analysis of histograms, log histograms, log probability plots and spatial analysis.  Estimation technique: Ordinary Kriging. KNA was undertaken to optimise the search neighbourhood used for the estimation and test the parent block size. The search ellipse and selected samples by block were viewed in three dimensions to verify the parameters.  A local grid is used with a rotation 20 degrees west of true north from MGA. Parent block size - 5 m X by 25 m Y by 5 m Z (parent cell estimation with full subset of points).  Smallest subcell – 1 m X by 5 m Y by 1 m Z (small X dimension is required to fill mineralisation wireframes and a small Z dimension is required to fill to material type boundaries).  Discretisation - 3 X by 5 Y by 2 Z (using number of points method).  Search ellipse – aligned to mineralisation trend, dimensions range from 55-150 m X by 90-200 m Y by 20-600 m Z depending on mineralisation domain.  Number of samples – maximum per drillhole = 5, first search 12 min / 40 max, second search 10 min / 60 max, volume factor 2, third search 5 min / 60 max, volume factor 4.  Domain boundary conditions – A hard boundary is applied to all domains.
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The Alaric Deposit has previously been estimated and reported using Ordinary Kriging methodologies in 2008, 2012 and 2015. Prior to 2008, estimates utilised a Multiple Indicator Kriging approach. An ID estimation was completed with this update as a check. Results were within acceptable limits.
The assumptions made regarding recovery of by-products.	No economic by-products.
Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	Initial metallurgical test work indicates no deleterious elements.
In the case of block model interpolation, the block size in relation to	The parent block size of 5 m X by 25 m Y by 5 m Z is approximately one
the average sample spacing and the search employed.  Any assumptions behind modelling of selective mining units.	quarter of the average drill spacing of 20 m X by 20 m Y in Indicated areas.  The Selective Mining Unit chosen is a function of the Whittle optimisation
Any accumptions about correlation between veriables	and parent block size of 5 m X by 12.5 m Y by 5 m Z.
Any assumptions about correlation between variables.	No correlation between variables analysed or made; the resource is gold-only.



Criteria and JORC Code explanation	Commentary
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control the estimation. If geostatistics, variography and/or visual checks of the model
	were difficult to understand then the geological interpretation was questioned and refined.
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when using Ordinary Kriging.
The process of validation, the checking process used, the comparison of model data to drill hole data, and use of	Validation checks performed:  QQ plot of RC vs diamond input grades.
reconciliation data if available.	Volume of wireframe vs volume of block model
	Sum of gram metres prior to compositing vs sum of gram metres post compositing
	Negative gold grade check
	Model average grade vs declustered top-cut sample grade by Domain.
	Swath plots by Northing and elevation by Domain.
	Swatti plots by Northing and elevation by Bolham.
	<ul> <li>Visual check of drill data vs model data in plan, section and three dimensions.</li> </ul>
	All validation checks gave acceptable results.
	No mining, therefore no reconciliation data available.
Moisture  Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Bulk density values used are a combination of local and regional data. Average bulk density values are modified by a moisture percentage so that dry tonnages are reported. Percentage reductions were: overburden and saprolite 5%, saprock 3%, transition 2% and fresh 1 %.
<b>Cut-off parameters</b> The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade used for reporting is 0.50 g/t. This has been determined from the latest regional mining, geotechnical and processing parameters developed from the Attila-Alaric Pre-Feasibility Study (this report). Processing costs include haulage to the proposed mill.
Mining factors or assumptions  Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The mining method assumed is a conventional open pit with a contract mining fleet appropriately scaled to the size of the deposit.  De facto minimum mining width is a function of optimisation parent cell size (5 m X by 12.5 m Y by 5 m Z).  No allowance for dilution or recovery has been made However a minimum width of 2 m is used in construction of the mineralisation wireframes
Metallurgical factors or assumptions  The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery assumptions used in the optimisation are informed by numerous testwork programmes completed between 1995 and 2017 on samples from the Attila/Alaric Trend. The recoveries applied in the optimisation range from 85% to 92%, depending on ore type, and are supported by this testwork.
Environmental factors or assumptions Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Surface waste dumps will be used to store waste material from open pit mining.  A conventional tailings storage facility as defined in the Attila-Alaric Pre-Feasibility Study will be utilised for tailings disposal.  No test work has been completed regarding potential acid mine drainage material types, however, if identified in future studies appropriate measures will be used to manage any issues.



Cuitavia and IODC Cada avalanation	Commonton
Criteria and JORC Code explanation	Commentary
Bulk density  Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  The bulk density for bulk material must have been measured by	Bulk density has been determined using data available from the Attila-Alaric Trend drilling, and other more detailed bulk density data in the region. Historical data from Attila was collected using the weight in air / weight Density values were modified for fresh mineralised domains, this modification was informed by bulk density values from metallurgical holes drilled down dip in mineralisation and reflects the increased percentage of quartz material in mineralised zones compared to the mafic host rock.  Bulk density is applied by weathering (material) type.
methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Data was coded by weathering type (material) and domain (mineralisation).  Assumptions for moisture percentages were made and accounted for in the final value used for bulk density.
Classification  The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource is constrained within a Whittle shell. Blocks in the geological model above that shell have been classified as Indicated or Inferred. No measured has been classified due to inadequate drill spacing to resolve high short range variability. Several factors have been used in combination to aid the classification;  Drill hole spacing
	<ul> <li>Indicated - 20 mE by 20 mN</li> <li>Inferred – 50 mE by 100 mN. Depth of drilling and 50 m along strike from extent of drilling. Extrapolation 40 m down dip from last drill hole intercept.</li> <li>Geological continuity</li> </ul>
	<ul> <li>Grade continuity.</li> <li>Estimation quality parameters derived from the Ordinary Kriging process.</li> </ul>
Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant factors have been taken into account in the classification of the Mineral Resource.
Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Persons' view of the deposit.
Audits or reviews  The results of any audits or reviews of Mineral Resource estimates.	Internal geological peer reviews were held and documented. Reviews were completed with appropriate Gold Fields staff as part of the JV requirements and considered geology, estimation and inputs to optimisation.
Discussion of relative accuracy/ confidence  Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	Variances to the tonnage, grade and metal of the Mineral Resource estimate are expected with further definition drilling. It is the opinion of the Competent Persons that these variances will not significantly affect economic extraction of the deposit.
The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The Mineral Resource relates to global tonnage and grade estimates.
These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining.



Section 4 Estimation and Reporting of Ore Reserves (Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria including JORC Code (2012) explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves  Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.  Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resource estimate for the Alaric deposit which formed the basis of this Ore Reserve estimate was compiled by the Gold Road Competent Person(s) utilising relevant data. This Mineral Resource is described in detail in sections 1 to 3 of this Table.  The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	
Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has completed several site visits during 2017 to undertake the following activities:
If no site visits have been undertaken indicate why this is the case.	<ul> <li>Site familiarisation and assessment of proposed locations for mining related infrastructure relative to proposed open pit locations.</li> </ul>
	<ul> <li>Inspection of site access, waste dump and ROM locations and site drainage.</li> </ul>
	<ul> <li>Inspection of surface haulage routes to the Gruyere Mill</li> </ul>
	<ul> <li>Inspected selected diamond drill core to gain an understanding of weathering profiles</li> </ul>
Study status	
The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.  The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The Alaric maiden Ore Reserve estimate is the result of a Pre-Feasibility Study (PFS) completed by Gold Road Resources and external consultants. The project is considered technically achievable and all aspects of operational phases involve the application of conventional technology and mining methods widely utilised in the Western Australian goldfields. Financial modelling shows the project to be economically viable under current assumptions and quoted rates.  Material modifying factors such as mining, processing, metallurgical, environmental, legal, social and commercial have been considered during the maiden Ore Reserve estimation process.
Cut-off parameters	
The basis of the cut-off grade(s) or quality parameters applied.	Variable economic cut-off grades have been applied in estimating the Ore Reserve. Cut-off grade is calculated in consideration of the following parameters:
	Gold price
	<ul> <li>Operating costs</li> </ul>
	<ul><li>Process recovery</li></ul>
	<ul> <li>Transport and refining costs</li> </ul>
	General and administrative cost
	Royalty costs.



#### Mining factors or assumptions

The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).

The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.

The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).

The mining dilution factors used.

The mining recovery factors used.

Any minimum mining widths used.

The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.

#### Commentary

Alaric will be mined by open pit mining methods utilising conventional mining equipment. A final pit design was completed as part of the PFS. The final pit design is the basis of the Ore Reserve estimate.

The selected mining method, design and extraction sequence are tailored to suit orebody characteristics, minimise dilution and ore loss, utilise proposed process plant capacity and expedite free cash generation in a safe and environmentally sustainable manner.

Mining operating and capital costs were estimated as part of the PFS and referenced against contractor budget quotes.

Geotechnical modelling has been completed by an external consultant on the basis of field logging and testing of selected diamond drill core samples. The recommended geotechnical design parameters assume dry slopes on the basis of adequate dewatering ahead of mining. Four geotechnical domains were identified:

#### Domain North-North East:

- Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m
- Transitional Material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m
- Fresh material: batter heights of 20 m, batter angles of 70° and berm widths of 6 m.

#### Domain East South East and South East:

- Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m
- Transitional Material: batter heights of 20 m, batter angles of 55° and berm widths of 6 m
- Fresh material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m.

#### Domain South West:

- Weathered material: batter heights of 10 m, batter angles of 55° and berm widths of 5 m
- Transitional Material: batter heights of 20 m, batter angles of 65° and berm widths of 6 m
- Fresh material: batter heights of 20 m, batter angles of 70° and berm widths of 6 m.

#### Domain North West:

- Weathered material: batter heights of 10 m, batter angles of 50° and berm widths of 5 m
- Transitional Material: batter heights of 20 m, batter angles of 65° and berm widths of 6m
- Fresh material: batter heights of 20m, batter angles of 70° and berm widths of 6 m.

The resource model was imported from the original Datamine<sup>TM</sup> format and re-blocked in MineSight<sup>TM</sup> to produce the mining block model for optimisation and scheduling. The re-blocking process preserved the tonnes and gold content in the ore parcels with grade averaging within the final 5 m x 25 m x 5 m mining block size.

Edge dilution of 0.5 m was applied as a post process resulting in overall dilution of 20% and ore loss of 6%.

A minimum mining width of 5.0 m was applied consistent with ore block dimension.

Any Inferred Mineral Resources contained within the pit design has been considered as waste.

The proposed mine plan includes waste rock dumps, a ROM pad, mine access road, light and heavy vehicle workshop facilities, technical services and contractor administration facilities.



#### Metallurgical factors or assumptions

The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.

Whether the metallurgical process is well-tested technology or novel in nature.

The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.

Any assumptions or allowances made for deleterious elements.

The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.

For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?

#### Commentary

Ore from Alaric will be processed at the Gruyere Mill (under construction). The Gruyere process flowsheet consists of a single stage primary crush, SABC comminution circuit followed by a conventional gravity and CIL process is proposed. This process is considered appropriate for the Alaric ore.

The proposed metallurgical process is commonly used in the Australian and international gold mining industry and is considered to be well-tested and proven technology.

In 2017, significant comminution, extraction, and materials handling testing was carried out on 8 diamond drill core composite samples. The test-work was completed on ore samples which were obtained across the Alaric deposit from depths ranging between 33m and 167m. Estimated plant gold recovery ranges from 78% to 98% at 125 $\mu$ m P80 grind size depending on head grade and ore type. A variable metallurgical recovery was applied accordingly in the Alaric PFS.

The head assay of the samples from the Alaric deposit shows low concentrations of deleterious elements such as As, Te, Hg, Sb, organic carbon and base metals.

Significant comminution, extraction, and materials handling testing has also been carried out on material selected from the Alaric composite samples to confirm compatibility with the Gruyere mill.

N/A

#### **Environmental**

The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.

Level 2 Flora and Fauna surveys have previously been completed over the Alaric deposit however these will need refreshing ahead of project permitting and development.

Waste rock characterisation work has been completed and all waste types are non-acid forming and have limited metal leachate potential. Waste rock storage locations have been selected based on suitable geographical characteristics and proximity to the pit.

Alaric ore is considered potentially acid forming and will be encapsulated within the Gruyere Tailings Storage Facility (TSF) comprising less than 0.5% total project tailings volume.

#### Infrastructure

The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.

The Alaric project site is within economic distances of existing infrastructure of the Eastern Goldfields region. Services and consumable supplies will be delivered by existing roads from Laverton some 150km to the west.

The workforce will be Fly In-Fly Out (FIFO) and accommodated at the Gruyere camp during rostered days on. An on-site sealed airstrip has been built adjacent to the Gruyere camp.



#### Costs

The derivation of, or assumptions made, regarding projected capital costs in the study.

The methodology used to estimate operating costs.

Allowances made for the content of deleterious elements.

The source of exchange rates used in the study.

Derivation of transportation charges.

The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.

The allowances made for royalties payable, both Government and private.

#### Commentary

All capital estimates are based on contractor budget estimates supplied during 2017.

It is assumed that all mining equipment required for the project will be supplied by a mining contractor.

Mine development costs were developed from a combination of budget estimates supplied by reputable mining contractors. The basis of estimate is:

- Contract mining
- Mobilisation of mining equipment and personnel from Perth
- Earthworks quantities determined from indicative site layout
- A mining schedule developed on a monthly basis

The operating cost estimate accuracy is +/- 25%.

Operating costs assume a FIFO scenario with various rosters on site.

Mining operating costs and surface ore haulage costs have been estimated from a combination of budget estimates from reputable mining contractors on the basis of the contract mining of scheduled material movement and mining rates, with technical services supplied by Goldroad employees. Mine design and schedules were prepared by competent mining engineers.

Process and infrastructure operating costs have been estimated from the Gruyere FS estimates on the assumption that:

A conventional SABC circuit will be utilised to treat ore at a rate of 7.5 Mtpa for fresh ore with the capability to treat up to 8.8 Mtpa of oxide material Comminution grind sizes will be in the range of 106  $\mu m$  to 150  $\mu m$  for all material types

Power will be generated on site utilising gas delivered by pipeline The process plant will be operated by Gold Road employees.

The operating cost estimate is considered to be appropriate for the current market in the eastern goldfields of WA.

No allowance is made for deleterious elements since test-work to date on ore from Alaric has not shown the presence of deleterious elements.

All costs are estimated in 2017 Australian dollars.

Transport charges - Gold bullion transportation charges are derived from the Gruyere FS on the basis of a quote provided by a leading industry bullion shipment organisation.

Treatment and refining charges are estimated from the Gruyere FS on the basis of a quote from a leading Perth Gold Refinery.

An allowance has been made for all royalties, including an allowance of 2.5% of revenue for royalties payable to the Western Australian State Government and an allowance for other royalties payable to private parties (these royalties being commercially sensitive and covered by confidentiality).

#### Revenue factors

The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.

The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.

The mined ore head grades are estimated utilising industry accepted geostatistical techniques with the application of relevant mining modifying factors.

Gold price and exchange rates have been determined from corporate guidance.

