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KINGSGATE 2015 MINERAL RESOURCES AND ORE RESERVES

Kingsgate Consolidated Limited (ASX: KCN) advises that it has completed an update to its Mineral Resources and Ore Reserves as at 30 June 2015. The update takes into account mining depletion and current economic and operational assumptions. To reflect the importance of silver and other economic by-products, Mineral Resources and Ore Reserves are quoted for relevant metals and on a gold equivalent (AuEq) basis.

GROUP MINERAL RESOURCES

Group Mineral Resources (inclusive of Ore Reserves) are estimated at 4.34 million ounces of gold and 251 million ounces of silver (295.9Mt at 0.46g/t Au and 26.4g/t Ag). This equates to a reduction of 0.39 million ounces of gold (~8%) and an increase of 1 million ounces of silver compared to the 30 June 2014 estimates.

On a gold equivalent basis, Group Mineral Resources are estimated at 9.95 million ounces (295.9Mt at 1.05g/t AuEq).

GROUP ORE RESERVES

Group Ore Reserves are estimated at 1.34 million ounces of gold and 65.3 million ounces of silver (61.2Mt at 0.68g/t Au and 33g/t Ag). This represents a decrease of 0.35 million ounces of gold (~21%) and a decrease of 4.4 million ounces of silver (~6%) compared to the 30 June 2014 estimates. The decrease in gold is due mainly to mining depletion from the Chatree and Challenger operations and updated pit designs at Chatree using lower metal prices.

On a gold equivalent basis, Group Ore Reserves are estimated at 2.32 million ounces (61.2Mt at 1.18g/t AuEq).

CHATREE GOLD MINE, THAILAND

Chatree Mineral Resources are estimated at 3.64 million ounces of gold (172.5Mt at 0.66g/t Au and 6.00g/t Ag) compared to 3.84 million ounces of gold for the 30 June 2014 estimates. This decrease is in line with mining depletion over the FY15 year. Chatree Ore Reserves are estimated at 1.12 million ounces of gold (43.5Mt at 0.80g/t Au and 8.60g/t Ag) compared to 1.39 million ounces of gold as at 30 June 2014, mainly due to mining depletion and pit optimisation at lower gold and silver prices.

CHALLENGER GOLD MINE, SOUTH AUSTRALIA

Challenger Mineral Resources are estimated at 0.19 million ounces of gold (0.81Mt at 7.47g/t Au). This compares to 0.64 million ounces of gold as at 30 June 2014. The reduction is a result of mining depletion over the year with the larger component due to the exclusion of Inferred Resources below the 215 Shear where mining is not envisaged at current gold prices. The Ore Reserve estimate for Challenger is 0.08 million ounces of gold (0.59Mt at 4.05g/t Au) compared to 0.16 million ounces of gold as at 2014.

NUEVA ESPERANZA PROJECT, CHILE

As previously reported (ASX Announcement 15 July 2015), newly discovered mineralisation at Chimberos West has added in the order of 250,000 ounces of gold and 5.1 million ounces of silver to the Chimberos Mineral Resource estimate. This has resulted in a significant increase in the Mineral Resource estimate for Chimberos to 300,000 ounces of gold and 20.5 million ounces of silver contained in 11.5 million tonnes of material. This equates to 640,000 ounces of gold equivalent. With the addition of gold and silver ounces at Chimberos, total Mineral Resources for Nueva Esperanza have increased by 21% to 34.6Mt at 1.70g/t AuEq for 1.89 million ounces of gold equivalent.

Due to metallurgical and project optimisation study work still to be finalised, Ore Reserves at Nueva Esperanza have not been updated to include Chimberos Gold and, for the present, remain as announced to the ASX on 17 March 2014 at 1.04 million ounces of gold equivalent (17.1Mt at 1.89g/t AuEq).

BOWDENS SILVER, LEAD & ZINC PROJECT, NEW SOUTH WALES

The Bowdens Mineral Resource estimate has not changed from that previously reported (ASX announcement, 18 October 2013) of 88.0Mt at 47.4g/t Ag, 0.29g/t Pb and 0.39g/t Zn for a combined 182 million ounces of silver equivalent.

The Mineral Resource estimates have been reported according to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012).

Ore Reserves and Mineral Resources (as at 30 June 2015)

Challenger, Chatree, and Nueva Esperanza Ore Reserves

			Grade						Contained Metal			
Source	Category	Tonnes (Million)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	AuEq (g/t)	AgEq (g/t)	Gold (Moz)	Silver (Moz)	AuEq (Moz)	AgEq (Moz)
Challenger	Proved	0.40	4.28	-	-	-	4.28	270	0.06	-	0.06	3.5
	Probable	0.19	3.58	-	-	-	3.58	226	0.02	-	0.02	1.4
	Total	**0.59**	**4.05**	-	-	-	**4.05**	**255**	**0.08**	-	**0.08**	**4.8**
Chatree	Proved	34.0	0.80	9.03	-	-	0.87	118	0.87	9.9	0.95	129
	Probable	9.5	0.79	7.04	-	-	0.84	114	0.24	2.2	0.26	35.0
	Total	**43.5**	**0.80**	**8.60**	**-**	**-**	**0.86**	**117**	**1.12**	**12.0**	**1.20**	**164**
Nueva Esperanza	Proved	-	-	-	-	-	-	-	-	-	-	-
	Probable	17.1	0.27	97	-	-	1.89	113	0.15	53.5	1.04	62.5
	Total	**17.1**	**0.27**	**97**	**-**	**-**	**1.89**	**113**	**0.15**	**53.5**	**1.04**	**62.5**
Total	Proved	34.4	0.84	8.93	-	-	0.91	120	0.93	9.9	1.00	132
	Probable	26.8	0.48	64	-	-	1.53	114	0.41	55.5	1.32	98.6
	Total	**61.2**	**0.68**	**33**	**-**	**-**	**1.18**	**117**	**1.34**	**65.3**	**2.32**	**231**

Challenger, Chatree, and Nueva Esperanza Mineral Resources (Inclusive of Ore Reserves)

			Grade						Contained Metal			
Source	Category	Tonnes (Million)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	AuEq (g/t)	AgEq (g/t)	Gold (Moz)	Silver (Moz)	AuEq (Moz)	AgEq (Moz)
Challenger	Measured	0.38	5.15	-	-	-	5.15	324	0.06	-	0.06	4.0
	Indicated	0.37	9.70	-	-	-	9.70	611	0.12	-	0.12	7.3
	Inferred	0.06	8.41	-	-	-	8.41	530	0.02	-	0.02	1.0
	Total	**0.81**	**7.47**	**-**	**-**	**-**	**7.47**	**471**	**0.19**	**-**	**0.19**	**12.3**
Chatree	Measured	81.8	0.70	7.00	-	-	0.75	102	1.84	18.4	1.98	269
	Indicated	50.1	0.64	5.59	-	-	0.68	93	1.03	9.0	1.10	149
	Inferred	40.6	0.59	4.49	-	-	0.62	85	0.77	5.9	0.81	111
	Total	**172.5**	**0.66**	**6.00**	**-**	**-**	**0.70**	**95**	**3.64**	**33.3**	**3.89**	**529**
Nueva Esperanza	Measured	1.5	0.01	101	-	-	1.69	102	0.0005	4.9	0.08	4.9
	Indicated	26.8	0.47	79	-	-	1.78	107	0.41	67.7	1.54	92.2
	Inferred	6.3	0.50	52	-	-	1.30	82	0.09	10.0	0.27	16.2
	Total	**34.6**	**0.45**	**75**	**-**	**-**	**1.70**	**102**	**0.50**	**83.2**	**1.89**	**113**
Total	Measured	83.7	0.71	8.65	-	-	0.79	103	1.90	23.3	2.12	278
	Indicated	77.3	0.62	31.0	-	-	1.11	100	1.55	77.1	2.75	249
	Inferred	47.0	0.59	10.9	-	-	0.72	84.9	0.89	16.4	1.09	128
	Total	**207.9**	**0.65**	**17.5**	**-**	**-**	**0.89**	**97.9**	**4.34**	**116.7**	**5.96**	**655**

Bowdens Mineral Resources

			Grade						Contained Metal			
Source	Category	Tonnes (Million)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	AuEq (g/t)	AgEq (g/t)	Gold (Moz)	Silver (Moz)	AuEq (Moz)	AgEq (Moz)
Bowdens	Measured	23.6	-	56.6	0.31	0.41	1.64	74.5	-	43.0	1.25	57
	Indicated	28.4	-	48.0	0.27	0.36	1.40	63.6	-	43.8	1.28	58
	Inferred	36.0	-	41.0	0.30	0.40	1.27	58.0	-	47.5	1.47	68
	Total	**88.0**	**-**	**47.4**	**0.29**	**0.39**	**1.41**	**64.4**	**-**	**134.1**	**4.00**	**182**

Group Total Mineral Resources

		Grade						Contained Metal			
Source	Tonnes (Million)	Gold (g/t)	Silver (g/t)	Lead (%)	Zinc (%)	AuEq (g/t)	AgEq (g/t)	Gold (Moz)	Silver (Moz)	AuEq (Moz)	AgEq (Moz)
Group Total	**295.9**	**0.46**	**26.4**	**0.09**	**0.12**	**1.05**	**87.9**	**4.34**	**251**	**9.95**	**836**

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Notes to Ore Reserves and Mineral Resources table:

Rounding of figures causes some numbers to not add correctly.

