

ASX Announcement | 18 August 2023

## **RK Lithium Project - Exceptional Flotation Test-work Results Up to 87% Li Recoveries and 3.60% Li<sub>2</sub>O Con Grades on Ore-Sort Material**

### **HIGHLIGHTS**

- Flotation test-work on 'ore-sort' products materially improves Li recoveries
- Ore-sort feed grade of 0.92% Li<sub>2</sub>O shows recoveries of 77% - 87% producing Li<sub>2</sub>O concentrates of 2.80% - 3.60% in PAM's 'Optimum Mining Scenario'
- Feed grades remain above 0.78% Li<sub>2</sub>O for PAM's 'Modelled Mining Scenario' which incorporates 20% waste material as dilution
- Modelled Mining Scenario produces a 3.0% Li<sub>2</sub>O concentrate with 78% Li recoveries
- Test-work confirms that the RK Lithium Project has the potential to achieve high Li recoveries and high Li<sub>2</sub>O concentrate grades
- With the high Li<sub>2</sub>O feed grades and Li recoveries achieved, PAM has the potential to be as competitive as the best lepidolite based LCE processors in China

**18 August 2023 - Battery Materials explorer and developer Pan Asia Metals Limited (ASX: PAM) ('PAM' or 'the Company')** is pleased to report very successful metallurgical test-work results for flotation of lithium mica concentrates from 'ore-sort' product derived from the RK lithium prospect.

**Pan Asia Metals Managing Director, Paul Lock, said:** *"This is an incredibly pleasing result, our previously reported ore sorting results in November, 2022, demonstrated an increase in the modelled ore feed grade from 0.50% Li<sub>2</sub>O to 0.92% Li<sub>2</sub>O - positioning PAM with one of the highest grade lepidolite feed grades in the global peer group. The modelled volume of concentrate feed is reduced by over 60%, with the reject material below the current Mineral Resource cut-off grade of 0.25% Li<sub>2</sub>O. This means PAM will be processing a materially higher grade ore than that reflected in the RK Mineral Resource, which equates to a considerable reduction in capital and operating costs on a per tonne LCE basis. This means PAM will require less beneficiation capacity (lower capex) and PAM will be processing less product (lower opex). The result being reported today further improves PAM's position, with the Optimum Mining Scenario producing a 3.0% Li<sub>2</sub>O con with 87% Li recoveries or a 3.6% Li<sub>2</sub>O con with 77% Li recoveries, which should be achievable in certain fresh ore mining situations. PAM's Modelled Mining Scenario introduces 20% dilution and still achieves a 3.0% Li<sub>2</sub>O con with 78% Li recoveries, which is a great outcome. As PAM is operating in a very low cost environment PAM expects to be as competitive as the best lepidolite based LCE processors in China, aka, those situated at the bottom of the Wood Mackenzie sourced cost curve in PAM's presentation."*

#### **PAN ASIA METALS LIMITED**

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### Project Overview

The RK Lithium Project (RKLP) is one of PAM's key assets. RKLP is a hard rock lithium project with lithium hosted in lepidolite/mica rich pegmatites chiefly composed of quartz, albite, lepidolite and muscovite, with minor cassiterite and tantalite as well as other accessory minerals.

Previous open pit mining extracting tin from the weathered pegmatites was conducted into the early 1970's.

PAM's objective has been to continue drilling with the aim of increasing and upgrading the existing Mineral Resource, which will then be used as part of a Pre-Feasibility Study that will consider various options to determine the technical and economic viability of the project including the LCE production profile as well as associated by-products.

Peer group studies indicate that lithium carbonate and lithium hydroxide projects using lepidolite as their plant feedstock have the potential to be placed near the bottom of the cost curve. Lepidolite has also been demonstrated to have a lower carbon emission intensity than other lithium sources.

### Metallurgical Test-work Details

The test-work was conducted by Nagrom on three separate composite samples comprised of fresh mineralisation derived from ore sorting testwork conducted on HQ core (63mm diameter) from drillhole RKDD006 (see Table 1). This testwork was reported in PAM's ASX announcement "Exceptional Ore Sorting Results Confirmed" dated November 22, 2022.

