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## **DRAGON MINING LIMITED**

龍資源有限公司\*

(Incorporated in Western Australia with limited liability ACN 009 450 051)

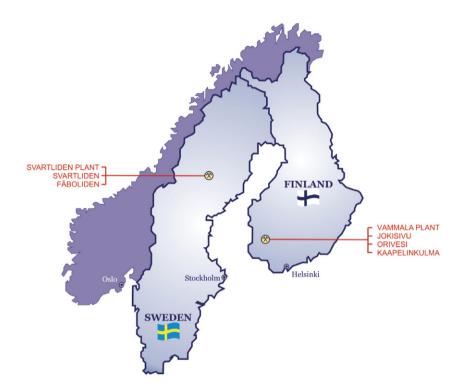
(Stock Code: 1712)

#### INSIDE INFORMATION

### MINERAL RESOURCES AND ORE RESERVES UPDATED

This announcement is made pursuant to Rule 13.09 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules") and the Inside Information Provisions (as defined in the Listing Rules) under Part XIVA of the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong).

Dragon Mining Limited 龍資源有限公司\* ("Dragon Mining" or "the Company") is pleased to announce that the Mineral Resources and Ore Reserves for the Company's Nordic projects have been updated.



The update of the Mineral Resources returned a total Mineral Resource for the Company of 13,638 kt grading 3.2 g/t gold for 1,421 kozs as at 31 December 2018 (Table 1). This represents a 0.1% increase in tonnes and 1.2% decrease in ounces when compared to the total Mineral Resource of 13,630 kt grading 3.3 g/t gold for 1,438 kozs as at 30 September 2017, the date of the last formal update of the Company's Mineral Resources, which were released to the ASX on 11 January 2018 – Mineral Resources Updated For Dragon Mining's Nordic Projects.

Updating of the Ore Reserves has lifted the total Ore Reserve for the Company to 2,615 kt grading 2.8 g/t gold for 234 kozs as at 31 December 2018 (Table 2). This represents a 13.0% increase in tonnes and 0.9% increase in ounces, when compared to the total Ore Reserve of 2,315 kt grading 3.1 g/t gold for 232 kozs as at the 30 September 2017, the date of the last formal update of the Company's Ore Reserves, which was released to the ASX on 23 February 2018 – Dragon Mining Updates Ore Reserves for Nordic Projects.

The updated Ore Reserve total tonnage represents the highest level recorded by the Company since commencing activities in the Nordic region in 2000, whilst Ore Reserve total ounces are at the highest level recorded by the Company since 2007. The update process has also resulted in the mine life of the Jokisivu Gold Mine being extended, providing the Company with confidence that the available Ore Reserves in Finland are sustainable until, and beyond, when full scale mining could begin at the Fäboliden Gold Project in Sweden. When including the Ore Reserves for the Fäboliden Gold Project, where Dragon Mining is working towards environmental approval for full scale mining, the Company now has sufficient Ore Reserves for production through to at least mid-2024.

The Mineral Resources and Ore Reserves were finalised by independent mining consultants RPMGlobal in Western Australia and reported in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code").

Table 1 – Mineral Resource estimates for the Vammala Production Centre in southern Finland and the Svartliden Production Centre in northern Sweden as at 31 December 2018. Mineral Resources are reported inclusive of stockpiles and Ore Reserves.

	Tonnes (kt)	Measured Gold (g/t)	Ounces (kozs)	Tonnes (kt)	Indicated Gold (g/t)	Ounces (kozs)	Tonnes (kt)	Inferred Gold (g/t)	Ounces (kozs)	Tonnes (kt)	Total Gold (g/t)	Ounces (kozs)
Vammala Production Centre -	- Southern l	Finland										
Jokisivu Gold Mine												
Kujankallio	531	4.4	76	736	3.3	78	139	3.6	16	1,406	3.8	170
Arpola	84	4.3	12	449	4.9	71	162	5.2	27	695	4.9	110
Stockpiles				38	1.7	2				38	1.7	2
Total	615	4.4	87	1,223	3.8	151	300	4.5	43	2,139	4.1	282
Orivesi Giod Mine												
Kutema	39	5.5	7	34	6.1	7	24	4.6	3	97	5.5	17
Sarvisuo	36	7.5	9	30	7.2	7	42	5.7	8	108	6.7	23
Stockpiles				4	4.0	1				4	4.0	1
Total	75	6.5	16	68	6.5	14	66	5.3	11	209	6.1	41
Kaapelinkulma Gold Mine												
North	-	-	-	-	-	-	21	2.2	2	21	2.2	2
South	76	3.8	9	59	4.2	8	12	4.4	2	147	4.0	19
Total	76	3.8	9	59	4.2	8	34	3.0	3	168	3.8	21
VPC Total	766	4.6	112	1,350	4.0	173	400	4.5	58	2,516	4.2	344

		Measured			Indicated			Inferred			Total	
	Tonnes	Gold	Ounces	Tonnes	Gold	Ounces	Tonnes	Gold	Ounces	Tonnes	Gold	Ounces
	(kt)	(g/t)	(kozs)	(kt)	(g/t)	(kozs)	(kt)	(g/t)	(kozs)	(kt)	(g/t)	(kozs)
Svartliden Production Centre Fäboliden Gold Project	- Northern	Sweden										
Above 350 mRL	-	-	-	3,807	2.8	340	887	2.4	69	4,694	2.7	409
Below 350 mRL				961	3.1	96	4,978	3.2	514	5,938	3.2	609
Total				4,768	2.8	436	5,864	3.1	583	10,632	3.0	1,019
Svartliden Gold Mine												
Open-Pit	83	3.1	8	160	3.0	16	-	-	-	244	3.0	24
Underground	36	4.3	5	150	4.6	22	60	4.0	8	245	4.4	35
Total	119	3.4	13	311	3.8	38	60	4.0	8	489	3.7	59
SPC Total	119	3.4	13	5,078	2.9	473	5,924	3.1	591	11,121	3.0	1,077
Company Total	885	4.4	125	6,428	3.1	647	6,324	3.2	649	13,638	3.2	1,421

Mineral Resources may not sum to equal totals due to rounding. Mineral Resources reported on a dry in-situ basis.

Reporting Cut-off Grades

#### Jokisivu Gold Mine – 1.8 g/t gold

Based on operating costs, mining and processing recoveries from Jokisivu actuals and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 120% of the spot gold price of US\$1,525 per ounce as at 31 December 2018;

#### Orivesi Gold Mine – 3.1 g/t gold

Based on operating costs, mining and processing recoveries from Orivesi actuals and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 120% of the spot gold price of US\$1,525 per ounce as at 31 December 2018;

#### Kaapelinkulma Gold Project – 1.0 g/t gold

Based on costs and recoveries from the updated Kaapelinkulma Pre-Feasibility study and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 115% of the spot gold price of US\$1,500 per ounce as at 30 September 2017.

The Kaapelinkulma Mineral Resource remains unchanged since 30 September 2017. Details of this Mineral Resource were released to the ASX on 11 January 2018 – Mineral Resources Updated for Dragon Mining's Nordic Projects;

## Fäboliden Gold Project – 1.25 g/t gold for material above the 350 m RL and 2.10 g/t gold for material below the 350 mRL

Based on costs and recoveries from the updated Fäboliden Pre-Feasibility study and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 125% of the spot gold price of US\$1,500 per ounce as at 31 December 2016.

The Fäboliden Mineral Resources remain unchanged since 31 December 2016. Details of this Mineral Resource were released to the ASX on the 28 February 2017 – Mineral Resources Updated for the Nordic Production Centres;

# Svartliden Gold Mine – 1.0 g/t gold for open-pit material and 1.70 g/t gold for underground material

Based on updated estimates for mining costs and a gold price extrapolated for the potential economic extraction of the open-pit and underground resource at a level approximating 125% of the spot gold price of US\$1,500 per ounce as at 31 December 2016.

The Svartliden Mineral Resources remain unchanged since 31 December 2016. Details of this Mineral Resource were released to the ASX on the 28 February 2017 – Mineral Resources Updated for the Nordic Production Centres.

Table 2 – Ore Reserves for the Vammala Production Centre in southern Finland and the Syartliden Production Centre in northern Sweden as at 31 December 2018.

	Proved				Probable		Total		
	Tonnes (kt)	Gold (g/t)	Ounces (kozs)	Tonnes (kt)	Gold (g/t)	Ounces (kozs)	Tonnes (kt)	Gold (g/t)	Ounces (kozs)
Vammala Production Centre									
Jokisivu (UG)	520	2.3	38	864	2.6	71	1,384	2.5	110
Kaapelinkulma (OP)	52	3.9	6.5	19	4.3	2.6	71	4.0	9
Svartliden Production Centre									
Fäboliden (OP)				1,160	3.1	115	1,160	3.1	115
Company Total	572	2.4	44.5	2,043	2.9	188.6	2,615	2.8	234

Ore Reserve estimates have been rounded to reflect accuracy. All the estimates are on a dry tonne basis.

Jokisivu Gold Mine: The following economic in-situ stope ore cut-off grades of Kujankallio: 2.2 g/t gold; Arpola A - 2.2 g/t gold; Arpola B - 2.2 g/t gold; Arpola C - 1.9 g/t gold; Arpola D - 2.2 g/t gold were based on a US\$1,270 per troy ounce gold price, a EUR:USD exchange rate of 1.17, process recovery of 92%, historical costs and mining factors.

Kaapelinkulma Gold Mine: The in-situ ore cut-off grade is 1.1 g/t gold is based on a gold price of US\$1,260 per troy ounce, a EUR:USD exchange rate of 1.13, process recovery of 85%, mining factors and costs.

The Kaapelinkulma Ore Reserve remains unchanged since 30 September 2017. Details of this Ore Reserve were previously released to the ASX on 23 February 2018 – Dragon Mining Updates Ore Reserves for Nordic Projects.

Fäboliden Gold Project: The in-situ Ore cut-off grade is 1.47 g/t gold is based on a gold price of US\$1,260 per troy ounce, a USD:SEK exchange rate of 8.55, process recovery of 82%, mining factors and costs.

The Fäboliden Ore Reserve remains unchanged since 31 December 2016. Details of this Ore Reserve were previously released to the ASX on the 21 March 2017 – Ore Reserves Updated for Dragon Mining's Nordic Projects.

### Jokisivu Gold Mine

The Jokisivu Gold Mine ("Jokisivu") is located in the municipality of Huittinen in southern Finland, 40 kilometres southwest of the Vammala Plant and hosts two gold occurrences, Kujankallio and Arpola. The Kujankallio and Arpola deposits represent structurally controlled orogenic gold systems located within the Palaeoproterozoic Vammala Migmatite Belt. Open cut mining at Kujankallio commenced in 2009 and underground production in 2011. A small open pit was mined at Arpola in 2011 and underground production commenced from this deposit in 2014.

The updated Mineral Resources for Jokisivu totals 2,139 kt grading 4.1 g/t gold for 282 kozs as at 31 December 2018 (Table 1). It comprises material from the two deposits, Kujankallio and Arpola, and stockpiles.

It represents a 3% increase in tonnes and a 2% decrease in ounces at the new reporting cut-off grade of 1.8 g/t gold, when compared to the Jokisivu Mineral Resource as at 30 September 2017 of 2,080 kt grading 4.3 g/t gold for 289 kozs. The update has replenished material mined since 30 September 2017, as a result of:

- the inclusion of results from drilling completed since 30 September 2017;
- a decrease in the reporting cut-off grade from 1.9 g/t gold to 1.8 g/t gold, with the new cut-off grade determined using operating costs, mining and processing recoveries from Jokisivu actuals and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 120% of the spot gold price of US\$1,525 per ounce;
- a change in the grade interpolation method from Inverse Distance Squared to Ordinary Kriging.

Importantly the quantity of Mineral Resource classified as Measured and Indicated and available for the Ore Reserve estimation process has risen by 7% in tonnes and 1% in ounces when compared to the total Measured and Indicated level of the 30 September 2017 Mineral Resource.

The Kujankallio Mineral Resource extends over a strike length of 890 metres and includes a vertical extent of 530 metres from surface to the 540m level. Material classified as Measured and Indicated material in the updated estimate accounts for 90% of the Kujankallio tonnes (83% - 30 September 2017) and 91% of the Kujankallio ounces (84% - 30 September 2017).

The updated Mineral Resource for Arpola extends over a strike length of 460 metres and includes a 310 metre vertical extent from the 10m level to the 320m level. Measured and Indicated material in the updated estimate accounts for 77% of the Arpola tonnes (77% – 30 September 2017) and 76% of the total Arpola ounces (76% – 30 September 2017).

#### • Ore Reserves

The updated Proved and Probable Ore Reserves for Jokisivu totals 1,384 kt grading 2.5 g/t gold for 110 kozs as at 31 December 2018 (Table 2). This represents a 37% increase in tonnes and a 16% increase in ounces, when compared to the Ore Reserves as at 30 September 2017 of 1,013 kt grading 2.9 g/t gold for 95.2 kozs.

In addition to site specific mining, metallurgical, cost and revenue factors, the updated Ore Reserve estimate for Jokisivu used a gold price of US\$1,270 per ounce (30 September 2017: US\$1,280 per ounce).

