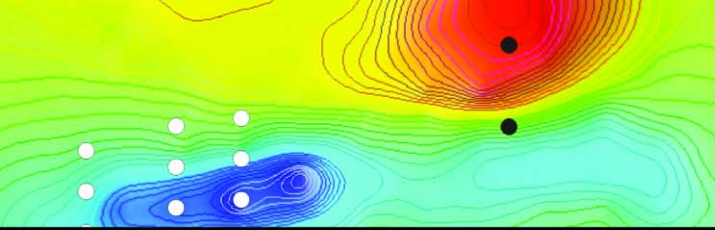

ASX and Media Release

Gold content of Challenger mineral resource continues to grow

WPG Resources Ltd (ASX: WPG) is pleased to advise that it has completed an update of the Challenger mineral resource estimate as at 31 March 2017. As with previous estimates prepared by WPG, the resource estimate has been prepared and reported in accordance with JORC (2012) guidelines.

The 31 March 2017 mineral resource estimate, which is shown in detail in Table 1, is a total of 1,401,401 tonnes at an average grade of 7.62 g/t Au containing 343,299 ounces of gold.

Table 1: Challenger Mineral Resource Estimate as at 31 March 2017

Category	Tonnes (000 t)	Gold (g/t)	Gold (000 oz)
Measured	226	6.2	45
Indicated	814	8.1	213
Inferred	363	7.4	86
TOTAL*	**1,401**	**7.6**	**344**

*totals may vary due to rounding

The Mineral Resource estimate in the table above has been extracted from the detailed resource report that is attached to this abbreviated report. A summary of all material information used in the resource estimate is set out below. Detailed technical information with reference to JORC (2012) compliance for the mineral resource estimate is provided in JORC Table 1 Sections 1 to 3 in Appendix 1.

The contained gold in the updated mineral resource estimate of 343,299 ounces is 27% higher than that shown in WPG's 30 June 2016 resource estimate announced by the Company on 25 October 2016. The 31 March 2017 resource estimate ignores the exploration target for the SEZ and M3 shoots announced on 11 April, 17 May and 22 May 2017, and the results of the exploration drilling programs in the Challenger Deeps area announced on 29 May 2017.

1 June 2017

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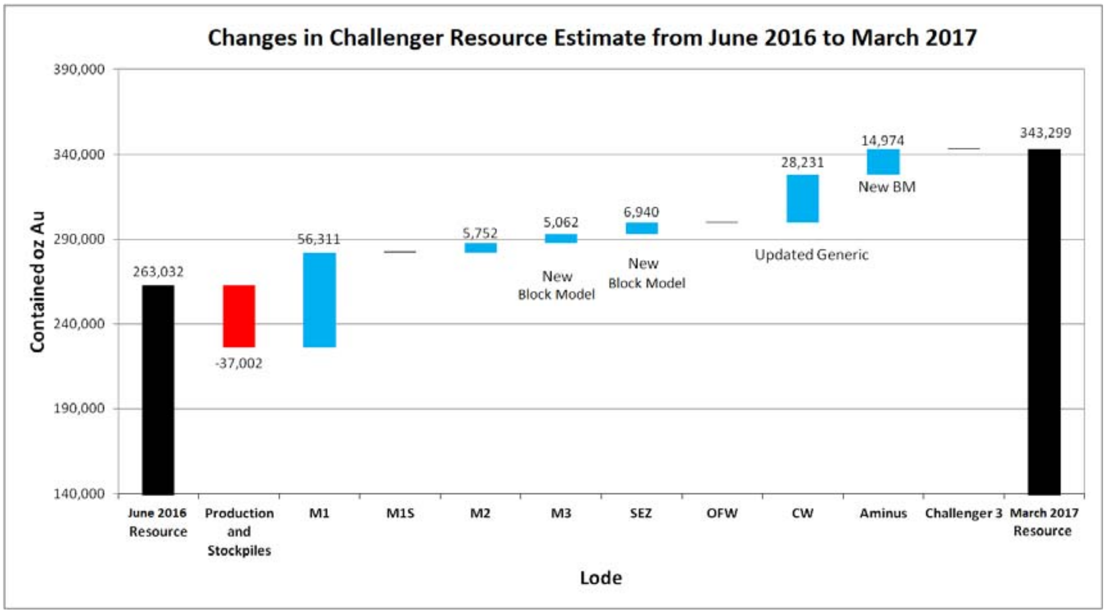
The increase in gold contained in the 31 March 2017 resource estimate compared with that of the 30 June 2016 estimate is due to:

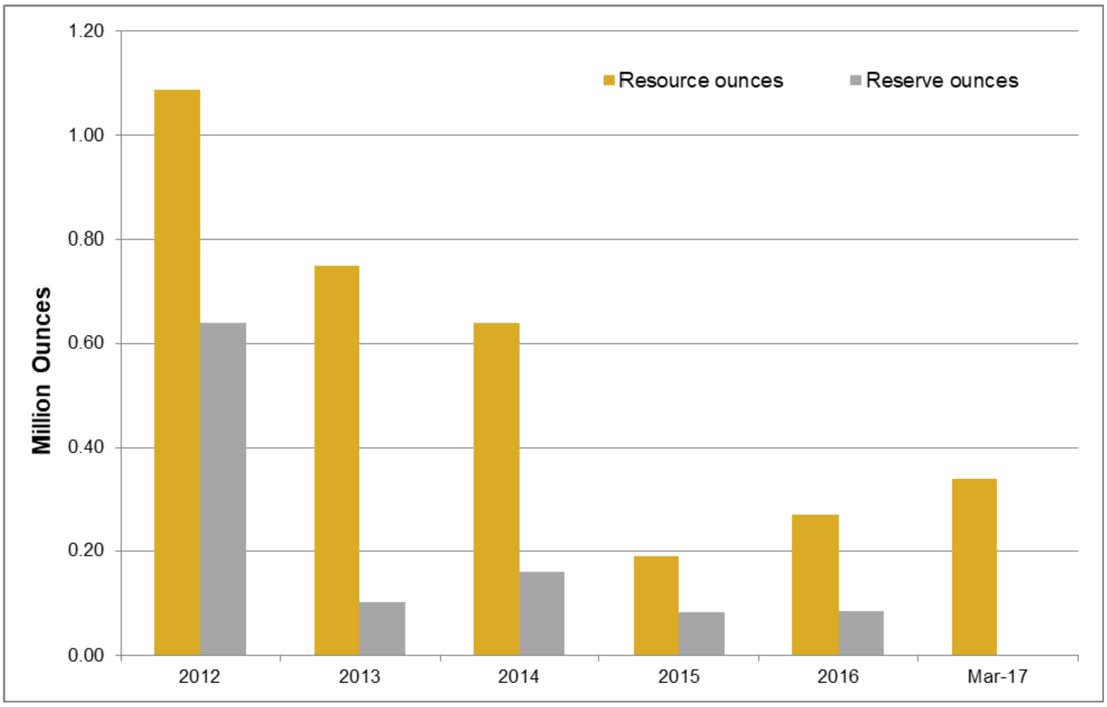
- A change in the underground cut-off grade from 5.0g/t Au to 3.0g/t Au, resulting in the inclusion of the M1 generic in the resource.
- Depletion of the previous resource estimate by way of production during the period July 2016 - March 2017.
- Small increase in the M2 resource due to production from areas outside the resource (usually while accessing M3).
- An increase in the M3 resource due to the effect of positive drilling returns around the 1020 Level.
- An increase in the SEZ resource due to the effect of positive drilling returns around the 1060 Level.
- An increase in the Challenger West resource is due to the generic being updated with positive production data from 710 and 450 levels in addition to an extension of the CW OD4 resource based on results in the 470 and 450 Levels.
- An increase in the Aminus resource due to the effect of positive drilling returns around the 290 and 310 Levels.
- Depletion of the surface low grade stocks due to processing.



Graph 1: Changes in Challenger Resource Estimate from June 2016 to March 2017

The increase in the gold content of the mineral resource estimate from June 2016 to March 2017 continues the trend that has been in place since WPG acquired Challenger in February 2016. This trend is shown in the chart set out in Graph 2 below.

WPG's Chairman Bob Duffin said "The hockey stick or J-curve shown in Graph 2 gives us considerable encouragement that WPG's intensive focus on underground exploration at Challenger has the potential to deliver further increases in the resource inventory, and also the life of the mine".



Note: Ore reserve estimate has not been re-calculated as at 31 March 2017

Graph 2: Changes in gold content of Challenger Resource and Reserve Estimates from 2012 to March 2017

Mineral Resource Estimate – Summary of Material Information

The Resource Estimate for the Challenger deposit is based on the interpretation of the geology and gold bearing lode structures that has been developed as a continually evolving model by hands-on experienced site geologists before and since the commencement of mining in 2002. The current interpretation is based on a combination of drilling results, face sampling and geological mapping of development headings.

The Challenger deposit extends from 1193mRL (surface) to -325mRL as a series of gold bearing folded migmatite zones with ore shoots that plunge at ~30 degrees on a bearing of 029. The ore shoots within the broader structure are defined by leucosome veins which are characteristically complexly folded.

Due to the complex nature of the lode zones the Resource has been estimated using a combination of geological grade calculations, generic modelling and block modelling. There is a high nugget effect in the Challenger deposit and significant visible gold and therefore various top cuts are applied to the grade calculations as detailed in the body of the attached Resource Estimate Report.

The cut-off grade used in the Resource Estimate is 3.0 g/t Au for underground lodes and >1.5g/t Au for open pit lodes and is based on what is considered an economic cut-off in relation to the prevailing gold price and projected operating costs.

Three principal types of drilling techniques are used for the collection of geological and grade information at Challenger; diamond drilling, sludge drilling and RC/RAB drilling. In addition Face Sampling is undertaken as a part of the production cycle.

All underground diamond drill core is sampled based on geological intervals determined during logging. Sample length is generally 1.00m but can vary between 0.30m for visible gold intersections and 2.00m for known barren intrusive intersections. All samples are submitted to the site laboratory for analysis. Any intercepts over 5.00g/tm Au over 1.00m are considered significant and along with adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis as required.

Sludge drilling is undertaken using a Sandvik Long-hole Drill with a 76mm percussion bit. The sample interval has historically been 0.75m, but has recently changed to 0.90m due to longer solo drill rods.

All sludge samples are submitted as entire samples to the site laboratory for analysis. Any intercepts over 10.00g/t Au over 1.00m are considered significant and along with adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis as required.

Face chip samples are collected to be as representative as possible of the source material. These 2-5kg samples are all processed by the site laboratory.

Each sample can be tracked by its sample number through the entire laboratory process and results for the original samples and all QAQC samples are presented in digital form to the Geologists. Assaying of samples is done on site using the PAL (pulverising aggressive leach) process.

Mining factors taken into consideration for the Resource estimate are that the mineralisation will continue to be mined using a combination of up-hole retreat stoping utilising rib pillars and a minor number of downhole long hole bench stopes. The minimum drive dimensions will be 5.0m high by 4.0m wide and the minimum mining width is 1.5m. Internal and external dilution has been included in the resource shapes to take in complex structural areas such as thickening of a stope shape due to parasitic folding of the shoot. Metallurgical factors taken into consideration for the Resource Estimate are that the mined ore will continue to be processed at the Challenger CIP plant.

The contained gold of 343,299 ounces is 27% higher than that shown in the 30 June 2016 resource estimate of 269,672 contained gold ounces.

The basis for the Resource classification is as follows:

- **Measured**
  - Must be developed/stoped above and below.
  - Must have sufficient data density to show continuity/structural complexity.
  - Has geological mapping/face photos to guide modelling.
  - Must have sufficient information to create a tonnage/grade estimate for production purposes. Data density is used to upgrade an Indicated Resource to Measured, if there is no adjacent level.
  - Drill hole spacing typically 20 x 20m diamond drilling in conjunction with extensive 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart.

- **Indicated**
  - May be developed/stoped on one level only.
  - Does not have sufficient information to fully inform structural complexity, but shows lode presence (i.e. 25m spaced diamond drilling that cannot provide sufficient resolution to show up metre-scale parasitic folding).
  - Does not have sufficient information to fully inform lode continuity (i.e. spacing of drilling such that it is difficult to determine which intercepts are which part of the system) , but shows lode presence.
  - Drill hole spacing typically 20 x 20m diamond drilling in conjunction with occasional 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart.
- **Inferred**
  - No development had been undertaken adjacent to the resource.
  - Sufficient information to determine the presence of a lode structure but not enough to determine continuity.
  - Drill hole spacing not relevant as a single intercept, if identifiable as part of the shoot is used for definition of the inferred resource.

All shoots in a lode are geologically modelled based on the structure and grade. These models take into account intrusive materials and dislocating structures. Using the most appropriate technique, the shoots have their grades calculated. Only economic shoots are included in the Resource with a single lode comprising both economic (included) and sub-economic (not included) shoots.

The Resource estimate is validated as an ongoing process by comparing the Resource estimate figures to production figures and the mill reconciliation. In addition the figures are compared between iterations of the Resource estimate. Estimation and modelling techniques used for the Challenger Resource comprise geological grade calculations, generic models and block modelling.

Relevant environmental and other approvals for Challenger include:

- A Native Title Mining Agreement has been in place with the Antakirinja Matu–Yankunytjatjara Aboriginal Corporation (AMYAC) since 2002;
- A pastoral agreement which covers road access with the Jumbuck pastoral property;
- A deed of access for operation within the Woomera Prohibited Area (WPA) is in place with the Department of Defence;
- The current Tailings Storage Facility (TSF2) design provides sufficient capacity to store the planned tailings generated by the mine plan;
- There are no identified naturally occurring risks that are likely to impact on the Challenger operation; and
- Site rehabilitation is undertaken in accordance with the project's approved PEPR.

Further Information

For further information please contact WPG's Executive Chairman Bob Duffin or CEO, Wayne Rossiter on (02) 9251 1044.

Competent Person Statements

The information that relates to Mineral Resources contained in this report is based on, and fairly represents, information and supporting documentation prepared by Mr Stuart Hampton.

Stuart Hampton is a Member of the Australasian Institute of Mining and Metallurgy. He is an independent contract geologist who previously compiled information concerning the Exploration Results, Mineral Resources and Ore Reserve estimates for the Challenger gold mine and worked at Challenger for 11 years. He qualifies as a Competent Person as defined in the December 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) and has sufficient experience relevant to the style of mineralisation being reported herein.

