### SUMMARY OF TABLE 1 - 2012 JORC: Waihi Gold Mine

A Material Information Summary pursuant to ASX Listing Rules 5.8 and 5.9 is provided below from the Waihi Gold operation resource and reserves estimates. The Assessment and Reporting Criteria in accordance with JORC Code 2012 is presented in Appendix 1.

The Waihi Gold operation is located 142 km Southeast of Auckland in the Township of Waihi, Hauraki, New Zealand. The Waihi township is known as a gold mining town and has a notable history gold production. Open pit mining commenced at the site in 1988 with the first ore processed in that year and underground mining commenced in 2004 with the extraction of ore commencing in late 2006. The Waihi Gold operation holds the necessary permits, consents, certificates, licences and agreements required to operate the Martha open pit and Correnso underground mine.

#### Resources

The Waihi Gold resource estimates, as at 31 December 2017, are presented in Table 1-1, Table 1-2, and Table 1-3, and are classified in accordance with CIM and JORC 2012.

The resource estimate is sub-divided for reporting purposes: an open-cut resource that includes material within the limits of the Martha pit and the Maiden Open Pit Resource for the Gladstone Pit; and underground Resources within the Correnso Extended Permit Area and beneath the Martha Pit. Previously reported resources for the Gladstone underground project have been incorporated into the Gladstone Pit project. The Resources are depleted for mining as at 31 December 2017.

Table 1-1: Open Cut Resource Estimate

Class	Tonnes (Mt)	Au(g/t)	Ag(g/t)	Au(Moz)	Ag(Moz)
Measured	0.155	3.050	30.500	0.015	0.152
Indicated	2.074	2.384	12.435	0.158	0.829
Measured & Indicated	2.230	2.430	13.692	0.174	0.981
Inferred	0.300	1.279	2.010	0.012	0.019

Table 1-2: Underground Resource Estimate

Class	Tonnes (Mt)	Au(g/t)	Ag(g/t)	Au(Moz)	Ag(Moz)
Measured	0.178	6.742	13.449	0.038	0.077
Indicated	0.854	5.410	10.820	0.149	0.271
Measured & Indicated	1.031	5.64	11.273	0.187	0.374
Inferred	0.672	6.930	13.550	0.149	0.297

**Table 1-3: Combined Resource Estimate** 

Class	Tonnes (Mt)	Au(g/t)	Ag(g/t)	Au(Moz)	Ag(Moz)
Measured	0.333	5.016	21.394	0.537	0.229
Indicated	2.929	3.267	11.682	0.308	1.100
Measured & Indicated	3.262	3.446	12.927	0.361	1.356
Inferred	0.972	5.185	10.108	0.162	0.316

### Notes to Accompany Mineral Resource Table:

- 1. Mineral Resources are inclusive of Ore reserves;
- 2. Mineral Resources are reported on a 100% basis;
- 3. Mineral Resources are reported to a gold price of NZD\$2,083/oz, except for the Martha Underground resource which is reported at a nominal 3.5 gram per tonne cut-off grade; Tonnages include allowances for losses resulting from mining methods except for the Martha Underground resource which is reported at a nominal 3.5 gram per tonne cut-off grade. Tonnages are rounded to the nearest 1,000 tonnes;
- 4. Ounces are estimates of metal contained in the Mineral Resource and do not include allowances for processing losses. Ounces are rounded to the nearest thousand ounces;
- 5. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content;
- 6. Tonnage and grade measurements are in metric units. Gold ounces are reported as troy ounces.
- 7. Minor year end stockpile quantities of Mineral Resources are included in both the underground and open pit totals

The Project comprises several areas of mineralization, which are at different stages of development. The Martha Open Pit is in the final stages of production. The Correnso project is in the mature production phase with the associated Empire and Daybreak projects in the development phase. The Correnso project is comprised of the main Correnso underground mine and the up dip and down dip extensions of the Correnso underground mine and the addition of the Daybreak and Empire veins referred to collectively as the Correnso Extensions.

The Gladstone Project is based on open pit/s around the Gladstone hill and Winner hill area. The resource model describes the mineralisation within Gladstone and Winner hills and includes part of the Moonlight orebody, depleted for underground mining. The previously declared Gladstone underground Reserve of 8150 ounces has been moved to the open pit resource total.

Exploration activity has continued in proximity to the Martha open pit and previously declared Martha Underground resource of 157k ounce. To date ~45 drill holes for a total of 13600 meters have been completed. Over the course of the next 2 years, the Company will continue to drill from two exploration drives beneath the Martha Open Pit for resource conversion with upwards of 100 km of additional drilling likely to be required to test the full extent of the mineralised system. The resource is associated with Martha, Edward, Empire, Royal and Welcome veins located beneath the existing Martha Pit.

The major gold - silver deposits of the Waihi District are classical low sulphidation adularia-sericite epithermal quartz vein systems associated with north to northeast trending faults. Larger veins have characteristically developed in dilational sites in the steepened upper profile of extensional faults with narrower splay veins developed in the hanging wall of major vein structures. Figure 1 shows a general geology plan of the Project, including the major vein locations. The Waihi epithermal goldsilver mineralised veins are hosted in Miocene andesite lavas beneath the Waihi township area.

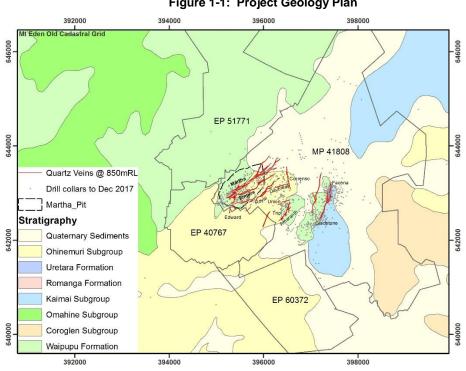


Figure 1-1: Project Geology Plan

The main ore minerals are electrum and silver sulphides with ubiquitous pyrite and variable though usually minor sphalerite, galena and chalcopyrite in a gangue consisting of quartz, locally with calcite, chlorite, rhodochrosite and adularia. Base metal sulphides increase with depth.

Approximately 490,000m has been drilled in 3,300 core and RC drill holes on the Project since 1980. All drill core was routinely oriented below the base of the post-mineral stratigraphy, either by plasticine imprint or using the Ezimark or Reflex core orientation tool.

Diamond core is cut by OceanaGold employees at their core facility. Half core (in most cases) is submitted to SGS Waihi (an independent laboratory) for sample preparation and fire assay.

RC samples, which support only open pit estimates, were collected by rig-mounted cone splitters. bagged and transported to SGS Waihi for sample preparation and either fire assay or aqua regia analysis.

Gold is modelled via ordinary kriging or inverse distance methods (dependent on data density) constrained by geological wireframes. Dry bulk densities ranging between 1.8 and 2.5 t/m<sup>3</sup> are modelled by rock type for the conversion of volumes to tonnage. These are based on 2,302 density determinations.

The quantity and quality of the lithological, geotechnical, collar and down hole survey data collected in the exploration, delineation, underground, and grade control drill programs are sufficient to support the Mineral Resource and Ore Reserve estimation.

To classify the Mineral Resource, appropriate account was taken of geology, drill hole spacing, search criteria, reliability of input data, and the Competent Person's confidence in the continuity of geology and metal values.

Historically the resource and reserve estimates have reconciled well against production.

#### Reserves

The Ore Reserve estimate for the Waihi Gold operation as at 31 December 2017 is shown in Table 1-4:

**Table 1-4: Waihi Gold Reserve Estimate** 

Source`	Reserve Class	Tonnes (Mt)	Au (g/t)	Ag(g/t)	Contained Au (Moz)	Contained Ag (Moz)
Open Pit	Proved	0.155	3.05	30.50	0.015	0.152
	Probable	0.656	2.91	29.10	0.061	0.614
Underground	Proved	0.175	6.70	13.35	0.037	0.075
	Probable	0.752	5.31	10.74	0.128	0.256
Stockpile	Proved	0.002	12.30	24.56	0.001	0.002
	Probable					
Total Proved		0.332	5.03	21.42	0.053	0.229
Total Probable		1.408	4.19	19.29	0.189	0.870
Total (Dec 31, 2017)		1.740	4.35	19.70	0.242	1.099

### **Notes to Accompany Mineral Reserve Table:**

- 1. Ore reserves are reported on a 100% basis;
- 2. Ore reserves are reported to a gold price of NZD\$1,806/oz;
- 3. Tonnages include allowances for losses and dilution resulting from mining methods. Tonnages are rounded to the nearest 1,000 tonnes;
- 4. Ounces are estimates of metal contained in the Ore reserves and do not include allowances for processing losses. Ounces are rounded to the nearest thousand ounces:
- 5. Rounding of tonnes as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content;
- 6. Tonnage and grade measurements are in metric units. Gold ounces are reported as troy ounces.
- 7. Previously reported Gladstone Underground reserves have been transferred to Gladstone Open Pit Resource

The change in Ore Reserves reported at December 31, 2017 compared with those previously reported at December 31, 2016 is reported in Table 1-5.

Table 1-5: December 2016 Reserve Estimates vs. Dec 2017 Reserve Estimates

Reserve Area	Tonnes (Mt)	Au (g/t)	Ag(g/t)	Contained Au (Moz)	Contained Ag (Moz)	
December 31, 2016 Reserve						
Open Pit	0.811	2.94	29.37	0.077	0.766	
Underground	1.133	7.39	14.72	0.269	0.536	
Total (Dec 31, 2016)	1.944	5.53	20.83	0.346	1.302	
Changes to Reserve, Dec 16 vs. Dec 1						
Open Pit	0	0.00	0.00	0.000	0.000	
Underground	-0.204	15.64	30.51	-0.103	-0.200	
Total	-0.204	15.64	30.51	-0.103	-0.200	
December 31, 2017 Reserve						
Open Pit	0.811	2.94	29.37	0.077	0.766	
Underground	0.929	5.58	11.13	0.167	0.336	
Total (Dec 31, 2017)	1.740	4.35	19.70	0.242	1.099	

Changes between the December 31, 2016 Reserve and the December 31, 2017 Reserve estimate primarily reflect the depletion of ore from the underground mine as well as additions to the upper levels of Correnso and Daybreak, and extension to the Christina vein. A small amount of reserve has also been added to the lower levels of the Trio mine area.

Inputs to the calculation of cut-off grades for the Waihi Gold open pit and underground mine include mining costs, metallurgical recoveries, treatment and refining costs, general and administration costs, royalties, and commodity prices.

Open pit mining was undertaken by a contractor from 1997 to 2015 under a schedule of rates, and production rates and mining costs are therefore well understood.

Long hole bench stoping with rock backfill is the current mining method for extraction of underground Ore Reserves. Stope dilution has been estimated based on expected geotechnical conditions, stope spans and site reconciliation. Recovery of ore requires the use of remote loaders, and allowances have been made for loss of Ore Reserves and for dilution from back fill.

Recovery of gold at Waihi Gold uses a conventional CIP plant and a conventional SABC grinding circuit. The plant has an established skilled workforce and management team in place. Recent cost estimates and processing recoveries support the reporting of the stated Ore Reserves.

The technical and economic viability of the reported Ore Reserves is supported by studies which meet the definition of a Feasibility Study. All permits and consents are in place for the extraction of the Ore Reserve.