(1) Nueva Esperanza Equivalent factors:

Silver Equivalent: AgEq (g/t) = Ag (g/t) + Au (g/t) x 60.
Gold Equivalent: AuEq (g/t) = Au (g/t) + Ag (g/t) / 60.
Calculated from prices of US$1380/oz Au and US$21.50/oz Ag, and heap leach metallurgical recoveries of 70% Au and 75% Ag estimated from test work by Kingsgate.

(2) Bowdens Equivalent factors:

Silver Equivalent: AgEq (g/t) = Ag (g/t) + 27.5 x Pb (%) + 22.8 x Zn (%).
Calculated from prices of US$26.33/oz Ag, US$1250/oz Au, US$2206/t Pb, US$2111/t Zn and metallurgical recoveries of 72% Ag, 75% Pb, and 66% Zn estimated from test work by Kingsgate.
Gold Equivalent: AuEq (g/t) = AgEq (g/t) x 46 calculated from prices of US$1200/oz Au, US$26.33/oz Ag.

(3) Chatree Equivalent factors:

Chatree Gold Equivalent: AuEq/t = Au (g/t) + Ag (g/t) /136.
Silver Equivalent: AgEq (g/t) = Au (g/t) x 136 + Ag (g/t).
Calculated from prices of US$1200/oz Au and US$19.00/oz Ag and metallurgical recoveries of 83.3% Au and 38.7% Ag based on metallurgical test work and plant performance.

(4) Cut-off grades for Resources are:

Chatree 0.30g/t Au, Nueva Esperanza 0.5g/t AuEq, Bowdens 30g/t AgEq, Challenger underground 5.0g/t Au, Challenger open pit 1.5g/t Au and Challenger stockpile variable.

(5) Cut-off grades for Reserves are:

Chatree 0.35g/t Au, Nueva Esperanza 0.5g/t AuEq, Bowdens 30g/t AgEq, Challenger underground 5.0g/t Au, Challenger open pit 1.5g/t Au and Challenger stockpile variable.

(6) It is in the Company's opinion that all the elements included in the metal equivalent calculations have a reasonable potential to be recovered.

Competent Person Statement

The information relating to Nueva Esperanza Ore Reserves is extracted from an announcement by Kingsgate titled "Nueva Esperanza, Chile – Definitive Feasibility Study Delivers Strong Results" from 17 March 2014. The information relating to Nueva Esperanza Mineral Resources is extracted from an announcement by Kingsgate titled "Chimberos Gold Discovery Adds Significantly to Mineral Resources in Chile" from 15 July 2015.

The information relating to Bowdens Mineral Resources is extracted from an announcement by Kingsgate titled "Bowdens Mineral Resource Report 2013" from 18 October 2013.

The above-mentioned announcements are available to view on Kingsgate's public website (www.kingsgate.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially altered from the original announcement.

In this report, information concerning Chatree Exploration Results, Mineral Resources and Ore Reserve estimates is based on information compiled by the following Competent Persons: Ron James, Brendan Bradley, Maria Munoz, Rob Kinnaird and Suphanit Suphananthi who are employees of the Kingsgate Group. All, except Brendan Bradley, are members of The Australasian Institute of Mining and Metallurgy; Brendan Bradley is a member of the Australian Institute of Geoscientists. These people qualify as Competent Persons as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition) and possess relevant experience in relation to the mineralisation of being reported herein as Exploration Results, Mineral Resources and Ore Reserves. Each Competent Person has consented to the public reporting of these statements and the inclusion of the material in the form and context in which it appears.

In this report, information concerning Challenger Exploration Results, Mineral Resources and Ore Reserve estimates is based on information compiled by Stuart Hampton and Luke Phelps who are employees of the Kingsgate Group. Both are members of The Australasian Institute of Mining and Metallurgy. These people qualify as Competent Persons as defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition) and possess relevant experience in relation to the mineralisation being reported herein as Exploration Results, Mineral Resources and Ore Reserves. Each Competent Person has consented to the public reporting of these statements and the inclusion of the material in the form and context in which it appears.

Chatree Gold Mine, Thailand

JORC Code 2012 Edition – Table 1

Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• The deposit was sampled by a combination of surface diamond drill (DD) and reverse circulation (RC) holes. • The current estimate is include new drilling from June 2014 to June 2015 with a total depth of 10,479 meters of RC on 61 holes. • The latest drill database comprises 704,819 metres of drilling. These were face sampling reverse circulation drilling (RC) of 585,350 samples (83%) and diamond drilling (DDH) of 119,469 samples (17%), some of the drilling has been carried out by mixed equipment drilling (RD).
	• Sampling is guided by the Kingsgate Group protocols and QAQC procedures as per industry standard. • Standard samples, duplicated samples and blank samples are inserted into the assay samples batch at least 1 in every 25 samples. Each sample batch submitted for assay has 100-150 samples with a maximum of 250 samples per batch. All RC samples are then transported to the Chatree Mine laboratory for assaying. Wet RC samples will be left to naturally dry prior riffle splitting.
	• The Chatree Gold Mine is a low sulphidation epithermal gold–silver deposit and spans 2.5 by 7.5 km comprising at least 8 gold-silver bearing quartz vein structures, five of which are currently being mined by open pit methods. All deposits have been drilled and sampled using industry standard techniques. For RC drilling, a sample from each metre is collected from the cyclone then split with a riffle splitter to create two representative samples of 3-4 kg in weight each (depending on initial sample mass); one sample is sent to the laboratory for assaying and the other kept as a reference sample. Diamond core is logged for geology and geotechnical characteristics. With the exception of barren dykes within the system, diamond core is typically sampled on 1 metre intervals and halved using a diamond saw. The sample is send to the laboratory for assaying and the remaining core is kept in core trays for future reference. • All samples are dried, crushed and pulverised to get 85% passing 75 microns, with a 50g charge analysed for gold by fire assay technique with AAS finish and silver by AA technique.
Drilling techniques	• During the course of exploration and resource development drilling at the Chatree Gold Mine, two main types of drilling were employed. These were face sampling reverse circulation drilling (RC) and diamond drilling (DDH). • The majority of DD samples are half core samples of NQ and HQ core size and RC samples are collected by a cone or riffle splitter using a face sampling hammer with a nominal 5.5 inch to 5.25 inch hole. • At periodic points through drilling, when competent core is being drilled, core orientation is carried out. All orientated core is logged and photographed.
Drill sample recovery	• RC sample recovery is calculated from weighing the dry sample prior to riffle splitting. This weight is compared with the calculated full recovery weight. Overall average RC sample recovery is 80%. Some lower sample recoveries are commonly found in soft and less competent rock such as soil, shear zones or broken rock. • Most RC sample in Chatree are dry, with 73% samples having moisture records completely dry and 27% have moisture in the sample. • Diamond core recovery is recorded by the drillers and checked by the field geologist. • Average DDH core sample recovery is 85%. Most of the DDH core is drilled from fresh rock in RC pre-collars where most of the rock is competent. Some lower DDH core recoveries are associated with shear or breccia zones, although these are relatively uncommon at Chatree and seldom associated with mineralized zones. • Overall the samples of RC and DDH show good recoveries. It has determined that the relationship between gold grade in the mineralization and recovery has not introduced a bias in the resource sampling.
	• In order to improve sample recovery and reduce contamination in the small number of wet RC drill holes a drill bit slightly smaller than the hammer is used. • Drilling in a broken ground in northern operation usually requires the use of an air compressor and booster to maintain adequate recovery of RC chip samples and reduce the likelihood of sample contamination. • The drilling contract and daily geological supervision of the drillers require the operators to do their best to provide good quality, uncontaminated samples with good recovery.
	• Overall the samples of RC and DDH show a good recovery especially inside the mineralised zones. It has determined that the relationship between the recovery and the grade do not show any bias, the author considers that the Chatree resource sampling recovery is generally appropriated and that relationship between gold grade in the mineralization and recovery has not introduced a bias in the resource sampling • Preferential loss/gain of fine/coarse material is considered to be low. For time to time, RC drill samples have been sieved and the fine and coarse sample material has been separately assayed. Side by side comparisons show no assay bias between both sample sizes. • RC vs DDH comparisons were assessed using closely paired sample points mainly from five pairs of holes (RC holes = 129, 130, 131, 132 & 134, paired with DDH holes 474, 475, 476, 468 & 469, respectively). 558 pairs of closely spaced two metre composites (ie RC – DDH points within 10 metres of each other) exist. Based on the results for 544 sample pairs with outliers removed (ie samples > 30g/t) there is an overall close agreement between RC and DDH samples. No bias is noted between RC and DDH sample pairs.
Logging	• Geological logging is completed for all holes and representative across the deposit. The lithology, alteration, and structural characteristics of RC chips and drill core are logged to a paper based system and then transferred directly into the database using the Chatree geological codes. This data is imported into the central database after validation in Micromine, Access and proprietary import tool constructed by H&S Consultants.
	• Over the past 10 to 15 years, logging is both qualitative and quantitative. Checks and rechecks of logging take place when new holes are drilled adjacent to older holes. This provides a good cross check against geologist variation. The majority of geologists on site recording geology data have been working at Chatree in excess of 5 years • All drill core is photographed, and RC chips are stored on site in a chip board library. Drill core is stored on site in a core reference library.
	• All RC and DD drill holes are fully logged for geology, recovery, mineralisation, alteration, geotechnical (DD), and sample quality.
Sub-sampling techniques and sample preparation	• The majority of drill core was sampled by taking half core samples from the same side of the core. Core was cut using a core saw and diamond blade. In broken ground the geologist and sampler took random pieces of broken rock to represent the metre as best as possible. Broken rock accounts for a very small proportion of the core. • All samples are weighed and recorded. Some quarter core samples have been used and statistical comparison and their quantity is immaterial.