Stuart Hampton has consented in writing to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to statements concerning WPG's planned activities, including but not limited to mining and exploration programs, and other statements that are not historical facts. When used in this document, the words such as “could”, “plan”, “estimate”, “expect”, “intend”, “may”, “potential”, “should” and similar expressions are forward-looking statements. In addition, summaries of Exploration Results and estimates of Mineral Resources and Ore Reserves could also be forward looking statements. Although WPG believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

CHALLENGER GOLD MINE

RESOURCE ESTIMATE REPORT
AS AT 31 MARCH 2017

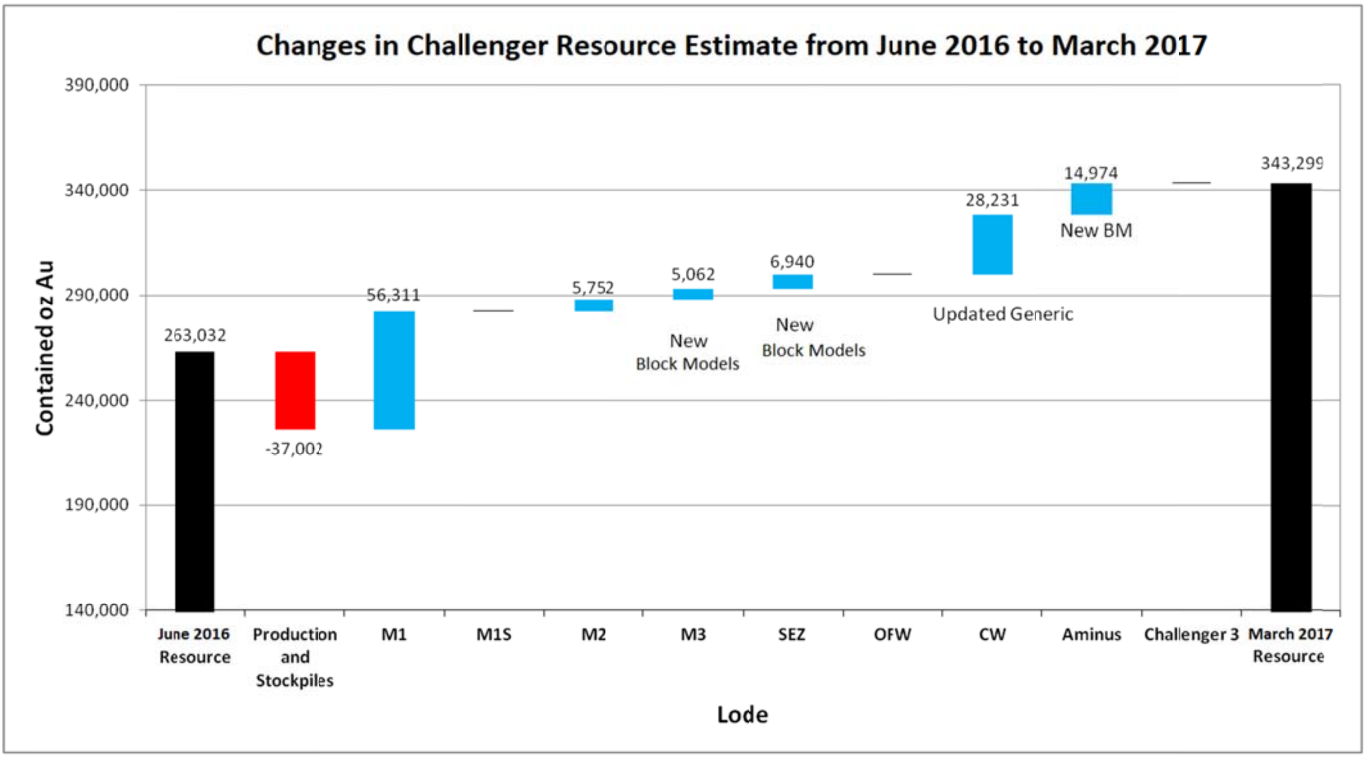
Prepared by: Stuart Hampton
Copies to: Wayne Rossiter, Marcus Doyle and Kurt Crameri

Introduction

The Challenger deposit Mineral Resource estimate has been compiled by Stuart Hampton in compliance with the JORC Code 2012. The 31 March 2017 resource estimate, which is shown in detail in Table 1, is a total of 1,401,401 tonnes at an average grade of 7.62 g/t Au containing 343,299 ounces. The contained gold of 343,299 ounces is 27% higher than that shown in the 30 June 2016 resource estimate of 269,672 contained gold ounces. The variation from that of the 30 June 2016 resource estimate is due to:

- A change in the underground cut-off grade from 5.0g/t Au to 3.0g/t Au, resulting in the inclusion of the M1 generic in the resource.
- Depletion of the previous resource estimate by way of production during the period July 2016 - March 2017.
- Small increase in the M2 resource due to production from areas outside the resource (usually while accessing M3).
- An increase in the M3 resource due to the effect of positive drilling returns around the 1020 Level.
- An increase in the SEZ resource due to the effect of positive drilling returns around the 1060 Level.
- An increase in the Challenger West resource is due to the generic being updated with positive production data from 710 and 450 levels in addition to an extension of the CW OD4 resource based on results in the 470 and 450 Levels.
- An increase in the Aminus resource due to the effect of positive drilling returns around the 290 and 310 Levels.
- Depletion of the surface low grade stocks due to processing.

Graph 1 summarises the gains and losses in the resource estimate between 01 July 2016 and 31 March 2017.



Graph 1 – Changes in Challenger Resource Estimate from June 2016 to March 2017

Table 1: Challenger Mineral Resource Estimate as at 31 March 2017

(>3.0g/t Au underground cut-off grade, >1.5g/t Au open pit cut-off grade)

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
Challenger West	Measured	62	8.20	16
	Indicated	159	10.68	55
	Inferred	25	9.31	8
	Total	**246**	**9.92**	**79**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
Aminus	Measured	25	3.07	2
	Indicated	30	7.75	8
	Total	**55**	**5.63**	**10**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
M1 Shadow Zone	Indicated	27	8.41	7
	Inferred	60	8.41	16
	Total	**87**	**8.41**	**24**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
M1	Measured	35	3.36	4
	Indicated	246	3.76	30
	Inferred	189	3.76	23
	Total	**470**	**3.73**	**56**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
M2	Measured	84	7.49	20
	Indicated	288	11.02	102
	Inferred	89	13.78	39
	Total	**460**	**10.91**	**161**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
M3	Indicated	16	8.76	4
	Total	**16**	**8.76**	**4**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
SEZ	Measured	5	9.99	2
	Indicated	48	4.53	7
	Total	**52**	**5.02**	**8**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
CSSW	Measured	0	0.00	0
	Indicated	0	0.00	0
	Total	**0**	**0.00**	**0**

Source	Category	Tonnes (Thousand Tonnes)	Grade Gold (g/t)	Contained Ounces Gold (Thousand Oz)
Stockpiles	Measured	15	1.27	1
	Total	**15**	**1.27**	**1**

Challenger Total	**Total**	**1,401**	**7.62**	**344**

All tonnes and ounces rounded to the nearest thousand for reporting purposes.
*Stockpile data from closing figure of CJV Monthly Report (March 2017).

A. Geology

Challenger occurs within the Mulgathing Complex of the Gawler Craton and the area is characterised by Archaean to mid-Proterozoic gneissic country rock. Original granulite facies metamorphism is overlaid by retrograde amphibolite facies recrystallisation around 1650 - 1540 Ma (Tomkins, 2002). Saprolitic clays extended to 50 m depth within the ore zone, reflecting a deeper base of oxidation.

High-grade gold mineralisation is associated with coarse-grained quartz veins with feldspar, cordierite and sulphides dominated by arsenopyrite, pyrrhotite and lesser telluride. These veins are interpreted as migmatites that have undergone partial melting, with this melting reflecting a precursor hydrothermal alteration event (McFarlane, Mavrogenes and Tomkins, 2007 (1)).

Three main types of leucosome/vein styles have been defined:

1. quartz dominant veins, which may be remnant premetamorphic mineralised veins
2. polysilicate veins, which are dominant in the main ore zones and host the majority of the mineralisation
3. pegmatitic veins, which are unmineralised, late stage, with cross-cutting relationships.

The gold mineralisation is structurally controlled through emplacement of the partial melt into relatively low-strain positions. McFarlane, Mavrogenes and Tomkins (2007, 1), using Monazite geochronology proposed a 40 Ma period between 2,460 and 2,420 Ma of repeated high-temperature events.

The Challenger Structure can be defined as a laterally extensive shear zone with shoots that plunge 30° to 029° (AMG). These ore shoots are defined by leucosome veins, which are characteristically ptygmatically folded. The small-scale folding is parasitic to the overall larger scale folding that can be interpreted from drill core. The folding is interpreted as prepeak metamorphism along with gold mineralisation. Post-folding, the Challenger shoots were subjected to extreme WNW-ESE shortening and extension directed shallowly to the NE (Androvic, Bamford, Curtis, Derwent, Giles, Gobert, Hampton, Heydari, Kopeap, and Sperring, 2013 (2)).

B. Mine Production 01 July 2016 to 31 March 2017

Mine production leads to a depletion of the resource. Challenger Mine (underground) production for the period July 2016 to March 2017 totalled 351,663t of ore at a reconciled grade of 3.05g/t comprising 191,621t at 4.39g/t of high grade ore and 160,011t @ 1.45g/t of low grade material.

Ore Mined	Ore Mined July 2016-March 2017			
Lode	Tonnes	g/t	Ounces	% Au
Aminus	68,785	2.51	5,543	16%
M2	24,780	2.84	2,264	7%
M3	10,732	1.90	656	2%
CW	247,327	3.27	26,002	75%
Total	**351,624**	**3.05**	**34,465**	**100%**

Table B1: Reconciled Underground Ore Mined July 2016-March 2017

The production focus remains on Challenger West, this being the majority of ore produced with the remainder being sourced from Aminus, M2 and M3 as remnant blocks or extensions to the shoots are defined.

C. Grade Control & Reconciliation

Reconciliation of production to the reserve has been affected by Challenger West being highly reliant on data density for reliable grade prediction. This has led to the Challenger West resource estimate over-stating the endowment of the 290 and 270 levels or understating the endowment of levels such as 450 and 470, due to the lack of data at the time of the 2016 resource estimate. This issue continues to be addressed in the 31 March 2017 resource estimate through better understanding of the Challenger West lode and through additional data collection in Challenger West.

CW Reconciliation July 2016 to March 2017

Reconciliation of recently completed mining levels on Challenger West lode is denoted in Table C1 below. These reconciliation figures relate to production in the levels as a whole, which may span several years of development and phases of production. These levels were finally reconciled during the period July 2016 to March 2017, meaning that their development and production are now considered complete. Overall reconciliation is positive against the design but variable against the reserve, showing the importance of data density in the calculation of gold endowment in Challenger West.

CW Reconciliation - Finally Reconciled Jul 2016 to Mar 2017

	Ore Reserve			Reconciled Ore			Rec Ore/Reserve			Rec Ore/Design		
Level	tonnes	g/t	ounces	tonnes	g/t	ounces	% t	% g/t	% oz	% t	% g/t	% oz.
930	17,114	11.80	6,491	32,485	4.26	4,447	190%	36%	69%	107%	80%	86%
550	-	-	-	97,749	4.17	13,098	-	-	-	162%	109%	177%
310	-	-	-	25,927	3.76	3,131	-	-	-	159%	81%	130%
Total	**17,114**	**11.80**	**6,491**	**156,161**	**4.12**	**20,676**	**190%**	**36%**	**69%**	**146%**	**95%**	**137%**

Table C1: Challenger West Reconciliation

Section 1 - Sampling Techniques and Data

1.0 Drilling

Challenger Gold Operations and its predecessors has drilled approximately 917,694m of Diamond, RAB, RC, Air core, Auger and Production (Sludge) holes on the mining lease since 1995. These are detailed in Table 1.0.1.

Calendar Year	No. of Holes	Air core (m)	Auger (m)	Diamond (m)	RAB (m)	RC (m)	Sludge (m)
1995	*590*	*-*	*-*	*340*	*19,063*	*3,707*	*-*
1996	*470*	*-*	*-*	*606*	*19,579*	*12,360*	*-*
1997	*827*	*290*	*-*	*8,525*	*28,156*	*32,992*	*-*
1998	*92*	*-*	*-*	*2,761*	*778*	*6,942*	*-*
1999	*11*	*-*	*-*	*226*	*502*	*-*	*-*
2000	*-*	*-*	*-*	*-*	*-*	*-*	*-*
2001	*519*	*-*	*-*	*1,106*	*5,103*	*11,243*	*-*
2002	*1,281*	*-*	*-*	*8,769*	*11,194*	*16,379*	*-*
2003	*1,077*	*-*	*-*	*6,642*	*2,974*	*20,682*	*-*
2004	*325*	*-*	*-*	*10,426*	*-*	*1,373*	*2,959*
2005	*657*	*-*	*-*	*11,723*	*2,768*	*3,504*	*8,296*
2006	*1,027*	*-*	*-*	*14,150*	*1,933*	*-*	*16,341*
2007	*1,307*	*-*	*-*	*36,291*	*3,447*	*-*	*20,608*
2008	*1,734*	*-*	*-*	*35,497*	*-*	*-*	*26,619*
2009	*2,403*	*-*	*-*	*39,315*	*-*	*-*	*35,526*
2010	*2,649*	*-*	*50*	*16,122*	*-*	*-*	*44,766*
2011	*1,973*	*-*	*-*	*25,012*	*-*	*-*	*32,352*
2012	*1,508*	*-*	*-*	*28,476*	*-*	*4,004*	*20,819*
2013	*1,443*	*-*	*-*	*33,523*	*155*	*2,575*	*17,287*
2014	*2,045*	*-*	*-*	*46,143*	*3,672*	*3,617*	*28,947*
2015	*1,526*	*-*	*-*	*39,189*	*-*	*1,499*	*22,124*
2016	*1,215*	*-*	*-*	*22,512*	*-*	*-*	*18,986*
2017	*471*	*-*	*-*	*5,759*	*-*	*-*	*8,410*
TOTAL	***23,527***	***290***	***50***	***393,113***	***99,324***	***120,877***	***304,040***

Table 1.0.1 – Summary of Drilling undertaken by calendar year at Challenger Mine to 31 March 2017.

Management of the drilling programs, including logging, sampling and data verification were undertaken by Dominion Gold Limited from 1995 to 2011. At the beginning of 2012, Kingsgate Consolidated Limited merged with Dominion Gold Limited and took over management of the drilling programs as Dominion Gold Operations. In 2013, Dominion Gold Operations was renamed to Challenger Gold Operations. In 2016, WPG Resources Ltd (WPG) acquired Challenger Gold Operations and entered into a 50/50 joint venture with Diversified Minerals Pty Ltd (DMPL) to operate the Challenger mining and exploration drilling programs, with WPG as manager of the joint venture (Challenger Joint Venture). In August 2016 WPG completed the acquisition of DMPL's 50% interest in the Challenger Joint Venture and the operation is now run by Challenger Gold Operations, a wholly owned subsidiary of WPG. .

Three principal types of drilling techniques are used for the collection of geological and grade information at Challenger Gold Mine; Diamond Drilling, Sludge Drilling and RC/RAB drilling. In addition Face Sampling is undertaken as a part of the production cycle.

1.1 Diamond Drilling

Surface

Surface diamond drilling was undertaken prior to 2012 by contractors (Budd Drilling, Coughlan Drilling, Major Drilling and UDS) with their own equipment. Surface drilling is undertaken by RC pre-collar (through a cyclone for sampling) to a depth where diamond drilling can commence (<100m) followed by a diamond tail to a maximum depth of 1,672m to date. The running gear is HQ/HQ2 or NQ/NQ2 standard wire line tubes from a UDR drill rig (either 1200 or 650, with booster pack). All drill core is oriented with an electronic orientation tool to provide each six metre run with an orientation mark.

Underground Diamond Drill

A total of 27,655 m of BQ and LTK60 drill core was drilled from underground during the period 1 July 2016 to 31 March 2017 into a number of targets. This comprised of 15,560m of development drill core into targets within the existing Reserve and 12,095m of drill core into targets outside of the reserve.

Underground diamond drilling was undertaken by Challenger Joint Venture and Challenger Gold Operations (current, development and explorations) and HMR Drilling Services (2016, exploration), Challenger Gold Operation (2013-2015), (HWE/Leighton's (2004-2013) or Gilbert's Drilling (2012-2011)) with their own equipment. Challenger Joint Venture, Challenger Gold Operations and HWE/Leighton's utilises three LM75 and one LM90 underground drill rigs with separate power pack running wire line BQ or NQ2 thin-wall tube. These drill rigs have achieved a maximum depth of 754m to date. HMR Drilling Services utilised an LTK60 rig mounted on a CAT272D Skid Steer achieving a maximum depth of 144.8m to date. Gilbert's Drilling utilised an air core drill rig running conventional NQ2 tube for a maximum depth of 111m. Drill core is oriented on request due to the bulk of this drilling being production rather than exploration focused. Orientation of core is done by spear marking for each three metre core run.

Logging

All drill core is presented as whole core in core trays by the contractor. Core loss is noted by the diamond driller on an additional core block if required. This core is assembled and marked up using core blocks inserted at the end of every run. Any discrepancies between the measured length of the core and that of the core blocks are identified and recorded in logging as gaps in the lithology and also in the geotechnical logging. Any loss of core is discussed with the drilling contractor in a process of constant improvement to maximise returns. In the case of core loss, generally only fine material is lost through grinding. Unless a mineralised leucosome is ground away, there is no sample bias due to fines loss.

