

**ASX Announcement  
26 July 2019**

**Kalia Limited** is exploring for copper, gold and energy metals in the Mt Tore region on Bougainville Island.

**Directors**

Chairman  
*Hon. David Johnston*  
Managing Director  
*Mr Terry Larkan*  
Director Corporate Development and Strategy  
*Mr. Michael Johnston*  
Technical Director  
*Mr Peter Batten*  
Non-Executive Director  
*Mr Sean O'Brien*  
Non-Executive Director  
*Mr. Jonathan Reynolds*

**Operations**

Joint Company Secretary  
*Ms Melissa Chapman*  
and *Ms Catherine Grant-Edwards*

**Issued Capital**

Ordinary Shares  
2,514,347,391  
Unlisted Options  
100,000,000

**Share Price – 26 July  
2019**

\$0.001

**ASX Code**

KLH

**Further Contact:**

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PO Box 1470  
West Perth WA 6872

## Activities Report - Quarter Ended 30 June 2019

Kalia Limited (“Kalia” or “the Company”) reports that the following activities occurred during the quarter ended 30 June 2019.

### Summary of Announcements during the quarter

- Results of Meeting announced on 06 May 2019 authorised the Company to effect the following actions in connection with the Tygola Pty Ltd (“Tygola” or “the Lender”) loans:
  - change the repayment date of the existing \$3 million secured loan from 31 December 2018 to 28 June 2019 but with the ability to negotiate a deferral for repayment up to 31 December 2019.
  - accept an additional \$1 million secured convertible, subject to ASX approvals, loan facility repayable on 28 June 2019 but with the ability to negotiate a deferral for repayment up to 31 December 2019.
  - borrow a further \$500,000 by way of secured loan.
- 16 May 2019 Release of Securities from Escrow announced for 480,000,000 shares held by Global Resource Investment Trust PLC.
- Company Secretary Appointment / Resignation was announced 20 May 2019.

### Summary of Announcements and events subsequent to the quarter

- 250,000,000 Lapsed Unlisted Options announced on 1 July 2019
- 24 July 2019 Funding and Corporate Update announced that Tygola had agreed to continue to support the Company through loan facilities. A summary of the loan arrangements in place are:
  - a \$3 million secured loan provided to the Company in May 2018 (“Facility 1”) which has been deferred until, and is due to be repaid on, 31 December 2019;
  - a second secured loan agreed in January 2019, approved at the General Meeting on 06 May 2019 (“Facility 2”), which has been increased to \$1.5 million and which has also been deferred until, and is due to be repaid on, 31 December 2019;
  - a third, unsecured, loan of \$1.5 million (“Facility 3”) which is repayable on 31 December 2019 bearing interest at 10% per annum and levying a facility fee of 5%, as with the other loans; and
  - Save for Tygola having the option of converting \$1 million of Facility 2 at \$0.004 per ordinary share, the loans are repayable in cash.

The Company announced that it is in negotiations with Tygola in respect of a proposed recapitalisation the Company. The terms of the recapitalisation are yet to be determined however the Company will announce those details once they are available. The Company has engaged with advisors on this matter.

In light of Tygola’s increased involvement with the Company, in particular through the above loan facilities, the Company has effected strategic changes to the composition of the Board, to add resources as well as improve governance and accountability.

The changes see **Mr. Mike Johnston**, responsible for Corporate Development and Strategy and **Mr. Jonathan Reynolds**, non-executive director, join the directorate.

## Geochemical Interpretation

During the quarter, the Company commissioned an independent expert review and interpretation of the geochemical and geological data collected over its Tore Joint Venture (“TJV”) properties on Bougainville Island by consultant Dr Steve Garwin. Results of this work were presented in a 11<sup>th</sup> May press release. The main conclusions, whilst preliminary in nature, were;

- The geochemical review highlights the fertile nature of the Mt Tore region igneous rocks and the potential for multiple Cu-Au porphyry centres and epithermal mineralisation – results show Mt Tore to be “prospective for large Cu-Au porphyry deposits” (Dr S Garwin, 2019).
- 3 potential porphyry Cu-Au centres and one epithermal gold region stand out from the analysis:
  - a. South of Melilup;
  - b. Aita, Kunai Hills (porphyry targets); and
  - c. Teoveane – Perovasu – Puspa – Teosiri region (epithermal).
- A new unexplored target, 12 kilometres by 5 kilometres in size, lies west of Aita and is characterized by anomalous Cu-Au in stream sediment samples.

