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ASX Market Announcements ASX Limited Exchange Centre 20 Bridge Street Sydney NSW 2000



ZOROASTRIAN HIGH GRADE GOLD VEIN STRUCTURES

- Zoroastrian Extended grade control drilling establishes very high grade gold mineralisation in quartz vein system including drill results
 - o 2 metres @ 50.5g/t Au
 - o 2 metres @ 52.9g/t Au
 - 1 metres @ 41.1g/t Au
- Grab sample assays from mined stockpiles confirm strong mineralisation with numerous assays over 20g/t Au including 788g/t, 93.6g/t, 51.1g/t and 39.1g/t Au.
- High grade vein structures traceable for over 1.4 kilometres within Zoroastrian Dolerite provide targets for potential narrow vein underground mining

Excelsior Gold Limited ("Excelsior Gold" or the "Company") commenced initial mine production from the high grade Zoroastrian Extended pit in April 2016 with the first ore mined and hauled to the Paddington mill in late April.

The Zoroastrian Extended pit involves deepening of the original Zoroastrian pit mined by Aberfoyle Gold Pty Ltd in the early 1990s. The original pit was not mined to full design depth by Aberfoyle and this provides an opportunity for Excelsior Gold to access narrow high grade vein mineralisation in the southern part of the old pit. Mining will extend the depth of the original Aberfoyle pit by approximately 15 metres and is estimated to produce approximately 15,340 tonnes @ 3.74g/t Au by the end of May.

The pit extension is centred on a series of narrow high grade veins in the central part of the Zoroastrian Dolerite, including the interpreted southern extension of the Main Lode which hosted the historic Zoroastrian underground mine located in the northern end of the original pit. The Main Lode underground mine was developed in the early 1900s to a vertical depth of 100 metres and produced approximately 56,000 ounces (560 ounces per vertical metre) of

gold from a persistent narrow (0.3 to 2 metre, average 0.6 metre wide) quartz vein over just 200 metres of strike within the Zoroastrian Dolerite.

The development of the Extended pit will allow the Company to assess the grade distribution within the various lodes through the close spaced grade control drilling and rock chip sampling to provide a better estimate of the grades within this coarse gold vein system. The Extended pit ore reserve grade estimate of 3.74g/t Au represents a highly diluted grade to account for potential dilution during open pit mining and belies the high grade nature of the individual vein structures.

Rock chip sampling from this southern part of the historical Zoroastrian pit has consistently returned visible gold in quartz vein samples with assays up to 916g/t Au over 0.3 metres true width (*ASX announcement 20 April 2011*) and vein widths varying from 0.1 to 2.0 metres (average 0.6 metres). The grade control drilling program in the Extended pit has also returned visible gold with intersections including:

- o 2 metres @ 50.1g/t Au from 5m (ZoroGC0265)
- **2 metre @ 18.1g/t Au** from 2m (ZoroGC0301)
- 2 metres @ 17.1g/t Au from 6m (ZoroGC0300)
- **2 metres @ 13.1g/t Au** from 8m (ZoroGC0299)
- **1 metre @ 21.4g/t Au** from 7m (ZoroGC0268)
- **1 metre @ 16.0g/t Au** from 17m (ZoroGC0266)
- **1 metre @ 41.1g/t Au** from 6m (ZoroGC0250)
- o 1 metre @ 21.2g/t Au from 12m (ZoroGC0248)
- **2 metres @ 52.9g/t Au** from 4m (ZoroGC0277)

Drilling beneath and to the south of the historical pit has demonstrated continuity of the high grade results over a further 1.4 kilometres with up to five main sub-parallel lode structures identified. The multiple vein system offers potential for narrow vein underground mining operations via a portal established from the base of the Extended pit.

Following the completion of the Extended pit in May, the Company will conduct further resource definition drilling on these high grade targets which offer a potential ore source to supplement the ore supply from the adjacent Zoroastrian Central open pit.

Mining commenced in the Zoroastrian Central pit in early February focussed on waste removal to set the pit up for consistent ore production from May 2016 onward. The current pit design is scheduled to produce approximately 1.18 million tonnes of ore grading 1.90g/t Au over the next two years.

Additional near surface mineralisation has been encountered in grade control drilling in the the northern end of the pit and mining has exposed lode positions and structures containing gold mineralisation within the pit design which are outside of areas of known mineralisation.

The definition of this additional ore is an early indication of the potential to extend the pit design to the north and a program of reverse circulation drilling is planned to test the continuity of this mineralisation. The pit design being mined is a conservative design based on feasibility studies employing a A\$1,380 per ounce gold price. The Company has always anticipated that extensions to the current pit would be required as knowledge gained from the mining was applied to the larger mineralised system. The initial close spaced grade control drilling results, the delineation of mineralised structures from mapping and sampling in the pit and the current higher gold price environment, even at these early stages of mining, all demonstrate the potential to expand the pit and to extend the life of open pit mining at Zoroastrian Central.

