

ASX Code: VTX

**Advanced Hill End Gold Project (NSW)**  
34km strike length high grade gold system – to be developed on a large scale - 1.6m ozs historically mined.

**Advanced Hargraves Gold Project (NSW)**  
moving to a PFS.

**Combined existing 2012 JORC 484K oz @ 3.28 g/t<sup>1</sup>.** Significant exploration upside likely to be amenable to gravity recovery, with recoveries potentially as high as 95%.

**Highly prospective Pride of Elvire Gold Project (WA) & Taylors Rock Nickel Gold Project (WA).**

Hill End is home to the largest gold reef nugget ever found – world record.



W. [www.Vertexminerals.com](http://www.Vertexminerals.com)

E. [info@vertexminerals.com.au](mailto:info@vertexminerals.com.au)



## LIDAR SURVEY PROVIDES ENHANCED TARGETING DATA

ASX ANNOUNCEMENT 18<sup>TH</sup> JANUARY 2023

### HIGHLIGHTS:

- A comprehensive LIDAR and Aerial Photographic survey was undertaken over the entire Hill End and Hargraves mining and exploration leases in late 2022.
- The photographic and LIDAR data was accurate to 10cm over an area of 44km in length and 4km in width.
- The LiDAR survey accurately located all the historic workings over the length of Hargraves and Hill End tenements. Including workings that were not known to Vertex.
- The LIDAR data also defines in excellent clarity the geological structures of the entire area. This includes bedding planes, folds (anticlines and synclines), faults and shear zones.
- The LIDAR data is of such quality that the location of silica rich rocks (like quartz) can be identified protruding from the surrounding ground. This is a function of the greater resistance of siliceous rocks to weathering.
- The LiDAR information combined with information gathered from previous mining and geological mapping has significantly enhanced Vertex's data set used to identify gold bearing targets.
- Vertex have commenced rock chip sampling of the targets on the Mining Lease, (areas near the plant) with the view of deriving drill targets, for rapid resource definition.
- Vertex's priority is to target shallow, open pit mineralisation on the Company's Mining Leases. The aim is to develop sufficient mineral resource to justify the refurbishment of the Hill End Processing Plant and restart gold production in an expedited timeframe.

<sup>1</sup> ASX Announcement Dated 23 November 2022 (as replaced 3 January 2023)

**Ethical and environmentally sustainable gold explorer Vertex Minerals Limited (ASX: VTX) (“Vertex” or the “Company”) is pleased to advise they have overlayed the LiDAR data, from the 2022 LiDAR survey, over known geological structures to provide clear and concise gold targets on their Hargrave and Hill End tenements.**

Figure 1 -What does LIDAR do?