## **Competent Persons**

Information relating to Exploration Results and Mineral Resources in this document was prepared by or under the supervision of Mr Peter Church, information relating to underground Ore Reserves was prepared by or under the supervision of Mr David Townsend, and open pit Ore Reserves are prepared under the supervision of Mr Trevor Maton. Messrs Church, Maton and Townsend are members and Chartered Professionals of the Australasian Institute of Mining and Metallurgy. Mr Church is the Principal Resource Geologist and is a full-time employee of OceanaGold (New Zealand) Limited, whilst Mr Townsend is the Underground Technical Services Superintendent and is also a full-time employee of OceanaGold (New Zealand) Limited, whilst Mr Maton is the Studies Manager and is also a full-time employee of OceanaGold (New Zealand) Limited. Messrs Church, Maton and Townsend have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Messrs Church, Maton and Townsend consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

## JORC Code, 2012 Edition – Table 1 report template

# **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary			
Sampling techniques	<ul> <li>Nature and quality of samp random chips, or specific systandard measurement too minerals under investigation gamma sondes, or handhe etc.). These examples shoulimiting the broad meaning.</li> <li>Include reference to measure sample representivity and to calibration of any measured used.</li> <li>Aspects of the determination are Material to the Public Formal of the Public Formal of the samples from which 3 kg who produce a 30 g charge for the cases more explanation may where there is coarse gold sampling problems. Unusur mineralisation types (e.g. samples from which sampling problems of the coarse of the determination may warrant disclosure of the coarse gold sampling problems.</li> </ul>	pecialised industry Is appropriate to the In, such as down hole Id XRF instruments, Id not be taken as of sampling. Iters taken to ensure the appropriate ment tools or systems In of mineralisation that the port. Iterative and ard 'work has been Ity simple (e.g. 'reverse It to obtain 1 m Iterative assay'). In other Iterative assay'). In other Iterative assay'. In other Iterative as inherent Ite	• Si the Ges bases sa	en the sample old personnel stablished by the sased on nome ampling Error etrographic stroithermal vein ample preparate each batch a esource holes amond drill country half to approximate the samond drill country half	6, sample preparation has been of a preparation facility was located a preparation facility was located at the Martha Mine geologists. Start ograms that were developed using a Gold particle liberation size for the deposits and has a particle size ation procedures are:  Wet and dry weighing before a Jaw crushing to 95% passing 5 UW222); to 95% passing 7mm other drill hole samples); to 80% holes).  Rotary split to produce 800g crushing milled to a nominal 80% of Approximately 300g of pulverization has been monitored through through insertion of duplicate drilled from surface is optimised one samples, generally PQ3 or How insertion of deposits and material going to the ring a diameter core size for advanced

- carried out at the SGS Waihi laboratory. Prior to d at the Martha mine site and operated by Waihi same methods and protocols that were indardised sample preparation procedures are ng Gy's Estimation of the Fundamental the Waihi gold deposits is based on nostly occurs as electrum in the Waihi e between <5 to 10µm. Current standardised
  - and after oven drying at 90°C overnight;
  - 5mm to 24th September 2004 (UW212 & m from 24th September 2004 to May 2013 (all 0% passing 3.3mm from May 2013 (844 series
  - crushed product;
  - finer than 75µm;
  - ized sample placed by scoop into paper sachets ag is affixed.
- gh sieve checks on samples selected at random e samples at the crushing step. Sample size for through initial collection of large-diameter IQ3. Subsequent splits include sawing the core lit from the jaw crusher producing no less than g mill. Current drilling from underground utilises ed exploration and resource conversion drilling, this core is then split using a core saw to produce an initial sample size of 3.5-4kg or 1.7-2kg respectively, whereas grade control utilises an HQ3 or NQ3 diameter core size which is whole core sampled to produce an initial sample size of 7-8kg or 3.5-4kg respectively.

Criteria	JORC Code explanation	Commentary	
			RC Drilling
			RC drilling was only used for grade control in the Martha Pit and has not been utilised since closure after the north wall failure. Sample preparation was carried out as follows:
			Samples are dried at >100°C overnight at minimum, longer when sample moisture is high.
			The sample is crushed using a Boyd crusher to nominal 95% passing 7 mm.
			<ul> <li>Crushed product is passed to a rotary sample divider (RSD) via a vibrating feeder; an 800-g minimum in the fraction is retained for pulveriser, the remainder is bagged as crush reject material.</li> </ul>
			<ul> <li>Retained material (approximately 900g) is ground in an LM2 mill for a minimum of 3 minutes to 80% passing 75µm.</li> </ul>
			200 g of pulp is removed by scoop and sealed in a Kraft envelope with the sample tag attached.
			<ul> <li>From 28th May 2007 until 20th September 2014 pulps are assayed by SGS for Gold and Silver by 30 g Aqua Regia Digest. From 20th September 2014 Fire Assay analysis was conducted on Au only.</li> </ul>
			Underground Face Sampling
			The face sample mark-ups are determined by the Geologist according to changes in lithology, vein texture and/or alteration; e.g. sample breaks positioned at the vein/andesite contacts.  Mark these on the face with a single vertical line of blue paint.
			Minimum sample interval size is 0.3m with a maximum interval of 2.0m. Intervals greater than 2.0m should be sub-sampled.
			The Geologist will assign three QAQC samples per face; a blank sample (to be positioned directly after what is thought to be the highest-grade sample), a crush duplicate (a duplicate split of what is thought to be the highest-grade sample), a field duplicate (assumed highest grade interval re-sampled for repeatability analysis) and a standard (positioned after the crush duplicate). (Please see below under Blanks, Standards and Crush Duplicates for more information).
			The Sampling Technician then measures the intervals and writes the width to the nearest tenth of a metre on the wall within the marked interval.
			The sample is taken by chipping rock into the collection hoop on a continuous line across the interval, starting with the first interval on the left-hand side of the face, and then working left to

Criteria	JORC Code explanation Commentary	
Drilling	Drill type (e.g. core, reverse circulation, open-hole)	<ul> <li>right across the face.</li> <li>All samples taken during face sampling are placed into pre-labelled calico bags. One label is stapled onto the lip of the bag and the other is placed loosely inside the bag.</li> <li>Approximately 490,000m have been drilled in 3,300 core and exploration RC drill holes on the</li> </ul>
techniques	hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc.).	Project since 1980. All surface diamond drill holes were drilled by triple tube wireline methods. Surface holes are collared using large-diameter PQ core, both as a means of improving core recovery and to provide greater opportunity to case off and reduce diameter when drilling through broken ground and historic stopes. Drill hole diameter is usually reduced to HQ at the base of the post-mineral stratigraphy. All drill core was routinely oriented below the base of the post-mineral stratigraphy, either by plasticine imprint or using the Ezimark or Reflex core orientation tool.
		<ul> <li>Additionally, 88,000m have been drilled in 4,445 reverse circulation grade control holes during the open pit Southern Stability Cut (SSC) and Eastern Layback (ELB) projects between May 2007 and May 2015, using a 114mm hole diameter and rig-mounted cyclone sampler.</li> </ul>
		10,772m of diamond core has been drilled for 66 drill holes on the Gladstone Hill project since October 2016, with 2152.7m of this drilled from underground platforms.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery</li> </ul>	Core recoveries were measured after each drill run, comparing length of core recovered vs. drill depth.
,	<ul> <li>and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample</li> </ul>	<ul> <li>Core recoveries were generally better than 95% for the extended Correnso project. There is no relationship between core recovery and grade.</li> </ul>
	recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Core recoveries in the recent Gladstone Project drilling campaign are between 89-90%. The zones of poor cover are typically associated with post mineral package in the non-mineralised units. Recovery weighted grade estimates are assessed routinely in the construction of grade estimate.
		<ul> <li>RC sample recoveries were assessed by weight for representivity by the sampling technician and dispatching geologist, and samples discarded where the recovered sample weight did not correlate well with drilled interval. Expected sample weight was calculated using drilled rock volume, SG, and cyclone sample splitter configuration, with review occurring as part of monthly inspections. There is no observed relationship between sample recovery and grade.</li> </ul>
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource	The core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation.

Criteria	JORC Code explanation Commentary	
	<ul> <li>estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Electronic Geological logs are now created using Microsoft Excel. As of June 2015, the geological logging data has been migrated to an AcQuire database. Newmont's Visual Logger software was utilised for logging. From Visual logger the logging data was imported directly into an AcQuire database for all logging prior to April 2011. Between April 2011 and June 2015 Newmont implemented the proprietary (GED) database package and all drill data was migrated to a web-based GED and subsequent drill log data imported directly to the GED via a Visual Logger interface.</li> <li>Log intervals are based on geological boundaries or assigned a nominal length of one metre. RC grade control drilling in the open pit is sampled over 1.5m intervals. The geological log incorporates geotechnical parameters, lithology, weathering, alteration and veining. Logging has been validated using inbuilt validation tables for all recent drilling and has been checked for consistency throughout the project. All logging is peer reviewed by geologists as part of a comprehensive validation process. A complete digital photographic record is maintained for all drill core. There are additional fields in the template for entering sample details, QAQC</li> </ul>
		<ul> <li>samples such as blanks and reference standards and a display for gold and silver values.</li> <li>All drill core is photographed and stored digitally on the Waihi server.</li> </ul>
		<ul> <li>Qualitative logging of sieved RC grade control chips was undertaken at sample interval lengths using Newmont's Visual Logger software between May 2007 and May 2015. This assisted in the identification of lithology, alteration, mineralogy, vein continuity and historic workings.</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Refer to sampling techniques section.

Criteria	JORC Code explanation	Commentary		
Criteria  Quality of assay data and laboratory tests	<ul> <li>The nature, quality and approassaying and laboratory process whether the technique is constotal.</li> <li>For geophysical tools, spectro XRF instruments, etc., the paragraph determining the analysis inclumake and model, reading time factors applied and their deriv</li> <li>Nature of quality control procestandards, blanks, duplicates, checks) and whether acceptate accuracy (i.e. lack of bias) and been established.</li> </ul>	priateness of the edures used and sidered partial or ometers, handheld rameters used in ding instrument es, calibrations ation, etc. edures adopted (e.g. external laboratory ble levels of	•	Quality control of drill core has been monitored in the following areas:  Sample preparation at the SGS Waihi lab through sieving of jaw crush and pulp products, routine generation of duplicate samples from a second split of the jaw crush and calculation of the fundamental error.  Assaying at primary lab SGS through insertion of 1 or 2 standards, a duplicate sample, and a blank for every 20 samples.  QAQC checks in the database for standards, blanks and duplicates.  Since October 2015 all assay data is validated upon importation into the AcQuire database using inbuilt QAQC functions. CRM performance is regularly scrutinised and the database QAQC function thresholds are reviewed bi-annually.  Monthly QAQC reporting and review is undertaken on all assay results from SGS.  Prior to this all assay data was managed in SMP_RESULT table of the GED_DRILLHOLES database. WinAssayImport is a tool to load the assay result to the database and has the capability to view a QAQC report for each lab job prior loading the assay result to the database. Blanks and standards are reviewed on a weekly basis using SQL Server Reporting Services. The Waihi protocol requires Certified Reference Material (CRMs) to be reported to within 2 Standard Deviations of the Certified Value. The criterion for preparation duplicates is that they have a relative difference (R-R1/mean RR1) of no greater than 10%. The criterion for blanks is that they do not exceed more than 4 times the lower detection method of the assay method.  In addition to routine quality control procedures, umpire assay has been carried out on 248 samples (Correnso Project) at Ultratrace Laboratories in Perth. Results for gold were consistent with original SGS assay results and showed no effective bias, apart from 3 umpire samples that returned significantly higher gold values than the original assays. Those three samples were repeat assayed by SGS, the re-assay producing results consistent with the Ultratrace umpire assays; the second set of SGS assays have therefore replaced th
			•	Ultratrace umpire assays; the second set of SGS assays have therefore replaced the initial assays in the database.  Multi-element data is obtained routinely from the Waihi SGS Laboratory for all exploration

Criteria	JORC Code explanation	Commentary	
			a more dilute Aqua Regia digest (1-gram sample weight rather than the standard 10 grams per 50 ml. Antimony is not efficiently extracted by the current Aqua Digest method at SGS and consideration should be given to using the Peroxide Fusion extraction if more accurate antimony results are required.
			<ul> <li>Additional Multi-element data has been obtained from the Brisbane ALS Laboratory for Gladstone Resource samples. Generally, elements including mercury, arsenic, selenium and antimony increase at shallow levels within epithermal deposits. The presence of sinter and Quartz vein textures in the Gladstone drill core indicate that the resource is at the top of an epithermal system. Due to this, multi element data with an extended suite of elements (Au, Bi, Hg, Sb, Se, Sn, Te, Th, Ti, U, W, Ag, Al, As, B, Ba, Be, Ca, Cd, Ce, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sc, Sc, Sr, Ti, V, Zn) has been undertaken. Sample preparation was conducted at SGS Waihi following standardised procedures with a variation to sample drying temperature. A reduced temperature of 60 °C has been used to limit Hg volatilisation.</li> </ul>
			Underground Face Samples
			Every face must include a blank, standard and crush duplicate as per the QAQC guidelines.
			<ul> <li>Blank samples (samples that have been certified as containing zero Au values) are entered into the sample sequence preferably after what is thought to be the highest-grade sample in the face. A crush duplicate of the sample preceding the blank, is to be entered in after the sample sequence is completed. The final sample in the sequence is the standard.</li> </ul>
			Open Pit RC Grade Control Data
			<ul> <li>Assay quality control procedures for grade control data is set out in "Martha Grade Control Procedures Manual V2 2008". Quality control procedures are designed to detect any poor sampling and sample preparation practices and ensure that results are within acceptable ranges of accuracy and precision.</li> </ul>
			<ul> <li>All QAQC data is managed in AcQuire via the CheckAssay and CheckChemistry compound definitions. Blanks and standards are reviewed on a weekly basis using AcQuire QAQC objects. Any sample preparation or assay issues are discussed directly with SGS.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant either independent or alternal personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary dal procedures, data verification,</li> </ul>	ntive company atta, data entry	<ul> <li>A limited number of twinned holes were completed during the initial investigations for the Correnso project. These indicated that there is some short-range variability in gold mineralisation. There are strong visual indicators for high grade mineralisation observed both in drill core and in underground development</li> <li>All assay data is stored in the database in an as received basis with no adjustment to the</li> </ul>