**Table 1. Ore Sorting test results**

Sort sizes	Description	Product No.	Li <sub>2</sub> O Grade (%)
-50mm, +25mm	Pegmatite	1	1.00
-25mm, +10mm	Pegmatite	2	0.85
-10mm fines	Pegmatite and siltstone	3	0.49
-50mm, +10mm	Siltstone/waste reject	4	0.22

### Technical Discussion

Three composite samples for the flotation testwork were formulated from the sorted products as shown in Table 2. Each composite sample weighed 16.1kg.

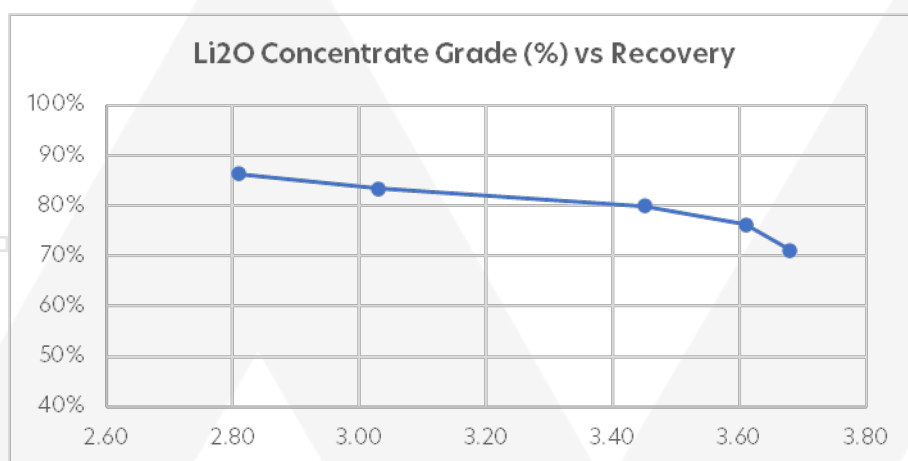
**Table 2. Flotation test composite samples**

Float Test No.	Scenario	Composite Description	Li <sub>2</sub> O Feed Grade (%)
1	Optimum Mining Scenario	Products 1-3	0.92
2	Modelled Mining Scenario	Products 1-3 + 20% Product 4	0.78
3	Downside Mining Scenario	Products 1-3 + 40% Product 4	0.66

The beneficiation-flotation process undertaken on the composite samples consists of milling to a particle size of 80% passing 0.15mm followed by desliming using a hydrocyclone to remove -0.020mm material. The flotation process on the + 0.02mm feed sample consists of one rougher, one scavenging and three cleaning flotation steps. Reagent dosages were identical for all three tests and consisted of Na<sub>2</sub>CO<sub>3</sub> @ 400g/t, Calgon @ 120g/t and YM 7-1 @ 510g/t.

The flotation results are shown in Figures 1-3 which are grade x recovery curves of the various singular and combined products.

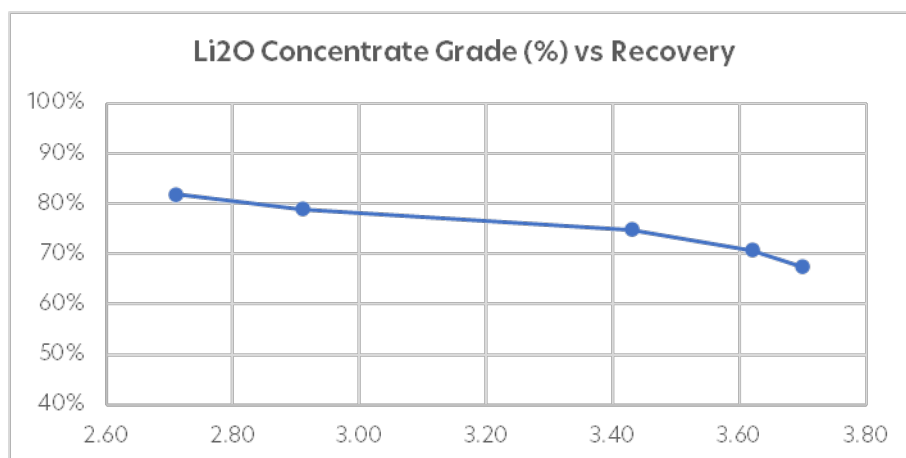
**Figure 1 - Flotation Test #1 (Optimum Mining Scenario)**



