SUMMARY OF TABLE 1 - 2012 JORC: Waihi Gold Mine

The Wharekirauponga (WKP) Project is located 10 km north of 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 in Waihi commenced 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, Martha underground and the Correnso underground mine. The WKP Au-Ag project is a high grade, low sulphidation epithermal vein deposit hosted within a Miocene rhyolite dome complex.

Resources

The WKP project resource estimates, as at 31 December 2019, are presented in Table 1 and are classified in accordance with CIM and JORC 2012.

The resource estimate reported here relates exclusively to the WKP Project.

Table 1: WKP Mineral Resource Estimate

Class	Cut-off Au g/t	Tonnes (Mt)	Au (g/t)	Ag (g/t)	Au (Moz)	Ag (Moz)
Measured	2.5	-	-	-	-	-
Indicated	2.5	0.98	13.4	25.5	0.421	0.803
Measured & Indicated		**0.98**	**13.4**	**25.5**	**0.421**	**0.803**
Inferred	2.5	1.9	12	20	0.717	1.230

Notes to Accompany Mineral Resource Table:

1. There are no Ore Reserves associated with the WKP underground project at this time, however normal practice for the company would be to report Mineral Resources inclusive of Ore reserves where appropriate;
2. Mineral Resources are reported on a 100% basis;
3. Mineral Resources are reported to a gold price of NZD$2,083/oz (US$1,500 @ USD:NZD 0.72);
4. This WKP Resource is constrained within an optimised shape based upon the incremental cut-off grade;
5. No dilution is included in the reported figures and no allowances have been made to allow for mining recoveries. Tonnages include no allowances for losses resulting from mining methods. Tonnages are rounded to the nearest 1,000 tonnes;
6. 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;
7. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content;
8. Tonnage and grade measurements are in metric units. Gold ounces are reported as troy ounces.

Low sulphidation epithermal quartz veins at WKP are hosted in a rhyolite flow dome complex with overlying and interfingering lithic lapilli tuffs which are in turn partially overlain by post-mineral andesites. The rhyolites have undergone pervasive hydrothermal alteration, often with complete replacement of primary mineralogy by quartz and adularia with minor illite and/or smectite clay alteration. The vein system lies within a NNE trend with a low magnetic response and likely represents a combination of weakly magnetic primary lithology and magnetite-depleted hydrothermally altered lithologies. This magnetic low trend contains well-defined edges suggesting a NE trending district-scale graben boundary.

Gold mineralization occurs in association with quartz veining developed along two types of structurally-controlled vein arrays. The principal veins occupy laterally continuous, NE trending (025-47°), moderately dipping (60-65°) district-scale graben step faults reaching up to 10m in width. Subsidiary, extensional veins (1-100cm wide) are developed between or adjacent to the principle fault hosted veins. These veins often form significant arrays that are moderate to steeply dipping with a more northerly to NNE strike and appear to lack lateral and vertical continuity compared to the fault hosted veins.

In general, there are very few sulphides other than pyrite in the WKP veins. Major structures strike NNE and dip steeply to the west with extensional linking vein sets striking in a more northerly direction. Vein textures and geopetal indicators logged in drill core suggest south eastward tilting since vein formation.

Approximately 41,500m has been drilled in 91 diamond core drill holes on the WKP project since 1980. All diamond drill core drilled since 1990 has been routinely oriented using plasticine imprint, the Ezimark or Reflex core orientation tools.

Geological modelling is based on geological observation from logging of oriented diamond drill core and mapping of exposures (limited). Mineralised geologic domains are typically narrow, steeply dipping epithermal veins within which gold is modelled via ordinary kriging or inverse distance methods dependent on data density. Dry bulk densities ranging between 1.8 and 2.5 t/m^3 are assigned by rock type.

Estimation is completed using inverse distance weighting to the second, this is deemed suitable given the density and distribution of data in each domain.

The quantity and quality of the logging data, geotechnical data, collar, down hole survey and assay data collected are sufficient to support the Mineral Resource estimation.

