ASX Announcement
28 May 2019

Positive Ore Sorting Result - Apollo Hill Gold Deposit

A laser ore sorting test on a sample of Apollo Hill mineralised material has returned excellent first pass results and highlighted the deposits potential amenability to this type of mineral processing upgrade.

Highlights

- Testing showed mineralised quartz can be efficiently separated from non-mineralised host basalt.
- The first sorting test achieved:
  - A **1.5 x upgrade to the grade of a sample** taking material from **0.78g/t Au to 1.2g/t Au**.
  - A **strong gold recovery of up to 91.9%** with only two ore sorting passes.
  - A **28% volume reduction was achieved effectively ejecting a significant portion of waste rock** and marginal material.
  - Importantly, only 0.55% of the gold in sample was lost to fines in preparation for ore sorting (crushing and wet screening to +10mm ore sorting size). This low figure is considered a positive result as loss of metal to fines can otherwise render ore sorting ineffective.

Saturn Metals (ASX: STN) ("Saturn", "the Company") is pleased to report the successful completion of a laser ore sorting test on a sample from its Apollo Hill Gold Project, near Leonora in the Western Australian goldfields.

Ore sorting, particularly with strong recovery results as seen in the test conducted at Apollo Hill, can result in a more efficient mineral processing solution being developed for mining projects, with smaller tonnages of higher-grade material being beneficiated for mineral processing.

This can potentially reduce the size and cost of mineral processing circuits, or increase gold milling capacity, and in turn positively impact overall project economics.

Successful ore sorting treatment of selective higher-grade material from Apollo Hill could also lead to truck and toll treatment options for the deposit.

Further test work is planned to refine and improve the application of ore sorting technology at Apollo Hill.

Saturn Managing Director Ian Bamborough said: *"This is a very important breakthrough for the Apollo Hill Gold Project, which currently contains a Mineral Resource of 20.7 million tonnes grading 1.0 g/t Au for 685,000 ounces of gold*[1]*. Positive ore sorting results have the potential to deliver a step change in the feed grade of material delivered into any mineral processing circuit. Subject to further positive results, we may have the potential to significantly improve options for the economic development of Apollo Hill. Further test work is planned to optimise this first stage processing option."*

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[1]Details of the Mineral Resource breakdown by category are presented in Table 1a (page 5 of this document) along with the associated Competent Persons statement and details of the original ASX report that this information was originally published in.

APPENDIX – Sample Preparation and Test Work – Results Explanation

A 24.2kg composite sample (sample id # AD) of fresh (unweathered) mineralised diamond drill core from Apollo Hill was crushed to 100% passing 31.5mm.

The sample was wet screened to plus and minus 10mm. The results of this wet screening test are detailed in Table 1. Importantly, only 0.55% of the gold in sample was lost to fines in screening and preparation for ore sorting. This low figure is considered a positive result as loss of metal to fines can otherwise render ore sorting ineffective.

AD Comp P100 31.5mm Wet Screen			
PRODUCT	Yield	Au (calc)	
Size (mm)	%	ppm	dist.
+10	98.16%	0.782	99.45%
-10	1.84%	0.230	0.55%
Calculated Head	100.00%	0.771	100.00%

The coarse +10mm material was ore sorted using a Steinert 3D laser sensor laboratory machine (KSS). The machine uses laser diffraction properties from the mineralised material such as diffraction off the white colour of the target quartz veins to separate them from the darker colours of the waste basalt (Figure 1).

'Target/Quartz' 'Waste'

Figure 1. Hand sorted target quartz material used to set automatic optical 3D laser sorting parameters – sample id# AD

Directional air jets are used to eject target material into separate piles for assay. Material was subjected to two passes across the sensors. Results are also tabulated in Table 2.

This initial test work shows promising results:

- With 0.78g/t Au feed, the STEINERT Fines KSS L machine managed to produce: A higher grade product at 1.48g/t Au, representing an upgrade ratio of 1.89 and recovering 85% gold in 53.5% yield, with the first pass.
- The second pass recovered product at 0.36g/t Au, recovering another 6.91% gold in 17.5% yield.
- A marginal grade or waste product grading at 0.26g/t Au.