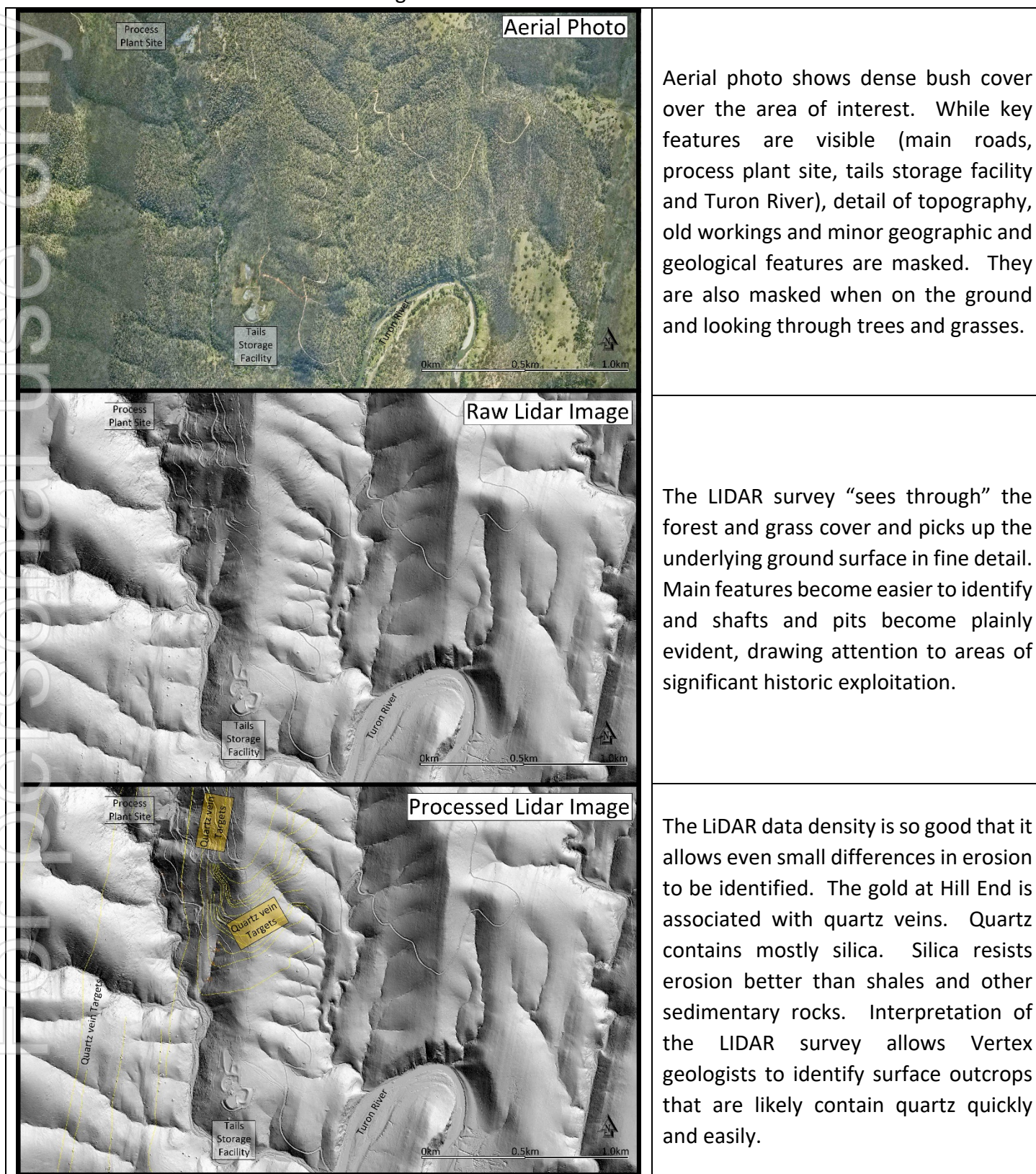
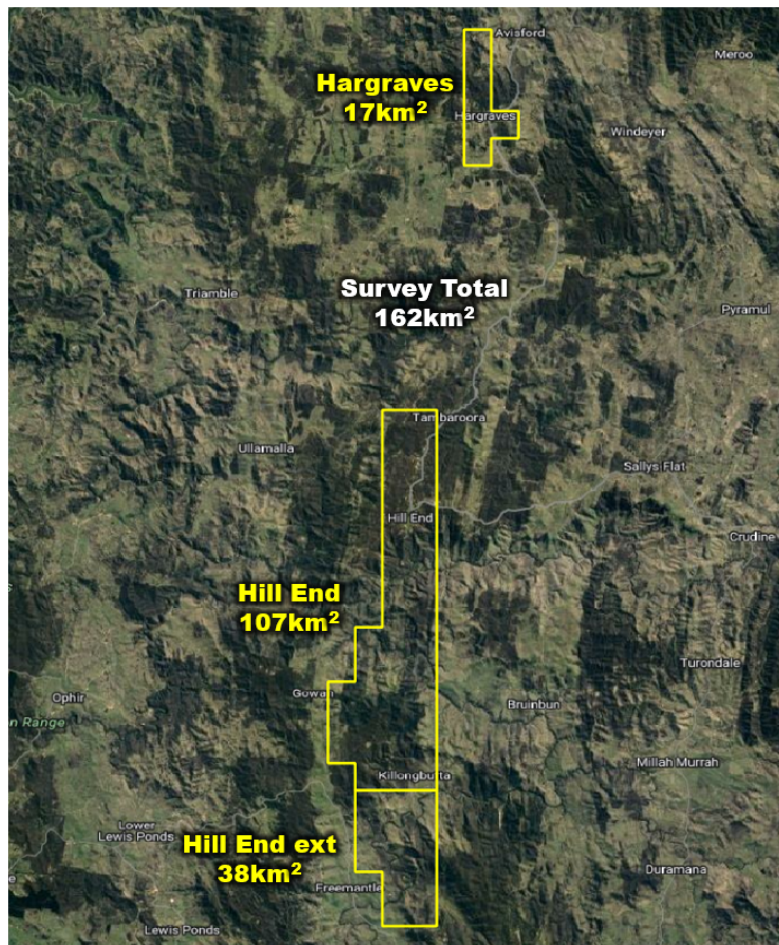




