ASX ANNOUNCEMENT

07 February 2020

Maiden 47,000 ounce gold resource at the Big Rush Gold Mine

Great Northern Minerals Limited (**"Great Northern Minerals"** or the **"Company"**) (**ASX: GNM**) is pleased to announce a maiden JORC-compliant mineral resource estimate for the Central Lode at the Big Rush Gold Mine in Northern Queensland (Figure 1). A gold mineral resource of **558,322 tonnes at 2.62 g/t Au for 47,006 ounces** of contained gold has been estimated above a 0.75 g/t Au cut-off grade and below excavations of the historic Central Pit (Figure 2). Table 1 below sets out the resource estimate at a variety of cut-off grades. The resource estimate consists of material in both the indicated and inferred categories.

Highlights:

- Maiden Central Lode resource of **558,322 tonnes at 2.62 g/t Au for 47,006 ounces**.
- The Central Lode resource is open at depth and along strike.
- Potential milling options exist within trucking distance.
- GNM resources now total 77,000 ounces.

Big Rush

The Central Lode mineral resource estimate was independently estimated by experienced mine geologist Andrew Beaton of AKB Mining Geology Services Pty Ltd (AKB). A copy of the mineral resource report is attached to this release as Appendix A and the drill hole intersections used in the estimation are attached as Appendix 1. Big Rush, along with Camel Creek and Golden Cup, is one of three gold mines acquired by Great Northern Minerals as announced to the ASX on 15th August 2019.

The Central Lode mineral resource is composed of four parallel mineralised domains which are located largely beneath the previously mined Central Pit gold mine. Approximately 55% of the resource is in the indicated category with the balance in the inferred category.

The Big Rush Gold Mine has previous recorded production via heap leaching of 950,000 tonnes @ 1.90 g/t Au for 58,039 ounces and previous production by trial CIL Processing of 33,000 tonnes of sulphide ore @ 11 g/t Au for 10,000 ounces. When historic gold production is combined with the current resource estimate this takes the total endowment at Big Rush to 115,000 ounces of gold which compares favourably with GNM's previous exploration target which was announced to the ASX on 11th July 2019.

The Central Lode resource at Big Rush is open along strike to both the Northeast and Southwest and also at depth. Minimal historic drilling has occurred below a vertical depth of 75 metres or outside of the mineralisation model as seen in the long section view through the Central Lode (Figure 3).

Great Northern Minerals has recently completed an 8 hole Reverse Circulation (RC) drilling program at Big Rush to validate historic mineralised intercepts and to obtain further geological and QAQC data (ASX release 28th January 2020). A significant drilling program is planned to be undertaken at the Big Rush project this year with the aim of rapidly increasing the maiden resource at the Central Lode and also undertaking further testing at the Northern Pit, Southern Pit and Sergei Pit areas.

Table 1: Central Lode Resource Table, Big Rush Project

	Indicated			Inferred			Total Big Rush Central Lode		
Cut- off Au g/t	**Tonnes**	**Au g/t**	**Ounces**	**Tonnes**	**Au g/t**	**Ounces**	**Tonnes**	**Grade**	**Ounces**
0	255,011	3.28	26,892	491,352	1.48	23,380	**746,363**	**2.10**	**50,272**
0.25	251,951	3.32	26,893	490,700	1.48	23,349	**742,651**	**2.10**	**50,242**
0.5	241,301	3.45	26,765	429,334	1.63	22,500	**670,635**	**2.28**	**49,265**
0.75	219,261	3.73	26,294	339,061	1.9	20,712	**558,322**	**2.62**	**47,006**
1	195,937	4.07	25,639	262,094	2.2	18,538	**458,031**	**3.00**	**44,177**
1.25	177,057	4.38	24,933	202,274	2.52	16,388	**379,331**	**3.39**	**41,321**
1.5	155,479	4.8	23,994	151,908	2.9	14,163	**307,387**	**3.86**	**38,158**
1.75	139,517	5.16	23,146	117,836	3.27	12,388	**257,353**	**4.29**	**35,534**
2	123,656	5.58	22,184	97,146	3.56	11,119	**220,802**	**4.69**	**33,303**

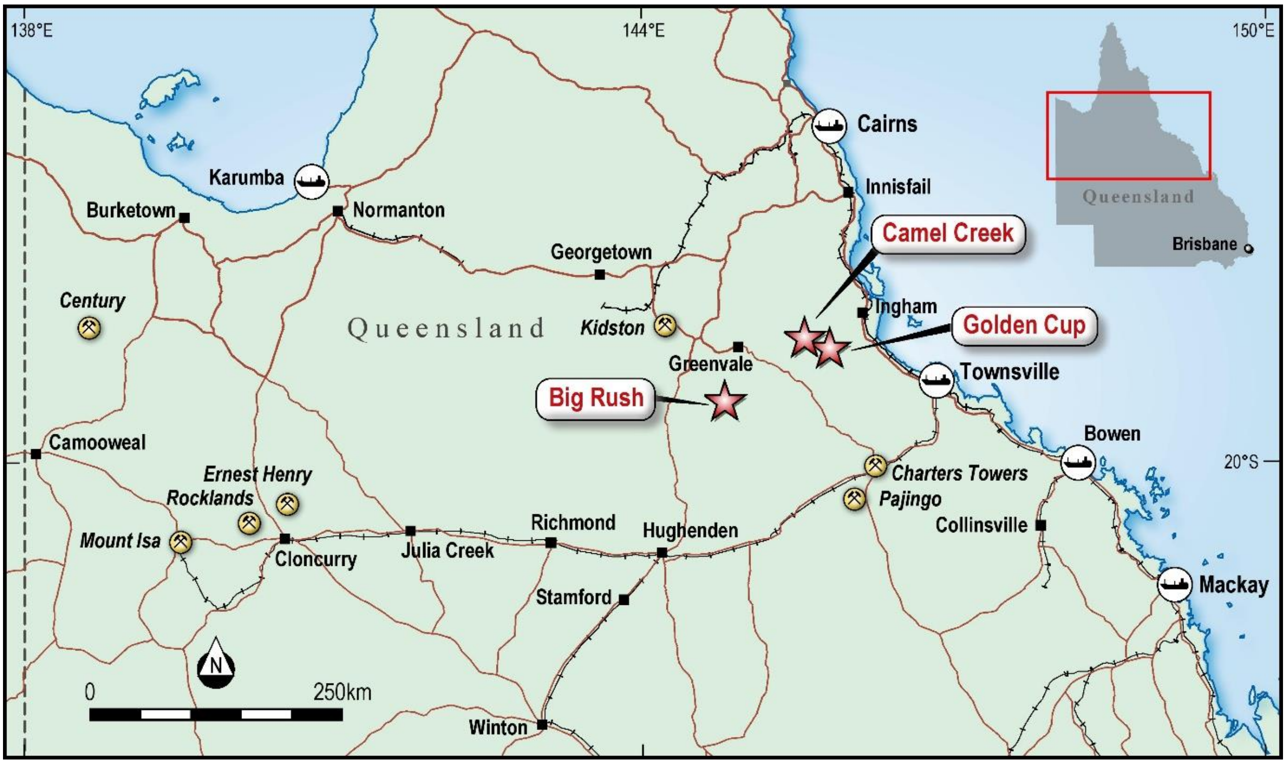

Figure 1: Location of the Big Rush, Golden Cup & Camel Creek Gold Projects in Qld