Initial payments from Norton Gold Fields of approximately \$784,000 for the first ore batches delivered to the Paddington mill from the Zoroastrian Central and Extended pits will be finalised this week. Further ore is currently being mined from both pits with ore batches scheduled to be delivered to the mill next week.



Figure 1: Zoroastrian Extended Grade Control Drill Cross Section

For further information visit www.excelsiorgold.com.au or contact

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Competent Person Statements- Exploration Results and Mineral Resources:

Information in this announcement that relates to Mineral Resource and exploration results is based on information compiled by Mr. David Potter who is the Technical Director of Excelsior Gold Limited. Mr. Potter is a Member of The Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Potter consents to the inclusion in the document of the information in the form and context in which it appears.

Competent Persons Statements – Ore Reserves Zoroastrian Central Open Pit

The information in this Release which relates to the Ore Reserve estimates accurately reflect information prepared by Competent Persons (as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves). The information in this public statement that relates to the Zoroastrian Central Open Pit Ore Reserve at the Excelsior Gold Kalgoorlie North Gold Project is based on information resulting from Feasibility works carried out by Auralia Mining Consulting. Mr. Daniel Tuffin completed the Ore Reserve estimate for this Zoroastrian Central Open Pit. Mr Daniel Tuffin is a Member and Chartered Professional (Mining) of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify him as a Competent Person as defined in accordance with the 2012 Edition of the Australasian Joint Ore Reserves Committee (JORC). Mr Tuffin consents to the inclusion in the document of the information in the form and context in which it appears.

Competent Persons Statements – Ore Reserves Zoroastrian Extended Open Pit

The information in this Release which relates to the Ore Reserve estimates accurately reflect information prepared by Competent Persons (as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves). The information in this public statement that relates to the Zoroastrian Extended and Zoroastrian South Ore Reserves at the Excelsior Gold Kalgoorlie North Gold Project is based on information resulting from Feasibility works carried out by Mining Plus. Mr. David Billington completed the Ore Reserve estimate for these pits. Mr Billington is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify him as a Competent Person as defined in accordance with the 2012 Edition of the Australasian Joint Ore Reserves Committee (JORC). Mr Billington consents to the inclusion in the document of the information in the form and context in which it appears.

JORC Code, 2012 Edition - Table 1

Section 1 Sampling Techniques and Data (Grade Control)

(Criteria in this section apply to all succeeding sections.) Information for historical (Pre Excelsior Gold from 1983 to 2008) drilling, sampling, mining and milling of the Zoroastrian deposit has been extensively viewed and validated where possible. Information pertaining to historical QAQC procedures and data is incomplete but of a sufficient quality and detail to allow drilling and assay data to be used for resource estimations. Further, Excelsior Gold has undertaken extensive infill and confirmation drilling which confirm historical drill results. Sections 1 and 2 describe the work undertaken by Excelsior Gold during the grade control drill programs and only refers to historical information where appropriate and/or available.

Criteria	JORC Code explanation	Commentary
Sampling techniques	• 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.	• The Reverse Circulation (RC) grade control drilling was designed to infill in places existing drilling to nominal 7.5m x 5m grid spacing. The holes were drilled at variable azimuths at dips of -60 to -50 degrees to optimally test potential mineralized zones.
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• All RC recovered samples were collected and passed through a cone splitter. Prior to drilling the drill hole locations were pegged by surveyors using a RTK system. After drilling, all drill whole locations are picked up by surveyors using a RTK system.
	• 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	 All RC drilling was sampled on one metre down hole intervals. The recovered samples were passed through a cone splitter and a nominal 2.5kg – 3.5kg sample was collected. Where the original 1m samples were not collected nominal 4m composite samples were in collected by spear sampling individual 1m composite samples.
	a 30 g charge for fire assay'). In other cases more explanation may be required, such as	• All samples were submitted taken to a Kalgoorlie contract laboratory.
	where there is coarse good that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	• Samples were oven dried, reduced by riffle splitting to 3kg as required and pulverized in a single stage process to 85% passing 75 μ m. The sample is then prepared by standard fire assay techniques with a 50g charge. Approximately 200g of pulp material is returned to Excelsior for storage and potential assay at a later date.
Drilling techniques	 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). 	• All assays reported in this report have come from drilling using a drilling contractor. The RC drilling system employed the use of a face sampling hammer and a nominal 146mm diameter drill bit.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed	• All RC 1m samples are logged for drilling recovery by a visual estimate and this information is recorded and stored in the drilling database. All samples received by the laboratory are weighed with the data collected and stored in the database. Sample loss or gain is reviewed on an ongoing basis and feedback given to the drillers to enable the best representative sample to always be obtained.
	• Measures taken to maximise sample recovery and ensure representative nature of the samples	• RC samples are visually logged for moisture content, sample recovery and contamination. This is information is stored in the database. The RC drill system utilizes a face sampling hammer which is industry best practice and the contractor aims to maximize recovery at all times. RC holes are drilled dry whenever practicable to maximize recovery of sample.
	• 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.	• Study of sample recovery vs gold grade does not show any bias towards differing sample recoveries or gold grade. The drilling contractor uses standard industry drilling techniques to ensure minimal loss of any size fraction. The sample recovery vs gold grade is assessed on an ongoing basis throughout the drilling program.