Flotation Test #1 indicates is the Optimum Mining Scenario, with high Li recoveries of +80% into concentrates grading from 2.81-3.45% Li<sub>2</sub>O, and 77% for a 3.60% Li<sub>2</sub>O concentrate. The grade x recovery indicates potential for a concentrate grade 3.0% Li<sub>2</sub>O at a recovery of approximately 84% Li<sub>2</sub>O. This test material is composed mostly of

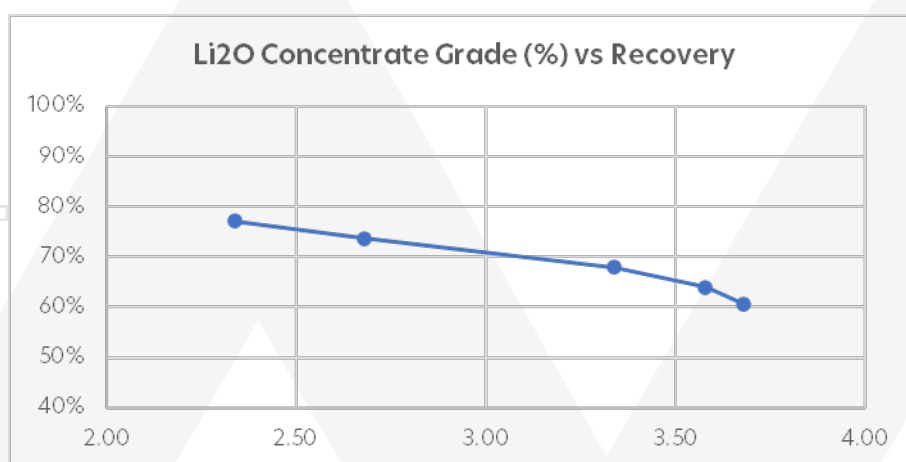
pegmatite with only minor low grade siltstone. This scenario is believed to be achievable in certain mining situations.

**Figure 2 - Flotation Test #2 (Modelled Mining Scenario)**



Flotation Test #2 is the Modelled Mining Scenario, indicating relatively high Li recoveries of +75% into concentrates grading from 2.71-3.43% Li<sub>2</sub>O. The grade x recovery indicates potential for a concentrate grade of 3.0% Li<sub>2</sub>O at a recovery of approximately 78% Li<sub>2</sub>O. The test sample contains 20% low grade siltstone and this is interpreted to represent the potential approximate ratio of mill feed over the life of the mine.

**Figure 3 - Flotation Test #3 (Downside Mining Scenario)**



Flotation Test #3 is the Downside Mining Scenario, indicating Li recoveries of +68% into concentrates grading from 2.34-3.34% Li<sub>2</sub>O. This test sample contains 40% low grade siltstone and the results indicate that as siltstone in the feed increases Li<sub>2</sub>O recovery v concentrate grade decreases. Even though this is a worse case scenario it still

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demonstrates that the grade x recovery indicates potential for a concentrate grade 3.0% Li<sub>2</sub>O at a recovery of approximately 71% Li<sub>2</sub>O.

### **Conclusions and Future Work**

The test-work conducted by Nagrom has demonstrated that relatively high recoveries of lithium to concentrate are achievable utilizing the products of 'ore sorting' and industry standard methods for comminution and beneficiation. This has resulted in concentrate grades of plus 3.0% Li<sub>2</sub>O with Li recoveries of plus 75% for most of the materials tested.

Additional test-work is planned to be conducted on various blends of both weathered and fresh mineralisation. Ore sorting test-work is also being undertaken on weathered mineralisation. This may also result in better recoveries and a higher concentrate grades. Metallurgical samples are also being prepared from drillhole samples derived from the Bang I Tum prospect.

Lithium mica concentrates are undergoing roasting and conversion test-work to produce lithium carbonate. This work is being conducted by ALS Global in Perth under the supervision of Lithium Consultants Australia acting on behalf of PAM. The process route being tested is an Alkaline Salt Roast, which is commonly referred to as a Sulphate Roast. This is the process predominantly used in China and has a strong operating track record, the process has been de-risked.