A Life-of-mine (LOM) gold price forecast of A\$1,600/oz (Real 2017) is applied in the financial modelling for the Ore Reserve calculation process. This price forecast was established by Gold Road on the basis of historical gold price trends over the last 5 years.



Criteria including JORC Code (2012) explanation	Commentary
Market assessment	
The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.  A customer and competitor analysis along with the identification of likely market windows for the product.  Price and volume forecasts and the basis for these forecasts.  For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	There is a transparent market for the sale of gold.
Economic  The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Discounted cash flow modelling and sensitivity analysis has been completed to evaluate the economic performance of the Ore Reserve. Key value driver inputs into the financial model included:  Gold price at A\$1,600/oz based on Goldroad corporate guidance  Discount rate of 5% based on Goldroad corporate guidance  The Ore Reserve returns a positive NPV under the assumptions detailed herein.  The Ore Reserve returns a positive NPV based on the assumed commodity price and the Competent Person is satisfied that the project economics that make up the Ore Reserve retains a suitable profit margin against reasonable future commodity price movements.
Social	
The status of agreements with key stakeholders and matters leading to social licence to operate.  Other	A Native Title Mining Agreement has been signed for the Project
To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:  Any identified material naturally occurring risks.  The status of material legal agreements and marketing arrangements.  The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	No material naturally occurring risks have been identified.  No significant species have been identified that would be significantly impacted by the Project in a manner that could not be adequately managed. There are reasonable prospects to anticipate that contract terms as assumed in the Ore Reserves estimate could be achieved.
Classification  The basis for the classification of the Ore Reserves into varying confidence categories.  Whether the result appropriately reflects the Competent Person's view of the deposit.  The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	The main basis of classification of Ore Reserves is the underlying Mineral Resource classification. There are no Proved Ore Reserves declared at Alaric. All Probable Ore Reserves are derive from Indicated Mineral Resources in accordance with JORC Code (2012) guidelines.  The results of the Ore Reserve estimate reflect the Competent Person's view of the deposit.  No Probable Ore Reserves are derived from Measured Mineral Resources. No inferred Mineral Resource is included in the Ore Reserves.  11% of the Ore Reserve is in the Proved category with the balance being

Probable.



Criteria including JORC Code (2012) explanation	Commentary
Audits or reviews	
The results of any audits or reviews of Ore Reserve estimates.	<ul> <li>The PFS which forms the basis of the Ore Reserve estimate was subjected to various peer reviews:</li> <li>Metallurgical test-work was reviewed by Gold Road and peer reviewed by JV technical experts and confirmed to be adequate for a PFS.</li> <li>Geotechnical input was peer reviewed by the JV technical expert and found to be acceptable for a PFS.</li> <li>Open pit designs, production schedules and mining cost model was peer reviewed by the JV technical expert.</li> <li>The financial model applied for project valuation and LOM analysis was reviewed by Gold Road and JV technical expert and was considered to be appropriate for a PFS.</li> <li>The overall PFS was reviewed by an independent technical expert and was considered to be appropriate.</li> </ul>
Discussion of relative accuracy/ confidence	
Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production	The Alaric PFS resulted in a technically robust and economically viable business case. This is deemed to be an appropriate basis for a high level of confidence in the Ore Reserves estimate.  In the opinion of the Competent Person, cost assumptions and modifying factors applied in the process of estimating Ore Reserves are reasonable. Gold price and exchange rate assumptions were set out by Gold Road and are subject to market forces and present an area of uncertainty. In the opinion of the Competent Person, there are reasonable prospects to anticipate that all relevant legal, environmental and social approvals to operate will be granted within the project timeframe.

data, where available.



## **ARGOS**

## JORC CODE 2012 EDITION TABLE 1 – SECTIONS 1 TO 3

### **Section 1 Sampling Techniques and Data**

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

(Criteria in this section apply to all succeeding sections.)			
Criteria and JORC Code explanation	Commentary		
Sampling techniques			
Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling. Significant RAB and Aircore drilling covers the project area and is used in developing the lithological and mineralisation interpretation. However, this data is not used in the estimate and is not detailed here. Drilling was completed between 1998 and 2017 and was undertaken by several different companies. 89 RC and 7 Diamond holes were drilled angled at -60 degrees to 250 degrees azimuth (MGAn).  Drill core is logged geologically and marked up for assay at approximately one metre intervals based on geological observation. Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis. Previously, RC chips were logged geologically and four-metre composite spear samples are submitted for assay, with one metre RC split samples are submitted for re-assay if composites return anomalous results. From 2017 onwards, RC chips were logged geological and one metre RC split samples were collected		
Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	and submitted for assay, no composite samples are collected.  Between 2010 and 2017 sampling was carried out under Gold Road's protocols and QAQC procedures as per industry best practice. 50% of the holes drilled on the Attila –Alaric trend were completed by Gold Road.  Prior to 2010, sampling was carried out under the relevant company's protocols and procedures and is assumed to be industry standard practice for the time. Specific details for this historical drilling are not readily available.		
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Details regarding sampling prior to 2010 are not readily available. Sampling under Gold Road's protocols comprises the following:  The RC holes were drilled with a 5¼" or 5¾" inch face-sampling bit, 1 m samples collected through a cyclone and riffle splitter (pre 2010) or static cone splitter (post 2010), to form a 2-3 kg sample. 4 m composite samples were created by spear sampling of the total reject of the 1 m samples collected in large plastic bag from the drilling rig and deposited into separate numbered calico bags for sample despatch. 1 m sample intervals were submitted for analysis when the composite interval returned anomalous results. No composite samples were used in the resource estimate, holes containing composites through mineralised intersections were removed from the estimation.  Diamond drilling was completed using an HQ or NQ drilling bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured lithological/mineralogical intervals.  All samples were fully pulverised at the lab to -75 µm, to produce a 50 g charge for Fire Assay with either AAS finish or ICPOES finish.		
Drilling techniques  Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Available data indicates historical diamond drill hole diameters range in size from HQ to NQ. This drilling was completed by Drill Corp. Historical RC drill holes were completed by Drillex, DT Drilling and Drill Corp using a face sampling bit with a diameter of 5½" or 3½".  Holes drilled under GOR operations were completed by Wallis Drilling and DDH1 (DD – HQ3 & NQ2 core) and RC completed by Wallis Drilling, Raglan Drilling and Ranger Drilling using a 5½" and 5½" face sampling bit.		



Criteria and JORC Code explanation	Commentary
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed.	RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Where data is available recovery of the samples was good, generally estimated to be close to 100%, except for some sample loss at the top of the hole in the Quaternary cover.  All diamond core collected is dry. Drill operators measure core recoveries for every drill run completed using a 3 metre core barrel. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery can be calculated as a percentage recovery. Almost 100% recoveries were achieved for diamond drilling.
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC face-sample bits and dust suppression were used to minimise sample loss. Drilling pressure airlifted the water column above the bottom of the hole to ensure dry sampling. RC samples were previously collected through a cyclone and riffle splitter (pre 2010) static cone splitter (post 2010), and are now collected through a cyclone and static cone splitter. The rejects are deposited in a large plastic bag and retained for potential future use. The sample required for assay is collected directly into a calico sample bag at a designed 3 to 4 kg sample mass which is optimal for full sample crushing and pulverisation at the assay laboratory.  Diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.  Protocols for drilling undertaken prior to 2010 are not readily available.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	RC samples were generally dry with the exception of a few samples (<5%) that are reported as slightly damp to end of hole. Apart from for the top of the holes while drilling through the cover, there is no evidence of excessive loss of material, and at this stage no information is available regarding possible bias due to sample loss.  There is no significant loss of material reported in any of the Diamond core.
Whether logging is qualitative as a quantitative in active Care (as	Logging of <b>DDH</b> core records lithology, mineralogy, mineralisation, alteration, structure, weathering, colour and other features of the samples. All core is photographed in the cores trays, with individual photographs taken of each tray both dry and wet.  Logging of <b>RC</b> chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging codes have been developed over time and the historical codes translated to a scheme similar to the current Gold Road logging scheme in 2007. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Some holes are logged using hand held NITON XRF to assist in lithogeochemical analysis. From 2016 most fire assay results routinely include pXRF collected at the lab and used to validate logging.
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging of drill core captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural information from oriented drill core. All samples are stored in core trays.  All core is photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the Gold Road server database.
The total length and percentage of the relevant intersections logged	All holes were logged in full.
Sub-sampling techniques and sample preparation  If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half and half core samples were collected for assay, with the remaining half core samples stored in the core trays.



Criteria and JORC Code explanation	Commentary		
If non-core, whether riffled, tube sampled, rotary split, etc and whether	Under Gold Road protocols 1 m RO	drill sampl	es are channelled through
sampled wet or dry.	a static cone splitter, and an avera	-	=
,	numbered calico bag, and position		•
	4 m composite samples are gener	-	
	m samples collected in large p		• =
	deposited into separate numbere	_	
	number of RC holes utilised 4 m co		= : :
	If composite samples returned a	nomalous	gold values, the intervals
	were resampled as 1 m samples by	collecting	the sample produced from
	the riffle splitter. From 2017 onv	vards, no c	omposites were collected
	from RC drill holes, only 1 metre of	one split ch	ip samples.
	Sampling procedures used prior to	2010 are	not readily available.
For all sample types, the nature, quality and appropriateness of the	Samples were prepared and anal	ysed at a v	ariety of laboratories. For
sample preparation technique.	data prior to 2010 it is assumed th	e procedure	es undertaken are industry
	standard for the time.		
	Post-2010 samples were dried, an	d the whole	sample pulverised to $80\%$
	passing 75 μm, and a sub-sample	of approx.	200 g retained. A nominal
	50 g was used for the fire assay	analysis.	The procedure is industry
	standard for this type of sample.		
Quality control procedures adopted for all sub-sampling stages to	Details of historical QAQC procedu		
maximise representation of samples.	of QAQC and assay quality in		
	(Maxwell) indicate there are no sig		= : :
	of the historical assay data. Cond	•	
	mitigated by drilling completed in	-	•
	has been compiled for the 2016		iter Geological Services) –
Managed the state of the state	no significant issues were identific		alas and adjusted at a
Measures taken to ensure that the sampling is representative of the in	Gold Road protocols state dup		•
situ material collected, including for instance results for field	frequency of 1 in 40 samples for a		
duplicate/second-half sampling.	RC duplicate samples are collected cone splitter.	a directly ire	om the Rig-mounted static
	No diamond duplicates were colle	rtad	
	Details of historical duplicate sam		nt readily available
Whether sample sizes are appropriate to the grain size of the material	Sample sizes are considered ap		•
being sampled.	mineralisation given the particle si	-	=
gp	weight below 3 kg to ensure requ		
Quality of assay data and laboratory tests			<u> </u>
The nature, quality and appropriateness of the assaying and laboratory	Samples were analysed at a variet	y of laborat	ories using methodologies
procedures used and whether the technique is considered partial or	that include:		
total.	RC		
	Analysis Type	Total	
	50g Fire Assay with ICPMS finish	5,367	
	50g Fire Assay with AAS finish	1,919	
	50g Fire Assay with flame AAS finish	1,919	
	50g Fire Assay with flame GAAS finish	9	
	Aqua Regia digest with AAS finish	1,019	
	Unknown	276	
	No method recorded	5	
			ı
	DDII		
	DDH	Takal	
		Total	
	Analysis Type		
	50g Fire Assay with ICPES finish	740	
	50g Fire Assay with ICPES finish 50g Fire Assay with ICPMS finish	740 4	
	50g Fire Assay with ICPES finish 50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish	740 4 176	
	50g Fire Assay with ICPES finish 50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish Unknown	740 4 176 65	
	50g Fire Assay with ICPES finish 50g Fire Assay with ICPMS finish 50g Fire Assay with AAS finish	740 4 176	

■ SGS – Kalgoorlie, Perth and Leonora

Genalysis – Perth
It is assumed laboratory procedures were appropriate for the time.

Amdel – Perth



### Criteria and JORC Code explanation

For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.

Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

#### Commentary

NITON handheld XRF was used on a small number of drill holes. Calibration of the hand-held XRF tools is applied at start-up. XRF results are only used for indicative analysis of lithogeochemistry and alteration and to aid logging and subsequent interpretation. 4 acid digest data is also used to assist in lithogeochemical determination. pXRF analysis, conducted at the lab, is completed on most holes post 2016 to aid in lithogeochemical determination.

Gold Road protocol is for Field Standards (Certified Reference Materials) and Blanks inserted at a rate of 3 Standards and 3 Blanks per 100 samples. Field Duplicates for RC drilling are generally inserted at a rate of approximately 1 in 40. No duplicates are collected for diamond drill holes. At the Lab, regular assay Repeats, Lab Standards, Checks and Blanks are analysed.

For drilling at Argos the relevant assays and QAQC numbers are as follows:

Assay and QAQC Numbers	RC		
	Number	Comment	
Total Sample Submission	11,879		
Assays	10,514		
Field Blanks	510		
Field Standards*	513		
Field Duplicates	342		
Laboratory Blanks	208		
Laboratory Checks	312		
Laboratory Standards	295		
Umpire Checks	-		

	RC	
Assay and QAQC Numbers	Number	Comment
Total Sample Submission	11,879	
Assays	10,514	
Field Blanks	510	
Field Standards*	513	
Field Duplicates	342	
Laboratory Blanks	208	
Laboratory Checks	312	
Laboratory Standards	295	
Umpire Checks	-	

Historical drilling QAQC has been reviewed by Maxwell (2012) and Golder Associates (2002) and deemed satisfactory and fit for use in Resource Estimation.

#### Verification of sampling and assaying

The verification of significant intersections by either independent or alternative company personnel.

Significant results are checked by the Principal Resource Geologist, General Manager Geology and Executive Director. Additional checks are completed by the Database Manager.

The use of twinned holes.

One diamond hole (17ALDD0010) was drilled within five metres of an existing RC hole and is suitable for review as twinned holes. Mineralisation location and tenor is consistent across the area of close spaced drilling.

Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.

All logging data is stored in a Datashed/SQL database system, and maintained by the Gold Road Database Manager.

Discuss any adjustment to assay data.

No assay data was adjusted. The lab's primary Au field is the one used for plotting and resource purposes. No averaging is employed.



