KAIROS MINERALS

ASX ANNOUNCEMENT 12 July 2022

Spodumene-bearing pegmatite samples discovered at Mt York Gold Deposit, Pilbara WA

Less than 4 km from Pilbara Minerals' Pilgangoora Lithium-Tantalum Mine

Highlights

- **Spodumene Pegmatite samples have been discovered during routine earthmoving activities next to the flagship Mt York Gold Deposit**
- **Spodumene (lithium pyroxene) is a highly sought after critical raw material used in the manufacture of rechargeable Electric Vehicle (EV) batteries**
- **Five pegmatite samples from 'Lucky Sump' analysed at Corescan Pty Ltd in WA found to contain spodumene in association with beryl, garnet and micas**
- **Spodumene pegmatites are part of a larger interpreted dyke swarm at Mt York**
- **Samples will be sent for multi-element analysis to determine their lithium grade**

Kairos Managing Director, Dr Peter Turner said **"The discovery of spodumene pegmatites on our tenements in a World-class spodumene pegmatite district is highly significant for Kairos.**

"It appears that these samples may be part of a larger pegmatite dyke swarm that is largely under cover.

"Spodumene pegmatites are rare in Australia and this discovery indicates we are in a fertile lithium-caesium-tantalum (LCT) district with potentially significant upside.

"Whilst we wait for the chemical analysis from the laboratory for these samples, drilling activities at the Lucky Sump lithium discovery will be prioritised as part of the large programme planned for the Mt York Gold Project".

Figure 1. Kairos Geologist Campbell Watts holding a piece of pegmatite containing large crystals interpreted to be spodumene, discovered at 'Lucky Sump' during routine earth moving activities.

Figure 2. with Kairos Managing Director and Geologist Peter Turner examining pegmatite samples from recent earthmoving activities at the Lucky Sump Prospect. Host rocks to the pegmatites appear to be basaltic-gabbroic rocks. The pegmatite samples have been excavated from their source below the sump and are not considered transported.

