



ASX Announcement

16 July 2019

2019 Total Gold Mineral Resource - 21 % increase to 1.7Moz

Total Mineral Resource	29.65Mt @ 1.8g/t Au (1,679,700oz)
M & I (62%)	16.97Mt @ 1.8g/t Au (999,100oz)
Inferred (38%)	12.68Mt @ 1.7g/t Au (680,700 oz)
Oxide (34%)	11.83Mt @ 1.5g/t Au (570,100oz)
Fresh (66%)	17.81Mt @ 1.9g/t Au (1,109,700oz)

➤ **21% increase in contained gold ounces**

➤ **11% increase in average gold grade to 1.8g/t**

Withnell Total (14% increase)	4.65Mt @ 2.9g/t for 429,300oz
Withnell Underground (reclassified)	2.22Mt @ 4.1g/t for 291,900oz
Toweranna (148% increase)	5.33Mt @ 2.1g/t for 356,600oz
Amanda (37% increase)	2.03Mt @ 1.1g/t for 69,700oz

Andy Beckwith, Technical Director commented:

“At Withnell, improved definition and extensions to the high grade underground lodes is a strong step forward. The average gold grade is 4.1g/t for 291,900 ounces, at the 2g/t lower cut off and jumps to 5g/t for 228,000 ounces at a 3g/t lower cut off. Withnell’s underground resource grade compares well to many operating underground gold mines in Western Australia.

Toweranna has increased 148% to 356,600 ounces and becomes the second largest resource in the project. The potential for a larger open pit looks favourable due to the circular shape, multiple stacked lodes to 200m and the 2.1g/t grade.

We are looking forward to completing our program of deeper scout diamond drilling initially to 600m and then our co-funded hole to 1000m depth. Our expectation is the stacked lodes will continue at depth throughout the intrusion and support our next Toweranna exploration target of 9.6Mt – 11.2Mt @ 2.1g/t to 2.3g/t for 680,000oz – 800,000oz to 400m depth.*

Both Withnell and Toweranna are expected to play a significant role in achieving our corporate goal of 3.0Moz. “

#ASX release: 13 March 2019 Toweranna –high impact resource extension drilling underway

De Grey Mining Limited (ASX: DEG, “De Grey”, “Company”) is pleased to announce a significant 21% increase in the July 2019 Total Gold Mineral Resource (JORC 2012) at the Pilbara Gold Project, located near Port Hedland in the Pilbara region of Western Australia.

The resource upgrade includes:

- updated resource models for Withnell open pit;
- extensions and remodelling of the Withnell Underground high grade lodes;
- Toweranna open pit depth extensions from 100m to 200m; and
- shallow extensions at Amanda and Hester.

The new resources are based on all drilling completed at each deposit up to the end of June 2019. The open pit resources are quoted using a 0.5g/t lower cut off and the Withnell underground resource using a lower grade cut of 2g/t. The resources at Mt Berghaus, Mallina, Wingina, Camel, Roe, Dromedary and Calvert remain unchanged and will be updated after further drilling is completed at each deposit.

Most significant resource changes occur in the following:

- **Overall ounces increased 21%**
- **Overall grade increased to 1.8g/t**
- **Withnell Underground (2.2Mt @ 4.1g/t Au for 291,900oz)** is now separated from the Withnell open pit resource using the 2017 Scoping Study nominal \$1600 open pit shell number 33. The underground resource has been remodelled below this pit shell based on recent infill and stepout drilling which increased and extended the multiple high grade lodes previously defined. The global grade averages 4.1g/t Au with individual lodes ranging from 2.7g/t up to 7.3g/t. The mineralisation remains open along strike and at depth along the entire 6km of known strike potential from Withnell through Hester, Camel, Roe and Dromedary deposits.
- **Toweranna open pit (5.33Mt @ 2.1g/t Au for 356,600oz)** resource model has been extended from 100m to 200m depth to reflect the recent infill and extensional drilling completed to the end of June 2019. The multiple stacked lodes remain open along strike and particularly at depth. A program of 7 deeper diamond holes testing between 200m to 600m remain to be finalised and are not included in this resource update.
- **Amanda resource (2.03Mt @ 1.1g/t Au for 69,700oz)** open pit model has been extended with an incremental increase in ounces based on the limited new shallow drilling.

Table 1 Total Gold Mineral Resource (July 2019) at the Pilbara Gold Project by Mining Centre

Area	Type	Measured			Indicated			Inferred			Total		
		Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz
Withnell Mining Centre	Oxide	0.92	1.9	55,400	3.05	1.5	151,900	1.12	1.3	48,200	5.09	1.6	255,500
	Fresh	0.62	1.7	33,500	6.77	2.1	463,100	5.30	2.3	389,300	12.69	2.2	885,800
	Total	1.54	1.8	88,900	9.82	1.9	615,000	6.43	2.1	437,500	17.79	2.0	1,141,400
Wingina Mining Centre	Oxide	2.68	1.8	152,100	1.84	1.5	87,600	2.21	1.1	74,900	6.74	1.5	314,500
	Fresh	0.40	1.6	20,500	0.68	1.6	34,900	4.04	1.3	168,400	5.12	1.4	223,800
	Total	3.08	1.7	172,700	2.52	1.5	122,500	6.25	1.2	243,200	11.86	1.4	538,400
TOTAL Pilbara Gold Project	Oxide	3.60	1.8	207,600	4.90	1.5	239,400	3.34	1.1	123,100	11.83	1.5	570,100
	Fresh	1.02	1.6	54,000	7.45	2.1	498,000	9.34	1.9	557,600	17.81	1.9	1,109,700
	Total	4.62	1.8	261,600	12.35	1.9	737,500	12.68	1.7	680,700	29.65	1.8	1,679,700

Rounding errors may occur.

Table 2 July 2019 Total Gold Mineral Resource (JORC 2012) by deposit
Withnell - Mining Centre

Deposit	Type	Measured			Indicated			Inferred			Total		
		Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz
Withnell Open Pit	Oxide	0.58	1.4	26,400	0.15	1.6	7,700	0.04	1.3	1,700	0.77	1.4	35,800
	Fresh	0.60	1.7	31,900	1.02	2.0	65,900	0.04	2.8	3,800	1.66	1.9	101,600
	Total	1.17	1.5	58,300	1.17	2.0	73,700	0.08	2.0	5,500	2.43	1.8	137,400
Withnell Underground	Oxide				0.03	2.9	2,800	0.00	4.4	200	0.03	3.0	3,000
	Fresh				0.64	4.4	91,200	1.55	4.0	197,700	2.19	4.1	288,900
	Total				0.67	4.4	94,000	1.55	4.0	197,900	2.22	4.1	291,900
Mallina	Oxide				0.45	1.3	19,100	0.55	1.2	21,300	1.00	1.3	40,500
	Fresh				0.81	1.2	31,400	2.01	1.4	88,800	2.82	1.3	120,200
	Total				1.26	1.2	50,600	2.57	1.3	110,100	3.83	1.3	160,700
Toweranna	Oxide				0.62	2.4	47,700	0.25	1.6	13,100	0.86	2.2	60,800
	Fresh				3.49	2.1	236,300	0.98	1.9	59,500	4.46	2.1	295,800
	Total				4.10	2.2	284,000	1.23	1.8	72,600	5.33	2.1	356,600
Camel	Oxide	0.18	2.8	16,400	0.32	2.6	26,800	0.04	1.1	1,500	0.54	2.6	44,700
	Fresh	0.01	2.1	600	0.14	1.4	6,500	0.14	1.8	8,600	0.29	1.7	15,700
	Total	0.19	2.8	17,000	0.46	2.2	33,300	0.19	1.7	10,100	0.84	2.2	60,400
Calvert	Oxide				0.43	1.3	17,900	0.05	0.8	1,400	0.48	1.3	19,300
	Fresh				0.56	1.3	23,800	0.23	1.2	9,300	0.79	1.3	33,100
	Total				0.99	1.3	41,700	0.28	1.2	10,700	1.27	1.3	52,400
Roe	Oxide	0.06	2.7	5,500	0.13	1.5	6,000	0.11	1.6	5,700	0.30	1.8	17,200
	Fresh	0.01	2.5	1,000	0.07	2.3	5,300	0.21	2.2	14,800	0.30	2.2	21,100
	Total	0.08	2.7	6,500	0.20	1.8	11,300	0.33	2.0	20,500	0.60	2.0	38,300
Dromedary	Oxide	0.10	2.2	7,200	0.03	1.6	1,400	0.04	1.6	2,200	0.17	1.9	10,800
	Fresh				0.03	1.6	1,700	0.08	1.8	4,700	0.12	1.7	6,400
	Total	0.10	2.2	7,200	0.06	1.6	3,200	0.12	1.7	6,900	0.29	1.9	17,200
Leach Pad	Oxide				0.86	0.7	19,300				0.86	0.7	19,300
	Fresh												
	Total				0.86	0.7	19,300				0.86	0.7	19,300
Hester	Oxide				0.04	2.1	3,000	0.03	1.3	1,100	0.07	1.8	4,100
	Fresh				0.01	2.1	900	0.05	1.4	2,100	0.06	1.6	3,100
	Total				0.06	2.1	3,900	0.07	1.4	3,300	0.13	1.7	7,200
Withnell Mining Centre	Oxide	0.92	1.9	55,400	3.05	1.5	151,900	1.12	1.3	48,200	5.09	1.6	255,500
	Fresh	0.62	1.7	33,500	6.77	2.1	463,100	5.30	2.3	389,300	12.69	2.2	885,800
	Total	1.54	1.8	88,900	9.82	1.9	615,000	6.43	2.1	437,500	17.79	2.0	1,141,400