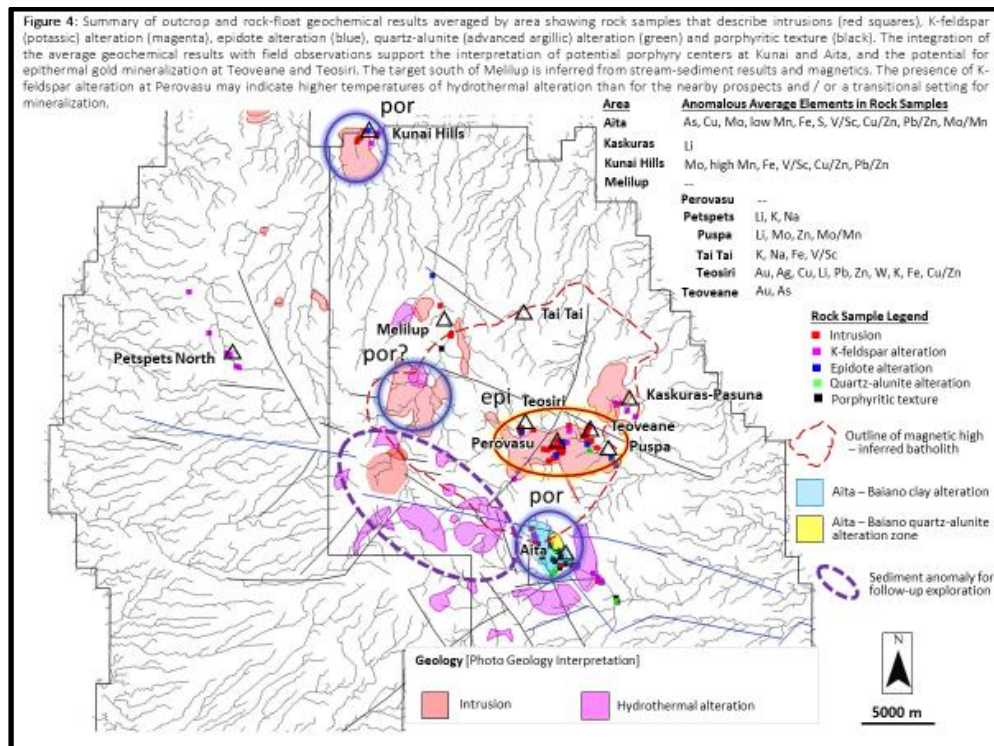


Figure 1. Extract from Garwin Report (Figure 4) highlighting priority exploration areas

Dr Garwin's targets are all supported by the earlier geophysical interpretation of Fathom Geophysics, suggesting a strong correlation between geochemical anomalies and interpreted intrusive centres. The company's field work is focused on assessing these targets.

## Community

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The community has communicated their wish for the Toremana side of the joint venture to have eight landowner associations which align with the electoral districts rather than along the 7 clan lines. The Company has been working with the community leaders and legal advisors to formalise and register the landowner associations. This structuring simplifies communication channels and provides the communities with incorporated representative structures through which wider economic activity can be organised; something that they have wanted but not had the resources available to achieve previously.

The last of these structures will be in place in the September 2019 quarter and this is expected to facilitate the resolution of some outstanding matters within the communities and result in better access to identified areas of interest.

Concurrent with the work being done on the formal structures the community liaison work has been focussed on conducting awareness and education of the exploration processes across the Exploration Licence areas. Within the formative structures progress has been made with a view to obtaining support and landowner consent to access specific areas of interest in:

- Taonita Tinputz Area - Rarie, Puspa and Melelup
- Suir Area – Melelup
- Aita Area – Turivikli
- Taonita Teop - Vasutea, Teosiriata, Karamus

## Exploration Field Trips

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Eight field trips were completed during the quarter (Figure 2).

