News Release

30 September 2015

PANORAMIC RESOURCES LTD

VISION | COMMITMENT | RESULTS

ASX:PAN

MINERAL RESOURCES AND ORE RESERVES AT 30 JUNE 2015

Summary

Panoramic Resources Limited (**ASX Code: PAN**) is pleased to announce the Group's Mineral Resources and Ore Reserves Statement as at 30 June 2015. Key points:

	FY2015	FY2014
Total Nickel Resources	218,600 tonnes	156,600 tonnes
Total Nickel Reserves	45,700 tonnes	53,300 tonnes
Total Copper Resources	68,300 tonnes	34,300 tonnes
Total Copper Reserves	24,600 tonnes	20,200 tonnes
Total Cobalt Resources	7,700 tonnes	2,800 tonnes
Total Cobalt Reserves	2,200 tonnes	1,700 tonnes
Total Gold Resources[1]	2.431 million ounces	2.483 million ounces
Total Platinum and Palladium Resources	2.797 million ounces	2.797 million ounces

[1] On 31 July 2015, the Company sold its 70% interest in the Mt Henry Gold Project. As a result of the sale, as at 30 September 2015, Total Gold Resources is 1.273 million ounces

Savannah Nickel Project (including Copernicus)

At Savannah, the change to the Mineral Resource and Ore Reserve position reflects the addition of the Western Splay mineralisation above the 900 Fault, the Mineral Resource estimate of 14,900t Ni for mineralisation below the 900 Fault and importantly, the Interim Mineral Resource estimate at Savannah North of 55,200t Ni. **The Savannah North Resource estimate at 30 June 2015 was based on 24 underground drill holes covering only approximately 50% of the planned maiden Resource test area**.

The 2015 Copernicus Mineral Resource and Ore Reserve Statement includes mining depletion of the Open Pit Reserve from December 2014.

Lanfranchi Nickel Project

At Lanfranchi, the Mineral Resource and Ore Reserve position reflects mining depletion and sterilisation where necessary. **It should be noted that the Lanfranchi Resource and Reserve Statements do not include any mineralisation from the recent Lower Schmitz discovery**. A maiden Resource estimate for Lower Schmitz will be compiled, interpreted and released during the December 2015 quarter.

Material Information Summary

In accordance with the ASX Listing Rules, a fair and balanced representation of the information provided in Appendix 1 must be presented in the body of the ASX announcement. That representation follows below. This information applies only to the Company's Savannah and Lanfranchi Nickel Projects where material changes to the Mineral Resource and Ore Reserve position occurred during the year due to additions, model updates, mining depletion and sterilisation.

The Mineral Resource and Ore Reserve position of the Company's Gidgee Gold Project reflects the upgrade of the Swan and Swift Resources to 2012 JORC. The 2015 Mineral Resource position for the Company's Panton PGM Project has also been upgraded to 2012 JORC.

Savannah Nickel Project

Drilling and Supporting Data

The Savannah Resource estimate is based almost entirely on data gathered from NQ2 or LTK60 underground diamond drill core. Holes are drilled on a nominal 25m x 25m grid spacing over the extent of mineralisation. Face and sludge-hole sampling data is used as well to refine resource and reserve stope shape outlines. All drill core is photographed, geologically logged, and then halved for sampling. All drill core is spatially orientated to the mine grid by survey control. Down-hole surveys are typically performed every 30m by using either Reflex EZ Shot™ or Flexit Smart Tool™.

Sampling and Assaying

Core sample lengths are typically between 0.2m to 1m long based on logged geological boundaries. Savannah has an on-site laboratory. For core and mining related samples, the standard analytical technique is a 3-acid digest with an AAS finish. This method best approaches total dissolution for most minerals. For exploration samples or other samples (QAQC) sent off-site that are included in the geological database, the analytical technique is 4-acid digest with either ICP OES or AAS finish (typically AAS for high grade ore samples).

Geology and Geological Interpretation

The Savannah Nickel Project mines ore associated with the Savannah Intrusion; a Palaeoproterozoic mafic/ultramafic intrusion (magma conduit). The Ni-Cu-Co rich massive sulphide mineralisation at Savannah occurs as “classic”, readily recognisable magmatic breccia-textured ores developed about the more primitive MgO rich basal parts of the intrusion. Panoramic has been mining and exploring the Savannah orebody for over 10 years and has a sound knowledge and understanding of the geology and orientation of the orebody and a high level of confidence in the geological interpretation.

Database

The Savannah geological database is administered on a SQL Server by Panoramic’s Database Manager in Perth. Data is captured on-site into Excel™ software templates using laptop computers and uploaded via “Datashed” to the site database, which in turn is automatically replicated to the SQL server in Perth. Regular exports of the database enable the Company’s site and Perth based personnel to access the data. Validation of the database is undertaken regularly by Company geologists by plotting the data on plan and cross-sections and through visual 3D inspection using Surpac™ software.

Cut-off Grade

A 0.50% nickel cut-off grade with no minimum mining width is used to define mineralised shapes for resource modelling. This enables the entire mineralised part of the Savannah Intrusion to be encapsulated and available for conversion to Ore Reserve status once the appropriate mining and economic factors are applied. The 0.50% cut-off grade is a natural grade boundary between the magmatic breccia-textured ores and weaker disseminated mineralisation at Savannah.

The cut-off nickel grade used for inclusion in the Reserve was 1.0% Ni Equivalent (approximately 0.85% Ni). An economic assessment based on current costs and a nickel price ranging between ~A$16,890/tonne to ~A$26,450/tonne were used to determine if a mining area could be included as a Reserve. The nickel price ranges were derived after compiling recent forecasts from a cross section of external parties.

Metallurgical and Mining Assumptions

The metallurgical features of the Savannah ore are well understood and have not changed since mining began in 2004. The sulphide ore is processed via flotation to make a bulk Ni-Cu-Co concentrate, grading between 7-8 % Ni and free of any significant deleterious elements. The concentrate is transported to Wyndham and shipped to the Jinchuan Group’s smelter/refinery in the Gansu province of north-west China.

The metallurgical nature of the Mineral Resource in this estimate has not changed. Metallurgical recoveries used for Ore Reserve estimations are 86% for nickel, 95% for copper and 88% for cobalt.

Due to the favourable geometry and availability of paste backfill, ore is extracted by sublevel stoping methods. Sublevel mining is restricted to a maximum height of 25m due to the variable nature of the orebody. Ore development is conducted under geological control with face and sludge sampling routinely performed to refine the geological interpretations and stope design. Blast hole drilling is designed to minimise over-break and is set out by survey control.

Mining dilution between 5-20% at zero grade is applied to stope and ore development depending on location in the mine and stope type (primary, secondary or sill pillar). The minimum underground mining width for development is 4.8m and 3.0m for stopes.

Estimation methodology

Ordinary Kriging techniques using Surpac™ software were used to estimate Ni, Co, Cu and density into the Savannah 3D Resource Block Model. Top-cut analysis was undertaken for each Resource domain using grade histograms, but generally no extreme values were detected. Variography was calculated for the domain with the largest sample population and the resultant variogram models adapted for the remaining domains. Check estimates by Panoramic staff using Inverse Distance Squared method yielded similar results to the Ordinary Kriged model. The Savannah Resource Model has been updated periodically since mining began in 2004, with differences in tonnage for successive updates accounted for by new drilling, mining depletion, sterilisation and new resource areas. Grade correlation between updated estimates has remained high.

Classification

The Resource classification system adopted at Savannah is based on the level of confidence as set out in the 2012 JORC Code guidelines. Measured Resources are defined by areas supported by strong drilling and confined up and down dip by mine development such that confidence in lode volume and continuity of grade is very high. Indicated Resources are defined by areas where geological confidence is high and drilling support is strong (equal to or less than 25m x 25m grid spacing). Inferred Resources are typically in areas where the drill spacing is greater than 25m x 25m and geological confidence is lower.

Savannah North Project

The Material Information Summary for Savannah North is essentially the same as other Savannah Resources. However, the Interim Savannah North Mineral Resource estimate contained in the 2015 Panoramic Resource and Reserve Statement differs from Savannah Resource estimates in that the Resource estimate is based on a 50m x 50m grid drill spacing and was estimated using ID^2 methodology. As further drilling is undertaken and future Resource estimates are made, these differences will no longer apply.

Lanfranchi Nickel Project

Drilling and Supporting Data

The Lanfranchi Resource estimates are based almost entirely on data gathered from NQ2 or LTK60 underground diamond drill core. Holes are typically drilled on a regular grid pattern that varies according to the size and consistency of the resource being drilled. Due to the low coefficient of variation of the Lanfranchi Resources nickel grades, Resource definition drilling is more about defining shapes and volume estimation purposes than grade estimation. All drill core was geologically logged and then halved for sampling. All drill core was spatially orientated to the mine grid by survey control. Down-hole surveys are typically performed every 30m by either Reflex Multi-Shot or single shot tools.

Sampling and Assaying

All sampling for Resource estimation purposes at Lanfranchi was based on underground diamond drill core. Sample selection was based on geological core logging with individual samples typically between 0.2m and 1.2m in length.

All Resource drill-hole samples were analysed by the Kalassay Group in their Perth laboratory. The laboratory process for Lanfranchi samples involved reducing each sample by crushing and pulverising to 90% passing 75um. A 0.2g assay aliquot was taken from the pulverised sample and digested by 4-Acid digest and analysed by an ICP-OES instrument. Lanfranchi Certified Reference Material (QAQC) samples are routinely inserted in all sample batches submitted to Kalassay.

Geology and Geological Interpretation

All Lanfranchi Resources belong to the “classic Kambalda style” komatiite hosted nickel sulphide deposit. This deposit type has been extensively studied and mined in the Kambalda area since the late 1960s. Due to this knowledge and history, there is a high level of confidence in the geological interpretation of the Lanfranchi Resources. The strongly contrasting character between mineralised and un-mineralised lithologies is readily apparent and easy to identify.

Database

The Lanfranchi geological database is administered on a SQL Server by Panoramic’s Database Manager in Perth. All Lanfranchi drill hole and resource samples are logged and recorded using code restricted Excel™ software templates to ensure that only

approved data can be entered. The templates are uploaded to the SQL drill-hole database via the "Datashed" software. Uploads to the database on site are automatically replicated to the SQL server in Perth. Once Laboratory assay files have been scrutinised and finalised for QAQC, they are imported directly into the database.

Cut-off Grade

All Lanfranchi Resource models were constructed to a nominal 1.0% Ni cut-off grade. No minimum mining width assumptions were made during the resource wireframing or estimation process, but in some areas minor internal dilution was included to avoid over-complication of the wireframe shape and when it was obvious selective mining was not a realistic option. The 1.0% Ni cut-off grade is a natural grade boundary between Lanfranchi's low grade and high grade mineralisation.

The cut-off nickel grade used for inclusion in the Reserve was 1.0%. An economic assessment based on current costs and a nickel price of ~A$16,890/tonne was used to determine if a mining area could be included as a Reserve. The nickel price was derived after compiling recent forecasts from a cross section of external parties.

Metallurgical and Mining Assumptions

The metallurgical features of the Lanfranchi ore types are well understood as the ores have been processed at the Kambalda Nickel Concentrator since the1970s. As such, no new metallurgical studies were required. The Lanfranchi sulphide rich ores are suitable for processing via flotation to make a nickel concentrate. The Lanfranchi ore is processed under an Ore Tolling and Concentrate Purchase Agreement (OTCPA) with BHP Billiton Nickel West (BHPB) at the Kambalda Concentrator located about 40 kilometres to the north-west of Lanfranchi. Under the OTCPA, metallurgical recovery is determined by BHPB and is related to the average grade delivered on the monthly basis.

Due to favourable geometry and availability of paste backfill, sublevel stoping methods are employed to extract the thicker Lanfranchi orebodies, while air-leg mining methods are used in narrower, high-grade ore zones. The hanging wall ultramafic rocks at Lanfranchi are typically weak and therefore all open stopes are extensively cable bolted and all ore development is shotcreted. Ore development is conducted under geological control and is routinely mapped and sampled. Blast-hole drilling is designed to minimise over-break and is set out by survey control.

For all stopes and development drives, a mining dilution factor of 10% at zero grade was applied. The minimum stoping width is 3.0m and 1.8m for air-leg stopes. A 95% metal recovery factor was applied to all stopes and no Inferred Resources were included in the Ore Reserve.

Estimation methodology

The computer software package Surpac™ was used to develop all Lanfranchi Resource models. All resource models have been estimated using Inverse Distance Squared (ID2) methodology for simplicity and the amount of data available. Models that were run between 2007 and 2010 in parallel using ID2 and Ordinary Kriging methodology, produced very similar estimates, typically within ±4% on tonnes, ±0.3% in grade and <5% difference on a contained nickel basis.

Classification

The Resource classification system adopted at Lanfranchi is based on the level of confidence as set out in the 2012 JORC Code guidelines. The classification relies largely on drill density but with increased confidence in areas of ore development. Measured Resources are defined by areas of the resource with adjacent mining or development. Indicated Resources are assigned to areas of high geological confidence supported by a regular, systematic pattern of drilling.

NICKEL - MINERAL RESOURCES AS AT 30 JUNE 2015

Resource	Equity	Metal	Date of Resource	JORC Compliance	Measured		Indicated		Inferred		Total		Metal Tonnes
					Tonnes	Ni (%)	Tonnes	Ni (%)	Tonnes	Ni (%)	Tonnes	Ni (%)	
Savannah Project	**100%**												
Savannah (above 900 Fault)		Nickel	Jun-15	2012	2,346,000	1.46	927,000	1.67	-	-	3,273,000	1.52	49,700
		Copper				0.81		1.26		-		0.94	30,700
		Cobalt				0.08		0.08		-		0.08	2,700
Savannah (below 900 Fault)		Nickel	Jun-15	2012	780,000	1.64	125,000	1.72	-	-	905,000	1.65	14,900
		Copper				0.76		0.75		-		0.76	6,900
		Cobalt				0.10		0.09		-		0.10	900
Savannah North		Nickel	Jun-15	2012	-	-	-	-	3,155,000	1.75	3,155,000	1.75	55,200
		Copper				-		-		0.78		0.78	24,600
		Cobalt				-		-		0.12		0.12	3,800
Copernicus Open Pit		Nickel	Jun-15	2012	184,000	1.20	-	-	-	-	184,000	1.20	2,200
		Copper				0.74		-		-		0.74	1,400
		Cobalt				0.05		-		-		0.05	100
Copernicus Underground		Nickel	Jul-10	2004	-	-	508,000	1.30	25,000	0.98	532,000	1.29	6,800
		Copper				-		0.91		0.69		0.90	4,800
		Cobalt				-		0.05		0.02		0.05	300
Lanfranchi Project	**100%**	**Nickel**											
Cruikshank			Apr-11	2004	-	-	2,018,000	1.42	611,000	0.79	2,629,000	1.28	33,600
Deacon			Mar-14	2012	110,000	2.80	-	-	134,000	1.70	244,000	2.19	5,400
Gigantus			Jul-07	2004	-	-	-	-	652,000	1.63	652,000	1.63	10,600
Helmut South			May-14	2012	-	-	-	-	-	-	-		
Helmut South Ext			Apr-14	2012	32,000	3.59	29,000	2.87	-	-	61,000	3.25	2,000
John			Jul-07	2004	-	-	-	-	291,000	1.42	291,000	1.42	4,100
Lanfranchi			Apr-14	2012	50,000	4.12	55,000	4.40	63,000	3.49	167,000	3.98	6,700
Martin			Feb-12	2012	-	-	47,000	3.58	7,000	4.16	54,000	3.66	2,000
McComish			Jul-07	2004	-	-	-	-	992,000	1.49	992,000	1.49	14,800
Metcalfe			Jan-14	2012	-	-	286,000	1.98	111,000	1.35	397,000	1.80	7,200
Schmitz			Jul-13	2012	30,000	4.92	23,000	3.93	16,000	2.95	69,000	4.14	2,900
Winner			Jul-11	2004	-	-	14,000	4.40	-	-	14,000	4.40	600
Total (Equity)		**Nickel**											**218,600**
		Copper											**68,300**
		Cobalt											**7,700**

Notes:
- *Figures have been rounded and therefore may not add up exactly to the reported totals*
- *All resources are inclusive of reserves*
- *Savannah Project Resource cutoff grade is 0.50% Ni*
- *Copernicus Project Resource cutoff grade is 0.50% Ni*
- *Lanfranchi Project Resource cutoff grade is 1.00% Ni*

Competent Person Statement

The information in this report that relates to Mineral Resources is based on information compiled by or reviewed by Paul Hetherington (MAusIMM) for the Savannah Project Resource and Copernicus Project Resource and Bradley Robinson (MAusIMM) for the Lanfranchi Project Resources. The aforementioned are full-time employees of Panoramic Resources Limited. The aforementioned have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The aforementioned consent to the inclusion in the release of the matters based on their information in the form and context in which it appears.

NICKEL - ORE RESERVE AS AT 30 JUNE 2015

Reserve	Equity	Metal	Date of Reserve	JORC Compliance	Proven		Probable		Total		Metal Tonnes
					Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	
Savannah Project	**100%**										
Above 900 Fault		Nickel	Jul-15	2012	-	-	2,321,000	1.24	2,321,000	1.24	28,900
		Copper				-		0.79		0.79	18,300
		Cobalt				-		0.06		0.06	1,500
Below 900 Fault		Nickel	Jul-15	2012	-	-	883,000	1.22	883,000	1.22	10,800
		Copper				-		0.57		0.57	5,000
		Cobalt				-		0.08		0.08	700
Copernicus Open Pit		Nickel	Jul-15	2012	-	-	172,000	1.12	172,000	1.12	1,900
		Copper				-		0.74		0.74	1,300
		Cobalt				-		0.05		0.05	100
Lanfranchi Project	**100%**										
Deacon			Jul-15	2012	-	-	57,000	2.53	57,000	2.53	1,400
Metcalfe			Jul-15	2012	-	-	43,000	1.68	43,000	1.68	700
Lanfranchi			Jul-15	2012	-	-	25,000	2.89	25,000	2.89	700
Schmitz			Jul-15	2012	-	-	16,000	3.07	16,000	3.07	500
Helmut Sth Ext			Jul-15	2012	-	-	34,000	2.21	34,000	2.21	800
Total (Equity)		**Nickel**									**45,700**
		Copper									**24,600**
		Cobalt									**2,200**

Notes:
- *Figures have been rounded and therefore may not add up exactly to the reported totals*
- *All reserves are inclusive of resources*
- *Savannah Project Reserve cutoff grade is 1.0% Ni Equivalent (approximately 0.85% Ni)*
- *Copernicus Project Reserve cutoff grade is 0.50% Ni*
- *Lanfranchi Project Reserve cutoff grade is 1.00% Ni except for airleg mining which is 2.00% Ni*

Competent Person Statement

Information in this report relating to Ore Reserves has been compiled by or reviewed by, Owen Freeth (MAusIMM) for the Savannah Project and Copernicus Project and Lilong Chen (MAusIMM) for the Lanfranchi Project. The aforementioned are full-time employees of Panoramic Resources Limited. The aforementioned have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The aforementioned consent to the inclusion in the release of the matters based on his information in the form and context in which it appears.

GOLD - MINERAL RESOURCES AS AT 30 JUNE 2015

Resource	Equity	Metal	Date of Resource	JORC Compliance	Measured		Indicated		Inferred		Total		Metal (Au oz)
					Tonnes	Au (g/t)	Tonnes	Au (g/t)	Tonnes	Au (g/t)	Tonnes	Au (g/t)	
Gidgee Project	**100%**	**Gold**											
Swan OC			Jun-15	2012	-	-	2,250,000	2.57	990,000	2.36	3,240,000	2.51	261,100
Heron South			Oct-12	2004	-	-	1,000,000	2.31	136,000	1.41	1,136,000	2.20	80,300
Howards			Jul-13	2012	-	-	5,255,000	1.07	716,000	1.01	5,971,000	1.06	204,000
Specimen Well			Jun-12	2004	-	-	289,000	2.06	72,000	1.79	361,000	2.00	23,200
Toedter			Jun-12	2004	-	-	-	-	661,000	1.62	661,000	1.62	34,400
Eagles Peak			Mar-06	2004	-	-	13,000	3.46	-	-	13,000	3.46	1,400
Orion			Mar-06	2004	-	-	22,000	3.04	-	-	22,000	3.04	2,200
Deep South			Mar-06	2004	-	-	20,000	3.02	-	-	20,000	3.02	1,900
Shiraz			Jul-13	2012	-	-	2,476,000	0.84	440,000	0.76	2,916,000	0.83	77,600
Swan UG			Jun-15	2012	-	-	207,000	8.71	77,000	11.25	284,000	9.40	85,800
Swift UG			Jun-15	2012	-	-	-	-	46,000	10.25	46,000	10.25	15,200
Omega UG			Mar-06	2004	-	-	31,000	9.20	-	-	31,000	9.20	9,200
Kingfisher UG			Mar-06	2004	-	-	390,000	6.80	-	-	390,000	6.80	85,300
Wilsons UG			Jul-13	2012	-	-	2,131,000	5.33	136,000	5.97	2,267,000	5.37	391,500
Mt Henry Project	**70%**	**Gold**											
Selene			Jul-13	2012	-	-	11,491,000	1.17	3,466,000	0.93	14,957,000	1.11	535,900
Mt Henry			Jul-13	2012	-	-	10,487,000	1.27	4,435,000	1.14	14,922,000	1.23	590,800
North Scotia			Jul-13	2012	-	-	250,000	3.11	97,000	1.95	347,000	2.79	31,100
Total (Equity)		**Gold**			**-**	**-**	**36,312,000**	**1.66**	**11,272,000**	**1.37**	**47,584,000**	**1.59**	**2,431,000**

Notes:

- *Swan OC resource cutoff grade is 0.7 g/t. The resources (both Indicated and Inferred categories) have been partially diluted over a minimum mining width of 2.5m and confined to a A$2,000 Whittle pit shell*
- *Eagles Peak Resource cutoff grade is 1.2 g/t*
- *Orion Resource cutoff grade is 1.3 g/t*
- *Deep South Resource cutoff grade is 1.2 g/t*
- *Swan UG Resource cutoff grade is 4.0 g/t for Indicated resource wireframes near historic workings and 6.0 g/t for Inferred resource wireframes away from historic workings. In transitioning the Swan UG resource from JORC2004 to 2012 in 2015 the Inferred resource cut-off grade has gone from 5.0 to 6.0 g/t Au. The resource is based on an approximate 2.5m minimum vertical mining width.*
- *Swift UG Resource cutoff grade is 6.0 g/t. In transitioning the Swift UG resource from JORC2004 to 2012 in 2015 the Inferred resource cut-off grade has gone from 5.0 to 6.0g/t Au*
- *Omega UG Resource cutoff grade is 3.0 g/t*
- *Kingfisher UG Resource cutoff grade is 3.0 g/t*
- *Individual Project Resources and Reserves are stated on an equity basis*

The information in this release that relates to the Swan OC, Eagles Peak, Orion, Deep South, Swan UG, Swift UG, Omega, and Kingfisher Mineral Resources is based on information compiled by or reviewed by Dr Spero Carras (FAusIMM). Dr Carras is the Executive Director of Carras Mining Pty Ltd and was acting as a consultant to Legend Mining Ltd in 2006 and Panoramic Resources Ltd in 2012. Dr Carras has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Carras consents to the inclusion in the release of the matters based on their information in the form and context in which it appears.