Wingina - Mining Centre

	Type	Measured			Indicated			Inferred			Total		
		Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz	Mt	Au g/t	Au Oz
Wingina	Oxide	2.68	1.8	152,100	0.65	1.3	27,000	0.34	1.3	14,400	3.67	1.6	193,500
	Fresh	0.40	1.6	20,500	0.34	1.5	16,300	1.08	1.7	57,400	1.82	1.6	94,200
	Total	3.08	1.7	172,700	0.99	1.4	43,300	1.42	1.6	71,700	5.49	1.6	287,700
Mt Berghaus	Oxide				0.68	1.8	38,900	0.99	1.1	35,800	1.67	1.4	74,700
	Fresh				0.27	1.7	14,400	2.40	1.2	91,800	2.67	1.2	106,300
	Total				0.95	1.7	53,300	3.39	1.2	127,600	4.34	1.3	181,000
Amanda	Oxide				0.51	1.3	21,700	0.89	0.9	24,700	1.40	1.0	46,300
	Fresh				0.07	1.8	4,200	0.56	1.1	19,200	0.63	1.2	23,300
	Total				0.58	1.4	25,800	1.44	0.9	43,900	2.03	1.1	69,700
Wingina Mining Centre	Oxide	2.68	1.8	152,100	1.84	1.5	87,600	2.21	1.1	74,900	6.74	1.5	314,500
	Fresh	0.40	1.6	20,500	0.68	1.6	34,900	4.04	1.3	168,400	5.12	1.4	223,800
	Total	3.08	1.7	172,700	2.52	1.5	122,500	6.25	1.2	243,200	11.86	1.4	538,400

Rounding errors may occur.

ASX Announcement

Withnell Open Pit and Underground models

The Withnell orebody has been re-modelled to include the more recent De Grey drilling which has focussed on improved delineation of the higher grade lodes beneath the existing shallow open pit and the larger proposed 1.2km long open pit cut back defined by the 2017 Scoping Study (Figure 1).

The **Withnell Open Pit** resource comprises **2.43Mt @ 1.8g/t for 137,400oz with 96% in the Measured and Indicated categories**. Modelling includes additional historic open pit grade control drilling and was constrained to the 2017 Scoping Study Pit Shell 33 (\$1600/oz gold price). The resource is defined using a 0.5g/t lower cutoff grade and is shown in Figures 3 and 4.

The **Withnell Underground** model comprises **2.22Mt @ 4.1g/t for 291,900oz with 32% in the Indicated category**. Overall the mineralisation shows improved definition and continuity of the various parallel, vertical lodes beneath the open pit with the largest lode continuous along the entire 1.2km strike. Mineralisation remains open and further drilling is expected to improve resource categories and add extensions both along strike and at depth (Figure 2).

The underground resource grade of 4.1g/t is defined using a 2g/t lower cutoff grade and rises to 5.0g/t when using a 3g/t lower cutoff grade. Table 3 highlights the resource at various cut off grades and is shown in Figures 3 and 4. As a comparison, a number of underground goldmines in Western Australia are operating within resources of similar resource grades, including:

- Dacian Gold's* Westralia at 4.7g/t, Transvaal at 5.2g/t, Ramonie at 4.1g/t; and
- Red 5 Limited's Darlot mine at 5.1g/t, Northern Star's Jundee at 4.0g/t and Kundana 4.5g/t#.

*Dacian Gold ASX release 10 July 2019 FY2020 GUIDANCE AND UPDATED 8-YEAR LIFE OF MINE

Red 5 ASX release 20 May 2019 INVESTOR PRESENTATION

Table 3 Underground resource at various lower cutoff grades

Withnell July 2019 Underground Mineral Resource Estimate									
Cut-off Grade g/t Au	Indicated			Inferred			Total		
	Tonnes t	Au g/t	Au Ounces	Tonnes t	Au g/t	Au Ounces	Tonnes t	Au g/t	Au Ounces
2.0	0.67	4.4	94,000	1.55	4.0	197,900	2.22	4.1	291,900
2.5	0.56	4.8	85,900	1.25	4.4	176,000	1.80	4.5	261,900
3.0	0.47	5.2	78,100	0.95	4.9	149,900	1.42	5.0	228,000

Toweranna Open Pit model

The **Toweranna Open Pit** resource comprises **5.33Mt @ 2.1g/t for 356,600oz with 80% in the Indicated category**. The open pit resource includes all new drilling to 30 June 2019 and extends from surface to 200m depth. The resource is defined using a 0.5g/t lower cutoff grade and the modelled lodes are shown in Figure 5.

The multiple stacked lodes are relatively flat nested and “saucer shaped” structures that extended to the base of the model at 200m. De Grey is confident additional lodes exist at depth based on historic drilling that indicates similar style of lodes are evident to over 400m vertical metres. De Grey is undertaking wide spaced scout drilling to test the zone between 200m to 600m. Results of this program will be reported when the results are finalised, expected during the current September quarter.

Figure 1 Withnell Plan view showing proposed open pit cutback and interpreted underground lodes.

