

15 December 2016

## PERSEUS ACTIVITIES UPDATE

Perseus Mining Limited (ASX/TSX: PRU) ("Perseus") wishes to provide an update on recent events associated with its West African gold production and project development activities.

### **EXECUTIVE SUMMARY**

- The capital investment programme that Perseus has undertaken at the Edikan Gold Mine in Ghana ("Edikan") during the last two years is now largely complete.
- Notwithstanding recent improvements in mill and crusher performance, the shortfall of gold production due to the extended plant shutdown in October 2016 and lower than expected head grades, has not been recovered and gold production from Edikan for the December 2016 Half Year is now expected to be between 70 -80,000 ounces and all in site cost ("AISC") for the period are now expected to be between US\$1,550 to US\$1,650 per ounce.
- Work on the Yaouré Gold Project ("Yaouré") definitive Feasibility Study ("DFS") currently remains on track for completion in mid-2017. Discussions with landowners have been constructive to date and a mutually satisfactory solution is expected to be reached in time for Mineral Resource confirmation drilling to start by the end of December 2016.
- Snowden Mining Industry Consultants Pty Ltd ("Snowden") has completed a re-estimate of the Sissingué Gold Project ("Sissingué") Mineral Resource and maiden Mineral Resource estimates for the Bélé mineral deposits that are located within trucking distance of Sissingué.
- The re-estimated Measured and Indicated Mineral Resource at Sissingué contains approximately 180,000 ounces or 20% less gold than previously estimated as a result of discounting a quantity of reverse circulation ("RC") drill results due to drill hole contamination.
- Depending on the conversion rate of Bélé's Inferred Mineral Resource into Measured and Indicated categories, the combined Measured and Indicated Mineral Resource for Sissingué and Bélé may be very similar to the original Sissingué estimate of 880,000 ounces of gold.
- Pending confirmation of the total Sissingué plus Bélé Measured and Indicated Mineral Resource, Perseus intends to reduce the level of project debt finance sought to finance the construction of Sissingué and increase the proportion of development funding from cash flow and cash reserves.
- Perseus has implemented a plan to align Sissingué project development expenditure more closely with available funding capacity and as a result, the projected date of production of first gold from Sissingué has been moved back approximately 4 months from October 2017 to the end of February 2018.

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### EDIKAN GOLD MINE, GHANA

### **Completion of Capital Works**

The capital investment programme that Perseus has undertaken at Edikan during the last two years, that has been a major factor in elevating the mine's AISC during this period, is now largely complete. Since 1 October 2016:

- Construction of housing and the relocation into the new dwellings of families displaced by the opening up of the Fetish, Chirawewa and Esuajah North open pits has been completed. In total, 186 new houses and 12 institutional structures has been constructed at a cost of approximately US\$30 million. A ceremony to formally hand over the new housing estate will take place in January 2017.
- Development of the Esuajah North open pit has been advanced and fresh ore is now being mined from the pit. Blasting of fresh ore commenced on 26 November, and in coming months ore will be drawn from four pits on the Edikan licence area including Fobinso, Fetish, Chirawewa and Esuajah North. With the opening up of these work areas, the amount of investment required in waste stripping will materially reduce in coming months.
- A US\$9.0 million programme of capital works aimed at upgrading Edikan's crushing and milling circuits to increase availability and reduce maintenance costs and time has been completed. As frequently occurs when remedial works are started, the scope of work required was expanded to address unforeseen issues that emerged while the remedial works were being undertaken. This increase in scope led to the mill being shut down for 6 days longer than the originally scheduled 9 day shut-down period. Following the completion of the works, the mill run time has significantly improved and for the month of December to date, run time in excess of 94% has been achieved which compares very favourably with run time recorded in prior periods and well in excess of run time assumptions built into the Edikan life of mine plan.

### **Production Guidance**

Notwithstanding improvements in mill and crusher performance since the completion of the remedial works in October 2016, the shortfall of gold production due to the extended shutdown has not been recovered in December 2016 to date and as a result of this, combined with lower than forecast head grade of processed ore, gold production from Edikan in the December 2016 quarter will be lower than expected. As a consequence, production for the December 2016 Half Year will be below previous guidance of 80,000 to 100,000 ounces, and is now expected to be between 70,000 and 80,000 ounces. Production guidance for the June 2017 Half Year of 125-145,000 ounces of gold remains unchanged at this time. As a result of the expected reduction in gold production, it is anticipated that Edikan's AISC (which includes production costs plus royalties plus <u>all</u> sustaining and development capital costs) for the December Half Year will increase on a per ounce basis and may fall outside of the cost guidance range. The AISC for the December 2016 Half Year is now forecast to be between US\$1,550 to US\$1,650 per ounce.



### YAOURÉ GOLD PROJECT

### Definitive Feasibility Study

Work on the Yaouré DFS currently remains on track for completion in mid-2017, but achievement of this target is contingent on the timely completion of a 42,000 metre Mineral Resource definition drilling programme, the commencement of which has been delayed pending agreement of compensation arrangements for landowners who will be potentially impacted by the proposed development.

Discussions with landowners have been constructive to date with a specially constituted Landowner Compensation Committee, comprising representatives of landowners, the Company and the government in place. It is expected that a mutually satisfactory solution will be reached in time for drilling to commence prior to the end of December 2016.

### **Extension to Exploration Permits 168 and 397**

The terms of Exploration Permits 168 and 397, the two tenements in which the Yaouré gold deposits are located, have been extended for a period of two years from 1 December 2016. It is expected that within this two year period, Perseus will complete a DFS for Yaouré, negotiate a Mining Convention and will have applied for and been granted an Exploitation Permit for the development of Yaouré.

### SISSINGUÉ GOLD PROJECT

### Sissingué Mineral Resource Estimate

The initial estimate of Mineral Resources for the Tengréla Gold Project (or Sissingué as it is now known) was prepared in July 2010 by mining consultants Runge Limited ("Runge") in accordance with the 2004 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code).

As a part of Perseus's strategic review of Sissingué completed in early 2015, Snowden were tasked with revising a preliminary Mineral Resource estimate prepared by them in June 2013 in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code) and the CIM Definition Standards (CIM, 2005), taking into account newly acquired mining and metallurgical data. The results of this estimate, that was prepared as at October 2014, were as follows:

Mineral Resource Category	Quantity ('000 tonnes)	Grade (grams per tonne)	Contained Gold (ounces)
Measured	4,800	2.4	370,000
Indicated	11,000	1.4	510,000
Measured + Indicated	16,000	1.7	880,000
Inferred	1,100	1.7	63,000

### Table 1: Sissingué Mineral Resource Estimate – May 2015

This Mineral Resource estimate was used by Perseus as a basis for estimating an Ore Reserve and preparing a DFS for Sissingué in April 2015. Based on this DFS, Perseus decided, subject to financing, to proceed with the full scale development of Sissingué.



In anticipation of discussions with prospective debt financiers, Perseus undertook a review of the drill database that was used by both Runge and Snowden as a basis for the previous Mineral Resource estimates for Sissingué. This internal review identified a number of wet RC drill holes with possible downhole contamination that could potentially cause overstatement of the gold grade in specific holes or parts of holes. To determine the impact of the contaminated drill results on the Sissingué Mineral Resource estimate, Perseus undertook a drilling programme comprising 64 holes for 6,587 metres of diamond drilling programme. This programme and associated assaying was recently completed and Snowden has reviewed both the new and old drill data, and confirmed that contamination had occurred in some previous RC drill holes.

The contaminated data were withdrawn from the drill database and replaced with the new diamond drilling data. Snowden was then requested to re-estimate the Mineral Resource using the updated drill database.

The revised Mineral Resource estimate prepared by Snowden was reported in accordance with the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Refer to *Appendix 1* for Snowden's assessment of the JORC Table 1 assessment criteria. The Mineral Resource estimate is summarised in the following table that reports the Mineral Resources by category and area, above a 0.6 g/t gold cut-off grade. The classification categories of Inferred, Indicated and Measured under the JORC Code (2012) are equivalent to the CIM categories of the same name (CIM, 2010).

In summary, the updated global Measured and Indicated Mineral Resource for Sissingué is now estimated as 13.0 Mt grading at 1.6 g/t gold, containing 700 kozs of gold. A further 0.9 Mt of material grading at 1.9 g/t gold and containing a further 58 kozs of gold are classified as Inferred Resources. Details of these estimates are shown below in Table 2.

Category	Area	Tonnage	Grade	Contained
		('000t)	(g/t Au)	Gold (koz)
	Oxide	780	1.9	48,000
Measured	Transitional	590	1.9	36,000
	Fresh	2,900	2.1	200,000
Total Measured		4,300	2.1	290,000
	Oxide	2,400	1.3	100,000
Indicated	Transitional	670	1.4	29,000
	Fresh	5,900	1.5	280,000
Total Indicated		8,900	1.4	410,000
Mossurad	Oxide	3,200	1.5	150,000
Indicated	Transitional	1,300	1.6	66,000
mulcateu	Fresh	8,800	1.7	480,000
Total Measured + Indicated Resource		13,000	1.6	700,000
	Oxide	230	1.2	8,500
Inferred	Transitional	57	1.0	1,800
	Fresh	660	2.3	48,000
Total Inferred Resource		940	1.9	58,000

### Table 2: Sissingué Mineral Resource Estimate – December 2016

Notes: Mineral Resources are inclusive of Ore Reserves. Mineral Resources are reported to two significant figures. Rounding may cause minor discrepancies in the table. Oxide includes small portions of laterite (115 kt total).



