ASX ANNOUNCEMENT 9 November 2017

# KAIROS DISCOVERS VISIBLE GOLD FROM NEWLY-IDENTIFIED CONGLOMERATES AT CROYDON

Four key locations identified with previously unrecognised strike-extensive conglomerate units in a favourable stratigraphic location below the Mt Roe Basalt; visible gold panned at Target 1

# **Highlights**

- Initial phase of helicopter-supported exploration completed within the previously identified 22km strike length of the prospective contact between the basal Mt Roe Basalt and the Archaean basement within Kairos' 100%-owned Croydon Project.
- The program was planned and implemented by highly experienced consulting geologist, George Merhi, and his team, who previously worked as Exploration Manager for Novo Resources (TSX-V: NVO) and the Creasy Group.
- Significant thick conglomerate exposed at four locations beneath the Mount Roe Basalt which had not previously been reported by government mapping.
- At Target 1, conglomerate outcrop extending over 2km in length has been identified at the base
  of the Fortescue Group. The conglomerate forms a large and continuous unit at least 7-8m thick
  and extends over a width of up to 250m.
- Panned gold with up to 28 "colours" identified from a narrow, poorly developed drainage at the interface between the conglomerate unit and the basement (Target 1).
- A further helicopter-supported program is continuing in conjunction with additional ground-based exploration to help prioritise areas for stream sediment sampling, trenching, metal detecting and drilling next year.
- Stream sediment samples from the three other target areas are yet to be panned.
- All geochemical assays are pending and will be reported once received and reviewed.

Kairos' Executive Chairman, Terry Topping: "It's hard to believe what our team has achieved in the space of just a few weeks of helicopter-supported reconnaissance exploration – particularly given the vast amount of ground that had to be covered, the inaccessibility of many of the locations and the extreme weather conditions currently being experienced in this unexplored part of the Pilbara.

"After focusing on a 2km stretch of mapped conglomerates at the Croydon Project, we have been able to utilise the age-old prospector's method of panning to identify visible gold in numerous stream sediment samples collected from creeks draining a thick sequence of conglomerate beds beneath the Mt Roe Basalt at the base of the Fortescue Group. At Target 1, we have consistently been able to see gold in panned samples with up to 28 pieces identified from one 10kg sample.

"This is the same stratigraphic position as the Purdy's Reward discovery and is considered to be the preferred target horizon for conglomerate-hosted gold in the Pilbara. What is even more exciting is that these shallow-dipping units are beneath the Mt Roe Basalt in a number of areas, opening up vast additional areas for

exploration. Overall, this has significantly increased the prospective footprint for conglomerate-hosted gold in the Pilbara."

"Thanks to the input and expertise of George Merhi, combined with our own in-house geological expertise led by Steve Vallance, we have been able to fast-track our initial assessment of the Pilbara Gold Project and come up with multiple high-priority areas which are highly prospective for significant conglomerate-hosted gold discoveries. Discovering visible gold in panned samples from the very first target is a very exciting early breakthrough adding to the now widespread occurrences of conglomerate-hosted gold in the Pilbara.

"We will be back in action with a helicopter shortly with the aim of achieving as a much as we possibly can this year before the weather closes in. In the meantime, other members of our team are conducting initial exploration programs in the Marble Bar area and we expect to have more people on the ground next week targeting the more accessible parts of the Croydon Project. We have a huge area to explore and a lot of work in front of us, but we are already making excellent progress and we are very excited about the emerging potential of our ground."

Kairos Minerals Ltd (ASX: KAI; "Kairos" or "the Company") is pleased to advise that it has identified a significant exposure of previously un-mapped conglomerates at the base of the Mount Roe Basalt within its 100%-owned Mt Croydon Project in the Pilbara and successfully recovered visible gold in panned stream sediment samples from the first target to be evaluated.

Four discrete conglomerate targets were identified over a strike length of  $\sim 10$ km. At Target 1, the conglomerate package has been mapped continuously over a strike length of  $\sim 2$ km. Within this target area a **10kg stream sediment sample (-2mm) was panned which returned 28 pieces of gold** (refer Plate 1).