Criteria	JORC Code explanation Commentary	
	<ul> <li>(physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All intercepts are reviewed during the construction of the geological wire frames prior to grade estimation, this review involves visual comparison of core photography, assay and logging data and spatial relationships to adjacent data. Significant intercepts are reported internally on a weekly basis for peer review purposes.</li> <li>Check assay programs have been undertaken for projects previously as a part of the project advancing past milestones such as feasibility level studies.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All historic mine data was recorded in terms of Mt Eden Old Cadastral grid. This is the grid utilised for all underground and exploration activity.</li> <li>A local mine grid –Martha Mine Grid, oriented perpendicular to the main veins and derived from Mt Eden Old Cadastral is used within the Open pit operations. The Mine Grid origin is based at No.7 Shaft (1700mE, 1600mN). The grid is rotated 23.98 west of Mt Eden Old Cadastral North. Relative level (RL) calculated as Sea Level + 1000m.</li> <li>The origin for topographic control is provided by Old Cadastral Mt Eden Coordinates available from cadastral survey marks in Seddon Street near the entrance to the old underground mine. The original underground Martha mine was mapped in terms of these coordinates. All mine reference survey points are established by a Registered Professional Land Surveyor from Government Trig Stations or geodetic marks.</li> <li>For the underground mine, a transformation is used to convert all data to NZGD2000 as per the regulations for the purpose of all statutory underground plans. Checks show that all underground coordinates are within the allowed 1:5000.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The drill spacing required to support classification of Indicated Mineral Resources is different for each project area and has gradually lessened over time as the nature of the veins have changed. A review of the Correnso drill spacing was completed in 2013. Available data was insufficient to use conditional simulation to determine the likely spacing so reconciliation data from the mined out Favona area was utilised. The result was a recommendation to use 30 m for Correnso, instead of the previously used 40 m. Drill spacing within the stockwork zones for the open pit resource areas has been reviewed recently with a move to a 45meter average drillhole spacing required to achieve an inferred resource classification in areas of stockwork mineralisation.</li> <li>For Martha, the composite length is based on the nominal sample interval for each dataset (1.5m for drill (RC / diamond) data, 1m for grade control channels. Compositing was by fixed-length, honouring the domain boundaries.</li> </ul>

Criteria	JORC Code explanation Commentary	
		The Gladstone deposit has been drilled targeting a nominal drillhole spacing of 30m on the major mineralised veins. A tighter spacing of 22.5 has been targeted in the zones of more discrete Stockwork and Breccia mineralisation
		Composite weighting by length was applied during estimation to avoid bias from small, high grade composites. There has been no change to the compositing method used since May 2010. For Correnso and Daybreak the raw assays are composited to one metre fixed lengths and "distributed" (1MD) across the vein width to eliminate very small remnant composites. For the Grace/Empire estimate two metre distributed (2MD) composites were used. The distributed method divides the vein interval into a number of equal length samples as close to the desired sample composite length as possible given the intercept width, this is an option available in the Vulcan® software.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	Drill holes are designed to intersect known mineralised features in a nominally perpendicular orientation is much as practicable given the availability of underground drilling platforms. Samples intervals are selected based upon observed geological features.
Sample security	The measures taken to ensure sample security.	Access to site is controlled; Drill core is stored with secure facilities on site. Site employees transport samples to the analytical lab. The laboratory compound is secured.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews of sampling techniques and data have been performed.

# **Section 2 Reporting of Exploration Results**

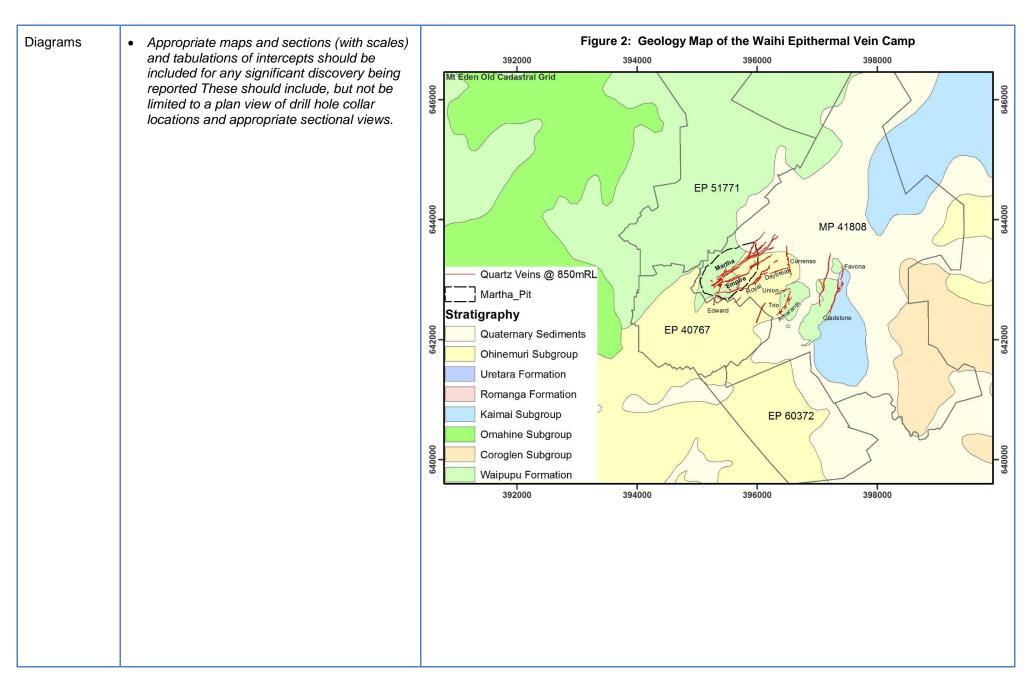
(Criteria listed in the preceding section also apply to this section.)

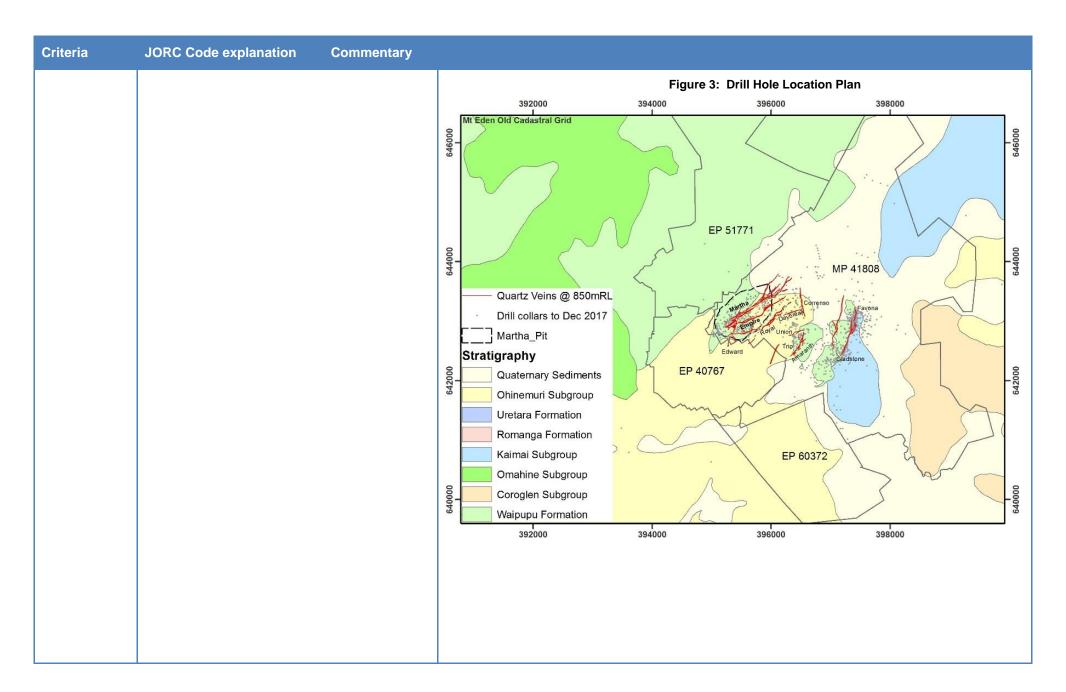
Criteria	JORC Code explanation Commentary	
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>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.</li> </ul>	<ul> <li>The mineralisation occurs on granted permit Mining Permit 41808 (Favona) which was granted in March 2004, under the provisions of the Crown Minerals Act 1991, for a duration of 25 years. An Extension of Land to Favona MP 41 808 was granted in March 2006 to cover the Trio Mine and another to cover the Martha Open Pit Mine and TSF's that operated under ML 32 2388 until its expiry in July 2017. The mining permit covers an area of 1485.38 hectares and covers the Correnso Underground Mine and Martha Open Pit mine.</li> <li>On MP 41808 the higher of a 1.0% royalty on net sales revenue from gold and silver or 5% accounting profits is payable to the Crown.</li> <li>The Martha Mine is authorised partly by way of resource consents, and partly by way of Rule 5.17.4.1 P1 of the Hauraki District Plan. Rule 5.17.4.1 P1 authorises activities conducted in accordance with the relevant terms and conditions of, and within the area covered by Mining Licence 32-2388 following its expiry on 16 July 2017. Rule 5.17.4.1 P1 and Land Use Consent 97/98-105 authorise activities within the Mining Licence and Extended Project areas respectively. In combination they authorise mining, stockplling, conveying, the processing of ore and the disposal of tailings to the existing tailings storage facilities, subject to conditions. While ML 32 2388 expired in July 2017 and Land Use Consent 97/98-105 expires in June 2019, the regime set out in these existing authorizations is continued after their respective expiry dates through the permitted activity rule framework set out in the Proposed District Plan.</li> <li>Resource consents also authorise the underground mines, including Favona, Trio, Correnso and Slevin. Consents were granted in 2003 for the Favona exploration decline and work began on the decline in 2004. The Favona Mine consents were granted in 2004 with the extraction of ore commencing in late 2006. Resource consents for the Trio development were granted in September 2010 and work commenced in December 2013. A resource consents wa</li></ul>

Criteria	JORC Code explanation	Commentary	
			<ul> <li>In addition to the authorisations required by Hauraki District Council, a suite of consents from Waikato Regional Council covers such matters as vegetation removal, water takes, diversions and discharges of water, discharges to air, and construction of the Tailings Storage Facilities. Both Hauraki District Council and Waikato Regional Council have conditions in place relating to mine closure, bonds and the post closure Trust.</li> <li>The Gladstone Resource lies within the Favona Mining Permit on company owned farmland beside the mill and is subject to ongoing studies pursuant to consent applications to mine.</li> </ul>
Exploration done by other parties	Acknowledgment and app exploration by other parties		Waihi Gold Company has held exploration and mining licences and permits over the Open Pit portion of the Martha deposit and the Favona and Trio deposits since the early 1980's. The Waihi East area covering the Correnso deposit and easterly extensions of the Martha system was historically held and explored by Amoco Minerals, Cyprus Minerals and a Coeur Gold-Viking Mining JV from whom Waihi Gold Company purchased the tenement area, EP40428, in 1998. These companies drilled approximately 18km in 60 holes in the Waihi East area by which they identified some remnant resources on the eastern end of the Martha vein system on which they undertook scoping studies.
			Figure 1: Waihi Tenement Map
			395000 395000 4600000 1000000 10000000000000000000

Criteria	JORC Code explanation	Commentary		
Geology	Deposit type, geological semineralisation.	etting and style of	•	The Waihi deposits display geological features that are typical of epithermal gold deposits. This includes:
			•	Host lithologies for veins are andesite flows and volcaniclastics.
			•	Gold-silver mineralisation is hosted in localized bands within multiphase quartz veins. There is an association of sphalerite, galena and chalcopyrite with gold-silver mineralisation throughout the deposit. Parts of the deposit towards the base are base metal rich with galena (up to +3% Pb) and sphalerite (up to +1% Zn);
			•	Host andesitic volcanics have undergone pervasive hydrothermal alteration, often with complete replacement of primary mineralogy. Characteristic alteration assemblages include quartz, albite, adularia, carbonate, pyrite, illite, chlorite, interlayered illite-smectite and chlorite-smectite clays extending over tens of metres laterally from major veins. There is also an association of quartz + interlayered chlorite-smectite (corrensite) + chlorite, producing a distinctive pale green colouration. Mineralization is structurally controlled.
			•	Shallow-level mineralisation on Gladstone Hill is hosted by extensively gold-mineralised hydrothermal breccias and associated banded quartz veins between 1000mRL and 1150mRL. Mineralisation is localised within sub-vertical vein and pipe-like vent breccias, which are rooted in mineralised quartz veins, and which flare upwards into hydrothermal explosion breccias. Major veins at Gladstone appear to trend ENE to NNE between 215° and 260° and dip steeply to NW, and splay upwards into subsidiary vein sets.
Drill hole Information	<ul> <li>A summary of all information understanding of the explosion including a tabulation of the information for all Material easting and northing of elevation or RL (Reduction above sea let the drill hole collar of dip and azimuth of the down hole length and is hole length.</li> <li>If the exclusion of this information in the basis that the information in the basis that the information in the second in the basis that the information in the basis that the information in the second in the second in the information in the basis that the information in the second in the second</li></ul>	pration results the following I drill holes: If the drill hole collar the dread Level — the in metres) of thole the following th	•	No Exploration Results are being presented in this report, rather this report is focused on advanced projects that have well defined geological models and associated resource estimates completed.