### Geology

The Sissingué deposit is defined by a 4 km long and up to 1.5 km wide gold-in-soil anomaly situated on the Syama-Boundiali Greenstone Belt. Rocks encountered in outcrops and drilling comprise predominantly north-northeast striking, steeply west dipping and isoclinally folded metasedimentary rocks (sandstones, mudstones and subordinate conglomerates) of the Birimian Supergroup. The metasedimentary rocks are cross cut by a swarm of narrow porphyritic dykes (sub-metre to several metres thick) that trend obliquely to the sedimentary package northwest with sub-vertical or steep to moderate dips towards the east. The area of the main Sissingué resource also features two irregularly shaped granitic bodies that appear to pre-date intrusion of the porphyritic dykes.

Gold mineralisation at Sissingué is hosted by the porphyritic dykes, by the granitoid rocks and by coarser grained beds (sandstones and conglomerates) in the metasedimentary rocks proximal to the intrusive bodies. Mineralisation occurs as disseminations of pyrite and lesser arsenopyrite in sericite-carbonate alteration zones. Highest gold grades are typically associated with spaced quartz-carbonate veins and increased concentrations of arsenopyrite.

### **Drilling Techniques**

The input dataset used for the Sissingué Mineral Resource estimate contained 1,654 reverse circulation (RC) drill holes for 122,889 m, 379 diamond drill holes for 77,055 m and 18 diamond drill holes with RC pre-collars for 2,163 m.

RC drilling (5¼" diameter) was usually 80 m or less in depth. Generally RC holes have only the collar azimuth and inclination measured.

Diamond drilling was HQ diameter in weathered rock and NQ in fresh rock. All diamond holes are downhole surveyed at 30 m intervals. 43 holes were oriented by core spear and 217 holes were oriented by an "AceTool" device.

The steep nature of the mineralisation and sometimes limited drill access meant that holes were at a moderate to low angle to the mineralisation. True thickness of intersections is typically half the downhole thickness.

### Sampling

All RC samples were collected at the drill site at 1 m intervals and split using a multi-stage riffle splitter. Each two consecutive samples were composited (where applicable) in one bag. Sample weights were nominally 2.5 kg and 5 kg for 1 m and 2 m samples respectively.

Diamond core was sawn in half using a motorised diamond blade saw, with the right half sent for assaying and the left half stored in core trays for reference. 1 m samples were taken in fresh material and 1.5 m in oxide and transition.

Both core and RC samples followed a sample preparation path involving drying, crushing and grinding. Samples were pulverised with a ring mill and thoroughly mixed on a rolling mat ("carpet roll"), and then 200 g of sub-sample was collected. Internal laboratory checks required at least 90% of the pulp passing -75 microns. A 40 g to 50 g charge was produced for subsequent analysis of gold by fire assay.

Perseus observed that core and RC samples showed very acceptable recoveries. Some RC samples at depth were identified as having downhole contamination and resultant smearing of grades as a result of wet drilling in 'sticky' material, with the samples being 'hung up' in the cyclone and subsequently contaminating later samples.



As a result of this, all RC holes in the pit area were reviewed and any suspected of containing smeared assays were removed from the dataset prior to estimation. Approximately 5% of RC samples were removed due to suspected downhole contamination. In addition, 2016 drilling focused on diamond drill holes to confirm areas with RC drilling in the core of the deposit.

With the exception of the issue noted above, Snowden and Perseus consider the sub-sampling is appropriate and representative.

### Sample Analytical Methods

Three analytical laboratories have been used to assay samples from the Sissingué project: ALS Chemex Laboratories (Bamako, Mali), Intertek Minerals Ltd (Tarkwa, Ghana), and Bureau Veritas Minerals Laboratory (Bamako, Mali and Abidjan, Côte d'Ivoire).

Two types of analysis for gold were performed, a standard fire assay using a 40 g to 50 g sub-sample, and BLEG (bulk leach extractable gold) bottle roll using a 1 kg sub-sample. Both methods were read by AAS with a detection limit of 0.01 g/t Au.

The first 26 RC holes were analysed by bottle roll, however, analysis of the tails showed that, on average, 20% of the gold was not recovered with this method. Subsequently, almost all samples were analysed by fire assay. In total, 3,168 RC samples and 154 diamond core samples (from 2 drill holes) were analysed by bottle roll.

Certified reference material (blanks and standards) were submitted into the sample stream at a rate of 1 in 20 to 25 samples (1 in 50 prior to 2008). Duplicate samples of RC chips were taken at a rate of 1 in 25. QAQC shows no bias, but only moderate reproducibility, particularly at high grades. This is as expected given the nugget mineralisation.

### **Estimation Methodology**

The Mineral Resource was estimated using ordinary kriging and multiple indicator kriging using CAE Studio (Datamine) software.

Estimation was constrained within mineralisation envelopes (wireframes) based on geological logging and grade thresholds. The three main host lithologies are granite, porphyritic dykes and sediments. Where geological contacts were not clearly controlling the distribution of mineralisation, a grade cut-off of 0.3 g/t Au was used to construct domain boundaries. Analysis of the global grade distribution shows that there is a natural change in grade population at around 0.3 g/t Au.

Due to the highly skewed nature and mixed populations evident in the granites and sediments, multiple indicator kriging (MIK) was used to estimate gold grades.

Ordinary kriging with top cuts was used to estimate the lower grade dyke domains. A dynamic anisotropy approach was used, whereby the true dip and azimuth of the mineralised lodes was estimated into each block in the model and the search and variogram orientations were locally adjusted to reflect the geological orientation. This method allows the estimate to better reflect the changing orientation and undulating nature of some of these dykes along strike.

Parent block dimensions of 10 mE by 10 mN by 5 mRL were used for estimation. All samples were composited to 2 m prior to estimation.



### **Criteria for Mineral Resource Classification**

The Sissingué Mineral Resource has been classified in the Measured, Indicated and Inferred categories, in accordance with the 2012 JORC Code and the CIM Definition Standards (CIM, 2005). A range of criteria has been considered in determining this classification including geological and grade continuity, data quality and drill hole spacing.

The key classification criteria are described as follows:

- Geological continuity is understood with reasonable confidence. The classification reflects this level of confidence. Porphyry lithologies (dyke domains) were limited to Inferred and Indicated categories due to the mostly narrow nature of the mineralised bodies and consequently their sensitive geometry.
- Resource classification is based on information and data provided from the Perseus database. Descriptions of drilling techniques, survey, sampling, sample preparation, analytical techniques and database management/validation provided indicate to Snowden that data collection and management is well within industry standards. The database represents an accurate record of the drilling undertaken at the project.
- Drill hole location plots have been used to ensure that local drill spacing conforms to the minimum expected for the various resource classification categories.
  - The Measured category requires a drill spacing of 20 m by 20 m or closer.
  - The Indicated category is confined to areas where drill spacing is greater than 20 m by 20 m, but nominally up to 20 m (east-west) by 40 m (north-south) spacing. In the dyke domains, in addition to the drill spacing constraints, a minimum of two drill hole intercepts per drill section is required.
  - The Inferred category is assigned to all other estimated blocks within the potentially economic areas of the deposit.
  - Trial optimisation was run on the 2014 Mineral Resource at a USD2,400 gold price to define the base of potentially economic open-pittable material. All blocks outside this shell are unclassified. Snowden considers that this shell is also appropriate to constrain the 2016 Mineral Resource.
- Snowden considers the estimation technique and parameters appropriate for this style of mineralisation.

### Cut-Off Grade

The reporting cut-off is based on optimisation studies carried out by Perseus as part of the 2010 Feasibility Study, which have suggested that the deposit can be economically extracted at a gold cut-off in the range 0.4 g/t to 0.6 g/t.

### Mining and Metallurgical Methods and Parameters

Trial open pit optimisation was run on the 2014 Mineral Resource in Whittle at a USD2,400 gold price (approximately double the current spot price) to define the base of potentially economic openpittable material for the Mineral Resource.



The metallurgical work carried out to date indicates that gold can be satisfactorily recovered from Sissingué ore using conventional CIL extraction techniques. The work is considered sufficient to determine that the Sissingué resource represents a deposit capable of economic extraction.

### Bélé Mineral Resource Estimate

In conjunction with the re-estimation of the Sissingué Mineral Resource, Snowden was also requested to estimate the Mineral Resources contained in the Bélé mineral deposit that was drilled with a series of RC and diamond drill programmes during the period from 2013 to 2016. Snowden's resource estimate was prepared in accordance with the 2012 JORC Code. (Refer to <u>Appendix 2</u> for Snowden's assessment of the JORC Table 1 assessment criteria. The Mineral Resource estimate is summarised in the following table that reports the Mineral Resources by category and area, above a 0.8 g/t gold cut-off grade. The Inferred classification category under the JORC Code (2012) is equivalent to the CIM category of the same name (CIM, 2010).