Figure 2 – The area covered by LIDAR survey



Vertex Minerals contracted Aerometrex Ltd to undertake a LiDAR and Aerial Photographic survey in during the month of September covering an area of 162km<sup>2</sup>.

The Hargraves and Hill End properties were surveyed with LiDAR and 10cm colour RGB aerial photography. The LiDAR was processed to yield a high resolution 50cm ground DTM.

A high end RIEGL VQ-780ii Sensor was used for the survey. The LiDAR was flown with and minimum average twenty (20) points per square metre with flying height of ~1000 metres to ensure 10 centimetre vertical accuracy.

GeoCloud Analytics was contracted to undertake a detailed interpretation of the data, documenting historical mining evidence and mapping observed structures.

The identification and accurate mapping of historical mining activity adds to the existing Government mines database and assist with correctly geo-locating Vertex's database of historical maps and sample data.

## Survey accurately located old workings.

The LiDAR identification of workings will benefit Vertex in two ways – better understanding of mineralisation and survey accurate location facilitating efficient prospecting.

The Survey accurate location of historical workings identified in the LiDAR data gives Vertex Field staff confidence to plan and prospect. Despite best efforts of Government and Vertex compilation of mining activity from records and historical maps, the data is only as good as the map makers and cartographers creating them.

The LiDAR data being tied to local survey benchmarks is highly accurate, giving Vertex staff 100% confidence the mapped mining activity is 'where it is'.

The mapped workings provided the Vertex Geology team greater insight into the extent of mineralization and prevalence of folded structures within the project. This data has provided numerous targets for field follow-up assessment for drill priority.

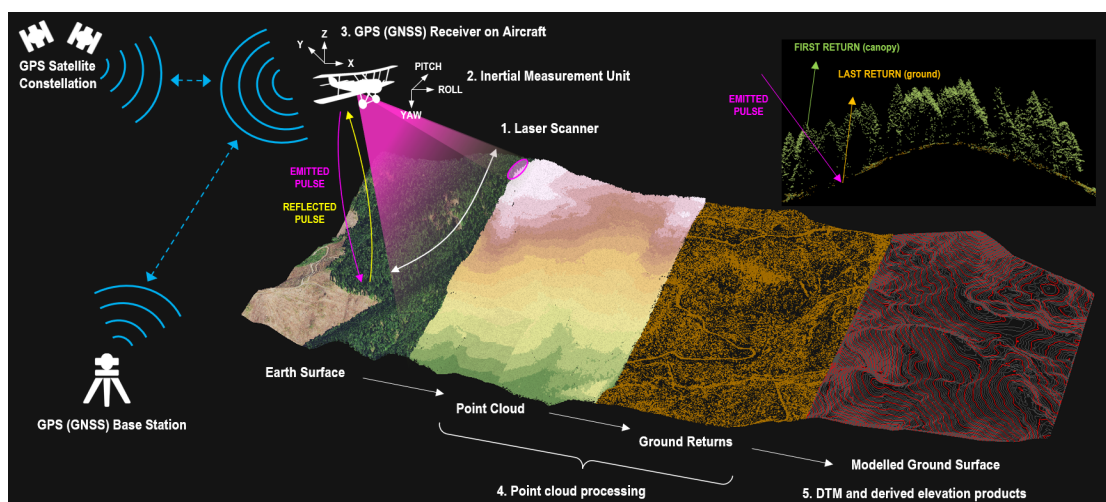
## How Vertex will utilize the data.