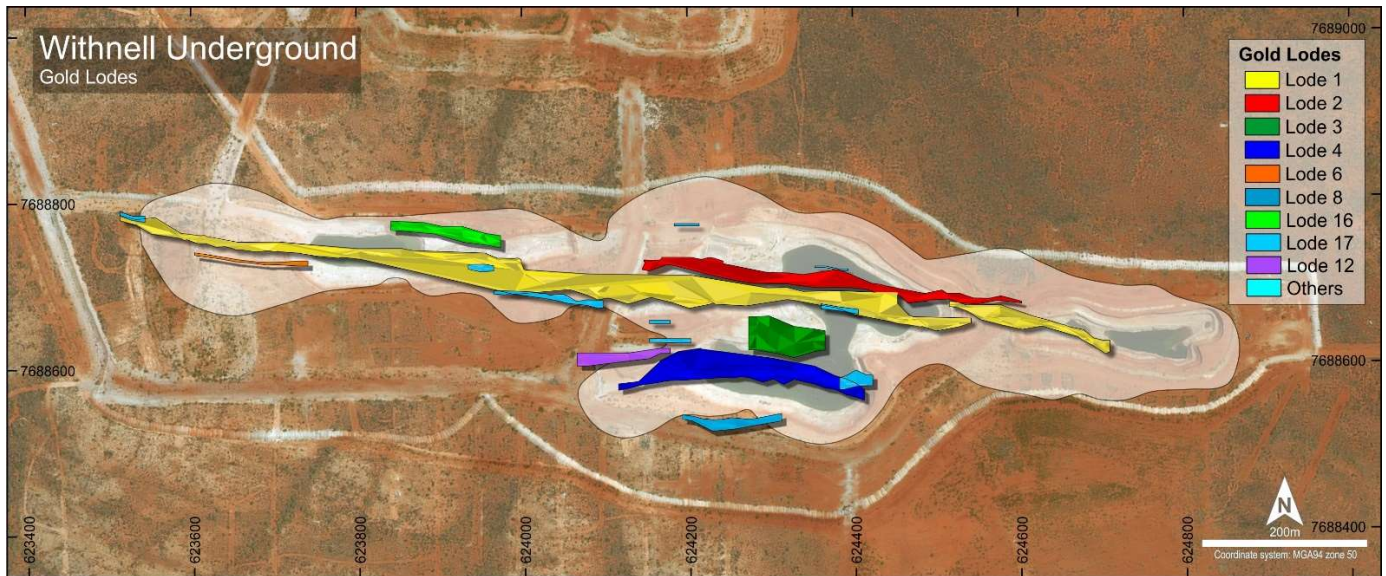


Figure 2 Withnell Lode 1 long-section showing the 1.2km strike length and recent drill hole intercepts. Mineralisation remains open at depth and along strike.

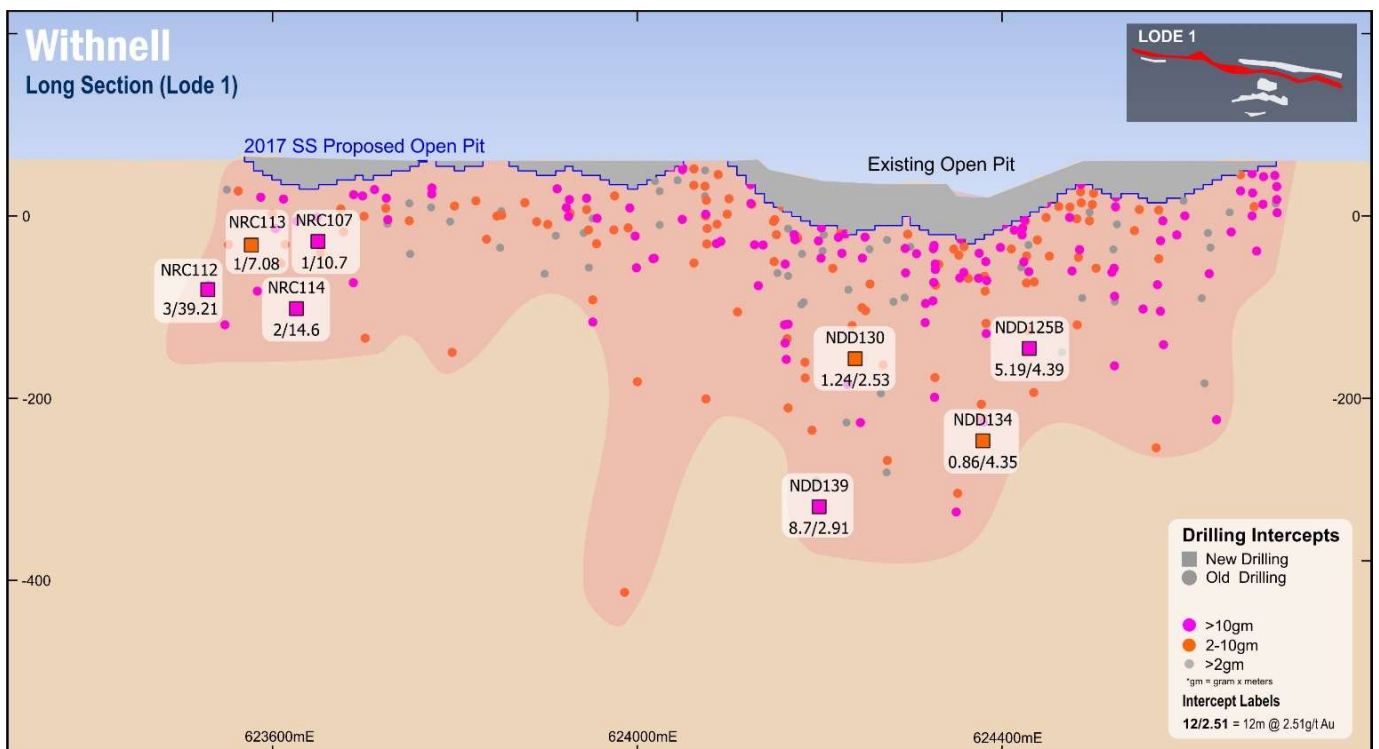


Figure 3 Looking west toward the Withnell Open Pit and Underground resources

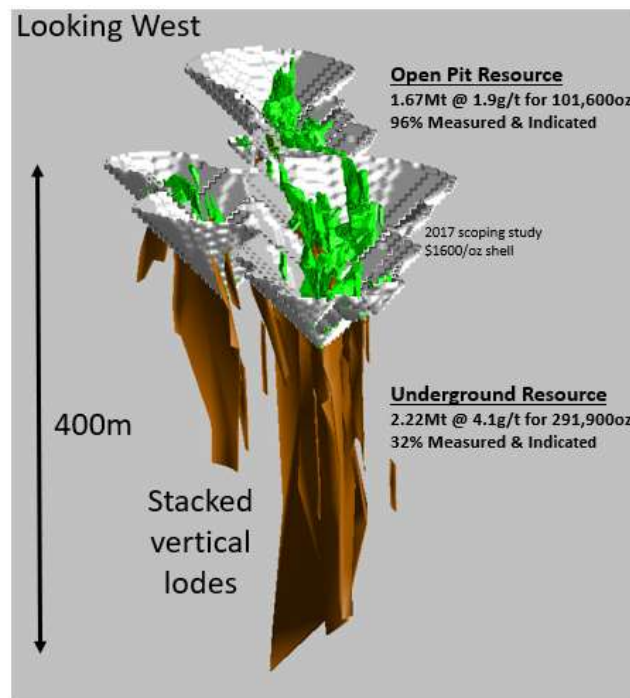


Figure 4 Isometric view looking North Withnell Open Pit and Underground resources

