

Butcher Well Project



Butcher Well, a JV between AngloGold Ashanti (70%) and Saracen Mineral Holdings Limited (30%), is located 20km west of the Sunrise Dam Mine and is considered as a potential satellite operation to it. A SAMREC Table 1 has been provided with the maiden declaration of the Butcher Well Mineral Resource by AngloGold Ashanti, in 2020.

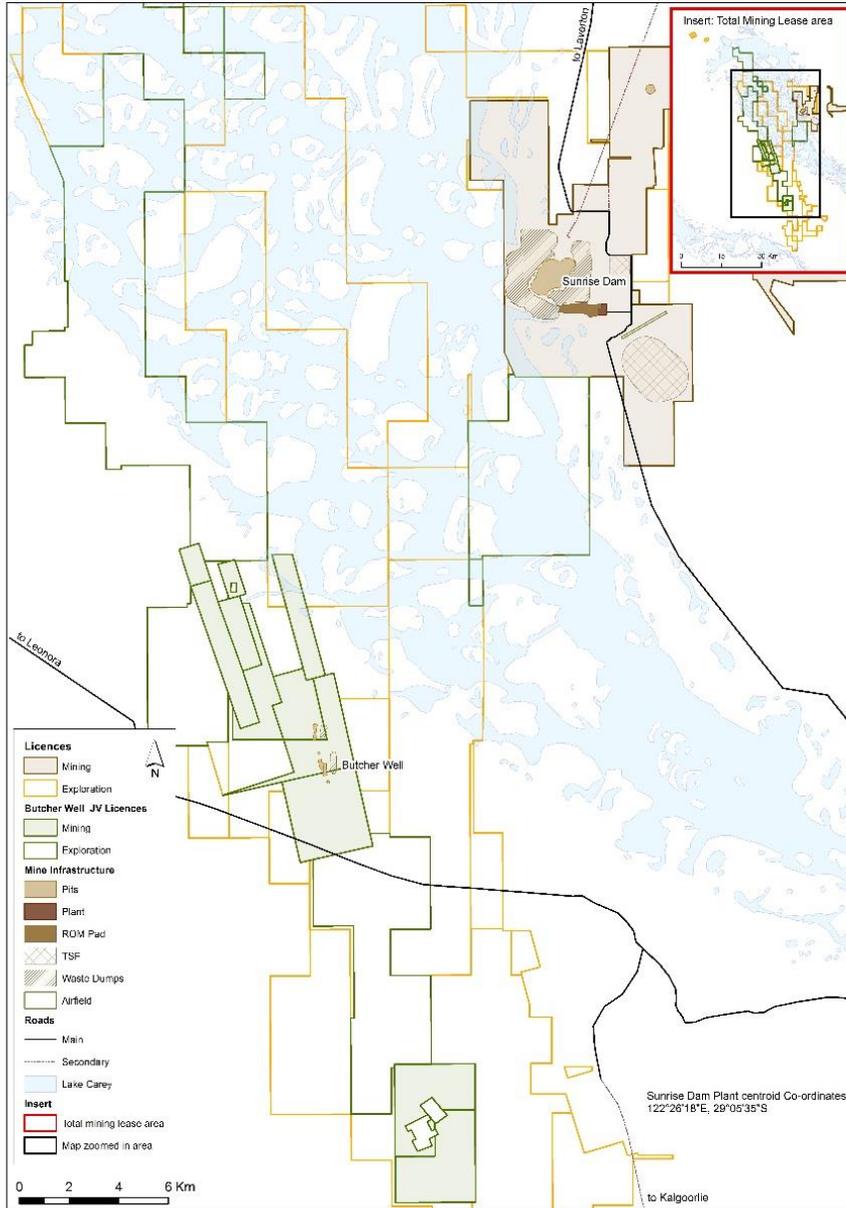
SAMREC Code, 2016 Edition – Table 1

SAMREC TABLE 1			
	Exploration Results	Mineral Resources	Mineral Reserves
Section 1: Project Outline			
1.1	Property Description	<p>(i) Brief description of the scope of project (i.e. whether in preliminary sampling, advanced exploration, scoping, pre-feasibility, or feasibility phase, Life of Mine plan for an ongoing mining operation or closure).</p> <p>The Butcher Well project is at scoping study level, with the study to define the economic potential of the gold mineralisation. The project is located 20km west of the Sunrise Dam Mine and is considered as a potential satellite operation to Sunrise Dam.</p> <p>(ii) Describe (noting any conditions that may affect possible prospecting/mining activities) topography, elevation, drainage, fauna and flora and vegetation, the means and ease of access to the property, the proximity of the property to a population centre, and the nature of transport, the climate, known associated climatic risks and the length of the operating season and to the extent relevant to the mineral project, the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites.</p> <p>The project is located close to Lake Carey and includes several historical open pits that are currently flooded. Much of the area around the old open pits is disturbed ground. The topography is flat and sits approximately 400m above mean sea level. The climate is arid with average annual rainfall of 230mm and temperatures ranging from 0°C in winter to 48°C in summer.</p> <p>(iii) Specify the details of the personal inspection on the property by each CP or, if applicable, the reason why a personal inspection has not been completed.</p> <p>The Competent Person, Mark Kent, visited the site in December 2020.</p>	
1.2	Location	<p>(i) Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.).</p> <p>The Butcher Well Project is located in the Laverton district of Western Australia, 20km southwest of AngloGold Ashanti's (AGA) Sunrise Dam Gold Mine (SDGM) and 180km northeast of Kalgoorlie (Figure 1). The Sunrise Dam airstrip is approximately 70km by road from the project, with a travel time of approximately 90 minutes, on the current road going around the southern part of Lake Carey. Lake Carey is a large salt lake that covers a part of the western project area, Sunrise Dam lies to the east of the lake and the Butcher Well project on the western shore.</p> <p>(ii) Country Profile: describe information pertaining to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context etc. Assess, at a high level, relevant technical, environmental, social, economic, political and other key risks.</p> <p>Butcher Well is located within Western Australia, a stable mining jurisdiction.</p>	

Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.

Figure 1: Map of Butcher Well infrastructure and licences showing proximity to Sunrise Dam operation with the total mining lease area shown in the top right corner.

(iii)



	Exploration Results	Mineral Resources	Mineral Reserves
1.3	Adjacent Properties	(i) Discuss details of relevant adjacent properties. If adjacent or nearby properties have an important bearing on the report, then their location and common mineralized structures should be included on the maps. Reference all information used from other sources. The project is located in the Laverton Greenstone Belt and hosts orogenic style gold mineralisation within a basalt and spatially associated with syenite dykes. At the time of the earn-in by AGA, it had a reported resource of 270,000oz gold at 1.7 g/t Au at shallow depth. However, the fresh material is refractory. AGA's exploration drilling in 2017 delineated deeper ore zones in the Enigmatic and Camp zones and a new shallow mineralised corridor at Mt. Minnie, 4 km to the north.	
1.4	History	(i) State historical background to the project and adjacent areas concerned, including known results of previous exploration and mining activities (type, amount, quantity and development work), previous ownership and changes thereto. The Butcher Well deposits were discovered in the late 1980s by Billiton Australia Gold Ltd, with the original mining leases pegged in 1988. Exploration over the deposits and surrounding area continued into the early 1990s. A mining proposal was submitted in 1993 and a Mineral Resource declared of 255,335 oz gold at 2.9g/t across the Butcher Well, Crimson Belle and Thin Lizzy deposits. In 1994, with the project under a joint venture between Sons of Gwalia Ltd and Mount Burgess Gold Mining Company N.L., a study was undertaken by Sons of Gwalia to examine the feasibility of mining and 43koz gold was produced from the Butcher Well, Enigmatic and Hronsky pits. Following the collapse of Sons of Gwalia in 2004, St Barbara Mines acquired all their holdings and sold on the South Laverton assets, including Butcher Well, to Saracen Mineral Holdings in 2006. Saracen continued exploration at Butcher Well, leading to several Mineral Resource and Mineral Reserve updates. In 2012, limited open pit mining was completed at Butcher Well with approximately 12koz gold produced from the Sizzler and Old Camp pits. (ii) Present details of previous successes or failures with reasons why the project may now be considered potentially economic. Portions of the oxide mineralisation were mined in the 1990's, with deeper, fresh material being highly refractory, and not suitable to the milling circuit of the operation. Saracen mined two small oxide pits in 2012. (iii) Present details of previous successes or failures with reasons why the project may now be considered potentially economic. In 1994, with the project under a joint venture between Sons of Gwalia Ltd and Mount Burgess Gold Mining Company N.L., a study was undertaken by Sons of Gwalia to examine the feasibility of mining and 43koz gold was produced from the Butcher Well, Enigmatic and Hronsky pits. In 2012 limited open pit mining was completed at Butcher Well with approximately 12koz gold produced from the Sizzler and Old Camp pits.	
		(iv) Discuss known or existing historical Mineral Reserve estimates and performance statistics on actual production for past and current operations. Not applicable.	
1.5	Legal Aspects and Permitting	Confirm the legal tenure to the satisfaction of the Competent Person, including a description of the following:	
	(i)	Discuss the nature of the issuer's rights (e.g. prospecting and/or mining) and the right to use the surface of the properties to which these rights relate. Disclose the date of expiry and other relevant details. The Butcher Well gold project tenements M39/165, M39/166 and M39/230 are pre-1994 granted mining leases that host a group of gold deposits, including Old Camp, Enigmatic, Hronsky, Enigmatic North, Sizzler, Butcher Well North, Marchaleyo and Jerico.	
	(ii)	Present the principal terms and conditions of all existing agreements, and details of those still to be obtained, (such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorisations). The farm-in agreement between Saracen and AGA was signed in October 2016, condition precedents met in December 2016 and drilling by AGA commenced in February 2017. AGA has met the spending requirements to earn a total 70% interest in the project.	

