

ASX Announcement | 17 December 2018
Rafaella Resources Limited (ASX:RFR)

**Rafaella Identifies New and Historic Gold Mineralisation
Anomalies at Sandstone Project**

Highlights:

- **Confirmation and delineation of four historic gold soils anomalies**
- **Historic anomalies not drill tested including Bonza Bore, a former target**
- **New additional anomalies discovered in survey, to be further investigated**
- **Infill geochemistry and air core drilling being planned**

Exploration company **Rafaella Resources Limited (ASX: RFR)** (“Rafaella”, “the Company”) is pleased to announce that it has received the final assay results from the broad-spaced soils geochemistry program of its wholly-owned Sandstone Project Gum Creek Greenstone Belt, Sandstone Western Australia.

Historically, a number of gold geochemistry anomalies were discovered and published (see ASX announcement: Legend Mining Limited, 30 May 2005). Limited data was available on these leading the Company to complete a first pass, broad-spaced geochemistry program comprising 2,902 sample locations.

Four key target areas have been defined comprising of key geological and structural settings. These comprise both historical anomalies described above and new anomalies generated by the Company’s data. The four key targets are shown in Figure 1 and are as follows:

- **Target 1 (Bills Bore):** This target area was originally defined by historic soil sampling, the historic anomaly has been both confirmed and extended by the Company’s survey. A coherent ≥ 30 ppb Au anomaly (with 9 samples ≥ 30 ppb Au) covering a strike length of 1.8 kilometres has been defined
- **Target 2 (Fairy Well):** This historical anomaly has again been highlighted, with the company’s data defining an anomaly of ≥ 30 ppb Au (with 17 samples ≥ 30 ppb Au) over a strike length of 2.8 kilometres. RAB drill testing was reported to have returned 1m @ 6gt Au and 1m @ 8gt Au (see ASX announcement- Legend Mining Limited 30 May 2005).
- **Target 3 (Bonza Bore):** Historically the largest anomaly on the project area has again proven to be the larger anomaly in the recent survey (see Figure 2.) Bonza Bore appears to be a northwest striking anomaly located potentially in a favourable setting for dilation near a contact with a nearby granite intrusive. The peak assay result of 0.852gt Au is located just to the north west of Bonza Bore, potentially along strike. The ≥ 30 ppb Au anomaly (with 25 samples ≥ 30 ppb Au) has a strike length of 3.4 kilometres.
- **Target 4 (Birrigrin Trend):** The northwest trending Birrigrin anomaly is along strike of the Historical Birrigrin Mining Centre and the Brifter Prospect (Horizon Gold). The ≥ 50 ppb Au anomaly (with 26 samples ≥ 50 ppb Au) has a peak value of 0.438g/t Au.