The Company looks forward to keeping Shareholders and the market updated on the drilling results obtained and other activities related to the Company's ongoing evaluation of the RK Lithium Project, as well as its broader activities to secure its position in the global lithium supply chain.

**Ends**

**Authorised by:  
Chairman and Managing Director**

## **ABOUT PAN ASIA METALS LIMITED (ASX:PAM)**

Pan Asia Metals Limited is the only publicly traded battery materials company with lithium projects in South-East Asia and South America, and with agreements with key battery and chemical producers in the Asian region to produce advanced battery chemicals.

PAM's Asian assets are strategically located in Thailand - the largest vehicle producer in the region. With Asia accounting for more than half of the global annual vehicle production, PAM is uniquely positioned to capitalize on the soaring demand for battery minerals in the region. PAM's South American assets are strategically located in the Atacama region of Chile, with both lithium brine and lithium clay assets located on key infrastructure 40km from the coast and 75km from Iquique with a large port and commercial airport.

PAM's dedication to producing innovative, high-value products with a minimal carbon footprint makes us an ideal partner for meeting our needs in both battery chemicals and sustainable energy. PAM is also a respected local company, with a strategy focused on developing an integrated supply chain to cost-effectively deliver relevant and in-demand products to the Li-ion battery market.

PAM is rapidly advancing its lithium projects through to feasibility and plans to expand its global lithium resource sustainably through its extensive holdings in Asia and South America.

To learn more, please visit: [www.panasiametals.com](http://www.panasiametals.com)

Stay up to date with the latest news by connecting with PAM on [LinkedIn](#) and [Twitter](#).

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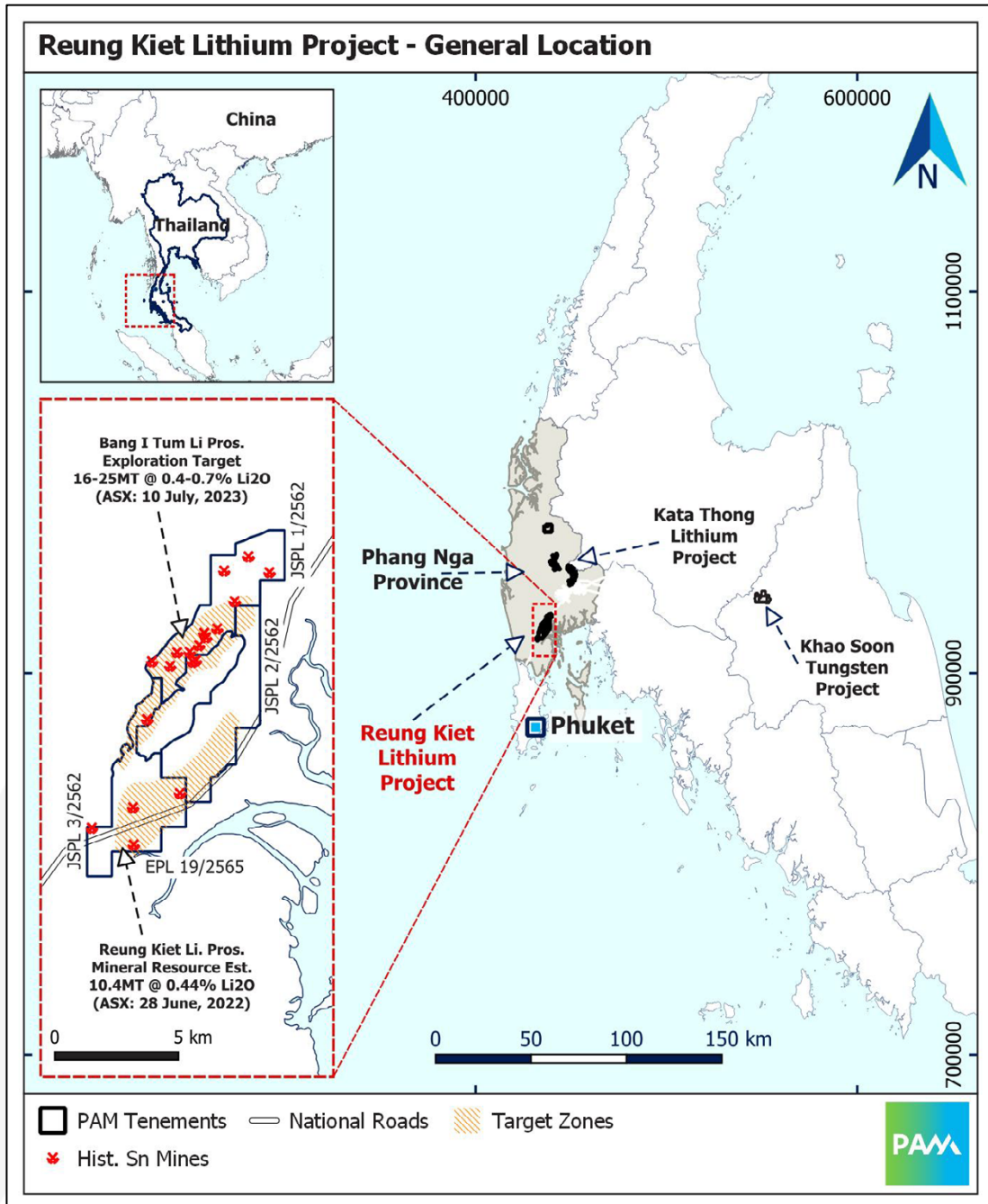
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**ABOUT THE RK LITHIUM PROJECT**