	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.	•	All RC samples are geologically logged. Specifically, each interval is visually inspected with a hand lens and the following parameters are recorded where observed: weathering, regolith, rock type, alteration, mineralization, shearing/foliation and any other features that are present. This information is transferred electronically from the geologist to the database.
		• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	•	Where required the logging records the abundance of specific minerals or the amount of alteration (including weathering) using defined ranges.
		• The total length and percentage of the relevant intersections logged.	•	The entire lengths of RC holes are logged on a 1m interval basis, i.e. 100% of the drilling is logged, and where no sample is returned due to voids (or potentially lost sample) it is logged and recorded as such.
	Sub-sampling techniques and	• If core, whether cut or sawn and whether quarter, half or all core taken.	•	not applicable
	preparation	• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	•	All RC samples are put through a cone splitter and the sample is collected in a unique pre-numbered calico sample bag. The moisture content of each sample is recorded in the database. The drilling method is designed to maximize sample recovery and representative splitting of samples. The drilling methods also maximize dry samples as they are designed to keep water out of the hole when possible.
		• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	•	The sample preparation technique for all samples follows industry best practice, by an accredited laboratory. The techniques and practices are appropriate for the type and style of mineralization. The RC samples are sorted, oven dried, the entire sample is pulverized in a one stage process to 85% passing 75 μ m. The bulk pulverized sample is then bagged and approximately 200g extracted by spatula to a numbered paper bag that is used for the 50g fire assay charge.
		• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	•	RC samples submitted to the laboratory are sorted and reconciled against the submission documents. The laboratory uses their own internal standards of 2 duplicates, 2 replicates, 2 standards, and 1 blank per 50 fire assays. The laboratory also uses barren flushes on the pulveriser.
		• 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.	•	Field duplicates are not collected as part of the grade control program.
		• Whether sample sizes are appropriate to the grain size of the material being sampled.	•	The sample sizes are considered to be appropriate for the type, style, thickness and consistency of mineralization located at this project. The sample size is also appropriate for the sampling methodology employed and the gold grade ranges returned.
	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. 	•	The assay method is designed to measure total gold in the sample. The laboratory procedures are appropriate for the testing of gold at this project given its mineralization style. The technique involves using a 50g sample charge with a lead flux which is decomposed in a furnace with the prill being totally digested by 2 acids (HCl and HNO3) before measurement of the gold content by an AA machine.
		 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. 	•	Not used for reporting or interpretation of gold mineralization.
		 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. 	•	The QC procedures are industry best practice. The laboratory is accredited and uses its own certified reference material. The laboratory has 2 duplicates, 2 replicates, 1 standard and 1 blank per 50 fire assays. Excelsior examines all standards and blanks to ensure that they are within tolerances. Additionally, sample size, grind size and field duplicates are examined to ensure no bias to gold grade exists.
	Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. 	•	Site geological personnel inspect the RC chips in the field to verify the correlation of mineralized zones between assay results and lithology/alteration/mineralization.
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	• The use of twinned holes.	• A number of the grade control RC holes have been drilled throughout the deposit which twin resource definition and historical RC holes. These twinned holes returned results comparable to the original holes.
	 Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. 	• Primary data is sent digitally every 2-3 days from the field to Excelsior's Database Administrator (DBA). The DBA imports the data into the commercially available and industry accepted DataShed database software. Assay results are merged when received electronically from the laboratory. The responsible geologist reviews the data in the database to ensure that it is correct and has merged properly and that all data has been received and entered. Any variations that are required are recorded permanently in the database.
	 Discuss any adjustment to assay data. 	• No adjustments or calibrations were made to any assay data used in this report.
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 	All drill holes have their collar location recorded by licensed surveyors using a RTK system.
	• Specification of the grid system used	• All drill holes and resource estimation use the MGA94, Zone 51 grid system.
	• Quality and adequacy of topographic control.	• The topographic data used was obtained from detailed survey and level control in the open pit.
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• The nominal drill spacing is 7.5m x 5m. This spacing includes data that has been verified from previous exploration activities on the project.
	 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. 	• This report is for the reporting of ore reserve results. The drill spacing, spatial distribution and quality of assay results is sufficient to support the current JORC classification of material contained within this report and is appropriate for the nature and style of mineralisation being reported.
	• Whether sample compositing has been applied.	No compositing of samples has been applied.
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.	• The majority of drilling is to grid east or west. The bulk of the mineralized zones are perpendicular to the drilling direction. Pit mapping supports the drilling direction and sampling method.
	• 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.	 No drilling orientation and sampling bias has been recognized at this time.
Sample security	• The measures taken to ensure sample security.	• Sample security is part of Excelsior's QAQC and sampling procedures. RC samples are delivered directly from the field to the Kalgoorlie laboratory by Excelsior personnel on a daily basis with no detours, the laboratory then checks the physically received samples against an Excelsior generated sample submission list and reports back any discrepancies
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• An independent review of sampling techniques and procedures is in progress and will be completed in May 2016.