	Exploration Results	Mineral Resources	Mineral Reserves
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		<p>Present the security of the tenure held at the time of reporting or that is reasonably expected to be granted in the future along with any known impediments to obtaining the right to operate in the area. State details of applications that have been made.</p> <p>The Butcher Well Mineral Resources are located on M39/165, M39/166 and M39/230. These tenements are held 100% by Saracen Gold Mines Pty Ltd, a wholly owned subsidiary of Saracen Mineral Holdings Limited.</p> <p>Saracen entered a farm-in agreement with AngloGold Ashanti during 2016 that covers these tenements. Mining Leases M39/165 and M39/166 have a 21 year life and are held until 2030. Mining Lease M39/230 has a 21 year life and is held until 2032. All are renewable for a further 21 years on a continuing basis. Mining Leases M39/165, M39/166 and M39/230 are each subject to two royalty agreements. All production is subject to a Western Australian state government NSR royalty of 2.5%.</p>
		<p>Provide a statement of any legal proceedings for example; land claims, that may have an influence on the rights to prospect or mine for minerals, or an appropriate negative statement.</p> <p>There are no registered Aboriginal Heritage sites within any of the tenements.</p>
		<p>Provide a statement relating to governmental/statutory requirements and permits as may be required, have been applied for, approved or can be reasonably be expected to be obtained.</p> <p>An annual Environmental Report (AER) is submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) of Western Australia. An approved (by the Regulator DMIRS) Mine Closure Plan for Red October and Butchers Well exists, which includes: Comprehensive legal register; A summary of mine closure costing methodology (no actual figures) and; Zero contaminated sites</p> <p>An update to the Mine Closure Plan (MCP) is due at the end of December 2020.</p>
1.6	Royalties	<p>Describe the royalties that are payable in respect of each property.</p> <p>(i) All production is subject to a Western Australian state government NSR royalty of 2.5%. M39/165 and M39/166: Royalties held by International Royalty Corporation (IRC, 1.5%) and Franco Nevada (2% on 50% share in excess of 50,000 Oz). M39/230: Royalties held by IRC (1.5%) and Franco Nevada (2% on 50% share).</p>
1.7	Liabilities	<p>Describe any liabilities, including rehabilitation guarantees that are pertinent to the project. Provide a description of the rehabilitation liability, including, but not limited to, legislative requirements, assumptions and limitations.</p> <p>AngloGold Ashanti Australia (AGAA) has not done a closure cost liability estimate as the company has not yet developed anything. Because of this AGAA is currently using Saracen's previously estimated closure costs which are as follows: Published provision for rehabilitation (Saracens Annual Report 2015) - \$12.3M (includes Carosue Dam) Department of Mines and Petroleum (DMP) rehabilitation liability estimate based on areas of disturbance only: Red October - \$6.7M Butcher Well & Other - \$1.4M Total liability = \$8.1M</p> <p>Mining Rehabilitation Fund (MRF) contribution of total - \$81K annually.</p>

Section 2: Geological Setting, Deposit, Mineralisation

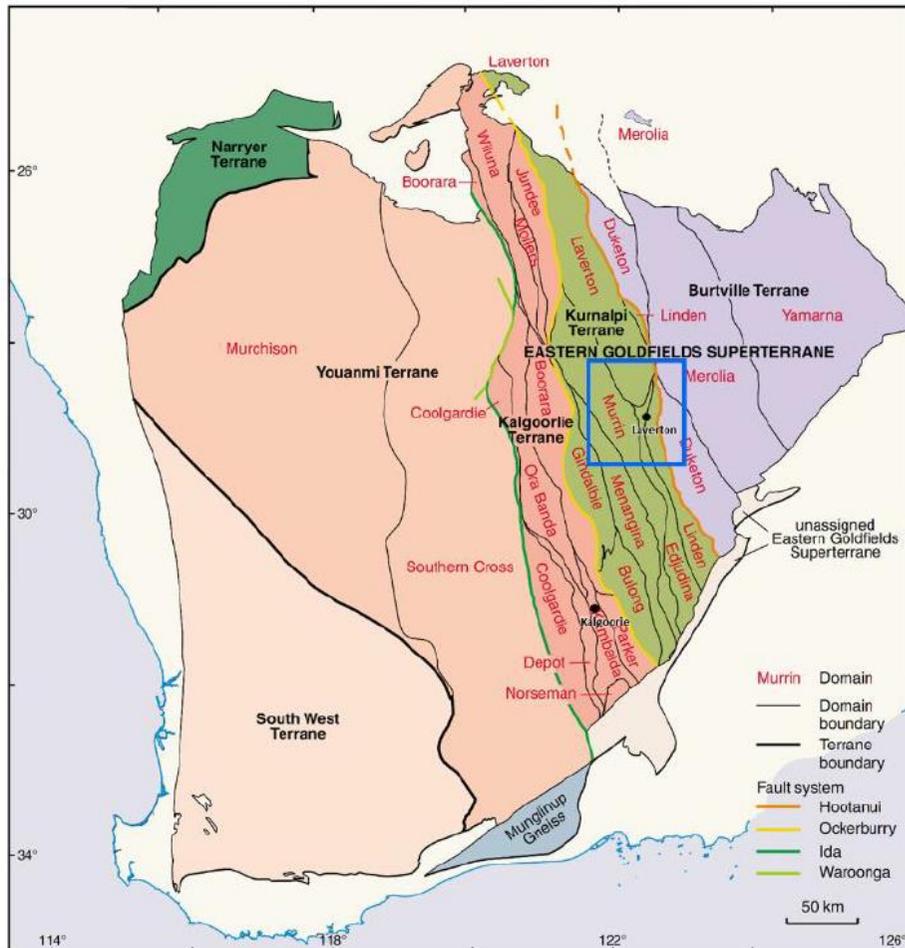
2.1 Geological Setting, Deposit, Mineralisation

Describe the regional geology.

The Butcher Well project is situated in the Laverton district, within the eastern part of the Kurnalpi Tectonic Terrane, a subdivision of the Eastern Goldfields Superterrane of the Archean Yilgarn Craton, Western Australia (Figure 2). The Kurnalpi Terrane is the second most gold-endowed Terrane in the Yilgarn (following the Kalgoorlie Terrane), and hosts the Sunrise Dam (9Moz), Wallaby (7Moz) and several more significant gold deposits within 50 km of Butcher Well. All are orogenic-style deposits hosted within amalgamated greenstone belts between granite plutons. A major structure within the western margin of the Laverton district is the easterly-dipping Celia Fault. The major gold deposits are located off steeper secondary structures within its hangingwall. Butcher Well and Mt. Minnie are located between two major north-northeast trending faults. The area between the two Celia faults is characterised by broad-scale north-northwest trending isoclinal folds and shears, collectively named the Mt. Hornet Shear Zone, in sub-vertically dipping intermediate to mafic volcanic and volcanoclastic rocks, epiclastic sedimentary rocks and chert or BIF.

Figure 2: Terrane map of the Yilgarn Craton (after Cassidy *et al.* 2006), and location of the Laverton district (blue box).