Criteria	Commentary
	• RC Samples are split using a riffle splitter • The majority of RC Samples are dry. On the occasion that wet samples are encountered, they are dried prior to splitting with a riffle splitter.
	• The procedure for RC sampling on site is as follows: The full RC sample from each metre is collected from the cyclone then once dry split with a riffle splitter to produce two representative samples of 3-4 kg each (depending on initial sample mass); one sample is sent to the laboratory for assaying and the other kept as a reference sample. Standard samples, duplicated samples and blank samples are inserted to the assay samples batch at least 1 in every 20 samples. Each sample batch submitted for assay has 100-150 samples with a maximum of 250 samples per batch. All RC samples are then transported to the Chatree Mine laboratory for assaying. • Following the marking up of the core by the geologist HQ and NQ core were halved diamond blade core cutting saw. After cutting the core was placed back in the core tray for checking by the geologist to ensure correct cutting and replacement. Bagging of the samples for analysis was carried out under the geologist's supervision. Sample numbers were written on the remaining ¾ or ½ core at the start of each sample interval with an arrow indicating the direction of the sample. Standard samples and blank samples are inserted to the assay samples batch at least 1 in every 20 samples. • Each sample batch submitted for assay has 100-150 samples with a maximum of 250 samples per batch. All DDH samples are then transported to the laboratory at Chatree Gold Mine for assaying. • The on-site laboratory at the Chatree mine site is currently certified by ISO with a 17025 rating. • Samples as received are dried to remove moisture. All samples have been dried at 120o C for a minimum of 8 hours. The entire dry sample is crushed, by means of a Rhino Jaw Crusher to a nominal 2-4mm. A 1-1.5kg split is taken and pulverised in a 2000cc Lab technics B2000 pulveriser. No sieve tests are performed. • A second coarse split is taken from the jaw crush at regular intervals (~10th sample) and assayed. In addition to the normal replicate assay (Au1, Au2 & Au3) of pulps taken from the original sample aliquot, "resplit" jaw-crushed material are taken at approximately every 10th sample. OREAS standards are used as internal laboratory standards.
	• For RC: Certified standard samples, duplicate samples and blank samples are inserted to the assay samples batch at least 1 in every 20 samples • For DDH: Certified Standard samples and blank samples are inserted to the assay samples batch at least 1 in every 20 samples. Each sample batch submitted for assay has 100-150 samples with a maximum of 250 samples per batch.
	• Field RC duplicates are taken at the rig from the second chute on the riffle splitter (where the reference sample is taken from). Field duplicates are every 20th sample. • Diamond core sample utilise the laboratory sample preparation duplicate procedure instead. • Within the laboratory at the sample preparation stage, a second coarse split is taken from the jaw crush at regular intervals (~10th sample) and assayed. • Both the results of the field duplicate samples and the laboratory duplicate samples show an acceptable level of repeatability for a low sulphidation epithermal gold silver deposit.
	• The sample size is considered appropriate for a fine gold/silver low sulphidation epithermal deposit
Quality of assay data and laboratory tests	• Assaying for gold and silver on primary samples is carried out by Chatree Gold Mine on site laboratory. Gold assaying is by fire-assay (25 and 50 gram samples) with AAS finish. All assays greater than 6.0g/t Au are repeated using a gravimetric finish. Ag is assayed using an aqua regia digestion with AAS finish. • The on-site laboratory at the Chatree mine site is currently certified by ISO with a 17025 rating. • The analytical technique is considered to be a total representation of the interval sampled.
	• The use of geophysical tools is not applicable because these techniques are not used for Resource estimation.
	• An appropriate sampling protocol has been designed and implemented specifying how samples will be collected, split and subsequently prepared in the laboratory. Laboratory sample preparation is routinely checked using grinding tests and sieve analysis and thorough documentation is executed. Analytical standards, rig splits, blank samples and duplicate sampling are always included and all are routinely plotted to determine if they are within a predefined tolerance. Inter-laboratory checks are done on a periodic basis and the results are analysed statistically. • The QA/QC procedure established over 15 years (2000 – 2015) to control and ensure the representativeness of the samples is maintained in the time obtaining high quality sample to represent a large volume of ore in situ. The procedures identify the best practices for collection, recording, sample preparation, safety procedures and other established standards to ensure precision and accuracy made in Chatree Gold Mine. • Since 2014 the QA/QC protocol was modify as part the continuous improvement, the new protocol consider that each set of 22 samples routinely contained the three control samples (19 primary samples, 1 standard, 1 duplicate- duplicate samples are out of sequence, 1 blank) that represent 15% of QA/QC control in the field, previous to 2014 in a set of 50 samples routinely contained three control samples (47 primary samples, 1 standard, 1 duplicate- duplicate samples are out of sequence, 1 blank) that represent 6% of QA/QC control in the field. • Each sample batch submitted for assay has 100-150 samples with a maximum of 250 samples per batch. The duplicated sample is not inserted in DDH sampling. All samples are then transported to the Chatree Mine laboratory for assaying. • Evaluation of results from the submitted certified standards is carried out on a batch by batch basis, and on a monthly basis to check for accuracy and bias. The majority of standards show an overall mean accuracy of less than 5% with no consistent positive or negative bias. Duplicate assays show good correlation with its pair and no apparent bias. • In cases where standard assays fall outside of the acceptable range, the entire batch is re-assayed once the error is determined. • Results of the QAQC sampling are considered acceptable for a low-sulphidation gold silver deposit. Substantial focus has been given to ensuring sampling procedures meet industry best practice to ensure acceptable levels of accuracy and precision.
Verification of sampling and assaying	• Significant intersections have been verified by alternate company personnel and external consultants. • Significant intersections have been re-assayed by different techniques (including Leachwell, Fireassay) to determine their accuracy. • Comparison between nearby Resources composite samples & grade control ("GC") composite samples using a maximum five metres east-west by five metres north-south by two metres vertical search gave data pairs for 13% of the 314972 resource composites in the study. The paired resource and GC composites show comparable average grades. The GC is considered as independent check to verify the intersection of resource drilling.
	• Twinned holes are not routine. However the extended history of drilling at Chatree has resulted any many overlapping drill hole samples from different holes that lie adjacent with each other can be used to compare averages and assay representivity. With the exception of assay outliers (eg high grade), data pairing of these overlapping intercepts shows no significant misrepresentation of the grades.

Criteria	Commentary
	• Data was accumulated and compiled covering collars, surveys, assays including rig splits and standards as well as laboratory duplicates (check assays), lithology, veins, alteration styles, recovery data for both RC and core holes together with moisture readings. Additional data gathered include spot heights for topography, structural and geotechnical orientation information including where possible RQD, rock hardness and compressive strength, densities and preliminary metallurgical data. As a matter of course drill logs were produced and core was inspected on site. Data is organised in an appropriately protected relational Access database. • The Kingsgate Group have in place formal data validation procedures for data in the database with data being validated as close to the source as possible to ensure reliability and accuracy. Inconsistencies identified in the validation procedures are re-checked and changes made to the database once the problem is identified. • Consistency of loggers over time, different loggers over a single campaign and between successive drilling campaigns are considered and standardisation is attempted. In cases where standardisation is not possible, portions of core and/or RC chips are revisited to pinpoint the inconsistencies. The consistency of lithological, alteration, mineralisation and structural data are cross-referenced intermittently throughout campaigns. All inconsistent logging are recorded in sheets and updated in the database. • The entire drill hole is logged and this information is transferred to the database. The data entry process includes routine cross checks by geologists and also the database import tools. Any errors are immediately rectified.