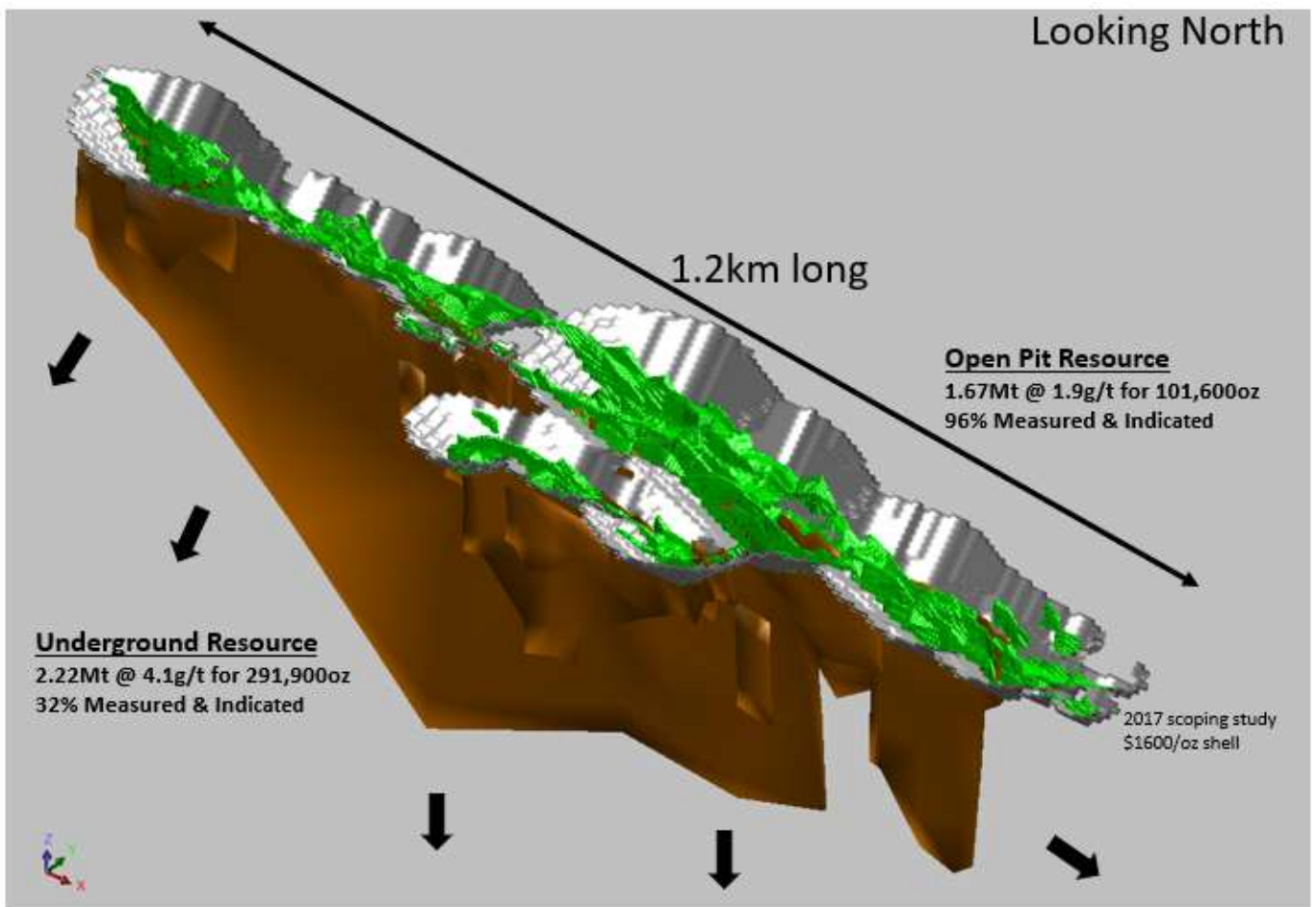
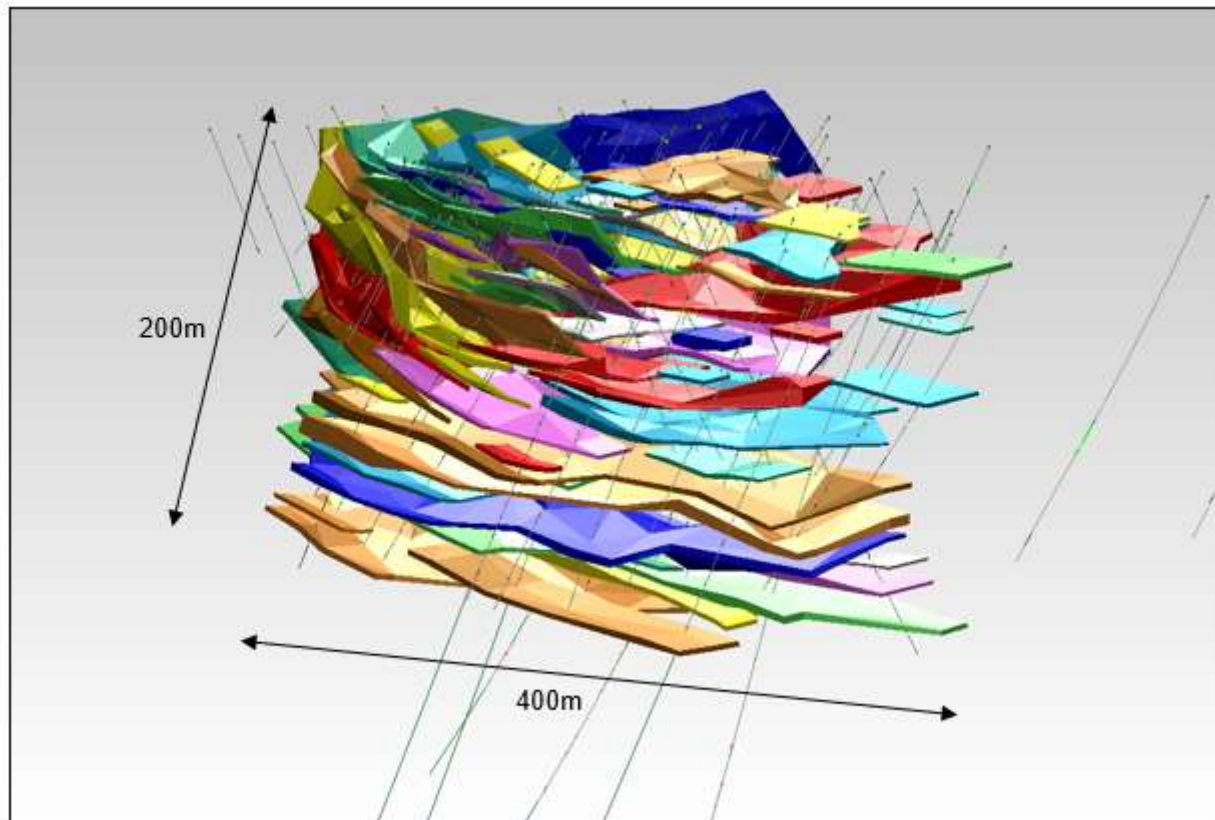


Figure 5 Toweranna - showing 3D view looking NW of the nested multiple stacked lodes to 200m depth. Mineralisation remains open at depth



2019- 2020 Exploration Focus

De Grey is particularly encouraged with the both the Toweranna and Withnell deposits, that show new material resource extensions and higher gold grades.

At Toweranna, the down dip potential is evident to at least 400m vertical depth in historic drilling and De Grey considers that mineralisation could extend to much greater depths. Depth extensions are being tested to 600m and a single hole (co-funded by the WA Government EIS) is planned to test to over 1000m depth during the second half of 2019.

The Toweranna lodes comprise individual high grade gold veins generally ranging from 10-70g/t and the overall lodes bulk out at the lower average of 2.1g/t through internal dilution. The concept of ore sorting may provide a mechanism to beneficiate and upgrade the average ore grade post mining and prior to the ore being sent for processing. Preliminary ore sorting test work on core samples from Toweranna was highly encouraging and further evaluation of this concept will be advanced during the next 6 months. If demonstrated to be applicable, ore sorting may enhance the potential viability of bulk underground mining of the deeper Toweranna lodes.

The higher grade Withnell underground lodes show significant potential to develop into a substantial underground resource. Drilling is planned to target resource extensions down dip to at least 500m and along strike. Additional potential along the remaining 5km of Mineralised Withnell Shear Zone strike will also begin to be tested at depth during 2019/2020.

Every gold resource in the Pilbara Gold Project remains open at depth and warrants further resource extension drilling. Mallina, Mt Berghaus and Wingina will also be targeted for resource extensions during the second half of 2019.

For further information:

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Competent Persons Statements

Exploration Results

The information in this report that relates to **Exploration Results** is based on, and fairly represents information and supporting documentation prepared by Mr. Phil Tornatora, a Competent Person who is a Member of The Australian Institute of Geoscientists. Mr. Tornatora is an employee of De Grey Mining Limited. Mr. Tornatora has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves”. Mr. Tornatora consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Resources

The Information in this report that relates to **Mineral Resources** is based on information compiled by Mr Paul Payne, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Payne Geological Services. Mr Payne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 1 Resource Summaries

Resource Summaries

1. Resource Summary – Withnell and Hester Gold Deposits

Geology

The Withnell area is dominated by a sequence of Archaean turbidite sediments intruded by a series of granitic plugs. Multiple zones of mineralisation lie within the regionally extensive, east-west trending Withnell Shear Zone.