These increases have extended the mine life for Jokisivu to mid-2024 and incorporates material from the two deposits Kujankallio and Arpola, and stockpiles. The Ore Reserves are estimated from underground stope and development designs and were based on the mines operating performance.

The Company will continue with ongoing drilling programs and studies at Jokisivu to evaluate the open extensions of the Kujankallio and Arpola deposits as the mine advances deeper. This will be carried out with the aim of replenishing material mined, as the Company has successfully done each year since commencing underground mining at Jokisivu.

#### **Orivesi Gold Mine**

The Orivesi Gold Mine ("Orivesi") is located 80 kilometres to the northeast of the Vammala Plant, immediately to the west of the Orivesi township in the Pirkanmaa Region in southern Finland. The known gold lodes at Orivesi are hosted by the Palaeoproterozoic Tampere Schist Belt and has been interpreted to represent a metamorphosed and deformed high-sulphidation epithermal gold system.

Orivesi was initially in operation between 1992 and 2003 and produced 422,000 ounces of gold from a series of near vertical pipe-like lodes at Kutema. Mining recommenced at Orivesi in June 2007, initially on remnant mineralisation associated with the Kutema lode system above the 720m level. Two of the five principal lodes at Kutema continued below the historical extent of the decline at the 720m level and this area was the subject of a program of staged development and production stoping down to the 1,205m level between January 2011 and January 2018. Mining from the Sarvisuo lodes, 300 metres east of Kutema commenced in April 2008 and has been conducted between the 240m and 620m levels in the immediate Sarvisuo area and between the 650m and 710m levels and the 360m and 400m levels in the Sarvisuo West area.

The updated Mineral Resources for Orivesi totals 209 kt grading 6.1 g/t gold for 41 kozs as at 31 December 2018 (Table 1). It comprises material from two lode systems, Kutema and Sarvisuo, and stockpiles.

It represents a 20% decrease in tonnes and ounces at the new reporting cut-off grade of 3.1 g/t gold, when compared to the Orivesi Mineral Resource as at 30 September 2017 of 260 kt grading 6.1 g/t gold for 51 kozs. These decreases are in part the result of mining depletion since 30 September 2017 and an increase in the reporting cut-off grade from 3.0 g/t gold to 3.1 g/t gold. The new cut-off grade was determined using operating costs, mining and processing recoveries from Orivesi actuals and a gold price extrapolated for the potential economic extraction of the resource at a level approximating 120% of the spot gold price of US\$1,525 per ounce.

The Mineral Resource for the Kutema lode system extends over a strike length of 145 metres, has a maximum width of 175 metres and primarily includes a 140 metres vertical interval from the 100m level and a 580 metre vertical interval from the 720m level to the 1,300m level. Material classified as Measured and Indicated accounts for 75% of the total Kutema tonnes (94% - 30 September 2017) and 82% of the total Kutema ounces (95% - 30 September 2017).

The Mineral Resource for the Sarvisuo lode system extends over a strike length of 530 metres and includes a 760 metre vertical extent from the 20m level to the 780m level. Material classified as Measured and Indicated accounts for 61% of the total Sarvisuo tonnes (70% - 30 September 2017) and 70% of the total Sarvisuo ounces (77% - 30 September 2017).

#### Kaapelinkulma Gold Mine

The Kaapelinkulma Gold Mine ("Kaapelinkulma") is located 65 kilometres east of the Vammala Plant in the municipality of Valkeakoski. The Kaapelinkulma deposit represents an orogenic gold system located in the Palaeoproterozoic Vammala Migmatite Belt, comprising a set of sub-parallel lodes in a tight array hosted within a sheared quartz diorite unit inside a tonalitic intrusive. Two separate occurrences have been identified at Kaapelinkulma, the southern occurrence ("South") is the larger of the two.

The Company has advanced Kaapelinkulma towards mine start-up with the establishment of critical onsite infrastructure and the removal of overburden from the open-pit area during 2018. The initial series of waste rock blasts were carried out during February 2019, the mining of first ore is scheduled to commence in April.

The Mineral Resource for Kaapelinkulma totals 168 kt grading 3.8 g/t gold for 21 kozs and remains unchanged since 30 September 2017 (Table 1). Details of this Mineral Resource were released to the ASX on 11 January 2018 – Mineral Resources Updated for Dragon Mining's Nordic Projects.

The Company confirms that it is not aware of any new information or data that materially affects the Kaapelinkulma Mineral Resource and the assumptions and technical parameters underpinning the estimates in the 11 January 2018 release continue to apply and have not materially changed.

#### • Ore Reserves

The Proved and Probable Ore Reserves for the Kaapelinkulma Gold Project totals 71 kt grading 4.0 g/t gold for 9.0 kozs and remains unchanged since 30 September 2017 (Table 2). Details of this Ore Reserve were released to the ASX on 23 February 2018 – Dragon Mining Updates Ore Reserves for Nordic Projects.

The Company confirms that it is not aware of any new information or data that materially affects the Kaapelinkulma Ore Reserve and the assumptions and technical parameters underpinning the estimates in the 23 February 2018 release continue to apply and have not materially changed.

### Fäboliden Gold Project

The Fäboliden Gold Project ("Fäboliden") is an advanced gold project located 40 kilometres west of the regional centre Lycksele in the Västerbotten County in northern Sweden. It represents a source of gold-bearing material that could be trucked to, and processed at the Svartliden Plant, 30 kilometres by road to the northwest. The project covers an area of 1,964.98 hectares and comprises the Fäboliden K nr 1 Exploitation Concession that hosts the Fäboliden Gold Deposit and two contiguous Exploration Permits that encompass approximately ten kilometres strike length of the host geological sequence. The Fäboliden deposit is an orogenic gold system, with mineralisation hosted by Palaeoproterozoic meta-sediments and meta-volcanic rocks.

On 1 December 2017, the County Administration Board ("CAB") in Västerbotten granted Dragon Mining an Environmental Permit for test mining operations at Fäboliden ("Test Mining Permit"), the Test Mining Permit gaining legal force on the 11 May 2018 following the rejection of an appeal against its granting. The Company commenced pre-stripping activities in August 2018, but due to the conditions of the Test Mining Permit only six weeks of operation was possible and approximately 50% of the overburden in the test-pit area was removed during 2018. Test mining activities are scheduled to recommence at the beginning of May 2019.

The Mineral Resource for Fäboliden totals 10,632,000 tonnes grading 3.0 g/t gold for 1,019,000 ounces and remains unchanged since 31 December 2016 (Table 1). Details of this Mineral Resource were released to the ASX on the 28 February 2017 – Mineral Resources Updated for the Nordic Production Centres.

The Company confirms that it is not aware of any new information or data that materially affects the Fäboliden Mineral Resource and the assumptions and technical parameters underpinning the estimates in the 28 February 2017 release continue to apply and have not materially changed.

#### • Ore Reserves

The Proved and Probable Ore Reserves for Fäboliden total 1,160 kt grading 3.1 g/t gold for 115 kozs and remains unchanged since 31 December 2016 (Table 2). The Ore Reserves were previously released to the ASX on the 21 March 2017 – Ore Reserves Updated for Dragon Mining's Nordic Projects. This release can be found at www.asx. com.au (Code: DRA).

The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources and the assumptions and technical parameters underpinning the estimates in the 21 March 2017 release continue to apply and have not materially changed.

The Fäboliden Ore Reserve represents a base case operation, the Proved and Probable Ore Reserves delivering a mine life of approximately five years based on the developed mining schedule, which includes a period of test mining.

#### **Svartliden Gold Mine**

The Svartliden Gold Mine ("Svartliden") is located in northern Sweden, 70 kilometres west of the regional centre of Lycksele in the Västerbotten County. Mining commenced at Svartliden in 2004, initially as an open pit operation, with underground operations commencing in 2011. Open-pit and underground mining were carried out in tandem until the completion of open-pit mining in April 2013. Underground mining was completed by the end of 2013 when mining of known Ore Reserves was exhausted. A total of 3,182 kt grading 4.1 g/t gold was mined from Svartliden during its life producing 377 kozs of gold. The mined deposit represents an orogenic gold deposit hosted within a Palaeoproterozoic volcano-sedimentary sequence.

The Svartliden Mineral Resource totals 489,000 tonnes grading 3.7 g/t gold for 59,000 ounces, representing open-pit and underground material that is reported at cut-off grades of 1.0 g/t gold and 1.7 g/t gold, respectively (Table 1). These Mineral Resources remain unchanged since 31 December 2016, details of which were released to the ASX on the 28 February 2017 – Mineral Resources Updated for the Nordic Production Centres.

The Company confirms that it is not aware of any new information or data that materially affects the Svartliden Gold Mine Open Pit and Underground Mineral Resources and the assumptions and technical parameters underpinning the estimates in the 28 February 2017 announcement continue to apply and have not materially changed.

By Order of the Board

Dragon Mining Limited

Arthur George Dew

Chairman

Hong Kong, 12 April 2019

As at the date of this announcement, the board of directors of the Company comprises Mr. Arthur George Dew as chairman and non-executive director (with Mr. Wong Tai Chun Mark as his alternate); Mr. Brett Robert Smith as chief executive officer and executive director; and Mr. Carlisle Caldow Procter, Mr. Pak Wai Keung Martin and Mr. Poon Yan Wai, as independent non-executive directors.

\* For identification purpose only

The information in this report that relates to Mineral Resources for the Jokisivu Gold Mine and Orivesi Gold Mine is based on information compiled or supervised by Mr. David Allmark who is a full-time employee of RPM Advisory Services Pty Ltd and a Registered Member of the Australasian Institute of Mining and Metallurgy. Mr. Allmark has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code 2012 Edition. Mr Allmark has provided written consent for the inclusion in the Report of the matters on his information in the form and context in which it appears.

Reporting of the Mineral Resources estimate complies with the recommended guidelines of the JORC Code and is therefore suitable for public reporting.

The information in this report that relates to Mineral Resources dated 30 September 2017 for the Kaapelinkulma Gold Mine were previously released to the ASX on the 11 January 2018 – Mineral Resources Updated for the Nordic Production Centres and the HKEx on the 18 October 2018 – Public Offer. These documents can be found at www.asx.com.au (Code: DRA) and www.hkex.com.hk (Stock Code: 1712), respectively. They fairly represent information and supporting documentation that was compiled or supervised by Mr. Jeremy Clark who is a full-time employee of RPM Global Asia Limited and a Registered Member of the Australasian Institute of Mining and Metallurgy. Mr. Jeremy Clark has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code 2012 Edition. Written consent was previously provided by Mr. Jeremy Clark for the 11 January 2018 and 18 October 2018 releases.

The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources as reported on the 11 January 2018 and 18 October 2018, and the assumptions and technical parameters underpinning the estimates in the 11 January 2018 and 18 October 2018 releases continue to apply and have not materially changed.

Mr. Neale Edwards BSc (Hons), a Fellow of the Australian Institute of Geoscientists, who is a full time employee of Dragon Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves confirms that the form and context in which the Mineral Resources dated 30 September 2017 presented in this report have not been materially modified and are consistent with the 11 January 2018 and 18 October 2018 releases. Mr. Neale Edwards has provided written consent approving the use of previously reported Mineral Resources in this report in the form and context in which they appear.

The information in this report that relates to Mineral Resources dated 31 December 2016 for the Fäboliden Gold Project and Svartliden Gold Mine were previously released to the ASX on the 28 February 2017 – Mineral Resources Updated for Dragon Mining's Nordic Projects and the HKEx on the 18 October 2018 – Public Offer. These documents can be found at www. asx.com.au (Code: DRA) and www.hkex.com.hk (Stock Code: 1712), respectively. They fairly represent information and supporting documentation that was compiled or supervised by Mr. Jeremy Clark who is a full-time employee of RPM Global Asia Limited and a Registered Member of the Australasian Institute of Mining and Metallurgy. Mr. Jeremy Clark has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code 2012 Edition. Written consent was previously provided by Mr. Jeremy Clark for the 28 February 2017 and 18 October 2018 releases.

The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources as reported on the 28 February 2017 and 18 October 2018, and the assumptions and technical parameters underpinning the estimates in the 28 February 2017 and 18 October 2018 releases continue to apply and have not materially changed.

Mr. Neale Edwards BSc (Hons), a Fellow of the Australian Institute of Geoscientists, who is a full time employee of Dragon Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves confirms that the form and context in which the Mineral Resources dated 31 December 2016 presented in this report have not been materially modified and are consistent with the 28 February 2017 and 18 October 2018 releases. Mr. Neale Edwards has provided written consent approving the use of previously reported Mineral Resources in this report in the form and context in which they appear.

The information in this report that relates to Ore Reserves for the Jokisivu Gold Mine is based on information compiled by Mr Joe McDiarmid, who is a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy and is an employee of RPM Advisory Services Pty Ltd. Mr Joe McDiarmid has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves. Mr Joe McDiarmid has provided written consent for the inclusion in this report of the matters based on their information in the form and context in which it appears.

The information in this report that relates to Ore Reserves for the Kaapelinkulma Gold Mine was previously released to the ASX on the 23 February 2018 – Dragon Mining Updates Ore Reserves for Nordic Projects and the HKEx on the 18 October 2018 – Public Offer. These documents can be found at www.asx.com.au (Code: DRA) and www.hkex.com.hk (Stock Code: 1712), respectively. They fairly represent information and supporting documentation that was compiled by Mr. Joe McDiarmid, who is a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy and is an employee of RPM Advisory Services Pty Ltd. Mr Joe McDiarmid has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves. Written consent was previously provided by Mr. McDiarmid for the 23 February 2018 and 18 October 2018 releases.