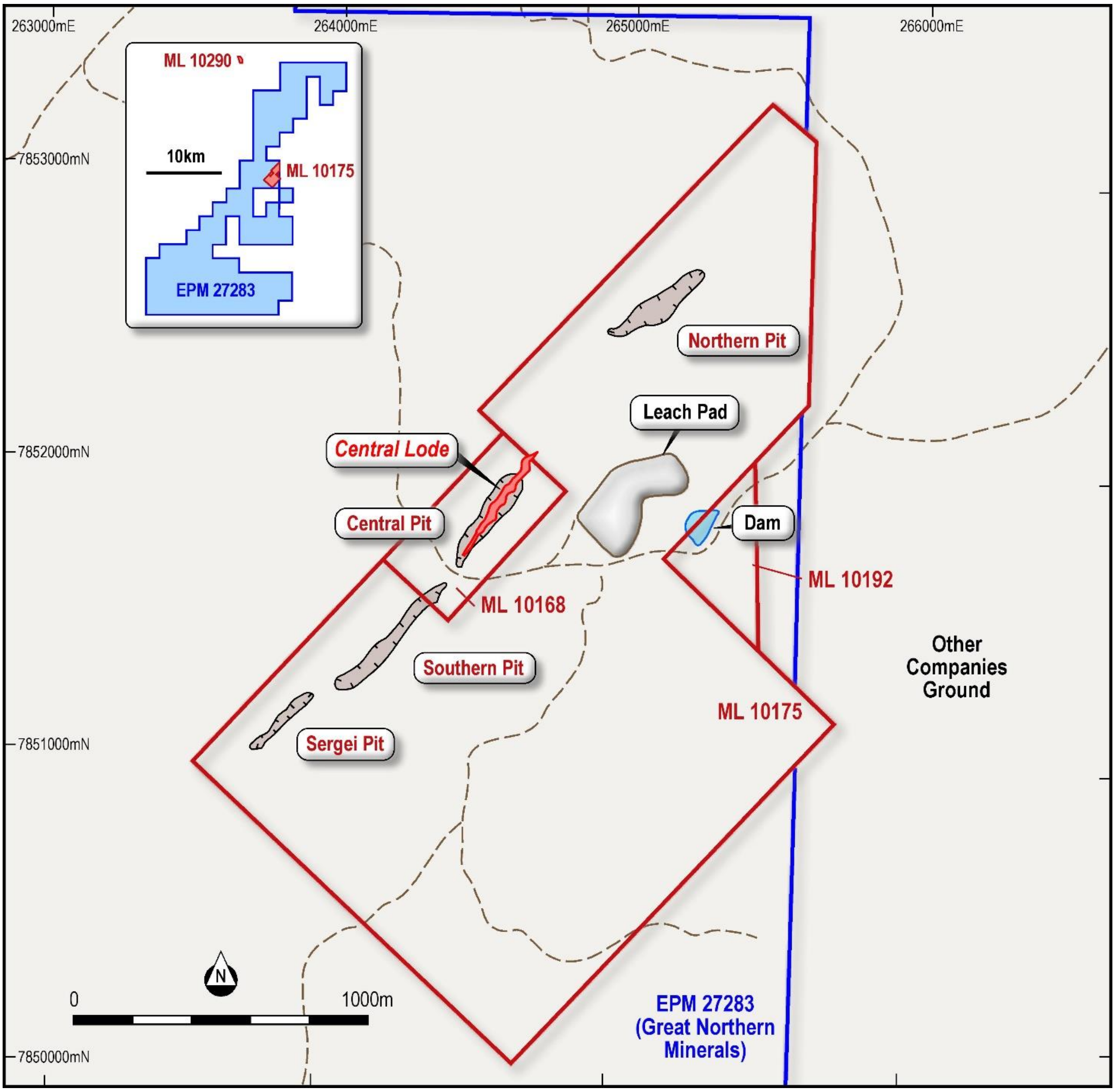

Figure 2: Plan view of the Big Rush Project with historic pits and mineral resource outlines of the Central Lode (Red) projected to surface

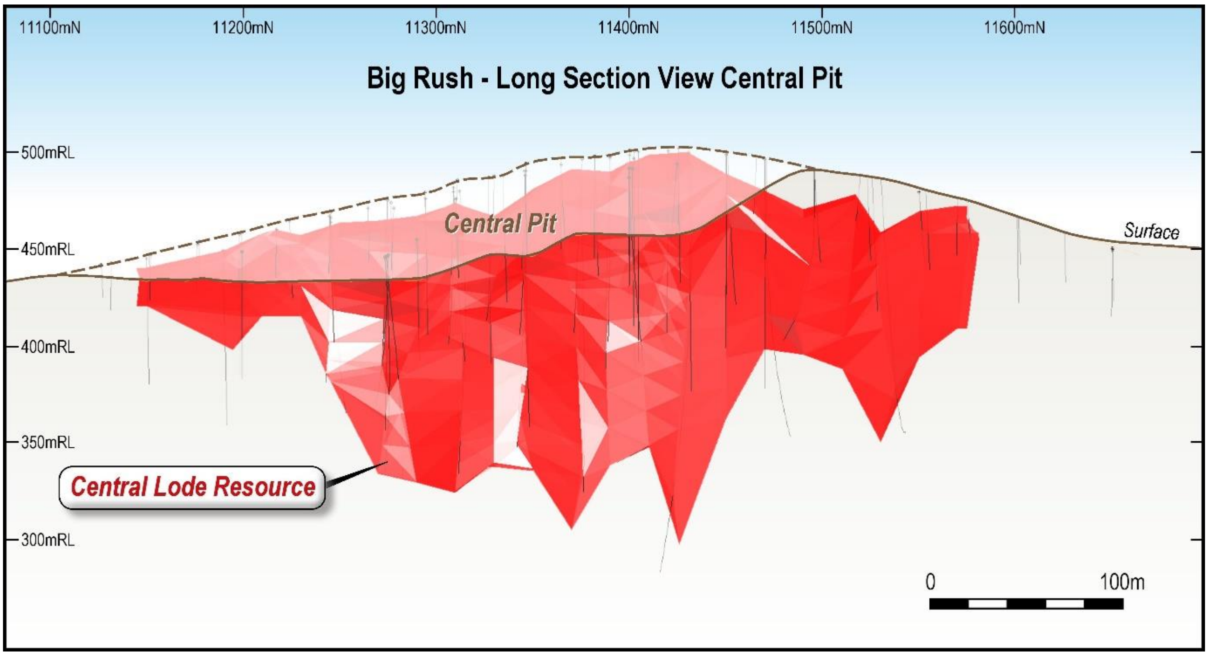

Figure 3: Long Section view in local mine grid of the Central Lode mineral resource at Big Rush showing drill intersection pierce points and historical mining surface

Great Northern Minerals Managing Director, Cameron McLean commented on the announcement: ***"The Board and Management of Great Northern Minerals are delighted to announce this 47,000 ounce maiden gold resource estimate at the Big Rush Project. The estimation of the Central Lode resource follows from the exciting high grade RC drilling assays from Big Rush which were reported in December 2019 and January 2020. In the last two month period we have released maiden resource estimates at both Golden Cup and Big Rush indicating the potential of the Company's projects. It is hard not to be excited by the prospects of 2020 and what it holds for the Company".***

This ASX release was reviewed and authorised for release to the market by Managing Director, Cameron McLean.

*****ENDS*****

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About Great Northern Minerals Limited

Great Northern Minerals Limited is an ASX-listed gold focussed explorer. The Company's projects include the Golden Cup, Camel Creek and Big Rush Gold Mines in Queensland.

Competent Persons Statement

The information in this report that relates to the Mineral Resource estimate is based on information compiled by Mr Andrew Beaton. Mr Beaton is a Member of the Australasian Institute of Mining and Metallurgy and is a part time consultant to Great Northern Minerals Ltd. Mr Beaton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Beaton consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

APPENDIX A

AKB Mining Geology Services

MEMORANDUM

To: Mr Andrew Jones, Exploration Manager, Great Northern Minerals Limited

Date: 3-Feb-2020

From: Andrew Beaton, AKB Mining Geology Services.

Re: Big Rush Mineral Resource Estimate

EXECUTIVE SUMMARY

AKB Mining Geology Services (AKB) was commissioned by Great Northern Minerals Limited (GNM) to assist with geological modelling and to prepare a Mineral Resource estimate for the Central Lode of the Big Rush deposit located in Queensland, Australia. The Mineral Resource estimate was required to be reported in accordance with the JORC Code[1].

The Mineral Resource estimate for the Central Lode at Big Rush is shown in Table 1. The Mineral Resource estimate is reported above a cut-off grade of 0.75g/t Au and is reported below the historical open pit excavations.

Table 1: Big Rush Mineral Resource estimate, >0.75 g/t Au

Lode	JORC Classification	Tonnage (Kt)	Au ppm	As ppm	Au Ounces (Koz)
Central	Indicated	220	3.7	1353	26
Central	Inferred	340	1.9	1353	21
Central	**Total**	**560**	**2.6**	**1353**	**47**

** Due to the effects of rounding, the total may not represent the sum of all components*

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

The Big Rush deposit is located approximately 65km south-west of Greenvale in north-eastern Queensland. It was discovered by Billiton Australia in 1989 using a combination of stream sediment, soil and rock chip sampling along with geological mapping and finally a Reverse Circulation (RC) drilling program.

In late 1990 a joint venture agreement between The Shell Company of Australia (parent company of Billiton Australia) and Peko Exploration Ltd was executed with Geopeko being the manager of the project. Further RC and diamond drilling programs were carried out in 1991 before Peko Exploration Ltd withdrew from the joint venture in early 1992. Billiton subsequently offered the tenements for sale and they were purchased by Golden Ant Mining Ltd (GAML), a member of the privately owned Lynch Group of companies. Following the listing of Lynch's public company Werrie Gold Ltd on the ASX in November 1993, the tenements were transferred into Alphadale Pty Ltd, the exploration arm of Werrie Gold Ltd. The bulk of the RC, diamond and percussion drilling on the project was carried out by Alphadale Pty Ltd between 1993 and 1996. During the same period Werrie Gold Ltd developed and mined four open pits along the Big Rush mineralised system.

When open pit mining ceased in 1998, the amount of exploration also declined. In 2008 Curtain Brothers, a private company based in Townsville, entered into a joint venture with Alphadale Pty Ltd to explore the tenements. Curtain Brothers drilled three RC holes beneath the central pit at Big Rush in 2010.

Q-Generate purchased the Big Rush project from Curtain Brothers in early 2019 and the project was then acquired by the current owners GNM in August 2019. GNM completed a short RC drilling program in December 2019.

DRILLING, SAMPLING AND SUB-SAMPLING TECHNIQUES

A combination of Reverse Circulation (RC) Diamond Core and Open Hole Percussion (Percussion) samples have informed the Mineral Resource estimate. Drilling data has been collected during numerous drilling campaigns, commencing in 1989. Sampling that was carried out during historical mining via trenching, open hole drilling with blast hole rigs and ditch witching has not been used in the Mineral Resource estimate.

