Resolute

Annual Ore Reserve and Mineral Resource Statement

as at 31 December 2019

18 February 2020

Growing Resolute Gold Inventory

Mineral Resources of 19.1 million ounces

inclusive of

Ore Reserves of 7.4 million ounces

Highlights

- Resolute's Total Ore Reserves and Mineral Resources as at 31 December 2019, net of mining and stockpile depletion, have been increased by 2.5Moz of gold to a total of 19.1Moz (relative to 31 December 2018)
- Global Ore Reserves are **7.4Moz** of gold, an increase of 1.6Moz from:
  - Acquisition of the Mako Gold Mine Ore Reserves of 740koz of gold; and
  - Ore Reserve growth of 1Moz of gold at the Ravenswood Gold Mine
- Global Mineral Resources, inclusive of Ore Reserves, are **19.1Moz** of gold, an increase of 2.5Moz from:
  - Acquisition of the Mako Gold Mine Mineral Resources of 1.1Moz of gold;
  - Mineral Resource growth of 1.4Moz of gold at the Ravenswood Gold Mine;
  - Managed Mineral Resources at Syama, Mako, Ravenswood and Bibiani increasing to 17.7Moz of gold; and
  - Attributable Mineral Resources from equity investments maintained at 1.4Moz of gold

Resolute Mining Limited (ASX/LSE: RSG, Resolute or the Company) is pleased to announce the Company's Annual Ore Reserve and Mineral Resource Statement as at 31 December 2019. Global Ore Reserves have increased to 7.4 million ounces (Moz) of gold and Global Mineral Resources have increased to 19.1Moz of gold. Global Ore Reserves and Global Mineral Resources include, on a 100%-basis, gold inventories managed and controlled by Resolute (referred to below as Managed Ore Reserves and Managed Mineral Resources respectively) and, on an attributable basis, gold inventories held within the Company's strategic equity investments. These balances are consistent with the Company's previously published position as at 31 December 2018 (see ASX Announcement dated 13 February 2019).

A detailed breakdown of the Company's Ore Reserves and Mineral Resources as at 31 December 2019 is presented in the tables below. The 2019 Annual Ore Reserve Statement is included at Table 4 and the 2019 Annual Mineral Resource Statement is included at Table 5. On a fully attributable basis, recognising Resolute's direct share (net of Government interests) as at 31 December 2019, the Company held Ore Reserves of 6.6Moz of gold and Mineral Resources of 17.2Moz of gold.

Managing Director and CEO, Mr John Welborn, was pleased to confirm Resolute's updated Ore Reserves and Mineral Resources Statement represented a focus on growing the Company's gold inventory as well as improving the quality of Resolute's mineable Ore Reserves:

"Resolute's updated Ore Reserves and Mineral Resources Statement reflects our ability to significantly grow and improve the inventories we maintain at our long life, large scale gold mines, and at the same time demonstrates our commitment to growth by strategic value accretive acquisitions. We will continue to seek to create value by increasing the range and quality of our Mineral Resources by both successful exploration and prudent investment."

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Ore Reserves

Managed Ore Reserves at 31 December 2019, on a 100%-basis, have increased to 7.4Moz following the addition of the Mako Gold Mine (Mako) to its portfolio as part of its acquisition of Toro Gold Limited (Toro Gold) (see ASX Announcement dated 31 July 2019) and growth at the Ravenswood Gold Mine (Ravenswood) as part of work undertaken to advance the Ravenswood Expansion Project (REP). Mining and stockpile depletion at the Syama Gold Mine (Syama), Mako and Ravenswood for calendar year 2019 was 303,500oz. Resolute's asset ownership is 80% of Syama (Mali Government 20%), 100% of Tabakoroni (Mali Government is entitled to a 10% free-carried share and as such Resolute's direct interest is presented at 90%), 90% of Mako (Senegal Government 10%), 100% of Ravenswood, and 100% of Bibiani Gold Mine (Bibiani) (Ghana Government is entitled to a 10% dividend and as such Resolute's direct interest is presented at 90%). As such, the Company's fully attributable Managed Ore Reserves position, net Government interests is 6.6Moz of gold, an increase of 1.5Moz year-on-year.

MANAGED ORE RESERVES (100% BASIS)									
	PROVED			PROBABLE			TOTAL RESERVES		
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)
Syama	2,760	1.9	170	37,440	2.6	3,120	40,200	2.5	3,280
Mako	7,230	2.0	470	3,860	2.2	270	11,090	2.1	740
Ravenswood	67,350	0.8	1,710	48,170	0.7	1,020	115,520	0.7	2,730
Bibiani	0	0.0	0	6,400	3.3	660	6,400	3.3	660
Managed Ore Reserves	77,340	0.9	2,350	95,870	1.6	5,070	173,210	1.3	7,420
Managed Ore Reserves (post Ravenswood sale)	9,990	2.0	630	47,700	2.6	4,050	57,690	2.5	4,680

Table 1: Managed Ore Reserves

In Mali, the Syama Underground Mine commenced production in December 2018 and achieved commercial production rates in June 2019 resulting in depletion of the Syama Sulphide Ore Reserves. Mining continued at Tabakoroni resulting in depletion of the Tabakoroni Ore Reserves. Additions to Ore Reserves across the Syama tenement package were made during the course of the year at Cashew NE, Paysans, Tellem and Porphyry which offset Tabakoroni Ore Reserve depletion. The addition of Mako to Resolute's portfolio added 740,000oz of Ore Reserves net of depletion from open pit mining and processing of stockpiles.

At Ravenswood, additional drilling and mining, and metallurgical and engineering studies performed during 2019 as part of Resolute's strategic review of the REP resulted in an increase in Ore Reserves at the Sarsfield and Buck Reef West deposits. During the course of the year, the Mt Wright Underground Mine was placed onto care and maintenance with the remaining Ore Reserves being depleted. Some minor depletion of stockpiles also occurred.

At Bibiani, Ore Reserves remained unchanged from the previously reported position at 31 December 2018.

Mineral Resources

Managed Mineral Resources (inclusive of Managed Ore Reserves) at 31 December 2019, on a 100%-basis, are 17.7Moz of gold. The Company's fully attributable Managed Mineral Resources position, net of Government interests is 15.8Moz of gold. Mineral Resources increased significantly from the previously published position as at 31 December 2018 following increases at Syama and Ravenswood, and the addition of Mako to the Company's portfolio.

At Syama, extensive exploration drilling programs over the past two years culminated with new Mineral Resource estimates on a number of prospects being released in 2019. Increases in Mineral Resources have been identified at Tabakoroni, Tabakoroni Porphyry Zone, Paysans, and Cashew NE prospect areas. Collectively, this has added 360,000oz to the total Mineral Resources across Syama after mining depletion of 243,000oz.

The acquisition of Toro Gold added 1.1Moz of Mineral Resources from Mako. The Company has an active exploration program underway at Mako with a view to extending mine life through the addition of Mineral Resources.

At Ravenswood, drilling programs during 2019 combined with work undertaken as part of REP studies, corresponded with an increase in Mineral Resources at the Buck Reef West, and Sarsfield/Nolans deposits. Mineral Resources at Ravenswood now total 5.9Moz, an increase of 1.1Moz on the previously reported position at 31 December 2018.

At Bibiani, Mineral Resources remained unchanged from the previously reported position as at 31 December 2018.

MANAGED MINERAL RESOURCES (100% BASIS)												
	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES		
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)
Syama	19,930	3.3	2,140	49,530	2.8	4,510	28,800	1.7	1,620	98,260	2.6	8,260
Mako	8,940	1.8	520	9,140	1.8	540	1,250	1.0	40	19,320	1.8	1,100
Ravenswood	76,570	0.8	1,960	82,160	0.7	1,780	102,530	0.6	2,130	261,260	0.7	5,870
Bibiani	0	0.0	0	13,260	3.5	1,490	8,440	3.7	1,010	21,690	3.6	2,500
Managed Mineral Resources	105,430	1.4	4,620	154,080	1.7	8,320	141,020	1.1	4,800	400,530	1.4	17,740
Managed Mineral Resources (post Ravenswood Sale)	28,860	2.9	2,660	71,920	2.8	6,540	38,480	2.2	2,670	139,270	2.7	11,870

Table 2: Managed Mineral Resources

Strategic Equity Investments

Resolute has built a portfolio of investments in emerging African gold explorers with a view to expanding its project pipeline and providing a source of medium-term growth opportunities. Resolute holds a 15% interest in Orca Gold Inc and a 27% interest in Loncor Resources Inc. On a 100%-basis, the Mineral Resources of these companies are 4.1Moz, and 2.0Moz respectively. Based on its attributable equity interest in these companies, Resolute's proportionate share of these Mineral Resources is 1.4Moz.

MINERAL RESOURCES FROM STRATEGIC EQUITY INVESTMENTS												
	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES		
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)
Orca Gold (100%)	0	0.0	0	79,900	1.3	3,340	18,500	1.2	710	98,400	1.3	4,050
Resolute Share (15%)	0	0.0	0	12,260	1.3	510	2,840	1.2	110	15,090	1.3	620
Loncor Resources (100%)	0	0.0	0	2,200	8.7	610	24,000	2.9	2,220	26,200	3.4	2,830
Resolute Share (27%)	0	0.0	0	600	8.7	170	6,580	2.9	610	7,180	3.4	780
Total Attributable to Resolute	0	0.0	0	12,860	1.6	680	9,420	2.4	720	22,270	2.0	1,400

Table 3: Mineral Resources from Strategic Equity Investments

Global Mineral Resources

Resolute's Global Mineral Resources, taking into account its Managed Mineral Resources and its attributable Mineral Resources from its strategic equity investments is 19.1Moz of gold.

Ore Reserves Statement

ORE RESERVES STATEMENT										
	PROVED			PROBABLE			TOTAL RESERVES			Group Share
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Ounces (000s)
Australia										100%
Sarsfield/Nolans	47,450	0.8	1,170	42,640	0.7	890	90,090	0.7	2,060	2,060
Buck Reef West	19,670	0.9	540	5,520	0.7	130	25,190	0.8	670	670
Stockpiles (OC)	230	0.5	0	10	1.6	0	240	0.5	0	0
Australia Total	67,350	0.8	1,710	48,170	0.7	1,020	115,520	0.7	2,730	2,730
Mali										80%
Syama Underground	0	0.0	0	32,110	2.8	2,840	32,110	2.8	2,840	2,280
Syama Stockpiles	550	2.2	40	1,850	1.4	80	2,390	1.5	120	90
Sub Total (Sulphides)	550	2.2	40	33,950	2.7	2,920	34,500	2.7	2,960	2,370
Satellite Deposits	0	0.0	0	1,570	2.3	110	1,570	2.3	110	90
Stockpiles (Satellite Deposits)	840	1.3	40	1,400	1.0	40	2,240	1.1	80	60
Sub Total Satellite Deposits	840	1.3	40	2,980	1.6	160	3,820	1.6	190	160
										90%
Tabakoroni	250	3.9	30	70	4.4	10	320	4.0	40	40
Tabakoroni Satellite Deposits	0	0.0	0	440	1.7	20	440	1.7	20	20
Tabakoroni Stockpiles	1,120	1.6	60	0	0.0	0	1,120	1.6	60	50
Sub Total Tabakoroni	1,370	2.1	90	420	2.1	30	1,880	2.1	120	110
Mali Total	2,760	1.9	170	37,440	2.6	3,120	40,200	2.5	3,280	2,640
Senegal										90%
Mako	5,320	2.3	390	3,860	2.2	270	9,180	2.2	660	600
Mako Stockpiles	1,910	1.3	80	0	0.0	0	1,910	1.3	80	70
Senegal Total	7,230	2.0	470	3,860	2.2	270	11,090	2.1	740	670
Ghana										90%
Bibiani	0	0.0	0	6,400	3.3	660	6,400	3.3	660	590
Ghana Total	0	0.0	0	6,400	3.3	660	6,400	3.3	660	590
Total Ore Reserves	77,340	0.9	2,350	95,870	1.6	5,070	173,210	1.3	7,420	6,630

Table 4: Ore Reserves Statement as at 31 December 2019

Notes:

1. *Mineral Resources include Ore Reserves. Differences may occur due to rounding.*
2. *Ounces under 5,000 are rounded to 0.*
3. *Reserves at Buck Reef West and Sarsfield/Nolans are reported above 0.3 g/t cut off.*
4. *Bibiani Reserves are reported above 2.2 g/t cut off.*
5. *Syama Underground Reserves are reported above 1.65 g/t cut off.*
6. *Syama Satellite Reserves are reported above 1.0 g/t cut off.*
7. *Tabakoroni and Tabakoroni Satellite Reserves are reported above 1.1g/t.*
8. *Tabakoroni Reserves are based on June 2017 Resource model.*
9. *Mako Reserves are reported above 0.77 g/t cut off for weathered and felsic material and 0.83 g/t for basalt material.*

Mineral Resources Statement

MINERAL RESOURCES STATEMENT													
	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES			Group Share
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Ounces (000s)
Projects where Resolute has a controlling interest													
Australia													100%
Sarsfield/Nolans	50,960	0.8	1,230	52,520	0.6	1,060	39,400	0.6	810	142,880	0.7	3,100	3,100
Buck Reef West	25,480	0.9	710	29,630	0.8	720	36,950	0.6	730	92,060	0.7	2,160	2,160
Sarsfield Mineralised Waste	0	0.0	0	0	0.0	0	23,670	0.4	330	23,670	0.4	330	330
Sub Total OC	76,440	0.8	1,940	82,150	0.7	1,780	100,020	0.6	1,870	258,610	0.7	5,590	5,590
Mt Wright	130	4.8	20	0	0.0	0	470	3.6	60	600	3.9	80	80
Welcome Breccia	0	0.0	0	0	0.0	0	2,040	3.2	210	2,040	3.2	210	210
Stockpiles (UG)	0	0.0	0	10	2.8	0	0	0.0	0	10	2.8	0	0
Sub Total UG	130	4.8	20	10	2.8	0	2,510	3.3	260	2,650	3.3	290	290
Australia Total	76,570	0.8	1,960	82,160	0.7	1,780	102,530	0.6	2,130	261,260	0.7	5,870	5,870
Mali													80%
Syama Underground	17,100	3.6	1,960	31,590	3.2	3,280	6,260	3.0	600	54,950	3.3	5,850	4,680
Stockpiles (Sulphide)	550	2.2	40	1,850	1.4	80	0	0.0	0	2,390	1.5	120	90
Sub Total (Sulphides)	17,650	3.5	2,000	33,430	3.1	3,360	6,260	3.0	600	57,340	3.2	5,970	4,770
Satellite Deposits	0	0.0	0	11,420	2.0	740	1,880	2.0	120	13,290	2.0	850	680
Stockpiles (Satellite Deposits)	840	1.3	40	1,400	1.0	40	40	1.1	0	2,290	1.1	80	70
Sub Total Satellite Deposits	840	1.3	40	12,820	1.9	780	1,920	1.9	120	15,580	1.9	930	750
Old Tailings	0	0.0	0	0	0.0	0	17,000	0.7	370	17,000	0.7	370	290
													90%
Tabakoroni Open Pit	190	4.3	30	110	4.7	20	0	1.4	0	300	4.4	40	40
Tabakoroni Underground	120	3.2	10	1,650	5.2	270	2,970	5.2	500	4,740	5.1	780	700
Tabakoroni Satellite Deposits	0	0.0	0	1,520	1.6	80	640	1.6	30	2,160	1.6	110	100
Tabakoroni Stockpiles	1,120	1.6	60	0	0.0	0	0	0.0	0	1,120	1.6	60	50
Sub Total Tabakoroni	1,440	2.1	100	3,280	3.5	370	3,610	4.6	530	8,330	3.7	990	890
Mali Total	19,930	3.3	2,140	49,530	2.8	4,510	28,800	1.7	1,620	98,260	2.6	8,260	6,710
Senegal													90%
Mako	7,030	2.0	440	9,140	1.8	540	1,250	1.0	40	17,410	1.8	1,020	920
Mako Stockpiles	1,910	1.3	80	0	0.0	0	0	0.0	0	1,910	1.3	80	70
Mako Total	8,940	1.8	520	9,140	1.8	540	1,250	1.0	40	19,320	1.8	1,100	990
Ghana													90%
Bibiani	0	0.0	0	13,260	3.5	1,490	8,440	3.7	1,010	21,690	3.6	2,500	2,250
Ghana Total	0	0.0	0	13,260	3.5	1,490	8,440	3.7	1,010	21,690	3.6	2,500	2,250
Controlling Interest Total	105,430	1.4	4,620	154,080	1.7	8,320	141,020	1.1	4,800	400,530	1.4	17,740	15,830

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MINERAL RESOURCES STATEMENT													
	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES			Group Share
As at 31 December 2019	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Tonnes (000s)	Grade (g/t Au)	Ounces (000s)	Ounces (000s)
Projects where Resolute has an equity interest													
Sudan (Orca)													15%
Galat Sufar South	0	0.0	0	11,600	1.3	470	2,590	1.2	100	14,190	1.3	570	570
Wadi Doum	0	0.0	0	660	2.1	40	250	1.3	10	910	1.7	50	50
Sudan Total	0	0.0	0	12,260	1.3	510	2,840	1.2	110	15,090	1.3	620	620
DRC (Loncor)													27%
Makapela	0	0.0	0	600	8.7	170	870	5.3	150	1,470	6.7	320	320
Adumbi	0	0.0	0	0	0.0	0	5,710	2.5	460	5,710	2.5	460	460
DRC Total	0	0.0	0	600	8.7	170	6,580	2.9	610	7,180	3.4	780	780
Equity Interest Total	0	0.0	0	12,860	1.6	680	9,420	2.4	720	22,270	2.0	1,400	1,400
Total Resolute Resources													
Total Mineral Resources	105,430	1.4	4,620	166,940	1.7	9,000	150,430	1.1	5,520	422,800	1.4	19,140	17,220

Table 5: Mineral Resources Statement as at 31 December 2019

Notes:

1. *Mineral Resources include Ore Reserves. Differences may occur due to rounding.*
2. *Ounces under 5,000 are rounded to 0.*
3. *Resources are reported above 0.3 g/t cut-off for Sarsfield/Nolans and Buck Reef West.*
4. *Mt Wright Resources are reported above 1.8 g/t cut off.*
5. *Syama Underground, Tabakoroni Underground and Northern Pits Resources quoted above 1.5g/t cut off.*
6. *Resources for Paysans, Cashew NE, Tellem, Porphyry Zone and Tabakoroni Open Pit are reported above a cut off of 1.0g/t.*
7. *Mako Resources are reported above 0.5 g/t cut off and within a US$1,500 optimised shell*
8. *Bibiani Resources are reported above 2.0 g/t cut off.*
9. *Galat Sufar South resources reported above a 0.6g/t cut-off.*
10. *Wadi Doum resources reported above a 0.6g/t cut-off.*
11. *Makapela resources reported above a 2.75g/t cut-off.*
12. *Adumbi resources reported above a 0.9g/t cut-off.*
13. *Mineral Resources held by Orca Gold, Loncor and Kilo Gold are reported as NI43-101 compliant estimates.*

For further information, contact:

John Welborn
Managing Director & CEO

Jeremy Meynert
General Manager – Business Development & Investor Relations

Competent Persons Statement

The information in this announcement that relates to data quality, geological interpretation and Mineral Resource estimation for the various projects unless specified in the list below is based on information compiled by Bruce Mowat, a Competent Person who is a Member of the Australian Institute of Geoscientists and a full-time employee of Resolute Corporate Services Pty Ltd, a wholly-owned subsidiary of Resolute Mining Limited. Mr Mowat has sufficient experience that is relevant to the styles of mineralisation and type of deposits under consideration and to the activity being undertaken as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code 2012). Mr Mowat consents to the inclusion in this announcement of the material compiled by him in the form and context in which it appears. The information in this statement that relates to the Mineral Resources and Ore Reserves listed below is based on information and supporting documents prepared by the Competent Person identified. Each person specified in the list has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which has been undertaken to qualify as a Competent Person as defined in the JORC Code 2012. Mr Ascott is a full-time employee of Resolute Corporate Services Pty Ltd, a wholly-owned subsidiary of Resolute Mining Limited. Mr Mackay is a full-time employee of Carpentaria Gold Pty Ltd, a wholly-owned subsidiary of Resolute Mining Limited. Mr Johnson is a full-time employee of MPR Geological Consultants Pty Ltd. Mr Adams is a full-time employee of Cube Consulting Pty Ltd. Mr Cervoj and Ms Havlin are employees of Optiro Pty Ltd. Mr Warries is a full-time employee of Mining Focus Consultants Pty Ltd. Each person identified in the list below consents to the inclusion in this announcement of the material compiled by them in the form and context in which it appears.

Activity	Competent Person	Membership Institution
Syama Resource	Susan Havlin	Australasian Institute of Mining and Metallurgy
Syama Reserve	Brett Ascott	Australasian Institute of Mining and Metallurgy
Northern Pits Resource	Nic Johnson	Australian Institute of Geoscientists
Syama Tailings Facility	Susan Havlin	Australasian Institute of Mining and Metallurgy
Mt Wright Resource	Nic Johnson	Australian Institute of Geoscientists
Welcome Resource	Nic Johnson	Australian Institute of Geoscientists
Buck Reef West Resource	Nic Johnson	Australian Institute of Geoscientists
Buck Reef West Reserve	David Mackay	Australasian Institute of Mining and Metallurgy
Sarsfield/Nolans Reserve	David Mackay	Australasian Institute of Mining and Metallurgy
Sarsfield/Nolans Resource	Nic Johnson	Australian Institute of Geoscientists
Sarsfield Mineralised Waste	Susan Havlin	Australasian Institute of Mining and Metallurgy
Bibiani Resource	Kahan Cervoj	Australasian Institute of Mining and Metallurgy
Bibiani Reserve	Brett Ascott	Australasian Institute of Mining and Metallurgy
Tabakoroni Resource	Susan Havlin	Australasian Institute of Mining and Metallurgy
Tabakoroni Reserves	Brett Ascott	Australasian Institute of Mining and Metallurgy
Tellem Resource	Nic Johnson	Australian Institute of Geoscientists
Tellem Reserves	Brett Ascott	Australasian Institute of Mining and Metallurgy
Cashew NE Resource	Susan Havlin	Australasian Institute of Mining and Metallurgy
Cashew NE Reserves	Brett Ascott	Australasian Institute of Mining and Metallurgy
Paysans Resource	Susan Havlin	Australasian Institute of Mining and Metallurgy
Paysans Reserves	Brett Ascott	Australasian Institute of Mining and Metallurgy
Porphyry Zone Resource	Nic Johnson	Australian Institute of Geoscientists
Porphyry Zone Reserves	Brett Ascott	Australasian Institute of Mining and Metallurgy
Mako Resources	Patrick Adams	Australasian Institute of Mining and Metallurgy
Mako Reserves	Harry Warries	Australasian Institute of Mining and Metallurgy

About Resolute

Resolute is a successful, dividend paying gold miner with more than 30 years of experience as an explorer, developer and operator of gold mines in Australia and Africa which have produced more than 8 million ounces of gold. The Company trades on the Australian Securities Exchange (ASX) and the London Stock Exchange (LSE) under the ticker RSG.

Resolute has a Global Mineral Resource base of more than 19 million ounces of gold. The Company's flagship asset is the world class Syama Gold Mine in Mali which has the ability to produce 300,000 ounces of gold per annum from existing processing infrastructure. Resolute has commissioned the world's first automated underground mine at Syama which will deliver a low cost, large scale operation with a mine life beyond 2032. The Mako Gold Mine in Senegal is a high quality, low cost asset with average annual production of approximately 140,000 ounces of gold. A binding agreement has been signed to sell the Ravenswood Gold Mine in Queensland, Australia for up to A$300 million. A strategic review is currently underway of the Bibiani Gold Mine in Ghana.

Resolute's guidance for FY20 has been set at production of 500,000 ounces of gold at an AISC of US$980 per ounce. FY20 Guidance will be revised once the sale of Ravenswood has been finalised.

Contact Information

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Authorised by Mr John Welborn, Managing Director & CEO

ASX/LSE: RSG Capital Summary

Fully Paid Ordinary Shares: 1,035,886,919
Current Share Price (ASX):
A$1.12 as at 17 February 2020
Market Capitalisation: A$1.2 Billion
FY20 Guidance:
500,000oz at an AISC of US$980/oz

Board of Directors

Mr Martin Botha *Non-Executive Chairman*
Mr John Welborn *Managing Director & CEO*
Ms Yasmin Broughton *Non-Executive Director*
Mr Mark Potts *Non-Executive Director*
Ms Sabina Shugg *Non-Executive Director*
Mr Peter Sullivan *Non-Executive Director*

Contact

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Appendix

ORE RESERVES COMPARISON TO 31 DECEMBER 2018											
Reserves and Resources comply with the Australasian Code for Reporting of Mineral Resources and Reserves (The JORC Code 2004 and JORC Code 2012)											
ORE RESERVES	Dec-19					Dec-18					Comment on Changes
	Tonnes (000s)	*Gold grade (g/t)*	*Ounces (000s)*	*Group Share %*	*Group Share Ounces*	*Tonnes (000s)*	*Gold grade (g/t)*	*Ounces (000s)*	*Group Share %*	*Group Share Ounces*	
	Proved					Proved					
Australia											
Mt Wright	0	0.0	0	100%	0	160	2.2	10	100%	10	Depletion due to mining
Sarsfield/Nolans	47,450	0.8	1,170	100%	1,170	31,530	0.7	720	100%	720	New Reserve
Stockpiles (O/C)	230	0.5	0	100%	0	360	0.6	10	100%	10	Movement in operating stockpiles
Buck Reef West	19,670	0.9	540	100%	540	970	1.3	40	100%	40	New Reserve
Mali											
Syama Stockpiles (sulphide)	550	2.2	40	80%	30	100	2.5	10	80%	10	Movement in operating stockpiles
Stockpiles (Northern Pits)	840	1.3	40	80%	30	970	1.4	40	80%	30	Movement in operating stockpiles
Tabakoroni	250	3.9	30	90%	30	1,450	3.2	150	90%	140	Depletion due to mining and new Reserve
Tabakoroni Stockpiles	1,120	1.6	60	90%	50	320	2.1	20	90%	20	Movement in operating stockpiles
Senegal											
Mako	5,320	2.3	390	90%	350						New acquisition
Mako Stockpiles	1,910	1.3	80	90%	70						New acquisition
Total Proved	77,340	0.9	2,350		2,280	35,860	0.9	1,000		970	
	Probable					Probable					Comment on Changes
Australia											
Sarsfield	42,640	0.7	890	100%	890	18,250	0.7	360	100%	360	New Reserve
Stockpiles (O/C)	10	1.6	0	100%	0	10	1.6	0	100%	0	No change
Buck Reef West	5,520	0.7	130	100%	130	18,590	1.0	600	100%	600	New Reserve
Mali											
Syama Underground	32,110	2.8	2,840	80%	2,280	35,040	2.7	2,980	80%	2,390	Depletion due to mining and new Reserve
Syama Stockpiles (sulphide)	1,850	1.4	80	80%	60	2,270	1.3	100	80%	80	Movement in operating stockpiles
Stockpiles (Northern Pits)	1,400	1.0	40	80%	30	1,630	1.1	60	80%	50	Movement in operating stockpiles
Tabakoroni	70	4.4	10	90%	10	640	2.4	50	90%	40	Depletion due to mining and new Reserve
Cashew NE	810	2.4	60	80%	50						New Reserve
Paysans	490	2.2	30	80%	30						New Reserve
Tellem	280	2.1	20	80%	20						New Reserve
Porphyry Zone	440	1.7	20	90%	20						New Reserve
Senegal											
Mako	3,860	2.2	280	90%	250						New acquisition
Ghana											
Bibiani	6,400	3.3	660	90%	590	6,400	3.3	660	90%	590	No Change
Total Probable	95,870	1.6	5,070		4,360	82,830	1.8	4,800		4,100	
Total Reserves	173,210	1.3	7,420		6,630	118,700	1.5	5,800		5,070	

Appendix Table 1: Ore Reserves Comparison – 31 December 2019 to 31 December 2018

Notes:

1. *Mineral Resources include Ore Reserves. Differences may occur due to rounding.*
2. *Ounces under 5,000 are rounded to 0.*
3. *Reserves at Buck Reef West and Sarsfield/Nolans are reported above 0.3 g/t cut off.*
4. *Bibiani Reserves are reported above 2.2 g/t cut off.*
5. *Syama Underground Reserves are reported above 1.65 g/t cut off.*
6. *Syama Satellite Reserves are reported above 1.0 g/t cut off.*
7. *Tabakoroni and Tabakoroni Satellite Reserves are reported above 1.1g/t.*
8. *Tabakoroni Reserves are based on June 2017 Resource model.*
9. *Mako Reserves are reported above 0.77 g/t cut off for weathered and felsic material and 0.83 g/t for basalt material.*

MINERAL RESOURCES COMPARISON TO 31 DECEMBER 2018

MINERAL RESOURCES	Dec-19					Dec-18					
	Tonnes	*Gold grade*	*Ounces*	*Group Share*	*Group Share*	*Tonnes*	*Gold grade*	*Ounces*	*Group Share*	*Group Share*	
	(000s)	*(g/t)*	*(000s)*	*%*	*Ounces*	*(000s)*	*(g/t)*	*(000s)*	*%*	*Ounces*	
	Measured					Measured					Comment on Changes
Australia											
Mt Wright	130	4.8	20	100%	20	290	3.6	30	100%	30	Depletion due to mining
Sarsfield/Nolans	50,960	0.8	1,230	100%	1,230	43,250	0.8	1,120	100%	1,120	New Resource
Buck Reef West	25,480	0.9	710	100%	710	830	1.5	40	100%	40	New Resource
Mali											
Syama Underground	17,100	3.6	1,960	80%	1,570	8,740	3.3	930	80%	740	Depletion due to mining and new Resource
Syama stockpiles (sulphide)	550	2.2	40	80%	30	100	2.5	10	80%	10	Movement in operating stockpiles
Northern Pits	0	0.0	0	80%	0	0	0.0	0	80%	0	No change
Stockpiles (Northern Pits)	840	1.3	40	80%	30	970	1.4	40	80%	30	Movement in operating stockpiles
Tabakoroni Open Pit	190	4.3	30	90%	20	2,800	2.9	260	90%	230	Depletion due to mining and new Resource
Tabakoroni Underground	120	3.2	10	90%	10						New underground Resource
Tabakoroni Stockpiles	1,120	1.6	60	90%	50	320	2.1	20	90%	20	Movement in operating stockpiles
Senegal											
Mako	7,030	2.0	440	90%	400						New acquisition
Mako Stockpiles	1,910	1.3	80	90%	70						New acquisition
Total Measured	105,430	1.4	4,620		4,150	57,300	1.3	2,450		2,220	

	Indicated					Indicated					Comment on Changes
Australia											
Stockpiles (UG)	10	2.8	0	100%	0	10	2.3	0	100%	0	Movement in operating stockpiles
Sarsfield/Nolans	52,520	0.6	1,060	100%	1,060	38,500	0.7	880	100%	880	New Resource
Buck Reef West	29,630	0.8	720	100%	720	36,550	1.0	1,220	100%	1,220	New Resource
Mali											
Syama Underground	31,590	3.2	3,280	80%	2,630	44,390	3.2	4,580	80%	3,670	Depletion due to mining and new Resource
Syama stockpiles (sulphide)	1,850	1.4	80	80%	60	2,270	1.3	100	80%	80	Movement in operating stockpiles
Northern Pits	3,880	2.4	300	80%	240	3,880	2.4	300	80%	240	No change
Stockpiles (Northern Pits)	1,400	1.0	40	80%	30	1,630	1.1	60	80%	50	Movement in operating stockpiles
Tabakoroni Open Pit	110	4.7	20	90%	10	3,770	2.2	280	90%	250	Depletion due to mining and new Resource
Tabakoroni Underground	1,650	5.2	270	90%	250						New underground Resource
Cashew NE	1,560	2.0	100	80%	80	0	0.0	0	80%	0	New Resource
Paysans	4,210	1.7	230	80%	180	1,200	1.5	60	80%	40	New Resource
Tellem	1,770	1.9	110	80%	90	1,770	1.9	110	80%	90	No change
Porphyry Zone	1,530	1.6	80	90%	70	0	0.0	0	90%	0	New Resource
Senegal											
Mako	9,140	1.8	540	90%	490						New acquisition
Ghana											
Bibiani	13,260	3.5	1,490	90%	1,340	13,260	3.5	1,490	90%	1,340	No Change
Sudan											
Galat Sufar South	11,600	1.3	470	15%	490	11,940	1.3	490	16%	490	Change in equity
Wadi Doum	660	2.1	40	15%	40	680	2.1	40	16%	40	Change in equity
DRC											
Makapela	600	8.7	170	27%	170	590	8.7	170	27%	170	Change in equity
Total Indicated	166,940	1.7	9,000		7,930	160,430	1.9	9,770		8,550	

MINERAL RESOURCES COMPARISON TO 31 DECEMBER 2018

MINERAL RESOURCES	Dec-19					Dec-18					
	Tonnes (000s)	Gold grade (g/t)	Ounces (000s)	Group Share %	Group Share Ounces	Tonnes (000s)	Gold grade (g/t)	Ounces (000s)	Group Share %	Group Share Ounces	
	Inferred					Inferred					Comment on Changes
Australia											
Mt Wright	470	3.6	60	100%	60	470	3.6	60	100%	60	No change
Sarsfield/Nolans	39,400	0.6	810	100%	810	22,080	0.7	520	100%	520	New Resource
Buck Reef West	36,950	0.6	730	100%	730	8,660	1.0	280	100%	280	New Resource
Welcome Breccia	2,040	3.2	210	100%	210	2,040	3.2	210	100%	210	No change
Waste Dump	23,670	0.4	330	100%	330	33,700	0.4	400	100%	400	Depletion due to mining and new Resource
Mali											
Syama Underground	6,260	3.0	600	80%	480	5,650	2.8	500	80%	400	Depletion due to mining and new Resource
Northern Pits	510	2.5	40	80%	30	510	2.5	40	80%	30	No change
Stockpiles (Northern Pits)	50	1.1	0	80%	0	50	1.1	0	80%	0	No change
Tabakoroni Open Pit	0	1.4	0	90%	0	3,180	2.0	200	90%	180	Depletion due to mining and new Resource
Tabakoroni Underground	2,970	5.2	500	90%	450						New underground Resource
Cashew NE	50	1.7	0	80%	0	0	0.0	0	80%	0	New Resource
Paysans	920	1.6	40	80%	30	550	1.5	30	80%	20	New Resource
Tellem	400	2.5	40	80%	30	400	2.5	40	80%	30	No change
Porphyry Zone	640	1.6	30	90%	30	0	0.0	0	90%	0	New Resource
Tailings Storage Facility	17,000	0.7	370	80%	290	17,000	0.7	370	80%	290	No change
Senegal											
Mako	1,250	1.0	40	90%	40						New acquisition
Ghana											
Bibiani	8,440	3.7	1,010	90%	910	8,440	3.7	1,010	90%	910	No Change
Sudan											
Galat Sufar South	2,590	1.2	100	15%	100	2,670	1.2	100	16%	100	Change in equity
Wadi Doum	250	1.3	10	15%	10	250	1.3	10	16%	10	Change in equity
DRC											
Makapela	870	5.3	150	27%	150	860	5.3	150	27%	150	Change in equity
Adumbi	5,710	2.5	460	27%	460	5,620	2.5	450	27%	450	Change in equity
Total Inferred	150,430	1.1	5,520		5,140	112,110	1.2	4,360		4,040	
Total Resources	422,800	1.4	19,140		17,220	329,830	1.6	16,570		14,820	

Appendix Table 2: Mineral Resources Comparison – 31 December 2019 to 31 December 2018

Notes:

1. *Mineral Resources include Ore Reserves. Differences may occur due to rounding.*
2. *Ounces under 5,000 are rounded to 0.*
3. *Resources are reported above 0.3 g/t cut-off for Sarsfield/Nolans and Buck Reef West.*
4. *Mt Wright Resources are reported above 1.8 g/t cut off.*
5. *Syama Underground, Tabakoroni Underground and Northern Pits Resources quoted above 1.5g/t cut off.*
6. *Resources for Paysans, Cashew NE, Tellem, Porphyry Zone and Tabakoroni Open Pit are reported above a cut off of 1.0g/t.*
7. *Mako Resources are reported above 0.5 g/t cut off and within a US$1,500 optimised shell*
8. *Bibiani Resources are reported above 2.0 g/t cut off.*
9. *Galat Sufar South resources reported above a 0.6g/t cut-off.*
10. *Wadi Doum resources reported above a 0.6g/t cut-off.*
11. *Makapela resources reported above a 2.75g/t cut-off.*
12. *Adumbi resources reported above a 0.9g/t cut-off.*
13. *Mineral Resources held by Orca Gold, Loncor and Kilo Gold are reported as NI43-101 compliant estimates*

JORC Code, 2012 Edition – Table 1 Report

Syama Gold Mine: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The mineral resource estimate was based on data collected from reverse circulation (RC) and diamond core (DD) drill holes completed by Resolute Mining Limited (2003-2017), Randgold Resources Ltd (1996-2000) and BHP (1987-1996). Diamond core was sampled at 1m intervals and cut in half, to provide a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising, to provide a 30g charge for analysis. RC samples were collected on 1m intervals via a cyclone by riffle split (dry), or by scoop (wet), to obtain a 2-4kg sample which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Resolute sampling and sample preparation protocols are industry standard and are deemed appropriate by the Competent Person. The Randgold and BHP diamond core and RC samples were taken on 1m intervals. Due to the historical nature of the data sampling protocols are not known.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drill types used include diamond core of HQ and NQ sizes. Core is oriented at 3m down hole intervals using a Reflex Act II RD Orientation Tool and more recently using a Reflex north seeking gyro instrument.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Drill core interval recoveries are measured from core block to core block using a tape measure. Appropriate measures are taken to maximise sample recovery and ensure representative nature of the samples. No apparent relationship between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and*	Drill holes were geologically logged by geologists for colour, grainsize, lithology, minerals, alteration and weathering on geologically domained intervals. Geotechnical and structure orientation data was measured and logged for all diamond core intervals.

	metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Diamond core was photographed (wet and dry). Holes were logged in their entirety (100%) and this logging was considered reliable and appropriate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Diamond core were sampled at 1m intervals and cut in half to obtain a 2-4kg sample. Reverse circulation samples were collected on 1m intervals by riffle split (dry) or by scoop (wet) to obtain a 2-4kg sample. Sample preparation for diamond core and RC samples includes oven drying, crushing to 10mm and splitting, pulverising to 85% passing -75um. These preparation techniques are deemed to be appropriate to the material and element being sampled. Drill core coarse duplicates were split by the laboratory after crushing at a rate of 1:20 samples. Reverse circulation field duplicates were collected by the company at a rate of 1:20 samples. Resolute sampling, sample preparation and quality control protocols are of industry standard and all attempts were made to ensure an unbiased representative sample was collected. The methods applied in this process were deemed appropriate by the Competent Person. Sub-sampling techniques and sample preparation completed by previous owners is not known.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	All Resolute samples were analysed for gold by 30g fire assay fusion with AAS instrument finish. The analysis was performed by ALS Bamako or SGS Morila. The analytical method was appropriate for the style of mineralisation. No geophysical tools were used to determine elemental concentrations. Quality control (QC) procedures included the use of certified standards and blanks (1:20), non- certified sand blanks (1:20), diamond core coarse duplicates (1:20) and reverse circulation field duplicates (1:20). Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats and grind size results were also captured into the digital database. Analysis of the QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved. The assay techniques used by Randgold and BHP include fire assay fusion with AAS instrument finish and aqua regia with AAS. The majority of the samples were analysed at the onsite Syama laboratory. Due to the historical nature of the Randgold and BHP data the assay procedures are not known for all samples.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Verification of significant intersections have been completed by company personnel and the competent person. No drill holes within the resource area were twinned. Drill holes were logged onto paper templates or Excel templates with lookup codes, validated and then compiled into a relational SQL 2012 database using DataShed data management software. The database has a variety of verification protocols which are used to validate the data entry. The drill hole database is backed up daily to the head office server. Assay result files were reported by the laboratory in PDF and CSV format and imported directly into the SQL database without adjustment or modification. Resolute has conducted extensive reviews, data validation and data verification on the historic data collected by the previous owners, Randgold and BHP.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and*	Collar coordinates were picked up in UTM (WGS84) by staff surveyors using an RTK DGPS with an expected accuracy of ±0.05m; elevations were height above EGM96 geoid.

	other locations used in Mineral Resource estimation. • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Down hole surveys were collected using single shot and multi shot magnetic survey tools including Reflex EZTrac and EZShot instruments. A time-dependent declination was applied to the magnetic readings to determine UTM azimuth. Diamond drilling completed in 2017 and 2018 has utilised a Reflex EZ Gyro downhole survey instrument to provide more frequent data points and reduced magnetic interference. Coordinates and azimuth are reported in UTM WGS84 Zone 29 North in this release. Coordinates were translated to local mine grid where appropriate. Local topographic control is via satellite photography and drone UAV Aerial Survey.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	The drill hole spacing was sufficient to demonstrate geological and grade continuity appropriate for Mineral Resource estimation and classification in accordance with the 2012 JORC Code. The appropriateness of the drill spacing was reviewed by the geological technical team, both on site and within the Resolute group. This was also reviewed by the Competent Person. RC and diamond core samples were collected on 1m intervals; no sample compositing is applied during sampling.
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.*	Holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation-based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	Samples were collected from the drill site and stored on site. All samples were individually bagged and labelled with unique sample identifiers then securely dispatched to the laboratories. All aspects of sampling process were supervised and tracked by SOMISY personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	External audits of procedures indicate protocols are within industry standards.

Syama Gold Mine: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Drilling was conducted within the Malian Exploitation Concession Permit PE 93/003 which has an area of 200.6 km^2. Resolute Mining Limited has an 80% interest in the Syama project and the Exploitation Permit PE—93/003, on which it is based, through its Malian subsidiary, Sociêtê des Mines de Syama SA (SOMISY). The Malian Government holds a free carried 20% interest in SOMISY. The Permit is held in good standing. Malian mining law provides that all mineral resources are administered by DNGM (Direction Nationale de la Géologie et des Mines) or National Directorate of Geology and Mines under the Ministry of Mines, Energy and Hydrology.
Exploration done by	• *Acknowledgment and appraisal of exploration by other parties.*	The Syama deposit was originally discovered by a regional geochemical survey undertaken by the Direction National de Géologie et des Mines (DNGM) with assistance from the United Nations Development Program (UNDP) in 1985. There had also

other parties		been a long history of artisanal activities on the hill where an outcropping chert horizon originally marked the present-day position of the open pit. BHP during 1987-1996 sampled pits, trenches, auger, RC and diamond drill holes across Syama prospects. Randgold Resources Ltd during 1996-2000 sampled pits, trenches, auger, RAB, RC and diamond drill holes across Syama prospects.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Syama Project is found on the northern margin of the Achaean-Proterozoic Leo Shield which forms the southern half of the West African Craton. The project area straddles the boundary between the Kadiana–Madinani terrane and the Kadiolo terrane. The Kadiana-Madinani terrane is dominated by greywackes and a narrow belt of interbedded basalt and argillite. The Kadiolo terrane comprises polymictic conglomerate and sandstone that were sourced from the Kadiana-Madinani terrane and deposited in a late- to syntectonic basin. Prospects are centred on the NNE striking, west dipping, Syama-Bananso Fault Zone and Birimian volcano-sedimentary units of the Syama Formation. The major commodity being sought is gold.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *Whole 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.*	No new exploration results have been reported in this release. The listing of the entire drill hole database used to estimate the resource was not considered relevant for this release.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No new exploration results have been reported in this release. Metal equivalent values are not used in reporting.
Relationship between mineralisation widths	• *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.*	The mineralisation is steeply dipping at approximately 60^0 from the horizontal. Most of the drill holes are planned at local grid 090^0 at a general inclination of -60^0 east to achieve as close to perpendicular to the ore zone as possible. At the angle of the drill holes and the dip of the ore zones, the reported intercepts will be slightly more than true width.

and intercept lengths	• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	
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.*	Relevant maps, diagrams and tabulations are included 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.*	Mineral Resources are being reported in this announcement. No new exploration results have been reported in this release.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No geophysical and geochemical data and any additional exploration information has been reported in this release, as they are not deemed relevant to the release.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Depth extension drilling is planned to test the down-dip potential of the Syama ore body at depth, and beneath the current limit of drilling.

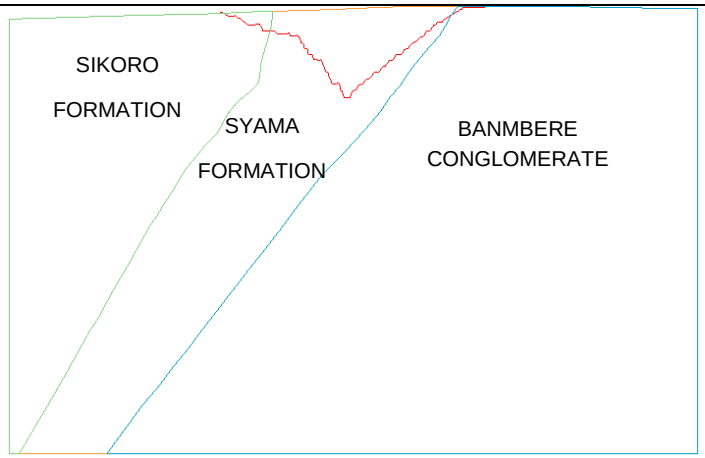
Syama Gold Mine: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Data have been compiled into a relational SQL database; the setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using DataShed© drill hole management software using SQL database techniques. Validation checks are conducted using SQL and DataShed© relational database standards. Data has also been checked against original hard copies for 100% of the data, and where possible, loaded from original data sources. Resolute completed the following basic validation checks on the data supplied prior to resource estimation: • Drill holes with overlapping sample intervals. • Sample intervals with no assay data. Duplicate records.

		• Assay grade ranges. • Collar coordinate ranges. • Valid hole orientation data There are no significant issues identified with the data.
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.*	Ms Susan Havlin, a Member of the Australasian Institute of Mining and Metallurgy is the Competent Person who has visited this site on numerous occasions. All aspects of drilling, sampling and mining are considered by the Competent Persons to be of a high industry standard.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	The digital database used for the interpretation included logged intervals for the key stratigraphic zones of Syama. Detailed geological logs were available in hardcopy and digital and reviewed where necessary. Drill density (50m by 50m) for the majority of the Syama area allows for confident interpretation of the geology and mineralised domains. More recent infill/verification drilling of selected more structurally complicated areas confirms the positions of mineralised zones. Geological and structural controls support modelled mineralised zones, which are constrained within geological units. Continuity of mineralisation is affected by proximity to structural conduits (allowing flow of mineralised fluids), stratigraphic position, lithology of key stratigraphic units and porosity of host lithologies.
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.*	The Syama area extends for approximately 1,500 metres in strike and the west dipping gold mineralised zone is between 100-200 metres in horizontal width, narrowing at its southern and northern limits. The Mineral Resource is limited in depth by drilling, which extends from surface to a maximum depth of approximately 800 metres vertically.
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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).*	Estimation was completed in Datamine Studio RM using a Categorical Indicator (CI) approach to define the mineralised blocks followed by an Ordinary Kriged (OK) model to estimate the gold grade. Grades were estimated into parent block of 5mE by 12.5mN by 5mRL for Syama underground and 10mE by 25 mN by 10mRl for Nafolo. Sub- celling down to 5mE by 12.5mN by 5mRL was employed for resolution of the mineralisation boundary at Nafolo. The categorical model used a cut-off of 1 g/t gold. A 5mE by 12.5mN by 5mRL block size was employed during the categorical process used to delineate mineralised regions. After this process, the model was reblocked up to 10mE by 25mN by 10mRL for Nafolo while retaining the smaller size blocks as subcells at mineralisation boundaries. The resource model included estimates for sulphide sulphur and organic carbon which assist with metallurgical characterisation. It should be noted that there is fewer sample data for these elements which has resulted in greater smoothing of the block grades. Kriging neighbourhood analysis was performed to optimise the block size, sample numbers and discretisation levels with the goal of minimising conditional bias in the gold grade estimates. A larger blocks size for Nafolo was chosen based on this analysis than was employed in the previous resource estimate. A total of three search passes was used, with the first search pass set to the range of the variogram for each element. A

	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	minimum of 10 and a maximum of 30 samples were used. The search stayed the same for the second pass but was increased by a factor of 3 for the third and final pass. The minimum number of samples was reduced to 8 for the second pass and 6 for the third pass.
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	Un-estimated blocks (less than 1% for gold) were assigned the domain average grades. No deleterious elements were found in the ore. No selective mining units have been assumed. No assumptions have been made regarding the correlation of variables although it is noted that a broad positive correlation exists between gold and sulphur. Estimation searches have been orientated to respect the orientation of the Syama Formation which hosts the mineralisation. Top cuts were applied to reduce the variability of the data and to remove the outliers. The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the drillhole data and by northing and elevation slices. Global comparison between the input data and the block grades for each variable is considered acceptable (±10%). Comparison with the 2017 Mineral Resource was carried out.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages are estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	Mineral Resources are reported at a 1.5 g/t Au grade cut-off for this model. The resource has been demonstrated to be amenable to underground mining.
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 anticipated mining method for underground exploitation is Sub-Level Caving (SLC). The resource model extends from 1,250 mRL to 600 mRL. Open pit mining methods were used by Resolute to 1,120 mRL. Material testing conducted on samples of underground ore confirmed that properties such as metallurgical factors, structural trends and geological continuity remain the same as observed in the fresh rock portion of the open pit.
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*	Resolute has conducted metallurgical testwork on variability samples taken from within the proposed underground ore zone. A testwork program was supervised by consultants MineLogix Pty Ltd based on analytical testwork completed at ALS Metallurgy Laboratory. The program included comminution, flotation, roasting and leaching assessments. The planned processing flowsheet involves crushing, milling, flotation and roasting, followed by CIL recovery of the calcine product. The Syama sulphide processing facility has been in operation in its current form since 2007. The various testwork programs did not identify any contrasting metallurgical behaviour from samples within the underground

	rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	ore zone and the performance of the underground ore typically matches that observed for open pit ore.
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 green fields 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.*	It is a requirement of Decree No.03-594/P-RM of 31 December 2003 of Malian law that an Environmental and Social Impact Study (Étude d'Impact Environmental et Social – EIES) must be undertaken to update the potential environmental and social impacts of the mine's redevelopment. The EIES for the Syama Gold Mine was approved in November 2007 and an Environment Permit (07- 0054/MEA – SG) was issued by the Ministry of Environment and Sanitation on the 22 November 2007. The Ministry of Environment conduct timely reviews of the Syama Gold Mine to ensure that company maintains compliance with the EIES guidelines. At Syama there are three key practices for disposal of wastes and residues namely, stacking of waste rock from open pit mining; storage of tailings from mineral processes; and "tall-stack dispersion" of sulphur dioxide from the roasting of gold bearing concentrate. All waste disposal practices are in accordance with the guidelines in the EIES. The Environmental & Social Impact Study – "Société des Mines de Syama, Syama Gold Mine, Mali, dated 2007 indicated there was minimal potential for acid mine drainage from waste rock due to the elevated carbonate content which buffers a potential acid generation. Resolute maintains a plan for progressive rehabilitation of waste rock landforms as part of ongoing mine development and waste rock dumping. The landform of tailings impoundments does not have a net acid generating potential. The largest volume is flotation tailings where the sulphide minerals have already been removed from the host rock. Its mineralogy includes carbonates which further buffer any acid-formation potential from sulphides that may also be present. Cyanide levels in the leached-calcine tailings are typically less than 50 ppm in the weak acid dissociable form. Groundwater away from the tailing's landform is intercepted by trenches and sump pumps. Sulphur dioxide is generated from the roasting of gold concentrate so that gold can be extracted and refined. Tall-Stack "dispersion" of the sulphur dioxide emission is monitored continuously. Prevailing weather and dissipation of the sulphur dioxide is modelled daily to predict the need to pause the roasting process to meet the air quality criteria set out in the Environmental & Social Impact Study.
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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Site personnel have completed numerous bulk density comparative estimates on HQ drill core to assess variability using the Archimedes method of dry weight versus weight in water. This method was used for 96% of the bulk density measurements. Other tests were completed by SGS using the pycnometer method. Based on the data collected the following SG estimates were applied to the model: • Syama Formation 2.82 • Sikoro Formation 2.75 • Banmbere Conglomerate 2.75

		
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Measured Mineral Resource classification is based on good confidence in the geology and gold grade continuity with less than 25 m x 25 m spaced drillhole density in the central part of the deposit directly below the current pit. The Indicated Mineral Resource classification is based on good confidence in the geology and gold grade continuity with less than 75 m x 75 m spaced drillhole density in the central part of the deposit. The Inferred Mineral Resource classification is applied to extensions of mineralised zones on the margins of the deposit where drill spacing is more than 100 m x 100 m and the extents of mineralisation at depth. The Nafolo orebody to the south of Syama which is tested by wider drill spacing has also been classified as Inferred. The validation of the block model has confirmed satisfactory correlation of the input data to the estimated grades and reproduction of data trends. The Mineral Resource estimate appropriately reflects the view of the Competent Persons.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource has been audited internally and in conjunction with resource consultants at Optiro Pty Ltd as part of the routine validation process. There has been no external review of the Mineral Resource estimate.
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*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of Indicated and Inferred resource categories as defined by 2012 JORC Code guidelines. The geostatistical techniques applied to the estimate of underground resources at Syama are deemed appropriate to the estimation of Sub Level Caving (SLC) mining method and hence applicable for reserve estimation. The estimation was compared with the production history at Syama and it is within 15% which is within the limits for the relevant classifications.