The Company confirms that it is not aware of any new information or data that materially affects the Ore Reserves for the Fäboliden Gold Project as reported on the 23 February 2018 and 18 October 2018, and the assumptions and technical parameters underpinning the estimates in the 23 February 2018 and 18 October 2018 releases continue to apply and have not materially changed.

Mr. Neale Edwards BSc (Hons), a Fellow of the Australian Institute of Geoscientists, who is a full time employee of Dragon Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves confirms that the form and context in which the Mineral Resources are presented in this report have not been materially modified and are consistent with the 23 February 2018 and 18 October 2018 releases. Mr. Neale Edwards has provided written consent approving the statement of the Fäboliden Ore Reserves in this report in the form and context in which it appears.

The information in this report that relates to Ore Reserves for the Fäboliden Gold Project was previously released to the ASX on the 21 March 2017 – Ore Reserves Updated for Dragon Mining's Nordic Projects and the HKEx on the 18 October 2018 – Public Offer. These documents can be found at www.asx.com.au (Code: DRA) and www.hkex.com.hk (Stock Code: 1712), respectively. They fairly represent information and supporting documentation that was compiled by Mr. Joe McDiarmid, who is a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy and is an employee of RPM Advisory Services Pty Ltd. Mr Joe McDiarmid has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves. Written consent was previously provided by Mr. McDiarmid for the 21 March 2017 and 18 October 2018 releases.

The Company confirms that it is not aware of any new information or data that materially affects the Ore Reserves for the Fäboliden Gold Project as reported on the 21 March 2017 and 18 October 2018, and the assumptions and technical parameters underpinning the estimates in the 21 March 2017 and 18 October 2018 releases continue to apply and have not materially changed.

Mr. Neale Edwards BSc (Hons), a Fellow of the Australian Institute of Geoscientists, who is a full time employee of Dragon Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves confirms that the form and context in which the Mineral Resources are presented in this report have not been materially modified and are consistent with the 21 March 2017 and 18 October 2018 releases. Mr. Neale Edwards has provided written consent approving the statement of the Fäboliden Ore Reserves in this report in the form and context in which it appears.

The information in this report that relates to Exploration Results fairly represents information and supporting documentation that was compiled by Mr. Neale Edwards BSc (Hons), a Fellow of the Australian Institute of Geoscientists, who is a full time employee of the company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code of Reporting for Exploration Results, Mineral Resources and Ore Reserves. Mr. Neale Edwards has provided written consent approving the inclusion of the Exploration Results in the report in the form and context in which they appear.

#### APPENDIX 1 – JORC TABLE 1 FOR THE JOKISIVU GOLD MINE

### Section 1 Sampling Techniques and Data - Jokisivu Gold Mine

#### Criteria JORC Code Explanation

#### Sampling techniques •

- Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.
- 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 (eg 'reverse circulation drilling was used to obtain 1
  m samples from which 3 kg was pulverised to produce a 30
  g charge for fire assay'). In other cases more explanation
  may be required, such as where there is coarse gold that
  has inherent sampling problems. Unusual commodities or
  mineralisation types (eg submarine nodules) may warrant
  disclosure of detailed information.

#### Commentary

The various mineralised lodes at the Kujankallio and Arpola deposits were sampled using surface and underground diamond drill holes, reverse circulation drill holes, percussion drill holes, and sludge drill holes, surface trench sampling, and face chip sampling from underground development drives.

Drill hole collars and starting azimuths have been accurately surveyed by various contract surveyors. Dip values were measured at 10m intervals down hole by drillers using conventional equipment. Azimuth deviations of the deepest holes were surveyed with Reflex Maxibor or EMS multi-shot equipment. Drill samples were taken at geological intervals with average sample lengths of 1m. Face and wall samples were taken from development drives within ore zones.

Drilling was conducted by Outokumpu and Dragon Mining. In the 1990s, diamond drilling by Outokumpu used 45mm core diameter (T56) with sampling at varying intervals based on geological boundaries. Half-split core was sampled and sent for preparation (crushing and pulverising) and assaying at Outokumpu's laboratory where samples were analysed using a Fire-Assay method with AAS or ICP finish. Since 2000, diamond drilling by Outokumpu and Dragon Mining used 62mm and 50mm diameter core (T76 or NQ2) with sampling and preparation as described above. In some circumstances drill holes have been sampled using the full-core sample. Sample preparation was undertaken at the local independent laboratory in Outokumpu. Pulverised samples from drilling programs over the period 2000 to mid-2003 were assayed for gold using a 50g Fire Assay with AAS or ICP finish at VTT laboratory (Outokumpu town) and GTK's laboratory (Espoo and Rovaniemi). In addition to gold, some mineralised sections were assayed by ACME Analytical Laboratories (Vancouver, Canada) for a multi-element suite by ICP-MS method. From mid-2003 to 2007, all pulverised sample pulps have been shipped by DHL to ACME Analytical Laboratories (Vancouver, Canada) for gold analysis using a 30g Fire Assay with ICP-ES finish. During this period, all samples exceeding a 1ppm gold value were checked using Fire Assay with gravimetric finish. From the start of 2008 to the end of 2013, analysis of Dragon Mining's pulverised core was completed at ALS Minerals Laboratory (Rosia Montana, Romania) for gold using a 30g Fire Assay with AAS finish. In 2008, any gold values exceeding 3ppm were checked with Fire Assay using gravimetric finish. In the 2009 grade control program, gold values in diamond core and percussion samples in excess of 5ppm and 50ppm respectively were checked using Fire Assay with gravimetric finish. From 2014, full core from infill drilling was submitted to ALS Minerals, whilst half core was submitted from surface exploration holes.

#### **JORC Code Explanation**

#### **Drilling techniques**

Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).

# 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.

#### Commentary

Diamond, percussion, sludge and reverse circulation (RC) were the primary drilling techniques used at Kujankallio and Arpola. Channel sampling (with a field diamond saw) was used at trenches and outcrops. Mini drill holes were also used historically at surface. Diamond holes make up 74% of the total meterage drilled at the Kujankallio deposit and 70% of the total meterage drilled at the Arpola deposit. Core diameters vary from 45mm to 62mm. Hole depths ranged from 11m to 554m at Kujankallio and 8.1m to 461.2m at Arpola, Recoveries from diamond core were recorded as ROD figures in the database returning an average of 92%. Core was orientated using Reflex tools. Runs of diamond core were placed in cradles by Dragon Mining geologists and marked up with an orientated centre line prior to logging. Lost core was also routinely recorded. RC drilling makes up 1% of the total meterage drilled at Kujankallio with depths ranging from 8m to 85m and 6% of the total meterage at Arpola with depths ranging from 4m to 85m. Percussion drilling makes up 3.6% of the total meterage drilled at Kujankallio with depths ranging from 1m to 17m and 0.5% of the total meterage drilled at Arpola with depths ranging from 4m to 15m. Sludge holes make up 21.7% of the total meterage at Kujankallio and 22.8% of the total meterage drilled at Arpola.

Diamond core was reconstructed into continuous runs for orientation marking with depths checked against core blocks. Core loss observations were noted by geologists during the logging process. All percussion and RC samples were visually checked for recovery, moisture and contamination and no recovery problems were encountered.

No relationship was noted between sample recovery and grade. The mineralised zones have predominantly been intersected by diamond core with generally good core recoveries. The consistency of the mineralised intervals suggests sampling bias due to material loss or gain is not an issue.

#### **JORC Code Explanation**

#### Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged..

### Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

#### Commentary

All holes were field logged by company geologists to a high level of detail

Diamond holes were logged for recovery, RQD, number and type of defects. The supplied database contained tables with information on quartz vein shearing and vein percentage with observations recorded for alpha/beta angles, dips, azimuths, and true dips. The amount and type of ore textures and ore minerals were also recorded within a separate table.

Drill samples were logged for lithology, rock type, colour, mineralisation, alteration, and texture. Logging was a mix of qualitative and quantitative observations. It has been standard practice by Outokumpu and Dragon Mining (since 2000), that all diamond core be routinely photographed.

All drill holes were logged in full.

Diamond core is cut in half using a core saw with half core submitted for assay. In some circumstances, full-core or quarter core has been sent for analysis.

Open pit percussion drill samples were collected at 1m intervals. Samples were collected at the rig, representing cutting's coarse fraction. The whole sample was collected and split at the laboratory's sample handling facility. Samples were predominantly dry. Percussion drilling was halted immediately if groundwater was encountered. Drilling was through bedrock from surface. Sampling of diamond core and RC chips uses industry standard techniques. After drying the sample was subject to a primary crush, then pulverised so that 85% passes a –75um sieve.

Underground sludge holes were sampled at 1m intervals. The collected sample represents the whole drilled bulk material. Sample material was collected directly from the hole into a large plastic bucket.

Dragon Mining has used systematic standard and pulp duplicate sampling since 2004. Every 20th sample (sample id ending in -00, -20, -40, -60, -80) is submitted as a standard, and every 20th sample (sample id ending in -10, -30, -50, -70, -90) is inserted as a pulp duplicate (with the original sample id ending in -09, -29, -49, -69, -89).

Sample sizes are considered appropriate to correctly represent the moderately nuggetty gold mineralisation based on: the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for gold.

#### **JORC Code Explanation**

### Quality of assay data and laboratory tests

- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.
- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

### 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.

#### Commentary

The predominant assay method for drill samples was by Fire Assay with AAS or ICP finish (30g or 50g pulps). From 2008, samples reporting greater than 5ppm were checked using the gravimetric finish. His has been undertaken at ALS Minerals. Trench samples were analysed using Aqua-Regia digestion with ICP-MS analysis. The main element assayed was gold, but major and trace elements were analysed on selected drill holes with analysis undertaken at ACME Analytical Laboratories (Vancouver, Canada). Since 2015, analysis of the Jokisivu sludge samples was conducted at the Kemian Tutkimuspalvelut Oy/CRS Minlab laboratory in Finland, using PAL1000 cyanide leach with AAS finish.

No geophysical tools were used to determine any element concentrations used in this resource estimate.

Sample preparation checks for fineness were carried out by the laboratory as part of internal procedures to ensure the grind size of more than 85% passing 75µm was being attained. Laboratory QAQC includes the use of internal standards using certified reference material, and pulp replicates. The various programs of QAQC carried out by various companies over the years have produced results which support the sampling and assaying procedures used at the various deposits.

Five different certified reference materials representing a variety of grades from 1.346 g/t gold to 8.671 g/t gold were inserted systematically since 2004. Results highlighted that the sample assays are accurate, showing no obvious bias. Standard sample plots for sample analysis in recent years shows that all samples were within 2SD for all standards used.

A total of 116, 167 and 175 blank samples were submitted during the 2016, 2017 and 2018 years, respectively. Results show that no contamination has occurred.

RPM has independently verified significant intersections of mineralisation by inspecting drill core from the recent drilling at the Dragon Mining core yard during the 2015 site visit. The latest site visit was conducted by RPM consultant geologist Jeremy Clark in December 2017.

There has been no specific drill program at Kujankallio or Arpola designed to twin existing drill holes.

Primary data is documented on paper logs prior to being digitised using Drill Logger software. During recent years, drill logging has been recorded on customised Excel spreadsheets and imported onto an Access database.

Dragon Mining adjusted zero gold grades to half the detection limit.

#### **JORC Code Explanation**

# Location of data points

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.

# Data spacing and distribution

- Data spacing for reporting of Exploration Results.
- Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
- Whether sample compositing has been applied.

### Orientation of data in relation to geological structure

- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
- If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.

#### Commentary

Drill hole collars and starting azimuths have been accurately surveyed by various contract surveyors. Down hole dip values were recorded at 10m intervals by the drillers using conventional equipment. The azimuth deviations of the deepest holes have been surveyed with Maxibor equipment. All drilling from 2010 has been surveyed using the Maxibor or Deviflex equipment.

Drill hole locations were positioned using the Finnish National Grid System (FIN KKJ2, 2003) with survey control established by Suomen Malmi Oy. A local mine grid is used at the Jokisivu mine and all resource modelling was done using the local grid co-ordinates.

The topographic surface over the Jokisivu mine was prepared by Dragon Mining using topographic contours from digi-form maps. Surveyed data points from drill hole collars and trench samples were used to create a more accurate surface immediately above the mineralised lodes. The Kujankallio open pit was generated from mine survey pickups.

Drill holes have been located at 5m by 10m through the shallow portions of the mineralised lodes at Kujankallio. The nominal spacing across the deposit is at 20m by 20m.

The main mineralised domains have demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource, and the classifications applied under the 2012 JORC Code.

Samples have been composited to 1 metre lengths using 'best fit' techniques.

Drill holes are orientated predominantly to the south (local mine grid) and drilled at an angle which is approximately perpendicular to the orientation of the mineralised trends. Underground 'fan' drilling is at variable dips and directions dependant on the drill site within the drives and orientated to optimally intercept the mineralised lodes.

There is the potential for orientation based sampling bias due to sludge drill holes being drilled up into the mineralised lodes but it is not considered to be material.