Criteria and JORC Code explanation	Commentary
Location of data points	
Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource Estimation.	The drill hole locations were initially picked up by handheld GPS, with an accuracy of 5 m in northing and easting. Fifty holes were later picked using DGPS to a level of accuracy of 1 cm in elevation and position. For angled drill holes, the drill rig mast is set up using a clinometer, and rigs aligned by surveyed positions and/or compass.  Drillers use an electronic single-shot camera to take dip and azimuth readings inside the stainless steel rods, at 50 m intervals, prior to August 2014, and 30 m interval, post August 2014. Downhole directional surveying using north-seeking gyroscopic tool was completed on site and live (down drill rod string) or after the rod string had been removed from the hole. Most diamond drill holes were surveyed live whereas most RC holes were surveyed upon exiting the hole.
Specification of the grid system used.	A local grid (Attila Grid) is used at Argos.
Quality and adequacy of topographic control.	A topographic surface was generated using LIDAR data collected in December 2015.
Data spacing and distribution	
Data spacing for reporting of Exploration Results.	Drill spacing at surface is approximately 50mE by 100mN with a small area of 25mE by 50mN, and this spacing extends to 50mE by 200mN at the margins of the deposit.
Whether the data spacing and distribution is sufficient to establish the	Spacing of the reported drill holes is sufficient for the geological and
degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	grade continuity of the deposit, is appropriate for Resource Estimation procedures and to report an Inferred Resource.
Whether sample compositing has been applied.	No composite sampling was used in the data set for estimation.
Orientation of data in relation to geological structure  Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The orientation of the drill lines (250 degrees azimuth 270 degrees local) is approximately perpendicular to the regional strike of the targeted mineralisation.  Drilling angled at -60 to the west does not introduce any directional bias given that structural orientations indicate a steep easterly dip and are perpendicular to the current understanding of the mineralisation.
Sample security	Due assumb and adjact have an collected in plastic base and discount of
The measures taken to ensure sample security.	Pre-numbered calico bags are collected in plastic bags and transported to the laboratory. Details regarding sample security of drilling prior to 2010 are not readily available.
Audits or reviews	
The results of any audits or reviews of sampling techniques and data.	Sampling and assaying techniques are industry-standard. No specific audits or reviews have been undertaken.



## **Section 2 Reporting of Exploration Results**

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

Criteria listed in the preceding section also apply to this section also apply to this section.	Commentary
Mineral tenement and land tenure status  Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The RC and Diamond exploration drilling was managed by Gold Road, which since November 2016 has formed part of the 50:50 Gruyere JV with Gold Fields. This tenement is located on the Yamarna Pastoral Lease which is owned and managed by Gold Road.  Tenement M38/814 is located on tenements granted in respect of land in which non-exclusive native title has been determined to exist and to be held by a group of native title holders which includes the persons on whose behalf the Yilka (WAD297/2008) and Sullivan Edwards (WAD498/2011) native title claims were brought. The determination was made by the Federal Court on 27 September 2017. The native title holders are required to nominate a body corporate to act as trustee of, or as their agent in future dealings relating to, their native title. Exploration activities in the specified "Gruyere and Central Bore Project Areas" within the Pastoral Lease are conducted in accordance with the 2016 "Gruyere and Central Bore Native Title Agreement" between Gold Road, the Yilka native title claim group and Cosmo Newberry Aboriginal Corporation. Exploration activities within the balance of the Pastoral Lease are conducted in accordance with the 2004 "Yamarna Pastoral Lease Heritage Protection Agreement" between Gold Road and Harvey
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area	Murray (the applicant in relation to the Yilka native title claim).  The tenement is in good standing with the WA DMIRS.
<b>Exploration done by other parties</b> Acknowledgment and appraisal of exploration by other parties.	Exploration has been completed at Argos by one other party:  1998-2006 Asarco Exploration Company Inc  2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010)  2010-November 2016 Gold Road  November 2016 – Present Gold Road and Gold Fields (Gruyere JV) Gold Road understands that previous exploration has been completed to industry standard.
Geology Deposit type, geological setting and style of mineralisation.	Gold mineralisation has been defined over 17 kilometers in strike, the anomalous structural corridor termed the Attila – Alaric trend hosts deposits at Alaric, Montagne, Argos, Orleans & Attila. The stratigraphy comprises a sequence of mafic and felsic sediments and volcanic instrusives on the western margin of the Yamarna Greenstone Belt. The sequence is metamorphosed to amphibolite facies and is strongly foliated, with the sequence striking northwest and dipping steeply to the east. Notable lithological units include the Gotham tuff - a felsic-intermediate porphyritic crystal tuff located to the east of the mineralisation, and a chloritic shale – also east of the mineralisation. A Cr-rich intermediate-mafic sediments and mafic intrusives are being consistently identified in the footwall position, west of the mineralisation where drilling intersects this position. Gold mineralisation is defined by shear zones characterised by laminated quartz-mica-amphibole schist units. High grade mineralisation occurs as 3-5+ metre, gently north plunging shoots, and is associated with pervasive albite ± chlorite ± pyrite ± pyrrhotite alteration. Mineralisation is laterally continuous, with broader zones of mineralisation associated with intense biotite ± amphibole ± pyrite alteration that can span over >50 metres width. Mineralisation has both a lithological and structural control, being contained within the intermediate to mafic units of the sequence with the morphology of high grade zones appearing to be structurally controlled by shearing and folding.



Criteria and JORC Code explanation	Commentary
Drill hole Information	
A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	A total of 25 RC and 4 diamond holes have been completed within the deposit area since the previous Resource Estimate, refer ASX announcement dated 16 September 2015. Details of this drilling are
easting and northing of the drill hole collar	included in the ASX announcement dated 26 October 2017 and 19
<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	December 2017.
dip and azimuth of the hole	
down hole length and interception depth	
hole length.	
If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	
In reporting Exploration Results, weighting averaging techniques,	No weighting or averaging of grades was undertaken.
maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Grades are reported as down-hole length-weighted average grades across the full width of mineralised domains. The drill angle generates an approximation of the true-width intersection.
Data aggregation methods. Relationship between mineralisation	
widths and intercept lengths	
Where aggregate intercepts incorporate short lengths of high grade	No new exploration results are reported. Intersections quoted may not
results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	match those previously reported as they are selected for Resource Estimation purposes.
The assumptions used for any reporting of metal equivalent values	No metal equivalent values are used.
should be clearly stated.	
These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there	Mineralisation is hosted within a steep east dipping, NNW striking package of mafic to intermediate intrusive and sedimentary rocks. Mineralisation is hosted in shear zones parallel to stratigraphy.  The general drill direction of 60° to 250 is approximately perpendicular to the lithological package and is a suitable drilling direction to avoid
should be a clear statement to this effect (eg 'down hole length, true width not known').	directional biases.
Diagrams  Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill halo collections and appropriate sectional views.	Refer to Figures and Tables in the body of text.
hole collar locations and appropriate sectional views.	
Balanced reporting  Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results used in this resource have been published in previous releases; please refer to Appendix 2 for a summary of previous releases.
Other substantive exploration data	
Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Regional Aeromagnetic and gravity data cover the project area and assist in the geological interpretation; including the strike orientation of the stratigraphy, location of cross-cutting faults and dykes, and general regional geology.  Induced Polarisation (IP) survey completed along the Attila-Alaric trend in 2017 has assisted in detection of mineralised structures and assisted geological interpretation of structures and stratigraphy.  Handheld XRF data exists for some drill holes, pXRF conducted at the lab exists for most drill holes post 2016, and assists in lithogeochemical analysis.  No metallurgical work has been completed at Argos to date, although metallurgical testwork at neighbouring deposits including Attila & Alaric
	indicates no deleterious elements are present and mineralisation is amenable to conventional cyanidation.



Criteria and JORC Code explanation	Commentary
Further work	
The nature and scale of planned further work (eg tests for lateral	Mineralisation is not closed off along strike. Mining optimisation and
extensions or depth extensions or large-scale step-out drilling).	feasibility studies may drive further drilling requirements. Extensional
Diagrams clearly highlighting the areas of possible extensions, including	drilling along strike and infill drilling will continue in 2018.
the main geological interpretations and future drilling areas, provided	
this information is not commercially sensitive.	

# **Section 3 Estimation and Reporting of Mineral Resources** (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource Estimation purposes.	Geological metadata is stored centrally in a relational SQL database with a DataShed front end. Gold Road employs a Database Manager who is responsible for the integrity and efficient use of the system. Only the Database Manager or the Data Entry Clerk has permission to modify the data.  Sampling and geological logging data is collected in the field using LogChief software and uploaded digitally. The software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database.  Sampling data is sent to, and received from, the assay laboratory digitally.  Drillhole collars are picked up by differential GPS and delivered to the database digitally.  Down hole surveys are delivered to the database digitally.  The Mineral Resource estimate only uses a selection of RC and DDH assay data available; historical data is used and measures of integrity
Data validation procedures used.	applied by previous companies are not readily available  DataShed software has validation procedures that include constraints, library tables, triggers and stored procedures. Data that does not pass validation must be corrected first.  The LogChief software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database. Geological logging data is checked visually in three dimensions against the existing data and geological interpretation.  Assay data must pass company QAQC hurdles. Gold Road utilises QAQCR software to further analyse QAQC data, and batches which do not meet criteria are requested to be re-assayed. Sample grades are checked visually in three dimensions against the logged geology and geological interpretation.  Drill hole collar pickups are checked against planned and/or actual collar locations.  A hierarchical system is used to identify the most reliable down hole survey data. Drillhole traces are checked visually in three dimensions.  Data validation procedures of previous companies are not readily available.
Site visits  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case	Justin Osborne is Gold Road's Executive Director of Exploration & Growth and a Competent Person. He conducts regular site visits and covers all aspects of the Project. John Donaldson is Gold Road's General Manager Geology and a Competent Person. He has completed specific site visits to focus on understanding the geology of the Attila – Alaric trend. Jane Levett is Gold Road's Principal Resource Geologist and a Competent Person and has completed several specific site visits to focus on understanding the geology of the Attila – Alaric trend from field observations, historic diamond core and RC chips.



Criteria and JORC Code explanation	Commentary
Geological interpretation	
Confidence in (or conversely, the uncertainty of) the geological	Diamond drilling allows a robust geological interpretation to be
interpretation of the mineral deposit.	developed. Airborne magnetic data and induced polarisation data gives weight to the broad interpretation and breaks in the continuity of stratigraphy (fault offsets) provide an explanation for strike extents of mineralisation.
	Type and thickness of host lithology, and mineralisation, is predictable along strike and down dip.  As the deposit has good grade and geological continuity the Competent
Network fitte data was a second and of account in a second	Persons regard the confidence in the geological interpretation as high.
Nature of the data used and of any assumptions made.	All available data has been used to help build the geological interpretation. This is includes geological logging data (lithology and structure), portable XRF multi-element data, gold assay data, induced polarisation and airborne magnetic surveys.
The effect, if any, of alternative interpretations on Mineral Resource Estimation.	Drilling completed in 2017, specifically targeted diamond holes enabled a refinement of the interpretation of the mineralisation domains. Six mineralised structures were modelled, including one high-grade main shear with an internal high grade domain. New understanding of stratigraphy, controls on mineralisation and associated alteration assemblages were incorporated into the mineral resource estimate.
The use of geology in guiding and controlling Mineral Resource Estimation.	Regionally the deposit is hosted on the western margin of the Yamarna greenstone belt. The Argos deposit is located proximal to the North West striking Yamarna Shear Zone, a ~1.5km wide zone of mylonitic mafic and felsic volcanics and sediments.
	Gold mineralisation is hosted within north-striking (Attila local grid), steeply east dipping shear zones. Multiple high grade zones are 3 to 5 metres in thickness, proximal to the core of the shear zones, and are characterised by laminated quartz-mica-amphibole units. Internal high-
	grade zones also coincide with greater intensity of alteration, increased presence of disseminated pyrite ± pyrrhotite, and a greater density of fine quartz veining. The low-grade sheared package exhibits a lower intensity of similar alteration and lesser veining. There does not appear to be any mineralisation associated with supergene processes and the
	mineralised domains are constrained to below the Quaternary cover boundary.
	Mineralisation within the sheared package has been modelled at a 0.2 g/t cut-off, including up to 2 m of internal waste. Internal higher grade zones apply a 0.5 g/t cut-off. The values of 0.2 and 0.5 g/t were
	recognised as inflection points in the drilling data corresponding to the non-mineralised, mineralised, and higher grade populations. Internal higher grade zones correspond to higher intensity alteration, presence of sulphides and a greater density of quartz veining. The lower grade
	sheared package is similarly altered and veined, but not to the same intensity.  Three cross-cutting faults have been interpreted from the aeromagnetics, induced polarisation (IP) data and distribution of
	interpreted lithologies. These faults appear to bound different zones of mineralisation and have been used as a control in domaining mineralisation.
	The trend of the main mineralisation is interpreted to be steeply dipping to the east at 65-75°.
	The mineralisation trend can be readily observed in areas of closely spaced drilling and easily interpreted in wider spaced areas.  Spatial analysis of assay data using variography supports and helps to refine the mineralisation orientations during the interpretive process.
The factors affecting continuity both of grade and geology.	Cross-cutting features interpreted as faults from the aeromagnetic imagery (2011) and induced polarisation data (2017) appear to bound different zones of mineralisation, with mappable fault displacement defined for stratigraphy and mineralisation.



Critaria and IOPC Code explanation	Commontary	
Criteria and JORC Code explanation  Dimensions	Commentary	
The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.		
Estimation and modelling techniques.  The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Software used:  Leapfrog Geo — Drillhole validation, lithology, material type, mineralisation and fault wireframes  Datamine Studio RM — Drillhole validation, cross-section, plan and long-section plotting, block modelling, estimation, block model validation, classification, reporting.  Snowden Supervisor — Statistics, variography, kriging neighbourhood analysis, block model validation  Block model and estimation parameters:  Treatment of extreme grade values (top cuts): 15 to 25 g/t Au top-cut applied to 1 m composites selected within mineralisation wireframes.  Top cuts were determined by domain through analysis of histograms, log histograms, log probability plots and spatial analysis.  Estimation technique: Ordinary Kriging. KNA was undertaken to optimise the search neighbourhood used for the estimation and test the parent block size. The search ellipse and selected samples by block were viewed in three dimensions to verify the parameters.  A local grid is used with a rotation 20 degrees west of true north from MGA.  Parent block size - 5 m X by 25 m Y by 5 m Z (parent cell estimation with full subset of points).  Smallest subcell – 1 m X by 5 m Y by 1 m Z (small X dimension is required to fill mineralisation wireframes and a small Z dimension is required to	
	fill to material type boundaries).  Discretisation - 3 X by 5 Y by 2 Z (using number of points method).  Search ellipse – aligned to mineralisation trend, dimensions are 165 m  X by 150 m Y by 40 m Z for all sub-vertical domains.  Number of samples – maximum per drillhole = 5, first search 12 min / 30 max, second search 10 min / 60 max, volume factor 2, third search 5  min / 60 max, volume factor 4.  Domain boundary conditions – A hard boundary is applied to all domains.	
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The Argos Deposit, previously known as Alaric 1, was removed from the Yamarna Mineral Resource in 2015 as the Resource did not meet internal Gold Road standards. As such, this Mineral Resource estimation and evaluation is considered an update, however due to the previous reporting approach, where Alaric 1, 2 and 3 deposits (now known as Argos, Montagne and Alaric respectively), were grouped together and reported as a single entity it is not possible to compare the two resources.	
The assumptions made regarding recovery of by-products.	No economic by-products.	
Estimation of deleterious elements or other non-grade variables of	No metallurgical test work has been completed to date. Metallurgical	
economic significance (eg sulphur for acid mine drainage	test work at neighbouring deposits Attila & Alaric have not identified	
characterisation).	any deleterious elements.	
In the case of block model interpolation, the block size in relation to the	The parent block size of 5 m X by 25 m Y by 5 m Z is approximately one	
average sample spacing and the search employed.	quarter of the average drill spacing of 20 m X by 20 m Y in Indicated areas.	
Any assumptions behind modelling of selective mining units.	The Selective Mining Unit chosen is a function of the Whittle optimisation and parent block size of 5 m X by 12.5 m Y by 5 m Z.	