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

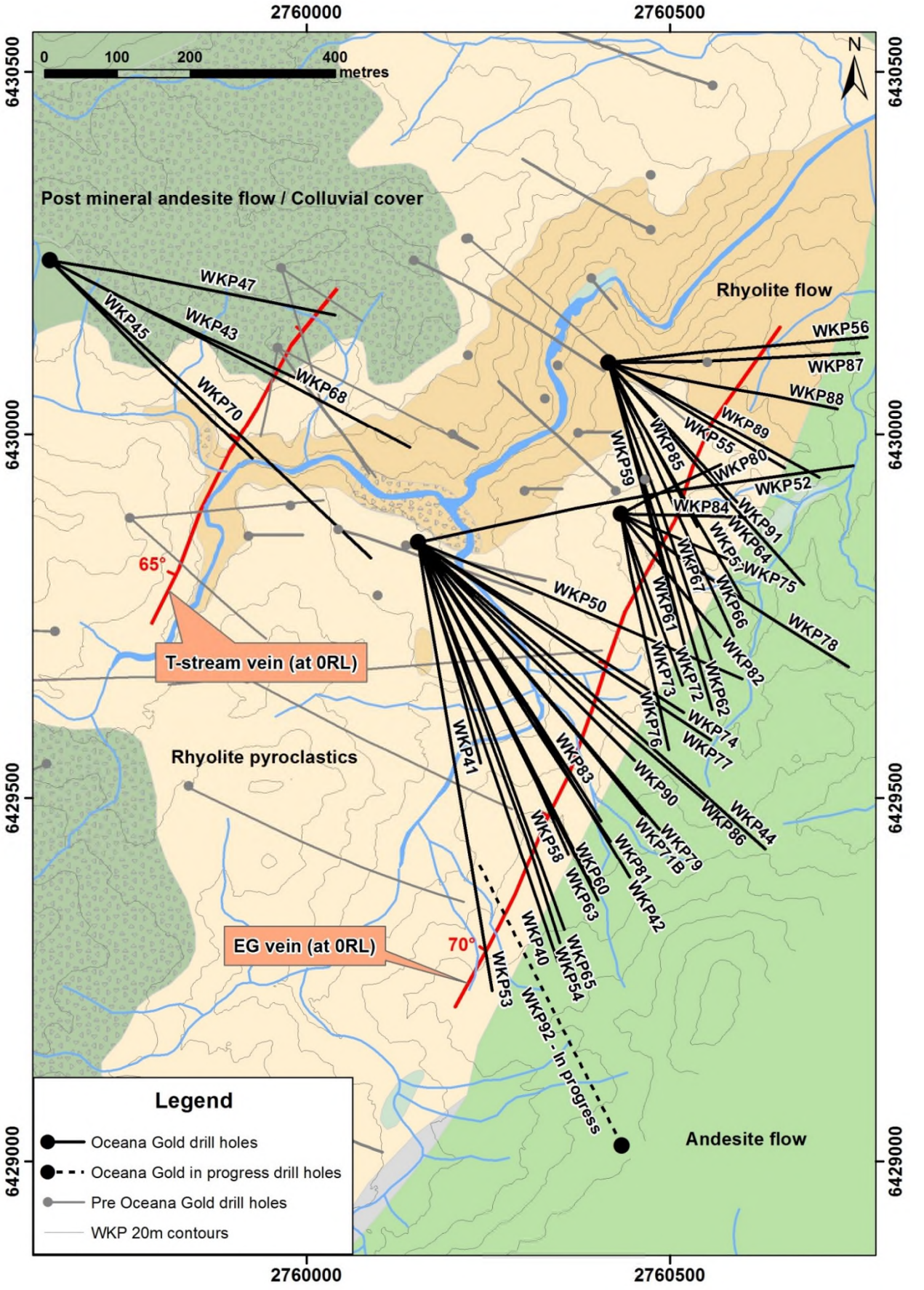


Figure 1: Map showing the surface geology and drilling along the East Graben (EG) vein, WKP (OceanaGold drillholes 2017 to Dec 2019)

Reserves

There are no Ore Reserves relating to the WKP Project currently.

Competent Persons

Information relating to Exploration Results and Mineral Resources in this document were prepared by, or under the supervision of Mr Peter Church. Mr Church is a member and Chartered Professional 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. Mr Church has 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'. Mr Church consents to the inclusion in the report of the matters based on the information in the form and context in which it appears

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• All exploration at WKP is by diamond core drilling from surface. Drilling conditions are well understood. Triple tube coring is routinely used to ensure that core recovery is acceptable. • Core samples are processed using industry standard practices of drying, crushing, splitting and pulverisation at the SGS Waihi or SGS Westport Laboratory. SGS are an internationally accredited global analytical services provider with strong internal governance standards and a reputation to uphold.
Drilling techniques	• All diamond drill holes were drilled by triple tube wireline methods. All holes are collared using large-diameter PQ core, both as a means of improving core recovery and to provide an opportunity to case off within weaker units. Drill hole diameter is usually reduced to HQ when the hole enters competent harder ground below post-mineral stratigraphy and clay altered pyroclastic units. All drill core was routinely oriented by Ezimark, Reflex or TruCore core orientation tools.
Drill sample recovery	• Core recoveries were measured after each drill run, comparing length of core recovered vs. drill depth. Core recoveries were generally better than 95% however core recoveries as low as 75% have been recorded in some vein zones. There is no relationship between core recovery and grade.
Logging	• The core samples are all geologically and geotechnically logged, using a logging scheme that has been in place for many years. The level of detail captured in logging is sufficient to support appropriate Mineral Resource estimation. • Logged intervals are based on geological boundaries or assigned a nominal length of one or two metres. The geological log incorporates geotechnical parameters, lithology, weathering, alteration and veining. • Geological logging is based on both qualitative identification of geological characteristics, and semi-quantitative estimates of mineral abundance. Geotechnical logging uses standard semi-quantitative definitions for estimating rock strength and fracture density. • A digital photographic record is maintained for all drill core. All core photographs are stored on the Waihi server. Electronic Geological logs are created using a Microsoft Excel logging template on laptop computers. Previous logging by Newmont used proprietary Visual Logger software. Logging is validated using inbuilt validation tables for all recent drilling and has been checked for consistency throughout the history of the project. • All geological logging data is stored in an acQuire database.
Sub-sampling techniques and sample preparation	• Diamond core is sawn in half, where one half is used as the sample material. For exploration samples these range in weight between 3.5 and 4kg. The cut line will, where possible pass through the apex of a vein boundary. • Sample preparation (drying, crushing, splitting and pulverising) is carried out by SGS using industry standard protocols: o Kiln dried at 60° C o Crushed to sub 2mm o Riffle split 800g sub-sample o 800g pulverised to 90% passing 75um, monitored by sieving. o Aliquot selection from pulp packet

Criteria	Commentary

Quality of assay data & laboratory tests	• All exploration samples are assayed for gold by 30g fire assay with AAS finish.
	• Holes WKP40-45 had core samples shipped for sample preparation to SGS in Westport. Prepared pulps were then shipped to ALS laboratories in Brisbane (Australia) for gold fire assay and 4-acid, 42 element ICP geochemical analysis. Holes drilled after WKP45 (i.e. WKP46 to WKP91) were prepared and analyzed at SGS in Waihi (Au by 30g fire assay and Ag by aqua regia digest and 0.3gm AAS finish). Selected pulps are additionally sent to ALS in Brisbane for 4-acid digestion and 42 element ICP geochemical analysis and gold analysis by 30g fire assay with AAS finish.
	• Quality of exploration assay results has been monitored in the following areas:
	  • Sample preparation at the SGS Waihi and Westport labs through sieving of jaw crush and pulp products,
	  • Monitoring of assay precision through routine generation of duplicate samples from a second split of the jaw crush and calculation of the fundamental error.
	  • Monitoring of accuracy of the primary SGS assay and ALS results through insertion Certified Reference Materials (CRM's) and blanks into sample batches.
	• Blank and CRM results are reviewed on a weekly basis. 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. Failure of any of these thresholds' triggers investigation.