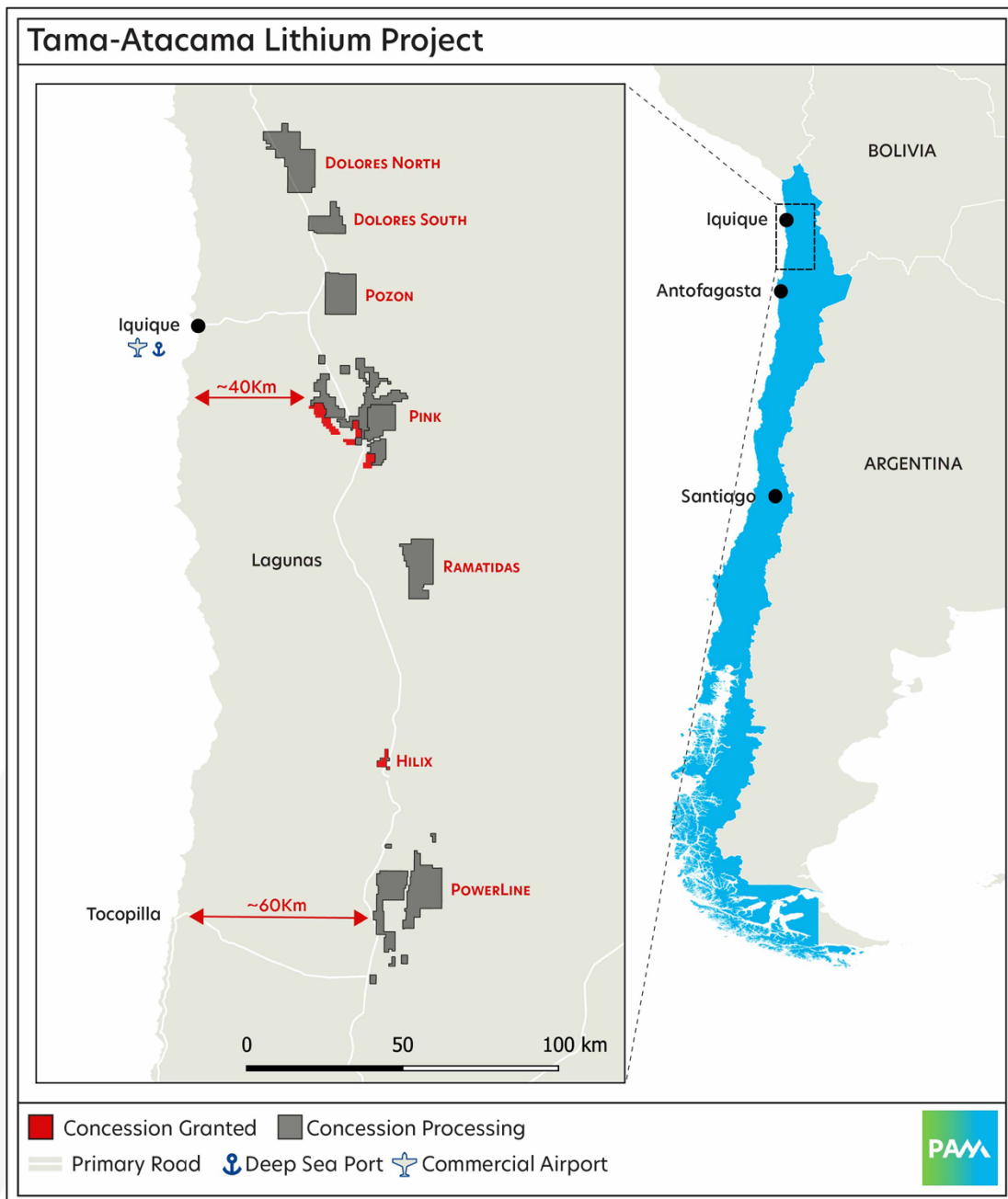
The RK Lithium Project is a lepidolite style lithium project located about 70km north-east of Phuket in the Phang Nga Province in southern Thailand. Pan Asia holds a 100% interest in 3 contiguous Special Prospecting Licenses (SPL) and 1 Exclusive Prospecting License (EPL) covering about 40km<sup>2</sup>.