Criteria	JORC Code explanation Commentary	
	from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No Exploration Results are being presented in this report, rather this report is focused on advanced projects that have well defined geological models and associated resource estimates completed</li> <li>Compositing of data for grade estimation is within distinct geological boundaries, typically within veins. The grades are compiled using length weighting. Grades are not cut within the database however appropriate statistically derived top-cuts are assigned by domain in the estimation process.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>No Exploration Results are being presented in this report, rather this report is focused on advanced projects that have well defined geological models and associated resource estimates completed</li> <li>Drill intercepts are typically reported in true length where reliable orientation data is available, alternately down hole length are reported when orientation data is not available, holes are designed to intersect veins at more than 60 degrees to the vein as much as practicable.</li> </ul>





Criteria	JORC Code explanation Commentary	
		Figure 5: Geological Cross Section, Gladstone Project
		A Gladstone Hill Geological Cross-Section B
		1160
		1100
		980
		920
		x: 396846     x: 396992     x: 397138     x: 397285       y: 642614     y: 642477     y: 642341     y: 642205
		Legend  Andesite Hydrothermal Breccia Dacite Intercalated Lava/Volcaniclastics Vein Rhyolitic Tuffs  Location Scale: 1:2,600 Vertical exaggeration: 1x Om 100m 100m
Balanced	Where comprehensive reporting of all	No Exploration Results are being presented in this report, rather this report is focused on
reporting	Exploration Results is not practicable, representative reporting of both low and hit grades and/or widths should be practiced avoid misleading reporting of Exploration Results.	advanced projects that have well defined geological models and associated resources estimates completed.
Other substantive	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations;	<ul> <li>Exploration drilling is continuing throughout the Waihi Epithermal Vein camp on MP 41808, EP 51771, EP 60372 and EP 40767.</li> </ul>

Criteria	JORC Code explanation Commentary	
exploration data	geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Current drill programmes are planned to complete ~50km's of diamond drilling for the calendar year 2018.</li> <li>This drilling is comprised of infill on known veins and step out on known veins (95%) and exploration in areas adjacent to known mineralisation (5%). Exploration drilling proposed for 2018 is designed to test extensions of known mineralisation and untested margins of the gravity high associated with the Waihi Deposits where there is potential for the discovery of significant new mineralised vein deposits.</li> </ul>

# **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	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Drill hole data is initially captured in an Access Database used for drillhole planning and management. That data is validated by several inbuilt data-entry checks.</li> <li>The data is imported from Access into the main AcQuire database interface which includes validation protocols.</li> <li>Personnel are well trained and routinely check source versus input data during the entry process.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Peter Church has been employed at the operating mine since 2011. He is employed in the role of Principal Resource Geologist with responsibility for resource estimation.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>Open pit and underground mining since 1988 has provided a large database of mapping and grade control sampling, which has confirmed the geological interpretation to date.</li> <li>The geologic interpretation utilises log data, assay data, underground face and backs mapping – where available, digital core photos and oriented core measurements, all of which are systematically collected and validated. The dip and dip direction of significant veins, faults, bedding and geological contacts are estimated from oriented core measurements and imported into an ISIS geotechnical database in Vulcan®. A 3-D display of the orientation data is then created in Vulcan® and used to guide the geological interpretation. Vein intercept points are snapped to drill holes in Vulcan® and additional control points are added, as required, to inform the geological interpretation. The point data sets are then exported to Leapfrog™, where vein and fault contact iso-surfaces - and solids - are created. The solids are then imported back to Vulcan®, where they are validated against drilling and known geological features and undergo final processing; this involves booleaning (truncating) against / merging with adjacent features – where applicable – and checking for consistency. Gold mineralisation is confined to quartz veins and is not disseminated in wall rock; therefore, the main vein boundaries are usually coincident with assay intervals, which attempt to honour the geology. There are a small number of instances where high grade assay results located immediately outside the main vein boundary have been included within the vein wireframe; such as where the grade is interpreted as</li> </ul>

JORC Code explanation	Commentary
	belonging to small-scale, localized, parallel or sub-parallel veins / stringers rather than being attributed to contamination or a cross-cutting structure.
	<ul> <li>The digital core photographic record is used extensively during the modelling process. Identifiable characteristics of veins can be recognised, such as mineralogical and textural characteristics, the nature of contacts, and the existence and relative timing of mineral phases within the vein zones. The mineralized veins have a distinctive appearance, and common textures and mineralogy - consisting of chlorite-smectite clays and base-metal sulphides, along with quartz, and which are commonly complex due to internal multi-phase syn- and post-mineralisation deformation - quite different to barren veins such as the 5995 (calcite-quartz lode). Another reference used to guide the geological interpretation is the mapped geometry of veins that have been mined previously, Waihi veins are characterised by sinuous deflections that tend to be continuous over a considerable vertical extent. Where the orientation data varies along the length of a given vein, or down dip, it is considered in context of the overall geometry of the deflections.</li> <li>Geological models are integrated with regional geology and with detailed surface topographic models, which are routinely updated by mine surveyors. Geological models and geological concepts have been routinely reviewed by internal and external reviewers.</li> </ul>
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.	<ul> <li>The Correnso Model was split into the Upper, Main, and Deeps – block definition is as follows:         corr_res_20161031_Upper.bdf</li> <li>Parent cell size 1.0m X, 5.0m Y, and 5.0m Z</li> <li>Sub block size 0.5m X, 1.0m Y, and 1.0m Z</li> <li>Offset in X direction 150m</li> <li>Offset in Y direction 500m</li> <li>Offset in Z direction 100m</li> <li>Origin: X 396500; Y 642900; Z 900</li> <li>Rotation: Bearing 080; Plunge 0; Dip 0</li> </ul>
	corr_res_20161031_Main.bdf
	<ul> <li>Parent cell size 2.0m X, 10.0m Y, and 10.0m Z</li> <li>Sub block size 0.5m X, 2.0m Y, and 2.0m Z</li> </ul>
	Offset in X direction 350m
	Offset in Y direction 950m
	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

Criteria	JORC Code explanation	Commentary
		Offset in Z direction 200m
		Origin: X 396400; Y 642700; Z 750
		Rotation: Bearing 085; Plunge 0; Dip 0
		• corr_res_20170803_Deeps_2MD.bdf
		Parent cell size 2.0m X, 10.0m Y, and 10.0m Z
		Sub block size 1.0m X, 2.5m Y, and 2.5m Z
		Offset in X direction 300m
		Offset in Y direction 900m
		Offset in Z direction 320m
		Origin: X 396450; Y 642750; Z 500
		Rotation: Bearing 085; Plunge 0; Dip 0
		Block definition for the Daybreak Model is as follows:
		DB_20171204.bdf
		Parent cell size 5.0m X, 2.0m Y, and 5.0m Z
		Sub block size 1.0m X, 0.5m Y, and 1.0m Z
		Offset in X direction 550m
		Offset in Y direction 300m
		Offset in Z direction 300m
		Origin: X 396100; Y 642900; Z 720
		Rotation: Bearing 070; Plunge 0; Dip 0
		Block definition for the Empire / Christina Model is as follows:
		• gem_20171215_res.bdf
		Parent cell size 5.0m X, 2.5m Y, and 5.0m Z

Criteria	JORC Code explanation	Commentary
		Sub block size 1.0m X, 0.5m Y, and 1.0m Z
		Offset in X direction 800m
		Offset in Y direction 550m
		Offset in Z direction 300m
		Origin: X 396250; Y 642950; Z 640
		Rotation: Bearing 040; Plunge 0; Dip 0
		Martha Underground- r1116_martha_ph5_UG.bdf; The block model was constructed in mine grid.
		Parent cell size 5.0m X, 5.0m Y, and 5m Z
		Offset in X direction 1600m
		Offset in Y direction 900m
		Offset in Z direction 700m
		Origin: X 1000; Y 1000; Z 850
		Rotation: Bearing 090; Plunge 0; Dip 0
		Block definition for the Gladstone deposit     r0218_GLOP_small_reg.bdf
		Regularised block model – cell size. 2.5 m
		Offset in X direction 400m
		Offset in Y direction 800m
		Offset in Z direction 300m
		Origin: X 396600: Y 642200: Z 900.0
		Rotation: Bearing 135; Plunge 0; Dip 0
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied	<ul> <li>Vulcan® software version 10.0.2 has been used to construct the Correnso, Daybreak, and Grace/Empire models. The estimation techniques discussed below are considered to be appropriate.</li> </ul>
Communica	and key assumptions, including treatment of extreme grade values, domaining,	<ul> <li>MineSight® software version 9.10-01 is used to construct the Martha model. The estimation technique discussed is considered to be appropriate.</li> </ul>

Criteria	JORC Code explanation	Commentary
Criteria	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 byproducts.  • Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).  • In the case of block model interpolation, the block size in relation to the average sample	Grade Capping  Historically top cuts for Waihi veins have been selected from inflections in the data above the 98th percentile — particularly in the log probability. The use of this method in determining top cuts has resulted in good reconciliation historically. On this basis, the top cut limit was selected from the cumulative probability plot for each domain and data type. Typically, different data types are assessed independently in the capping analysis process  The metal removed analysis includes abulation of the following:  Number of samples above the cap Percentage of samples above the cap Minimum, maximum, mean, and variance of samples above the cap Mean and variance of uncapped data Mean and variance of capped data Capped % difference:  (uncapped mean — capped mean) uncapped mean Contribution of the samples above the cap to the uncapped variance:  (mean above the cap — uncapped mean) Contribution of the samples above the cap to the total metal:  (% of data above the cap) × mean of data above cap uncapped mean  Increased drilling density in the Eastern Layback resource between May 2014 and April 2015 allowed for increased geological domain resolution and a review of top cut strategy. This was undertaken using a
	<ul> <li>relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	increased geological domain resolution and a review of top cut strategy. This was undertaken using a disintegration approach, whereby log-scale probability plots are used to determine the grade at which sample support for a high-grade tail diminishes. Open pit production records, reconciliation data and grade control modelling were used for estimation validation, as well as comparisons to previous resource models and their retrospective performance.
	<ul> <li>Any assumptions about correlation between variables.</li> </ul>	Grade capping for underground domains is applied on a domain by domain basis, based on site experience and analysis of previous reconciliation data.
	Description of how the geological interpretation was	Variography
	used to control the resource estimates.  • Discussion of basis for using or	Down hole and directional variography are typically run using Snowden Supervisor v7 software. Variograms are run to test spatial continuity within the selected geological domains. Variograms are modelled for defined