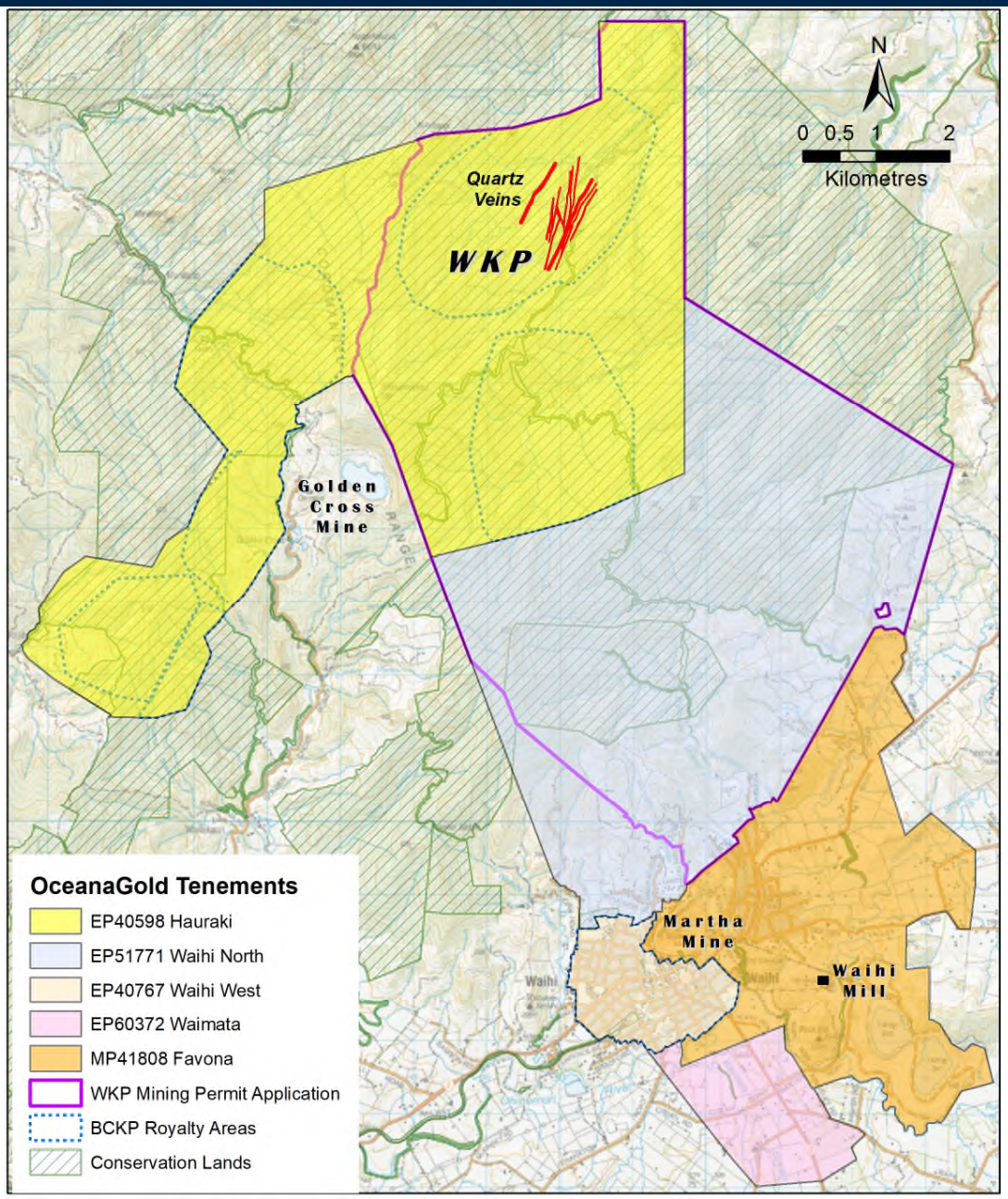
Verification of sampling and assaying	• There are strong visual indicators at WKP for high grade mineralisation observed in drill core and significant intersections are visually validated against drill core, check calculated by alternative company personnel and a limited number of holes have also been subject to umpire analysis by an alternate laboratory. • To date no holes have been twinned • All assay data is stored in the database in an as received basis with no adjustment made to the returned data
Location of data points	• New Zealand Map Grid is utilised. • All the drill collars from WKP40 onwards and all OGL drill sites to date have been by accurately located by survey methods. The initial survey control for each site has been established using a Leica GNSS GPS (hired from Global Survey) using Fast Static method and post processed by Global Survey. Each drill site has then been surveyed using a Leica TCRA1205 Total Station. The Total Station has been setup/ orientated using resection method utilising 3 of the 4 previously established Static GPS survey control marks with the 4th one used as a check. The drill collars have then been identified and surveyed. The Total Station has then been moved and setup again using the same resection method and a second round of observations observed on each of the new survey control points. • Topographic control is from high resolution aerial photography and LiDAR providing 0.5m contour data • Down hole surveys are recorded at 30m intervals by using a Reflex digital downhole survey camera tool
Data spacing and distribution	• The drill spacing required to support different levels of classification is different for each project area. Geological knowledge of the WKP system is developing over time that will allow more confident interpretation of vein continuity. • The decision about appropriate drill spacing differs for each deposit/vein and considers geological complexity, vein geometry and thickness as well as grade continuity. Reconciliation from correlative veins with a reconciliation history is used to guide the

