

# Vertex to incorporate TOMRA Laser Sorter into the Reward Gold Plant – with refurbishment and build on target

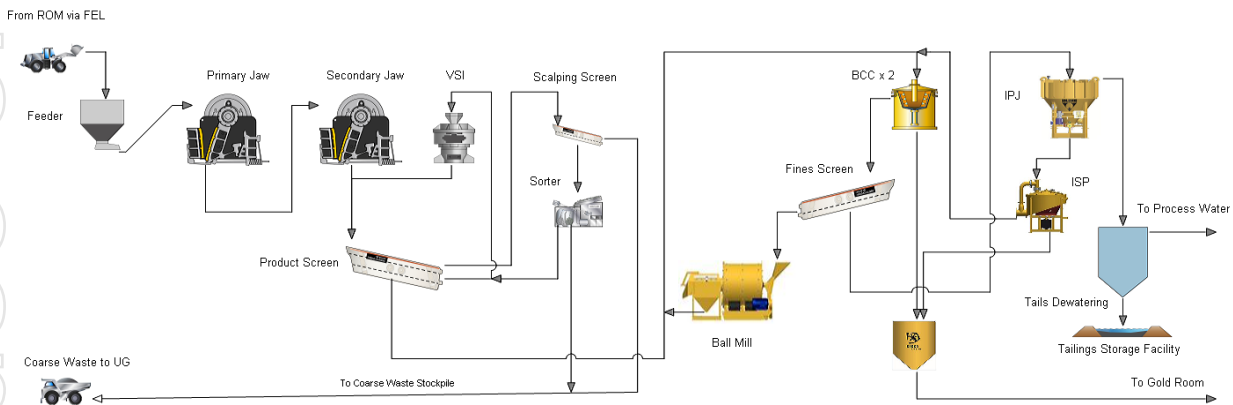
ASX Announcement 11<sup>th</sup> September 2024

- Vertex identified that pre-concentration of ore using TOMRA Laser Sorter technology should have a significant impact on the sustainability and profitability of the mining operation at Reward.
- Gekko has incorporated ore sorting into the Reward flow sheet and plant design being refurbished/built at their Ballarat factory.
- By processing only high-grade ore, energy and water consumption are greatly reduced leading to lower operating costs and reduction in carbon footprint.
- Importantly, preconcentration allows the rejection of barren crushed rock. This greatly reduces the mass of ore to the remaining process and greatly reduces the volume of process sand residue. The rejected material is transported back underground to fill the mined voids. This provides a significant cost advantage and has many ESG benefits.
- 94kg of sample from the low-grade stockpile at Reward Gold Mine (Reward) was sorted. The following results are reported;
  - ✓ Head grade to Sorter weighted average grade (WAG) = 3.70 g/t gold,
  - ✓ Ore grade WAG after sorting = 16.22g/t gold (**337.20% increase on grade**),
  - ✓ Ore/waste split after sorting = 19.31kgs Ore vs 74.54kgs Waste (**79% mass reduction**),
  - ✓ Gold lost to waste fraction = 0.03grams/t (**>90% efficiency**)

*Refer to VTX ASX Announcement 26th July 2024*

- Previous scoping test results from TOMRA suggested that the barren country rock that is mined with the gold bearing quartz veins can be efficiently detected and removed from mined material. This leads to significant increase in head grade reporting to the gravity section of the processing plant.
- Refurbishment of the plant is well underway, and Vertex anticipates that the plant will be re-installed at Hill End later this year. The Company anticipates production will commence in January 2025.

**Vertex Minerals** (Vertex or the Company) is pleased to announce that Gekko has incorporated pre-concentration of gold ore into the flow sheet and plant design for the Hill End Project. This comprises the inclusion of a TOMRA ore sorter. Gekko will design and manufacture simple conveyances to and from the proposed ore sorting unit, with the ore unit comprising a separate module to the crushing and gravity recovery circuit.



**Figure 1. Flow sheet of the Hill End Gravity only Gekko processing plant with an inline TOMRA Ore Sorter**

Demobilisation of equipment from the Morningstar and Hill End mines has been completed, and refurbishment of this equipment is underway at Gekko's factory in Ballarat.

The ore sorting technology can separate high-grade gold bearing quartz ore from the barren sedimentary country rock before it enters the processing stream. This significantly reduces the quantity of material that requires further processing to recover gold. Vertex believes that the application of ore sorting technology at Hill End can achieve more than a 50% reduction in the ore processing volume. Benefits include:

- Reduction in energy consumption.
- Reduction in water consumption.
- Reduction in the process residue that requires dry stacking on surface.
- Processing plant will only need to be run on a day shift basis.