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	(ii)	Describe the project geology including deposit type, geological setting and style of mineralisation. Butcher Well appears to be on the sub-vertical eastern limb of an isoclinal fold, possibly an anticline, with mafic volcanic rocks forming its core (approximately of 2.5km wide), flanked by clastic sedimentary rocks.
	(iii)	Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration programme is planned. Describe the inferences made from this model. Gold is associated principally with finely-disseminated pyrite and arsenopyrite within the host rock, concentrated within narrow planar zones, rather than in large auriferous quartz veins as is more common in orogenic gold deposits. Fresh-rock mineralisation is associated with host-rock brecciation, dense micro-veining, and intense sulphidic alteration with classic lower-greenschist alteration mineralogy: quartz-albite-ankerite-pyrite-arsenopyrite. The mineralised zones often do not host obvious measurable structures such as vein sets or foliation. Further details on alteration are in the Alteration section below. Leapfrog Geo was also used to model the mineralisation. The Vein System tool was used to model the fresh-rock mineralisation, and the oxide zones were modelled using the intrusion spheroidal interpolant with a horizontal bias. References to geometries of the respective zones hereon are based on the geological model.
	(iv)	Discuss data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the Exploration Target or Mineralisation. The drill density varies across the deposit with closed-spaced historical grade control drilling covering the mined open pits (~10 x 10m). The underground Mineral Resource area is drilled at spacings ranging from 50 x 50m to 100 x 100m.
	(v)	Discuss the significant minerals present in the deposit, their frequency, size and other characteristics. Includes minor and gangue minerals where these will have an effect on the processing steps. Indicate the variability of each important mineral within the deposit. The Butcher Well ore is dominantly hard-rock sulphide with mineralisation that is generally refractory, associated with abundant pyrite and arsenopyrite.
	(vi)	Describe the significant mineralised zones encountered on the property, including a summary of the surrounding rock types, relevant geological controls, and the length, width, depth, and continuity of the mineralisation, together with a description of the type, character, and distribution of the mineralisation. Gold mineralisation within fresh rock principally occurs within steeply dipping northerly-trending panels, occurring in three main domains: Butcher Well in the north; Hronky-Engimatic centrally, and Old Camp in the south. Supergene gold dispersion and enrichment broadens the mineralised envelope within the saprolite as oxide mineralisation, which has largely been exploited in the historical open pits. Gold is associated principally with finely-disseminated pyrite and arsenopyrite within the host rock, concentrated within narrow planar zones, rather than in large auriferous quartz veins as is more common in orogenic gold deposits. Fresh-rock mineralisation is associated with host-rock brecciation, dense micro-veining, and intense sulphidic alteration with classic lower-greenschist alteration mineralogy: quartz-albite-ankerite-pyrite-arsenopyrite. The mineralised zones often do not host obvious measurable structures such as vein sets or foliation. Further details on alteration are in the alteration section below.
	(vii)	Confirm that reliable geological models and / or maps and cross sections that support interpretations exist. A geological model has been constructed in Leapfrog Geo based on a combination of the geochemistry and logged geology. The Leapfrog Geo drill hole correlation tool was used to assign lithological units based on similar Y/Th ranges, Cr ranges and whether identified as coherent or volcanoclastic rocks. Syenites and lamprophyres were ignored at this stage so that lithologies could be modelled pre-intrusion. The Leapfrog Geo geological modelling workflow was then used to construct geological volumes. Syenites were modelled separately using logged lithology, and then added to the model. Few faults have been applied at this stage to limit the model's complexity, although the distribution of the geological units clearly invokes faults at several locations.

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Section 3: Exploration and Drilling, Sampling Techniques and Data

3.1	Exploration		Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e. geological observations, remote sensing results, stratigraphy, lithology, structure, alteration, mineralisation, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples etc.). Confirm that data sets include all relevant metadata, such as unique sample number, sample mass, collection date, spatial location etc.
		(i)	<p>The Project area contains a mix of recent and historical drilling. AGA has completed diamond and reverse circulation drilling over the areas reported as a Mineral Resource. All drilling was from surface, commencing with a reverse circulation (RC) pre-collar of 140mm or 143mm diameter, or HQ triple-tube to fresh rock (between 30-100m), and thereon by NQ or HQ size diamond tails. RC samples using a face-sampling hammer were collected via a cyclone, dust-suppression system and cone splitter. All drill core was oriented at each run using the Ace Core Tool, and core reassembled and marked with a bottom-of-hole orientation line. Sampling methods undertaken by Saracen in the Butcher Well project area have included RC and RC grade control drilling within two shallow pits. Historic methods conducted since 1988 have included aircore (AC), rotary air blast (RAB), RC and diamond drill holes (DD). RAB and AC drilling was excluded from the Mineral Resource estimate database.</p>
		(ii)	<p>Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and verification of these data or the database. This should describe the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup processes. It is assumed that data are stored digitally but hand-printed tables with well-organized data and information may also constitute a database.</p> <p>Communications to site are maintained via a Satellite link. The receiver dish is located at the Butcher Well camp and onward connectivity to the core yard is via a P2P link. This supports a local WiFi network at both the core yard and camp (Figure 36). Drilling logging data was collected with Geobank Mobile utilising synchronised profiles which are hosted on a local server on site running SQL Express and Reporting Services. Drill PLODs and Sample Dispatch Order (SDO) data is collected via the Daily Drilling Management System (DDMS) system hosted on the local server. The site based data is backed up daily and forwarded to Perth to be loaded into the Australian Exploration Database. Core Tray photos are captured via a WiFi enabled camera and all photos saved directly to the local server. This data is transferred to Perth via external hard drive as the volume of data is too great to transfer via the Satellite link. All assay data is received directly from the laboratories in Perth and loaded directly into the Australia Exploration Database. Summary assay results are distributed via an email distribution group to select individuals from the Australian Exploration Group. The summary emails also include the original laboratory file. All original assay files from the laboratory are also maintained on a separate file server for additional auditing purposes.</p>
		(iii)	<p>Acknowledge and appraise data from other parties and reference all data and information used from other sources.</p> <p>Historical drilling was completed by Sons of Gwalia, with more recent drilling by Saracen. AGA has followed up Open Pit targets since 2018 and drilled out the Camp Zone discovery.</p>
		(iv)	<p>Clearly distinguish between data / information from the property under discussion and that derived from surrounding properties.</p> <p>All data used is from within the property.</p>
		(v)	<p>Describe the survey methods, techniques and expected accuracies of data. Specify the grid system used.</p> <p>The grid system used is MGA (GDA94) Zone 51. Drill holes collars were pegged and their final locations recorded using Trimble RTK Differential GPS to an accuracy of <1m.</p>
		(vi)	<p>Discuss whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the estimation procedure(s) and classifications applied.</p> <p>The drill hole spacing is sufficient to define an Inferred Mineral Resource, as geological continuity of the mineralised zones can be established. Historical drilling in the Open Pits is consistent with the follow-up drilling completed by AGAA.</p>

Present representative models and / or maps and cross sections or other two or three dimensional illustrations of results, showing location of samples, accurate drill hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc

Figure 3: Schematic geological long-section of Butcher Well (looking east)