Criteria	Commentary
	decision balancing drill spacing with classification for new vein deposits. • No compositing of samples is applied prior to assay.
Orientation of data in relation to geological structure	• Drill holes are designed to intersect known mineralised features in a nominally perpendicular orientation as much as is practicable given the availability of drilling platforms. All drill core is oriented to assist with interpretation of mineralisation and structure. • Samples intervals are selected based upon observed geological features.
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	No audits or reviews of sampling techniques and data have been performed.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Wharekirauponga prospect is in the Hauraki District of the Waikato region of New Zealand, approximately 10km north of Waihi. Rights to prospect explore or mine for minerals owned by the Crown are granted by permits issued under the Crown Minerals Act 1991 (CMA). Crown-owned minerals include all naturally occurring gold and silver. The project is located within exploration permit EP 40598, covering an area of 3762.94 hectares. The current term of the EP expires in May 2021 and confers rights to exchange the EP within that time for a mining permit upon meeting certain criteria specified in the CMA, as follows. Provided the permit remains in good standing (principally requiring the payment of annual fees and completion of work programme commitments), and assuming OceanaGold's exploration activities delineate the resource to the satisfaction of the Minister for Energy and Resources (ordinarily, for this purpose, an Indicated Mineral Resource will be required), OceanaGold has a statutory right (section 32(3) of the Crown Minerals Act 1991), in priority and to the exclusion of all other parties, prior to the expiry of the EP, to surrender the permit in exchange for a mining permit. On the 6th May 2019 the Company lodged a Mining Permit Application (MPA) 60541 over an area of 5124.77 ha that covers the extent of mineralisation at WKP and a corridor down to and connecting with the Company's Favona Mining Permit 41808. The application is being processed by New Zealand Petroleum and Minerals with an anticipated grant date in Q1 2020. The 2013 Minerals Programme (available at http://www.nzpam.govt.nz/cms/pdf-library/minerals-legislation/) governs the circumstances under which a mining permit is issued. The main set of criteria is as follows: *10.1* *(3) The Minister will ordinarily grant a mining permit if satisfied that:* *(a) the permit applicant has identified and delineated at least an indicated mineable mineral resource or exploitable mineral deposit, and* *(b) the area of the permit is appropriate, and* *(c) the objective of the mining permit is to economically deplete the mineable mineral resource or deposit to the maximum extent practicable in accordance with good industry practice.* *The word "ordinarily" is intended to leave a discretion that allows the Minister of Energy and Resources to consider a range of factors, as well as general discretion, as follows:* *10.2 Matters that may be considered by Minister* *(1) In considering whether a mineral deposit has been sufficiently delineated to support the granting of a mining permit, or in assessing any proposed work programme (or modified work programme), the Minister will ordinarily consider (but is not limited to) any or all of the following matters:* *(a) the geology and occurrences of minerals within the land to which the mining permit application (or application for extension of duration) relates* *(b) the applicant's knowledge of the geology and extent of the mineral resource that the applicant proposes to extract* *(c) estimates of mineable mineral resources, which may include indicated and measured resources, probable and proved reserves, and the accompanying documentation on input data, methodology, quality control and validation of the mineral resource estimates* *(d) inferred mineral resources* *(e) the applicant's mining feasibility studies, which include mine design, scheduling and*

Criteria	Commentary
	production, resource recovery, and economic viability *(f) project economics – in particular the financial viability and technical constraints, and the proposed level of expenditure in relation to the scale and extent of the proposed operations* *(g) whether the proposed mining operations are in accordance with good industry practice.* Once a mining permit is obtained, OceanaGold will be authorised to commercially extract the gold resource, subject to the conditions attending to the mining permit, gaining any surface rights required by agreement with the landowners and gaining the requisite resource consents under the RMA. A mining permit (MP) may be issued for a maximum period of 40 years. The EP is currently in good standing. OceanaGold holds 100% of the permit interest. Third party rights to receive an interest in the project are confined to a Crown royalty of 1% of the turn over or 5% of the accounting profits whichever is higher and a 2% royalty payable to BCKP Ltd (acquired from Geoinformatics) with respect to certain "target" areas. In both cases the royalties are fixed and quantifiable for the purposes of inclusion in the business plan. The prospect is situated on state-owned land administered by the NZ government through the Department of Conservation and generally open to public use for amenity purposes OceanaGold has received an Access Arrangement (AA) granted under the CMA, for the term of the EP, giving surface rights to conduct exploration drilling within a defined footprint of 428.44 hectares and under conditions that protect the conservation (biodiversity and amenity) values of the land. The Company has applied for a variation to the AA to provide for the continuation of exploration drilling upon granting of the Mining Permit. The company has also received resource consents granted by local authorities under the Resource Management Act 1991 (RMA), under which environmental effects of exploration drilling are authorised and managed within the framework of that Act in keeping with the high environmental values of the permit location. Any development of the prospect for the purposes of advancing beyond exploration would require applications at that time under the RMA and (for surface impacts only) the CMA. The RMA applies land use designations (zoning) that allow underground mining on a discretionary basis and surface impacts in limited circumstances dependent on meeting a range of objectives and policies including protecting and enhancing the biological diversity and outstanding landscape character values of the permit area and minimising ground surface disturbance. Changes to NZ government policy restricting access to mine on conservation land have been proposed, subject to a statutory consultation process that has not yet commenced. The precise nature of any proposal is not currently known.