- *Heron South resource cutoff grade is 0.5 g/t*
- *Howards resource cutoff grade is 0.5 g/t*
- *Specimen Well resource cutoff grade is 0.5 g/t*
- *Toedter resource cutoff grade is 0.5 g/t*
- *Wilsons resource cutoff grade is 2.0 g/t*
- *Individual Project Resources and Reserves are stated on an equity basis*

Competent Persons Statement

The information in this report that relates to the Heron South, Howards, Specimen Well, Toedter and Wilsons Mineral Resources is based on information compiled by or reviewed by Andrew Bewsher (AIG) and Ben Pollard (AIG & MAusIMM). Andrew Bewsher and Ben Pollard are full time employees of BM Geological Services and have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Andrew Bewsher and Ben Pollard consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

PLATINUM GROUP METALS (PGM) - MINERAL RESOURCES AS AT 30 JUNE 2015

Thunder Bay North Project

Resource	Equity	Date of Resource	JORC Compliance	Tonnage	Grade									Metal (oz)	
					Pt	Pd	Rh	Au	Ag	Cu	Ni	Co	Pt-Eq	Pt	Pd
					(g/t)	(g/t)	(g/t)	(g/t)	(g/t)	(%)	(%)	%	(g/t)	(oz ,000)	(oz ,000)
Open Pit	**100%**	**Jan-11**	**2004**												
Indicated				8,460,000	1.04	0.98	0.04	0.07	1.50	0.25	0.18	0.014	2.13	283	267
Inferred				53,000	0.96	0.89	0.04	0.07	1.60	0.22	0.18	0.014	2.00	2	2
Underground	**100%**	**Feb-12**	**2004**												
Indicated				1,369,000	1.65	1.54	0.08	0.11	2.60	0.43	0.24	0.016	3.67	73	68
Inferred				472,000	1.32	1.25	0.06	0.09	2.10	0.36	0.19	0.011	2.97	20	19
Total (Equity)				10,354,000										377	355

Notes - Open Pit Resource:

The effective date of this estimate is 11 January 2011, which represents the cut-off date for the most recent scientific and technical information used in the report. The mineral resource categories under the JORC Code (2004) are the same as the equivalent categories under the CIM Definition Standards for Mineral Resources and Mineral Reserves (2010). The portion of the Mineral Resource underlying Current Lake is assumed to be accessible and that necessary permission and permitting will be acquired. All figures have been rounded; summations within the tables may not agree due to rounding.

The open pit Mineral Resource is reported at a cut-off grade of 0.59 g/t Pt-Eq within a Lerchs-Grossman resource pit shell optimized on Pt-Eq. The strip ratio (waste:ore) of this pit is 9.5:1. The contained metal figures shown are in situ. No assurance can be given that the estimated quantities will be produced. The platinum-equivalency formula is based on assumed metal prices and overall recoveries. The Pt-Eq formula is: Pt-Eq g/t = Pt g/t + Pd g/t x 0.3204 + Au g/t x 0.6379 + Ag g/t x 0.0062 + Cu g/t x 0.00011 + Total Ni g/t x 0.000195 + Total Co g/t x 0.000124 + Rh g/t x 2.1816. The conversion factor shown in the formula for each metal represents the conversion from each metal to platinum on a recovered value basis. The assumed metal prices used in the Pt-Eq formula are: Pt US$1,595/oz, Pd US$512/oz, Au US$1,015/oz, Ag US$15.74/oz, Cu US$2.20/lb, Ni US$7.71/lb, Co US$7.71/lb and Rh US$3,479/oz. The assumed combined flotation and PlatsolTM process recoveries used in the Pt-Eq formula are: Pt 76%, Pd 75%, Au 76%, Ag 55%, Cu 86%, Ni 44%, Co 28% and Rh 76%. The assumed refinery payables are: Pt 98%, Pd 98%, Au 97%, Ag 85%, Cu 100%, Ni 100%, Co 100% and Rh 98%.

The updated resources do not include drilling conducted since 31 May 2010.

The information in this report that relates to Mineral Resources compiled by AMEC Americas Limited was prepared by Greg Kulla P.Geo (APOG #1752, APEGBC #23492) and David Thomas, P.Geo, MAusIMM (APEGBC #149114, MAusIMM #225250), both full time employees of AMEC Americas Limited. Mr. Kulla and Mr. Thomas have sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code) and independent qualified persons as this term is defined in National Instrument 43-101.

Notes - Underground Resources:

Underground Mineral Resource Estimates: The internal mineral resource estimate for the East Beaver Lake extension was made by ordinary kriging methods using the same technical and financial parameters as those used by AMEC Americas Limited for the underground mineral resource estimate reported by the Company on 6 September 2010. The underground mineral resource is reported at a cut-off grade of 1.94g/t Pt-Eq. The contained metal figures shown are in situ. The platinumequivalency formula is based on assumed metal prices and recoveries and therefore represents Pt-Eq metal in situ. The Pt-Eq formula is: Pt-Eq g/t = Pt g/t + Pd g/t x 0.2721 + Au g/t x 0.3968 + Ag g/t x 0.0084 + Cu g/t x 0.000118 + Sulphide Ni g/t x 0.000433 + Sulphide Co g/t x 0.000428 + Rh g/t x 2.7211. The assumed metal prices used in the Pt-Eq formula are: Pt US$1,470/oz, Pd US$400/oz, Rh US$4,000/oz, Au US$875/oz, Ag US$14.30/oz, Cu US$2.10/lb, Ni US$7.30/lb and Co US$13.00/lb. The assumed process recoveries used in the Pt-Eq formula are: Pt 75%, Pd 75%, Rh 75%, Au 50%, Ag 50%, Cu 90%, and Ni and Co in sulphide 90%. The assumed smelter recoveries used in the Pt-Eq formula are Pt 85%, Pd 85%, Rh 85%, Au 85%, Ag 85%, Cu 85%, Ni 90% and Co 50%. To account for a portion of the Ni and Co occurring as silicate minerals, Ni and Co in sulphide were estimated by linear regression of MgO to total Ni and total Co respectively. The regression formula for Ni in sulphide (NiSx) is: NiSx = Ni - (MgO% x 60.35 - 551.43). The regression formula for Co in sulphide (CoSx) is: CoSx = Co - (MgO% x 4.45 - 9.25). All figures have been rounded. Summations within the tables may not agree due to rounding. Magma undertook quality assurance and quality control studies on the mineral resource data and concluded that the collar, assay and lithology data are adequate to support resource estimation. The mineral resource categories under JORC are the same as the equivalent categories under CIM Definition Standards (2005). The mineral resource has been estimated in conformity with both generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice" (2003) guidelines and the JORC Code (2004). Mineral resources are not mineral reserves and do not have demonstrated economic viability.

Competent Persons Statement

The information in this release that relates to Mineral Resources compiled internally by Panoramic was prepared by Mr. Guoliang Leon Ma P.Geo and Mr. Allan MacTavish P.Geo, both full time employees of Panoramic PGMs (Canada) Limited, a wholly owned subsidiary of Panoramic Resources Limited. Both Mr. Ma and Mr. MacTavish have sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken to qualify as Competent Persons as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code) and qualified persons as this term is defined in National Instrument 43-101. Mr. Ma and Mr. MacTavish consent to the inclusion in the release of the matters based on this information in the form and context in which it appears.

PLATINUM GROUP METALS (PGM) - MINERAL RESOURCES AS AT 30 JUNE 2015

Panton Project

Resource	Equity	Date of Resource	JORC Compliance	Tonnage	Grade					Metal (oz)	
					Pt	Pd	Au	Ni	Cu	Pt	Pd
					(g/t)	(g/t)	(g/t)	(%)	(%)	(oz ,000)	(oz ,000)
Top Reef	**100%**	**Mar-12**	**2012**								
Measured				4,400,000	2.46	2.83	0.42	0.28	0.08	348	400
Indicated				4,130,000	2.73	3.21	0.38	0.31	0.09	363	426
Inferred				1,560,000	2.10	2.35	0.38	0.36	0.13	105	118
Middle Reef	**100%**	**Mar-12**	**2012**								
Measured				2,130,000	1.36	1.09	0.10	0.18	0.03	93	75
Indicated				1,500,000	1.56	1.28	0.10	0.19	0.04	75	62
Inferred				600,000	1.22	1.07	0.10	0.19	0.05	24	21
Total (Equity)				**14,320,000**	**2.19**	**2.39**	**0.31**	**0.27**	**0.08**	**984**	**1,081**

Notes

Competent Persons Statement

The information is in this release that relates to the Panton Mineral Resource is based on a resources estimate compiled by Mr. Rick Adams who is a Competent Person and Member of the Australian Institute of Mining and Metallurgy. Rick Adams is a Director and full time Principal Consultant at Cube Consulting Pty Ltd ("Cube"). Mr. Adams has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and in the activity which he is undertaking and qualifies 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 Adams consents to the inclusion in the release of the matters based on his information in the form and context in which it appears.

It is the opinion of Cube that with the addition of the information required under the 2012 JORC Code, the estimated mineral Resources reported in 2003 can be re-stated in accordance with 2012 JORC.

Appendix 1

JORC Code 2012 Edition - Compliance Tables

Table 1 - Savannah Nickel Mine

Section 1 - Sampling Techniques and Data

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

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 was sampled by diamond drilling techniques. Over 1500 holes have been drilled for a total in excess of 220,000m. The majority of holes were drilled from underground drill platforms. • The drillhole spacing is a nominal 25 x 25 metre grid spacing over the extent of the mineralization. • All drillhole collars were surveyed using Leica Total Station survey equipment by a registered surveyor. Downhole surveys were typically performed every 30 metres using either "Reflex EZ Shot" or "Flexit Smart Tools". • All diamond core was geologically logged with samples (typically between 0.2 metre to 1 metre long) defined by geological contacts. Analytical samples included a mix of full and sawn half core samples. Sample preparation included pulverising to 90% passing 75 µm followed by total 4 acid digest and analysis by ICP OES.
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).	• A mix of LTK60 and NQ2 sized diamond drilling has been used to obtain >90% of the data used in the estimate. Some RC drilling has been used historically for the upper part of the resource.
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.	• Diamond core recoveries are logged and recorded in the database. Overall recoveries are >99% and there are no apparent core loss issues or significant sample recovery problems. • Depths checked against core blocks, regular rod counts, driller breaks checked by fitting core together. • No 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 holes have been geologically logged in full. Geotechnical logging was carried out on all diamond drillholes for recovery and RQD. Number of defects (per interval) and roughness was carried out around the ore zones. Structure type, alpha angle, infill, texture and healing is stored in the structure table of the database. • Logging of diamond core RC samples recorded lithology, colour, mineralisation, structural (DDH only) and other features. Core was photographed wet. • All drillholes were logged in full.
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 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	• Analytical core samples included a mix of full and sawn half core samples. • All samples from core • All core sampling and sample preparation followed industry best practice. • QC involved the addition of Savannah derived CRM assay standards, blanks, and duplicates. At least one form of QC was inserted in most sample batches. • Original versus duplicate assay results have always shown strong correlation due to massive sulphide rich nature of the orebody. • Sample sizes are considered appropriate to represent

Criteria	JORC Code explanation	Commentary
	the material being sampled.	the Savannah style of mineralisation.
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.	• Total 4 acid digest (hydrochloric/perchloric/hydrofluoric/nitric) and analysis by ICP OES is the Savannah Nickel Mine (SNM) standard analytical technique. The method best approaches total dissolution for most minerals.
	• 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.	• No other analytical tools or techniques are employed.
	• 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 onsite laboratory carries out sizing checks, uses internal standards, duplicates, replicates, blanks and repeats. A selection of roughly 10% of pulps was sent to external laboratories for repeat analysis and sizing checks. No bias has been identified.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• Drilling and sampling procedures at SNM have been inspected by many stakeholders since the project began.
	• The use of twinned holes.	• Throughout the life of the mine, there have been several instances where holes have been twinned, confirming intersections and continuity.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Holes are logged into Excel templates on laptops, data is then entered into MS Access database with user data entry front end built in. Data is ultimately transferred to SQL server from Perth office. Data periodically validated by site personnel.
	• Discuss any adjustment to assay data.	• No adjustments have been made to assay data.
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.	• All diamond drillhole collars were surveyed using Leica Total Station survey equipment by a registered surveyor. "Reflex EZ Shot" or "Flexit Smart Tool" was used for downhole surveys at approximately every 30m. Visual inspection in a 3D graphics environment using "Surpac" software failed to identify any obvious errors regarding the spatial position of drillhole collars or downhole surveys
	• Specification of the grid system used.	• The mine grid is a truncated 4 digit (MGA94) grid system.
	• Quality and adequacy of topographic control.	• Topographic control is of a high quality and is adequate for the resource estimation process
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• Nominal drillhole spacing of 25m (easting) by 25m (RL)
	• 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.	• The mineralized domains delineated by the drill spacing show enough continuity to support the classification applied under the 2012 JORC Code.
	• Whether sample compositing has been applied.	• No sample compositing has been undertaken.
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.	• Drillhole orientation was largely perpendicular to the orebody with the exception of the western extent where drill platform positions allowed only for oblique intersections.
	• 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.	• No orientation sampling bias has been identified.
Sample security	• The measures taken to ensure sample security.	• Samples transported to onsite lab by Panoramic staff. Samples sent off site are road freighted (Nexus transport) and tracked using spreadsheets onsite.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits/reviews of the sampling techniques have been undertaken in recent time. The procedures used are considered to be industry standard. Mine to mill reconciliation records throughout the life of the Savannah Project provide confidence in the sampling procedures.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• An Excel™ software logging template with lookup tables and fixed formatting is used for logging and data collection. • Data validation checks are performed every time a drillhole is entered to the database using a checklist.
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.	• The competent person is a site based, full time employee of Panoramic.
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 of the geological interpretation is high which has been confirmed by mapping and 9 years of operational experience. • No other interpretations have been considered as the current model is demonstrably robust. • Geological controls were used to create the domains, namely, lithology, massive sulphide content, major structures • One of the main domains is affected by 2 major cross-cutting mafic dykes, the geometry and thickness of which are well understood.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The resource is 350m along strike (east), varies in thickness from 1 to 50m and averages 8m thick, from the surface to 900m depth.
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.	• Ordinary Kriging was employed using Surpac™ software to estimate Ni, Co, Cu and Density into a 3D block model. Top cut analysis was undertaken for each domain using grade histograms, no extreme values were detected and therefore no top cuts applied. Variography was calculated for the domain with the largest sample population and the resultant variogram models were adapted for the remaining domains. • Check estimates by Panoramic staff using Inverse Distance squared method has yielded similar results. The estimate has been updated periodically since mining began in 2004, differences in tonnage for each successive update have been accounted for by new drilling, depletion for mining, and new resource areas. Grade correlation between updated estimates has always remained high. • By-product credits for Copper and Cobalt form part of the off-take agreement between Panoramic and Jinchuan. • No deleterious elements have been modeled in the resource estimate; the Savannah orebody has low MgO and negligible Arsenic levels. • All block estimates were based on interpolation into 4m N x 20m E x 10m RL parent cells, sub celling to 0.5m N x 2.5m E x 1.25m RL. Block discretisation points were set to 2(Y) x 5(X) x 4(Z) points. The block dimensions are over half the average drill spacing of 25m. A search radius of 150m was used with a minimum of 8 samples and a maximum of 50 samples for all domains. • No selective mining units were assumed in the estimate. • Nickel and cobalt show a very strong correlation. Nickel and copper are much more variable. • The geological interpretation was used to derive the domains using massive sulphide content, lithology and structural boundaries. These were wireframed and used as hard boundaries to flag sample data for estimation. • Statistical analysis of the grade populations indicated no

Criteria	JORC Code explanation	Commentary
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	extreme values and a low coefficient of variation. • Validation included comparing the raw data statistics to block estimates, volumes of wireframes to block model volumes, drillholes and block model value plots were produced for a visual check of the grades. Good reconciliation data exists between mined and milled figures.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• 0.5%Ni was used as a cut-off when defining the mineralised wireframes. Generally, this is the grade boundary between strongly disseminated sulphides and the ultramafic footwall unit.
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 Savannah has been ongoing since 2004. Underground, sub-level open stoping is used effectively to extract the ore. No further assumptions were made on mining factors. Mining factors are applied during Ore Reserve conversion.
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.	• Savannah ore has been successfully treated through a 1MTPA SAG mill and flotation circuit since commissioning in 2004. The metallurgical nature of the mineral resource in this estimate has not changed. Metallurgical factors are addressed in Ore Reserve conversion.
Environmental 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.	• SNM operates under the conditions set out by an environmental license to operate.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	• Bulk density determinations are routinely performed. Most determinations involved calculating the core volume and weighing the core in air. Regular checks using the water immersion technique were also carried out. A regression analysis of measured density versus nickel is used to populate missing density values.
	• 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.	• Voids within the mineralized zones are non-existent
	• Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• The search parameters for density were the same as nickel for all domains. Waste material was assigned a value of 2.88, determined from the regression formula.
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	• The classification adopted is based on the level of confidence as set out in the JORC 2012 guidelines. • Measured Resources are defined by areas supported by strong drilling and confined up and down dip by mine development such that confidence in lode volume and continuity and grade is very high. Indicated Resources

Criteria	JORC Code explanation	Commentary
	and distribution of the data).	are defined by areas where geological confidence is high and drilling support is strong (equal to or greater than 25m x 25m grid spacing).
	• Whether the result appropriately reflects the Competent Person's view of the deposit.	• The estimate appropriately reflects the view of the competent person.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The resource estimate has been peer reviewed on site and by Panoramic's corporate technical team.
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 relative accuracy of the resource estimate is considered robust as it has been compiled as per the guidelines of the 2012 JORC Code, and knowledge gained from extensive operational history of the mine.
	• 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.	• The statement relates to global estimates of tonnes and grade.
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Mine to mill reconciliation records throughout the life of the Savannah Project provide confidence in the accuracy of the resource estimate.

Section 4 - Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	• All resources that have been converted to reserve are classified as either an Indicated or Measured Resource. • Indicated Resources are only upgraded to Probable Reserves after adding appropriate modifying factors. • The Measured Resource is classified as Proved Mining Reserves once the access drives to the mineral resource is fully developed. • Mineral Resources are inclusive of Ore Reserves.
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.	• The competent person is a site based full time Panoramic employee on a rostered FIFO arrangement.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to OreReserves. • The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	• Underground Mining continues since January 2005. Following exploration and infill drilling activity, annual resource updates and economic assessment of the measured and indicated resources is completed using actual costs, operating parameters and modifying factors. • An annual update of Ore Reserves is completed on this basis.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	• The cut-off grade used for inclusion in the Reserve is 1% Ni equivalent based on economic assessment and current operating and market parameters.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). • The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. • The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. • The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). • The mining dilution factors used.	• The Savannah mine predominantly applies an open stoping with paste to fill voids. • Mining dilution at zero grade is applied to the stopes and the ore development. • A minimum mining width of underground development is 4.8m. • A minimum width of stoping is 3.0m

Type	Dilution	Mining recovery
Development	10%	95%
Above 500 fault -Primary and Secondary stopes	10%	95%
-Sill pillar under paste	20%	95%

Criteria	JORC Code explanation	Commentary
	• The mining recovery factors used. • Any minimum mining widths used. • The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. • The infrastructure requirements of the selected mining methods.	<table><tr><td>-Pit Pillar</td><td>20%</td><td>75%</td></tr><tr><td>Below 500 fault -Primary and Secondary stopes -Sill Pillars</td><td> 10% 10% to 15%</td><td> 95% 75 to 90%</td></tr><tr><td>Below 900 fault -All stopes</td><td> 10%</td><td> 95%</td></tr></table> • No Inferred resources are included within either the Reserve or the mine plan.
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. • Whether the metallurgical process is well-tested technology or novel in nature. • The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	• The Savannah produces a Ni/Cu/Co concentrate of grade between 7 to 8 % Ni. The concentrate is transported to Wyndham, then shipped to Jinchuan's smelter/refinery in the Gansu province, northwest China. • Savannah ore has been successfully treated through a 1MTPA SAG mill and flotation circuit since commissioning in 2004. The metallurgical nature of the mineral resource in this estimate has not changed. • Metallurgical Recoveries used for Ore Reserve estimations are 86% for Nickel, 95% for Cu and 88% for Co.
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	• SNM operate under the conditions set out by an environmental license to operate. • Waste is generally placed on approved waste dumps, some amounts are placed underground in the mined voids when possible.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	• The Savannah mine has substantial infrastructure in place including a paste fill plant, major electrical and pumping networks, a 1Mtpa throughput plant, a fully equipped laboratory, extensive workshop, administration facilities and a 215 person single person quarters camp, and tailings storage
Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study. • The methodology used to estimate operating costs. • Allowances made for the content of deleterious elements. • The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products. • The source of exchange rates used in the study. • Derivation of transportation charges. • The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. • The allowances made for royalties payable, both Government and private.	• Costs are actual costs occurred to the mining, processing and transportation over the past 12 months; • Metal Prices and Exchange Rate are based on the latest future consensus median values forecast by a number of external market analysts. • All cost based on Australian dollars; • WA government royalty and Traditional Owner royalty included.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • he derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	• Revenue is calculated by using the latest future consensus median prices of Ni, Cu and Co, and US$:A$ exchange rate forecast by a number of external market analysts
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product.	• The Concentrate is contracted for sale to the Jinchuan Group of China until April 2020. The Savannah concentrate will continue to be shipped from Wyndham to Jinchuan's smelter/refinery in the Gansu province, northwest China.

Criteria	JORC Code explanation	Commentary
	• Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	• As an operating mine, internal cash flow estimates and impairment models apply an implied 8% real discount rate for NPV analysis and only economically viable ores are considered for mining. The mine carries no external debt forces. • Sensitivity analysis of key financial and physical parameters is applied to future development project considerations and mine.
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• The Savannah mine is fully permitted and a major contributor to the local and regional economy. It has no external pressures that impact its operation or which could potentially jeopardise its continuous operation.
Other	• To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements. • The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	• No significant unresolved material matters relating to naturally occurring risks, third party agreements or governmental/statutory approvals currently exist.
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories. • Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• The classification adopted is based on the level of confidence as set out in the 2012 JORC guidelines • Proven Ore reserves are based on Measured Resources subject to economic viability. • Probable Ore Reserves are based on Indicated Resources subject to the economic viability. • The estimate appropriately reflects the view of the competent person. • No inferred material is included in the Reserve estimations.
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	• Site generated reserves and the parent data and economic evaluation data is routinely reviewed by the Savannah technical team.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be	• The relative accuracy of the Resource and Reserve estimates are considered robust as it has been compiled as per the guidelines of the 2012 JORC Code, and knowledge gained from extensive operational history of the mine. • All currently reported Reserve estimations are considered representative on a global scale. • Mine to mill reconciliation records throughout the life of the Savannah Project provide confidence in the accuracy of the resource and reserve estimates.

Criteria	JORC Code explanation	Commentary
	compared with production data, where available.	

Table 1 - Savannah North

Section 1 - Sampling Techniques and Data

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

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.	• Exploration and resource definition holes at Savannah North are entirely diamond cored holes. Most are drilled from underground. The deposit to date has been defined by 24 surface and UG exploration holes, totalling 20,150m. UG resource definition holes completed to 30 June 2015 total 30 holes for 10,386m. • The Resource definition drill hole spacing is a nominal 50 x 50 metre grid spacing over the extent of the Resource reported in the release accompanying this Table. • All drill hole collars were surveyed using Leica Total Station survey equipment by a registered surveyor. Down-hole surveys are typically performed every 30 metres using either "Reflex EZ Shot" or "Flexit Smart Tools". • All diamond core is geologically logged with samples (typically between 0.2 metre to 1 metre long) defined by geological contacts. Analytical samples are dominantly sawn half core samples. Sample preparation includes pulverising to 90% passing 75 µm followed by either a 3 acid digest & AAS finish at the Savannah onsite laboratory or a total 4 acid digest with an ICP OES finish if the samples are analysed off-site.
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).	• NQ2 sized diamond drilling has been used to obtain 100% of the data used in the estimate.
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.	• Diamond core recoveries are logged and recorded in the database. Overall recoveries are >99% and there are no apparent core loss issues or significant sample recovery problems. • Depths checked against core blocks, regular rod counts, driller breaks checked by fitting core together. • No 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 diamond holes have been geologically logged in full. Geotechnical logging is carried out on all diamond drill holes for recovery and RQD. Number of defects (per interval) and roughness was carried out around the ore zones. Structure type, alpha angle, infill, texture and healing is recorded in most holes and stored in the structure table of the database. • Recorded core logging attributes include lithology, colour, mineralisation, structural and other features. • All drill core is photographed.
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 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	• Analytical core samples are dominantly sawn half NQ2 samples. • All Resource definition samples are diamond core only. • All core sampling and sample preparation follow industry best practice. • QC involves the addition of purchased CRM and Savannah derived CRM assay standards, blanks, and duplicates. At least one form of QC is inserted in most sample batches. • Original versus duplicate assay results have always shown strong correlation due to massive sulphide rich nature of the Savannah North mineralisation.