All drill core (100%) is geologically (lithology, mineralisation, structure) and geotechnically (for RQD and Q-system) logged down to cm-scale (for fine structures). Any leucosome greater than 25cm in length is recorded as a separate lithology. The logging is quantitative in nature as lithology percentages and compositions are recorded and all geotechnical logging relies on measurements for calculation of Q. All drill core is digitally photographed, with one core tray (approx. eight metres of core) per photo. The photos kept on the site server for reference and use in designs.

Sampling

All surface diamond drill core (generally HQ) is half-core sampled and all underground diamond drill core (generally NQ2 or BQ) is sampled as whole core to provide as large a sample as possible. These samples are based on geological intervals determined during logging. Sample length is generally 1.00m but can vary between 0.30m for visible gold intersections and 2.00m for known barren intrusive intersections.

All samples are submitted to the site laboratory for analysis in calico bags. Any intercepts over 5.00g/t Au over 1.00m are considered significant. Any significant intercept in core, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis on an annual basis to provide QAQC coverage for the site laboratory.

1.2 Surface RC/RAB

No RC was drilled from surface during the period.

Surface RC/RAB drilling has been undertaken by contractors (including but not limited to Coughlan's Drilling, AMWD, Budd Drilling, Bullion Drilling and Gomex) with their own equipment. RC/RAB drilling is undertaken to blade/bit refusal at a maximum depth of 285m for RC (with booster) and 93m for RAB to date. The running gear is either 4.5 or 5.5" Metzke pipe (dependent on contractor) drilling with either a RAB blade or RC hammer with face sampling bit from a 350psi compressor, backed up by an additional compressor pack if required.

All RC/RAB samples are collected on 1.00m intervals from the drilling tube by cyclone into a riffle-splitter. This splits the sample into a sample that is submitted to the site laboratory and a 'reject' sample to allow for duplicates if required. Historically, 1.00m samples may be composited into larger intervals through spear sampling of the sample return, rather than using a riffle splitter. Any intercepts over 5.00g/t Au over 1.00m are considered significant. Any significant intercept in the RC/RAB, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis.

Logging

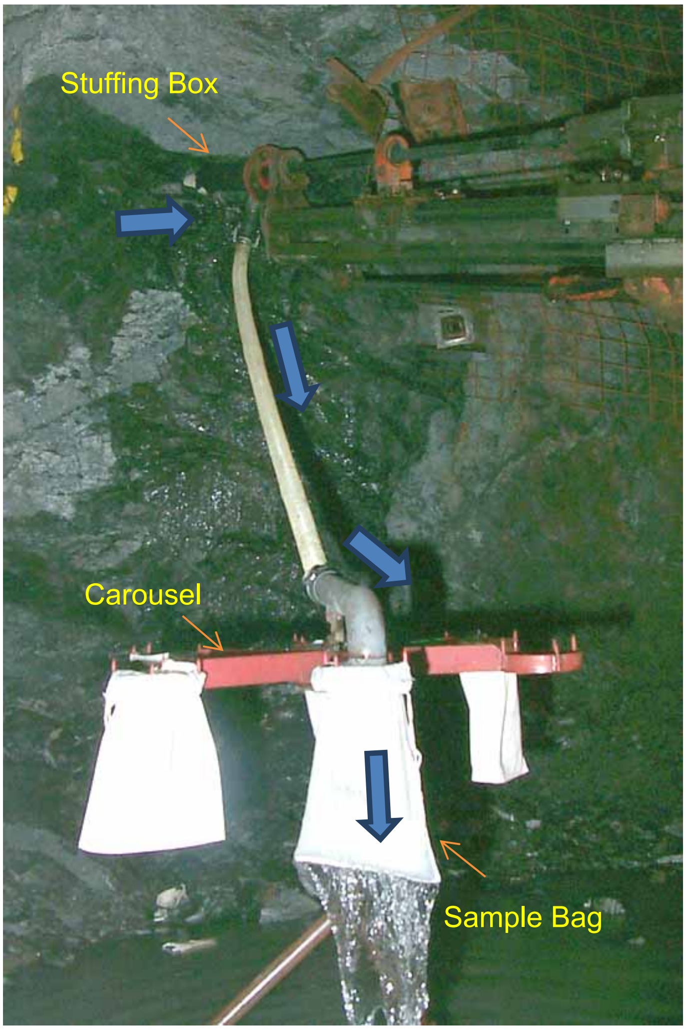
All RC/RAB samples (100%) have a portion washed and placed into a chip tray for logging. This logging comprises qualitative geological records (lithology and mineralisation) on a sample scale (generally 1.00m samples). Chip trays are retained for reference, as a result photographs are not taken.

Picture 1.2.1: RC Drilling in the Challenger Matrix

1.3 Production Drill – 'Sludging'

Sampling is undertaken with a Sandvik Long-hole Drill, using a 76mm percussion bit.

Picture 1.3.1 shows the operating set up for the sludge rig.



Picture 1.3.1: Operating setup for the sludge rig.

All sludge holes are designed at a minimum of +15 degrees from the horizontal to ensure the sample flushes from the hole. The percussion chips from the solo drilling are collected in the stuffing box and directed down the sample hose, directly into individually numbered calico bags. Sample loss is minimised through the use of a pre-collar (usually 0.2-0.3m deep), into which the stuffing box fits snugly. This results in the majority of the sample being directed into the sample bag. The sample interval has historically been 0.75m, but has recently changed to 0.90m due to longer solo drill rods. All samples are submitted to the site laboratory for analysis. Any intercepts over 10.00g/t Au over 1.00m are considered significant. Any significant intercept in sludge samples, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis on an annual basis to provide QAQC coverage for the site laboratory.

Sample smearing is minimised through keeping the sample hose under tension (removing a potential material trap) and through thorough washing of the sludge hole between samples. Sludge sample return is reliant on effective seals in the sludge rig to ensure good return and adequate washing of the drill hole between samples to reduce smearing to a minimum. Sample loss will result in a light sample. 100% sample return will result in a sample that is 9.25kg in weight (for a 75cm sample), typically samples returned from sludging weigh in the order of 8.00kg (for a 75cm sample) showing a sample loss of ~13%. This loss is due to washing out of fines from the sample bag both during collection and during draining. This sample loss is systematic and is taken into consideration when comparing this data to that of other drilling types. There is no known relationship between fines loss and grade bias.

Sludge samples are submitted as entire samples to the site laboratory, in the calico bags they were collected in. Due to their small fragment size, crushing is not required. If any re-analysis is required, the reject sample is riffle split to produce another PAL sample.

Logging

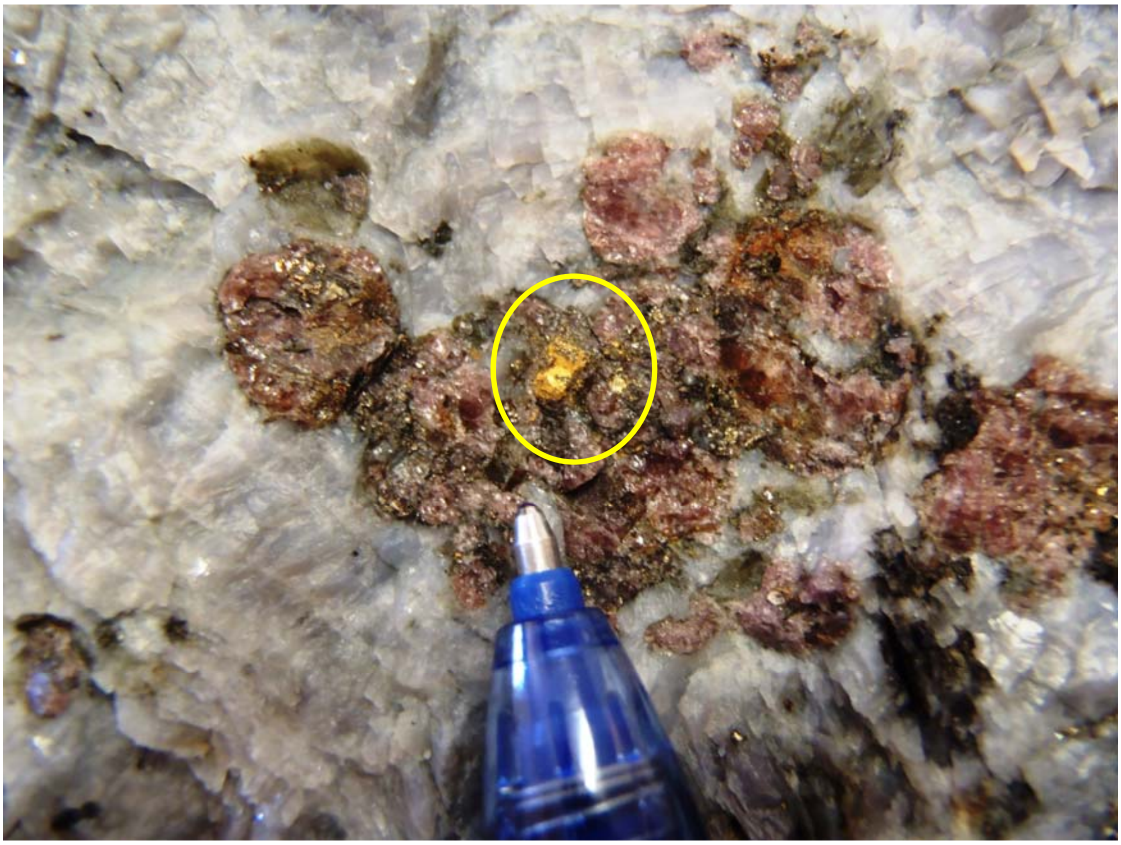
All Sludge samples (100%) have a portion washed and placed into a chip tray for logging. This logging comprises qualitative geological records (lithology and mineralisation) on a sample scale (generally 0.75-0.90m samples). As sludge drilling is done as a part of the production cycle, the chips are retained for a maximum of six months (the maximum 'life cycle' of any particular stope block) before being discarded. No photographs are retained of the sludge chips.

1.4 Face Chip

Face chip samples are collected by breaking fragments of rock <0.1m across from the face at approx. 1.5m from the floor. Sample intervals are guided by geology with sample intervals from 0.30m for visible gold, to 1.40m for broad, unmineralised zones or intrusives. These samples are taken in as representative fashion as possible by ensuring that the overall makeup of the face is presented in the sample (i.e. an interval with 10% veining should produce a sample with 10% veining). A total of two to five kilograms of rock is collected per sample for submission to the site laboratory in an individually numbered 'CFC' calico bag.

Face chips are logged through either a face map and/or digital photograph of the face. Qualitative geology (dm-scale) is recorded on the face sheet and the face photographs are stored on the site server for reference. >98% of faces sampled will have face maps/photographs, the remainder are absent due to camera malfunction.

Face sampling is as susceptible to the nugget effect as other sampling on site due to visible gold, see Picture 1.4.1. Areas that exhibit visible gold are separated into their own sample intervals both to ensure that the sample is representative and to prevent contamination of adjacent samples by visible gold. These intervals are noted on the face map and in mineralisation logging.



Picture 1.4.1: Visible gold 770 Challenger West OD1 (pen for scale).

1.5 Laboratory Analysis and QAQC

Samples are submitted to the laboratory as soon as practical after sampling in individually numbered calico sample bags. From acceptance of the samples, each sample is tracked on-site through Labman software to ensure that each assay is correctly matched with its sample. Any discrepancy between submitted samples and the paperwork is identified and may result in the entire sample job being resampled form original material prior to analysis. External laboratories utilise their own systems for sample tracking.

All samples submitted to the site laboratory are processed in the same way. The samples are dried at a maximum of 90 degrees Celsius to drive off moisture that would interfere with splitting. After drying, the samples are crushed (if required) in a Boyd Crusher to <10mm in size and then split through a rotary sample splitter to produce a sub-sample. The crusher is cleaned regularly, and in the case of exploration samples it has barren material (bricks) crushed through it to ensure no smearing prior to the sample run being crushed. Each reject is retained for resampling (re-splitting) if needed and each sub-sample (max. 2kg) is stored in individual, numbered plastic containers for analysis.

Assaying on site is done using the PAL (pulverising aggressive leach) process. This process effectively replicates the process in the site mill. Each sample is pulverised in aqueous solution with cyanide bearing assay tabs and a collection of assorted sized ball bearings. Each sample is processed in this way for an hour, resulting in a Au-CN complex bearing liquor and remnant pulverised sample. The pulverised material is 95% passing 75 microns.

All samples submitted to the site laboratory are either clayey regolith (near surface), gneiss or an intrusive (mafic or lamprophyre). In the case of clayey and exploration samples, a blank sample run is conducted between sample jobs to ensure no smearing and that all of the clayey material is removed from the PAL.

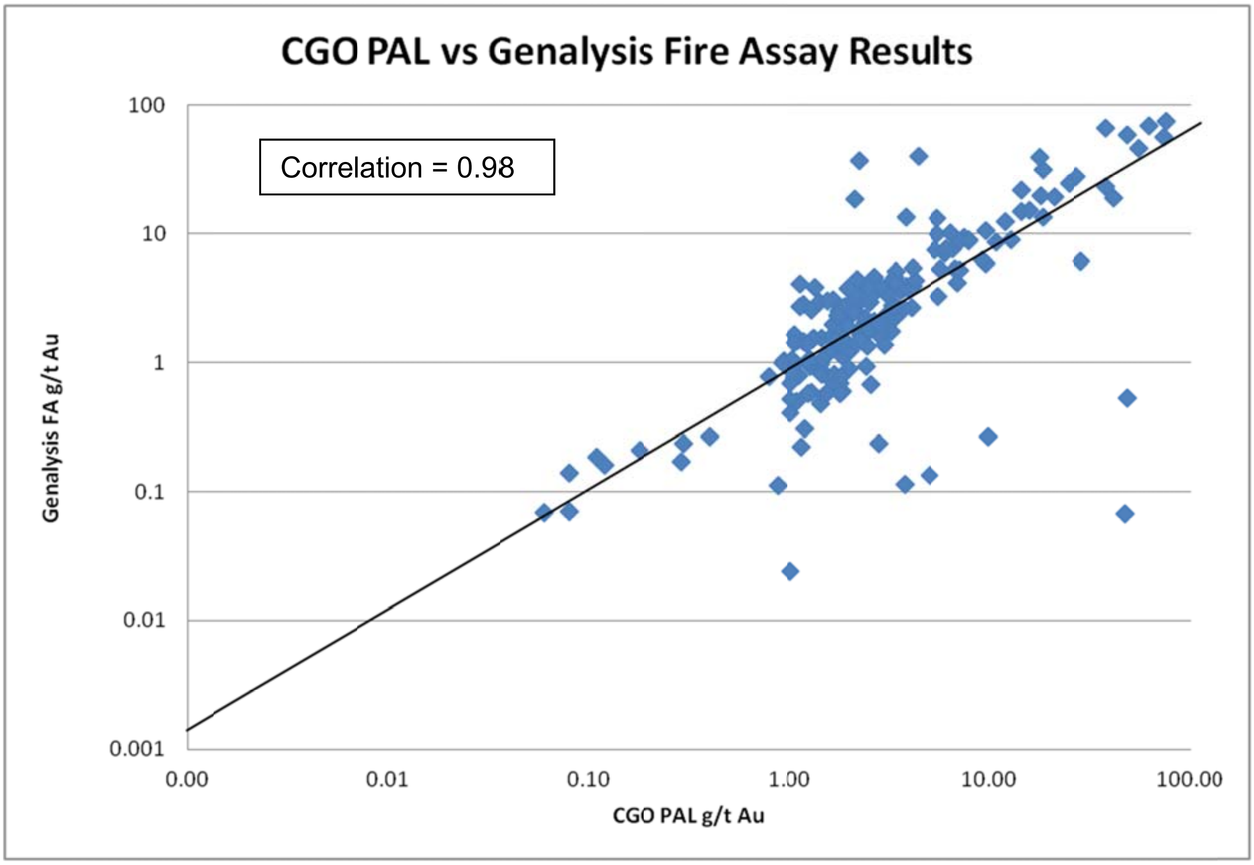
Every twentieth sample is duplicated for the original sample bag (re-split) to produce a duplicate. Every sample run (53 samples) will contain at least two duplicates, a blank and a standard (prepared off site). These are to ensure that the sub-sampling is representative, that the PAL is correctly cleaned between sample runs and that the PAL is pulverising the samples correctly for full gold extraction.