Criteria	JORC Code explanation	Commentary
	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.	veins, Due to the planar nature of the vein data, variogram models often are not easily obtained so in this instance anisotropic ratios are based on geological observation rather than on fitting data to the variogram models. Dominant mineral continuity is set along the strike of the modelled veins. While Ordinary Kriged estimates have been run for comparison, the estimates selected as final have used standard Inverse Distance methodology (either ID2 or ID3).  Estimation / Interpolation Methods  Sub-blocking with inverse distance weighting to the second power (ID2) or third power (ID3) methods are used for all underground models. With the data density which exists in Correnso, Daybreak, the Empire —
		Christina system, and surrounds - ordinary kriging, and tetra-unfolding using ID2 or ID3 estimates both achieve comparable results. The method of unfolding was adopted for the Correnso, Daybreak, and Empire-Christina models as a way of dealing with the sinuous character of the veins.
		The Martha Open Pit model is run using MineSight® software and is a non-sub-blocked model. Estimation is completed using either ordinary kriging (OK) or inverse distance weighting to the second or third power (ID2/ID3), as deemed suitable by the density of data in each domain.
		The underground block models are rotated in bearing to align with the dominant strike of the veins and they are run using Vulcan® software. Sub-blocking is used to define narrow veins and to maintain volume integrity with the geology solids. The grade estimation for all models is strictly controlled by the geology, with both sample selection and estimation of blocks limited to domains defined by the geological interpretation solids. Gold is estimated using one of the following methods; either - a single pass with a combined channel and drilling dataset; OR - two-pass estimation using a combined dataset with short search range first, then followed by a second pass using drillhole data only with longer search ranges to estimate blocks not estimated in the first pass.
		<ul> <li>Gladstone grade estimation is undertaken using similar methodology as that used for Correnso with the exception being the use of regularised blocks. Gladstone deposits veins are interpreted using Leapfrog software. Vein and geology wireframes are then utilised to construct a block model within Vulcan. Drilling data is then length composited within the vein wireframes and lithological units and grade estimates are prepared utilising unfolding and ordinary kriging. Nearest neighbour and Id2 estimates are also prepared for validation and assessment. The grade estimation is strictly controlled by the geology, with both sample selection and estimation of blocks limited to domains defined by the geological interpretation solids. Gold is estimated using data;</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the	Estimates of tonnage are prepared on a dry basis.

Criteria	JORC Code explanation	Commentary				
	moisture content.					
Cut-off parameters	The basis of the adopted cut- off grade(s) or quality parameters applied.	<ul> <li>Underground mining cut-offs were based on a gold price NZ\$1806, mining costs of NZ\$90 / ore tonne and processing costs of NZ\$68 / tonne.</li> <li>A variable cut-off grade was selected in the Gladstone mining area due to poorer ground conditions and lower mill recovery. Cut off grades vary for Gladstone from 0.58 to 1.12 g/t Au</li> <li>Cut-off grades applied to the underground mine are shown in the table below:</li> <li>Table 1: Underground Cut-offs Used</li> </ul>				
		Area Stoping Ore Development				
		Correnso, Daybreak, Empire, Correnso Deeps, Trio Deeps, Christina.  2.9g/t 3.1g/t				

Criteria JORC Code explanation C	Commentary
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	There are no Inferred Resources in the Martha Open Pit. The majority of the Inferred Resource lies within the Martha Underground Project.

Criteria	JORC Code explanation	Commentary
		<ul> <li>Two aquifers are interpreted across the site, an upper aquifer within the surficial materials and young volcanics, and a lower aquifer within the andesite with the two aquifers partially separated by the lower permeability, weathered and hydrothermally altered cap at the top of the andesite sequence.</li> </ul>
		The model at Gladstone comprises:
		<ul> <li>An upper perched groundwater system within the surficial materials of moderate to low hydraulic conductivity, with pore pressures below hydrostatic and a standing water level at ~1096mRL with seasonal fluctuation;</li> </ul>
		<ul> <li>A lower groundwater system in the Andesite with a standing water level of approximately ~1075mRL.</li> </ul>
		Geotechnical
		<ul> <li>Geotechnical studies were completed by various external consultants (SRK, Engineering Geology Ltd, Laurie Richards and Beck Engineering) during the Waihi Correnso study which included the Correnso Extensions.</li> </ul>
		<ul> <li>The extensions of the Correnso vein above 915mRL are for the most part hosted within the Lower Andesite unit with the upper extents of the mineralization persisting through the transition to the upper andesite. Host rock conditions are mostly favourable although the rock mass appears to become slightly less competent than at greater depth. Visual estimates suggest Fair to Good classifications.</li> </ul>
		<ul> <li>Lower Correnso ground conditions appear to be simply an extension to those already exposed by developments along the Correnso Vein on 795 and 810 levels. The ore zone as exposed on 795 and 810 is heavily structured and sugary quartz /calcite veins could create zones of weakness but overall ground conditions are classed as Good.</li> </ul>
		<ul> <li>Overall both the host rock and ore zone of the Daybreak vein appears relatively competent. Daybreak is now intersected on most levels with no apparent adverse impact on ground conditions and no additional ground support was necessary.</li> </ul>
		The Empire host rock characteristics in the immediate vicinity of the ore-bodies are mostly favourable. Ore body conditions are variable. A zone of broken veining occurs at the northern end of the ore-body which may restrict stope spans to 15m.
		<ul> <li>Ground conditions within the Martha Underground Project will be impacted due to proximity to historic mining voids. Mechanisms for mitigating the associated risks will be considered as part of the project scoping study to be undertaken in the coming year</li> </ul>
		<ul> <li>Ground conditions in the Gladstone underground area are generally poor, the higher ground support costs have been accounted for through the higher mining cut-off.</li> </ul>
		Geotechnical studies during 2017 including geotechnical drilling, rock / soil testing and detailed core logging

Criteria	JORC Code explanation	Commentary				
		showed that the slopes in the Winner Hill pit and the northern slopes in Gladstone Hill were generally satisfactory under fully saturated or partially drained conditions. However, the southern and eastern upper slopes were shown to be unstable under fully or partially saturated conditions particularly where there was a significant depth of the surficial deposits.  • The geological model shows the north-western wall will comprise andesite, overlain by a thin band of hydrothermal breccia and a relatively thin sheet of rhyolitic tuff/gnimbrite thickening to the south. The southeastern wall has a thicker band of rhyolitic tuff/gnimbrite and hydrothermal breccia overlying andesite; and the east wall has the greatest thicknesses of dacite and volcaniclastics.  Mining Recovery and Dilution  • The mining recovery factors applied for Correnso Extensions underground are summarized in the table below. Over-break is included in the capital and operating lateral waste development dimensions so that no additional over-break is assigned. No over-break is assumed for operating lateral ore development as the over-break tonnes are generally or which are included in the stope tonnes. Saming zero over-break in the ore drives removes the risk of either double counting or under calling ore tonnes and metal.  • Stopes are designed with nominally 0.5m dilution applied on both the footwall and the hanging wall. This is based on experience gained when stoping Correnso, Trio, and Favona orebodies.  • Tonnage recovery factors shown in the table following for stoping include in-situ ore, plus dilution material. Metal recovery factors take into account the difficulties associated with recovering all ore from a stope, particularly under remote control operations. Additionally, it allows for the potential loss of metal due to excess dilution burying ore and not recovering all the ore.   **Table 2: Tonnage Recovery Factors**    Activity				
		hydrothermal breccia and a relatively thin sheet of rhyolitic tuff/ignimbrite thickening to the south. The south- eastern wall has a thicker band of rhyolitic tuff/ignimbrite and hydrothermal breccia overlying andesite; and the				
		Mining Recovery and Dilution				
		Over-break is included in the capital and operating lateral w additional over-break is assigned. No over-break is assume over-break tonnes are generally ore which are included in the ore drives removes the risk of either double counting or und.  Stopes are designed with nominally 0.5m dilution applied or based on experience gained when stoping Correnso, Trio, at Tonnage recovery factors shown in the table following for st Metal recovery factors take into account the difficulties associated in the capital and operating lateral was assigned.	ste development din for operating lateral e stope tonnes. Assu- r calling ore tonnes a both the footwall and d Favona orebodies ping include in-situ d ated with recovering	nensions so that no ore development as iming zero over-brea and metal. If the hanging wall. To so. ore, plus dilution man gall ore from a stope	s the ak in the This is terial. e,	
		Table 2: Tonnage Reco	ery Factors			
		Activity Tonnage Metal				
		Lateral Development — Capital Waste	100%	-		
		Lateral Development — Operating Waste	100%	-		
		Lateral Development — Operating Ore	100%	100%		
		Vertical Development — Capital Waste	100%	-		
		15m high Long Hole Stope (includes 5% fill dilution at zero grade) 110% 95%				
		Underground ore is trucked to the ROM Pad and underground	d waste will be dired	tly hauled to stope f	fill or to	

Criteria	JORC Code explanation	Commentary
		the surface waste dump as required and subsequently returned to the underground as backfill.
		Martha underground resource is reported on an in-situ basis at a cut-off grade of 3.5 g/t. Scoping level mining studies have been completed on the Martha Underground Project and further drilling and mining studies will be undertaken in 2017.
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	<ul> <li>Laboratory scale test work has been conducted on drill hole samples obtained between 2010 and 2012 for the Correnso upper and lower extensions and Empire. No test work has been conducted on Daybreak drill hole samples but the mineralogy is expected to be similar. The key focus of the metallurgical work has been to derive gold recovery, throughput rates, reagent consumption and to confirm the suitability of current Plant configuration. This test work has shown the Correnso Extensions ores to be amenable for processing via the existing Waihi gold treatment plant flow-sheet.</li> <li>A grind size P<sub>80</sub> of 53 microns has been selected for the estimated throughput rates, as plant operating experience has shown that an equivalent laboratory gold recovery at a P<sub>80</sub> of 38 microns is achieved. This relationship is due to the laboratory grind test work being in open circuit, whereas in the plant the grinding circuit is in closed circuit. This results in the higher density sulphides being preferentially ground finer and hence liberating more gold particles that are disseminated within the sulphides.</li> <li>It is determined that a grind size P<sub>80</sub> of 53 microns is the optimum that maximizes value for the Correnso Extensions resource.</li> <li>Recovery is estimated from test work. Recovery is calculated based on the arsenic relationship with gold grade. Recovery at 88tph throughput is estimated at:</li> </ul>

Criteria	JORC Code explanation	Commentary
	assumptions made.	Recovery % = [Au Head grade – (0.09*Au Head grade + 0.25+0.02)] / Au Head grade * 100%.
		This relationship predicts an average recovery for the Correnso Extensions of 87.4% based on the average project head grade of 7.47g/t Au.
		Both gold and arsenic have been identified as the statistically significant predictors for estimating residue grade for the Correnso Extensions resource.
		<ul> <li>Laboratory scale test work has been conducted on the drill hole samples obtained for the Gladstone Resource. The key focus of the metallurgical work has been to derive gold recovery, throughput rates, reagent consumption and to confirm the suitability of current Plant configuration. This test work has shown the Gladstone ore to be amenable for processing via the existing Waihi gold treatment plant flow-sheet. Recovery is shown to vary with the weathering extent of the Gladstone resource.</li> </ul>
		The weathered domain achieves higher recoveries than the primary un-weathered domain. Separate recovery relationships have been determined for the weathered and un-weathered domains. A small separate metallurgical domain characterised by the hydrothermal breccia host rock was also identified.
		• A grind size of P <sub>80</sub> of 90 microns, as plant operating experience has shown that an equivalent laboratory gold recovery at a P <sub>80</sub> of 75 microns. The gold and arsenic relationship identified in the Correnso Extensions resource is not observed in the Gladstone Resource. The statistically significant drivers of recovery within the Gladstone resource are weathering and gold head grade.
		The recovery estimate from the test work is calculated at a P <sub>80</sub> of 75 microns
		<ul> <li>Weathered: Recovery % = 100 * (0.902 – (0.049 / Head Grade Au))</li> </ul>
		<ul> <li>Un-weathered: Recovery % = 100 * (0.85 – (0.452 / Head Grade Au))</li> </ul>
		<ul> <li>Hydrothermal Breccia: Recovery % = 74%</li> </ul>
		This relationship predicts an average recovery for the Gladstone Resource of 77.8% based on the average projects head grade of 1.99 g/t Au
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	<ul> <li>The Waihi Gold operation holds the necessary permits, consents, certificates, licences and agreements required to conduct its current operations, and to construct and operate the Correnso Extensions underground mine and the Slevin extensions.</li> <li>Environmental studies conducted by independent consultants as part of the Correnso underground project included the Correnso Extensions project. The environment effects based reports are all independently reviewed by consultants employed by the Council regulators.</li> </ul>