Regional map identifying the location of the Reung Kiet Lithium Project

### ABOUT THE TAMA ATACAMA LITHIUM PROJECT

The Tama-Atacama Lithium Project is located in the Pampa del Tamarugal basin in the northern part of the Atacama Desert, in northern Chile. PAM's holdings include brine and clay style projects covering over 1400km<sup>2</sup>. In many areas surface samples >2200ppm Li have been generated and parts of the Project are supported by historical drilling, with many intersections greater than 1,000ppm Li over substantial widths.



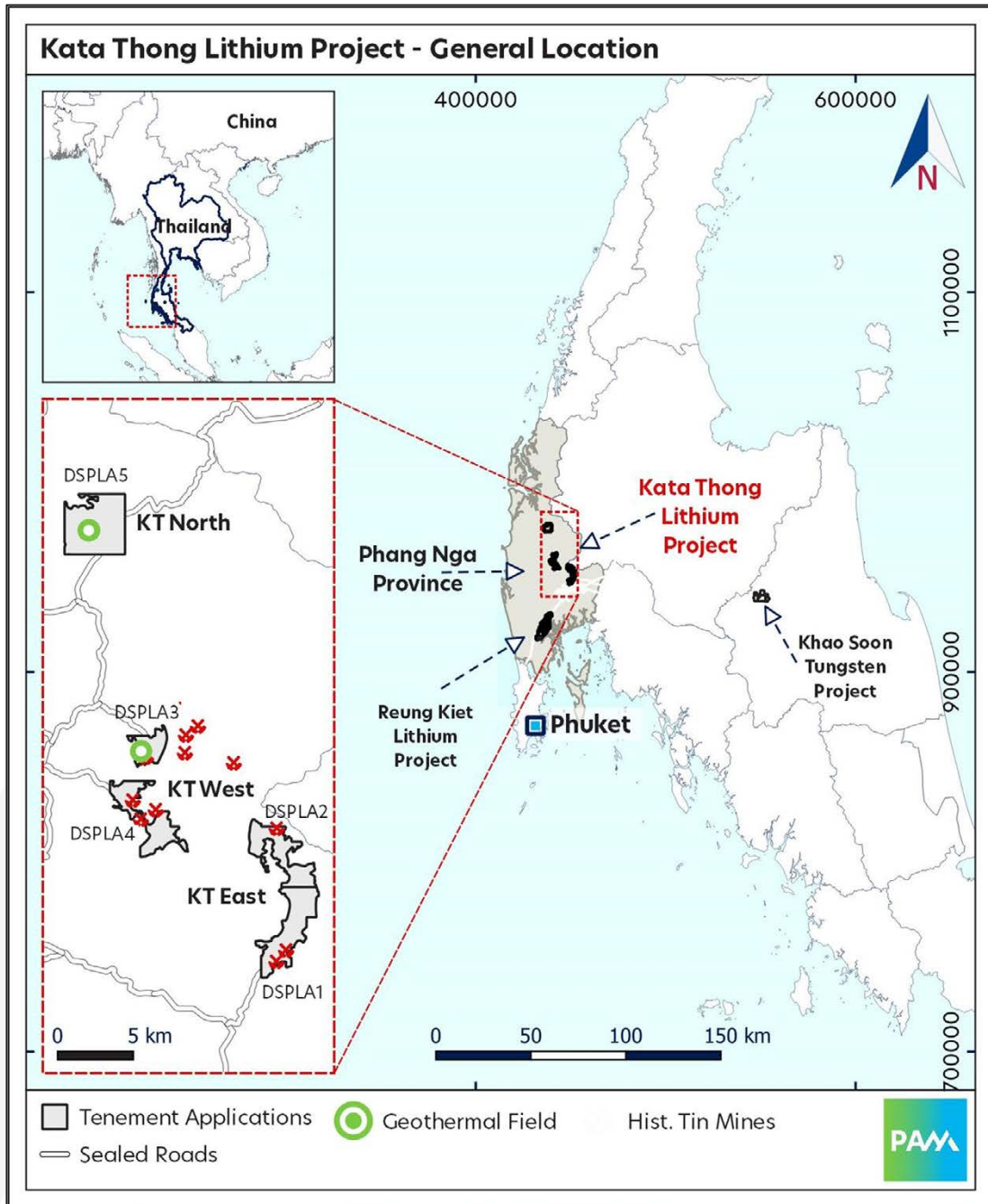
Regional map identifying the location of the Tama Atacama Lithium Project