Criteria	JORC Code explanation	Commentary
	sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Sample sizes are considered appropriate to represent the Savannah North style of mineralisation.
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 Savannah Nickel Mine (SNM) onsite laboratory standard analytical technique is a 3-acid digest with an AAS finish. The method best approaches total dissolution for most minerals The onsite exploration sample analytical method for Ni,Cu,Co is AAS 22S. Exploration samples sent off-site are analysed using a 4-acid digest with either ICP OES or AAS finish (AAS for ore grade samples). • No other analytical tools or techniques are employed. • The onsite laboratory is run by SGS Laboratory Services • The onsite laboratory carries out sizing checks, uses internal standards, duplicates, replicates, blanks and repeats. A selection of roughly 10% of pulps was sent to external laboratories for repeat analysis and sizing checks. No bias has been identified.
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.	• Drilling and sampling procedures at SNM have been inspected by many stakeholders since the project began. • The practice of twinning holes is not employed at Savannah North. • Holes are logged into Excel templates on laptops. The data is then entered into a SQL server database via a DataShed front end. Data is then replicated to the Perth office. Data periodically validated by site personnel. • No adjustments have been made to assay data.
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.	• All diamond drill hole collars are surveyed using Leica Total Station survey equipment by a registered surveyor. "Reflex EZ Shot" or "Flexit Smart Tool" was used for down-hole surveys at approximately every 30m. • The mine grid is a truncated 4 digit (MGA94) grid system. • Conversion from local grid to MGA GDA94 Zone 52 is calculated by applying truncated factor to local coords: • E: +390000, N: +8080000N • Topographic control is well established, RL equals AHD + 2,000m.
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.	• Exploration drill holes are spaced on a geological basis as opposed to a nominal drill hole spacing. • For the most part drilling is typically conducted on a regular spacing, sufficient to achieve the objectives of the drill program. For the current Savannah North Resource definition program the nominal spacing is 50m x 50m. • The mineralised domains delineated by the drill spacing show enough continuity to support the classification applied under the 2012 JORC Code. • No sample compositing has been undertaken.
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 geometry of the Savannah and Savannah North mineralisation to most drill positions is nearly always oblique. For this reason all SNM drill results are reported as down-hole intersection lengths and not true widths. • No orientation sampling bias has been identified.
Sample security	• The measures taken to ensure sample security.	• Samples transported to onsite lab by SNM staff. Samples sent off site are road freighted (Nexus transport) and tracked using spreadsheets onsite.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits/reviews of the sampling techniques have been undertaken in recent time. The procedures used are considered to be industry standard. Mine to mill reconciliation records throughout the life of the Savannah Project provide confidence in the sampling procedures.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• An Excel logging templates with lookup tables and fixed formatting is used for logging and data collection. • Data validation checks are performed every time a drill hole is entered to the database using a checklist.
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.	• The Competent Person is a site based, full time employee of the Company.
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 Savannah North mineralisation dips moderately (40-45 degrees) to the north-west and comprises two main domains, the first domain is associated with the basal contact of the North Olivine Gabbro, the second domain is remobilised massive sulphide mineralisation detached from the contact. Both domains are well defined by the drilling and the interpretation is considered robust. • No other interpretations have been considered as the current model is demonstrably robust. • Geological controls were used to create the domains. The interpretation has been defined by the presence of strong and continuous zones of massive sulphide mineralisation. • The detached domain of remobilised massive sulphide mineralisation is related to the NW dipping 500 Fault zone. • There are some instances where intervals of internal dilution have been included with the mineralized envelope- generally less than 0.5m
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Savannah North mineralisation has been defined over a strike length of 1 kilometre. The interim resource reported herein relates to an area with a strike length of 300m from 5700mE to 6000mE. The average thickness of mineralisation is approximately 5 meters.
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.	• Inverse Distance squared methodology was employed using Surpac™ software to estimate Ni, Co, Cu and Density into a 3D block model. Top cut analysis was undertaken for each domain using grade histograms, no extreme values were detected and therefore no top cuts applied. A search radius of 125m was used for the main basal domain, with a minimum of 3 samples and a maximum of 15 samples. • No check estimates have been performed to date. This estimate has yielded similar characteristics of previous Savannah estimates. • By-product credits for Cu and Co form part of the off-take agreement between SNM and Jinchuan. • No deleterious elements have been modelled in the resource estimate; the Savannah orebody has low MgO and negligible Arsenic levels. • A block model was created using Surpac software with parent cell dimensions of 4m N x 20m E x 10m RL parent cells, sub celling to 0.5m N x 2.5m E x 1.25m RL. Block discretisation points were set to 2(Y) x 5(X) x 4(Z) points. The block dimensions approach half the average drill spacing of 50m. • No selective mining units were assumed in the estimate. • Ni and Co show a very strong correlation. Ni and Cu are more variable.

Criteria	JORC Code explanation	Commentary
	• Description of how the geological interpretation was used to control the resource estimates.	• The geological interpretation was used to derive the domains using massive sulphide content, lithology and structural boundaries. These were wireframed and used as hard boundaries to flag sample data for estimation.
	• 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.	• Statistical analysis of the grade populations indicated no extreme values and a low coefficient of variation. • Validation included comparing the raw data statistics to block estimates, volumes of wireframes to block model volumes, drill holes and block model value plots were produced for a visual check of the grades. • Similar validation methods have been proven to be reliable at Savannah where good reconciliation data exists between mined and milled figures.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• 0.5%Ni was used as a cut-off when defining the mineralised wireframes.
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 Savannah has been ongoing since 2004 • Underground, sub-level open stoping is used effectively to extract the ore at Savannah and a similar extraction method is likely for Savannah North. • As the interim Savannah North has been categorised entirely as **Inferred** no further mining assumptions are warranted. • Mining factors will be applied during Ore Reserve conversion.
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.	• Savannah ore has been successfully treated through a 1Mtpa SAG mill and flotation circuit since commissioning in 2004. • The metallurgical nature of the mineral resource in this estimate has not changed. • Metallurgical factors are addressed in Ore Reserve conversion. • Preliminary testwork conducted on the Savannah North mineralisation has indicated that it has identical metallurgical characteristics as Savannah ore.
Environmental 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.	• The Savannah Project operates under the conditions set out by an environmental license to operate. • At this stage It is likely that extraction of the Savannah North Resource will be undertaken under the same license conditions
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	• Bulk density is determined using the water displacement method for all Savannah North assay 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.	• Voids within the mineralised zones are non-existent
	• Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• The search parameters for density were the same as nickel for all domains. A default bulk density of 2.88 was assigned to waste material. The default density value was determined from a well-established regression formula.

Criteria	JORC Code explanation	Commentary
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 classification adopted is based on the level of confidence as set out in the 2012 JORC guidelines.. • Because drilling is ongoing and additional infill holes may be drilled the entire Resource has been classified as 'Inferred' • The estimate appropriately reflects the view of the Competent Person.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The Resource estimate has been peer reviewed on site and by Panoramic's corporate technical team.
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 relative accuracy of the Resource estimate is considered robust as it has been compiled as per the guidelines of the 2012 JORC Code, and knowledge gained from extensive operational history at Savannah. • The statement relates to global estimates of tonnes and grade. • Mine to mill reconciliation records throughout the life of the Savannah Project provide confidence in the accuracy of the resource estimate.

Table 1 – Lanfranchi Nickel Mine

Section 1 - Sampling Techniques and Data

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

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.	• All sampling for resource estimation purposes at Lanfranchi Nickel Mine (LNM) is based on diamond drill core. Sample selection is based on geological core logging. Individual samples typically vary between 0.2m and 1.2m in length.
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).	• Diamond drilling at LNM is typically NQ2 or LTK60 size. Occasionally BQ and HQ core size holes have been drilled.
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.	• All recovered diamond core is metre marked by on site geologists; any core loss is determined and recorded as part of the geological logging process. Core recovery is typically 100 percent. • No relationship exists between core 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 core is geologically and geotechnically logged to a standard appropriate for mineral resource estimation purposes. Core is logged from start to end of hole without gaps. Core photography is not undertaken. Drillholes are logged using Excel templates that are code restricted to ensure that only approved data can be entered. The Excel templates are then uploaded to the Lanfranchi SQL Server drillhole database via Datashed.
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 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.	• All diamond core is cut using a clipper brick saw and half core sampled for assay. Quarter core samples are sent as part of the LNM QAQC process for check assaying. Sample intervals typically vary between 0.2m and 1.2m and are positioned as to not cross geological boundaries.
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.	• All LNM drillhole samples are analysed by Kalassay Group's Kalgoorlie laboratory. The Laboratory process for LNM samples involves: Crush sample to <3mm, pulverise to 90% passing 75um (lab blanks introduced and pulverised at this point). From the pulverised sample, a 0.2g assay aliquot is taken and weighed then

Criteria	JORC Code explanation	Commentary
		digested by 4-Acid digest and analysed by ICP-OES instrument. Laboratory QA/QC is performed on standards, blanks and duplicates. The LNM policy is to scrutinize the results for QA/QC standards and blanks when assay jobs are reported and to request re-runs if result are ± 1SD from the expected value.
	• 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.	• No other geophysical or analytical tools have been used to estimate grade.
	• 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.	• Certified Reference Material (QAQC) samples are routinely inserted during all sampling at LNM. In addition samples are routinely sent for check analysis at a different Laboratory. The QAQC results indicate that the diamond core assays being used for resource estimation at LNM are a fair representation of the material that has been sampled.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• Significant intersections are calculated by mine geologists and verified/reported on a monthly basis by the Geology Manager.
	• The use of twinned holes.	• Twinning of drillholes is not performed at LNM
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Assay data are imported directly from the Kalassay assay files and QA/QC validated via Datashed to the LNM SQL drillhole database.
	• Discuss any adjustment to assay data.	• No adjustment to assay data is made.
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.	• Drillhole collars are accurately surveyed for X,Y,Z and azimuth & Dip by site Surveyors using "Total Station" control. Older holes may/may not have collar azimuth/dip measurements. Downhole surveys are generally conducted using single shot or reflex multishot tools at 15m, 30m and every 30m thereafter.
	• Specification of the grid system used.	• The LNM drillhole database contains both MGA94 and local mine grid (KNO) coordinates. All site geological and mine planning work is performed in the local KNO grid system. • Conversion from KNO grid to MGA GDA94 Zone 51 is based on a two point transformation: 389084.61E, 513790.88N = 389351.47E, 6513980.38N 389044.77E, 513543.54N = 389313.70E, 6513732.77N
	• Quality and adequacy of topographic control.	
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• LNM resource estimation drill holes are typically drilled on a regular grid spacing that varies according to the size and consistency of the resource being drilled. Due to the consistent grade and low Coefficient of Variation of nickel mineralisation generally, resource definition drilling at LNM is more for volume estimation purposes than grade estimation.
	• 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.	• Data spacing is deemed to be sufficient for Mineral Resource estimation and reporting.
	• Whether sample compositing has been applied.	• No sample compositing is undertaken; all core samples are logged and analysed in full.
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.	• Underground drill sites are not always ideally positioned for resource definition drilling however no sampling orientation bias is evident. The Ni grade is typically very consistent within individual resource domains and therefore drill orientation is not a determinant for reliable grade estimation
Sample security	• The measures taken to ensure sample security.	• All diamond core samples are taken directly from site to Kalassay for analysis via a local courier service. Sample security is considered adequate.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• All LNM Mineral Resource estimates are audited by independent consultants BM Geological Services. Minor adjustments to model dimensions, geostatistical analysis

Criteria	JORC Code explanation	Commentary
		and application of top-cuts (where required) and adjustments to search parameters have been made on occasions following this audit process.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• All LNM drillhole and resource samples are logged and recorded using MS Excel templates that are code restricted to ensure that only approved data can be entered. The Excel templates are uploaded to the LNM SQL drillhole database via Datashed software, this also ensures only approved data can be entered into the database. Once Laboratory assays files have been scrutinised and finalised for QAQC they are imported directly into database to ensure there are no transcription errors.
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.	• The competent person is a site based Panoramic employee on a rostered, FIFO arrangement • BM Geological Service personnel have visited LNM on numerous occasions.
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.	• There is a high level of confidence in the geological interpretation of all LNM resources due to; the extensive operating experience, and the readily recognizable, strongly contrasting mineralised and un-mineralised lithologies. Composites are individually selected for each drillhole based on logging and cut-off grade boundaries rather than using an intercept method. This method ensures where drillholes skim in and out of mineralisation along a resource edge the mineralised grades for the hole are used in the estimation process even though due to the complexity of the wireframe interpretation they may fall just outside the wireframe shape. The standard composite length is 1m. Wireframes are based on drillhole intercepts, survey pick-ups, face mapping and sludge sampling where available. Although rock chip, grab and sludge hole data is also available, they are not used in the estimation process to ensure clustering of lower quality does not bias the estimation process, as such only diamond drilling samples are used for estimation. Wireframes are used to constrain the estimation process to ensure rigid geological boundaries are adhered to. All wireframes are constructed to a 1.0% Ni cut-off grade
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	
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	• The computer software package "Surpac" was used for all resource models. All resource models have been estimated using ID2 methodology for simplicity and the amount of data available. Previous models run between 2007 and 2010 had run ID2 and OK models in parallel. This approach produced very similar estimates that were, typically within ±4% on tonnes, ±0.3% in grade and <5% difference on a contained nickel basis. Confidence in the

Resource	Length	Width	Depth below surface (limit)	
			Upper	Lower
Deacon	915	115	850	1315
Helmut South Extension	185	40	935	1160
Lanfranchi	185	80	630	820
Metcalfe	285	40	810	935
Martin	160	40	275	440

Criteria	JORC Code explanation	Commentary
	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.	modelling process is also high due to good reconciliation with production data over many years, especially within the Deacon resource. Block model parent cell sizes are matched to drillhole spacing for each resource model with search ellipses aligned parallel to mineralisation trends. Estimated elements in all resource models are as follows: Ni, As, Cu, Co, Fe, MgO, S. Domaining within the model is based upon primary lithology types and separate estimation passes are conducted to ensure both composites and search ellipses are realistic for each rock type. In the case of the Helmut South Extension (HSE) resource, geostatistical analysis of the ore population identified two distinct sample populations. Due to the complexity of the two populations within the main ore shape, they were unable to be domained separately. In this case a top-cut was applied to ensure that overestimation of the resource did not occur. The top-cut was established following an audit of the HSE resource model by BM Geological Services. Minimal stoping has been completed in the HSE resource to adequately study the estimation versus actual data. No other top-cuts were applied across the other resource models. Validation of the resource estimate was completed by onscreen visual validation of block grades vs. drillhole assays in sectional view and via Swanson plots of composites grades vs. block grades. In the case of the Deacon resource, the model composites and block model reports were compared in 100m increments along strike with very good correlation between "data in" and "data out".
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages are estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• All LNM resource models are modelled to a nominal cut-off grade of 1% Ni. In some cases, minor internal dilution was included in the intercept to avoid over-complication of the wireframe shape.
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.	• No minimum mining width assumptions are made during the resource wireframing or estimation process. Mining parameters, including minimum mining width assumptions are applied during the conversion to Ore Reserves. Internal dilution is included during the resource estimation process when it is obvious selective mining is not a realistic option.
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.	• No metallurgical factors or assumptions are made during the Resource estimation process. These matters are addressed during conversion to Ore Reserve.
Environmental 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	• No environmental factors or assumptions are made during the Resource estimation process.

Criteria	JORC Code explanation	Commentary
	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.	
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• For all LNM Resources a nickel vs. SG correlation plot is generated using all available SG data. All samples without an SG measurement are assigned a calculated SG value based on the regression analysis. During the estimation process, actual SG measurements were given priority over calculated values. LNM has an extensive SG database, generated over many years of operating experience. Determinations have typically been performed using the water immersion technique. The technique is adequate due to low core porosity, fresh rock underground environment of the LNM operation.
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.	• Classification of the LNM resource models are based primarily on drill density in conjunction with increased confidence from existing ore development. Significant ore development has been completed within the Deacon Resource which enables a Measured category to be applied to most parts of this Resource.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• In March 2013, BM Geological Services (BMGS) conducted an independent review of all LNM Resource estimates. The review covered the building and interpolation of grades in the relevant block models and their representation of grades based on the composite files. Overall BMGS concluded the resource models grades compared favourably with drill hole composite grades. Concern was expressed however about the representivity of the Helmut South Extension (HSE) Resource estimation, and the potential for overcalling of grades within the BM. To alleviate this issue, top-cuts were applied by BMGS and the model re-run.
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.	• A high level of confidence exists for all LNM Resource estimates. The estimates are based on many years of operating experience. Mine production is currently derived from 3 of the 6 underground resources with good reconciled agreement between Resource/Reserve grades and mine production. • All estimates are global estimates of tonnes and grade. • **Deacon** – In production with good reconciled agreement between Resource/Reserve grades and mine production. • **Helmut South Extension** - Estimated grades generally reflect composite grades, grade trends are under reported within the Swanson plot due to the application of Ni top-cuts. 2013/14 production numbers will assist in reconciling performance of the block model against composites. • **Lanfranchi** - In production with good agreement between Resource/Reserve grade and mine production. • **Martin** - estimated grades closely reflect grades within the Swanson plot, ore too thin for proper analysis of composites in cross section. • **Metcalfe** - Estimated grades generally reflect composite grades, grade trends appear consistent with composites in cross section. • **Schmitz** - In production with good reconciled agreement between Resource/Reserve grade and mine production.

Section 4 - Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	• All resources used in the estimation of ore reserves are classified as either Indicated or Measured. • Indicated Resources are only upgraded to Probable Reserves after adding appropriate modifying factors. • Measured Resources are classified as Proven Mining Reserves once the access drives are fully developed. • Mineral resources are inclusive of the Ore Reserves.
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.	• The Competent Person is a site based full time LNM employee on a rostered FIFO arrangement.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. • The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	• Mining operations have continued since Panoramic acquired the Lanfranchi project from WMC Resources Limited in 2004. • Annual Resource updates and economic assessment of the Measured and Indicated Resources is completed using actual costs, operating parameters and modifying factors. • An annual update of Ore Reserves is completed on this basis.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	• An initial cut-off grade of 1% Ni is used except for airleg mining which is 2% Ni • Economic analysis is carried out for each planned stope, and only stopes with a positive return are included in the Ore Reserves.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). • The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. • The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. • The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). • The mining dilution factors used. • The mining recovery factors used. • Any minimum mining widths used. • The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. • The infrastructure requirements of the selected mining methods.	• The Deacon and HSE Ore has been extracted by sub-level stoping due to favourable geometry and the availability of paste backfill. • Narrow high grade ore zones are mined using air-leg mining methods. • The hanging wall rocks are ultramafic and very weak, therefore all open stopes are extensively cable-bolted, all ore development is shotcreted and stope voids are filled with paste fill. Regular inspections are made by appropriately qualified geotechnical staff. A seismic monitoring system is in place and routinely checked. • Stress models are regularly updated and results used in determining stable stope sizes. • Ore development is routinely mapped and sampled. • Mining dilution is 10% at zero grade and is applied to all stopes; • Mining dilution is 4% at zero grade and is applied to the jumbo ore development; • 95% metal recovery is assigned to all open stopes. • 99% metal recovery is assigned to all jumbo ore development. • Minimum stoping width is 3.0m. • Minimum air-leg stope width is 1.8m. • No Inferred Resources are included in the Ore Reserves. • The paste fill plant is designed to produce suitable quality and quantities of paste to match the underground production rate.

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	• LNM ore is a sulphide and suitable for processing via flotation to make a concentrate. As such the ore is processed under an Ore Tolling and Concentrate Purchase Agreement (OTCPA) with BHP Billiton Nickel West (BHP). The Kambalda Concentrator is located about 40 kilometres to the north-west of LNM by road. The offtake agreement with BHP operates until 2019. Recovery is determined by BHP and is related to the averaged grade delivered on the monthly basis. The ore from LNM has been processed by previous mine operators at the Kambalda Concentrator since the 1970s.
	• Whether the metallurgical process is well-tested technology or novel in nature. • The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	• There are insignificant amounts of deleterious elements in the current Resources.
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	• LNM operates under the conditions set out by an environmental license to operate. • There are no outstanding current environmental approvals requiring supporting environmental studies. • Waste rock is inert basalt and classified as NAF. • Waste is placed on approved surface waste dumps, with some amounts placed underground when possible.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	• LNM is an operating mine, and has substantial mine infrastructure in place, including a paste fill plant, major electrical and pumping networks, administration facilities and a 150 person accommodation village.
Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study. • The methodology used to estimate operating costs. • Allowances made for the content of deleterious elements. • The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products. • The source of exchange rates used in the study. • Derivation of transportation charges. • The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. • The allowances made for royalties payable, both Government and private.	• Most capital costs are related to the renewal of existing mining equipment and are based on quotes from equipment suppliers. • The forecast of operating costs is based on the detailed operating history from the last 12 months. • Processing costs are based on the OTCPA with BHP. • Metal prices and US$:A$ Exchange rate are the latest future consensus median values forecast by a number of external market analysts. • All costs are in Australian dollars; • The forecast of transportation costs is based on detailed transportation costings from the last 12 months. • Payability and penalties for delivering off-spec ore are defined in the OTCPA. Based on operating history and the extremely low-levels of deleterious elements any occurrence of such penalties is considered highly unlikely. • WA government royalties are included in cost estimates.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	• The head-grade is based on the mine plan and the geological model (with suitable modifying factors applied) • Revenue is calculated using the latest future consensus median prices for Ni and Cu, and the US$:A$ exchange rate forecast by a number of external market analysts
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to	• The OTCPA to purchase the ore is in place until 2019.

Criteria	JORC Code explanation	Commentary
	affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product. • Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	• As an operating mine internal cash flow estimates and impairment models apply an implied 8% real discount rate for NPV analysis and only economically viable ores are considered for mining. LNM has no external debt. • Sensitivity analysis of key financial and physical parameters is undertaken as part of the Ore Reserve process
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• Licence to operate from WA State Government. • Pre native title mining tenements for current Reserves. • Good relationships with local community and strong cooperation with neighbouring mining operations.
Other	• To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements. • The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	• No significant unresolved material matters relating to either naturally occurring risks, third party agreements or governmental/statutory approvals, currently exist. • Third party off-take agreement in place with BHP
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories. • Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• The classification adopted is based on the level of confidence as set out in the 2012 JORC guidelines • Proven Ore Reserves are based on Measured Resources subject to economic viability. Probable Ore Reserves are based on Indicated Resources subject to economic viability. • The LNM Ore Reserve reflects the view of the competent person(s). • No inferred resources are used for Ore Reserve estimation.
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	• Site generated reserves and resources and economic evaluation data is routinely reviewed by Panoramic's in-house technical mining team.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the	• The relative accuracy of the resource and reserve estimates are considered robust as they has been compiled as per the guidelines of the 2012 JORC Code, and knowledge gained from extensive operational history at the mine, including good production reconciliation history. There is extensive data available due to the requirements of the OTCPA under which all ore is required to be weighed, and 25% of the ore is processed in a separate sampling circuit, including crushing and assaying. • All currently reported reserve estimations are considered representative on a global scale.

Criteria	JORC Code explanation	Commentary
	current study stage. • It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Mine to mill reconciliation records throughout the life of the Lanfranchi Project provide confidence in the accuracy of the resource and reserve estimates.

Table 1 – Gidgee Gold Project

Howards

Section 1 - Sampling Techniques and Data

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

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 Howards deposit has been extensively sampled using Reverse Circulation (RC) and Diamond drilling (DD) techniques. The Howards (Gidgee Gold Project) resource database subset contains 237 RC & DD holes for a total of 19,730m. Of this total 75 RC & DD holes totalling 11,086m were drilled by Panoramic as part of a Project feasibility study. In addition the database contains 329 historical RAB holes (totalling 3,173m which have not been used for resource estimation. • The drill spacing is typically 20m * 30m and 40m * 40m grid spacing over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting these down to a ~3kg assay sample using either automated on-board rig cone splitters or manual riffle splitters. • Diamond holes were either NQ2 or HQ size and were sampled by cutting the core in half to honour geologically logged intervals between 30cm and 1m in length. • All (7,056) recent Panoramic resource assay samples were submitted to ALS Laboratories in Perth for gold analysis by FA30 (Fire Assay) technique. Of the 5,261 historical RC & DD gold assays in the Howards database, 3,108 (59%) have an un-known technique. 2,565 of these assays are described as "unknown digest, AAS finish" and are believed to be Fire Assay results. In addition, results for 6,423 (52% of the entire analytical database) QAQC samples are recorded in the database.
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).	• The drilling methods use to evaluate the deposit are RC and DD drilling. The RC drilling was typically completed utilising a 5 ¼ inch hammer. Face sampling RC hammers were used by Panoramic. The DD drilling was either NQ/NQ2 (47.6mm /50mm) or HQ (63.5mm) diameter core. • HQ size core was typically used for geotechnical holes cored from surface by Panoramic.
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.	• RC sample recovery was monitored by Panoramic by recording visual estimates of the sampling bags. Typical recoveries for RC were greater than 90%. • Core recovery is noted during the drilling and geological logging processes as a percentage recovered vs. expected drill length. Core was reconstructed into continuous runs on lengths of angle iron to enable accurate geological logging and estimation of core recovery. Recovery was typically 100%. • No apparent relationships were noted 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 drill holes in the Howards resource database have been geologically logged. • Both chip and core samples in recent Panoramic drill holes have been logged using geological legends at detail to support geological confidence in Mineral Resource estimates. • Logging details lithology, weathering, oxidation, veining, mineralisation and structural features where noted in drill core. • All mineralised intersections and associated samples have been logged in full.