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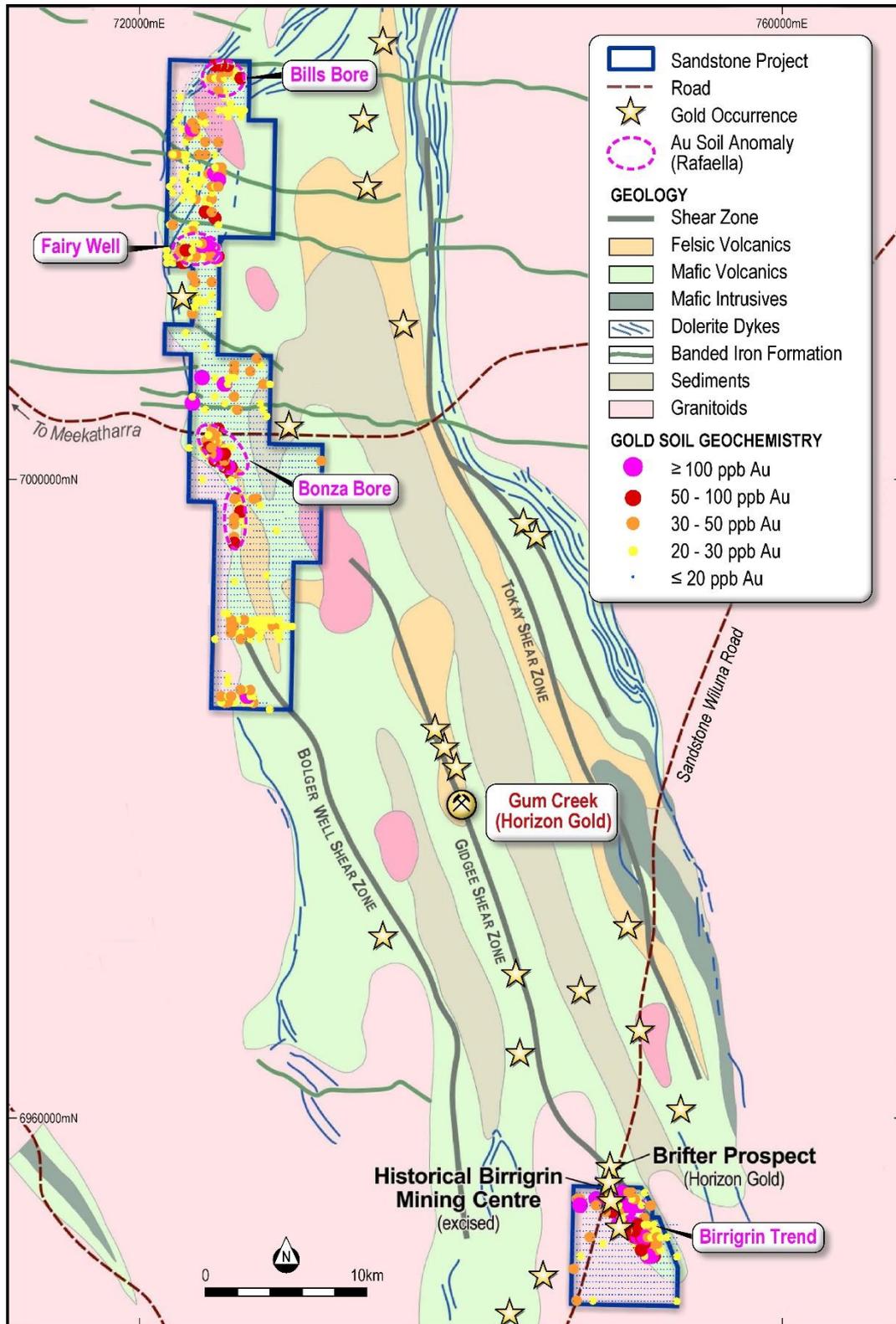


Figure 1. Geochemistry anomalies – untested to date



Next Steps

Rafaella Resources is presently planning the next phase of activities within the Sandstone Project. These activities may include but are not limited to:

- Infill and extension gold geochemical surveys to refine the anomalies
- pXRF testing of selected mineralised soil samples for base metals and pathfinder elements
- Structural interpretation based on aeromagnetic data and geological information from survey
- Planning initial air core drilling

Rafaella Executive Director Ashley Hood: *“We are very pleased with the final assay results that we have received from our Sandstone project. The results have provided us with a number of compelling historical and new targets for further exploration. Along with the encouraging results from our other wholly-owned project in Canada, this is an excellent way to finish the year. We look forward to commencing our next phase of activities in due course and further updating the market of our progress in early 2019.”*

Ends

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About Rafaella Resources Sandstone Project

The Sandstone Project is located 640km north-east of Perth, Western Australia within the Gum Creek Greenstone Belt. The Gum Creek Greenstone Belt is similar in structure, lithology and stratigraphy to the other greenstone belts within the Southern Cross Province of the Archaean Yilgarn Block.

The Sandstone Project is adjacent to Horizon Gold Limited's Gum Creek Project. Previous exploration within the Project has predominantly focused on near mine exploration with work completed limited to shallow RAB drilling and soil sampling programs.

Various targets have been defined on the Project by former tenement operators, targets include numerous historic gold workings, soil gold anomalies and RAB gold anomalies; many of which are considered to remain inconclusively tested. Additionally, large areas of the Project remain essentially unexplored whilst covering favourable structure and geology.

Mining and production history of the Gum Creek Project has shown widespread gold occurrence and significant potential for further discoveries. Rafaella plans to acquire effective geophysical, geospatial and imagery datasets over the Project. The integration of this data with all historical data, geology, geochemistry and field data will be used to generate conceptual targets using a systems approach with a focus on geomorphology, lithology, structure and alteration.



