

**ASX Announcement** 

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# NEW GOLD GEOCHEMICAL AND GEOPHYSICAL TARGETS GENERATED AT THE SISTERS PROJECT IN THE PILBARA

# **Highlights**

- Significant gold geochemical and geophysical targets have been identified at The Sisters Gold Project, located on the Wohler Shear, in the Pilbara
- The geochemical soil sampling program is part of Kalamazoo's extensive collaboration with the CSIRO soil research initiative using cutting edge Ultrafine+<sup>TM</sup> analysis and interpretation
- Gold (Au) up to 83ppb in Ultrafine+<sup>TM</sup> soil sampling, with coincident elevated As, Ag, Zn, Pb and Cu
- A broad 2.7km x 1.0km gold in soil anomaly with up to 70ppb Au is located near a north-south offset in the Wohler Shear
- The broad gold in soil anomaly is consistent with significant magnetic features identified in recently completed low level aeromagnetic and radiometric surveys along the Wohler Shear
- The Wohler Shear is a highly prospective splay along strike from the complex that hosts much of De Grey Mining's Mallina Gold Project and its recent world class gold discovery at Hemi
- RC drilling at these identified targets is planned for Q4, 2020

Kalamazoo Resources Limited (ASX: KZR) ("Kalamazoo" or "the Company") is pleased to advise that the recent project wide soil geochemical survey at The Sisters Gold Project ("The Sisters") has identified several zones of anomalous gold. The geochemical survey at The Sisters is the first large scale gold focused exploration program undertaken in this area and has targeted the Wohler Shear Zone over a 14km long structural corridor. Importantly, these gold anomaly zones are consistent with significant magnetic features recently identified by airborne magnetic and radiometric surveys.

The Pilbara region has seen a renewed focus on gold exploration due to the recent world-class Hemi oxide/sulphide gold discovery by De Grey Mining Limited (ASX: DEG) ("De Grey"). The Sisters Project (E47/2983 and ELA47/4342) covers 136km² and is considered prospective for both epigenetic gold mineralisation associated with the Wohler Shear Zone (a prospective splay from the Tabba Tabba, Mallina, Withnell and Berghaus Shear Zone complex). The Wohler Shear Zone hosts much of De Grey's gold resource including the Hemi gold deposit as well as potential mineralised intrusions, such as those newly identified at De Grey's world class Mallina Gold Project discovery (Figure 1).

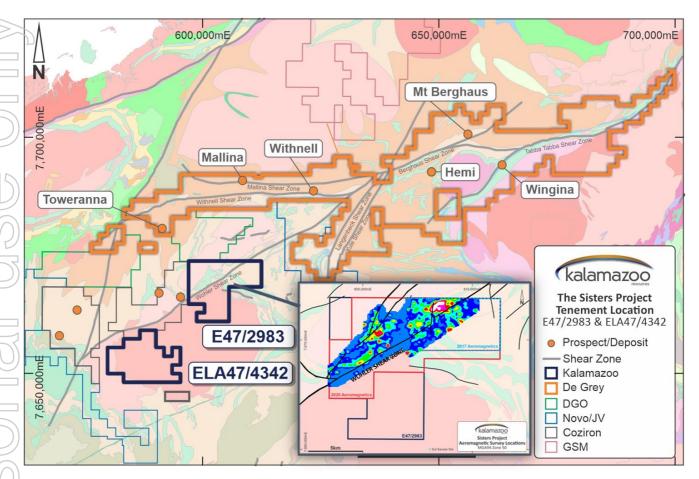


Figure 1: The Sisters Project location

#### Geochemistry

Previous work by Kalamazoo at The Sisters defined a gold soil anomaly over 3km long with a maximum 80ppb  $\mathrm{Au^1}$  across the major Wohler Shear Zone corridor that was open to the north east and south west, and also located two gold nuggets south west along strike from the gold soil anomaly<sup>2</sup>. Using CSIRO's newly developed UltraFine+<sup>TM</sup> multi-element analysis for major and trace elements, this extended and refined the initial survey, resulting in gold results of up to **83ppb Au** identified along the Wohler Shear. Within the eastern part of the sampling grid, a broad 2.7km x 1.0km gold anomaly (up to 70ppb Au) is coincident with a north-south offset (Figure 2). Anomalous Au correlates with **elevated As, Ag, Zn, Pb, and Cu**.

The recently completed soil program covered the interpreted extent of the Wohler Shear Zone corridor over 14km of strike at 200m x 100m spacing for 2,200 samples. Samples were collected in a highly efficient manner by Perth based contractor XM Logistics. UltraFine+<sup>TM</sup> multi-element analysis for major and trace elements was completed at LabWest (Perth). A CSIRO team, led by Dr. Ryan Noble will complete multi-element "machine learning" and other analyses, in tandem with similar research work on Kalamazoo's Castlemaine and South Muckleford Gold Projects in Victoria.