The following series of drillholes have been drilled across the entire Big Rush project area and they include all the holes used in the Central Lode Mineral Resource Estimate.

BRRC001 – BRRC013 Billiton Australia (1989)

BRS14 – BRS27 Peko Exploration Ltd (1991)

BR028 – BR042 Golden Ant Mining Pty Ltd (1993)

BR042 – BR292 Alphadale Pty Ltd (1993 - 1996)

BRPD123, BRPD137 – BRPD140, BRPD164, BRPD170, BRPD170R, BRPD175, BRPD178, BRPD182, BRPD184 and BRPD216 Alphadale Pty Ltd (1993 – 1994)

BRDH293 – BRDH295 Alphadale Pty Ltd (1996)

BRRC296 – BRRC298 Alphadale Pty Ltd (1996)

BRRC1001 – BRRC1003 Curtain Brothers Qld Pty Ltd (2010)

BRRC1004 – BRRC1011 Great Northern Minerals Ltd (2019)

The Curtain Brothers drilling from 2010 and the GNM drilling in 2019 is considered to be "modern drilling" whilst the earlier drilling is by Billiton, Geopeko, Golden Ant and Alphadale considered "historic".

All programs have been well documented via annual reports and other historical records that describe data collection techniques which vary from company to company but are considered to reflect industry standards at the time. All drill logs and assay certificates are included in the historical annual reports and this has enabled construction of a comprehensive drill hole database.

The initial drilling program carried out by Billiton in 1989 consisted of 13 RC holes for 1,053m. The drilling was undertaken by Civil Resources Ltd utilising a CD350 Crawler rig. No details are recorded of the hammer type or size. Each hole was sampled at 1 metre intervals using a 75:25 riffle splitter with one sample in every twenty having a duplicate collected.

In 1991 Geopeko drilled a program of 2 HQ diamond holes for 158.65m and 12 RC holes for 1,329m. The diamond drilling was undertaken by Leanda Drilling, there is no record of the rig type. Core was halved by diamond saw and samples were taken at 1m intervals or at smaller intervals based on lithology. The RC drilling was undertaken by Stanley Mining Services, there is no record of the rig type. A 5 $^{1}/_{2}$" diameter face sampling hammer was used, and holes were sampled at 1m intervals. Initially 2m composite samples were sent for analysis and more selective 1m sampling was carried out on the better mineralised zones. Again, one sample in every twenty had a duplicate sample collected and assayed.

The Golden Ant Mining Pty Ltd and Alphadale Pty Ltd drill programs, whilst in different company names, were managed by the same technical team, with both companies effectively being controlled by Lynch Mining. Several drill programs were undertaken between mid-1993 and December 1996 utilising drill rigs from Leanda Drilling (UDR600), Professional Drilling Services (Schramm T985) and Ausdrill (UDR650). Table 2 summarises all the drilling during this period including eight holes that were re-entered and extended. A total of 248 holes for 14,474m were drilled.

Table 2: Golden Ant Mining and Alphadale Pty Ltd Drilling from 1993 - 1996

Program	No. Holes	Drill Type	Hole Name	4 1/2 " OHH	5 1/2 " OHH	4 1/2 " RC - X	5 1/8 " RC-FS	5 1/4 " RC-FS	HQ3 DDH
Jun-93	15	Perc	BR028 - 042	595					
Nov-93	65	Perc	BR043 - 107	2860					
Mar - May 94	15	RC	BR108 - 122				734		
	1	RC/DDH	BRPD123				21		51.5
	10	RC	BR124 - 133				547		
	4*	RC	BR054, BR056, BR102 and BR103			144			
	4	RC/DDH	BRPD137 - 140				39	215.15	188.55
	8	RC	BR134 - 136 and BR141 - 145					658	
Sept - Dec 94	51	RC	BR146 - 164, BR170, BR181 and BR186 - 215	22				3711	
	1*	RC	BRRC004					43	
	3*	Perc	BR081, 91 and 92	151					
	6	RC/DDH	BRPD170R, 175, 178, 182, 184, and 216		30			671.22	498.3
Apr-96	42	RC	BR217 - 218, BR220 - 236, BR238 - 248, BR250 - 261					1874	
Oct-96	25	RC	BR262 - 272, BR274 - 282, BR284 - BR285, BR288, BR291 - BR292					966	
Dec-96	3	DDH	BRDH293 - 295						306.45
	3	RC	BRRC296 - 298					350	
Total	**248**			**3628**	**30**	**144**	**1341**	**8488.37**	**1044.8**

*Holes that were re-entered and extended.

RC samples were collected at 1m intervals and run through a 75:25 riffle splitter. The 75% fraction was bagged and set aside for future use, while the 25% portion was re-split through a 50:50 riffle splitter. Half of the re-split sample was sent for analysis whilst the other half was discarded.

Diamond core was sampled to geological intervals in the mineralised zones and at nominal 1, 2 or 3m intervals outside of known mineralisation. The average sample width was 1.14m and they ranged from a minimum of 0.1m to a maximum of 3m. Core was halved by diamond saw. All drill core was oriented and down hole surveys were obtained using a single shot Eastman camera.

There was a hiatus in drilling between late 1996 and 2010. This coincided with a winding down from the peak mine production.

In 2010 Curtain Brothers drilled a short program of 3 RC holes for 356m. The drilling was undertaken by Orbit Drilling using a 140mm face sampling hammer. Samples were taken at 1m intervals and riffle split to produce a 2kg sample that was sent for analysis. The remainder of the drill chips were stored in plastic bags adjacent to the drill pad. Downhole surveys were taken but the camera type is not recorded. In 2014 Curtain Brothers ran a CTPS200 Camteq Camera Probe down these holes and several of the historical holes and recorded azimuth and dip values.

The GNM RC drill program carried out in December 2019 targeted key sections over the Big Rush Central Lode. The drilling was undertaken by Eagle Drilling from Charters Towers using a DE810 rig with a 5 $^{1}/_{2}$" diameter face sampling hammer. Samples were taken at 1m intervals from the rig mounted rotary splitter producing 2 – 3kg of sample for analysis with the remainder being collected in large plastic bags and stored adjacent to the drill pad. Downhole surveys were taken at nominal 30m intervals with a Reflex Ezi Trac multishot digital camera.

Sample recovery across all programs was recorded as a qualitative measure rather than quantitative. The drill logs from all programs recorded recovery as a visual assessment, generally as a tick in the box on the handwritten log. Where recovery was low, such as in the first one or two meters whilst collaring, the geologist recorded poor recovery. Overall recovery from all drilling was excellent.

Modern drill collars have been surveyed using a differential global positioning system (DGPS). Some historical collar locations were also checked in 2010 and 2014 with a DGPS unit. Golden Ant Mining purchased the project whilst mining was underway at the nearby Camel Creek mine. Records show that the mine surveyors recorded the locations of the Billiton and Geopeko holes shortly after the purchase. Camel Creek mine surveyors also recorded the early Golden Ant and Alphadale hole locations. Once mining commenced at Big Rush, mine surveyors were used to set out and pick up exploration drill programs in close proximity to the operation.

ANALYTICAL METHODS AND QUALITY ASSURANCE

Samples from the Billiton drilling program in 1989 were sent to Tetchem Laboratories in Cairns where they were analysed for Au by a 50gm fire assay and for As by XRF. One sample in every twenty had a duplicate sample collected and assayed.

Samples from the Geopeko diamond drilling program in 1991 were sent to ALS Laboratories in Townsville where they were analysed for Au initially by low detection 50gm fire assay, method PM219, and then by higher detection method PM209 where the better grades were identified. Samples were also analysed for Cu, Pb, Zn, Ag, As, Sb, Mo and Hg by ICP method IC588. Original assay certificates are stored with the hard copy annual reports of the time.

Samples from the Geopeko RC drilling in 1991 were also sent to ALS laboratories in Townsville and assayed for Au by 50gm fire assay (PM209) and for Cu, Pb, Zn, Ag, As, Sb, Mo and Hg by ICP method IC586. One sample in every twenty had a duplicate sample collected and assayed. Original assay certificates are stored with the hard copy annual reports of the time.

For the Golden Ant and Alphadale drill programs all samples were sent to Analabs Laboratory in Townsville. Au was assayed by 30gm fire assay with AAS finish, method GG309, and As by XRF, method GX401. Arsenic was not routinely assayed during this period. Alphadale adopted a policy of Au analysis by Aqua Regia (GM329) for the oxide areas only. Under that policy all Au grades above 0.3g/t were re-assayed by 30gm fire assay and by XRF for As. The primary zone continued to be assayed by 30gm fire assay. Original assay certificates, or copies of originals, for these programs are stored with the hard copy annual reports.

Samples from the Curtain Brother program in 2010 were sent to SGS Laboratories in Townsville and analysed for Au by 50gm fire assay.

Samples from the GNM program in December 2019 were sent to Intetek Laboratories in Townsville. Gold was assayed by 50gm fire assay and a suite of multi elements by four acid digest with ICP finish. The QAQC for this program included certified standards being inserted every 20 samples, duplicates being taken with every 20th sample and blanks being inserted randomly.