Following PAL processing, the samples are individually decanted, centrifuged and prepared for analysis in an AAS by solvent separation using DIBK (20 minutes). The sample is then aspirated through the AAS to produce a reading. The AAS is calibrated for each sample run using analytical reagent prepared standards (of 1.0, 5.0, 10.0 and 20.0 g/t Au) from Rowe Scientific. Each sample is adjusted for sample weight in Labman software to produce the gold grade in ppm. These grades are presented to site Geologists in MS Excel .csv spread sheets.

Each sample job blanks, standards and duplicates are examined to ensure that the blanks are below detection (0.01ppm), the standards are within 8% (experimental accuracy) and that the duplicates are ‘reasonable’ with respect to the nugget effect of the Challenger deposit. Any sample jobs that fail these checks will be re-analysed from re-splits of the original samples. In addition, all the blanks, standards and duplicates are analysed quarterly to ensure that the laboratory is maintaining overall operating standards.

Any significant intercepts in exploration drilling and selected significant intercepts from underground production diamond and sludge drilling are submitted to Genalysis at least annually for external analysis. This analysis is undertaken by SP-02 or SP-03 sample preparation followed by partial fire assay using a 50 gram charge (FA50). These results are compared to the original PAL results to ensure that the site analyses are repeatable. While the two analysis processes are different, a correlation 0.94 has been achieved for the last comparison, undertaken in June 2016, see Graph 1.5.1.

It is noted that the greatest variation in grade returns is in the high grade samples with returns varying considerably between FA and PAL results. However, it should be noted that the duplicate results are still significant, showing that the assay process is identifying reportable results. Variation in the assays can be attributed to the known nugget effect present in the Challenger deposit and the difference between PAL and FA techniques. There is no indication of contamination of samples in the data returned, despite the high grades.



Graph 1.5.1: Log correlation between Challenger PAL and Genalysis FA results, July to November 2016.

The only modification of assay data, following creation by Labman software is altering of results below detection, <0.01g/t Au, to 0.001g/t Au, averaging of duplicate results to produce an 'Au_plot' grade for plotting and application of c80, c140 and c180 cut-offs to the primary data. All of these modifications are undertaken using the merged data in MS Excel (using standard forms), prior to importing to MS Access.

Lab audits are performed annually by and have found that procedures are being adhered to.

1.6 Location of Data Points

All surveys on site are carried out by qualified Surveyors using a Total Station Leica theodolite from known stations determined from surface stations located by GPS. Surveying in this manner provides three dimensional collar co-ordinates and development pickups to centimetre-scale accuracy. All stope voids are surveyed by an OPTEC V400/533 cavity monitoring system (CMS) in conjunction with the theodolite. The resultant CMS files are merged in Surpac to produce single stope voids. Details of the Challenger Mine Grid are contained in Appendix 1.

1.7 Data Density and Orientation

Surface drill hole data (both exploration and production) is designed to provide a ten to twenty metre hole separation on section, as perpendicular to the ore body as possible. Historically surface exploration drilling has been undertaken on 125m sections, at right angles to the plunge of the ore body. NAVI drilling has been undertaken to drill vertical fans of holes at the required spacing.

Underground drilling is drilled at either 20m horizontal or from 20 to 100m vertically spaced fans. Holes are designed to intersect the lodes at 15 to 25m spacing along strike, as close to perpendicular to the strike of the lodes with fold closures specifically targeted. Underground and surface drilling is adequate to broadly define the lodes for the purposes of level planning.

Face sampling is undertaken for every (practical) face in mineralised development, and as-required elsewhere. This results in face and wall information every 3 to 4 metres along all of the ore drives as a minimum.

Sludge drilling is undertaken at five to ten metre ring spacing, at right angles to the plunge/strike of the lodes (145/325 degrees azimuth, mine grid) acting as an infill pattern between development and diamond drilling. Sludge spacing along strike can vary from five to fifteen metres as required to prove continuity and structural behaviour of the lodes.

Data spacing is critical in the Challenger deposit; with higher data density from face and sludge drilling providing the coverage required to fully model this structurally complex deposit. For areas with less data density (i.e. diamond drilling only), modelling from more data dense areas is projected into the less dense areas using the available data.

Resource data is composited by geological modelling to inform either a length weighted grade model (e.g. in the case of M1 or M2) or to inform a block model (e.g. in the case of Aminus,M3 or SEZ).

The orientation of any sampling (face, sludge, RC/RAB or core) is designed to be as perpendicular to the lode system as possible. The only instance where this is not possible is in the instance of sludge drilling where the only drilling platform is the ore drive itself. In this instance, drilling is designed to pass through structure at as low an angle as possible but these still result in drill holes that pass along the structure, often resulting in a very high grade drill hole representing a (possibly) quite narrow feature. During any grade calculation (be it production or resource) these structure parallel drill holes are examined for their effect on the final grade result, and where appropriate, excluded from the grade calculations, thus reducing the effect of any sample bias.

1.8 Data Review

Data reviews are undertaken on an ongoing basis by site Geologists whilst using the data. Any errors identified (either by staff, MS Access or Surpac) are queried and corrected as a part of a program of continual improvement.

Sampling reviews have been undertaken through duplicate sampling of original materials (faces, core etc.) and through comparison of sample types (diamond compared to sludge, compared to faces). The result of these reviews have consistently returned results that, while highlighting the high nugget effect, are consistent between both repeats and sample types.

Section 2 - Reporting of Exploration Results

All exploration referred at Challenger portion was undertaken at the Challenger Gold Mine on EL 5661 'Jumbuck'. This Exploration Licence comprises 660 square kilometres within the Woomera Prohibited Area, straddling the Mobella and Commonwealth Hill pastoral blocks. In addition, this exploration was undertaken within the current Challenger Mine Lease ML 6103. All exploration undertaken during the reporting period was undertaken by Challenger Joint Venture (2016-7) or Challenger Gold Operations (2017).

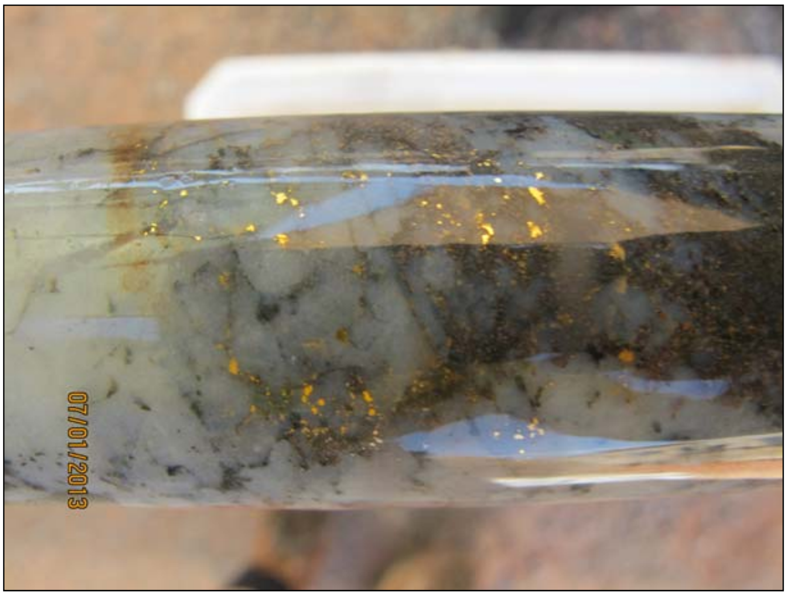
The details of all exploration drill holes for July 2016 to April 2017 with significant intercepts reported are listed in Table 2.1, below.

For the method for calculating these intercepts, please refer to Appendix 1. All results at Challenger Gold Mine, a low cut-off of 0.01g/t Au is applied (limit of detection), these results are replaced with 0.001g/t Au in the drilling database to flag that they are below detection. Assay data is stored as uncut, c80, c140 and c180 for integration with the site database. No upper grade truncation is used for significant intercepts.

All mineralisation widths are reported as depths down hole as all exploration drilling is designed to be as perpendicular to the lodes as possible. As this exploration is entirely for resource development, any significant intercepts used in lode modelling are constrained by the resulting model, producing a de-facto true width for further calculations. As these exploration holes are drilled to infill prior drilling, any results or modelling based on these intercepts are balanced by existing drilling.

No metal equivalents are used in exploration reporting due to exploration being solely for gold. Trace silver is known but is not factored into contained metal.

Planned exploration for the next financial year focuses on increasing infilling the generic Challenger West resource, Challenger Deeps (M1, M2, Aminus, Challenger West), M3, SEZ and lateral conceptual exploration targets (Enterprise) to extend the mine life.



Picture 2.1: Visible gold in drill core from Challenger West (BQ size, diameter 36.4mm)

Exploration Diamond Drill hole Details (AMG84)				Intercept Details						
Hole ID	Collar mN	Collar mE	Collar mAHD	Hole Length	From (m)	To (m)	Interval (m)	Au (g/t)	Shoot	Midpoint (mRL)
16CUD1756	6,693,755.267	363,466.956	-113.017	235.39	70.45	71.1	0.65	5.33	CSSW	825
16CUD1757	6,693,755.483	363,466.442	-112.827	224.53	68.38	68.8	0.42	7.09	CSSW	825
16CUD1759	6,693,756.013	363,465.494	-113.005	233.38	99	99.4	0.4	9.82	CSSW	796
16CUD1759	6,693,756.013	363,465.494	-113.005	233.38	134	134.4	0.4	5.47	CSSW	763
16CUD1760	6,693,756.403	363,465.174	-113.087	230.22	194.71	195.01	0.3	55.19	CSSW	711
16CUD1760	6,693,756.403	363,465.174	-113.087	230.22	214.7	215	0.3	9.23	CSSW	693
16CUD1780	6,694,916.521	364,230.655	-682.279	110.43	8	9	1	10.71	M1	313
16CUD1804	6,694,281.507	363,684.199	-285.877	62.44	39.39	44	4.61	16.27	CW	700
16CUD1805	6,694,280.927	363,683.942	-285.842	50.66	31	32.26	1.26	47.44	CW	701
16CUD1805	6,694,280.927	363,683.942	-285.842	50.66	35.56	35.88	0.32	18.41	CW	700
16CUD1806	6,694,280.370	363,683.610	-285.812	44.6	26.48	26.88	0.4	48.8	CW	701
16CUD1847	6,694,510.870	363,895.129	-486.877	110.82	86	87	1	6.94	OFW	491
16CUD1852	6,694,778.596	364,100.677	-550.814	43.99	30.98	31.55	0.57	18.3	Aminus	473
16CUD1853	6,694,778.530	364,100.805	-551.254	44.6	17.3	17.6	0.3	62.14	Aminus	459
16CUD1859	6,694,756.336	364,085.151	-545.36	49.98	32.4	32.8	0.4	38.08	Aminus	481
16CUD1930	6,693,370.872	363,194.832	-39.077	80.14	30	31	1	6.44	CSSW	983
16CUD1933	6,693,370.429	363,194.553	-39.054	79.05	25.86	26.38	0.52	5.29	CSSW	980
16CUD1935	6,693,375.030	363,191.372	-40.141	80.82	6	6.7	0.7	6.37	CSSW	963
16CUD1936	6,693,375.008	363,191.318	-39.133	80.63	19.14	20	0.86	5.48	CSSW	975
16CUD1938	6,693,375.454	363,191.560	-40.101	80.02	16.39	17	0.61	15.9	CSSW	967
16CUD1939	6,693,375.409	363,191.586	-39.296	81.68	11	12	1	9.97	CSSW	969
16CUD1940	6,693,375.167	363,191.456	-38.893	80.03	10.25	11.05	0.8	20.99	CSSW	970
16CUD1940	6,693,375.167	363,191.456	-38.893	80.03	25	26	1	7.13	CSSW	983
16CUD1957	6,693,346.621	363,157.303	-38.927	81.07	3.2	4.08	0.88	5.74	CSSW	963
16CUD1964	6,693,857.161	363,727.901	26.768	115.23	17.66	18.6	0.94	156.57	M3	1034
16CUD1968	6,693,854.943	363,725.121	25.85	125.52	11.75	12.05	0.3	120.44	M3	1029
16CUD1969	6,693,854.780	363,724.798	25.587	131.64	13.24	14.37	1.13	23.04	M3	1029
16CUD1969	6,693,854.780	363,724.798	25.587	131.64	95	96	1	12.65	SEZ	1057
16CUD1970	6,693,854.617	363,724.554	25.428	149.5	14.8	15.56	0.76	36.6	M3	1029
16CUD1971	6,693,854.554	363,724.224	25.123	176.47	18.45	20.2	1.75	12.31	M3	1028
16CUD1972	6,693,854.399	363,724.066	24.987	220.18	20.55	20.98	0.43	9.04	M3	1029
16CUD1987	6,693,856.145	363,726.682	25.077	122.29	11.32	12	0.68	49.47	M3	1027
16CUD1987	6,693,856.145	363,726.682	25.077	122.29	85	86	1	6.68	SEZ	1040
16CUD1994	6,693,926.256	363,761.737	-16.954	150.46	124.83	125.68	0.85	9.96	SEZ	965
16CUD1995	6,693,925.872	363,761.479	-16.884	155.32	115.19	116	0.81	79.09	SEZ	971
16CUD1998	6,693,925.133	363,760.931	-16.835	146.58	137	138	1	5.42	SEZ	968
17CUD2009	6,693,461.490	363,203.919	-38.69	400.61	213	214	1	5.22	Enterprise	959
17CUD2009	6,693,461.490	363,203.919	-38.69	400.61	264.44	265	0.56	6.38	Enterprise	956
17CUD2011	6,693,461.490	363,203.919	-38.69	400.15	234.85	235.4	0.55	8.57	Enterprise	957
17CUD2012	6,693,461.490	363,203.919	-38.69	350.35	249.61	250	0.39	66.13	Enterprise	951
17CUD2071	6,695,375.133	364,492.200	-861.5	220	58	59.92	1.92	14.32	M1	126
17CUD2071	6,695,375.133	364,492.200	-861.5	220	121	122	1	45.12	Aminus	111
17CUD2071	6,695,375.133	364,492.200	-861.5	220	140	141	1	232.12	CW	106
17CUD2073	6,695,375.133	364,492.200	-861.5	150	53.3	54.14	0.84	6.64	M1	125
17CUD2073	6,695,375.133	364,492.200	-861.5	150	63.88	65.4	1.52	6.34	M1	122

Table 2.1: Exploration Significant Intercepts for Jul 2016 to Mar 2017.

Section 3 - Estimation and Reporting of Mineral Resources

The geological interpretation of the Challenger deposit has been a work in progress prior to the commencement of mining in 2002. The current interpretation is based on a combination of drilling results, face sampling and geological mapping of development headings by an experienced site team. This has resulted in a high level of confidence in the geological interpretation as a result of the interpretation's success in predicting development and production for the last eleven years. The only assumptions made in geological modelling are based on empirical data, these being:

- Intrusive lithologies (Mafics, Lamprophyre and Pyroxenite) are barren.
- Structural displacement in small to medium joints is minimal.
- To date there are only two major structures that effect the lode system, the 79 Fault and the 215 Shear. Smaller scale dislocating structures affect Challenger West at approximately 1130 and 980mRL. These structures have been mapped and modelled in detail during the 2013-14 financial year.