	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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

Syama Gold Mine: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Reserve.*	The Ore Reserves are based on a Mineral Resource estimate that was completed in Datamine Studio RM using a Categorical Indicator approach to define the mineralised blocks, followed by an Ordinary Kriged model to estimate the gold grade. Grades were estimated into parent blocks with dimensions 10mE by 25mN by 10mRL. Sub- celling to 5mE by 12.5mN by 5mRL was employed for resolution of the mineralisation boundary. Only Mineral Resources below the base of the final open pit and below 1250 mRL have been considered in the mining studies. Mineral Resources at Syama are reported above a 1.5 Au g/t cut-off. This is determined from the marginal and geological cut off. Material below this cut-off is not considered in the resource but may form part of the dilution envelope reporting into the underground cave. Ore Reserves are the material which can be extracted from the mine and processed with an economically acceptable outcome. The Ore Reserves have been calculated by means of an economic assessment, which results in a Life-of-Mine (LOM) Plan. Reported Ore Reserves are inclusive to the Mineral Resources.
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.*	Mr Brett Ascott is a Fellow member of the Australasian Institute of Mining and Metallurgy and is a Competent Person who conducts regular site visits to the project location.
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.*	Pre-Feasibility and Feasibility studies were previously conducted for Syama. The Syama UG mine is a going concern. The Ore Reserves are derived from LOM plan maintained for the ongoing scheduling and management of Syama UG operations.
Cut-off	• *The basis of the cut-off grade(s) or quality parameters*	The LOM plan for Syama is designed with reference to a 1.65g/t Au break-even cut-off grade (COG). The COG is estimated

parameters	*applied.*	using: a gold price of USD 1,300/oz, a metallurgical recovery of 85%, an ad valorem royalty rate of 6%, and an operating unit cost of $55/t of ore.
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	Most of mining at Syama UG is planned to be undertaken by Sub-Level Caving (SLC) mining methods. Geotechnical studies have concluded that the deposit is amenable to SLC, and that caving is likely to be induced at hydraulic radii of between 12 and 17. Observed progress from mining to date support these conclusions. Resolute undertakes a program of grade control drilling at Syama UG to progressively upgrade its geological confidence at Syama, and to enable further detailed mine planning. The Ore Reserve was estimated using the block model prepared for estimating the 2019 Mineral Resource. The Syama LOM plan is prepared —from the Mineral Resource block model— using mining industry standard computer aided design and scheduling software. Initially, production rings are designed to extract ore. Subsequently, lateral development and other infrastructure is designed to access production rings and enable safe and efficient extraction of ore. Mining dilution and recovery are estimated for production rings using flow modelling software, PCSLC. Dilution and recovery are inversely related at Syama. In general, the greater the recovery, the higher the level of dilution that will be experienced. The Syama LOM planning process balances recovery against dilution so the cash-flow is maximized. Flow modeling has estimated that 80% of gold contained in production rings will be recovered, at a 6% lower grade. With respect to minimum mining widths, production areas at Syama are planned to ensure that minimum hydraulic radii are achieved so that caving is induced in overlying ground. Inferred Mineral Resources are not included in the Syama UG mine planning. The infrastructure necessary to extract the Syama UG Ore Reserve is in place and maintained by the company.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* • *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*	Experience from the current open pit shows that ore from the Syama deposit can be highly refractory due to locking of gold within the sulphides and variable amounts of reactive natural carbon which robs cyanide leach solutions of dissolved gold. Processing of the ore will be via the following stages: • Crushing and grinding. • Flotation to produce a sulphide rich concentrate. • Concentrate thickening. • Roasting, followed by calcine quench and wash. • CIL.

	elements. • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body 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?*	• Tailings disposal. The crushing, grinding and flotation circuit has a designed capacity of 2.4 Mtpa and the roaster will process 196,000t of concentrate per annum. The CIL circuit has a designed capacity sufficient to process all of the roasted concentrate.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	The Syama Gold Mine operates in accordance with its' Environmental & Social Impact Study – "Société des Mines de Syama, Syama Gold Mine, Mali, dated 2007. Waste rock characterisation has been included in prior studies for this Environmental & Social Impact Study. Work is ongoing to optimise the mining operation and environmental management through the following: • Drilling to investigate rock characteristics • mineralogical assay analysis of drill core • routine testing of rock material types for acid generating properties • developing a sequence, rate and design optimization for open-pit mine walls, ramps and the waste rock dump landform to meet the requirements of rock characteristics. The outcomes of this work are part of a continuing improvement program which contributes to the waste rock dump management plans, annual reporting and consultation-committee meetings with government and community representatives. Tailings storage for the life of mine is forecast to be impounded over the existing footprint area approved in the Environmental & Social Impact Study. Progressive raising of the tailings impoundments will occur to contain life-of-mine storage capacity. Routine progress on the monitoring is reported to government and at stakeholder meetings in concert with routine inspections by government representatives. The Syama Project is in a mature phase of its operating life with environmental management permitted by an Environmental Authority and supported by an Environmental Management Plan. No impediments are anticipated to the development of the underground mine.
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 Syama Mine and the underground mine site are located near the two major towns of Kadiola and Sikasso. Kadiola, 55km southeast, is the regional capital while Sikasso, approximately 85 km to the northeast, is the second largest city in Mali and located close to the border with Burkina Faso. Access is via formed gravel road off the sealed Sikasso to Côte d'Ivoire highway through Kadiola, and then from Fourou to site. Most consumables and supplies use this route as it can be approached either from Côte d'Ivoire through the border post at Zegoua or alternatively from Burkina Faso and Togo through Sikasso. The road north through Bananso to Farakala, on the main highway from Bamako to Sikasso, provides an alternate and shorter route to Bamako. This road is generally impassable during the wet season when the low level "bridge" at Bananso is covered with water. Supporting infrastructure for the current operations has included upgrading of the 70km section of road from Kadiola to the site, refurbishment of administration buildings, plant site buildings and accommodation for housing expatriate and senior national staff. This infrastructure will also be used by the underground operations, with additional allowance made in the study for underground specific infrastructure on surface, such as primary ventilation fan installations, additional work shops and offices and change

		rooms for underground workers. The site is serviced by two Internet and mobile telecommunications providers (Sotelma & Orange), in addition to a point to point satellite connection to Perth. The current operation has a peak continuous power demand of approximately 22MW with an installed power capacity of 27MW. Power is currently supplied from a diesel fired power station. Supply of power from the national grid is being considered in the near future and was incorporated into the underground study.
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *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.*	With respect to cost estimates, Syama is a going concern, with established mining, processing and administration operations. As part of ongoing operations, capital and operating budgets are prepared from first principles and considering existing contractual agreements. Syama produces gold doré (without problematic deleterious elements) that is subsequently refined offsite. Refining costs are not material. Exchange rates used for planning purposes are from consensus forecasts provided by external corporate advisers. Ad valorem Government royalties of 6% are payable on gold production.
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.*	Syama's head grade is estimated by mine planning and flow modelling from the Mineral Resource Estimate. All revenue and cost estimates have been made in USD. The Ore Reserve is based on a planning gold price of US$1,300 per ounce.
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 quoted market for the sale of gold.

	• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	
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.*	The economic assessment of the project demonstrates robust economics.
Social	• *The status of agreements with key stakeholders and matters leading to social license to operate.*	Resolute assumed management of Société des Mines de Syama in May 2004. The recently completed open pit operated under the 1993 Permit Syama (No.PE-93/003) and the proposed underground will do the same. It is anticipated that transferrable skills from the current operation will be utilized for the underground operation and that existing employees will be up skilled where possible. Initially selected posts requiring specific skills or experience will most likely be filled by expatriates. In addition to performing their job function, expatriate personnel will be expected to transfer knowledge and expertise in order to develop the capabilities of their Malian staff. In the longer term it is anticipated that Malian nationals will fill most operating and management positions within the company. It is the intention to encourage economic development within the local community. Local contracts therefore, are let wherever possible and the company works actively with existing and emerging companies to achieve this aim. The Syama Mine Community Consultative Committee was established in February 2001 with representatives from local villages, the Malian Government and SOMISY. Since April 2004 the Committee has met regularly as a communication forum and to address community issues and assist with community project proposals.
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*	High seasonal rain fall events present a risk for the underground operations. All current government agreements and approvals are in good standing and no anticipated changes are expected.

	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 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).*	All Measured and Indicated Resources were converted to Probable Reserves.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	Snowden Mining Industry Consultants completed the Syama Underground Pre-Feasibility study in 2015 and later contributed to detailed designs incorporated in the Definitive Feasibility Study. Subsequent mining studies have been conducted in conjunction with various industry experts from external companies relevant to the areas of study. No other external audits of Ore Reserves were undertaken.
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 recognized that this may not be possible or appropriate in all circumstances. These statements of*	Treatment costs and recoveries are based on actual performance of processing underground ore and provide a high level of confidence. Resolute has extensive experience with a similar underground operation at the company's Mt Wright mine in Australia. This experience was combined with industry average assumptions, where required, to provide a level of accuracy and confidence that falls within the required standard for a Definitive Feasibility Study and the subsequent Mining studies. All the parameters assumed and adopted including the financial modelling and analysis have been subject to internal peer review.

	relative accuracy and confidence of the estimate should be compared with production data, where available.	

Tabakoroni: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The samples were collected from reverse circulation (RC) and diamond core drill holes. RC samples were collected on 1m intervals by riffle split (dry) or by scoop (wet), to obtain a 1-3kg sample which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Diamond core was sampled at 1m intervals and cut in half, to provide a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Sampling and sample preparation protocols are industry standard and are deemed appropriate by the Competent Person.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drill types used include diamond core of PQ and HQ sizes and RC. Core is oriented at 3m down hole intervals using a Reflex Act II RD Orientation Tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and*	Drill core interval recoveries are measured from core block to core block using a tape measure. Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples. No apparent relationship is noted between sample recovery and grade.

	ensure representative nature of the samples. • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Drill holes were geologically logged by geologists for colour, grainsize, lithology, minerals, alteration and weathering on geologically-domained intervals. Geotechnical and structure orientation data was measured and logged for all diamond core intervals. Diamond core was photographed (wet and dry). Holes were logged in their entirety (100%) and this logging was considered reliable and appropriate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Diamond core was sampled at 1m intervals and cut in half to obtain a 2-4kg sample. Reverse circulation samples were collected on 1m intervals by riffle split (dry) or by scoop (wet) to obtain a 1-3kg sample. Sample preparation for diamond core and RC samples includes oven drying, crushing to 10mm, splitting and pulverising to 85% passing -75µm. These preparation techniques are deemed to be appropriate to the material being sampled. Drill core coarse duplicates were split by the laboratory after crushing at a rate of 1:20 samples. Reverse circulation field duplicates were collected by the company at a rate of 1:20 samples. Sampling, sample preparation and quality control protocols are of industry standard and all attempts were made to ensure an unbiased representative sample was collected. The methods applied in this process were deemed appropriate by the Competent Person.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	All samples were dispatched to ALS Bamako for gold analysis by 30g fire assay fusion with AAS instrument finish (method code Au-AA25). Over-range results were re-analysed and reported by 30g fire assay fusion with gravimetric finish (method code Au-GRA21). The analytical method was appropriate for the style of mineralisation. No geophysical tools were used to determine elemental concentrations. Quality control (QC) procedures included the use of certified standards (1:40), non-certified sand blanks (1:40), diamond core coarse duplicates (1:20) and reverse circulation field duplicates (1:20). Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats, grind size results and sample weights were also captured into the digital database. Analysis of the QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved.
Verification of	• *The verification of significant intersections by either*	Verification of significant intersections have been completed by company personnel and the Competent Person.

sampling and assaying	*independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	No drill holes within the resource area were twinned. Drill holes were logged into digital templates with lookup codes, validated and then compiled into a relational SQL 2012 database using DataShed data management software. The database has verification protocols which are used to validate the data entry. The drill hole database is backed up on a daily basis to the head office server. Assay result files were reported by the laboratory in PDF and CSV format and imported into the SQL database without adjustment or modification.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Collar coordinates were picked up in UTM (WGS84) by staff surveyors using an RTK DGPS with an expected accuracy of ±0.05m; elevations were height above EGM96 geoid. Down hole surveys were collected at intervals between 5m and 30m using either a Reflex EZ-Gyro north seeking instrument or a Reflex EZ-Trac magnetic instrument in single shot or multi shot mode. A time-dependent declination was applied to the magnetic readings to determine UTM azimuth. Coordinates and azimuths are reported in UTM WGS84 Zone 29 North. Coordinates were translated to local mine grid using 1 point and rotation. Local topographic control is via LIDAR surveys, satellite photography and drone UAV aerial survey.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Drill hole spacing was sufficient to demonstrate geological and grade continuity appropriate for a Mineral Resource and the classifications applied under the 2012 JORC Code. The appropriateness of the drill spacing was reviewed by the geological technical team, both on site and head office. This was also reviewed by the Competent Person. Samples were collected on 1m intervals; no sample compositing is applied during sampling.
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.*	Holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation-based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	Samples were collected from the drill site and stored on site. All samples were individually bagged and labelled with unique sample identifiers, then securely dispatched to the laboratories. All aspects of sampling and dispatch process were supervised and tracked by SOMIFI personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	External audits of procedures indicate protocols are within industry standards.

Tabakoroni: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and	• *Type, reference name/number, location and ownership including agreements or material issues with third*	Tabakoroni drilling was completed within the Finkolo-Tabakoroni Exploitation Licence PE 13/19. Resolute Mining Limited has an 85% interest in Exploitation Permit PE 13/19, through its Malian subsidiary, Sociêtê des Mines de Finkolo SA (SOMIFI). The

land tenure status	*parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Malian Government holds a free carried 10% interest in SOMIFI and a free carried 5% interest is held privately. The Permits are held in good standing. Malian mining law provides that all Mineral Resources are administered by DNGM (Direction Nationale de la Géologie et des Mines) or National Directorate of Geology and Mines under the Ministry of Mines, Energy and Hydrology.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Etruscan Resources Inc explored Tabakoroni during 2002-2003 by auger, aircore, RC and diamond drill hole tails. The Tabakoroni area was previously explored by BHP (1988-1990) and Barrick Gold (1990) by auger, pits, trenches, RAB and diamond core drilling.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Tabakoroni deposit is hosted in upright tightly folded greenstone rocks of the Syama Formation, comprising interbedded basalt and sediment units, and an overlying complex sequence of deep marine and turbiditic sediments. The sequence overlying the basalts contains interbedded carbonaceous units (silts and shales) that are preferentially deformed, and which form the Tabakoroni Main Shear Zone (TMSZ) that lies along the approximate contact of the greenstone-sediment sequence. Gold mineralisation occurs within the TMSZ associated with quartz vein stockworks and stylolitic quartz reefs.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *Whole 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.*	All information, including easting, northing, elevation, dip, azimuth, coordinate system, drill hole length, intercept length and depth are measured and recorded in UTM Zone 29 WGS84. The Syama belt is mostly located on the Tengrela 1/200,000 topo sheet (Sheet NC 29-XVIII). The Tabakoroni local grid has been tied to the UTM Zone 29 WGS84 co-ordinate system. Spectrum Survey & Mapping from Australia established survey control at Tabakoroni using AusPos online processing to obtain an accurate UTM Zone 29 (WGS84) and 'above geoid' RL for the origin of the survey control points. Accuracy of the survey measurements is considered to meet acceptable industry standards. Drill hole information has been tabulated for this release in the intercepts table of the accompanying text. For completeness the following information about the drill holes is provided: • Easting, Northing and RL of the drill hole collars are measured and recorded in UTM Zone 29 (WGS84) • Dip is the inclination of the drill hole from horizontal. A drill hole drilled at -60° is 60° from the horizontal • Down hole length is the distance down the inclination of the hole and is measured as the distance from the horizontal to end of hole • Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of interest or assayed interval of interest.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Exploration results reported in this announcement are tabulated using the following parameters: • Grid coordinates are WGS84 Zone 29 North • Cut-off grade for reporting of intercepts is >=1g/t Au • No top cut of individual assays prior to length weighted compositing of the reported intercept has been applied • Maximum 3m consecutive internal dilution included within the intercept Metal equivalent values are not used in reporting.

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 (e.g. 'down hole length, true width not known').*	The majority of the Tabakoroni mineralisation is vertical. There is one domain which dips at 45º to the west. The majority of the drill holes are planned at a general inclination of -60 degrees east and as close to perpendicular to the ore zone as possible. At the angle of the drill holes and the dip of the ore zones, the reported intercepts will be slightly more than true width.
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.*	Relevant maps, diagrams and tabulations are included 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.*	Exploration results and infill drilling results are being reported in this announcement and tabulated in the body of the text.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No geophysical and geochemical data or any additional exploration information has been reported in this release, as they are not deemed relevant to the release.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Further drilling is planned.

Tabakoroni: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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 have been compiled into a relational SQL database; the setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using DataShed© drill hole management software using SQL database techniques. Validation checks are conducted using SQL and DataShed© relational database standards. Data has also

	• *Data validation procedures used.*	been checked against original hard copies for 100% of the data, and where possible, loaded from original data sources. Resolute completed the following basic validation checks on the data supplied prior to resource estimation: • Drill holes with overlapping sample intervals • Sample intervals with no assay data or duplicate records • Assay grade ranges • Collar coordinate ranges • Valid hole orientation data. There are no significant issues identified with the data.
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.*	Mrs Susan Havlin, an employee of Optiro Pty Ltd and a Member of the Australasian Institute of Mining and Metallurgy is the Competent Person who has visited this site in February and October 2019. All aspects of drilling, sampling and mining are considered by the Competent Persons to be of a high industry standard.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	The digital database used for the interpretation included logged intervals for the key stratigraphic zones of Tabakoroni. Detailed geological logs were available in hardcopy and digital and reviewed where necessary. There is a high level of confidence for the interpretation of the Tabakoroni Main Shear Zone (TMSZ) due to the close-spaced grade control drilling at surface and the confirmation of the position in the current oxide pits. There is a moderate level of confidence in the geological interpretation of the minor lodes adjacent to the TMSZ. Wireframes used to constrain the estimation are based on drill hole intercepts and geological boundaries. All wireframes at Tabakoroni have been constructed to a 1g/t Au cut-off grade for shape consistency. The mineralisation in the TMSZ is generally quite consistent and drill intercepts clearly define the shape of the mineralised zones with limited options for large scale alternate interpretations. The minor lodes could have alternative interpretations at depth; however, these account for only 30% of the total ounces of the deposit.
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.*	The mineral resource at Tabakoroni comprises four individual domains. The main zone is the TMSZ, which extends for approximately 1,800 metres along strike; the sub-vertical dipping gold mineralised zone width varies between 1.5 and 15 metres, with an average thickness of 5 metres. The Mineral Resource is limited in depth by drilling, which extends from surface to a maximum depth of approximately 350 metres vertically. There is a zone parallel to the TMSZ which is generally at depth and not as consistent; this is dominantly in the central part of the deposit. The northeast (NE) domain is a zone which is striking at 20° and is sub vertical in the north of the deposit. The final domain is in the south and is dipping at 45° to the west. The whole of the Tabakoroni deposit, including domains additional to the TMSZ, extends for 400 metres in the horizontal plane.
Estimation and	• *The nature and appropriateness of the estimation*	Estimation was completed in Datamine Studio RM using an Ordinary Kriged model to estimate the gold grade. Grades were

modelling techniques	*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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	estimated into parent block of 5mE by 12.5mN by 12.5mRL with sub- celling down to 1mE by 3.125 mN by 3.125 mRL was employed for resolution of the mineralisation boundaries as defined by wireframes. The drill spacing at Tabakoroni varies from 12.5 by 12.5 metres for grade control to between 25 and 50 metres for the exploration holes. Drillhole sample data was flagged using domain codes generated from three-dimensional mineralisation domains. The grade control samples and exploration samples were composited to 1 metre intervals. Variogram orientations were largely controlled by the strike of the mineralisation and downhole variography. Variograms for estimation purposes were determined for each domain. Kriging neighbourhood analysis was performed to optimise the block size, sample numbers and discretisation levels with the goal of minimising conditional bias in the gold grade estimates. Mineralisation domains were treated as hard boundaries in the estimation process while oxidation surfaces were treated as soft boundaries. Three search passes were used, with the first search pass set to the range of the variogram for each element. A minimum of 8 and a maximum of 30 samples were used. The search stayed the same for the second pass but was increased by a factor of 3 for the third and final pass. The minimum number of samples was reduced to 6 for the second pass and 4 for the third pass. No deleterious elements were found in the ore. No selective mining units have been assumed. Top cuts were applied to reduce the variability of the data and to remove the outliers. The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the drillhole data and by northing and elevation slices. Global comparison between the input data and the block grades for each variable is considered acceptable (±10%). Comparison with the mine production to date was carried out and was within an acceptable limit.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	Mineral Resources for open pit extraction have been reported at a 1 g/t Au grade cut-off and above the current life of mine pit design. The Mineral Resources for underground mining have been reported at a 1.5 g/t Au grade cut-off and below the current life of mine pit design. The resource has been demonstrated to be amenable to underground mining.

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.*	No mining assumptions have been made at Tabakoroni. Mining parameters, including minimum width assumptions, will be applied during the conversion to Ore Reserves.
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.*	No metallurgical factors or assumptions have been made during the resource estimation process as these will be addressed during the conversion to Ore Reserves.
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 green fields 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.*	It is a requirement of Decree No.03-594/P-RM of 31 December 2003 of Malian law that an Environmental and Social Impact Study (Étude d'Impact Environmental et Social – EIES) must be undertaken to update the potential environmental and social impacts of the mine's redevelopment. The EIES for the Syama Gold Mine (including Tabakoroni) was approved in November 2007 and an Environment Permit (07- 0054/MEA – SG) was issued by the Ministry of Environment and Sanitation on 22 November 2007. The Ministry of Environment conducts timely reviews of the Syama Gold Mine to ensure that company maintains compliance with the EIES guidelines. At Syama and Tabakoroni, there are three key practices for disposal of wastes and residues namely, stacking of waste rock from open pit mining; storage of tailings from mineral processes; and "tall-stack dispersion" of sulphur dioxide from the roasting of gold bearing concentrate. All waste disposal practices are in accordance with the guidelines in the EIES. The Environmental & Social Impact Study – "Société des Mines de Syama, Syama Gold Mine, Mali", dated 2007 indicated there was minimal potential for acid mine drainage from waste rock due to the elevated carbonate content which buffers a potential acid generation. Resolute maintains a plan for progressive rehabilitation of waste rock landforms as part of ongoing mine development and waste rock dumping. The landform of tailings impoundments does not have a net acid generating potential. The largest volume is flotation tailings where the sulphide minerals have already been removed from the host rock. Its mineralogy includes carbonates which further buffer any acid-formation potential from sulphides that may also be present.

		Cyanide levels in the leached-calcine tailings are typically less than 50 ppm in the weak acid dissociable form. Groundwater away from the tailings landform is intercepted by trenches and sump pumps. Sulphur dioxide is generated from the roasting of gold concentrate so that gold can be extracted and refined. Tall-Stack "dispersion" of the sulphur dioxide emission is monitored continuously. Prevailing weather and dissipation of the sulphur dioxide is modelled daily to predict the need to pause the roasting process to meet the air quality criteria set out in the Environmental & Social Impact Study.
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.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Site personnel have completed numerous bulk density comparative estimates on HQ drill core to assess variability using the Archimedes method of dry weight versus weight in water. This method was used for 76% of the bulk density measurements. The other 34% is by unknown method. On the basis of the data collected the following SG estimates were applied to the model by weathering type: • Oxide 2.31 t/m^3 • Transitional 2.41 t/m^3 • Fresh 2.70 t/m^3
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Measured Mineral Resource classification is based on good confidence in the geology and gold grade continuity with 12.5 m x 12.5 m spaced drillhole density in the central part of the deposit. The Indicated Mineral Resource classification is based on good confidence in the geology and gold grade continuity with less than 50 m x 50 m spaced drillhole density in the central part of the deposit. The Inferred Mineral Resource classification is applied to extensions of mineralised zones on the margins of the deposit where drill spacing is more than 50 m x 50 m and the extents of mineralisation at depth. The validation of the block model has confirmed satisfactory correlation of the input data to the estimated grades and reproduction of data trends. The Mineral Resource estimate appropriately reflects the view of the Competent Persons.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource has been audited internally and in conjunction with resource consultants at Optiro Pty Ltd as part of the routine validation process. There has been no external review of the Mineral Resource estimate.
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*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of Measured, Indicated and Inferred resource categories as defined by 2012 JORC Code guidelines. The estimate is considered to be relevant to an annual level of reporting of tonnage and grade. The estimation was compared with the production history at Tabakoroni and it is within 15% which is within the limits for the relevant classifications.

	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 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.*	

Tabakoroni: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Reserve.*	Resources at Tabakoroni are reported above a 1 g/t cut-off. This was calculated as a marginal cut off utilising open pit mining methods. Material below this cut-off is not included in the Mineral Resource. Ore Reserves are the material reported as a sub-set of the resource, that which can be extracted from the mine and processed with an economically acceptable outcome. Mineral Resources are reported inclusive of Ore Reserves.
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.*	Mr Brett Ascott is a Fellow member of the Australasian Institute of Mining and Metallurgy and is a Competent Person who conducts regular site visits to the project location.
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.*	A Feasibility study was completed on Tabakoroni in 2009 with updates in 2012 & 2016. Tabakoroni has been in continuous mining operation since August 2018. During this time the performance the project has shown a positive reconciliation between mineral resources and gold production and delivered positive cashflows.
Cut-off parameters	•*The basis of the cut-off grade(s) or quality parameters applied.*	A cut-off of 1.1g/t has been applied for Tabakoroni

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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* *•The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* *•The infrastructure requirements of the selected mining methods.*	The reported Ore Reserve estimates for Tabakoroni are based on pit optimisations conducted using the Lerchs-Grossman (LG) algorithm utilizing the WhittleTM software to calculate the optimal pit at specific input parameters and pit designs. Costs are based on existing contract mining and haulage rates and site costs which are understood with a high degree of accuracy. Mining is undertaken by conventional open pit methods of drill and blast, followed by load and haul, utilising mining equipment comprising 120t – 230t diesel hydraulic excavators and 90t off-highway dump trucks. Detailed pit design work was completed based on pit optimisations using Whittle Four-X optimisation software. Only Measured and Indicated Resources were used in the pit optimisation. Pit slope parameters for Tabakoroni were based on a geotechnical assessment that included a total of seven specific geotechnical holes. Overall slopes angles are approximately 40°. All other pits adopt similar overall slope angles. Grade control consists of RC drilling, based on a 5.0mE x 12.5mN drill pattern A 10% dilution factor is applied Minimum Mining Width used is 15m The mine plan includes approximately 2% of Inferred Resources
Metallurgical factors or assumptions	*•The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* *•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 ore body as a whole.* *•For minerals that are defined by a specification, has the ore reserve estimation been based on the*	Processing is by conventional primary crushing followed by single stage SAG milling. Gold recovery is by means of a gravity recovery circuit and carbon in leach process. Processing recoveries used are 90%, 80% and 65% for Oxide, Transitional and fresh material respectively Mine is operational with good reconciliation between predicted recoveries and actual Allowances are made in the recovery estimates for transitional and fresh ore as the Au recovery is impacted by some of the gold being hosted in refractory sulphide and preg-robbing carbon

	appropriate mineralogy to meet the specifications?	
Environmental	*•The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	An active waste rock characterisation program has been put in place for Tabakoroni Ore Reserves from Tabakoroni will be processed at Syama and tailings storage will be impounded in existing footprint area approved in the Environmental & Social Impact Study. Progressive raising of the tailings occurs regularly with the 9th lift completed in 2019. Routine progress on the monitoring is reported to government and at stakeholder meetings in concert with routine inspections by government representatives.
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.*	All required infrastructure is already in place at the Tabakoroni mine
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *•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.*	With respect to cost estimates, mining at Tabakoroni is a going concern, with established mining operations. Ore is trucked to Syama where it is processed at Syama's oxide circuit. General and administration costs are shared between the oxide plant and the sulphide plant which treats the Syama UG orebody. The oxide plant produces gold doré (without problematic deleterious elements) that is subsequently refined offsite. Refining costs are not material. Exchange rates used for planning purposes are from consensus forecasts provided by external corporate advisers. Ad valorem Government royalties of 6% are payable on gold production
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.*	A gold price of US$1,400/oz formed the basis of the Ore Reserves.
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.*	The market for gold is robust with prevailing gold price being around US$1,500/oz. Supply and demand are not considered material to the Ore Reserve calculations.

	•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.*	
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.*	The financial evaluation undertaken as part of the evaluation of these open pits indicated a positive net present value (NPV) at a 5% discount rate and operating results to date have exceeded production and NPV forecasts.
Social	*•The status of agreements with key stakeholders and matters leading to social license to operate.*	Tabakoroni falls under the SOMIFI exploitation permit and is managed by SOMISYA under Management and Toll Treatment agreements lodged with the Government of Mali. It is the intention to encourage economic development within the local community. During the operation of Tabakoroni focus has been on improving farming and health care plus providing access to water; this will continue to remain a focus. The Syama Mine Community Consultative Committee, which includes representation from Tabakoroni and the villages adjacent to the Syama Satellites, was established in February 2001 with representatives from local villages, the Malian Government and SOMISY. Since April 2004 the Committee has met regularly as a communication forum and to address community issues and assist with community project proposals; it continues to meet on the first or second Tuesday of each month.
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*	All current government agreements and approvals are in good standing and no anticipated changes are expected.

	the reserve is contingent.	
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).*	Proved and Probable Ore Reserves were declared based on the Measured and Indicated Mineral Resources. The Ore Reserve estimate appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	*•The results of any audits or reviews of Ore Reserve estimates.*	
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 recognized 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.*	The relative accuracy and confidence of the Ore Reserve estimate is inherent in the Ore Reserve Classification. .