The Bélé deposit comprises two main areas of mineralisation: Bélé East and Bélé West. In summary, the global Inferred Mineral Resource for Bélé East and West is estimated as 5.2 Mt grading 1.6 g/t gold, containing 260 Kozs of gold. Details of these estimates are shown below in Table 3.

	ierar nesource Estimate			
Category	Area	Tonnage	Grade	Contained
		(kt)	(g/t Au)	Gold (koz)
	Laterite	2,800	1.5	140
	Completely oxidised	400	1.4	18
Pálá Wost	Partially oxidised	160	1.3	7
Inferred	Moderately	130	1.5	6
	weathered			_
	Transitional	35	1.6	2
	Fresh	11	1.6	1
Total Bélé West		3,500	1.5	170
	Laterite	1,300	1.6	68
	Completely oxidised	150	1.7	8
Róló Eact	Partially oxidised	57	1.7	3
Dele Edst	Moderately	120 <b>1.6</b>	16	6
Interreu	weathered		1.0	0
	Transitional	33	1.5	2
	Fresh	13	1.5	1
Total Bélé East		1,700	1.6	88
	Laterite	4,100	1.6	210
Total Inferred	Completely oxidised	550	1.5	26
	Partially oxidised	220	1.4	10
	Moderately	240	16	12
	weathered	240	1.0	12
	Transitional	68	1.5	3
	Fresh	23	1.5	1
Total Inferred Re	source	5,200	1.5	260

### Table 3: Bélé Mineral Resource Estimate – December 2016

Notes: Mineral Resources are inclusive of any Ore Reserves. Mineral Resources are reported to two significant figures. Rounding may cause minor discrepancies in the table.



### Geology

The Bélé gold deposits are located within a north-westerly striking splay off the Syama-Boundiali Greenstone Belt. At Bélé, Birimian aged rocks comprise a sequence of metasedimentary rocks and subordinate mafic volcanics that have been intruded by a nearly circular granitoid body approximately 4 km in diameter. The sequence has also been intruded by numerous felsic dykes of various compositions.

Gold mineralisation at both Bélé East and Bélé West is associated with deformation zones developed at and adjacent to the margins of the granitoid intrusion. Gold is associated with disseminated pyrite and lesser pyrrhotite hosted by both mafic and felsic lithologies where they feature chloritesericite-calcite alteration. Vein-hosted mineralisation is rare.

Bélé West mineralisation is interpreted to extend around 1 km in strike, 140 m across strike and to a depth of 150 m. Bélé East mineralisation extends around 500 m along strike, 150 m across strike and to a depth of 170 m. The currently defined mineralisation in both areas is open at depth but appears to be closed out along strike.

### Drilling Techniques

The Bélé drill hole data includes RC, diamond and aircore drill holes. Aircore drill holes were used as a guide to interpretation but were not used for estimation due to the poor quality of aircore samples.

Drilling includes 834 aircore drill holes for 22,103 m, 257 RC drill holes for 21,763 m and 23 RC drill holes with diamond tail for 3,374.72 m.

RC drilling (5¼" diameter) was usually 80 m or less in depth. Generally RC holes only have the collar azimuth and inclination measured.

Diamond drilling was NQ diameter in fresh rock only. All diamond holes are downhole surveyed at 30 m intervals. Downhole surveys were conducted by the drill contractors using a FlexIT tool.

Orientation of drill holes is approximately perpendicular to the strike of the geology and mineralisation at Bélé West. At Bélé East, drill holes are angled to cross the steep dip of the geological domains. At Bélé East, 12 early RC holes have been drilled along exploration fences oriented towards the east and hence sub-parallel to the mineralisation. Three of these holes intercepted significant mineralisation. These intercepts have been verified by holes drilled in the opposite direction.

### Sampling

All RC samples were collected at the drill site at 1 m intervals and split using a multi-stage riffle splitter. Each two consecutive samples were composited (where applicable) in one bag. Sample weights were nominally 2.5 kg and 5 kg for 1 m and 2 m samples respectively.

Diamond core was sawn in half using a motorised diamond blade saw, with the right half sent for assaying and the left half stored in core trays for reference. 1 m samples were taken in fresh material and 1.5 m in oxide and transition.

Both core and RC samples followed a sample preparation path involving drying, crushing and grinding. Samples were pulverised with a ring mill and thoroughly mixed on a rolling mat ("carpet roll"), and then 200 g of sub-sample was collected. Internal laboratory checks required at least 90%



of the pulp passing -75 microns. A 40 g to 50 g charge was produced for subsequent analysis of gold by fire assay.

Perseus observed that core and RC samples showed very good recoveries. Given the issues with downhole contamination in the RC drilling at the nearby Sissingué deposit, there is currently diamond drilling underway at Bélé to confirm the RC results. This drilling is expected to be completed at the end of 2016.

With the exception of the potential issue noted above, Snowden and Perseus consider the subsampling is appropriate and representative.

### Sample Analytical Methods

All sample preparation and assaying was carried out by Bureau Veritas Minerals Laboratory (BVML), an independent commercial laboratory in Abidjan, Côte d'Ivoire with the head office in Paris, France.

Two types of analysis for gold were performed, a standard fire assay using a 40 g to 50 g sub-sample, and BLEG bottle roll using a 1 kg sub-sample. Both methods were read by AAS with a detection limit of 0.01 g/t Au. The first 13 RC holes were assayed by 1 kg 24-hour bottle roll, with all subsequent diamond core and RC samples assayed by 50 g fire assay.

Certified reference material (blanks and standards) were submitted into the sample stream at a rate of 1 in 20 to 25 samples. One to two duplicate samples of RC chips were taken from each drill hole. QAQC shows no bias and overall assaying quality is considered adequate by Perseus. Snowden has not independently reviewed the QAQC for Bélé.

### **Estimation Methodology**

The Mineral Resource was estimated using CAE Studio (Datamine) software. Estimation was constrained within mineralisation envelopes (wireframes) defined based on a nominal 0.2 g/t Au to 0.5 g/t Au cut-off together with the geological logging and lithology interpretation. The cut-off used for the interpretation is observed as a population change in the global log-probability plot. The mineralisation domains were used as hard boundaries to control estimation.

Estimation of gold grades was carried out using ordinary kriging with top cuts applied to limit the influence of outliers. Parent blocks of 10 mE by 10 mN by 5 mRL in Bélé West and 10 mE by 10 mN by 10 mRL in Bélé East were derived from a kriging neighbourhood analysis together with the geometry of the orebody.

Dynamic anisotropy was used for estimation, whereby the local dip and azimuth of the mineralised lodes was estimated into each block in the model and the search and variogram orientations were locally adjusted to reflect the geological orientation. This method allows the estimate to better reflect the changing orientation and undulating nature of the lodes.

### Criteria for Resource Classification

The Bélé Mineral Resource has been classified as an Inferred Mineral Resource, in accordance with the 2012 JORC Code and the CIM Definition Standards (CIM, 2005).

### Cut-Off Grade

The Mineral Resource has been reported by resource classification and weathering above a 0.8 g/t Au cut-off. The reporting cut-off is based on preliminary engineering work which indicates a 0.75 g/t Au to 0.85 g/t Au cut-off will be applicable for mining, depending on the degree of weathering.



### Mining and Metallurgical Methods and Parameters

The metallurgical work carried out to date indicates that gold can be satisfactorily recovered from Bélé ore using conventional CIL extraction techniques as per the nearby Sissingué deposit. The work is considered sufficient to determine that the Bélé resource represents a deposit capable of economic extraction.

As shown above, at this stage Snowden has classified all of the Bélé Mineral Resources as Inferred until a comprehensive assessment of the drill data is completed to confirm its veracity. Further core drilling is currently in progress at the Bélé East and Bélé West deposits to infill the Mineral Resource to allow Measured and Indicated Mineral resources to be defined, to validate the existing RC drill data and to complete some extensional drilling. It is expected that this drilling will be completed by the end of December 2016. The Mineral Resource estimate will then be updated and an initial Ore Reserve estimate for the Bélé deposits is expected to be produced in the first quarter of 2017. Metallurgical test work has been completed on the Bélé ore types, with recoveries and costs expected to be similar to those for the Sissingué ore types.

### Implications of Sissingué and Bélé Mineral Resource Updates

Based on the above estimates, it is apparent that the gold content of the Measure and Indicated Mineral Resource at Sissingué has been reduced by approximately 180,000 ounces or 20% as a result of a decision to discount a quantity of drill results due to drill hole contamination. However, depending on the conversion rate of the Bélé Inferred Mineral Resource into Measured and Indicated categories, the combined Measured and Indicated Mineral Resource for Sissingué plus Bélé and may be very similar to the original Sissingué Measured and Indicated Mineral Resource estimate of 880,000 ounces.

Based on preliminary optimisation studies on the Sissingué Mineral Resource, it appears likely that the approximately 20% metal shortfall in the Mineral Resource will translate to a reduction in the Sissingué Ore Reserve of a similar order of magnitude, although until detailed mine planning based on recently tendered mining costs and other revised mining and processing parameters is completed, this assessment cannot be confirmed.