	• Assay results are not adjusted as they represent total gold for the sample interval. However
	    o All samples with gold value below detection limit -0.01 are replaced by 0.005 assay result.
	    o If the sample doesn't have gold value because it is in a late stage dyke, the null value is replaced with 0.00 , but it is left as null for other lithology codes.

Location of data points	TOPOGRAPHY • A local mine grid is utilised at Chatree Gold Mine. • Regularly updated site topography is provided by the on-site survey team. HOLE COLLAR SURVEY All hole collars are picked up using a DGPS or by the site survey team. Down Hole Surveying • As long as ground conditions are suitable all diamond drill-holes, RC holes and holes with diamond core tails were subjected to down-hole survey. There is little evidence of significant hole deviation for holes with 50 to 100 m pre-collars however all RC holes in-excess of 50-80m are surveyed. • Holes were surveyed at 25 to 30 m intervals. The surveying was usually undertaken during withdrawal of the drill string from the hole with the use of a stainless steel rod at the measuring end. • Some rocks, mostly dykes, have a minor to moderate magnetic content and may have influenced some of the azimuth readings. However, in general, there was very little variation between readings in any given hole and a stainless steel starter rod is used where ever downhole survey is to be undertaken to neutralise and remanent magnetism in the steel rods or in the rock units.
Data spacing and distribution	• Nominal drill spacing is 20 x 25 metres. Selected area with good geological continuity have been drilled at 40 x 50 metres and may be subject to selective infill drilling to 20 x 25 metres where necessary or as required for mine planning purposes. • RC samples are nominally 1 metre when sent for assay testing. Core samples are sampled using geological boundaries - the sample size is nominally 1 metre but can be as small as 30 centimetres. Samples are composited to 2 metres lengths for resource evaluation.
	• Data spacing and distribution are sufficient to establish the degree of geological continuity appropriate for JORC 2012 classifications applied.
	The current Resource estimate is based on two metres down-hole composites from RC and diamond drill database. This composite interval was selected as a multiple of the common 1 metre sample length (which represents a combined 92% of the resource drilling).
Orientation of data in relation to geological structure	• The majority of the resource drill holes are generally inclined at around 55 degrees, and oriented approximately perpendicular to the local dominant mineralisation controls. Structural logging of the orientated core confirms that the drilling is for the most part perpendicular the dominant mineralised trends. • In areas where the resource drill holes are sub-parallel to the dominant mineralisation structures, comparison with grade control sampling shows no significant difference in mean gold grades. Cases where sub parallel drilling occurs, or is not certain, usually result in "scissor holes" being drilled in the opposite direction to ensure the mineralisation trends are accurately mapped.
	• Paired resource and GC composites show comparable average grades for composites in East Dipping direction (perpendicular to mineralisation) with the West dipping composites showing a slight bias in the higher grade outliers. The east dipping and west dipping composites show a good correlation until composite values are above 3.5g/t Au. Considering the proportion of Resource Composites with gold grade values over 3.5g/t Au is 5% for compositing in east direction and 3% for west direction, any sample bias caused by drilling sub parallel to the mineralisation is considered to be immaterial to the Resource estimation.
Sample security	• RC samples are delivered to the assay laboratory by company staff at the end of drill hole. If samples are left on site overnight they are considered secure, because there is a guard on site at night time when there is no drilling operation. Samples are transported directly from site to the assay laboratory. • Drill core is cut and transported directly to the assay laboratory. Duplicate samples are reviewed and are out of sequence so any risk of sample tampering would be also noticed in duplicate QAQC Checks.
Audits or reviews	• In the past Hellman and Schofield (H&S) have carried out resource estimations at Chatree from pre-feasibility in 1999 until the 2010 Mineral Resource. In 2011 the resource estimations were carried out on site and audited by H&S. Further resource estimation work has been carried out in conjunction with resource consultant Jon Abbott of MPR Geological Consultants Pty Ltd. Information and maps from these reports have been integrated into this report. • Chatree Gold Mining is routinely visited by external competent persons that review and discuss all procedure of sampling techniques, geological interpretation and parameter of the estimation. These audits and reviews are stored on the central server for reviewing. • The authors of the current estimation are competent persons of the company who regard the estimation procedure, data and assay quality, geology and mineralisation and its continuity as appropriate for the style of mineralization of deposit that has Chatree • The Chatree Mill and Grade Control drilling provides an independent check against the Resource model in already mined portions of the Chatree System. These two independent checks support the reliability of the Resource Estimation in the mined areas for the current operation to date. • External and internal reviews have deemed the data and the sampling techniques to be in line with industry standards and of sufficient quality to carry out a Mineral Resource Estimation.