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**ABOUT THE KT LITHIUM PROJECT**

The KT Lithium Project is a geothermal lithium and hard rock lithium-tin project located about 100km north-east of Phuket in the Phang Nga Province in southern Thailand. Pan Asia holds a 100% interest in 5 Special Prospecting Licence Applications (SPLA) covering about 45km<sup>2</sup>.

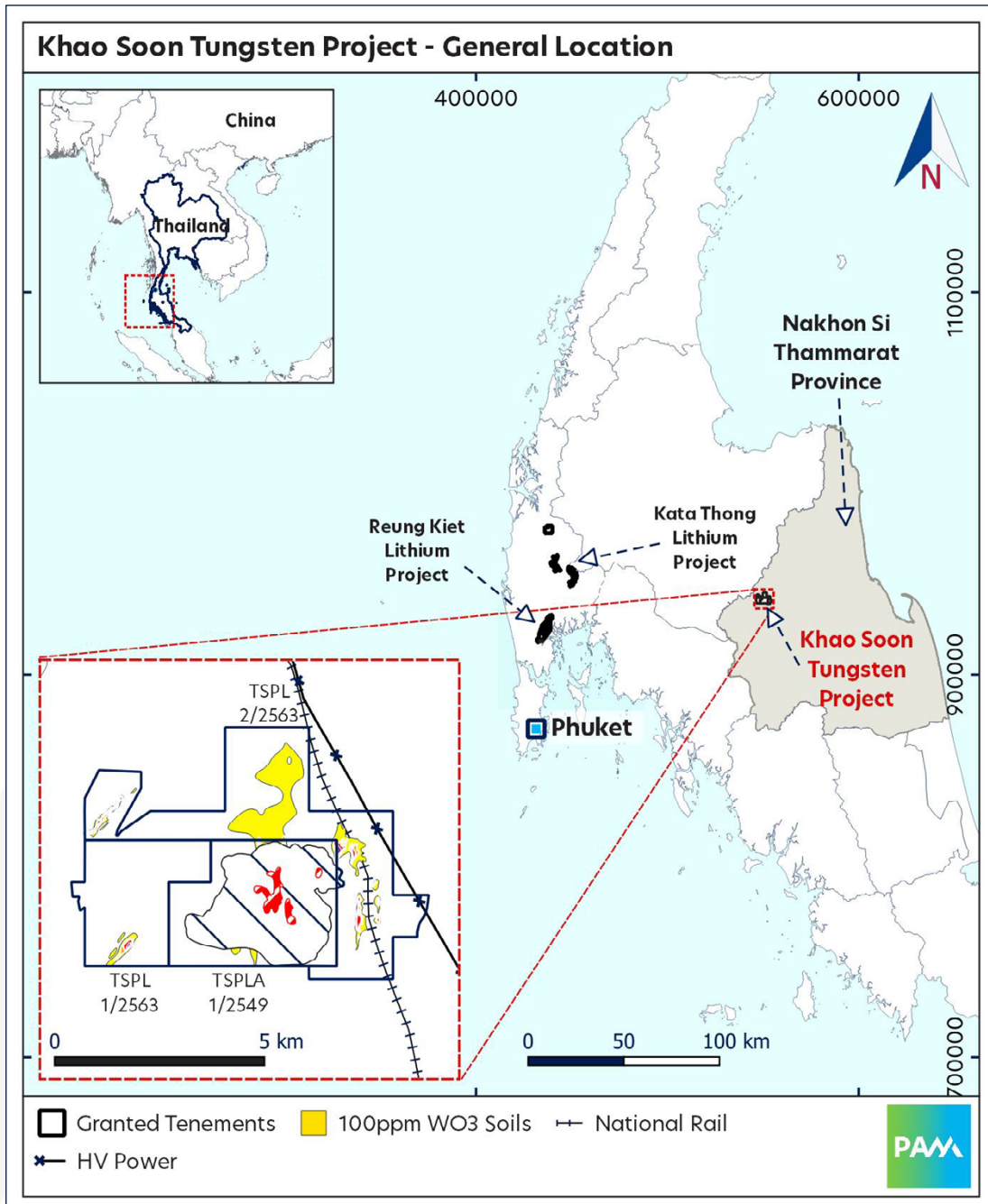


Regional map identifying the location the Kata Thong Lithium Project

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**ABOUT THE KHAO SOON TUNGSTEN PROJECT**

The Khao Soon Tungsten Project is a wolframite style tungsten project located approximately 600km south of Bangkok in Nakhon Si Thammarat Province, Southern Thailand. PAM holds a 100% interest in 2 contiguous Special Prospecting Licences (SPL) a 1 Special Prospecting Licence Application (SPLA) covering about 33km<sup>2</sup>.



*Regional map identifying the location of the Khao Soon Tungsten Project*

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### **Competent Persons Statement**

The information in this report that relates to Mineral Resources is based on information compiled by Ms Millicent Canisius and Mr Anthony Wesson, both full-time employees of CSA Global. Mr Anthony Wesson is a Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy and Ms Millicent Canisius is a Member of the Australasian Institute of Mining and Metallurgy. Mr Anthony Wesson and Ms Millicent Canisius have sufficient experience, relevant to the style of mineralisation and type of deposit 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 the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Anthony Wesson and Ms Millicent Canisius consent to the disclosure of the information in this report in the form and context in which it appears.