<sup>&</sup>lt;sup>1</sup> ASX: KZR 23 November 2017

<sup>&</sup>lt;sup>2</sup> ASX: KZR 2 April 2020

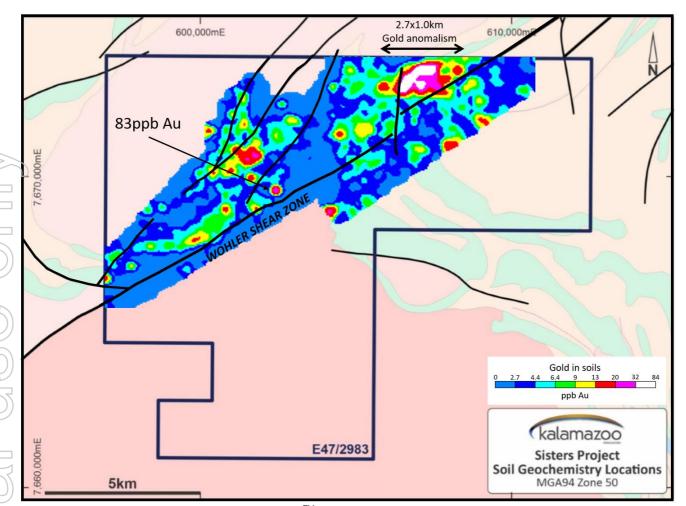


Figure 2: Ultrafine+TM gold results for The Sisters Project

Recent field inspections of The Sisters project area revealed the presence of generally narrow felsic dykes and occasional buck quartz veins or quartz-tourmaline veins within metasediments and amphibolites. No obvious alteration or potentially mineralised outcrop was recognised. The soil profiles are skeletal in nature with essentially fresh bedrock at surface in all areas.

## Geophysics

Kalamazoo recently completed detailed low level aeromagnetic and radiometric surveys at The Sisters, including across the areas recently subject to the geochemical soil sampling program for UltraFine+<sup>TM</sup> multi-element analysis<sup>3</sup>. Perth based MagSpec Airborne Surveys flew the surveys at The Sisters adjoining a 2017 ultra-detailed survey completed by **Sayona Mining Ltd (ASX: SYA)** using the same 25m spaced east-west line configuration. The new survey comprised 2,774 line kms.

Data from the two surveys at The Sisters was merged by Southern Geoscience (Figure 3). The imagery is in the process of being reviewed by Kalamazoo and Southern Geoscience and the interpretation will assist in generating drill targets.

<sup>&</sup>lt;sup>3</sup> ASX: KZR 3 June 2020

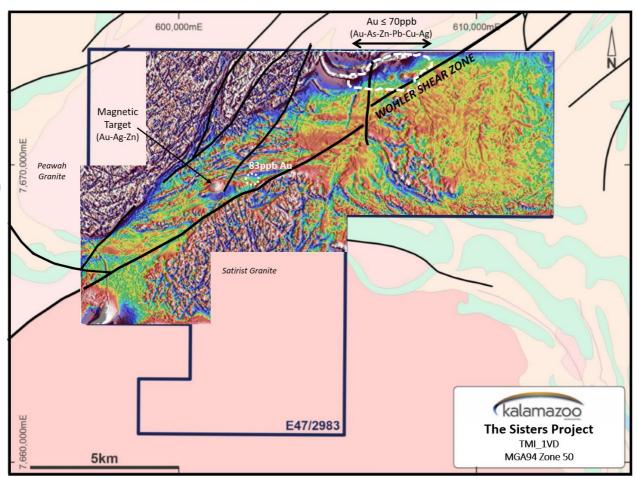


Figure 3: Sisters TMI\_1VD as prepared by Southern Geoscience

The imagery shows a wealth of detail within the greenstone stratigraphy between the Peawah Granite (to the north west) and the Satirist Granite suite (south central). The eastern portion of the survey area has little magnetic relief in bedrock and the imagery is dominated by maghemite in modern drainages. There are several NNE striking dykes and structures. A prominent bullseye anomaly (~300m diameter) has been identified between the two major granite bodies. The intense magnetic features appear to coincide with the gold and silver in soil anomalies and will now be drill tested.

A comprehensive Reverse Circulation drilling program is currently being planned, with commencement expected in Q4, 2020.

The Sisters is an important component of Kalamazoo's portfolio of exploration assets in the Pilbara which was recently expanded by the acquisition from **Northern Star Resources Limited (ASX: NST)** of the major **Ashburton Gold Project** and its significant contained gold resource.