Criteria and JORC Code explanation	Commentary	
Any assumptions about correlation between variables.	No correlation between variables analysed or made; the resource is	
	gold-only.	
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control estimation. If geostatistics, variography and/or visual checks of model were difficult to understand then the geological interpretat was questioned and refined.	
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when using Ordinary Kriging.	
The process of validation, the checking process used, the comparison of	Validation checks performed:	
model data to drill hole data, and use of reconciliation data if available.	QQ plot of RC vs DDH input grades.	
	Volume of wireframe vs volume of block model  Volume of wireframe vs volume of block model	
	Sum of gram metres prior to compositing vs sum of gram metres post compositing	
	<ul> <li>Negative gold grade check</li> <li>Model average grade vs declustered top-cut sample grade b</li> </ul>	
	Domain.	
	<ul> <li>Swath plots by Northing and elevation by Domain.</li> <li>Visual check of drill data vs model data in plan, section and three dimensions.</li> </ul>	
	All validation checks gave acceptable results.  No mining, therefore no reconciliation data available.	
Moisture Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Bulk density values used are a combination of local and regional data Average bulk density values are modified by a moisture percentage so that dry tonnages are reported. Percentage reductions were overburden and saprolite 5%, saprock 3%, transition 2% and fresh 1 %.	
<b>Cut-off parameters</b> The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade used for reporting is 0.50 g/t. This has been determined from the latest regional mining, geotechnical and processing parameters developed from the Attila – Alaric Pre Feasibility Study. Processing costs include haulage to the proposed mill.	
Mining factors or assumptions		
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	mining fleet appropriately scaled to the size of the deposit.  De facto minimum mining width is a function of optimisation cell si m X by 12.5m Y by 5 m Z).  No allowance for dilution or recovery has been made, however mot minimum width of 2 m is used in construction of the mineralisa	
Metallurgical factors or assumptions	Land to the state of the state	
The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery has been adapted from test-work completed or neighbouring deposits indicating variable recovery between 92% and 85%, depending on weathering profile and grade, and have been applied accordingly in the optimisation.	
Environmental factors or assumptions		
Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Surface waste dumps will be used to store waste material from open pi mining.  A conventional tailings storage facility as defined in the Gruyere Feasibility Study will be utilised for tailings disposal.  No test work has been completed regarding potential acid mini drainage material types, however, if identified in future studie appropriate measures will be used to manage any issues.	



Criteria and JORC Code explanation	Commentary
Bulk density	•
Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density has been determined using limited data available from the 2017 diamond drilling, and other more detailed bulk density data in the region. All density data including historical data from Attila-Alaric was collected using the weight in air / weight method.  Bulk density is applied by weathering (material) type.
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Data was coded by weathering type (material) and domain (mineralisation). Assumptions for moisture percentages were made and accounted for in the final value used for bulk density.
Classification  The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource is constrained within a Whittle shell. Blocks in the geological model above that shell have been classified as Inferred. Several factors have been used in combination to aid the classification;  Drill hole spacing Inferred – 50 m East by 100m North. Depth of drilling and 50 m along strike from extent of drilling. Extrapolation 20 m down dip from last drill hole intercept Geological continuity Grade continuity Estimation quality parameters derived from the Ordinary Kriging process
Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant factors have been taken into account in the classification of the Mineral Resource.
Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Persons' view of the deposit.
Audits or reviews  The results of any audits or reviews of Mineral Resource estimates.	Internal geological peer reviews were held and documented. Reviews were completed with appropriate Gold Fields staff as part of the Gruyere JV requirements and considered geology, estimation and inputs to optimisation.
Discussion of relative accuracy/ confidence  Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	Variances to the tonnage, grade and metal of the Mineral Resource estimate are expected with further definition drilling. It is the opinion of the Competent Persons that these variances will not significantly affect economic extraction of the deposit.
The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The Mineral Resource relates to global tonnage and grade estimates.
These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining.



## **MONTAGNE**

## JORC CODE 2012 EDITION TABLE 1 – SECTIONS 1 TO 3

## **Section 1 Sampling Techniques and Data**

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

Criteria in this section apply to all succeeding sections.)  Criteria and JORC Code explanation	Commentary
Sampling techniques	
Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling. Significant RAB and Aircore drilling covers the project area and is used in developing the lithological and mineralisation interpretation. However, this data is not used in the estimate and is not detailed here. Drilling was completed between 1994 and 2017 and was undertaken by several different companies:  1990-1994 Metall Mining Australia 1994-1997 Zanex NL 1997-2006 Asarco Exploration Company Inc 2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010) 2010-November 2016 Gold Road November 2016 – Present Gold Road and Gold Fields (Gruyere JV) 107 RC and 18 Diamond holes were drilled angled at -60 degrees to 250 degrees azimuth (MGAn).  Drill core is logged geologically and marked up for assay at approximately one metre intervals based on geological observation.  Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis. RC chips are logged geologically and fourmetre composite spear samples are submitted for assay. One metre RC split samples are submitted for re-assay if composites return anomalous results.
Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	Between 2010 and 2017 sampling was carried out under Gold Road's protocols and QAQC procedures as per industry best practice. 50% of the holes drilled on the Attila –Alaric trend were completed by Gold Road.  Prior to 2010, sampling was carried out under the relevant company's protocols and procedures and is assumed to be industry standard practice for the time. Specific details for this historical drilling are not readily available.
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Details regarding sampling prior to 2010 are not readily available. Sampling under Gold Road's protocols comprises the following:  The RC holes were drilled with a 5½" or 5½" inch face-sampling bit, 1 m samples collected through a cyclone and riffle splitter (pre 2010) or static cone splitter (post 2010), to form a 2-3 kg sample. 4 m composite samples were created by spear sampling of the total reject of the 1 m samples collected in large plastic bag from the drilling rig and deposited into separate numbered calico bags for sample despatch. 1 m sample intervals were submitted for analysis when the composite interval returned anomalous results. A total of 14 (1%) 4 m composite samples were used in the resource estimate where no 1 m samples were available.  Diamond drilling was completed using an HQ or NQ drilling bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured lithological/mineralogical intervals.  All samples were fully pulverised at the lab to -75 µm, to produce a 50 g charge for Fire Assay with either AAS finish or ICPOES finish.



Criteria and JORC Code explanation	Commentary
Drilling techniques	
Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Available data indicates historical diamond drill hole diameters range in size from HQ to NQ. This drilling was completed by Wallis Drilling, Drillex, DrillCorp and Sanderson Drilling. Historical RC drill holes were completed by Wallis Drilling using a face sampling bit with a diameter of 5½" or 3¾".  Holes drilled under GOR operations were completed by Terra Drilling, Wallis Drilling and DDH1 (DD – HQ3 & NQ2 core) and RC completed by Wallis Drilling, Raglan Drilling and Ranger Drilling using a 5½" and 5¾" face sampling bit.
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed.	RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Where data is available recovery of the samples was good, generally estimated to be close to 100%, except for some sample loss at the top of the hole in the Quaternary cover.  All diamond core collected is dry. Drill operators measure core recoveries for every drill run completed using a 3 metre core barrel. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery can be calculated as a percentage recovery. Almost 100% recoveries were achieved for diamond drilling.
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC face-sample bits and dust suppression were used to minimise sample loss. Drilling pressure airlifted the water column above the bottom of the hole to ensure dry sampling. RC samples are collected through a cyclone and riffle splitter (pre 2010) and static cone splitter (post 2010). The rejects are deposited in a large plastic bag and retained for potential future use. The sample required for assay is collected directly into a calico sample bag at a designed 3 to 4 kg sample mass which is optimal for full sample crushing and pulverisation at the assay laboratory.  Diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.  Protocols for drilling undertaken prior to 2010 are not readily available.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	RC samples were generally dry with the exception of a few samples (<5%) that are reported as slightly damp to end of hole. Apart from for the top of the holes while drilling through the cover, there is no evidence of excessive loss of material, and at this stage no information is available regarding possible bias due to sample loss.  There is no significant loss of material reported in any of the Diamond core.
Logging  Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource Estimation, mining studies and metallurgical studies.	Logging of <b>DDH</b> core records lithology, mineralogy, mineralisation, alteration, structure, weathering, colour and other features of the samples. All core is photographed in the cores trays, with individual photographs taken of each tray both dry and wet.  Logging of <b>RC</b> chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging codes have been developed over time and the historical codes translated to a scheme similar to the current Gold Road logging scheme in 2007. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Some holes are logged using hand held NITON XRF to assist in lithogeochemical analysis. From 2016 most fire assay results routinely include pXRF collected at the lab and used to validate logging.



Criteria and JORC Code explanation	Commentary
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging of drill core captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural
	information from oriented drill core. All samples are stored in core trays.  All core is photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the Gold
The total length and percentage of the relevant intersections logged	Road server database.  All holes were logged in full.
Sub-sampling techniques and sample preparation	All Holes were logged in rull.
If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half and half core samples were collected for assay, with the remaining half core samples stored in the core trays.
If non-core, whether riffled, tube sampled, rotary split, etc and whether	Under Gold Road protocols 1 m RC drill samples are channelled through
sampled wet or dry.	a cone splitter, and an average 2-3 kg sample is collected in an unnumbered calico bag, and positioned on top of the plastic bag.
	4 m composite samples are generated by spear sampling of the four 1 m samples collected in large plastic bag from the drilling rig and
	deposited into separate numbered calico bags for sample despatch. A number of RC holes utilised 4 m composite samples for waste intervals.
	If composite samples returned anomalous gold values, the intervals were resampled as 1 m samples by collecting the sample produced from the riffle splitter.
	Sampling procedures used prior to 2010 are not readily available.
For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were prepared and analysed at a variety of laboratories. For data prior to 2010 it is assumed the procedures undertaken are industry standard for the time.
	Post-2010 samples were dried, and the whole sample pulverised to 80%
	passing 75 μm, and a sub-sample of approx. 200 g retained. A nominal 50 g was used for the fire assay analysis. The procedure is industry
	standard for this type of sample.
Quality control procedures adopted for all sub-sampling stages to maximise representation of samples.	Details of historical QAQC procedures are not readily available. Reviews of QAQC and assay quality in 2002 (Golder Associates) and 2012
	(Maxwell) indicate there are no significant issues with regards to quality of the historical assay data. Concerns regarding historical drilling are
	mitigated by more recent drilling, with several diamond holes twinning historic RC along the trend. QAQC for the 2017 has been reviewed and no significant issues were identified.
Measures taken to ensure that the sampling is representative of the in	Gold Road protocols state duplicate samples are collected at a
situ material collected, including for instance results for field duplicate/second-half sampling.	frequency of 1 in 40 samples for all drill holes.  RC duplicate samples are collected directly from the Rig-mounted rotary cone splitter.
	No diamond duplicates were collected.
Whather cample sizes are appropriate to the arein size of the material	Details of historical duplicate sampling are not readily available.  Sample sizes are considered appropriate to give an indication of
Whether sample sizes are appropriate to the grain size of the material being sampled.	mineralisation given the particle size and preference to keep the sample weight below 3 kg to ensure requisite grind size in a LM5 sample mill.



#### Criteria and JORC Code explanation

#### Quality of assay data and laboratory tests

The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.

#### Commentary

Samples were analysed at a variety of laboratories using methodologies that include:

RC	
Analysis Type	Total
50g Fire Assay with ICPES finish	2,409
50g Fire Assay with AAS finish	3,451
50g Fire Assay with flame GAAS finish	1
Aqua Regia digest with AAS finish	632
Unknown	154
No method recorded	4

DDH		
Analysis Type	Total	
50g Fire Assay with ICPES finish	1220	
50g Fire Assay with ICPMS finish	1	
50g Fire Assay with AAS finish	169	
Unknown	48	
No method recorded	19	

Laboratories used include:

- SGS Kalgoorlie, Perth and Leonora
- Amdel Perth
- Genalysis Perth

It is assumed historical laboratory procedures were appropriate for the time.

For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.

NITON handheld XRF was used on a small number of drill holes. Calibration of the hand-held XRF tools is applied at start-up. XRF results are only used for indicative analysis of lithogeochemistry and alteration and to aid logging and subsequent interpretation. 4 acid digest data is also used to assist in lithogeochemical determination. pXRF analysis, conducted at the lab, is completed on most holes post 2016 to aid in lithogeochemical determination.

Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

Gold Road protocol is for Field Standards (Certified Reference Materials) and Blanks inserted at a rate of 3 Standards and 3 Blanks per 100 samples. Field Duplicates for RC drilling are generally inserted at a rate of approximately 1 in 40. No duplicates are collected for diamond drill holes. At the Lab, regular assay Repeats, Lab Standards, Checks and Blanks are analysed.

For drilling at Montagne the relevant assays and QAQC numbers are as follows:

Assay and QAQC Numbers	RC	
	Number	Comment
Total Sample Submission	7,414	
Assays	6,651	
Field Blanks	259	
Field Standards*	304	
Field Duplicates	200	
Laboratory Blanks	163	
Laboratory Checks	176	
Laboratory Standards	292	
Umpire Checks	-	



Criteria and JORC Code explanation	Commentary		
	Assay and QAQC Numbers	DDH	
		Number	Comment
	Total Sample Submission	1,595	
	Assays	1,457	
	Field Blanks**	67	
	Field Standards	66	
	Field Duplicates***	5	
	Laboratory Blanks	47	
	Laboratory Checks	43	
	Laboratory Standards	44	
	Umpire Checks	-	
Verification of sampling and assaying	Golder Associates (2002) and deemed Resource Estimation. Infill drilling completed in 2017 by Gold review (twinned hole) to be undertallocation, width and tenor of gold mineradata.	Road has allowed	d a comparativ
The verification of significant intersections by either independent or alternative company personnel.	Significant results are checked by the Principal Resource Geologis Geology Manager and Executive Director. Additional checks ar completed by the Database Manager.		
The use of twinned holes.	One diamond hole (17ALDD0011) was existing, historic, RC hole (9EYRC0039) twinned hole. Mineralisation location, go between these two holes, somewhat various processes the second secon	, and is suitable grade and thickn	for review as ess is consister
Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All logging data is stored in a Datashed/SQL database system, an maintained by the Gold Road Database Manager.		
Discuss any adjustment to assay data.	No assay data was adjusted. The lab's primary Au field is the one use for plotting and resource purposes. No averaging is employed.		
Location of data points  Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource Estimation.	The drill hole locations were initially picked up by handheld GPS, with an accuracy of 5 m in northing and easting. All 2017 drilling was picked using DGPS to a level of accuracy of 1 cm in elevation and position. For angled drill holes, the drill rig mast is set up using a clinometer, and rigs aligned by surveyed positions and/or compass.  Drillers use an electronic single-shot camera to take dip and azimuth readings inside the stainless steel rods, at 50 m intervals, prior to August 2014, and 30 m interval, post August 2014. Downhole directions surveying using north-seeking gyroscopic tool was completed on sit and live (down drill rod string) or after the rod string had been removed from the hole. Most diamond drill holes were surveyed live wherea most RC holes were surveyed upon exiting the hole.		
Specification of the grid system used.	A local grid (Attila Grid) is used at Mont		
Quality and adequacy of topographic control.	A topographic surface was generated December 2015.		ata collected i
Data spacing and distribution	December 2015.		
Data spacing for reporting of Exploration Results.	Drill spacing at surface is ranges from 25mE by 25mN to 50mE by 100mN at the margins of the deposit.		
Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Spacing of the reported drill holes is s grade continuity of the deposit, is appropriately procedures and to report Indicated, and	opriate for Reso	urce Estimatio



Criteria and JORC Code explanation	Commentary	
Whether sample compositing has been applied.	11 RC holes out of a total 79 RC holes, selected by wireframes for use	
	in the estimation, employed compositing over waste intervals. These	
	intervals are utilised to demonstrate geological continuity	
Orientation of data in relation to geological structure		
Whether the orientation of sampling achieves unbiased sampling of	The orientation of the drill lines (250 degrees azimuth (270 degrees	
possible structures and the extent to which this is known, considering	local)) is approximately perpendicular to the regional strike of the	
the deposit type.	targeted mineralisation.	
If the relationship between the drilling orientation and the orientation	Drilling angled at -60 to the west does not introduce any directional bias	
of key mineralised structures is considered to have introduced a	given that structural orientations indicate a steep easterly dip and are	
sampling bias, this should be assessed and reported if material.	perpendicular to the current understanding of the mineralisation.	
Sample security		
The measures taken to ensure sample security.	Pre-numbered calico bags are collected in plastic bags and transported	
	to the laboratory. Details regarding sample security of drilling prior to	
	2010 are not readily available.	
Audits or reviews		
The results of any audits or reviews of sampling techniques and data.	Sampling and assaying techniques are industry-standard. No specific	
	audits or reviews have been undertaken.	