These were for mapping and sampling and accessed targets at Melilup, Teosiri, Teoveane, Kaburirui, Rapoma and Matesioria.

### Teosiri/Teoveane

Multiple trips to Teosiri/Teoveane were made in line with recommendations by Garwin in his report that the Company commence stream sediment sampling around the known mineralisation to aid in determining the location of a commencement site should it develop into a drill location.

Rockchip sampling and geology and alteration mapping were continued and the programme of stream sediment sampling surrounding sites of positive samples was commenced.

No significant new results were produced but mapping showed strong potassic alteration at Teoveane and propylitic alteration at Teosiri proximal to the location of outcrop previously sampled and returning anomalous results for gold and/or base metals. This places the sample locations within a favourably

altered system but distal to the targeted mineralisation. This information will direct further sampling programmes closer to a source.

Two drainages were sampled at Teoveane and three drainages at Teosiri.

Further stream sediment sampling is planned and soil sampling is planned for Teosiri.

Results for the last stream sediment sampling was still outstanding at the end of the quarter.

All other significant results have been reported.

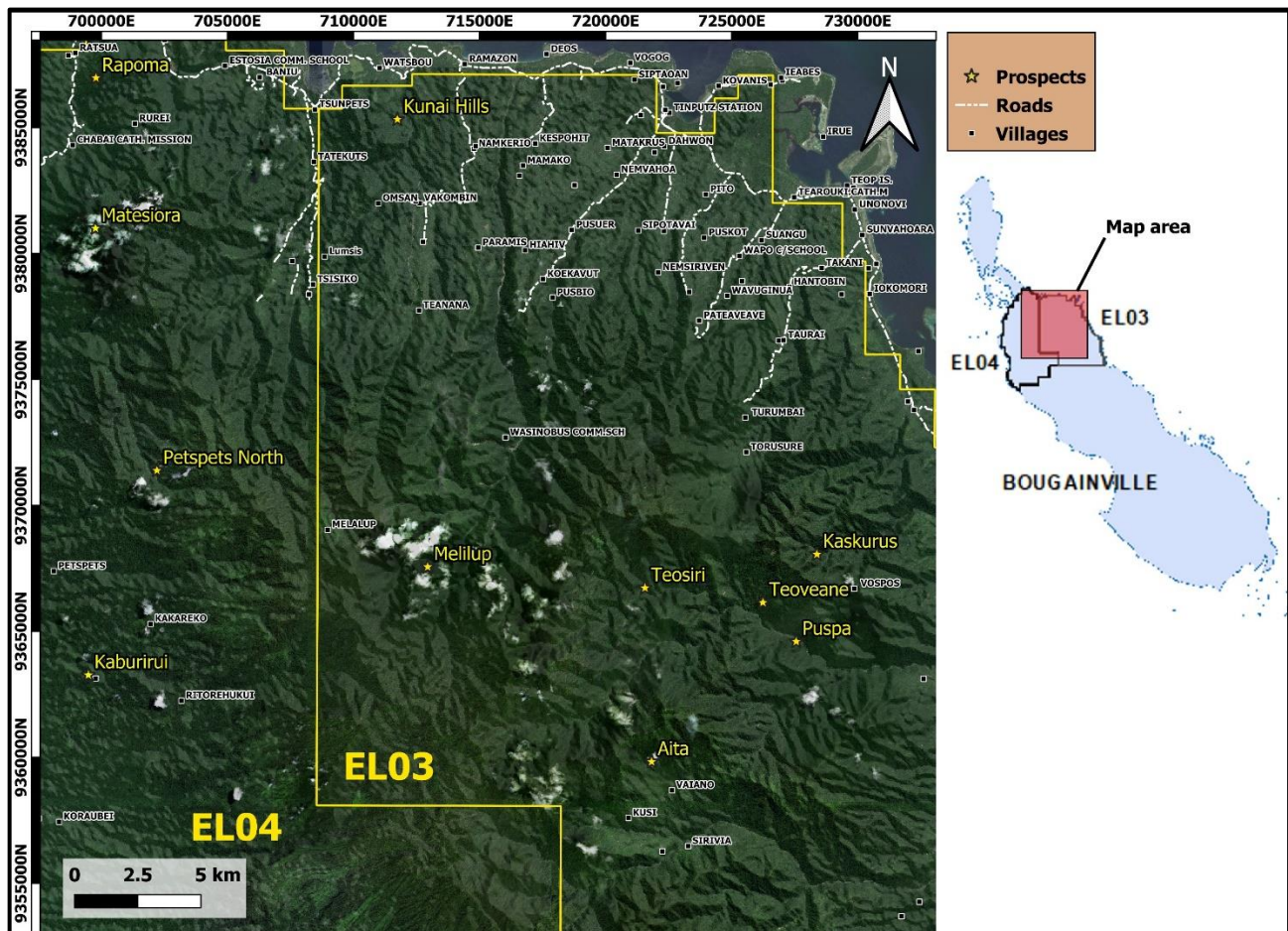


Figure 2. Site locations Tore region, Bougainville

## Melilup

The field trip to Melilup was designed to locate and sample two of the “Priority One” targets identified through the work of Fathom Geophysics. The topography proved extreme and further work may require helicopter support to locate the Melilup target.

Drainage sampling (river float) produced suitable lithologies and interesting alteration and sulphide mineralisation.

No significant results were returned from the samples.

## **Rapoma, Kaburirui and Matesioria**

These were the first expeditions into EL04.

All these locations proved to be physically difficult to access due to the topography and the poor maps available.

Rapoma and Matesioria did not show any signs of mineralisation and porphyry style lithologies and alteration was mainly absent, however it should be noted that the targeted location was not reached.

Kaburirui was also not reached but sampling of drainages (river float) approaching the location produced monzodiorite lithologies and potassic alteration.

Results from these trips did not return any results of significance.

This fieldwork completed the initial phase of the programmes providing valuable on-ground information and additional work is required.