Gold mineralisation at Withnell and the adjacent Hester deposit is associated with quartz veins, quartz-sulphide lodes, disseminated sulphides and associated carbonate alteration and hosted by altered and poly-deformed folded sediments. The mineralised zones are typically sub-vertical however folding and deformation of the sequence has resulted in some complexity to the interpreted geometry. Thickness of the mineralisation is typically 5m to 20m wide but in excess of 40m wide in some parts of the deposit.

The weathering profile comprises a veneer of calcrete or hardpan overlying weathered bedrock to a typical depth of 50m but ranging from 10m to 80m in depth. No true saprolite occurs throughout the deposits and the mineralisation has been divided into “oxide” and “sulphide” zones. The lower limit of the oxide zone is delineated by an interpreted base of weathering which has been defined as the occurrence of sulphides in the mineralised zones.

Drilling

A total of 852 RC holes and 54 DD holes define the Withnell OP Mineral Resource (including the Hester deposit). A total of 259 RC holes and 46 DD holes, define the Withnell UG Mineral Resource. Rotary air blast (“RAB”) drilling is included in the database but the RAB holes were excluded from the estimates. Drilling at the deposit has occurred over multiple campaigns from 1997 to 2019. The majority of holes were drilled by Range River Gold (“RNG”) prior to 2008 and by De Grey since 2017. The majority of the Withnell OP deposit has been drilled at 6m to 10m hole spacings on 12.5m spaced N-S cross sections and the Withnell UG deposit has been drilled on 20 to 50m hole spacings on 25 to 50m sections spacings, with some broad spaced drilling up to 150m.

De Grey hole collars were surveyed by contract surveyors using DGPS. Historic drill hole collars were surveyed in AMG coordinates using RTK GPS and have since been transformed to MGA grid. Down hole surveys were recorded for the majority of holes at 50m intervals using a single shot Eastman camera or a Reflex multi-shot tool.

Sampling and Sub-Sampling Techniques

For De Grey RC drilling, a face-sampling hammer was used with samples collected at 1m intervals from mineralised zones with composite sampling of typically 4m in the unmineralised rocks. Samples were collected through a rig-mounted cone splitter. Samples were visually assessed for recovery and were kept dry throughout the mineralised zones.

The historical RC drilling was sampled at 1m intervals and split using an 87.5:12.5 conventional riffle splitter.

Diamond core was NQ2 and HQ3 size and sampled to geological intervals or on a 1 metre basis from half core cut with a diamond saw.

Sample Analysis Method

For all De Grey drilling, whole samples were crushed then pulverised and analysed for gold at a contract laboratory using a fire assay technique. QAQC protocols were in place for the drilling programs and has confirmed the quality of the sampling and assaying.

The majority of historic RC and diamond drilling was assayed at contract laboratories using a fire assay method. QAQC data has not been reviewed, but the tenor and geometry of mineralisation is consistent with the recent De Grey drilling.

Estimation Methodology – Open Pit

For the open pit portion of the deposit, the resource was largely estimated using ordinary kriging (“OK”) grade interpolation of 1m composited data within wireframes prepared using nominal 0.2g/t Au envelopes. Interpolation parameters were based on geostatistical analysis of the main lodes and considered the geometry of individual lodes. A first pass search range of 20m or 30m was used with a minimum of 10 samples and a maximum of 24 samples. The first pass estimate informed 75% of the blocks. The search range was doubled and minimum samples reduced to 6 for the second pass which filled the majority of the blocks. A small number of blocks required a search range of 120m. High grade cuts of between 10g/t and 30g/t were applied to the estimate.

The block dimensions used in the model were 10m EW by 5m NS by 5m vertical with sub-cells of 5m by 1.25m by 2.5m.

Estimation Methodology – Underground

A separate estimate was completed for the portion of the Withnell deposit which displayed a higher tenor of mineralisation with potential for continuity of grade within a series of lode structures. The resource was largely estimated using ordinary kriging (“OK”) grade interpolation of 1m composited data within wireframes prepared using nominal 1.0g/t Au envelopes. Interpolation parameters were based on geostatistical analysis of the main lodes and considered the geometry of individual lodes. A first pass search range of 50m was used with a minimum of 6 samples and a maximum of 16 samples. The first pass estimate informed 47% of the blocks. The search range was increased to 100m and minimum samples reduced to 4 for the second pass which filled the majority of the blocks. A small number of blocks (2%) required a search range of 200m. A high grade cut of 35g/t was applied to the estimate.

The block dimensions used in the model were 20m EW by 5m NS by 10m vertical with sub-cells of 0.625m by 0.625m by 0.625m.

Bulk Density

Bulk density data is available from recent diamond drill core and were used to determine density values for the deposit. Bulk density values applied to the Withnell estimate were 2.53t/m³ for oxide and 2.83t/m³ for sulphide mineralisation.

Mineral Resource Classification – Open Pit

To reflect the potential for extraction by open pit methods, the Open Pit Mineral Resource has been reported above a conceptual pit shell (Pit33.dtm) which was generated during the 2017 Scoping Study. The pit shell extends to a maximum vertical depth of 100m. The Mineral Resource has been depleted for historic open pit mining.

The portions of the model defined by grade control drilling at a typical spacing of 6m to 10m on 12.5m spaced sections and displaying good continuity of grade and geometry have been classified as Measured Mineral Resource.

Adjacent to these zones drilling is on 25m sections and mineralisation displays good continuity. These areas have been classified as Indicated Mineral Resource. The remainder of the Withnell OP deposit defined by wider spaced drilling, or where continuity is less well defined at the closer spacing, have been classified as Inferred Mineral Resource.

Mineral Resource Classification – Underground

The Underground Mineral Resource has been reported below a conceptual pit shell (Pit33.dtm) which was generated during the 2017 Scoping Study. The pit shell extends to a maximum vertical depth of 100m. There has been no historic mining within the extent of the underground Mineral Resource.

At the Withnell UG deposit, the main lodes have been defined by drill holes at 20 to 50m spacing on 25 to 50m sections. These areas display good continuity and have been classified as Indicated Mineral Resource. The remainder of the Withnell UG deposit defined by wider spaced drilling up to 100m spacing, or where continuity is less well defined at the closer spacing, have been classified as Inferred Mineral Resource.

Cut-off Grades

The shallow, sub-cropping nature of the deposits suggests good potential for open pit mining. As such, the Open Pit Mineral Resource has been reported at a 0.5g/t Au lower cut-off to reflect assumed exploitation by open pit mining.

For the Underground Mineral Resource, a cut-off grade of 2.0g/t Au has been applied to reflect the typically higher operating cost of underground mining. No economic studies have been carried out by De Grey, however the cut-off grade is consistent with many similar scale underground operations in Western Australia.

Metallurgy

Extensive metallurgical test work has been conducted on the mineralisation at Withnell. Oxide mineralisation is reported to have excellent metallurgical recoveries using conventional cyanide leaching. For sulphide mineralisation, flotation of the sulphides followed by oxidation of the concentrate is reported to allow gold recoveries of >90% to be achieved.

Modifying Factors

No modifying factors were applied to the reported Mineral Resource estimate. Parameters reflecting mining dilution, ore loss and metallurgical recoveries will be considered during the planned mining evaluation of the project.

2. Resource Summary – Toweranna Gold Deposit

Geology

At Toweranna, gold mineralisation occurs in numerous variously oriented pyrite-rich quartz veins which occur within, and marginal to, an intermediate stock. The stock has intruded a suite of moderate to steeply dipping meta-sandstones, greywackes, and argillites of Archaean age. The stock is ovoid at surface and approximately 250m in diameter. Lodes typically strike north-south, with a moderate easterly dip. The mineralisation and host rocks are weathered to a depth of up to 50m.

Drilling

A total of 123 RC holes and 21 diamond holes define the Toweranna Mineral Resource. The majority of holes were completed by De Grey between 2017 and 2019. Historic drilling at the deposit occurred over multiple campaigns from 1970 to 1995. A small number of historic holes were included in the estimate.

The Toweranna deposit has been drilled at 20m hole spacing on 20m spaced E-W cross sections along the western and southern margins of the granite. The northern and eastern portions have drill hole spacings of up to 50m.