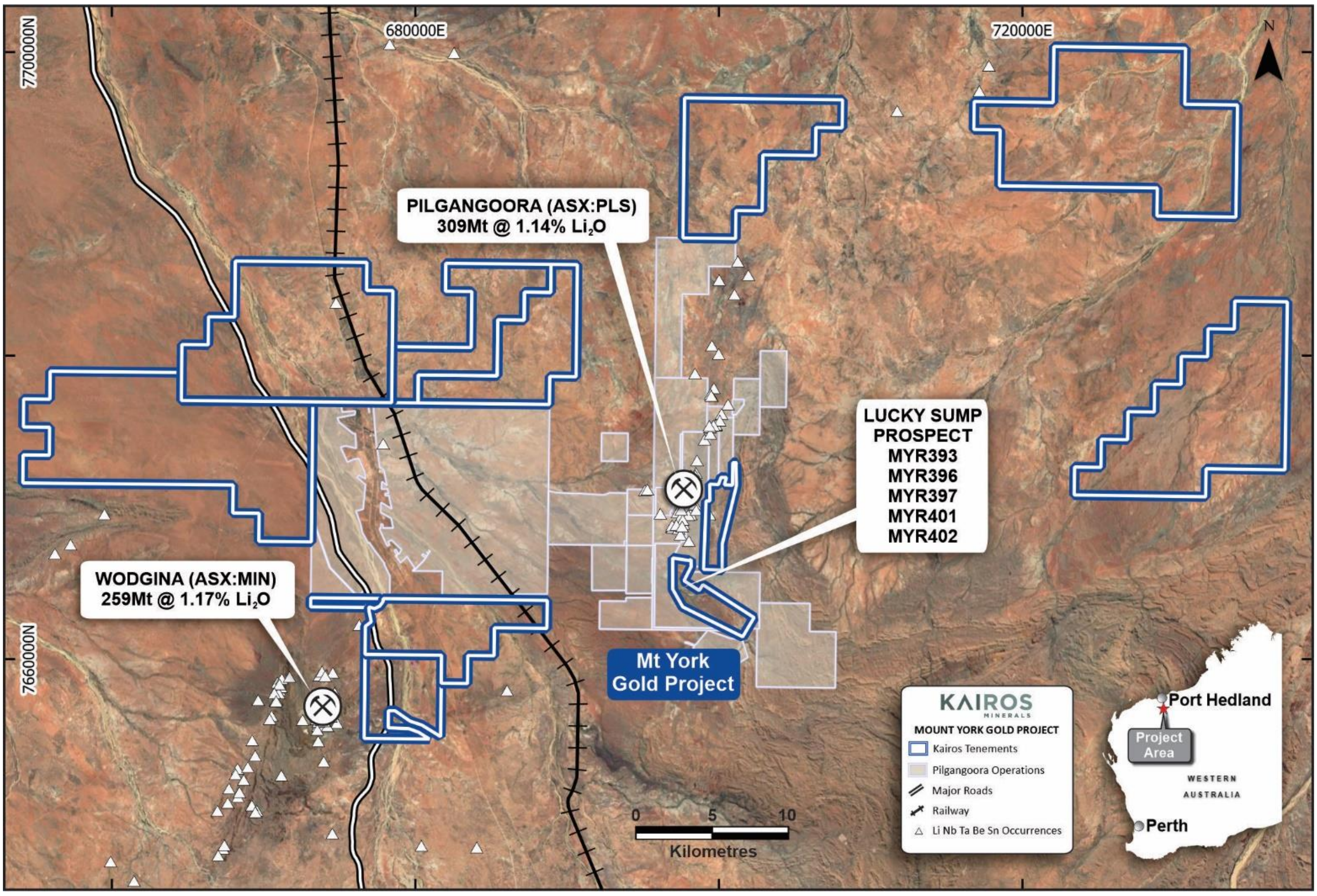

Figure 3. Location of the Lucky Sump Prospect in relation to Pilbara Minerals' Pilgangoora Lithium Mine.