Syama Satellite Deposits – Cashew NE, Paysans and Tellem: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The samples were collected from reverse circulation (RC) and diamond core drill holes. RC samples were collected on 1m intervals by riffle split (dry) or by scoop (wet), to obtain a 1-3kg sample which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Diamond core was sampled at 1m intervals and cut in half, to provide a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Sampling and sample preparation protocols are industry standard and are deemed appropriate by the Competent Person.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drill types used include diamond core of PQ and HQ sizes and RC. Core is oriented at 3m down hole intervals using a Reflex Act II RD Orientation Tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Drill core interval recoveries are measured from core block to core block using a tape measure. Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples. No apparent relationship is noted between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support*	Drill holes were geologically logged by geologists for colour, grainsize, lithology, minerals, alteration and weathering on geologically-domained intervals.

	appropriate Mineral Resource estimation, mining studies and metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Geotechnical and structure orientation data was measured and logged for all diamond core intervals. Diamond core was photographed (wet and dry). Holes were logged in their entirety (100%) and this logging was considered reliable and appropriate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Diamond core was sampled at 1m intervals and cut in half to obtain a 2-4kg sample. Reverse circulation samples were collected on 1m intervals by riffle split (dry) or by scoop (wet) to obtain a 1-3kg sample. Sample preparation for diamond core and RC samples includes oven drying, crushing to 10mm, splitting and pulverising to 85% passing -75µm. These preparation techniques are deemed to be appropriate to the material being sampled. Drill core coarse duplicates were split by the laboratory after crushing at a rate of 1:20 samples. Reverse circulation field duplicates were collected by the company at a rate of 1:20 samples. Sampling, sample preparation and quality control protocols are of industry standard and all attempts were made to ensure an unbiased representative sample was collected. The methods applied in this process were deemed appropriate by the Competent Person.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	All samples were dispatched to ALS Bamako for gold analysis by 30g fire assay fusion with AAS instrument finish (method code Au-AA25). Over-range results were re-analysed and reported by 30g fire assay fusion with gravimetric finish (method code Au-GRA21). The analytical method was appropriate for the style of mineralisation. No geophysical tools were used to determine elemental concentrations. Quality control (QC) procedures included the use of certified standards (1:40), non-certified sand blanks (1:40), diamond core coarse duplicates (1:20) and reverse circulation field duplicates (1:20). Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats, grind size results and sample weights were also captured into the digital database. Analysis of the QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Verification of significant intersections have been completed by company personnel and the Competent Person. No drill holes within the resource area were twinned. Drill holes were logged into digital templates with lookup codes, validated and then compiled into a relational SQL 2012 database using DataShed data management software. The database has verification protocols which are used to validate the data entry. The drill hole database is backed up on a daily basis to the head office server. Assay result files were reported by the laboratory in PDF and CSV format and imported into the SQL database without adjustment or modification.
Location of data	• *Accuracy and quality of surveys used to locate drill*	Collar coordinates were picked up in UTM (WGS84) by staff surveyors using an RTK DGPS with an expected accuracy of

points	*holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	±0.05m; elevations were height above EGM96 geoid. Down hole surveys were collected at intervals between 5m and 30m using either a Reflex EZ-Gyro north seeking instrument or a Reflex EZ-Trac magnetic instrument in single shot or multi shot mode. A time-dependent declination was applied to the magnetic readings to determine UTM azimuth. Coordinates and azimuths are reported in UTM WGS84 Zone 29 North. Coordinates were translated to local mine grid using 1 point and rotation. Local topographic control is via LIDAR surveys, satellite photography and drone UAV aerial survey.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Drill hole spacing was sufficient to demonstrate geological and grade continuity appropriate for a Mineral Resource and the classifications applied under the 2012 JORC Code. The appropriateness of the drill spacing was reviewed by the geological technical team, both on site and head office. This was also reviewed by the Competent Person. Samples were collected on 1m intervals; no sample compositing is applied during sampling.
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.*	Holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation-based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	Samples were collected from the drill site and stored on site. All samples were individually bagged and labelled with unique sample identifiers, then securely dispatched to the laboratories. All aspects of sampling and dispatch process were supervised and tracked by SOMIFI personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	External audits of procedures indicate protocols are within industry standards.

Syama Satellite Deposits – Cashew NE, Paysans and Tellem: Section 2 - Reporting of Exploration Results

CRITERIA	*JORC CODE EXPLANATION*	*COMMENTARY*
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Drilling at Syama was conducted within the Malian Exploitation Concession Permit PE 93/003 which covers an area of 200.6 Km2. Resolute Mining Limited has an 80% interest in the Syama project and the Exploitation Permit PE 93/003, on which it is based, through its Malian subsidiary, Sociêtê des Mines de Syama SA (SOMISY). The Malian Government holds a free carried 20% interest in SOMISY. The Permits are held in good standing. Malian mining law provides that all Mineral Resources are administered by DNGM (Direction Nationale de la Géologie et des Mines) or National Directorate of Geology and Mines under the Ministry of Mines, Energy and Hydrology.
Exploration done	• *Acknowledgment and appraisal of exploration by*	The Syama deposit was originally discovered by a regional geochemical survey undertaken by the Direction National de

by other parties	*other parties.*	Géologie et des Mines (DNGM) with assistance from the United Nations Development Program (UNDP) in 1985. There had also been a long history of artisanal activities on the hill where an outcropping chert horizon originally marked the present-day position of the open pit. BHP during 1987-1996 sampled pits, trenches, auger, RC and diamond drill holes across Syama prospects. Randgold Resources Ltd during 1996-2000 sampled pits, trenches, auger, RAB, RC and diamond drill holes across Syama prospects. Etruscan Resources Inc explored Tabakoroni during 2002-2003 by auger, aircore, RC and diamond drill hole tails. The Tabakoroni area was previously explored Barrick Gold (1990) by auger, pits, trenches, RAB and diamond core drilling.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Syama Project is found on the northern margin of the Achaean-Proterozoic Leo Shield which forms the southern half of the West African Craton. The project area straddles the boundary between the Kadiana–Madinani terrane and the Kadiolo terrane. The Kadiana-Madinani terrane is dominated by greywackes and a narrow belt of interbedded basalt and argillite. The Kadiolo terrane comprises polymictic conglomerate and sandstone that were sourced from the Kadiana-Madinani terrane and deposited in a late- to syntectonic basin. Prospects are centred on the NNE striking, west dipping, Syama-Bananso Fault Zone and Birimian volcano-sedimentary units of the Syama Formation. The major commodity being sought is gold.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *Whole 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.*	All information, including easting, northing, elevation, dip, azimuth, coordinate system, drill hole length, intercept length and depth are measured and recorded in UTM Zone 29 WGS84. The Syama belt is mostly located on the Tengrela 1/200,000 topo sheet (Sheet NC 29-XVIII). Spectrum Survey & Mapping from Australia established survey control at Tabakoroni using AusPos online processing to obtain an accurate UTM Zone 29 (WGS84) and 'above geoid' RL for the origin of the survey control points. Accuracy of the survey measurements is considered to meet acceptable industry standards. Drill hole information has been tabulated for this release in the intercepts table of the accompanying text. For completeness the following information about the drill holes is provided: • Easting, Northing and RL of the drill hole collars are measured and recorded in UTM Zone 29 (WGS84) • Dip is the inclination of the drill hole from horizontal. A drill hole drilled at -60° is 60° from the horizontal • Down hole length is the distance down the inclination of the hole and is measured as the distance from the horizontal to end of hole • Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of interest or assayed interval of interest.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Exploration results are tabulated using the following parameters: • Grid coordinates are WGS84 Zone 29 North • Cut-off grade for reporting of intercepts is >=1g/t Au • No top cut of individual assays prior to length weighted compositing of the reported intercept has been applied • Maximum 3m consecutive internal dilution included within the intercept Metal equivalent values are not used in reporting.

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 (e.g. 'down hole length, true width not known').*	The Cashew NE and Paysans mineralisation is shallowly dipping at about 30 degrees to the west (local grid). The majority of the Tellem mineralisation is narrow and sub vertical. The majority of the drill holes are planned at a general inclination of -60 degrees east and as close to perpendicular to the ore zone as possible. At the angle of the drill holes and the dip of the ore zones, the reported intercepts will be slightly more than true width.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	No exploration results have been reported in this release.
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.*	Significant intercepts of new drill holes have not been reported in this release.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No geophysical and geochemical data or any additional exploration information has been reported in this release, as they are not deemed relevant to the release.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Further drilling is planned.

Syama Satellite Deposits – Cashew NE, Paysans and Tellem: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Cashew NE,Paysans and Tellem Data have been compiled into a relational SQL database; the setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using DataShed© drill hole management software using SQL database techniques. Validation checks are conducted using SQL and DataShed© relational database standards. Data has also been checked against original hard copies for 100% of the data, and where possible, loaded from original data sources. Resolute completed the following basic validation checks on the data supplied prior to resource estimation: Drill holes with overlapping sample intervals Sample intervals with no assay data or duplicate records Assay grade ranges Collar coordinate ranges Valid hole orientation data. There are no significant issues identified with the data.
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.*	Cashew NE and Paysans Mrs Susan Havlin, an employee of Optiro Pty Ltd and a Member of the Australasian Institute of Mining and Metallurgy is the Competent Person who has visited this site in February and October 2019. Tellem Mr Nicholas Johnson, as employee of MPR Geological Consultants Pty Ltd and a Member of the Geological Institute of Geoscientists is the Competent Person who has visited this site on numerous occasions. All aspects of drilling, sampling and mining are considered by the Competent Persons to be of a high industry standard.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	Cashew NE and Paysans The digital database used for the interpretation included logged intervals for the key stratigraphic zones of Cashew NE, Paysans and Tellem. Detailed geological logs were available in hardcopy and digital and reviewed where necessary. Wireframes used to constrain the estimation are based on drill hole intercepts and geological boundaries. All wireframes at Cashew NE and Paysans have been constructed to a 0.3g/t Au cut-off grade for shape consistency. At Tellem they were constructed at nominal 0.1 g/t Au mineralised envelope. There is a moderate level of confidence for the interpretation at Cashew NE, Paysans and Tellem due to the relatively close-spaced drilling at surface. The mineralisation is generally quite consistent and drill intercepts clearly define the shape of the mineralised zones with limited options for large scale alternate interpretations.
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.*	Cashew NE The mineral resource at Cashew comprises three individual domains they all dip at about 30 degrees to the west (local grid) from surface and extend 200 metres down dip. The three domains extend for approximately 350 metres along strike and the gold mineralised zone width varies between 1.5 and 20 metres, with an average thickness of 7 metres. Paysans

		Three domains have been identified at Paysans. The three domains all dip at about 30 degrees to the west (local grid) and extend for 300 metres down dip. The mineralised zone width varies between 1.5 and 10 metres with an average thickness of 3 metres. They strike north-south (local grid) for approximately 1,700 metres. The deposit has been divided into three areas by two faults which run east-west (local grid). Tellem There are three mineralised domains at Tellem. The three domains are narrow sub vertical zone of stockwork veins modelled to be between a few metres to 1.5 metres in thickness. The strike length is approximately 4.3 kilometres and covers a vertal extent of 270 metres.
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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole*	Cashew NE and Paysans Estimation was completed in Datamine Studio RM using an Ordinary Kriged model to estimate the gold grade. Grades were estimated into parent block of 10 mE by 20 mN (at Cashew, 25 mN at Paysans) by 5 mRL with sub- celling down to 2.5 mE by 2.5 mN by 2.5 mRL was employed for resolution of the mineralisation boundaries as defined by wireframes. The drill spacing at Cashew and Paysans is a nominal 25 by 25 metres for the exploration holes for the majority of the deposits and 50 by 50 metres around the periphery. Drillhole sample data was flagged using domain codes generated from three-dimensional mineralisation domains. The samples were composited to 1 metre intervals. Variogram orientations were largely controlled by the strike of the mineralisation and downhole variography. One set of variograms was generated for all the mineralisation due to similar orientation of each of the domains and sometimes lack of composites. Kriging neighbourhood analysis was performed to optimise the block size, sample numbers and discretisation levels with the goal of minimising conditional bias in the gold grade estimates. At Cashew mineralisation domains were treated as hard boundaries in the estimation process while oxidation surfaces were treated as soft boundaries. At Paysans the mineralisation domains were treated as hard boundaries as well as the boundary between the transitional and fresh material within each domain. The boundary between the oxide and transitional is treated as a soft boundary. Three search passes were used, with the first search pass set to the range of the variogram for each domain. A minimum of 8 and a maximum of 30 samples were used. The search stayed the same for the second pass but was increased by a factor of 3 for the third and final pass. The minimum number of samples was reduced to 6 for the second pass and 4 for the third pass. No deleterious elements were found in the ore. No selective mining units have been assumed. Top cuts were applied to reduce the variability of the data and to remove the outliers. The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the drillhole data and by northing and elevation slices. Global comparison between the input data and the block grades for each variable is considered acceptable (±10%). Tellem Multiple Indicator Kriging (MIK) with block support adjustment to estimate gold resources into blocks with dimensions of 10 mE by 25 mN by 5 mRL. MIK of gold grades used indicator variography based on the two metre resource composite sample grades. Gold grade continuity was characterised by indicator variograms at 14 indicator thresholds spanning the global range of grades. A block support adjustment was used to estimate the recoverable gold resources at each deposit. The shape of the local block gold grade distribution has been assumed lognormal and an additional adjustment for the “Information Effect” has been applied to arrive at the final Mineral Resource estimates. MIK was used as the preferred method for estimation of gold resources at Tellem as the approach has been demonstrated to work well in a large number of deposits of diverse geological styles. The gold mineralisation seen at the Tellem deposit is typical of that

	data, and use of reconciliation data if available.	seen in most structurally controlled gold deposits where the MIK method has been found to be of most benefit. Data viewing, compositing and wire-framing were performed using Micromine software. Exploratory data analysis, variogram calculation and modelling, and resource estimation have been performed using FSSI Consultant (Australia) Pty Ltd GS3M software. GS3M is designed specifically for estimation of recoverable resources using MIK methodology. The sample data set containing all available assaying were composited to two metre intervals each located by their mid-point co-ordinates and assigned a length weighted average gold grade. The composite length of two metres was chosen because it is a multiple of the most common sampling interval (1.0 metre) and is also an appropriate choice for the kriging of gold into the model blocks where open pit mining is undertaken on 2.5 metre benches. Block dimensions are 10 mE by 25 mN by 5 mRL and was chosen as it approximates the average drill hole spacing in the horizontal direction, with the 5m elevation being a multiple of the mining bench height of 2.5m. The interpolation utilised a 3 pass octant search strategy with search radii generally in the order of category 1 searching 15m in the x, 25m in the y and 15m in the z direction, 16 minimum composites used, a maximum of 4 composites per octant and a minimum of 4 octants with data. Category 2 uses a 50% search distance increase but otherwise the same parameters and category 3 uses the same search distance as category 2 but only requires 8 minimum composites and only 2 octants require data. The search ellipse on each category is consistently orientated orthogonal to modelling grid. The 2m resource composites were initially coded by the mineralisation domain interpretation and the resultant primary domain coding further subdivided using the weathering surfaces to form sub-domains. Sample composites in each primary and sub-domain combination were reviewed for their univariate and indicator statistics and spatial continuity and were the basis of grade modelling. A combination of outlier high grade composites being ignored for each sub-domain for the generation of the indicator statistics, and selection of the median instead of mean for the highest indicator threshold were used to guard against a few higher grades within the population from having a disproportional influence on the gold estimation. A block support adjustment was used to estimate the recoverable gold resources. The shape of the local block gold grade distribution has been assumed lognormal and an additional adjustment for the “Information Effect” has been applied to arrive at the final Resource estimates. Selective mining unit assumed to be in the general range 4mE by 8mN by 2.5mRL. Visual validation of grade trends and gold distributions was carried out. These is no mine production, so no comparisons were carried out.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Cashew NE, Paysans and Tellem All tonnages have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	Cashew NE, Paysans and Tellem Mineral Resources for open pit extraction have been reported at a 1 g/t Au grade cut-off.
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*	Cashew NE, Paysans and Tellem The Resource models assume that a moderate level of mining selectivity is achieved in open pit mining. It has been assumed that high quality grade control will be applied to ore/waste delineation processes using RC drilling, or similar, at a nominal (and no greater) spacing of 5 metre by 12.5 metre and applying a pattern sufficient to ensure adequate coverage of the mineralisation zones. This is consistent with current mining practises at Syama.

	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.*	Cashew NE, Paysans and Tellem No metallurgical factors or assumptions have been made during the resource estimation process as these will be addressed during the conversion to Ore Reserves.
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 green fields 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.*	Cashew NE, Paysans and Tellem It is a requirement of Decree No.03-594/P-RM of 31 December 2003 of Malian law that an Environmental and Social Impact Study (Étude d'Impact Environmental et Social – EIES) must be undertaken to update the potential environmental and social impacts of the mine's redevelopment. The EIES for the Syama Gold Mine (including Tabakoroni) was approved in November 2007 and an Environment Permit (07- 0054/MEA – SG) was issued by the Ministry of Environment and Sanitation on 22 November 2007. The Ministry of Environment conducts timely reviews of the Syama Gold Mine to ensure that company maintains compliance with the EIES guidelines. At Syama, there are three key practices for disposal of wastes and residues namely, stacking of waste rock from open pit mining; storage of tailings from mineral processes; and "tall-stack dispersion" of sulphur dioxide from the roasting of gold bearing concentrate. All waste disposal practices are in accordance with the guidelines in the EIES. The Environmental & Social Impact Study – "Société des Mines de Syama, Syama Gold Mine, Mali", dated 2007 indicated there was minimal potential for acid mine drainage from waste rock due to the elevated carbonate content which buffers a potential acid generation. Resolute maintains a plan for progressive rehabilitation of waste rock landforms as part of ongoing mine development and waste rock dumping. The landform of tailings impoundments does not have a net acid generating potential. The largest volume is flotation tailings where the sulphide minerals have already been removed from the host rock. Its mineralogy includes carbonates which further buffer any acid-formation potential from sulphides that may also be present. Cyanide levels in the leached-calcine tailings are typically less than 50 ppm in the weak acid dissociable form. Groundwater away from the tailings landform is intercepted by trenches and sump pumps. Sulphur dioxide is generated from the roasting of gold concentrate so that gold can be extracted and refined. Tall-Stack "dispersion" of the sulphur dioxide emission is monitored continuously. Prevailing weather and dissipation of the sulphur dioxide is modelled daily to predict the need to pause the roasting process to meet the air quality criteria set out in the Environmental & Social Impact Study.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency*	Paysans and Tellem No bulk density measurements have been taken at Paysans. An average SG was applied to the model by weathering type based on similar deposits at Syama:

	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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Oxide 1.80 t/m^3 Transitional 2.40 t/m^3 Fresh 2.70 t/m^3 <u>Cashew NE</u> One hole had density measurements at Cashew. The average density was adjusted to reflect the density of this hole. The density was assigned based on weathering: Oxide 1.80 t/m^3 Transitional 2.56 t/m^3 Fresh 2.75 t/m^3
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	<u>Cashew NE and Paysans</u> The Indicated Mineral Resource classification is based on moderate confidence in the geology and gold grade continuity with 25 m x 25 m spaced drillhole density. The Inferred Mineral Resource classification is applied to extensions of mineralised zones on the margins of the deposit where drill spacing is more than 50 m x 50 m and the extents of mineralisation at depth. The validation of the block model has confirmed satisfactory correlation of the input data to the estimated grades and reproduction of data trends. <u>Tellem</u> The Resource model uses a classification scheme producing a resource code based on the number and location of gold composites used to estimate proportions and gold grade of each block. This is based on the principle that larger numbers of composites, which are more evenly distributed within the search neighbourhood, will provide a more reliable estimate. The strategy adopted in the current study uses category 1 and 2 from the 3 pass octant search strategy as Indicated and category 3 as Inferred. This results in a geologically sensible classification whereby Category 1 and 2 are surrounded by data in close proximity. Category 3 blocks may occur on the peripheries of drilling but are still related to drilling data within reasonable distances. The Mineral Resource estimates appropriately reflects the view of the Competent Persons.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	<u>Cashew NE, Paysans and Tellem</u> There has been no external review of the Mineral Resource estimate.
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*	<u>Cashew NE, Paysans and Tellem</u> The Mineral Resource estimate has been classified based on the quality of the data collected, the density of data, the confidence of the geological models and mineralisation models, and the grade estimation quality. This has been applied to a relative confidence based on data density and zone confidence for resource classification. No relative statistical or geostatistical confidence or risk measure has been generated or applied. The relative accuracy of the Mineral Resource estimate is reflected in the reporting of Indicated and Inferred resource categories as defined by 2012 JORC Code guidelines. The estimate is considered to be relevant to an annual level of reporting of tonnage and grade. No production data available for comparison.

	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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

Syama Satellite Deposits – Cashew NE, Paysans and Tellem: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Reserve.*	Cashew NE, Paysans and Tellem Resources and Reserves at Cashew NE, Paysans and Tellem are reported above a 1 g/t cut-off. This was calculated as a marginal cut off utilising open pit mining methods. Material below this cut-off is not included in the mineral resource. Ore Reserves are the material reported as a sub-set of the resource, that which can be extracted from the mine and processed with an economically acceptable outcome. Mineral Resources are reported inclusive of Ore Reserves.
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.*	Cashew NE, Paysans and Tellem Mr Brett Ascott is a Fellow member of the Australasian Institute of Mining and Metallurgy and is a Competent Person who conducts regular site visits to the project location.
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.*	Cashew NE, Paysans and Tellem Feasibility studies were completed for mining of open satellite deposits in 2009 and mining of satellite pits has been occurring since 2014.
Cut-off parameters	•*The basis of the cut-off grade(s) or quality*	Cashew NE, Paysans and Tellem

	parameters applied.	Cashew, Tellem and Paysans use a cut-off of 1.0 g/t, based on the economic parameters described in subsequent sections.
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* *•The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* *•The infrastructure requirements of the selected mining methods.*	<u>Cashew NE, Paysans and Tellem</u> The reported Ore Reserve estimates Cashew NE, Tellem and Paysans are based on pit optimisations conducted using the Lerchs-Grossman (LG) algorithm utilizing the WhittleTM software to calculate the optimal pit at specific input parameters and pit designs. Costs are based on existing contract mining and haulage rates and site costs which are understood with a high degree of accuracy. Mining is planned to be undertaken by conventional open pit methods of drill and blast, followed by load and haul. Detailed pit design work was completed based on pit optimisations using Whittle Four-X optimisation software. Only Measured and Indicated Resources were used in the pit optimisation. Overall slope angles are approximately 40° based on empirical experience from the mining other similar satellite pits Grade control consists of RC drilling, based on a 5.0mE x 12.5mN drill pattern <u>Cashew NE, Paysans</u> A 10% dilution factor is applied <u>Tellem</u> The MIK resource estimation technique used for Tellem implicitly incorporates internal mining dilution at the scale of the assessed SMU so no additional modifying factor was applied. <u>Cashew NE, Paysans and Tellem</u> Minimum Mining Width used is 15m The pits contain approximately 2% of Inferred Resources
Metallurgical factors or assumptions	*•The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* *•Whether the metallurgical process is well-tested technology or novel in nature.*	<u>Cashew NE, Paysans and Tellem</u> Processing is by conventional primary crushing followed by single stage SAG milling. Gold recovery is by means of a gravity recovery circuit and carbon in leach process. Processing recoveries used are 90%, 80% and 65% for Oxide, Transitional and fresh material respectively Mine is operational with good reconciliation between predicted recoveries and actual

	•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 ore body 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?*	Allowances are made in the recovery estimates for transitional and fresh ore as the Au recovery is impacted by some of the gold being hosted in refractory sulphide and preg-robbing carbon
Environmental	*•The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	<u>Cashew NE, Paysans and Tellem</u> An active waste rock characterisation program has been put in place for Tabakoroni and will extend to these satellite open pit deposits Ore from these pits will be processed at Syama and tailings storage will be impounded in existing footprint area approved in the Environmental & Social Impact Study. Progressive raising of the tailings occurs regularly with the 9th lift completed in 2019. Routine progress on the monitoring is reported to government and at stakeholder meetings in concert with routine inspections by government representatives.
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.*	<u>Cashew NE, Paysans and Tellem</u> These pits will be supported by existing infrastructure at Syama as they are close to the main facility.
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *•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.*	<u>Cashew NE, Paysans and Tellem</u> The Cashew NE, Paysan and Tellem pits are located within approximately 10km of Syama. Ore is trucked to Syama where it is processed at Syama's oxide circuit. General and administration costs are shared between the oxide plant and the sulphide plant which treats the Syama UG orebody. As part of ongoing operations, capital and operating budgets are prepared from first principles and considering existing contractual agreements. The oxide plant produces gold doré (without problematic deleterious elements) that is subsequently refined offsite. Refining costs are not material. • Exchange rates used for planning purposes are from consensus forecasts provided by external corporate advisers. • Ad valorem Government royalties of 6% are payable on gold production.

	•The allowances made for royalties payable, both Government and private.	
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.*	Cashew NE, Paysans and Tellem A gold price of US$1,400/oz formed the basis of the Ore Reserves.
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.*	Cashew NE, Paysans and Tellem The market for gold is robust with prevailing gold price being around US$1,500/oz. Supply and demand are not considered material to the Ore Reserve calculations.
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.*	Cashew NE, Paysans and Tellem The financial evaluation undertaken as part of the evaluation of these open pits indicated a positive net present value (NPV) at a 5% discount rate and operating results to date have exceeded production and NPV forecasts.
Social	*•The status of agreements with key stakeholders and matters leading to social license to operate.*	Cashew NE, Paysans and Tellem The Southern Satellite Pits fall within the Syama exploitation permit and will be managed and operated by SOMISY SA. Development of the Southern Satellite pits has required updating of the SOMISY ESIA which has been lodged with the Government of Mali since December 2019. The ESIA process has required consultation with local community and local government leadership plus other relevant stakeholders. Engagement will continue up to and during operations including the payment of compensation to farmers whose fields are disturbed as per Malian legal requirements. It is anticipated that Malian nationals will fill most operating and management positions related to the Southern Satellite open pits. It is the intention to encourage economic development within the local community The Syama Mine Community Consultative Committee, which includes representation from Tabakoroni and the villages adjacent to the Southern Satellites, was established in February 2001 with representatives from local villages, the Malian Government and SOMISY. Since April 2004 the Committee has met regularly as a communication forum and to address community issues and assist with community project proposals; it continues to meet on the first or second Tuesday of each month.

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.*	Cashew NE, Paysans and Tellem All current government agreements and approvals are in good standing and no anticipated changes are expected.
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).*	Cashew NE, Paysans and Tellem Probable Ore Reserves were declared based on the Indicated Mineral Resources. The Ore Reserve estimate appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	•*The results of any audits or reviews of Ore Reserve estimates.*	Cashew NE, Paysans and Tellem No external audits of resources/reserves were undertaken.
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*	Cashew NE, Paysans and Tellem The relative accuracy and confidence of the Ore Reserve estimate is inherent in the Ore Reserve Classification. All the parameters assumed and adopted along with financial modelling and analysis have been subject to internal peer review.

	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 recognized 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.*	

Tabakoroni Satellite Deposits – Porphyry Zone: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The samples were collected from reverse circulation (RC) and diamond core drill holes. RC samples were collected on 1m intervals by riffle split (dry) or by scoop (wet), to obtain a 1-3kg sample which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Diamond core was sampled at 1m intervals and cut in half, to provide a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising to provide a 30g charge for analysis. Sampling and sample preparation protocols are industry standard and are deemed appropriate by the Competent Person.

Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drill types used include diamond core of PQ and HQ sizes and RC. Core is oriented at 3m down hole intervals using a Reflex Act II RD Orientation Tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Drill core interval recoveries are measured from core block to core block using a tape measure. Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples. No apparent relationship is noted between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Drill holes were geologically logged by geologists for colour, grainsize, lithology, minerals, alteration and weathering on geologically-domained intervals. Geotechnical and structure orientation data was measured and logged for all diamond core intervals. Diamond core was photographed (wet and dry). Holes were logged in their entirety (100%) and this logging was considered reliable and appropriate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Diamond core was sampled at 1m intervals and cut in half to obtain a 2-4kg sample. Reverse circulation samples were collected on 1m intervals by riffle split (dry) or by scoop (wet) to obtain a 1-3kg sample. Sample preparation for diamond core and RC samples includes oven drying, crushing to 10mm, splitting and pulverising to 85% passing -75µm. These preparation techniques are deemed to be appropriate to the material being sampled. Drill core coarse duplicates were split by the laboratory after crushing at a rate of 1:20 samples. Reverse circulation field duplicates were collected by the company at a rate of 1:20 samples. Sampling, sample preparation and quality control protocols are of industry standard and all attempts were made to ensure an unbiased representative sample was collected. The methods applied in this process were deemed appropriate by the Competent Person.
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.*	All samples were dispatched to ALS Bamako for gold analysis by 30g fire assay fusion with AAS instrument finish (method code Au-AA25). Over-range results were re-analysed and reported by 30g fire assay fusion with gravimetric finish (method code Au-GRA21). The analytical method was appropriate for the style of mineralisation.