The inconsistency in QAQC across the various drilling programs means that sampling precision, analytical accuracy and carry over contamination were not always able to be assessed. Data collection methods are quite well known, however, and reputable laboratories were used which gives some confidence in the data.

Historical mining records at the Big Rush central pit also support the accuracy of the sampling and the laboratory analysis. A large portion of the drilling, sampling and assaying practices documented here supported the original mining inventory estimates that lead to a decision to successfully mine the upper portion of the deposit.

DEPOSIT GEOLOGY AND GEOLOGICAL MODELLING

The Big Rush project area is situated within the mudstone, siltstones and fine to coarse grained sub-lithic arenites of the mid Devonian Mytton Formation, which is the upper most member of the Broken River Group. Big Rush is in an area of NE-SW trending structural anomalism, characterised by intense parasitic folding, strong axial planar cleavage development, variable fold plunges and fold related shearing/faulting in a zone traceable for almost 3km.

Mineralisation is hosted within quartz veins in interbedded siltstones, shales and sandstones of the Mytton formation. The deposit contains all the elements of a classic saddle reef environment with axial planar veins and hinge stockworks dominating. Higher grade laminated veins in the central zone are coincident with the presence of carbonaceous siltstones and shales, both as wall rock and laminae in the veins.

In the primary mineralised zone analysis shows a very strong correlation between gold and arsenopyrite and a moderate correlation between gold and quartz veining.

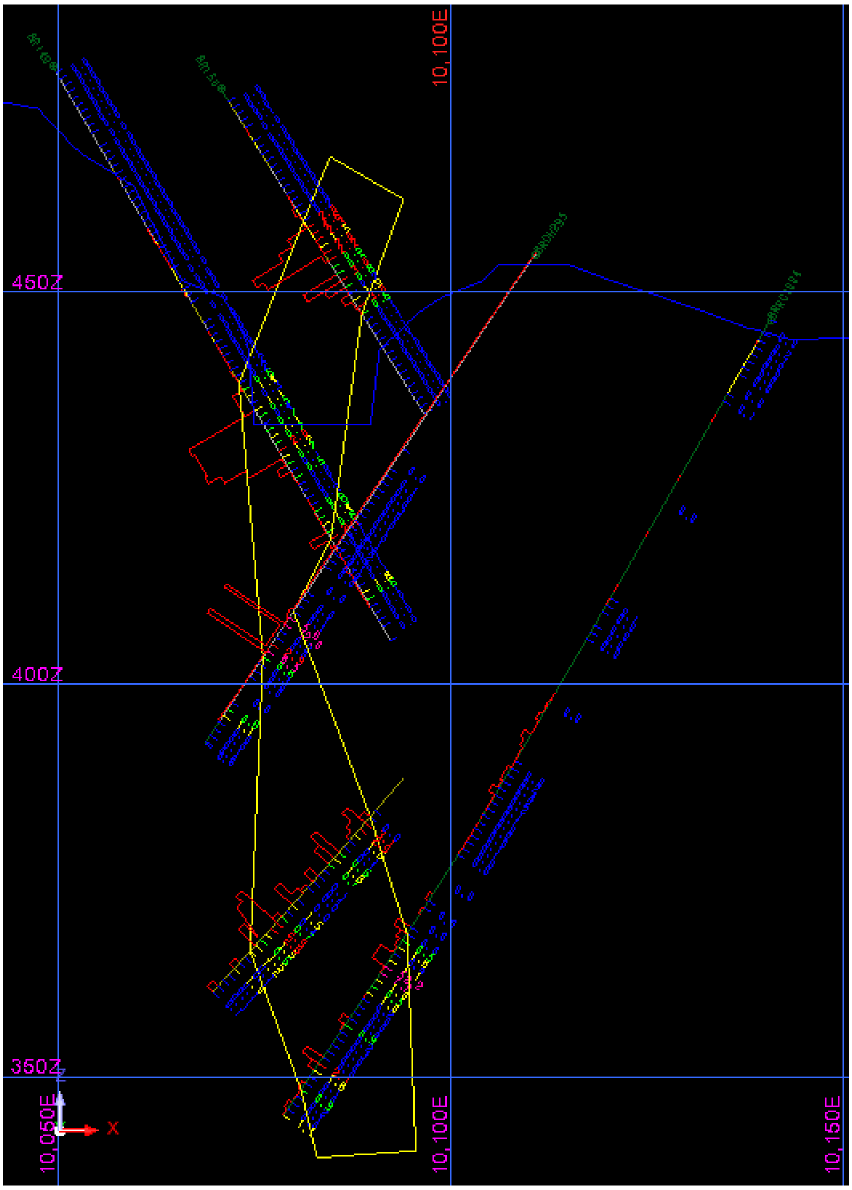

Figure 1: Cross Section through Big Rush Central Lode at 11290N with Au values in ppm on the right and quartz percentages graphed on the left. The yellow outline is the modelled mineralisation.

Strings were created on 20m sections throughout the deposit to enable creation of 3D domain shapes. A combination of geology (mainly quartz content), Au assays, logged sulphide percentages and general confidence in continuity were used as the basis for the domain boundary. The Central Lode is made up of four separate domains. Domain 1 makes up 86% of the resource and domain 4 makes up 12%. Domains 2 and 3 are very small and combined make up only 2% of the resource.

Historical mining has removed the auriferous oxide ore that was amenable to extraction by cyanide leaching. The primary mineralisation that remains is refractory with gold strongly associated with arsenopyrite. Metallurgical test work carried out on the primary ore by Amdel for Werrie Gold Ltd as part of the pre-mining feasibility study in 1994 showed that gravity could recover approximately 70% of gold in the three samples tested. A higher recovery may be achievable by flotation, but more test work is required to assess this.

ESTIMATION METHODOLOGY

Statistical analysis was completed using Surpac software. Sample data were composited to 1m lengths, which is consistent with the dominant sample length for the project. Top cuts were applied to the main domain after reviewing the histograms and adopting a cut at the 99th percentile which coincided with the extreme outliers. The top cut for domain 1 was 44.4g/t for Au.

A block model was constructed using Surpac software. A block size of 10m N x 2m E x 5m RL was chosen along with sub-blocking to 1.25m x 0.25m x0.625m. The parent block size reflects the drill spacing and can be applied to a mining unit in a small selective open pit or underground operation. The sub-block size allows for good definition of the ore zone.

Grades were interpolated into the blocks from the 1m composites using the inverse distance squared estimation method with a 5 to 1 flattening anisotropy. Search parameters honoured the geometry of the modelled mineralised domains with search distances restricted to between 30 and 60 metres for most of the modelling to reflect the close spaced drilling. A final pass of 100m was required to populate the margins. The domain boundaries for the mineralised lodes were honoured by the estimate as a hard boundary; that is no composite data from outside of each individual domain was used to inform the grade of blocks within that domain.

The paucity of arsenic data prevented estimation across all of the domains. An estimate was able to be carried out for domain 1 within the indicated zone. The As grade from this estimate was applied to the remainder of the resource. More As assays in future drilling are required to improve this estimate.

The estimation process was validated by comparing global block grades with the average composite grades, visual checks comparing block grades with raw assay data and volume checks of the ore domain wireframes versus the block model volume.

An in-situ dry bulk density of 2.6 t/m^3 was applied to the ore zones and 2.5 t/m^3 to waste blocks in the model. In the absence of measured density data, this was based on the average density of siltstone and quartz with an allowance made for presence of pyrite and arsenopyrite in the primary zone.

The collection of density data needs to be a focus for future drilling programs.