Criteria	J0	PRC Code Explanation	Commentary
Sample security	•	The measures taken to ensure sample security.	Chain of custody of samples is managed by Dragon Mining and the process was closely reviewed by Jeremy Clark (RPM) during the May 2015 site visit.
			Dragon Mining personnel or drill contractors transport diamond core to the core logging facilities where Dragon Mining geologists log the core. Core samples are cut either by Dragon Mining personnel or by ALS laboratory personnel. Samples are transported to the sample preparation laboratory and then on to the analysis laboratory using contract couriers or laboratory personnel. Dragon Mining employees have no further involvement in the preparation or analysis of samples.
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data.	A review of sampling techniques and data was carried out by Jeremy Clark (RPM) during the May 2015 site visit and later in December 2017. The conclusion made was that sampling and data capture was to industry standards.

## Section 2 Reporting of Exploration Results - Jokisivu Gold Mine

Criteria	JORC Code Explanation	Commentary				
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties,	The Jokisivu Mining Concessions cover both the Arpola and Kujankallio deposits, which Dragon Mining are actively mining.				
	native title interests, historical sites, wilderness or national park and environmental settings.	Mining Concessions 'JOKISIVU' (K7244, 48.32 ha) and 'JOKISIVU 2' (KL2015:0005, 21.30 ha). An application for a third Mining Concession, 'JOKISIVU 3' (KL2018:0010, 8.97 ha) adjoining the existing Mining				
	• The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	Concessions was lodged in late 2018.Exploration Licenses and Clain close to mining concession area: Jokisivu 4-5 (ML2012:0112, 85.76 ha) a Jokisivu 7-8 (ML2017:0131, 18.60 ha).				
		The tenements are in good standing and no known impediments exist.				
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	The Kujankallio and Arpola deposits were discovered by Outokumpu Mining Oy.				
Geology	Deposit type, geological setting and style of mineralisation.	Jokisivu is a Palaeoproterozoic orogenic gold deposit comprising two major ore bodies (Kujankallio and Arpola) in a diorite. Mineralisation is hosted within relatively undeformed and unaltered diorite in 1m to 5m wide shear zones that are characterised by laminated, pinching, and swelling quartz veins.				
Drill hole information	• A summary of all information material to the under-standing of the exploration results including a tabulation of the	The Kujankallio and Arpola deposits form the Jokisivu mine.				
	following information for all Material drill holes:	The most recent diamond drilling has targeted the depth extensions of Kujankallio Hinge Zone and Arpola deposit, confirming the continuit				
	• easting and northing of the drill hole collar	these zones. Results from these programs were reported to the HKEx on 28 December 2018 – Drilling at the Jokisivu Gold Mine Returns Significant				
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	Results.				
	<ul> <li>dip and azimuth of the hole</li> </ul>	No exploration results are being reported in this report.				
		The Jokisivu Gold Mine has been operating since 2009. In the opinion of Dragon Mining, material drill results have been adequately reported				
	down hole length and interception depth	previously to the market as required under the reporting requirements of the				
	• hole length	ASX Listing Rules and HKEx Listing Rules.				
	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 Computent Person should clearly explain why this is the					

Competent Person should clearly explain why this is the

case.

#### **JORC Code Explanation**

## Data aggregation methods

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.
- Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

### Relationship between mineralisation widths and intercept lengths

- These relationships are particularly important in the reporting of Exploration Results.
- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').

### 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.

#### Commentary

Exploration results are not being reported.

Not applicable as a Mineral Resource is being reported.

Metal equivalent values have not been used.

The majority of drill holes at Kujankallio were orientated predominantly to an azimuth of 198° (local mine grid) and angled to an average dip of approximately –60°, which is approximately perpendicular to the orientation of the mineralised trends.

At Arpola drill holes were orientated predominantly to an azimuth of  $180^{\circ}$  (local mine grid) and angled to an average dip of approximately  $-50^{\circ}$  that is approximately perpendicular to the orientation of the mineralised trends.

The main Kujankallio lode strikes at approximately  $280^\circ$  (local grid) and dips at  $40^\circ$  to the north (local grid). Lodes within the 'hinge zone' strike approximately at  $160^\circ$  to  $205^\circ$  and dip to the east (local grid) at approximately  $45^\circ$ . Six lodes to the north-west strike at  $015^\circ$  and dip at  $45^\circ$  to the east.

At Arpola the narrow mineralised zones strike at approximately 280° (local grid) and are variably dipping between 45° and 65° to the north (local grid).

Relevant diagrams have been included within the Mineral Resource report main body of text.

#### **JORC Code Explanation**

### Balanced Reporting

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- 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.

# 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.

#### Further work

- The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large – scale stepout 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.

#### Commentary

Drill hole collars and starting azimuths have been accurately surveyed by Dragon Mining mine and exploration surveyors. Down hole surveys were undertaken on all exploration and resource development diamond drill holes. Surveys were generally taken at 3m or 10m intervals down hole using Maxibor, EMS multishot or Deviflex equipment. The majority of surveys have been conducted by Suomen Malmi Oy (SMOY). Recent drill holes have been surveyed by Nivalan Timanttikairaus Oy using Maxibor II, Gyro or Deviflex equipment.

Exploration results are not being reported.

Face and wall chip sampling has been undertaken as the Kujankallio development continues. These samples are not included in Mineral Resource estimates but are used by Dragon Mining to guide the mineralisation interpretations.

Mine development is ongoing. Dragon Mining is undertaking drilling underground at a number of levels to better understand the nature and extent of the gold mineralisation.

Refer to diagrams in the body of text within the Mineral Resource report.

# Section 3 Estimation and Reporting of Mineral Resources - Kujankallio Deposit, Jokisivu Gold Mine

#### Criteria

#### **JORC Code Explanation**

#### **Database integrity**

- Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.
- Data validation procedures used.

#### Site visits

- Comment on any site visits undertaken by the Competent Person and the outcome of those visits.
- If no site visits have been undertaken indicate why this is the case.

# Geological interpretation

- Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.
- Nature of the data used and of any assumptions made.
- The effect, if any, of alternative interpretations on Mineral Resource estimation.
- The use of geology in guiding and controlling Mineral Resource estimation.
- The factors affecting continuity both of grade and geology.

#### Commentary

During recent years, drill logging has been recorded on customised Excel spreadsheets and imported onto an Access database. Dragon Mining carry out internal checks to ensure the transcription is error free. Laboratory assay results are loaded as electronic files direct from the laboratory so there is little potential for transcription errors.

The database is systematically audited by Dragon Mining geologists. All drill logs are validated digitally by the geologist once assay results are returned from the laboratory.

RPM also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. Minor errors were noted but pertain to data outside the resource.

Initial site visits were conducted by Aaron Green in June 2007 and Paul Payne in May 2009 (both formerly ResEval and RUL). A site visit was conducted by Trevor Stevenson (formerly RPM) in October 2013. A site visit was conducted by Jeremy Clark (RPM) in May 2015. The most recent site visit was conducted by Jeremy Clark in December 2017. Drilling, logging, and sampling procedures were viewed and it was concluded that these were being conducted to best industry practice.

The Kujankallio deposit comprises a set of parallel lodes of varying thickness and grade hosted in a shear zone striking west-northwest. The shears are characterised by laminating, pinching, and swelling quartz veins and a well-developed, moderately plunging lineation. The lodes are hosted within a sheared quartz diorite unit. Ongoing underground development has increased the level of confidence in the current interpretations.

Drill hole logging by Dragon Mining geologists, through direct observation of drill core and percussion samples have been used to interpret the geological setting. The bedrock is exposed at surface and within the open pit.

The continuity of the main mineralised lodes is clearly observed by gold grades within the drill holes. The close spaced drilling (5m) at shallow depths, and ongoing face and wall sampling, suggest the current interpretation is robust. The majority of the mineralisation has been captured within the current interpretations of thin parallel lodes. Alternate interpretations would have little impact on the overall Mineral Resource estimation.

Mineralisation occurs within quartz diorite that is directly observed at surface. Vein percent has been used in geological logging to highlight mineralised intersections. The current interpretations are mainly based on gold assay results.

Gold mineralisation is contained within quartz veins occurring within the barren host rocks.

#### **JORC Code Explanation**

#### **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.

# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

#### Commentary

The Kujankallio Mineral Resource area extends over a strike length of 890m (from 5,680mE to 6,570mE local grid) and includes the 530m vertical interval from 0m to -530m local grid.

Ordinary Kriging (OK) interpolation with an oriented 'ellipsoid' search was used for the estimate. Surpac software was used for the estimations.

Three dimensional mineralised wireframes (interpreted by Dragon Mining and checked by RPM) were used to domain the gold data. Sample data was composited to 1 metre down hole lengths using the 'best fit' method. Intervals with no assays were excluded from the estimates.

The influence of extreme grade values was addressed by reducing high outlier values by applying top-cuts to the data. These cut values were determined through statistical analysis (histograms, log probability plots, cv's, and summary multi-variate and bi-variate statistics) using Geoaccess Professional software.

The maximum distance of extrapolation from data points (down dip) was 20m.

RPM has not made assumptions regarding recovery of by-products from the mining and processing of ore at the Kujankallio deposit.

No estimation of deleterious elements was carried out. Only gold was interpolated into the block model.

An orientated 'ellipsoid' search was used to select data and was based on the observed lode geometry. The search ellipse was orientated to the average strike, plunge, and dip of the main lodes. Three passes were used in the estimation. The first pass used a range 45m with a minimum of 10 samples. For the second pass, the range was extended to 60m, with a minimum of 6 samples. A third pass radius of 150m with a minimum of two samples was used to fill the model. A maximum of 20 samples was used for all 3 passes. More than 90% of the blocks were filled in the first two passes.

Mineral Resource estimates for the Kujankallio deposit have previously been reported by RPM, with the earliest reported in January 2009. Prior to this, an estimate was completed by Maxwell Geoservices in January 2005. The current estimate is based upon data and interpretations from the previous estimates, and has included information from recent underground diamond drilling. The Kujankallio deposit forms part of the Jokisivu Gold Mine. Dragon Mining supplied RPM with stope and drift outlines which were used to deplete the current model.

**JORC Code Explanation** 

#### Commentary

No assumptions were made regarding the recovery of by-products.

No non-grade deleterious elements were estimated.

The parent block dimensions used were 2m NS by 5m EW by 5m vertical with sub-cells of 0.5m by 1.25m by 1.25m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing.

Selective mining units were not modelled. The block size used in the resource model was based on drill sample spacing and lode orientation.

Only gold assay data was available, therefore correlation analysis was not carried out.

The deposit mineralisation was constrained by wireframes constructed using a combination of gold grade, lithology, and structure. No minimum intercept length was used, and a lower grade cut-off was not applied although, in most cases, the minimum grade of 1.0g/t gold was used as a limit. The wireframes were applied as hard boundaries in the estimate.

Top cuts were applied to the data. Statistical analysis was carried out on data from each lode. The high coefficient of variation within some main lodes, and the scattering of high-grade outliers observed on the histograms, suggested that top-cuts were required if linear grade interpolation was to be carried out.

To validate the model, a qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average gold grades of the composite file input against the gold block model output for all the resource objects. A trend analysis was completed by comparing the interpolated blocks to the sample composite data within the main lodes. This analysis was completed for eastings and elevations across the deposit. Validation plots showed good correlation between the composite grades and the block model grades.

Moisture

 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. Tonnages and grades were estimated on a dry in situ basis.

#### **JORC Code Explanation**

#### Commentary

# Cut-off parameters

 The basis of the adopted cut-off grade(s) or quality parameters applied. The Mineral Resource estimate has been constrained by the wireframed mineralised envelopes, is undiluted by external waste and reported above a 1.8 g/t gold cut-off grade. The cut-off grade was estimated using the following parameters which are based on gold market prices extrapolated for the potential economic extraction of a resource (120% of spot price), Jokisivu actual operational costs and recoveries as outlined below:

- Gold price of US\$1,525/oz;
- Mining cost of US\$39.68/t of ore;
- Processing cost of US\$24.68/t of ore; and
- Processing recovery of 92%.

The Kujankallio deposit is currently being mined as part of the Jokisivu Underground Mine. Ore Reserves for the mine are currently being updated.

# Mining factors or assumptions

 Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. The Kujankallio deposit is currently being mined using underground methods.

# Metallurgical factors or assumptions

• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made 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.

RPM has made no assumptions regarding metallurgical amenability. Ore from Jokisivu is processed at the Vammala Plant, a conventional flotation and gravity circuit.

#### **JORC Code Explanation**

### 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.

#### Commentary

No assumptions have been made by RPM regarding possible waste and process residue disposal options.

#### **Bulk density**

- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

The bulk density values assigned to the block model were assumed. A value of 2.8t/m3 was used for fresh material (both mineralised and waste material). A value of 1.75t/m3 was assigned to the overlying till material. These values are consistent with similar styles of mineralisation and lithologies at neighbouring Dragon Mining operations.

#### Classification

- The basis for the classification of the Mineral Resources into varying confidence categories.
- 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).
- Whether the result appropriately reflects the Competent Person's view of the deposit.

Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Measured, Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity. The Measured Mineral Resource has been defined by extensive open cut and underground grade control drilling (10m strike spacing), surface trenching and underground mapping which has confirmed the geological and grade continuity of the mineralisation. The Indicated Mineral Resource was defined within areas of reasonably close spaced diamond drilling (less than 30m by 30m) due to the good continuity and predictability of the lode positions. The Inferred Mineral Resource included areas of the resource where sampling was greater than 30m by 30m, small isolated pods of mineralisation outside the main mineralised zones and geologically complex zones.

The mineralised lodes interpreted at Kujankallio are based on a high level of geological understanding of similar deposits currently being mined by Dragon Mining. The drilling and sampling processes used by Dragon Mining are 'best practice' and certified laboratories have been used for gold analyses of samples. The input data is considered reliable and suitable for use in the estimate.

The Mineral Resource estimate appropriately reflects the view of the Competent Person.

#### **JORC Code Explanation**

#### Audits or reviews

The results of any audits or reviews of Mineral Resource estimates.

# 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.

#### Commentary

Internal audits have been completed by RPM that verified the technical inputs, methodology, parameters and results of the estimate.

The Kujankallio Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been verified through sampling and mapping of underground drives, and through infill drilling orientated to optimally intersect the lodes. Dragon Mining has a good understanding of the geology and mineralisation controls gained through mining of the deposit since 2009.

The Mineral Resource statement relates to global estimates of tonnes and grade.

Results from chip samples taken along underground development drives have confirmed the lode geometry and position.

# Section 3 Estimation and Reporting of Mineral Resources – Arpola Deposit, Jokisivu Gold Mine

0014 111111						
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> <li>Data validation procedures used.</li> </ul>	During recent years, drill logging has been recorded on customised Excel spreadsheets and imported onto an Access database. Dragon Mining carry out internal checks to ensure the transcription is error free. Laboratory assay results are loaded as electronic files direct from the laboratory so there is little potential for transcription errors.  The database is systematically audited by Dragon Mining geologists. All drill logs are validated digitally by the geologist once assay results are returned from the laboratory.				
		RPM also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. Minor errors were noted but pertain to data outside the resource.				
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Initial site visits were conducted by Aaron Green in June 2007 and Paul Payne in May 2009 (both formerly ResEval and RUL). A site visit was conducted by Trevor Stevenson (formerly RPM) in October 2013. A site				
	• If no site visits have been undertaken indicate why this is the case.	visit was conducted by Jeremy Clark (RPM) in May 2015. The most recent site visit was conducted by Jeremy Clark in December 2017. Drilling, logging, and sampling procedures were viewed and it was concluded that these were being conducted to best industry practice.				
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The Arpola deposit comprises a set of multiple thin, discontinuous structures modelled as sub-parallel lodes in a tight array. The lodes are hosted within a sheared quartz diorite unit. Open pit mining and underground development				
	• Nature of the data used and of any assumptions made.	has increased the level of confidence in the current interpretations.				
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	Drill hole logging by Dragon Mining geologists, through direct observation of drill core and percussion samples have been used to interpret the geological setting. The bedrock is exposed at surface and within the current				
	• The use of geology in guiding and controlling Mineral Resource estimation.	open pit.				
	The factors affecting continuity both of grade and geology.	The continuity of the main mineralised lodes is clearly observed by gold grades within the drill holes. The close spaced drilling (5m) at shallow depths, and trench sampling, suggest the current interpretation is robust. The majority of the mineralisation has been captured within the current interpretations of thin parallel lodes. Alternate interpretations would have little impact on the overall Mineral Resource estimation.				

Mineralisation occurs within quartz diorite which is directly observed at surface. Vein percent has been used in geological logging to highlight mineralised intersections. The current interpretations are mainly based on gold assay results.

Gold mineralisation is contained within quartz veins occurring within the barren host rocks.

#### **JORC Code Explanation**

#### 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.

# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

#### Commentary

The Arpola Mineral Resource area extends over a strike length of 460m from 6,055mE to 6,515mE and includes the vertical extent of 310m from 10m level to 320m level.

Ordinary Kriging (OK) interpolation with an oriented 'ellipsoid' search was used for the estimate. Surpac software was used for the estimations.

Three-dimensional mineralised wireframes (interpreted by Dragon Mining and checked by RPM) were used to domain the gold data. Sample data was composited to 1 metre down hole lengths using the 'best fit' method. Intervals with no assays were excluded from the estimates.

The influence of extreme grade values was addressed by reducing high outlier values by applying high-grade cuts to the data. These cut values were determined through statistical analysis (histograms, log probability plots, cv's, and summary multi-variate and bi-variate statistics) using Geoaccess Professional software.

The maximum distance of extrapolation from data points (down dip) was 20m.

No assumptions have been made regarding recovery of by-products from the mining and processing of the Arpola gold resource.

No estimation of deleterious elements was carried out. Only gold was interpolated into the block model.

An orientated 'ellipsoid' search was used to select data and was based on the observed lode geometry. The search ellipse was orientated to the average strike, plunge, and dip of the main lodes. Three passes were used in the estimation. For the main lodes, the first pass used a range 30m with a minimum of 10 samples. For the second pass, the range was extended to 60m, with a minimum of 6 samples. A third pass radius of 90m with a minimum of two samples was used to fill the model. A maximum of 20 samples was used for all 3 passes. More than 95% of the blocks were filled in the first two passes.

Mineral Resource estimates for the Arpola deposit have previously been reported by RPM, with the earliest reported in July 2010. Prior to this, an estimate was completed by Maxwell Geoservices in February 2005. The current estimate is based upon data and interpretations from the previous estimates, and has included information from recent (2017) underground sludge drilling and underground sampling. The Arpola deposit forms part of the Jokisivu Gold Mine. Recent underground development has occurred at Arpola. Dragon Mining supplied RPM with drift outlines, which were used to deplete the current model.

**JORC Code Explanation** 

#### Commentary

No assumptions were made regarding the recovery of by-products.

No non-grade deleterious elements were estimated.

The parent block dimensions used were 2m NS by 10m EW by 5m vertical with sub-cells of 0.5m by 2.5m by 1.25m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing.

Selective mining units were not modelled.

Only gold assay data was available, therefore correlation analysis was not carried out.

The deposit mineralisation was constrained by wireframes constructed using a combination of gold grade, lithology, and structure. No minimum intercept length was used, and a lower grade cut-off was not applied although, in most cases, the minimum grade of 0.5g/t gold was used as a limit. The wireframes were applied as hard boundaries in the estimate.

Top-cuts were applied to the data based on a statistical analysis of samples at Arpola. The high coefficient of variation within some main lodes, and the scattering of high grade outliers observed on the histograms, suggested that top-cuts were required if linear grade interpolation was to be carried out.

To validate the model, a qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average gold grades of the composite file input against the gold block model output for all the resource objects. A trend analysis was completed for 20m eastings and 10m elevations for lode 1. The model validation showed good correlation between the composite grades and the block model grades and highlighted the smoothing effect of the estimated grades compared to the composites.

#### Moisture

 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.

Tonnages and grades were estimated on a dry in situ basis.

## Cut-off parameters

The basis of the adopted cut-off grade(s) or quality parameters applied.

The Mineral Resource estimate has been constrained by the wireframed mineralised envelopes, is undiluted by external waste and reported above a 1.8g/t gold cut-off grade. The cut-off grade was estimated using the following parameters which are based on gold market prices extrapolated for the potential economic extraction of a resource (120% of spot price), Jokisivu actual operational costs and recoveries as outlined below:

- Gold price of US\$1,525/oz;
- Mining cost of US\$39.68/t of ore;
- Processing cost of US\$24.68/t of ore; and
- Processing recovery of 92%.

#### **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. The Arpola deposit is currently being mined using underground methods.

# Metallurgical factors or assumptions

• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made 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.

RPM has made no assumptions regarding metallurgical amenability. Ore from Jokisivu is processed at the Vammala Plant, a conventional flotation and gravity circuit.

# 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. No assumptions have been made by RPM regarding possible waste and process residue disposal options.

#### **Bulk density**

- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

The bulk density values assigned to the block model were assumed. A value of 2.8t/m3 was used for fresh material (both mineralised and waste material). A value of 1.75t/m3 was assigned to the overlying till material. These values are consistent with similar styles of mineralisation and lithologies at neighbouring Dragon Mining operations.

#### **JORC Code Explanation**

#### Classification

- The basis for the classification of the Mineral Resources into varying confidence categories.
- 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).
- Whether the result appropriately reflects the Competent Person's view of the deposit.

### Audits or reviews

The results of any audits or reviews of Mineral Resource estimates.

# 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.

#### Commentary

Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified on the basis of sample spacing and continuity of the interpreted zones. In general, any zone defined by surface trenching or drilling immediately below the mined pit, where drill hole spacing was 10m by 5m, and good geological lode continuity was apparent (or confirmed by underground development), was classified as Measured Mineral Resource. Remaining areas where drill hole spacing was less than 20m by 20m and reasonable geological lode continuity was apparent were classified as Indicated Mineral Resource. Those zones where drill hole spacing was greater than 20m by 20m, or where the continuity and/or geometry were uncertain were classified as Inferred Mineral Resource. Zones with less than four drill hole intersections were also classified as Inferred.

The mineralised lodes interpreted at Arpola are based on a high level of geological understanding of similar deposits currently being mined by Dragon Mining. The drilling and sampling processes used by Dragon Mining are 'best practice' and certified laboratories have been used for Gold analyses of samples. The input data is considered reliable and suitable for use in the Mineral Resource estimate.

The Mineral Resource estimate appropriately reflects the view of the Competent Person.

Internal audits have been completed by RPM, which verified the technical inputs, methodology, parameters and results of the estimate.

The Arpola Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been verified through sampling and mapping of underground drives, and through infill drilling orientated to optimally intersect the lodes. Dragon Mining has a good understanding of the geology and mineralisation controls gained through mining of the deposit since 2009.

The Mineral Resource statement relates to global estimates of tonnes and grade.

Results from chip samples taken along underground development drives have confirmed the lode geometry and position.

# Section 4: Estimation and Reporting of Ore Reserves – Jokisivu Gold Mine

Criteria	JO	RC Code Explanation	Commentary				
Mineral Resource estimate for conversion to Ore Reserves	•	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	The Mineral Resources for Jokisivu is a combination of the Kujankall Arpola deposits. The Competent Person for the Mineral Resource estir Mr. David Allmark who is a full time employee of RPM Advisory Se Pty Limited and is a Members of the Australasian Institute of Geosci with sufficient relevant experience to qualify as a Competent Person.	ce estimate is			
	•	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.		Geoscientists			
			The Mineral Resources are	inclusive of	these Ore Re	serves.	
Site visits	•	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	A site visit was undertaken to the Jokisivu mine by Mr Joe M in November 2016. A follow-up site visit was conducted by the Pessurge CP. Mr Jeremy Clark, in December 2017 and no material			the previous	
	•	If no site visits have been undertaken indicate why this is the case.	Resource CP, Mr Jeremy Clark, in December 2017 and no material characteristic have been identified.				errar changes
Study status	•	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Jokisivu is an operating mine with a history of mining in the types of development and stopes included in the Ore Reserves. The Mineral Resources have been converted to Ore Reserves by means of Life of Mine development and stoping plan supported by actual numbers used for the economic budget preparation. In RPM's opinion the approach and data support a study of at least Pre-feasibility study level.  In RPM's opinion the mine plan demonstrates that the outcomes are technically achievable and economically viable.				The Mineral
	•	• The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.					
Cut-off parameters	•	The basis of the cut-off grade(s) or quality parameters applied.	Cut-off grades have been determined for both the Kujankallio and Arpola regions of the Jokisivu area. In the case of Arpola, several different COG's have been estimated depending on ground conditions and corresponding mining loss and dilution figures. The table below shows the cut-off grades applied:				
			Area	Project	Operating	Stoping	Ore Dev
			Kujankallio In – Situ Au Grade (g/t)			2.2	
			Arpola A In-Situ Au Grade (g/t)			2.2	
			Arpola B In-Situ Au Grade (g/t)	3.4	2.5	2.2	1.0
			Arpola C In-Situ Au Grade (g/t)			1.9	
			Arpola D In-Situ Au Grade (g/t)			2.2	

The key parameters to estimate ore cut-off grade are based on the current mining operations.

Operating COG and only includes the milling and refining costs.

The Project COG includes all site capital and operating costs. The Operating COG includes all the operating cost inclusive of ore development; an in-situ stoping COG includes the operating cost without ore development. The insitu ore development COG assumes the mining cost is included in the Opex

# **JORC Code Explanation**

# Mining factors or assumptions

- The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).
- The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.
- The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and preproduction drilling.
- The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).
- The mining dilution factors used.
- The mining recovery factors used.
- Any minimum mining widths used.
- The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.
- The infrastructure requirements of the selected mining methods.

# Commentary

Overhand bench and rock fill mining has been successfully used at the mine for many years and is appropriate for this style of deposit. Mining advances from bottom upwards in 80 metre high mining panels leaving a sill pillar between the panels. Back fill material is waste rock from development. Access drives from the main decline to mining areas are developed at 15 to 20 m vertical sub-level intervals.

The stopes have been designed based on historical operational parameters and validated using a commercial stope optimisation product.

Reconciliation of past production for this mine was used to determine appropriate mining modifying factors to convert the Mineral Resource to an Ore Reserve

Material, even if within the Mineral Resources that have not been planned to be mined at this stage have not been included in the Ore Reserves.