SECTION 2: Not Applicable

SECTION 3: Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• The Chatree Gold Mine has in place formal data validation procedures for data in the database with data being validated as close to the source as possible to ensure reliability and accuracy. All geological and field data is transferred from paper logs into excel and access database tables. The database administrator validates the data once it is imported into the company Access Database. Data entry errors are identified by data validation software and geological data entry errors are identified by cross checks by the project geologists.
	• The exploration database is configured for optimal validation through constraints, library tables, triggers and stored procedures. Data that fails these rules is quarantined until it is corrected. • Database is centrally managed by a Database Manager who is responsible for all aspects of data entry, validation, development, quality control and specialist queries. This is a standard suite of vigorous validation and checks for all data.
Site visits	• The Competent Persons regularly visit site, or work on site. Procedural and reconciliation checks of the Resource Estimate against grade control, mining history are routinely done and any variations are investigated.
	• This is not applicable because all competent people have routinely visited the site, including independent resource consultants
Geological interpretation	• The confidence in the geological interpretation of the mineral deposit is high. The Chatree system has seen Resource estimations carried out for the past 10 years, and these resource estimations have been followed up with 10 years of mining. Both resource drilling data and mining data (pit mapping and grade control) are used together when building the frame work for the mineral deposits and their controls.
	• Mineralisation and geological wireframes are created using these datasets.
	• The geological data used to construct the geological model includes regional and detailed surface and pit mapping, drill holes logs, and interpretations from drilling cross sections. • Mineralisation wire frames have been created based on gold and silver assays which are designed constrain the edges to the gold deposits. • Although small variations in the Geological and Resource Interpretations do occur on a case by case basis, the effects of these variations do not significantly impact on the resource and are considered immaterial. However these localized impacts are continually monitored between grade control and resource definition and modified where required. • Historical Mining Activity against the block model also confirms the close relationship between the current geological models and the global reconciliation between the *as mined* pits and the production history.
	The use of geology in guiding and controlling Mineral Resource estimation is partially applicable at Chatree. Oxidisation and broad stratigraphy types do control the gross distribution of gold and silver mineralisation within the system. However at a local scale, mineralisation is controlled by structures that cross cut geology trends. A combination of broad scale geological wire frames and knowledge on mineralisation controls is utilised when creating the Resource Estimate.
	• Regional faults are noted in the Chatree area, but their impact on resource risk is considered immaterial given the intensity of drilling. • Post mineralisation dykes affect grade continuity within the Chatree System. These dykes vary in width from <1 m to up to 8 metres in width. The dykes typically cross cut the mineralisation and create data blanks in the drill data and require consideration during the Resource estimation. Several reviews looking at whether to include or exclude data associated with dykes have been conducted during resource estimation. The comparisons do no show significant difference between each other. The current estimation treats all dykes and 0g/t gold and these are included in the estimation. • Specifical geological units within the Chatree system can be considered a preferred host. These are most notable in the A Prospect where the sedimentary unit hosts the majority of the ore.
Dimensions	• The gross dimensions of the Chatree Mineral Resource extend in continuous strike from the southern edge of the mining lease, through to the northern Q Prospect for 4.2 kilometres. The main trends can be split into several vein orientations meeting in the centre of the mining lease at A Prospect. • The overall width of the resource is typically 40 to 80 metres depending on dip, but extends up to 160 metres in the A Prospect. The maximum Mineral Resource depth is 371 metres.
Estimation and modelling techniques	• The technique used in the estimation is MIK (multiple indicator kriging). In gold deposits where short scale variation in the sample grades is often extreme, the conventional approach to resource estimation has been found to produce unacceptable results. The main reason is that it is impossible to generate reliable estimates of the grades at the scale that will be used for ore selection in mining. • MIK estimates within larger volumes called panels, the proportion of material that will be selected as ore using a certain selection strategy in mining. The grade of this proportion is also estimated. The larger volume of panel, which usually has the dimensions of the drill hole spacing, is used to ensure more reliable estimates of grade.
	• In the MIK method this can be done through either excluding the potentially problematic sample grades from the calculation of the indicator statistics or using some alternative measure for the average grade of the highest class, such as the median as opposed to the mean. The determination of cutting or capping of extreme grades value or outlier was performed with the data analysis trough the conditional statistic that allows generating a table of statistic for a predefined set of class thresholds. The upper grade bin for all domains was carefully analysed according to their spatial location and the difference between the mean and the median so determine the use of any of these or the mean grade of the upper bin excluding a set of outlier composites.
	• A key component of the mineral resource estimation is the establishment of domains for the data to be modelled. Resource estimates will not produce results that reconcile with historical mining figures if the data is not domained according to the appropriate geological interpretation. Throughout the Chatree Gold Mine geological model genesis concepts that are considered to capture the geometry and theoretical distribution of mineralisation along with the site-based geological interpretation, which is consistent with regional and local geological information are utilised in the formulation of geological parameters and the subsequent development of a domain strategy.
	• The interpolation parameters considered different search pass and different data used, given confidence level for classified the resource.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>
<table>
<tr><th rowspan="2">Search Pass</th><th colspan="3">Radii</th><th rowspan="2">Minimum Data</th><th rowspan="2">Minimum Octants</th><th rowspan="2">Maximum Data</th></tr>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>1</td><td>25</td><td>25</td><td>12</td><td>16</td><td>4</td><td>48</td></tr>
<tr><td>2</td><td>37.5</td><td>37.5</td><td>18</td><td>16</td><td>4</td><td>48</td></tr>
<tr><td>3</td><td>37.5</td><td>37.5</td><td>18</td><td>8</td><td>2</td><td>48</td></tr>
<tr><td>4</td><td>70</td><td>70</td><td>30</td><td>8</td><td>2</td><td>48</td></tr>
</table>
</td></tr>
<tr><td></td><td>• The GS3 Software developed by Hellman and Schofield is designed to build model of the distribution of resources and generate estimates of resources in mineral deposits. Hellman and Schofield Pty Limited distribute the software under license.
• The software is designed to provide the trained user with a set of tools to build models of the distribution of recoverable grade and tonnes for a single element such as gold within a mineral deposit. The mineralization may be partitioned into a maximum of 10 different primary mineralization styles (or geologic domains) each of which may have up to 8 secondary mineralization or alteration zones superimposed on them. This configuration is designed to allow the user the ability to model several mineralization styles controlled by structures and lithologies (primary domains) which are overprinted by several stages of oxidation and leaching defining oxidised, mixed and sulphide zones which are called secondary or sub-domains.
• The software normally consists of five main components:
- Data Visualization and Selection
- Univariate and Bivariate Statistics
- Data Transformation
- Variogram Analysis and Modelling
- Multiple Indicator Kriging Modelling.</td></tr>
<tr><td></td><td>• Reconciliation of MIK block model estimates against production at operating mines is an important measure of the predictive nature of the MIK block model for future production. Three sets of data are generally available, namely the MIK block model, the Grade Control as Mined figure and Production History (Mill) Data with stockpiled ore adjustments – the latter often referred to as ‘mill’ data. Chatree gold mine evaluates this data on routinely (by monthly, quarterly and year) and also for the operational history to obtain a level of confidence in MIK block model performance to actual production.</td></tr>
<tr><td></td><td>• Chatree Operation is a gold and silver producer and there are no by-products</td></tr>
<tr><td></td><td>• Sulphide content is considered to be globally low and its effect on acid mine drainage is reviewed at the mining stage.</td></tr>
<tr><td></td><td>• Resource model block size is related to drill pattern size. The block model is constructed with panels of 10m x 25m x 6m. Nominal drill spacing is 25 metres in the North, in the east the spacing is more variable (between 10 – 20 m).</td></tr>
<tr><td></td><td>• These factors assume mining selectivity consistent with current practice, with ore selection based on 6 by 8 by 1.5 metre grade control sampling and minimum ore-blocking resolution of around 2 by 4 metres, by 3 metres vertical. Reliability of the selected variance adjustment factors is demonstrated by the generally reasonable comparison between grade control and model estimates.</td></tr>
<tr><td></td><td>• Overall the Chatree mineralisation presents gold and silver as the main commodities for exploitation, however the silver values in Chatree deposit are usually low with very few high grade values and low correlation between gold and silver</td></tr>
<tr><td></td><td>• The domains used for this estimate is based on the orientation of the mineralization. Mineralized domains assignment for resource modelling has been based on wireframe model of geological interpretations, veins, drill holes data, grade control data and pit geological map. Mineralization domains are divided according to their style and orientation of mineralization.</td></tr>
<tr><td></td><td>• MIK modelled the grade thresholds and class means for each mineralised for each attribute and domain, indicator thresholds were defined using a consistent set of probability thresholds.
• The highest indicator class represents only 1% of the data, and in a highly skewed distribution such as seen in the resource datasets, this indicator class can contain a disproportionate amount of the metal, so a small number of composites can have a disproportionate impact on the estimation of resources. Therefore a decision to limit the impact of the extreme grades value or outlier on the final estimates must often be made.</td></tr>
<tr><td></td><td>• Validation of the block model involved going through each section (25m along strike) and plan (6m) to check that block grades matched that of the drill holes informing the block. The blocks were also checked to make sure they matched the mineralisation model.
• In addition, validation is also carried out by reconciling the new block model with past mine production and grade control data for the same area where a sufficiently large area has been mined to be regarded as being representative of future production. The good global reconciliation between the Progressive MIK Models and the Grade Control Predicted Model is also supported by the overall mill processing history at Chatree Operation (accounting for stockpiles)</td></tr>
<tr><td>Moisture</td><td>• The estimated tonnes in the of resources use dry bulk density. The sample for bulk dry density are taken regular and systematic specific gravity measurements are taken on representative number of diamond drill core according to a formal protocol.
• To calculate the moisture of the sample cores, the sample is weighed on a precision electronic balance, then is dried in an oven at 110 C, and again dry weight is measured by determining the moisture content of the relationship of the initial weight / final weight, similar calculation is performed for the RC samples where the sample is dried naturally. Determined moisture values have been used to analyse any bias in the results of chemical tests on the samples, which is not relevant to the calculation of Resource tonnage.</td></tr>
<tr><td>Cut-off parameters</td><td>• The cut-off grade is based on the last 5 year (July 2010 and June 2015) projection of the mining operation life of Gold Price with a fluctuation between 1182U$D and 1780 U$D, with an average of 1460 U$D. Some work made using a different gold price indicated that the average cut-off grade across all pits would be approximately at 0.32g/t Au with gold price around USD1600/oz, and 0.43g/t Au with gold price around USD1200/oz. Considering the average gold price in the last 5 year is 1460 U$D, the economic cut-off will be around 0.35g/t Au and the breakeven cut-off will be around 0.27g/t Au, suggesting that the cut-off grade for eventually economic cut-off will be around 0.30g/t Au.</td></tr>
<tr><td>Mining factors or assumptions</td><td>• Mining at Chatree is by open cut methods, utilising 200t and 100t class excavators. As such, the size of the blocks used in the resource estimation (10m x 25m x 6m) is appropriate to the style of mining being undertaken. It is assumed that detailed grade control drilling will be applied to ore/waste delineation processes using RC drilling at closer spacing.
• This is consistent with current mining practises at Chatree</td></tr>
</table>