Criteria	JORC Code explanation	Commentary
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 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.	• All diamond core was half core sampled using an electric diamond core saw. • All RC samples were collected in 1m intervals through the drill rig cyclone system and reduced to a ~3kg assay sample by either automated on-board cone splitters or manually by riffle splitting. • The sample preparation process for all samples submitted for analysis followed industry standards, including oven drying for a minimum of 8 hours, crushing and pulverising to 85% passing 75 microns. • Quality control procedures included the insertion of standards, blanks and field duplicates to monitor sampling and analytical processes. In addition ALS Laboratories in Perth conducted their own internal QAQC system. • The sample sizes used are industry accepted standards used extensively throughout the goldfields and are appropriate to the style of 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 technique used is Fire Assay (30g charge). Where other element determinations were made it was generally by 4 acid digest and either ICP OES or AAS technique. • No other geophysical or analytical tools have been used to estimate grade. • QAQC has been routinely completed during all sampling. The QAQC results indicate the assays being used for resource estimation are a fair representation of the material being sampled. The Panoramic QAQC process was to insert 1 Certified Reference Material (CRM) or blank for every 20 RC samples and between 1 in 15 and 1 in 20 for core samples. The CRM quartz wash blank was also inserted at the beginning of each core assay batch and where possible immediately prior to the mineralised intervals. • Quarter core field duplicates were submitted at a rate of 1 in 20 samples. For RC drilling, field duplicates were inserted at a rate of 1 in 25 samples. Coarse crush laboratory split duplicates were also inserted at the rate of 1 in 20 samples for both RC and DD drilling.
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.	• The deposit is continuous in terms of mineralisation and grade. The continuity and consistency of the grade intercepts down dip and along strike provide strong confidence in the verification of the grade and style of deposit. • No twin holes were completed. Verification holes were completed by Panoramic to test continuity of mineralisation in selected sections. The drilling confirmed expected geological and mineralogical interpretations. • Logging was completed in logging code protected excel templates and loaded into Panoramic's SQL database for validation. Sections were then generated and visual validation was completed to ensure integrity of the data. • No adjustments were made to assay data except for replacing negative (below detection reported results) with half detection limit numerical values.
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.	• All drill hole set-outs, pickups and collar alignments were undertaken by TEAMS Surveying using DGPS equipment with a horizontal accuracy of ±10 mm and a vertical accuracy of ±15 mm. Down-hole surveys were routinely performed every 30m using a range of single shot, electronic multi-shot and north seeking gyro tools.

Criteria	JORC Code explanation	Commentary
		Panoramic validated all down hole survey data to correct anomalous readings due to magnetic interference. Recent gyroscopic surveys undertaken by Panoramic confirmed the reliability of earlier single and multi-shot readings.
	• Specification of the grid system used.	• The grid system used in the resource estimate is MGA_GDA94 Zone 50. All historic drilling positions were originally located on the Howards truncated AMG grid system that was constructed by Dalrymple in 1989. Panoramic has adopted MGA94 as the survey system for the Howards Project. The Howards database contains both sets of coordinates, but for the purpose of this estimate the MGA94 grid coordinates have been used. • Conversion from local grid to AMG AGD84 Zone 50 is calculated by applying truncated factor to local coords: • E: +700000, N: +6900000
	• Quality and adequacy of topographic control.	• The Howards topographic layer was created by Panoramic using a 2006 Landgate aerial survey and modified by DGPS pickups of historical and current drill-hole collars.
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 drilling density is on a nominal 20m by 30m and then 40m by 40m spacing through the majority of the deposit. This spacing is sufficient to provide strong geological and mineralogical confidence in the style of the deposit being estimated. • Outside of the mineralised zones and through RC pre-collars, 3 metre composite spear samples were collected and submitted for assay. If any of these returned anomalous gold values (> 0.2g/t) then the original 1 metre (~3kg) cone split drill-rig samples were submitted from the respective composites. All cored intervals selected for analysis were cut and sampled accordingly and sent directly to the laboratory. No core sample compositing was undertaken.
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.	• All drilling has been completed roughly perpendicular to the main strike of the deposit geometry and at angle to intercept mineralisation as close to perpendicular as possible. • No sampling bias is apparent from the direction of drilling.
Sample security	• The measures taken to ensure sample security.	• Samples were kept secure on site until dispatched direct to the ALS laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or review of the Panoramic sampling procedures and protocols has been completed.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Logging was completed in logging code protected MS Excel templates and loaded into Panoramic's SQL database, with a "Datashed" software frontend, for validation and storage. • Geological and assay information was printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format.
	• Data validation procedures used.	• Data validation was completed internally in SQL Server by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria. • A subset of the SQL database, restricting the data to the Howards Resource area, was exported into MS Access database. Additional data checks were run to ensure appropriate data robustness for the Resource Estimation.

Criteria	JORC Code explanation	Commentary
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• No site visits were completed by BMGS. LNM Panoramic staff managed the 2013 drill program and were integral in the development of mineralisation interpretations used in the Ordinary Kriged model.
	• If no site visits have been undertaken indicate why this is the case.	• Site visits were not required as the documented procedures on the recent drilling were deemed appropriate for the style of deposit and the work was undertaken to industry accepted standards.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	• There is a high degree of confidence in the geological interpretation of the Howards deposit. The deposit is confined to a basalt hosted shear, which has good continuity at a 0.3g/t cut off. The uncut coefficient of variation (COV) of the dataset was 4.31, however this was heavily skewed by the 6 extreme values. By top-cutting the dataset a reduction of 1.39 to the COV was realised, which suggests the domains are acceptable.
	• Nature of the data used and of any assumptions made.	• The data used for the resource estimate was from RC and diamond drilling. Raw assays, typically 1m were composited to 2m to provide equal sample weights and reduce grade variance.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Two separate interpretations were undertaken which were used for two differing estimation techniques. An interpretation of 0.3g/t continuity was created for the OK estimate with a slightly broader approach at 0.2g/t (including larger zones of internal dilution) for the MIK estimate.
	• The use of geology in guiding and controlling Mineral Resource estimation.	• The geological and mineralisation models are based on detailed geological logging which confirms the concentration of Au mineralisation within a broad basalt hosted shear zone. • With 14 diamond holes in the deposit, combined with detailed geological logs on all other hole types, it is thought that there is sufficient detail to support the geological model (framework).
	• The factors affecting continuity both of grade and geology.	• The geological and grade continuity is typical of most gold deposits where the continuity at a lower grade cut-off is far greater than the higher grade thresholds. There is a presence of localised higher grade zones within the mineralised domains. The continuity of these high grade zones vary from good continuity in the heart of the deposit and dissipate on the margins of the deposit.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Howards mineralised domain is approximately 780m long and has a down dip extent of 200m and is open at depth. The deposit consists of a main lode that varies between 2m and 30m thick with numerous parallel & sub-parallel lodes at various stages along the length of the deposit.
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.	• Grade estimation of Howards deposit was completed using two separate methods; (1) Ordinary kriging (OK) in Surpac software and (2) Multiple Indicator Kriging (MIK) using GS3 software. Variogram analysis and modelling for the OK estimate was completed using Supervisor software. Two meter composites were generated from the drillhole database and then tagged to mineralised wireframes generated at a 0.3g/t gold grade cut-off. The wireframe modelling conditions included, a minimum downhole width of 2 meters of mineralisation and internal dilution of up to 3m downhole could be included if the entire intercept graded above 0.3 g/t. If dilution was greater than 3m then separate lodes were generated if geological/grade continuity was permissible (typically used trouser legs on the fringes of the main lode). • The data was reviewed through disintegration analysis and reviewing the raw statistics to determine whether applying a top-cut was necessary. It was decided a top-cut was required to reduce the high CV and limit the effect of these higher grades on the estimate. Only the

Criteria	JORC Code explanation	Commentary
		OK estimate was run using a top-cut, with a top-cut of 10g/t being applied (removing the top 6 outliers from the dataset). The dataset was then normal scores transformed to generate variogram models. The variogram models had moderate to low nuggets with a range of maximum continuity along the main axis of 32m. Separate variograms were also generated for the MIK estimate, based on the different ranked grade thresholds; metal variograms were also generated.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the Howards deposit was completed in 2012. This was completed by BMGS on behalf of Panoramic Resources and was not classed as being 2012 JORC compliant. The 2012 estimate was created using a slightly higher cut-off envelope at 0.4g/t Au and is not therefore directly comparable with the 2013 estimates. Comparisons were made between two recent estimates using different estimation methods. The comparisons demonstrate that the metal accumulation between models is generally comparable with a slight fall in the MIK estimate. This is most likely a result of the broader domain boundaries used in the MIK estimate. The two new estimates are comparable at a 0.6 & 0.7g/t Au cut off.
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by products. Recent metallurgical test work had been performed as part of a feasibility study of the greater Gidgee Gold Project being undertaken by Panoramic. No recovery issues have been identified.
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• A review of deleterious elements or other non-grade variables was undertaken. Out of the available 12,271 raw samples 9,833 had been analysed for Copper (Cu). A correlation study was undertaken to determine if there was any correlation between analysed elements, there appeared to be no relationship between Cu and Au. Given that 80% of the dataset has Cu values, it was decided to estimate Cu. The Cu was only estimated in the OK model using id2 estimation methods with similar search criteria as used for the Au.
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The OK block model was constructed with a parent cell size of 20m Y 20m X and 10m Z with subcelling to 5m Y 5m X and 1.25m Z. All estimations completed at the parent cell resolution. Data spacing is typically on 20m sections by northing and 10m on section by easting. The size of the initial search ellipse was based on the variography with a cascading five pass estimation used to populate cells. The first estimation pass utilized a minimum of 12 and maximum of 32 samples, using a major distant search of 35m without octant constraints. The search criteria were then changed for the remaining estimation passes.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 2m downhole and the ore wireframes were maintained at a minimum width of 2m downhole to simulate a minimum mining width, assuming an open pit mining operation using 120 tonne excavators.
	• Any assumptions about correlation between variables.	• No correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The geology of the deposit is classified as an Archean orogenic shear hosted deposit. The mineralisation is hosted within a sheared basalt unit.
	• 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.	• Validation of the Resource estimate was completed by onscreen visual validation of block grades vs. drill hole assays in sectional view. Line graphs were also generated to show comparison between composite input

Criteria	JORC Code explanation	Commentary
		grades and block output grades over 50m intervals in the northing direction and 20m intervals in the easting direction throughout the entire deposit to ensure the composite data was accurately reflected in the model. The OK model was also compared to the MIK estimate to ensure the estimates were sensible.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involved drying the samples for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes for the OK estimate were modelled on a gold grade cut off of 0.3g/t. This value was determined by visual assessment of grade continuity. The mineralised envelope adopted for the MIK estimate was slightly broader with a continuity of 0.2g/t Au.
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.	• The Howards deposit has been modelled under the assumption that it will be mined by conventional open pit mining methods, utilising excavators and trucks. This would typically entail 5m bench heights with 2.5m flitches and the use of 120 tonne excavators with a bucket width of approximate 2m to mine the majority of the pit. The potential then exists to engage a smaller 30 tonne excavator to mine thinner higher-grade ore zones in order to maximise head grade and reduce dilution. Mineralisation wireframes were constructed to a minimum downhole length of 2m to replicate the smallest possible mining selectivity.
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.	• No metallurgical assumptions have been made in respect to the generation of the estimate however recent metallurgical test work had been performed as part of a feasibility study of the greater Gidgee Gold Project being undertaken by Panoramic. This work has shown that recoveries greater than 90% Au can be achieved using conventional CIL extraction methods.
Environmental 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.	• The current data available doesn't suggest there are any high-level environmental risks with mined waste by-products. If mining were to commence all statutory requirements would be implemented to comply with waste by-product management.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• Six hundred and fifty nine density determinations were calculated for Howards, based on 5 diamond holes drilled as part of the greater Gidgee Gold Project Feasibility Study. The determination methodology was by water immersion technique. • The host rock type for mineralisation and surrounding mafic material is non-porous and void space porosity is not considered to be of relevance to the measurements. • Given the localised spatial distribution of the density measurements, average densities were assigned to the various domains within both models (OK & MIK). The values applied were: Oxide - 2.0, Transitional - 2.4 and Fresh - 2.8.
Classification	• The basis for the classification of the Mineral Resources	• The classification of the OK resource has been weighted

Criteria	JORC Code explanation	Commentary
	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).	by strong geological continuity within the Indicated resource (>80% of the resource) with weaker continuity observed in the Inferred resource (<20% of the resource). The classification of the MIK estimate is heavily influenced by the search parameters applied. A proportion of the northern extent of Howards is densely drilled 5m*10m spaced RC (at the surface expression). The structural understanding of the Howards deposit is enhanced by the 14 diamond drill holes within the deposit. • The remainder of the deposit is drilled at 20m*20m, cascading to 20m*40m spaced drilling. The gold mineralisation is highly continuous over a 780m strike length and is structurally (shear controlled) bounded. The bulk of the resource has been classified as Indicated (>80%) with the remaining amount (<20%) inferred and unclassified.
	• Whether the result appropriately reflects the Competent Person's view of the deposit.	• The Mineral Resource estimate reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• No audits or reviews of the Mineral Resource estimate have been completed.
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 resource classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code.
	• 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.	• The Resource estimate relates to a global estimate of tonnes and grade.
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• No mining currently exists at Howards, therefore there is no production data available for comparison.

Shiraz

Section 1 - Sampling Techniques and Data

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

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 extensively sampled using Reverse Circulation (RC) drilling techniques. The Shiraz (Gidgee Gold Project) Resource database subset contains 142 RC & 2 diamond (DD) drill holes for a total of 12,656m. Of this total, 20 RC holes totalling 2,614 were drilled by Panoramic in 2013 as part of a Gidgee Gold Project Feasibility Study. In addition the database contains 196 historical RAB holes (totalling 5,676m which have not been used for resource estimation. • The drill spacing is typically 20m * 20m grid spacing over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting these down to a ~3kg assay sample using either automated on-board rig cone splitters or by manual riffle splitting. • Only two historical diamond holes have been drilled at Shiraz. The core size of both holes is unknown. • All (1,670) recent Panoramic resource assay samples were submitted to ALS Laboratories in Perth for gold analysis by FA30 (Fire Assay) technique. Of the 5,871 historical RC & DD gold assays in the Shiraz database, 3,566 (61%) have an un-known technique. In addition,

Criteria	JORC Code explanation	Commentary
		results for 1,836 (24% of the entire analytical database) QAQC samples are recorded in the database.
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).	• The drilling method used to evaluate the deposit is predominantly RC. The historic RC drilling was typically completed using 5 ¼ inch hammers. Face sampling, 5 ¼ inch RC hammers were used by Panoramic.
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.	• RC sample recoveries were monitored by Panoramic by recording visual estimates of the sampling bags. Typical recoveries for RC were greater than 90%. • No apparent relationships were noted 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 drill holes in the Shiraz resource database have been geologically logged. • RC samples in recent Panoramic drill holes have been logged using geological legends in sufficient detail to support geological confidence in Mineral Resource estimates. • Logging details lithology, weathering, oxidation, veining, and mineralisation. • All mineralised intersections and associated samples have been logged in full.
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 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.	• For the two historical diamond holes no sampling information is recorded • All RC samples were collected in 1m intervals through the drill rig cyclone system and reduced to a ~3kg assay sample by either automated on-board cone splitters or manually by riffle splitting. • The sample preparation process for all samples submitted for analysis followed industry standards, including oven drying for a minimum of 8 hours, crushing and pulverizing to 85% passing 75 microns. • Quality control procedures included the insertion of standards, blanks and field duplicates to monitor sampling and analytical processes. In addition ALS Laboratories in Perth conducted their own internal QAQC system. • All sampling by Panoramic was conducted according to accepted industry practices. • The sample sizes used are industry accepted standards used extensively throughout the goldfields and are appropriate to the style of 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 technique used is Fire Assay (30g charge). Where other element determinations were made it was generally by 4 acid digest and either ICP OES or AAS technique. • No other geophysical or analytical tools have been used to estimate grade. • QAQC has been routinely completed during all sampling. The QAQC results indicate the assays being used for resource estimation are a fair representation of the material being sampled. The Panoramic QAQC process was to insert 1 Certified Reference Material (CRM) or blank for every 20 RC samples. A CRM quartz wash blank was also inserted at the beginning of each RC assay batch and where possible immediately prior to the mineralised intervals. • For RC drilling, field duplicates were inserted at a rate of 1 in 25 samples. Coarse crush laboratory split duplicates were also inserted at the rate of 1 in 20 samples.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• The deposit is continuous in terms of mineralisation and grade. The continuity and consistency of the grade intercepts down dip and along strike give strong confidence in the verification of the grade and style of deposit.
	• The use of twinned holes.	• No twin holes were completed. Verification holes were completed by Panoramic to test continuity of mineralisation in selected sections. The drilling confirmed expected geological and mineralogical interpretations.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Logging was completed in logging code protected excel templates and loaded into Panoramic's SQL database for validation. Sections were then generated and visual validation was completed to ensure integrity of the data.
	• Discuss any adjustment to assay data.	• No adjustments were made to assay data except for replacing negative (below detection reported results) with half detection limit numerical values.
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.	• All drill hole set-outs, pickups and collar alignments were undertaken by TEAMS Surveying using DGPS equipment with a horizontal accuracy of ±10 mm and a vertical accuracy of ±15 mm. Down-hole surveys were routinely performed every 30m using a range of single shot, electronic multi-shot and north seeking gyro tools. Panoramic validated all down hole survey data to correct anomalous readings due to magnetic interference. Recent gyroscopic surveys undertaken by Panoramic confirmed the reliability of earlier single and multi-shot readings.
	• Specification of the grid system used.	• All recent planned drill hole locations were positioned by hand-held global positioning satellite (GPS) in MGA GDA94 zone 50 and subsequently set-out and picked up by differential GPS. A total of 41 historical drill holes located on a former Shiraz grid were also picked up by Panoramic in MGA. All recorded Shiraz drill positions have been converted to the "Mt Townsend" local grid by Panoramic. The database contains both MGA and local coordinates, but for the purpose of this estimate the local grid coordinates have been used. • Conversion from Mt Townsend grid to MGA GDA94 Zone 50 is based on a two point transformation: • 10000E, 7080N = 744294.62E, 6996202.93N • 10000E, 8560N = 743940.53E, 6997640.12N • Conversion from Shiraz grid to MGA GDA94 Zone 50 is based on a two point transformation: • 50000E, 50707N = 743469.32E, 6997462.19N • 50000E, 49293N = 744679.63E, 6996730.39N
	• Quality and adequacy of topographic control.	• The Shiraz topographic layer was created by Panoramic using a 2006 Landgate aerial survey and modified by DGPS pickups of historical and current drill-hole collars as well as two control tie lines set out across the project area.
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.	• The drilling density is on a nominal 20m by 20m grid spacing through the majority of the deposit. This spacing is sufficient to provide strong geological and mineralogical confidence in the style of the deposit being estimated.
	• Whether sample compositing has been applied.	• Outside of the mineralised zones and through RC pre-collars, 3 metre composite spear samples were collected and submitted for assay. If any of these returned anomalous gold values (> 0.2g/t) then the original 1 metre (~3kg) cone split drill-rig samples were submitted from the respective composites.
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.	• All drilling has been completed roughly perpendicular to the main strike of the deposit geometry and at angle to intercept mineralisation as close to perpendicular as possible.
	• If the relationship between the drilling orientation and the	• No sampling bias is apparent from the direction of

Criteria	JORC Code explanation	Commentary
	orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	drilling.
Sample security	• The measures taken to ensure sample security.	• Samples were kept secure on site until dispatched direct to the ALS laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or review of the Panoramic sampling procedures and protocols has been completed.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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 Logging was completed in logging code protected Excel™ templates and loaded into Panoramic's SQL database, with a "Datashed" software front-end, for validation and storage. • All geological and assay information was printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format.
	• Data validation procedures used.	• Data validation was completed internally in SQL Server by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria. • A subset of the SQL database, restricting the data to the Shiraz Resource area, was exported into MS Access database. Additional data checks were run to ensure appropriate data robustness for the Resource Estimation.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• No site visits were completed by BMGS. Panoramic staff managed the 2013 drill program and was integral in the development of the Shiraz geological/mineralisation model.
	• If no site visits have been undertaken indicate why this is the case.	• Site visits were not required as the documented procedures employed by Panoramic were deemed appropriate for the style of deposit and the work was undertaken to industry accepted standards.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	• There is a high degree of confidence in the geological interpretation of the Shiraz deposit. Shiraz is classified as an Archean orogenic shear hosted deposit. The mineralisation is typically associated with the presence of arsenopyrite, pyrrhotite and trace pyrite.
	• Nature of the data used and of any assumptions made.	• The data used for the resource estimate was from RC and diamond drilling. Raw assays typically 1m in length were composited to 2m to provide equal sample weights and reduce grade variance.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Two resource estimates were performed. The first was performed using ordinary kriging within a grade envelope interpretation of 0.4g/t Au, whilst allowing for internal dilution of up to 3metres. A second broader interpretation was undertaken for a comparable MIK estimate. The MIK estimate ensured a broader continuity at a lower grade cut-off of 0.2g/t Au.
	• The use of geology in guiding and controlling Mineral Resource estimation.	• The geological and mineralisation models are based on detailed geological logging which restricts the concentration of Au mineralisation to an altered sequence within the Shiraz Dolerite. The altered sequence is characterized by 5-25% veining, and the presence of associated blue quartz and arsenopyrite, pyrrhotite and trace pyrite mineralisation.
	• The factors affecting continuity both of grade and geology.	• The geological and grade continuity is typical of most gold deposits where the continuity at a lower grade cut-off is far greater than the higher grade thresholds. There is a presence of localised higher grade zones within the mineralised domain. The continuity of these high grade zones vary from good continuity in the heart of the deposit and dissipate on the margins of the deposit.

Criteria	JORC Code explanation	Commentary
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Shiraz mineralised domain is approximately 700m long and has a down dip extent of 150m in the southern end of the deposit and is open at depth. The deposit consists of a main lode that varies between 2m and 25m thick with numerous parallel and sub-parallel lodes at various stages along the length of the deposit.
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.	• Grade estimation of Shiraz deposit was completed using two separate methods: (1) Ordinary Kriging (OK) in Surpac™ software and (2) Multiple Indicator Kriging (MIK) using GS3 software. Variogram analysis and modelling for the OK estimate was completed using Supervisor software. Two meter composites were generated from the drillhole database and then tagged according mineralized wireframes generated at a 0.4g/t gold grade cut-off. The wireframe modelling conditions included, a minimum down-hole mineralisation width of 2 meters, internal dilution of up to 3m downhole could be included if the entire intercept graded above 0.4 g/t. If dilution was greater than 3m then separate lodes were generated if geological/grade continuity was permissible (typically used trouser legs on the fringes of the main lode). • The data was review through disintegration analysis and reviewing the raw statistics to determine whether applying a top-cut was necessary. It was decided a top-cut was unwarranted, therefore all estimates were run as Uncut. The dataset was then normal scores transformed to generate variogram models. The variogram models had moderate to low nuggets with range of maximum continuity along the main axis of 26m. Separate variograms were also generated for the MIK estimate, based on the different ranked grade thresholds; metal variograms were also generated.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the Shiraz deposit was completed in 2000 by Abelle Mining. The historical estimate appears to have been constructed at a much higher grade cut-off and is non-comparable with either of the two BMGS estimates. Therefore comparisons can only be made between the two recent estimates. The comparison demonstrates that the metal accumulation between models is generally comparable with a slight fall in the MIK estimate. This is most likely a result of the broader domain boundaries used in the MIK estimate.
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by products. However it is understood that there is a refractory component, as mineralisation is associated with a sulphide assemblage including arsenopyrite.
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• A review of deleterious elements or other non-grade variables was undertaken. Out of the available 8,644 samples 5,329 had been analysed for arsenic (As). It was established that an arsenic-gold correlation was present and with the As refractory component being responsible for expected lower recoveries using traditional CIL processing methods and given that almost 60% of the dataset was assayed for As, As was then estimated. The arsenic was estimated using id2 estimation methods, with similar search criteria used for the Au estimation. The blocks which did not estimate a value were then allocated the block mean grade by domain (Ore- 2815ppm and Waste- 823ppm). Given that the majority of the available As data was evenly spread in the southern extent of the deposit the arsenic estimate itself is considered representative. The northern extent of the deposit was not assayed for arsenic and this proportion of the estimate is considered inaccurate.