Commenting on the results, Executive Chairman, Roger Jackson, said *"We are very pleased with how Gekko have been able to integrate the Sorter into the Hill End Gravity plant. Further we are very thrilled to see the plant starting to take shape in the Gekko Ballarat factory. We are very much looking forward to its installation and commissioning later this year"*.



**Figure 2. Directors and Hill End Management were on site at the Gekko Ballarat factory this week to review the work to date on the Hill End Gravity Gold plant. From left to right, Declan Franzmann, VTX Director and Jeff Williams, Hill End Mine, Maintenance Manager.**



**Figure 3. Vertex directors on site at the TOMRA test facility in west Sydney to view the Reward ore being sorted. From left to Right Roger Jackson, Vertex Director, Chris Corcoran from TOMRA, Gavin Rech from TOMRA, and Tully Richards, Vertex Director.**





Figure 4: On-site workers in Amalgamated Adit (640 Level), main access for the Reward gold mine

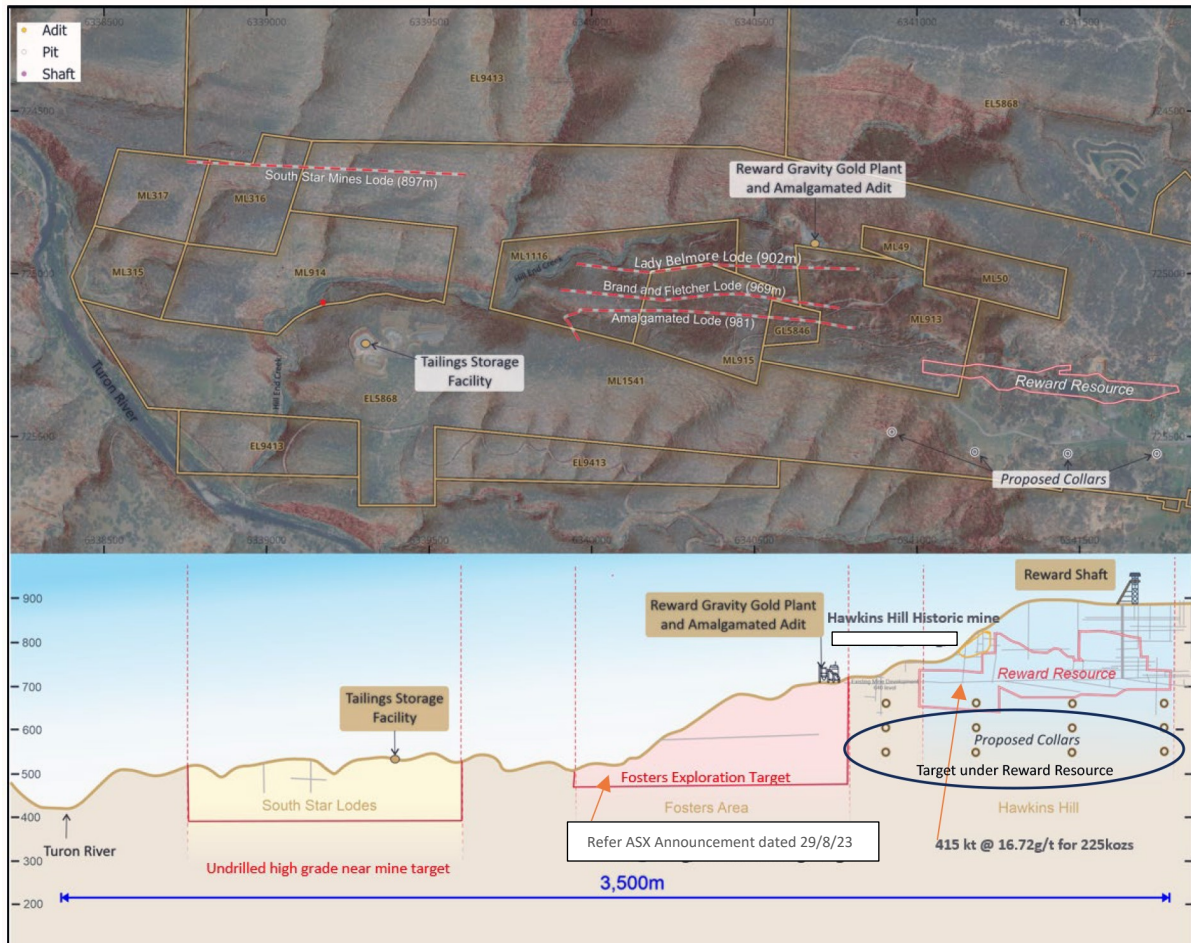


Figure 5. Plan View of tenements and long section showing the key locations. The PFS mining will be within the Reward Resource envelope. Note location of Plant to where the Reward resource sits. Also note the location of the Fosters Exploration target to the plant and infrastructure.