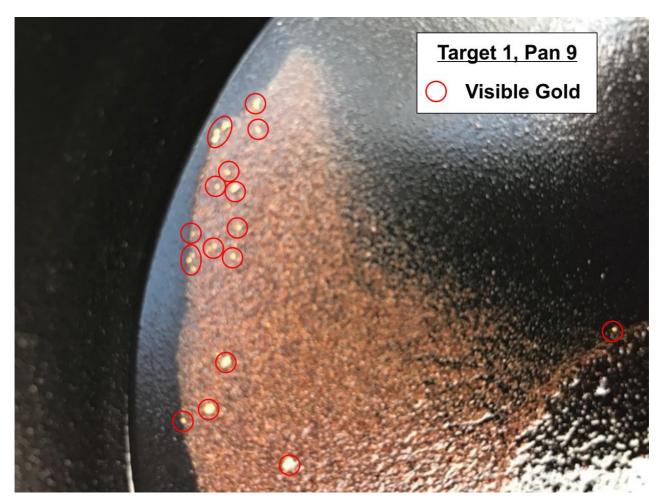


Plate 1: Field photograph of panned gold from Target 1 (-2mm fraction sample), 28 pieces of gold in total identified (not all captured in image)

# **Background**

The recent helicopter program focused on the contact between the basal Fortescue Group Mount Roe Basalt and older Archean basement along a 22km long corridor within E47/3522 & E47/3523.

The field work successfully identified extensive areas of previously unrecognised prospective conglomerate units (Targets 1-4), up to  $\sim$ 30m in thickness at four different locations predominantly within the southern portion of tenement package (refer Figure 1).

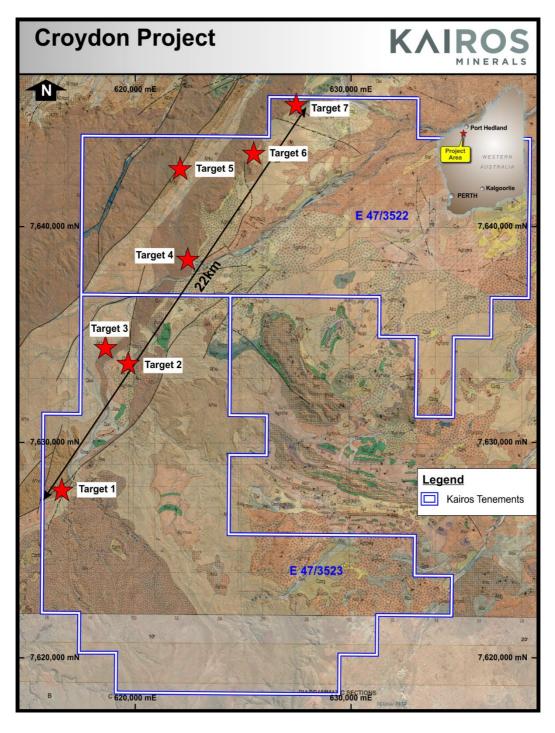


Figure 1: Priority target areas on E47/3522 and E47/3523

The Satirist 1:100,000 published geological map (GSWA) highlights a triangular fault bounded wedge of Mount Roe Basalt at this locality. The recent field work has identified a previously unrecognized extensive conglomerate exposure trending north-northeast and measuring approximately 2km in length and up to 250m in width (refer to Plate 2.)

The thickness of this conglomerate package is uncertain although in a creek exposure it appears to be at least 7-8 metres thick. The conglomerate is composed of reworked gravel to boulder size granitic and mafic clasts in a siliceous and mafic matrix. This significant exposure appears to represent the dip surface of a conglomerate package. Several small outliers of Mount Roe Basalt are preserved and rest on top of the conglomerates units in places, although some local fault structures are present.



Plate 2: Target 1 exposed conglomerate sequence.

At Target 1, numerous stream sediments, soil, and rock chips samples were collected for geochemical analysis (laboratory assays are pending).

In addition, stream sediment samples were panned in the field to test for the presence of visible gold.

The majority of these samples successfully returned gold "colours" with the highlight being pan sample 9 which recorded up to 28 pieces of gold (refer Plate 1).

Three to four pieces of gold in this sample were ~2mm in size and were rounded and flat.

A fine (-2mm) and coarse (-5mm +2mm) fraction sample from this site was also collected for geochemical analysis to quantify the gold observed in the pan sample (Assays Pending).

Pan Sample 9 was collected in the south-western portion of Target Area 1 adjacent to granitic basement and the overlying conglomerate. The relationship between the two units is unclear at this location, as the contact between these two units is not exposed.

The minor creek where Pan Sample 9 was collected is approximately only 30-40m in length and up to  $\sim$ 50cm wide with a thin veneer of alluvial material less than 5cm thick resting on a clay base.