In addition to the drilling programmes that are currently in progress at Bélé East and Bélé West, drilling of two more exploration targets located on the Sissingué exploitation permit area, namely Papara and Katara, is also planned for the March 2017 quarter. These drilling programmes are aimed at delineating additional Mineral Resources and Reserves that can be economically processed through the Sissingué processing facility in due course.

### **Project Debt Financing**

Perseus has previously announced that the Company intended to fund the development of Sissingué using a mix of US\$60 million of project debt finance and US\$40 million of internally generated cash and existing cash reserves.

Given the uncertainty associated with the Sissingué Ore Reserve created by the re-estimation of the Sissingué Mineral Resource as described above, Perseus has decided to reduce the level of project debt finance that is sought to finance the construction of Sissingué with the balance of development funding to come from internal sources including cash flow and cash reserves.



### Modified construction schedule

To date, the development of Sissingué is currently running in accordance with the master schedule and in line with budget. To the end of November 2016, US\$38.8 million had been spent, leaving approximately US\$70.8 million of the total budget of US\$109.6 million (inclusive of all early works and holding costs) to be spent.

Detailed engineering is largely complete as is the procurement of all long lead items of plant and equipment. The construction team has mobilised to site and works are underway on the pouring of concrete works associated with the plant as well as the installation of underground services. The proportion of development works being managed by Perseus's in-house construction team is also underway with works on the construction of the airstrip, tailings dam and mine camp well advanced.

To accommodate the planned change in funding mix, Perseus, in conjunction with its major contracting group, Lycopodium, and its in-house construction team has reassessed its engineering, procurement and construction schedule and has implemented a plan to manage project development expenditure to align more closely with the Company's available funding capacity. As a result of the above, the projected date of production of first gold from Sissingué has been moved back approximately 4 months from October 2017 to the end of February 2018.

### CORPORATE

### **Cash and Bullion**

Based on the gold price of US\$1,178.10/ounce and an A\$:US\$ exchange rate of 0.7452 as at 30 November 2016, the total value of available cash and bullion on hand at 30 November 2016 was \$84.3 million. This sum is A\$52.6 million less than the balance of cash and bullion as at 30 September 2016 and largely reflects heavy capital investment at both Edikan and Sissingué as well as the production shortfall at Edikan during the period.

### Debt

At the date of this Market Release, Perseus had no debts other than creditors that are payable in the ordinary course of business.

### **Gold Price Hedging**

At 30 November 2016, gold forward sales contracts were in place for 176,880 ounces of gold at US\$1,280 per ounce. This includes 100,000 ounces of hedging at an average price of US\$1,307 per ounce that is specifically earmarked to support the proposed debt financing of the Sissingué development.

To discuss any aspect of this announcement, please contact:

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### **Competent Person Statement:**

Production targets for the EGM referred to in this report are underpinned by estimated Ore Reserves which have been prepared by competent persons in accordance with the requirements of the JORC Code. The Company confirms that all material assumptions underpinning those production targets, or the forecast financial information derived from those production targets, in its market release dated 19 April 2016 and its 2016 Financial Statements released on 29 August 2016 continue to apply and have not materially changed. Refer "Technical Report — Central Ashanti Gold Project, Ghana" dated 30 May 2011. Steffen Brammer and Paul Thompson, each of whom is a Qualified Person as defined in NI 43-101 and an employee of the Company, have approved the inclusion of technical and scientific information in this report.

The information in this report and the attachments that relates to the 2016 SGM and Bélé Mineral Resource estimates is based on information compiled by Lynn Olssen a Competent Person who is a Chartered Professional (Geology) and a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM), and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Ms Olssen has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she has undertaken to qualify as a Competent Person as defined in the JORC Code 2012 and a Qualified Person as defined in NI43-101.Ms Olssen has no economic, financial or pecuniary interest in the company. Ms Olssen consents to the inclusion in this report of the matters based on her information in the form and context in which it appears and has approved the inclusion of technical and scientific information in this report.

### **Caution Regarding Forward Looking Information:**

This report contains forward-looking information which is based on the assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management of the Company believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. Assumptions have been made by the Company regarding, among other things: the price of gold, continuing commercial production at the Edikan Gold Mine without any major disruption, development of a mine at Sissingué and/or Yaouré, the receipt of required governmental approvals, the accuracy of capital and operating cost estimates, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used by the Company. Although management believes that the assumptions made by the Company and the expectations represented by such information are reasonable, there can be no assurance that the forward-looking information will prove to be accurate. Forwardlooking information involves known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any anticipated future results, performance or achievements expressed or implied by such forward-looking information. Such factors include, among others, the actual market price of gold, the actual results of current exploration, the actual results of future exploration, changes in project parameters as plans continue to be evaluated, as well as those factors disclosed in the Company's publicly filed documents. The Company believes that the assumptions and expectations reflected in the forward-looking information are reasonable. Assumptions have been made regarding, among other things, the Company's ability to carry on its exploration and development activities, the timely receipt of required approvals, the price of gold, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers should not place undue reliance on forward-looking information. Perseus does not undertake to update any forward-looking information, except in accordance with applicable securities laws.

## JORC 2012 Table 1 – Section 1 sampling techniques and data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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 downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Sissingué data used for estimating the Mineral Resource includes:         <ul> <li>1,654 RC drill holes for 122,889 m.</li> <li>379 diamond drill holes for 77,055 m.</li> <li>18 diamond drill holes with RC pre-collars for 2,163 m.</li> </ul> </li> <li>RC drilling (5¼" diameter) was used to collect 1 m samples. Majority composited to 2 m samples (by weighing); close spaced infill submitted as 1 m samples. Sample weight nominally of 2.5 kg and 5 kg respectively.</li> <li>Half-core from diamond drill holes ('right' side systematically taken; 1.5 m in oxide and transition, 1 m in fresh).</li> <li>50 g charge produced for fire assay.</li> </ul>
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.).	<ul> <li>RC drilling (5¼" diameter), usually 80 m or less in depth. Generally RC holes have collar azimuth and inclination only measured.</li> <li>Diamond drilling, HQ in weathered rock, NQ in fresh rock. All diamond holes downhole surveyed at 30 m intervals.</li> <li>43 holes oriented by core spear; 217 holes oriented by "AceTool" device.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>1 m RC samples weighed and composited to 2 m.</li> <li>Length of recovered diamond core measured and recovery calculated based on run length; close to 100% recovery for virtually all core in fresh rock.</li> <li>There is no apparent relationship between sample recovery and grade for diamond drilling.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>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.</li> </ul>	• RC drill chip boards were prepared and the chips logged geologically, including rock type, alteration type and intensity (where recognisable), vein quartz content in estimated percentage, sulphide mineralisation and estimated content and weathering domain.
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Diamond drill core was geologically and structurally logged and photographed, before being sawn in half, including fault, fold, cleavage and joint orientation, lithological contacts, vein orientation and bedding. Logged items are lithology, weathering, colour, grain size, vein type and vein volume percentage, sulphide mineralisation and their estimated percentage, alteration and alteration intensity.</li> <li>All sample intervals in both RC and diamond holes were sampled and assayed.</li> </ul>
		Logging is considered appropriate and reliable.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>RC samples were collected at the drill site at 1 m interval and split using a multi-stage riffle splitter. Each two consecutive samples were composited (where applicable) in one bag. Wet samples were sub-sampled using a spear.</li> <li>Diamond core sawn in half using a motorized diamond blade saw; right half sent for assaying, left half stored in core trays for reference.</li> <li>Both core and RC samples followed a standard path of drying, crushing and grinding. Samples were pulverised with a ring mill and thoroughly mixed on a rolling mat ("carpet roll"), and then 200 g of sub-sample was collected. Internal laboratory checks required at least 90% of the pulp passing -75 µm.</li> <li>Some RC samples at depth were identified as having downhole contamination and resultant smearing of grades as a result of wet drilling in 'sticky' material, with the samples being 'hung up' in the cyclone and subsequently contaminating later samples. As a result of this, all RC holes in the pit area were reviewed and any suspected of containing smeared assays were removed from the dataset prior to estimation. Approximately 5% of RC samples were removed due to suspected downhole contamination. In addition, 2016 drilling focused on diamond drill holes to confirm areas with RC drilling in the core of the deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>A small number of initial holes were assayed by bottle roll, which was found to be partial and inaccurate.</li> <li>All subsequent assaying by standard Fire Assay.</li> <li>Field duplicates (RC only) inserted at 1 in 25.</li> <li>No field duplicates for DD as ¼ core considered as inadequate sample, and submission remaining ½ core considered undesirable.</li> <li>Blanks inserted at 1 in 25.</li> <li>Certified standards at 1 in 50 up to 2008; thereafter at 1 in 20.</li> <li>Internal laboratory standards, duplicates and repeats and various other tests have been carried out throughout the drilling programs.</li> <li>QAQC shows no bias, but only moderate reproducibility, particularly at high grades. This is as expected with the nugget mineralisation.</li> <li>Overall assaying quality is considered acceptable with the exception of the potential smearing in some RC samples which were subsequently removed from the dataset prior to estimation as previously discussed.</li> </ul>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>During the 2016 drilling program, Perseus drilled a number of diamond drill holes to confirm the grade tenor and check RC drill holes suspected of downhole contamination and smearing. As a result of this program, approximately 5% of RC samples were removed from the dataset where the RC grades were not supported by the diamond.</li> <li>Drill hole information for both RC and diamond core holes is captured at the drill site on paper.</li> <li>All hard copies are handed over to the database administrator in Tengréla site office and the information provided on paper is entered into the computer.</li> <li>All hard copies are kept in Tengréla site office.</li> <li>Downhole survey data and collar survey data are provided by the drilling contractors and surveyors respectively in digital format.</li> <li>Perseus maintains a centralised database for its various operations in Ghana and Côte d'Ivoire. Database administration is based in Perseus' head office in Accra/Ghana and under the supervision of the company's Resource Geologist.</li> <li>No adjustments were made to the raw assay data with the exception of the removal of any RC samples with suspected smearing of grades as previously discussed. Top cutting is only applied after database compositing and statistical analysis and prior to resource estimation.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All RC and diamond holes were surveyed using differential GPS, until September 2009 by a certified contract surveyor (SEMS Exploration Services Ltd, Ghana). Drill holes between September 2009 and October 2010 were surveyed by CBM Surveys Ltd of Ghana. All subsequent drill holes were surveyed by the company's surveyor.</li> <li>Grid system used is WGS84 UTM 29N.</li> <li>The topography covering the extent of the Sissingué Mineral Resource model was created as a digital terrain model (DTM) in Surpac using the accurately-surveyed drill hole collar data and an additional 639 survey points across the prospect.</li> </ul>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Data spacing for resource estimation varies from 10 m x 10 m to 20 m x 20 m for most areas of the deposit.</li> <li>Where data spacing is wider (to a maximum of 40 m x 40 m), an Inferred classification is used.</li> <li>Data spacing is sufficient to establish grade and geological continuity appropriate to the resource estimation procedures and classifications applied.</li> <li>Samples have been composited (by computer) to 2 m, honouring geological divisions.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Orientation of drilled section lines is dominantly at right angles to the strike of the geology and mineralisation domains.</li> <li>Drillholes are angled to cross the sub-vertical dip of the geological domains.</li> <li>Disseminated mineralised veins have developed within the overall geological domains; the estimation method is considered to account for this.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>Samples from RC drilling are collected and bagged at drill site during the drilling operation. Core samples are cut in a central facility in Tengréla and samples placed into sample bags as they are cut.</li> <li>All samples are then catalogued and placed in large woven bags and sealed prior to dispatch to ALS, Intertek or BVML for preparation and analysis.</li> <li>Dispatch from site to Korhogo (Intertek) is undertaken by Perseus staff and vehicles.</li> <li>Samples dispatched to ALS and BVML are collected from Tengréla by staff and vehicles of the respective laboratories.</li> <li>All aspects of the process are supervised by Perseus personnel and limited opportunity exists for tampering with samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>Steffen Brammer of Perseus has reviewed sample techniques and data during regular site visits between 2008 and 2013, and considers them adequate.</li> </ul>
		<ul> <li>Reviews were also carried out by personnel from consulting company Runge Limited during 2009 and 2010, and Mr L Widenbar of Widenbar &amp; Associates in October 2012 with acceptable conclusions.</li> </ul>
		<ul> <li>Snowden visited site during December 2016 and reviewed the drilling and sampling procedures being carried out at the nearby Bélé deposit. These procedures are the same as those used for the latest Sissingué drilling program and Snowden considers them adequate. For the 2016 drilling, where RC drilling is used, the RC drilling is conducted until wet samples are returned, at which point the drilling is changed to diamond drilling to avoid the contamination of RC samples.</li> </ul>