	• *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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	No geophysical tools were used to determine elemental concentrations. Quality control (QC) procedures included the use of certified standards (1:40), non-certified sand blanks (1:40), diamond core coarse duplicates (1:20) and reverse circulation field duplicates (1:20). Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats, grind size results and sample weights were also captured into the digital database. Analysis of the QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Verification of significant intersections have been completed by company personnel and the Competent Person. No drill holes within the resource area were twinned. Drill holes were logged into digital templates with lookup codes, validated and then compiled into a relational SQL 2012 database using DataShed data management software. The database has verification protocols which are used to validate the data entry. The drill hole database is backed up on a daily basis to the head office server. Assay result files were reported by the laboratory in PDF and CSV format and imported into the SQL database without adjustment or modification.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Collar coordinates were picked up in UTM (WGS84) by staff surveyors using an RTK DGPS with an expected accuracy of ±0.05m; elevations were height above EGM96 geoid. Down hole surveys were collected at intervals between 5m and 30m using either a Reflex EZ-Gyro north seeking instrument or a Reflex EZ-Trac magnetic instrument in single shot or multi shot mode. A time-dependent declination was applied to the magnetic readings to determine UTM azimuth. Coordinates and azimuths are reported in UTM WGS84 Zone 29 North. Coordinates were translated to local mine grid using 1 point and rotation. Local topographic control is via LIDAR surveys, satellite photography and drone UAV aerial survey.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Drill hole spacing was sufficient to demonstrate geological and grade continuity appropriate for a Mineral Resource and the classifications applied under the 2012 JORC Code. The appropriateness of the drill spacing was reviewed by the geological technical team, both on site and head office. This was also reviewed by the Competent Person. Samples were collected on 1m intervals; no sample compositing is applied during sampling.
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.*	Holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation-based sampling bias has been identified in the data.

Sample security	• *The measures taken to ensure sample security.*	Samples were collected from the drill site and stored on site. All samples were individually bagged and labelled with unique sample identifiers, then securely dispatched to the laboratories. All aspects of sampling and dispatch process were supervised and tracked by SOMIFI personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	External audits of procedures indicate protocols are within industry standards.

Tabakoroni Satellite Deposits – Porphyry Zone: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Porphyry Zone drilling was completed within the Finkolo-Tabakoroni Exploitation Licence PE 13/19. Resolute Mining Limited has an 85% interest in Exploitation Permit PE 13/19, through its Malian subsidiary, Sociêtê des Mines de Finkolo SA (SOMIFI). The Malian Government holds a free carried 10% interest in SOMIFI and a free carried 5% interest is held privately. The Permits are held in good standing. Malian mining law provides that all Mineral Resources are administered by DNGM (Direction Nationale de la Géologie et des Mines) or National Directorate of Geology and Mines under the Ministry of Mines, Energy and Hydrology.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Etruscan Resources Inc explored Tabakoroni during 2002-2003 by auger, aircore, RC and diamond drill hole tails. The Tabakoroni area was previously explored by BHP (1988-1990) and Barrick Gold (1990) by auger, pits, trenches, RAB and diamond core drilling.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The Tabakoroni Porphyry Zone is located on a NNE trending splay of the NNW oriented Main Tabakoroni Shear Zone. Host rocks are comprised of interbedded greywacke and shale with small intrusions of quartz feldspar phyric dacite porphyry. Ductile shearing affects all units and is particularly focussed within the shale units. Mineralisation occurs as quartz-pyrite veins and sulphidic shears within shale units. Visible gold is commonly seen in vein quartz. The gold mineralisation at the 'Porphyry Zone" is somewhat erratic with more coherent zones striking NNE and dipping shallowly and steeply west.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *Whole 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*	No exploration results have been reported in this release. All information, including easting, northing, elevation, dip, azimuth, coordinate system, drill hole length, intercept length and depth are measured and recorded in UTM Zone 29 WGS84. The Syama belt is mostly located on the Tengrela 1/200,000 topo sheet (Sheet NC 29-XVIII). The Tabakoroni local grid has been tied to the UTM Zone 29 WGS84 co-ordinate system. Spectrum Survey & Mapping from Australia established survey control at Tabakoroni using AusPos online processing to obtain an accurate UTM Zone 29 (WGS84) and 'above geoid' RL for the origin of the survey control points. Accuracy of the survey measurements is considered to meet acceptable industry standards. Drill hole information has been tabulated for this release in the intercepts table of the accompanying text. For completeness the following information about the drill holes is provided: • Easting, Northing and RL of the drill hole collars are measured and recorded in UTM Zone 29 (WGS84) • Dip is the inclination of the drill hole from horizontal. A drill hole drilled at -60° is 60° from the horizontal • Down hole length is the distance down the inclination of the hole and is measured as the distance from the horizontal to end of hole

	explain why this is the case.	• Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of interest or assayed interval of interest.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Exploration results are tabulated using the following parameters: • Grid coordinates are WGS84 Zone 29 North • Cut-off grade for reporting of intercepts is >=1g/t Au • No top cut of individual assays prior to length weighted compositing of the reported intercept has been applied • Maximum 3m consecutive internal dilution included within the intercept Metal equivalent values are not used in reporting.
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 (e.g. 'down hole length, true width not known').*	The majority of the drill holes are planned at a general inclination of -60 degrees east and as close to perpendicular to the ore zone as possible. At the angle of the drill holes and the dip of the ore zones, the reported intercepts will be slightly more than true width.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	No exploration results have been reported in this release.
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.*	Significant intercepts of new drill holes have not been reported in this release.
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*	No geophysical and geochemical data or any additional exploration information has been reported in this release, as they are not deemed relevant to the release.

	and rock characteristics; potential deleterious or contaminating substances.	
Further work	• *The nature and scale of planned further work (e.g. 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.*	Further drilling is planned.

Tabakoroni Satellite Deposits – Porphyry Zone: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Data have been compiled into a relational SQL database; the setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using DataShed© drill hole management software using SQL database techniques. Validation checks are conducted using SQL and DataShed© relational database standards. Data has also been checked against original hard copies for 100% of the data, and where possible, loaded from original data sources. Resolute completed the following basic validation checks on the data supplied prior to resource estimation: Drill holes with overlapping sample intervals Sample intervals with no assay data or duplicate records Assay grade ranges Collar coordinate ranges Valid hole orientation data. There are no significant issues identified with the data.
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.*	Nicolas Johnson of MPR Geological Consultants Pty Ltd (MPRE) has not visited the Porphyry Zone Deposit but has visited the Syama Gold Mine on several occasions to review the grade control protocols and review the Mineral Resource estimates of the Syama Deposit. In addition to the above site visits, all exploration and resource development drilling programmes are subject to review by experienced senior RSG technical staff. These reviews have been completed from the commencement of drilling and continue to the present.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling*	The digital database used for the interpretation included logged intervals for the key stratigraphic zones of the Porphyry Zone. Detailed geological logs were available in hardcopy and digital and reviewed where necessary. The confidence in the geological interpretation is considered to be good and is based on good quality drilling and ongoing drill hole logging. The geology and interpretation of the deposit is considered robust. There is no apparent alternative to the interpretation in the competent person's opinion. The logging in the geological database of lithology and weathering were considered during the mineralisation domain interpretations, and where available.

	Mineral Resource estimation. • *The factors affecting continuity both of grade and geology.*	
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.*	The Porphyry Zone Mineral Resource area extends over a strike length of 1,025 metres (from 1,164,450 mN to 1,165,475 mN) and includes the 1,400 metre vertical interval from 345 mRL to 205 mRL. The overall plan width of the mineralised lodes varies between a few metres to 100 metres in thickness and centres around 810,530 mE.
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.* • *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 assumptions made regarding recovery of by- products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.*	Multiple Indicator Kriging (MIK) with block support adjustment was used to estimate gold resources into blocks with dimensions of 20m (east) by 25m (north) by 5m (elevation). MIK of gold grades used indicator variography based on the two metre resource composite sample grades. Gold grade continuity was characterised by indicator variograms at 14 indicator thresholds spanning the global range of grades. A block support adjustment was used to estimate the recoverable gold resources at the Porphyry Zone. The shape of the local block gold grade distribution has been assumed lognormal and an additional adjustment for the "Information Effect" has been applied to arrive at the final Mineral Resource estimates. MIK was used as the preferred method for estimation of open pit gold resources at the Porphyry Zone as the approach has been demonstrated to work well in a large number of deposits of diverse geological styles. The gold mineralisation seen at the Porphyry Zone is typical of that seen in structurally controlled gold deposits where the MIK method has been found to be of most benefit. In the MPR study data viewing, compositing and wire-framing were performed using Micromine software. Exploratory data analysis, variogram calculation and modelling, and Resource estimation were performed using FSSI Consultants (Australia) Pty Ltd (FSSI) GS3M software. GS3M is designed specifically for estimation of recoverable resources using MIK. The sample data set containing all available assaying were composited to two metre intervals each located by their mid-point co-ordinates and assigned a length weighted average gold grade. The composite length of two metres was chosen because it is a multiple of the most common sampling interval (1.0 metre) and is also an appropriate choice for the kriging of gold into the model blocks where open pit mining is undertaken on 2.5 metre benches. No by products are present or modelled. No deleterious elements were estimated or assumed. Block dimensions are 20m (east) by 25m (north) by 5m (elevation) and was chosen as it approximates the average drill hole spacing in the horizontal direction, with the 5m elevation being a multiple of the mining bench height of 2.5m. The interpolation utilised a 3 pass octant search strategy with search radii generally in the order of category 1 searching 20m in the x, 25m in the y and 15m in the z direction, 16 minimum composites used, a maximum of 4 composites per octant and a minimum of 4 octants with data. Category 2 uses a 50% search distance increase but otherwise the same parameters and category 3 uses the same search distance as category 2 but only requires 8 minimum composites and only 2 octants require data. The search ellipse on each category is consistently orientated orthogonal to modelling grid. A block support adjustment was used to estimate the recoverable gold resources. The shape of the local block gold grade distribution has been assumed lognormal and an additional adjustment for the "Information Effect" has been applied to arrive at the final Resource estimates. Selective mining unit assumed to be in the general range 5mE by 10mN by 2.5mRL. No correlated variable has been investigated or estimated. The 2m resource composites were initially coded by the mineralisation domain interpretation and the resultant primary domain coding further subdivided using the weathering surfaces to form sub-domains. Sample composites in each primary and sub-domain combination were reviewed for their univariate and indicator statistics and spatial continuity and were the basis of grade modelling.

	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	A combination of outlier high grade composites being ignored for each sub-domain for the generation of the indicator statistics, and selection of the median instead of mean for the highest indicator threshold were used to guard against a few higher grades within the population from having a disproportional influence on the gold estimation. The grade estimate was checked against the input exploration drilling/composite data both visually on section (cross and long section) and in plan at the time of creation.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	The cut-off grade of 1 g/t for the stated open pit Mineral Resource estimate is determined from economic parameters that reflect geotechnical, mining and processing parameters and costs for an open pit mining operation.
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 Resource models assume that a moderate level of mining selectivity is achieved in open pit mining. It has been assumed that high quality grade control will be applied to ore/waste delineation processes using RC drilling, or similar, at a nominal (and no greater) spacing of 5 metre by 12.5 metre and applying a pattern sufficient to ensure adequate coverage of the mineralisation zones. This is consistent with current mining practises at Syama.
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.*	No metallurgical factors or assumptions have been made during the resource estimation process as these will be addressed during the conversion to Ore Reserves.
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*	It is a requirement of Decree No.03-594/P-RM of 31 December 2003 of Malian law that an Environmental and Social Impact Study (Étude d'Impact Environmental et Social – EIES) must be undertaken to update the potential environmental and social impacts of the mine's redevelopment. The EIES for the Syama Gold Mine (including Tabakoroni) was approved in November 2007 and an Environment Permit (07- 0054/MEA – SG) was issued by the Ministry of Environment and Sanitation on 22 November 2007. The Ministry of Environment conducts timely reviews of the Syama Gold Mine to ensure that company maintains compliance with the EIES guidelines.

	processing operation. While at this stage the determination of potential environmental impacts, particularly for a green fields 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.	At Syama and Tabakoroni, there are three key practices for disposal of wastes and residues namely, stacking of waste rock from open pit mining; storage of tailings from mineral processes; and "tall-stack dispersion" of sulphur dioxide from the roasting of gold bearing concentrate. All waste disposal practices are in accordance with the guidelines in the EIES. The Environmental & Social Impact Study – "Société des Mines de Syama, Syama Gold Mine, Mali", dated 2007 indicated there was minimal potential for acid mine drainage from waste rock due to the elevated carbonate content which buffers a potential acid generation. Resolute maintains a plan for progressive rehabilitation of waste rock landforms as part of ongoing mine development and waste rock dumping. The landform of tailings impoundments does not have a net acid generating potential. The largest volume is flotation tailings where the sulphide minerals have already been removed from the host rock. Its mineralogy includes carbonates which further buffer any acid-formation potential from sulphides that may also be present. Cyanide levels in the leached-calcine tailings are typically less than 50 ppm in the weak acid dissociable form. Groundwater away from the tailings landform is intercepted by trenches and sump pumps. Sulphur dioxide is generated from the roasting of gold concentrate so that gold can be extracted and refined. Tall-Stack "dispersion" of the sulphur dioxide emission is monitored continuously. Prevailing weather and dissipation of the sulphur dioxide is modelled daily to predict the need to pause the roasting process to meet the air quality criteria set out in the Environmental & Social Impact Study.
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.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	No bulk density measurements have been taken at the Porphyry Zone. An average SG was applied to the model by weathering types based on similar deposits at Syama: o Oxide 2.12 t/m^3 o Transitional 2.41 t/m^3 o Fresh 2.58 t/m^3
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Resource model uses a classification scheme producing a resource code based on the number and location of gold composites used to estimate proportions and gold grade of each block. This is based on the principle that larger numbers of composites, which are more evenly distributed within the search neighbourhood, will provide a more reliable estimate. The strategy adopted in the current study uses category 1 and 2 from the 3 pass octant search strategy as Indicated and category 3 as Inferred. This results in a geologically sensible classification whereby Category 1 and 2 are surrounded by data in close proximity. Category 3 blocks may occur on the peripheries of drilling but are still related to drilling data within reasonable distances. The Mineral Resource classification method which is described above has also been based on the quality of the data collected (geology, survey and assaying data), the density of data, the confidence in the geological models and mineralisation model, and the grade estimation quality. The reported Mineral Resource estimate is consistent with the Competent Person's view of the deposits
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource estimate has been audited and reviewed internally.

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 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.*	The Mineral Resource estimate has been classified based on the quality of the data collected, the density of data, the confidence of the geological models and mineralisation models, and the grade estimation quality. This has been applied to a relative confidence based on data density and zone confidence for resource classification. No relative statistical or geostatistical confidence or risk measure has been generated or applied.

Tabakoroni Satellite Deposits – Porphyry Zone: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Reserve.*	Resources at Porphyry Zone are reported above a 1 g/t cut-off. This was calculated as a marginal cut off utilising open pit mining methods. Material below this cut-off is not included in the Mineral Resource. Ore Reserves are the material reported as a sub-set of the resource, that which can be extracted from the mine and processed with an economically acceptable outcome. Mineral Resources are reported inclusive of Ore Reserves.
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.*	Mr Brett Ascott is a Fellow member of the Australasian Institute of Mining and Metallurgy and is a Competent Person who conducts regular site visits to the project location.
Study status	•*The type and level of study undertaken to enable Mineral Resources to be converted to Ore*	The Porphyry Zone deposit is adjacent to the Tabakoroni mine which had a Feasibility study was completed in 2009 with updates in 2012 & 2016.

	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.*	Tabakoroni has been in continuous mining operation since August 2018. During this time the performance the project has shown a positive reconciliation between mineral resources and gold production and delivered positive cashflows.
Cut-off parameters	*•The basis of the cut-off grade(s) or quality parameters applied.*	A cut-off of 1.1g/t has been applied for Porphyry Zone
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* *•The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* *•The infrastructure requirements of the selected mining methods.*	The reported Ore Reserve estimate for Porphyry Zone is based on pit optimisations conducted using the Lerchs-Grossman (LG) algorithm utilizing the WhittleTM software to calculate the optimal pit at specific input parameters and pit designs. Costs are based on existing contract mining and haulage rates and site costs which are understood with a high degree of accuracy. Mining is undertaken by conventional open pit methods of drill and blast, followed by load and haul, utilising mining equipment comprising 120t – 230t diesel hydraulic excavators and 90t off-highway dump trucks. Detailed pit design work was completed based on pit optimisations using Whittle Four-X optimisation software. Only Indicated Resources were used in the pit optimisation. Pit slope parameters for Porphyry Zone were based on a geotechnical assessment that included a total of seven specific geotechnical holes. Overall slopes angles are approximately 40°. All other pits adopt similar overall slope angles. Grade control consists of RC drilling, based on a 5.0mE x 12.5mN drill pattern The MIK resource estimation technique used for the Porphyry Zone implicitly incorporates internal mining dilution at the scale of the assessed SMU so no additional modifying factor was applied. Minimum Mining Width used is 15m The mine plan includes approximately 6% of Inferred Resources.
Metallurgical factors or assumptions	*•The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* *•Whether the metallurgical process is well-tested technology or novel in nature.* *•The nature, amount and representativeness of*	Processing is by conventional primary crushing followed by single stage SAG milling. Gold recovery is by means of a gravity recovery circuit and carbon in leach process. Processing recoveries used are 90%, 80% and 65% for Oxide, Transitional and fresh material respectively Mine is operational with good reconciliation between predicted recoveries and actual Allowances are made in the recovery estimates for transitional and fresh ore as the Au recovery is impacted by some of the gold being hosted in refractory sulphide and preg-robbing carbon

	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 ore body 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?*	
Environmental	*•The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	An active waste rock characterisation program has been put in place for Porphyry Zone. Ore Reserves from Porphyry Zone will be processed at Syama and tailings storage will be impounded in existing footprint area approved in the Environmental & Social Impact Study. Progressive raising of the tailings occurs regularly with the 9th lift completed in 2019. Routine progress on the monitoring is reported to government and at stakeholder meetings in concert with routine inspections by government representatives.
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.*	All required infrastructure is already in place for the Porphyry Zone deposit which is within the current the Tabakoroni mine footprint
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* *•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*	The Porphyry Zone deposit is adjacent to the Tabakoroni mine which is a going concern, with established mining operations. Ore is trucked to Syama where it is processed at Syama's oxide circuit. General and administration costs are shared between the oxide plant and the sulphide plant which treats the Syama UG orebody. The Porphyry Zone deposit will be mined contemporaneously with the Tabakoroni pits using the same mining and haulage fleet. The mining and haulage rates are based on known contract rates. The oxide plant produces gold doré (without problematic deleterious elements) that is subsequently refined offsite. Refining costs are not material. Exchange rates used for planning purposes are from consensus forecasts provided by external corporate advisers. Ad valorem Government royalties of 6% are payable on gold production

	meet specification, etc. *•The allowances made for royalties payable, both Government and private.*	
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.*	A gold price of US$1,500/oz formed the basis of the Ore Reserves for the Porphyry Zone. The price has been chosen given that this deposit is a short life open pit of approximately four months duration that will be mined in the first half of 2020 and the costs to mine the deposit are well defined.
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.*	The market for gold is robust with prevailing gold price being around US$1,500/oz. Supply and demand are not considered material to the Ore Reserve calculations.
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.*	The financial evaluation undertaken as part of the evaluation of these open pits indicated a positive net present value (NPV) at a 5% discount rate and operating results to date have exceeded production and NPV forecasts.
Social	*•The status of agreements with key stakeholders and matters leading to social license to operate.*	The Porphyry Zone falls under the SOMIFI exploitation permit and is managed by SOMISY SA under Management and Toll Treatment agreements lodged with the Government of Mali. It is the intention to encourage economic development within the local community. During the operation of Tabakoroni and its satellite deposits the focus has been on improving farming and health care plus providing access to water; this will continue to remain a focus. The Syama Mine Community Consultative Committee, which includes representation from Tabakoroni and the villages adjacent to the Syama Satellites, was established in February 2001 with representatives from local villages, the Malian Government and SOMISY. Since April 2004 the Committee has met regularly as a communication forum and to address community issues and assist with community project proposals; it continues to meet on the first or second Tuesday of each month.
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.*	All current government agreements and approvals are in good standing and no anticipated changes are expected.
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).*	Proved and Probable Ore Reserves were declared based on the Measured and Indicated Mineral Resources. The Ore Reserve estimate appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	*•The results of any audits or reviews of Ore Reserve estimates.*	
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*	The relative accuracy and confidence of the Ore Reserve estimate is inherent in the Ore Reserve Classification.

	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 recognized 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.*	

Mako: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g.*	Sampling has been by diamond drill coring and reverse circulation chip techniques with minor trench and surface sampling. Diamond core is geologically logged and sampled to geological contacts with nominal sample lengths between 0.3m and 4.5m (most commonly 1.5m). Core selected for assay is systematically cut lengthwise into half core by diamond blade rock saw, numbered and bagged before dispatch to the laboratory for analysis. All core is photographed, wet and dry. Reverse circulation chips are geologically logged and sampled on regular lengths of 1 m. Chip material selected for assay is systematically divided to a 1/8 proportion using a rotary splitter attached to the cyclone sample recovery system, numbered and bagged before dispatch to the laboratory for analysis.

	submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Diamond core drilling with standard inner tubes. NTW diameter (57.1 mm) to target depth where possible with some smaller NQ2 intervals as tails. Core is marked and oriented. Reverse Circulation drilling with 4" or 4.5" hammer and 4" rod string to target depth.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Diamond core recoveries are measured in the core trays and recorded as recovered metres and recovered% as part of the geological logging process. Diamond core drilling prior to the latest deep diamond drilling had just over 96% of core sample intervals measured (28,701 measurements totalling 46,200 m of core) with core recoveries of 75% or better. Approximately 85% of core sample intervals measured had core recoveries of 100%. The percentage core recovery data was examined graphically against the gold grades and Cube established that no relationship is evident between core loss and gold grade in the regions of low core recovery. In 2016 % core recovery data was examined graphically against the gold grades and no relationship is evident between core loss and gold grade in the regions of low sample recovery. RC recoveries are monitored by chip sample weight recording. Of 43 RC holes reviewed by Cube in 2016 all recorded weight/m in consolidated rock material ranged from 19 to 38kg/m (mode=25; mean=25; median=25kg/m) which equates to rock densities between 2 and 3gcm3.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	Diamond core has been geologically and geotechnically logged to a level of detail to support appropriate classification and reporting of a Mineral Resource. Reverse circulation chip samples have been geologically logged to a level of detail to support appropriate classification and reporting of a Mineral Resource. Total length of DD logged data is 69,728.01m from total 70,527.01m drilled.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected,*	Core is systematically cut lengthwise into half core with a diamond saw. In the initial drill phases between 2kg and 6kg of broken core sample was dispatched by contracted truck transport to SGS Mali (Phase 1- 90 holes) or ALS Mali (Phases 2 and 3 – 88 holes) for sample preparation. More recent samples (Phase 3 to 5 and the 2018 deep diamond holes) have undergone sample preparation at the site sample prep laboratory. The 2018 deep diamond programme (PWD362 to 420) was prepared onsite with assay pulps analysed by ALS Loughrea (Ireland). RC samples representing a 1/8 split are taken directly from the rig mounted cyclone by rotary splitter, sample weight is recorded, sample is bagged in pre numbered plastic and sample tickets are inserted and bag is sealed for transport to preparation facility. Generally, one of each of the two control samples (blank or CRM standard) is inserted into the sample stream every tenth sample. Over the 2018 deep diamond programme A total of 4,582 samples have had 249 CRM and 260 blanks inserted, sufficient as per industry standards. An industry standard, documented process of sample mark-up, core splitting, bagging and ticketing and recording is in place at the Mako site. The laboratories sample preparation followed a standard documented process flow with whole

	including for instance results for field duplicate/second-half sampling. • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	sample crushing (better than 70% passing 2 mm) followed by a 1 kg riffle split for pulverisation to 75 micron (better than 85% pass). Master pulps of 250 g were split and placed in airtight, sealed bags and sent by courier to the assaying laboratory for analysis. For the majority of the Phase 1 drilling the mineralised interval sample preparation done at SGS Mali has been repeated and re-assayed, as a result the nature, quality and appropriateness of the sample preparation technique are to industry standard. Sample size of 2-6 kg is appropriate for the grain size of material.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	Au assays are determined by fire assay with AAS finish. Laboratory and assay procedures are appropriate for Mineral Resource estimation. QAQC consisted of standards, blanks and laboratory duplicates (both coarse and pulp). The QAQC sample results showed acceptable levels of accuracy and precision. The assay data is considered by Cube to be suitable for Mineral Resource estimation.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	All aspects of the core sampling, assay procedures and QA/QC program have been reviewed by Cube and were judged to be of industry standard and suitable for use in the estimation of Mineral Resources. Independent sampling has been undertaken by Cube and the results closely match the original data. Drill hole assay result data has been checked against the original hardcopy laboratory assay reports by Cube for a representative number of holes. Cube has in 2014 undertaken site based checks of the raw assay data to verify grade intersections were consistent with a visual inspection of mineralisation in the core. Below detection limit values (negatives) have been replaced by background values. Un-sampled intervals have been retained as un-sampled (null or blank). The majority of these intervals occur within the waste domain and have no material impact on the estimate.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Drill holes have been surveyed by a contract surveyor (P.C. Drysdale Land and Engineering Surveyor) using a Leica GS12 GNSS (GPS) survey system. Down hole surveys were undertaken by the drilling contractor using a Reflex Ex-Trac tool with a reading taken approx. every 50 m down the hole. During the August 2018 site visit Cube made independent verification of the collar surveys of three diamond core in progress holes (PWD409, 408 and 407) which were all found to be within an acceptable tolerance of the planned and reported coordinates. Cube also verified the coordinated positions of laid out grade control planned holes on the pit floor. Grid system is based on the UTM28N grid on the WGS84 ellipsoid. Survey heights are based on PRS097 (with independent checks on AusPos) and are orthometric (i.e. msl). A topographic surface was provided based on a one metre resolution satellite DTM surface of Central Mako, including the Petowal prospect area, and a number of smaller resolution (10 m x 10 m) data files derived from the one metre source data. Cube utilised the smaller resolution data (10 m x 10 m) for all validation and estimation purposes.
Data spacing and	• *Data spacing for reporting of Exploration Results.*	Data spacing is variable being in the range of 80 m x 40 m to 20 m x 20 m. Additionally, a significant area of grade control drilling at

distribution	• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	10 m x 10 m has been completed defining a volume of approximately 4 million BCM. This spacing is adequate to determine the geological and grade continuity for reporting of Measured, Indicated & Inferred Mineral Resources. Drill samples were composited to 3 m for use in the estimate.
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 drill hole orientation was designed to intersect the mineralisation orthogonal to dip and strike of the major mineralisation bodies. The majority of drill hole azimuths were between 140° and 160º with dips varying from -50 to -80º below horizontal. For a small number of holes, different orientations were selected to target different portions of the mineralisation depending on localised mineralised structures or features. The preliminary RC grade control programme drilling was all vertical (azimuth of 0º and dip of -90º). Mine grade control during 2017 and 2018 was primarily drilled on azimuth 140º dipping -60º. Drilling primarily targeted the FEL unit which contained the most significant mineralisation and dipped at about 20-30º to the northwest near surface, steepening to about 45º dip at depth. The drilling orientation is adequate for a non-biased assessment of the orebody with respect to interpreted structures and interpreted controls on mineralisation.
Sample security	• *The measures taken to ensure sample security.*	Labelling and submission of samples complies with industry standard.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	An independent audit of the sample preparation laboratory has been undertaken in 2018 (Fis, 2018) and the review undertaken at the project by Cube in August 2018 and both found no material issues with the sampling methods or data.