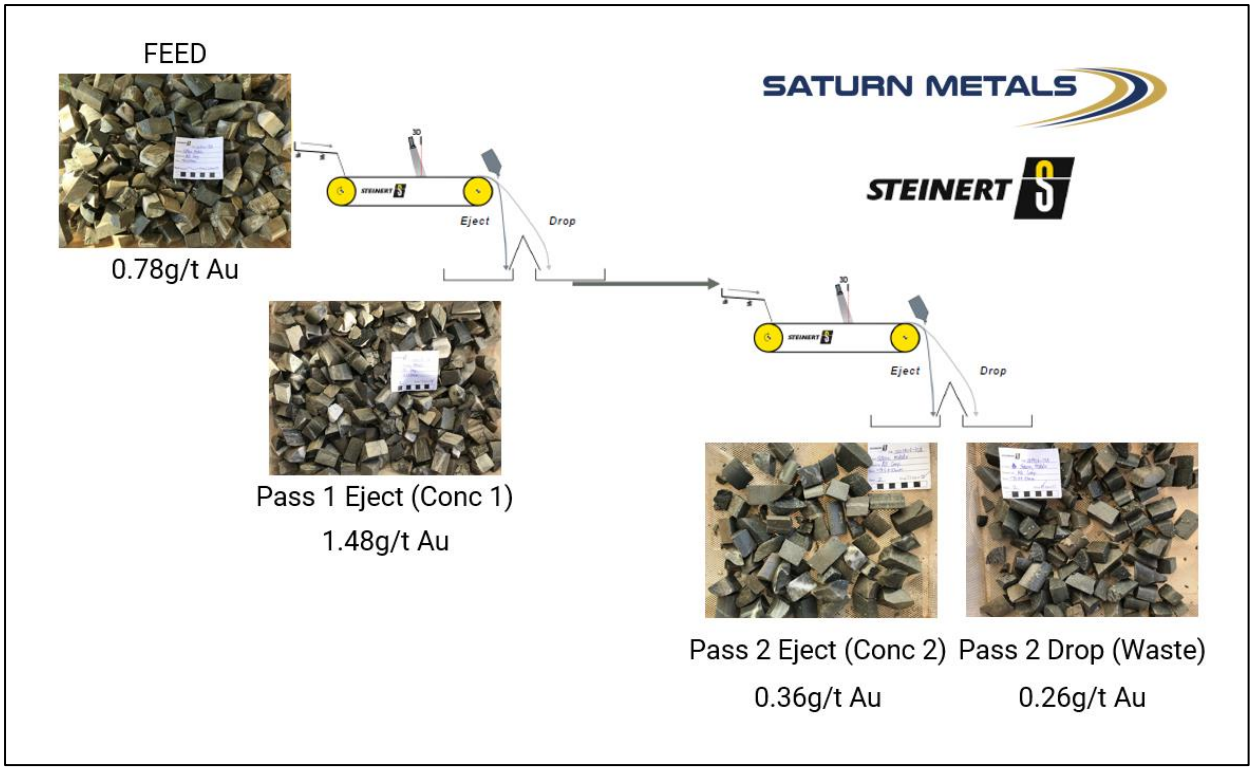

Figure 2. Ore Sorting Process Flow Chart, visual results with assay grades of material noted – (diagram adapted from Steinert Magnetic and Sensor Sorting Solutions), sample id#AD.

	AD Comp P100 31.5mm +10mm Ore Sort				
PRODUCT Fraction	Yield %	Mass Kg	Au (calc) ppm	 dist.	Weighted grams gold Pass 1 and 2 Ejects
Pass 1 Eject	53.56%	11.56	1.481	85.02%	17.12
Pass 2 Eject	17.58%	3.79	0.367	6.91%	1.39
Sum Pass 1 & 2 Eject	*71.14*	*15.35*	*NA*	***91.93%***	*18.51*
Pass 2 Drop	**28.86%**	6.23	0.261	8.07%	
Calculated Head	100.00%	21.59	0.933	100.00%	**Average Gold Grade Pass 1 and Pass 2 Ejects.** Sum Weighted grams gold 18.51 / sum Mass 15.35 = **1.2g/t Au**

Table 2. Ore Sorting Data – Results; sample id# AD

Apollo Hill is located ~60km south-east of Leonora in the heart of WA's goldfields region (Figure 3). The Project is surrounded by excellent infrastructure and several significant gold deposits and operations.