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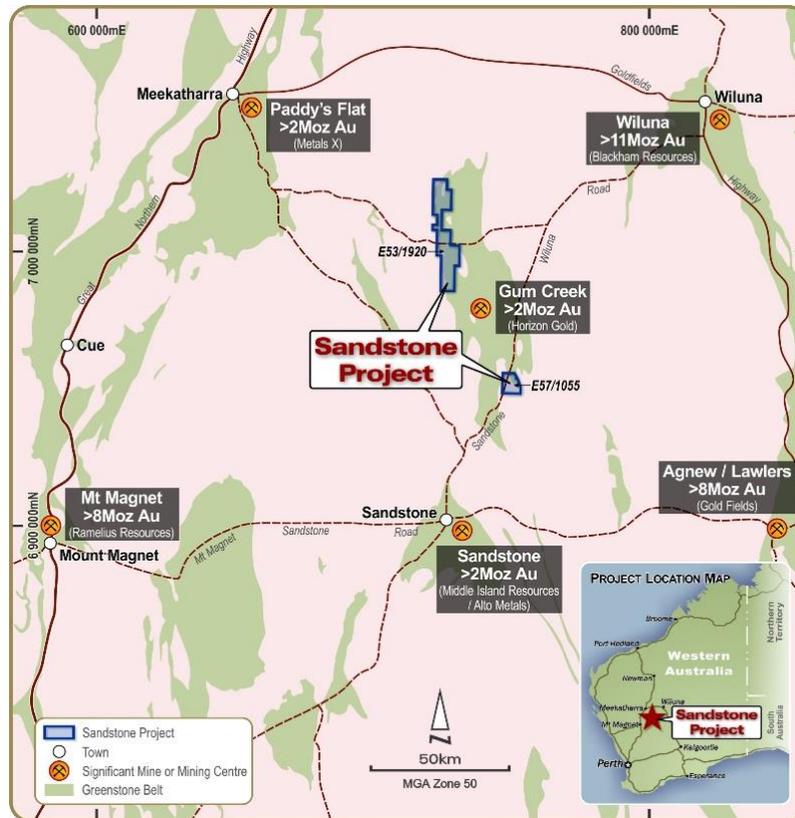


Figure 2. Location of the Sandstone Project

To learn more please visit: www.rafaellaresources.com.au

Competent Persons Statement

The information in this announcement that relates to Exploration Results has been compiled under the supervision of Mr Bill Oliver, a consultant to the Company. Mr Oliver is a Member of the Australasian Institute of Mining and Metallurgy and the Australasian Institute of Geoscientists. He 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 (JORC Code). Mr Oliver consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Forward Looking Statements Disclaimer

This announcement contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

APPENDIX 1: JORC TABLE

The following Tables are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of the Exploration Results at the Sandstone Project.

Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>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.</i>	The results detailed in this Announcement are from an auger soil geochemistry program completed by Rafaella during 2018.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Survey spacing was 400m north-south lines with 200m sample spacing. Industry standard practice was applied on site to ensure sample representivity. The laboratory has applied appropriate QAQC to sample preparation and appropriate calibration / QAQC to analytical instruments.
	<i>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.</i>	Auger drilling was used to obtain a ~200g sample from the end of auger hole (between 0.4m and 1.0m depth) which was pulverised to produce a 25g charge prior to aqua regia digestion with ICP-MS finish. Sampling techniques are considered to be appropriate for this stage of exploration.
Drilling techniques	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. core diameter, triple of standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc).</i>	Open hole auger drilling.
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	There were no issues with hole depths or sample recoveries.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Sample recovery was 100%. 200g sample of calcrete horizon sampled. In an absence of the calcrete horizon bottom of 1.0m hole sample collected.
	<i>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.</i>	No relationship sample recovery/grade nor sample bias.
Logging	<i>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.</i>	Auger soils were logged for geology, geomorphology, strength of acid/calcrete reaction and colour.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging of soil samples is both qualitative (eg. colour) and quantitative (eg. carbonate reaction).
	<i>The total length and percentage of the relevant intersections logged.</i>	All soil samples were logged.



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Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Not applicable, no core drilling reported in this Announcement.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	The entire soil sample was submitted to the laboratory for preparation (crushing / pulverising) prior to any sub sampling.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Sample preparation and analyses was carried out by ALS in Perth. All samples were dried, crushed, pulverised and split to produce a charge of 20g for analyses. The sampling technique for geochemical soil samples is deemed appropriate given the exploratory stage of the Project.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	The calcrete horizon was preferentially sampled. Acid was used to test for presence of carbonate. The sample medium and carbonate abundance was noted for all samples.
	<i>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.</i>	Survey spacing was 400m north-south lines with 200m sample spacing. Hydrochloric acid used to determine the best carbonate reaction to obtain a suitable sample. Duplicates (36 samples) were submitted, approximately every 75 th sample.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample sizes are considered appropriate given the early stage of exploration.
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	200g samples were provided to Australian Laboratory Services Pty Ltd (ALS), Perth for sample preparation and analysis. Samples were pulverised to 85% <75um. Sample analysis procedure consisted of aqua regia digestion with analysis of gold by method Au-TL43, which uses up to 25g with ICPMS finish.
	<i>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.</i>	Hand held assay devices have not been reported.
	<i>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.</i>	37 routine standards, 36 blanks and 36 duplicates were inserted by the auger contractor. This gives an average of 1/25 check samples. Laboratory standards and blanks were inserted as per ALS standard procedures. The analyses of the duplicates, standards and blanks indicate acceptable levels of accuracy have been established.
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	No verification of significant auger soil samples has been required.
	<i>The use of twinned holes.</i>	Not applicable, no drilling is included in this Announcement.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	The contractor follows strict procedures for data capture and data flow. Each sample bag was labelled with a unique sample number. Sample numbers are used to match analyses from the laboratory to the in-house database containing sampling data. An external database consultant has compiled and