## **About the Bougainville Exploration Licences**

The Company, through Tore Joint Venture Limited, manages two exploration licences on the island of Bougainville, Autonomous Region of Bougainville, Papua New Guinea.

Tore Joint Venture Limited is 75% owned by Kalia Limited, with the remaining 25% being held by Toremana Resources Limited, a registered landowner association.

The two exploration licences, EL03 and EL04 were issued in November 2017 and cover a combined area of 1,704 km<sup>2</sup>.

The region sits on the Pacific Rim of Fire and is prospective for volcanic epithermal mineralisation. Particularly for gold and copper mineralisation in granitoid complexes associated with intrusion of deep-seated magma chambers into overlying volcanic geology. These intrusions, porphyry coppers, are located throughout PNG with Panguna as the regional example located to the south of Tore on the island of Bougainville. Most porphyry copper deposits tend to be large tonnage and low grade, with tonnages of hundreds of million tonnes to in excess of a billion tonnes but grades are generally around 0.20 gpt Au and 0.20% Cu and above.

The Panguna deposit is a complex of diorites and granodiorites intruded into the Panguna andesites and was mined by Bougainville Copper Limited from 1972 to 1989.

The Company has previously disclosed details of the historical reports which note that potential exists for multiple deposits in the north and up to seven different styles of mineralisation were and these seven styles can be broadly grouped into three:

1. Porphyry Cu, Au;
2. Epithermal veining (including polymetallic veins and Au); and
3. Volcanogenic Massive Sulphides (VMS)

Recent geophysical survey data has been analysed and identified 64 porphyry and epithermal targets across the area including 12 Priority 1 targets while independent correlation between geophysics and geochemistry highlights the robustness of the modelling and high prospectivity of the region.

### Tenement Schedule (Disclosure per ASX Listing Rule 5.3.3)

Tenements held at end of the quarter by Kalia Ltd and subsidiary companies.

TENEMENT	LOCATION	NAME	INTEREST
EL03	Bougainville	Tore East	75%
EL04	Bougainville	Tore West	75%

### Competent Person Statements

The information in this announcement that relates to Exploration Results is based on information reviewed by **Mr Peter Batten** who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM) and is an Executive Director, a full-time employee and shareholder of Kalia. Mr Batten has sufficient experience which is relevant to the style of mineralisation and type of deposits 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 Batten consents to the inclusion of the information in the form and context in which it appears.