De Grey hole collars were surveyed by contract surveyors using DGPS. Historic drill hole collars were surveyed in AMG coordinates using RTK GPS and have since been transformed to MGA grid. Down hole surveys were recorded for the majority of holes at 50m intervals using a single shot Eastman camera or a Reflex multi-shot tool.

Sampling and Sub-sampling Techniques

For De Grey RC drilling, a face-sampling hammer was used with samples collected at 1m intervals from mineralised zones with composite sampling of typically 4m in the unmineralised rocks. Samples were collected through a rig-mounted cone splitter. Samples were visually assessed for recovery and were kept dry throughout the mineralised zones.

De Grey diamond core was NQ size and sampled to geological intervals or on a 1 metre basis from half core cut with a diamond saw.

Historical RC drill samples were collected at 1m intervals via a rig mounted multiple splitter. Samples were passed through a single stage Riffle splitter to form 2m composites for analysis. Historic diamond drill core was sampled at 1m intervals or smaller selected intervals based on observed mineralogy or quartz veining, with half core sent for analysis.

Sample Analysis Method

For all De Grey drilling, whole samples were crushed then pulverised and analysed for gold at a contract laboratory using a fire assay technique. QAQC protocols were in place for the drilling programs and has confirmed the quality of the sampling and assaying.

For historic holes used in the estimate, samples were prepared and a 50g split was collected and fire assayed using aqua regia digest and reading by AAS method. QAQC protocols were not in place for the various drilling programs. A degree of confidence in the assay results can be gained from the repeatability of results between the different generations of drilling over the 25 year exploration history.

Estimation Methodology

The deposit was estimated using ordinary kriging (“OK”) grade interpolation of 1m composited data within wireframes prepared using 0.4g/t Au envelopes for low grade mineralisation. Interpolation parameters were based on kriging neighbourhood analysis, the geometry of each zone and geostatistical parameters determined by variography. A first pass search range of 30m was used with a minimum of 6 samples and a maximum of 16 samples. The majority of the resource (74%) was estimated in the first pass. The search range was doubled for the second pass which filled a further 22% of blocks.

High grade cuts of between 10g/t and 35g/t were applied to the lodes.

The block dimensions used in the Toweranna model was 5m EW by 10m NS by 5m vertical with sub-cells of 1.25m by 1.25m by 1.25m.

The bulk densities applied in the block model were based on core measurements from the recent diamond drilling and were dependant on lithology, weathering type and mineralisation. These varied from 2.0t/m³ for sediment oxide, 2.78t/m³ for fresh, mineralised granite and 2.8t/m³ for fresh, mineralised sediment.

Mineral Resource Classification

The southern and western contact areas at Toweranna have been defined by a drill spacing of 10m to 20m hole spacings on 20m spaced sections. The areas showing good continuity of mineralisation along these lodes have been classified as Indicated Mineral Resource.

Deeper mineralisation in the central and eastern portions of the deposit have been drilled predominantly on 40m by 40m spacings and show good continuity of structure and grade. These have also been classified as Indicated Mineral Resource.

The remaining lodes at Toweranna have been defined by drill spacings up to 60m or show poor continuity along strike and have been classified as Inferred Mineral Resource. The deposit is reported to a maximum depth of 250m vertical.

Cut-off Grades

The shallow, sub-cropping nature of the deposits suggests good potential for open pit mining. As such, the Mineral Resource has been reported at a 0.5g/t Au lower cut-off to reflect assumed exploitation by open pit mining.

Metallurgy

Metallurgical test work completed by a previous operator in 1995 has demonstrated that the mineralisation at Toweranna is free milling. De Grey recently completed test work on two purpose specific diamond holes which has confirmed free milling ores with high gold recoveries of +94% in oxide and +96% in fresh material with generally high gravity recoveries up to 56%. Further test work is planned to provide variability throughout the deposit.

Modifying Factors

No modifying factors were applied to the reported Mineral Resource estimate. Parameters reflecting mining dilution, ore loss and metallurgical recoveries will be considered during the planned mining evaluation of the project.

3. Resource Summary – Amanda Gold Deposit

Geology

The Amanda deposit is shear-hosted and occurs within deformed cherts and metasediments of Archean age. The cherty horizons form a prominent ridge along much of the deposit extent. Mineralisation is developed within two NE-SW striking, sub-vertical zones which are interpreted to be fault offsets of the same mineralised shear. Resource grade mineralisation is defined over a combined strike length of 1,300m and to a vertical depth of 115m in the central portion of the deposit. The mineralisation remains open down dip over most of the deposit length.

Oxidation at the deposit is variable with the base of complete oxidation typically at 5m to 20m vertical depth. A transition zone of 20m to 80m occurs throughout the deposit.

Drilling

A total of 89 RC holes define the Mineral Resource at the Amanda deposit of which 52 holes were completed by De Grey in 2018. Previous drilling was largely completed by De Grey between 2003 and 2005.

Two portions of the deposit have been drilled at 20m by 20m spacings. The peripheral zones have been drilled at spacings of 40m or greater.

De Grey hole collars were surveyed by contract surveyors using DGPS. Historic drill hole collars were surveyed in AMG coordinates using RTK GPS and have since been transformed to MGA grid. Down hole surveys were recorded for the majority of holes at 50m intervals using a single shot Eastman camera or a Reflex multi-shot tool.

Sampling and Sub-sampling Techniques

For De Grey RC drilling, a 5½ inch face-sampling hammer was used with samples collected at 1m intervals from mineralised zones with composite sampling of typically 4m in the unmineralised rocks. Samples were collected through a rig-mounted cone splitter. Samples were visually assessed for recovery and were kept dry throughout the mineralised zones.

Historical RC drill samples were collected at 1m intervals via a rig mounted splitter.

Sample Analysis Method

For all drilling, whole samples were crushed then pulverised and analysed for gold at a contract laboratory using a fire assay technique. QAQC protocols were in place for the drilling programs and has confirmed the quality of the sampling and assaying.

Estimation Methodology

The deposit was estimated using ordinary kriging (“OK”) grade interpolation of 1m composited data within wireframes prepared using 0.25g/t Au envelopes for low grade mineralisation. Interpolation parameters were based on the geometry of individual lodes. A first pass search range of 40m was used with a minimum of 10 samples and a maximum of 24 samples. The resource estimated in the first pass was 39% of blocks. The search range was doubled for the second pass which filled a further 46% of blocks. A third pass with a search of 120m and a minimum of 4 samples filled a further 27% of blocks. The final 1% of blocks were filled with an isotropic search of 240m.

A high grade cut of 13g/t was used with four values being cut.

The block dimensions used in the model were 10m EW by 5m NS by 5m vertical with sub-cells of 5m by 1.25m by 2.5m.

No bulk density data was available for the deposit. The geology and mineralisation is similar to the nearby Wingina deposit, so density values from Wingina were applied to Amanda. Values used in the resource estimate were 2.1t/m³ for Oxide, 2.3t/m³ for Transition and 2.7t/m³ for Primary.

Mineral Resource Classification

The portion of the resource defined by the 20m spaced drilling and displaying good continuity of mineralisation was classified as Indicated Mineral Resource. The portion of the resource defined by the 20-60m spaced drilling and displaying good continuity of structure and mineralisation was classified as Inferred Mineral Resource. The sparsely drilled peripheral portions of the lodes were estimated, but remain unclassified and unreported.

Cut-off Grades

The shallow, sub-cropping nature of the deposits suggests good potential for open pit mining. As such, the Mineral Resource has been reported at a 0.5g/t Au lower cut-off to reflect assumed exploitation by open pit mining.

Metallurgy

No metallurgical test work has been completed for the Amanda deposit. Test work completed at the nearby Wingina deposit has confirmed that the mineralisation is amenable to cyanide leaching.

Metallurgical sampling of the various lodes and domains is planned as part of ongoing exploration programs.

Modifying Factors

No modifying factors were applied to the reported Mineral Resource estimate. Parameters reflecting mining dilution, ore loss and metallurgical recoveries will be considered during the planned mining evaluation of the project.