The LiDAR data has been reprocessed to extract and highlight the dormant detail within, to produce an enhanced hillshade. The enhanced hillshade was consumed in 3D and draped on the DTM facilitating detailed interpretation- allowing the identification of structures such as structure, old workings, faults, silicious structures and outcrop.

The source point clouds used to produce the DEM are interrogated via machine learning to locate pits and shafts. These features are mapped and further processed with cluster analysis to automate the generation of pit-chain strike vectors for structural trend study.

Reprocessing of the DEM allows greater definition of bush access tracks and old drill pads, potentially enabling Vertex to minimize civil earthworks for drill site access and reduce environmental impact by re-using existing tracks and roads in the area.

Figure 3 – How LiDAR works



1. The laser scanner on the aircraft scans along its flightpath, sending laser pulses at a rate up to 1000khz, with multiple target reflections per pulse
2. During flight, both the subtle and not so subtle aircraft movements are recorded, allowing post processing to correct these deviations ensuring the laser scan lines are calibrated and aligned for maximum precision and accuracy

3. While scanning, the GPS (GNSS receiver) on the aircraft is in constant communication the GPS satellite constellation, always knowing it's location in 3D space
4. The resultant point cloud of target reflections is subsequently processed to classify ground vs non-ground data
5. Valid ground returns are interpolated to model the ground surface, from which a DTM, topographic contours, and terrain hillshades are derived

**Executive Chairman Roger Jackson commented:**

*"The results from the LIDAR survey are truly exceptional. Given the Hill End and Hargraves ore carries little to no Sulphides, conventional geophysics provides minimal informative data. The directors have been on site this week ground truthing the LIDAR data, and we have found workings and structures we had no idea existed. We have immediately commenced a comprehensive rock chip sampling program, targeting the exact locations we have determined from overlaying the LIDAR on known structures. This bodes well for finding feeder pits on our MLs for the Gravity plant"*

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

**Further Information:**

**Roger Jackson**  
**Executive Chairman**  
[roger@vertexminerals.com.au](mailto:roger@vertexminerals.com.au)

**Tully Richards**  
**Technical Director**  
[tully@vertexminerals.com.au](mailto:tully@vertexminerals.com.au)

**About Vertex Minerals Limited**

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 Separation:** The deportment of gold at the Hill End Project allows high recovery to a concentrate produced using gravity separation techniques.
- **Direct Smelting:** The use of direct smelting of a gold concentrate that eliminates the need to use cyanide as a solvent.
- **Contrast in Density:** These separation techniques take advantage of the contrast in density of gold ( $\rho=19.3$ ) relative to quartz ( $\rho=2.65$ ).
- **Renewable Energy Potential:** The unique landscape and infrastructure makes Hill End ideal for the establishment of renewable sources of power. The Crudine Ridge Windfarm is only 30km from the project site and Vertex plans to examine a pumped hydro-electricity scheme as an integral part of any proposed development. The topography and existing mine workings including shafts and adits make the establishment of a pumped hydro scheme achievable at modest expense.
- **Benign Tailings:** The tailings will essentially be quartz with little to no sulphide minerals.