Information that relates to Geophysics and Geophysical data is based on information reviewed by **Dr. Amanda Buckingham** who is a consultant geophysicist and principal of Fathom Geophysics. Dr. Buckingham was contracted by Kalia Limited and gives consent to the inclusion of the information in the form and context in which it appears.

Amanda Buckingham PhD has been involved in mineral exploration for 25 years. Amanda co-founded Fathom Geophysics in 2007, an award winning and industry leading geophysical consulting group that has developed worlds-best technology for interpretation under cover. Tools developed include structure detection and 3D geochemical footprint modelling of specific deposit styles as well as many other technologies; significantly increasing the chances of discovery under cover.

Dr Buckingham's early career involved work as a geoscientist and project manager at majors such as Rio Tinto as well as listed juniors in both Canada and Australia and several years consulting at SRK. Amanda has extensive exploration experience in North and Sub-Saharan Africa, Canada, US, Mexico, South America, South East Asia, Russia and several countries in the former Soviet Union.

Amanda's PhD at the University of Western Australia involved the design of enhancement filters and edge-detection programs for potential field data. These algorithms have made possible significant advances in methodology for the semi-automated interpretation of data.

Dr Buckingham is currently a research fellow at the University of Western Australia.

Information that relates to Geochemistry analysis is based on information reviewed and interpreted by **Dr. Steve Garwin**. Dr Garwin has more than 31 years of experience as an exploration geologist with large and small mining companies. He has participated in the gold and copper projects of more than 27 clients in over 16 countries. He worked with Newmont Mining for ten years, including two years as Chief Geologist in Nevada. Steve is a fellow of the Society of Economic Geologists, fellow of the Australian Institute of Geoscientists and a fellow of the Australian Institute of Mining and Metallurgy.

Dr Garwin is one of the leading authorities on porphyry, epithermal and Carlin-style mineralization in the circum-Pacific region. He has been involved in several, major exploration and mining projects, including the Batu Hijau porphyry mine in Indonesia, the mines of the Carlin and Battle Mountain Trends in Nevada, and the recently discovered world-class Alpala porphyry deposit in Ecuador.

Dr Garwin is an independent consultant based in Perth, Australia. He obtained his B.Sc. in geology from Stanford, M.Sc. from the University of British Columbia and Ph.D. (distinction) from the University of Western Australia. He is an adjunct research fellow at the Centre for Exploration Targeting at UWA (geology) and has published more than 40 scientific papers and abstracts. Steve is chief technical advisor to SolGold Plc. (SOLG:L and SOLG:TSX-V) and technical advisor to Japan Gold Corp (JG:TSX-V).

## References

- Geology of Bougainville and Buka Islands, New Guinea, Blake, D.H. and Mieзитis, Y., 1967.
- Panguna copper gold deposit, in Geology of the Mineral Deposits of Australia and Papua New Guinea (Ed- F.E. Hughes) pp1807-1816 (The Australasian Institute of Mining and Metallurgy: Melbourne). Clark, G.H., 1990.
- Report No. 3, Interpretation of Aerogeophysical data and followup Aerogeophysical anomalies on the island of Bougainville, Papua New Guinea, text volume and Appendix I. Dr. D. Bering, Prof. Dr. W. Bosum, Dr. K. Busch, F. Plattetschlager, Dr. D. Rammimair, Dr. R. Robling, B. Stroheker, R. Sumaiang, 1990. (Federal Institute for Geosciences and Natural Resources, Federal Republic of Germany.)
- The Geology and Mineral Resources of Bougainville and Buka Islands, Papua New Guinea, Rogerson, R.J., Hilyard, D.B., Finlayson, E.J., Johnson, R.W. and McKee, C.O., 1989 (Geological Survey of PNG.)  
Report for the Fourth Field Trip for the North Bougainville Collaborative Research Project, 13th February to 07th March 2012, Version 2. Tsiperau, C.U., 2012 (Unpublished).
- Topographic correction of magnetic data on rugged topography with application to Río Blanco-Los Bronces and El Teniente porphyry copper districts, Southern Andes, Chile. Exploration Geophysics, 2018, 49, 595–607. Gonzalo et al., 2018;
- Regional controls, geology, geochemical signature and geophysical expression of porphyry copper-(gold) systems, post-meeting short-course for PACRIM 2019, Garwin, S., 2019,, 6th April, Auckland, New Zealand, 330 slides.
- Footprints: Hydrothermal alteration and geochemical dispersion around porphyry copper deposits, Society of Economic Geologists Newsletter v, Halley, S., Dilles, J.H, and Tosdal, R.M., 2015, 100, p 1, 12-17.
- Distinctive composition of copper-ore-forming arc magmas: Centre for Exploration Targeting, School of Earth and Environment, University of Western Australia, Crawley, WA 6009, Australia, Loucks, R., 2014,, p. 5-16.
- Bering, D., Bosum, W., Busch, F., Plattetschlager, F., Rammimair, D., Robling, R., Stroheker, B., and Sumaiang, R., 1990, Report No 3, Interpretation of aerogeophysical data and follow-up aerogeophysical anomalies on the island of Bougainville, Papua New Guinea, text volume and Appendix II, Federal Institute for Geosciences and Natural Resources, Federal Republic of Germany, 254 pages.