## Competent Persons Statements

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Mr. Roger Jackson, a Director and Shareholder of the Company, who is a 25+ year Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), Fellow of the Australian Institute of Geoscientists (FAIG) and a Member of Australian Institute of Company Directors. Mr. Jackson has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration results, Mineral Resources and Ore Reserves”. Mr. Jackson consents to the inclusion of the data contained in relevant resource reports used for this announcement as well as the matters, form and context in which the relevant data appears.

The information in this report that relates to Ore Reserves, production targets, assumptions on Modifying Factors and evaluation of other relevant parameters is based, and fairly represents information and supporting documentation that has been compiled under the supervision of Mr. Declan Franzmann B Eng (Mining), a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr. Franzmann is a director and security holder of Vertex Minerals Limited. Mr. Franzmann has reviewed and approved the technical content of this announcement. Mr. Franzmann has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration results, Mineral Resources and Ore Reserves”. Mr. Franzmann consents to the inclusion of the data contained in report of the matters based on his information in the form and context in which the relevant data appears.

## Forward Looking Statements and Important Notice

This report contains forecasts, projections, and forward-looking information. Although the Company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions it can give no assurance that these will be achieved. Expectations and estimates and projections and information provided by the Company are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are out of Vertex Minerals’ control.

Actual results and developments will almost certainly differ materially from those expressed or implied. Vertex Minerals has not audited or investigated the accuracy or completeness of the information, statements and opinions contained in this announcement. To the maximum extent permitted by applicable laws, Vertex Minerals makes no representation and can give no assurance, guarantee or warranty, express or implied, as to, and takes no responsibility and assumes no liability for the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omission from, any information, statement or opinion contained in this report and without prejudice, to the generality of the foregoing, the achievement or accuracy of any forecasts, projections or other forward looking information contained or referred to in this report.

Investors should make and rely upon their own enquiries before deciding to acquire or deal in the Company’s securities.

## JORC COMPLIANCE STATEMENTS

Where statements in this announcement refer to exploration results which previously been reported, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original announcements, and in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons’ findings are presented have not materially modified from the original market announcements.

<sup>1</sup> For further details of the current resource at Reward, refer ASX Announcement dated 26 June 2023

<sup>2</sup> For further details of the resource at Hargraves and Red Hill, refer to the IGR in the Company’s listing prospectus dated 21 October 2021 and released on ASX on 12 January 2022.

<sup>3</sup> For further details of the Fosters Exploration Target, refer ASX Announcement dated 29 August 2023

This announcement has been approved by the Board of Vertex Minerals Limited.

**Further Information:**

**Roger Jackson**  
**Executive Chairman**  
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**Tully Richards Technical**  
**Director**  
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## About Vertex Minerals Limited

### STRATEGIC FOCUS

- **Clear Strategy set for Hill End**
  1. To install a circa 110ktpa Gravity Gold plant in 2024
  2. To commence gold production from existing stockpiles
  3. To commence mining development in the high-grade Reward Mine in late 2024
  4. To commence, at a reduced throughput, but with ore sorting, with a build-up of throughput through 2025
  5. To be Australia's most prominent high grade gold miner
  6. To drill and add high grade gold to the global Hill End gold inventory, from the large-scale gold system/s within the Hill End Corridor.
  7. To take the existing resources and near surface mineralisation to production utilising gravity gold recovery methods.
  8. Earn a robust Safety, Environmental, Social and Governance (ESG) reputation.
  9. Build shareholder value.

Vertex Minerals Limited (ASX: VTX) is an Australian based gold exploration company developing its advanced Hargraves and Hill End gold projects located in the highly prospective Eastern Lachlan Fold Belt of Central West NSW. Other Company assets include the Pride of Elvire gold project and Taylors Rock gold/nickel/lithium project both located in the Eastern Goldfields of WA. The focus of Vertex Minerals is to advance the commercial production of gold from its NSW projects embracing an ethical and environmentally sustainable approach:

- ✓ Gravity Recoverable Gold
- ✓ Low Capex and Low Operating cost
- ✓ Minimal grind - 200 to 650 microns
- ✓ Benign tails – potential commercial sand
- ✓ Benign waste
- ✓ Low water usage
- ✓ Re usable water
- ✓ No chemicals – no cyanide
- ✓ 23 fine gold
- ✓ Minimum tails