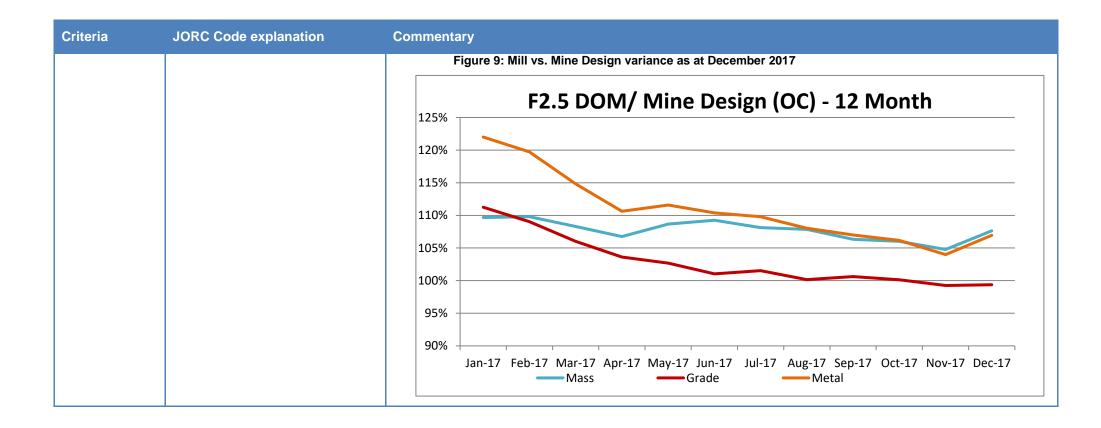
Criteria	JORC Code explanation	Commentary
	environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>Studies have included air quality, water quality and ecology, noise, blast vibration effects, traffic, potential for subsidence, ground settlement in response to dewatering, property values, de-watering, and geochemistry of tailings, waste and groundwater.</li> <li>All waste produced from the underground mine is classified as potentially acid forming (PAF) and is returned underground as stope backfill. The Correnso consent requires material to be classified according to acid forming potential, and PAF material requires lime dosing.</li> <li>Vibration modelling has been completed for the Correnso Extensions by John Heilig and Partners. Modelling of the likely scale of blasting has been based upon vibration relationships developed from the underground blasting at Waihi over the last six years. Vibration modelling shows that the Correnso Extensions project and Slevin extensions can comply with the consent conditions.</li> <li>Gladstone project environmental studies have commenced, environmental factors are assumed to be in line with those previously experienced on site</li> </ul>
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Oxidation and rock hardness wireframe surfaces / solids based on sectional interpretation of diamond drilling data, with modification based on the current geology model, are used as the basis for assigning density within the Martha Open Pit.</li> <li>Dry bulk densities for all deposits have been estimated using a water displacement method modified from NZS 4402: 1986, which is considered appropriate for competent half-core (Lipton, 2001). The method involves weighing the sample before and after a series of steps, which include oven-drying a drill core sample, filling surface pores with modelling clay, coating the entire sample with wax and immersing it in water. Ore intercepts were relogged and assigned to several identified geological classes based on the physical properties that are considered most likely to affect density, including porosity, clay content, oxidation, sulphide content, vein percent and vein texture. Analysis of the data shows a relatively uniform range of density values within each geological class. Porosity, clay content and oxidation contribute to lower density values, while sulphide content contributes to higher density values. Dry bulk densities were determined for 247 samples of Correnso drill core, including representative vein and wall rock material from mineralized intercepts over a downhole depth range of 182.2m to 519.35m, corresponding to approximately 1000mRL to 750mRL. Geological classes were identified based on logged physical characteristics and each main geological class is represented by SG measurements from at least 30 drill core samples. An overall mean value of 2.52g/cm³ was obtained for all 247 density values. There is a slight increase in density with depth which corresponds to increasing base metal sulphide content. There is no relationship between the density and the Au grade. The higher SG value obtained for Correnso (2.52g/cm³) over Edward and Martha ore (2.44-2.47g/cm³) is attributed to higher sulphide content in Correnso. The default density used f</li></ul>

Criteria	JORC Code explanation	Commentary					
Audits or reviews	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. 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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	The resource classification is based on drill hole spacing; ranges for classification in the vein style mineralisation are greater than the ranges chosen for the stockwork style domains. Classification is based on the requirement for the average distance to the closest three holes to be within specific ranges determined from drill spacing studies.					
		Resource Classification	Vein Zones Average distance to 3 holes	Stockwork Average distance to 3 holes	Stope backfill	2 <sup>nd</sup> estimation pass stockwork domain	
		Measured	0 to 10 m				
		Indicated	10 to 30 m	0 to 22.5 m			
		Inferred	30 to 60 m	22.5 to 45 m	All material		
		Mineral inventory I	>60m	>45 m			
		Mineral inventory II				All material	
		Table Two drill spacing studie spacing of 30m for India The resource estimate deposit.  The models are regular resource estimation pra	cated for the Correnso outlined in this docume	nulation were compledeposit.  ent appropriately ref	eted during 2014 lects the Compe	which validated that the standard tent Person's view	of the

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	Swath plots by elevation, northing and / or easting are constructed for each of the veins. A Nearest Neighbour estimate is compared to the Inverse Distance estimate and Ordinary Kriging estimate (where it was used). Examples of the comparisons undertaken are included as Figure 6 (Martha) and Figure 7 (Correnso).  Figure 6: Example swath plot Easting Domain 1100 Martha Model.  Dirift Analysis X    11.0000

Criteria	JORC Code explanation	Commentary
		Reconciliation of actual production to the Martha Mineral Resource model since the commencement of operations indicates that the estimate is representative of the deposit. Comparison of model estimates against the significant known production history of the Martha Pit is used as a calibration check during the reserve estimation process.  The Ore Reserve estimate has been updated to reflect the issuance of recent block modelling, built to include current-state drill sampling density, corresponding refinement of the geological model, and depletion.  Model performance is formally reviewed monthly. Investigation of variance between Ore control vs. Resource model (F1), Received at mill vs. Claimed delivered to mill (F2) and Mill vs. Resource (F3) is undertaken at monthly, 3 month rolling and 12 month rolling resolutions. Mitigating actions are identified to minimise sources of variance where practicable.  Figure 8 shows 12-month and 3-month reconciliation between the mill and the ore resource model which indicates that over 12 months, ore tonnes were 12% higher, with grade 3% lower and ounces 7% higher than prediction.  Resource data in the F3 comparison includes the indicated and inferred resource declared, and shows a

Criteria	JORC Code explanation	Commentary
	small amount of material was mined in the Empire that was not included in the December 2 model. The resource component of the F3 factor is calculated by evaluating the portion of matches the reconciled stopes mining during a given month. There is a slight variation on this is compared with the total tonnes through the mill during the month including reconciled stopes.  Figure 8: Mill vs. 2016 Resource Model variance as at December 2017  F3: (Mill/Res) 3 mth and 12 mth rolling variance	small amount of material was mined in the Empire that was not included in the December 2016 resource model. The resource component of the F3 factor is calculated by evaluating the portion of resource that matches the reconciled stopes mining during a given month. There is a slight variation on a monthly basis as this is compared with the total tonnes through the mill during the month including reconciled and un-reconciled stopes.
		125% 120% 115% 110% 105% 100% 95% 90%
		Jan-17 Feb-17 Mar-17 Apr-17 May-17 Jun-17 Jul-17 Aug-17 Sep-17 Oct-17 Nov-17 Dec-17 ————————————————————————————————————



## **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	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Mineral Resource estimate used as a basis for conversion to an Ore Reserves is described in Section 3 of Table 1.</li> <li>Mineral Resources are reported inclusive of the Ore Reserves.</li> </ul>
	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person for Underground Ore Reserves is David Townsend who has been employed at Waihi from 2006. He has been involved in the design and development of the underground mine since 2006 and oversees all technical aspects of the underground mine.</li> <li>The Competent Person for Open Pit Ore Reserves is Trevor Maton who has been employed at Waihi from 2003 and has been involved in the design and development of the open pit mine since 2003.</li> </ul>
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>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.</li> </ul>	<ul> <li>Open pit mining and ore processing at Waihi has been in continuous operation since 1988. A localised failure of the north wall that undercut the main access ramp suspended open pit mining operations in April 2015. A 1 million tonne failure of the north wall occurred in April 2016 and a mining study is nearing completion to identify methods to recover the remaining Ore Reserve, but still requires further geotechnical analysis.</li> <li>Underground mining and ore processing at Waihi has been in continuous operation since 2004.</li> <li>The study work undertaken for Correnso Extensions and underground mine meets Feasibility Study level standard. Mining studies have been conducted for mine design, mine planning, ventilation, cut-off grade, detailed cost estimation and economic evaluation. The site has had a 12year operating experience with mineral resource reconciliation and metallurgical recovery performance of the underground resources. Actual costs for underground mining, ore processing, G&amp;A and selling costs are known.</li> <li>A mine plan has been developed which is technically achievable and economically viable. All Modifying Factors have been considered.</li> <li>Consents are in place for all underground mining covered by this report and all planned mining methods are in accordance with the license, permit and consent conditions, principally related to placement of backfill, blast vibration limits, method of working and hydrogeological controls.</li> </ul>

Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Cut –off grade is based on Ore Reserve metal prices of NZ\$1,806 per ounce. A silver price of NZ\$18 per ounce for silver is applied as a by-product credit to the operating costs.
		<ul> <li>Inputs to the calculation of cut-off grades for Waihi open pit and underground include mining costs, metallurgical recoveries, treatment and refining costs, general and administrative costs, royalties and metal prices.</li> </ul>
		Martha Open Pit
		The cut-off grade used to determine Ore Reserves for the Open Pit is 0.5 g/t Au.
		Correnso Underground
		The following cut-off grades have been used to determine the Underground Ore Reserve:
		<ul> <li>Ore development and stoping beyond designed limits 3.2g/t Au,</li> </ul>
		<ul> <li>Ore development beyond stope limits 3.1g/t Au,</li> </ul>
		<ul> <li>Incremental stopes (ore development in place) 2.9g/t Au,</li> </ul>
		Incremental ore development 2.8g/t Au.
		The cut-off grades are determined from a mining cost of NZ\$90/ore tonne and processing cost of NZ\$68/ore tonne (which include all general and administrative charges).
Mining factors or	The method and assumptions used as  The method in the Bra Face it illine as Fac	Martha Open Pit
assumptions	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	The method for conversion of Mineral Resource to Ore Reserve involved a 2010 pit optimisation study using the "Whittle" Lerch-Grossman algorithm to determine the economic limits of the Ore Reserve. Mining of this layback commenced in 2010.
	<ul> <li>preliminary or detailed design).</li> <li>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.</li> </ul>	<ul> <li>A localised failure of the north wall occurred in April 2015 which undercut the main access ramp.         Operations were suspended in April 2015 and the open pit mining contract terminated in June         2015. A 1 million tonne failure of this wall occurred during April 2016 and studies are nearing         completion to regain access to the bottom of the pit.</li> </ul>
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-	The Martha open pit utilises conventional drill, blast, load and haul with standard mid-sized mining equipment. A mining contractor was employed for open pit operations under a schedule of rates, which was in place from May 2014 until its termination in June 2015.
	<ul> <li>production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope</li> </ul>	The selected mining method and design is appropriate for the Martha open pit. The open pit pre-strip has been completed and access for materials handling has been operating effectively

Criteria	JORC Code explanation	Commentary
	<ul> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their</li> </ul>	<ul> <li>since 2010.</li> <li>The open pit mining process at Martha is determined largely by the land use consents granted to the Company. Waste and ore is categorised into hard and soft material. Waste is further categorised into potentially acid forming or non-acid forming rock. Ore sampling is conducted inpit by RC drilling. Ore blocks are blocked out based on this sampling and consider the capacities of the equipment to selectively mine these blocks.</li> <li>Soft material is ripped by D9 dozer whereas all hard material is blasted. Strict controls on blast</li> </ul>
	The infrastructure requirements of the selected mining methods.	vibration determine the blast hole spacing and the maximum allowable charge weight per delay. Generally, ore is blasted in 5metre vertical intervals (two flitches), but blast vibration limitations may require blast holes to be drilled at 2.5metre vertical intervals. Electronic detonators are used in all holes to ensure detonation of charges occur as per the design sequence. The Company monitors each blast for vibration conformance at a number of monitoring stations in the surrounding community.
		<ul> <li>All ore and waste is loaded via 190 tonne backhoe excavators into 85 tonne rear dump trucks and trucked via a 1 in 10 ramp and generally direct tipped to a jaw crusher or Stamler breaker station. Small quantities of ore and waste are stockpiled close to the jaw crusher.</li> </ul>
		The presence of historic workings in the open pit requires probe drilling to identify voids or weak pillars which create both a safety hazard and an operating constraint. Underground voids are either bunded off or marked with hazard tape. Excavators and trucks must operate around the void working in towards the void. This process can at times influence the bench extraction sequence.
		All ore and waste is crushed. Ore is conveyed 1.5 km to the process plant and placed in a 40,000t stockpile. A surge (Polishing Pond) stockpile (up to 1.2MT) is available close to the water treatment plant for excess ore. Waste is directed to the Waste Development site and used for construction of the Tailings Dams or for underground backfill.
		The minimum mining width has been set at 3 metres wide, determined by the observed width of many of the small narrow veins that are being mined. Equipment has been sized to suit these design parameters. The selective mining unit developed for the geological block model is a bench height of 2.5metres, and east west dimension of 3metres and north south dimension of 10metres reflecting the drill spacing and the main trend of the mineralised veins in an east westerly direction.
		A detailed geotechnical study was completed for Waihi Gold by PSM in 2010 based on geotechnical drilling, structural pit mapping and geotechnical modelling. Geotechnical domains were re-defined based on the recent analysis. The design criteria used to support calculation of Ore Reserves are reported in the table below.