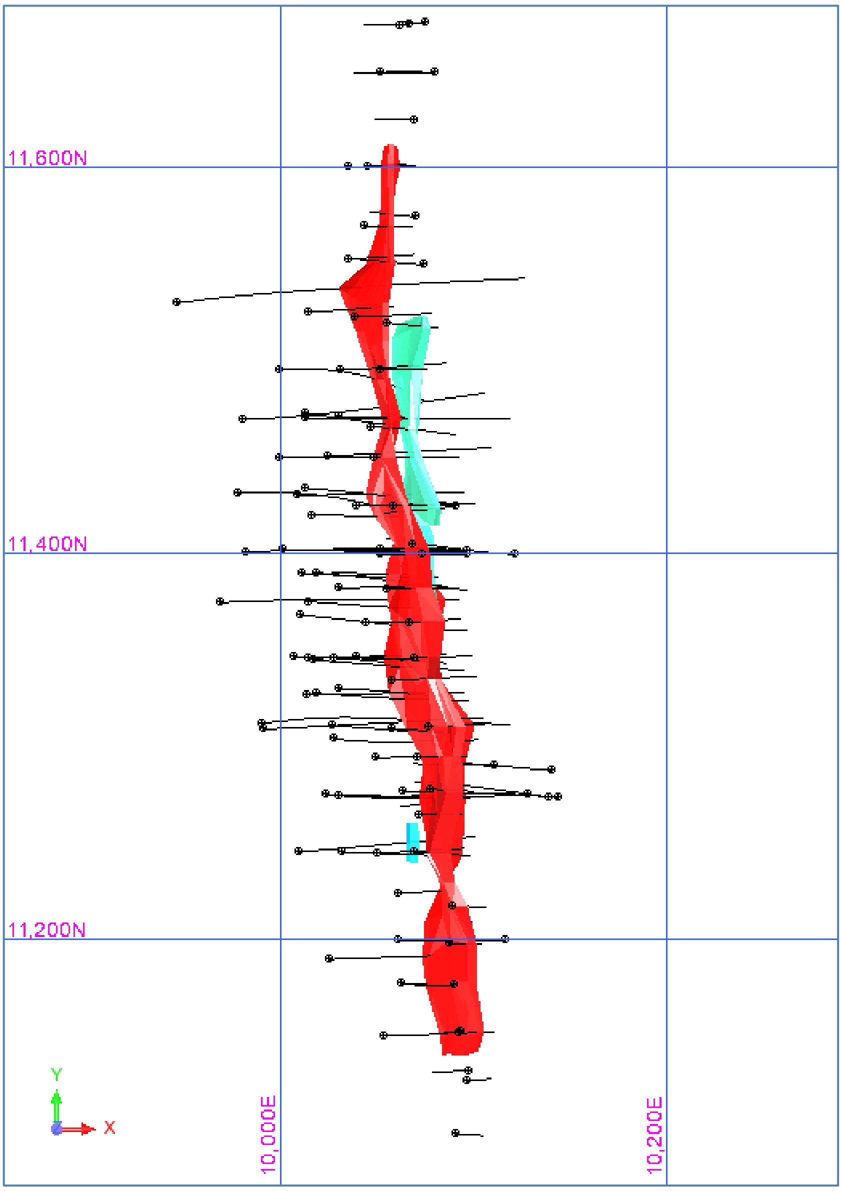

Figure 2: Plan view in Local Mine Grid of the Big Rush Central lodes and drill traces

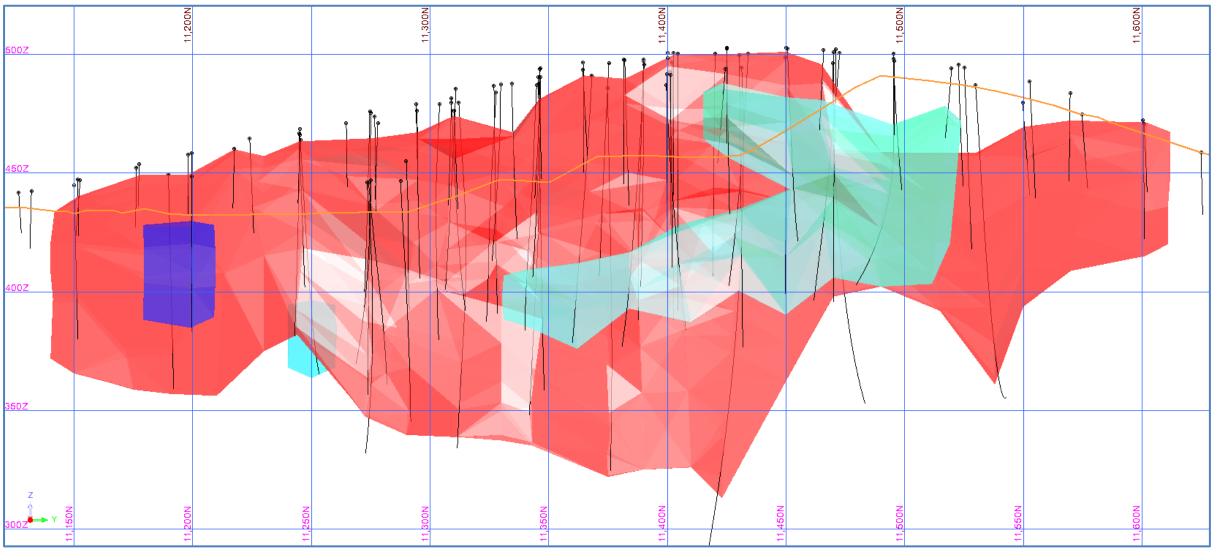

Figure 3: Long Section view in local mine grid of Big Rush Central lode showing drilling used in the resource estimation and the historical mining surface (50m grid spacing)

CLASSIFICATION

The Mineral Resource estimate has been classified as Indicated and Inferred in accordance with guidelines contained in the JORC Code. The classification applied reflects drill spacing, the estimation passes required to estimate grades into the block model and the validation of historic data by the recent drilling program.

Figure 4 shows a long section of the Mineral Resource with and the drill intersections used in the estimate. The Indicated category lies within the black outline.

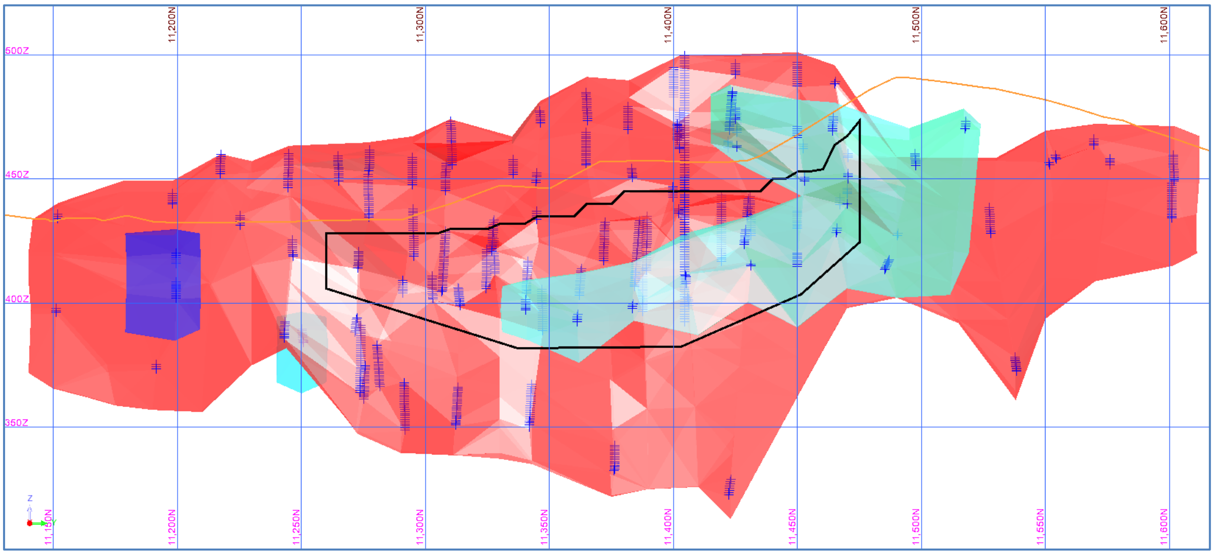

Figure 4: Long Section view in local mine grid of Big Rush Central lode showing drill composite used in the resource estimation and the historical mining surface and the Indicated Resource outline in black (50m grid spacing)

MODIFYING FACTORS

The selected cut-off grade assumes an open pit mining method. This is considered reasonable given the shallow nature of the mineralisation and the historical open pit mining that has occurred at the site previously. However, there is an option to pursue a small high-grade zone within the central lode which would be extracted by underground mining.

The table below shows the Mineral Resource reported at a range of cut-off grades.

Table 3: Big Rush Central Mineral Resource Estimate at various Au cut-off grades

	Indicated			Inferred			Total Big Rush Central Lode		
Cut- off Au g/t	**Tonnes**	**Au g/t**	**Ounces**	**Tonnes**	**Au g/t**	**Ounces**	**Tonnes**	**Grade**	**Ounces**
0	255,011	3.28	26,892	491,352	1.48	23,380	**746,363**	**2.10**	**50,272**
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1.75	139,517	5.16	23,146	117,836	3.27	12,388	**257,353**	**4.29**	**35,534**
2	123,656	5.58	22,184	97,146	3.56	11,119	**220,802**	**4.69**	**33,303**

Metallurgical test work carried out on the primary ore by Amdel for Werrie Gold Ltd as part of the pre-mining feasibility study in 1994 showed that gravity could recover approximately 70% of gold in the three samples tested. Further metallurgical test work is recommended to assess gold recovery to concentrate via flotation when new material becomes available from future drilling programs.