The Challenger deposit extends from ~1193mRL (surface) to -325mRL as a series of gold bearing folded migmatite packages. These packages occur as a series of 'short-limb' folded packages up to 50m wide by 80m long, (in plan) comprising metre-scale folded veins connected by 'long-limb' more highly strained packages of up to 200m long (in plan) metre-scale parasitically folded veins. Total strike length of the resource is approx. 750m along strike and 250m plan width across strike.

Due to the complex nature of the Challenger deposit, the geological interpretation is under constant scrutiny for changes in the structural patterns i.e. parasitic folds or refolded areas. Given the density of data needed to create production models for mining, alternative interpretations have not resulted in significantly different geological models.

Mineral resource estimation is guided entirely by geology in this case due to the structural complexity of the system. The continuity of grade and geology in the Challenger deposit is affected by primary gold distribution before migmitisation, folding generations/strain regimes during metamorphism and post-metamorphism modification. For instance:

- Portions of the deposit in low strain open folding areas will result in an area of the deposit like the M1 where grade is reasonably uniform and continuous.
- Portions of the deposit in high strain/isoclinal folding areas will result in either torn out folds or highly boudinaged lodes such as Challenger West where grade is high but variable and discontinuous.
- Portions of the deposit that have experienced large amounts of retrograde metamorphism often display barren pegmatite veins overprinting ore packages leading to lower contained metal.
- Areas of the deposit that have suffered multiple intrusions (along areas of weakness) have the lode stoped out by barren material, resulting in lower contained metal.

3.1 Estimation and Modelling Techniques

All shoots in a lode are geologically modelled based on the structure and grade. These models take into account intrusive materials and dislocating structures (also modelled by the Geology department). Using the most appropriate technique, the shoots have their grades calculated. Only economic shoots are included in the resource with a single lode comprising both economic (included) and sub-economic (not included) shoots.

Mining factors taken into consideration for the resource estimate are that the resource will be mined using a combination of up-hole retreat stoping utilising rib pillars and a minor number of downhole long hole bench stopes. The minimum drive dimensions will be 5.0m high by 4.0m wide and the minimum mining width is 1.5m. Internal and external dilution has been included in the resource shapes to take in complex structural areas such as thickening of a stope shape due to parasitic folding of the shoot.

Due to the high nugget effect in the Challenger deposit and significant visible gold, a top cut is applied to the grade calculations. This technique has proved robust in the calculation of production estimates when reconciled to mill production. As a result, this technique has been applied to the resource to provide as representative and balanced an estimate as possible. The resource grade calculation upper cut-off grades are 180.0g/t for all shoots except Aminus, which has a top cut of 80g/t and Challenger West, which has a top cut of 140g/t. This is the 97.5th percentile of on-site geostatistics, with Aminus having the lower percentile figure.

The resource estimate is validated as an ongoing process by comparing the resource estimate figures to production figures and the mill reconciliation. In addition the figures are compared between iterations of the resource estimate. This comparison has highlighted the importance of data density in resource estimation at

Challenger Gold Mine. This then informs the classification of the resource as being reliant on data density as much as on geological interpretation.

Estimation and modelling techniques used for the Challenger resource comprise ‘geological grade calculations’ (by site geologists), generic models (by Stuart Hampton and Nick Raymond) and block modelling (by Stuart Hampton).

Geological Grade Calculations

These calculations are undertaken as a part of the production process to determine the tonnes and grade of production stopes on site. This technique had been determined over a number of years to be robust as it reconciles well with mill production. This technique is only used on areas that have sufficient data to determine shoot continuity and structural details i.e. **Measured Resources**. This method has been used to create M2 Remnant and SEZ resources and is used in the creation of generic resources (see below). The details of this technique are contained in Appendix 1, Section 3.

Generic Modelling

For areas of the mine where there is little data (but enough to show shoot location and/or continuity) but where the shoot has been adequately stoped in other areas of the mine, a generic tonnes and grade is determined for the shoot. This technique is used to create **Measured**, **Indicated** or **Inferred** resources. This has been used in the M1 Shadow Zone, M2 and Challenger West to populate the resource estimate. The details of this technique are contained in Appendix 1, Section 3.

Block Modelling

Block modelling is used for portions of the Challenger resource estimate where the structure is linear, has good continuity and is constrained by drilling. The shoots that have been block modelled in the resource estimate are Aminus, M3, SEZ and Challenger West. This technique has been used to generate **Measured** and **Indicated** resources using an ID^2 block model. Where there is insufficient data to generate Indicated resources, but enough to justify Inferred resources, a generic is used, based on the block model figures from above and/or below. The details of this technique are contained in Appendix 1, Section 3.

These lodes have been block modelled for a number of reasons:

- These are high strain lodes, i.e. long and narrow with distinct boudinaged structures.
- The lodes can be well domained in areas of high data density, but these zones are separated by areas of little or no data, preventing a generic approach.
- The lodes have a very high nugget effect.
- These lodes display distinct shoots that conform to the plunge of the ore body, resulting in a usable variography.

This block modelling becomes more reliable as additional data is added. The Aminus, M3 and SEZ block models are new and have been created due to additional data from recent diamond drilling and development. The block model of Challenger West is the same as that used for the 2016 resource and comprises CW OD2 and 3 below 510 Level.

3.2 Estimation Considerations

The resource estimate is calculated for gold only and does not take into account contained silver. Silver is a by-product and is not analysed. Additionally, the resource estimate does not take into account deleterious elements due to the lack of these factors. The host rock is not acid generating, and the deposit has only minor arsenopyrite or base metal sulphides.

Metallurgical factors taken into consideration for the resource estimate are that the ore will continue to be processed at the site CIP plant. Environmental impact factors used in the resource estimate are that the waste (which is non-acid generating) will continue to be stockpiled on site in designated waste dumps. Process residue will continue to be disposed of in the licensed Tails Storage Facility (TSF2).

3.3 Specific Gravity and Tonnes

Specific gravity (SG) of material at Challenger Gold Mine has been determined in two phases. The initial SG value for the Challenger rock mass was determined during the mine feasibility study was determined to be 2.72 for the Christie Gneiss, which comprises the Challenger deposit. A second pass of SG calculations were conducted in 2012 to determine if the SG had changed with depth with a figure of 2.86 determined for the Christie Gneiss at depth. Given that tonnes reconciliation for the mine to EOM April 2016 is 99% against the mill, it has been decided to apply the original 2.72 SG to material above the 215 Shear and the new 2.86 SG to material below the 215 Shear. Tonnages are estimated on a dry basis.

3.4 Resource Classification

The basis for the resource classification is as follows:

- **Measured**
    - Must be developed/stoped above and below.
    - Must have sufficient data density to show continuity/structural complexity.
    - Has geological mapping/face photos to guide modelling.
    - Must have sufficient information to create a tonnage/grade estimate for production purposes. Data density is used to upgrade an Indicated Resource to Measured, if there is no adjacent level.
    - Drill hole spacing typically 20 x 20m diamond drilling in conjunction with extensive 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart.
- **Indicated**
    - May be developed/stoped on one level only.
    - Does not have sufficient information to fully inform structural complexity, but shows lode presence (i.e. 25m spaced diamond drilling that cannot provide sufficient resolution to show up metre-scale parasitic folding).
    - Does not have sufficient information to fully inform lode continuity (i.e. spacing of drilling such that it is difficult to determine which intercepts are which part of the system) , but shows lode presence.
    - Drill hole spacing typically 20 x 20m diamond drilling in conjunction with occasional 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart.
- **Inferred**
    - No development had been undertaken adjacent to the resource.
    - Sufficient information to determine the presence of a lode structure but not enough to determine continuity.
    - Drill hole spacing not relevant as a single intercept, if identifiable as part of the shoot is used for definition of the inferred resource.

These classifications have been used by the competent person to classify the Challenger resource and reflect their view of the deposit based on eleven years of experience with the deposit.

The mineral resource estimate has been calculated to the satisfaction of the competent person as being representative of the Challenger deposit, based on available data. The resource estimate has been determined in accordance with techniques used in previous reporting periods. The 2016 Challenger mineral resource estimate report has been internally reviewed by Kurt Crameri (WPG Resources Ltd).

Section 4 - References

1. ‘Androvic, P, Bamford, P, Curtis, J, Derwent, K, Giles, A, Gobert, R, Hampton, S, Heydari, M, Kopeap, P and Sperring, P, 2013. Challenger Gold Mine, Australasian Mining and Metallurgical Operating Practices, AusIMM. 1097-1112.’

2. McFarlane, CRM, Mavrogenes, JA and Tomkins, AG (2007) Recognizing hydrothermal alteration through a granulite facies metamorphic overprint at the Challenger Au deposit, South Australia. Chem Geol 243:64–89

3. Tomkins, A.G., Mavrogenes, J.A., 2002, Mobilization of gold as a polymetallic melt during pelite anatexis at the Challenger deposit, South Australia: A metamorphosed Archean gold deposit, *Economic Geology and the Bulletin of the Society of Economic Geologists*, vol 97, Economic Geology, Litteton, USA, pp. 1249-1271.

APPENDIX 1 - **JORC Table 1**

Section 1 - Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• All surface diamond drill core (generally HQ) is split along the orientation line using an automated core saw. Using the orientation line ensures that the samples are all in the same real world orientation, ensuring representative splits of the core. All core is sampled based on geological intervals determined during logging. Sample length is generally 1.00m but can vary between 0.30m for visible gold intersections and 2.00m for known barren intrusive intersections. All samples are submitted to the site laboratory for analysis in 'CSD' series calico bags. Any intercepts over 5.00gtm Au are considered significant. Any significant intercept in surface core, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis. • All RC/RAB samples are collected on 1.00m intervals from the drilling tube by cyclone into a riffle-splitter. This splits the sample into a two to five kilogram sample in an individually numbered, 'CRC' or 'CRAB' series calico sample bag. The remainder of the split sample is retained in a large plastic bag, marked with the sample number of the corresponding calico bag. The plastic bags and calico bags are stored, in order, next to the drill rig before the calico bag samples are submitted to the site laboratory. Historically, 1.00m samples may be composited into larger intervals through spear sampling of the larger plastic bags, rather than using a riffle splitter. Any intercepts over 5.00gtm Au are considered significant. Any significant intercept in the RC/RAB, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis. • Face chip samples are collected by breaking fragments of rock <0.1m across from the face at approx. 1.5m from the floor. Sample intervals are guided by geology with sample intervals from 0.30m (for visible gold) to 1.40m (broad, unmineralised zones or intrusives). These samples are taken in as representative a fashion as possible by ensuring that the overall makeup of the face is presented in the sample (i.e. an interval with 10% veining should produce a sample with 10% veining). A total of two to five kilograms of rock is collected per sample for submission to the site laboratory in an individually numbered 'CFC' calico bag. • All underground diamond drill core (generally BQ) is sampled as whole core to provide as large a sample as possible. Any NQ2 core that is drilled is half cored. All core is sampled based on geological intervals determined during logging. Sample length is generally 1.00m but can vary between 0.30m for visible gold intersections and 2.00m for known barren intrusive intersections. All samples are submitted to the site laboratory for analysis in 'CUD' series calico bags. Any intercepts over 5.00gtm Au are considered significant. Any significant intercept in underground core, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis on an annual basis to provide QAQC coverage for the site laboratory. • Production drill sampling is undertaken using a 'sludge rig', comprising a 'stuffing box', hose and 'carousel' in conjunction with a Tamrock Solo, using a 76mm percussion bit. All sludge holes are designed at a minimum of +15 degrees from the horizontal to ensure the sample flushes from the hole. The percussion chips from the solo drilling are collected in the stuffing box and directed down the sample hose, directly into individually numbered 'CUS' series calico bags. Sample loss is minimised through the use of a pre-collar (usually 0.2-0.3m deep), into which the stuffing box fits snugly. This results in the majority of the sample being directed into the sample bag. Sample smearing is minimised through keeping the sample hose under tension (removing a potential material trap) and through thorough flushing of the sludge hole between samples. Samples are allowed to drain while on the carousel during subsequent sample collection to minimise sample loss through water being rapidly drained from the sample bags. The sample interval has historically been 0.75m, but has recently changed to 0.90m due to longer solo drill rods. All samples are submitted to the site laboratory for analysis. Any intercepts over 10.00gtm Au are considered significant. Any significant intercept in sludge samples, and adjacent samples (generally three on either side) are submitted to an external laboratory for check analysis on an annual basis to provide QAQC coverage for the site laboratory.
Drilling techniques	• Surface diamond drilling is undertaken by contractors (Budd Drilling, Coughlan Drilling, Major Drilling and UDS) with their own equipment. Surface drilling is undertaken by RC collar (through a cyclone for sampling) to a depth where diamond drilling can commence (<100m) followed by a diamond tail to a maximum depth of 1,672m to date. The running gear is HQ/HQ2 or NQ/NQ2 standard wire line tubes from a UDR drill rig (either 1200 or 650, with booster pack). All drill core is oriented with an electronic orientation tool to provide each six metre run with an orientation mark. • Historical surface RC/RAB drilling has been undertaken by contractors (including but not limited to Coughlan's Drilling, AMWD, Budd Drilling, Bullion Drilling and Gomex) with their own equipment. RC/RAB drilling is undertaken to a maximum depth of 285m for RC (with booster) and 93m for RAB to date. RAB is generally conducted to blade/bit refusal, but sometimes a hammer is added to extend the hole. The running gear is either 4.5 or 5.5" Metzke pipe (dependent on contractor) drilling with whether a RAB blade or RC hammer with face sampling bit from a 350psi compressor, backed up by an additional compressor pack if required. All sample is passed through a cyclone into sample bags as described above. • Underground diamond drilling is undertaken by Challenger Joint Venture (2016), Challenger Gold Operations (2013-2015), (HWE/Leigton's (2004-2013) or Gilbert's Drilling (2012-2011)) with their own equipment. Challenger Gold Operations and HWE/Leighton's utilises three LM75 and one LM90 underground drill rigs with separate power pack running wire line BQ or NQ2 thin-wall tube in addition to HMR Drilling Services utilising an LTK60 rig mounted on a CAT272D Skid Steer achieving a maximum depth of 144.8m to date. These drill rigs have achieved a maximum depth of 754m to date. Gilbert's Drilling utilised an air core drill rig running conventional NQ2 tube for a maximum depth of 111m. Drill core is oriented on request due to the bulk of this drilling being production rather than exploration focused. Orientation of core is done by spear marking for each three metre core run.