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria and JORC Code explanation	Commentary	
Mineral tenement and land tenure status		
Type, reference name/number, location and ownership including	The RC and Diamond exploration drilling was managed by Gold Road	
agreements or material issues with third parties such as joint ventures,	which since November 2016 has formed part of the 50:50 Gruyere J	
partnerships, overriding royalties, native title interests, historical sites,	with Gold. This tenement is located on the Yamarna Pastoral Leas	
wilderness or national park and environmental settings.	which is owned and managed by Gold Road.	
	Tenement M38/814 is located on tenements granted in respect of land	
	in which non-exclusive native title has been determined to exist and to	
	be held by a group of native title holders which includes the persons on	
	whose behalf the Yilka (WAD297/2008) and Sullivan Edwards	
	(WAD498/2011) native title claims were brought. The determination	
	was made by the Federal Court on 27 September 2017. The native title	
	holders are required to nominate a body corporate to act as trustee of,	
	or as their agent in future dealings relating to, their native title.	
	Exploration activities in the specified "Gruyere and Central Bore Project	
	Areas" within the Pastoral Lease are conducted in accordance with the	
	2016 "Gruyere and Central Bore Native Title Agreement" between Gold	
	Road, the Yilka native title claim group and Cosmo Newberry Aboriginal	
	Corporation. Exploration activities within the balance of the Pastoral	
	Lease are conducted in accordance with the 2004 "Yamarna Pastoral	
	Lease Heritage Protection Agreement" between Gold Road and Harvey	
	Murray (the applicant in relation to the Yilka native title claim).	
The security of the tenure held at the time of reporting along with any	The tenement is in good standing with the WA DMIRS.	
known impediments to obtaining a licence to operate in the area		
Exploration done by other parties		
Acknowledgment and appraisal of exploration by other parties.	Exploration has been completed by numerous other parties:	
	■ 1990-1994 Metall Mining Australia	
	■ 1994-1997 Zanex NL	
	■ 1997-2006 Asarco Exploration Company Inc	
	<ul> <li>2006-2010 Eleckra Mines Limited (renamed Gold Road in 2010)</li> </ul>	
	<ul><li>2010-November 2016 Gold Road</li></ul>	
	<ul> <li>November 2016 – Present Gold Road and Gold Fields (Gruyere JV)</li> </ul>	
	Gold Road understands that previous exploration has been completed	
	to industry standard.	



#### Criteria and JORC Code explanation Commentary Geology Deposit type, geological setting and style of mineralisation. Gold mineralisation has been defined over 17 km in strike, the anomalous structural corridor termed the Attila – Alaric trend hosts deposits at Alaric, Montagne, Argos, Orleans & Attila. The stratigraphy comprises a sequence of mafic and felsic sediments and volcanic instrusives on the western margin of the Yamarna Greenstone Belt. The sequence is metamorphosed to amphibolite facies and is strongly foliated, with the sequence striking northwest and dipping steeply to the east. Notable lithological units include the Gotham tuff - a felsicintermediate porphyritic crystal tuff located to the east of the mineralisation, and a chloritic shale - also east of the mineralisation. A Cr-rich intermediate-mafic sediments and mafic intrusives are being consistently identified in the footwall position, west of the mineralisation where drilling intersects this position. Gold mineralisation is defined by shear zones characterised by laminated quartz-mica-amphibole schist units. High grade mineralisation occurs as 3-5+ metre, gently north plunging shoots, and is associated with pervasive albite ± chlorite ± pyrite ± pyrrhotite alteration. Mineralisation is laterally continuous, with broader zones of mineralisation associated with intense biotite ± amphibole ± pyrite alteration that can span over >50 metres width. Mineralisation has both a lithological and structural control, being contained within the intermediate to mafic units of the sequence with the morphology of high grade zones appearing to be structurally controlled by shearing and folding. **Drill hole Information** A summary of all information material to the understanding of the A total of 15 RC and 4 diamond holes have been completed over exploration results including a tabulation of the following information Montagne deposit area, since the previous Resource Estimate, refer for all Material drill holes: ASX announcement dated 16 September 2015. Details of this drilling are included in the ASX announcement dated 17 October 2016 and 27 easting and northing of the drill hole collar June 2017. elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. Data aggregation methods In reporting Exploration Results, weighting averaging techniques, No weighting or averaging of grades was undertaken. Grades are reported as down-hole length-weighted average grades maximum and/or minimum grade truncations (eg cutting of high across the full width of mineralised domains. The drill angle generates grades) and cut-off grades are usually Material and should be stated. an approximation of the true-width intersection. Data aggregation methods. Relationship between mineralisation widths and intercept lengths Where aggregate intercepts incorporate short lengths of high grade No new exploration results are reported. Intersections quoted may not results and longer lengths of low grade results, the procedure used for match those previously reported as they are selected for Resource such aggregation should be stated and some typical examples of such Estimation purposes. aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values No metal equivalent values are used. should be clearly stated. These relationships are particularly important in the reporting of Mineralisation is hosted within a steep east dipping, NNW striking Exploration Results. package of mafic to intermediate intrusive and sedimentary rocks. If the geometry of the mineralisation with respect to the drill hole angle Mineralisation is hosted in shear zones parallel to stratigraphy. The general drill direction of 60° to 250 is approximately perpendicular is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there to the lithological package and is a suitable drilling direction to avoid directional biases. should be a clear statement to this effect (eg 'down hole length, true width not known').



Criteria and JORC Code explanation	Commentary
Diagrams  Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures and Tables in the body of text.
Balanced reporting  Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results used in this resource have been published in previous releases; please refer to Appendix 2 for a summary of previous releases.
Other substantive exploration data Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Regional Aeromagnetic and gravity data cover the project area and assist in the geological interpretation; including the strike orientation of the stratigraphy, location of cross-cutting faults and dykes Induced Polarisation (IP) survey completed along the Attila-Alaric trend in 2017 has assisted in detection of mineralised structures and assisted geological interpretation of structures and stratigraphy. Handheld XRF data exists for some drill holes, pXRF conducted at the lab exists for most drill holes post 2016, and assists in lithogeochemical analysis.  Metallurgical testwork undertaken at neighbouring deposits indicates no deleterious elements are present and mineralisation is amenable to conventional cyanidation.
Further work  The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Mineralisation is not closed off along strike. Mining optimisation and feasibility studies may drive further drilling requirements. Extensional drilling along strike and infill drilling will continue in 2018.

**Section 3 Estimation and Reporting of Mineral Resources** (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity	
Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource Estimation purposes.	Geological metadata is stored centrally in a relational SQL database with a DataShed front end. Gold Road employs a Database Manager who is responsible for the integrity and efficient use of the system. Only the Database Manager or the Data Entry Clerk has permission to modify the data.  Sampling and geological logging data is collected in the field using LogChief software and uploaded digitally. The software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database.  Sampling data is sent to, and received from, the assay laboratory digitally.  Drill hole collars are picked up by differential GPS (DGPS) and delivered to the database digitally.  Down hole surveys are delivered to the database digitally.  The Mineral Resource estimate only uses a selection of RC and DDH assay data available; historical data is used and measures of integrity applied by previous companies are not readily available



Criteria and JORC Code explanation	Commentary
Data validation procedures used.	DataShed software has validation procedures that include constraints, library tables, triggers and stored procedures. Data that does not pass validation must be corrected first.  The LogChief software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database. Geological logging data is checked visually in three dimensions against the existing data and geological interpretation.  Assay data must pass company QAQC hurdles. Gold Road utilises QAQCR software to further analyse QAQC data, and batches which do not meet criteria are requested to be re-assayed. Sample grades are checked visually in three dimensions against the logged geology and geological interpretation.  Drill hole collar pickups are checked against planned and/or actual collar locations.  A hierarchical system is used to identify the most reliable down hole survey data. Drillhole traces are checked visually in three dimensions.  Data validation procedures of previous companies are not readily available.
Site visits  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case	Justin Osborne is Gold Road's Executive Director of Exploration & Growth and a Competent Person. He conducts regular site visits and covers all aspects of the Project. John Donaldson is Gold Road's General Manager Geology and a Competent Person. He has completed specific site visits to focus on understanding the geology of the Attila – Alaric trend. Jane Levett is Gold Road's Principal Resource Geologist and a Competent Person and has completed several specific site visits to focus on understanding the geology of the Attila – Alaric trend from field observations, historic diamond core and RC chips.
Geological interpretation  Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Diamond drilling allows a robust geological interpretation to be developed. Airborne magnetic data and induced polarisation data gives weight to the broad interpretation and breaks in the continuity of stratigraphy (fault offsets) provide an explanation for strike extents of mineralisation.  Type and thickness of host lithology, and mineralisation, is predictable along strike and down dip.  As the deposit has good grade and geological continuity the Competent Persons regard the confidence in the geological interpretation as high.
Nature of the data used and of any assumptions made.  The effect, if any, of alternative interpretations on Mineral Resource Estimation.	All available data has been used to help build the geological interpretation. This is includes geological logging data (lithology and structure), portable XRF multi-element data, gold assay data, induced polarisation and airborne magnetic surveys.  Modelling of the mineralisation was conducted with reference to the previous resource update, when comparison is made between the current interpretation and one completed in 2015, the differences are a result of refining the geological interpretation with further information. New IP survey data and refined understanding of stratigraphy has improved geological modelling since the previous resource update.



Criteria and JORC Code explanation	Commentary
The use of geology in guiding and controlling Mineral Resource Estimation.	Regionally the deposit is hosted on the western margin of the Yamarna greenstone belt. The Montagne deposit is located proximal to the North West striking Yamarna Shear Zone, a ~1.5km wide zone of mylonitic mafic and felsic volcanics and sediments.  The Main Shear, hosting the bulk of the mineralisation is constrained within a chrome rich doleritic portion of the mafic-felsic sequence of volcanoclastica and intrusives of the Archaean package, below the base of cover. There does not appear to be any mineralisation associated with supergene processes and the mineralised domains are constrained to below the saprolite-saprock boundary.  Mineralisation within the sheared package has been modelled at a 0.2 g/t cut-off, including up to 2 m of internal waste. This value was recognised as an inflection point in the drilling data corresponding to the non-mineralised, and mineralised populations. Higher grade zones correspond to higher intensity alteration, presence of sulphides and a greater density of quartz veining. The lower grade sheared package is similarly altered and veined, but not to the same intensity.  Several cross-cutting faults have been interpreted from the magnetics and distribution of interpreted lithologies. These faults appear to bound different zones of mineralisation and have been used as a control in domaining mineralisation.  The trend of the main mineralisation is interpreted to be steeply dipping to the east at 65-75°.  The mineralisation trend can be readily observed in areas of closely spaced drilling and easily interpreted in wider spaced areas.  Spatial analysis of assay data using variography supports and helps to refine the mineralisation orientations during the interpretive process.
The factors affecting continuity both of grade and geology.	Cross-cutting features interpreted as faults from the aeromagnetic imagery (2011) and induced polarisation data (2017) appear to bound different zones of mineralisation, with mappable fault displacement defined for stratigraphy and mineralisation.
<b>Dimensions</b> The extent and variability of the Mineral Resource expressed as length	Length along strike: 1,000 m (pit shell constraint, one shell1)
(along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Horizontal Width: 50 m (comprising a series of 5-10 m wide mineralised surfaces).  Depth from surface to limit of Mineral Resource: 100 m.  The Mineral Resource has been constrained by an optimised Whittle shell that considers all mineralisation in the geological model. The optimisation utilises mining, geotechnical and processing parameters from Gruyere Operational Plan and an A\$1,850 per ounce gold price.  Only Measured, Indicated and Inferred categories within this shell are reported as Mineral Resource. Mineralisation outside the shell is not



Criteria and JORC Code explanation	Commentary
Estimation and modelling techniques	
Estimation and modelling techniques  The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Software used:  Leapfrog Geo — Drillhole validation, lithology, material type, mineralisation and fault wireframes  Datamine Studio RM — Drillhole validation, cross-section, plan and long-section plotting, block modelling, estimation, block model validation, classification, reporting.  Snowden Supervisor — Statistics, variography, kriging neighbourhood analysis, block model validation  Block model and estimation parameters:  Treatment of extreme grade values (top cuts): 10 to 25 g/t Au top-cut applied to 2 m composites selected within mineralisation wireframes.  Top cuts were determined by domain through analysis of histograms, log histograms, log probability plots and spatial analysis.  Estimation technique: Ordinary Kriging. KNA was undertaken to optimise the search neighbourhood used for the estimation and test the parent block size. The search ellipse and selected samples by block were viewed in three dimensions to verify the parameters.  A local grid is used with a rotation 20 degrees west of true north from MGA.  Parent block size - 5 m X by 25 m Y by 5 m Z (parent cell estimation with full subset of points).  Smallest subcell – 1 m X by 5 m Y by 1 m Z (small X dimension is required to fill mineralisation wireframes and a small Z dimension is required to fill to material type boundaries).  Discretisation - 3 X by 5 Y by 2 Z (using number of points method).  Search ellipse – aligned to mineralisation trend, dimensions range from 10 m X by 140 m Y by 75 m Z for each mineralisation domain.  Number of samples – maximum per drillhole = 5, first search 12 min / 30 max, second search 10 min / 40 max, volume factor 2, third search 5 min / 60 max, volume factor 4.
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Domain boundary conditions — A hard boundary is applied to all domains.  The Montagne Deposit, previously known as Alaric 2, was removed from the Yamarna Mineral Resource in 2015 as the Resource did not meet internal Gold Road standards. As such, this Mineral Resource estimation and evaluation is considered an update, however due to the previous reporting approach, where Alaric 1, 2 and 3 deposits (now known as Argos, Montagne and Alaric respectively), were grouped
	together and reported as a single entity it is not possible to compare the two resources.
The assumptions made regarding recovery of by-products.	No economic by-products.
Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	Metallurgical test work at a neighbouring deposit indicates no deleterious elements.
In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block size of 5 m X by 25 m Y by 5 m Z is approximately one quarter of the average drill spacing of 25 m X by 25 m Y in Indicated areas.
Any assumptions behind modelling of selective mining units.	The Selective Mining Unit chosen is a function of the Whittle optimisation and parent block size of 5 m X by 12.5 m Y by 5 m Z.
Any assumptions about correlation between variables.	No correlation between variables analysed or made; the resource is gold-only.
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control the estimation. If geostatistics, variography and/or visual checks of the model were difficult to understand then the geological interpretation was questioned and refined.
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when using Ordinary Kriging.