Criteria	JORC Code explanation	Commentary									
			т	able 4: S	lope Desig	gn Criteria	to Suppor	t Calcula	ntion of	Ore Reserv	es
							PIT WALL	DIP DIRI	ECTION		
			SEC	TOR	SOUT TOWAR	HEAST RDS 330°	EAST TO	OWARDS	270°	NORTH TOWARI	EAST OS 195°
			Be	nch	Face Slope	Inter- Ramp	Face Slope	Inter-	Ramp	Face Slope	Inter- Ramp
				>1135						30°	
			1135	1120	30°					35°	
			1120	1104	30°		37°			40°	30°
			1104	1090	30°	3	37°		30°	37°	
			1090	1070	37°		37°			40°	
			1070	1050	45°	35°	37°	37°		55°	
			1050	1030	45°		37°			60°	
			1030	1010	45°		37°			65°	44°
			1010	990	45°					65°	
			990	970	55°					65°	
			970	950	55°					65°	
			950	930	55	47°				70°	<b>E</b> 00
			930	910	60°					70°	50°
			910	890	60°					70°	
		work	ings, par	rticularly o	on the sou	th and eas	t walls of the	ne pit.  C	aving ir	nitiated duri	historic mine ng historic pit slope limits.

Criteria	JORC Code explanation	Commentary
		There has been ongoing large-scale block movement over the last seventy years and this large- scale block movement will continue into the caved zones in the future beyond the life of the open pit.
		<ul> <li>Geotechnical monitoring has continued following the localised failure of the north wall that undercut the main access ramp and suspended operations in April 2015.</li> </ul>
		Figure 10: Open Pit Ore Reserve Limits and Stability Cutback
		Proposed Remedial Cut to North Wall  Remaining Old Reserve
		<ul> <li>Reverse Circulation grade control drilling has been used since 2006 and is drilled to an approximate 10m x 5m pattern with 1.5m down hole sample lengths. Drill holes are inclined to the north.</li> </ul>
		The ore zones are broad on each mining bench, and the overall dilution edge effects are minimal, with the result that there is little difference between the overall in situ and diluted tonnes and grade. The Mineral Resource block model has a block dimension which is larger than the optimum selective mining unit (SMU) for the equipment currently operating at Waihi Gold. When estimating open pit Ore Reserves there is no requirement for additional mining dilution subsequent to the geological modelling stage. Waihi Gold will continue to monitor dilution

Criteria	JORC Code explanation	Commentary
		<ul> <li>assumptions during on-going operations.</li> <li>No mining losses were applied. It is considered that the resource estimation technique applied to the broad ore zones provides an adequate estimate of the run of mine (ROM) tonnes and grades. Reconciliation data from mining the Martha open pit supports this approach.</li> <li>There are no Inferred Mineral Resources included in the open pit economic evaluation. The studies have demonstrated that the open pit operation is technically and economically viable without the inclusion of inferred Mineral Resources.</li> <li>All fixed infrastructure required for the chosen mining method to extract the open pit Ore Reserve is in place.</li> </ul>
		Waihi Underground  Mining Methods  Mining options available for Correnso are limited because of the consent conditions which include blasting and backfill constraints. Modified Avoca longhole bench mining with waste rock backfill was selected as the preferred mining method for extraction of Correnso. Other supplementary methods involve floor benching and overhand cut and fill.  Access to the Waihi underground is via a decline from previously mined areas, and serves as a fresh air intake. A single primary exhaust rise and escapeway, which also serves as a fresh air intake, has been raise bored to surface and equipped. The portal is located close to the processing plant.

Criteria	JORC Code explanation	Commentary
		Figure 11: Oblique of Underground Ore Reserve. Note that the image below does not show the final design, but is indicative of the overall design. Light blue level development and grey stopes have been mined prior to 31 December 2017.
		All mining areas have been designed with either a 15m or 18m level spacing, floor to floor, except for the Correnso and Daybreak Upper levels. This is primarily to limit blast vibration but this also assists hanging wall and footwall stability. This is in line with the level spacing used at the now completed Trio underground mine, and similar to that employed at also completed Favona underground. The mine layout for the current underground workings can be summarized as follows:
		<ul> <li>Primary accesses via the existing development that was used for the Favona, and Trio mines.</li> </ul>
		<ul> <li>Exhaust ventilation from the development levels travels to a dedicated return</li> </ul>

Criteria	JORC Code explanation	Commentary
		air raise adjacent to the spiral decline.
		<ul> <li>Ore and level Development at level spacing discussed above</li> </ul>
		<ul> <li>Ore passes and waste passes to all levels throughout Correnso, all other areas have independent stockpiles.</li> </ul>
		<ul> <li>The permitted mining method requires all stopes and selected development to be backfilled.</li> <li>Mine waste supplemented with waste rock from the surface Waste Rock Embankment is planned to be used.</li> </ul>
		<ul> <li>In their review of backfill for the Correnso project consulting group Mining One concluded that the proposed loose rock backfill option for the Correnso underground project provides the most economical backfill solution, whilst limiting the potential for stope collapse and surface subsidence.</li> </ul>
		<u>Hydrogeology</u>
		<ul> <li>GWS Limited Consulting (GWS) have modelled the groundwater system in Waihi since the late 1980's. Regular monitoring is compared to the modelled predictions and is discussed in the annual settlement and dewatering monitoring report submitted to the Regulators.</li> </ul>
		<ul> <li>GWS report that a shallow groundwater system associated with volcanic ash, alluvium and completely weathered rhyolite tephra is present at shallow depth. Monitoring data shows that it is unaffected by mine dewatering except immediately adjacent to the Martha Pit. Shallow groundwater levels are controlled principally by rainfall infiltration, low surface soil permeability and natural and assisted drainage to surface water systems.</li> </ul>
		<ul> <li>GWS report that the higher volumes of water in the deeper aquifer are contained primarily in the quartz vein, the historic underground workings and infiltrated through the open pit which is more permeable than the surrounding andesite country rock. This system has been drained from the mine dewatering system within the underground mine. Currently the water level is at approximately 765mRL. This needs to be lowered to 705mRL to enable the mining of the current Ore Reserves and Resources. The main pumping station within the mine, as well as the planning extensions is capable of dewatering to this level.</li> </ul>
		Geotechnical Model
		The geotechnical model for stoping assessments was based on empirical modelling using Q ratings for the rock mass quality and applying the Mathews method to determine stable spans. Geotechnical modelling was impacted by mine design where level spacing was set by blast vibration limits and modelling had to ensure stable pillars were left.

Criteria	JORC Code explanation	Commentary
		<ul> <li>Geotechnical assessments indicate that rock mass conditions within the ore zone and immediately adjacent to the ore zones are generally of good to very good quality except for the northern portion of the Correnso Vein (which has now been fully extracted). In general, the ground conditions at Correnso are expected to be better than seen at Favona and similar to Trio.</li> </ul>
		• It has been proven that stable stope strike spans of up to 30m can be mined in the Correnso and Daybreak and Christina orebodies. Some parts of the Empire orebody are in poorer ground characterised by loose block material and stope spans of around 15m are planned. Caving and surface subsidence potential has been assessed for development and stoping with the risk being low if recommendations for ground support, allowable spans, and management techniques are followed. Numerical modelling was undertaken to assess the global effects of mining including global mine stability, risk due to chimney failure of individual stopes, and the effects on ground surface subsidence. The numerical modelling concluded that the likely effects on ground surface stability due to mining would be negligible.
		Mining Recovery and Dilution
		<ul> <li>The mining recovery factors applied for Correnso underground are summarized in the table below. Over-break is included in the capital and operating lateral waste development dimensions so that no additional over-break is assigned. No over-break is assumed for operating lateral ore development as the over-break tonnes are generally ore which are included in the stope tonnes. Assuming zero over-break in the ore drives removes the risk of either double counting or under calling ore tonnes and metal.</li> </ul>
		<ul> <li>Stopes were designed with a nominal 0.5m dilution on both the footwall and the hanging wall which when applied with the stope recovery factors reconciles with performance of stopes in active mining areas.</li> </ul>
		<ul> <li>Tonnage recovery factors shown in the table below for stoping include in-situ ore plus dilution material. Metal recovery factors consider the difficulties associated with recovering all ore from a stope, particularly under remote control operations. Additionally, it allows for the potential loss of metal due to excess dilution burying ore and limiting recovering of all the ore.</li> </ul>

Criteria	JORC Code explanation	Commentary			
			Table 5: Tonnage Reco	overy Factors	
			Activity	Tonnage recovered	Metal recovered
			Lateral Development — Capital Waste	100%	-
			Lateral Development — Operating Waste	100%	-
			Lateral Development — Operating Ore	100%	100%
			Vertical Development — Capital Waste	100%	-
			15m high Longhole Stope (includes 5% fill dilution at zero grade)	110%	95%
		Other mi	ine design constraints used in determining th	ne Underground (	Ore Reserves were:
			<ul> <li>Minimum ratio of 1:1 pillar width se</li> </ul>	parating developr	nent openings
			<ul> <li>Maximum 12.5m Avoca stope widtl</li> </ul>	า	
			<ul> <li>Ore drive width after stripping to be</li> </ul>	no wider than 9.5	ōm
		was inte each des Mineral I	red Resource metal has been included in the rrogated to report against each Mineral Resonance sign item reassessed only allowing contribut Resource categories. As such, any Inferred ag material at zero grade.	ource category, a ion of metal from	nd the average grade of Measured and Indicated
		stope fill	ound ore is trucked to the ROM Pad and undors or to the surface waste dump as required. Tound and open pit mobile equipment.		
			ority of infrastructure required for the choser erve is already in place. Additional detail is phis table.		