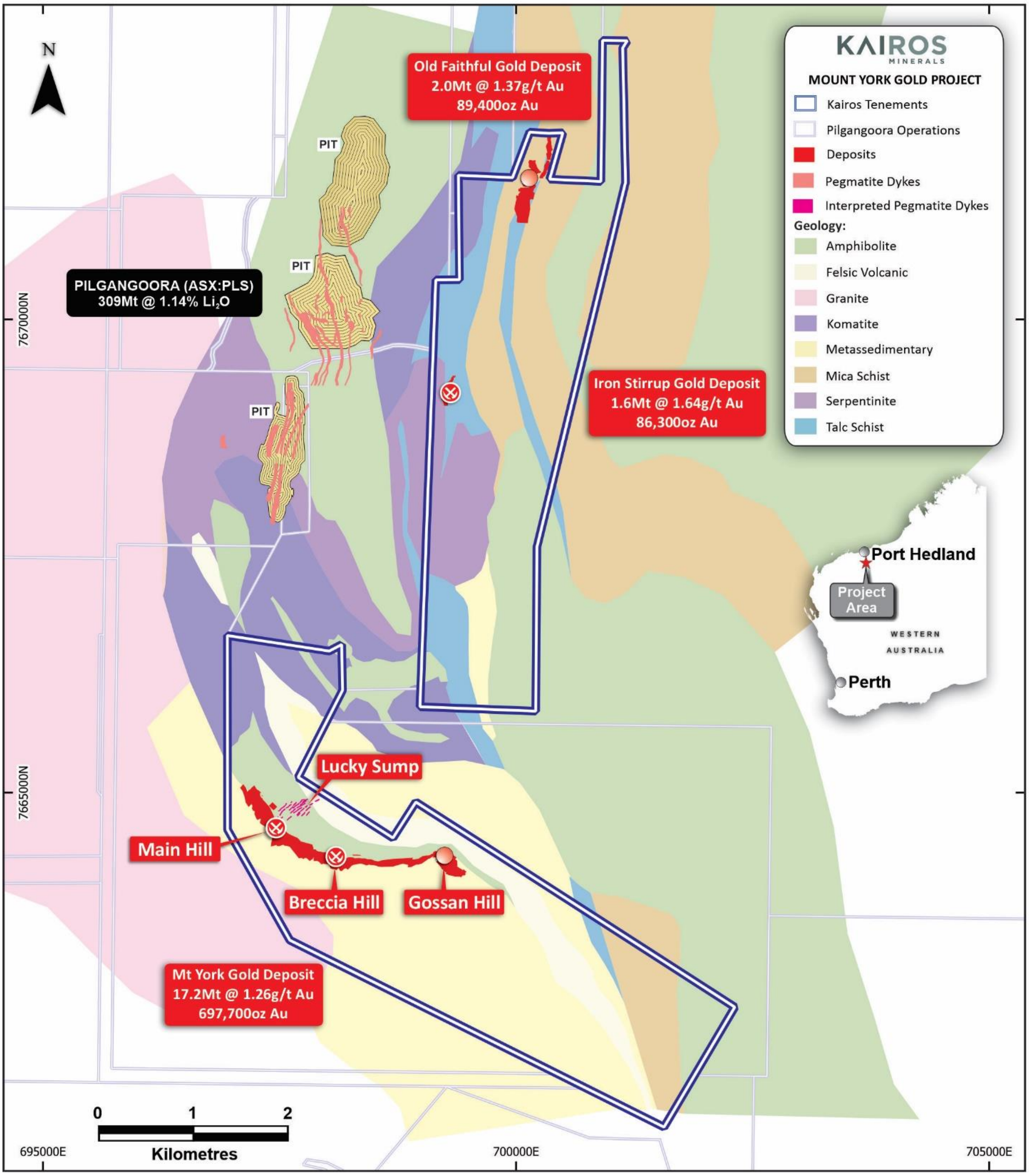

Figure 4. Geological interpretation of the Mt York and Pilgangoora areas. See **Figure 5** for a detailed view of the Lucky Sump Prospect.