Criteria	JORC Code explanation	Commentary
		validated the data.
	<i>Discuss any adjustment to assay data.</i>	There has been no adjustment to assay data.
Location of data points	<i>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.</i>	Dual GPS utilised for location accuracy with in-cab data storage.
	<i>Specification of the grid system used.</i>	The grid system for the Sandstone Project is Map Grid of Australia GDA 94, Zone 50.
	<i>Quality and adequacy of topographic control.</i>	Topographic data was obtained from public download of the relevant 1:250,000 scale map sheets.
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	The spacing of the geochemical soil samples was 400m north-south lines with 200m sample spacing.
	<i>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.</i>	Data spacing is insufficient to establish geological and grade continuity to establish a mineral resource estimate. A mineral resource has not been estimated. The spacing and distribution of the data is acceptable for this stage of exploration.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has been applied.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The orientation of the surveys is considered to be perpendicular to the overall strike of the regional features.
	<i>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.</i>	Exploration is at too early a stage to determine orientation of key mineralised zones and therefore assess the orientation of sampling.
Sample security	<i>The measures taken to ensure sample security.</i>	The soil sampling contractor was responsible for the chain of custody procedures from sampling to delivery of the samples to the laboratory.
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	No independent audits have been undertaken.

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	<i>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.</i>	The Sandstone Project comprises two granted Exploration Licences, namely E53/1920 covering a land area of 214 km ² and E57/1055 covering a land area of 45 km ² . Both Exploration Licences are currently held by Topdrill Pty Ltd. Rafaella has entered into a conditional sale agreement with the current holder, Topdrill Pty Ltd.
	<i>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.</i>	Both Exploration Licences are granted. The tenements are in good standing with no known impediments to operate in the area.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	The Project has been explored for gold by a number of companies. Work has ranged from early stage geochemical sampling to RAB drilling.

Criteria	JORC Code explanation	Commentary
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>The Sandstone Project is located within the Gum Creek Greenstone Belt which hosts the gold deposits in the surrounding area. The Gum Creek Greenstone Belt is comprised of Archaean volcanic and sedimentary rocks and forms a lensoidal, broadly sinusoidal structure. It is surrounded by intrusive granitoids which contain rafts of greenstone.</p> <p>Five styles of mineralisation have been identified in the greater project area. The styles include; quartz-carbonate (\pmpyrite, arsenopyrite, galena & sphalerite) veins, ductile shear hosted mineralisation (arsenopyrite dominant), ductile shear hosted mineralisation (pyrite dominant), BIF hosted mineralisation and quartz veins.</p>
Drill hole Information	<p><i>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:</i></p> <ul style="list-style-type: none"> • <i>easting and northing of the drill hole collar</i> • <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> • <i>dip and azimuth of the hole</i> • <i>down hole length and interception depth</i> • <i>hole length.</i> 	The location of auger holes is shown in a diagram in the main body of the Announcement.
	<p><i>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.</i></p>	Not applicable.
Data aggregation methods	<i>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.</i>	Not applicable, geochemical sampling results presented are single point data.
	<i>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.</i>	Not applicable.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are currently being used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	<i>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').</i>	Not applicable as results are soil geochemical results.
Diagrams	<i>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.</i>	Refer to Figures included in the Announcement.
Balanced reporting	<i>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.</i>	All results have been reported. The accompanying document is considered to be a balanced report with a suitable cautionary note.



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Criteria	JORC Code explanation	Commentary
Other substantive exploration data	<i>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.</i>	There is no other exploration data to be reported.
Further work	<i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Rafaella Resources is presently planning the next phase of activities within the Sandstone Project. These activities may include but are not limited to: <ul style="list-style-type: none">• Infill and extension gold geochemical surveys to refine the anomalies• pXRF testing of selected mineralised soil samples for base metals and pathfinder elements• Structural interpretation based on aeromagnetic data and geological information from survey• Planning initial air core drilling All relevant diagrams and inferences have been illustrated in this Report.