## ADDITIONAL INFORMATION

### JORC CODE, 2012 EDITION – TABLE 1

The following sections are provided for compliance with requirements for the reporting of exploration results under the JORC Code, 2012 Edition.

#### Section 1 Sampling Techniques and Data

##### Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Sampling of stream sediment was wet sieved at size -80 mesh and relates to historic geochemical data from Rogerson et al. 1989</li> <li>Whole rock sampling from Rogerson et al. 1989 is denoted by O/C for in situ outcrop at FLT for float samples.</li> <li>Mineral specimens/samples from Tsiperau, 2012 were noted in the field. Assay results and whole rock geochemistry data for these samples is unavailable.</li> <li>Samples were collected by geologists in the field but specific collection techniques are unknown.</li> <li>For stream sediment samples from Rogerson et al. 1989, Au and Pt were determined on each sample by either 20g or 50g fire assay (depending on sample size); Hg by cold vapour AAS; As and Te by hydride-generation AAS; Ag by AAS. Following KClO<sub>4</sub>/HCl digestion and subsequent 10% aliquot 336-MIBK/KI/ascorbic acid metal concentration; and Cu, Zn by AAS following two separate metal extractions, 1% HCl (partial) digestion and HCl/HNO<sub>3</sub> (total) digestion. Detection limits for each element were nominally; Au (10ppb), Pt (100ppb), Hg (2ppb), As (2ppm), Te (100ppb), Ag (100ppb), Cu (1ppb) and Zn (1ppm).</li> <li>Whole rock samples were analysed for; Ba, Sr, Pb, Zr, V, Cr, Ni by ICP at AMDEL, South Australia, Rb, Nb, Y by XRF at AMDEL, Sc, Cs, Sr, Hf, Th, La, Ce, Nd, Sm, Cu, Tb, Dy, Yb, Lu, V, Zn, Au by Instrumental Neutron Activation Analysis at CSIRO Lucas Heights NSW.</li> <li>Kalia Limited is reporting modelling utilising the airborne magnetic and radiometric data, for the survey carried out over the Mt Tore project area [EL03 and EL04] between 30/08/2018 and 30/11/2018.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling results reported</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>No drilling results reported</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>	
Logging	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Samples have been logged by a geologist in the field.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <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 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 style="list-style-type: none"> <li>No drilling results reported</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>For stream sediment samples from Rogerson et al. 1989, Au and Pt were determined on each sample by either 20g or 50g fire assay (depending on sample size); Hg by cold vapour AAS; As and Te by hydride-generation AAS; Ag by AAS. Following KClO<sub>4</sub>/HCl digestion and subsequent 10% aliquot 336-MIBK/KI/ascorbic acid metal concentration; and Cu, Zn by AAS following two separate metal extractions, 1% HCl (partial) digestion and HCl/HNO<sub>3</sub> (total) digestion. Detection limits for each element were nominally; Au (10ppb), Pt (100ppb), Hg (2ppb), As (2ppm), Te (100ppb), Ag (100ppb), Cu (1ppb) and Zn (1ppm).</li> <li>Whole rock samples were analysed for; Ba, Sr, Pb, Zr, V, Cr, Ni by ICP at AMDEL, South Australia, Rb, Nb, Y by XRF at AMDEL, Sc, Cs, Sr, Hf, Th, La, Ce, Nd, Sm, Cu, Tb, Dy, Yb, Lu, V, Zn, Au by Instrumental Neutron Activation Analysis at CSIRO Lucas Heights NSW.</li> <li>Specific instrument information not available.</li> <li>Lab-produced QAQC procedures and results are unknown.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Unknown if samples were submitted to an umpire laboratory for check analysis.</li> <li>No umpire laboratory checks on recent surface sample results.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Discuss any adjustment to assay data.</li> </ul>	
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Samples reported from Tsiperau 2012, were recorded using a hand held GPS</li> <li>Samples from Rogerson et al. 1989 are recorded in mE and mN to the nearest hundred metres using WGS1984 datum. The method for plotting locations is unknown.</li> <li>Geophysics Datum: Geodetic Datum of Australia 94 (GDA94)</li> <li>Projection: Map Grid of Australia (MGA)</li> <li>Zone: Zone 56</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>No drilling results reported.</li> <li>The airborne survey data has the following specifications: <ul style="list-style-type: none"> <li>Traverse line direction 45</li> <li>Traverse line spacing 200 m</li> <li>Tie line direction 135</li> <li>Tie line spacing 2000 m</li> <li>Block Traverse Kilometers 8,839</li> <li>Block Tie Kilometers 1,051</li> <li>Block Total Kilometers 9,890</li> </ul> </li> <li>Mean terrain clearance for airborne survey 80m</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and 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>	<ul style="list-style-type: none"> <li>Mineralisation reported at surface only.</li> <li>Airborne magnetic and radiometric survey was flown perpendicular to the regional structure and stratigraphy with flight line direction: 045 degrees and tie line direction: 135 degrees.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Sample security practices unknown.</li> <li>All recent samples are within possession of company staff until deposited with an independent (international) courier and delivered to the laboratory (Intertek) in Lae.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews have taken place.</li> </ul>