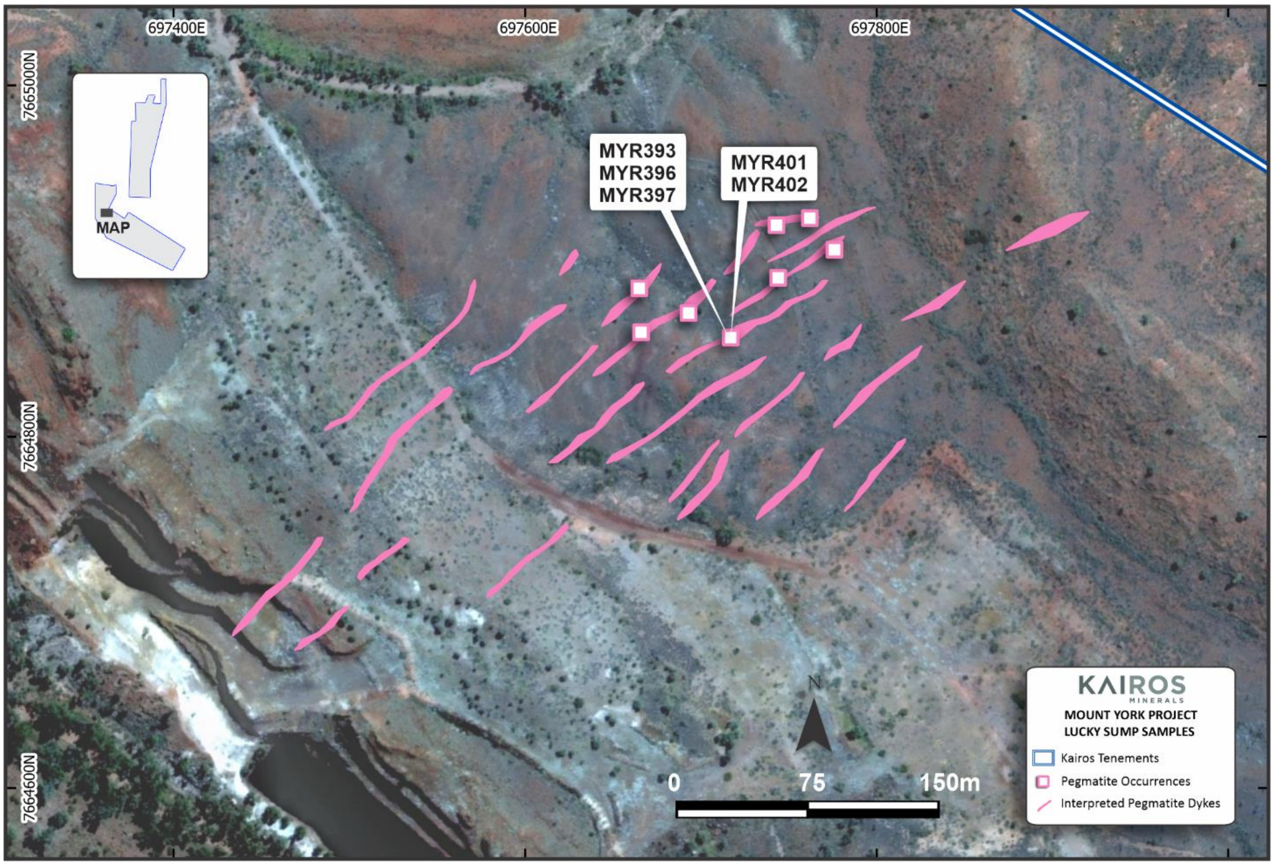

Figure 5. Detailed aerial image of the Lucky Sump Prospect showing the sample sites, mapped pegmatite occurrences within the interpreted pegmatite swarm. The interpreted dyke swarm is based on processed images of the RGB aerial scene. The dyke swarm is interpreted to be largely under shallow cover.

Spodumene Confirmation

Spodumene is a lithium pyroxene mineral with chemical formula $LiAl(SiO_3)_2$. It is a critical raw material that is highly sought after in the production of Lithium-ion batteries used in the manufacturer of rechargeable batteries for Electric Vehicles (EVs).

Spodumene is an unstable mineral that is often subject to low temperature alteration in the pegmatites in which it forms. Spodumene mineral recognition using spectral methods is often very difficult, complicated by the fact that spodumene alteration products like white micas, quartz and albite (alkali feldspar) are more responsive to VNIR-SWIR (**Visible & Near-Infrared – Short-Wave Infrared**) and LWIR (**Long-Wave Infrared**) hyperspectral methods.

In recent times, the variety of lithium minerals found in lithium deposits around the World have been scanned by Geological Surveys to understand their spectral characteristics for inclusion into international spectral reference libraries to assist hyperspectral mineral identification. These spectral libraries are available to institutions like Corescan© to conduct hyperspectral scanning activities for exploration companies to match various minerals in core and hand-specimens to spectral signatures in the reference libraries.

The work undertaken by Corescan Pty Ltd in Perth included scanning of 5 pegmatite samples (MYR 393, 396, 397, 401 & 402 – see **Figures 3, 4 & 5** for location) from Lucky Sump by their proprietary Hyperspectral Core Imager HCI-4, integrating VNIR-SWIR (**Visible & Near-Infrared – Short-Wave Infrared**) spectrospcopy, RGB photography and 3D laser profiler. Spectral measurements range from 450-1,000nm (VNIR) and 1,000-2,500nm (SWIR). The HCI-4 instrument essentially measures the reflectance and wave-lengths from the sample to determine the mineralogy of a sample based on reference library spectra if the mineral is known to exhibit a spectra within these band widths.

Target minerals using VNIR & SWIR properties include iron oxides (hematite, goethite, magnetite), olivine group minerals, white micas, sulphates, dark micas, clays, garnets, carbonates and selected hydroxyl silicate minerals like epidote, prehnite and tourmaline, but not spodumene.

Long-Wave Infrared (LWIR) scanning (6,000-14,500nm) and **X-Ray Diffraction** (XRD) techniques are by far the best ways to directly recognise spodumene in a sample, as VNIR-SWIR techniques only recognise the spodumene-related alteration product(s). Target minerals for LWIR scanning are the feldspar group of minerals, quartz, pyroxene group (including spodumene), olivine group minerals, garnets, apatites and carbonates.