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>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.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul> <li>The metallurgical process at Waihi is well-tested and proven technology, having been in operation for 29 continuous years.</li> <li>Ore processing consists of five stages: comminution, leaching/adsorption, elution, electrowinning and smelting. Underground stockpile ore is reclaimed at between 40 to 100 tonnes per hour by front end loader and fed onto a static grizzly with an aperture of 200 mm. Martha open pit ore is fed at the rate of 155 tonnes per hour.</li> <li>The Processing Plant has the capacity to treat up to 1.25 million tonnes of Martha ore or 800,000 tonnes of Correnso ore per annum.</li> <li>Martha Pit Ore Reserve metallurgical recovery of gold is estimated at 90.5% and silver recovery is estimated at 60% based on the process plant performance and reconciliations over the last 28 years of operation extracting similar veins.</li> <li>Both gold (Au) and arsenic (As) have been identified as the statistically significant predictors for estimating residue grade for the Correnso resource. Gold recovery regression models were developed from laboratory bench scale test work and plant actual results for the Correnso resources, as shown below:         <ul> <li>Head grade &gt;7g/t: Predicted Au residue grade = 0.028 x Au head grade (g/t) + 0.0012 x As head grade (ppm) + 0.264.</li> <li>Head Grade &lt; 7g/t: Predicted Au residue grade = 0.051 x Au head grade (g/t) + 0.0011 x As head grade (ppm) + 0.151.</li> <li>Gold Recovery Estimate = (Au head grade – (Predicted Au Residue grade))/Au head grade x 100.</li> </ul> </li> <li>Arsenic modelling was not included in the mining plan and schedule and process recoveries for Correnso ore are estimated from an estimate of arsenic / gold relationship. The recovery at 8tph throughput is estimated as:         <ul> <li>Recovery % = [Head grade – (0.09*Head grade + 0.25+0.02)] / Head grade * 100%.</li> </ul> </li> </ul>
	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	<ul> <li>The Waihi Gold operation holds the necessary permits, consents, certificates, licences and agreements required to operate the Correnso underground mine and the Martha open pit.</li> <li>Environmental data has been collected over the last 29 years of Waihi operations and baseline data was collected prior to the start of operations and reported in the original mining license application. Data is routinely collected for noise levels, blast vibration, air quality, and discharge water quality from various sources, ground settlement and ground water levels. Data collected in relation to hydrogeology, open pit and tailings storage facility, geotechnical engineering,</li> </ul>

Criteria	JORC Code explanation	Commentary
	waste dumps should be reported.	geochemistry, closure and rehabilitation is peer reviewed on an annual basis by independent reviewers engaged by the Regional Council, District Council and central Government
		<ul> <li>Environmental studies conducted by independent consultants and company staff as part of the Correnso underground project are more extensive than would normally be required but was required to provide sufficient information to support a consent application for Waihi Correnso. Environmental assessment was carried out on a larger Waihi Correnso project which included potential additions from the Daybreak and Empire Grace deposits. The environmental effects based reports are all independently reviewed by consultants employed by the regulators (consent issuers) and are also subject to an extensive hearing process were the issues are thoroughly assessed by independent commissioners.</li> </ul>
		Studies have included air quality, water quality and ecology, noise, blast vibration effects, traffic, potential for subsidence, ground settlement in response to dewatering, property values, dewatering, and geochemistry of tailings, waste and groundwater.
		The 29-year operational history since attainment of commercial production in 1988 has provided a good understanding of performance of the waste rock dumps and tailings storage facility.
		<ul> <li>All waste produced from the underground mine is classified as potentially acid forming and is returned underground as stope backfill. The Correnso consent requires material to be classified according to acid forming potential, and PAF material requires lime dosing.</li> </ul>
		Waste from the open pit is crushed and conveyed 2.0km from the open pit to the waste development load-out site where it is transported a further 1km to the Waste Development Area or stockpiled for future use. At the Waste Development Area, the waste is selectively placed in accordance with a quality control and geochemical control program to form a dam for the tailings impoundment. All waste is compacted in accordance with strict design specifications
		• Vibration modelling has been completed for Correnso by Heilig and Partners to ensure mining methods can meet the Consent conditions. Modelling of the likely scale of blasting has been based upon vibration relationships developed from the underground blasting at Waihi over the last six years. When mining the lower levels (more than 300m below surface), blasting can use simplified stope blasting procedures (i.e. single deck of column per blast hole). The upper sections of the mine (220m to 300m below surface) will be blasted with conventional stoping practices using several discrete columns of explosive within a single blast hole to control vibration levels. Above 220m below surface, blasting is limited to 3.5m long development rounds.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development,	The Waihi Gold operation has been in commercial production since 1988 and all mine site infrastructure has been completed to support the open pit and underground operations

Criteria	JORC Code explanation	Commentary
	power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	including; tailings storage facility, workshops, water treatment plant and ore processing facilities.
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>Martha Open Pit</li> <li>No capital expenditure is required for the open pit Ore Reserve. The north-east layback is included under operating expenditure. Additional expenditure may, however, be required to reestablish access for mining following the north wall failures in April 2015 and April 2016.</li> <li>A detailed cost model provides the basis for the estimate of open pit operating costs. The cost model was developed using first principles derived from contractor rates, supplier quotations and current cost data. The model develops cash flows based on:</li></ul>
		installation of fixed underground equipment such as refuge chambers, ladder-ways,

Criteria	JORC Code explanation	Commentary
		communication systems, pump stations and substations. Other capital costs include the Property and Community Investment Program, plant and administration sustaining capital.
		<ul> <li>A detailed cost model provides the basis for the estimate of underground operating costs. The cost model was developed using first principles derived from supplier quotations and current cost data. The model develops cash flows based on:</li> </ul>
		<ul> <li>mining schedules, processing stockpiles and mine feed to process plant,</li> <li>application of driver and non-driver costs to mining, processing and G&amp;A,</li> <li>application of capital costs, closure costs, exploration and employee severance costs, and</li> <li>calculation of cash flows including provision of royalties, working capital and depreciation and taxation</li> </ul>
		<ul> <li>Processing, concentrate treatment, freight, insurance and general and administrative costs have been sourced from recent operating activities.</li> </ul>
		<ul> <li>No penalty elements have been recorded in concentrates produced to date that affect the calculation of payable metal.</li> </ul>
		<ul> <li>The detailed cost model is in New Zealand currency. The commodity assumptions used in the determination of Ore Reserves were US\$1300 per ounce for gold and US\$18 per ounce for silver. An exchange rate of 0.72 has been used.</li> </ul>
		<ul> <li>Correnso falls within the Favona Mining Permit 41 808 (MP 41 808) area which is governed by the 1996 Minerals Program for Crown royalty purposes. The Favona Mining Permit provides for the higher of one per cent royalty on net sales revenue from gold and silver, or five per cent royalty on accounting profits.</li> </ul>
Revenue factors	The derivation of, or decampliane made	Detailed mine designs were undertaken for both the open pit and underground operations.  Diluted and recovered grades were calculated for all material being mined, which were in turn assessed against the relevant cut-off grades for determination of inclusion within the Ore Reserve estimate. Head grades for material sent to the process plant directly correspond to mined grades calculated.
		Silver credits are not included in the revenue factors but as a by-product cost offset.
		<ul> <li>All costs at the Waihi operation are based in New Zealand Dollars. Costs have been converted using the following exchange rates, which are long-term OceanaGold benchmark rates:</li> </ul>
		o USD 0.72: NZD 1.00
		Charges for transportation, treatment and refining charges are based on operational history and

Criteria	JORC Code explanation	Commentary	
		<ul> <li>in part based on existing contracts that are periodically reviewed and renewed.</li> <li>Metal prices used for in economic evaluation were US\$1,300 per ounce for gold and US\$18 per ounce for silver, fixed for the life of the mine.</li> </ul>	
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <li>Long-term market assessments are provided by a number of independent companies. There are no hedge contracts in respect of production from the Waihi Gold operation.</li> <li>The market for gold doré is well-established.</li> </ul>	
Economic	<ul> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>Open pit mining costs, underground mining costs, processing costs and general and administrative costs at Waihi Gold are well understood, with 28 years of continuous operation.</li> <li>Net present cash flow evaluation of Waihi underground which showed a positive net cash flow.</li> <li>Sensitivity studies were carried out on various parameters including mining cost, processing cost, metal prices and discount rate. This data suggests that the NPV is robust.</li> </ul>	
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	<ul> <li>The Correnso underground project has an established grouping of stakeholders and project affected people whom have been engaged via the various stakeholder engagement structures such as Iwi, Resident Groups, Community based organizations and local government.</li> <li>Prescribed Peer Review meetings held between Waihi Gold, Hauraki District Council, Waikato Regional Council and the Ministry of Business and Innovation.</li> <li>The operation has already established complaints and grievance systems / procedures for the ongoing management of all project grievances. This procedure will be a key process by which any associated complaints and grievances that arise from the operations will be addressed.</li> <li>The Correnso consent is prescriptive in terms of stakeholder engagement with the Community:         <ul> <li>Following the first exercise of this consent, the consent holder shall hold a</li> </ul> </li> </ul>	

Criteria	JORC Code explanation	Commentary
		consultation meeting open to the public. The meeting shall be called quarterly during the first year of mining activities provided for under this consent, and six-monthly thereafter. The meeting shall be chaired by an independent chairman.
		<ul> <li>Upon the first exercise of this consent, and at six-monthly intervals thereafter, the consent holder shall invite representatives of those tangata whenua who have a particular interest in the Waihi area, of the Hauraki District Council and of the Waikato Regional Council to attend a meeting.</li> </ul>
		<ul> <li>At least 1 month prior to exercising this consent, the consent holder shall appoint a person (the "Liaison Officer"), and any replacement person subject to the approval of the Hauraki District Council and the Waikato Regional Council (the "Councils"), to liaise between the consent holder, the community and the Councils.</li> </ul>
		<ul> <li>The Liaison Officer shall also be active in informing the Waihi community regarding any new proposed underground mining beyond the Correnso, Grace/Empire and Daybreak orebodies.</li> </ul>
		<ul> <li>In addition to stakeholder engagement, the consent requires Waihi Gold to maintain a Property Policy to support property values in the area. This requires the Company to provide funds to purchase properties above stopes and pay ex-gratia payments to property owners above mine development as well as maintaining a property purchase fund and funding for community projects. The consent caps the funding available for the property purchase fund.</li> </ul>
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore	The Waihi operation is in a high rainfall area, and heavy rain events are not unexpected.  Procedures and costing are in place to deal with such events for the open pit operation and will not impact on the viability of extracting the Ore Reserve.
	Reserves:  • Any identified material naturally occurring risks.	<ul> <li>Provision has been made in the underground study to account for anticipated water inflow, based on a hydrogeology study undertaken by GWS Consulting Ltd.</li> </ul>
	<ul> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and</li> </ul>	<ul> <li>The Waihi operation holds the permits, consents, certificates, licences and agreements required to conduct its current operations, and to construct and operate the proposed Correnso Extensions underground mine.</li> </ul>
	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	<ul> <li>New Zealand has an established framework that is well regulated and monitored by a range of regulatory bodies. Waihi Gold has dedicated programs and personnel involved in monitoring consent compliance and works closely with authorities to promptly address additional requests for information. Risks associated with review and renewal of operating consents is, upon that basis, regarded as manageable within the ordinary course of business.</li> </ul>
	anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the	Contracts are in place covering underground mining, transportation and refining of bullion, and

Criteria	JORC Code explanation	Commentary
	materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	the purchase and delivery of fuel, electricity supply, explosives and other commodities. These agreements conform to industry norms.
	extraction of the reserve is contingent.	Waihi Gold maintains a number of operating permits for the importation of reagents into New Zealand. New Zealand has an established framework that is well regulated and monitored by a range of regulatory bodies. Risk associated with renewal of importation permits, is upon that basis regarded as manageable.
		There is no material, unresolved matters dependent upon a third party on which extraction of the Ore Reserve is contingent.
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The Proved Ore Reserve is a sub-set of Measured Mineral Resources, and the Probable Ore Reserve is derived from Indicated Mineral Resources. Inferred Mineral Resource material has been included as dilution only, with no Inferred Resource metal included in the Ore Reserve estimate.
	The proportion of Probable Ore Reserves that have been derived from Measured	No Probable Ore Reserves have been derived from Measured Mineral Resources.
	Mineral Resources (if any).	It is the opinion of the Competent Person for Ore Reserve estimation that the Mineral Resource classification adequately represents the degree of confidence in the orebody.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	In 2017, OceanaGold conducted an internal technical review for the Waihi operation. The guiding principles for the review included quality of data, supporting information, methodologies employed, conformance to acceptance industry practice and professional standards, and site coverage and capability. The review concluded:
		<ul> <li>Historically the reserve models at Waihi have reconciled well against production, providing confidence in the LOMP reserve estimates and the ability to deliver them.</li> </ul>
		<ul> <li>The reconciliation process is well understood and well documented. Stopes are routinely closed out, with an analysis of mining performance, dilution and ore-loss.</li> </ul>
		<ul> <li>The underground mine geology team is stable and is appropriately resourced for the level of geological complexity and production rate.</li> </ul>
		<ul> <li>The existing open pit Reserve in the Stage 4 Martha pit has been compromised because of the north wall failure. A study however is in progress to review the economics of mining this stage, given that the base case is to commit to north wall rehabilitation. In the meantime, it is reasonable to continue to report this as resource.</li> </ul>
		The mineralisation of the Martha system below the existing open pit provides the largest potential for mineable resource available at Waihi.

Criteria	JORC Code explanation	Commentary
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	Reconciliation of actual production to the Mineral Resource model since the commencement of operations indicates that the estimate is representative of the deposit (see resource model versus mine versus mill reconciliation in "discussion of relative accuracy/ confidence" in Section 3).  Section 3).

## **Section 5 Estimation and Reporting of Diamonds and Other Gemstones**

(Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the 'Guidelines for the Reporting of Diamond Exploration Results' issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum.)

[Section 5 is not applicable to the Martha Open Pit Operations or the Correnso Underground Mine].