Criteria	Commentary
Metallurgical factors or assumptions	• Plant recovery varies depending on material type, pit and throughput rate. Historically, the Chatree plant has been able to achieve recoveries of over 85% Au. There is continuous test work performed to improve the knowledge about the variability of recovery in different lithologys. • The assumption of 85% based on historical performance is not necessarily and indicator of future performance and slightly lower recoveries at A Prospect are well mapped by geological domains, and grade distribution. • Detailed metallurgical reports have been completed for the majority of major prospects, and these results have been applied to the mineralisation domains when estimating Reserves.
Environmental factors or assumptions	• Current Resource lie within a Mining Lease and consideration of Waste Dumps and Infrastructure has been made when estimating the lower cuttoff. The Chatree Operation has completed various environmental impact statements in compliance with regulations for approval of Mining Leases.
Bulk density	• Regular and systematic specific gravity measurements are taken on representative number of diamond drill core according to a formal protocol. This data is included in the database. Densities average for Oxide (2.16), Transitional (2.40) and Fresh (2.62). • Although density data requires ongoing revision on a case by case basis, the densities adopted for oxide, transitional and fresh remain valid density measurements considering the results of excellent global reconciliation between the new April 2013 MIK Model and historical Milled and Stockpiled records (a high proportion of which would represent oxide and transitional). • Any significant variation in oxide or transitional density would be recognized in this comparison. Since the reconciliation remains a valid test of the current densities adopted for the resource estimate these will continue to be used for the global resource.
Classification	• Resource confidence levels were assigned to the current estimates on the basis of search pass, and a triangulation defining the limits of closer spaced sampling. The current estimation has used four search passes reflecting confidence on continuity of mineralisation style based on mining experience and geological continuity over the history of resource drilling. • Panels in the current model estimates are assigned to confidence categories of 1, 2 and 3 which represent estimates of progressively lower confidence, Panels within the classification triangulation were assigned to confidence categories 1, 2 and 3 on the basis of search pass, and all panels outside the classification triangulation were classified as category 3. For public release of the estimates, estimates for categories 1 reported as Measured, categories 2 reported as Indicated and category 3 panels reported as Inferred. • The confidence in a mineral resource estimate was judged on quality of input data assay, mineralisation/geological continuity along strike and down dip, data density and mining experience of similar deposits. The author considers that the reliability of resource is demonstrated by the generally reasonable comparison between grade control and model estimates. • The authors consider that the reliability of resource is confirmed by the reasonable comparison between grade control and model estimates • the authors of the current estimation are competent persons of the company who regard the estimation procedure, quality data, data assay, mineralisation/geological continuity along strike and down dip, data density are considered appropriate for the style of mineralization of deposit that has Chatree.
Audits or reviews.	• In the past Hellman and Schofield (H&S) have carried out resource estimations at Chatree from pre-feasibility in 1999 until the 2010 mineral resource. In 2011 the resource estimations were carried out on site and audited by H&S. The current Mineral Resource estimate has been audited by Jon Abbott of MPR Geological Consultants Pty Ltd. This Table 1 forms a small part of a more extensive Mineral Resource Report for Chatree, this report form part of the company's internal documentation and is provided to independent consultants during their audits. • Chatree Gold Mining is routinely visited by external competent persons who review and discuss all procedure of sampling techniques, geological interpretation and parameter of the estimation, audits and reviews. • The results of such audits conclude that procedures and data used to estimate the Mineral Resource are appropriate for the style of mineralization found at Chatree and consistent with other similar operations elsewhere.
Discussion of relative accuracy/ confidence	• The Chatree Operation has been actively mining for the past 10 years. An appropriate way to gauge the relative accuracy of the current Mineral Resource estimate and is confidence is to review its performance looking back in the areas already mined. Reconciliation of MIK block model estimates against production at operating mines is an important measure of the predictive nature of the MIK block model for future production. Three sets of data are generally available, namely the MIK block model, the Grade Control As Mined figure and Production History (Mill) Data with stockpiled ore adjustments – the latter often referred to as 'mill' data. Chatree gold mine evaluates this data on routinely (by monthly, quarterly and year) and also for the operational history to obtain a level of confidence in MIK block model performance to actual production. • The Akara Mine Geology Department keeps ongoing records on MIK Block Model Performance against grade control. The overall history of the operation shows good reconciliation between the MIK Block Models and the Grade Control Models. Considering all Grade Control drilling data up until April 2012 was based on minesite Leachwell assays (not calibrated for recovery) the global reconciliation between MIK Models (assayed by conventional fire assay technique) is acceptable, with Grade Control Asmined coming within at a 1% reconciliation on tonnes, 5% on gold grade, and 4% on gold ounces. • The good global reconciliation between the Progressive MIK Models and the Grade Control Predicted Model is also supported by the overall mill processing history at Chatree Operation (accounting for stockpiles). • The combined overall Processed Ore and Stockpile (51 Mt @ 1.24g/t Au for 2,03Moz) have also been compared against the current MIK Resource Estimate that lies within the current *"As Mined"* pit surface and also taking into account the variation in lower cut-off grade since commencement of operations. These variations have been estimated against the MIK Resource Estimate by a series of wireframes created that represent the different mining areas, their date mined and the cut-off grade used. Overall the current MIK Resource Estimate reconciles well against the Processed Ore and Stockpile history showing a 4% variation on Tonnes, a 6 % variation on gold grade and a 2% variation on ounces. • The current estimate is an estimate on global and local, based on a statistical and geostatistical analysis, estimated by multiple indicator krigging (MIK) approach as in the previous estimates, the confidence in a mineral resource estimate was judged on quality of input data assay, mineralisation/geological continuity along strike and down dip, data density and mining experience of similar deposits. The author considers that the reliability of resource is demonstrated by the generally reasonable comparison between grade control and model estimates. • The Mineral Resource estimate is considered to be of sufficient local confidence to allow mine planning studies to be completed. The estimate has been classified as a combination of Measured, Indicated and Inferred, with the Measured and Indicated Resource of a sufficient local confidence to allow optimisation studies, pit designs and mine scheduling. • As mentioned above, at the time of estimation, the combined overall Processed Ore and Stockpile (51 Mt @ 1.24g/t Au for 2,03Moz) have also been compared against the current MIK Resource Estimate that lies within the current "As Mined" pit surface and also taking into account the variation in lower cut-off grade since commencement of operations. Overall the current MIK Resource Estimate reconciles well against the Processed Ore and Stockpile history showing a 4% variation on Tonnes, a 6% variation on gold grade and a 3% variation on ounces.

SECTION 4: Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resources Estimate for conversion to Ore Reserves	• The mineral resource estimate is based on the May 2015 MIK resource model developed by the Kingsgate Group. The methodology was reviewed by MPR Geological Consultants Pty Ltd (MPR). The Chatree Gold Mine Ore Reserve Estimate is derived from detailed pit designs based on the output of Whittle optimizations run on the May Resource Model compiled by Isaara Mining. • The Chatree Mineral Resource estimate is inclusive of the July 2015 Ore Reserves.
Site visits	• The competent person is based on site at Chatree Gold Mine.
Study Status	• The Chatree Gold mine has been operating for over 10 years and is well established. • A feasibility study was conducted in 2005 for the Chatree North leases and that is basis of the current mine plan. • When the resource model is updated with additional drilling, the mining designs and plans are reviewed and financial evaluations applied.
Cut-off Grade	• The cut-off grade used to report reserves is derived from the incremental cost of processing ore, including the cost of re-handle from stockpiles. • A grade of 0.35g/t Au has been used for Ore Reserve Estimate.
Mining Factors	• Detailed pit designs have been completed for all pits at Chatree, based on the May 2015 Resource Model from Issara Mining. • The open pits have been designed following pit slope recommendations of BFP Consultants Pty Ltd for the Chatree North Feasibility Study. • Mining equipment and bench height selection is appropriate for the ore body. Both ore and waste are blasted on 9m benches then mined in 3m flitches by 100t and 180t class excavators. Grade control is done by reverse circulation drilling on 18m benches ahead of drilling and blasting. • Open pits have been designed with 2 way haul roads except for the final benches, which have been designed with one way access to reduce stripping requirements. • As the model is an MIK model, mining dilution and recovery factors are not required. • Open pit cutbacks have been designed with a minimum bench width of 30m. • Inferred Mineral Resources are excluded from the pit optimizations and reserves and counted as zero grade. • All required infrastructure is already in place.
Metallurgical Factors/Recovery Model	• Chatree gold mine has been running for over 10 years and successfully extracts gold and silver from ore by a CIL/CIP process. • The recovery models for Gold and Silver used in the estimation of the Chatree Gold Mine reserves are variable recovery models based on head grade. The algorithms used were derived from test work performed over the full range of head grades from different geographic areas as well as historical operational data. • The average recovery for gold metal for the remaining reserves is 83.3% and for silver metal 38.7%. • There are minor amounts of carbonaceous ore within the ore body and test work has been performed to determine the impact on recovery. The results of this test work have been incorporated into the overall recovery model for the ore body.
Environmental	• Chatree gold mine operates under an approved Environmental and Health Impact Assessment which is regularly audited by Thai government officials. The EHIA covers the storage of tailings from the processing plant and waste rock. • The mine currently working on a second plastic lined tailings storage facility for 62M tonnes of ore that was commissioned last fiscal year. • Waste is characterized into potentially acid forming and non-acid forming and placed into dumps in accordance with the EHIA. • The site conditions are that no water is to be discharged from the mining lease.
Infrastructure	• Chatree Gold Mine is supplied with electricity from the Thai national grid and access to Bangkok is by sealed highways. • All land within the mining lease is owned by Akara Mining Limited. Land surrounding the project is generally freehold title, and as such negotiations are conducted with individual land holders to obtain access to land. • Labour is sourced from local communities surrounding the operation. Over 90% of the staff employed on site are Thai Nationals. Akara Mining does not provide any on-site accommodation, with all staff living within the local communities.
Costs	• Capital costs included in the NPV calculation for the project include allowances for construction of the tails storage facility as well as sustaining capital for all aspects of the mine. • The operating costs used in the Whittle optimizations, and to determine the cut of grade, are based on the current contract mining unit rates. • An exchange rate of 33.8 Baht / USD was assumed for the Whittle optimisations and NPV calculations based on the last two years historical data. • Transportation charges are based on current budget. • Treatment charges are based on current operating budget. • The royalty paid to the Thai government for gold production is based on a sliding scale according to the prevailing gold price. (1) two point five per cent of the price of gold per gram for the price not exceeding Baht Four Hundred; (2) five per cent of the price of gold per gram for the part in excess of Baht Four Hundred but not exceeding Baht Six Hundred; (3) ten per cent of the gold per gram for the part in excess of Baht Six Hundred but not exceeding Baht One Thousand; (4) fifteen per cent of the price of gold per gram for the part in excess of Baht One Thousand but not exceeding Baht One Thousand Five Hundred; (5) twenty per cent of the price of gold per gram for the part in excess of Baht One Thousand Five Hundred. • The royalty paid to the Thai government for silver production is 10%.
Revenue Factors	• A gold price of USD1200/troy oz and a silver price of USD19.00/troy oz were used to calculate the remaining reserves.