Criteria	JORC Code explanation	Commentary
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The OK block model was constructed with a parent cell size of 20m Y 20m X and 10m Z with subcelling to 2.5m Y 2.5m X and 1.25m Z. All estimations completed at the parent cell resolution. Data spacing is typically on 20m sections by northing and 10m on section by easting. The size of the initial search ellipse was based on the variography with a cascading five pass estimation used to populate cells. The first estimation pass utilized a minimum of 12 and maximum of 32 samples without octant constraints. The search criteria were then changed for the remaining estimation passes. The MIK model was constructed using a block size of 20m Y 20m X and 10m Z.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 2m downhole and the ore wireframes were maintained at a minimum width of 2m downhole to simulate a minimum mining width assuming an open pit mining operation using excavators of approximately 120 tonnes.
	• Any assumptions about correlation between variables.	• Although a semi correlation between As and Au exist at Shiraz, no correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The geology of the deposit is classified as an Archean orogenic shear hosted deposit. The mineralisation is confined to an altered sequence of the Shiraz Dolerite. The alteration sequence is characterized by 5-25% veining, and the presence of associated blue quartz and arsenopyrite, pyrrhotite and trace pyrite mineralisation.
	• 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.	• Validation of the resource estimate was completed by onscreen visual validation of block grades vs. drill hole assays in sectional view. Line graphs were also generated to show comparison between composite input grades and block output grades over 25m intervals (in both northing and easting directions) through the entire deposit to ensure the composite data was accurately reflected in the model. The OK model was also compared to the MIK estimate to ensure the estimates were sensible.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involved drying the samples for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes for the OK estimate were modelled on a gold grade cut off of 0.4g/t. This value was determined by visual assessment of grade continuity. The mineralised envelope adopted for the MIK estimate was slightly broader with a continuity of 0.2g/t Au.
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.	• The Shiraz deposit has been modelled under the assumption that it will be mined by conventional open pit mining methods using excavators and trucks. This would typically entail 5m bench heights with 2.5m flitches and the use of 120 tonne excavators with a bucket width of approximately 2m to mine the majority of the pit. The potential then exists to engage a smaller 30 tonne excavator to mine thinner higher-grade ore zones in order to maximise head grade and reduce dilution. Mineralisation wireframes were constructed to a minimum downhole length of 2m to replicate the smallest possible mining selectivity.
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	• No metallurgical assumptions have been made in respect to the generation of the estimate. This will be undertaken in the advent that the Resource is converted to an Ore Reserve. Metallurgical testwork is currently being undertaken by Panoramic as part of the broader Gidgee Gold Project Feasibility Study.

Criteria	JORC Code explanation	Commentary
	with an explanation of the basis of the metallurgical assumptions made.	
Environmental 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.	• The potential environmental implication of mining Shiraz relates to the presence of elevated arsenic levels. This issue will need to be considered in any future mining proposal.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• No Bulk density (BD) determinations have been completed on the Shiraz Project, however determinations were performed on the nearby Wilsons Project, which is hosted in the same stratigraphic dolerite sequence. The densities applied to the Shiraz Deposit are based the Wilsons density data. The assigned density values are; Oxide - 2.0g/cm³, Transitional - 2.4 g/cm³ and Fresh - 2.8 g/cm³.
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 classification of the OK resource has been weighted by strong geological continuity within the Indicated resource area (>80% of the resource), with weaker continuity observed in the Inferred resource area (<20% of the resource). The classification of the MIK estimate is heavily influenced by the search parameters applied. • Two diamond drill holes are present at Shiraz; located at the northern and southern limits of the deposit. The southern extent of the deposit has a higher drill density spacing of 20x10m compared with the northern extent which is less densely drilled at 40x20m. • The gold mineralisation is highly continuous over a 750m strike length within an altered sequence of the Shiraz Dolerite. The bulk of the resource has been classified as Indicated, including the less densely drilled northern extent of the deposit (although intuitively the northern extent is of lower confidence). • The Mineral Resource estimate reflects the Competent Person's view of the deposit
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• No audits or reviews of the Mineral Resource estimate have been completed.
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 classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code. • The Resource estimate relates to a global estimate of tonnes and grade. • A small shallow oxide pit is present at Shiraz and is approximately 100m in strike and 30m in vertical depth. Detailed reconciliation data specific to Shiraz pit is unavailable and no mine specific comparisons have been undertaken. The pit volume has been excluded from the Shiraz Mineral Resource estimate.

Wilsons

Section 1 - Sampling Techniques and Data

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

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 was sampled using Reverse Circulation (RC), Aircore (AC) and Diamond drilling (DD) techniques. A total of 213 RC holes for a total of 19,400m, 4 AC holes for 195m and 162 diamond holes for 53,328m. • The drill spacing was nominally 40m * 40m grid spacing over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting these down using a (cone and riffle splitter) to approximately 3kg sample sizes. • Diamond holes were typically NQ in diameter and were sampled by cutting the core in half over geologically logged intervals that typically ranged between 30cm and 1.2m. • All samples were submitted to ALS Wangara for analysis by Fire Assay. Field and laboratory duplicates and analytical standards were routinely inserted to quantify QAQC performance.
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).	• The drilling methods used on this deposit are RC drilling and DD drilling. The RC drilling was completed utilizing a 5 ¼ inch face sampling hammer. • The Diamond drilling was typically NQ2 (50mm) diameter core • All core was oriented where possible using "Ori-Mark" system.
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.	• RC sample recoveries were monitored by recording visual estimates of the sample bags prior to sampling. Typical recoveries for RC were >90% • Core recovery is noted during drilling process and geological logging process as a percentage recovered vs. expected drill length. Core was reconstructed into continuous runs on a length of angle iron to enable accurate geological logging and estimation of core recovery. • No apparent relationships were noted in relation to 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 drill holes were geologically logged. • Both chip and core samples have been logged in sufficient detail using Panoramic's lithological codes to support geological confidence in Mineral Resource Estimates. • Logging detailed lithology, alteration, mineralisation, weathering, oxidation, veining and structural features if available.
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 sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• All diamond core was half core sampled using an electric diamond core saw. The minimum sample length was 0.3m. • All RC samples were collected in 1m intervals through drill rig cyclone system and then split via (riffle and cone splitters) to produce a ~3kg assay sample. • Sample preparation process for all samples submitted followed industry standards, including oven drying sample for a minimum of 8 hours, crushing and pulverizing the sample to 85% passing 75 microns. • Quality control procedures included the insertion of standards, blanks and field duplicates to monitor sampling and analytical processes.

Criteria	JORC Code explanation	Commentary
	• 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.	• The sample sizes used are those typically used throughout the goldfields and are considered appropriate to this style of 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 technique used is Fire Assay (30g charge) • All analytical data generated by direct laboratory assaying. No field estimation devises were employed. • QAQC has been routinely completed during all sampling. The QAQC results indicate that the assays being used in the estimate are a fair representation of the material that has been sampled. The Panoramic QAQC process was to insert 1 Certified Reference Material (CRM) or blank for every 20 RC samples and between 1 in 15 and 1 in 20 for diamond core samples. The CRM quartz wash blank was also inserted at the beginning of each diamond core assay batch and where possible immediately prior to the mineralised intervals. • Quarter core field duplicates were submitted at a rate of 1 in 20 samples. For RC drilling, field duplicates were inserted at a rate of 1 in 25 samples. Coarse crush laboratory split duplicates were also inserted at a rate of 1 in 20 samples for both RC and DD drilling.
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.	• The deposit is very continuous in terms of mineralisation and grade. The continuity and consistency of the grade intercepts down dip and along strike give strong confidence in the verification of the grade and style of deposit. • No twin holes were completed. Verification holes were completed by Panoramic to test continuity of mineralisation in selected sections. Virtually all drilling confirmed expected geological and mineralogical interpretations. • Logging was completed in excel templates and loaded into Panoramic's SQL database for validation. Sections were then generated and visual validation was completed to ensure integrity of the data. • No adjustments were made to assay data except for replacing negatives with half detection limit numerical values.
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.	• All drill hole set-outs, pickups and collar alignments were undertaken by TEAMS Surveying using DGPS equipment with a horizontal accuracy of ±10 mm and a vertical accuracy of ±15 mm. Down hole surveys were routinely performed every 30m using a range of electronic multi-shot (EMS) tool. Gyroscopic surveys were completed as verification on the EMS surveys on all Panoramic drill holes or 95% of the total drilling. The gyroscopic data confirmed the reliability of the EMS surveys. • The grid system used in the resource estimate is a local grid system which is rotated 13.5 degrees to the west of MGA_GDA94 Zone 50. • Conversion from local grid to MGA GDA94 Zone 50 is based on a two point transformation: • 10000E, 7080N = 744294.62E, 6996202.93N • 10000E, 8560N = 743940.53E, 6997640.12N • A Wilsons surface topography DTM was acquired with the purchase of the Project from Apex. The origin of the DTM is unclear, but accurately surveyed drill hole collar

Criteria	JORC Code explanation	Commentary
		RLs agree closely with the DTM.
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 drilling density is on a nominal 40m by 40m spacing through the majority of the deposit. This spacing is sufficient to give strong geological and mineralogical confidence in the style of the deposit being estimated. • Sample compositing to 1m intervals has been completed to try and represent selective mining units that would be typical in an underground environment.
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.	• All drilling has been completed roughly perpendicular to the main strike of the deposit geometry and at angle to intercept mineralisation as close to perpendicular as possible. • No sampling bias is apparent from the direction of drilling.
Sample security	• The measures taken to ensure sample security.	• Samples were kept secure on site until dispatched direct to the ALS laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• All sampling techniques were by accepted industry standards. No audits or reviews have been undertaken.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Data is collected in excel templates and imported into Panoramic's SQL database using Datashed import and validation software to ensure appropriate values are being imported into correct fields. All geological and assay information is printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format. • Data validation is completed internally in SQL by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria.
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.	• The author has visited the site previously, though not specifically for this round of work. Panoramic staff managed the 2013 drilling program and were integral in the development of the geological model and mineralisation interpretations.
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.	• There is high confidence in the geological understanding of the deposit. There is a strong relationship between grade and logged alteration. The gold mineralisation is of a consistent grade and 1m composites of the mineralised zone indicate a very good, low coefficient of variation of < 1.1. • The data used for the resource estimate was from RC and diamond drilling. Raw assays were composited to 1m to provide equal sample weights. Short composites were normalised to 1m via accumulation with grade value. • No alternative interpretations were considered. • The geological controls relate strongly with the mineralisation interpretation. The deposit is essentially strata hosted within a shear zone (Wilsons shear) adjacent to the contact with a dolerite sill (Wilsons Dolerite). • Geological and grade continuity is strong within the Wilsons shear.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan	• The greater Wilsons mineralisation is approximately 0.6km long and has a down dip extent of >700m (open at

Criteria	JORC Code explanation	Commentary
	width, and depth below surface to the upper and lower limits of the Mineral Resource.	depth). The deposit consists of a main lode containing three distinct shoots (Wilsons 1, 2 & 3) that vary between 1m and 12m thick. Wilsons 1 contains several footwall lodes.
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.	• Grade estimation of the Wilsons deposit was completed using Ordinary kriging (OK) in Surpac software. Variogram analysis and modelling was completed using supervisor software. 1m composites were generated from the drill hole database and then tagged according to mineralized wireframes generated at a 1g/t lower gold grade for low grade domains and 2g/t gold grade for high grade domains. The wireframe modelling conditions included, minimum down hole width of 1 meters of mineralisation, internal dilution of up to 2m down hole could be included if the entire intercept graded above 1 or 2g/t respectively. If dilution was greater than 2m then separate lodes were generated. • The coded composites were reviewed in supervisor; top cut analysis was completed using disintegration analysis and use of coefficient of variation. Domain grades were top cut. The cut dataset was then log transformed to review variograms and generate variomodels. Variomodels generated confirmed geological continuity. The variomodel had a moderate nugget with range of maximum continuity along main axis of 234m.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the Wilsons deposit was completed in 2008. This was used as a guide and comparative tool for validation purposes with the current estimate.
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by-products.
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• Other elements including S and As have been estimated where data was present. Only recent 2013 drilling has results relating to these elements and as such the estimates of the elements are considered to be of low confidence.
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The block model was constructed with a parent cell size of 20m Y 5m X and 5m Z with sub-celling to 5m Y 1.25m X and 1.25m Z. All estimation is completed at the parent cell resolution. Data spacing is typically on 20m sections. Drill spacing within sections is typically 40m. The size of the search ellipse was based on the variography with 2 estimation passes used to populate cells. The first estimation pass utilised a minimum of 4 samples and maximum of 16 samples with 4 octants of the ellipse requiring data to allow estimation.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 1m down hole and the ore wireframes were maintained at a minimum width of 1m down hole to try and represent a minimum selectable size assuming narrow vein underground mining operations.
	• Any assumptions about correlation between variables.	• No correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The geology of the deposit consists of a sheared mafic metasedimentary unit adjacent to a dolerite sill. The mineralisation interpretation is consistent with a shear zone in the metasedimentary unit.
	• Discussion of basis for using or not using grade cutting or capping.	• Top cut analysis was completed using disintegration analysis and use of coefficient of variation. Estimates were generated using cut and uncut grades to demonstrate the influence of outliers.
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	• Validation of the resource estimate was completed by visual validation of block grades versus drill hole assays in sectional view on computer. Line graphs were generated to show comparison between composite input grades and output block grades over 20m RL intervals through the entire deposit to ensure the composite data

Criteria	JORC Code explanation	Commentary
		was being accurately reflected in the model. The model was also compared with historical estimate to ensure report figures were reasonable.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involves drying the sample for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes were modelled on a gold lower grade cut-off of 1g/t and 2g/t. These values were determined by visual assessment of grade continuity in Surpac™.
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.	• The Wilsons Resource has been modelled under the assumption that it will be mined by narrow vein underground methods. This would typically involve some configuration of open stoping to extract down to 1 or 1.5m wide mineralisation. Mineralisation wireframes were constructed based on minimum thickness of 1m downhole intercepts to resolve smallest possible mining selectivity.
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.	• Assumptions based on typical metallurgical recoveries for a deposit such as Wilsons have not been made in respect to the generation of this Mineral Resource estimate. • Metallurgical assumptions (based on test-work results) will be applied during the mine planning and conversion of resource to ore reserve stage of the Project BFS.
Environmental 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.	• No material environmental concerns have been identified. Wilsons is located on a brownfields site with existing environmental disturbance.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• Bulk density (BD) determinations have been completed on core samples by Archimedes water immersion method to determine BD of in-situ material. A total of 3,553 BD determinations are recorded in the Wilsons database, 1,140 historic and 2,413 by Panoramic. • The host rock type for mineralisation and surrounding mafic material is non-porous and void-space porosity is not considered to be of relevance to the measurements. • An average BD for each of the main lithological rock types was calculated using the recorded measurements. The assay table in the database was tagged with the actual BD or the average value based on rock type grouped averages. The density value was then extracted with the gold grade in the 2m composite file and composited based on the underlying rock type. The densities were then estimated using the Variogram models and search parameters for the gold waste domains. Average fresh rock density was calculated as 2.92g/cm³, oxide and transitional materials were assigned values of 2.00g/cm³ and 2.30g/cm³ respectively.

Criteria	JORC Code explanation	Commentary
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories.	• The classification of the Resource has been based on strong geological confidence with 40m*40m spaced RC and diamond drilling. Gold mineralisation is highly continuous over its strike length and is effectively strata bound.
	• 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).	• All appropriate data and factors have been addressed and taken into account for this estimate.
	• Whether the result appropriately reflects the Competent Person's view of the deposit.	• The Mineral Resource reflects the Competent Person's view of the deposit
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• This work has been peer reviewed by BMGS personnel other than the author.
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 resource classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code.
	• 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.	• The resource estimate relates to a global estimate of tonnes and grade.
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Good correlation exists between the estimated resources constrained within the historical Wilsons 1, 2 & 3 open pits and production data for the same volume.

Swan Open Pit and Swift Underground

Section 1 - Sampling Techniques and Data

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

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.	• The Resources stated in this report covers both an Open Pit and Underground component. Reverse Circulation Drilling (RC) and Diamond Drilling (DD) were the techniques used. Drilling into the Open Pit was mostly by RC whereas the Underground was mostly DD. Drillholes used in this study range from holes drilled in 1984 to 2011. Mining has occurred in both the Open Pits and Underground and as a result the behavior of the ore is reasonably well known in a general sense. However locally the orebody can show high variability.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Sampling has involved 1m RC cuttings using riffle splitter in dry materials and a wedge splitter or rotary splitter in wet materials. Usually 2kg was retained.
	• Aspects of the determination of mineralisation that are Material to the Public Report.	• DD has involved HQ and NQ. Some PQ holes have been drilled.
	• 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.	• Sampling of diamond core has involved 1m sampling in early work to sampling over geological intervals (down to 0.1m) in more recent holes. The diamond core has generally been half cored with some holes split at whole core and some at three quarter core. Where it has been suspected that drillholes were drilled down dip, cross holes have been drilled. (This is particularly the case in Swift where drilling down dip had been suspected.)
		• Initially assaying utilized the Aqua Regia process but most assays used in this study have been by fire assay with an AAS finish using the site laboratory or off-site laboratories. A 50g charge has been used. After 2000, samples were assayed at the on-site laboratory at

Criteria	JORC Code explanation	Commentary
		Gidgee using the Leachwell method. • Visible gold occurs.
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).	• RC and DD were the only types of drilling used in the Resource estimate. • RC drilling up until 1989 used an Open Face hammer. After 1989 this was changed to a downhole enclosed hammer. Drilling using an Open Face hammer had the potential to smear data. An analysis of drillholes pre and post 1989 showed that only approximately 5,000 tonnes of the Indicated Resources stated may have been affected by smearing. Other holes are either in the Inferred category or are supported by later drilling.
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.	• Most drilling showed good recovery with the exception of some holes drilled in 1989. • All RC samples were thoroughly mixed in the riffling process. • There is no stated evidence of there being sample bias due to preferential sampling. • There is no relationship 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.	• Drill core was photographed and appropriately logged. • Mining has been carried out and the metallurgical characteristics of the ore are well known. • Logging is qualitative in nature and was completed on all drillholes.
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 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.	• Sampling has involved 1m RC cuttings using riffle splitter in dry materials and a wedge splitter or rotary splitter in wet materials. Usually 2kg was retained. • DD has involved HQ and NQ. Some PQ holes have been drilled. • Sampling of diamond core has involved 1m sampling in early work to sampling over geological intervals (down to 0.1m) in more recent holes. The diamond core has generally been half cored with some holes split at whole core and some at three quarter core. Where it has been suspected that drillholes were drilled down dip, cross holes have been drilled. (This is particularly the case in Swift where drilling down dip had been suspected.) • Samples were submitted to off-site laboratories with check assays carried out in 1988. Further check assays were carried out in other years, however this data has not been analysed. There are indications of Standards and Blanks having been submitted prior to 2002 however there is insufficient information to complete an accurate analysis. There are lists of Standards and Blanks having been submitted post 2002 and an analysis of these shows good correlation. No evidence has been found in the mining process that there was suspected issues with assaying. An analysis of Duplicates showed that in general the precision of samples was adequate. • The analytic techniques were appropriate with approximately 30g of sample pulverized to 85% passing -200 mesh. Where coarse gold occurred screen fire assaying was carried out using a 105 micron sieve.
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	• Most of the assaying is by fire which is total. • Post 2002 there exists a complete list of Standards and Blanks. This data has been analysed and shows no bias. Prior to 2002 checks were carried out however that data has not been appraised due to difficulty. However there has been no evidence of any comment to the effect that mining showed that assays had been biased.

Criteria	JORC Code explanation	Commentary
	checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
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.	• Some significant Intersections had been re-assayed and cross holes had been drilled into areas where drilling down dip had been suspected. • There have been no adjustments made to assay data.
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.	• Accurate surveying was carried out of drillhole collars. Prior to 2002 the method of down hole survey is not recorded. There is no evidence to the effect that mining found drillholes in incorrect positions however in 2000 some RC holes > 75 degrees tended to lift and holes < 75 degrees tended to drop. There is a full description of down hole survey methods post 2002.
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.	• Drilling is generally on a 25m grid spacing but there are large areas of 12.5m drilling. This drilling together with the fact that the orebody has been mined in both Open Pit and Underground makes it appropriate for the classification of Resource reporting. • Samples have been composited to provide Intersections which reflect Open Pit and Underground mining.
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.	• Drillholes have been drilled both to the East and to the West to allow for the orebody dip. • Where drilling has been suspected down dip, cross holes have been available to assess this.
Sample security	• The measures taken to ensure sample security.	• There is no evidence to suggest inadequate sample security.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• An Audit was carried out in 2003 by Resource Evaluations Pty Ltd. The issue raised was that half core Kempe Diamond was used for Underground sample assaying and may have been too small. Underground drilling has been used in this work.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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 database used in this work was obtained by the Competent Person's site visit in December 2004 and has been kept at the Competent Person's Perth office since that time. The data was validated by plotting on plans and sections and having the complete involvement of Legend's previous Geologist in all interpretive work.
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.	• The Competent Person visited the site in 2004 and was responsible for the Closure Report in 2005. This involved time spent underground looking at Lodes which were being mined at the time.
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 Gidgee orebodies have been mined over a long period of time and are well understood in general, however locally there can be large discrepancies due to the nature of the controlling structures. Independent Geological studies have been carried out by SRK and Fractal Graphics. Locally, gold grades can exhibit very high variability. • There is only minimal scope for alternative Lode interpretations. However there is short scale variability within Lodes. • Known geology has been used as the basis of the interpretation. • Drilling is relatively close (up to 12.5m) and together with the understanding from mining a very reasonable

Criteria	JORC Code explanation	Commentary
		interpretation exists.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Open Pit Resource is constrained to the optimized Aus $2,000 pit and covers an area of approximately 1.5km long, 1.1km wide and 200m deep. • The Underground Resource is centered around existing workings and covers an area of approximately 1.1km long, 800m wide and is up to 300m below the optimized Aus $2,000 pit.
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.	• Intersection Selection was carried out using the following parameters for Open Pit: Cut-off Grade: 0.7g/t Minimum Mining Width: 4m Down hole Internal Dilution: 2m Down hole Edge Dilution: 1m Either Side Down hole • Intersection Selection was then used to create wireframes. • Block Modelling was carried out for Resources using the following parameters: Block Size: 2.5m North South, 2m East West, 1m RL Block Discretisation: 1 East, 2 North, 1 RL Search Type: Elliptical Octant Maximum Number of Samples: 64 Interpolation: Inverse Distance Cubed Search Size: 60m Down dip, 30m Along strike, 3m Across strike [These were obtained from historical variography.] For reporting purposes material within the wireframes contains the reported Resource. Note: Reporting is not carried out on block cut-off grades but within wireframed shapes which are at least 2,000 tonnes in size. • Intersection Selection was carried out using the following parameters for Underground: Cut-off Grade: 2.0g/t Minimum Mining Width: 3m Down hole • For the Underground, the average of the samples within the wireframe were used to give each wireframe a value. • The following high grade cuts have been used after examination of the sampling distributions: ○ Premium: ▪ Oxide: 10g/t ▪ Transition: 12g/t ▪ Fresh: 60g/t ○ Bitter: ▪ Oxide: 10g/t ▪ Transition: 20g/t ▪ Fresh: 200g/t ○ Swift: ▪ Oxide: 20g/t ▪ Transition: 30g/t ▪ Fresh: 30g/t Note: Swan comprises Premium and Bitter
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnages are estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• For Open Pit a cut-off grade of 0.7g/t has been used based on milling cost. • The cut-off grade for Underground Resources is a marginal cut-off grade based on mining costs, overheads and milling. It does not include the cost of development or refurbishment if required. This results in a higher cut-off grade of 6g/t for material distal to present

Criteria	JORC Code explanation	Commentary
		Underground workings and 4g/t for wireframes close to existing infrastructure.
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.	• Conventional Open Pit mining on 5m benches is applicable to the deposits. Mining can be selective and grade control via blasthole sampling is an applicable method. Geotechnical work has been undertaken to determine suitable slope angles and berm and batter designs. The existing excavations provide an insight into suitability of previous designs. There are no spatial constraints on Open Pit footprints (i.e. existing infrastructure, tenement boundaries and/or heritage values)
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.	• Conventional gravity/CIL gold extraction and recovery is applicable to these deposits. Testwork has been undertaken to determine and optimise grind size, recovery and reagent use. There is a substantial water supply of good quality readily available. Historical records of plant performance treating similar ores are available which support the metallurgical testwork.
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.	• Site investigation of the existing tailings storage facility revealed no deleterious materials from treating similar ores in the past. A Mining Proposal has been granted by DMP in 2014 for mining and processing Swift ore. There are no known issues which would affect this approval being extended to include Swan ore.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• Based on historic mining the following bulk densities have been used: o Fill: 1.4 tonnes per cubic metre o Oxide: 1.8 tonnes per cubic metre o Transition: 2.3 tonnes per cubic metre o Fresh: 2.8 tonnes per cubic metre
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.	• In general for the Open Pit, the shapes are extended a maximum of 15m along strike from an Intersection and 20m down dip. Intersections that were able to be wireframed into a shape that was on 2 or more sections as well as the cross structures were classified as Indicated. If singular Intersections were part of a structure over more than 1 section but it was too difficult to produce a wireframe then a cylinder was drawn around these areas which were also classified as Indicated. All other Intersections, as well as blocks more than 15m away from a drillhole were then classified as Inferred. • For the Underground, a bounding volume was used to define an Indicated category and an Inferred category of material. The Indicated boundary enveloped areas where there were either underground workings or a higher drilling density. Material outside of this envelope was defined as Inferred. The Inferred carries a higher cut off grade due to it being further from infrastructure, thus requiring it to carry a higher capital cost. This was used only as a guide in selecting Indicated material as

Criteria	JORC Code explanation	Commentary
		distance from existing workings was also used.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The only audits and reviews of these estimates has been by Carras Mining Pty Ltd in 2004, 2006, 2007 and 2012.
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.	• In an overall sense, the estimates should be accurate. However, locally estimates can vary due to the complex nature of the geology. Geological interpretation at the local scale remains the biggest source of potential error. However the previous mining of both Open Pit and Underground has resulted in reasonable understanding of geological control. • Local estimates can be difficult to quantify. • Overall the estimates should be reasonable if taken over large tonnages. This is typical of all Eastern Goldfields gold deposits.