Importantly, the source of the observed gold at this location is interpreted to be proximal to the sample site. This is evidenced by the coarse size of some of the gold particles panned, the low gradient of the stream, the amount of alluvial material present and the size fraction of the alluvial material.



Plate 3: Pan Sample 9 site

At this locality, the conglomerate unit is exposed immediately below a mesa approximately 300 metres long and 150 metres wide. On the western side of the mesa, the outcropping conglomerate is approximately 5 metres thick, rests on granitic basement and overlain by the Mount Roe Basalt.

On the eastern side (Plate 4-5), the conglomerate package is approximately 30 metres thick and is exposed immediately beneath the Mount Roe Basalt and extends down to the valley floor with granitic basement in the vicinity. The variation in the thickness of the conglomerate package from east to west is most likely attributed to basement faulting. The conglomerate is comprised predominately of mafic cobbles (+/- granite/quartz) in a siliceous/mafic matrix.

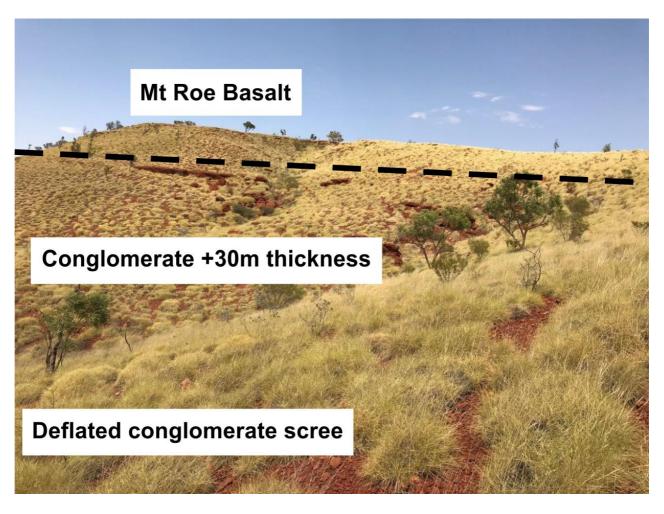


Plate 4: Target 2 Eastern exposure regional stratigraphic profile



Plate 5: Target 2 exposed conglomerate

Several stream sediments and rock chips samples were collected for geochemical analysis (laboratory assays are pending) as well as a stream sediment sample for panning.



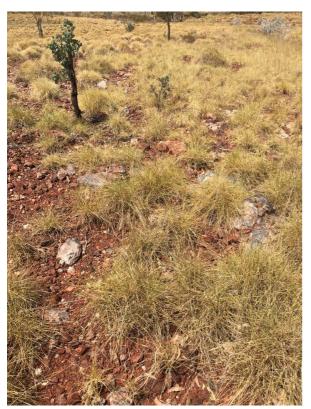
#### Target 3

Located approximately 1.5km north-northwest of Target 2, a conglomerate dip surface is exposed in subtle topographic highs and in creeks. Conglomerate was observed over a strike length of at least 1.5km and down-dip for a minimum of 200 metres before being obscured by colluvium.

The thickness of the conglomerate package is unclear but is several metres thick. The conglomerate comprises cobble to boulder granite, quartz and volcanic clasts in a coarse sandy matrix. The clasts are predominantly well rounded with moderate to high sphericity.

Several stream sediments and rock chips samples were collected for geochemical analysis (laboratory assays are pending) as well as stream sediment samples for panning.

Plate 6: Target 3 exposed cobble to boulder conglomerate,



The exposure at this locality is subtle and dominated by deflated conglomerate material. This deflated conglomerate material comprises sub-rounded cobbles and boulders of chert and quartz and may be up to 1m thick. Adjacent to and along strike of this deflated conglomerate material is sandstone and pebbly sandstone. The entire package is overlain by the Mount Roe Basalt and underlain by granitic lithologies. This entire sedimentary package has been mapped over strike length of approximately 1.7km. A stream sediment sample was collected for geochemical analysis (laboratory assays are pending) as well as a stream sediment sample for panning.

Plate 7: Target 4 deflated cobble to boulder conglomerate material



#### Target 5

The conglomerates at this location are found within the Hardey Formation which is equivalent in age to the gold-bearing Beaton Creek conglomerates held by Novo Corporation in the Nullagine district, East Pilbara. The exposure has a true thickness of approximately 20 metres and was observed for approximately 200 metres along strike. The conglomerate was not traced in detail either side of this exposure although conglomerate material was observed along strike from the helicopter. The conglomerate comprises well rounded cobbles and boulders of chert and quartz in a sandy matrix.