### JORC 2012 Table 1 – section 2 reporting of exploration results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Sissingué Mineral Resource lies within mining permit PE39 (Permit d'Exploitation Sissingué).</li> <li>Perseus holds an 86% interest in PE39 through the Company's wholly owned subsidiary Perseus Mining Côte d'Ivoire SA. The government of Côte d'Ivoire holds a 10% free carried interest in the property and the remaining 4% interest is held by local joint venture partner Société Minière de Côte d'Ivoire (SOMICI).</li> <li>The mining permit is valid for 6 years until August 2018 and is renewable.</li> <li>The Government of Côte d'Ivoire is entitled to a royalty on production as follows:</li> </ul>
		Spot price per ounce - London PM Fix Royalty Rate
		Less than or equal to US\$1000 3%
		Higher than US\$1000 and less than or equal to US\$13003.5%
		Higher than US\$1300 and less than or equal to US\$16004%
		Higher than US\$1600 and less than or equal to US\$20005%
		Higher than US\$2000 6%
		<ul> <li>Franco Nevada are entitled to a 0.5% royalty on production.</li> <li>The Sissingué Project area has no known environmental liabilities.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>All exploration was by Perseus using soil geochemical sampling, with follow-up drilling in areas with anomalous gold mineralisation, which led to the discovery of the Sissingué deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>The Sissingué Deposit occurs in a strongly deformed Birimian greenstone belt intruded by granitoid bodies.</li> <li>Gold mineralisation at Sissingué is associated with the porphyritic dykes of tonalitic chemistry that cross cut the flysch sediments (turbidites).</li> </ul>
		• Subsequent hydrothermal activities and metasomatism of the tonalite has led to a sericite-carbonate alteration within the intrusives and the more permeable horizons (sandstones and conglomerates) of the turbidites, and a low to moderate grade disseminated gold mineralisation.
		Late stage high grade Au-As-quartz-carbonate veins exploited the altered and brittle portions of the intrusives and sediments with common occurrences of visible gold.
Drill hole Information	<ul> <li>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:</li> </ul>	Exploration results are not being reported for the Mineral Resource area.
	<ul> <li>Easting and northing of the drill hole collar.</li> </ul>	
	<ul> <li>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar.</li> </ul>	
	Dip and azimuth of the hole.	
	<ul> <li>Downhole length and interception depth.</li> </ul>	
	Hole length.	
	<ul> <li>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.</li> </ul>	
Data aggregation methods	<ul> <li>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.</li> </ul>	Exploration results are not being reported for the Mineral Resource area.
	<ul> <li>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.</li> </ul>	
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').</li> </ul>	<ul> <li>Exploration results are not being reported for the Mineral Resource area.</li> <li>Orientation of drilled section lines is dominantly at right angles to the strike of the geology and mineralisation domains.</li> <li>Drillholes are angled to cross the sub-vertical dip of the geological domains.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Location plans and example sections are included in the Mineral Resource technical documentation.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	Exploration results are not being reported for the Mineral Resource area.
Other substantive exploration data	<ul> <li>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.</li> </ul>	Exploration results are not being reported for the Mineral Resource area.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Exploration results are not being reported for the Mineral Resource area.</li> <li>A Feasibility Study has been carried out at Sissingué. The Ore Reserve and pit designs will be updated with this latest Mineral Resource. Exploration over possible satellite deposits is currently on-going.</li> </ul>

### JORC 2012 Table 1 – Section 3 estimation and reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>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.</li> </ul>	<ul> <li>Perseus maintains a centralised database for its various operations in Ghana and Côte d'Ivoire. Database administration is based in Perseus' head office in Accra/Ghana and under the supervision of the company's Resource Geologist.</li> </ul>
	Data validation procedures used.	<ul> <li>Perseus carried out detailed validation of the dataset and retain overall responsibility for the database quality. All drill hole data was validated during data entry by Perseus including:</li> </ul>
		<ul> <li>Checks for duplicate collars (LogChief, Datashed).</li> </ul>
		<ul> <li>Checks for missing samples (Datashed).</li> </ul>
		<ul> <li>Checks for down hole from-to interval consistency (LogChief, Datashed).</li> </ul>
		<ul> <li>Checks for overlapping samples (LogChief, Datashed).</li> </ul>
		<ul> <li>Checks for samples beyond hole depth (LogChief, Datashed).</li> </ul>
		<ul> <li>Checks for inexistent or misspelt log items (LogChief).</li> </ul>
		<ul> <li>Check for missing assays (Datashed).</li> </ul>
		<ul> <li>Check for down-hole information beyond hole depth (Datashed).</li> </ul>
		<ul> <li>Snowden carried out a basic statistical and visual validation prior to estimation including:</li> </ul>
		<ul> <li>Drillholes with overlapping sample intervals.</li> </ul>
		<ul> <li>Sample intervals with no assay data.</li> </ul>
		<ul> <li>Duplicate records.</li> </ul>
		<ul> <li>Assay grade ranges.</li> </ul>
		<ul> <li>Collar coordinate ranges.</li> </ul>
		<ul> <li>Valid hole orientation data.</li> </ul>
		<ul> <li>No validation issues were found with the data and Snowden considers the data to be appropriate for estimation.</li> </ul>
		<ul> <li>In addition, Snowden reviewed all RC samples within the pit area to assess them for potential downhole contamination and resultant smearing. Any samples suspected of containing smeared assays were removed from the dataset prior to estimation. This impacts approximately 5% of RC samples.</li> </ul>