**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 Licenses 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%.
- Work undertaken in 2015 by Hill End Gold Limited (HEG) culminated in a JORC 2012 resource estimate of **80,000 oz Au @ 1.7 g/t to 150m** depth.

#### 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 and Nickel potential, interesting historical intercepts have recorded encouraging mineralisation.

Hill End Project Mineral Resource Estimate				
Deposit	Classification	Tonnes (kt)	Grade Au (g/t)	Contained Au (koz)
Reward Gold Mine	Indicated	55	12.4	22
	Inferred	782	8.1	205
<b>Sub Total</b>		<b>837</b>	<b>8.5</b>	<b>227</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	1,577	2.7	138
	Inferred	3,055	3.5	347
<b>Grand Total</b>		<b>4,632</b>	<b>3.3</b>	<b>485</b>

#### **Competent Persons Statement**

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.

### **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.



# APPENDIX 1 – HARGRAVES HILL END LIDAR PROJECT – JORC CODE TABLE 1

## CHECKLIST OF ASSESSMENT AND REPORTING CRITERIA

### 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 (e.g., 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></ul>	<ul style="list-style-type: none"><li>Vertex Minerals undertook a LiDAR and Aerial Photographic survey during the month of September covering an area of 162km2.</li><li>The Hargraves and Hill End properties were surveyed with LiDAR and 10cm colour RGB aerial photography. The LiDAR was processed to yield a high resolution 50cm ground DTM.</li><li>A high end RIEGL VQ-780ii Sensor was used for the survey.</li><li>Project datum is GDA94.</li></ul>
	<ul style="list-style-type: none"><li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li></ul>	<ul style="list-style-type: none"><li>Data classification was manually checked and edited against georeferenced digital orthophotography and/or intensity imagery acquired as part of this project.</li></ul>



	<ul style="list-style-type: none"> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The LiDAR was flown with and minimum average twenty (20) points per square metre with flying height of ~1000 metres to ensure 10 centimetre vertical accuracy.</li> </ul>
DRILLING TECHNIQUES	<ul style="list-style-type: none"> <li>Drill type (e.g., core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., 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>Not applicable: No new drilling results reported.</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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <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>Not applicable: No new drilling results reported.</li> </ul>

CRITERIA	JORC Code Explanation	Commentary
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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> </ul>	<ul style="list-style-type: none"> <li>The sampling procedure is appropriate for the mineralisation style of structurally derived Quartz hosted gold deposits</li> <li>Not applicable: No new drilling results reported.</li> </ul>

CRITERIA	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Measures taken to ensure that the sampling is representative of the <i>in-situ</i> material collected, including for instance results for field duplicate/second-half sampling.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>

CRITERIA	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
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> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>The use of twinned holes.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <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>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>



CRITERIA	JORC Code Explanation	Commentary
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> </ul>	<ul style="list-style-type: none"> <li>The LiDAR and Aerial Photographic survey covered an area of 162km<sup>2</sup>.</li> <li>The Hargraves and Hill End properties were surveyed with LiDAR and 10cm colour RGB aerial photography. The LiDAR was processed to yield a high resolution 50cm ground DTM.</li> <li>A high end RIEGL VQ-780ii Sensor was used for the survey. The LiDAR was flown with a minimum average twenty (20) points per square metre with flying height of ~1000 metres to ensure 10-centimetre vertical accuracy.</li> <li>Elevation data will be gathered as WGS ellipsoidal heights and will be adjusted to orthometric heights by applying a correction to every data point using the relevant geoid model.</li> </ul>

CRITERIA	JORC Code Explanation	Commentary
	<ul style="list-style-type: none"> <li>Specification of the grid system used.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
	<ul style="list-style-type: none"> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: No new drilling results reported.</li> </ul>
DATA SPACING AND DISTRIBUTION	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Processing of LiDAR to derive a 50cm resolution DEM</li> <li>Reprocessing of LiDAR to enhance and extract ground model detail</li> <li>Mosaiced products on a project area basis:               <ul style="list-style-type: none"> <li>- ground model (DEM) at 50cm resolution in GeoTiff format</li> </ul> </li> </ul>