This announcement has been approved for release to the ASX by Luke Reinehr, Chairman and CEO, Kalamazoo Resources Limited.

#### For further information, please contact:

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#### Previously Released ASX Material References

For further details relating to information in this announcement please refer to the following ASX announcements:

ASX: KZR 23 November 2019 ASX: KZR 2 April 2020 ASX: KZR 3 June 2020 ASX: KZR 23 June 2020

#### **Competent Persons Statement**

Competent Persons Statement The information in this release relating to the exploration data for all Western Australian projects is based on information compiled by Mr Lance Govey, a competent person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Govey is an employee of BinEx Consulting who is engaged as the Exploration Manager WA for the Company. Mr Govey has sufficient experience which is relevant to the style of mineralisation and type of deposit 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 Govey consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

#### Response to COVID-19

Kalamazoo has been proactively managing the potential impact of COVID-19 and has developed systems and policies to ensure the health and safety of its employees and contractors, and of limiting risk to its operations. These systems and policies have been developed in line with the formal guidance of State and Federal health authorities and with the assistance of its contractors and will be updated should the formal guidance change. Kalamazoo's first and foremost priority is the health and wellbeing of its employees and contractors.

To ensure the health and wellbeing of its employees and contractors, Kalamazoo has implemented a range of measures to minimise the risk of infection and rate of transmission to COVID-19 whilst continuing to operate. All operations and activities have been minimised only to what is deemed essential. Implemented measures include employees and contractors completing COVID-19 risk monitoring, increased hygiene practices, the banning of non-essential travel for the foreseeable future, establishing strong infection control systems and protocols across the business and facilitating remote working arrangements, where practicable and requested. Kalamazoo will continue to monitor the formal requirements and guidance of State and Federal health authorities and act accordingly.

### Table 1. JORC Code, 2012 Edition

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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> <li>Soil sampling for UltraFine+™ was carried out by contractor XM Logistics.</li> <li>Samples were collected at a depth of 15cm, sieved using a -2mm mesh, on 200m spaced north-south orientated lines and 100m spaced samples.</li> <li>UltraFine+™ is a newly developed method by the CSIRO, designed to analyse the clay sized fraction (&lt;2µm) primarily for gold exploration, but also multi-element analysis for major and trace elements, salinity (EC) and pH, and clay mineralogy. It is designed to give stronger geochemical signals.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, openhole 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>	No drilling undertaken
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No drilling undertaken.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Regolith type for each soil sample was recorded by a qualified geologist.</li> <li>Sample descriptions are qualitative in nature.</li> <li>No drill core or chip sample logging was undertaken.</li> </ul>
Sub- sampling techniques and sample preparatio n	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Soil samples were directly delivered to the laboratory by Kalamazoo personnel or via tracked TOLL freight consignment.</li> <li>Sample preparation, separation and collection of the clay sized fraction (&lt;2μm) was conducted at LabWest Minerals Analysis Pty Ltd, Malaga, W.A.</li> <li>UltraFine+<sup>TM</sup> is a newly developed method by the CSIRO, designed to analyse the clay sized fraction (&lt;2μm) primarily for gold exploration, but also multi-element analysis for major and trace elements, salinity (EC) and pH, and clay mineralogy.</li> <li>Gold and multi-element analysis is by microwave assisted aqua regia digestion, ICPOES/ICPMS.</li> <li>Field duplicate and standard samples were alternately inserted at a rate of 1:25. A CSIRO developed UFF reference material was used to monitor the accuracy of the laboratory gold assay results.</li> <li>Standard and duplicate results show an acceptable level of variability for the material sampled and style of mineralisation.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> </ul>	<ul> <li>Sample preparation and assay was conducted at LabWest Minerals Analysis Pty Ltd, Malaga, W.A.</li> <li>UltraFine+™ is a newly developed method by the CSIRO, designed to analyse the clay sized fraction (&lt;2µm) primarily for gold exploration, but also multi-element analysis for major and trace elements, salinity (EC) and pH, and clay mineralogy.</li> <li>Sampling and assaying quality control procedures consisted of the inclusion of field</li> </ul>