Criteria	JORC Code explanation	Commentary
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Steffen Brammer of Perseus has undertaken regular site visits between 2008 and 2013. Steffen has reviewed the geology and data collection processes during this time,</li> <li>Lynn Olssen (Senior Principal Consultant) of Snowden Mining Industry Consultants visited site during December 2016. Lynn reviewed the drilling and sampling procedures for diamond and RC drilling at the nearby Bélé deposits. Lynn also visited the Sissingué site and core shed and reviewed the diamond core sampling processes and diamond core, RC chip boards, logging procedures and general site layout.</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>Mineralisation was domained by its host lithology for modelling. The three main host lithologies are granite, porphyritic dykes and sediments. Mineralised sediments in the alteration halo of the dykes were included in the dyke domain to maintain a minimum width of the wireframes and to maintain continuity along strike.</li> <li>Where geological contacts were not clearly controlling the distribution of mineralisation, a grade cut-off of 0.3 g/t Au was used to construct Mineral Resource boundaries and to provide overall geometry to mineralised zones. A minimum of 4 m width was used for the wireframes and samples of grades below the nominal cut-off of 0.3 g/t Au were included where the wireframe would otherwise be less than 4 m wide. Analysis of the global grade distribution shows that there is a natural change in grade population at around 0.3 g/t Au.</li> <li>Geological continuity of the granite and sediment domains is understood with reasonable confidence. The classification reflects this level of confidence.</li> <li>Porphyry lithologies (dyke domains) were limited to Inferred and Indicated categories due to the mostly narrow nature of the mineralised bodies and consequently the decreased confidence in their geometry.</li> <li>Continuity and variability is also influenced by weathering and these have been interpreted and incorporated into the oxide, transitional and fresh domains.</li> </ul>
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.	<ul> <li>The Sissingué deposit extends for 3.15 km along strike and to a depth of typically 140 m to 160 m below surface, with a maximum depth of 290 m.</li> <li>Thickness across strike is typically 50 m to 80 m for the granite and sediment domains, but limited to 10 m to 20 m for the porphyry dykes.</li> </ul>

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	<ul> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> </ul>	<ul> <li>Boundary conditions:</li> <li>The granite, sediments and dykes were kept separate for statistical analysis, variography and estimation as they are different geological units with mostly hard boundaries between them. The southern and northern granite and sediment domains were also kept separate for estimation as there is a physical separation between the two areas. While there is a grade difference between the northern and southern areas, particularly for the granite (higher in the southern area), the grade distributions are of a similar shape and hence the two areas were combined for variography to provide a larger dataset for analysis.</li> </ul>
	<ul> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Based on statistical analysis and boundary conditions, the oxide and transitional domains were combined for variography and estimation while the fresh domain was kept separate. Visual inspection of the drill hole grades between the laterite and the oxide does not show evidence of a depleted zone within the mineralised domains. As a result of the small dataset, with only minor areas of mineralisation in the lower parts of the laterite, the laterite was combined with the oxide for estimation. The laterite data was not used for variography.</li> <li>Review of the individual dykes (and weathering domains) showed that they are statistically similar and, given the relatively small amount of data in the individual dykes, the dykes were combined for statistical analysis and variography. The dykes were kept separate for estimation as there are</li> </ul>
		<ul> <li>hard boundaries between them.</li> <li>Estimation – granites and sediments: <ul> <li>Due to the highly skewed nature and presence of mixed populations in the granites and sediments domains, multiple indicator kriging (MIK) was used to estimate gold grades. CAE Studio (Datamine) software was used to estimate the probability of the grade being above or below a series of thresholds into parent blocks of 10 mE by 10 mN by 5 mRL. Thresholds were defined for each estimation domain.</li> <li>Kriging neighbourhood analysis (KNA) was used to define an appropriate block size for estimation and number of informing samples. Blocks were estimated using a minimum and maximum number of samples of 8 and 14 respectively. A maximum of 6 composites was allowed per drill hole for estimation.</li> </ul> </li> <li>The initial search pass used ranges equivalent to the ranges of continuity seen in the variance at around 90% to 100% of the variance in the</li> </ul>
		<ul> <li>seen in the variograms at around 90% to 100% of the variance in the 0.3 g/ Au to 0.5 g/t Au threshold variograms, with the search ellipse orientated as per the higher grade thresholds (0.5 g/t Au and above).</li> <li>Post processing of the MIK probability estimates was carried out in GSLIB software. Post processing was used to carry out order relation corrections using an averaging approach, and to calculate the e-type grade for each block. The e-type grades were calculated using a linear model between indicator thresholds and a hyperbolic or power model for the upper and lower tails respectively.</li> </ul>

Estimation dukas:

Criteria	JORC Code explanation	Commentary
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	Tonnages are reported on a dry basis.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	• The reporting cut-off is based on optimisation studies carried out as part of the 2010 Feasibility Study, which have suggested that the deposit can be economically extracted at a gold cut-off in the range 0.4 to 0.6 g/t.

Criteria	JORC Code explanation	Commentary
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.	<ul> <li>Trial optimisation was run on the 2014 Mineral Resource in Whittle at a USD2,400 gold price (approximately double the current spot price) to define the base of potentially economic open-pittable material. The same shell was used to constrain the 2016 Mineral Resource.</li> <li>Assumptions for the optimisation were based on studies carried out by Perseus as follows.</li> <li>Cut-off grades: <ul> <li>Oxide</li> <li>0.8 g/t Au</li> <li>Transition</li> <li>1.0 g/t Au</li> <li>Granite/Porphyry</li> <li>1.1 g/t Au</li> <li>Sediments</li> <li>3 g/t Au</li> </ul> </li> <li>Whittle processing cost (treatment + general administration) were: <ul> <li>Oxide</li> <li>(\$21.79/t+\$7.19/t) \$28.98/t</li> </ul> </li> <li>Transition</li> <li>(\$25.04/t+\$8.14/t) \$33.18/t</li> <li>Granite/Porphyry</li> <li>(\$26.29/t+\$8.32/t) \$34.61/t</li> <li>Sediments</li> <li>(\$30.29/t+\$9.87/t) \$40.13/t</li> </ul> <li>Dilution: <ul> <li>Mining ore recovery (before diluted)</li> <li>97%</li> <li>Mining ore dilution (at 0 g/t Au dilutant grade)</li> <li>3%</li> </ul> </li> <li>Geotechnical parameters: <ul> <li>Oxide</li> <li>(approximately from 390 mRL to 325 mRL)</li> <li>degrees</li> <li>Transition</li> <li>(approximately from 300 mRL and below)</li> <li>45 degrees</li> </ul> </li> <li>Mining cost estimate: <ul> <li>Contract miner</li> <li>\$3.61/t</li> <li>Fuel (\$1.40/L)</li> <li>\$0.59/t</li> </ul> </li>
		$\circ$ Dav-works (3%)

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>There has been a considerable amount of metallurgical test work to date.</li> <li>All indications are that gold can be satisfactorily recovered from Sissingué ore using conventional extraction techniques.</li> <li>The metallurgical work is considered sufficient to determine that the Sissingué resource represents a deposit capable of economic extraction.</li> <li>Recoveries used for the trial optimisation to determine the base of potentially economic material were based on studies carried out by Perseus as follows:         <ul> <li>Oxide</li> <li>92%</li> <li>Transition</li> <li>91%</li> <li>Granite/Porphyry</li> <li>90%</li> <li>Sediments</li> <li>78%</li> </ul> </li> </ul>
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>There are other gold mines operating within Mali and Côte d'Ivoire in the general region where Sissingué is located.</li> <li>The Sissingué Project area has no known environmental liabilities.</li> <li>Perseus has been issued with an Environmental Permit to develop and operate an open pit mine and ore processing facility at Sissingué.</li> </ul>

Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>A total of 770 bulk density measurements were taken from HQ and NQ drill core.</li> <li>380 results are from oxide material, 132 from transitional material and 258 from fresh material.</li> <li>Calculated means for the transitional (2.30 g/cm<sup>3</sup>) and fresh (2.73 g/cm<sup>3</sup>) weathering domains as well as the lateritic horizon (1.90 g/cm<sup>3</sup>) within the oxide domain were assigned to the block model.</li> <li>The oxide domain, however, shows a gradient to higher densities with increasing depth and it is considered that a single value for the oxide domain would not be adequate. Instead, the bulk density for oxide blocks has been estimated using vertically orientated, inverse distance squared interpolation. The oxide bulk density ranges from 1.70 to 2.20 g/cm<sup>3</sup>.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Sissingué Mineral Resource has been classified in the Measured, Indicated and Inferred categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code) and the CIM Definition Standards (CIM, 2005). A range of criteria has been considered in determining this classification including:         <ul> <li>Geological continuity.</li> <li>Data quality.</li> <li>Drillhole spacing.</li> <li>Estimation properties including kriging neighbourhood analysis to determine appropriate block size and search strategy.</li> <li>Potential for economic extraction</li> </ul> </li> <li>The above parameters were used in combination to guide the manual digitising of strings on drill sections to control classification.</li> <li>Trial optimisation has been run at a USD2,400 gold price (on the 2014 Mineral Resource) to define the base of potentially mineable material by open pit mining.</li> <li>The Competent Person endorses the final results and classification.</li> </ul>

Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul> <li>The Mineral Resource estimation procedure and results have been internally peer reviewed by Snowden.</li> </ul>
		<ul> <li>During 2016 Jacqui Coombes of Coombes Capability carried out a review of the Sissingué diamond and RC drilling, and the potential impacts on the resource modelling processes. Jacqui made a series of recommendations which were considered in the 2016 update.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> </ul>	<ul> <li>No studies of relative accuracy have been carried out. The classification applied reflects the confidence in the Mineral Resource.</li> </ul>
	• 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.	
	<ul> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	

## JORC Code 2012 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.	Samples at Bélé were collected using standard drilling techniques: reverse circulation (RC) and diamond drilling (DD). Diamond drilling was carried out only in fresh ground as tails of RC collared drill holes. Holes were generally angled between 50° and 65° towards grid east, southeast and south at Bélé West and towards grid west at Bélé East to optimally intersect the mineralised zones. Early exploration holes at Bélé East (some 15% of the drill holes within the resource area) were orientated grid east. RC samples were collected in 1 m intervals at rig mounted cyclone. Samples from the first 13 RC holes were composited to 4 m length (111 samples, <1% of all RC samples). All other RC drilling was composited to 2 m samples, by equal weight. Sample weight was nominally 3 kg for composited samples. Diamond core was generally sampled at 1 m intervals. The first 13 RC holes were assayed by 1 kg 24-hour bottle roll, all subsequent DD and RC samples by 50 g fire assay. All analytical work has been carried out by independent, commercial laboratories (primarily Bureau Veritas in Abidjan, Côte d'Ivoire).
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.).	All RC drilling used a 5.25-inch diameter face sample bit. Diamond core was carried out using NQ2 equipment. Diamond core was generally oriented using a spear.
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.	RC samples were weighed at 1 m intervals and recoveries back-calculated using nominal hole diameter and expected density values. Recoveries average between 60% and 75% in strongly weathered material depending on rock type, around 75% in the transition zone; and >85% in fresh rock. Recovered length of diamond samples were measured in the core trays. The overall recovery of 98.5% is considered good. No apparent relation exists between sample recovery and grade for diamond drilling.

Criteria	JORC Code explanation	Commentary
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.	RC drill chips were logged geologically, including rock type, weathering, alteration type and intensity (where recognisable), vein quartz content in estimated percentage, sulphide minerals and estimated content.
		Diamond drill core was geologically and structurally logged. Geological logging is
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	identical to RC logging. Structural logging includes joints, fractures, roughness and infill type of structures and veins as well as recovery and RQD.
	The total length and percentage of the relevant intersections	Logging was qualitative (descriptive) and semi-quantitative (estimates) in nature.
	loggea.	All diamond core was photographed in the core boxes.
		RC drill chips were glued on chip boards for visual reference for each hole.
		All drill holes (RC and DD) were logged in full.
Subsampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core was cut in half using a diamond saw. The "right" side of the core was submitted for analysis, the other half stored in core trays.
and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples were collected at the drill site at 1 m interval and split using a multi-stage riffle splitter. Each two (resp. four) consecutive samples were
	For all sample types, the nature, quality and appropriateness	composited in one bag by equal weight.
of tu Qua stag Mea rep inst	of the sample preparation technique.	621 or 5% of RC samples have been wet. Wet samples were sub-sampled using a spear.
	ges to maximise representivity of samples.	Sample preparation of diamond core and RC chips used industry standard
	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.	techniques. After drying, the entire sample was subject to a primary crush, 200 g of subsample was collected and pulverised. Internal laboratory checks required at least 90% of the pulp passing -75 microns.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Laboratory QAQC includes the use of internal standards, certified reference materials, and pulp replicates.
		Field sampling QAQC procedures included the use of certified reference materials inserted at a rate of 1 in 20.
		Between one and two field duplicates were taken for each RC hole, preferably within mineralised intervals. The results of duplicate analysis show no bias, but only moderate repeatability.
		Field duplicates of diamond core were not taken as 1/4 core is considered inappropriate for comparison.
		Samples sizes are considered appropriate and representative for the style of mineralisation, the thickness and consistency of the mineralised intersections and the grade ranges

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	A small number of samples from initial holes were assayed by bottle roll with AAS finish, all subsequent RC and DD samples were assayed by standard 50 g fire assay with AAS finish for total gold content.
tests	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.	<ul> <li>No geophysical tools were used to determine any element concentrations.</li> <li>QAQC procedures included</li> <li>One to two field duplicates per RC hole</li> <li>Certified blanks inserted at one in 40</li> <li>Certified standards at one in 20</li> <li>Internal laboratory standards, duplicates and repeats.</li> <li>Umpire assaying has not been carried out.</li> <li>QAQC shows no bias. Overall assaying quality is considered adequate.</li> </ul>
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.	Significant intersections are not highlighted; all RC cuttings and diamond core are systematically sampled. No RC holes have been twinned as less than 50 RC samples with significantly anomalous gold grades (>0.5 g/t Au) have been drilled under wet conditions (<0.5% of all RC samples). Given the issues with downhole contamination in the RC drilling at the nearby Sissingué deposit, there is currently diamond drilling underway at Bélé to confirm the RC results. This drilling is expected to be completed at the end of 2016. Drillhole information for both RC and diamond core holes is captured at the drill site on paper. All hard copies are handed over to the database assistant at the site office and the information provided on paper is then entered into a database. All hard copies are kept at the Tengréla site office. Downhole survey data and collar survey data are provided by the drilling contractors and surveyors respectively in digital format. Perseus maintains a centralised database for its various operations in Ghana and Côte d'Ivoire. Database administration is based in Perseus' head office in Accra/Ghana and under the supervision of the company's Resource Geologist. Assay values below detection limit (0.01 g/t Au) were set by Perseus to 0.

Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	Most RC and diamond drill hole collars were surveyed by the company's surveyor in 2015 and 2016 using differential GPS equipment. 22 holes, including two holes with diamond tails, could not be found at the time and were not surveyed. In these cases, the original coordinates taken by handheld GPS were used. On average, the difference between handheld and differential GPS is less than 2 m in the X and Y directions.
		Downhole surveys were conducted by the drill contractors using a FlexIT tool.
		The WGS84 UTM Zone 29 North grid system is used.
		The topography covering the extent of the Resource model was created as a digital terrain model (DTM) in Surpac using the surveyed drill hole collar data and an additional 77,767 points established at 3 m intervals by differential GPS during 100 m spaced geophysical traverses.
Data spacing and	Data spacing for reporting of Exploration Results Whether the data spacing and distribution is sufficient to	Nominal drill hole spacing over the resource area is predominantly 40 m by 40 m. Some areas at Bélé East have been drilled at 20 m by 40 m.
distribution	establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve	Data spacing is sufficient to establish grade and geological continuity appropriate to the resource estimation procedures and classifications applied.
	estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Diamond and RC samples within the resource have been composited to 2 m.
Orientation of data in relation	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this	Orientation of drill holes is approximately perpendicular to the strike of the geology and mineralisation at Bélé West.
to geological structure	is known, considering the deposit type. If the relationship between the drilling orientation and the	At Bélé East, drill holes are angled to cross the steep dip of the geological domains.
	orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	At Bélé East, 12 early RC holes have been drilled along exploration fences oriented towards the east and hence sub-parallel to the mineralisation. Three of these holes intercepted significant mineralisation. These intercepts have been verified by holes drilled in the opposite direction.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Perseus. Samples are stored on site until conveyed to the Bureau Veritas laboratory in Abidjan. Once dispatched, Perseus personnel have no further involvement in the preparation or analysis of the samples.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Several reviews of sampling techniques were carried out by the company's senior personnel during site visits, with acceptable conclusions.
		Basic drill data validation has been carried out by Snowden during the preparation of the Mineral Resource estimate.

### JORC Code 2012 Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure statusType, 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.	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.	Perseus, through its 100% owned subsidiary Occidental Gold sarl holds an Exploration Licence Permit PR259, issued by the Ivorian government in December 2012, valid for mineral exploration (Decree "2012-1172").
		The tenement is fully owned by Perseus, through its subsidiary, with the Ivorian government holding a statutory 10% free carried interest.
	The Exploration Licence expired on 19 December 2015 and is currently under application for renewal. The application has been approved by the General Director of Mines and Geology and is awaiting final signature of the Minister of Mines and Industry.	
		The initial licence covered an area of 398 km <sup>2</sup> . The renewed licence has been reduced to an area of 298,5 km <sup>2</sup> .
		There are no known impediments with respect to exploration or mining.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Perseus is not aware of any previous exploration activities.
Geology	Deposit type, geological setting and style of mineralisation.	The Bélé gold deposits are located within a north-westerly striking splay off the Syama-Boundiali Greenstone Belt. At Bélé, Birimian aged rocks comprise a sequence of metasedimentary rocks and subordinate mafic volcanics that have been intruded by a nearly circular granitoid body approximately 4 km in diameter. The sequence has also been intruded by numerous felsic dykes of various compositions.
		Gold mineralisation at both Bélé East and Bélé West is associated with deformation zones developed at and adjacent to the margins of the granitoid intrusion. Gold is associated with disseminated pyrite and lesser pyrrhotite hosted by both mafic and felsic lithologies where they feature chlorite-sericite-calcite alteration. Vein-hosted mineralisation is rare.
		Bélé West mineralisation is interpreted to extend around 1 km in strike, 140 m across strike and to a depth of 150 m. Bélé East mineralisation extends around 500 m along strike, 150 m across strike and to a depth of 170 m. The currently defined mineralisation in both areas is open at depth but appears to be closed out along strike.