Mako: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	To date no exploration results have been reported on a granted exploration permit, owned 100% by Petowal Mining Company SA (Petowal). The permit is in good standing.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Exploration has been performed by Mako Exploration Company SARL (“MEC”), 100% owned by TORO.
Geology	• *Deposit type, geological setting and style of mineralisation.*	It is currently interpreted that the northeast striking structure controlled the flow of the gold bearing hydrothermal fluids, with the preferential chemistry/rheology of the felsic volcanic horizon acting as a favourable horizon for silicification and the deposition of the gold-pyrite mineral assemblage. Intensity of gold mineralisation appears to correlate with the intensity of pyrite development and exhibits good lateral and vertical continuity through the mineralised zone. Mineralisation has a relatively simple geometry comprising a zone that varies from 30 to 60 m in width, along the 1,700 m strike length drilled to date. The zone dips approximately 20-30º to the northwest near surface, steepening to approximately 45º dip at depth.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *Whole 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.*	Easting, Northing and RL of the drill hole collars are based on the UTM28N grid on the WGS84 ellipsoid. Survey heights are based on PRS097 (with independent checks on AusPos) and are orthometric (i.e. msl). The MRE has used drill hole collar RL derived from the topographical surface. Dip is the inclination of the hole from the horizontal. For example, a vertically down drilled hole from the surface is -90°. Azimuth is reported in degrees as the grid direction toward which the hole is drilled. Down hole length of the hole is the distance from the surface to the end of the hole, as measured along the drill trace. Intersection depth is the distance down the hole as measured along the drill trace. Intersection width is the downhole distance of an intersection as measured along the drill trace. Drill hole length is the distance from the surface to the end of the hole, as measured along the drill trace.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Gold assay intercepts were composited to 3 m length down the hole, using length weighting, in order to provide a uniform sample support size for grade estimation. High grade cuts have been applied to gold grade composites, but only for use in producing check estimates. The primary, reported estimates were based on a Uniform Conditioning approach which used cut grade values. The assay intervals are reported as down hole length as the true width variable is not known. Gold assays are rounded to 2 decimal places. No metal equivalent reporting is used or applied.
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 (e.g. 'down hole length, true width not known').*	The intersection width is measured down the hole trace and may not be the true width. All drill results are downhole intervals only due to the variable orientation of the mineralisation.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should*	A plan view is contained within this document. New cross-sectional interpretations are included.

	include, but not be limited to a plan view of drill 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.*	Diamond and RC drill holes forming the basis of the Mineral Resource estimate have been reported previously as part of the 2018 MRE. Additional drilling has informed the 2018 update.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No other exploration data is considered meaningful and material to this document.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Future exploration may involve the drilling of more drill holes, both diamond core and reverse circulation, to further extend the mineralised zones and to collect additional detailed data on known mineralized zones. Geophysical exploration is also planned as part of the future exploration of the permit.

Mako: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Database is maintained by PMC who compile and validate all data files on the project. Cube completed validation checks on the database including checks for overlapping sample intervals, checks on minimum and maximum assays, depths, azimuths, dips and co-ordinates for consistency. No material errors were identified. Cube undertook site based checks of the raw assay data to verify that grade intersections were consistent with a visual inspection of mineralisation in the core. A number of drill hole collar positions were also verified in the field.
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 (Patrick Adams) conducted a site visit to the Mako Project between 8th and 14th February 2014 and 11th to 14th August 2018 and undertook independent inspection of all pertinent aspects of the project.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.*	The geological confidence is considered by Cube to be moderate to high. The mineralised volume at Petowal has been based on a drill section interpretation of mineralisation defined by a lower limit gold grade of 0.2 g/t Au, along with the observed close association between mineralisation and the felsic lithological unit. The overall shape and trend of the mineralisation was guided by the form of the felsic unit and its contacts with the surrounding basalt. Four

	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	mineralisation domains, the first contained within the felsic unit, the second and third in the adjacent footwall basalt and the fourth in the hanging wall basalt unit, were defined (Domains 100 200 300 400, respectively). An overall envelope, called Domain 4000 encapsulating all the material not contained within Domains 100, 200, 300 and 400, out to the limit of drill coverage, was also created. The resulting volumes encapsulate the complete mineralised distribution and produce a model that reduces the risk of conditional bias that could be introduced where the constraining interpretation and data selection is based on a significantly higher grade than the natural geological grade cut-off. The factors affecting continuity both of grade and geology are most likely to be associated with structural controls and local complexity, the knowledge of which is limited with the current spacing of information. The broad approach to the mineralisation modelling is an attempt to model an unbiased interpretation.
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.*	The gold mineralisation identified to date varies from 30 m to 60 m in width, along the 1,700 m strike length drilled to date. The zone dips approximately 20-30º to the northwest near surface, steepening to approximately 45º dip at depth.
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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was*	Three metre downhole composite gold grade data were interpolated into 20 mE x 20 mN x 5 mRL sized panels using Ordinary Kriging (OK). The minimum number of composites was set at 8 and the maximum number of composites was set at either 16 (Domain 100), 26 (Domain 200) or 24 (Domains 300, 400 and 4000). The maximum search ellipse radius was set at either 180 m (Domain 100), 160 (Domain 200), 120 m (Domain 300), 200 m (Domain 400) or 300 m (Domain 4000). The orientation of the variogram model and search ellipse was dynamically set according to the shape of the felsic hanging wall and footwall, as well the trend of high grade mineralisation within the felsic unit. Change of Support (CoS) calculations were conducted, conditioned to the panel grade estimates, for selectivity on 5 mE x 5 mN x 2.5 mRL SMU-sized blocks in order to produce a recoverable resource estimate. The Gaussian-based Uniform Conditioning approach was applied to the OK check grade estimates. An information effect correction was applied during the CoS calculations, to account for a future theoretical grade control drill configuration of 10 mE x 10 mN x 1 mRL. The CoS process yields a set of array variables, stored in the panel block model, detailing the estimates for tonnage, grade and metal above a range of grade cut-offs. A process of localisation was completed, by which the output of the CoS is mapped into single grade estimate per 5mE x 5mN x 2.5mRL block in an SMU block model, which comprises the final product of the grade estimation. Surpac Mining software 6.9 and Isatis version 13 were used for estimation. No by-product recoveries were considered. Estimations of density were also made with this Mineral Resource estimation. Block model validation was undertaken globally by comparing the mean LUC block grade estimates to the mean of the informing composite grades on a domain by domain basis. The LUC estimates were also compared to the mean grade of a check ID^2 estimation.

	used to control the resource estimates. • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Moisture was not considered in the density assignment.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	A nominal lower cut-off grade of 0.2 g/t Au was used to define the mineralised domains to encompass the complete mineralised distribution and produce a model that reduces the risk of conditional bias that could be introduced where the constraining interpretation and data selection is based on a significantly higher grade than the natural geological grade cut-off. The cut-off grade for reporting (above 0.5 g/t Au) was used in line with the previous resource reporting and is based on the results of Whittle optimisation shells using cost and recovery data sourced from the operation of the open pit mine by PMC during 2017-18. A Whittle optimisation shell using these operational costs and a gold price of US$1,500/ounce has been used to limit the reported MRE to that with reasonable expectations of economic exploitation.
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 shallow occurrence of the mineralisation indicates that open pit mining is appropriate for Petowal in line with other deposits in the area. The estimation methodology used results in an amount of edge dilution being incorporated into the blocks of the model. No account of mining loss has been incorporated.
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.*	No specific assumptions were made regarding metallurgical factors for this estimate. Metallurgical test work on the mineralisation commenced in 2012 and is ongoing.

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 green fields 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.*	No assumptions were made regarding environmental restrictions.
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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Specific gravity values for the Petowal Prospect have been measured based on the Archimedean Principle using the immersion method for individual core samples. A total of 16,078 density measurements were available for use, with the vast majority of these being in fresh rock below the saprock and laterite domains. These data have been used as the basis of the block model bulk density. Visual inspection shows a clear relationship between lithology and density in fresh rock. No relationship between density and sulphur content or gold content could be established. A default bulk density of 1.70 t/m^3 was assigned to the thin laterite horizon capping the deposit and to the underlying saprock. A default bulk density of 2.46 t/m^3 was assigned to soft (oxidised?) rock. In fresh rock, Ordinary Kriging was used to estimate density, with the variogram and search neighbourhood being dynamically oriented as per the gold grade estimation. Default values for un-estimated fresh rock were set as undifferentiated rock=2.86 t/m^3; fresh UBU 2.99 t/m^3; fresh LBU 2.96 t/m^3 and fresh FEL 2.75 t/m^3, fresh RHD 2.69 t/m^3.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Mineral Resource volume available for classification has been limited, in the first instance by a standard open pit Whittle optimisation shell generated on the estimated blocks using metallurgical, revenue and cost assumptions based on cost and recovery data sourced from the operation of the open pit mine by PMC during 2017-18 and an assumed gold price of $US1,500/oz. Within this shell, the Measured, Indicated and Inferred classification is based on the confidence in the continuity of geology and mineralisation and quality/confidence in the estimation and quality of assay data and bulk density data. Sectional wireframe interpretations encompass material of Measured and Indicated classification. The classification is Measured where it is informed by 20 m spaced drilling on 20 m spaced sections or better, the slope of regression estimation quality parameter is greater than 0.8. It is classified as Indicated where it is informed by 20 m to 40 m spaced drilling on 40 m spaced sections or better, the slope of regression estimation quality parameter is greater than 0.7. Inferred classification is informed by 40 m spaced drilling on 80 m spaced sections, or better. The Mineral Resource estimate appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral* • *Resource estimates.*	No external reviews have been completed.
Discussion of relative accuracy/	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral*	Although the estimate for gold is considered to be without bias, it is for the some of the estimated volume based on relatively wide spaced data. The estimate is therefore of moderate confidence and expected to be of moderate relative accuracy at the local (SMU)

confidence	*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 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.*	scale when drilling density exceeds 20 m x 20 m. Infill grade control drilling will be required to improve the confidence of the local estimate. The LUC estimate has been compared to ID estimates and in a limited volume to an OK estimate of close spaced grade control drilling. Differences have been identified, however these do not exceed expectations and no material issues have been identified in these comparisons and the LUC estimate appropriately represents the source data. A comparison of the depleted parts of the MRE to PMC mining reconciliation summary indicates the MRE is representative – but higher in tonnes (+4%) and lower in grade (-6%) for lower predicted metal (-3%) than the mining summary report.

Mako: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Reserve.*	The Mako Mineral Resource as described in Section 3 formed the basis for the conversion to Ore Reserves. The Mineral Resources are inclusive of the Ore Reserves.
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 for the Ore Reserves Mr Harry Warries, has visited the site between 5th and 7th February 2015.
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 Mako Gold Mine is an operating mine with first gold poured in January 2018. A feasibility study was completed by Toro Gold Limited in mid-2015 and updated in March 2016.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters*	A cut off of 0.77g/t Au for weathered and felsic and 0.83g/t Au for basalt material was applied, based on the economic

	applied.	parameters as described in subsequent sections
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	The basis of design for the Project is predicated on milling 2.3Mtpa of crusher feed. The average waste to ore strip ratio is approximately 6.3: 1 and a maximum total material movement of up to 20Mtpa will be required. A stockpile strategy is implemented with higher grade material being preferentially treated during mine operations and low-grade material (lower cut off ≤ Au < 1.3g/t) being stockpiled, to be treated at the end of the mine life. Mining is undertaken by conventional open pit methods of drill and blast, followed by load and haul, utilising mining equipment comprising 120t diesel hydraulic excavators and 90t off-highway dump trucks. Detailed pit design work was completed based on pit optimisations using Whittle Four-X optimisation software. Only Measured and Indicated Resources were used in the pit optimisation. Pit slope parameters were based on a geotechnical assessment that included a total of eight specific geotechnical drill holes and data obtained from geotechnical logging of 145 resource drill holes. Essentially, three separate domains were identified, namely a weathered, footwall and hanging wall domain. Overall pit wall slope angles of 35º, 45º and 55º respectively were modelled for these three domains. Grade control consists of RC drilling, based on a 10mE x 10mN drill pattern, sampled every 2.5m for the bulk of the orebody, with a 5mE x 10mN drill pattern utilised for the boundaries of the orebody. A minimum cutback mining width of 50m is adopted. The mine plan includes approximately 3% of Inferred Resources.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* • *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 ore body 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?*	Processing is by conventional primary crushing followed by single stage SAG milling incorporating recycle crushing. Gold recovery is by means of a gravity recovery circuit and 24-hour carbon in leach process. The process plant tailings are subject to cyanide detoxification by the sulphur dioxide / air process prior to disposal. Four metallurgical testwork programmes on Mako ores have been undertaken since 2012 and in 2015. Current operating recoveries exceed the recoveries obtained through the metallurgical testwork and ranges from 95% (felsic) to 90% (basalt).
Environmental	• *The status of studies of potential environmental impacts of*	The Environmental and Social Impact Assessment (ESIA) was undertaken as part of the 2015 feasibility study and all

	the mining and processing operation. Details of waste rock characterization 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.	required permits and approvals have been obtained.
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 Mako project is an operating mine with first gold pour in January 2018. All required infrastructure required to maintain an efficient mining operation are in place.
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* • *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.*	The Mako project is an operating mine A 3.31% government royalty is applicable, as well as a US$4.00/oz refining cost All-in sustaining cost of US$732/oz was achieved for the 2019 operating year
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.*	A gold price of US$1,300/oz formed the basis of the Mineral Reserves.
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.*	The market for gold is robust with prevailing gold price being around US$1,500/oz. Supply and demand are not considered material to the Ore Reserve calculations.
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,*	The financial evaluation undertaken as part of the Study indicated a positive net present value (NPV) at a 5% discount rate and operating results to date have exceeded production and NPV forecasts.

	discount rate, etc. • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	
Social	• *The status of agreements with key stakeholders and matters leading to social license to operate.*	PMC has engaged with existing local and national planning and development frameworks. In addition, PMC has established Project specific consultation structures, namely: a local community consultative committee; biodiversity panel of experts; and an inter-ministerial committee. All required permits and approvals, including a Mining Licence, have been obtained.
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 significant (high) naturally occurring risks were identified during a whole of project risk assessment. All PMC tenure is in good standing with all legal obligations met. Regular meetings with state and federal Government agencies occur for the purposes of discussing required approvals and facilitating meetings with other stakeholders. All required permits and approvals, including a Mining Licence, have been obtained.
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).*	Proved and Probable Ore Reserves were declared based on the Measured and Indicated Mineral Resources. The Mineral Reserve estimate appropriately reflects the Competent Person's view of the deposit. All Measured Resources that were contained within the mine plan were converted to Proved Ore Reserves.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	External audits and reviews of the DFS Ore Reserve estimates were satisfactorily completed and the current MFC reserve update has been reviewed internally by PMC.
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*	The relative accuracy and confidence of the Ore Reserve estimate is inherent in the Ore Reserve Classification. A comparison of the depleted parts of the MRE to PMC mining reconciliation summary indicates the MRE is representative with the 2019 reconciliation showing a 5% increase in tonnes, a 1% increase in grade for a 6% increase in predicted metal.

	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 recognized 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.*	

Ravenswood Gold Mine – Buck Reef West, Sarsfield and Nolans deposits: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	The mineral resource estimate was based on a combination of recent data (Carpentaria Gold 2003-2019) collected from reverse circulation (RC) and diamond core (DD) drill holes, and historic data (MIM Exploration 1980-1999) RC, DD, open hole percussion (OHP) and air core (AC) drill holes. Historic DD holes that had AC, OHP or RC precollars were classified as air core diamond (ACD), open percussion diamond (OPD) or reverse circulation diamond (RCD) respectively. For recent data each 1m RC interval was riffle split to obtain a 2-3.5 kg sample, which was sent to the laboratory for pulverisation to produce a 200g sub-sample for analysis. Historical RC holes were sampled at either 1m or 2m intervals to obtain a sample whose weight was not recorded. Recent diamond core was sampled at 1m intervals and cut in half to provide a 2-4kg sample which was sent to the laboratory for crushing to 10mm, splitting and pulverising to 85% passing 75 microns, to provide a 30g charge for analysis. Historic diamond core was sampled at 1 or 2m intervals and halved and sent to the laboratory. Historic OHP and AC cuttings were sampled at 1m or 2m riffle split intervals providing samples whose weight was not recorded. Sampling and sample preparation protocols for recent drilling are industry standard and are deemed appropriate for the mineralisation being analysed. Historical sampling preparation protocols were deemed appropriate at the time.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and*	Drill types used include RC and diamond core of PQ, HQ and NQ sizes for recent data, historic drill types include BQ, HQ, NQ and some unspecified sizes.

	details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Drill core for recent data is oriented at 30m down hole intervals using spear method. It is unknown what method was used for historic data.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Diamond core interval recoveries are measured by reconciling against driller's depth blocks in each core tray with data recorded in the database. For some historical drilling programs recovery data has rarely been logged and recorded with the historical data. Recovery data is typically not recorded for RC, OHP and AC drilling. Drilling and sampling crews are informed of the importance of core recovery. Measures taken to maximise recovery include the selection of drilling methods and core sizes suited to the geology and mineralisation. Appropriate measures are taken to maximise sample recovery and ensure the representative nature of the samples. At the Buck Reef West deposit core recovery was reduced within areas of historic stoping. Areas of stoping have been identified in the drilling and sampling database and excluded from the resource volume estimate through the use of interpretative wireframes. No apparent relationship was observed between recovery loss and gold grade for any of the recent drilling methods.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Geological logging is conducted in all recent and historic RC, AC, OHP and DD drill holes with observations recorded for colour, grainsize, lithology, minerals and alteration. RC drill holes are logged on 1m intervals and DD drill holes are logged on geologically domained intervals. Historic RC, AC and OHP holes were logged to match the sampling interval of 1 or 2m. Geotechnical rock mass logging, structure orientation, recovery and magnetic susceptibility data are measured and recorded for diamond core intervals. Diamond core is photographed (wet and dry) for recent data but few photographs exist for historic core; RC chips are occasionally photographed for recent data, RC, AC and OHP chips are not photographed for historic data. Recent diamond core and RC chips are logged onto a laptop computer either at the drill site (RC) or the core shed (DD) using Excel templates. Data is validated prior to import to the drillhole database. Historic logging was completed on paper templates at the core shed or drill rig and occasionally entered into the computer database via an excel template. Holes are logged in their entirety (100%).
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Each 1m RC interval is riffle split (dry) to obtain a 2-3.5 kg sample, which is sent to the laboratory for pulverisation. A similar protocol was followed for historical RC, OHP and AC samples for either 1m or 2m intervals; however, the sampling details are not recorded. Diamond core has been sampled at 1m intervals and cut into half to provide a 2-4kg sample which is sent to the laboratory for oven drying, crushing to 10mm, splitting and pulverising to 85% passing 75 microns. An approximate 200g subsample is used for assay determination. A similar protocol was followed for historical DD samples and core was cut and halved for sampling at either 1m or 2m intervals; however, details of the sampling were not clearly recorded for induvial samples. Field duplicates (RC) for recent data are collected every 1:30 samples at the same time using the same method (riffle split) as the parent sample. QC data is not available for the historical RC, AC or OHP type drilling. Diamond core coarse duplicates were sampled and collected after crushing, by the laboratory, at a rate of 1:15 samples for recent drilling. QC data is not available in the historical DD drilling records. Sampling, sample preparation and quality control protocols are considered appropriate for the material sampled.

Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	RC and DD samples are assayed for gold by ALS Global Townsville using method code Au-AA25 which uses a 30gram fire assay fusion with AAS instrument finish. The analytical method is appropriate for this style of mineralisation. Methods for historic RC, AC, OHP and DD drilling included Au-AA25, FA50_Pb_AA, UN_UN and unknown methods for gold by ALS_TNV and a number of unspecified laboratories in the Townsville region. No geophysical tools were used to determine elemental concentrations used in resource estimations. Quality control (QC) procedures for recent data include the use of certified standards (at a rate of 1:20 samples), certified blanks (1:20), non-certified coarse blanks (1:15), field duplicates (RC) (1:30) and coarse crush duplicates (DD) (1:15). QC samples are included in all dispatches to the laboratory and the results are routinely analysed for accuracy and precision. Quality control (QC) procedures for historic RC, AC, OHP, and DD drilling are assumed to have been carried out to industry standard regarding QAQC procedures however the documentation is incomplete. Umpire pulp analysis of selected pulps is performed by a second external laboratory in Townsville for recent data There is no evidence of historic umpire sampling for any drill type. Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats and grind size results are also captured into the database and analysed for accuracy and precision for recent data. Analysis of the available QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved. The level of accuracy and precision for historic data is unknown, but there was no reason not to assume industry standards were applied by MIM and Xstrata, the previous owners of the Ravenswood Project.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	The verification of significant intersections has been completed by company personnel and the competent persons. No drill holes within the resource were twinned. Recent drill holes are logged digitally into Excel templates with lookup codes, validated and then compiled into relational SQL2008 database using DataShed data management software. The database is backed up on a daily basis to the head office server. Historic drill holes were logged onto paper templates and partially transcribed onto an excel spreadsheet and logged into the database as described above. Some historic drill logs are only partially loaded onto the database with existing geotechnical and geological logs available as paper copies only. Recent Assay files are reported by the laboratory in CSV format and are imported into the SQL database without adjustment or modification. Historic assay files were reported by the laboratory in CSV, SIF, text, paper and unknown formats and either transcribed into appropriate electronic formats, or directly imported into the SQL database. It appears that no adjustment was made to the assay data. There were no adjustments to assay data.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Collar coordinates for recent drill holes are picked up in UTM by contract and staff surveyors using Leica 1203 DGPS surveying instrument. The survey pickup method has not been recorded in the database records for a large number of historic holes. Down hole surveys are collected at 30m intervals using instruments including Gyro, Devi flex, single shot and multi shot. Coordinates and azimuth are reported in UTM AMG84 Zone 55. Coordinates are translated to local mine grid where required.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity*	The drill hole spacing is sufficient to demonstrate geological and grade continuity appropriate for the Mineral Resource and the classifications applied under the 2012 JORC Code. The drill spacing applied to each deposit is considered suitable for the style of mineralisation and mineral resource

	appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • *Whether sample compositing has been applied.*	estimation requirements. No sample compositing is applied during the sampling process.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	Drill holes were drilled predominantly perpendicular to mineralised domains where possible. No orientation based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	The sample chain of custody is managed by Carpentaria Gold personnel. Both RC and diamond core samples are securely stored on site for logging and sampling procedures prior to being dispatched to the ALS Townsville laboratory for assay analysis Dispatch sheets are used to document sample numbers through the delivery process. ALS laboratories maintains a Webtrieve application to confirm and monitor samples and jobs within the laboratory process. It is assumed that appropriate security protocols were taken for historical drill hole samples to be despatched to the Laboratory.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	External audits of procedures indicate protocols are within industry standards for recent drilling. No evidence of external reviews has been recorded for historical drilling data.

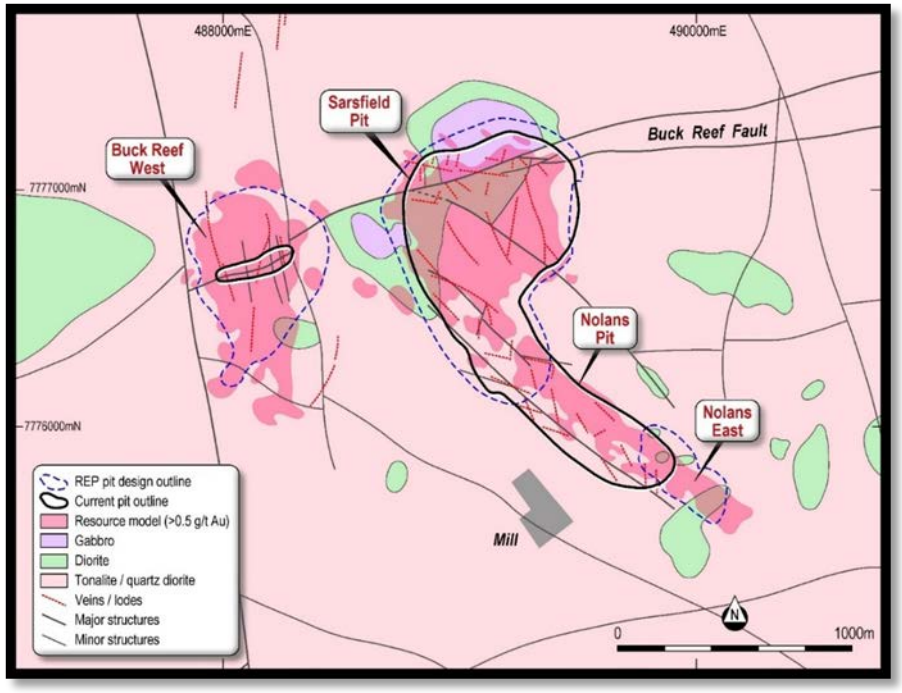
Ravenswood Gold Mine – Buck Reef West, Sarsfield and Nolans deposits: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Exploration activity is conducted within Queensland Government authorised tenure including exploration permits and mining leases which are held by Carpentaria Gold Pty Ltd. Formal individual agreements are negotiated with the traditional landowners and property owners for each of the exploration prospects before carrying out exploration activities. Exploration activities conducted within these leases are highly regulated and reports are routinely submitted to the Queensland government containing details of work conducted in the area and expenditure.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	The Ravenswood area has a well-documented and extensive history of mining and exploration. Gold was discovered in 1868 and alluvial and shallow oxidised quartz-sulphide veins were worked in the initial gold rush. Carpentaria Gold Pty Ltd has been exploring in the area since 1978.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Mineralisation occurs in variably orientated tabular sulphide – quartz veins and mineralised shear zones and in numerous vein stock works. Areas of weak veining separate the more strongly stock-worked areas into discrete zones. Individual veins can vary in width from hairline fractures up to one metre locally. Mineralisation extends from the topographic surface and has been confirmed to extend at depth in deep drilling. The mineralisation remains open at depth. The Jessop Creek Tonalite, an Early to Middle Devonian age unit of the Ravenswood Batholith, hosts the mineralisation. In the project area the Jessop Creel Tonalite can be divided into diorite, quartz diorite and minor gabbro. Boundaries between these units vary from sharp to indistinct and often show complex relationships including stoping xenoliths and

		irregular dykes. No association between the host lithology and the gold mineralisation has been established other than it is a suitable competent host that allowed the cross cutting sulphide veins to develop. The major commodity being investigated is gold.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *down hole length and interception depth*
	  • *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		No exploration results have been reported in this release.
		Detailed drilling information that relates to the estimation of mineral resources and ore reserves has not been included in this release.
		Drilling information that is used for the estimation of mineral resources includes the following:
		1. Location data including Easting, Northing and RL of drill hole collars recorded in UTM AMG84 (Zone 55) co-ordinates.
		2. Drillhole dip is the inclination of the drill hole from horizontal. A drill hole at a dip of -60^0 is 60^0 below the horizontal.
		3. Down hole length is the distance down the inclination of the hole and is measured as the distance from the collar to the end of hole.
		4. Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of the zone of interest.
		The listing of the entire drill hole database used to estimate the mineral resource was not considered relevant for this release.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Any reported intercepts quoted are length weighted. No top cuts are applied. Lower cut-off grade applied was 0.4g/t. Maximum consecutive 4m of internal dilution within a reported interval was used. Minimum intercept length of 3m down hole. Accuracy of the survey measurements is considered to meet acceptable industry standards. Metal equivalent values are not used in reporting.
Relationship between mineralization 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 (e.g. 'down hole length, true width not known').*	Reporting of mineralisation width and intercepts are deemed acceptable by the Competent Persons. Zones of mineralisation are based on interpreted geology recorded in drilling logs. Drill holes were orientated to intersect mineralisation at a perpendicular angle. Here they are provided, results are reported as down hole length.
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*	No exploration results have been reported in the release.

	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.*	Significant intercepts of new drill holes have not been reported in this release.
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.*	Geophysical and geochemical data and any additional exploration information are reported regularly in annual exploration tenement government reports, and monthly, quarterly and annual Resolute reporting.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Further work is planned to evaluate exploration opportunities that extend the known mineralisation at the Buck Reef West and Sarsfield deposits to improve confidence of the model. 