Criteria	Commentary
	 **Figure 1: Map showing the minerals permits held by OceanaGold in and around Waihi**
Exploration by other parties	• Previous exploration by Amoco and BP Minerals at WKP in the 1980s and 1990s was focused on sheeted stockwork veins exposed in stream channels through the prospect. Newmont as the operator of a WKP joint venture with Glass Earth in 2009-2013 identified and drilled several larger structures, encountering significant results in some holes. The Newmont/Glass Earth interest was subsequently purchased by OceanaGold.
Geology	• The Au-Ag deposits of the Waihi District and WKP are 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 often with narrower splay veins developed in the hanging wall of, or between more than one major vein structure. Gold occurs exclusively within quartz vein

Criteria	Commentary
	structures, usually as electrum. Free gold is only rarely observed.
Drill hole Information	• See Table 1 in the announcement which lists for each hole with a significant intercept, the hole ID, interception depth, downhole length and estimated true width of the intercept.
Data aggregation methods	• Exploration results are reported within distinct geological boundaries, typically within veins. The grades are compiled using length weighting with no top cutting.
Relationship between mineralisation widths and intercept lengths	• Drill intercepts are reported as down hole length along with an estimated true width based on intercept angle to the mineralised veins. As much as practicable holes are designed to intersect veins at more than 60 degrees to the vein.
Diagrams	• Refer to figures and tables in the body of the release and using the link in this press release to OGC's website.
Balanced reporting	• Recent Waihi drill hole information is available from www.oceanagold.com.
Other substantive exploration data	• Exploration drilling is continuing to test the resource potential at WKP. Two drill rigs have completed 11,216 metres in 31 drill holes during the 2019 exploration period. • Metallurgical test work has been completed on WKP ore samples in three rounds of test work. Test work has been carried out at ALS Laboratories in Perth. Crush material derived from drill core samples have been composited with each sample composite containing approximately 30kg of sample material. • The first round of test work was conducted on two sample composites from the 'East Graben vein' with the composite samples sent away for Gravity Leach and Direct Leach test work. • The second round of test work was conducted in two parts. Part one included sample composites from the 'East Graben' vein and other geologically distinct domains, including the 'East Graben Hanging Wall' veins and the 'East Graben Footwall' veins. One sample composite was tested from each geological 'domain'. These samples were tested for Batch Flotation, Gravity Leach and Direct Leach test work. Part two of the second round tested five composite samples from the 'East Graben vein' over a wider spatial spread and tested more variable ore types with regards to Au grade and distribution of other elements. These samples were tested for Batch Flotation, Flotation Concentrate Leach, Flotation Tails Leach, Gravity Leach and Direct Leach test work. • The third round of test work was conducted on four composite samples from the 'East Graben' Vein and two composites samples from the 'East Graben Footwall' veins. The samples were tested for Batch Flotation, Flotation Concentrate Leach and Flotation Tails Leach. These tests were conducted at a variety of grind sizes, including at 106um, 90um and 75um respectively. Direct Leach test work was also carried out at a grind size of 53um and 38um. • A programme of Comminution Testwork has also been completed by JKTech on six selected WKP vein sample composites. The samples were subject to the following comminution tests: SMC Test; JK Bond Ball, Bond Abrasion Index; and a Bond Rod Mill Work Index. The samples were determined to be moderately hard to hard in terms of resistance to impact breakage and hard to very hard in terms of resistance to grinding.
Further work	• Drilling at WKP consists of step-out drilling along known large scale vein structures to test the resource potential of these areas. Drilling to define inferred and indicated resources is in progress on the EG Vein.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• Drill hole data is initially captured in an Access Database used for drill hole planning and management. That data is validated by several inbuilt data-entry checks. • The data is imported from Access into the main AcQuire database interface which includes validation protocols. • Personnel are well trained and routinely check source versus input data during the entry process. • Each dataset was extracted independently from the parent Waihi AcQuire database for EDA purposes. Local Vulcan isis databases are created with the extracted data. These local databases are then flagged with domain codes and utilised for all subsequent processes
Site visits	• 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. In the preparation of the WKP model, OceanaGold Group Geologist Tim O'Sullivan was consulted with regards to some technical considerations in the construction of the model.
Geological interpretation	• The geologic interpretation processes utilised in construction of the WKP model utilizes 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. • 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. • Geological modelling is performed in Leapfrog Geo 4.2.1 using the interval selection and vein systems tools. The project was linked directly to the ADMWAIHIEXP AcQuire database using the AcQuire API. • Key geological features are interpreted from a combination of spatially referenced logging, assay and mapping data. Domain-specific grade and geological continuity characteristics were created to create representative wireframes of vein structures. The following data sources contribute to final wireframe shapes: o Exploration drilling data – Diamond and rare RC o Surface mapping o Core Photography and Logs • Diamond drilling intersects were assigned to structures from a merged assay and geology table. Discrete colourmaps were used to ensure that only distinguishing features were selectable. Criteria commonly used to determine inclusion within a vein include; o Au and Ag values o Vein quartz percentage o Composition of the interval, commonly quartz or quartz+calcite o Lithology type, including void intercepts (for example stope fill, open stope, cavity) o Brecciation type and intensity • Filters were commonly applied to identify primary structures within dense data. These were modified on a vein-by-vein basis and compared to core photography to establish geological consistency between veins.

<table>
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A structural database was constructed using the structural modelling functions in Leapfrog Geo. Oriented discs were used to inform intercept relationships, with structure type, thickness and measurement confidence commonly used as filters.
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.
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.

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<tr><td>Dimensions</td><td>

Block Model Dimensions – WKP0120.bmf

<table>
<tr><th>Variable</th><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>Origin</td><td>2759700</td><td>6429325</td><td>-345</td></tr>
<tr><td>Extents (m)</td><td>900</td><td>1000</td><td>620</td></tr>
<tr><td>Block Size (Parent)</td><td>10</td><td>10</td><td>10</td></tr>
<tr><td>No. of Blocks (Parent)</td><td>280</td><td>164</td><td>62</td></tr>
<tr><td>Sub Block Size</td><td>0.5</td><td>0.5</td><td>0.5</td></tr>
<tr><td>Orientation</td><td>+100 degrees</td><td>X axis around Z</td><td></td></tr>
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<tr><td>Estimation and modelling techniques</td><td>

Vulcan® software has been used to construct the WKP model. The estimation techniques discussed below are considered to be appropriate.