Criteria	Commentary
Market Assessment	• Production from the Chatree Gold Mine is sold at spot market prices, with no hedging agreements currently in place. • The currently life of mine plan indicates that the mine can produce an average of 128k Oz Au per year, and an average of 640k Oz Ag per year, over the current remaining 7 1/4 year mine life.
Economic	• The project NPV was calculated using the site two year budget costs from July 2015 to June 2017 and applied to the Life of Mine Plan, with adjustments for expected cost movements over time (escalation). • At a Discount Rate of 7.5%, the NPV of the project is approximately USD 271 million with a remaining mine life of 7 1/4 years.
Social	• Chatree gold mine has very close working relationships with the communities surrounding the project, with a number of funds set up to provide services and support.
Other Risks	• There are no significant naturally occurring risks to the project. A major flooding event in Thailand in 2011 did not impact the operation. Material Legal and Marketing Agreements • Output from the Chatree Gold Mine is sold at spot market prices with no hedging agreements currently in place. Government agreements and approvals • The quoted remaining reserves include pits that require Government approvals to relocate public roads and extend mining leases before those reserves can be fully exploited. • At this point in time there appears to be no reason for approvals to be not forth coming in time to exploit the affected reserves.
Classification	• Resources classified as "Measured" that fall within the designed pit are classified as "Proven" reserves. "Indicated" resources are classified as "Probable" reserves.
Audits or Reviews	• There have been no formal external audits of the Ore Reserve estimate. The Ore Reserve estimate was peer reviewed internally within Kingsgate.
Accuracy/Confidence	• Long term historical reconciliation of the Chatree resource model to mill production shows a high level of confidence the reported contained metal. • The reconciliation carried out is global in nature as ore from different pits and stockpiles is blended in the mill feed.

Challenger Gold Mine, South Australia

JORC Code 2012 Edition – 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 minimized 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 minimized 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 minimize 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. • Surface RC/RAB drilling is 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 Gold Operations (current), (HWE/Leigton's (2004-2013) or Gilbert's Drilling (2012-2011)) with their own equipment. Challenger Gold Operations and HWE/Leighton's utilizes 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. Gilbert's Drilling utilized 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. • Sludge drilling is undertaken using a Sandvik Solo DL31-7C drill rig with a 64mm 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 maximize returns. In the case of core loss, generally only fine material is lost through grinding. Unless a mineralized 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 maximize 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

Criteria	Commentary
	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 data and laboratory tests	• Assaying on site is completed using the PAL (pulverizing aggressive leach) process. This process effectively replicates the process in the site mill. Each sample is pulverized 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 pulverized sample. The pulverized 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 pulverizing 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 20.0g/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 May 2013, and >0.93 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

Criteria	Commentary
	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. 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 mineralized 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 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 utilize 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. • 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 referred to in the Challenger portion of the 2014-15 Annual Report was undertaken at the Challenger Gold Mine on EL 4468 'Jumbuck'. This Exploration Lease comprises 687 square kilometres within the Woomera Prohibited Zone, straddling the Mobella and Commonwealth Hill pastoral blocks. In addition, this exploration was undertaken within the current Challenger Mine Lease ML 6103.
Exploration done by other parties	• All exploration undertaken during the reporting period was undertaken by Challenger Gold Operations

Criteria	Commentary
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.*
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 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 mineralized areas of the Challenger and associated deposits to upgrade the resource.
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 infilling the generic Challenger West resource to extend the mine life and the continued drilling of Challenger SSW with a view to producing a resource in this area.

Table 1 - Challenger Exploration Drill hole information

Exploration Diamond Drill hole Details					Intercept Details					
Hole ID	Collar mN	Collar mE	Collar mRL	Hole Length	From (m)	To (m)	Interval (m)	Au (g/t)	Shoot	Midpoint (mRL)
15CUD1555	6,694,801.80	364,181.59	481.518	239.56	54.85m	55.90m	1.05m @	23.83g/t	Aminus	453mRL
15CUD1556	6,694,801.82	364,181.65	481.347	254.66	61.00m	62.70m	1.70m @	72.24g/t	Aminus	445mRL
15CUD1557	6,694,801.82	364,181.68	481.145	269.66	64.25m	65.00m	0.75m @	36.73g/t	Aminus	438mRL
15CUD1611	6,693,459.31	363,179.62	1114.8	300	209.00m	209.49m	0.49m @	42.88g/t	CSSW	1042mRL
15CUD1543	6,693,592.49	363,307.98	984.85	329.59	244.76m	245.39m	0.63m @	31.29g/t	CSSW	978mRL
15CUD1543	6,693,592.49	363,307.98	984.85	329.59	290.69m	291.13m	0.44m @	16.33g/t	CSSW	975mRL
15CUD1671	6,693,458.49	363,205.00	961.47	138.84	77.07m	77.50m	0.43m @	17.55g/t	CSSW	953mRL
15CUD1679	6,693,458.63	363,205.47	961.46	134.18	85.00m	86.00m	1.00m @	17.12g/t	CSSW	951mRL
15CUD1673	6,693,458.63	363,205.36	960.93	103.57	57.00m	58.00m	1.00m @	20.18g/t	CSSW	939mRL
15CUD1587	6,693,592.18	363,308.47	983.85	230.56	200.72m	201.06m	0.34m @	28.89g/t	CSSW	911mRL
15CUD1587	6,693,592.18	363,308.47	983.85	230.56	203.03m	205.06m	2.03m @	10.51g/t	CSSW	910mRL
15CUD1587	6,693,592.18	363,308.47	983.85	230.56	218.58m	218.88m	0.30m @	338.95g/t	CSSW	904mRL
15CUD1599	6,693,755.71	363,465.82	887.26	235.8	179.00m	180.00m	1.00m @	14.35g/t	CSSW	808mRL

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) works at the Challenger Mine Site.
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 nine 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 30mRL 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 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 (5.0g/t) are included in the resource. 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 to provide as representative and balanced an estimate as possible. • The resource is validated as an ongoing process by comparing the resource figures to production figures and the mill reconciliation. In

Criteria	Commentary

addition the figures are compared between iterations of the resource. 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', 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.
- 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

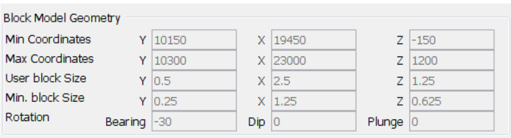
- For areas of the mine where there is little data but enough to show shoot location and/or continuity, or where the shoot has been adequately stoped in other areas of the mine, a generic tonnes and grade is determined for the shoot. This technique is used to create Indicated or Inferred resources. This has been used in the M1 Shadow Zone, M2 and Challenger West to populate the resource.
- 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 where the structure is linear and has good continuity, based on drilling. The shoots that have been block modelled in the resource 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).



Block Model Geometry

Min Coordinates	Y	10150	X	19450	Z	-150
Max Coordinates	Y	10300	X	23000	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	-30	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	100	57.5	-29	-87
Aminus 2	100	58	-30	-87
Aminus 3	100	58	-30	86
Aminus 4 (below 215 Shear)	100	61	-27	-81

- 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

Criteria	Commentary

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.

M3

- The M3 block model is split in two parts, the underground up to the 1075mRL lamprophyre and the surface block model (together with SEZ).
- The underground M3 block model is also in many ways similar to Challenger West as it sits in a similar geological domain, is narrow & HG and has a limited LG Au halo. Small blocks were enabled due to the narrow modelled lodes, otherwise too many holes appear.

Block Model Geometry

Min Coordinates	Y	10395	X	20150	Z	230
Max Coordinates	Y	11995	X	20230	Z	1080
User block Size	Y	2	X	0.5	Z	2
Min. block Size	Y	2	X	0.5	Z	2
Rotation	Bearing	58	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
HW	150	57	-27	-85
FW	150	57	-27	-85

- 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 underground voids were included in the materials attribute for exclusion ability when reporting.
- The surface M3 block model has the following geometry and differences

Block Model Geometry

Min Coordinates	Y	10100	X	19930	Z	1050
Max Coordinates	Y	10450	X	20350	Z	1250
User block Size	Y	2	X	2	Z	2.5
Min. block Size	Y	2	X	2	Z	2.5
Rotation	Bearing	0	Dip	0	Plunge	0

- Block sizes are larger than in the underground block model due to the plan to open pit this part of the resource. Sub blocking and 4x4x5 discretisation points were enabled and major/minor and major/semi-major anisotropy ratios were 4 and 1 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.
- Ellipsoid orientations used for ID for lode geometry are shown below.

Lode	Max Search Radius (m)	Bearing	Plunge	Dip
M3 Search 1	16	N 245 W	0	-75 NW
M3 Search 2	16	N 245 W	0	-75 NW
M3 Search 3	15	N 245 W	0	-75 NW

- 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.