Criteria	Commentary
	• Sludge drilling is undertaken using a Sandvik Solo DL31-7C drill rig with a 76mm percussion bit in an open hole. This open hole is capped by the stuffing box of the sludge rig, allowing for sample collection.
Drill sample recovery	• All drill core is presented as whole core in core trays by the contractor. Core loss is noted by the diamond driller on an additional core block if required. This core is assembled and marked up using core blocks inserted at the end of every run. Any loss of core is discussed with the drilling contractor in a process of constant improvement to maximise returns. In the case of core loss, generally only fine material is lost through grinding. Unless a mineralised leucosome is ground away, there is no sample bias due to fines loss. Any discrepancies between the measured length of the core and that of the core blocks are identified and recorded in logging as gaps in the lithology and also in the geotechnical logging. • Surface RC and RAB samples are all passed though cyclones to maximise sample return. There is a known loss of very fine material from the cyclone when conditions are dry and the possibility for sample cross-contamination when sample condition are wet. This sample loss is systematic and is taken into consideration when comparing this data to that of other drilling types. There is no established relationship between fines loss and grade bias. • Sludge sample return is reliant on effective seals in the sludge rig to ensure good return and adequate flushing of the drill hole between samples to reduce smearing to a minimum. Sample loss will result in a light sample. 100% sample return will result in a sample that is 9.25kg in weight (for a 75cm sample), typically samples returned from sludging weigh in the order of 8.00kg (for a 75cm sample) showing a sample loss of ~13%. This loss is due to washing out of fines from the sample bag both during collection and during draining. This sample loss is systematic and is taken into consideration when comparing this data to that of other drilling types. There is no established relationship between fines loss and grade bias.
Logging	• All drill core (100%) is geologically (lithology, mineralisation, structure) and geotechnically (Q-system) logged down to cm-scale (for fine structures). Any leucosome greater than 0.20m in length is recorded as a separate lithology. The logging is quantitative in nature as lithology percentages and compositions are recorded and all geotechnical logging relies on measurements for calculation of Q. All drill core is digitally photographed, one core tray (approx. eight metres of core) per photo, with the photos kept on the site server for reference. • All RC/RAB samples (100%) have a portion washed and placed into a chip tray for logging. This logging comprises qualitative geological records (lithology and mineralisation) on a sample scale (generally 1.00m samples). Chip trays are retained for reference, as a result photographs are not taken. • Face chips are logged through either a face map and/or digital photograph of the face. Qualitative geology (dm-scale) is recorded on the face sheet and the face photographs are stored on the site server for reference. >98% of faces sampled will have face maps/photographs, the remainder are absent due to camera malfunction. • All Sludge samples (100%) have a portion washed and placed into a chip tray for logging. This logging comprises qualitative geological records (lithology and mineralisation) on a sample scale (generally 0.75-0.90m samples). As sludge drilling is done as a part of the production cycle, the chips are retained for a maximum of six months (the maximum 'life cycle' of any particular stope block) before being discarded. No photographs are retained of the sludge chips.
Sub-sampling techniques and sample preparation	• Surface diamond drill core is cut in half, lengthways along the orientation line, by an automatic core saw. One half of the core is submitted to the site laboratory for analysis, the other half is retained in core trays that are marked with the hole id and tray number. If any re-analysis from original sample is required, the core is cut again (at right angles to the orientation line), producing quarter core for re-analysis. • Surface RC/RAB samples are either (currently) riffle split from the rig cyclone into sample bags and retention samples or (historically) sampled by spear into either 1.00m or 2.00m composite samples. These sub-samples are submitted to the site laboratory for analysis. Due to their small fragment size, crushing is not required. If re-analysis from original sample is required, the larger retention sample is then riffle split to produce another sub-sample. • All face chip samples are sampled to be as representative as possible of the source material and are entirely processed by the site laboratory. If any re-analysis is required, the reject sample (see below) is riffle split to produce another PAL sample. • Underground diamond drill core is sampled as whole core, due to its use for production purposes. The sample is submitted to the site laboratory for analysis. If any re-analysis is required, the reject sample (see below) is riffle split to produce another PAL sample. • Sludge samples are submitted as entire samples to the site laboratory, in the calico bags they were collected in. Due to their small fragment size, crushing is not required. If any re-analysis is required, the reject sample (see below) is riffle split to produce another PAL sample. • All samples submitted to the site laboratory are processed in the same way. The samples are dried at a maximum of 90 degrees Celsius to drive off moisture that would interfere with splitting. After drying, the samples are crushed (if required) in a Boyd Crusher to approximately 4mm in size and then split through a rotary sample splitter to produce a sub-sample. The crusher is cleaned regularly, and in the case of exploration samples it has barren material (bricks) crushed through it to ensure no smearing prior to the sample run being crushed. Each reject is retained for resampling (re-splitting) if needed and each sub-sample (400 - 600g) is stored in individual, numbered plastic containers for analysis. • Each sample can be tracked by its sample number through the entire laboratory process and results for the original samples and all QAQC samples are presented in digital form to the Geologists.
Quality of assay	• Assaying on site is completed using the PAL (pulverising aggressive leach) process. This process effectively replicates the process in the site mill. Each sample is pulverised in aqueous

Criteria	Commentary
data and laboratory tests	solution with cyanide bearing assay tabs and a collection of assorted sized ball bearings. Each sample is processed in this way for an hour, resulting in a Au-CN complex bearing liquor and remnant pulverised sample. The pulverised material is 95% passing 75 microns, being the ideal liberation size for gold at Challenger. • All samples submitted to the site laboratory are clayey regolith (near surface), gneiss or an intrusive (mafic or lamprophyre). In the case of clayey and exploration samples, a blank sample run is conducted between sample jobs to ensure no smearing and that all of the clayey material is removed from the PAL. • Every twentieth sample is duplicated for the original sample bag (re-split) to produce a duplicate. Every sample run (53 samples) will contain at least two duplicates, a blank and a standard (prepared by Gannet Holdings Pty Ltd). These are to ensure that the sub-sampling is representative, that the PAL is correctly cleaned between sample runs and that the PAL is pulverising the samples correctly for full gold extraction. • Following PAL processing, the samples are individually decanted, centrifuged and prepared for analysis in an AAS by solvent separation using DIBK (20 minutes). The sample is then aspirated through the AAS to produce a reading. The AAS is calibrated for each sample run using analytical reagent prepared standards (of 1.0, 5.0, 10.0 and 20.0 g/t Au) from Rowe Scientific. Each sample is adjusted for sample weight in Labman software to produce the gold grade in ppm. These grades are presented to site Geologists in MS Excel .csv spread sheets. • For each sample job; blanks, standards and duplicates are examined to ensure that the blanks are below detection (0.01ppm), the standards are within 8% (experimental accuracy) and that the duplicates are 'reasonable' with respect to the nugget effect of the Challenger deposit. Any sample jobs that fail these checks will be re-analysed from re-splits of the original samples. In addition, all the blanks, standards and duplicates are examined quarterly to ensure that the laboratory is maintaining overall operating standards.
Verification of sampling and assaying	• Any significant intercepts in exploration drilling and selected significant intercepts from underground production diamond and sludge drilling are submitted to Genalysis at least annually for external analysis. This analysis is undertaken by SP-02 or SP-03 sample preparation followed by partial fire assay using a 50 gram charge (FA50). These results are compared to the original PAL results to ensure that the site analyses are repeatable. While the two analysis processes are different, a correlation 0.98 has been achieved for the last comparison, undertaken in July - November 2016, and 0.83 to 0.98 over the last two years. • Challenger Gold Mine does not use twinned holes due to time and budgetary constraints, however, production grades based on site sampling have, over the life of the mine, reconciled to within 5% of the predicted grade. Indicating that the sampling regime on site is producing data that is representative of the material produced from the mine. • Face sampling is recorded on face sheets, retained on site for reference. This information is entered daily to the site server through a standard form, ensuring that the correct information is recorded and consistent. Core, RC/RAB and Sludge logging is undertaken directly onto standard logging forms on laptop PCs. The forms for these logs have in-built filters to ensure that the correct logging codes are used. These logs are stored on the site server, which is backed up daily. All sample information is recorded both in the relevant logs/face sheets and in sample submission forms that are submitted to the laboratory (on and off site). This allows checking that all samples are present and accounted for by laboratory staff. Assay results are generated as MS Excel .csv files that are stored on the site server and are manually merged with the primary logging/face sheet information. This merged data (logs, collar information and assays) are all imported to the site Diamond Drilling Database in MS Access for use in Surpac. All information imported to the database is checked by the importer in MS Access and Surpac to ensure the correct location/display of data. Ongoing checks are carried out by the entire technical team as the data is used. • The only modification of assay data, following creation by Labman software is altering of results below detection, <0.01g/t Au, to 0.001g/t Au, averaging of duplicate results to produce an 'au_plot' grade for plotting and application of c80, c140 and c180 cut-offs to the primary data. All of these modifications are undertaken using the merged data in MS Excel (using standard forms), prior to importing to MS Access
Location of data points	• All surveys on site are carried out by qualified Surveyors using a Total Station Leica theodolite from known wall stations determined from surface stations located by GPS. Surveying in this manner provides three dimensional collar co-ordinates and development pickups to mm-scale accuracy. Drill hole collars are surveyed in the same way as the rest of the workings with collar dip and azimuth determined by surveying a rod that fits into the drill holes. The collar surveys are transmitted electronically to the site Geologists who merge this information into the MS Excel logs for each drill hole. All sludge and RC/RAB drill holes are assumed to be straight due to their short length. On site surveying of sludge holes (using diamond drill electronic Eastman cameras) have shown that while the sludge holes do experience minor clockwise deviation, the overall effect on the hole is negligible. Down hole surveying of diamond drill core (surface and underground) is undertaken with a single-shot electric down hole compass/camera at a minimum of every 30m down hole, although multi-shot and gyroscope units have been trialled in surface diamond drill holes. • Face locations are determined by the site Geologists using development pickups and measured distances for each face from known survey stations. These figures are merged with the face information (geology/assays) in MS Excel prior to importing the data into MS Access. • All stope voids are surveyed by an OPTEC V400/533 cavity monitoring system (CMS) in conjunction with the theodolite. The resultant CMS files are merged in Surpac to produce single stope voids. • All survey data is stored as local Challenger Mine Grid.

Criteria	Commentary
	Challenger Mine Reduced Level (RL) = AHD + 1000m so AHD 193m level = 1193mRL. Transformations between AMG and local grids: origin, azimuth AMG origin and azimuth conversions are based on the following coinciding points.

	AMG Co-ordinates			Challenger Mine Grid		
Station Name	mN	mE	mAHD	mN	mE	mRL
CH10	6693784.890	363338.265	194.977	10524.890	19860.005	1194.977
CH20	6693917.900	363657.477	50.069	10499.951	20204.989	1050.069
Origin	6693379.301	363699.494	194.410	10000.000	20000.000	1194.410
Flat Battery	6693411.735	363510.463	194.314	10114.083	19845.777	1194.314

Criteria	Commentary
	Challenger Mine Grid North 0° = 329.0° MAGNETIC Challenger Mine Grid North 0° = 333° 14'41"AMG (grid bearing + 26°45'19" = AMG bearing) Challenger Mine Grid 31° = Magnetic North 0° • Topographic control is taken from the surface stations (above) and traversed to the operating areas through the use of wall stations. The underground surveying was calibrated by gyro-survey in 2008.
Data spacing and distribution	• Surface drill hole data (both exploration and production) is designed to provide a 12.5 to 25 metre hole separation on section, as perpendicular to the ore body as possible. Historically surface exploration drilling has been undertaken on 125m sections, at right angle to the plunge of the ore body. NAVI drilling has been undertaken to drill vertical fans of holes at the required spacing. • Underground drilling is drilled at either 20m horizontal or from 20 to 100m vertically spaced fans. Holes are designed to intersect the lodes at 15 to 25m spacing along strike, as close to perpendicular to the strike of the lodes with fold closures specifically targeted. Underground and surface drilling is adequate to broadly define the lodes for the purposes of level planning. • Face sampling is undertaken for every (practical) face in mineralised development, and as required elsewhere. This results in face and wall information every 3 to 4 metres along all of the ore drives. • Sludge drilling is undertaken at five to ten metre ring spacing, at right angles to the plunge/strike of the lodes (145/325 degrees azimuth, mine grid) acting as an infill pattern between development and diamond drilling. Sludge spacing down dip can vary from five to fifteen metres as required to prove continuity and structural behaviour of the lodes. • Data spacing is critical in the Challenger deposit, with higher data density provided from face and sludge drilling providing the coverage required to fully model this structurally complex deposit. For areas with less data density (i.e. diamond drilling only), modelling from more data dense areas is projected into the less dense areas using the data available. • Resource data is composited by geological modelling to inform either a length weighted grade model (e.g. in the case of M1 or M2) or to inform a block model (e.g. in the case of Challenger West and Aminus where 0.5m composites were used).
Orientation of data in relation to geological structure	• The orientation of any sampling (face, sludge, RC/RAB or core) are designed to be as perpendicular to the lode system as possible. The only instance where this is not possible is in the instance of sludge drilling where the only drilling platform is the ore drive. In this instance, drilling is designed to pass through structure at as low an angle as possible but these still result in drill holes that pass along the structure, often resulting in a very high grade drill hole representing a (possibly) quite narrow feature. During any grade calculation (be it production or resource) these structure parallel drill holes are examined for their effect on the final grade result, and where appropriate, excluded from the grade calculations, thus reducing the effect of any sample bias.
Sample security	• Samples are submitted to the laboratory as soon as practical after sampling in individually numbered calico sample bags. The numbers series on the bags (e.g. CUS, CUD, CFC etc.) tell laboratory staff what the sample type is and how long it is likely to take to dry for processing. Analysis is not undertaken until all descriptive paperwork is correctly submitted for the samples. From acceptance of the samples, each sample is tracked on site through Labman software to ensure that each assay is correctly matched with its sample. Any discrepancy between submitted samples and the paperwork is identified and may result in the entire sample job being resampled form original material prior to analysis. External laboratories utilise their own systems for sample tracking.
Audits or reviews	• Data reviews are undertaken on an ongoing basis by site Geologists while using the data. Any errors identified (either by staff, MS Access or Surpac) is queried and corrected as a part of a program of continual improvement.

Criteria	Commentary
	• Sampling reviews have been undertaken through both duplicate sampling of original materials (faces, core etc.) and through comparison of sample types (e.g. diamond compared to sludge, sludge compared to faces). The result of these reviews have consistently returned results that, while highlighting the high nugget effect, are consistent between both repeats and sample types. • Lab audits are done annually, showing that operating procedures for sample management, QAQC and result consistency are being adhered to.

Section 2 – Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	• All exploration was undertaken within the current Challenger Mine Lease ML6103. The underlying Exploration Licence EL5661 comprises 660 square kilometres within the Woomera Prohibited Area, straddling the Mobella and Commonwealth Hill pastoral leases.
Exploration done by other parties	• All exploration undertaken during the reporting period was undertaken by Challenger Gold Operations (2017) and Challenger Joint Venture (2016-2017)
Geology	• Challenger occurs within the Mulgathing Complex of the Gawler Craton and the area is characterized by Archaean to mid-Proterozoic gneissic country rock. Original granulite facies metamorphism is overlaid by retrograde amphibolite facies recrystallization around 1650 - 1540 Ma (Tomkins, 2002). Saprolitic clays extended to 50 m depth within the ore zone, reflecting a deeper base of oxidation. • High-grade gold mineralisation is associated with coarse-grained quartz veins with feldspar, cordierite and sulphides dominated by arsenopyrite, pyrrhotite and lesser telluride. These veins are interpreted as migmatites that have undergone partial melting, with this melting reflecting a precursor hydrothermal alteration event (McFarlane, Mavrogenes and Tomkins, 2007). Three main types of leucosome/vein styles have been defined: 1. quartz dominant veins, which may be remnant premetamorphic mineralised veins 2. polysilicate veins, which are dominant in the main ore zones and host the majority of the mineralisation 3. pegmatitic veins, which are unmineralised, late stage, with cross-cutting relationships. • The gold mineralisation is structurally controlled through emplacement of the partial melt into relatively low-strain positions. McFarlane, Mavrogenes and Tomkins (2007), using Monazite geochronology proposed a 40 Ma period between 2460 and 2420 Ma of repeated high-temperature events. • The Challenger Structure can be defined as a laterally extensive shear zone with shoots that plunge 30° to 029° (AMG). These ore shoots are defined by leucosome veins, which are characteristically ptygmatically folded. The small-scale folding is parasitic to the overall larger scale folding that can be interpreted from drill core. The folding is interpreted as prepeak metamorphism along with gold mineralisation. Post-folding, the Challenger shoots were subjected to extreme WNW-ESE shortening and extension directed shallowly to the NE. Reference: Androvic, P, Bamford, P, Curtis, J, Derwent, K, Giles, A, Gobert, R, Hampton, S, Heydari, M, Kopeap, P and Sperring, P, 2013. Challenger Gold Mine, Australasian Mining and Metallurgical Operating Practices, AusIMM. 1097-1112.
Drill hole Information	• *Please refer to Table 1, below. A number of significant intercepts have been returned in the reporting period of July 2016 - March 2017.*
Data aggregation methods	• For all results at Challenger Gold Mine, a low cut-off of 0.01g/t Au is applied (limit of detection), these results are replaced with 0.001g/t Au in the drilling database to flag that they are below detection. Assay data is stored as uncut, au_plot (the first assay where duplicates were completed), c80, c140 and c180 for integration with the site database. No upper grade truncation is used for significant intercepts. The method to be used for calculating all significant intercepts (sig ints) is as follows: 1. All sig ints must grade >5g/t. The only exception to this rule is where you wish to highlight a significant, but lower grade exploration intersection in one of our peripheral lodes such as in Aminus, OFW or Challenger West

Criteria	Commentary
	2. All sig ints should include all adjacent ore grade material (≥1.00g/t) as long as this material does not drop the intersection below 5g/t. 3. Intersections should be amalgamated together as long as there are no more than two intervening waste assays and where the amalgamation does not drop the total grade below 5g/t. 4. Step 2 and 3 should be repeated until there is no further change. • No metal equivalents are used in exploration reporting due to exploration being solely for gold. Trace silver is known but is not factored into contained metal.
Relationship between mineralisation widths and intercept lengths	• All mineralisation widths are reported as depths down hole as all exploration drilling is designed to be as perpendicular to the lodes as possible. As this exploration is entirely for resource development, any significant intercepts used in lode modelling are constrained by the resulting model, producing a de-facto true width for further calculations.
Diagrams	• No significant discovery is being reported. All exploration drilling was undertaken on expected mineralised areas of the Challenger and associated deposits to upgrade the resource estimate.
Balanced reporting	• As these exploration holes are drilled to infill (on various scales) previous drilling, as a result any results/modelling based on these results are balanced by existing drilling.
Other substantive exploration data	• No other meaningful or material exploration has been undertaken.
Further work	• Planned exploration for the next financial year focuses on increasing infilling the generic Challenger West resource, Challenger Deeps (M1, M2, Aminus, Challenger West), M3, SEZ and lateral conceptual exploration targets (Enterprise) to extend the mine life.