COMPETENT PERSONS STATEMENT

The information in this report that relates to the Mineral Resource estimate is based on information compiled by Mr Andrew Beaton. Mr Beaton is a Member of the Australasian Institute of Mining and Metallurgy and is a part time consultant to Great Northern Minerals Ltd. Mr Beaton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Beaton consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The deposit has been primarily sampled via Reverse Circulation (RC) drilling along with some and Open Hole Percussion (Percussion) and some diamond drilling. A total of 107 intersections were used from 80 individual drill holes. Those 80 holes were comprised of 54 RC, 17 Percussion, 5 Diamond holes from surface and 8 Diamond holes with RC pre-collars. • For the drill programs completed in 2010 and 2019 (11 RC holes) RC chips were collected in 1m intervals from a rotary splitter on the side of the drill rig. A 2-3kg sample was collected in a calico bag for dispatch to the lab for pulverising to produce a 50g charge for fire assay, and the remainder of the sample was collected in plastic bags and stored adjacent to the drill rig. During the 2010 program a portable XRF unit was used to analyse for As which assisted in refining the intervals submitted to the laboratory for full analysis. • The historical RC and Percussion holes were drilled between 1989 and 1996 by Billiton (BRRC1 – 13), Geopeko (BRS16 – 27) and Golden Ant Mining/Alphadale Pty Ltd (BR28 – 292 and BRRC296 – 298). Samples were collected in 1m intervals for all of these programs and riffle split to produce either a 1m sample or occasionally 2m composites which were submitted for pulverising to produce a 30g or 50g charge for fire assay. Some of the BR series of holes were initially analysed by Acqua Regia with follow up fire assay. • Diamond drilling was completed using HQ3 diameter coring. The two holes drilled by Geopeko (BRS14 and 15) were cored from surface as were Alphadale holes BRDH293 – 295. All other diamond holes had RC pre-collars (BRPD series). Drill core was sampled to geological boundaries or nominally to 1m. Sample widths ranged from 0.1m to 3m averaging 1.14m, with half core samples being submitted for pulverizing to produce a 50g charge for fire assay.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Most holes drilled at Big Rush have been RC with a lessor amount of open hole Percussion and a smaller amount again of diamond drilling. Percussion drilling was done with a $4^1/_2$ inch hammer and some collars put in with a $5^1/_2$ inch hammer. RC drilling was done with face sampling hammers ranging from $5^1/_8$ inch to $5^1/_2$ inch with one hole

Criteria	JORC Code explanation	Commentary
		that was extended utilizing a $4^1/_2$ inch cross over sub. • Diamond drilling has been by HQ triple tube. The BRPD series of holes were oriented using the "porcupine" orienting device.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Core was drilled as HQ triple tube to maximise recovery. The logs refer to some crush zones where core was particularly broken, but there is no mention of core loss in any of the logs except where the holes were collared from surface. • Sample recovery across all RC programs was recorded as a qualitative measure rather than quantitative. The drill logs from all programs recorded recovery as a visual assessment, generally as a tick in the box on the handwritten log. Where recovery was low, such as in the first one or two meters whilst collaring, the geologist recorded poor recovery. Overall recovery from all RC drilling was excellent. • No cavities were encountered in RC drilling and no underground workings exist in the area. All care was taken by the drilling contractor in the modern drilling to maximise RC sample recovery. • No testing has been conducted to identify whether a relationship exists between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All RC and Percussion samples from both modern and historical drill programs were geologically logged for lithology, alteration, mineral occurrence, sulphide percentage, quartz veining and weathering by geologists. A small sub sample was collected for each meter in plastic chip trays for future reference. • All diamond core was geologically logged for lithology, alteration, mineral occurrence, quartz veining and weathering by geologists. All Alphadale diamond core was photographed. No photographs could be located for the two Geopeko diamond holes. The later BPDH series of Alphadale holes were structurally logged by a consultant geologist. • The logging of both core and chips in all programs is qualitative in nature
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the*	• Drill core where sampled was half cut. • RC samples from the modern drilling programs have been split by a rotary splitter attached to the drill rig. A 2 – 3Kg sample was collected for lab submission and the remainder of the 1m sample is stored on site in plastic bags. All samples were dry.

Criteria	JORC Code explanation	Commentary
	sample preparation technique. • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• RC samples from the Billiton program in 1989 were riffle split through a 75:25 splitter. There is no record of how the RC samples were taken during the Geopeko program. For Golden Ant Mining/Alphadale programs the samples were riffle split initially through a 75:25 splitter before the 25% portion was re-split through a 50:50 riffle splitter. • Field duplicates were taken during the Billiton and Geopeko programs and generally demonstrate good repeatability indicating that the sampling techniques were appropriate. Some coarse gold was noted in the primary zones by Alphadale, but there are no records of field duplicates with that data. Field duplicates in the recent GNM program produced exceptionally good repeatability for a gold deposit demonstrating the advantages of good rig mounted rotary splitters as opposed to the older manual riffle splitters. • The sample sizes were not recorded for any of the drilling programs but are industry standard sample sizes and are deemed appropriate to provide representative samples of the deposit. Historic mining suggests that the sampling carried out in the drilling prior to mining commencing was ultimately representative of the deposit.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• The analytical work for the historical programs was completed by Tetchem Laboratories in Cairns, ALS Laboratories in Townsville and Analabs Laboratory in Townsville, all NATA accredited laboratories, using standard minerals industry sample preparation and analytical methods. Hard copy assay results for all of the historical drilling is still on hand. The analytical work for the modern drilling programs was completed by SGS and Intertek Laboratories in Townsville, also both NATA accredited facilities. • From both historical and modern drill programs samples were dried, crushed and pulverized to -75 microns prior to weighing out an assay split. Assay methods were 30g or 50g fire assays with an AAS finish. Fire assay is considered to be a total digestion technique for gold. Some of the Alphadale programs utilized Aqua Regia analysis for Au initially on samples in the oxide zone which were followed up by 30g fire assays for samples over 0.3g/t Au. • A handheld XRF instrument was utilized in the modern drill program to assist with identifying anomalous samples by their arsenic values. No XRF readings have been used the Mineral Resource Estimate. • Apart from the field duplicates mentioned above, no QAQC data was available from the historical drilling.

Criteria	JORC Code explanation	Commentary
		• The modern drilling utilized certified reference standards, field duplicates and blanks. Three different standards were used, and they were inserted at a rate of 1 standard for every samples taken. Whilst the population only amounts to 45 standards, the results were good with all standards reporting within 3 standard deviations and 93% within 2 standard deviations of the reference material. All bar one of the blanks reported below detection with one blank reporting 0.005g/t Au.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Multiple phases of drilling by different companies have resulted in similar results. The modern drilling program featured holes within 5m of historical intersections that helped confirm the veracity of the historical data. • Historical mining at Big Rush between 1995 and 1998 demonstrated the structural continuity of the lodes and produced ore grades expected from the historical drilling. Hard copy records of pit reconciliations reveal that expected tonnes and grades were generally encountered. • Multiple holes on adjacent sections help confirm continuity of mineralization. • The project data is held in both digital and hard copy formats. • There have been no adjustments to the assay data as received from the laboratories with the exception of high-grade cuts being applied to composites for the estimation.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• No records of how the Billiton or Geopeko drill collars were initially surveyed, however there are records of these collars being surveyed after the project was purchased by Golden Ant Mining Pty Ltd in 1993. The collars were surveyed by the mine surveyors from the Camel Creek mine which was also owned and operated by Golden Ant Mining Pty Ltd. All Alphadale holes were then surveyed by the Camel Creek Mine surveyors until such time as the Big Rush mining operation commenced, after which the Big Rush mine surveyors picked up all drill collars. • All of the modern drill hole collars were surveyed by Terra Search using a differential GPS unit. • There is no detail for downhole surveys in the historical drilling. Holes are quite shallow, so it is possible that no downhole surveys were used. • The modern drilling has been down hole surveyed with either a

Criteria	JORC Code explanation	Commentary
		Camteq ProShot digital single shot camera or a Reflex multi shot digital camera. • Drill collar co-ordinates are recorded in GDA94 (MGA Zone 55) and then transformed to the Big Rush mine grid. • Aerometrex 2008 aerial imagery was used to create a DTM surface for the Big Rush area. The pit surface was adjusted down from the aerial survey level by using the historical grade control trenching and blast hole drilling data. This was necessary due to historic pit was failures that cover the floor.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The spacing of drill hole collars and sample intervals down hole are appropriate for the nature of the mineralisation. The Central lode has been drilled out on average spacings of 20m x 20m and this spacing provides evidence of geological continuity for the purposes of resource estimation. • Sample compositing to 1m down hole lengths has been used for the resource estimation. This reflects the most common sample interval for all drill programs.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The majority of drill holes in both the historical and modern drilling programs have been oriented perpendicular to the target structures. • The relationship between the drilling orientation and the orientation of the minerlised structures is not considered to have introduced a sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• Drill samples were dispatched to Tetchem laboratories in Cairns, ALS, Analabs and SGS laboratories in Townsville, all NATA accredited laboratories, by the project geologist. Hardcopy chain of custody forms from the modern drilling programs have been sighted. Details of sample transportation from the historical programs are not available.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of sampling techniques and data have been carried out.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Big Rush deposit lies wholly within Mining Leases MLs 10168, 10175 and 10192 which are held by Alphadale Pty Ltd. • Great Northern Minerals (GNM) has exercised an option agreement to purchase up to 100% of the Mining Leases listed above from Q-Generate Pty Ltd, the owner of Alphadale Pty Ltd. • The Mining Leases are granted. • There are no known impediments to Great Northern Minerals Ltd obtaining a license to operate on MLs 10168, 10175 and 10192.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Big Rush Central area has been the subject of substantial previous exploration, resource definition drilling and mining operations. • Billiton Australia discovered the Big Rush deposit using a combination of Bulk Cyanide Leach stream sediment samples, soil samples, rock chip samples and geological mapping in 1989. The first drillholes were put in by Billiton in November 1989 (BRRC001 – 013). • In late 1990 a joint venture agreement between The Shell Company of Australia (parent company of Billiton Australia) and Peko Exploration Ltd was executed with Geopeko being the manager of the project. Further RC (BRS16 – 27) and diamond (BRS14 and 15) drilling programs were carried out in 1991 before Peko Exploration Ltd withdrew from the joint venture in early 1992 citing a lack of size about the deposit. • Billiton subsequently offered the tenements for sale and they were purchased by Golden Ant Mining Ltd (GAML), a member of the privately owned Lynch Group of companies. Following the listing of Lynch's public company Werrie Gold Ltd on the ASX in November 1993, the tenements were transferred into Alphadale Pty Ltd, the exploration arm of Werrie Gold Ltd. The bulk of the RC, diamond and percussion drilling on the project was carried out by Alphadale Pty Ltd between 1993 and 1996. During the same period Werrie Gold Ltd developed and mined four open pits along the Big Rush mineralised system. • In 2008 Curtain Brothers, a private company based in Townsville, entered into a joint venture with Alphadale Pty Ltd to explore the tenements. Curtain Brothers drilled three RC holes beneath the central pit at Big Rush in 2010 (BRRC1001 – 1003).