The average mining dilution and ore loss factors are shown in the table below, also included are the minimum mining widths adopted:

Area	Dilution	Ore Loss	Width (m)
Kujankallio	30%	10%	3
Arpola A	30%	15%	5
Arpola B	30%	20%	3
Arpola C	15%	5%	2
Arpola D	30%	10%	3

Inferred Mineral Resources may be included within stope shapes but the assigned grade to this material is zero and hence assumed to be waste rock.

All required infrastructure is present or proposed (such as ventilation raises) as this is an ongoing operation.

### **JORC Code Explanation**

# Metallurgical factors • or assumptions

- The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.
- Whether the metallurgical process is well-tested technology or novel in nature.
- The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.
- Any assumptions or allowances made for deleterious elements
- The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.
- For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?

#### **Environmental**

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

#### Commentary

Material from the Jokisivu Gold Mine is processed through the Company's Vammala Plant, a conventional flotation circuit that produces a gold concentrate, which is subsequently treated at the Company's Svartliden CIL Plant in northern Sweden.

The metallurgical process is well tested having been in operation since 1994.

The combined metallurgical recovery is estimated at 92.0% based on the historical performance of the plant.

Bulk samples are not required for further metallurgical testing.

The Jokisivu mine and the Vammala Plant have separate Environmental Permits. As an ongoing mining operation no adverse environmental restrictions are anticipated.

Jokisivu received an Environmental Permit in 2006, which was renewed in 2010. The operation continues to meet all of its permit conditions.

The presence of a flying squirrel population in the Jokisivu area is one of the principal environmental issues for the mine. The endangered flying squirrel is protected by the European Union's Habitats Directive and the Finnish Nature Conversation Act.

A routine investigation into the protected species was conducted in the Jokisivu district during the second quarter of 2018. The results of the investigation indicated the flying squirrel population in the district is exceptionally dense and lively, due to the good nesting and nourishment opportunities on the mine site and surrounding areas. The Company continues to consider, the flying squirrel and its habitat, in its everyday activities.

Criteria	JORC Code Explanation	Commentary
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Existing site infrastructure is in place, no additional infrastructure is required.
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	Budget Capital cost figures have been utilised.  The operational costs have been based on historical costs.  Allowances for deleterious elements and concentrate treatment have been allowed for in the economic model.  The gold price was supplied by Dragon Mining and reviewed by RPM and considered reasonable.  The exchange rate was supplied by Dragon Mining and reviewed by RPM and considered reasonable.  Transport charges are based on current site operating conditions.  Treatment and refining charges have been applied as per ongoing experience.  Minimal royalties are payable to the landowner.
Revenue factors	<ul> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	A gold price of US\$1,270/oz was provided by Dragon Mining and confirmed by RPM as reasonable using published metal price forecasts.  An exchange rate of EUR:USD 1.17 was provided by Dragon Mining and validated by internal RPM data bases.
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> </ul>	The demand for gold is considered in the gold price used.  It was considered that gold will be marketable for beyond the processing life of these Reserves.  The commodity is not an industrial metal.

• For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.

### **JORC Code Explanation**

#### **Economic**

- The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.
- NPV ranges and sensitivity to variations in the significant assumptions and inputs.

# **Social**

 The status of agreements with key stakeholders and matters leading to social licence to operate.

### Other

- To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:
- Any identified material naturally occurring risks.
- The status of material legal agreements and marketing arrangements.
- The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.

#### Classification

- The basis for the classification of the Ore Reserves into varying confidence categories.
- Whether the result appropriately reflects the Competent Person's view of the deposit.
- The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).

# Commentary

This project has been operating since 2009 and the inputs into the economic modelling are based on this historic information. The economic modelling demonstrates that the Project is cash flow positive.

The base case results in a positive economic outcome as assessed by a NPV calculation (@10% DCF). The NPV is most sensitive to the gold price. The project break even gold price is approximately US\$1,202 per ounce.

Operations have been in place since 2009 and Dragon Mining advise that it enjoys a good relationship with the local community.

Ingress of water and geotechnical issues are addressed by site.

All legal and marketing arrangements are in good standing.

All government agreements and approvals are in good standing.

The Ore Reserve is classified as Proved and Probable in accordance with the JORC Code, corresponding to the resource classifications of Measured and Indicated Resources.

RPM notes that while some areas within the upper portion of Arpola (Areas A, C and D) are classified as Measured Resources, further study is required to confirm the mining ore loss and dilution factors to a high level of confidence. As such all Measured Resource within these areas have been decreased to Probable Reserves.

The deposit's geological model is well constrained. The Ore Reserve classification is considered appropriate given the nature of the deposit, the moderate grade variability, drilling density, structural complexity and mining history.

No Measured Mineral Resources were included in the Probable Ore Reserve.

No Inferred Mineral Resources were included in the Ore Reserve estimate.

# **JORC Code Explanation**

#### Audits or reviews

The results of any audits or reviews of Ore Reserve estimates.

# Discussion of relative accuracy/ confidence

- Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.
- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.
- Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.
- It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

# Commentary

RPM has completed an internal review of the Ore Reserve estimate and found it to be reasonable.

RPM has used mine design practices and estimates based on the operational factors that have occurred throughout the mines life since 2009. No statistical analysis procedures have been applied.

The Ore Reserve report is a global assessment of the Jokisivu Gold Mine based on the assumption that the operation will continue in operation.

The accuracy and confidence limits are based on the current designs and cutoff grade analysis employed in the economic evaluation. Material changes to the economic assumptions including the operating assumption and the revenue factors may materially impact the accuracy of the estimate.

The Ore Reserve has utilised parameters provided by site as made available.

# APPENDIX 2 – JORC TABLE 1 FOR THE ORIVESI GOLD MINE

# Section 1 Sampling Techniques and Data - Orivesi Gold Mine

# Criteria JORC Code Explanation

# Sampling techniques •

- Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.
- 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 (eg 'reverse circulation drilling was used to obtain 1
  m samples from which 3 kg was pulverised to produce a 30
  g charge for fire assay'). In other cases more explanation
  may be required, such as where there is coarse gold that
  has inherent sampling problems. Unusual commodities or
  mineralisation types (eg submarine nodules) may warrant
  disclosure of detailed information.

# Commentary

The various mineralised lodes at the Orivesi Gold Mine were sampled using surface and underground diamond drill holes (DD) and underground production 'soija' (sludge) holes. Production grade control drilling was undertaken at 4m intervals along development drives, whilst DD holes were drilled at variable spacings but averaged 10-30m spacing in the central portions of the lode systems around the underground development, increasing to 30-60m above and below the current working levels. Drill holes were surveyed on the local mine grid.

Drill holes used in the Kutema estimate included 737 surface and underground diamond holes and 4,850 underground production 'soija' (sludge) drill holes for a total of 130,098m. The supplied Kutema database contained a total of 7,827 records for 197,457m of drilling.

Drill holes used in the Sarvisuo estimate included 406 surface and underground diamond holes and 2,160 underground production 'soija' (sludge) drill holes for a total of 91,011m. The supplied Sarvisuo database contained a total of 7,497 records for 198,548m of drilling.

The majority of holes were drilled from underground towards grid north and angled in 'fans' to optimally intersect the sub-vertical mineralised zones.

All drill hole collar co-ordinates in the Mineral Resource have been accurately surveyed by qualified mine surveyors and tied into the local mine grid. Down hole surveys were undertaken on all exploration and resource development holes, however the majority of historic holes only have dip data with nominal azimuth readings. Surveys were generally taken at 3m or 10m intervals down hole using Maxibor or EMS multishot equipment. The majority of surveys were conducted by Suomen Malmi Oy (SMOY). Recent drill holes were surveyed by Nivalan Timanttikairaus Oy using Maxibor II or Gyro equipment.

Drilling was conducted by Lohja Oy, Outokumpu and Dragon Mining. Diamond drilling by Lohja and Outokumpu used 45mm diameter core (T56) with sampling at varying intervals based on geological boundaries. Lohja used mainly VTT Laboratory in Finland for assaying. In 1992-2003 (Outokumpu), sample preparation and analysis were undertaken at the local independent laboratory (GAL and later VTT) in the town of Outokumpu using Fire-Assay with AAS or ICP finish. Diamond drilling by Dragon Mining used 39mm, 40.7mm and 50mm core diameter (WL-56, BQTK and NQ2) with sampling and analysis as described above for Outokumpu drilling. In June 2008, the independent sample preparation laboratory in the town of Outokumpu became part of ALS Minerals laboratories.

### **JORC Code Explanation**

# **Drilling techniques**

 Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).

# Commentary

Diamond and sludge drilling were the primary techniques used at Kutema and Sarvisuo. Sludge drilling makes up 37% of the total meterage drilled at Kutema with depths ranging from 1m to 51m. Diamond holes make up 63% of the total meterage drilled at Kutema with core diameters varying from 39mm to 45mm. Hole depths range from 10m to 566.5m.

Sludge drilling makes up 35% of the total meterage drilled at Sarvisuo with depths ranging from 3m to 31.5m. Diamond holes make up 62% of the total meterage drilled at Sarvisuo with core diameters varying from 39mm to 45mm. Hole depths range from 26m to 515m.

# 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.

Recoveries from diamond core were recorded in the supplied database. Core was orientated with an average core recovery of >99% at Kutema and 98% at Sarvisuo. Lost core was also routinely recorded.

Diamond core was reconstructed into continuous runs for orientation marking with depths checked against core blocks. Core loss observations were noted by geologists during the logging process. No major recovery problems were encountered with sludge drilling which has been routinely applied for almost 20 years at the Orivesi Gold Mine.

No relationship was noted between sample recovery and grade. The mineralised zones have predominantly been intersected by percussion and diamond core with good core recoveries. The consistency of the mineralised intervals suggests sampling bias due to material loss or gain is not an issue.

### Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature.
   Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

All holes were site logged by Company geologists to a high level of detail. Diamond holes were logged for recovery, RQD, number and type of defects. The supplied database contained tables with information recorded for alpha/beta angles, dips, azimuths, and true dips. Specific indicator minerals and the amount and type of ore textures and ore minerals were also recorded within separate tables.

Drill samples were logged for lithology, rock type, colour, mineralisation, alteration, and texture. Logging is a mix of qualitative and quantitative observations. It has been standard practice by Outokumpu and Dragon Mining (since 2001), that all diamond core be routinely photographed.

All drill holes were logged in full.

# **JORC Code Explanation**

# Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

### Commentary

Diamond full-core is usually submitted for sample preparation and assay. In some cases, core is cut in half or quarter using a core saw with half or quarter core is sent for analysis.

Sampling of diamond core uses industry standard techniques. Core sampling was undertaken at intervals from 0.3m to 2.5m based on geological boundaries with the average sample length being around 1.5m. Whole core was generally sent for analysis, although some half core sampling has been carried out.

At the Orivesi Gold Mine, sludge drill holes were drilled with a Solo rig, with a hole diameter of 64mm. Sludge drill holes are perpendicular to the strike of the lodes, with the dip of sludge drill holes is usually 30-80 degrees upwards. The slurry runs via a pipe line to a plastic bucket. After thorough mixing, a sample is collected into a sample bag with a sample length of 1.5m. After each sample is collected, the hole is washed with water to minimise contamination. This kind of sludge drilling has been routinely and successfully applied almost 20 years at Orivesi Gold Mine.

Samples are dried at the ALS laboratory, and the weight of a dry sample is 3 kg on average. Standards and systematic duplicates are not put to the batches of sludge samples. Samples are assayed at ALS Minerals using the Gold\_AA25 method, values exceeding 50 g/t are checked with Gold GRA21.

Dragon Mining has included standards and pulp duplicate samples since 2004. Every 20th sample (sample id ending in -00, -20, -40, -60, -80) is submitted as a standard, and every 20th sample (sample id ending in -10, -30, -50, -70, -90) is inserted as a pulp duplicate (with the original sample id ending in -09, -29, -49, -69, -89).

Sample sizes are considered appropriate to correctly represent the moderately nuggetty gold mineralisation based on: the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for gold.

### **JORC Code Explanation**

# Quality of assay data and laboratory tests

- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.
- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

# 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.

# Location of data points

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.

#### Commentary

Samples were assayed by GAL or VTT Laboratories in Outokumpu. The whole pulverised core was assayed for gold via Fire Assay using a 40g charge with gravimetric finish using standard methods. In addition to gold, some mineralised sections were analysed for a number of other elements including tellurium and bismuth. From 2006, all samples were shipped to ALS Minerals (Perth, Australia or more recently Rosia Montana, Romania) for Fire Assay determination (30g subsample) with AAS finish. Recently, for samples returning values above 5ppm gold, a 50g Fire Assay with GRA finish was used.

No geophysical tools were used to determine any element concentrations used in this Mineral Resource estimate.

Prior to 2004, QAQC programs were restricted to analysis of 41 duplicate samples from drill holes KU-803 to KU-805. Since 2004, a more expansive QAQC program was implemented consisting of systematic duplicate and standard inclusion. The program included inserting a duplicate sample every 20th sample and also inserting a standard sample for every 20th sample. ALS Minerals report their internal QAQC results for review by Dragon Mining personnel.