	Criteria	JORC Code explanation	Commentary
		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.	<ul> <li>duplicate and standard samples were alternately inserted at a rate of 1:25.</li> <li>Assays of quality control samples were compared with reference samples for gold and verified as acceptable prior to use of data from analysed batches. QC of the remaining multi-element data is ongoing.</li> <li>Analysis of the available QC sample assay results for gold indicates that an acceptable level of accuracy and precision has been achieved and the database contains no analytical data that has been numerically manipulated. The assaying techniques and quality control protocols used are considered appropriate to be used for reporting exploration results.</li> </ul>
DSM IBUOSJE	Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Sampling intervals defined by the Geologist are assigned sample identification numbers prior to core cutting. Corresponding sample numbers matching labelled calico bags are assigned to each interval. All sampling and assay information were stored in a secure database with restricted access.</li> <li>Digital sample submission forms provided the sample identification numbers accompanying each submission to the laboratory.</li> <li>All geological logs, sampling and assaying documentation are validated and stored offsite with an independent third party.</li> <li>Assay results from the laboratory with corresponding sample identification are loaded directly into the database.</li> <li>No adjustments are made to assay data, and no twinned holes have been completed. Drilling intersects mineralisation at various angles.</li> <li>The verification of significant intersections has been completed by company personnel and the Competent Person.</li> </ul>
	Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All soil sampling locations have been recorded with a 64s Garmin Handheld GPS with 3-5m accuracy.</li> <li>All coordinates are provided in the Geocentric Datum of Australia (GDA94 Zone 55S).</li> <li>RL data is verified utilising publicly available SRTM-derived (~30m pixel) Digital Elevation Model.</li> </ul>
	Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Soil samples were collected on a grid pattern of 200m spaced north-south oriented lines and 100m spaced samples.</li> <li>Current reporting is for progressive exploration results and not for Mineral Resource and Ore Reserve estimation.</li> </ul>
	Orientation of data in	Whether the orientation of sampling achieves unbiased sampling of possible structures and	North-south soil sampling lines are approximately perpendicular to the prevailing

Criteria	JORC Code explanation	Commentary	
relation to geological structure	<ul> <li>the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	strike of the local geology and the Wohler Shear zone transecting the area and sufficiently covers the area of interest.  No drilling undertaken.	
Sample security	The measures taken to ensure sample security.	All samples have either been delivered direct to the laboratory by Kalamazoo personnel or via tracked TOLL freight consignment.	
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No external audits or reviews have been undertaken.	

		introduced a sampling bias, this should be assessed and reported if material.	
	Sample security	The measures taken to ensure sample secu	<ul> <li>All samples have either been delivered direct to the laboratory by Kalamazoo personnel or via tracked TOLL freight consignment.</li> </ul>
	Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No external audits or reviews have been undertaken.
Sec	ction 2 Reporting	of Exploration Results	
<b>a</b> 5	Criteria	JORC Code explanation	Commentary
	Mineral tenement and land tenure status	<ul> <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> <li>Exploration licence E47/2983 is located in the Karratha City and Port Hedland Town Shires in the Pilbara region of Western Australia.</li> <li>E47/2983 is covered by the Mallina Pastoral lease N050343 and the Yandeyarra Aboriginal Reserve R31427.</li> <li>E47/2983 is 100% owned by Drillabit Pty Ltd. Sayona Mining has an option for the lithium mineral rights.</li> <li>Kalamazoo has the mineral rights to 80% of all non-lithium resources on E47/2983.</li> <li>The tenement is in good standing with no known impediments.</li> </ul>
	Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>There has been no appreciable gold exploration completed within the tenement boundary by previous companies.</li> <li>Sayona Mining conducted lithium soil surveys and RC drilling in 2017.</li> </ul>
	Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Sisters Project E47/2983 sits along the Wohler Shear Zone, between the Peawah Granodiorite and the Satirist Monzogranite, within supracrustal rocks of the DeGrey Supergroup.</li> <li>The area is most prospective for lode gold and VHMS Cu-Zn-Pb-Au-Ag.</li> <li>Styles to be explored for include various epigenetic gold lodes hosted by faults, shears or vein sets in the Archaean age De Grey Supergroup of the Pilbara Craton.</li> </ul>
	Drill hole Information	<ul> <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> <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> </ul> </li> </ul>	No drill hole data is presented in this report.

Criteria	JORC Code explanation	Commentary
	<ul> <li>down hole length and interception depth</li> <li>hole length.</li> <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>	
Data aggregation methods	<ul> <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> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No aggregation is relevant to reporting</li> <li>No metal equivalent reporting has been applied.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	The relationship between anomalous soil assays and potential bedrock gold mineralisation is unknown at this stage of exploration.
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.	Maps and photos are reported elsewhere in this release.
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.	Maps and photos reported are representative of the current state of knowledge for the project areas.
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	Geophysical surveys recently undertaken are provided in the body of the text. The combined image results from surveys conducted by Kalamazoo and Sayoma, on a 25m line spacing flown by MagSpec Airborne Surveys.

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Criteria	JORC Code explanation	Commentary
	samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<ul> <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> <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>	Reverse circulation (RC) drilling is planned over identified gold geochemical anomalies to test the presence of mineralisation in the bedrock.

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