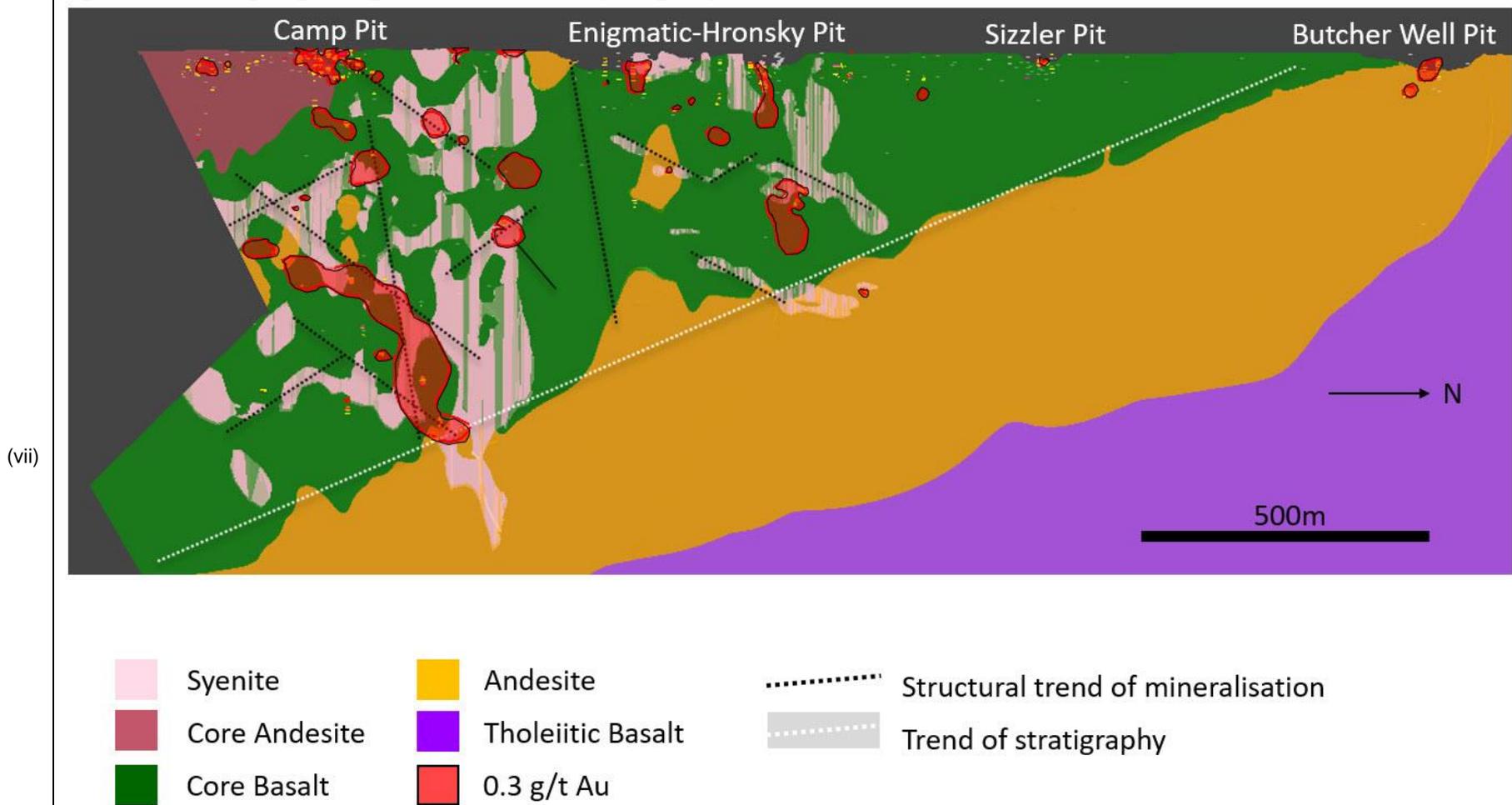
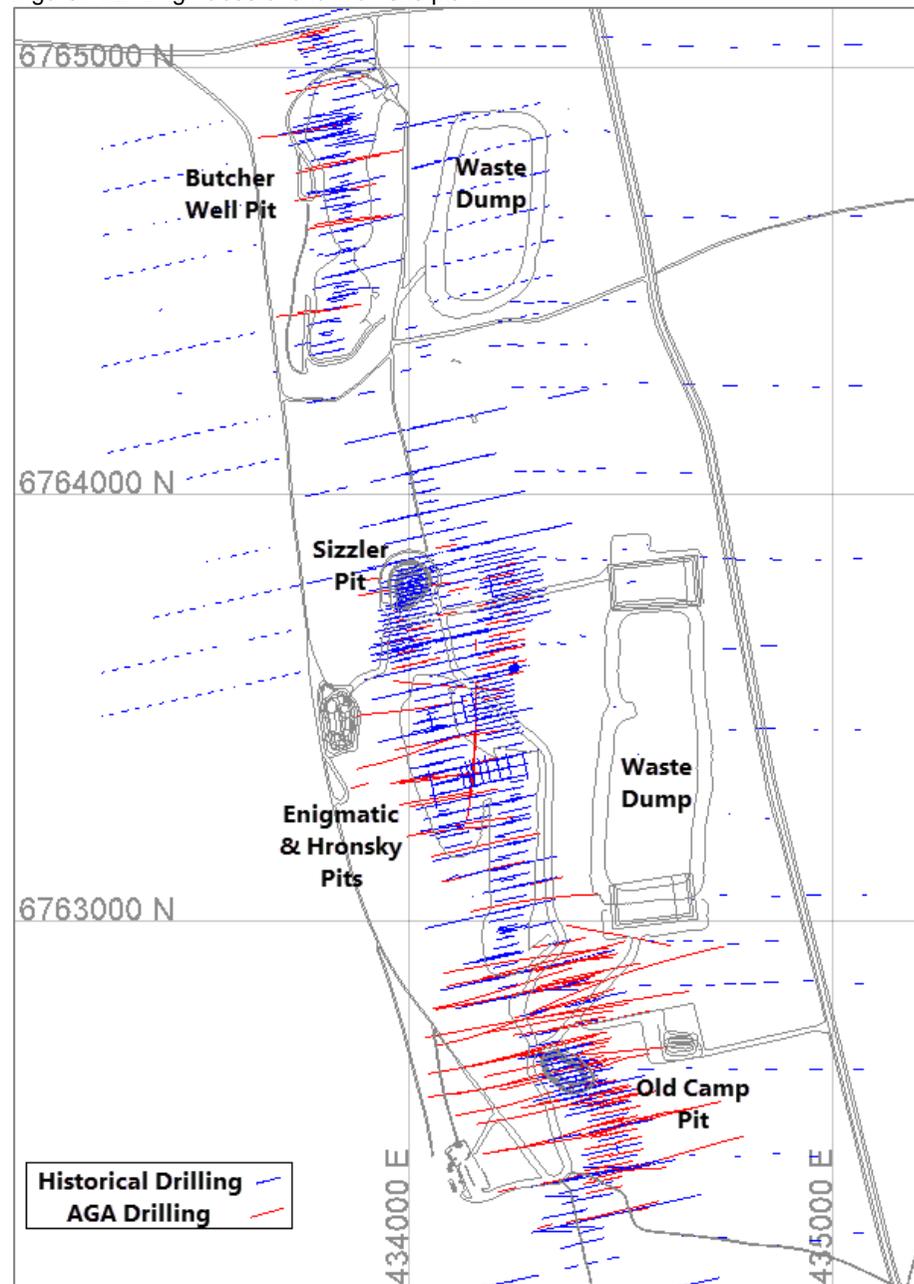


Figure 4: Drilling traces overlain on site plan:



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		(viii)	Report the relationships between mineralisation widths and intercept lengths are particularly important, the geometry of the mineralisation with respect to the drill hole angle. If it is not known and only the down-hole lengths are reported, confirm it with a clear statement to this effect (e.g. 'down-hole length, true width not known'). All intercepts are down-hole length, and true width is not calculated. See 3 (iv) for more information on drill hole angle and mineralisation.
3.2	Drilling Techniques	(i)	Present the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc)Present the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). All drilling was from surface, commencing with an RC pre-collar of 140mm or 143mm diameter, or HQ triple-tube to fresh rock (between 30-100m), and thereon by NQ or HQ size diamond tails. Holes were collared at an angle of between 55-67° at an orientation considered best to intersect mineralisation as close to perpendicular as possible. RC samples using a face-sampling hammer were collected via a cyclone, dust-suppression system and cone splitter. The cone splitter was levelled before commencement of each hole. NQ and HQ core was drilled in 6m runs and placed in plastic core trays for processing and sub-sampling. All drill core was oriented at each run using the Ace Core Tool, and core reassembled and marked with a bottom-of-hole orientation line. A cut-line was then added 60° to the left hand side of the orientation line.
		(ii)	Describe whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, technical studies, mining studies and metallurgical studies. DD core and RC were logged as described in 3.2 (ii). Particular attention was paid to suspected mineralised zones, with a logging resolution of 1m or less. The logging detail is comprehensive and sufficient for future Mineral Resource estimation, technical studies, mining studies and metallurgical studies.
		(iii)	Describe whether logging is qualitative or quantitative in nature; indicate if core photography. (or costean, channel, etc) was undertaken. All drill holes were logged in entirety. Logging was completed on the total length of all holes using Geobank Mobile logging digital data entry software and the AGAA logging system. Qualitative logging data recorded for all RC chips and DD comprised lithology, regolith, alteration, veining type and percentage, shear percentage and colour. Quantitative logging included specific gravity on core only at ~ 1 reading per 5m, and magnetic susceptibility every 1m on RC and DD samples. Additionally, all drill core underwent geotechnical (RQD, rock strength and defect characterisation) and structural logging, specific gravity determination, and was photographed with the orientation line and cut line on top. RC chips were also photographed. All logging data is stored on a central database (SQL Server, Datashed).
		(iv)	Present the total length and percentage of the relevant intersections logged. All drill holes were logged in entirety, (45,619m).
		(v)	Results of any down-hole surveys of the drill hole to be discussed. Down-hole surveys were carried out on all holes to provide drill hole location in 3D space. A number of different techniques were used. The first round of drilling in 2017 employed in-rod magnetic camera shots during drilling. These holes were later resurveyed later using an open-hole gyroscope tool. Subsequent drill holes were surveyed in-rod using the Deviflex survey tool.
3.3	Sample method, collection, capture and storage	(i)	Describe the nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Drill hole samples were taken every 1m along drill holes as standard, with selected sub-metre niche samples on drill core taken on geologists' observations.
		(ii)	Describe the nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Both RC and DD holes were sampled in entirety at a minimum interval of 1m, considered an appropriate resolution for future Mineral Resource estimation of orogenic gold deposits.