## 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	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The Mt Tore Project consists of two exploration licence applications ELA07 (365.3sqkm) and ELA08 (838.7sqkm).</li> <li>The Mt Tore Project is a joint venture between Kalia Limited (75%) and Toremana Resources Limited, a registered landowner association (25%).</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>All data sourced by the company has been disclosed.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Tore region consists of volcanic rocks in an island arc tectonic setting. Intrusive bodies are recorded in numerous locations throughout the project area and is highly prospective for porphyry Cu-Au-Ag-Mo and Epithermal Au deposits.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>No drilling results reported</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>No minimum or maximum cut-offs have been applied</li> </ul>
Relationship between	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>

Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	<p>Exploration Results.</p> <ul style="list-style-type: none"> <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 (eg 'down hole length, true width not known').</li> </ul>	
Diagrams	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Maps and plans appear throughout this release.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All sample assay data has been released, previously.</li> <li>Results of the geophysical survey, interpretation and modelling has been released, previously.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>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.</li> </ul>	<p>Filtering and modelling carried out can be summarized as follows:</p> <ul style="list-style-type: none"> <li>The magnetic data: variable continuation, reduction to the pole, modelling of magnetic response of topographic surface, ridge removal and re-gridding, enhancement filtering, structure detection, intrusion [radial symmetry] detection, 3D unconstrained magnetic inversion [coarse]</li> <li>The radiometric data: removal of topographic valley responses &amp; re-gridding, ratio-ing, gaussian smoothing, colour composites, extraction of elevated responses in K, Th, U</li> <li>The topography data: enhancement filtering</li> <li>All data: generation of porphyry Cu-Au exploration targets &amp; ranking thereof</li> </ul>
Further work	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>See future work/plans within the release.</li> </ul>

Table 2: Photointerpretation Key Definitions

<b>Key</b>	<b>Definition</b>
Czb	Balbi Volcanics
Czba	Balbi Volcanics – pyroclastics
Czbf	Balbi Volcanics – lava flows
Czbp	Balbi Volcanics – mudflow deposits
Czd	Intrusions – diorite to monzonite
Cze	Emperor Range Volcanics
Czof	Tore Volcanics – lava flows
Czop	Tore Volcanics
Kls	Keriaka Limestone
Qa	Alluvium
Qs	Sohano Limestone
Reef	Reef
Tbp	Buka Volcanics