Table 1 - Challenger Exploration Drill hole information for July 2016 - March 2017

Exploration Diamond Drill hole Details (AMG84)					**Intercept Details**					
Hole ID	Collar mN	Collar mE	Collar mAHD	Hole Length	From (m)	To (m)	Interval (m)	Au (g/t)	Shoot	Midpoint (mRL)
16CUD1756	6,693,755.267	363,466.956	-113.017	235.39	70.45	71.1	0.65	5.33	CSSW	825
16CUD1757	6,693,755.483	363,466.442	-112.827	224.53	68.38	68.8	0.42	7.09	CSSW	825
16CUD1759	6,693,756.013	363,465.494	-113.005	233.38	99	99.4	0.4	9.82	CSSW	796
16CUD1759	6,693,756.013	363,465.494	-113.005	233.38	134	134.4	0.4	5.47	CSSW	763
16CUD1760	6,693,756.403	363,465.174	-113.087	230.22	194.71	195.01	0.3	55.19	CSSW	711
16CUD1760	6,693,756.403	363,465.174	-113.087	230.22	214.7	215	0.3	9.23	CSSW	693
16CUD1780	6,694,916.521	364,230.655	-682.279	110.43	8	9	1	10.71	M1	313
16CUD1804	6,694,281.507	363,684.199	-285.877	62.44	39.39	44	4.61	16.27	CW	700
16CUD1805	6,694,280.927	363,683.942	-285.842	50.66	31	32.26	1.26	47.44	CW	701
16CUD1805	6,694,280.927	363,683.942	-285.842	50.66	35.56	35.88	0.32	18.41	CW	700
16CUD1806	6,694,280.370	363,683.610	-285.812	44.6	26.48	26.88	0.4	48.8	CW	701
16CUD1847	6,694,510.870	363,895.129	-486.877	110.82	86	87	1	6.94	OFW	491
16CUD1852	6,694,778.596	364,100.677	-550.814	43.99	30.98	31.55	0.57	18.3	Aminus	473
16CUD1853	6,694,778.530	364,100.805	-551.254	44.6	17.3	17.6	0.3	62.14	Aminus	459
16CUD1859	6,694,756.336	364,085.151	-545.36	49.98	32.4	32.8	0.4	38.08	Aminus	481
16CUD1930	6,693,370.872	363,194.832	-39.077	80.14	30	31	1	6.44	CSSW	983
16CUD1933	6,693,370.429	363,194.553	-39.054	79.05	25.86	26.38	0.52	5.29	CSSW	980
16CUD1935	6,693,375.030	363,191.372	-40.141	80.82	6	6.7	0.7	6.37	CSSW	963
16CUD1936	6,693,375.008	363,191.318	-39.133	80.63	19.14	20	0.86	5.48	CSSW	975
16CUD1938	6,693,375.454	363,191.560	-40.101	80.02	16.39	17	0.61	15.9	CSSW	967
16CUD1939	6,693,375.409	363,191.586	-39.296	81.68	11	12	1	9.97	CSSW	969
16CUD1940	6,693,375.167	363,191.456	-38.893	80.03	10.25	11.05	0.8	20.99	CSSW	970
16CUD1940	6,693,375.167	363,191.456	-38.893	80.03	25	26	1	7.13	CSSW	983
16CUD1957	6,693,346.621	363,157.303	-38.927	81.07	3.2	4.08	0.88	5.74	CSSW	963
16CUD1964	6,693,857.161	363,727.901	26.768	115.23	17.66	18.6	0.94	156.57	M3	1034
16CUD1968	6,693,854.943	363,725.121	25.85	125.52	11.75	12.05	0.3	120.44	M3	1029
16CUD1969	6,693,854.780	363,724.798	25.587	131.64	13.24	14.37	1.13	23.04	M3	1029
16CUD1969	6,693,854.780	363,724.798	25.587	131.64	95	96	1	12.65	SEZ	1057
16CUD1970	6,693,854.617	363,724.554	25.428	149.5	14.8	15.56	0.76	36.6	M3	1029
16CUD1971	6,693,854.554	363,724.224	25.123	176.47	18.45	20.2	1.75	12.31	M3	1028
16CUD1972	6,693,854.399	363,724.066	24.987	220.18	20.55	20.98	0.43	9.04	M3	1029
16CUD1987	6,693,856.145	363,726.682	25.077	122.29	11.32	12	0.68	49.47	M3	1027
16CUD1987	6,693,856.145	363,726.682	25.077	122.29	85	86	1	6.68	SEZ	1040
16CUD1994	6,693,926.256	363,761.737	-16.954	150.46	124.83	125.68	0.85	9.96	SEZ	965
16CUD1995	6,693,925.872	363,761.479	-16.884	155.32	115.19	116	0.81	79.09	SEZ	971
16CUD1998	6,693,925.133	363,760.931	-16.835	146.58	137	138	1	5.42	SEZ	968
17CUD2009	6,693,461.490	363,203.919	-38.69	400.61	213	214	1	5.22	Enterprise	959
17CUD2009	6,693,461.490	363,203.919	-38.69	400.61	264.44	265	0.56	6.38	Enterprise	956
17CUD2011	6,693,461.490	363,203.919	-38.69	400.15	234.85	235.4	0.55	8.57	Enterprise	957
17CUD2012	6,693,461.490	363,203.919	-38.69	350.35	249.61	250	0.39	66.13	Enterprise	951
17CUD2071	6,695,375.133	364,492.200	-861.5	220	58	59.92	1.92	14.32	M1	126
17CUD2071	6,695,375.133	364,492.200	-861.5	220	121	122	1	45.12	Aminus	111
17CUD2071	6,695,375.133	364,492.200	-861.5	220	140	141	1	232.12	CW	106
17CUD2073	6,695,375.133	364,492.200	-861.5	150	53.3	54.14	0.84	6.64	M1	125
17CUD2073	6,695,375.133	364,492.200	-861.5	150	63.88	65.4	1.52	6.34	M1	122

Section 3 - Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• All data is logged into pre-built MS Excel logging sheets that have drop-down selections for the logging codes and formulas to highlight incorrect information (such as overlapping depths). The importing process from MS Excel to MS Access highlights additional potential errors (such as mis-matched hole ids). Loading the database into Surpac then provides a final check as Surpac will highlight missing information (such as surveys not imported for a particular hole) and allow for visual inspection of the drilling trace to ensure that the hole is in the correct location (i.e. drill hole collar matches the wall of the drive and behaves correctly down hole). In addition, Challenger Gold Mine has a process of continual improvement where all the site Geologists are checking the database as it is used on a day to day basis, correcting any errors as they appear.
Site visits	• The competent person (Stuart Hampton) has worked at the Challenger Mine Site over the last eleven years and been in close contact with site geologists in the last two.
Geological interpretation	• The geological interpretation of the Challenger deposit has been a work in progress since before commencement of mining in 2002. The current interpretation is based on a combination of drilling results, face sampling and geological mapping of development headings by the site team with individual experience with the deposit of up to eleven continuous years. This has resulted in a high level of confidence in the geological interpretation, due to the interpretations success in predicting development and production for the last eleven years. The only assumptions made in geological modelling are based on empirical data, these being: o Intrusive lithologies (Mafics, Lamprophyre and Pyroxenite) are barren. o Structural displacement in small to medium joints is minimal. o To date there are only two major structures that dislocate the lode system, the 79 Fault and the 215 Shear. • Due to the complex nature of the Challenger deposit, the geological interpretation is under constant scrutiny for changes in the structural patterns i.e. parasitic folds or refolded areas. Given the density of data needed to create production models for mining, alternative interpretations have not resulted in significantly different geological models. This has been undertaken where independent geologists at Challenger Gold Mine have modelled a portion of the lode, resulting in very similar models. • Mineral resource estimation is guided entirely by geology in this case due to the structural complexity of the system. The continuity of grade and geology in the Challenger deposit is affected by primary gold distribution before migmitisation, folding generations/strain regimes during metamorphism and post-metamorphism modification. For instance: o portions of the deposit in low strain open folding areas will result in an area of the deposit like the M1 where grade is reasonably uniform and continuous. o portions of the deposit in high strain/isoclinal folding areas will result in either torn out folds or highly boudinaged lodes such as Challenger West where grade is high but variable and discontinuous. o portions of the deposit that have experienced large amounts of retrograde metamorphism often display barren pegmatite veins overprinting ore packages leading to lower contained metal. o areas of the deposit that have suffered multiple intrusions (along areas of weakness) have the lode stoped out by barren material, resulting in lower contained metal.
Dimensions	• The Challenger deposit resource extends from ~1193mRL (surface) to -325mRL as a series of gold bearing folded migmatite packages. These packages occur as a series of 'short-limb' folded packages (up to 50m wide x 80m long, in plan) comprising m-scale folded veins) connected by 'long-limb' more highly strained packages (up to 200m long (in plan) m-scale parasitically folded veins). Total strike length of the resource is approx. 750m along strike and 250m across strike.
Estimation and modelling techniques	• The resource is calculated for gold only and does not take into account contained silver. This is a by-product and is not analysed for. • In addition the resource estimate does not take into account deleterious elements due to the lack of these factors. The host rock is not acid generating, and the deposit has only minor arsenopyrite or base metal sulphides. • All shoots in a lode are geologically modelled based on the structure and grade. These models take into account intrusive materials and dislocating structures (also modelled by the Geology department). Using the most appropriate technique, the shoots have their grades calculated. Only those shoots that have a grade calculated above the mining cut-off (3.0g/t) are included in the resource estimate. One limb of the lode may contain a number of shoots. • Due to the high nugget effect in the Challenger deposit, due to significant visible gold, a top cut is applied to the grade calculations. This technique has proved robust in the calculation of production estimates when reconciled to mill production. As a result, this technique has been applied to the resource estimate to provide as representative and balanced an estimate as possible. • The resource estimate is validated as an ongoing process by comparing the resource figures to production figures and the mill reconciliation. In addition the figures are compared between iterations of the resource estimate. This comparison has highlighted the importance of data density in resource estimation at Challenger Gold Mine. This then informs the

Criteria	Commentary
	classification of the resource estimate as being reliant on data density as much as on geological interpretation. • Estimation and modelling techniques used for the Challenger resource comprise 'geological grade calculations', generic models and block modelling. Geological Grade Calculations • These calculations are undertaken as a part of the production process to determine the tonnes and grade of production stopes on site. This technique had been determined over a number of years to be robust, as it reconciles well with mill production. This technique is only used on areas that have sufficient data to determine shoot continuity and structural details i.e. Indicated or Measured Resources. This method has been used to create M2 Remnant and SEZ resources and is used in the creation of generic resources (see below). • Modelling for these calculations are undertaken in Surpac using 5.0m sections (same sections used for sludge drilling). Modelling is done based on face/drive geology, projection from adjacent levels and grade intercepts in sampling/drilling. The model is completed for a number of levels to ensure consistency of the projection and then checked to ensure all sampling/drilling intercepts are contained in the 3DM. This shoot 3DM is then truncated to the level/remnant volume (including development to pick up the grades, but excluding stope voids to remove material that has already been stoped out). • This modelling is done over short distances (max 40mRL) in areas of good data coverage (data points a maximum of 15m apart). Extreme grades are balanced by using a top cut for the resource estimate. • The model is intersected with the site sampling database (faces and all drilling) to flag all portions of the sampling inside the shoot model in question. These flags are then used to composite the grade of the intercepts into a string file. The string file is edited to remove non-representative data (e.g. sampling parallel to the strike of the lode that would bias the final grade). This string file contains the hole id, 3-dimensional length of the intercept and grade of the intercept (uncut, c80, c140 and c180). This edited string file is then used to length weight the grades for each cut-off to produce the grades for the shoot block. The tonnage of the shoot block is determined through outersection of the shoot model with development to ensure that only material still in-situ is reported. • This technique is used to calculate the production grades for the operating mine and (as mentioned below) the mill to mine reconciliation has averaged 107% of tonnes and 102% of contained gold, showing that the grade calculation produces slightly conservative results against actual production. Generic Modelling • For areas of the mine where there is little data but enough to show shoot location and/or continuity, or where the shoot has been adequately stoped in other areas of the mine, a generic tonnes and grade is determined for the shoot. This technique is used to create Indicated or Inferred resources. This has been used in the M1 Shadow Zone, M2 and Challenger West to populate the resource estimate. • The generic is determined through examination of prior production or calculated production (using the geological grade calculations, above, or block modelled figures, below) from adjacent portions of the shoot. At least adjacent levels (40mRL) are used to create the generic, thus having enough data to show any underlying trend in grade increase or decrease with depth. The maximum distance over which the generic has been applied is 260mRL between the 740 Level M1S and the 980 Level (1000mRL at the top) M1S. The distance over which the generic has been applied is justified by the continuity displayed through diamond drilling intercepts of the M1S. Block Modelling • Block modelling is used for portions of the Challenger resource estimate where the structure is linear and has good continuity, based on drilling. The shoots that have been block modelled in the resource estimate are Aminus, M3, SEZ and Challenger West. This technique has been used to generate Measured and Indicated resources. Where there is insufficient data to generate indicated resources, but enough to justify Inferred resources, a generic is used, based on the block model figures from above and/or below (see above). • All block modelling is undertaken based on 3DM models that are snapped to drill hole intersections. With the following block model details: Aminus • The Aminus block model is in many ways similar to M3 as it sits in a similar geological domain, is narrow & HG and has a limited LG Au halo. Small blocks and sub blocking was enabled due to the narrow modelled lodes, otherwise too many holes appear. Block dimensions chosen reflect the geometry of the lodes, employing a 2:1 strike\vertical ratio (due to the ~30 degree plunge), and a width of 0.5m due to the narrow nature. The strike dimension was greater than half of the face sampling spacing (generally 3m between faces), and half the sludge sampling spacing (5m).

Criteria	Commentary

Block Model Geometry

Min Coordinates	Y	10000	X	19450	Z	-50
Max Coordinates	Y	10500	X	22200	Z	850
User block Size	Y	0.5	X	2.5	Z	1.25
Min. block Size	Y	0.25	X	1.25	Z	0.625
Rotation	Bearing	-28	Dip	0	Plunge	0

- Inverse distance was the preferred estimation method based on historical difficulty with completing variography at Challenger (due to the domains not being geostatistically similar, coupled with a high nugget effect), and power 2 was chosen to best reasonably extrapolate data from diamond holes that are historically known to underestimate grades. 3x3x3 discretisation points was enabled as well as a minimum 10% of drill hole samples in any down hole composite, and composite lengths were 0.5m (any smaller than this will negate the distance projection effect of any narrow HG intersections).
- Ellipsoid orientations used for ID for lode geometry are shown below.