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			<p>During RC drilling a lab sample and archive sample, each weighing about 3kg, were taken at each 1m interval using a cone splitter. Most samples were dry, with RC drilling stopped if samples became inundated with groundwater.</p> <p>Lab samples were dispatched for analysis. Archive samples were stored onsite for future reference and check work or selected as field duplicates within expected mineralised zones (approximately one duplicate per 5m) and submitted for analysis.</p> <p>HQ drill core was cut in half using an automated saw along the cut line. The half with the orientation line was retained in the core tray for check work or further analysis (by quarter core), whereas the other half was divided into 1m samples, or narrower niche samples based on e.g. lithology or mineralisation. Crushed duplicates of intervals selected by geologists within expected mineralised zones (approximately 1 duplicate per 5m) were prepared at the lab.</p> <p>Unmarked blanks (unmineralised basalt) were inserted at the beginning of RC pre-collars and DD tails, and also in selected mineralised intervals. Certified gold standards were inserted at rate of approximately one in 25 samples before dispatch for assay.</p> <p>All lab samples, blanks and standards were placed into pre-numbered calico bags. Sample numbers and additional metadata were digitally captured in the logging platform.</p> <p>(iii) Appropriately describe each data set (e.g. geology, grade, density, quality, diamond breakage, geo-metallurgical characteristics etc.), sample type, sample-size selection and collection methods.</p> <p>Diamond drill holes principally had RC pre-collars drilled to the top of fresh rock (between 60-100m) and fresh rock was drilled at either HQ (24 holes) or NQ2 (22 holes) diameter. Core was orientated using the Ace Core Tool and placed into plastic trays, and metre-marked. Density determination via specific gravity of dry vs wet weight was carried out on one >500g dry weight sample per tray.</p> <p>Following geological logging and photographing, drill core was cut in half using an automated core saw. The half with the orientation line was retained in the core tray for check work or further analysis (by quarter core), whereas the other half was divided into 1m samples, or narrower niche samples based on geological observations. Crushed duplicates of intervals selected by geologists within expected mineralised zones (approximately 1 duplicate per 5 m) were prepared at the lab.</p> <p>Diamond core recovery, including core-loss, was measured and recorded across core runs during the core mark-up process. Core was reassembled for mark-up and was measured with metre marks and down-hole depths placed on the core. Depths were checked against drillers core blocks and any discrepancies corrected after discussion with the drillers. Diamond recovery was generally very good.</p> <p>RC drilling used a face-sampling hammer and holes were sampled at 1m intervals collected via a cyclone and cone splitter into a lab sample and an archive sample, each weighing about 3kg. A sub-sample from the archive sample was taken for geological logging, with sieved drill cuttings stored in plastic chip trays. Archive samples were stored onsite for future reference and check work, or selected as field duplicates within expected mineralised zones (approximately one duplicate per 5m) and submitted for analysis.</p> <p>(iv) Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</p> <p>Mineralisation strikes north-south, and mainly dips steeply towards the west. Hence, all drill holes intersect mineralisation obliquely, The majority of the drill holes are drilled at an easterly orientation of ~77° and at angles between 65-55° from horizontal and lifting with increased depth, as such within the Old Camp Zone such holes intersect mineralisation at an angle of ~65°. A number of reverse-angle holes drilled westerly towards 257° have highly-oblique to sub-parallel intersections of mineralisation.</p> <p>(v) Describe retention policy and storage of physical samples (e.g. core, sample reject, etc.).</p> <p>All half drill core is stored in plastic core trays on site and is available for viewing or additional check work e.g. by quarter core if required. RC chip trays are stored in sea-containers onsite.</p>

		Exploration Results	Mineral Resources	Mineral Reserves
		(vi)	Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. RC sample recovery was quantified on 1m interval every 25m by recording the weights of lab sample, archive sample and reject. These weights were combined and then compared to a theoretical recovery of the interval based on the regolith and rock type of the interval being assessed. RC recovery was generally good. Diamond core recovery including core-loss was measured and recorded across core runs during the core mark-up process. Core was reassembled for mark-up and was measured, with metre marks and down-hole depths placed on the core. Depths were checked against drillers core blocks and any discrepancies corrected after discussion with the drillers. Diamond recovery was generally very good. <u>No obvious relationship between recovery and grade, nor any indications of sample bias owing to misrepresentation of drilled material has been established.</u>	
		(vii)	If a drill-core sample is taken, state whether it was split or sawn and whether quarter, half or full core was submitted for analysis. If a non-core sample, state whether the sample was riffled, tube sampled, rotary split etc. and whether it was sampled wet or dry. Both RC and DD holes were sampled in entirety at a minimum interval of 1m, considered an appropriate resolution for future Mineral Resource estimation of orogenic gold deposits. During RC drilling a lab sample and archive sample, each weighing about 3kg, were taken at each 1m interval using a cone splitter. Most samples were dry, with RC drilling stopped if samples became inundated with groundwater. Lab samples were dispatched for analysis. DD core was cut in half using an automated saw along the cut line. The half with the orientation line was retained in the core tray for check work or further analysis (by quarter core), whereas the other half was divided into 1m samples, or narrower niche samples based on e.g. lithology or mineralisation. Crushed duplicates of intervals selected by geologists within expected mineralised zones (approximately 1 duplicate per 5m) were prepared at the lab. Unmarked blanks (unmineralised basalt) were inserted at the beginning of RC pre-collars and DD tails, and also in selected mineralised intervals. Certified gold standards were inserted at rate of approximately one in 25 samples before dispatch for assay. All lab samples, blanks and standards were placed into pre-numbered calico bags. Sample numbers and additional metadata were digitally captured in the logging platform.	
3.4	Sample Preparation and Analysis	(i)	Identify the laboratory(s) and state the accreditation status and Registration Number of the laboratory or provide a statement that the laboratories are not accredited. The assay laboratory used is Intertek-Genalysis, Perth.	
		(ii)	Identify the analytical method. Discuss the nature, quality and appropriateness of the assaying and laboratory processes and procedures used and whether the technique is considered partial or total. See 3.4 (iii) for sample preparation. Pulverised (pulp) samples underwent near-infrared spectroscopy using the TerraSpec 4 Hi Res instrument. From 2018 large interval pulps from contiguous samples identified by the geologists as unmineralised were composited into 4m samples for analysis. Following review of the assays, composite samples above a threshold of 0.3ppm Au for surface resource targets, or 0.5ppm Au for underground Mineral Resource targets were reassayed at 1m intervals. Gold, platinum and palladium were analysed by 25g lead-collection fire assay with ICP-MS finish (Intertek-Genalysis method FA25/MS). Fire assay is considered a total extraction method for gold as industry standard. A suite of 46 additional elements, including gold-pathfinder elements, was determined via 50g-charge four-acid digest with ICP-MS detection for the 1 m samples. A reduced element suite was used for the 4 m composites. Four acid digest is not considered a total digest for all elements. Quartz washes were inserted between samples in expected higher-grade mineralised zones to limit contamination between samples (on instruction by AGAA).	