**Table 1: Global Mineral Resource estimate for the Hill End & Hargraves Gold Project**

Hill End Project Mineral Resource Estimate				
Deposit	Classification	Tonnes (kt)	Grade Au (g/t)	Contained Au (koz)
Reward Gold Mine	Indicated	141	15.5	71
	Inferred	278	17.3	155
<b>Sub Total</b>		<b>419</b>	<b>16.7</b>	<b>225</b>
Hargraves Project	Indicated	1,109	2.7	97
	Inferred	1,210	2.1	80
<b>Sub Total</b>		<b>2,319</b>	<b>2.4</b>	<b>178</b>
Red Hill Project	Indicated	413	1.4	19
	Inferred	1,063	1.8	61
<b>Sub Total</b>		<b>1,476</b>	<b>1.7</b>	<b>80</b>
<b>Project Total</b>	Indicated	1,663	3.5	187
	Inferred	2,551	3.6	296
<b>Grand Total</b>		<b>4,214</b>	<b>3.6</b>	<b>483</b>

#### Hargraves Gold Project (NSW)

- Hargraves Gold project is located approximately 2 5 km south of the town of Mudgee.
- The goldfield is 4 x 10 km with numerous mineralised structures with little modern exploration.
- An updated mineral resource in accordance with JORC 2012 Code was completed by SRK Consulting (Australasia) Pty Ltd (SRK) – total of **2.3Mt at 2.38g/t Au for 177koz Au.**

#### Hill End Gold Project (NSW)

- Consists of 10 mining leases and three Exploration Licences located in the core of the Hill End Trough on the eastern Lachlan Fold Belt.
- 14km of continuous gold lode with gold recovery rate to gravity at +90%.

#### Pride of Elvire Gold Project (WA)

- Tenements surround the Mt. Elvire homestead approximately 210km north of Southern Cross in Western Australia
- The project has seen historical drilling with encouraging gold results achieved.

#### Taylor's Rock Project (WA)

- Located 80km WSW of Norseman in the Southern Goldfields region of Western Australia.
- The project has both Gold Lithium and Nickel potential, interesting historical intercepts have recorded encouraging mineralisation.



## APPENDIX 1 - JORC CODE, 2012 EDITION – TABLE 1 – REWARD GOLD MINE ORE SORTING

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were selected from the Reward Gold Mine Waste piles, as representative of the Ore using a hand-held scoop.</li> <li>The geology of the reward Gold Mine is auriferous subvertical quartz veins with greywacke or turbidite country rock.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>N/A. Samples were from mining.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>N/A. Samples were from mining.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</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 style="list-style-type: none"> <li>N/A. Samples were from mining. Geological logging was not relevant to the processing test work.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <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 sub-sampling 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>	<ul style="list-style-type: none"> <li>Samples were from mining. Scooped samples were placed in 20 litre plastic buckets.</li> <li>QAQC is limited to the internal lab procedures. Duplicates were not collected for this sampling programme.</li> <li>The samples are believed to be representative for the purposes for which they were collected.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external</li> </ul>	<p>Samples were assayed at ALS Orange using Fire Assay with a 50g charge.</p>

Criteria	JORC Code explanation	Commentary
	laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul style="list-style-type: none"> <li>N/A. Samples were from mining.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Sample locations were taken from the operational mining stockpiles</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>N/A. Samples were from mining.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>N/A. Samples were from mining. They are from blasted material</li> <li>There is no known sample biasing.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>The samples were transported to ALS Orange via our Director</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audit was undertaken for this programme.</li> </ul>



## 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 style="list-style-type: none"><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 style="list-style-type: none"><li>The project is located within granted Exploration Licence EL5868 Mining leases ML1541, ML1116, ML315, ML316, ML317, ML49, ML50, ML913, ML914, ML915 and GL5846 with the earliest expiry date of 19 January 2033. The leases are held by Vertex Minerals Pty Ltd.</li><li>First Tiffany Resources Corporation is registered as having a 15% free carried interest in EL5868.</li><li>The site is covered by EPL 12008, scheduled activity is mining for minerals.</li><li>The tenure is 100% owned by Vertex</li></ul>
Exploration done by other parties	<ul style="list-style-type: none"><li>Acknowledgment and appraisal of exploration by other parties.</li></ul>	<ul style="list-style-type: none"><li>The historical exploration data has been collected by Vertex Limited and has been reported to high standards.</li><li>The methods of exploration and techniques used are considered appropriate for the deposit types sought (Au)</li></ul>

Criteria	JORC Code explanation	Commentary
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Reef gold</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>N/A as they were collected at stockpiles</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</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 style="list-style-type: none"> <li>N/A No aggregation methods were used or required for this test work</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <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 (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>N/A Stockpile material</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>N/A. Samples were from existing mining areas. Next to the Hill End Gravity Gold Plant</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All relevant assays have been reported.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>All relevant geological information has been reported.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg 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 style="list-style-type: none"> <li>N/A. Samples were from existing mining areas.</li> </ul>