Ravenswood Gold Mine – Buck Reef West, Sarsfield and Nolans deposits: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Data have been compiled into a relational SQL database. The setup of this database precludes the loading of data which do not meet the required validation protocols. The data is managed using Maxell Geoservices' DataShed™ drill hole management software using SQL database techniques. Validation checks are conducted using SQL and DataShed relational database standards. Data has also been checked against original hard copies for 75% of the data, and where possible, loaded from original data sources. Carpentaria Gold Pty Ltd carried out the following basic validation checks on the data supplied prior to resource estimation: • Drill holes with overlapping sample intervals. • Sample intervals with no assay data. Duplicate records. • Assay grade ranges. • Collar coordinates ranges. • Valid hole orientation data. There are no significant issues with the data.
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 Persons have conducted numerous site visits to the Ravenswood Project Qld. All aspects of drilling, sampling and mining are considered by the Competent Persons to be of a high industry standard.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	Buck Reef West / Sarsfield-Nolans Deposit lies within the northern part of the Thomson fold belt which forms part of the Charters Towers province, in a tight cluster of calc-alkaline intrusives of Ordovician to Devonian age known as the Ravenswood Batholiths. Individual intrusive compositions vary from adamellite to diorite: - granite and granodiorite are the most common. The Buck Reef West / Sarsfield gold deposit is located within and around the junction of three prominent fault systems. At each deposit weathered zone persists to an average of 15 metres below surface. Supergene effects are restricted to a discontinuous horizon within a partially oxidised zone less than 5 metres thick. At least 95% of gold is located within a network of flatly dipping sulphide-quartz veins. Movement on the faults has controlled dilation within the veins, and at least 17 different structural movements and alteration events have reactivated the vein. Veins (20mm to 250mm thick) are typically associated with a phyllic alteration selvedge up to 500mm wide. Vein mineralogy is sulphide dominant with quartz and calcite constituting the major gangue phases. Total sulphide content of the ore is less than 5% with the most common phases being pyrite, pyrrhotite, sphalerite and chalcopyrite. Gold occurs as mostly sub 50 micron free milling grains on fractures and sulphide mineral boundaries. Historic production figures from 1870 to 1918 and then 1987 to 2005 indicate approximately 400 koz of gold was recovered from underground mining methods. Geologically, the Buck Reef West and Sarsfield-Nolans resource modelling was divided into several domains based on geological structures/ lithologies and gold distribution. The Buck Reef West domain interpretation comprises a broad, moderately dipping envelope with a locally developed higher grade footwall zone which is cross cut y two sub-vertical north-northeast trending, commonly higher grade zones.

		They are named; Background, Main envelope – lower grade zone, Main envelope – higher grade footwall zone, Eastern vertical zone and Western vertical zone. The Sarsfield–Nolans area mineralised domains comprise a main moderately northerly dipping envelope representing the general Sarsfield-Nolans trend, and several variably oriented and cross-cutting zones in the Sarsfield area. They are named; East background, Main envelope, Bell zone, Keel zone, Buck Reef trend and West background.
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.*	The Sarsfield deposit outcrop over a 900 by 900 metre area with mineral resources defined to a depth of approximately 650 metres below pre-mining land surface. The Nolans deposit extends in an eastward direction from the Sarsfield deposit for 1.7 kilometres with mineral resources estimated to a depth of 330 metres below pre-mining land surface. The Buck Reef deposit is centred 500 metres south west of Sarsfield deposit and outcrops over an area of 500 by 800 with mineral resources defined to a depth of approximately 600 metres.
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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	MPR used the method of Multiple Indicator Kriging (MIK) with block support adjustment to estimate gold resources into blocks with dimensions of 25m (east) by 20m (north) by 10m (elevation). MIK of gold grades used indicator variography based on either the two metre (Buck Reef) or five metre (Sarsfield and Nolans) resource composite sample grades. Gold grade continuity was characterised by indicator variograms at 14 indicator thresholds spanning the global range of grades. A block support adjustment was used to estimate the recoverable gold resources at each deposit. The shape of the local block gold grade distribution has been assumed lognormal and an additional adjustment for the “Information Effect” has been applied to arrive at the final Mineral Resource estimates. MIK was used as the preferred method for estimation of gold resources at Ravenswood as the approach has been demonstrated to work well in a large number of deposits of diverse geological styles. The gold mineralisation seen at the Ravenswood deposits is typical of that seen in most structurally controlled gold deposits where the MIK method has been found to be of most benefit. Data viewing, compositing and wire-framing were performed using MicromineTM software. Exploratory data analysis, variogram calculation and modelling, and resource estimation have been performed using FSSI Consultant (Australia) Pty Ltd GS3MTM software. GS3MTM is designed specifically for estimation of recoverable resources using MIK methodology. Open pit and underground mining has occurred at Buck Reef West and Sarsfield by previous owners of the project. Where appropriate the resource estimate takes into account historic production using wireframes that represent the open cut pit and the underground stoping voids. Gold is the only economic metal estimated in the current model with no by-products or deleterious elements modelled. The selected resource model blocks had dimensions of 25mE by 20mN by 10mRL and were used as this approximates the average drill spacing in the modelled resource areas. Initially a three pass (Sarsfield-Nolans) or four pass (Buck Reef West) octant search strategy was used to define the local neighbourhood data used in the kriging to produce confidence categories. The highest confidence blocks at Buck Reef West are estimated using search radii of 40mE by 40mN by 10mRL and a minimum of 16 data coming from a minimum of 4 octants. For Sarsfield-Nolans the highest confidence blocks are estimated using search radii of 40 mE by 30 mN by 20 mRL and a minimum of 16 data coming from a minimum of 4 octants. The second and third pass for both estimates used an expanded search of 50% with 16 and 8 minimum data and 4 and 2 minimum octants, respectively. The final pass for Buck Reef West used an expanded search of 100% (from the first pass) with 8 minimum data from a minimum of 2 octants. All estimation passes use a maximum of 48 data. For Buck Reef West, confidence categories were assigned to model panels by estimation search pass and an additional set of east-west sectional polygons outlining areas of closer spaced drilling. The search pass 1 blocks outside these

		polygons were downgraded to Indicated. For the Sarsfield-Nolans area, confidence categories were assigned directly from search passes. Mineralised domain wire-frames were used to flag resource composites and code domain proportions to the block model. A further division of the model domains into oxide and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples. All class grades were determined from bin mean grades with the exception of the upper bins, which were reviewed on a case by case basis and bin grades selected from the bin mean, or median. This approach was adopted to reduce the impact of a small number of outlier composites and is considered appropriated for MIK modelling of highly variable mineralisation such as Greater Sarsfield. The gold resource estimates include a variance adjustment to give estimates of recoverable resources above gold cut-off grades for selective mining (SMU) dimensions of 5 mE by 5 mN by 5 mRL. The variance adjustments were estimated from the gold grade variogram models and were applied using the direct lognormal method and the adjustment factor. Visual validation of grade trends and gold distributions was carried out.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages are estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource has been reported at a 0.3 g/t Au grade cut-off for Buck Reef West and Sarsfield-Nolans deposits. This cut off was chosen as the insitu marginal cut- grade estimation, using current Ravenswood economic parameters applicable for open cut mining methods.
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 methods for the extraction of gold at Buck Reef West and Sarsfield-Nolans has primarily been by open pit and underground methods. It is anticipated that large scale open pit mining methods will be applied for the remaining resources. Grade control of mining blocks will be based on sampling from high quality reverse circulation drilling spaced at approximately 5mE by 12.5mN with samples taken at 1.5 metre intervals down-hole. The Buck Reef West and Sarsfield pits were mined historically using routine open pit mining methods with a backhoe type excavator to excavate benches. Beneath the open cut, open stope underground mining methods were used historically dating back to 1870. Historically, (1870-1918) + recent (1987-2005) production, totaled around 400koz of high-grade gold.
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.*	The crushing circuit at the Nolans Plant treating Buck Reef West and Sarsfield-Nolans ore will use either two or three stage crushing depending on the gold grade of the material being delivered. Gold is recovered using crushing, milling (SAG + ball), gravity circuit (Knelson Concentrator), and a CIL circuit. Gold is recovered from loaded carbon in a four tonne capacity AARL elution plant. Gold is then deposited on to stainless steel cathodes in an electrolytic circuit. Gold will be poured into dore bars, containing approximately 80% gold and 20% silver. The dore bars are sent to the Perth Mint for refining.
Environmental	• *Assumptions made regarding possible waste and*	The Buck Reef West and Sarsfield-Nolans deposits at Ravenswood are adjacent to the Nolans plant site. Ore from the

factors or assumptions	*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 greenfield 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.*	Mt Wright underground mine is also trucked to the plant for extraction and refining of gold. The tailings from this mineral processing are discharged into the Sarsfield Open Pit. These tailings are potentially acid forming and subaqueous settlement beneath a pit lake (water cover) prevents the oxidation of the stored tailings. Future processing operations may utilise a dry stacked tailings storage facility which combines a waste landform with filtered tailings in a lined facility and subsequently covered by mine waste material. Carpentaria Gold Pty Ltd (CG) originally initiated the Environmental Approval process required to reopen the Sarsfield pit in July 2011. A draft Environmental Impact Statement (EIS) was submitted in July 2012 and then progressed through the submission process until being suspended pending further design changes. A revised EIS was submitted in March 2014 and then progressed through the EIS completion phase with the Department of the Environment and Heritage Protection (DEHP) issuing an EIS Assessment Report in June 2014. The Sarsfield Expansion Project EIS Assessment Report concluded that the project would be suitable, provided CG thoroughly addressed certain outstanding matters which principally related to: - impacts to human health and safety and social well-being in the Ravenswood community - impacts to groundwater and surface water - the ability of the proposal to comply with appropriate environmental outcomes. Following review of the feedback from the DEHP, a number of key changes were made to the Sarsfield Expansion Project to address some of the key issues raised in the EIS Assessment Report. These key changes include: • A modification of the proposed tailings management system which now includes a Dry Stack Tailings Storage Facility (DSTSF) within and adjacent to the existing Nolans Pit; • A change to the project footprint area due to a reduction in the Waste Rock Dump (WRD) footprint and location of the DSTSF (reduced in volume due to dry stacking), in an area of existing land disturbance; and • A plan to manage accumulated legacy water in the Sarsfield Pit using a Reverse Osmosis (RO) Plant, instead of evaporative fans as originally proposed. Some waste rock from future mining of a cut-back at Buck Reef West / Sarsfield may be potentially-acid forming while the majority of waste rock will be non-acid forming. Waste rock dumping has been scheduled, along with encapsulation designs and optimization determined to minimize the risk of acid forming conditions from the waste rock dumping landform. The rehabilitation plan of that landform is also a key control. Tailings generated from the overall life of mining from a Buck Reef West / Sarsfield cutback would not have a net acid forming potential and will be placed in the regulated dry storage facility over the Nolans pit.
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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	A substantial population of rock density (SG) measurements for the Buck Reef West / Sarsfield-Nolans deposits were collected by BPB Slimline Services in 2 campaigns during 1995-1996. Gamma-gamma density logging was collected from a total of 14 drill holes with samples taken at 10cm intervals over a combined total length of 2,900 metres. A total of 2,551 readings were made of fresh rock from which an average value of 2.781 was calculated. • Minimum Value 2.365 • Maximum Value 3.002 • Average Value 2.781 • Median Value 2.78 • Std. Deviation 0.05019 A typical dry bulk density of 2.78 t/bcm has been used for fresh material and 2.40 t/bcm for oxidised material...
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	The Resource model uses primarily a classification scheme producing a resource code based on the number and location of gold composites used to estimate proportions and gold grade of each block. This is based on the principle that larger

	• *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	numbers of composites, which are more evenly distributed within the search neighbourhood, will provide a more reliable estimate. The strategy adopted in the current study uses category 1 and 2 from the 3 pass octant search strategy as Measured and Indicated, respectively, and category 3 as Inferred. This results in a geologically sensible classification whereby Category 1 and 2 are surrounded by data in close proximity. Category 3 blocks may occur on the peripheries of drilling but are still related to drilling data within reasonable distances. The Mineral Resource classification method which is described above has also been based on the quality of the data collected (geology, survey and assaying data), the density of data, the confidence in the geological models and mineralisation model, and the grade estimation quality. The reported Mineral Resource estimate is consistent with the Competent Person's view of the deposits.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	No external audits or independent reviews have been undertaken on the current Mineral Resource estimates. As this deposit was mined previously by Resolute Mining Limited from 2004 to 2009 significant internal experience can be drawn on.
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 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.*	The relative accuracy of the Mineral Resource estimate is reflected in the reporting of Measured, Indicated and Inferred categories as defined by 2012 JORC Code guidelines. The resource's relative accuracy is based on data quality, data quantity, geological confidence and the estimation accuracy. The precision of the estimation is globally acceptable with the assumption that at a mining level more detailed grade control drilling and sampling will be undertaken. In the Competent person's view, the geostatistical techniques applied to estimate the Buck Reef West and Sarsfield-Nolans deposits are deemed appropriate for the anticipated large scale, open cut mining method proposed.

Ravenswood Gold Mine – Buck Reef West, Sarsfield and Nolans deposits: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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.*	Resources and Reserves at Buck Reef West and Sarsfield-Nolans are reported above a 0.3 g/t cut-off. This was calculated as a marginal cut off utilising open pit mining methods. Material below this cut-off is not included in the mineral resource. Ore Reserves are the material reported as a sub-set of the resource, that which can be extracted from the mine and processed with an economically acceptable outcome.

		Mineral Resources are reported inclusive of Ore Reserves.
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 for the Ore Reserves at Buck Reef West and Sarsfield-Nolans, Mr. David Mackay, is a full-time employee of Carpentaria Gold Pty Ltd, which is the wholly-owned subsidiary of Resolute that operates the Ravenswood Gold Mine. Mr Mackay has been responsible for the open pit mine planning processes at Ravenswood Operations since commencement of operations at Nolans East in 2016 and has been closely involved with site operations since this time.
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.*	Pit optimisations were completed by an independent consultant using the Vulcan Optimiser software to calculate the optimal pit at specified input parameters that were determined prior to the study. A wireframe pit shell for each gold price considered was the resultant output. One of these was selected as the base for the new pit design. An operational pit design was completed, and mine scheduling conducted as part of the Feasibility process. A recent strategic review of the Feasibility Study has improved some of the operating parameters. The pit optimisations designs and mine schedules were updated as part of the strategic review, which resulted in higher production rates and corresponding lower processing costs and cut-off grades. These results have recently been incorporated into the Company's Life of Mine planning process for the Buck Reef West, Sarsfield and Nolans projects.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	Cut-off grades for the mine design were calculated using recent budget cost models, including owner-mining cost estimates and actual cost data. Processing recovery and other factors were determined from actual process plant performance combined with relevant historic data. The mine design was completed using the output from the Vulcan optimisation
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	The open pit mine design is based on normal sequential bench mining methods. The orebody comprises quartz veins and some disseminated mineralisation hosted within a granodiorite batholith. Mining incorporates a single access ramp into the pit, 10m bench height mined in multiple flitches. Only Measured and Indicated ore has been used to generate the Ore Reserve. A minimum mining width of 30m has been applied. Ramp widths are set at 30m (double lane – 180 t rear dump truck), with narrower single lane ramps (16m wide) for the bottom 40m of the pit design. Mining dilution and recovery are addressed in the model method (MIK) and the utilisation of flitch mining. There are currently no Inferred Resources included in the Ore Reserves. At Buck Reef West, grade control will be based on sampling from high quality reverse circulation drilling at spacing appropriate to the mineralised structures under investigation and historic mining voids. Grade control drill orientation will be adjusted at Buck Reef West to accommodate the changing orientation of mineralisation structures where required. Existing geotechnical parameters used in previous mining and validated through external consultant studies as part of the Feasibility have been applied which include: Oxide – Single 10m bench height with a batter face angle of 60° and berm width of 8m. Fresh - Double stacked 10m high benches (20m overall height) with a batter face angle of 80° and 7m berm width. Inferred resources were considered in the strategic review; however, a smaller pit shell and design that is not impacted by Inferred Resources was selected for reporting of Ore Reserves. For Buck Reef West additional infrastructure will be required as part of the mining process. The existing Ravenswood State School will be impacted by mining and a new school is currently under construction. Existing powerlines, and a section of the public access road plan will need to be relocated to an area outside of the pit limits. Capital expenditure has been allowed for this in the financial modelling. Additional noise bunding and waste rock dump construction has been

		allowed for, and locations planned on the existing tenements. All other infrastructure is in place.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* • *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 ore body 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?*	Gold is recovered using crushing, milling (SAG + ball), gravity circuit and a conventional CIL circuit. The recent Strategic Review incorporated the use of High Pressure Grinding Rolls (HGPR) to reduce the nominal particle size fed to the milling circuit, thus increasing the nominal plant throughput from 5.0 Mtpa to 6.8 Mtpa. A series of laboratory tests were completed to confirm the ability of the HPGR to perform as expected and to develop valid comminution models. The HPGR is well-tested technology that is utilised at a number of similar operations. The metallurgical process is well established technology and the processing plant has been operating in its current configuration for several years with no significant changes to the circuit anticipated. The increased throughput rates will be supported by additional infrastructure (such as leach tanks) to maintain residence time and gold recovery rates. No deleterious elements have been experienced to date and are not expected. A crushing and screening beneficiation circuit will be introduced as part of the processing circuit to reduce the mass of ore reaching the milling circuit and to elevate the feed grade. Test work and pilot scale trials conducted in the Nolan's plant have indicated that beneficiation can be achieved at appropriate size fractions with minimal loss of gold. The crushing and screening process to be used for Sarsfield low grade ores has been proven at Ravenswood in 2004 - 2009 and on other mine sites. The beneficiation study conducted on Sarsfield material was a large scale operation where some 16kt of ROM feed was subjected to testing. This degree of test work provided further confidence to earlier laboratory scale testwork. Adding to the confidence level was a parcel of 27,000 tonnes of Nolans ore treated in 1998 that supported the economic improvements through the use of beneficiation. No bulk samples were deemed necessary due to the current successful metallurgical performance of the extraction methods applied.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization 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.*	The Ravenswood Project is in the mature phase of its operating life. Its environmental management is permitted by an Environmental Authority and supported by an Environmental Management Plan. An Environmental Authority Amendment for the open pit mining operations at Buck Reef West, Sarsfield and Nolans has been issued by the Queensland State Government. An EA Amendment Application has been issued to permit expansion of the existing Nolans Tailings Storage Facility (NTSF), which will be proved cost-effective tailings management and improve the long term environmental outcomes of the existing facility. With the EA now granted, final approval and construction of the expanded NTSF is considered low risk to the project. The waste rock formations have a very low permeability and the mine is a net user of water for operational purposes. An acid base accounting study was conducted on the Buck Reef West / Sarsfield open pit mine's ore and waste, determining the waste to be non-acid forming and the ore to be potentially acid forming.
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 site is currently serviced by mains power, a water supply line from the Burdekin River and accessed by sealed roads. Water is pumped from the Burdekin River approximately 18km southwest of Ravenswood to a local storage (Suhrs Creek Dam). From here, raw water is pumped to the processing plant, Mt Wright, the golf course, and the water treatment plant. Carpentaria Gold operates the water treatment plant on behalf of the Charters Towers Regional Council (CTRC) and supplies potable water to the Ravenswood township as well as the Buck Reef West and Sarsfield sites. There are two mains power feeds available in the event that one becomes unserviceable. The site is located approximately 120km from Townsville and 90km from Charters Towers. Camp style accommodation is available to all employees in Ravenswood. Some employees live in Ravenswood. Being close to major centres, one of which with an International Airport ensures easy and quick supply of parts and

		materials. Carpentaria Gold has received all the Mining Leases required for the open pit mining operations. An application to incorporate surface rights on existing Mining Lease has been lodged to support the associated NTSF expansion required for the project. This application process is running in parallel with the Environmental Authority Amendment Application.
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *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.*	The operating history of the mine has validated the capital requirements. Projected capital costs are made up of forecast capital spend for the known capital expenditure requirements. The capital estimate is determined by the needs of the site as required to continue to produce in a safe and efficient manner and comply with all environmental requirements. Operating costs have been calculated from first principles using both fixed and variable components. Recent operating history and performance against budget costs has validated the cost assumptions. The mining cost model has been independently reviewed and benchmarked, with recommendations applied as appropriate. Assumed gold prices have been derived by reference to recent AUD spot gold prices. All revenue and cost estimates have been made in AUD. Transportation charges have been derived from existing contractual arrangements. Refining charges have been derived from existing contractual arrangements. Current Queensland Government royalties equal to 5% of sales proceeds are included in the cost model. There are no other royalties or Joint Venture agreements.
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.*	It has been assumed that gold will be sold at the prevailing spot gold price. All revenue and cost estimates have been made in AUD. Transportation charges have been derived from existing contractual arrangements. Refining charges have been derived from existing contractual arrangements. Assumed gold prices have been derived by reference to recent AUD spot gold prices.
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 quoted 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*	A variety of gold price points and discount rates were used to assess the robustness of the project, likely payback periods, the breakeven point and the projected internal rate of return. In the estimate, a discount rate of 8% was used and a gold price of A$1,750 per oz.

	assumptions and inputs.	
Social	• *The status of agreements with key stakeholders and matters leading to social license to operate.*	The Carpentaria Gold personnel maintain a good relationship with neighbouring stakeholders, including engagement with the local pastoralists. Part of the tenure held by the Company is located on leasehold pastoral land with compensation agreements in place with the local pastoralist. Granted mining leases cover all of the proposed mining and processing assets and there are no Native title claims pending.
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.*	Events such as cyclones and fires present a risk, although due to risk mitigates, these naturally occurring risks, have not impacted the estimation or classification of the Ore Reserves. The climate in Ravenswood is typical of northern Australia with "wet" and "dry" seasons. The wet season is aligned with the hotter months of December through to March. The dry season typically starts around April and runs through to November, when the humidity starts to build prior to the wet season. Queensland is said to be a seismically active area (intraplate activity) but is relatively inactive compared to other parts of Australia or plate margin regions (interplate activity) of the world such as New Zealand, Indonesia, California, Japan, or Chile. The Burdekin region has been identified as a seismic source zone (Matthews et al, 2011). Australian Standard 1170.4-2007 (Structural design actions Part 4: Earthquake actions in Australia) shows the area has an elevated earthquake hazard factor compared to most of Australia, although not as high as the major concentration points in other parts of the world. There have been in excess of 50 events ranging from M_L 0.5 to 5.7 in the Bowen region since 1900 (Matthews et al, 2011). The mining leases are in good standing and are all part of the suite of leases held by Carpentaria Gold and host a combination of both current activities and infrastructure, and historic workings. Carpentaria Gold are working collaboratively with the Queensland Government to achieve an amended Environmental Authority for the updated Ravenswood Expansion Project. Carpentaria Gold have submitted a Development Application for construction of additional noise bunds adjacent the proposed BRW pit. Approval of this application is outstanding at present, but not considered as a significant risk to the project. Carpentaria Gold also owns a number of freehold land parcels in Ravenswood that includes company housing and blocks purchased adjacent to the Sarsfield open pit. It is possible that the Company may acquire some adjacent residential land close to the Buck Reef West pit to ensure the company complies with modern environmental conditions.
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).*	Only Measured Resources are converted to Proved Reserves Only Indicated Resources are converted to Probable Reserves Inferred Resources are not included in the Ore Reserves The Resource to Reserve conversions were deemed appropriate for the Ore Reserve estimates by the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	No external audits of resources / reserves were undertaken. Due to the success and maturity of the processes applied, the company has deemed this unnecessary. However, periodic reviews of the mining methods have been undertaken and reported as very successful.
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*	Recent historic operational performance against the mine plan for tonnage produced and production head grade, indicate the assumptions used to generate the Ore Reserves, are valid. There has been over the life of the Sarsfield Project, strong mine to mill reconciliations. The updated Ore Reserves are the same mineralisation being mined with similar sized mining equipment being used.

	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 recognized 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.*	The same mining and grade control methods will be applied, and the ore will continue to be processed through the existing facility, with the addition of some additional infrastructure in the process plant. Assuming all QA/QC standards are applied in the drilling, mining and processing, then it is reasonable to expect similar levels of resource recovery experienced in previous years of mining 2004 to 2009. All the parameters assumed and adopted along with financial modelling and analysis have been subject to internal peer review.

Bibiani Gold Mine Ghana: Section 1 - Sampling Techniques and Data

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such*	Samples were collected by Mensin Gold Bibiani Ltd (Mensin) from diamond core (DD) drill holes and reverse circulation (RC) pre-collars. Diamond core was sampled at 1m intervals and cut in half, to provide a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising, to provide a 30g charge for analysis. RC samples were collected on 1m intervals by riffle split to obtain a 2-4kg sample, which was sent to the laboratory for crushing, splitting and pulverising, to provide a 30g charge for analysis. Mensin sampling and sample preparation protocols are industry standard and were deemed appropriate by the Competent Person. Previous owners (1994-2012) collected samples from RC and DD drill holes and underground channels (CHAN). In 2012 Coffey Mining Pty Ltd (Coffey Mining) assessed that the previous sampling was conducted using industry standards techniques.

	as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	Drill types used include RC and diamond PQ, HQ and NQ2 sizes. Since 2014, HQ and NQ2 core has been orientated using the Reflex ACTIII electronic core orientation tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Diamond core interval recoveries were measured from core block to core block using a tape measure. Stopes and voids were identified as separate intervals. A relationship between sample recovery and grade was not identified.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Drill holes were geologically logged by geologists for lithology, alteration, mineralisation and weathering on geologically domained intervals. Geotechnical and structure orientation data was measured and logged for diamond core intervals. Drill core is photographed (dry and wet). Diamond core and RC chips were captured digitally using LogChief logging software, then validated and imported into the digital drill hole database. Holes were logged in their entirety (100%).
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Diamond core was sampled at one metre intervals and cut in half to obtain a 2-4kg sample. Interval lengths were adjusted around voids, to ensure samples were at least 0.5m in length. RC intervals are riffle split (dry) to obtain a 2-4kg sample. Sample preparation of diamond core and RC samples included oven drying, crushing to 10mm and splitting, pulverising to 85% passing 75 microns. These preparation techniques are deemed to be appropriate to the material being sampled. Drill core coarse duplicates were split by the laboratory after crushing at a rate of 1:20 samples. Reverse circulation field duplicates were collected from pre-collars and were collected at a rate of 1:20 samples. Mensin sampling, sample preparation and quality control protocols are industry standard and all attempts are made to ensure an unbiased representative sample is collected. The methods applied in this process are deemed appropriate by the Competent Person. Sub-sampling techniques and sample preparation completed by previous owners was assessed by Coffey Mining in 2012 and was determined to have been conducted using industry standards techniques.
Quality of assay data and laboratory	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the*	All Mensin samples were assayed for gold by 25g fire assay fusion with AAS instrument finish. The analysis was performed at Intertek Tarkwa (method code FA25/AAS). The analytical method was appropriate for the style of

tests	*technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	mineralisation. The analytical method is considered a total gold analytical method. No geophysical tools were used to determine any elemental concentrations. Quality control (QC) procedures included the use of certified reference material and coarse blanks included at a rate of 1:20 drill samples, diamond core coarse duplicates (1:20) and reverse circulation field duplicates (1:20). Reanalysis of 1.5% of the pulps for gold by fire assay fusion AAS was carried out at a second laboratory, SGS Ghana, to test repeatability. Additionally, 2.5% of the pulps and 2.5% of the coarse reject samples were reanalysed at the primary laboratory at the completion of the drilling programs. Laboratory quality control data including laboratory standards, blanks, duplicates, repeats and grind size results are also captured into the digital database. Analysis of the Mensin QC sample assay results indicates that an acceptable level of accuracy and precision has been achieved. Assay data quality for previous owners was assessed by Coffey Mining in 2012 and was considered to be of industry standard for Noble data (2011-2012) and not verifiable at the time for data that pre-dated Noble (1994-2008). Assessment of the available QAQC data demonstrated acceptable levels of assay precision and accuracy. When Mensin took ownership of the Bibiani project in 2014 they initiated a data validation and verification process for the historical drill holes.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Verification of significant intersection was completed by Mensin personnel following the receipt of assay results. No drill holes within the resource were twinned. Drill hole data was logged into LogChief digital logging software, validated and then compiled into a relational SQL2012 digital database using DataShed data management software. The SQL database includes verification protocols which were used to validate the data. The drill hole database was backed up on a daily basis to the head office server. Assay result files were reported by the laboratory in PDF and CSV format and imported into the SQL database without adjustment or modification. In 2012 Coffey Mining assessed the sampling and assaying procedures for previous owners and considered them of appropriate industry standards. When Mensin took ownership of the Bibiani project in 2014 they initiated ongoing validation and verification processes for the data collected by previous owners. This has involved resampling historical diamond core to verify intersections as well as cross-checking samples, void intervals and assays against the original data sources including digital files, reports and laboratory assay certificates in both hardcopy and digital format. The outcome of the verification processes is that 40% of the assay data for holes drilled by previous owners included in the resource have been validated by Mensin.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Collar coordinates were surveyed in local Bibiani Mine Grid using a Total Station Theodolite with expected accuracy of less than 1cm. Down hole surveys are collected using a Reflex EZTrac electronic magnetic survey tool. Surveys are obtained every 30m during drilling (single shot mode) and every 6m at the completion of each hole (multi-shot mode). Survey data is checked and verified using the Reflex SProcess software, with survey readings outside of expected magnetic and gravity values flagged and excluded. A time-dependent declination was applied to the magnetic readings to determine UTM azimuth. Coordinates and azimuths are reported in UTM WGS84 Zone 30 North.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*	Drill hole spacing was sufficient to demonstrate geological and grade continuity appropriate for the Mineral Resource and the classifications applied under the JORC Code (2012). The appropriateness of the drill spacing was reviewed by resource geologists at Optiro and by the Competent Persons in 2017. Downhole RC and diamond samples approximated 1m intervals.