	Exploration Results	Mineral Resources	Mineral Reserves
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		(iii)	<p>Describe the process and method used for sample preparation, sub-sampling and size reduction, and likelihood of inadequate or non-representative samples (i.e. improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.).</p> <p>All samples were analysed at Intertek-Genalysis Laboratory Services in Perth. Samples were oven dried at 105°C and then crushed in a two-stage process to ~2mm. Owing to a 3 kg upper limit requirement, overweight HQ half-core samples (up to 6 kg) were split at this stage to a 3kg sample with the reject retained. Crushed duplicates of pre-selected half-core intervals were also taken at this stage. Samples were then pulverised and to a nominal 85% passing 75 microns.</p>
3.5	Sampling Governance	(i)	<p>Discuss the governance of the sampling campaign and process, to ensure quality and representivity of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias.</p> <p>Following geological logging and photographing, drill core was cut in half using an automated core saw. The half with the orientation line was retained in the core tray for check work or further analysis (by quarter core), whereas the other half was divided into 1m samples, or narrower niche samples based on geological observations. Crushed duplicates of intervals selected by geologists within expected mineralised zones (approximately 1 duplicate per 5 m) were prepared at the lab. Diamond core recovery, including core-loss, was measured and recorded across core runs during the core mark-up process. Core was reassembled for mark-up and was measured with metre marks and down-hole depths placed on the core. Depths were checked against drillers core blocks and any discrepancies corrected after discussion with the drillers. Diamond recovery was generally very good. RC drilling used a face-sampling hammer and holes were sampled at 1m intervals collected via a cyclone and cone splitter into a lab sample and an archive sample, each weighing about 3kg. A sub-sample from the archive sample was taken for geological logging, with sieved drill cuttings stored in plastic chip trays. Archive samples were stored onsite for future reference and check work or selected as field duplicates within expected mineralised zones (approximately one duplicate per 5m) and submitted for analysis.</p>
		(ii)	<p>Describe the measures taken to ensure sample security and the Chain of Custody.</p> <p>Lab samples were put into pre-numbered calico bags and placed into large poly-weave bulka-bags for transport. Filled bulka-bags were secured on wooden crates and transported directly via road freight to the laboratory with a corresponding submission form and consignment note. On receipt of the bulka-bags, Intertek-Genalysis checked the samples received against the submission form and notified AGAA of any missing or additional samples. On completion of assays and check work, the pulp packets, pulp residues and coarse rejects were placed in storage at the laboratory's secure warehouse. On request, the pulp packets are returned to the AGAA warehouse on secure pallets where they are documented for long term storage and retrieval.</p>
		(iii)	<p>Describe the validation procedures used to ensure the integrity of the data, e.g. transcription, input or other errors, between its initial collection and its future use for modelling (e.g. geology, grade, density, etc.).</p> <p>All samples received from the lab are loaded into a secure drill hole database which has a series of unique identifiers to ensure that the correct samples are allocated to the correct hole and down-hole position. This is managed by the site geologists with both database check and visual checks against geological logging to ensure that the assay results make sense.</p>
		(iv)	<p>Describe the audit process and frequency (including dates of these audits) and disclose any material risks identified</p> <p>There were no formal audits performed at the laboratory during the period of sample analysis. Laboratory performance is managed through continuous feedback and quarterly meetings that commonly include review of laboratory facilities.</p>
3.6	Quality Control/Quality Assurance	(i)	<p>Demonstrate that adequate field sampling process verification techniques (QA/QC) have been applied, e.g. the level of duplicates, blanks, reference material standards, process audits, analysis, etc. If indirect methods of measurement were used (e.g. geophysical methods), these should be described, with attention given to the confidence of interpretation.</p> <p>QA/QC results were reviewed on a batch-by-batch and monthly basis. Any deviations from acceptable precision or indications of bias were acted on with repeat and check assays.</p>

	Exploration Results	Mineral Resources	Mineral Reserves
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3.7	Bulk Density		Describe the method of bulk density determination with reference to the frequency of measurements, the size, nature and representativeness of the samples.
		(i)	Dry bulk density determinations have been routinely collected on the mineralised zones in all DDH core at one-metre intervals using water immersion methods. A coherent segment of core (>10cm length), representative of the metre interval, is selected. The weight is measured dry, in air, then measured submerged in water. Core was left to dry naturally on the core racks. Dry bulk density has been estimated using Ordinary Block Kriging, with areas with insufficient data to generate a kriged estimate being assigned the average measured value for that lithology and regolith type. Density values within units show little variation.
		(ii)	If target tonnage ranges are reported state the preliminary estimates or basis of assumptions made for bulk density. Not applicable.
		(iii)	Discuss the representivity of bulk density samples of the material for which a grade range is reported. The bulk density sampling is undertaken over a representative distribution throughout the deposit.
	(iv)	Discuss the adequacy of the methods of bulk density determination for bulk material with special reference to accounting for void spaces (vugs, porosity etc.), moisture and differences between rock and alteration zones within the deposit. Dry bulk density determinations have been routinely collected on the mineralised zones in all DD core at one-metre intervals using water immersion methods.	
3.8	Bulk-Sampling and/or trial-mining	(i)	Indicate the location of individual samples (including map). Historical mining has taken place in a number of open pits. No additional trial mining or bulk sampling has taken place.
		(ii)	Describe the size of samples, spacing/density of samples recovered and whether sample sizes and distribution are appropriate to the grain size of the material being sampled. Not applicable.
		(iii)	Describe the method of mining and treatment. Historical mining used conventional truck and excavator mining with treatment at Sons of Gwalia's Leonora plant or Saracen's Carosue Dam plant.
		(iv)	Indicate the degree to which the samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole. Not applicable.
Section 4: Estimation and Reporting of Exploration Results and Mineral Resources			
4.1	Geological model and interpretation	(i)	Describe the geological model, construction technique and assumptions that forms the basis for the Exploration Results or Mineral Resource estimate. Discuss the sufficiency of data density to assure continuity of mineralisation and geology and provide an adequate basis for the estimation and classification procedures applied. Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration programme is planned. Describe the inferences made from this model. A geological model has been constructed in Leapfrog Geo based on a combination of the geochemistry and logged geology. The Leapfrog Geo drill hole correlation tool was used to assign lithological units based on similar Y/Th ranges, Cr ranges and whether identified as coherent or volcanoclastic rocks. Syenites and

		Exploration Results	Mineral Resources	Mineral Reserves
			<p>lamprophyres were ignored at this stage so that lithologies could be modelled pre-intrusion. The Leapfrog Geo geological modelling workflow was then used to construct geological volumes. Syenites were modelled separately using logged lithology, and then added to the model. Few faults have been applied at this stage to limit the model's complexity, although the distribution of the geological units clearly invokes faults at several locations.</p>	
		(ii)	<p>Describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-metallurgical characteristics were recorded.</p> <p>All recent data collected and logged by AGA is considered reliable, however, the deposit contains a significant amount of historical data which cannot be validated. The data has been used in the estimates, but only areas where AGA has collected data to confirm the mineralisation and the geology have been reported.</p>	
		(iii)	<p>Describe any obvious geological, mining, metallurgical, environmental, social, infrastructural, legal and economic factors that could have a significant effect on the prospects of any possible exploration target or deposit.</p> <p>Metallurgical recovery is estimated based on the regression between arsenic grades and metallurgical testwork. High arsenic material is highly refractory.</p>	
		(iv)		<p>Discuss all known geological data that could materially influence the estimated quantity and quality of the Mineral Resource.</p> <p>Metallurgical recovery is estimated based on the regression between arsenic grades and metallurgical testwork. High arsenic material is highly refractory.</p>
		(v)		<p>Discuss whether consideration was given to alternative interpretations or models and their possible effect (or potential risk) if any, on the Mineral Resource estimate.</p> <p>At a broad scale the geological model is considered to be robust.</p>
		(vi)		<p>Discuss geological discounts (e.g. magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralized and / or un-mineralized material (e.g. potholes, faults, dykes, etc).</p> <p>There are no geological discounts used in the geological modelling stage.</p>
4.2	Estimation and modelling techniques	(i)	<p>Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges.</p> <p>The Mineral Resource was estimated using the geostatistical technique of Localised Uniform Conditioning (LUC), with a Selective Mining Unit (SMU) of 5 x 12.5 x 2.5m. The change of support was applied to ordinary kriged panels of 10 x 25 x 10m. Gold, Arsenic and Sulphur were estimated.</p>	