Table 1 – Mt Henry Gold Project

Mt Henry

Section 1 - Sampling Techniques and Data

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

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 extensively sampled using Reverse Circulation (RC) and Diamond drilling (DD) techniques. The Mt Henry (MH) Resource database subset contains 688 RC & DD holes for a total of 55,428m. Of this total 44 RC & DD holes totalling 6,522m were drill in 2013 by Panoramic as part of a Project Feasibility Study. In addition the database contains 221 RAB & Aircore holes (totalling 2,607m) which have not been used for resource estimation. • The grid drill spacing is typically 25m * 25m over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting then down using either on-board rig or manual riffle splitters to produce an assay sample of ~3kg size. • Diamond holes are typically NQ2 (NQ for some historical holes) & occasionally HQ size and were sampled by cutting the core in half or quarter for the HQ core over geologically logged intervals between 20cm and 1m in length. • All (2,793) recent Panoramic resource assay samples were submitted to SGS Laboratories in Perth for gold analysis by FA50 (Fire Assay) technique. Of the 36,028 historical RC & DD gold assays in the database, 841 (2.3%) have an unrecorded technique or are by a technique other than Fire Assay. In addition results for 2,744 (7.1%) QAQC samples are recorded in the database.
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).	• The drilling methods used on this deposit are predominantly RC and DD drilling. The RC drilling was typically completed using 5 ¼ inch hammers and recently 5 ¼ inch face sampling hammers. • The DD drilling was typically NQ (47.6mm), and more recently NQ2 (50mm) and HQ (63.5mm) diameter core • HQ size core was typically drilled as geotechnical holes from surface by Panoramic.
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.	• RC sample recoveries were monitored by Panoramic by recording visual estimates of the sample bags prior to sampling. Typical recoveries for RC were greater than 90%. • Core recovery is noted during drilling and geological logging processes as a percentage recovered vs. expected drill length. Core was reconstructed into continuous runs on a length of angle iron to enable accurate geological logging and estimation of core recovery. Core recovery is typically 100 percent. • No apparent relationships were noted in relation to 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.	• All drill holes in the MH resource database subset have been geologically logged. • Both chip and core samples in recent Panoramic drill holes have been logged using geological legends at detail to support geological confidence in Mineral Resource estimates. • Logging details lithology, weathering, oxidation, veining, mineralisation and structural features where noted in drill core.

Criteria	JORC Code explanation	Commentary
	• The total length and percentage of the relevant intersections logged.	• All mineralised drill intersections and associated samples have been logged in full.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken.	• Both historical NQ and recent NQ2 core was typically sawn in half and half core sampled. Recent HQ geotechnical core was quarter core sampled where mineralised. Core sample lengths typically varied between 0.2 and 1.0 metre.
	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	• The standard RC sample length is 1 metre with samples collected directly from the rig cyclone system. The individual 1m RC samples are then reduced to a 3-5kg assay sample by either automated on-board rig splitters or manually by riffle splitting.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• The sample preparation process for all samples submitted for analysis follow accepted industry standards, including oven drying sample for a minimum of 8 hours, crushing and pulverising to 85% passing 75 microns.
	• 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.	• Quality control procedures have included the insertion of standards, blanks and duplicates to monitor the sampling and analytical process.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	• The sample sizes used are accepted industry standard sizes used extensively throughout the goldfields and are appropriate for the style of 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.	• The standard analytical technique used is Fire Assay, mostly by AAS finished. Of the 38,821 RC & DD Au assays in the MH resource database subset, 841 historical assays (2.2%) do not have a recorded technique or are by technique other than Fire Assay. Where non gold analyses exist they are either by AAS or ICP OES determination.
	• 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.	• No other geophysical or analytical tools have been used to estimate grade.
	• 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.	• QAQC has been completed routinely during all sampling throughout the life of the Project; though less so historically than more recently. The QAQC results indicate that the RC and DD assays being used for resource estimation are a fair representation of the material that has been sampled.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• The deposit is very continuous in terms of mineralisation and grade intercepts. The continuity and consistency of the grade intercepts in section and along strike provides strong confidence in the verification of the grade and style of deposit. The similarity and consistency of intersections reported by past Project owners over many years is further verification of the reliability of the data.
	• The use of twinned holes.	• No recent twin holes were completed. Historical twin holes verified mineralisation continuity. In-fill verification holes were completed by Panoramic to test both geological and mineralisation continuity on selected sections. In each instance the expected geological and mineralogical interpretation was confirmed and no major discrepancies were identified.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Logging was completed in logging code protected MS Excel templates on laptops and then imported into the Project SQL database for validation. Sections were then generated and visual validation completed to ensure integrity of the data.
	• Discuss any adjustment to assay data.	• No adjustments were made to assay data.
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.	• All recent drill collars and where possible historical drill collars have been accurately located by differential GPS. A range of down-hole survey instruments, including

Criteria	JORC Code explanation	Commentary
		single shot, electronic multi-shot and gyroscopic tools have been used. Gyroscopic surveys undertaken by Panoramic and previous companies demonstrate that holes do not deviate significantly from design.
	• Specification of the grid system used.	• The MH drill hole database contains local, AMG and MGA coordinates. The resource has been estimated in local grid which is rotated +1.079 degrees from MGA GDA94 zone 51. • Conversion from local grid to AMG AGD84 zone 51 is based on a two point transformation: • 5000E, 14000N = 385844.34E, 6421899.31N • 5000E, 6400N = 385701.32E, 6414302.52N
	• Quality and adequacy of topographic control.	• Fugro 2.5m topographic contour data was the primary topographical control. In places this was modified by differential GPS height data.
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.	• The drilling density is on a nominal 25m by 25m spacing through the majority of the deposit. This spacing is sufficient to provide strong geological and mineralogical confidence in the style of deposit being estimated.
	• Whether sample compositing has been applied.	• As a general rule sample compositing has not be used. Sample compositing of RC precollars outside the main mineralised zone was undertaken at times.
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.	• Virtually all drilling has been completed perpendicular to the main strike of the deposit geometry and angled to best intercept the west dipping mineralisation. • No sampling bias is apparent from the direction of drilling.
Sample security	• The measures taken to ensure sample security.	• Little is known about the sample security practices adopted by previous companies. Panoramic samples were freighted in sealed bulka-bags direct from site to the SGS Laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or review of the Panoramic sampling procedures and protocols has been completed.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Logging was completed in logging code protected MS Excel templates and loaded into Panoramic's SQL Server database, with a "Datashed" software frontend, for validation and storage. • Geological and assay information was printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format.
	• Data validation procedures used.	• Data validation was completed internally in SQL Server by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria. • For resource estimation a subset of the SQL database, restricting the data to the Mt Henry Resource area was exported into an MS Access database. Additional data checks were run to ensure appropriate data robustness for the Resource Estimation.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• No site visits were completed by BMGS. Panoramic staff managed the 2013 drilling program and were integral in the development of the geological and mineralisation models.
	• If no site visits have been undertaken indicate why this is the case.	• Site visits were not required as the documented procedures on the recent drilling were deemed appropriate for the style of deposit and the historical drilling had been previously covered in a report released

Criteria	JORC Code explanation	Commentary
		under 2004 JORC guidelines.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	• There is high confidence in the geological understanding of the deposit. There is a strong relationship between grade and a particular stratigraphical unit. The gold mineralisation is of a consistent grade and 2m composites generated of the mineralised zone showed a very good coefficient of variation (<1.5 using a 0.4g/t grade shell envelope)
	• Nature of the data used and of any assumptions made.	• The data used for the resource estimate was from RC and diamond drilling. Raw assays, typically representing a 1m sample length, were composited to 2m to provide equal sample weights and reduce grade variance.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Three separate mineralised envelopes were considered; grade shells at 0.4, 0.6 and 1.0g/t Au were developed and respective estimates run for each grade shell. It was established through validation of the models that the 0.4g/t Au model was the most representative of grade expected in the mining environment. .
	• The use of geology in guiding and controlling Mineral Resource estimation.	• There is a strong geological control to the mineralisation interpretation. The deposit is essentially strata hosted within a sheared Banded Iron Formation (BIF). The shear is essentially contiguous along the upper contact of the BIF and an overlying mafic unit. There is some interpreted supergene mineralisation in the northern extents of the deposit that is controlled by weathering horizons and typically cross cuts stratigraphy at shallow levels.
	• The factors affecting continuity both of grade and geology.	• The geological and grade continuity is strata controlled, there are series of late pegmatites that cross cut mineralisation and lithology. These pegmatites are generally unmineralised and have been modelled into the resource as background 0.1g/t gold grade.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Mt Henry mineralised domain is approximately 2km long and has a down dip extent of 280m and is open at depth. The deposit consists of a main lode that varies between 3m and 40m thick with numerous parallel lodes at various stages along the length of the deposit.
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.	• Grade estimation of Mt Henry deposit was completed using Ordinary kriging (OK) in Surpac software. Variogram analysis and modelling was completed using Supervisor software. Two metre composites were generated from the drill hole database and then tagged according to mineralised wireframes generated at a 0.4g/t lower gold grade. The wireframe modelling conditions included a minimum downhole mineralisation width of 2m; internal dilution of up to 3m could be included if the entire intercept graded above 0.4 g/t. If dilution was greater than 3m then separate lodes were generated if geological/grade continuity was supported by nearby holes. The coded composites were reviewed in Supervisor; top cut analysis was completed using disintegration analysis and the impacts the cuts made to the coefficient of variation. One outlying grade at 1810g/t was cut to 100g/t. The cut dataset was then normal scores transformed to generate variogram models. Variogram models generated confirmed geological stratigraphy as the key controlling factor on mineralisation. The variogram models had moderate to low nuggets with a range of maximum continuity along main axis of 73m.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the Mt Henry deposit was completed in 2009. This was used as a guide and comparative tools for validation purposes with the current estimate.
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by products.

Criteria	JORC Code explanation	Commentary
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• A review of deleterious elements or other non-grade variables was undertaken. It was decided that there was insufficient data on other elements to reliably estimate their distribution. Regression analysis conducted between Au, and Fe, Cu, S and As found no correlation.
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The block model was constructed with a parent cell size of 20m Y, 10m X, and 10m Z with subcelling to 10m Y, 2.5m X, and 2.5m Z. All estimations completed at the parent cell resolution. Data spacing is typically on 25m sections for the southern section of the deposit with the northern extents stepping down to 20m sections. Drill spacing across sections is typically 20m. The size of the initial search ellipse was based on the variography with a cascading four pass estimation used to populate cells. The first estimation pass used a minimum of 12 and maximum of 32 samples with no octants constraints of the ellipse preventing estimation. The search criteria were then changed for the remaining estimation passes.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 2m downhole and the ore wireframes were maintained at a minimum width of 2m downhole in order to represent a likely minimum mining width, assuming open pit mining operations using 120 tonne excavators.
	• Any assumptions about correlation between variables.	• No correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The geology of the deposit is similar in many respects to the nearby Selene Deposit. Mineralisation is confined to a series of shears within the silicate facies, Banded Iron Formation (Noganyer Formation). The footwall to the BIF is a metamorphic sedimentary schist unit and the hanging wall is defined by mafic flows and dykes of the Woolyeener Formation. The vast majority of the mineralisation is confined to a single shear running contiguously along the upper contact of the BIF Noganyer Formation and the overlying Woolyeener Formation. The mineralisation interpretation is consistent with the shape and continuity of this BIF unit contact zone.
	• 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.	• Validation of the resource estimate was completed by onscreen visual validation of block grades vs. drill hole assays in sectional view. Line graphs were also generated to show comparison between composite input grades and output block grades over 50m intervals on Northing spacings and 10m bench heights in elevation, through the entire deposit to ensure the composite data was being accurately reflected in the model. The model was also compared with historical estimate to ensure report figures were sensible.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involved drying the samples for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes were modelled on a gold lower grade cut-off of 0.4g/t Au. This value was determined by visual assessment of grade continuity in Surpac™. Models were also generated at 0.6 g/t and 1.0g/t Au cut-off grades for comparison.
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	• The Mt Henry deposit has been modelled under the assumption that it will be mined by conventional open pit mining methods, using excavators and trucks. This would typically entail 5m bench heights with 2.5m flitches and use of 120 tonne excavators with a bucket of approximately 2m width. Mineralisation wireframes were constructed based on minimum thickness of 2m downhole in order to replicate the smallest possible

Criteria	JORC Code explanation	Commentary
	rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	mining selectivity.
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.	• No metallurgical assumptions have been made in respect to the generation of the estimate however recent metallurgical test work had been performed as part of a feasibility study of the greater Mt Henry gold project being undertaken by Panoramic. This work has shown that recoveries greater than 90% Au can be achieved using conventional CIL extraction methods.
Environmental 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.	• The current data available doesn't suggest there are any high-level environmental risks with mined waste by-products. If mining were to commence all statutory requirements would be implemented to comply with waste by-product management.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• A total of 2,501 bulk density (BD) determinations are recorded in the Mt Henry Resource database subset. Panoramic completed most of these with measurements on 2,104 whole core samples by Archimedes water immersion method. There are a small number of historical measurements by pycnometer (7HENC115 & 7HENC116 for 54 samples) and down hole geophysical tool (NHC127, NHD120 and NHD121 for 343 one metre intervals). This data was used to generate a default SG for all lithological types. The default was then assigned to unmeasured intervals, and the density was estimated. • The host rock type for mineralisation and surrounding mafic material is non-porous and void space porosity is not considered to be of relevance to the measurements. • BD estimation for the resource was generated by grouping the 2501 recorded measurements by rock type to provide an average SG for each of the main lithological rock types. The assay table in the database was tagged with the actual BD or an average value based on rock type grouped average. The BD value was then extracted with the Au grade in the 2m composite file. The densities were estimated using the Variogram models and search parameters for the various domains.
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 classification of the Resource has been based on the Competent Person's strong confidence in the geological model; weighted by the strong geological confidence with 25*25m spaced RC and diamond drilling and 20m*20m spaced drilling through northern extents of deposit and the demonstrable consistency and continuity of the mineralisation (gold mineralisation is highly continuous over a 2.0km strike length and is strata bound). • The Mineral Resource reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• Apart from BMGS's own internal audit process no audits or reviews of the Mineral Resource estimate have been completed.
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	• The Resource classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code.

Criteria	JORC Code explanation	Commentary
	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 relates to a global estimate of tonnes and grade. • No reliable production data exists for the small open pit operated within the confines of the Mt Henry Resource by Australis Mining in the 1980s to compare with this resource estimate.

North Scotia

Section 1 - Sampling Techniques and Data

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

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 extensively sampled using Reverse Circulation (RC) and Diamond drilling (DD) techniques. The North Scotia (NS) database resource subset contains 193 RC & DD holes for a total of 13,573m. Of this total 16 RC & DD holes totalling 933.5m were drill in 2013 by Panoramic as part of a Mt Henry Project Feasibility Study. In addition the database contains 155 Aircore (totalling 2,915m) which have not been used for resource estimation. • The drill spacing is typically 20m *20m grid spacing over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting these down using either on-board rig or manual riffle splitters to produce an assay sample of~3kg. • Diamond holes were typically NQ2 & occasionally HQ in size and were sampled by cutting the core in half or quarter for the HQ core over geologically logged intervals between 20cm and 1m in length. • All (579) recent Panoramic resource assay samples were submitted to SGS Laboratories in Perth for gold analysis by FA50 (Fire Assay) technique. Of the 11,753 historical RC & DD gold assays in the database, 1,430 (12.2%) have an unrecorded technique or are by a technique other than Fire Assay. In addition, results for 1,353 (11.0%) QAQC samples are recorded in the database.
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).	• The drilling methods used on this deposit are predominantly RC and DD drilling. The RC drilling was typically completed using a 5 ¼ inch hammer and recently 5 ¼ inch face sampling hammers. • The DD drilling was typically NQ (47.6mm), and more recently NQ2 (50mm) and HQ (63.5mm) diameter core • HQ size core was typically drilled as geotechnical holes from surface by Panoramic.
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.	• RC sample recoveries were monitored by Panoramic by recording visual estimates of the sample bags prior to sampling. Typical recoveries for RC were greater than 90%. • Core recovery is noted during drilling and geological logging processes as a percentage recovered vs. expected drill length. Core was reconstructed into continuous runs on a length of angle iron to enable accurate geological logging and estimation of core recovery. Core recovery is typically 100 percent.

Criteria	JORC Code explanation	Commentary
	• 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.	• No apparent relationships were noted in relation to 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.	• All drill holes in the NS resource database have been geologically logged. • Both chip and core samples in recent Panoramic drill holes have been logged using geological legends at detail to support geological confidence in Mineral Resource estimates. • Logging details lithology, weathering, oxidation, veining, mineralisation and structural features where noted in drill core.
	• The total length and percentage of the relevant intersections logged.	• All mineralised drill intersections and associated samples have been logged in full.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken.	• Both historical NQ and recent NQ2 core was typically sawn and half core sampled. Recent HQ geotechnical core was quarter core sampled where mineralized. Core sample lengths typically varied between 0.2 and 1.0 metre.
	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	• The standard RC sample length is 1 metre with samples collected directly from the rig cyclone system. The individual 1m RC samples are then reduced to a 3-5kg assay sample by either automated on-board rig splitters or manually by riffle splitting.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• The sample preparation process for all samples submitted for analysis follow accepted industry standards, including oven drying sample for a minimum of 8 hours, crushing and pulverising to 85% passing 75 microns.
	• 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.	• Quality control procedures have included the insertion of standards, blanks and duplicates to monitor the sampling and analytical process.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	• The sample sizes used are industry standard sizes used extensively throughout the goldfields and are appropriate for the style of 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.	• The standard analytical technique used is Fire Assay, mostly by AAS finish. Of the 12,332 RC & DD Au assays in the NS resource database 1,430 historical assays (11.6%) do not have a recorded technique or are by technique other than Fire Assay. Where non gold analyses exist they are either by AAS or ICP OES determination.
	• 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.	• No other geophysical or analytical tools have been used to estimate grade.
	• 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.	• QAQC has been completed routinely during all sampling throughout the life of the Project; though less so historically than more recently. The QAQC results indicate that the RC and DD assays being used for resource estimation are a fair representation of the material that has been sampled.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• The North Scotia deposit is a classic "Norseman style quartz vein" type. Gold mineralisation is nuggetty within the veins with coarse visible gold not uncommon.
	• The use of twinned holes.	• No recent twin holes were completed. In-fill verification holes were completed by Panoramic to test both geological and mineralisation continuity on selected sections. In most instances the expected geological and mineralogical interpretation was confirmed and no major discrepancies were identified.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic)	• Logging was completed in logging code protected MS Excel templates on laptops and then imported into the

Criteria	JORC Code explanation	Commentary
	protocols.	Project SQL database for validation. Sections were then generated and visual validation completed to ensure integrity of the data.
	• Discuss any adjustment to assay data.	• No adjustments were made to assay data.
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.	• All recent drill collars and where possible historical drill collars have been accurately located by differential GPS. A range of down-hole survey instruments, including single shot, electronic multi-shot and gyroscopic tools have been used. Gyroscopic surveys undertaken by Panoramic and previous companies demonstrate that holes do not deviate significantly from design.
	• Specification of the grid system used.	• The NS drill hole database subset contains local, AMG and MGA coordinates. The resource has been estimated in local grid which is rotated +1.079 degrees from MGA_GDA94 zone 51. • Conversion from local grid to AMG AGD84 zone 51 is based on a two point transformation: • 5000E, 14000N = 385844.34E, 6421899.31N • 5000E, 6400N = 385701.32E, 6414302.52N
	• Quality and adequacy of topographic control.	• Fugro 2.5m topographic contour data was the primary topographical control. In places this was modified by differential GPS height data.
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.	• The drilling density is on a nominal 20m by 20m spacing through the majority of the deposit. This spacing is sufficient to provide strong geological and mineralogical confidence in the style of deposit being estimated.
	• Whether sample compositing has been applied.	• As a general rule, sample compositing has not be used. Sample compositing of RC precollars outside the main mineralised zone was undertaken at times.
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.	• Virtually all drilling has been completed perpendicular to the main strike of the deposit geometry and angled to best intercept the west dipping mineralised vein system. • No sampling bias is apparent from the direction of drilling.
Sample security	• The measures taken to ensure sample security.	• Little is known about the sample security practices adopted by previous companies. Panoramic samples were freighted in sealed bulka-bags direct from site to the SGS Laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or review of the Panoramic sampling procedures and protocols has been completed.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Logging was completed in logging code protected MS Excel templates and loaded into Panoramic's SQL Server database, with a "Datashed" software frontend, for validation and storage. • All geological and assay information was printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format.
	• Data validation procedures used.	• Data validation was completed internally in SQL Server by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria. • For resource estimation a subset of the SQL database, restricting the data to the North Scotia Resource area was exported into MS Access database. Additional data checks were run to ensure appropriate data robustness for the Resource Estimation.