Criteria and JORC Code explanation	Commentary
The process of validation, the checking process used, the comparison of	Validation checks performed:
model data to drill hole data, and use of reconciliation data if available.	QQ plot of RC vs DDH input grades.
	Volume of wireframe vs volume of block model
	Sum of gram metres prior to compositing vs sum of gram metre
	post compositing
	Negative gold grade crieck
	Model average grade vs declustered top-cut sample grade b Domain.
	<ul> <li>Swath plots by Northing and elevation by Domain.</li> <li>Visual check of drill data vs model data in plan, section and thre dimensions.</li> <li>All validation checks gave acceptable results.</li> </ul>
	No mining, therefore no reconciliation data available.
Moisture	
Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Bulk density values used are a combination of local and regional data Average bulk density values are modified by a moisture percentage s that dry tonnages are reported. Percentage reductions were overburden and saprolite 5%, saprock 3%, transition 2% and fresh 1%
Cut-off parameters	
The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade used for reporting is 0.50 g/t. This has bee determined from the latest regional mining, geotechnical an processing parameters developed from the Attila – Alaric Pr Operational Plan. Processing costs include haulage to the proposed mil
Mining factors or assumptions	
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The mining method assumed is a conventional open pit with a contract mining fleet appropriately scaled to the size of the deposit.  De facto minimum mining width is a function of (re-blocked) parent ce size (5 m X by 12.5 m Y by 5 m Z).  No allowance for dilution or recovery has been made. However minimum selection of 2m downhole is invoked at the mineralisatio interpretation stage.
Metallurgical factors or assumptions  The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery assumptions used in the optimisation ar informed by numerous testwork programmes completed between 199 and 2017 on samples from the Attila-Alaric Trend. The recoverie applied in the optimisation range from 85% to 92%, depending on or type and are derived from results specific to the neighbouring Alari deposit testwork.
Environmental factors or assumptions	
Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Surface waste dumps will be used to store waste material from open p mining.  A conventional tailings storage facility as defined in the Gruyer Operational Plan will be utilised for tailings disposal.  No test work has been completed regarding potential acid min drainage material types, however, if identified in future studie appropriate measures will be used to manage any issues.
Bulk density  Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.  The bulk density for bulk material must have been measured by	Bulk density has been determined using data available from the Attila Alaric trend drilling, and other more detailed bulk density data in the region. Historical data from Attila was collected using the weight in a / weight in water method.
The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the	Bulk density is applied by weathering (material) type.

deposit.



Criteria and JORC Code explanation	Commentary
Discuss assumptions for bulk density estimates used in the evaluation	Data was coded by weathering type (material) and domain
process of the different materials.	(mineralisation). Assumptions for moisture percentages were made and accounted for in the final value used for bulk density.
Classification	
The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource is constrained within a Whittle shell. Blocks in the geological model above that shell have been classified as Indicated or Inferred. No measured has been classified due to inadequate drill spacing to resolve high short range variability. Several factors have been used in combination to aid the classification;  Drill hole spacing Indicated - 25 m East by 25 m North Inferred - 25 m East by 100m North. Depth of drilling and 50 m along strike from extent of drilling. Extrapolation 40 m down dip from last drill hole intercept.
	Geological continuity.
	Grade continuity.
	<ul> <li>Estimation quality parameters derived from the Ordinary Kriging process.</li> </ul>
Whether appropriate account has been taken of all relevant factors (ie	All relevant factors have been taken into account in the classification of
relative confidence in tonnage/grade estimations, reliability of input	the Mineral Resource.
data, confidence in continuity of geology and metal values, quality,	
quantity and distribution of the data).	
Whether the result appropriately reflects the Competent Person's view	The Mineral Resource estimate appropriately reflects the Competent
of the deposit.	Persons' view of the deposit.
Audits or reviews	
The results of any audits or reviews of Mineral Resource estimates.	Internal geological peer reviews were held and documented.  Reviews were completed with appropriate Gold Fields staff as part of the Gruyere JV requirements and considered geology, estimation and inputs to optimisation.
Discussion of relative accuracy/ confidence	
Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	Variances to the tonnage, grade and metal of the Mineral Resource estimate are expected with further definition drilling. It is the opinion of the Competent Persons that these variances will not significantly affect economic extraction of the deposit.
The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should	The Mineral Resource relates to global tonnage and grade estimates.
include assumptions made and the procedures used.	No providence position
These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining.



# **YAM14**

### JORC CODE 2012 EDITION TABLE 1 – SECTIONS 1 TO 3

# Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.) Criteria and JORC Code explanation

Criteria and JORC Code explanation	Commentary
Sampling techniques	
Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	The sampling has been carried out using a combination of Reverse Circulation (RC) and diamond drilling (DDH).  All drilling was completed at -60 degrees dip to 270 degrees west (MGA Grid) orientation.  DDH: Drill core is logged geologically and marked up for assay at approximate 0.5 - 1 m intervals based on geological observations. Drill core is cut in half by a diamond saw and half core samples submitted for assay analysis. Where whole core is specified, the entire interval is submitted for analysis.  RC: Samples were collected as drilling chips from the RC rig using a cyclone collection unit and directed through a static cone splitter to create a 2-3 kg sample for assay. Samples were taken as individual metre samples and composite samples collected with a spear.
Include reference to measures taken to ensure sample representation	Sampling was carried out under Gold Road's protocol and QAQC
and the appropriate calibration of any measurement tools or systems used.	procedures. Laboratory QAQC was also conducted. See further details below
Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	DDH: diamond drilling was completed using a PQ, HQ3 or NQ2 drilling bit for all holes. Core is cut in half for sampling, with a half core sample sent for assay at measured intervals. All sample pulps are analysed by the laboratory using a desk mounted Portable XRF machine to provide a 30 element suite of XRF assays. Where whole core sampling is required, the entire interval is submitted for analysis.  RC: holes were drilled with a 5.5 inch face-sampling bit, 1 m samples collected through a cyclone and static cone splitter, to form a 2-3 kg sample. For all samples the entire 1 m sample was sent to the laboratory for analysis. (Historically, for non-mineralised samples identified through logging, four consecutive 1 m samples were composited to form a 4 m composite sample for analysis.) All samples were fully pulverised at the lab to -75 um, to produce a 50 g charge for Fire Assay with AAS finish. All pulps from the samples were also analysed by the laboratory using a desk mounted Portable XRF machine to provide a 30 element suite of XRF assays.  RC samples suspected to have been subject to any down hole contamination are twinned with DDH as a check.
Drilling techniques	
Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	DDH: diamond drilling rigs operated by Terra Drilling Pty Ltd and DDH1 Drilling Pty Ltd collected the diamond core as PQ3 (83.1 mm), HQ3 (61.1 mm) and NQ2 (45.1 mm) size for sampling and assay. All suitably competent drill core (100%) is oriented using Reflex orientation tools, with core initially cleaned and pieced together at the drill site, and fully orientated by GOR field staff at the Yamarna Exploration Camp core farm.  RC: RC drilling rigs, owned and operated by Raglan Drilling and Ranger Drilling, were used to collect the RC samples. The face-sampling RC bit has a diameter of 5.5 inches (140 mm).
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed.	The majority of samples collected from all drilling were dry, minor RC samples were damp. <b>DDH</b> : All diamond core collected is dry. Driller's measure core recoveries for every drill run completed using 3 and 6 m core barrels. The core recovered is physically measured by tape measure and the length recovered is recorded for every 3 m "run". Core recovery can be calculated as a percentage recovery. Almost 100% recoveries were achieved, with minimal core loss recorded in strongly weathered material near the base of saprolite.



Criteria and JORC Code explanation	Commentary
Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC: The RC samples were dry. Drilling operators' ensured water was lifted from the face of the hole at each rod change to ensure water did not interfere with drilling and to make sure samples were collected dry. All samples collected were dry. RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Recovery of the samples was good, generally estimated to be full, except for some sample loss at the top of the hole. All mineralised samples were dry. If samples cannot be collected dry, the hole is completed with a DDH tail.  DDH: diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.
	RC: face-sample bits and dust suppression were used to minimise sample loss. Drilling airlifted the water column above the bottom of the hole to ensure dry sampling. 2 to 3 kg RC samples are collected through a cyclone and static cone splitter into calico bags, the rejects deposited in a plastic bag. The 2 to 3 kg sample size is ideal to enable a full sample pulverisation at the laboratory. If samples cannot be collected dry, the hole is completed with a DDH tail.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	<b>DDH:</b> no sample bias was observed to have taken place during drilling activities. A small amount of core loss was noted and recorded <b>RC:</b> no significant sample bias or material loss was observed to have taken place during drilling activities. RC samples suspected to have been subject to any down hole contamination are twinned with DDH as a check. A small amount of sample loss was observed and recorded
Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource Estimation, mining studies and metallurgical studies.	All chips and drill core were geologically logged by Gold Road geologists, using the Gold Road logging scheme. Detail of logging was sufficient for mineral resource estimation and technical studies.  Logging of <b>DDH</b> core records lithology, mineralogy, mineralisation, alteration, structure, weathering, colour and other features of the samples. All core is photographed in the cores trays, with individual photographs taken of each tray both dry and wet.  Logging of <b>RC</b> chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging codes have been developed over time and the historical codes translated to a scheme similar to the current Gold Road logging scheme in 2007. This provides data to a level of detail adequate to support Mineral Resource Estimation activities.  Some holes are logged using hand held NITON XRF to assist in lithogeochemical analysis. From 2016 most fire assay results routinely include pXRF collected at the lab and used to validate logging.
Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of RC chips captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  Logging of drill core captures lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural information from oriented drill core. All samples are stored in core trays.  All core is photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the Gold Road server database.
The total length and percentage of the relevant intersections logged	All holes were logged in full.
Sub-sampling techniques and sample preparation If core, whether cut or sawn and whether quarter, half or all core taken.	Core samples were cut in half using an automated Corewise diamond saw. Half core samples were collected for assay, and the remaining half core samples stored in the core trays. Where whole core was required (17DHDD0014) the entire interval was submitted. No core was left in the core tray.



Criteria and JORC Code explanation	Commentary
If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC: 1 m drill samples are channelled through a rotary or static conesplitter, installed directly below a rig mounted cyclone, and an average 2-3 kg sample is collected in a calico bag, and positioned on top of the plastic bag containing the reject. >95% of samples were dry, and whether wet or dry is recorded. Historically, for composite samples, four consecutive green plastic bags were sampled using a PVC spear and combined to produce a 4 m composite sample of 2-3 kg.
For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were prepared at the Intertek laboratory in Kalgoorlie. Samples were dried, and the whole sample pulverised to 85% passing 75um, and a sub-sample of approx. 200g retained. A nominal 50g was used for the analysis. The procedure is industry standard for this type of sample.
Quality control procedures adopted for all sub-sampling stages to maximise representation of samples.	A duplicate field sample is taken from the cone splitter at a rate of approximately 1 in 60 samples. At the laboratory, regular Repeats and Lab Check samples are assayed.
Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Gold Road protocols state duplicate samples are collected at a frequency of 1 in 40 samples for all drill holes.  RC duplicate samples are collected directly from the Rig-mounted rotary cone splitter.
Whether sample sizes are appropriate to the grain size of the material being sampled.	No diamond duplicates were collected.  Sample sizes are considered appropriate for the mineralisation given the particle size and the preference to keep the sample weight below a targeted 3 kg mass which is the optimal weight to ensure requisite grind size in the LM5 sample mills used by Intertek in sample preparation.
Quality of assay data and laboratory tests  The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	DDH and RC: Samples were analysed at the Intertek laboratory in Perth. The analytical method used was a 50g Fire Assay with ICP finish for gold only, which is considered to be appropriate for the material and mineralization. The method gives a near total digestion of the material intercepted in RC drilling.  Portable XRF provides a semi-quantitative scan on a prepared pulp sample. The scan is done through the pulp packet in an air path. A total of 30 elements are reported using the "soil" mode i.e. calibrated for low level silicate matrix samples. The reported data includes the XRF unit and operating parameters during analysis. The elements available are; Ag, As, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mn, Mo, Ni, P, Pb, Rb, S, Sb, Se, Sn, Sr, Th, Ti, U, V, W, Y, Zn and Zr.  Portable XRF data on a prepared pulp are subject to limitations which include absorption by the air path, as well as particle size and mineralogical effects. Light elements in particular are very prone to these effects. Matrix effect correction algorithms and X-ray emission line overlaps (e.g. Fe on Co) are a further source of uncertainty in the data. Gold Road uses XRF only to assist with determination of rock types, and to identify potential anomalism in the elements which react most appropriately to the analysis technique.  The first fresh rock sample in each hole at the YAM14 prospect analysed using the Intertek multi-element 4A/OM routine which uses a 4 acid digestion of the pulp sample and then analysis of 60 individual elements have different detection limits with each type of machine and the machine that offers the lowest detection limit is used. Four acid digestion, with the inclusion of hydrofluoric acid targeting silicates, will decompose almost all mineral species and are referred to as "near-total digestion, with the inclusion of hydrofluoric acid targeting silicates, will decompose almost all mineral species and are referred to as "near-total digestion digest to ensure complete dissolution. Four acid digests may volatilise some ele
For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	NITON handheld XRF was used on a small number of drill holes. Calibration of the hand-held XRF tools is applied at start-up. XRF results are only used for indicative analysis of lithogeochemistry and alteration and to aid logging and subsequent interpretation. Four acid digest data is also used to assist in lithogeochemical determination. pXRF analysis, conducted at the lab, is completed on most holes post 2016 to aid in lithogeochemical determination.