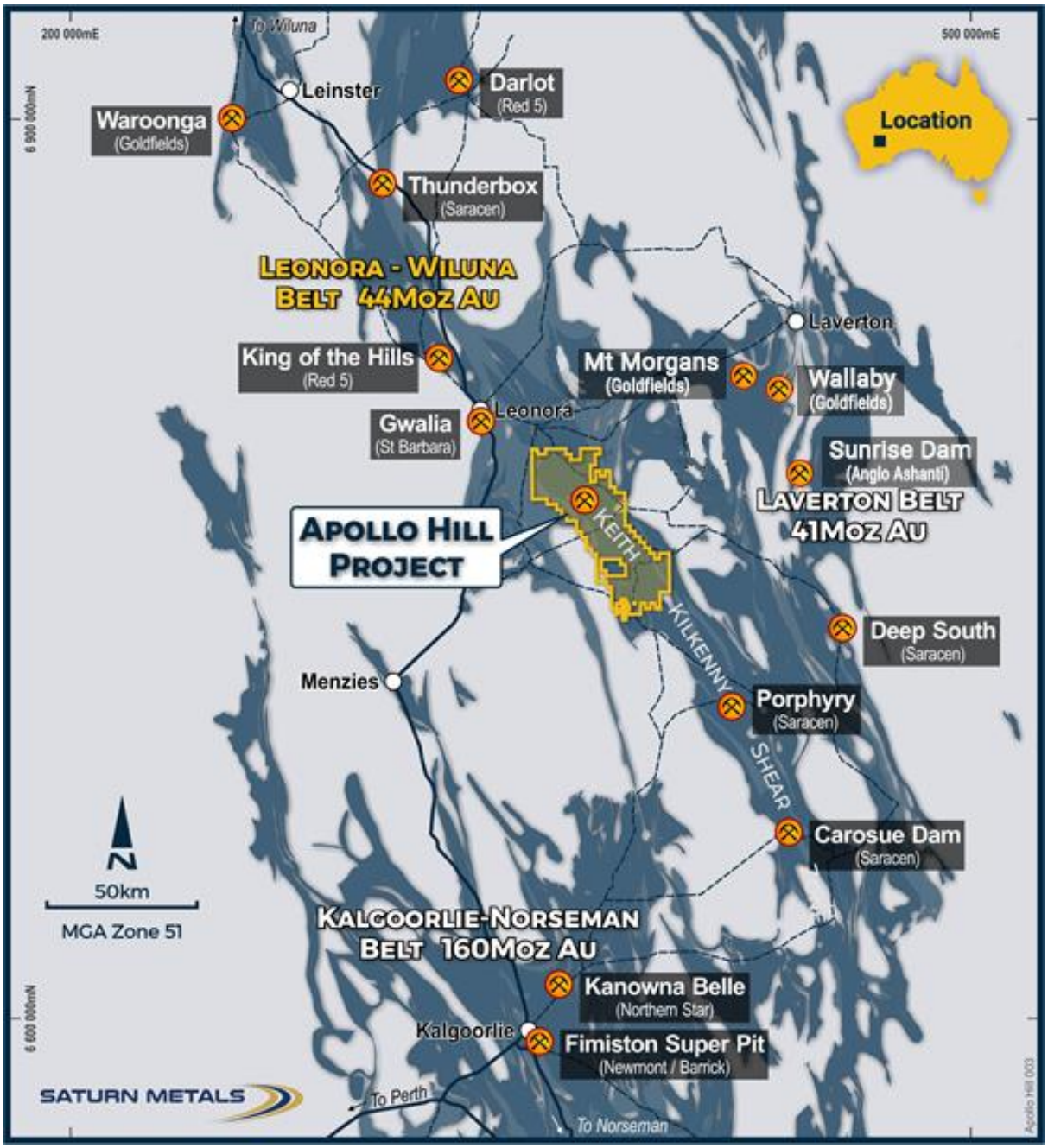

Figure 3 Apollo Hill location, Saturn Metals' tenements and surrounding gold deposits, gold endowment and infrastructure.