JORC 2012 TABLE

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i> 	<ul style="list-style-type: none"> The majority of historical resource drilling comprised RC drilling completed by RNG. Prior to commencement of mining, 94,940m of RC and 2,758m of core drilling had been completed. RC sampling in mineralised zones comprised 1m samples collected during drilling using a free standing riffle splitter. Diamond core was cut using a diamond saw and sampled either at 1m intervals or to geological boundaries. RNG drilling included comprehensive QAQC protocols including the use of certified standards, blanks and duplicate samples. Independent consultants' reports have confirmed that industry standard practices were employed by RNG and that the data was suitable for resource estimation. Sample preparation procedures were not documented, and fire assay was used for analysis. Selected samples were re-assayed by screen fire assay. All DEG RC holes were sampled on both a 1m and nominal 4m composite basis over the entire length of the hole. 4m composite samples were submitted for analysis for all intervals. Where assays over 0.2g/t Au were received for 4m composite sample results, 1m samples were then submitted for these zones. Both the 4m and 1m samples were taken from a cone splitter mounted on the drill rig cyclone. The cyclone was calibrated to provide a continuous sample volume accordingly to sample length. Each 4m and 1m sample ranges from a typical 2.5-3.5kg. DEG diamond holes were NQ size and sampled to geological boundaries. Core was cut with a diamond saw to allow half core samples to be submitted for fire assay analysis.
Drilling techniques	<ul style="list-style-type: none"> <i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i> 	<ul style="list-style-type: none"> The majority of the holes in the estimate were RC holes drilled by RNG with a 5.5 inch bit and face sampling hammer. DEG has also completed diamond holes drilled with NQ sized core.
Drill sample recovery	<ul style="list-style-type: none"> <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i> <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> <i>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.</i> 	<ul style="list-style-type: none"> All samples were visually assessed for recovery. The competent nature of core resulted in good recoveries as noted in the hand written drill logs. Good recoveries for RC have been assumed based on the weights of the samples sent for analysis. Core recovery was measured and was consistently very good. No sample bias was observed.

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • For the DEG drilling, all holes were logged in detail for the entire hole. • Historical drill logs have been preserved in digital copies. Detailed drill logs have been produced by qualified geologists to an appropriate level for use in a Mineral Resource estimation. • Logging is qualitative in nature.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Samples were collected with a diamond drill rig drilling NQ2 diameter core. After logging and photographing, NQ2 drill core was cut in half, with one half sent to the laboratory for assay and the other half retained. Holes were sampled over mineralised intervals to geological boundaries on a nominal 1m basis. • RC samples were collected with a cone splitter on the rig cyclone and drill cuttings were sampled on a 1m and 4m basis. • Industry prepared independent standards are inserted approximately 1 in 20 samples. • Each sample was dried, split, crushed and pulverised. • Sample sizes are considered appropriate for the material sampled. • The samples are considered representative and appropriate for this type of drilling and for use in a resource estimate.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> • RNG samples were submitted to SGS Laboratories, a commercial independent laboratory in Perth, Australia. • Each sample was dried, crushed and pulverised. • Au was analysed by a 50g Fire assay fusion technique with an AAS finish. • The techniques are considered quantitative in nature. • Standards, blanks and duplicate samples were inserted by RNG. • QAQC results and assaying procedures were considered satisfactory by independent consultants. • DEG samples were submitted to a commercial independent laboratory in Perth, Australia. • Each sample was dried, crushed and pulverised. • Au was analysed by a 50gm charge fire assay fusion technique with AAS finish. • The techniques are considered quantitative in nature. Quality control protocols have confirmed the accuracy and precision of the assays.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> Sample results have been entered and then checked by a second geologist. Results have been uploaded into the company database (managed by independent consultants), checked and verified. No adjustments have been made to the assay data. Results are reported on a length weighted basis. Infill drilling completed by DEG has largely confirmed the results of the historic drilling.
Location of data points	<ul style="list-style-type: none"> <i>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.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> Historical drill hole collars were surveyed in AMG coordinates using RTK GPS. Down hole surveys were recorded at 50m intervals using a single shot Eastman camera. Holes were originally located using AMG datum and have since been transformed to GDA94 grid. Detailed topographic surveys have been carried out to show the extent of open pit mining. DEG drill hole collar locations are located by Differential GPS to an accuracy of +/-20cm. Locations are given in GDA94 zone 50 projection. Diagrams and location were previously reported.
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>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.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> In Withnell OP, grade control RC drilling has been completed using infill on either 12.5m by 12.5m or 12.5m by 6m spacings. The close spaced drilling has confirmed the continuity of mineralisation consistent with the resource classifications. Drilling at Withnell UG is on a nominal 50-100m by 50m grid spacing. All holes have been geologically logged and provide a strong basis for geological control and continuity of mineralisation. Sample results and logging provide support for the results to be used in resource estimation. Sample compositing has been applied to samples prior to grade interpolation.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>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.</i> 	<ul style="list-style-type: none"> The drilling is approximately perpendicular to the strike of mineralisation and therefore the sampling is considered representative of the mineralised zone. In some cases, drilling is not at right angles to the dip of mineralised structures and as such true widths are less than down hole widths. This will be allowed for in resource estimates when geological interpretations are completed.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> DEG samples were collected by company personnel and delivered direct to the laboratory via a transport contractor.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> No audits have been completed. Review of QAQC data has been carried out by company geologists and the Competent Person.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The Amanda deposit is located on E45/2993 which is 100% owned by De Grey or one of its 100% subsidiaries. The Toweranna deposit is located on E47/2720 and the Withnell and Hester deposits are located on M47/476, which are held 100% by Indee Gold Pty Ltd. On 9 February 2018, De Grey executed a Share Sale Agreement (“SSA”) to acquire 100% of the Indee Gold Pty Ltd, holder of all the Indee Gold Project tenements. Under the executed SSA, the total acquisition price is A\$15 Million, inclusive of the following payments made - the Initial Exclusivity Fee of \$100,000 (paid in Jan 2017), the Initial Deposit of \$1.5 Million (paid on SSA execution - 9 February 2018) and a Settlement Extension Deposit of \$700,000 (December 2018). Final settlement cash payable is \$9.7 Million and \$3 Million of Consideration Shares (new De Grey fully paid ordinary shares) on or before 24 July 2019 (the Settlement Date).
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Extensive drilling of the Indee orebodies leading to the definition of Ore Reserves and the development of a mining and processing operation was carried out mainly by Range River between 2003 and 2008.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Withnell mineralisation is hydrothermally emplaced and sediment/quartz hosted gold mineralisation within a shear zone and is similar in style to many other Western Australian gold deposits.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Exploration results are not being reported.
Data aggregation methods	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Exploration results are not being reported.

Criteria	JORC Code explanation	Commentary
	<p><i>shown in detail.</i></p> <ul style="list-style-type: none"> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>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').</i> 	<ul style="list-style-type: none"> The drill holes are interpreted to be approximately perpendicular to the strike of mineralisation. Drilling is not always perpendicular to the dip of mineralisation and true widths are less than down hole widths.
Diagrams	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Plans and sections have been included in previous releases of the exploration results.
Balanced reporting	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Exploration results are not being reported.
Other substantive exploration data	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> No other exploration data has been identified.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> Additional drilling is currently being planned to further test the Withnell deposit for resource extensions and deeper targeting of the higher-grade gold zones. Mining studies are also planned to allow detailed evaluation of the deposit.