#### Criteria and JORC Code explanation Commentary Nature of quality control procedures adopted (eg standards, blanks, Gold Road protocol for RC programs is for Field Standards (Certified duplicates, external laboratory checks) and whether acceptable levels of Reference Materials) and Blanks inserted at a rate of 3 Standards and 3 accuracy (ie lack of bias) and precision have been established. Blanks per 100 samples. Field Duplicates are generally inserted at a rate of approximately 1 in 40. For drilling at YAM14 the relevant assays and QAQC numbers are as follows: RC Assay and QAQC Numbers Number Comment Assays (including 13,425 QAQC) Field Std 329 Field Blank 330 Field Dup 209 Lab Std 402 Lab Blank 399 Lab Check 396 The protocol for DDH programs is for Field Standards (Certified Reference Materials) and Blanks inserted at a rate of 3 Standards and 3 Blanks per 100 samples. No field duplicates are collected. Assay and QAQC Number Comment Assays (including 2,023 Field Std 57 Field Blank 57 Field Dup 16 46 51 Lab Blank Lab Check 42 Results of the Field and Laboratory QAQC were checked on assay receipt using QAQCR software. All assays showed no significant level of contamination or sample bias. Verification of sampling and assaying The verification of significant intersections by either independent or Significant results are checked by the Principal Resource Geologist and alternative company personnel. Executive Director. Additional checks are completed by the Database Manager. High grade gold RC samples are panned or sieved to check for visual evidence of coarse gold. The use of twinned holes. 17DHDD0010 twinned the RC hole 17DHRC0060. Significant gold mineralisation was intersected by the RC twin in the expected location. Tenor of mineralisation is not relevant given differences in the quality of the sampling techniques. The DDH intersected similar widths and locations of mineralisation. However, the tenor of grade was lower. The mineralised zone is highly weathered and some problems with sample loss were encountered. Documentation of primary data, data entry procedures, All field logging is carried out on Toughbooks using LogChief. Logging data is submitted electronically to the Database Geologist in the Perth verification, data storage (physical and electronic) protocols. office. Assay files are received electronically from the Laboratory. All data is stored in a Datashed/SQL database system, and maintained by the Database Manager. Discuss any adjustment to assay data. No assay data was adjusted. The lab's primary Au field is the one used for plotting and resource purposes. No averaging is employed. Location of data points Accuracy and quality of surveys used to locate drill holes (collar and Most drill hole locations were verified by handheld GPS, with an accuracy of 5m in Northing and Easting. DDH and RC collars are down-hole surveys), trenches, mine workings and other locations used surveyed post drilling by a Certified Surveyor using a DGPS system. in Mineral Resource Estimation. For angled DDH and RC drill holes, the drill rig mast is set up using a clinometer. RC drillers use an electronic single-shot camera to take dip and azimuth readings inside the stainless steel rods, at 30 m intervals. DDH drillers use a true north seeking gyroscope at 30 m intervals and end-of-hole. Grid projection is MGA94, Zone 51. Specification of the grid system used.



Criteria and JORC Code explanation	Commentary
Quality and adequacy of topographic control.	A topographic surface was generated using a Lidar survey completed in 2015. The accuracy of the DTM is estimated to be better than 1 m in elevation.
Data spacing and distribution	- Cleration.
Data spacing for reporting of Exploration Results.	Drill spacing varies from 25 to 50 to 100 m along strike to 12.5 to 25 to 50 to 100m on section.
Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Spacing of the reported drill holes is sufficient for the geological and grade continuity of the deposit, is appropriate for Resource Estimation procedures and to report Indicated, and Inferred Resources.
Whether sample compositing has been applied.	No sample compositing was applied.
Orientation of data in relation to geological structure  Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The orientation of the drill lines (270 degrees azimuth) is approximately perpendicular to the strike of the regional geology. All holes are drilled approximately -60 degrees angled to the West (270).  Drilling is considered to have been perpendicular to strike of mineralisation. Detailed structural logging of DDH core identified important stratigraphic sequences with an approximate moderate-steep dip to the east. Drilling angled RC or DDH holes -60 degrees to the west does not introduce any directional bias given the current understanding of the structural orientations and the dip and strike of mineralisation.
Sample security The measures taken to ensure sample security.	Pre-numbered calico sample bags were collected in plastic bags (four calico bags per single plastic bag), sealed, and transported by company transport to the Intertek laboratory in Kalgoorlie. Pulps were despatched by Intertek to their laboratory in Perth for assaying.
<b>Audits or reviews</b> The results of any audits or reviews of sampling techniques and data.	Sampling and assaying techniques are industry-standard. No specific audits or reviews have been undertaken at this stage in the programme.

# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria listed in the preceding section also apply to this sec	
Criteria and JORC Code explanation	Commentary
Mineral tenement and land tenure status	
Type, reference name/number, location and ownership including	The RC and diamond exploration drilling was managed by Gold Road,
agreements or material issues with third parties such as joint ventures,	which since November 2016 has formed part of the 50:50 Gruyere JV
partnerships, overriding royalties, native title interests, historical sites,	with Gold. This tenement is located on the Yamarna Pastoral Lease
wilderness or national park and environmental settings.	which is owned and managed by Gold Road.
	Tenement M38/1267 is located on tenements granted in respect of land
	in which non-exclusive native title has been determined to exist and to
	be held by a group of native title holders which includes the persons on
	whose behalf the Yilka (WAD297/2008) and Sullivan Edwards
	(WAD498/2011) native title claims were brought. The determination
	was made by the Federal Court on 27 September 2017. The native title
	holders are required to nominate a body corporate to act as trustee of,
	or as their agent in future dealings relating to, their native title.
	Exploration activities in the specified "Gruyere and Central Bore Project
	Areas" within the Pastoral Lease are conducted in accordance with the
	2016 "Gruyere and Central Bore Native Title Agreement" between Gold
	Road, the Yilka native title claim group and Cosmo Newberry Aboriginal
	Corporation. Exploration activities within the balance of the Pastoral
	Lease are conducted in accordance with the 2004 "Yamarna Pastoral
	Lease Heritage Protection Agreement" between Gold Road and Harvey
	Murray (the applicant in relation to the Yilka native title claim).
The security of the tenure held at the time of reporting along with any	The tenements are in good standing with the Western Australian
known impediments to obtaining a licence to operate in the area	Department of Mines, Infrastructure, Resource and Safety.
Exploration done by other parties	



#### Criteria and JORC Code explanation Commentary Acknowledgment and appraisal of exploration by other parties. There has been no historical drilling or work completed prior to Gold Road's activity, commencing in 2013. Geology Deposit type, geological setting and style of mineralisation. The gold prospects and Mineral Resources at Yamarna are located in the Archaean Yilgarn greenstone belt of WA, under 20 to 30 m of Permian and recent sand cover. The mafic-intermediate volcanosedimentary sequence has been multiply deformed and metamorphosed to Lower Amphibolite grade and intruded by later porphyries/granitoids. The Archaean sequence is considered prospective for structurally controlled primary orogenic gold mineralisation, as well as remobilised supergene gold due to subsequent Tertiary weathering. The YAM14 prospect is situated in the south end of the regional campscale South Dorothy Hills Target identified by Gold Road during its Regional Targeting campaign completed in early 2013. Discovered at the same time as Gruyere the target comprises a coincident structuralgeochemical target within a major regional-scale structural corridor associated with the Dorothy Hills Shear Zone. This zone occurs within the Dorothy Hills Greenstone Belt at Yamarna in the eastern part of the Archaean Yilgarn Craton. The Dorothy Hills Greenstone is the most easterly known occurrence of outcropping to sub-cropping greenstone in the Yilgarn province of Western Australia. Mineralisation at the YAM14 prospect is located at a major flexure of the Dorothy Hill Shear Zone and north of the northwest trending Monocot Fault (interpreted from aeromagnetics). Mineralisation is hosted in six north-northwest striking and steep to moderate east dipping discrete shear zones. The Main Shear is the most continuous zone of mineralisation and is localised on the contact between a sheared rhyolitic tuff and Intermediate Sediments. Two hanging wall shear zones are localised on mafic and intermediate sediment contacts (HW01 and HW02). In the immediate footwall to the Main Shear is a zone of mineralisation hosted entirely in the sheared rhyolitic tuff and two footwall shears (FW01 and FW02) are hosted within intermediate sediments, shales and felsic intrusives at the southern end of the prospect. Mineralised structures are generally 4m wide, however, there is a thickening up to 64 m in a zone where the dip of the structures refract through a "ramp-flat-ramp" geometry in association with the lithology. Primary mineralisation in fresh rock is hosted within shearing and is associated with quartz veining and albite-chlorite-pyrite-pyrrhotitearsenopyrite alteration. The weathering profile is of moderate thickness with the transition to fresh rock occurring at a depth of 50 to 60 m. Within the weathered profile, mineralisation is observed to be associated with quartz veining and preserved shearing with iron staining after sulphides. Observations of primary controls indicate that mineralisation is likely in situ and undergone only minor dispersion and localised leaching. **Drill hole Information** A summary of all information material to the understanding of the Previous exploration announcements that contain reported drill hole information for all RC and diamond holes included in the reported exploration results including a tabulation of the following information Mineral Resource estimation are listed in Appendix 2 for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. Data aggregation methods In reporting Exploration Results, weighting averaging techniques, No weighting or averaging of grades was undertaken. maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.



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

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria and JORC Code explanation	Commentary
Database integrity  Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource Estimation purposes.	Geological metadata is stored centrally in a relational SQL database with a DataShed front end. Gold Road employs a Database Manager who is responsible for the integrity and efficient use of the system. Only the Database Manager or the Data Entry Clerk has permission to modify the data.  Sampling and geological logging data is collected in the field using LogChief software and uploaded digitally. The software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database.  Sampling data is sent to, and received from, the assay laboratory digitally.  Drill hole collars are picked up by differential GPS and delivered to the database digitally.  Down hole surveys are delivered to the database digitally.  The Mineral Resource estimate only uses a selection of RC and DDH assay data
Data validation procedures used.	DataShed software has validation procedures that include constraints, library tables, triggers and stored procedures. Data that does not pass validation must be corrected first.  The LogChief software utilises lookup tables, fixed formatting and validation routines to ensure data integrity prior to upload to the central database. Geological logging data is checked visually in three dimensions against the existing data and geological interpretation.  Assay data must pass company QAQC hurdles. Gold Road utilises QAQCR software to further analyse QAQC data, and batches which do not meet criteria are requested to be re-assayed. Sample grades are checked visually in three dimensions against the logged geology and geological interpretation.  Drill hole collar pickups are checked against planned and/or actual collar locations.  A hierarchical system is used to identify the most reliable down hole survey data. Drillhole traces are checked visually in three dimensions. Data validation procedures of previous companies are not readily available.
Site visits  Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case	Justin Osborne is Gold Road's Executive Director of Exploration & Growth and a Competent Person. He conducts regular site visits and covers all aspects of the Project. John Donaldson is Gold Road's General Manager Geology and a Competent Person. He has completed specific site visits to focus on understanding the geology of YAM14. Jane Levett is Gold Road's Principal Resource Geologist and a Competent Person and has completed several specific site visits to focus on understanding the geology of YAM14 from field observations, diamond core and RC chips.
Geological interpretation  Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Diamond drilling allows a robust geological interpretation to be developed. Airborne magnetic data and induced polarisation data gives weight to the broad interpretation and breaks in the continuity of stratigraphy (fault offsets) provide an explanation for strike extents of mineralisation.  Type and thickness of host lithology, and mineralisation, is moderately predictable along strike and down dip.  As the deposit has moderate grade and geological continuity at the current drill spacing, the Competent Persons regard the confidence in the geological interpretation as high.



Criteria and JORC Code explanation	Commentary
Nature of the data used and of any assumptions made.	All available data has been used to help build the geological interpretation. This is includes geological logging data (lithology and
	structure), portable XRF multi-element data, gold assay data, induced
	polarisation and airborne magnetic surveys.
The effect, if any, of alternative interpretations on Mineral Resource	Modelling of the mineralisation was conducted with reference to
Estimation.	interpretation iterations developed since 2013. New IP survey data and
	refined understanding of stratigraphy has improved geological.
The use of geology in guiding and controlling Mineral Resource	Regionally the deposit is hosted within the Dorothy Hills greenstone
Estimation.	belt. The YAM14 prospect is located proximal to the north south
	striking Dorothy Hills Shear Zone.
	Host rocks to gold mineralisation at YAM14 are dominated by a felsic volcanoclastic sedimentary package and a sequence of intercalated
	mafic and intermediate sediments. Primary gold mineralisation in the
	north is hosted within north-south striking, moderately east dipping
	shear zones and are confined to a zone between the felsic tuff
	(Stimson's Felsic Tuff) and a high chrome marker unit of the intercalated
	mafic to intermediate sediments of the hangingwall package. In the
	southern portion of the deposit, the main mineralisation is located to
	the footwall of the SFT. Primary mineralisation in this area is not as well
	developed. Mineralisation is associated with increased quartz veining,
	sulphide presence and alteration. Mineralisation within the sheared
	package has been modelled at a 0.2 g/t cut-off, including up to 2 m of
	internal waste. Internal higher grade zones correspond to higher
	intensity alteration, presence of sulphides and a greater density of quartz veining. Two major faults have been delineated, the Monocot to
	the south and the Breakaway in the north. These faults are interpreted
	from aeromagnetic and IP data. The faults appear to define the along
	strike extent of mineralisation, however the area north of the
	Breakaway Fault has not been thoroughly tested. The trend of the main
	mineralisation is interpreted to be dipping to the east at 55-75°.
	The mineralisation trend can be readily observed in areas of closely
	spaced drilling and easily interpreted in wider spaced areas.
	Spatial analysis of assay data using variography supports and helps to
	refine the mineralisation orientations during the interpretive process.
The factors affecting continuity both of grade and geology.	Cross-cutting features interpreted as faults from the aeromagnetic
	imagery (2011) and induced polarisation data (2017) appear to bound different zones of mineralisation.
Dimensions	different zones of mineralisation.
The extent and variability of the Mineral Resource expressed as length	Length along strike: 850 m (pit shell constraint, two individual shells)
(along strike or otherwise), plan width, and depth below surface to the	Horizontal Width: 45 m (comprising a series of 5-10 m wide mineralised
upper and lower limits of the Mineral Resource.	surfaces).
•	Depth from surface to limit of Mineral Resource: 125 m.
	The Mineral Resource has been constrained by an optimised Whittle
	shell that considers all mineralisation in the geological model. The
	optimisation utilises mining, geotechnical and processing parameters
	from Gruyere Feasibility Study and an A\$1,850 per ounce gold price.
	Only Measured, Indicated and Inferred categories within this shell are
	reported as Mineral Resource. Mineralisation in the geology model
	outside the shell is not reported.