Competent Persons Statement Resource

[1]The information for the Mineral Resource included in this report is extracted from the report entitled (Apollo Hill Gold Resource Jumps 36% to 685,000oz) created on 19 November 2018 and is available to view on the Saturn Metals Limited website. Saturn Metals Limited confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Saturn Metals Ltd confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Lower cut-off grade (Au g/t)	Oxidation State	Measured			Indicated			Inferred			MII Total		
		Tonnes (Mtonnes)	Au (g/t)	Au metal (K ozs)	Tonnes (Mtonnes)	Au (g/t)	Au metal (K ozs)	Tonnes (Mtonnes)	Au (g/t)	Au metal (K ozs)	Tonnes (Mtonnes)	Au (g/t)	Au metal (K ozs)
0.5	Oxide	0	0	0	0.1	0.9	4	0.4	0.9	12	0.6	0.9	17
	Transitional	0	0	0	1.1	1.0	37	1.2	0.9	36	2.3	1.0	73
	Fresh	0	0	0	2.1	1.1	75	15.8	1.0	520	17.9	1.0	595
	Total	**0**	**0**	**0**	**3.3**	**1.1**	**116**	**17.4**	**1.0**	**569**	**20.7**	**1.0**	**685**

[1]The models are reported above nominal RLs (190 mRL - approximately 180 metres below surface (mbs) for Apollo Hill northwest, 210 mRL approximately 150mbs for Apollo Hill southeast and 260 mRL, 90mbs for Ra deposit) and nominal 0.5 g/t Au lower cut-off grade for all material types. Classification is according to JORC Code Mineral Resource categories. Totals may vary due to rounded figures.

Table 1a November 2018 Apollo Hill Mineral Resource.

Competent Persons Statement Exploration

The information in this report that relates to exploration targets and exploration results is based on information compiled by Ian Bamborough, a Competent Person who is a Member of The Australian Institute of Geoscientists. Ian Bamborough is a fulltime employee and Director of the Company, in addition to being a shareholder in the Company. Ian Bamborough 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'. Ian Bamborough consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 - Apollo Hill Exploration Area

Section 1 Sampling Techniques and Data

(Criteria in this section apply to the Apollo Hill and Ra exploration area and all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Diamond drilling was used to obtain half core HQ samples for 50g charge fire assay. Samples were taken from specific points of holes to after geological logging and assay to obtain a large representative ~24kg composite sample of core for crushing for the metallurgical test work described herein. • Samples were analysed by NAGROM in Kelmscott. At Kelmscott samples were oven dried and crushed to 90% passing 2mm, and pulverised to 95% passing 106 microns, with analysis by 50g fire assay.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Diamond Drilling • HQ Core.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Sample recovery calculated by measuring core loss. • Samples were selected for metallurgical compositing where no core loss was noted.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Drill holes were geologically logged by industry standard methods, including lithology, alteration, mineralisation and weathering. • Diamond core trays were photographed. • The logging is qualitative in nature and of sufficient detail to support the current interpretation.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.*	• Quarter core was provided for ore sorting test work with Steinert Magnetic and Sensor Sorting Solutions at Nagrom's Laboratory in Kelmscott WA. • Samples were provided for typical basaltic host rock at Apollo Hill to determine if ore sorting could separate the mineralised quartz veins from this typical host rock. • Duplicates were submitted every 40 samples in original drilling • No Certified Reference Material samples were submitted. • The project is at an early stage of evaluation and the suitability of sub-sampling methods and sub- sample sizes for all sampling groups has not been comprehensively established.