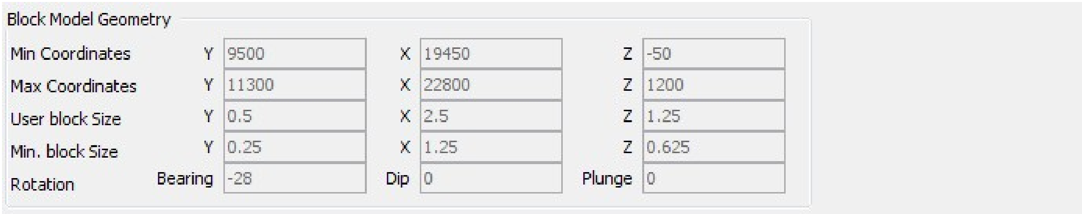
Lode	Max Search Radius (m)	Bearing	Plunge	Dip
Aminus 1-1	100	59	-27	-87
Aminus 1-2	100	57	-31	-75
Aminus 1-3 (below 215 Shear)	100	59	-30	-58
Aminus 1-4 (1 below 215 Shear)	100	66	-30	-61
Aminus 2-1	100	58	-30	87
Aminus 2-2 (below 215 Shear)	100	62	-27	-83
Aminus 3-1	100	61	-29	87
Aminus 3-2 (below 215 Shear)	100	61	-28	-83
Aminus 4-1 (below 215 Shear)	100	61	-28	85
Aminus 5-1 (below 215 Shear)	100	63	-27	-80
Aminus 6-1 (below 215 Shear)	100	63	-27	-80

- Major/minor and major/semi-major anisotropy ratios were 10 and 2 respectively for all lodes, and the min/max values for each point were 1 and 15 respectively for all lodes. No new variography was completed to do this as it is historically known at Challenger that the dominant continuity of grade exists down plunge.
- The Lamprophyre model partly stopes out the ore and this has been taken account in this block model by applying 0g/t.

Criteria	Commentary

M3

- The M3 is narrow & HG and has a limited LG Au halo. Small blocks and sub blocking was enabled due to the narrow modelled lodes, otherwise too many holes appear. Block dimensions chosen reflect the geometry of the lodes, employing a 2:1 strike\vertical ratio (due to the ~30 degree plunge), and a width of 0.5m due to the narrow nature. The strike dimension was greater than half of the face sampling spacing (generally 3m between faces), and half the sludge sampling spacing (5m).



Block Model Geometry

Min Coordinates	Y	9500	X	19450	Z	-50
Max Coordinates	Y	11300	X	22800	Z	1200
User block Size	Y	0.5	X	2.5	Z	1.25
Min. block Size	Y	0.25	X	1.25	Z	0.625
Rotation	Bearing	-28	Dip	0	Plunge	0

- Inverse distance was the preferred estimation method based on historical difficulty with completing variography at Challenger (due to the domains not being geostatistically similar, coupled with a high nugget effect), and power 2 was chosen to best reasonably extrapolate data from diamond holes that are historically known to underestimate grades. 3x3x3 discretisation points was enabled as well as a minimum 10% of drill hole samples in any down hole composite, and composite lengths were 0.5m (any smaller than this will negate the distance projection effect of any narrow HG intersections).
- Ellipsoid orientations used for ID for lode geometry are shown below.

Lode	Max Search Radius (m)	Bearing	Plunge	Dip
M3 N 1	100	100	59	75
M3 C 1	100	100	59	73
M3 S 1	100	100	61	73
M3 N 2	100	100	57	80

- Major/minor and major/semi-major anisotropy ratios were 10 and 2 respectively for all lodes, and the min/max values for each point were 1 and 15 respectively for all lodes. No new variography was completed to do this as it is historically known at Challenger that the dominant continuity of grade exists down plunge.
- The Lamprophyre model partly stopes out the ore and this has been taken account in this block model by applying 0g/t.

SEZ

- The SEZ is narrow & HG and has a limited LG Au halo. Small blocks and sub blocking was enabled due to the narrow modelled lodes, otherwise too many holes appear. Block dimensions chosen reflect the geometry of the lodes, employing a 2:1 strike\vertical ratio (due to the ~30 degree plunge), and a width of 0.5m due to the narrow nature. The strike dimension was greater than half of the face sampling spacing (generally 3m between faces), and half the sludge sampling spacing (5m).

Criteria	Commentary

Block Model Geometry

Min Coordinates	Y	9800	X	19900	Z	-50
Max Coordinates	Y	10500	X	22600	Z	1075
User block Size	Y	0.5	X	2.5	Z	1.25
Min. block Size	Y	0.25	X	1.25	Z	0.625
Rotation	Bearing	-28	Dip	0	Plunge	0

- Inverse distance was the preferred estimation method based on historical difficulty with completing variography at Challenger (due to the domains not being geostatistically similar, coupled with a high nugget effect), and power 2 was chosen to best reasonably extrapolate data from diamond holes that are historically known to underestimate grades. 3x3x3 discretisation points was enabled as well as a minimum 10% of drill hole samples in any down hole composite, and composite lengths were 0.5m (any smaller than this will negate the distance projection effect of any narrow HG intersections).
- Ellipsoid orientations used for ID for lode geometry are shown below.

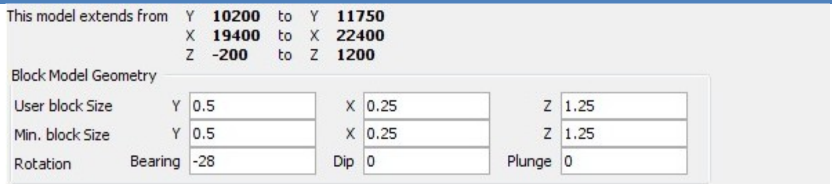
Lode	Max Search Radius (m)	Bearing	Plunge	Dip
SEZ 1-1	100	58	-28	-39
SEZ 1-2	100	54	-23	-41
SEZ 1-3	100	59	-29	-39
SEZ 1-4 (below 215 Shear)	100	59	-28	-47
SEZ 2-1	100	58	-28	-39
SEZs 2-2	100	54	-24	-39
SEZ 2-3	100	61	-29	-37
SEZ 3-1	100	57	-27	85
SEZ 3-2	100	54	-24	70
SEZ 3-3	100	60	-29	65

- Major/minor and major/semi-major anisotropy ratios were 10 and 2 respectively for all lodes, and the min/max values for each point were 1 and 15 respectively for all lodes. No new variography was completed to do this as it is historically known at Challenger that the dominant continuity of grade exists down plunge.
- The Lamprophyre model partly stopes out the ore and this has been taken account in this block model by applying 0g/t.

Challenger West

- The Challenger West block mode lies in a highly strained domain and is narrow, and has no LG Au halo. Small blocks were enabled due to the narrow modelled lodes, otherwise too many holes appear. The model is comprised of fourteen shoots/blocks conforming to the geological model of the orebody, dissected by three faults/shears.

Criteria	Commentary



- Inverse distance was the preferred estimation method based on historical difficulty with completing variography at Challenger (due to the domains not being geostatistically similar, coupled with a high nugget effect), and power 2 was chosen to best reasonably extrapolate data from diamond holes that are historically known to underestimate grades. 3x3x3 discretisation points was enabled as well as a minimum 10% of drill hole samples in any down hole composite, and composite lengths were 0.5m (any smaller than this will negate the distance projection effect of any narrow HG intersections).
- Ellipsoid orientations used for ID for lode geometry are shown below.

Lode	Max Search Radius (m)	Bearing	Plunge	Dip
CW 0001	100	62.8	-26.9	-89.8
CW 0101	100	65.2	-33	-89.7
CW 0102	100	60.7	-23.7	-90
CW 0103	100	61.5	-23	89.41
CW 0104	100	240	23.7	80
CW 0201	100	241	25	87.72
CW 0202	100	241.5	25.53	79.9
CW 0301	100	61	-24	-89
CW 0302	100	242.5	20.86	87.5
CW 0401	100	61.7	-32	-89.5
CW 0501	100	240.57	28	88
CW 0801	100	61	-25.75	-89
CW 0802	100	242.5	22.85	85.41
CW 0901	100	240	32	85.62

- Major/minor and major/semi-major anisotropy ratios were 10 and 4 respectively for both lodes. No new variography was completed to do this as it is historically known at Challenger that the dominant continuity of grade exists down plunge.
- All Block models are validated visually in section to compare with the drill hole data. The blocks were also checked that they matched the lode geology and that lamprophyres had 0g/t applied to them.

Moisture

- Tonnages are estimated on a dry basis.

Cut-off parameters

- The resource grade calculation upper cut-off grades are 180.0g/t for all shoots except Aminus, which has a top cut of 80g/t and Challenger West, which has a top cut of 140g/t. These are tried and tested historical cut offs and all composites for block modelling are reviewed to ensure the 97.5th percentile assay is above the relevant cut off to avoid over estimating

Criteria	Commentary
	grade. • The resource estimate figures have a 3.0g/t lower cut-off for overall grade applied as a lower economic cut-off for underground workings and a 1.5g/t lower cut-off for overall grade applied as a lower economic cut-off for open pits.
Mining factors or assumptions	• Mining factors taken into consideration for the resource estimate are that the resource will be mined using a combination of up-hole retreat stoping (mechanical) and air-leg stoping (for narrow, high grade areas and remnants). The minimum drive dimensions will be 5.0m high by 4.0m wide and the minimum stoping width will be 1.5m. Internal and external dilution has been included in the resource shapes to take in complex structural areas such as thickening of a stope shape due to parasitic folding of the shoot.
Metallurgical factors or assumptions	• Metallurgical factors taken into consideration for the resource estimate are that the ore will continue to be processed at the site CIP plant.
Environmental factors or assumptions	• Environmental impact factors used in the resource estimate are that the waste (which is not acid generating) will continue to be stockpiled on site in designated waste dumps. Process residue will continue to be disposed of in the licensed Tails Storage Facility (TSF2).
Bulk density	• Specific gravity (SG) of material at Challenger Gold Mine has been determined in two phases. The initial SG value for the Challenger rock mass was determined during the mine feasibility study, based on core samples from 1,200 to 1,090mRL and was determined to be 2.72 for the Christie Gneiss, which comprises the Challenger deposit. A second pass of SG calculations were conducted in 2012 to determine if the SG had changed with depth. 158 samples were taken from the 320 to 240mRL levels of both Gneiss and intrusive materials. As the host rocks of the Challenger deposit do not have any voids or variation in moisture content, these factors have not been taken into account. It was found that the SGs at the base of the mine comprise: o Gneiss SG = 2.86 o Lamprophyre SG = 2.92 o Mafic SG = 2.91 • Given that the fully reconciled tonnes for the mine to EOM April 2016 is 99% against the mill, it has been decided to apply the original 2.72 SG to material above the 215 Shear and the new 2.86 SG to material below the 215 Shear.
Classification	• The basis for the classification categories for the resource estimate is as follows: Measured o Must be developed/stoped above and below. o Must have sufficient data density to show continuity/structural complexity. o Has geological mapping/face photos to guide modelling. o Must have sufficient information to create a tonnage/grade estimate for production purposes. Data density is used to upgrade an Indicated Resource to Measured, if there is no adjacent level. o Drillhole spacing typically 20 x 20m diamond drilling in conjunction with extensive 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart. Indicated o May be developed/stoped on one level only. o Does not have sufficient information to fully inform structural complexity, but shows lode presence (i.e. 25m spaced diamond drilling that cannot provide sufficient resolution to show up metre-scale parasitic folding). o Does not have sufficient information to fully inform lode continuity (i.e. spacing of drilling such that it is difficult to determine which intercepts are which part of the system) , but shows lode presence. o Drillhole spacing typically 20 x 20m diamond drilling in conjunction with occasional 5 to 10m ring spaced sludge drilling and face samples 3 to 4m apart.

Criteria	Commentary
	Inferred ○ No development had been undertaken adjacent to the resource. ○ Sufficient information to determine the presence of a lode structure but not enough to determine continuity. ○ Drillhole spacing not relevant as a single intercept, if identifiable as part of the shoot is used for definition of the inferred resource. • These classifications have been used by the competent person to classify the Challenger resource estimate and reflect their view of the deposit based on eleven years of experience with the deposit.
Audits or reviews	• The 31 March 2017 Challenger mineral resource estimate report has been internally reviewed by Kurt Crameri (WPG Resources Ltd). No changes have been required
Discussion of relative accuracy/ confidence	• The mineral resource estimate has been calculated to the satisfaction of the competent person as being representative of the Challenger deposit, based on available data. The resource estimate has been determined in accordance with techniques used in previous reporting periods. • The grade calculation techniques used to determine the remnant and generic grades are also used in stope design, these have reconciled as slightly conservative against mill production (Table 2). As a result the confidence in this technique for resource estimation is high.

Table 2 – Reconciliation of Stoping estimates to production, Challenger Gold Mine. These reconciliation figures relate to production in the levels as a whole, which may span several years of development and phases of production. These are the levels were finally reconciled to EOM March 2017, meaning that their development and production are now considered complete, any levels that are not complete are not included in these figures. These figures are not total production figures for the Challenger Gold Mine. These figures show that the designs of the levels that are complete are usually slightly conservative compared to what is actually produced from the levels at their completion. This indicated that tonnes and grade estimation techniques at Challenger Gold Mine doing a reasonable job of representing what is actually in-situ.

	DESIGN			RECONCILED MILL FEED			RecMillFeed/Design		
SHOOT	Tonnes (t)	Grade (g/t Au)	Gold (Oz)	Tonnes (t)	Grade (g/t Au)	Gold (Oz)	% t	% g/t	% Oz
M1	1,593,253	8.69	445,174	1,748,784	8.30	466,492	110%	96%	105%
M2	1,438,536	5.18	239,797	1,468,532	4.85	227,642	102%	94%	95%
M3	220,511	4.43	31,378	263,092	3.67	31,024	119%	83%	99%
SEZ	9,074	3.14	915	9,613	2.87	886	106%	91%	97%
M1 SZ	17,354	7.17	4,001	18,496	6.67	3,964	107%	93%	99%
AMINUS	96,914	3.52	10,968	121,077	3.04	11,848	125%	86%	108%
CW	854,245	5.81	159,444	1,145,115	5.37	197,767	134%	93%	124%
TOTAL	**4,229,887**	**6.56**	**891,677**	**4,774,709**	**6.12**	**939,623**	**113%**	**93%**	**105%**

Criteria	Commentary
	• Aminus, M3, SEZ and Challenger West have been block modelled for a number of reasons: o These are all high strain lodes, i.e. long and narrow with distinct boudinaged structures. o The lodes can be well domained in areas of high data density, but these zones are separated by areas of little or no data, preventing a generic approach. o These lodes display distinct shoots that conform to the plunge of the ore body o The strong down plunge grade continuity allows their geometry to be used in place of traditional variography parameters. This results in a usable variography which is otherwise difficult to achieve due to the boudinaged nature of the lodes and the high nugget effect. • This block modelling becomes more reliable as additional data is added. The Aminus, M3 and SEZ block models are new and comprise additional drilling data and correspondimg lode remodelling. The block model of Challenger West and comprises CW OD2 and 3 below 510 Level. This area has been remodelled using Leapfrog Geo. • Due to the high nugget effect experienced at Challenger, the more data a volume of rock has, the better the tonnes and grade estimate, this is reflected in the classification of the resource estimate (see above).

Section 4 - Estimation and Reporting of Ore Reserves

Not applicable as no reserve is determined in this report.

Section 5 - Estimation and Reporting of Diamonds and Other Gemstones

Not applicable due to diamonds and other gemstones not present in the Challenger Resource/Reserve.