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The geological and assay data was captured electronically to prevent transcription errors. Validation included comparison of gold results to logged geology to verify mineralised intervals.
Site visits	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> A site visit was undertaken by Paul Payne in May 2018 to examine geological features in outcrop, open pits, to locate drill collars from recent drilling and confirm that no obvious impediments to future exploration or development were present.
Geological interpretation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The confidence in the geological interpretation for the Withnell deposit is considered to be high due to the close spaced drilling and consistent mineralisation. The interpretation was based largely on good quality RC drilling, with a number of diamond holes. Infill grade control drilling has been carried out. The deposit consists of steeply dipping mineralised lodes. Folded structures at Withnell have been directly observed from open pit mining and pit wall observations. The interpretation was based largely on good quality grade control RC drilling, with a number of diamond holes. No alternate interpretations are likely due to the close spaced drilling. Geological logging has been used to define oxide and fresh domains.
Dimensions	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> The Withnell mineralisation extends over 1.3km and comprises multiple mineralised lodes over its 300m width. The main lode has been defined to a depth of 440m.
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage 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 	<ul style="list-style-type: none"> Ordinary kriging (OK) was used to estimate grade into the lodes. Surpac software was used for the estimation. Two block models were created, one containing the Withnell OP and Hester Mineral Resource estimates and one containing the Withnell UG Mineral Resource estimate. Samples were composited to 1m intervals. High grade cuts of 10g/t to 35g/t Au were applied based on statistical observations. This resulted in a total of 127 composites being cut. The parent block dimensions used for the OP model were 5m NS by 10m EW by 5m vertical with sub-cells of 1.25m by 1.25m by 1.25m. The parent block dimensions used for the UG model were 5m NS by 20m EW by 10m vertical with sub-cells of 0.625m by 0.625m by 0.625m. Cell size was based on Kriging Neighbourhood Analysis (KNA). A previous estimate was prepared by PayneGeo for DEG in 2017. Additional drilling since then has allowed the deposit to be extended and enlarged below the pit optimisation. No assumptions have been made regarding recovery of by-products. No estimation of deleterious elements was carried out. Only Au was interpolated into the block models. An orientated ellipsoid search was used to select data and was based on drill hole spacing and geometry of mineralisation.

Criteria	JORC Code explanation	Commentary
	<p><i>resource estimates.</i></p> <ul style="list-style-type: none"> • <i>Discussion of basis for using or not using grade cutting or capping.</i> • <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<ul style="list-style-type: none"> • Three interpolation passes were used. • A For Withnell OP and Hester, a first pass search range of 20m was used where there was grade control drilling (within Domains 1 and 2), as well as reducing the estimation parent cell size to 5m EW by 2.5m NS by 2.5m vertical. A minimum of 6 samples was used for the estimate in the grade control areas, with a maximum of 16 samples. The first pass search range for all other domains was 30m, with a minimum of 10 samples and a maximum of 24 samples. The majority of the resource (75%) was estimated in the first pass. The search range was doubled for the second pass which filled a further 24% of blocks. For Withnell UG, a first pass search range of 50m was used with a minimum of 6 samples and a maximum of 16 samples. The majority of the resource (47%) was estimated in the first pass. The search range was doubled for the second pass which filled a further 42% of blocks. • Selective mining units were not modelled in the Mineral Resource model. The block size used in the model was based on KNA, drill sample spacing and lode orientation. • The Withnell OP and Hester wireframes were prepared using a nominal 0.2g/t Au cut-off and the Withnell UG wireframes were prepared using a nominal 1.0g/t Au cut-off. The wireframes were applied as hard boundaries in the estimates. • For validation, trend analysis was completed for the main lodes by comparing the interpolated blocks to the sample composite data within northing intervals.
Moisture	<ul style="list-style-type: none"> • <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> • Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	<ul style="list-style-type: none"> • <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> • The Withnell OP Mineral Resource has been reported at 0.5g/t Au cut-off, above a pit optimisation based on assumptions about economic cut-off grades for open pit mining. • The Withnell UG Mineral Resource has been reported at 2.0g/t Au cut-off, below a pit optimisation based on assumptions about economic cut-off grades for underground mining. • The Hester Mineral Resource has been reported at 0.5g/t Au cut-off, based on assumptions about economic cut-off grades for open pit mining.
Mining factors or assumptions	<ul style="list-style-type: none"> • <i>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.</i> 	<ul style="list-style-type: none"> • Based on the previous production history at the Indee Project, it is assumed that open pit mining is possible at the project if demonstrated to be economically viable. In addition, it is likely that underground mining may be viable at Withnell, below the pit optimisation. • No mining parameters or modifying factors have been applied to the Mineral Resource.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> Metallurgical testing has been conducted by DEG on the Withnell deposit since 2017. The Withnell samples were chosen as the priority to concentrate on the pyrite dominant sulphide mineralisation assessment as it is currently the largest sulphide deposit at the IGP. The testwork results have shown that high gold recovery can also be maintained from the fresh pyrite sulphide dominant mineralisation at coarser grind size. Previously proposed fine grinding has been eliminated in favour of a coarser sulphide flotation with a resultant small mass pull (5-9%) into sulphide concentrate followed by oxidation and standard CIL leaching to extract the contained gold. The preferred oxidation process is pressure oxidation ("POX"). Importantly, the POX component is expected to be significantly smaller with annual capacity of 50kt-100kt depending on final throughput volumes due to the strong volume reduction into the final sulphide concentrate. Overall, the flotation, POX and cyanide leach test work provided a peak recovery of 95.9% from the concentrate, so when combined with gravity and sulphide flotation recovery provides an overall average gold recovery of +90% of the contained gold. The fresh tail is proposed to be processed through the standard CIL tanks to ensure the highest recovery of gold extracted.
Environmental factors or assumptions	<ul style="list-style-type: none"> <i>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.</i> 	<ul style="list-style-type: none"> The area is not known to be environmentally sensitive and there is no reason to think that proposals for development including the dumping of waste would not be approved. The IGP area is already highly disturbed with previous permitting granted for open pit mining and processing. The area surrounding the Withnell deposit is generally flat and uninhabited with no obvious impediments to the construction of dumps and other mine infrastructure. Previous large-scale open pit mining has occurred at Withnell.
Bulk density	<ul style="list-style-type: none"> <i>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.</i> <i>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.</i> <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i> 	<ul style="list-style-type: none"> The bulk densities applied in the block model were based on 2,129 core measurements (Archimedes) and were dependant on weathering type and mineralisation. A bulk density of 2.52t/m³ was applied to transitional material, 2.83t/m³ applied to mineralised primary sulphide material and 2.86t/m³ applied to waste primary sulphide material.
Classification	<ul style="list-style-type: none"> <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i> <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology</i> 	<ul style="list-style-type: none"> 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 Resources were classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity. At the Withnell OP deposit, the main lodes have been

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	<p><i>and metal values, quality, quantity and distribution of the data).</i></p> <ul style="list-style-type: none"> • <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i> 	<p>defined by drill holes at 6 to 10m spacing on 12.5m sections. These areas of dense drilling show excellent continuity of mineralisation and have been classified as Measured Mineral Resource. Adjacent to these zones drilling is on 25m sections and mineralisation displays good continuity. These areas have been classified as Indicated Mineral Resource. The remainder of the Withnell OP deposit defined by wider spaced drilling, or where continuity is less well defined at the closer spacing, have been classified as Inferred Mineral Resource. At the Withnell UG deposit, the main lodes have been defined by drill holes at 20 to 50m spacing on 25 to 50m sections. These areas display good continuity and have been classified as Indicated Mineral Resource. The remainder of the Withnell UG deposit defined by wider spaced drilling up to 100m spacing, or where continuity is less well defined at the closer spacing, have been classified as Inferred Mineral Resource.</p> <ul style="list-style-type: none"> • The estimate has been reviewed by the Competent Person and the results reflect the view of the Competent Person.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of Mineral Resource estimates.</i> 	<ul style="list-style-type: none"> • Internal audits have been completed by PayneGeo which verified the technical inputs, methodology, parameters and results of the estimate. • The review confirmed the suitability of the drilling data for use in Mineral Resource estimates.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> • <i>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.</i> • <i>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.</i> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	<ul style="list-style-type: none"> • The estimates for each deposit utilise good estimation practices, high quality drilling data and a number of the deposits have been updated to include observations and data from mining operations. These deposits are considered to have been estimated with a high level of accuracy. • The data quality throughout the project is reported to be good and the drill holes have detailed logs produced by qualified geologists. • The Mineral Resource statement relates to global estimates of tonnes and grade. • Previous mining has been carried out at the Withnell deposit. No reconciliation data has been located and only global production records have been reviewed.