Criteria	JORC Code explanation	Commentary
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	The available data suggests that sampling procedures provide sufficiently representative sub-samples for the current interpretation.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Original sampling included field duplicates and inter-laboratory checks confirm assay precision and accuracy with sufficient confidence for the current results. • Original drill samples were submitted to ALS Laboratories in Perth, where they were prepared, processed and analysed via fire assay.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No independent geologists were engaged to verify results. Saturn Metals project geologists were supervised by the company's Exploration Manager. No adjustments were made to any assays of data. • Logs were recorded by field geologists on laptops within excel, which were entered into a central SQL database. • Laboratory assay files were merged directly into the database. The project geologists routinely validate data when loading into the database.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Collars are surveyed by hand held GPS, utilising GDA94, Zone 51. • All Diamond holes were surveyed by Reflex Single Shot, every 30m. • A topographic triangulation was generated from drill hole collar surveys.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Apollo Hill mineralisation has been tested by generally 30m spaced traverses of south-westerly inclined drill holes towards 225°. Across strike spacing is variable. The upper approximately 50m has been generally tested by 20-30m spaced holes, with deeper drilling ranging from locally 20m to commonly greater than 60m spacing. • The data spacing is sufficient to establish geological and grade and continuity. • The ore sorting samples were taken from previously drilled diamond core within the resource area. • The holes had been previously geologically logged and provide a strong basis for geological control and continuity of mineralisation. • Ore sorting results will be used to define the proposed processing flowsheet and expected recoveries for economic evaluations. • Geological samples were composited into a single sample to determine if the quartz vein material could be separated from host basalt rock.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Mineralised zones dip at an average of around 50° to the northeast. Detailed orientations of all short-scale mineralised features have not yet been confidently established. The majority of the drill holes were inclined at around 60° to the southwest. All hole details for reported results are noted in Table 2 of this announcement.
Sample security	• *The measures taken to ensure sample security.*	• Apollo Hill is in an isolated area, with little access by general public. Diamond core used within the ore sorting study, was held securely at Peel Mining's storage unit in Guildford, until 2019 when it was moved by Saturn Geologists to the Saturn Metals storage unit in

Criteria	JORC Code explanation	Commentary
		Subiaco. Results of field duplicates and the general consistency of results between sampling phases provide confidence in the general reliability of the drilling data.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• The competent person independently reviewed Saturn's sample quality information and database validity. These reviews included consistency checks within and between database tables and comparison of assay entries with original source records for Saturn's drilling. These reviews showed no material discrepancies. The competent person considers that the Apollo Hill drilling data has been sufficiently verified to provide an adequate basis for the current reporting of exploration results.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The results are from the Saturn Metals Limited's Apollo Hill Project which lies within Exploration Licence E39/1198, M31/486 and M39/296. These tenements are wholly-owned by Saturn Metals Limited. These tenements, along with certain other tenure, are the subject of a 5% gross over-riding royalty (payable to HHM) on Apollo Hill gold production exceeding 1 million ounces. M39/296 is the subject of a $1/t royalty (payable to a group of parties) on any production. • The tenements are in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Aircore, RC and diamond drilling by previous tenement holders provides around 82% of the estimation dataset. The data is primarily from RC and diamond drilling by Battle Mountain (33%), Apex Minerals (18%), Fimiston Mining (13%), Hampton Hill (12%). Homestake and MPI holes provide 5% and 1%, respectively.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Apollo Hill project comprises two deposits: The main Apollo Hill deposit in the north-west of the project area, and the smaller Ra Deposit in the south. Gold mineralisation is associated with quartz veins and carbonate-pyrite alteration along a steeply north-east dipping contact between felsic rocks to the west, and mafic dominated rocks to the east. The combined mineralised zones extend over a strike length of approximately 1.4km and have been intersected by drilling to approximately 350m depth. • The depth of complete oxidation averages around 4m with depth to fresh rock averaging around 21m.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the*
		• All relevant information material to the understanding of exploration results has been included within the body of the announcement or as appendices.
		• No information has been excluded.

Criteria	JORC Code explanation	Commentary
	Competent Person should clearly explain why this is the case.	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No top-cuts have been applied. • No metal equivalent values are used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• True widths are generally estimated to be about 60% of the down-hole width.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See diagrams included.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All results are reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• See release details.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• A Bulk sample (1 tonne) has been collected from recently completed RC holes for ongoing metallurgy. Planned work will include leach and grind kinetics testing, ore sorting and reconciliation test work. • A 112m deep diamond hole (AHDD0009) has recently been completed to provide additional metallurgical sample. • Extensive RC and diamond drilling is underway to extend and increase gold resources.