	• *Whether sample compositing has been applied.*	
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	The mineralisation trend extends over 2km of strike length with a steep to sub-vertical dip. The majority of holes have been drilled perpendicular to the strike and at a high angle to the dip. Where this was not possible (such as from underground), holes have been drilled at oblique angles to the mineralisation (up to 30°). No orientation based sampling bias has been identified in the data.
Sample security	• *The measures taken to ensure sample security.*	Samples were collected from the drill site and stored on site. All samples were individually bagged and labelled with unique sample identifiers, then securely dispatched to the laboratories. All aspects of sampling and dispatch process were supervised and tracked by Mensin personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	In 2012 Coffey Mining assessed the sampling and assaying procedures for previous owners and found that prior to 2008 the sampling and assay data was not verifiable. The data collected by Noble between 2008 and 2012 were of an appropriate industry standards. External audits of current sampling procedures indicated sampling protocols reflect current industry standards.

Bibiani Gold Mine Ghana: Section 2 - Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Drilling was conducted within the Ghanaian Mining Concession Permit of Bibiani which covers the current mining leases of the Bibiani Project. Resolute Mining Limited has a 90% interest in the Bibiani Project through its subsidiary company Mensin Gold Bibiani Limited and the Exploitation Permit on which it is based. The Ghana Government holds a free carried 10% interest in Mensin Gold Bibiani Ltd (MGBL). The Bibiani Mine concession is located approximately 6° 27' latitude north and 2° 17' longitude west in the Western Region of Ghana. The Bibiani mineral concessions lie approximately 80 kilometres south west of the Ashanti capital, Kumasi. The principal access to the mine is from the east, along the Kumasi – Bibiani – Sefwi Bekwi Highway. Ghana mining law provides that all mineral resources are administered by the Minerals Commission of Ghana.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Commercial gold production commenced at Bibiani in the early 1900s and was suspended in 1915. In 1927 mining activities recommenced as the mine was developed and operated by foreign investors until it was nationalised in 1958. Post nationalisation, the mine was operated by SGMC (State Gold Mining Corporation) until it was closed in 1973 following the depletion of economic reserves. During the SGMC period, reserves within the existing infrastructure were depleted and the old workings were reworked to recover pillars and remnant lower grade material (probably plus 6g/t) that was below the pay limit applied to the deposit prior to nationalisation. Reports have suggested that during the first 65 years of production a total of 7.8 million tonnes from underground mining and 0.5 million tonnes from surface operations were milled, producing over 2 million ounces of gold at an average recovered grade of approximately 9.5 g/t Au. In the late-1980s, Glamco and International Gold Resources ("IGR") gained rights to the old Bibiani mine and initiated tailings reclamation and surface exploration, which activities led to the delineation of an open pit resource and a positive

		feasibility study. Ashanti Goldfields purchased Bibiani from IGR in the mid-1990s for US$ 130 million, financed an additional US$ 85 million to capitalize the operation, and redeveloped the mine as an open pit operation with a modern processing plant. Ashanti Goldfields (now AngloGold Ashanti ("AGA") produced approximately 1.8 million ounces of gold from the main and satellite pits (after main pit production was hampered by a slope failure in 2004) and tailings retreatment, bringing total Bibiani production since inception to almost four million ounces. Central African Gold plc (CAG) purchased Bibiani, for a cash consideration of US$ 40 million. Subsequent to acquisition, CAG expended a further US$ 51 million of capital on the mine, nearly all of which was used to accelerate underground access and to purchase a modern underground mining fleet. Despite development and capital constraints Bibiani produced a further 53,066 oz. of gold between 2007 and 2008 from three sources, namely old tailings, underground ore, and near-mine open pit oxide ore not included in the mineral resources. In late 2009, Noble Mineral Resources Ltd signed a 'Sale of Shares' agreement to acquire Central African Gold Ghana Ltd from Investec Bank subject to a number of Conditions. One of these Conditions states that Noble shall formulate a 'Development Plan' for the development of and the return to production of the Bibiani mining and processing operations. Resolute Mining Ltd became the owner of the Bibiani Project in June 2014 following the completion of the Deed of Company Arrangement (DOCA) regarding Noble Mineral Resources Limited (ASX:NMG) and acceptance and approval of a scheme of arrangement in Ghana. Prior to Resolute acquiring the project, approximately 1,100 RC and/or diamond holes for 168,000m had been drilled by previous operators into the Bibiani resource area (excluding satellite deposits and regional exploration). Since 2014, Mensin have drilled 169 diamond holes (17 holes have RC pre-collars) for 50,100m into the resource area.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The project is located within rocks of the Birimian Supergroup in SW Ghana. Locally mineralisation is hosted within predominately carbonaceous metasediments of the Kumasi-Afema Basin, immediately adjacent to the eastern margin of metavolcanic-dominant Bibiani-Sefwi Belt. The basin sediments are dominated by a thick sequence of fine grained graded turbidites (siltstone to shale) with localised interbeds of fine to medium grained turbiditic sandstones. The shales are variably carbonaceous and often develop phyllitic and schistose fabrics, as a result of overprinting deformation. Several felsic to intermediate composition dykes intrude the sedimentary sequences, including dacite, tonalite, granodiorite and rare monzonitic lamprophyres. Rocks of the Bibiani-Sefwi Belt occur to the west, in the footwall of the Bibiani deposit and include coarser grained turbidites with lithic fragments, and thick intervals of basalt, often with doleritic bases and flow-top breccias with carbonaceous interflow sediments. The margin between the Kumasi-Afema Basin and Bibiani-Sefwi Belt is marked by a broad zone of roughly sub-vertical shearing, striking roughly NNE, regionally referred to as the Bibiani or Sefwi Shear. The sedimentary sequence is tightly folded, with west-dipping axial planes and localised development of steep W-NW dipping shear zones, which acted as conduits for initial Au mineralisation. Further deformation resulted in development of S-SE dipping brittle-ductile faults and emplacement of larger quartz reefs. Mineralisation is related to emplacement of quartz veins, which occur as either sheared, stockwork veins with quartz-ferroan dolomite, or as larger, up to 20m wide, locally stylolitic quartz reefs. Both veins types are associated with pyrite +/- arsenopyrite. Fine-grained disseminated Fe-carbonate and sericite alteration with pyrite +/-arsenopyrite occurs adjacent to the veining. The overall mineralised trend extends over 2km along strike. Mineralisation has also been identified on a sub-parallel trend to the east of the main deposit, with numerous pits developed by pervious operators over a strike length of

		approximately 4km.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	All information including easting, northing, elevation, dip, azimuth, coordinate system, drill hole length, interval length and depth are measured and recorded in UTM WGS84 Zone 30 North. The Bibiani local mine grid has been tied to the UTM WGS84 Zone 30 North coordinate system. Drill hole information has been tabulated for this release in the intercepts table of the accompanying text. For completeness the following information is provided for each drill hole: • Easting, Northing and RL of the drill hole collars are measured and recorded in UTM WGS84 Zone 30N. • Dip is the inclination of the drill hole from horizontal. For example a drill hole drilled at o -600 is 600 from the horizontal • Down hole length is the distance down the inclination of the hole and is measured as the distance from the horizontal to end of hole. • Intercept depth is the distance from the start of the hole down the inclination of the hole to the depth of interest or assayed interval of interest.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Exploration results reported in this announcement are tabulated using the following parameters: • Coordinates are UTM WGS84 Zone 30N • Cut-off grade for reporting of intercepts is >=1g/t Au with a maximum of 3m consecutive internal dilution included within the intercept; only intercepts >=3m are reported. • No top cut of individual assays prior to length weighted compositing of the reported intercept has been applied. Metal equivalent values are not used in reporting.
Relationship between mineralization 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 (e.g. 'down hole length, true width not known').*	Mineralised zones across the deposit vary from steeply east dipping to steeply west dipping, with dips generally exceeding 70°. Drill holes are designed to intersect the mineralisation as close to orthogonal to the strike and dip as practical. Surface drill holes were drilled with azimuths at mine grid 270° in the south and at mine grid 090° in the northern end, depending access and the overall trend of the mineralisation. Underground drill holes were mostly drilled at mine grid 090° and occasionally at slightly oblique angles to the mineralisation depending on access. In general, true widths may be 50-90% of the downhole length.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	No exploration results have been reported in the release.
Balanced reporting	• *Where comprehensive reporting of all Exploration*	Significant intercepts of new drill holes have not been reported in this release.

	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.	
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No geophysical or geochemical data is reported in this release as they are not deemed relevant to the release All diamond core drilled and sampled by Mensin are measured for bulk density which has a mean value of 2.77 g/cm3 and varies between 2.30 and 3.00 g/cm3.
Further work	• *The nature and scale of planned further work (e.g. 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.*	Drilling by Mensin to test lateral and depth extensions of the known mineralisation is ongoing.

Bibiani Gold Mine Ghana: Section 3 - Estimation and Reporting of Mineral Resources

CRITERIA	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.*	Data captured in a relational SQL database. The setup of this database precludes the loading of data which do not meet the required validation protocols. The data was managed using DataShed© drill hole management software (Maxwell Geoservices) using SQL database techniques. Validation checks are conducted using SQL and DataShed© relational database standards. Approximately 6% by number (17% by length) of assayed samples prior to compositing were greater than 3.0 m in length. These overlength samples were sampled prior to 2014 and had an average grade lower than the < 3.0 m samples. These overlength samples were excluded from variography analysis but were included in the top-cut analysis and subsequent grade estimate. Drillhole database has been supplied as an extract of the master drillhole database. The drillhole collar data was visually inspected for any obvious errors (underground holes plotted up on surface, surface holes projected up above the surface). The assay and density data was inspected for potential outlier values and overlapping intervals, none of which were identified in the assay data. Approximately 1% of the 39,862 density determinations were identified as being potentially erroneous and excluded from further analysis. The database was subsequently validated and checks made to the database prior to use included: • check for overlapping intervals • downhole surveys at 0m depth

		• consistency of depths between different data tables check gaps in the data.
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.*	No site visit has been undertaken by the Kahan Cervoj who is accepting responsibility for the compilation of the Mineral Resource. As this is a long lived project that recently was being successfully mined by the current operators, that Mensin Gold Bibiani Ltd personnel have accumulated extensive experience at the project and are taking responsibility for data collection, exploration results and interpretations (i.e. sections 1 and 2 of the JORC Table 1), a site visit by the person completing the Mineral Resource was not deemed necessary.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	The historical underground mining and recent open pit mining has resulted in a good understanding of the geology and mineralisation. There is high confidence in the geological interpretation. All available data (diamond and RC drilling, underground channel sampling) has been used to update the mineralised interpretations. The 2017 update is focussed on the underground potential. Oxidised material has been depleted as part of the main and satellite pit mining and is assumed to be fully depleted. There is limited scope for alternative interpretations on a global scale. As a series of parallel lodes and splays, there is scope for very localised alternative interpretation. The mineralisation interpretation was guided by a combination of the geology (presence of structure and/or quartz veining) and gold grade. The only exception is Stope 13 domain which is based on a 0.5 g/t gold cut-. Factors that affect grade and geological continuity include the structural orientation (main shear or footwall/hanging wall splay), and the spatial relationship with the tonalite intrusive to the west of the mineralised system.
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.*	The Bibiani mineralisation outcrops on surface and can be traced over 1,950 m strike length and 700 m vertically, consisting of 12 lodes. The individual lodes range in strike length from 100 to 970 m along strike, 150 to 650 m vertically and with true widths that range from less than 1 m to 32 m true width.
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.* • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterization).*	Grade estimation was by ordinary kriging using top-cut 1.0 m length composites samples which was appropriate given the grade distributions. Top-cuts were applied to each individual lode to reduce the impact of a limited number of outlier grades. The lodes were interpreted using a combination of geology and grade, and the final solids were wireframed using Leapfrog Geology software. Each lode was treated individually and estimated using hard boundaries. Grade compositing was undertaken in SURPAC v6.6.2 and grade estimation completed in Datamine Studio RM v1.3.11.0. The grade estimation search and variogram orientation used the Studio RM dynamic anisotropy function. Less than 1% of the resource is extrapolated and the maximum distance of extrapolation is 131 m. Compared to the 2014 Mineral Resource estimate, there has been an increase in the interpreted volume and tonnes at approximately the same grade for the deposit. This change is the result of on-going extensional and infill exploration drilling and updated interpretations. No assumptions regarding the recovery of any by-products have been made. No deleterious elements or other non-grade variables of economic significance have been estimated or modelled. A parent block size of 20 mN x 5 mE x 20 mRL was used for estimation. The nominal drillhole spacing is 20 mN x 20 mRL in the plane of the mineralisation. An expanding 3 pass search method was employed, with the search radii based on the overall geometry of the lode. The search radius for the first pass ranged from 75 x 50 x 10 m to 175 x 85 x 20 m, and was expanded by a factor of 1.25 for

	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	the second pass and 2.5 for the third pass. A minimum number of two drillholes were required to inform the estimate. Any cells that were not estimated after the third pass (approximately 2% by volume) were assigned the nearest estimated block grade. No assumptions regarding the selective mining unit have been made. No other variables other than gold and dry density have been modelled. The mineralised interpretations were built on observed geology (presence or absence of alteration, veining, structure) and grade. Domain Stope 13 was an exception to this, which was based on a 0.5 g/t gold cut-off due to the limited exposure of this zone/structure. All boundaries were treated as 'hard' boundaries to flag the raw and subsequent composite samples, and for grade estimation. Grade cutting was used for all domains/zones, with each zone being individually reviewed using a combination of population disintegration and grade distribution plots. The only exception was for the non-mineralised (waste) domain which was severely top-cut to manage the limited number of outliers. The block grade estimate was initially validated by visual review of block grades to drillhole data, followed by a global comparison between the naïve and declustered grades and finally by swath plots by easting, northing and elevation. The Mineral Resource has been depleted for known underground mining. Production data has currently not been reviewed and no reconciliation between the production and the 2017 estimate has been undertaken.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All tonnages are estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	A reporting cut-off of 2.0 g/t gold has been used to reflect the most probable underground mining scenario presented in the June 2016 Feasibility Study.
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.*	A Feasibility Study has been completed in June 2016, that used the June 2014 Mineral Resource. The preferred mining method identified was large scale long-hole mining methods.
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*	It is assumed that the metallurgy does not materially change with depth and that the metallurgical performance of the fresh open pit ore is not materially different for underground ore. It Is also assumed that future treatment options will utilise much of the exiting processing infrastructure. The current circuit configuration includes a Knelson Concentrator which typically recovers up to 35% of the gold. Historically, the processing facility has produced dore with a fineness of 80% gold and 20% silver. The gold grain size distribution is reported as predominantly less than 50 microns however visible gold has been

	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.	observed within some quartz veins. Arsenopyrite has been observed within the ore body and there is generally a good correlation between the presence of gold. The presence of arsenopyrite has no deleterious effect on processing of the ore. The ore host rock can be graphitic and carbonaceous with the graphite content increasing in the more intensely sheared zones. Historic processing data suggests the graphite may negatively impact gold recovery in the elution circuit, but this is reflected in the historical processing performance.
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 greenfield 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.*	Future processing operations would employ the existing regulated tailings storage facility that was used for the processing of the open pit material. Some waste rock from future mining underground may be potentially-acid forming, the majority of the waste rock will be non-acid forming. Waste rock dumping has been scheduled, along with encapsulation designs and optimization determined to minimize the risk of acid forming conditions from the waste rock dumping landform. The rehabilitation plan for the landform is also a key control. Tailings generated from the project are not expected to be net acid forming and will be stored in the current regulated storage facility.
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.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Bulk density is based on 37,123 validated dry density determinations. For the in-situ mineralisation a density value of 2.75 t/m3 was assigned. This value remains unchanged from previous estimates. There was no material difference between the different weathering or oxidation conditions. The mineralised oxide and transitional material has been fully depleted. Procedures used to collect the bulk density information are not available. On-going mining at Bibiani has confirmed that the density value is appropriate. It was noted some of these determinations were on whole runs along the drillhole, while others were 'spot' density chosen either at a fixed distance down the drillhole or to capture some observed feature in the core. However, no bias was identified between the two data collection types. There was no observed difference between the grade distributions for the different weathering/oxidation conditions or between the mineralised/non-mineralised material. A single value has been assigned to all in-situ material.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent*	Mineral Resource classification was based on a combination of the drillhole spacing and kriging efficiency. Where grade and geological confidence was demonstrated, and the nominal drilling approached less than 40 to 50 m spacing and the average nominal KE was greater than 30%, the mineralisation was classified as an Indicated Mineral Resource. Material that did not meet this criteria were classified as an Inferred Mineral resource. There were small areas that remain unclassified because of either the extent of extrapolation and/or associated lack of confidence in the interpretation. The Mineral Resource classification incorporates all relevant factors. The classification appropriately reflects the Competent Person's view of the deposit.

	Person's view of the deposit.	
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	The Mineral Resource has undergone internal peer review but no other independent third party audits are available at this time.
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 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 geostatistical studies have been undertaken to determine relative accuracy or confidence limits of the estimate. Relative accuracy and confidence is reflected in the resource block model by the resource category assigned to blocks, that ultimately relates to local drillhole spacing and the geological interpretation. Overall the 2017 Mineral Resource estimate is considered a global estimate. In areas of closer spaced drilling and where reflected by the resource classification, the estimate approximates a local estimate, but requires grade control sampling prior to mining. Reconciliation with historical underground or open pit mining has not been done.

Bibiani Gold Mine Ghana: Section 4 - Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE 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 Ore Reserves are based on the Mineral Resource estimate that was detailed in the ASX release dated 18 October 2017 The Mineral Resource estimate was prepared by mining industry consultants Optiro Pty Ltd and used Ordinary Kriging to estimate the gold grades into geological domains constrained by wireframes The Mineral Resources are reported inclusive of the Ore Reserves.
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, Brett Ascott is a Fellow of the AusIMM, visited site in May 2019. The Bibiani underground mine is located beneath the Bibiani main pit. The pit has an extensive wall failure on the western wall. Previous underground mining at Bibiani has occurred in several phases. These phases can be split into historical mining up to 1973 and modern mining between 2002 and 2008. The area of modern development (4 to 9 Level) is under care and maintenance and kept in a dewatered condition. Below the modern workings (from 10 Level and below) the historical workings are flooded.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.*	The study has been undertaken to pre-feasibility (PFS) level of study. Major contributors to the PFS were: • Optiro Pty Ltd – Mineral Resources

	• *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.*	• AMC Consultants Pty Ltd – mining geotechnical, mining and Ore Reserves. • Wood Group (formerly Amec Foster Wheeler) – process plant design • Resolute Mining Ltd – all other areas
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	The Ore Reserve was based on economic assessment of individual stopes and the overall schedule, rather than a single cut-off grade. The inputs to the assessments were a gold price of US$1,200/oz, applicable royalties and preliminary costs and metallurgical recoveries developed during the PFS. The approximate cut-off grade from these assessments was 2.2g/t Au.
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 optimization 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 (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimization (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 utilized in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	The Mineral Resource was converted to an Ore Reserve through PFS level mine planning, including mine design and scheduling. Initial stope shapes were created using Datamine's Mineable Shape Optimiser and considered Indicated and Inferred Resources. The 2.0g/t cut-off shapes were then manually edited to form the PFS stope shapes. Multiple mine designs and schedules were completed. The design and schedule that best met Resolute's criteria was selected as the final mine plan for the PFS. The stope shapes included mining around historical voids. Each stope was assessed for the amount of void interaction and a mining recovery factor applied to each stope, ranging from 80% to 0%. Longhole mining methods were considered the most appropriate mining method based on ore geometry, geotechnical and economic factors. Assessment was made of various longhole mining methods, with selected study methods consisting of longhole open stoping with pillars and longhole stoping with introduced rockfill (sublevel shrink) as applied at Resolute's Mt Wright mine. Longhole stoping with pillars is the primary mining method and is used in area where the stope blocks are less continuous, occur in multiple lodes and are generally narrower. Sublevel shrink is used in the lower southern mining area were the stope blocks are continuous and are generally wider (up to 25m). Geotechnical assessment indicated that conditions are amenable to moderately large scale open stoping. Minimal dilution is expected in most areas, except where graphitic shears are located near the orebody. There is considerable stoping experience from previous mining available, which was used to validate the geotechnical assessment. The recommended maximum hydraulic radius for unsupported stopes was 8.1m. The PFS and Ore Reserves are based on the Mineral Resource estimate that was detailed in the ASX release dated 18 October 2017. Unplanned stope dilution was estimated as 15%, comprising approximately 10% included in the process of converting the 10m stope sections into wireframes stope shapes and an additional 5% included in the mine schedule. Mining recovery was set at 85% for sublevel shrink, based on actual performance at Mt Wright. Mining recovery ranged from 55% to 80% for longhole stoping with pillars. This included an allowance for pillar loss and mining losses around voids. Approximately 50% of the stope tonnes and ounces are obtained from stopes with no void interactions, 40% from stopes with one void interaction and 10% from stopes with multiple void interactions.

		Stope dimensions are based on a level interval of 30m, minimum width of 5m and a strike length of 30m. The level interval was fixed by the spacing of the historical development. Indicated and Inferred Resources were used in the PFS. The PFS contains 60% Indicated and 40% Inferred Resources The Ore reserves are reported as a subset of the PFS. Two separate economic evaluations were conducted on the Ore Reserves only (Inferred Resources were excluded), both of which demonstrated the project produced positive cash flows on an Ore Reserve only basis. The first assessment was based on a stand alone Ore Reserves mining schedule and a simple economic evaluation. The second assessment was by removing the Inferred Resources from the PFS financial model. The surface infrastructure is largely already in place, such as haul roads, workshops and offices. The mine will be accessed by two declines to service the 1.3km of mining strike length. One decline is pre-existing from the Bibiani Main pit to the 9 Level and will be extended to the base of the mine. A second decline was commenced but was halted prior to being connected to the orebody. This decline required a new portal and extending to connect to the remainder of the mine design. Only preliminary assessments have been made of infrastructure such as ventilation, power and dewatering. The primary airflows are estimated as 350m^3/s to 400 m^3/s, with the two declines used as primary intakes and two 4m diameter rises located as the southern end of the mine providing primary exhaust. Dewatering of the historical working is required ahead of mining. The volume of voids is estimated at approximately 1.5Mm^3 from old survey plans that have been digitised to 3D. It is proposed to dewater the voids from dedicated large diameter drillholes equipped with borehole pumps.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralization.* • *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 ore body 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?*	The ore will be processed through the existing Bibiani processing plant that is currently on care and maintenance. The plant has a nominal capacity of 3Mtpa. This will be reduced to 1.1Mtpa to treat Bibiani underground ore only. The plant was designed around a standard carbon-in-leach (CIL) process to extract the gold from the ore. To enhance the process, rather than rely on CIL with gravity, the overflow material from the SAG mill is floated and then re-ground to increase yield. Testwork has shown that the mineralogy of the deposit favours targeted regrinding of gold-associated sulphide minerals in order to achieve optimal leach extraction. The plant required refurbishment of most components, plus replacement or changes to the primary classification, scavenger flotation, regrind and concentrate areas. The assessment of the plant and proposed modifications were undertaken by an experienced consultant. Numerous phases of metallurgical testwork have been undertaken on underground samples over the previous 15 years. The samples are representative both spatially and in grade of the Ore Reserves. An average metallurgical recovery of 89.9% was used in the PFS, based on Resolute's analysis of the testwork data. No deleterious elements were identified from the testwork and historical processing.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue*	An Environmental Impact Study (EIS) has been completed and submitted to the Ghanaian Environmental Protection Agency (EPA). The EPA has accepted the EIS and has invoiced the permit fee. Waste rock will be stored on existing waste dumps. Process tailings will be deposited in the existing TFS. Historical test work has shown the waste rock and tailings are non-acid forming.

	storage and waste dumps should be reported.	
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.*	Bibiani is an existing mining operation. All necessary infrastructure for operations is in place, including a processing plant, offices and workshops, tailings storage facility (TFS) and accommodation facilities for senior staff. Most of the facilities are in reasonable condition and require refurbishment to commence operations. The TFS footprint has the capacity to contain all tails produced in the mine plan. An approximately 2.5m high lift is required to the TSF wall. The capital for this work has not been included in the PFS financial model. AMC expects it to be in the range of $3M to $5M. Ghana is an established mining jurisdiction, with an experienced labour pool available in country. The labour pool will be supplemented by expatriates in key roles. Labour will be accommodated either in the Bibiani mine camp or local towns. Bibiani is located approximately 80km from the major regional city of Kumasi and is connected by the sealed Kumasi-Bibiani-Sefwi highway. Electrical power is provided from the government grid.
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 derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *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.*	Capital costs are based on a PFS level of accuracy. Mining capital costs are based on contract mining for the first three years. The mine development costs are based on mine physical and contract rates from Resolute's Syama mine in Mali and preliminary infrastructure costs. Processing capital costs were based on a minimal capital cost approach to refurbish and upgrade the existing plant. Mining operating costs are based on: • Contract mining costs for the first three years • Owner mining thereafter. The owner mining costs are based on a first principal cost build-up. Processing cost of US$21.6/t and administration costs of US$9.0/t are based on Resolute undertaking these activities and have been developed from first principals. No deleterious elements were identified and no allowance was made in the project financial model. The exchange rates were based in Resolute forecasts with USD to GHS of 1:4.5 and USD to AUD of 1:1.33 used in the PFS. Royalties total 6% and include the standard Ghanaian government royalty of 5% plus 1% for other external parties.
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.*	Production and recovery for revenue factors were based on the PFS level mining schedule, factors and cost estimates. A gold price of US$1,200/oz was used for the PFS and Ore Reserve estimate.
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*	There is a transparent quoted market for the sale of gold.

	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.*	
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.*	The economic analysis was based on: • Costs as described previously • Gold price of US$1,200/oz • Royalties of 6% • Tax rate of 35% • Discount rate of 5.5% for real, post-tax cash flows NPV sensitivity was undertaken on key parameters such as metal price, gold grade, processing recovery, costs and exchange rates Major parameters were flexed by up to 10% and provided post-tax NPVs ranging from US$37M to US$140M.
Social	• *The status of agreements with key stakeholders and matters leading to social license to operate.*	Resolute and its consultants have performed appropriate stakeholder engagement at the local, regional and national level. These are documented in the EIS.
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.*	Bibiani is located in a tropical environment and subject to heavy rain events. The Bibiani underground is connected to the open pit in many places and rainfall will drain into the underground workings. The project is owned by Mensin Gold Bibiani Ltd (MGBL) a wholly owned subsidiary of Resolute Mining Ltd. While mining and environmental permits were held by the previous operators, they did not include underground mining. Some permits have expired or were cancelled when the operation was placed on care and maintenance. Prior to recommencing operations and environmental permit will be required from the EPA and a Mining Permit from the Minerals Commission. There is no reason not to expect these to be granted.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent*	All Indicated Resources were classified as Probable Ore Reserves There are no Measured Resources

	Person's view of the deposit. • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	No reviewed of audits have been undertaken of the Ore Reserves estimate
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 recognized 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.*	The design, schedule and financial model are prepared to PFS level of accuracy. The PFS requires mining around historic voids, with 50% of the stope tonnes and ounces mined in close proximity to voids. Mining around voids has a degree of uncertainty. The metallurgical recovery is based on a certain sulphide content, if the sulphide content is higher than 0.6% metallurgical recovery will be lower. Further metallurgical recovery testwork is required to validate the metallurgical recovery.