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Big Rush project area is situated within the mudstone, siltstones and fine to coarse grained sub-lithic arenites of the mid Devonian Mytton Formation, which is the upper most member of the Broken River Group. Big Rush is in an area of NE-SW trending structural anomalism, characterised by intense parasitic folding, strong axial planar cleavage development, variable fold plunges and fold related shearing/faulting in a zone traceable for almost 3km. Mineralisation is hosted within quartz veins in interbedded siltstones, shales and sandstones of the Mytton formation. The deposit contains all the elements of a classic saddle reef environment with axial planar veins and hinge stockworks dominating. Higher grade laminated veins in the central zone are coincident with the presence of carbonaceous siltstones and shales, both as wall rock and laminae in the veins. In the primary mineralised zone analysis shows a very strong correlation between gold and arsenopyrite and a moderate correlation between gold and quartz veining. Historical mining has removed the auriferous oxide ore that was amenable to extraction by cyanide leaching. The primary mineralisation that remains is refractory with gold associated with arsenopyrite and to a lesser extent pyrite. Metallurgical test work carried out on the primary ore by Amdel for Werrie Gold Ltd as part of the pre-mining feasibility study in 1994 showed that gravity could recover approximately 70% of gold in the three samples tested.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *down hole length and interception depth*
	  • *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly*
		• Drill holes that are material to this mineral resource estimation are summarized below (Appendix 1 Big Rush Central Drill Hole Data)

Criteria	JORC Code explanation	Commentary
	explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• The drill intercepts reported in Appendix 1 are on a length weighted basis. No high-grade cuts have been applied to the tabled intersections. • Lengths of low-grade material have been incorporated where the adjacent higher grades are sufficient such that the weighted average remains above the lower cut-off grade. • No metal equivalents are used or presented.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Drilling is generally perpendicular to the structure by angled holes at 45º to 68º into structures dipping between 70º and 90º. One vertical hole was drilled. Some of the reported intersections are very close to true width. The apparent width is accounted for with the three-dimensional wireframe models of the mineralised structures.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Maps and sections are presented in the announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All intersections incorporated in the Mineral Resource Estimate have been included in Appendix 1 including any lower grade zones.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Metallurgical test work carried out on the primary ore by Amdel for Werrie Gold Ltd as part of the pre-mining feasibility study in 1994 showed that gravity could recover approximately 70% of gold in the three samples tested. Further work is required to test gold recoveries by flotation to a concentrate. • No density data was available from the existing data set, so a density has been applied based on the rock types.

Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*
		• Further work will include;
		  • Drill testing for extensions to the known mineralization, mostly down dip and along strike.
		  • Additional metallurgical test work to determine the most appropriate process route for gold recovery.
		  • Complete an initial Scoping Study on the economics of

Criteria	JORC Code explanation	Commentary
		re-establishing a gold producing operation at Big Rush.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The drill hole database including geology and assay information was built in Microsoft Access from available Excel files that came from the vendor and from hardcopy logs and historical reports. Basic cross validation checks were carried out when importing the data through Surpac. • Drill hole locations and significant intercepts in the database were checked against historical plans and cross sections to verify the relative location. • A small number of randomly selected original assay sheets from the historical drilling were compared to the database for verification of the assays.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Andrew Beaton visited the site on September 18th, 2019. Drill collars and the historical pits were inspected. RC chips from Curtain Brothers drill program and core from the Alphadale programs were also inspected by Andrew Beaton at the Mt Moss mine site on October 17th, 2019.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The confidence in the overall geological interpretation is moderate given the reliance on the historical drilling. This is offset somewhat by the successful historical mining and the more recent drilling that supports the historical data. • Where continuity was considered sufficient the lodes were wireframed on sections 20 meters apart and perpendicular to the strike with a minimum width of 1m. • The primary mineralized zones are characterized by quartz veining and the presence of sulphides, particularly arsenopyrite. The central modelled lode is continuous, and the interpretation includes sub grade drill intercepts where necessary to maintain a continuous structure. • The continuity of the lode structures modelled are demonstrated by drilling and the historically mined pits.
Dimensions	• *The extent and variability of the Mineral Resource expressed as*	• The Big Rush Central lode is quite shallow having been mined

Criteria	JORC Code explanation	Commentary
	length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	originally from surface outcrops. The area of historic excavation for the Central lode covers approximately 350 meters of strike with the pit not exceeding 45m in depth. Widths vary from 1m on the periphery to over 15m in the broader stockwork zones. • Mineralization has been defined on one main lode with three smaller parallel lodes. In long section the overall dimension for the remaining portion of the lodes are; • 450m long by up to 130m deep
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• A block model was constructed using Surpac software. A block size of 2m E x 10m N x 5m RL was chosen along with sub-blocking to 0.25m x 1.25m x 0.625m. This reflects a practical single mining unit in a shallow open pit selective mining environment, or alternatively a small high grade underground environment. • Grades were interpolated into blocks using 1m composites by length weighted inverse distance squared methodology. A 5 to 1 flattening anisotropy was used based on the wireframe geometry. • The presence of significant levels of As are noted, but the lack of assay data (less than 13% of the Au assays) precluded a full estimation from being carried out. An estimate was able to be carried out for domain 1 within the indicated zone. The As grade from this estimate was applied to the remainder of the resource. Future drilling programs will boost the data set and enable a better estimation of As. • Given the 20m drill spacing the search parameters were restricted to a 30m radius for the first pass and 60m for the second pass. A third pass utilizing 100m was required for a minor amount of blocks around the margin. All blocks were populated after the third pass. • The domain boundaries for the mineralised lodes were honoured by the estimate as a hard boundary; that is no composite data from outside of each individual domain was used to inform the grade of blocks within that domain. • After a review of the assay dataset statistics several outliers were evident. A high grade cut for Au was set at the 99th percentile for the main Central Lode domain. This resulted in a high grade cut of 44.4g/t. • The estimation process was validated by comparing global block grades with the average composite grades, visual checks comparing block grades with raw assay data and volume checks of the ore domain wireframes versus the block model volume.

Criteria	JORC Code explanation	Commentary
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• All tonnages are estimated on a dry basis and moisture content is not considered in the resource estimate.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• When constructing the mineralized wireframes, a nominal cut-off of 0.3g/t was adopted. The resource estimate has been reported at a cut-off of 0.75g/t which is considered reasonable given the shallow nature of the mineralisation and the historical open pit mining that has successfully been undertaken on the site previously.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Mining at Big Rush will be by open pit methods. The wireframes have been modelled using a minimum horizontal thickness of approximately 1.25m which is in line with selective mining methods in a shallow open cut. This would also be suitable for a narrow high grade underground mining method. • Grade control in the historic pits included trenching, blast hole sampling and ditch witching. Quartz veining also provided good visual control.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Metallurgical test work carried out on the primary ore by Amdel for Werrie Gold Ltd as part of the pre-mining feasibility study in 1994 showed that gravity could recover approximately 70% of gold in the three samples tested. • Further metallurgy test work is recommended.
Environmen-tal factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Environmental considerations have not been factored into this mineral resource estimate. The assumption has been made that the waste material can be disposed of in a mine waste dump, as has historically happened on site.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the*	• The bulk density for the mineral resource estimate is assumed. An in-situ dry bulk density of 2.6 t/m³ was applied to the ore zones and

Criteria	JORC Code explanation	Commentary
	frequency of the measurements, the nature, size and representativeness of the samples. • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	2.5 t/m^3 to waste blocks in the model. In the absence of measured density data, this was based on the average density of siltstone and quartz with an allowance made for presence of pyrite and arsenopyrite in the primary zone.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The mineral resource has been classified following due consideration of all criteria contained in Section 1, Section 2 and Section 3 of the JORC 2012 Table 1. • The Mineral Resource estimate has been classified as Indicated and Inferred in accordance with guidelines contained in the JORC Code The classification applied reflects the drill density, the estimation passes required to estimate grades into the block model, the quality of the historical drilling records and the validation of historic data by the recent drilling program. Appropriate account has been taken of all relevant criteria including data integrity, data quantity, geological continuity and grade continuity. • The mineral resource estimate appropriately reflects the Competent Person's views of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The current model has not been audited by an independent third party.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The resource estimate is deemed to be an accurate reflection of both the geological interpretation and tenure of mineralization within the deposit. • The mineral resource statement relates to a global tonnage and grade estimate. Grade estimates have been made for each block in the block model. • There are no records of historic production data being compared against a block model when mining was carried out between 1995 and 1998. Reports do compare mined tonnes and grade to polygonal estimates on individual mining benches and show reasonable correlation.