The information in this report that relates to Exploration Targets and Exploration Results, is based on information compiled by Mr. David Hobby, is a Member of the Australasian Institute of Mining and Metallurgy. Mr. Hobby is a full time employee, Director and Shareholder of Pan Asia Metals Limited. Mr. Hobby has sufficient experience, relevant to the style of mineralisation and type of deposit under consideration and to the activity that 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 (JORC Code). Mr. Hobby consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **Forward Looking Statements**

Various statements in this document constitute statements relating to intentions, future acts and events which are generally classified as "forward looking statements". These forward looking statements are not guarantees or predictions of future performance and involve known and unknown risks, uncertainties and other important factors (many of which are beyond the Company's control) that could cause those future acts, events and circumstances to differ materially from what is presented or implicitly portrayed in this document. For example, future reserves or resources or exploration targets described in this document may be based, in part, on market prices that may vary significantly from current levels. These variations may materially affect the timing or feasibility of particular developments. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements. Pan Asia Metals cautions security holders and prospective security holders to not place undue reliance on these forward-looking statements, which reflect the view of Pan Asia Metals only as of the date of this document. The forward-looking statements made in this document relate only to events as of the date on which the statements are made. Except as required by applicable regulations or by law, Pan Asia Metals does not undertake any obligation to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance.

### **Important**

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