## Appendix 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

### Name of entity

Kalia Limited

### ABN

30 118 758 946

### Quarter ended ("current quarter")

30 JUNE 2019

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (12 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(180)	(1,207)
(b) development	-	-
(c) production	-	-
(d) staff costs	(100)	(959)
(e) administration and corporate costs	(112)	(723)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	-	-
1.5 Interest and other costs of finance paid	(101)	(256)
1.6 Income taxes paid	-	(3)
1.7 Research and development refunds	-	-
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(493)</b>	<b>(3,148)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	(163)
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	1	1
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>1</b>	<b>(162)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
3.5	Proceeds from borrowings	250	3,180
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	(25)	(159)
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>225</b>	<b>3,021</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	270	292
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(493)	(3,148)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	1	(162)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	225	3,021
4.5	Effect of movement in exchange rates on cash held	-	-
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>3</b>	<b>3</b>

5. <b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1 Bank balances	3	270
5.2 Call deposits	-	-
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>3</b>	<b>270</b>

6. <b>Payments to directors of the entity and their associates</b>	Current quarter \$A'000
6.1 Aggregate amount of payments to these parties included in item 1.2	31
6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

Item 1.2 includes remuneration payments to directors.

7. <b>Payments to related entities of the entity and their associates</b>	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	-
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	



## Mining exploration entity and oil and gas exploration entity quarterly report

<b>8. Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
8.1 Loan facilities	4,250	4,250
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

In April 2018 the Company entered into a Loan Facility with Tygola Pty Ltd (**Tygola**) for \$3,000,000 secured by first ranking security over assets and an undertaking of the Company in favour of Tygola. The Loan Amount accrues interest which will be paid monthly in arrears at an interest rate of 10% per annum on the amount outstanding. As announced 24 July 2019, Tygola have agreed to defer the repayment of this loan from 28 June 2019 until 31 December 2019.

On 2 January 2019 Tygola agreed to provide an additional \$1,000,000 loan facility to the Company. This Additional Loan Facility is also secured by a further first ranking security over the assets and undertaking of the Company in favour of Tygola. Subsequently, the facility amount was increased from \$1,000,000 to \$1,250,000. As announced 24 July 2019, the facility amount was increased further from \$1,250,000 to \$1,500,000 (this additional \$250,000 amount is excluded from the amount noted at item 8.1). The Additional Loan Amount will accrue interest which will be paid monthly in arrears at an interest rate of 10% per annum on the amount outstanding. Tygola have agreed to defer the repayment at any time during the term of this loan from 28 June 2019 until 31 December 2019.

During the June 2019 quarter, shareholder approval was obtained for the Additional Security Interest to be granted in respect of a maximum value of up to \$1,500,000 and for the term of the Additional Loan Facility to be up to 31 December 2019.

As announced 24 July 2019, the Company confirms it has negotiated a further loan of \$1,500,000 (Facility 3) from Tygola, unsecured and repayable on 31 December 2019 bearing interest at 10% per annum and levying a facility fee of 5%; as with the other loans (this \$1,500,000 amount is excluded from the amount noted at item 8.1).

Save for Tygola having the option of converting \$1 million of Facility 2 at \$0.004 per ordinary share, the loans are repayable in cash.

<b>9. Estimated cash inflows and outflows for next quarter</b>	<b>\$A'000</b>
9.1 Exploration and evaluation	693
9.2 Development	-
9.3 Production	-
9.4 Staff cost	264
9.5 Administration and corporate costs	339
9.6 Other:	
Drawdown of Tygola loan facility	(1,296)
<b>9.7 Total estimated cash outflows</b>	<b>-</b>


## Mining exploration entity and oil and gas exploration entity quarterly report

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	-	-	-	-
10.2	Interests in mining tenements and petroleum tenements acquired or increased	-	-	-	-

**Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here.



(Company Secretary)

Date: 26 July 2019

Print name: Catherine Grant-Edwards

**Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.