Constant monitoring of the standard and duplicate results has been undertaken by Dragon Mining site geologists. The results are considered acceptable.

RPM has independently verified significant intersections of mineralisation by inspecting drill core from the recent drilling at the Dragon Mining core yard during the 2015 site visit. Latest site visit conducted in December 2017 by Consultant Geologist Jeremy Clark.

There has been no specific drill program at Kutema or Sarvisuo designed to twin existing drill holes.

Primary data is documented on paper logs prior to being digitised using Drill Logger software.

Dragon Mining adjusted zero gold grades to half the detection limit.

Drill hole collars and starting azimuths have been accurately surveyed by Dragon Mining mine and exploration surveyors. Down hole surveys were undertaken on all exploration and resource development holes. Surveys were generally taken at 3m or 10m intervals down hole using Maxibor or EMS multishot equipment. The majority of surveys were conducted by Suomen Malmi Oy (SMOY). Recent drill holes were surveyed by Nivalan Timanttikairaus Oy using Maxibor II or Gyro equipment.

A local mine grid system was used for all drilling and the Mineral Resource estimate.

A topographic surface was not utilised for the Kutema or Sarvisuo block models. At Kutema the Mineral Resource is confined to the material between 100m to 240m and 720m to 1,300m below the natural topographic surface. At Sarvisuo the main mineralised lodes commence approximately 20m below the surface,

Data spacing and

distribution

### **JORC Code Explanation**

# JOHO

- Data spacing for reporting of Exploration Results.
- Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
- Whether sample compositing has been applied.

### Commentary

Production grade control drilling was undertaken at 4m intervals along development drives, whilst diamond core holes were drilled at variable spacings but averaged around 10-30m spacing in the central portions of the lode system around the underground development, increasing to 30-60m above and below the current working levels.

The main mineralised domains have demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resource, and the classifications applied under the 2012 JORC Code.

Samples have been composited to 1.5 metre lengths using 'best fit' techniques.

# Orientation of data in relation to geological structure

- Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.
- If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.

The majority of drill holes are underground drill holes and orientated predominantly to an azimuth of grid north and drilled at various angles in a 'fan' array to optimally intersect the sub-vertical orientation of the mineralised trends.

No orientation based sampling bias has been identified in the data.

# Sample security

The measures taken to ensure sample security.

Chain of custody of samples is managed by Dragon Mining and the process was closely reviewed by Jeremy Clark (RPM) during the May 2015 site visit. Dragon Mining personnel or drill contractors transport diamond core to the core logging facilities where Dragon Mining geologists log the core. Core samples are cut either by Dragon Mining personnel or by ALS laboratory personnel. Samples are transported to the sample preparation laboratory and then on to the analysis laboratory using contract couriers or laboratory personnel. Dragon Mining employees have no further involvement in the preparation or analysis of samples.

# Audits or reviews

The results of any audits or reviews of sampling techniques and data.

A review of sampling techniques and data was carried out by Jeremy Clark (RPM) during the May 2015 site visit. The conclusion made was that sampling and data capture was to industry standards. The most recent site visit conducted by Jeremy Clark in December 2017 to review all exploration and mining programs.

# Section 2 Reporting of Exploration Results - Orivesi Gold Mine

# Criteria JORC Code Explanation

# Mineral tenement and land tenure status

- Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
- The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.

# Commentary

The Orivesi Mining Concession covers both the Kutema and Sarvisuo lode systems, which Dragon Mining is actively mining.

Mining Concession 'ORIVESI' (2676, 39.82 ha).

Exploration License 'Sarvisuo 1-2' (ML2013:0006, 41.86 ha), 'Sarvisuo 3' (ML2015:0026, 56.56 ha) and Claim 'Yläinensilmäke' (9245/1, 10.26 ha) are valid and in good standing.

The Vaasa Administrative Court rejected the appeals by the Company and the Centre for Economic Development, Transport and the Environment of Pirkanmaa ("PIR ELY") against the rejection by the Western and Inland Finland Regional State Administrative Office ("AVI") of the Company's new Environmental Permit for the Orivesi Gold Mine.

On 11 July 2018, the Company and PIR ELY each submitted a Leave to Appeal, and an Appeal, to the Supreme Administrative Court in Finland in relation to the rejection of the Company's new Environmental Permit for Orivesi. The Company has received legal advice that the grounds for submitting the Leave to Appeal and Appeal are strong, given:

- emissions at Orivesi have been progressively reduced each year;
- the Company complies with existing Environmental Permit conditions at Orivesi; and
- the Vaasa Administrative Court and AVI did not properly consider the effect of permit conditions and impacts on the environment.

The rejection by the AVI is not binding until the appeals process has been exhausted, until then Orivesi can continue to operate under its current Environmental Permit.

### **JORC Code Explanation**

# Exploration done by other parties

Acknowledgment and appraisal of exploration by other parties.

### Geology

Deposit type, geological setting and style of mineralisation.

#### Drill hole information •

- A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:
  - easting and northing of the drill hole collar
  - elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar
  - dip and azimuth of the hole
  - down hole length and interception depth
  - hole length
- If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.

# Commentary

The gold potential of the area was recognized in the early 1980's as a result of litho-geochemical research work carried out by the Department of Geology, University of Helsinki. Lohja Ab explored the area for gold until 1990 when Outokumpu acquired the property. After a feasibility study was completed, Outokumpu commenced gold production in 1994 based on the estimated ore reserves for the Kutema lode system of 360,000 tonnes at 7 g/t gold. Between 1994 and December 2003 the mine produced 1.7Mt of ore grading 9.4 g/t gold (422,000 ounces) from the Kutema Lodes.

The Kutema and Sarvisuo lode systems are Palaeoproterozoic metamorphosed and deformed paleo-epithermal gold systems in the Tampere Schist Belt (TSB). The area is dominated by intermediate, often massive, plagioclase porphyritic metatuffs of dacitic, trachydacitic and andesitic composition. The mineralisation is associated with a broad hydrothermal alteration zone and has been interpreted to represent a metamorphosed and deformed high-sulphidation epithermal gold system. The mine is located at the south-western edge of the altered metavolcanic sequence. The Kutema and Sarvisuo lodes occur as sub-vertical pipe-like structures with good to extensive vertical continuity.

The Kutema and Sarvisuo lode systems form the Orivesi Gold Mine. 2018 drilling targeted the Sarvisuo and Sarvisuo West lodes and was primarily underground sludge and diamond 'fan' drilling. No exploration results are being reported.

The Orivesi Gold Mine has been operating since 1994. In the opinion of Dragon Mining, material drill results have been adequately reported previously to the market as required under the reporting requirements of the ASX Listing Rules and HKEx Listing Rules.

### **JORC Code Explanation**

# Commentary

# 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.

Not applicable as a Mineral Resource is being 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. Metal equivalent values have not been used.

Exploration results are not being reported.

• The assumptions used for any reporting of metal equivalent values should be clearly stated.

The majority of drill holes are underground drill holes and orientated predominantly to an azimuth of grid north and drilled at various angles in a 'fan' array to optimally intersect the sub-vertical orientation of the mineralised trends.

# Relationship between • mineralisation widths and intercept lengths

These relationships are particularly important in the reporting of Exploration Results.

- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').

# **Diagrams**

Appropriate maps and sections (with scales) and tabulations
of intercepts should be included for any significant discovery
being reported. These should include, but not be limited to
a plan view of drill hole collar locations and appropriate
sectional views.

Relevant diagrams have been included within the Mineral Resource report main body of text.

# **Balanced Reporting**

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- 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.

Drill hole collars and starting azimuths have been accurately surveyed by Dragon Mining mine and exploration surveyors. Down hole surveys were undertaken on all exploration and resource development diamond drill holes. Surveys were generally taken at 3m or 10m intervals down hole using Maxibor or EMS multishot equipment. The majority of surveys have been conducted by Suomen Malmi Oy (SMOY). Recent drill holes have been surveyed by Nivalan Timanttikairaus Oy using Maxibor II or Gyro equipment.

# 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. Comprehensive wall and face sampling of development drives is undertaken by Dragon Mining geologists. Results are used to update the resource wireframes but are not incorporated into the Mineral Resource estimate.

Exploration results are not being reported.

#### Further work

 The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale stepout drilling). Mine development is ongoing. Dragon Mining is undertaking drilling underground at a number of levels to better understand the nature and extent of the gold mineralisation.

 Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. Refer to diagrams in the body of text within the Mineral Resource report.

# Section 3 Estimation and Reporting of Mineral Resources – Kutema Lode System

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> <li>Data validation procedures used.</li> </ul>	Drilling data is initially captured on paper logs and manually entered into a database. Dragon Mining carry out internal checks to ensure the transcription is error free. Laboratory assay results are loaded as electronic files direct from the laboratory so there is little potential for transcription errors. During recent drill programs, logging data has been recorded in a customised Excel spreadsheet and imported into an Access database.
		The database is systematically audited by Dragon Mining geologists. All drill logs are validated digitally by the geologist once assay results are returned from the laboratory.
		RPM also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. No errors were found.
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>	Initial site visits were conducted by Aaron Green in June 2007 and Paul Payne in May 2009 (both formerly ResEval and RUL). A site visit was conducted by Trevor Stevenson (formerly RPM) in October 2013. A site visit was conducted by Jeremy Clark (RPM) in May 2015. The most recent site visit was carried out by Jeremy Clark (RPM) in December 2017. Drilling, logging, and sampling procedures were viewed and it was concluded that these were being conducted to best industry practice.
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>	The confidence in the geological interpretation is considered to be good and is based on previous mining history and visual confirmation in underground walls and faces.  Drill hole logging by Dragon Mining geologists, through direct observation of drill core samples has been used to interpret the geological setting. The bedrock is exposed at surface.  The continuity of the main mineralised lodes is clearly observed by gold grades within the drill holes. The close spaced underground drilling and face and wall sampling suggest the current interpretation is robust. The nature of the pipe-like structures would indicate that alternate interpretations would have little impact on the overall Mineral Resource estimation, which is confirmed with 2017 underground drilling program that intersected previous interpreted mineralization zones at down dip directions. Additional zones could be defined with more drilling.  Mineralisation occurs within a broad hydrothermal alteration zone that extends over a 50 hectare area. The lodes at Kutema and Sarvisuo occur as sub-vertical pipe-like structures with good to extensive vertical continuity. The current interpretations are mainly based on gold assay results.  Gold mineralisation is related to strongly deformed and silicified zones characterized by shearing, boudinaging, folding and quartz veining during syn – to late-stage deformation.

# **JORC Code Explanation**

#### **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.

# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

#### Commentary

The Kutema Mineral Resource area extends over a strike length of 145m (from 10,805mE – 10,950mE), has a maximum width of 175m (from 5,430mN to 5,605mE) and includes the 580m vertical interval from -720mRL to -1,300mRL. Additional shallow (-100 to -240mRL) 2 mineralization zones were interpreted.

Inverse Distance Squared (ID2) interpolation with an oriented 'ellipsoid' search was used for the estimate. As shown by Dragon Mining's 11 years of mining experience at the Orivesi Gold Mine, inverse distance provides a robust estimate of grade that reconciles well with production data. Surpac software was used for the estimations.

Three-dimensional mineralised wireframes (interpreted by Dragon Mining and reviewed by RPM) were used to domain the gold data. Sample data was composited to 1.5 metre down hole lengths using the 'best fit' method. Intervals with no assays were excluded from the estimates.

The influence of extreme grade values was addressed by reducing high outlier values by applying high grade cuts to the data. These cut values were determined through statistical analysis (histograms, log probability plots, CV's, and summary multi-variate and bi-variate statistics) using Geoaccess Professional software.

The maximum distance of extrapolation from data points (down dip) was 25m.

No assumptions have been made regarding recovery of by-products from the mining and processing of the Kutema gold resource.

An orientated 'ellipsoid' search was used to select data and was based on the observed lode geometry. The search ellipse was orientated to the average strike, plunge, and dip of the main lodes. The model interpolation was divided above and below the -700mRL due to the change in orientation of the main mineralised lode at this level. Above -700mRL, a first pass search radius of 25m was used based on the drill spacing. The search radius was increased to 60m for the second pass. More than 99% of the blocks were filled by the first pass above -700mRL. Below -700mRL, a first pass radius of 25m and a second pass of 60m and third pass of 200m were used with a minimum number of samples of 10, 4 and 2 respectively. The mineralisation below the -720mRL as well as additional 2 mineralization zones defined by 2017 drilling program at -100 to -240mRL has been reported in this report

Mineral Resource estimates for the Kutema lode system have previously been reported by RPM, with the earliest reported in August 2007. The current estimate is based upon data and interpretations from the previous estimates, and has included information from recent underground diamond drilling. The Kutema lode system forms part of the Orivesi Gold Mine. Dragon Mining supplied RPM with stope and drift outlines, which were used to deplete the current model.

**JORC Code Explanation** 

# Commentary

No assumptions were made regarding the recovery of by-products.

The parent block dimensions used were 5m NS by 10m EW by 10m vertical with sub-cells of 1.25m by 2.5m by 2.5m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing.

Selective mining units were not modelled.

Only gold assay data was available, therefore correlation analysis was not carried out.

From the interpretations provided, it appears that a combination of gold grade, lithology and structure has been used to define the margins of the mineralised zones based on a nominal 0.6-1.0g/t gold cut-off. The wireframes were applied as hard boundaries in the estimate.