Criteria and JORC Code explanation	Commentary
Estimation and modelling techniques.	
•	Software used:  Leapfrog Geo – Drillhole validation, lithology, material type, mineralisation and fault wireframes  Datamine Studio RM – Drillhole validation, cross-section, plan and long-section plotting, block modelling, estimation, block model validation, classification, reporting.  Snowden Supervisor – Statistics, variography, kriging neighbourhood analysis, block model validation  Block model and estimation parameters:  Treatment of extreme grade values (top cuts): 5 to 20 g/t Au top-cut applied to 1 m composites selected within mineralisation wireframes. A 2.5 g.t Au top cut is used for the laterally dispersed weathered domains.  Top cuts were determined by domain through analysis of histograms, log histograms, log probability plots and spatial analysis.  Estimation technique: Ordinary Kriging. KNA was undertaken to optimise the search neighbourhood used for the estimation and test the parent block size. The search ellipse and selected samples by block were viewed in three dimensions to verify the parameters.  The grid is MGA94 zone 51.  Parent block size - 5 m X by 12.5 m Y by 5 m Z (parent cell estimation with full subset of points).  Smallest subcell - 2.5 m X by 2.5 m Y by 1 m Z (small X dimension is required to fill mineralisation wireframes and a small Z dimension is required to fill mineralisation wireframes and a small Z dimension is required to fill to material type boundaries).
	Discretisation - 3 X by 5 Y by 2 Z (using number of points method). Search ellipse – aligned to mineralisation trend, dimensions range from 10-30 m X by 60-120 m Y by 30-80 m Z depending on mineralisation domain. Dynamic Anisotropy (where the orientation of the ellipse is modified by the dip and strike of the wireframe) is utilised for the estimation of Domains 5400, 5500, 5600 and 5700. Number of samples – maximum per drillhole = 6, first search 16 min / 32 max, second search 4 min / 32 max, third search 1 min / 32 max. Domain boundary conditions – A hard boundary is applied to all
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	domains.  The project has not previously been estimated. Alternate interpretations and iterations of the estimate have been completed and do not differ materially from the interpretation and estimation utilised in the Maiden Mineral Resource.
The assumptions made regarding recovery of by-products.  Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).  In the case of block model interpolation, the block size in relation to the	No economic by-products.  Initial Leachwell analysis, a proxy for high level metallurgical test work indicates no deleterious elements.  The parent block size of 5 m X by 12.5 m Y by 5 m Z is approximately one
average sample spacing and the search employed.  Any assumptions behind modelling of selective mining units.	quarter of the average drill spacing of 25 m X by 50 m Y in Indicated areas.  The Selective Mining Unit chosen is a function of the Whittle
	optimisation and parent block size of 5 m X by 12.5 m Y by 5 m Z.
Any assumptions about correlation between variables.	No correlation between variables analysed or made; the resource is gold-only.
Description of how the geological interpretation was used to control the resource estimates.	The geological interpretation was used at all stages to control the estimation. If geostatistics, variography and/or visual checks of the model were difficult to understand then the geological interpretation was questioned and refined.
Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used in the estimate as this is the most appropriate way to control outliers when using Ordinary Kriging.



Criteria and JORC Code explanation	Commentary
The process of validation, the checking process used, the comparison of	Validation checks performed:
model data to drill hole data, and use of reconciliation data if available.	QQ plot of RC vs DDH input grades.
	Volume of wireframe vs volume of block model
	Sum of gram metres prior to compositing vs sum of gram metres
	post compositing  Negative gold grade check
	I Vegative gold grade thetk
	Model average grade vs declustered top-cut sample grade by Domain.
	<ul> <li>Swath plots by Northing and elevation by Domain.</li> <li>Visual check of drill data vs model data in plan, section and three dimensions.</li> <li>All validation checks gave acceptable results.</li> </ul>
	No mining, therefore no reconciliation data available.
Moisture	-
Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Bulk density values used are a combination of local and regional data. Average bulk density values are modified by a moisture percentage so that dry tonnages are reported. Percentage reductions were: overburden and saprolite 5%, saprock 3%, transition 2% and fresh 1%.
Cut-off parameters	
The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade used for reporting is 0.40 g/t. This has been determined from the latest regional mining, geotechnical and processing parameters developed from the Gruyere Feasibility Study Processing costs include haulage to the proposed mill.
Mining factors or assumptions	
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The mining method assumed is a conventional open pit with a contract mining fleet appropriately scaled to the size of the deposit.  De facto minimum mining width is a function of parent cell size (5 m X by 12.5 m Y by 5 m Z).  No allowance for dilution or recovery has been made. However, a minimum width of 2 m for steeply dipping zones and 1 m for flat lying zones are used in construction of the mineralisation wireframes.
Metallurgical factors or assumptions  The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery assumptions used in the optimisation are informed by numerous testwork programmes completed between 2013 and 2017 on samples from the neighbouring Gruyere deposit. The recoveries applied in the optimisation range from 91% to 94%, depending on ore type. Leachwell testwork has been completed as a high level scan for any refractory issues, none were encountered.
metallurgical assumptions made.	
Environmental factors or assumptions  Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Surface waste dumps will be used to store waste material from open pit mining.  A conventional tailings storage facility as defined in the Gruyere Operational Plan will be utilised for tailings disposal.  No test work has been completed regarding potential acid mine drainage material types, however, if identified in future studies appropriate measures will be used to manage any issues.
<b>Bulk density</b> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density has been determined using limited data available from the YAM14 drilling, and other more detailed bulk density data in the region.



Criteria and JORC Code explanation	Commentary
The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density is applied by weathering (material) type.
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Data was coded by weathering type (material) and domain (mineralisation). Assumptions for moisture percentages were made and accounted for in the final value used for bulk density.
Classification  The basis for the classification of the Mineral Resources into varying confidence categories.	The Mineral Resource is constrained within a Whittle shell. Blocks in the geological model above that shell have been classified as Indicated or Inferred. No measured has been classified due to inadequate drill spacing. Several factors have been used in combination to aid the classification:  Drill hole spacing Indicated - 25 m East by 25 m North Inferred - 50 m East by 100m North. Depth of drilling and 50 m along strike from extent of drilling. Extrapolation 40 m down dip from last drill hole intercept.  Geological continuity. Grade continuity. Estimation quality parameters derived from the Ordinary Kriging process.
Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant factors have been taken into account in the classification of the Mineral Resource.
Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Persons' view of the deposit.
Audits or reviews  The results of any audits or reviews of Mineral Resource estimates.	Internal geological peer reviews were held and documented. Reviews were completed with appropriate Gold Fields staff as part of the Gruyere JV requirements and considered geology, estimation and inputs to optimisation.
Discussion of relative accuracy/ confidence  Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.  The statement should specify whether it relates to global or local	Variances to the tonnage, grade and metal of the Mineral Resource estimate are expected with further definition drilling. It is the opinion of the Competent Persons that these variances will not significantly affect economic extraction of the deposit.  The Mineral Resource relates to global tonnage and grade estimates.
estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No previous mining.



# **Appendix 2**

### **Previous ASX Announcements – Argos and Montagne Mineral Resource**

Date of	Announcement Title	Significance
Announcement		
19/12/2017	Yamarna Exploration Update: High-Grade Bedrock Success and New Anomalies	Drill Results
	Defined	
26/08/2017	Latest Drilling Results Add Value to the Gruyere Gold Project	Drill Results
16/01/2017	Yamarna Resource and Reserve Update	Resource Update post JV
16/09/2015	Gruyere Resource Increases to 5.62 Million Ounces; Yamarna Mineral Resource	Resource Announcement
	Fully JORC 2012 Compliant	

#### **Previous ASX Announcements – YAM14 Mineral Resource**

Date of	Announcement Title	Significance
Announcement		
26/09/2017	Latest Drilling Results Add Value to the Gruyere Gold Project	Drill Results
27/06/2017	Yamarna Exploration Update: Significant Intersections Returned Across the	Drill Results
	Tenement Package	
17/01/2017	Acceleration of Exploration at Yamarna in 2017 – Budgeting up to A\$22 Million	Exploration Update & Drill
	Spend	Results
10/10/2016	Initial Resource Drilling Completed at Yam14	Drill Results
21/06/2016	First Diamond Holes Drilled at Yam14 Prospect Confirm High-Grade Gold	Drill Results
	Mineralisation	
04/11/2013	Assays from Resampling Confirm Discoveries at Dorothy Hills	Drill Results
14/10/2013	Breakthrough Gold Discoveries Confirmed at Dorothy Hills	Drill Results
17/09/2013	RAB Intersects Second Gold Mineralised Zone at Dorothy Hills	Drill Results
09/09/2013	Drilling Intercepts Gold Mineralisation – Sth Dorothy Hills	Drill Results
26/08/2013	RAB Drilling identifies Second Gold Anomaly at Dorothy Hills	Drill Results
02/07/2013	Auger Drilling Over Redox Target Identifies 2km Gold Anomaly	Drill Results

#### Previous ASX Announcements – Attila Mineral Resource and Ore Reserve

Date of	Announcement Title	Significance
Announcement		
26/09/2017	Latest Drilling Results Add Value to the Gruyere Gold Project	Drill Results
25/05/2017	Attila Open Pit Resource Increases by 100,000 Ounces - Addendum	Resource Update post JV
15/11/2016	Attila Growth Potential: Drilling Extends Mineralisation	Drill results
16/09/2015	Gruyere Resource Increases to 5.62 Million Ounces; Yamarna mineral Resource Fully JORC 2012 Compliant	Resource Announcement

#### Previous ASX Announcements – Alaric Mineral Resource & Ore Reserve

Date of	Announcement Title	Significance
Announcement		
19/12/2017	Yamarna Exploration Update: High-Grade Bedrock Success and New Anomalies	Drill Results
	Defined	
24/07/2017	Alaric Mineral Resource Doubled	Resource Update
27/06/2017	Yamarna Exploration Update: Significant Intersections Returned Across the	Drill Results
	Tenement Package	
16/01/2017	Yamarna Resource and Reserve Update	Resource Update post JV
17/10/2016	High Grade Extensions Confirmed at Alaric	Drill results
16/09/2015	Gruyere Resource Increases to 5.62 Million Ounces; Yamarna Mineral Resource	Resource Announcement
	Fully JORC 2012 Compliant	



# **Previous and Relevant Gruyere ASX Announcements and Published Papers**

Date of Announcement	Announcement Title	Significance
26/09/2017	Latest Drilling Results Add Value to the Gruyere Gold Project	Drill Results
22/02/2017	Drilling Campaign Marks Start of A\$30M Greenfields Exploration Spend in 2017	Exploration Update
16/01/2017	Yamarna Resource and Reserve Update	Resource Update post JV
2017	Osbourne, J P, Levett, J, Donaldson, J S, Berg, R, Davys, C, Prentice, K, Tullberg, D, Lubieniecki, L Z, Tunjic J A, Bath, A B, and Libby, J W, 2017, Gruyere Gold Deposit, Yamarna, in <i>Australian Ore Deposits</i> (ed: G N Phillips), pp 291-298 (The Australasian Institute of Mining and Metallurgy: Melbourne)	Published Paper
14/09/2016	Gruyere High-Grade Zone Confirmed At Depth	Drill results
1/08/2016	Gruyere Feasibility Study Update	Study Update
22/04/2016	Gruyere Resource Increases to 6.2 Million Ounces Including 0.5 Million Ounces Measured	Resource Update
08/02/2016	Gold Road Pre-Feasibility Study Information Booklet	Information booklet
08/02/2016	Gruyere Pre-Feasibility Study Confirms Long Life Gold Mine 3.2 Moz Maiden Ore Reserve	Reserve Announcement
27/01/2016	Yamarna Exploration Update: Regional Success Continues	Drill results
17-18/11/2015	The Gruyere gold deposit, Yamarna Greenstone Belt, Western Australia – in Conference proceedings, Case histories of discovery, NewGenGold 2015	Published Paper
16/09/2015	Gruyere Resource Increases to 5.62 Million Ounces; Yamarna Mineral Resource Fully JORC 2012 Compliant	Resource Announcement
07/09/2015	Gruyere gold mineralisation confirmed to more than 1km depth	Drill results
10/08/2015	Gruyere Porphyry Intersected 1100m Below Surface	Drill results
03/08/2015	Gruyere PFS - Stage 1 Completed	Study results
24/06/2015	Gruyere drilling confirms higher grade continuity at depth	Drill results
28/05/2015	Gruyere Resource Grows to 5.51m Ounces Gold	Resource Announcement
26/05/2015	Key Appointments to Bolster Gruyere Project PFS	
25/05/2015	Gruyere Resource and PFS Drilling Completed	Drill results
07/05/2015	Further Metallurgical Testwork Success at Gruyere	Metallurgical test results
28/01/2015	Audio Broadcast - Completes Gruyere Scoping Study	
27/01/2015	Gruyere Scoping Study a Robust Long Life Gold Project	Scoping Study results
21/01/2015	Audio Broadcast - Gruyere	
20/01/2015	Best Intersection Ever Extends Gruyere Mineralisation	Drill results
16/12/2014	Exploration update -Sun River -Wanderrie, Gruyere & Toto	Drill results
04/08/2014	3.84 Million Ounce Gruyere Maiden Gold Resource	Resource Announcement
30/07/2014	Gruyere Resource Drill Out - Final Assays Received	Drill results
28/07/2014	Gruyere Assays Confirm Continuity Along Strike and at Depth	Drill results
07/07/2014	Results of Deep Diamond holes at Gruyere	Drill results
03/07/2014	Results of Gruyere Metallurgical Testwork	Metallurgical test results
25/06/2014	New Geochemical Anomaly Identified South of Gruyere Deposit	Regional exploration
23/06/2014	Gruyere Resource Drilling Completed	Drilling update
12/05/2014	Gruyere Drilling Confirms High Grade Trend in Northern Zone	Drill results
07/05/2014	Gruyere Drilling Confirms Model and High Grade Controls	Drill results
05/05/2014	Gruyere Metallurgical Testing Delivers High Recoveries	Metallurgical test results
18/03/2014	Broad Higher Grade Intercepts in Gruyere RC Drilling	Drill results
17/03/2014	Gruyere Diamond Drilling Doubles Depth of Mineralisation	Drill results
13/03/2014	Gruyere Drilling Confirms Northern High Grade Gold at Depth	Drill results
24/02/2014	High Grade Gold Intersection From Gruyere Prospect - amended	Drill results
24/02/2014	High Grade Gold Intersection From Gruyere Prospect	Drill results



Date of Announcement	Announcement Title	Significance
19/02/2014	Continuous Gold Mineralisation Intersected to 250 metres	Drill results
17/02/2014	Drilling shows strike potential - Gruyere expanded to 2,600m	Drill results
03/02/2014	Exceptional Metallurgical Test Results from Gruyere Prospect	Metallurgical test results
14/01/2014	Consistent mineralisation in large gold system at Gruyere	Drill results
23/12/2013	Thick High Grade Mineralisation Extends Gruyere to 1.6km	Drill results
02/12/2013	Continuity of Mineralisation Confirmed at Gruyere Prospect	Drill results
18/11/2013	Gruyere Discovery Doubles in Size at Dorothy Hills Trend	Drill results
04/11/2013	Assays from Resampling Confirm Discoveries at Dorothy Hills	Drill results – Re-assays
14/10/2013	Breakthrough Gold Discoveries Confirmed at Dorothy Hills	Discovery Drill results
17/09/2013	RAB Intersects Second Gold Mineralised Zone at Dorothy Hills	Initial anomalism
26/08/2013	RAB Drilling identifies Second Gold Anomaly at Dorothy Hills	Initial anomalism