Criteria	JORC Code explanation	Commentary
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• No site visits were completed by BMGS. Panoramic staff managed the 2013 drilling program. The new interpretation was constructed by using the original Cube 2009 wireframes and adjusting the shapes based on the new drill results.
	• If no site visits have been undertaken indicate why this is the case.	• Site visits were not required as the documented procedures on the recent drilling were deemed appropriate for the style of deposit and the historical drilling had been previously covered in a report released under 2004 JORC guidelines.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	• There is moderate confidence in the deposit. The deposit is a structurally controlled auriferous quartz vein system. The deposit has a high grade nuggetty nature; the nuggetty gold mineralisation is disseminated throughout one to five metre wide laminated quartz veins that dip around 70° towards the west. Minor pyrite and galena is also present in the veins.
	• Nature of the data used and of any assumptions made.	• The data used for the resource estimate was from RC and diamond drilling. Raw assays were composited to 2m to provide equal sample weights and reduce grade variance.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• No alternative interpretations were considered.
	• The use of geology in guiding and controlling Mineral Resource estimation.	• The geological logging was used to generate the interpretation. Vein/mineralisation wireframes were allowed to pass through sub-mineralised drill hole zones where the Quartz veining was logged but returned little to barren grades. It is believed this method is acceptable, as long as the block data is reflective of the raw data on a localised scale.
	• The factors affecting continuity both of grade and geology.	• The mineralisation is vein hosted, typically around 2 to 5metre wide zones, continuity along strike appears to be reasonable and there appears to be some slight dilational jogs, which is observed within the geology of the historical Scotia pit (commentary provided by Panoramic Geologist).
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The North Scotia mineralized domain is approximately 450m long and has a down dip of extent of 110m and is open at depth. The deposit consists of multiple NNE trending quartz lodes that vary between 1m and 5m in true thickness with numerous thinner parallel lodes at various stages along the length of the deposit.
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.	• Grade estimation of North Scotia deposit was completed using Ordinary Kriging (OK) in Surpac™ software. Variogram analysis and modelling was completed using supervisor software. Two meter composites were generated from the drill hole database and then tagged according to mineralized wireframes generated at a 0.8g/t gold grade. The wireframe modelling conditions included, a minimum downhole width of 2 meters of mineralisation, internal dilution of up to 2m downhole could be included if the entire intercept graded above 0.8 g/t. If dilution was greater than 2m then separate lodes were generated. • The coded composites were reviewed in Supervisor; top-cut analysis was completed using disintegration analysis and the use of coefficient of variation statistics. Top-cuts were applied on a domain basis with a maximum top-cut of 30g/t on FW1 lode and 7g/t & 4g/t on the HW1 and HW2 lodes respectively (remaining lodes were left un-cut). The cut dataset was then transformed by normal scores to review variograms and generate variogram models. The variogram models had high to low nuggets and varied for each domain, with a range of maximum continuity along the main axis varying for each domain between 20 to 40m.

Criteria	JORC Code explanation	Commentary
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the North Scotia deposit was completed in 2009. This was used as a guide and comparative tools for validation purposes with the current estimate.
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by products.
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• Only gold was estimated; no other elements were estimated. Insufficient multi-element data was available and was deemed to be of no relevance and to have a spatial distribution too sparse for adequate estimation.
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The block model was constructed with a parent cell size of 10m Y, 5m X, and 10m Z with subcelling to 2.5m Y, 1.25m X, and 1.25m Z. All estimations were completed at the parent cell resolution. Data spacing is typically on 20 x 20m spacings for the majority of the deposit. The size of the search ellipse was based on the variography with two estimation passes used to populate all cells. The first estimation pass used a minimum of 3, and maximum of 15 samples, with an ellipsoid based approach. Two separate estimation methods were employed, an Ordinary Kriged and Inverse Distance ^2 (ID2) was also performed on the top-cut dataset.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 2m downhole and the ore wireframes were maintained at a minimum width of 2m downhole to try and represent a minimum selectable size assuming open pit mining operations using 120 tonne excavators.
	• Any assumptions about correlation between variables.	• No correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The geology of the deposit consists of Archaean mafics of the Woolyeenyer formation (predominately Mafic Basalt/Dolerite), with late stage cross-cutting pegmatite dykes and a very shallow weathering profile of Quaternary saprolite clays. There is no evidence of supergene mineralisation at North Scotia. All mineralisation is associated with the primary quartz vein system.
	• Discussion of basis for using or not using grade cutting or capping.	• Top-cut analysis was completed using disintegration analysis and use of coefficient of variation statistics. Fourteen outlying grades were cut which differed on a domain basis (FW1- number of samples top-cut 3, top-cut applied 30g/t; HW1- number of samples top-cut and top-cut applied was 7; HW2- number of samples top-cut and top-cut applied was 4). Only cut estimates were provided.
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	• Validation of the Resource estimate was completed by visual validation of block grades vs. drill hole assays in sectional view on computer. Given the thin nature of the deposit a volume check was performed to ensure the block volume was reflective of the 3dm volume. With a volume variance less that 1%, the coding in the model was deemed acceptable. Validation comparisons were made by comparing the mean composite grades to the block estimate grades on a domain basis. This was to ensure the estimate was reflective of the data used to generate it.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involved drying the samples for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes were modelled on a gold grade cut-off of 0.8g/t. The cut-off selection was left unchanged from that used in the 2009 resource.
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	• The North Scotia deposit has been modelled under the assumption that it will be mined by conventional open pit mining methods, using excavators and trucks. This would typically entail 5m bench heights with 2.5m flitches and use of 120 tonne excavators with a bucket width of

Criteria	JORC Code explanation	Commentary
	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.	approximately 2m. Mineralisation wireframes were constructed based on minimum downhole intercept thickness of 2m in order to replicate the smallest possible mining selectivity.
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.	• No metallurgical assumptions have been made in respect to the generation of the estimate. • The understanding is that the anticipated recovery from metallurgical test work completed by Panoramic as part of a broader Mt Henry Gold Project feasibility study is in the order of 95% recovery using a conventional CIL process.
Environmental 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.	• If mining were to commence appropriate measures would be implemented to ensure correct containment of waste by-products.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• Bulk density (BD) determinations have been completed on 279 core samples by Archimedes water immersion method to determine BD of insitu material. The measurements were performed on whole core samples by Panoramic from recently drilled diamond holes (SCO* series holes). A small number of historical pycnometer measurements (7SSC* series for 58 samples) also exist. • Both the waste and host rock type for mineralisation is typically non-porous and void space porosity is not considered to be of relevance to the measurements. • Default densities were assigned to the model based on the specific gravities used in the previous models. The default values were verified by the recent BD work. The densities applied were Alluvium 1.8 g/cm³, Qtz Reef 2.65 g/cm³, Pegmatite 2.7g/cm³, Oxide Mafic 1.8 g/cm³, Transitional Mafic 2.1 g/cm³ and Fresh Mafic 3 g/cm³.
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 classification of the Resource has been based on strong geological confidence with 20*20m spaced RC and diamond drilling. The gold mineralisation is moderately continuous over a 450m strike length and is laminated vein hosted. The classification was applied to the model using the estimation pass and a string constraint applied to limit the potential overcall in classification down dip. • The Mineral Resource reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• Apart from BMGS's own internal audit process no audits or reviews of the Mineral Resource estimate have been completed.
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	• The resource classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code.

Criteria	JORC Code explanation	Commentary
	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 relates to a global estimate of tonnes and grade. • No mining data is available for comparison.

Selene

Section 1 - Sampling Techniques and Data

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

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 extensively sampled using Reverse Circulation (RC) and Diamond drilling (DD) techniques. The Selene (Mt Henry Project) resource database subset contains 284 RC & DD holes for a total of 25,830m. Of this total 14 RC & DD holes totalling 2,005m were drill in 2013 by Panoramic as part of a Project feasibility study. In addition the database contains 10 RAB & Aircore holes (totalling 133m) which have not been used for resource estimation. • The drill grid spacing is typically 40m * 40m over the extent of the mineralisation. • RC holes were sampled by collecting 1m samples and splitting these down using either on-board rig or manual riffle splitters to produce an assay sample of ~3kg size. • Diamond holes were typically NQ2 (NQ for some historical holes) & occasionally HQ size and were sampled by cutting the core in half or quarter for the HQ core over geologically logged intervals between 20cm and 1m in length. • All (847) recent Panoramic resource assay samples were submitted to SGS Laboratories in Perth for gold analysis by FA50 (Fire Assay) technique. Of the 15,528 historical RC & DD gold assays in the database, 457 (2.9%) have an un-recorded technique or are by a technique other than Fire Assay. In addition data on 1,059 (6.5%) QAQC samples are recorded in the database.
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).	• The drilling methods used on this deposit are predominantly RC and DD drilling. The RC drilling was typically completed using 5 ¼ inch hammers and recently 5 ¼ inch face sampling hammers. • The DD drilling was typically NQ (47.6mm), and more recently NQ2 (50mm) and HQ (63.5mm) diameter core • HQ size core was typically drilled as geotechnical holes from surface by Panoramic.
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.	• RC sample recoveries were monitored by Panoramic by recording visual estimates of the sample bags prior to sampling. Typical recoveries for RC were greater than 90%. • Core recovery is noted during drilling process and geological logging process as a percentage recovered vs. expected drill length. Core was reconstructed into continuous runs on a length of angle iron to enable accurate geological logging and estimation of core recovery. Core recovery is typically 100 percent. • No apparent relationships were noted in relation to 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.	• All drill holes in the Selene resource database have been geologically logged. • Both chip and core samples in recent Panoramic drill holes have been logged using geological legends at

Criteria	JORC Code explanation	Commentary
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	detail to support geological confidence in Mineral Resource estimates. • Logging details lithology, weathering, oxidation, veining, mineralisation and structural features where noted in drill core.
	• The total length and percentage of the relevant intersections logged.	• All mineralised drill intersections and associated samples have been logged in full.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken.	• Both historical NQ and recent NQ2 core was typically sawn in half and half core sampled. Recent HQ geotechnical core was quarter core sampled where mineralised. Core sample lengths typically varied between 0.2 and 1.0 metre.
	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	• The standard RC sample length is 1 metre with samples collected directly from the rig cyclone system. The individual 1m RC samples are then reduced to a 3-5kg assay sample by either automated on-board rig splitters or manually by riffle splitting.
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	• The sample preparation process for all samples submitted for analysis follow accepted industry standards, including oven drying sample for a minimum of 8 hours, crushing and pulverising to 85% passing 75 microns.
	• 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.	• Quality control procedures have included the insertion of standards, blanks and duplicates to monitor the sampling and analytical process.
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	• The sample sizes used are accepted industry standard sizes used extensively throughout the goldfields and are appropriate for the style of 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.	• The standard analytical technique used is Fire Assay, mostly by AAS finished. Of the 16,886 RC & DD Au assays in the Selene resource database, 457 historical assays (2.7%) do not have a recorded technique or are by technique other than Fire Assay. Where non gold analyses exist they are either by AAS or ICP OES determination.
	• 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.	• No other geophysical or analytical tools have been used to estimate grade.
	• 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.	• QAQC has been completed routinely during the life of the Project; though less so historically than more recently. The QAQC results indicate that the RC and DD assays being used for resource estimation are an accurate representation of the sampled material.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	• The deposit is very continuous in terms of mineralisation and grade intercepts. The continuity and consistency of the grade intercepts in section and along strike provides strong confidence in the verification of the grade and style of deposit. The similarity and consistency of intersections reported by past Project owners over many years is further verification of the reliability of the data.
	• The use of twinned holes.	• No recent twin holes were completed. Historical twin holes verified mineralisation continuity. In-fill verification holes were completed by Panoramic to test both geological and mineralisation continuity on selected sections. In each instance the expected geological and mineralogical interpretation was confirmed and no major discrepancies were identified.
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Logging was completed in logging code protected excel templates on laptops and then imported into the Project SQL database for validation. Sections were then generated and visual validation completed to ensure integrity of the data.

Criteria	JORC Code explanation	Commentary
	• Discuss any adjustment to assay data.	• No adjustments were made to assay data.
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.	• All recent drill collars and where possible historical drill collars have been accurately located by differential GPS. A range of down-hole survey instruments, including single shot, electronic multi-shot and gyroscopic tools have been used. Gyroscopic surveys undertaken by Panoramic and previous companies demonstrate that holes do not deviate significantly from design.
	• Specification of the grid system used.	• The Selene drill hole database contains local, AMG and MGA coordinates. The resource has been estimated in local grid which is rotated +1.25 degrees from MGA GDA94 zone 51. • Conversion from local grid to AMG AGD84 zone 51 is based on a two point transformation: • 4400E, 6000N = 385096.84E, 6413919.03N • 4400E, 2000N = 385009.80E, 6409920.95N
	• Quality and adequacy of topographic control.	• Fugro 2.5m topographic contour data was the primary topographical control. In places this was modified by differential GPS height data.
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 drilling density is on a nominal 40m by 40m spacing through the majority of the deposit. This spacing is sufficient to provide strong geological and mineralogical confidence in the style of deposit being estimated. • As a general rule sample compositing has not be used. Sample compositing of RC precollars outside the main mineralised zone was undertaken at times.
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.	• Virtually all drilling has been completed perpendicular to the main strike of the deposit geometry and angled to best intercept the west dipping mineralisation. • No sampling bias is apparent from the direction of drilling.
Sample security	• The measures taken to ensure sample security.	• Little is known about the sample security practices adopted by previous companies. Panoramic samples were freighted in sealed bulka-bags direct from site to the SGS Laboratory in Perth.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or review of the Panoramic sampling procedures and protocols has been completed.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Logging was completed in logging code protected MS Excel templates and loaded into Panoramic's SQL Server database, with a "Datashed" software frontend, for validation and storage. • Geological and assay information was printed on hard copy plans and visually validated against original logs and assay results to ensure the digital copy agrees with the original format.
	• Data validation procedures used.	• Data validation was completed internally in SQL Server by setting allowable and expected values. Automated queries are run as the data is imported to ensure it meets specified criteria. • For resource estimation a subset of the SQL database, restricting the data to the Selene Resource area was exported into an MS Access database. Additional data checks were run to ensure appropriate data robustness for the Resource Estimation.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• No site visits were completed by BMGS. Panoramic staff managed the 2013 drilling program and were integral in the development of the geological and mineralisation

Criteria	JORC Code explanation	Commentary
		models.
	• If no site visits have been undertaken indicate why this is the case.	• Site visits were not required as the documented procedures on the recent drilling were deemed appropriate for the style of deposit and the historical drilling had been previously covered in a report released under 2004 JORC guidelines.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	• There is high confidence in the geological understanding of the deposit. There is a strong relationship between grade and a particular stratigraphical unit. The gold mineralisation is of a consistent grade and 2m composites generated of the mineralised zone showed an extremely good coefficient of variation (< 1.1), such coefficients are rarely encountered with gold deposits.
	• Nature of the data used and of any assumptions made.	• The data used for the resource estimate was from RC and diamond drilling. Raw assays, typically representing a 1m sample length, were composited to 2m to provide equal sample weights and reduce grade variance.
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Three separate mineralised envelopes were considered; grade shells at 0.4, 0.6 and 1.0g/t Au were developed and respective estimates run for each grade shell. It was established through validation of the models that the 0.4g/t Au model was the most representative of grade expected in the mining environment.
	• The use of geology in guiding and controlling Mineral Resource estimation.	• There is a strong geological control to the mineralisation interpretation. The deposit is essentially strata hosted within a sheared Banded Iron Formation. There is some interpreted supergene mineralisation in the northern extents of the deposit that is controlled by weathering horizons and typically cross cuts stratigraphy at shallow levels.
	• The factors affecting continuity both of grade and geology.	• The geological and grade continuity is strata controlled, with a series of late pegmatites that cross cut mineralisation and lithology. These pegmatites are generally unmineralised and have been modelled into the resource as background 0.1g/t gold grade.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Selene mineralised domain is approximately 1.3km long, has a down dip of extent of up to 440m and is open at depth. The deposit consists of a main lode that varies between 3m and 25m thick with numerous parallel lodes at various stages along the length of the deposit.
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.	• Grade estimation of Selene deposit was completed using Ordinary Kriging (OK) in Surpac™ software. Variogram analysis and modelling was completed using Supervisor software. Two metre composites were generated from the drill hole database and then tagged according to mineralised wireframes generated at a 0.4g/t lower Au grade. The wireframe modelling conditions included a minimum downhole mineralisation width of 2m; an internal dilution of up to 3m could be included if the entire intercept graded above 0.4 g/t. If dilution was greater than 3m then separate lodes were generated if geological/grade continuity was supported by nearby drilling. The coded composites were reviewed in Supervisor, top cut analysis was completed using disintegration analysis and the impact cuts made to the coefficient of variation. Seven outlying grades ranging from 11.79 to 21.56g/t were cut to 11g/t. The cut dataset was then transformed by normal scores to review variograms and generate variomodels. Variomodels generated confirmed geological stratigraphy as the key controlling factor on mineralisation. The variomodels had moderate to low nuggets with a range of maximum continuity along the main axis of 70m.
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• A previous estimate of the Selene deposit was completed in 2008. This was used as a guide and comparative tools for validation purposes with the current estimate.

Criteria	JORC Code explanation	Commentary
	• The assumptions made regarding recovery of by-products.	• No assumptions have been made about gold grade recovery or the recovery of related by products.
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	• It was established that there was insufficient multiple element data to enable adequate estimation of deleterious elements or other non-grading variables.
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• The block model was constructed with a parent cell size of 20m Y, 10m X, and 10m Z, with subcelling to 5m Y, 2.5m X, and 2.5m Z. All estimations were completed at the parent cell resolution. A very regular pattern of holes cover the Selene Deposit. Drill data is typically on sections 40m apart on northings, with holes as little as 10m apart on eastings. The size of the search ellipse was based on the variography with five estimation passes used to populate cells. The first estimation pass used a minimum of 12, and maximum of 32 samples, with no octant constraints of the ellipse requiring data to allow estimation.
	• Any assumptions behind modelling of selective mining units.	• The composites were generated at 2m downhole and the ore wireframes were maintained at a minimum width of 2m downhole in order to represent a likely minimum mining width, assuming an open pit mining operations using 120 tonne excavators.
	• Any assumptions about correlation between variables.	• No correlations between grade variables have been assumed.
	• Description of how the geological interpretation was used to control the resource estimates.	• The Selene Deposit is similar in many respects to the nearby Mt Henry Deposit. Mineralisation is confined to a series of shears within the silicate facies, Banded Iron Formation (Noganyer Formation). The footwall to the BIF is a metamorphic sedimentary schist unit and the hanging wall is defined by mafic flows and dykes of the Woolyeener Formation. The mineralisation interpretation is consistent with the shape and continuity of the BIF unit.
	• 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.	• Validation of the Resource estimate was completed by visual validation of block grades vs. drill hole assays in sectional view on computer. Line graphs were also generated to show comparison between composite input grades and block output grades over 80m intervals – Northings, and 40m internals –Eastings, throughout the entire deposit to ensure the composite data was being accurately reflected in the model. The model was also compared with historical estimate to ensure report figures were sensible.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• The tonnages are reported as dry tonnes. Sample preparation process involved drying the samples for 8hrs prior to analysis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The mineralisation wireframes were modelled on a gold lower grade cut-off of 0.4g/t. This value was determined by visual assessment of grade continuity in Surpac™. Models were also generated at 0.6 g/t and 1.0g/t Au cut-off grades for comparison.
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.	• The Selene deposit has been modelled under the assumption that it will be mined by conventional open pit mining methods, utilising excavators and trucks. This would typically entail 5m bench heights with 2.5m flitches and use of 120 tonne excavators with a bucket width of approximately 2m. Mineralisation wireframes were constructed based on minimum thickness of 2m downhole in order to replicate the smallest possible mining selectivity.
Metallurgical factors or	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part	• No metallurgical assumptions have been made in respect to the generation of the estimate however recent

Criteria	JORC Code explanation	Commentary
assumptions	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 had been performed as part of a feasibility study of the greater Mt Henry gold project being undertaken by Panoramic. This work has shown that recoveries greater than 90% Au can be achieved using conventional CIL extraction methods.
Environmental 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.	• The current data available doesn't suggest there are any high-level environmental risks with mined waste by-products. If mining were to commence all statutory requirements would be implemented to comply with waste by-product management.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• A total of 1087 bulk density (BD) determinations are recorded in the Selene resource database subset. Panoramic completed most of these with measurements on 727 core samples by Archimedes water immersion method. There are a number of historical measurements by pycnometer (7SEL* series for 181 samples) and down hole geophysical tool (NLC151D & NLC158 for 179 one metre intervals). • The host rock type for mineralisation and surrounding mafic material is non-porous and void space porosity is not considered to be of relevance to the measurements. • The estimate of BD through the resource was generated by grouping the 1087recorded measurements by rock type to provide an average SG for each of the main lithological rock types. The assay table in the database was tagged with the actual BD or an average value based on rock type grouped averages. The density value was then extracted with the gold grade in the 2m composite file. The BD was then estimated using the same Variogram models and search parameters for the various domains.
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 classification of the resource has been based on the Competent Person's strong confidence in the geological model; derived largely from the high density of drilling (40*10m spaced RC and selective diamond drilling in the central extent of the deposit); and the demonstrable consistency and continuity of the mineralisation (gold mineralisation is highly continuous over a 1.3km strike length and is strata bound). • A large weighting of the classification related to the estimation pass, string constraints were also used to override the estimation pass allocation and reflect the competent person's view where necessary. • The Mineral Resource reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• Apart from BMGS's own internal audit process no audits or reviews of the Mineral Resource estimate have been completed.
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,	• The Resource classification is based on standard practices and guidelines as prescribed in the 2012 JORC Code.

Criteria	JORC Code explanation	Commentary
	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 relates to a global estimate of tonnes and grade. • No mining currently exists at Selene therefore there is no production data available for comparison.

Table 1 – Panton PGM Project

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 database of sampling for the project resource definition is comprised of a number of different sampling methods. It contains historic drilling diamond drilling (30 holes= 9,524.4m) diamond drilling (including RC pre-collar holes) undertaken by Platinum Australia Limited (PLA) between 2001 and 2003 (166 holes = 34,410.2m), RC drilling undertaken by PLA between 2001 and 2003 (29 holes=2,366.3m) and channel sampling of surface and underground trenches and faces (1,391m). • Diamond Drill Core, RC chips and surface trench channel sampling are the three primary sample types. Relatively small numbers of samples are from decline, wall and face sampling undertaken in an exploration decline. • Diamond core the predominant sampling (HQ, HQ3, NQ and NQ2 sizes) was orientated, geologically logged and sampled to lithological contacts or changes in the nature of mineralisation. Nominal samples lengths of 1.0m with a minimum sample length of 0.25m. NQ and NQ2 core was half core sampled. For NQ and NQ2 core the left hand (looking down the hole) half of the core is sampled. HQ and HQ3 core was quarter core sampled. For HQ and HQ3 core the right hand (looking down the hole) half of the core is cut again to provide quarter core. The lower quarter was sent for analysis. • RC chips sampled at 1m or 0.5m intervals. The total chipped material for each interval is collected off the drill cyclone; it is riffle split on site to produce a sample of approximately 2-3kg to be sent to the laboratory for analysis. Wet sample has been left to dry before splitting. Remaining reject is stored at the site facility. • Trench channel chip sampling was undertaken from the base or as close to the base of the trench as possible. Each trench was sampled continuously over the entire length. Sample lengths varied from 0.15m to 2m. Sample boundaries were based on geological contacts and changes in nature of mineralisation. Where the material was soft a channel was cut with a geological pick and in harder material chip sampling using a geological hammer. Samples of 2-3kg were collected for analysis. • Decline sampling, wall and face sampling was undertaken on geologically marked up channels approximately 1.5m from the floor. Sampled intervals varied from 0.25 to 0.5m across the full width of mineralisation. Sample material was chipped out using a geological hammer in most instances, the resulting sample weights were consistently less than those for drilling.
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).	• RC drilling has been used predominantly to provide pre-collars for diamond drill holes and to provide testing of areas outside the resource, sterilisation and metallurgical test holes. RC pre-collar depths range from 2 to 200m. Where sampled, the RC drilling used face sampling hammers. • Diamond core drilling (NQ, NQ2, HQ and HQ3 diameters with one BQ hole) is the predominant sample source. Standard tube was used. • Where possible diamond core has been oriented based on manual orientation spearing methods. A distinction is routinely made between oriented and non-oriented core.
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	• Diamond drill core loss (in metres) was measured in the core trays and core loss and recovery (%) recorded in geotechnical records. • Measures taken to maximize sample recovery and ensure representative nature of the samples are not known.