CRITERIA	JORC Code Explanation	Commentary
		<ul style="list-style-type: none"> <li>- ground model hillshade at 50cm resolution in GeoTiff format</li> <li>- reprocessed enhanced hillshade at 50cm resolution in GeoTiff format</li> </ul>
	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>The spacing was sufficient</li> </ul>
	<ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>No sample compositing was carried out on site.</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> </ul>	<ul style="list-style-type: none"> <li>LiDAR data represents the surface area of the area regions surveyed, with X,Y and Z data reported for across topography of a predefined areas.</li> <li>LiDAR survey areas are completely independent of mineralisation or structural style and are therefore considered unbiased.</li> </ul>
	<ul style="list-style-type: none"> <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>No new drilling reported</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>LiDAR data is confidential, and only accessed by Vertex Minerals representatives, GeoCloud Analytics Ltd.</li> </ul>

CRITERIA	JORC Code Explanation	Commentary
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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>• Airborne LiDAR survey included field test points of survey areas located in accessible areas.</li> <li>• LiDAR test points were used to test and validate the achieved accuracy of the LiDAR.</li> <li>• Results of test point comparisons and achieved accuracy reported in the project metadata.</li> <li>• LiDAR data was georeferenced using local surveys station data.</li> <li>• Feld survey work and data validation was undertaken by a contractor under the supervision of the Vertex Geologists</li> </ul>
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## Section 2: Reporting of Exploration Results

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 tenements comprise EL5868 and EL6996 All licences are 100% held by Vertex Resources Pty Ltd.</li><li>All tenements are in good standing.</li></ul>																																																															
EXPLORATION DONE BY OTHER PARTIES	<ul style="list-style-type: none"><li>Acknowledgment and appraisal of exploration by other parties.</li></ul>	<table><tr><th>Year</th><th>Company</th><th>Drill Type</th><th>Holes Drilled</th><th>RC (m)</th><th>DD (m)</th><th>Total Drilled (m)</th></tr><tr><td>1984</td><td>Flanagan McAdam Resources Incorporated</td><td>DD</td><td>8</td><td></td><td>1,674.07</td><td>1,674.07</td></tr><tr><td>1989</td><td>BHP-Utah Minerals International</td><td>RC</td><td>28</td><td>2,248</td><td></td><td>2,248</td></tr><tr><td>2004</td><td>HEG Limited</td><td>RC</td><td>42</td><td>3,136</td><td></td><td>3,136</td></tr><tr><td>2006</td><td>HEG Limited</td><td>RC/DD</td><td>31</td><td>1,835</td><td>1,061.7</td><td>2,896.7</td></tr><tr><td>2007</td><td>HEG Limited</td><td>RC/DD</td><td>18</td><td>1,551</td><td>581.3</td><td>2,132.3</td></tr><tr><td>2008</td><td>HEG Limited</td><td>RC/DD</td><td>19</td><td>394</td><td>4,179.8</td><td>4,573.8</td></tr><tr><td>2011</td><td>HEG Limited</td><td>RC</td><td>9</td><td>591</td><td></td><td>591</td></tr><tr><td colspan="3">Total Included in Current Resource</td><td>155</td><td>9,755</td><td>7,496.87</td><td>17,251.87</td></tr></table>	Year	Company	Drill Type	Holes Drilled	RC (m)	DD (m)	Total Drilled (m)	1984	Flanagan McAdam Resources Incorporated	DD	8		1,674.07	1,674.07	1989	BHP-Utah Minerals International	RC	28	2,248		2,248	2004	HEG Limited	RC	42	3,136		3,136	2006	HEG Limited	RC/DD	31	1,835	1,061.7	2,896.7	2007	HEG Limited	RC/DD	18	1,551	581.3	2,132.3	2008	HEG Limited	RC/DD	19	394	4,179.8	4,573.8	2011	HEG Limited	RC	9	591		591	Total Included in Current Resource			155	9,755	7,496.87	17,251.87
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2006	HEG Limited	RC/DD	31	1,835	1,061.7	2,896.7																																																											
2007	HEG Limited	RC/DD	18	1,551	581.3	2,132.3																																																											
2008	HEG Limited	RC/DD	19	394	4,179.8	4,573.8																																																											
2011	HEG Limited	RC	9	591		591																																																											
Total Included in Current Resource			155	9,755	7,496.87	17,251.87																																																											
GEOLOGY	<ul style="list-style-type: none"><li>Deposit type, geological setting, and style of mineralisation.</li></ul>	<p>The Hargraves and Hill End system lies within a mineralised corridor on the east limb of the Hill End Anticline. It is hosted by thin to thick bedded turbidites, massive quartzose feldspathic volcanoclastic sandstones, siltstone and shale of the Early Devonian (416-407 Ma) Crudine Group, metamorphosed to greenschist facies. The mineralised corridor generally parallels the axis of the Hill End Anticline, which strikes 020° and plunges gently to the north with a relatively broad, regular axial crest.</p> <p>A series of bedding-parallel NNW-striking, moderately east dipping gold mineralised shoots on the east limb of the Hill End Anticline are a single linked system of bedding-parallel quartz veins that carry shoots of high-grade Au mineralisation where they intersect a zone of low displacement faults that strike NNE and dip steeply east. The most significant high-grade Au-mineralised quartz veins within the mineralised corridor appear to be bedding-parallel, and are often in the immediate footwall or hangingwall of especially thick, coarse-grained mechanically strong turbidite</p>																																																															