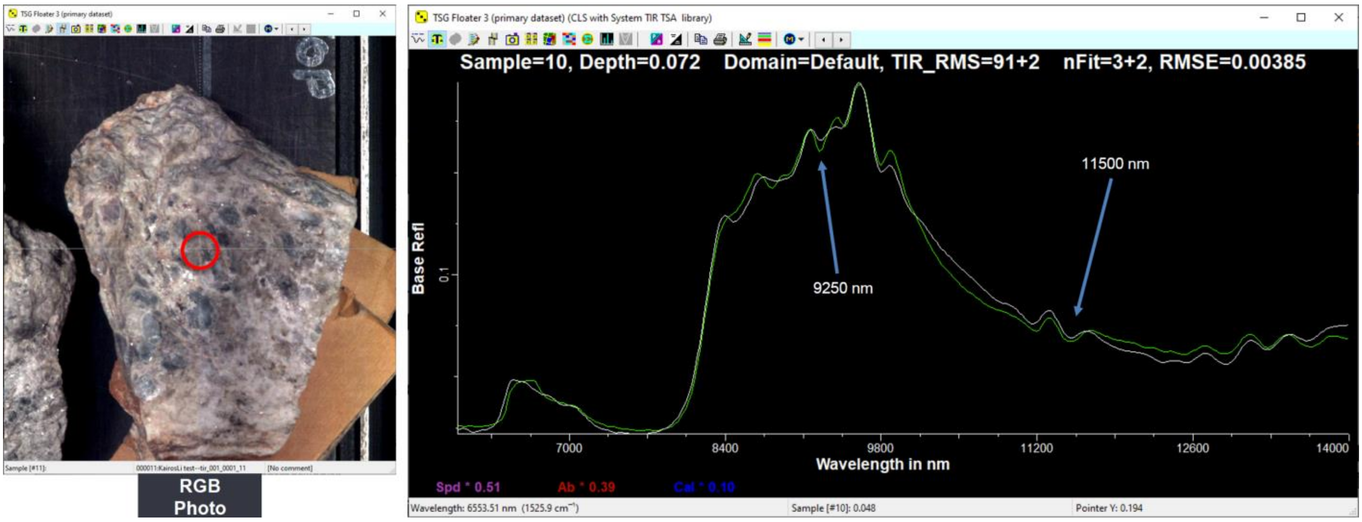

Figure 6. Sample MYR401 with large, dark grey crystals (left). Scanning by Long-Wave Infrared (**LWIR**) profiling techniques proved conclusive for spodumene, albite and calcite (right).

Corescan undertook a single XRD analysis of a small piece of a dark mineral in sample MYR 393 which is though to be spodumene. The result indicated that the dark mineral is indeed spodumene which was matched to an ICDD reference library for the mineral (see **Figure 7**). The sample also contains albite.

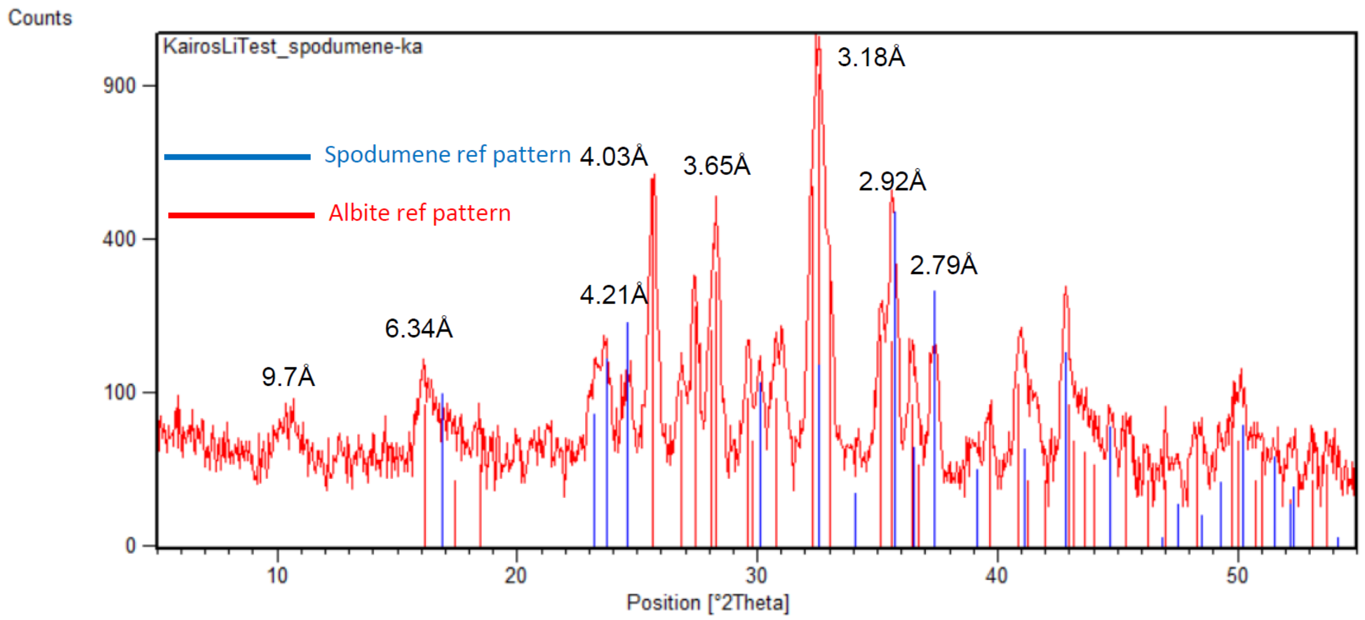

Figure 7. XRD diffraction pattern of a small piece of sample MYR 393 of the dark glassy that is confirmed to be spodumene with albite.