Criteria	JORC Code explanation	Commentary
	and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• No analysis on relationship between sample core recovery and grade has been undertaken.
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.	• Diamond core and RC chips have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation. • Underground face data logging and wall mapping have been used to support mineralisation interpretation and Mineral Resource estimation. • Total length of geologically logged data is 36,622m which represents 74% of the total 44,306.89m drilled or channelled. • Logging has been conducted both qualitatively and quantitatively – full description of lithologies, alteration and comments are noted. • Qualitative structural measurements (9,956 individual measurements) have been undertaken on oriented diamond core holes.
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 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.	• Diamond Core was half core and quarter core sampled depending on the core size. The core was cut so as to divide the mineralisation consistently down the holes. A minimum sample size of 0.25m and a maximum size of 1.0m • RC drillholes are typically sampled on 1.0m intervals. Pre-collar samples were typically sampled at either 2m or 4m intervals. The drill cuttings are riffle or cone split to produce a final sample of approximately 2-3 kg. • Sample size of 2-3 kg is appropriate for grain size of material. • A small number of decline, wall and face samples have been used with sample weights consistently less that the drilling. The impact of these smaller weights has been mitigated by the used of full interval compositing for estimation as described below. • As a result for all sample types, the nature, quality and appropriateness of the sample preparation technique is industry standard.
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.	• Genalysis Assay laboratories in Perth were the primary facility used for assaying, with UltraTrace in Perth used for check assaying. • For drilling prior to 2001, original laboratory identify is unknown. • The PLA standard assaying techniques used were lead or nickel collection fire assay with a Mass Spectrometry (MS) finish for Au, Pd, Pt and peroxide fusion using HCl acid to dissolve the melt with an Optical Emission Spectrometry (OES) finish for As, Co, Cr, Cu, Ni, S. These methods are considered total digestion methods. Fire assay nickel sulphide collection technique was preferred (for samples containing chromite) to lead collection as it is efficient in collecting all PGEs and gold from a sample. • Sample preparation for the Genalysis Lab were: whole sampled dried at 140°, whole sample crushed (LM2/LM5) to 90% passing 75micron, 150g collected for pulp split and reject stored. • Analysis – Chromite reef – Genalysis method: NiS/*MS for Au(5ppd); Pt(2ppb); Pd(2ppb), Ru(2ppb), Os(2ppb), Ir(2ppb) and Rh(1ppb). • Analysis – Low grade dunite - Genalysis method: FA/*MS for Au(1ppd); Pt(5ppb) and Pd(10ppb). • Additional elements – Genalysis method: D/OES for As(0.01%), Co(20ppm), Cr(50ppm), Cu(20ppm), Ni(20ppm) and S(0.01%). • Descriptions of quality control procedures are based on previous resource reports and historical documents. • Ultra Trace, Perth was engaged to provide services for low level detection work (RC samples only) and check assaying on the Genalysis results; sample preparation was

Criteria	JORC Code explanation	Commentary
		analogous to that used by Genalysis. • Analysis – Low grade dunite (northern exploration) – Itra Trace method: FA002/FA003 for Au(1ppb), Pt(1ppb) and Pd(1ppb). • Analysis – Sterilisation RC – Ultra Trace methods: AR001 for Au(1ppb), AR101 for Cr(5ppm), Cu(0.5ppm), Ni(1ppm) and S(20ppm), AR102 for As(0.2ppm), Co(0.2ppm), Pd(10ppb) and Pt(5ppb). • Analysis – Chromite Reefs – Ultra Trace method NSF01 for Au(5ppb), Pt(2ppb), Pd(2ppb), Ru(2ppb), Os(2ppb), Tr(2ppb) and Rh(1ppb). • Additional elements – Ultra Trace method ICP104 for As(100ppm), Co(20ppm), Cr(50ppm), Cu(20ppm), Ni(20ppm) and S(0,01%). • QAQC consisted of systematic submission of field duplicates for RC samples (1 in 50); barren flushes (all drilling and trenching samples) after samples from top and middle reef chromite intervals; certified local reference standards (CRM) prepared by Gannet Holdings Pty (3 PGE+Au) at a rate of 1 in 50 in all drilling samples and two programmes of inter lab check assays (89 checks in total). • Review of documented reports noted analysis of duplicates and standards assaying information showed good correlation with original results for duplicates; good correlation with the certified standards expected results with incorrect sample identification errors noted on a small number of occasions; assaying of blanks showed acceptable results with rare incorrect submissions of CRM for blank material; and inter lab check assaying showed acceptable correlation between labs for all elements with the exception of Co in the first programme of 53 samples. The Ultra Trace assays for Co were biased low (-14%) compared to the original Genalysis assays. This issue was thoroughly investigated and shown to be a lab specific issue at Ultra Trace. Programme two (36 samples) Co assays correlated well with the original Genalysis assays. • Based on the reported information samples show acceptable levels of accuracy and precision.
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.	• No independent sampling has been undertaken by Cube. • Drillhole assay data has not been checked against the original hardcopy laboratory assay reports. Recent drilling and face sampling assay records in digital format have been checked for significant intervals within the resource area. • No twinning of holes has been identified in the drillhole data. Underground face data has been compared against the surface diamond drilling in close proximity and shows very good correlation with the drillhole logging and the significant intersections. • Data entry and verification was completed by the PLA and its data management consultant Maxwell Geoservices of Perth WA (Maxwell) who have maintained the database. • No adjustment to assay data has been undertaken. • Pt, Pd, Au, Cu and Cr are assayed for all estimated domain intervals (total of 180.07m); there are a small number of un-assayed intervals (As - 98% assayed and Co – 79% assayed). • Samples not received or missing have had the interval left blank in the database.
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.	• PLA Diamond and RC drillhole collars were routinely surveyed for collar location and RL using GPS methodology. Within the estimation database, drilling prior to 2001 (29 DD holes) no information is recorded for the methodology used. Of the 166 PLA DD holes, 45 have no recorded survey method, 111 were surveyed by differential GPS and 10 were estimated. Of the 29 RC holes 14 were surveyed by differential GPS and 15 have no recorded

Criteria	JORC Code explanation	Commentary
		survey method. • Work by Snowden in 2001 indicated that all drill collar locations for holes used in their estimate have been surveyed by GPS or other survey instrument. From their available data they estimated that the collar accuracy was within 1.5m in three dimensions. • Additionally validation of collar RL positions against the digital terrain model provided by PLA confirmed this level of accuracy for most holes. • The estimation has been undertaken in a local grid co-ordinates. Grid transformation conversion data from Local Grid to UTM (AMG84_52) was provided in the data set. • Downhole surveys have been routinely undertaken for all drilling 2001 to 2003. Historic drillholes (pre- PS059 were surveyed using a compass for the first survey at 0m and a single shot Eastman camera at 30m down hole intervals. The post PS059 holes (PLA holes) were surveyed with either with an Eastman single shot survey tool (with a compass reading at 0m depth) or using a Gyroscopic Deviation Tool (Surtron Technologies) every 10m down hole. • Surface tranches were surveyed by compass using a surface dtm for RL. Underground trench and face sample alignments were manually calculated. • Of the 294 holes in the database, 39 or 13% used Gyro; 174 or 59% used camera; 70 or 24% were trenches or underground face sample type; and 11 or 11% have no method listed for down hole survey method. Reports from PLA indicate that there was good correspondence between camera and gyro measurements where duplicate surveys were undertaken. Additionally analysis by the PLA of magnetic susceptibility results indicates no adverse effects on camera measurements due to the host rock magnetic field. A small number of historic holes with acid etch down hole surveys have been excluded from the database used for this estimate. • Topography was provided as a DTM file, converted from DOLA, 1:25,000 scale aerial photography with ground survey control by Whelan Survey and Mapping Pty Ltd in Broome WA. The inferred accuracy of this DTM surface was +-1.25m. • This topography is adequate for resource estimation. • Visual inspection in 3D graphics did not identify any inaccuracies with the spatial position of the drillholes.
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.	• Drill intercept pierce point data spacing is variable ranging from 25m (along strike) x 25m (down dip) in the shallower parts to 250m below surface; increasing to 100m x 200m to a depth of 1000m below surface. Below 1000m pierce point spacing is on a 500mx500m grid approximately. • Given the nature of the mineralisation (a chromite reef deposit) this drill and sampling spacing is adequate and appropriate to determine the geological and grade continuity for reporting of Mineral Resources and the classifications applied to represent risk. • Sample compositing was over the full length of the drillhole intervals within the mineralised domains. These grade composites were weighted by length and density for estimation purposes.
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.	• Both drilling and underground face sampling is orientated normal to the dip and plunge of the mineralisation as far as possible. • The orebodies are interpreted to be a series of separate sheets that make up a plunging synclinal feature that is in parts faulted. • Each drill hole has been oriented with the intention of intersecting the mineralisation as close to orthogonal as possible.

Criteria	JORC Code explanation	Commentary
		• Given the different orientations of drilling there is no significant risk of an introduced sampling bias resulting from drilling orientation.
Sample security	• The measures taken to ensure sample security.	• No active drilling or sampling work is currently taking place. Routine sampling, submission and storage procedures are described in PLA drilling reports. The procedures described indicate industry standard practices were followed during the drilling and sampling of all holes drilled between 2001 and 2003. • No information was available regarding the historical data from holes pre PS059. • Routine data input, validation, QAQC and laboratory follow up are described in PLA reports. The procedures described indicate industry standard practices were followed during the drilling and sampling of all holes drilled between 2001 and 2003. • Again, no information was available regarding the historical holes pre PS059.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Several reviews have been undertaken by previous PLA company staff and independent data management consultants Maxwell, detailed in PLA reports. These audits have not revealed any material issues. • Cube conducted a data compilation review and validation prior to resource estimation which involved checks for duplicate surveys, downhole surveys errors, assays and geological intervals beyond drillhole total depths, overlapping intervals, and gaps between intervals. No significant errors were found.

Section 2 - Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• 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 Panton PGM Project – is located in the Halls Creek Shire of Western Australia, locality of Rose Bore on three granted Mining Leases; • Mining Lease M80/103, 859.4 HA Rent paid in full till 16/3/2017 and Expiring 16/3/2028; • Mining Lease M80/104, 570.3 HA Rent paid in full till 16/3/2016 and Expiring 16/3/2028;. • Mining Lease M80/105, 828.3 HA Rent paid in full till 16/3/2017 and Expiring 16/3/2028; • The three Mining Leases are held 100% by Panton Sill Pty Ltd, which in turn is a wholly owned subsidiary of Panoramic Resources Ltd. • There are no third parties or joint venture partners involved in the Project. • A royalty is payable to Helix (now residing with Goldfields) of 2% NSR. • The three Mining Leases were granted pre Native Title Act and so are free of native title claim. • There is according to the Company no conflict with any other tenure in the vicinity and no known impediment to operations. • The previous owners have done a substantial amount of work understanding the baseline conditions for flora, fauna, hydrology, waste characterisation. This work would require updating but it is reasonable to assume environmental approvals will be obtained.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• A number of exploration drill holes (59) have been completed by previous owners and are considered historic data. • A significant number of these historical holes have been excluded from the estimation – of those used, the impact of unknown quality is considered to be a minor risk when they are compared to the significant number of holes and data gathered by PLA between 2001 and 2003 for which

Criteria	JORC Code explanation	Commentary
		complete QA/QC is available. • The historical data & database has been appraised and is considered to be of fair to good quality.
Geology	• Deposit type, geological setting and style of mineralisation.	• The Panton deposit is interpreted as a differentiated layered intrusion that has been folded into a south plunging syncline. A series of late stage shears offsets and disrupts the layered sequence through the model area. • The differentiated stratigraphy comprises a series of narrow chromite seams within dunite units. The focus of the resource estimate has been three chromite layers known as the Top, Middle and Bottom reefs. PGE mineralisation is associated with sulphides within the chromite seams. Both the grade and thickness of the reefs decrease down the stratigraphic order. • PLA identified the reef mineralisation by a 2ppm Pt+Pd+Au threshold within zones of elevated chromite grade. • At this cut-off most of the upper reef comprises a seam of one to two metres thick.
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 explain why this is the case.	• Complete drill hole collar location survey data and mineralised intercept tables are included as Appendix II of this release.
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.	• All public reporting of exploration results is historic in nature and was undertaken by PLA during the drill out of the project between 2001 and 2003. This information is available in the public domain and has no material impact on the information contained in this release.
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').	• In the majority of cases, the drill intercept lengths approximate the mineralisation widths as the drilling has been deliberately targeted to test the mineralisation true width. The mineralisation is variable in dip and azimuth across the project and as a result a constant orthogonal drill orientation to mineralisation is difficult to achieve.
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.	• Drill hole plans and orthogonal views of the mineralisation and drilling were undertaken by PLA where appropriate.
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 public reporting of exploration results is historic in nature and was undertaken by PLA during the drill out of the project between 2001 and 2003. This information is available in the public domain and has no material impact on the information contained in this release.
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	• All meaningful and material exploration data has been reported historically by the operating company PLA.

Criteria	JORC Code explanation	Commentary
	survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.	• Planned further work is expected to include the infill and confirmation of the Indicated and Inferred portions of the mineralisation.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	• Database was maintained by PLA with assistance from Maxwell Consultants. Maxwell conducted validation and audit services on behalf of PLA over the period 2001 to 2003. • Cube completed validation checks on the database comparing collar points to the topography, maximum hole depths checks between tables and the collar data. Cube also verified the data using visual inspection of the drillholes in 3D to identify inconsistencies of drill hole traces.
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.	• The Competent Person did not conduct a site visit and they relied on information from the PLA company geologist Tony Greenaway who has been to site on numerous occasions. At the time of the original resource estimate (2001) undertaken under the JORC 2004 code PLA deemed a site visit unnecessary as the geological interpretation was undertaken by PLA geologists. As no active drilling or sampling is underway a site visit at this time is considered un-productive by Cube and the current operators. • In the advent of further drilling and a Resource up-grade a site visit by the relevant CP is strongly recommended.
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 interpretation is high as a result of a predominance of core logging and underground mapping information from surface sampling, drilling and exploration mining activity. • Underground exploration development and wall and face mapping of the mineralisation confirm earlier drill hole logging and surface mapping. • The current geological interpretation is based on the logged and assayed chromite content within the host dunite sequence. Significant sulphide percentage was also used in the criteria to identify reef mineralisation defined by a 2PGE + Au cut off of 2ppm. • Wireframe models of the mineralised volumes have been made by independent consultants ECS using a seam modelling approach. While alternate models of the mineralisation may be possible Cube consider the current interpretation to be a valid representation of the factual drill hole and underground data available. • The mineralised dunite is interpreted to be a south plunging synclinal feature, this geological interpretation is based on geological logging of drill hole data. See Appendix I. • A series of four major shears are interpreted to cut-off or offset the mineralisation and separate the mineralisation into a series of discrete blocks.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• The Mineral Resource estimate contains six major moderately to steep dipping mineralised domains. The orientation of each domain changes gradually with the progression south to north around the synclinal structure.

Criteria	JORC Code explanation	Commentary
		• The two interpreted mineralised chromite reefs have a downhole intercept thickness of between 0.1 and 4m (average 0.4m) and an unfolded strike extent 3,500m with an unfolded depth extent of 1,750m. Mineralisation extends from surface to approximately 1,800m vertical depth below surface. Mineralisation is open at depth.
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.	• Due to the narrow width of the mineralisation, interval composites were generated for the two mineralised lodes, using an intercept table in the database to control compositing. • The interval composites were then weighted by their respective horizontal width lengths and density to result in an 'accumulation variable'. • The accumulation variable for all attributes estimated was then used for variogram analysis and 2D interpolation of grades. • Each of six estimation domains (for each of two lodes upper - 101 and middle -201) has been analysed and interpolated separately. • The estimated 2D block values were then exported back into 3D space. • The use of a 2D accumulation method is considered by Cube to be appropriate for this style of mineralisation. • Grade items, Pt, Pd, Au, Ni, Cr, Cu and Co were estimated for each domain in both lodes. At the completion of the estimate a regression formula has been used to assign grades for the rare PGE's Os, Ir, Rh and Ru. These assigned values are an indication of the expected grades and should not be used in any economic evaluation. • The estimation methodology used was Ordinary Kriging as implemented in Surpac Mining Software (Ver 4.1H). • Variogram ranges and search distances were defined in the vertical plane, ranges for all attributes estimated significantly exceeded the data spacing in all domains. • A search radius has been optimised for each domain based on the special statistics of the variogram model. The initial search radius was 300m for all domains with a second pass search of either 750m or 900m applied if required to fill un-estimated volumes. The estimations generally used a minimum of 4 and maximum of 16 samples; in domain 101A and 201A the maximum was set to 6; and to 8 in domains 101D and 201D. • The search orientation and anisotropy were based on the modelled variogram for each domain. • No by-product recoveries were considered. • Estimations of any deleterious elements were not completed for the Mineral Resource. • Estimation block size used was 50m x 50m in long section projection. • No assumptions of specific selective mining units were made as a it has been assumed that full seam width mining will be undertaken. • The mineralised domain acted as a hard boundary to control the Mineral Resource volume and estimate. • To limit the effects of extreme grades three high grade limits were applied to raw grade values prior to the calculation of the accumulation variable; gold in 101 A, B and C was cut to 1,200ppb and in 201 A, B and C to 600ppb; copper in domain 201 A, B and C was cut to 1,750ppm. A manual declustering of wedge holes was undertaken in domain 201BC. • Block model validation was undertaken using the comparison of block model estimate to drill hole data composites of horizontal width and density weighted mean grades. These showed acceptable correspondence for all estimated attributes in domains A, AB, B and C. The comparison within D domains shows higher variation due

Criteria	JORC Code explanation	Commentary
		to the data clustering and wider data spacing of this domain. • A validation estimate was undertaken using inverse distance squared and compared to the OK estimate. The two estimates show some local differences due to the weighting strategies but on balance align well on a domain by domain comparison. • A final visual validation involved comparing contoured raw composite grade against estimated block grades. This validation did not highlight ant significant errors with estimated block closely matching the underlying raw grade trends.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Moisture was not considered in the density assignment and has been estimated as dry tonnes.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• No Cut-off grade has been used for reporting. The mineralisation has been defined using a combination of geological information and grade criteria and the reported estimated grades represent a total metal content of mineralised material – all of which is expected to be mined, without selectivity due to the thin vein nature and high value of the mineralisation.
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 of the Panton deposit is envisaged to be by open pit and underground methods. An assumption of non-selective total vein width mining has been made in the estimation, no other mining factors were considered during the interpretation and 2D modelling of the mineralisation however mining dilution and mining loss are likely to be material factors in combination of small open pit and underground exploitation. • Minimum mining widths were not considered during the interpretation and 2D modelling of the mineralisation.
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.	• No specific metallurgical factors were considered during the interpretation and 2D modelling of the mineralisation. • Two studies containing an assessment of the metallurgical amenability of the mineralisation have been undertaken; the first as part of the 2003 BFS by Lycopodium and an updated project review in March 2012 by Tetratech; a further technical review is required and planned by the current owners. • The assumed extraction methodology is by floatation to produce a concentrate which is further treated on site by hydrometallurgical processes to produce separate PGM and base metal concentrates. • Alternative processing options such as Kell that offer reductions in capital and operating costs, and/or improvements in metal recovery may have a material impact on economics, and should be investigated. • Synergies with the nearby Savannah operations have been factored into the model, and could offer additional project upside once confirmed by relevant studies. • Studies of the reasonable prospects for eventual economic extraction have been undertaken. Financial modelling has been recently updated by the owners to reflect current broker/bank long-term metal pricing and A$:US$ exchange rate forecasts. The modelled scenario assumes production of approximately 600kt/year for an initial seven years. Platinum is the dominant contributor to revenue, at 50% in the base case. Other significant revenue metals are Pd 36%, Au 7%, and Ni 5% for the base case model. In this updated base case scenario, which Cube considers is based on reasonable cost and revenue factors, the project demonstrates a positive NPV and modest IRR. The project is sensitive to exchange rate and commodity prices. Improvements in operating costs and metal recoveries offer significant opportunities to the Company.

Criteria	JORC Code explanation	Commentary
		• It is strongly recommended that such studies be undertaken on these two key items as part of the planned work.
Environmental 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.	• No assumptions were made regarding environmental restrictions.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • 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.	• Density determinations were undertaken in the top reef (117) across all chromite domains, within the middle and lower reef a lessor number (56) of determinations were undertaken and within non-chromite material 516 determinations were made. • A database of bulk density data for every assayed chromite reef interval was calculated based on a regression formula (derived from measurements by PLA's consultants Geostokos Ltd, Budge, 2002) and using actual bulk density measurements where they were undertaken by PLA on HQ and NQ core. • Density measurements were undertaken using a core cylinder measurement technique, with 10% being determined by water emersion methods. Given the shallow weathering profile of the project area these density measurements on competent core are considered representative of the mineralised material. • The dry bulk density has been estimated into blocks by back calculation of ordinary kriged horizontal width x density accumulation composite data.
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.	• Resource blocks have been classified as Measured, Indicated or Inferred on the basis of a range of criteria. • The Resource classification applies to the estimated block grade items only (Pt, Pd, Au, Ni, Cr, Cu and Co). Cube considers that the regressed grades for rare PGE's Os, Ir, Rh and Ru are an indication of the grade and should not be used in definitive economic analysis. • The key criteria considered by Cube were geological continuity and confidence in reef volume; data spacing and distribution; appropriateness of the modelling technique; and estimation quality parameters such as search strategy, number of informing composite data, average distance from informing composites and kriging variance. • Within the reef domains the key estimated items Pt, Pd, and Au exhibit relatively low nugget (10 to 30%) variogram models with ranges of 100 to 500m. With the exception of Au the estimated items are shown to be statistically of low variability with CV's of less than 1. These factors combined with the geological nature of the reef estimation domains establish a moderate to high confidence in the metal continuity within the reefs. • Data spacing within the most densely drilled area of the project range from 25x25 to 50x100 metres; this area extends from surface at approximately 1450m RL to approximately the 1200m RL. Below this zone drilling density widens to between 50x100 and 100x200m spaced intersections to a depth of 1000m RL, while from 1000 to 800mRL data spacing is in excess of 200m and clustered. See Illustration long sections in Appendix I, below. • Cube contends that the use of the 2D accumulation estimation method has a number of risk minimising

Criteria	JORC Code explanation	Commentary
		advantages: it simplifies the complexity of undulating reef geometry which can yield uncertain search outcomes; it eliminates the need for multiple orientation defined domains which have no geological significance and allows more informing composites to be used; and it allows an optimised estimation block size to be chosen independently from the volume definition model requirements, minimising over smoothing due to a small and inappropriate block size choice. • Measured Resource are defined where geological continuity risk is considered low, confidence in metal continuity is considered high due to the data spacing; and where the estimation quality is high as indicated by a low estimation block variance (within the first 30th percentile). Generally within the Measured part of the Mineral Resource blocks have been estimated using 10 or more composite data at an average distance of less than 200 metres (within the modelled range of most variograms). • Indicated resources are defined where geological and metal continuity risk is considered moderate to low. Generally within the Indicated part of the Mineral Resource block have been estimated using 6 or more composite data at an average distance of less than 300 metres (within the modelled range of some of the variograms). • Inferred Resources are defined by that area of the Mineral Resource with moderate confidence in the continuity of the geological model and metal where drill spacing is wider than 200m by 200m. • The Mineral Resource estimate appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• Several reviews have been undertaken for the Mineral Resource estimate. An external review was completed by a third party consultant, and an internal peer review of the estimation methodology was conducted. • The interpreted mineralisation wireframe has been reviewed by PLA and other qualified professionals in Cube.
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.	• Due to the wide spaced drilling in areas, local variations can be expected within the narrow undulating chromite reefs. The orientation of the chromite reefs may be affected by regular structural offsets and bifurcations. • Given the geostatistically determined nature of the mineralisation, the use of OK has assisted in reducing the risk associated with the metal estimates. The additional benefit of OK is it inherently assists in declustering the data during the estimate. • No specific analysis or estimate of the relative accuracy or to establish confidence limits has been undertaken. However previous estimations by different methodology have not resulted in significantly different tonnages or contained metal estimates. • The Mineral Resources constitute a global resource estimate. • Underground exploration sampling data from the decline confirms the nature and grade tenor of the mineralisation as intersected by the drilling. • No large scale production data is available.