Criteria	JORC Code explanation	Commentary
Drillhole 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:	The Bélé drill hole data includes RC, diamond and aircore drill holes. Aircore drill holes were used as a guide to interpretation but were not used for estimation due to the poor quality of aircore samples.
	easting and northing of the drill hole collar	Drilling includes:
	• elevation or RL (Reduced Level – elevation above sea level	834 aircore drill holes for 22,103 m
	in metres) of the drill hole collar	257 RC drill holes for 21,763 m
	dip and azimuth of the hole	• 23 RC drill holes for 3,374.72 m with diamond tail.
	downhole length and interception depth	Drillholes were set up using a compass. Compass readings and all downhole
	hole length.	Survey azimuth readings were adjusted according to the magnetic deviation.
	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.	Mineral Resource estimation.
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.	NA; exploration results are not reported.
	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.	
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	The majority of drilling is perpendicular to the mineralisation. Some scissor holes have also been drilled, particularly in Bélé East where the mineralisation
mineralisation widths and	If the geometry of the mineralisation with respect to the drill	Is sub-vertical.
intercept	fit is not known, its nature should be reported.	Areas of the main northeast trending limb of Bele West are not optimally orientated as they are drilled east-west and the mineralisation is trending to the
lengths	there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	northeast. The orientation is acceptable to define the limits of the mineralisation however.
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.	Location plans and example sections are included in the Mineral Resource technical documentation.

Criteria	JORC Code explanation	Commentary
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	NA; all drilling is included in the Mineral Resource.
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.	NA; all drilling is included in the Mineral Resource.
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.	Infill and confirmatory drilling is currently underway to convert the Mineral Resource to Indicated and Measured.

### JORC Code 2012 Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrityMeasures 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.	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	Perseus validates its data routinely during data entry and data import into its database platform, Maxwell's Datashed software, and during importation into Surpac. This includes checks for
	Duplicate or erroneous collars information	
	Missing samples	
		Down-hole from-to interval inconsistencies
		Overlapping samples
		Records beyond hole depth
		Missing assays
		Invalid geological codes
		Import of digitally communicated assay results into Datashed is automated and does not necessitate manual interference (such as copy-and-paste commands).
		Snowden carried out basic validation checks as part of preparing the data for estimation. The database checks undertaken by Snowden are listed below, no significant issues were identified:
		• The downhole sampling intervals are consistent with no overlapping sample intervals.
		<ul> <li>Assay values are within realistic limits. Snowden notes that there are 3,709 zero (0) gold grades in the assay table, of which 1,974 are within RC or diamond drill holes. Snowden assumes that the zero values are below detection limit</li> </ul>
		• The sample tables were checked to ensure there are no duplicate sample records. Duplicate geology records were noted in holes MHRD077 and MHRD087. These were removed prior to loading the data.
		There are no missing or incomplete collar survey coordinates.
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	Steffen Brammer (Perseus) has visited the site several times and on a regular basis since the commencement of Perseus' exploration activities and during various drilling campaigns.
	is the case.	Lynn Olssen (Senior Principal Consultant) of Snowden Mining Industry Consultants visited site during December 2016. Lynn reviewed the drilling and sampling procedures for diamond and RC drilling at the Bélé deposit. Lynn also visited the core shed and reviewed the diamond core sampling processes and diamond core, RC chip boards and logging procedures.

Criteria	JORC Code explanation	Commentary
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	Mineralisation domains, weathering and lithology were originally interpreted by Perseus. Snowden reviewed and updated this interpretation for the March 2016 update.
	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.	Mineralisation at Bélé occurs as a series of lodes subparallel to the mafic lithologies. The lodes cross the mafics-granite boundary in places. In Bélé East there is a wider 'blow out' of mineralisation in the central area which appears to be associated with a kink in the lithology, and is likely structurally related. The mineralisation domains were defined based on a nominal 0.2 g/t Au to 0.5 g/t Au cut-off together with the geological logging and lithology interpretation. The cut-off used is observed as a population change in the global log-probability plot. Note, the drill hole data includes RC, diamond and aircore drill holes. Aircore drill holes were used as a guide to interpretation but were not used for estimation due to the poor quality of aircore samples. The mineralisation domains were used as hard boundaries to control estimation. Snowden considers that any alternative interpretation would not have a material effect on the Mineral Resource estimate.
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.	<ul> <li>Bélé West mineralisation is interpreted to extend around 1 km in strike, 140 m across strike and to a depth of 150 m.</li> <li>Bélé East mineralisation extends around 500 m along strike, 150 m across strike and to a depth of 170 m.</li> <li>The currently defined mineralisation in both areas is open at depth but appears to be closed out along strike.</li> </ul>

Criteria	JORC Code explanation	Commentary
Estimation The and modelling techni techniques treat inter extra estin	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	Snowden estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine software. The grades were estimated using the mineralisation domains for each area as hard boundaries. Ordinary kriging was selected as appropriate for estimation on the basis that coefficients of variation are generally low to moderate within the deposit, with top cuts used where required to control the influence of extreme grades. Discretisation of 4 by 4 by 4 was applied during estimation.
	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	Parent block size was based on kriging neighbourhood analysis (KNA) results and the geometry of the two areas; a 10 mE by 10 mN by 5 mRL parent block size was selected for the flatter lying Bélé West area and a 10 mE by 10 mN by 10 mRL for the subvertical Bélé East area. The average drill hole spacing is 20 m by 20 m to 20 m by 40 m.
	of such data. The assumptions made regarding recovery of by- products. Estimation of deleterious elements or other non-grade	Review of the histograms and log-probability plots shows that there is a high coefficient of variation (CV) and outliers evident within the Bélé East area. As a result, a top cut of 20 g/t Au was applied to the data in this area prior to estimation. The Bélé West area has a maximum value of <20 g/t Au and does not appear to require top cutting.
	variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	Dynamic anisotropy was used for estimation, whereby the local dip and azimuth of the mineralised lodes was estimated into each block in the model and the search and
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	variogram orientations were locally adjusted to reflect the geological orientation. This method allows the estimate to better reflect the changing orientation and undulating nature of the lodes.
	Any assumptions behind modelling of selective mining units.	Search parameters were defined based on the ranges of continuity seen in the variograms and KNA results. A three pass search was used to inform the blocks. For the first search pass, estimation was carried out using a minimum of 12 and a maximum
	Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates.	of 24 informing composites. The second search pass used a minimum of eight and a maximum of 24 informing composites, with the search ellipse doubled in size to inform blocks not informed during the first search pass. A third search pass with the number
	Discussion of basis for using or not using grade cutting or capping.	samples reduced to a minimum of four and a maximum of eight, with four times the search ellipse size, was to used where an estimate could not be obtained using the
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	To ensure that data from multiple drill holes were used during the block estimation, a maximum of four composites were allowed from each drill hole.
		Final grade estimates were validated by: undertaking global grade comparisons with the input drill hole composites; visual validation of block model cross sections; and by grade trend plots. In addition, a theoretical global change of support was carried out to validate the level of smoothing in the estimate.
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 calculated and reported on a dry tonnes basis.

Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource has been reported by resource classification and weathering above a 0.8 g/t Au cut-off.
		The cut-off grade is based on preliminary engineering work which indicates a 0.75 g/t Au to 0.85 g/t Au cut-off will be applicable for mining, depending on the degree of weathering.
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 is assumed to be traditional drill and blast open cut mining.
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.	Metwork has been initiated and is currently ongoing. Preliminary results suggest that the ore is amenable to the treatment processes considered for the company's nearby Sissingué project.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	There are no known environmental impediments to mining.

Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Bulk density values were determined by measurements on available core and RC chips. The values assigned to the models are based on the weathering and lithology domains and range from 1.3 t/m<sup>3</sup> in the saprolite to 2.92 t/m<sup>3</sup> in the fresh mafic volcanics.</li> <li>Bulk density of fresh material was determined by weighing full core trays, measuring the length of the core within the tray and calculating the volume. This method is believed to be robust due to the use of large sample sizes.</li> <li>Bulk density values for oxidised and transitional material has been established from weight records of the RC drilling bags, in the absence of drill core in weathered lithologies. The data set of the RC drill bags has been calibrated using fresh granitic RC chips against the values of the core trays in order to eliminate records from intervals with recoveries below 100%.</li> </ul>
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 estimate has been classified as an Inferred Resource in accordance with the JORC Code (2012). Classification was applied based on geological confidence, data quality and grade variability.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The Mineral Resource has been internally reviewed by Snowden.

Criteria	JORC Code explanation	Commentary
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 studies of relative accuracy have been carried out. The classification applied reflects the confidence in the Mineral Resource. No production data is available.