The conclusion of Corescan experts is that spodumene is indeed present in the XRD sample from MYR 393 along with albite. Spodumene was also confirmed in sample MYR 401 using LWIR techniques. Corescan note that the various scanning techniques have their limitations to detecting directly the presence of spodumene as the mineral has a specific band width of reflected light that is not possible to detect in VNIR-SWIR techniques. Corescan also note that although spodumene has been detected using Long-Wave Infrared and XRD techniques, it may have suffered some alteration to other products like micas, albite and quartz. This is common at most known spodumene occurrences, including at lithium mines in Western Australia.

Corescan recommend that Scanning Electron Microscopy (SEM) coupled with Energy Dispersive X-Ray Spectroscopy (**EDX**) or microprobe analysis is carried out on the samples in conjunction with wet chemical analysis. Corescan also recommend the collection of more high-quality samples, including core samples, for further investigation at their Perth facility.

Cautionary Note

The information provided in this announcement is based on visual inspection of only five rock samples and limited Long-Wave Infrared (**LWIR**) & X-Ray Diffraction (**XRD**) work at Corescan Pty Ltd. The presence of spodumene and likely alteration products of spodumene are supported in the limited XRD work and are considered indicative only and subordinate to laboratory assays. These five samples will be analysed for lithium and associated elements at NAGROM, WA in July. Results are expected in early August.

The Kairos technical team are confident that these samples are derived from pegmatites that underlie the sump and are planning drill-testing of this sump and other targets once detailed geological mapping has been completed by a geological consultant.

Next Steps

- Multi-element laboratory analysis of the spodumene pegmatite samples to determine Li_2O grade as well as associated elements
- Additional pegmatite sample collection at Lucky Sump and pegmatite mapping
- Camp establishment at Mt York ahead of major drilling campaign for both gold and now lithium
- Drill contract negotiations for 15,000m – 20,000m RC and DDH at Mt York H2, 2022
- Contract negotiations with consultants for mining engineering studies, geo-metallurgical testwork, geotechnical studies, environmental and hydrological studies