		Exploration Results	Mineral Resources	Mineral Reserves
		(ii)	<p>Discuss the nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size (block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points.</p> <p>LUC is an appropriate technique to estimate the deposit based on the relatively wide-spaced drilling at the early stage of the project. The SMU modelled was 5 x 12.5 x 2.5m with information effect applied. The data was composited to 2m down-hole lengths, with top-cuts (capping) applied to the data after examining cumulative histograms of each domain. Search distances reflected the variable data spacing in the deposit, with an initial short-range search to reflect the grade control data, and longer search radii in the wide-spaced drilling areas.</p>	
		(iii)	<p>Describe assumptions and justification of correlations made between variables.</p> <p>Gold, arsenic and sulphur were estimated independently due to variable relationships between the different elements.</p>	
		(iv)	<p>Provide details of any relevant specialized computer program (software) used, with the version number, together with the estimation parameters used.</p> <p>Isatis software (v.2018) was used for the estimate.</p>	
		(v)	<p>State the processes of checking and validation, the comparison of model information to sample data and use of reconciliation data, and whether the Mineral Resource estimate takes account of such information.</p> <p>The estimated grades in the deposit were validated by comparing the kriged block grade with the data in horizontal and vertical swaths through the deposit. The change of support was validated by comparing the grade-tonnage curves to the theoretical distributions from the discrete gaussian change of support model.</p>	
		(vi)	<p>Describe the assumptions made regarding the estimation of any co-products, by-products or deleterious elements.</p> <p>Arsenic and sulphur are estimated due to the highly refractory nature of the mineralisation and the correlation of arsenic and metallurgical recovery.</p>	
4.3	Reasonable prospects for eventual economic extraction	(i)	<p>Disclose and discuss the geological parameters. These would include (but not be limited to) volume / tonnage, grade and value / quality estimates, cut-off grades, strip ratios, upper- and lower- screen sizes.</p> <p>The open pit Mineral Resource is reported within a US\$1,500 (A\$2,178) Whittle optimisation shell above a cut-off grade of 0.7g/t. The Underground Mineral Resource is limited within a Mineable Shape Optimiser (MSO, Datamine®) floating stope optimisation based on a cut-off grade of 2.1g/t. The input costs for the MSO were based on Sunrise Dam breakeven costs and a gold price of US\$1,500 (A\$2178).</p>	
		(ii)	<p>Disclose and discuss the engineering parameters. These would include mining method, dilution, processing, geotechnical, geohydraulic and metallurgical parameters.</p> <p>The assumption for open pit mining is conventional backhoe and truck mining, with blasting in hard rock. Underground mining assumes Transverse Longhole Open Stopping.</p>	
		(iii)	<p>Disclose and discuss the infrastructural including, but not limited to, power, water, site-access.</p> <p>Site access is via secondary roads either from Kalgoorlie or Laverton/ Leonora. An exploration camp has been established to facilitate the exploration drilling.</p>	

		Exploration Results	Mineral Resources	Mineral Reserves
		(iv)		<p>Disclose and discuss the legal, governmental, permitting, statutory parameters.</p> <p>The Butcher Well Mineral Resource is contained within existing granted mining leases.</p>
		(v)		<p>Disclose and discuss the environmental and social (or community) parameters.</p> <p>Butcher Well has previously been mined and much of the area covering the Mineral Resource is disturbed ground. An updated mine closure plan is required.</p>
		(vi)		<p>Disclose and discuss the marketing parameters.</p> <p>No marketing assumptions made beyond the gold price assumptions already stated (US\$1,500/A\$2,178).</p>
		(vii)		<p>Disclose and discuss the economic assumptions and parameters.</p> <p>No economic assumptions made beyond the gold price assumptions already stated (US\$1,500/A\$2,178).</p>
		(viii)		<p>Discuss any material risks.</p> <p>The main risk to the Mineral Resource is the wide-spaced drilling, which may result in a reduction to the Mineral Resource once infill drilling is completed. A significant proportion of Butcher Well has been drilled historically - to mitigate this risk, only areas that have had confirmation drilling by AGA are reported.</p>
		(ix)		<p>Discuss the parameters used to support the concept of "eventual".</p> <p>Eventual extraction is based on a realistic assumption of the gold price, and the constraint of the Mineral Resource within an optimisation shell and MSO floating stope.</p>
4.4	Classification Criteria	(i)	<p>Describe criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories.</p> <p>The Mineral Resource is classified as Inferred, reflecting the early stage of the project and the uncertainty around the estimates.</p>	
4.5	Reporting	(i)	<p>Discuss the reported low and high-grades and widths together with their spatial location to avoid misleading the reporting of Exploration Results, Mineral Resources or Mineral Reserves.</p> <p>Grades are estimated into geological domains, using suitable geostatistical parameters that reflect the variability of the data and the data spacing. Samples are composited to 2m down-hole lengths. The data is declustered prior to calculating change of support parameters.</p>	
		(ii)	<p>Discuss whether the reported grades are regional averages or if they are selected individual samples taken from the property under discussion.</p> <p>Reported grades are the average estimated grades above the cut-off grade within the optimised pit shell and MSO stopes.</p>	
		(iii)	<p>State assumptions regarding mining methods, infrastructure, metallurgy, environmental and social parameters. State and discuss where no mining related assumptions have been made</p>	

	Exploration Results	Mineral Resources	Mineral Reserves
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		Not applicable.	
	(iv)	<p>State the specific quantities and grades / qualities which are being reported in ranges and/or widths and explain the basis of the reporting.</p> <p>Not applicable.</p>	
	(v)	<p>Present the detail for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in the Mineral Resource statement'.</p> <p>The Mineral Resource consists of potential Open Pit and Underground material that has not yet been mined.</p>	
	(vi)	<p>Present a reconciliation with any previous Mineral Resource estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).</p> <p>No reconciliation has been completed as mining occurred prior to AGA farming into the project.</p>	
	(vii)	<p>Present the defined reference point for the tonnages and grades reported as Mineral Resources. State the reference point if the point is where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.</p> <p>Grades are estimated in situ on a dry-tonnage basis.</p>	
	(viii)	<p>If the CP is relying on a report, opinion, or statement of another expert who is not a CP, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the CP to rely on the other expert, any significant risks and any steps the CP took to verify the information provided.</p> <p>The Competent Person (CP), Mark Kent, compiled this report based on his own work and the work of a team of technical experts.</p>	
	(ix)	<p>State the basis of equivalent metal formulae, if applied.</p> <p>No metal equivalents are used.</p>	

	Exploration Results	Mineral Resources	Mineral Reserves
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Section 5: Technical Studies

5.1	Introduction	(i)	Technical Studies are not applicable to Exploration Results	State the level of study – whether scoping, prefeasibility, feasibility or ongoing Life of Mine AGA has completed a Scoping Study, to the internal level required by the company, to justify the publication of the Mineral Resource. No Mineral Reserve is declared. A Scoping Study is an order of magnitude study which shows the likely future economic potential of an anomaly and in the CP's opinion the topics dealt with in Section 5 have been adequately covered in the preceding sections. Due to this, the remainder of Section 5 has not been completed.	State the level of study – whether prefeasibility, feasibility or ongoing Life of Mine. The Code requires that a study to at least a Pre-Feasibility level has been undertaken to convert Mineral Resource to Mineral Reserve. Such studies will have been carried out and will include a mine plan or production schedule that is technically achievable and economically viable, and that all Modifying Factors have been considered. Not applicable.
		(ii)			Provide a summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve for Pre-feasibility, Feasibility or on-going life-of-mine studies. Not applicable.
5.2	Mining Design	(i)	Technical Studies are not applicable to Exploration Results	State assumptions regarding mining methods and parameters when estimating Mineral Resources or explain where no mining assumptions have been made. Refer to Section 5.1. (i).	
		(ii)			State and justify all modifying factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external) mining dilution and mining losses used for the techno-economic study and signed-off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements. Not applicable.
		(iii)			State what Mineral Resource models have been used in the study. Not applicable.
		(iv)			Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied. Include metal equivalents if relevant.

		Exploration Results	Mineral Resources	Mineral Reserves
				<p>Not applicable.</p> <p>Description and justification of mining method(s) to be used.</p> <p>Not applicable.</p> <p>For open-pit mines, include a discussion of pit slopes, slope stability, and strip ratio.</p> <p>Not applicable.</p> <p>For underground mines, discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements</p> <p>Not applicable.</p> <p>Discussion of mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery.</p> <p>Not applicable.</p> <p>State the optimisation methods used in planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control).</p> <p>Not applicable.</p>
		(v)		
		(vi)		
		(vii)		
		(viii)		
		(ix)		
5.3	Metallurgical and Testwork	(i)	Technical Studies are not applicable to Exploration Results	<p>Discuss the source of the sample and the techniques to obtain the sample, laboratory and metallurgical testing techniques.</p> <p>Not applicable.</p>
		(ii)		<p>Explain the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work already carried out</p> <p>Not applicable.</p>
		(iii)		<p>Describe the processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements.</p> <p>Not applicable.</p>

		Exploration Results	Mineral Resources	Mineral Reserves
		(iv)		Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used. A detailed flow sheet / diagram and a mass balance should exist, especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics. Not applicable.
		(v)		State what assumptions or allowances have been made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole. Not applicable.
		(vi)		State whether the metallurgical process is well-tested technology or novel in nature. Not applicable.
5.4	Infrastructure	(i)	Technical Studies are not applicable to Exploration Results	Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed. Refer to Section 5.1. (i).
		(ii)		Report in sufficient detail to demonstrate that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, rail or port facilities, water and power supply, offices, housing, security, resource sterilisation testing etc.). Provide detailed maps showing locations of facilities. Not applicable.
		(iii)		Statement showing that all necessary logistics have been considered. Not applicable.
5.5	Environmental and Social	(i)	Technical Studies are not applicable to Exploration Results	Confirm that the company holding the tenement has addressed the host country environmental legal compliance requirements and any mandatory and/or voluntary standards or guidelines to which it subscribes Refer to Section 5.1. (i).
		(ii)		Identify the necessary permits that will be required and their status and where not yet obtained, confirm that there is a reasonable basis to believe that all permits required for the project will be obtained Refer to Section 5.1. (i).