SEZ

- The SEZ 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 were enabled due to the narrow modelled lodes, otherwise too many holes appear.

Block Model Geometry

Min Coordinates	Y	10100	X	19930	Z	1050
Max Coordinates	Y	10450	X	20350	Z	1250
User block Size	Y	2	X	2	Z	2.5
Min. block Size	Y	2	X	2	Z	2.5
Rotation	Bearing	0	Dip	0	Plunge	0

- Block sizes are larger than in the underground block model due to the plan to open pit this part of the resource. 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. 4x4x5 discretisation points was enabled as well as a minimum 0.75m drill hole samples in any down hole composite.

- Ellipsoid orientations used for ID for lode geometry are shown below.

Lode	Max Search Radius (m)	Bearing	Plunge	Dip
SEZ Search 1	16	N 25 W	0	-40 SE
SEZ Search 2	16	N 25 W	0	-40 SE
SEZ Search 3	15	N 25 W	0	-40 SE

Criteria	Commentary

- Major/minor and major/semi-major anisotropy ratios were 4 and 1 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.

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.

- 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 grade.
- The resource figures have a 5.0g/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 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 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 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:
    - Gneiss SG = 2.86
    - Lamprophyre SG = 2.92
    - Mafic SG = 2.91

Criteria	Commentary
	• Given that the fully reconciled tonnes for the mine to EOM June 2014 is 109.60% 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 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 in Indicated resource to Measured if there is no adjacent level. Indicated o May be developed/stoped on one level only. o Does not have sufficient information to fully inform structural complexity (i.e. 25m spaced diamond drilling that cannot provide sufficient granularity to show up m-scale parasitic folding), but shows lode presence. 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. Inferred o No development had been undertaken adjacent to the resource. o Sufficient information to determine the presence of a lode structure but not enough to determine continuity. • These classifications have been used by the competent person to classify the Challenger resource and reflect their view of the deposit based on nine years of experience with the deposit.
Audits or reviews	• The 2015 Challenger mineral resource estimates have been internally reviewed by Ronald James (General Manager Exploration and Resource Development). No changes have been required
Discussion of relative accuracy/ confidence	• The mineral resource has been calculated to the satisfaction of the competent person as being representative of the Challenger deposit, based on available data. The resource 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 (fully reconciled levels only), to EOM August 2015.

	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%	95%	105%
M2	1,438,536	5.18	239,797	1,468,532	4.85	227,642	102%	93%	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	60,249	3.93	7,604	75,809	3.21	7,812	126%	82%	103%
CW	450,032	6.64	96,046	574,058	5.69	105,005	128%	86%	109%
TOTAL	3,789,009	6.77	824,915	4,158,384	6.30	842,825	110%	93%	102%

- 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 are 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 block model is new and comprises considerable data due to recent development in the lower portion of the mine. The M3 and SEZ block models are new as a part of feasibility work for the M3/SEZ open pit. The block model of Challenger West is new and comprises CW OD2 and 3 below 510 Level. This area has had additional drilling done in the past financial year and 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 (see above).

Section 4 - Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The Challenger mineral resource used as a basis for the conversion to ore reserve estimate was analysed by Stephen Jeffers, the General Manager at Challenger, who has been a member of the AusIMM for over 20yrs. The resource data included diamond drill and sludge assay data, reconciled ore drive and stope data, stope reports for past, present and future stoping areas, stope void DTMs and historical dilution and metallurgical recovery data. This data was compared to the grade control estimates of the 2015 mineral resource to determine the validity of the resource for conversion to reserve. • The 2015 Challenger Mineral Resource is inclusive of the 2015 Ore Reserves.
Site visits	• Stephen Jeffers has been employed at the Challenger Mine Site for over 3 years and has a thorough knowledge of the Challenger ore bodies and the methods of data collection used, as well as the geotechnical and operational extraction considerations associated with the mining methods applicable to the sequence of extraction.
Study status	• The Challenger Gold Mine is a fully operational underground mining operation with a CIL and gravity processing plant on site. A full feasibility of each separate lode within the Challenger mineral resource was conducted. Each lode was assessed individually against the

Criteria	Commentary
	required production parameters, the related operation costs along with the applied modifying factors to determine the economic viability and justification for conversion to reserve.
Cut-off parameters	• The resource tonnes and grade of each level has been analysed individually using site and contractor fixed costs, the contracted schedule of rates against the level physicals, forecast metallurgical recovery and a set gold price based on corporate prediction and hedging commitments. The use of a generic geological resource model for CW and the partial completion of the M2 remnant stopes have required each level to be evaluated individually. The resource used for the reserve estimation has a 5.0g/t lower cut-off applied for underground workings.
Mining factors or assumptions	• The Challenger geological resource models were used to create detailed life of mine designs for the extraction of each resource lode. The design was based around an uphole retreat, top down stoping sequence as used currently at Challenger Gold mine. • The narrow vein Challenger lodes have been designed around a minimum mining width of 1.5m. Based on historical mining at Challenger an external dilution of 50% has been applied in the calculation of all reserves, unless the development has been completed and a full stope analysis has been produced with variations to this has been determined through increased geotechnical input. A specific stope extraction factor has also been applied to each individual level for the reserves estimation. The extraction factor takes into account the material left behind due to the plunge of the orebody and geotechnical stability requirements and does not exceed 90%, unless it is a remnant stope that has already been designed for extraction. • No Inferred mineral resources have been included in the 2015 Ore Reserve estimation.
Metallurgical factors or assumptions	• The existing Challenger CIL and gravity processing facility will be utilised to extract the gold from the 2015 Ore Reserve ore. A 95% recovery has been applied to the ore reserve estimation based on the historical data of the processing plant.
Environmental	• Waste rock is Non Acid Forming • Existing IWL is permitted and has sufficient capacity to store the planned waste generated by the mine plan. • TSF 2 has sufficient capacity for the mine plan and all required approvals are in place.
Infrastructure	• Based on the current production schedule for the Challenger operations, no further changes are required to site infrastructure.
Costs	• Projected capital costs are based on historical actuals and assessment of the required activities to support the mine plan by on site management. • Operating costs were based on budgeted fixed costs and variable costs based on the current mining contractor rates and LOM Physicals. • $3.50/oz Transport, treatment and refining costs were based on historical actuals. • Royalties of AUD$52.40/oz of gold produced were used in the reserve calculation.
Revenue factors	• The gold price for the 2015 ore reserve estimation of AUD$1,550/oz was been based on Corporate predictions of gold price trends and Challenger's current gold hedge commitments. • A silver credit of $AUD $2.10/oz of gold produced was based on historical production.
Market assessment	• The assumed gold price of AUD$1,550/oz for the 2015 ore reserve estimation has been based on Corporate gold price predictions and Challenger's current gold hedge commitments. • The partially hedged gold commitment of 20,000 oz at AUD$1,550 has limited the impact of any adverse trends in the market conditions, increasing the confidence in the 2015 ore reserve estimate. Adding to the confidence in the reserve estimate is the sustainability of the 2015 Reserve estimate to a low gold price of AUD$1,414. • The gold market and the available hedge price verses spot price will be continually reviewed under Corporate strategies to continually achieve the most economical outcome for Challenger.
Economic	• The preliminary analysis of the reserves was based on cash flow generated by a variety of possible gold prices. The use of the AUD$1,550/oz was determined by Corporate assumptions derived from past and current gold price conditions, future market predictions and the current Challenger gold hedge commitments, that maintain the economic viability of Challenger.
Social	• A Native Title Agreement is in place with the AMYAC since 2002. • Pastoral agreement which cover road access with Jumbuck Pastoral • WPA deed of access for operation within the WPA is in place with the Department of Defence.
Other	• There are no identified naturally occurring risks that are likely to impact on the Challenger Operation. • Mining leases for the Challenger Operation are approved by the State Government.
Classification	• The classification of the 2015 ore reserve has been carried out in accordance with the recommendations of the JORC code 2012. • The reserve results reflect the Competent Person's view of the deposit.
Audits or reviews	• The reserve estimate has been reviewed internally by Marcus Doyle (Mining Manager) and Luke Phelps (Long Term Planning Engineer) of Challenger Gold Mine.
Discussion of relative accuracy/ confidence	• The 2015 ore resource was analysed on a level by level basis to derive the 2015 ore reserve estimates. The historical and budgeted site fixed costs and operational contractor rates generate a high level of confidence in the costs applied to the estimated reserve. The partially hedged gold commitment of 20,000 oz at AUD$1,550 has limited the impact of any adverse trends in the market conditions, increasing the confidence in the 2015 ore reserve estimate. Adding to the confidence in the reserve estimate is the sustainability of the 2015 Reserve estimate to a low gold price of AUD$1,414. • The key modifying factors of 40% dilution, specific level extraction factor not greater than 90% for anything other than designed remnant material and 95% milling recovery are consistence with historical performance of the areas and lodes contained in the reserve.