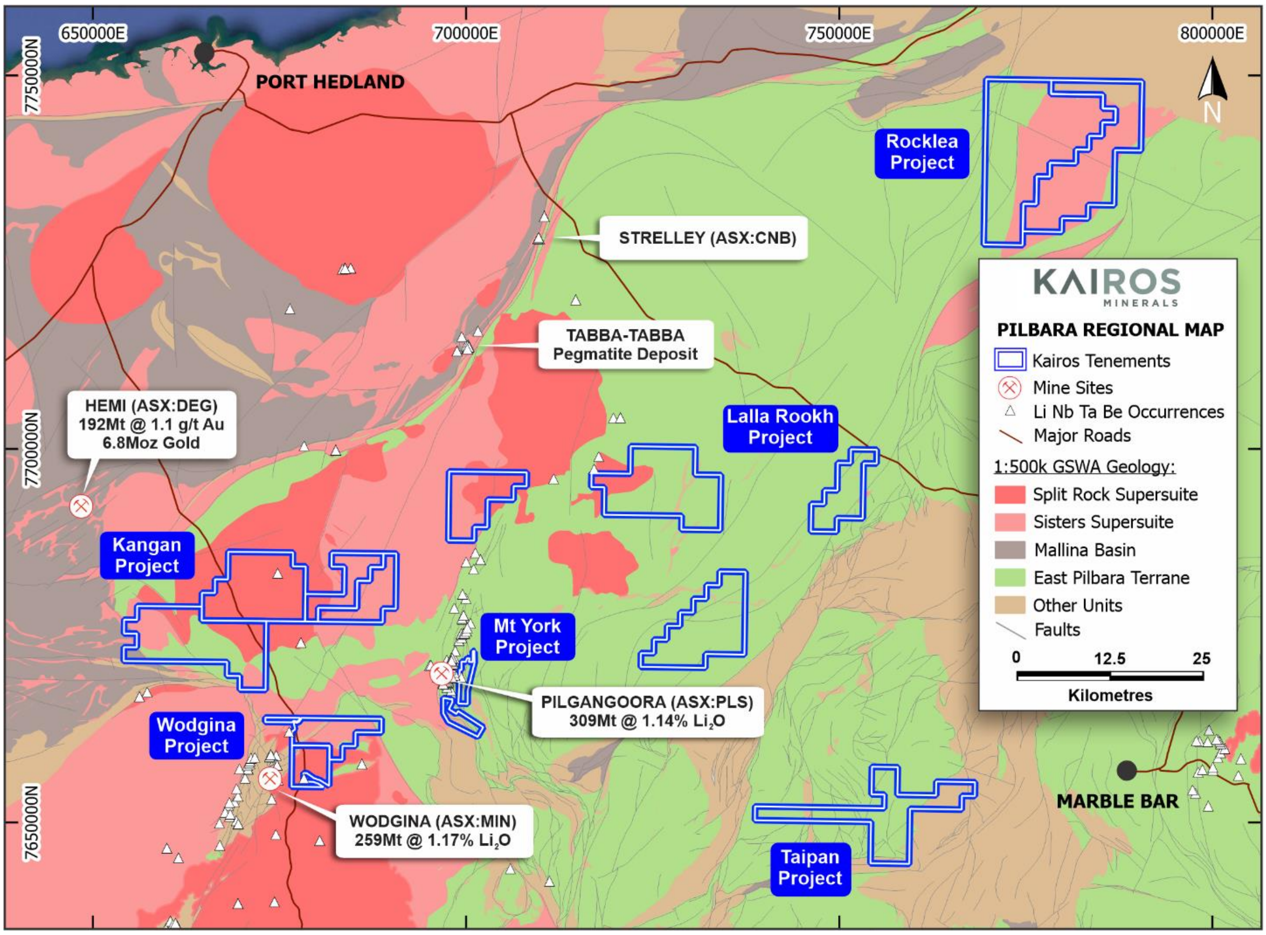

Figure 8. Kairos' Gold & Lithium Projects over the central Pilbara regional geology showing the position of the Mt York Project and nearby Pilgangoora Lithium-Tantalum mine. Note that Kairos' Croydon and Skywell Projects are to the west of this map.

About Kairos Minerals

Kairos Minerals (ASX: KAI) is a diversified West Australian-based exploration company focused on the exploration and development of its 100%-owned, high-quality gold and lithium projects centred around the advanced Mt York Gold Project.

Kairos owns 100% of the flagship Mt York Gold Project that was partially mined by Lynas Gold NL between 1994 and 1998. Since acquiring the project in early 2016, Kairos has rapidly established an 873,000oz JORC 2012 compliant gold mineral resource with the resource categories shown for each deposit shown in the Table below.

Deposit	Indicated			Inferred			Total		
	Tonnes (kt)	Au (g/t)	Ounces (koz)	Tonnes (kt)	Au (g/t)	Ounces (koz)	Tonnes (kt)	Au (g/t)	Ounces (koz)
Mt York	6,844	1.29	284	10,419	1.23	413	17,263	1.26	698
Iron Stirrup	797	1.63	41	843	1.65	45	1,639	1.64	86
Old Faithful	925	1.33	39	1,102	1.41	50	2,027	1.37	89
Total	**8,565**	**1.33**	**366**	**12,364**	**1.28**	**507**	**20,929**	**1.30**	**873**

Kairos's 100%-owned Roe Hills Project, located 120km east of Kalgoorlie in WA's Eastern Goldfields, comprises an extensive tenement portfolio where the Company's exploration work has confirmed the potential for significant discoveries of high-grade gold, nickel and cobalt mineralization in an exciting and emerging lithium province.

This announcement has been authorised for release by the Board.

Peter Turner
Managing Director

Zane Lewis
Non Executive Director

For further information, please contact:

Investors:
Mr Zane Lewis
Non Executive Director
Kairos Minerals Limited

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 Dr Peter Turner, who is the Managing Director of Kairos Minerals Ltd and who is also a Member of the Australian Institute of Geoscientists (AIG). Dr Turner has 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). Dr Turner has consented to the inclusion in the report of the matters based on their information in the form and context in which it appears.