	Exploration Results	Mineral Resources	Mineral Reserves
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		(iii)		Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors including I&AP and/or studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation. Refer to Section 5.1. (i).
		(iv)		Identify any legislated social management programmes that may be required and discuss the content and status of these Refer to Section 5.1. (i).
		(v)		Outline and quantify the material socio-economic and cultural impacts that need to be mitigated, and their mitigation measures and where appropriate the associated costs. Refer to Section 5.1. (i).
5.6	Market Studies and Economic criteria	(i)	Technical Studies are not applicable to Exploration Results	Describe the valuable and potentially valuable product(s) including suitability of products, co-products and by products to market. Not applicable.
		(ii)		Describe product to be sold, customer specifications, testing, and acceptance requirements. Discuss whether there exists a ready market for the product and whether contracts for the sale of the product are in place or expected to be readily obtained. Not applicable.
		(iii)		State and describe all economic criteria that have been used for the study such as capital and operating costs, exchange rates, revenue / price curves, royalties, cut-off grades, reserve pay limits. Not applicable.
		(iv)		Summary description, source and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate and exchange rates. Not applicable.
		(v)		Present the details of the point of reference for the tonnages and grades reported as Mineral Reserves (e.g. material delivered to the processing facility or saleable product(s)). It is important that, in any situation where the reference point is different, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. Not applicable.

			Exploration Results	Mineral Resources	Mineral Reserves
		(vi)			Justify assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing and other costs. Provide details of allowances that are made for the content of deleterious elements and the cost of penalties. Not applicable.
		(vii)			Provide details of allowances made for royalties payable, both to Government and private. Not applicable.
		(viii)			State type, extent and condition of plant and equipment that is significant to the existing operation(s). Not applicable.
		(ix)			Provide details of all environmental, social and labour costs considered. Not applicable.
5.7	Risk Analysis	(i)	Technical Studies are not applicable to Exploration Results	Report an assessment of technical, environmental, social, economic, political and other key risks to the project. Describe actions that will be taken to mitigate and/or manage the identified risks. Refer to Section 5.1. (i).	
5.8	Economic Analysis	(i)	Technical Studies are not applicable to Exploration Results	At the relevant level (Scoping Study, Pre-feasibility, Feasibility or on-going Life-of Mine), provide an economic analysis for the project that includes:	
		(ii)		Cash Flow forecast on an annual basis using Mineral Reserves or an annual production schedule for the life of the project Refer to Section 5.1. (i).	
		(iii)		A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital Refer to Section 5.1. (i).	
		(iv)		Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as appropriate and discuss the impact of the results. Refer to Section 5.1. (i).	
Section 6: Estimation and Reporting of Mineral Reserves					
6.1	Estimation and modelling techniques	(i)		Describe the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve Not applicable	

	Exploration Results	Mineral Resources	Mineral Reserves
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		(ii)	Report the Mineral Reserve Statement with sufficient detail indicating if the mining is open pit or underground plus the source and type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources. Not applicable.
		(iii)	Provide a reconciliation reporting historic reliability of the performance parameters, assumptions and modifying factors including a comparison with the previous Reserve quantity and qualities, if available. Where appropriate, report and comment on any historic trends (e.g. global bias) Not applicable.
6.2	Classification Criteria	(i)	Describe and justify criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, based on the Mineral Resource category, and including consideration of the confidence in all the modifying factors. Not applicable.
6.3	Reporting	(i)	Discuss the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) therefore. Not applicable.
		(ii)	Present details of for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in respect of the Mineral Reserve statement Not applicable.
		(iii)	Present the details of the defined reference point for the Mineral Reserves. State where the reference point is the point where the run of mine material is delivered to the processing plant. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. State clearly whether the tonnages and grades reported for Mineral Reserves are in respect of material delivered to the plant or after recovery. Not applicable.
		(iv)	Present a reconciliation with the previous Mineral Reserve estimates. Where appropriate, report and comment on any historic trends (e.g. global bias). Not applicable.

		Exploration Results	Mineral Resources	Mineral Reserves
		(v)		Only Measured and Indicated Mineral Resources can be considered for inclusion in the Mineral Reserve. Not applicable.
		(vi)		State whether the Mineral Resources are inclusive or exclusive of Mineral Reserves. Not applicable.
Section 7: Audits and Reviews				
7.1	Audits and Reviews	(i)	State type of review/audit (e.g. independent, external), area (e.g. laboratory, drilling, data, environmental compliance etc), date and name of the reviewer(s) together with their recognized professional qualifications. No external reviews have been completed. An internal desktop review was completed during 2020.	
		(ii)	Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required. The desktop review approved the release of the Mineral Resource and supported the CP's view that only material that had been drilled by AGA should be reported.	
Section 8: Other Relevant Information				
8.1		(i)	Discuss all other relevant and material information not discussed elsewhere. No other relevant information.	
Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page				
9.1		(i)	State the full name, registration number and name of the professional body or RPO, for all the Competent Person(s). State the relevant experience of the Competent Person(s) and other key technical staff who prepared and are responsible for the Public Report. Lead Competent Person: Mark Kent, 23 years' experience. AusIMM Member 203631	
		(ii)	State the Competent Person's relationship to the issuer of the report. The CP is employed by AGA.	
		(iii)	Provide the Certificate of the Competent Person (Appendix 2), including the date of sign-off and the effective date, in the Public Report. See below.	



Lead Competent Person - letter of appointment

In accordance with the AngloGold Ashanti Guidelines on the Reporting of Exploration Results, Mineral Resource and Ore Reserve and in compliance with the South African Code For Reporting Of Mineral Resources And Mineral Reserves (the SAMREC CODE),

Butcher Well appoints Mark Kent to prepare reports and sign off as the Lead Competent Person (LCP) on its 2020 Final Mineral Resource for the 2020 reporting period.

By signature to this letter the Lead Competent Person declares:

- That the requirements of a Competent Person (CP) in terms of the SAMREC Code is met and;
- Has read and understands the AngloGold Ashanti Guidelines on the Public Reporting of Exploration Results, Mineral Resource and Ore Reserve and;
- Has read and understands the SAMREC Code and;
- Has read and understands the SEC Industry Guide 7 and;
- Is clearly satisfied that they can face their peers and demonstrate competence for the deposit.

Mark Kent will ensure that all relevant activities that will be undertaken in the preparation of the estimates are acceptable, and that the constituent parts of the Competent Persons Report will be signed off by all contributors.

This appointment will commence on the date of signature of this letter, and is valid for the current reporting cycle unless otherwise advised by AngloGold Ashanti

Signed by General Manager

Richard Mcleod
Date: 17/11/2020

Signed in Acceptance of LCP

Mark Kent
Professional Organisation: MAusIMM (Member of the Australasian Institute of Mining and Metallurgy)
Membership Number: 203631
Date: 17/11/2020

Name and Signature of Mineral Resource & Ore Reserve Steering Committee Member approval:

Tom Gell

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Lead Competent Person's - letter of consent to publish the 2020 Final Mineral Resource for Butcher Well as at 31 December 2020

I Mark Kent confirm that I am the Lead Competent Person for the 2020 Final Mineral Resource for Butcher Well as at 31 December 2020 and:

I have read and understood the requirements of:

- the South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves (The SAMREC Code, 2016 edition),
- the SEC Industry Guide 7 and
- the AngloGold Ashanti Guidelines on the Reporting of Exploration Results, Mineral Resource and Ore Reserve

I am a Competent Person as defined by the above reporting codes, having five years' experience relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.

I am a Member of SACNASP, SAGC or ECSA or a 'Recognised Professional Organisation' (RPO) included in a list promulgated by SSC from time to time (i.e. AusIMM). My membership is with the following professional organisation and my membership number is:

Category	Competent Person	Professional Organisation	Membership Number	Relevant Experience
2020 Final Mineral Resource	Mark Kent	MAusIMM (Member of the Australasian Institute of Mining and Metallurgy)	203631	23

I have reviewed the tables and graphs included in the Annual Report workflow for the Butcher Well 2020 Final Mineral Resource which will be used in the 2020 AngloGold Mineral Resource and Ore Reserve Report to which this consent statement applies.

I verify that the Butcher Well section in the 2020 Mineral Resource and Ore Reserve Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation to the Mineral Resource.

Signed in Acceptance: 

System generated date accepted in RCubed: 27/01/2021

Mark Kent