Plate 8. Target 5 conglomerate

Several stream sediments and rock chips samples were collected for geochemical analysis (laboratory assays are pending).

Situated ~20km north east of Target 1 (refer Figure 1), Target 6 defines a thick sedimentary package comprising predominately sandstone to pebbly sandstone. The occurrence was identified stratigraphically below the Mount Roe Basalt during helicopter reconnaissance (refer Plate 9) of the northern portion of the tenement package. Although conglomerate units have not yet been identified at this location, the full thickness of the sequence remains unknown as the basal portion appears obscured by basalt scree.



Plate 9: Target 6 sandstone to pebbly sandstone below the Mount Roe Basalt

#### Target 7

Located ~2km north of Target 6 (refer Figure 1), Target 7 represents fault repeated blocks of Mount Roe Basalt with mapped underlying sediments (refer to GSWA 1:100,000 Satirist Geology Sheet) and is currently being reviewed.

#### **Next Steps**

A further phase of helicopter-supported exploration will be undertaken at the Croydon Project over the next 1-2 weeks, comprising of additional stream sediment sampling and detailed soil sampling. Results will be announced as they are received and interpreted.

In addition ground-based exploration activities are ongoing at Croydon West E47/3519 and E47/3520

Drilling is continuing at the Mt York Gold Project (refer to KAI ASX announcement, 19 October 2017), with the program expected to be completed this week and initial assays results over the coming weeks.

#### **About Kairos Minerals**

Kairos Minerals (ASX: KAI) is a diversified West Australian-based exploration company which is focused on the exploration and development of two key project hubs located in WA's premier mining districts.

The 100%-owned Mt York Gold-Lithium Project is located ~100km south of Port Hedland in the world-class Pilgangoora district. Since acquiring the project in early 2016, Kairos has rapidly established a 258,000oz JORC 2012 compliant Mineral Resource inventory at Mt York by reevaluating the known resources from the historical Lynas Find gold mine, which produced over 125,000oz between 1994 and 1998.

The 100%-owned Roe Hills Project, located 120km east of Kalgoorlie in WA's Eastern Goldfields, comprises an extensive tenement portfolio which is highly prospective for gold, nickel and cobalt discoveries. Kairos' tenure adjoins the emerging Lake Roe gold discovery, owned by Breaker Resources (ASX: BRB).

Kairos has completed maiden drilling programs across both projects over the past 12 months, delivering impressive results which have highlighted the significant potential of both projects to deliver significant new discoveries and host economic mineral deposits.

In the Pilbara, Kairos also holds 1,158 square kilometres of tenure which is highly prospective for conglomerate-hosted gold discoveries. The Company's portfolio includes  $\sim\!100$  strike kilometres of prospective lower Fortescue Group rocks including both the base of the Hardey Formation and the basal sequence of the Mount Roe Basalt. Major exploration programs are underway targeting these highly prospective stratigraphic horizons, which have been associated with a number of recent highprofile gold discoveries in the Pilbara.

Kairos has been well recognised for its industry leading technical team that includes its Chairman Terry Topping (Taipan Resources NL, Cauldron Energy Ltd and Orinoco Gold Ltd), Technical Director Neil Hutchison (Poseidon Nickel, Jubilee Mines, Technical Manager Steve Vallance (WMC, ACM, Jubilee Mines, Xstrata, Kagara, LionOre), and consulting specialists, Dr Nigel Brand, Adrian Black and Bill Amman.

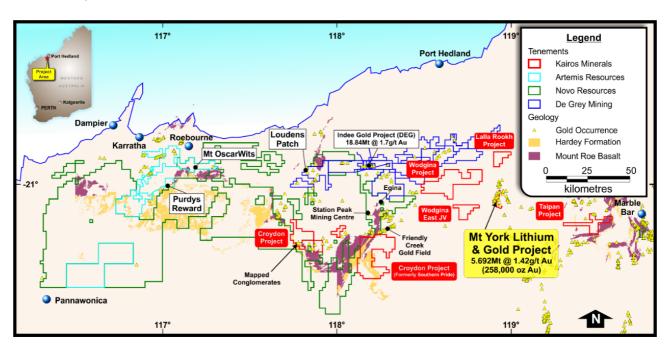


Figure 2. Prospective regional geology and tenure, Pilbara region

#### For further information, please contact:

**Investors:** 

Mr Terry Topping Executive Chairman Kairos Minerals Limited Media:

Nicholas Read/Paul Armstrong Read Corporate Ph: 08 9388 1474

#### **COMPETENT PERSON STATEMENT:**

Competent Person: The information in this report that relates to Exploration Results or Mineral Resources is based on information compiled and reviewed by Mr Steve Vallance, who is the Technical Manager for Kairos Minerals Ltd and who is a Member of The Australian Institute of Geoscientists. The information was also reviewed by Mr Terry Topping, who is a Director of Kairos Minerals Ltd and who is also a Member of AusIMM. Both Mr Vallance and Mr Topping have sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' (the JORC Code 2012). Mr Vallance and Mr Topping have consented to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

# Appendix 1 – Kairos Minerals – Croyden Project JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</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 (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.</li> </ul>	<ul> <li>Gold has been found by panning 10kg samples of -2mm material</li> <li>Stream sampling is only representative of the general area sampled</li> <li>All gold found was within the fine fraction from soil/alluvium</li> <li>The gold samples remain to be tested for purity.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, openhole 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).</li> </ul>	No drilling has been 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 has been 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>	The gold found is only qualitative and must be interpreted in combination with geological mapping of the target area based on a prospective geological unit being mapped in the vicinity.  The gold is not associated to be
Sub-sampling techniques and	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> </ul>	The gold is not considered to be representative as it was found in loose

Criteria	JORC Code explanation	Commentary
sample preparation	<ul> <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 sub-sampling 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 and alluvium near the prospective geological units. The geological units remain to be sampled in detail.</li> <li>The proximity of the gold near the prospective geological units is a positive indication the prospective units is the source of the gold.</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> <li>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.</li> </ul>	<ul> <li>No assay data or laboratory tests have been completed on the gold.</li> <li>No assay data has been reported on geochemical sampling.</li> </ul>
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>	Due to the early stage of exploration and type of work completed to date, no verification nor assaying has been undertaken to date.
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>Sample collected were surveyed by GPS with an accuracy of +/- 5m.</li> <li>All samples are in MGA94 Zone 50 (GDA94).</li> <li>There are no historic workings or drill hole in the area.</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>	Due to the early stage of exploration and type of work completed to date, the sampling is non-systematic nor representative for any future resource estimate
Orientation of data in relation	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering	<ul> <li>The sampling concentrated on areas below the mapped and interpreted. conglomerates to test if the</li> </ul>

Criteria	JORC Code explanation	Commentary
to geological structure	<ul> <li>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>	conglomerate horizons were mineralised.
Sample security	The measures taken to ensure sample security.	<ul> <li>All samples were collected in the field at the project site by Kairos personnel.</li> <li>All samples were delivered to the laboratory by reputable courier in secure numbered polyweave/calico bags.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	No audits have been completed

# **Section 2 Reporting of Exploration Results**

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>Kairos Minerals owns the Tenements 100%</li> <li>The Croyden Project has 5 Exploration Licences 47/3519 to 47/3523</li> <li>The information contained in this report relates specifically to E47/3522 &amp; E47/3523</li> <li>The Project is not located on any Pastoral leases</li> <li>The Tenements have been granted</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No significant past work has been carried out by other parties.
Geology	Deposit type, geological setting and style of mineralisation.	The target is conglomerate hosted gold mineralisation.
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> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </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>	No drilling was completed.

Criteria	JORC Code explanation	Commentary
Data aggregation methods  Relationship	<ul> <li>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.</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> <li>These relationships are</li> </ul>	<ul> <li>Due to the early stage of exploration and type of work completed to date, the sampling is non-systematic nor representative.</li> <li>No drilling was completed.</li> </ul>
between mineralisation widths and intercept lengths	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').	
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.	Suitable summary plans have been included in the body of the report.
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 relevant results have been reported
Other substanive	<ul> <li>Other exploration data, if meaningful and material, should be reported including</li> </ul>	All relevant and meaningful data has been reported.



Criteria	JORC Code explanation	Commentary
exploration data	(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.	
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	<ul> <li>Further mapping, panning, metal detecting, geochemistry and rock chip sampling is planned</li> <li>Refer to diagrams in the body of the release</li> </ul>