Statistical analysis was carried out on the composited data. The high coefficient of variation within some main lodes, and the scattering of high grade outliers observed on the histograms, suggested that top cuts were required if linear grade interpolation was to be carried out.

A two-step process was used to validate the model. A quantitative assessment of the estimate was completed by comparing the average gold grades of the composite file input against the gold block model output for all the mineralised wireframes. A trend analysis was completed by comparing the interpolated blocks to the sample composite data within the main lodes. This analysis was completed for eastings and elevations across the lode system. Validation plots showed good correlation between the composite grades and the block model grades.

Moisture

 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. Tonnages and grades were estimated on a dry in situ basis.

**Cut-off parameters** 

The basis of the adopted cut-off grade(s) or quality parameters applied.

The Mineral Resource estimate has been constrained by the wireframed mineralised envelopes, is undiluted by external waste and reported above a 3.1 g/t gold cut-off grade. The cut-off grade was estimated using the following parameters which are based on gold market prices extrapolated for the potential economic extraction of a resource (120% of spot price), Orivesi actual operational costs and recoveries as outlined below:

- Gold price of US\$1,525/oz;
- Mining cost of US\$92.62/t of ore;
- Processing cost of US\$28.72/t of ore; and
- Processing recovery of 85%.

# **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. The Kutema lode system is currently being mined using underground methods

# Metallurgical factors or assumptions

• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made 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.

RPM has made no assumptions regarding metallurgical amenability. Ore from Orivesi is processed at the Vammala Plant, a conventional flotation and gravity circuit plant. Only the flotation circuit is used for the Kutema and Sarvisuo ore due to the fine-grained gold.

# 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. No assumptions have been made by RPM regarding possible waste and process residue disposal options.

#### **Bulk density**

- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

A bulk density value of 2.80t/m³ was assigned to all material (ore and waste) based on 87 core measurements and almost 20 years of mining experience at the Orivesi Gold Mine.

Bulk density is measured. Moisture is accounted for in the measuring process. It is assumed there are minimal void spaces in the rocks at Kutema.

All material at the Kutema lode system is fresh rock and has been assigned the value of 2.80t/m<sup>3</sup>.

# **JORC Code Explanation**

# Classification

- The basis for the classification of the Mineral Resources into varying confidence categories.
- 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).
- Whether the result appropriately reflects the Competent Person's view of the deposit.

# Audits or reviews

The results of any audits or reviews of Mineral Resource estimates.

# 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.

# Commentary

Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified on the basis of sample spacing and continuity of the interpreted zones. The Measured portion of the lode system was defined for the main mineralised zones where there was extensive underground level development and sludge drilling. The Indicated Mineral Resource was defined within areas of reasonably close spaced diamond drilling (less than 30m by 30m) due to the good continuity and predictability of the lode positions. The Inferred Mineral Resource included areas of the lode system where sampling was greater than 30m by 30m, small isolated pods of mineralisation outside the main mineralised zones and geologically complex zones.

The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones is based on high-level geological understanding producing a robust model of mineralised domains. This model has been confirmed by infill drilling which supported the interpretation. Validation of the block model shows good correlation of the input data to the estimated grades. The drilling and sampling processes used by Dragon Mining are 'best practice' and certified laboratories have been used for Gold analyses of samples. The input data is considered reliable and suitable for use in the resource estimate.

The Mineral Resource estimate appropriately reflects the view of the Competent Person.

Internal audits have been completed by RPM, which verified the technical inputs, methodology, parameters and results of the estimate.

The Kutema Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been verified through sampling and mapping of underground development drives, and through infill drilling orientated to optimally intersect the lodes. Dragon Mining has been mining the Kutema lode system for many years and has a good understanding of the geology and mineralisation controls.

The Mineral Resource statement relates to global estimates of tonnes and grade.

Results from chip samples taken along underground development drives have confirmed the lode geometry and position.

# Section 3 Estimation and Reporting of Mineral Resources – Sarvisuo Lode System

Criteria	J01	RC Code Explanation	Commentary		
Database integrity	•	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.  Data validation procedures used.	Drilling data is initially captured on paper logs and manually entered into a database. Dragon Mining carry out internal checks to ensure the transcription is error free. Laboratory assay results are loaded as electronic files direct from the laboratory so there is little potential for transcription errors. During recent drill programs, logging data has been recorded in a customised Excel spreadsheet and imported into an Access database.		
			The database is systematically audited by Dragon Mining geologists. All drill logs are validated digitally by the geologist once assay results are returned from the laboratory.		
			RPM also performed data audits in Surpac and checked collar coordinates, down hole surveys and assay data for errors. No errors were found.		
Site visits	•	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.  If no site visits have been undertaken indicate why this is the case.	Initial site visits were conducted by Aaron Green in June 2007 and Paul Payne in May 2009 (both formerly ResEval and RUL). A site visit was conducted by Trevor Stevenson (formerly RPM) in October 2013. A site visit was conducted by Jeremy Clark (RPM) in May 2015. The most recent site visit was carried out by Jeremy Clark (RPM) in December 2017. Drilling, logging, and sampling procedures were viewed and it was concluded that these were being conducted to best industry practice.		
Geological interpretation	•	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence in the geological interpretation is considered to be good and is based on previous mining history and visual confirmation in underground walls and faces.		
	<ul> <li>Resource estimation.</li> <li>The use of geology in guiding and controlling Resource estimation.</li> </ul>	The effect, if any, of alternative interpretations on Mineral	Drill hole logging by Dragon Mining geologists, through direct observation of drill core samples has been used to interpret the geological setting. The bedrock is exposed at surface.		
		The use of geology in guiding and controlling Mineral Resource estimation.  The factors affecting continuity both of grade and geology.	The continuity of the main mineralised lodes is clearly observed by gold grades within the drill holes. The close spaced underground drilling and face and wall sampling suggest the current interpretation is robust. The nature of the pipe-like structures would indicate that alternate interpretations would have little impact on the overall Mineral Resource estimation.		
			Mineralisation occurs within a broad hydrothermal alteration zone that extends over a 50 hectare area. The Kutema and Sarvisuo lodes occur as subvertical pipe-like structures with extensive vertical continuity. The current interpretations are mainly based on gold assay results.		
			Gold mineralisation is related to strongly deformed and silicified zones characterized by shearing, boudinaging, folding and quartz veining during syn – to late-stage deformation.		

# **JORC Code Explanation**

#### **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.

# Estimation and modelling techniques

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.

# Commentary

The Sarvisuo Mineral Resource area extends over a strike length of 530m (from 10,700mE – 11,230mE), has a maximum width of 160m (from 5,480mN to 5,640mN) and includes the 760m vertical interval from –20mRL to –780mRL.

Inverse Distance Squared (ID<sup>2</sup>) interpolation with an oriented 'ellipsoid' search was used for the estimate. As shown by Dragon's 11 years of mining experience at the Orivesi Gold Mine, inverse distance provides a robust estimate of grade that reconciles well with production data. Surpac software was used for the estimations.

Three-dimensional mineralised wireframes (interpreted by Dragon Mining and reviewed by RPM) were used to domain the gold data. Sample data was composited to 1.5 metre down hole lengths using the 'best fit' method. Intervals with no assays were excluded from the estimates.

The influence of extreme grade values was addressed by reducing high outlier values by applying high-grade cuts to the data. These cut values were determined through statistical analysis (histograms, log probability plots, CV's, and summary multi-variate and bi-variate statistics) using Geoaccess Professional software.

The maximum distance of extrapolation from data points (down dip) was 20m.

No assumptions have been made regarding recovery of by-products from the mining and processing of the Sarvisuo gold resource.

An orientated 'ellipsoid' search was used to select data and was based on the observed lode geometry. The search ellipse was orientated to the average strike, plunge, and dip of the main lodes. Three passes were used in the estimation. For the main lodes, the first pass used a range of 30m, with a minimum of 10 samples. For the second pass, the range was extended to 60m, with a minimum of 4 samples. A third pass radius of 200m with a minimum of 2 samples was used to fill the model. A maximum of 40 samples was used for all 3 passes. More than 99% of the blocks were filled in the first two passes.

Mineral Resource estimates for the Sarvisuo lode system have previously been reported by RPM, with the earliest reported in November 2004. The current estimate is based upon data and interpretations from the previous estimates, and has included information from recent diamond core drilling as well as underground sludge drilling information. The Sarvisuo lode system forms part of the Orivesi Gold Mine. Dragon Mining supplied RPM with stope and drift outlines which were used to deplete the current model.

No assumptions were made regarding the recovery of by-products.

**JORC Code Explanation** 

### Commentary

No non-grade deleterious elements were estimated.

The parent block dimensions used were 2m NS by 10m EW by 10m vertical with sub-cells of 0.5m by 2.5m by 2.5m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing.

The block model size used in the Mineral Resource estimate was based on drill sample spacing and lode geometry. Selective mining units were not modelled. Only gold assay data was available, therefore correlation analysis was not carried out.

From the interpretations provided, it appears that a combination of gold grade, lithology and structure has been used to define the margins of the mineralised zones with no particular cut-off grade and no minimum width. This has resulted in numerous intersections being included in the wireframes where the gold grade is extremely low, and where the intersection length is very small. However, in most cases the minimum grade of 0.5g/t gold was used as a limit value when the envelopes of mineralisation were digitised. The wireframes were applied as hard boundaries in the estimate.

Statistical analysis was carried out on the composited data. The high coefficient of variation within some main lodes, and the scattering of high grade outliers observed on the histograms, suggested that top cuts were required if linear grade interpolation was to be carried out.

A three step process was used to validate the model. A qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average gold grades of the composite file input against the gold block model output for all the mineralised wireframes. A trend analysis was completed by comparing the interpolated blocks to the sample composite data within the main lodes. This analysis was completed for eastings and elevations across the lode system. Validation plots showed good correlation between the composite grades and the block model grades.

Moisture

 Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. Tonnages and grades were estimated on a dry in-situ basis.

# **JORC Code Explanation**

# **Cut-off parameters**

 The basis of the adopted cut-off grade(s) or quality parameters applied.

# Commentary

The Mineral Resource estimate has been constrained by the wireframed mineralised envelopes, is undiluted by external waste and reported above a 3.1 g/t gold cut-off grade. The cut-off grade was estimated using the following parameters which are based on gold market prices extrapolated for the potential economic extraction of a resource (120% of spot price), Orivesi actual operational costs and recoveries as outlined below:

- Gold price of US\$1,525/oz;
- Mining cost of US\$92.62/t of ore;
- Processing cost of US\$28.72/t of ore; and
- Processing recovery of 85%.

# 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.

Until recently, the Sarvisuo lode system was mined by Dragon Mining using underground methods.

# Metallurgical factors or assumptions

• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made 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.

RPM has made no assumptions regarding metallurgical amenability. Ore from Orivesi is processed at the Vammala Plant, a conventional flotation and gravity circuit plant. Only the flotation circuit is used for the Kutema and Sarvisuo ore due to the fine-grained gold.

# 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. No assumptions have been made by RPM regarding possible waste and process residue disposal options.

### **JORC Code Explanation**

# **Bulk density**

- Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

#### Classification

- The basis for the classification of the Mineral Resources into varying confidence categories.
- 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).
- Whether the result appropriately reflects the Competent Person's view of the deposit.

# Commentary

A bulk density value of 2.80t/m³ was assigned to all material (ore and waste) based on 87 core measurements and almost 20 years of mining experience at the Orivesi Gold Mine.

Bulk density is measured. Moisture is accounted for in the measuring process. It is assumed there are minimal void spaces in the rocks at Sarvisuo.

All material at Sarvisuo is fresh rock and has been assigned the value of 2.80t/m<sup>3</sup>.

Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified on the basis of sample spacing and continuity of the interpreted zones. The Measured portion of the lode system was defined for the main mineralised zones where there was extensive underground level development and sludge drilling. The Indicated Mineral Resource was defined within areas of reasonably close spaced diamond drilling (less than 30m by 30m) due to the good continuity and predictability of the lode positions. The Inferred Mineral Resource included areas of the lode system where sampling was greater than 30m by 30m, small isolated pods of mineralisation outside the main mineralised zones and geologically complex zones.

The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones is based on high-level geological understanding producing a robust model of mineralised domains. This model has been confirmed by infill drilling which supported the interpretation. Validation of the block model shows good correlation of the input data to the estimated grades. The drilling and sampling processes used by Dragon Mining are 'best practice' and certified laboratories have been used for gold analyses of samples. The input data is considered reliable and suitable for use in the resource estimate.

The Mineral Resource estimate appropriately reflects the view of the Competent Person.

### Audits or reviews

The results of any audits or reviews of Mineral Resource estimates.

Internal audits have been completed by RPM, which verified the technical inputs, methodology, parameters and results of the estimate.

# **JORC Code Explanation**

# 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.

# Commentary

The Sarvisuo Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been verified through sampling and mapping of underground development drives, and through infill drilling orientated to optimally intersect the lodes. Dragon Mining has been mining the Sarvisuo lode system for many years and has a good understanding of the geology and mineralisation controls.

The Mineral Resource statement relates to global estimates of tonnes and grade.

Results from chip samples taken along underground development drives have confirmed the lode geometry and position.