CRITERIA	JORC Code explanation	Commentary
		<p>units. Bedding dips relatively steeply (65°-90° east) within the mineralised zone at Red Hill, which is steeper than is expected for the local fold geometry (dip 45°-60° east. This suggests an additional structural influence whereby bedding has locally been rotated to be near- parallel to the cleavage as a result of the action of the low-displacement faults.</p> <p>The low displacement faults are poorly identified in outcrop and drill core, but appears to cause, or are localised by, a flexure or kink along a steeper-dipping portion of the eastern limb of the Hill End Anticline. This steepening of the east limb is most strongly developed in the Red Hill zone of the system, decreasing north through the Valentine into the Emily zone and south through White's zone. Vein sets within the RedHill zone will intersect Indicator-type faults at a lower angle and have larger areas of intersection and reaction, resulting in greater tonnage of high-grade Au mineralisation.</p>
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>No drilling is referred to in this announcement</li> </ul>
	<ul style="list-style-type: none"> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling is referred to in this announcement</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 (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	<ul style="list-style-type: none"> <li>No results are being reported</li> </ul>

CRITERIA	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>No grades are reported</li> </ul>
	<ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>No metal equivalents are reported.</li> </ul>
RELATIONSHIP BETWEEN MINERALISATION WIDTHS AND INTERCEPT LENGTHS	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling or drilling results reported</li> </ul>
	<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> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no drilling or drilling results reported</li> </ul>
	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Not applicable as no drilling or drilling results reported</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>Refer to figures contained within this report.</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>Not applicable as no drilling or drilling results 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>Not applicable as no drilling or drilling results reported</li> </ul>

CRITERIA	JORC Code explanation	Commentary
FURTHER WORK	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Vertex plans to conduct further drilling over the area surveyed, followed by Resourcing, met work, tailings characterization, waste characterization to then undertake a scoping study and move to gold production</li> </ul>
	<ul style="list-style-type: none"> <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>Refer to figures contained within this report. There are no specific targets for drilling at this point</li> </ul>