<u>Grade Capping</u>

Reconciliation history for the Waihi project has demonstrated that some level of high-grade restriction is necessary to limit the influence of outliers on grade estimates for the epithermal veins that have been mined during the operations history.
Statistical assessment of the input data is undertaken by domain, typical top-cut selection is based on the assessment of the population distribution characteristics and for inverse distance estimates cutting at the 98th percentile on the log probability distribution has been a long-standing methodology that has produced acceptable results. Estimates using an ordinary kriged estimation scheme utilise a 99th percentile threshold.
The use of this method in determining top cuts has resulted in good reconciliation historically. Typically, different data types are assessed independently in the capping analysis process.

<u>Variography</u>

Down hole and directional variography are typically run using Snowden Supervisor v7 software or Vulcan Version 11.0. Variograms are run to test spatial continuity within the selected geological domains.
The process of domaining in the WKP deposits removes the majority of the variance and consequently compromises the variogram modelling process. The best variography is therefore obtained for the deposit when un-domained data is utilised. Variogram orientation is defined for each domain based on the strike and dip of the veins as modelled. Both downhole and omni-direction variograms have been defined that fitting of a variogram model. The variogram structure is defined using a standardised spherical single structure model.

<u>Estimation / Interpolation Methods</u>

Veins for the WKP underground model were interpreted using Leapfrog software. Vein and geology wireframes were then utilised to construct a block model within Vulcan. Compositing of data for grade estimation is within distinct geological boundaries. For this model the vein domains were estimated using Inverse distance estimation techniques.

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Criteria	Commentary
	• The WKP block model is rotated in bearing to align with the dominant strike of the veins. 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 a single estimation pass.
Moisture	• Estimates of tonnage are prepared on a dry basis.
Cut-off parameters	**WKP Project** • A cut-off grade of 2.5g/t has been used to estimate the WKP Mineral Resource. • Parameters used to calculate the cut-off grade were derived from the nearby Waihi operation with additional costs allowed for surface and underground haulage of the Mineral Resource to the Waihi process plant. • Cut off grades are estimated at a USD1500 gold price and based on processing costs of NZD 30/tonne, general and administration costs of NZD 20/tonne and underground mining costs of NZD92/tonne.
Mining factors or assumptions	**WKP Project** Hydrogeology • GWS report that the catchment area for the Wharekirauponga Stream is approximately 15 km^2 and with 2.17 m/year rainfall, the average daily rainfall volume reporting to the catchment is in the order of 89,178 m^3/d, with most rainfall in winter although sub-tropical storms can produce heavy events in summer. • GWS state that there are insufficient piezometers constructed within the WKP area to enable the development of a potentiometric surface and given the difficulties with site access may remain the case going forward. The potentiometric surface is, however, expected to mimic that of the surrounding topography. • To date, two sets of piezometers, each having a shallow and deep well setting, have been constructed at the site. These piezometers indicate a vertically downward hydraulic gradient in the range of 0.55 to 0.59 m/m. • Further work is still required to understand how groundwater interacts with surface waters around WKP and with the stream channels. Geotechnical • SRK have assessed the geotechnical data to establish the geotechnical characteristics and conceptual design elements for the underground mine. The assessment entailed: o Understanding the geological setting of the gold deposit; o Creation and population of an interpretable geotechnical property database based on the limited geotechnical core logging available; o Collection and recording of suitable core samples for rock property testing in a laboratory, supported by field estimates (point loads) of rock strengths; o Graphical representation, interpretation and reporting of recorded data, culminating that describes the geotechnical environment, and o Transformation of data into Barton's Q' value. • SRK recommended that the hydraulic radii shown in Table 1 be used for initial stope sizing by area and depth.

Table 1: Preliminary Geotechnical Parameters for WKP Stope Sizing

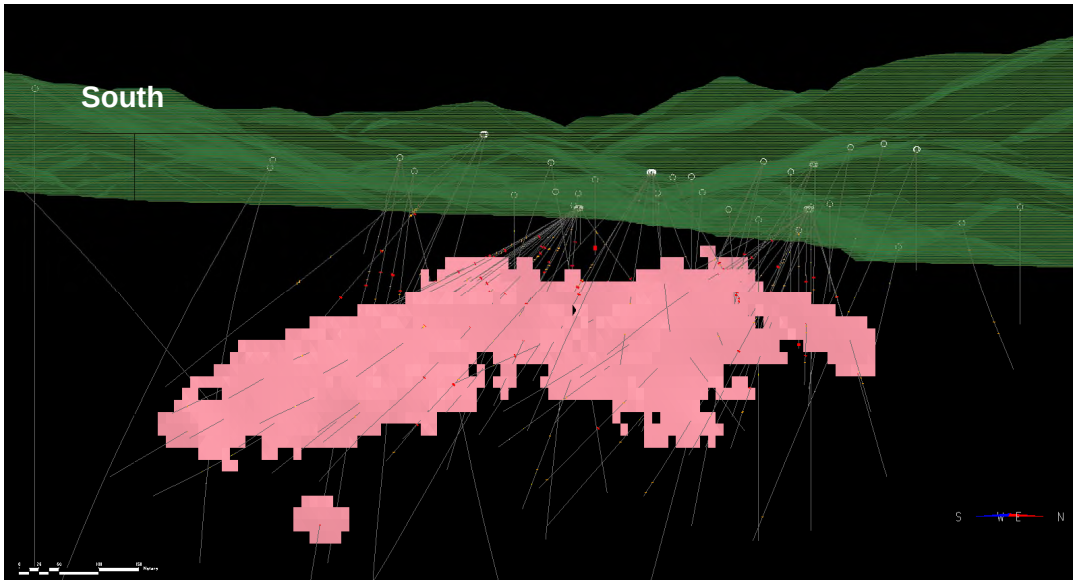
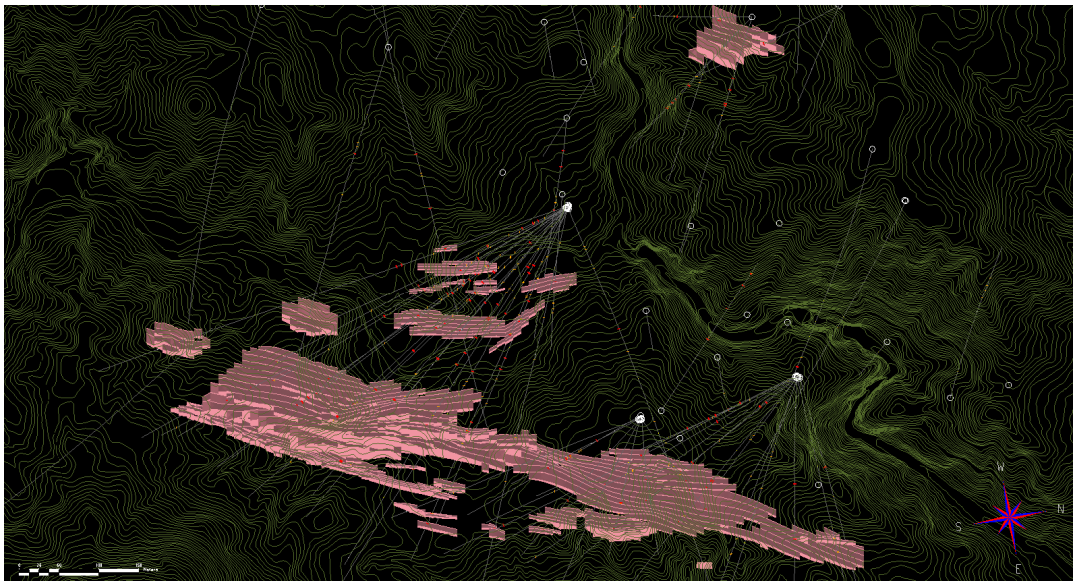
	Eastern Graben EG Rhyolite		Central Area Lapilli Tuff		Western T stream Rhyolite	
	HR min	HR max	HR min	HR max	HR min	HR max
80-160m	5.5	5.5	5.1	5.1	6.8	6.8
160-240m	4.8	5.5	4.5	5.1	6.8	6.8
260-320m	4.2	5.5	4.0	5.1	6.7	6.8