Section 2 Reporting of Exploration Results (Grade Control)

(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 	• The results reported in this Announcement are on granted Mining Leases held by GPM Resources Pty Ltd, a wholly owned subsidiary of Excelsior Gold Limited.

	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. At this time the tenements are believed to be in good standing. There are no known impediments to obtaining a license to operate, other than those set out by statutory requirement which have not yet been applied for.
Exploration done by other parties	 Acknowledgment and appraisal of exploration by other parties. Exploration by other parties. Exclusion by other parties. Exploration by other parties. Exclusion by other parties.
Geology	 Deposit type, geological setting and style of mineralisation. The primary gold mineralisation at Zoroastrian is predominately associated with a 5-10m quartz lodes system within a dolerity and associated second order structures. The gold mineralisation is associated with quartz, carbonate, sulphide alteration.
	 Whilst structures and primary gold mineralisation can be traced to the surface, depletion has occurred in the top 20-30m and again through the transitional zone. Sub-horizontal supergen- enrichment blankets occur throughout the regolith.
	 Historical workings and shafts exist within the area, detailed mapping and sampling of these workings and structura measurements from orientated diamond core drilling forms the basis of the geological interpretation.
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: The drill holes reported in this Announcement have the following parameters applied. All drill holes completed, including hole with no significant gold intersections are reported in this announcement.
	• <i>easting and northing of the drill hole</i> • Easting and northing are in MGA94 Zone 51
	collar o elevation or RL (Reduced Level – • RL is AHD
	elevation above sea level in metres) of the drill hole collar
	 <i>dip and azimuth of the hole</i> Dip is the inclination of the hole from the horizontal (i.e. a vertically down drilled hole from the surface is -90°). Azimuth is reported in magnetic degrees as the direction toward which the hole is drilled. MGA94 and magnetic degrees vary by
	 approximately 1 in this project area Down hole length of the hole is the distance from the surface to the end of the hole, as measured along the drill trace. Interception depth is the distance down the hole as measured along the drill trace of an intersection as measured along the drill trace. Hole length is the distance from the surface to the end of the hole
	 hole length. hole length. as measured along the drill trace.
	 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. No results from previous exploration are the subject of this Announcement.
Data aggregation methods	 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. No high grade cuts have been applied to assay results. RC assay results are distance weighted using 1m for each assay.
	 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. Intersections are reported if the interval is at least 1m wide a 1g/t Au grade or for composite samples greater than 0.1g/t Au Intersections greater than 1m in downhole distance can contain up to 2m of low grade or barren material.
	 The assumptions used for any reporting of metal equivalent values should be clearly stated. No metal equivalent reporting is used or applied.

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. 	 The intersection width is measured down the hole trace, it is not usually the true width. Cross sections in this announcement allows the relationship between true and down hole width to be viewed. Data collected historical workings and shafts exist within the area and structural measurements from orientated diamond core drilling show the primary ore zones to be sub-vertical in nature with a general NNW strike
	• 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').	• All drill results within this announcement are downhole intervals only and due to variable mineralisation and style, true widths are not able to be calculated until modelling of the mineralisation.
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. 	Cross sectional view is contained within this announcement
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. 	• Selected drill holes completed included in the results Table in the Announcement, not all grade control holes are presented.
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. 	• No other exploration data is considered meaningful and material to this announcement.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	• Future exploration has not been planned and may involve the drilling of more drill holes, both DC and RC, to further extend the mineralised zones and to collect additional detailed data on known mineralized zones.
	 Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	• Further future drilling areas are not highlighted as they are not yet planned.