Appendix A - JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Samples MYR393, MYR396, MYR397, MYR401 & MYR402 are hand-specimens picked from a recently excavated drill sump spoil heap. They are considered to be in-situ samples that have been ripped up from a primary source below by the excavator. • A selection of various samples was taken, prioritising those samples that may include spodumene minerals.
Drilling techniques	• *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).*	• Not applicable – drilling was not undertaken
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Not applicable – drilling was not undertaken
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource*	• Not applicable – drilling was not undertaken

Criteria	JORC Code explanation	Commentary
	estimation, mining studies and metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The HCI-4 Hyperspectral Core Imager at the Corescan Pty Ltd facility in Perth was used to analyse the whole-rock hand-specimens. No sample preparation was required, only to make sure the surface of the rock to scan was clean of dust and water. Samples were placed in the analysing tray and supported with foam pieces to ensure a reasonably flat surface was available for the scanning instruments • RGB photography, 3D profiling and infrared spectrometry was conducted over each sample and the resultant reflectance spectra was analysed to determine mineral species according to reference libraries
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *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.*	• Hyperspectral methodology measures reflectance spectra rather than chemical analysis. The QAQC is generated by Corescan's internal procedures and not by third-party standards. • The HCI-4 Hyperspectral Core Imager at the Corescan facility in Perth was used under the supervision of Corescan's own expert technicians. • Spatial resolution is 250µm on 3 spectral modules, with spectral ranges of 450 – 1,000nm (VNIR) and 1,000 – 2,500nm (SWIR). Spectra per m^2 is 960,000. • QAQC procedures are run before and after a scan run
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Not applicable
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.*	• All 5 samples were selected from a spoil heap area called 'Lucky Sump'. Handheld GPS control was used to position the samples. • Sample locations were collected and stored using coordinate reference

Criteria	JORC Code explanation	Commentary
	• *Quality and adequacy of topographic control.*	system GDA94 / MGA UTM Zone 50 (EPSG:28350)
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Not applicable
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Not applicable
Sample security	• *The measures taken to ensure sample security.*	• All hand-specimen samples were bagged and remained with the Kairos Exploration Team before being freighted to Perth from Port Hedland. As these samples are hand-specimens rather than prepared samples, their integrity on arrival to the Corescan facility was never in doubt.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Not applicable

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The samples were collected from Prospecting Licence P45/2994 owned 100% by Kairos Minerals Ltd • The licence was granted on 7/7/2015 and is in good standing. • Kairos is not aware of any impediments nor any potential impediments which may impact any exploration and development activities at the project site.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Kairos is not aware of any previous works pertaining to LCT pegmatite exploration in this area by other parties.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The samples of spodumene pegmatites detailed in this announcement are considered a new discovery in the Mt York area. The host rocks which the pegmatites are

Criteria	JORC Code explanation	Commentary
		likely to be intruding are thought to be basaltic or gabbroic in nature. Satellite imagery and high-resolution aerial photography interpretation suggests that these samples may be part of a dyke swarm with an approximate strike of 045°. Mapping of the area by a third-party consultant is currently being negotiated.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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.*	• Not applicable – no drilling was undertaken
Data aggregation methods	• *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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• No chemical analysis are contained in the announcement
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• Not applicable – no drilling was undertaken

Criteria	JORC Code explanation	Commentary
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.*	• A geological map is presented as Figure 4 in the announcement that has been compiled from various sources.
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.*	• Not applicable – no drilling was undertaken
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• All relevant exploration information has been reported within limitations of the scanning techniques and explained.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• A geological mapping contract by a third-party consultant is at an advanced stage. • Five samples sent to Nagrom Laboratories, WA for Li, Na, K, Rb, Cs, Be, Mg, Ca, Sr, Ba, Al, Mn, Fe, Ti analysis. • Aboriginal Heritage Survey to be completed over parts of the Mt York Gold Project ahead of drilling and camp-building activities in July 2022. • Camp establishment at Mt York ahead of major drilling campaign for both gold and now lithium exploration • 15,000 – 20,000m of drilling is anticipated within H2, 2022 at our nearby Mt York Gold Project with an allocation given to the Lucky Sump Lithium Prospect