Mining Method

- Mining method selection work for the WKP Project was undertaken by SRK in 2019.
- SRK state both pillar and artificially supported methods are suitable for the WKP deposit. The deposit will not be able to be supplied an engineered fill such as paste or cemented hydraulic fill because the location of the processing plant is 10 km distance from the mine. Backfill for the mine could be either cemented rock fill or rock fill.
- The use of in-situ pillars was not considered by SRK due to the high grade of the Mineral Resource, as such if pillars are required these could be cemented fill rather than in-situ pillars.
- The existing OceanaGold Waihi operation use the Avoca mining method and SRK considers that Avoca mining method is also suitable for WKP.
- SRK recommended a sub-level height of 20m and stope strike length of 15m be adopted for stope optimisation which is within the preliminary geotechnical parameters with a HR of 4.3.

Mineral Resource Estimate

- OceanaGold has estimated the Mineral Resource using the Deswik® Stope Optimiser (SO).
- The Mineral Resource is reported within the SO shapes above the 2.5 g/t cut-off grade. No unclassified material contained within the SO shapes is reported.
- Nominal stope dimensions of 15m high by 15m in length were selected for the SO.
- Stope widths vary, depending on the thickness of the mineralisation. A minimum mining width of 0.5 m was used and 0.5m of dilution was applied to both the footwall and hangingwall resulting in a minimum stope width of 1.5m.
- A maximum stope width of 15m was used with a minimum pillar width between stopes of 8m.
- The method of specifying the strike and dip angles for the initial stope-seed-shapes in SO was to apply a stope control surface wireframe over the full extent of the orebody where stope shapes are to be generated.
- All shapes within 50m of the surface topography were excluded from the estimate. Figure 2 and Figure 3 present the SO shapes.

Criteria	Commentary
	Figure 2: WKP Mineral Resource Long Section  **Figure 3: WKP Mineral Resource Plan View**  <u>Mining Recovery and Dilution</u> • No mining recovery or dilution were applied to the Mineral Resource estimate.
Metallurgical factors or assumptions	**<u>WKP Project</u>** • A series of ten composite samples were generated from drill core obtained from the WKP EG vein across the long section and at varying depths in several test programmes. • Eight of these composites represent material in the main EG vein with the other two testing the adjacent footwall and hanging wall structures. • The composite samples were subjected to a standard suite of tests to characterise the recovery of gold from the samples via conventional mineral processing flowsheets similar to that employed at the Waihi process plant.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

Testing on the composites was completed by ALS Metallurgy in Perth, Australia and included:

Head assay and screen fire assay,
Gravity gold recovery at 106 pm grind size,
Cyanide leach of both gravity concentrate and gravity tails, and
Sulphide flotation and leaching of flotation products.

The average gold recovery from leaching on the main EG vein samples averages 87.9% and suggests the majority of the EG vein material can be classified as free milling. The lower recovery experienced in composites 4 and 6 may be attributable to the higher sulphur feed grade and likely partially refractory locked in sulphides. Table 2 presents the testwork recoveries for each composite tested

Table 2: Metallurgical Testwork Samples and Recoveries
<table>
<tr><th>Composite No</th><th>Zone</th><th>Head Grade (Au g/t)</th><th>Grind Size P80 (pm)</th><th>Total recovery (%)</th></tr>
<tr><td>1</td><td>EG Vein</td><td>7.96</td><td>106</td><td>95.5</td></tr>
<tr><td>2</td><td>EG Vein</td><td>28.70</td><td>53</td><td>89.5</td></tr>
<tr><td>3</td><td>EG Vein</td><td>9.78</td><td>53</td><td>89.3</td></tr>
<tr><td>4</td><td>EG FW Vein</td><td>5.08</td><td>53</td><td>66.4</td></tr>
<tr><td>5</td><td>EG FW Vein</td><td>4.46</td><td>53</td><td>80.9</td></tr>
<tr><td>6</td><td>EG Vein</td><td>3.78</td><td>106</td><td>68.8</td></tr>
<tr><td>7</td><td>EG Vein</td><td>5.35</td><td>106</td><td>91.2</td></tr>
<tr><td>8</td><td>EG Vein</td><td>6.65</td><td>106</td><td>95.8</td></tr>
<tr><td>9</td><td>EG Vein</td><td>5.72</td><td>106</td><td>84.3</td></tr>
<tr><td>10</td><td>EG Vein</td><td>7.58</td><td>106</td><td>89.1</td></tr>
</table>