Appendix 1 Big Rush Central Resource Drill Hole Intercept Data

Hole	Northing (GDA94_55)	Easting (GDA94_55)	Azimuth	Dip	EOH Depth	From	To	Width	Grade (Au g/t)
BR031	7851720	264480	125	-56	30	16	22	6	0.64
BR032	7851734	264495	127	-56.5	30	0	10	10	0.71
BR033	7851768	264498	127	-54	39	10	28	18	1.51
BR034	7851787	264526	128	-56.5	39	11	22	11	4.13
BR035	7851812	264547	122	-57.5	50	3	15	12	1.88
BR035	7851812	264547	122	-57.5	50	21	25	4	0.94
BR036	7851844	264564	123	-55	50	12	19	7	1.59
BR037	7851860	264575	121	-54.5	45	10	25	15	0.86
BR039	7851911	264608	125	-54	50	7	13	6	2.84
BR039	7851911	264608	125	-54	50	29	36	7	0.77
BR040	7851889	264633	300	-49	54	11	33	22	1.56
BR040	7851889	264633	300	-49	54	38	43	5	1.37
BR041	7851949	264627	129	-54	42	15	17	2	0.43
BR041	7851949	264627	129	-54	42	33	41	8	1.35
BR042	7851796	264514	124	-54	50	27	50	23	7.36
BR098	7851682	264453	124	-52	30	14	17	3	2.21
BR100	7851824	264531	127	-55	57	31	46	15	11.98
BR101	7851874	264558	124	-52	60	35	53	18	1.66
BR102	7851924	264594	124	-51	93	33	44	11	0.69
BR102	7851924	264594	124	-51	93	50	52	2	0.54
BR103	7851952	264600	122	-51.5	119	49	52	3	1.08
BR103	7851952	264600	122	-51.5	119	67	70	3	0.56
BR105	7851984	264669	131.3	-54.1	40	27	32	5	1.24
BR134	7851793	264470	127	-56	108	92	102	10	1.75
BR135	7851816	264488	127	-56.5	99	69	79	10	1.70
BR136	7851846	264510	129	-58	105	68	101	33	13.59
BR146	7851707	264423	123	-55	79	57	60	3	0.36
BR147	7851756	264428	123	-55	110	90	93	3	0.77
BR148	7851782	264512	124	-50	35	15	29	14	5.30
BR149	7851818	264515	123	-59.5	85	47	70	23	0.76
BR150	7851805	264531	124	-58	49	20	34	14	1.79
BR151	7851867	264510	124	-55	127	74	94	20	3.35
BR152	7851843	264548	122	-60	79	34	42	8	1.97
BR153	7851781	264483	122	-55	79	50	59	9	1.23
BR154	7851880	264523	123	-65	151	93	113	20	3.24
BR155	7852058	264707	124	-55	61	29	47	18	1.44
BR163	7851975	264604	125	-55	150	71	75	4	0.96
BR163	7851975	264604	125	-55	150	80	81	1	20.10
BR181	7851948	264574	124	-55	150	69	72	3	2.54
BR181	7851948	264574	124	-55	150	80	89	9	6.35
BR181	7851948	264574	124	-55	150	102	104	2	0.13
BR186	7851758	264477	122	-51	51	37	43	6	1.17
BR187	7851880	264577	125	-56	63	22	34	12	2.32
BR188	7851897	264559	123	-52	81	55	61	6	0.74
BR189	7851964	264618	126	-55	75	52	55	3	2.72

Hole	Northing (GDA94_55)	Easting (GDA94_55)	Azimuth	Dip	EOH Depth	From	To	Width	Grade (Au g/t)
BR189	7851964	264618	126	-55	75	63	67	4	0.74
BR190	7851994	264703	310	-49	51	30	32	2	3.08
BR191	7852016	264716	311	-55	39	20	24	4	1.27
BR214	7852003	264611	125.1	-61.4	124	86	88	2	0.78
BR214	7852003	264611	125.1	-61.4	124	101	108	7	0.86
BR215	7852015	264642	121	-60	88	64	77	13	0.44
BR262	7852022	264676	121	-55	60	35	38	3	2.83
BR264	7851988	264634	122	-54.7	80	53	61	8	1.07
BR265	7852030	264693	126	-55	45	21	25	4	2.87
BR266	7852052	264715	120.5	-54.4	35	13	27	14	0.95
BRDH293	7851858	264524	126	-56	89.95	65	81	16	2.24
BRDH294	7851821	264483	126	-56.9	141.23	100	133	33	2.31
BRDH295	7851775	264559	308	-55	75.27	55	62	7	4.00
BRPD137	7851864	264542	127	-53.5	69.3	52.27	58	5.73	2.45
BRPD138	7851872	264533	126.2	-60	105.4	66.75	71.45	4.7	1.33
BRPD139	7851886	264518	125.5	-68	159.6	136.85	158.06	21.21	1.06
BRPD140	7851903	264543	129.5	-58.5	108.4	76	96.4	20.4	2.37
BRPD164	7851808	264453	120	-55	137	93	102	9	1.12
BRPD170	7851868	264481	122	-49	146	110	127	17	2.66
BRPD170R	7851871	264483	119	-60	195.44	147	171	24	1.94
BRPD175	7851932	264508	122.8	-62	204.43	179.25	194.2	14.95	1.41
BRPD182	7851969	264552	120	-66.1	234.43	182.9	191	8.1	1.15
BRPD216	7852064	264594	116.8	-65.6	240.5	140.18	153.3	13.12	0.69
BRRC002	7851882	264603	305	-56	80	4	19	15	2.40
BRRC003	7851867	264620	305	-58	81	53	59	6	8.77
BRRC004	7851850	264640	308.9	-60.2	123	89	94	5	1.24
BRRC004	7851850	264640	308.9	-60.2	123	100	105	5	1.90
BRRC005	7851739	264461	125	-56	90	49	52	3	2.12
BRRC005	7851739	264461	125	-56	90	60	69	9	0.68
BRRC006	7851703	264503	305	-56	80	34	37	3	1.02
BRRC006	7851703	264503	305	-56	80	49	52	3	0.70
BRRC1001	7851744	264569	312.5	-54.3	110	80	103	23	1.13
BRRC1002	7851752	264562	303.2	-53.1	102	67	76	9	1.58
BRRC1003	7851740	264573	311.3	-57.4	150	88	107	19	2.73
BRRC1004	7851753	264580	310	-60	119	91	115	24	3.05
BRRC1005	7851840	264506	130	-60	125	81	94	13	0.90
BRRC1006	7851865	264514	130	-55	125	77	99	22	1.78
BRRC1007	7851879	264524	130	-60	131	83	101	18	2.88
BRRC1007	7851879	264524	130	-60	131	104	111	7	2.57
BRRC1008	7851900	264535	130	-60	143	92	107	15	1.30
BRRC1008	7851900	264535	130	-60	143	117	122	5	9.00
BRRC1009	7851912	264556	130	-60	143	72	105	33	3.09
BRRC1009	7851912	264556	130	-60	143	113	116	3	23.75
BRRC1010	7851948	264580	130	-55	125	71	81	10	1.29
BRRC1010	7851948	264580	130	-55	125	87	96	9	2.05

Hole	Northing (GDA94_55)	Easting (GDA94_55)	Azimuth	Dip	EOH Depth	From	To	Width	Grade (Au g/t)
BRRC1011	7851978	264605	131	-55	131	71	75	4	1.02
BRRC1011	7851978	264605	131	-55	131	86	89	3	2.41
BRRC296	7851935	264574	126	-60	108	65	97	32	1.08
BRRC297	7851916	264549	127.7	-61.4	130	98	120	22	0.67
BRRC298	7851911	264555	124.4	-61.9	112	72	99	27	1.29
BRS14	7851898	264589	125	-60	69	27	45	18	1.47
BRS15	7851868	264621	305	-45	89.65	27	37.3	10.3	1.38
BRS21	7851936	264618	125	-60	88	6	18	12	0.96
BRS21	7851936	264618	125	-60	88	36	42	6	1.13
BRS22	7851968	264581	125	-50	130	80	82	2	0.46
BRS22	7851968	264581	125	-50	130	88	90	2	0.35
BRS22	7851968	264581	125	-50	130	102	110	8	0.63
BRS23	7851932	264550	125	-45	130	84	88	4	0.38
BRS24	7851889	264602	0	-90	108	0	32	32	4.16
BRS24	7851889	264602	0	-90	108	42	52	10	2.03
BRS24	7851889	264602	0	-90	108	72	88	16	38.07
BRS24	7851889	264602	0	-90	108	102	108	6	0.53