Preliminary flotation testing at a P80 of 106 pm was completed on eight of the composite samples. The recoveries were not an improvement on the direct leach results and insufficient gold was recovered to the flotation concentrate to consider the flotation tailings a discard stream.
The test work completed to date supports the adoption of a direct leach flowsheet for gold recovery at a primary grind size of 106 pm or finer and an expected recovery of 90% or higher is a reasonable assumption given that optimisation work has not yet been completed.
90% recovery has been adopted for the cut-off grade calculation.

</td></tr>
<tr><td>Environmental factors or assumptions</td><td>
<u>WKP Project</u>

From 2017 to 2019 baseline environmental studies were conducted by independent consultants to support an assessment of the environment. Studies have included climatic data, water quality, river flow, aquatic and terrestrial ecology, groundwater and hydrogeology, de-watering, geochemistry, recreation assessment and social / community effects.
A Mining Permit Application was submitted to New Zealand Petroleum and Minerals (NZPAM) on 6th May 2019 and is being processed.

</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>Resource Consents will also be required from the District and Regional Council's for the WKP to proceed.</td></tr>
<tr><td>Bulk density</td><td><u>WKP Resources</u>
WKP density (sg) assignment is based on a density assessment completed in January 2019 on 79 vein samples. Density samples are routinely collected during logging of diamond drill core. Specific gravity is automatically calculated using the following formula:

$\frac{\text{Weight in Air}}{(\text{Weight in Air} - \text{Weight in water})} = \text{SG}$
The specific gravity of the quartz vein samples average 2.54. The Mineral Resource model uses an SG of 2.5.</td></tr>
<tr><td>Classification</td><td><u>WKP Resources</u>
The Mineral Resource classification is based on average drill hole spacing. The ranges employed in classification of the WKP scoping resource model are slightly greater than ranges used in classification of other vein zones currently being mined within the larger Waihi operation, based on the demonstrated continuity of the EG vein over approximately 1,000 metres along strike.
Indicated Resource is defined using an average distance to the three closest drill holes of 50 metres. Only the EG vein has been considered for classification as Indicated Resource. The Mineral Resource classification is shown in Table 3.

Table 3: Average Drill hole spacing required for resource classification<table><tr><th>Confidence Category</th><th>EG Vein
Average distance to 3 closest holes</th><th>All Other Veins
Average distance to 3 closest holes</th></tr><tr><td>Measured</td><td>N/A</td><td>N/A</td></tr><tr><td>Indicated</td><td>0 to 50 m</td><td>N/A</td></tr><tr><td>Inferred</td><td>50 to 70 m</td><td>0 to 60 m</td></tr></table>
There is significant local experience in mining and assessing the continuity of epithermal mineralisation with the nearby veining in Waihi. The vein style mineralisation present at WKP is similar to Waihi, it also has a strong visual control and a demonstrated continuity over significant ranges.
An estimation calculated using a maximum of three drill holes with a single sample per drill hole was undertaken storing the average distance to the three drill holes used to estimate the block. This forms the basis for the drill hole spacing and therefore the resource classification.
Polygons are developed based on the results of this estimation pass for coding into the block model for the higher confidence category zones to overcome spotty distribution of classification criteria.
The resource estimate outlined in this document appropriately reflects the Competent Person's view of the deposit.</td></tr>
<tr><td>Audits or reviews</td><td>The models are regularly cross checked by OceanaGold employees that are familiar with the resource estimation practices employed on site.
SRK was engaged to undertake an independent assessment of an earlier WKP resource estimate and concluded that:
The conceptual geological model appears sound and consistent with the experience of nearby mineralisation and existing resources.
SRK found no issues with the integrity of the database.</td></tr>
</table>

Criteria	Commentary
	o SRK has no concerns with the QAQC. o Lode boundaries are based on a specifically defined combination of structure mineralisation and grade and the model appears to adhere well to this set of rules o SRK considers that the top-cuts employed in the estimate may be inconsistent and that the estimate may be conservative in grade (and ultimately gold metal content). o Grade estimation appears to be in the sub-blocks rather than the parent blocks, this is not good practice as support volumes are not consistent, however SRK does not consider this to be a material concern in the context of the current use of the model. o Resource classifications of Indicated and Inferred areas are considered appropriate. o The Resource model and drilling are at a relatively early stage and have been modelled, estimated and classified appropriately for the purpose of mining study. • The minor issues identified by SRK in the previous model have generally been rectified in the latest iteration of the model. • OceanaGold Group Geologist - Tim O'Sullivan has undertaken a peer review of the latest WKP Resource Model.
Discussion of relative accuracy/ confidence	• In reviewing the nature of the WKP deposit it is considered appropriate to employ the same modelling and estimation work flows used for the Waihi deposits to estimate the Mineral Resource for this deposit. This opinion is formed based on the geologic knowledge and the detailed statistical evaluation of the data obtained through drilling. • Numerous methods have been used to validate the integrity of the WKP0219_USC resource model. The validation has included: o validation of the new data, o a review of the interpretation, including classification shapes, o a review of the methodology, o a review of the exploratory data analysis (EDA), including variography and search neighbourhoods, o global grade and tonnage comparisons with the previous model o a visual sectional validation of the block model with interpretation and drilling, and o Swath plots.