# ASX Announcement

**18 November 2016**

**ASX Code: VKA**

# Viking Acquires Lithium and Tungsten Projects in Thailand

The Board of Viking Mines (Viking: ASX:VKA) is pleased to announce that it is has executed a Share Sale and Purchase Agreement (SPA) to acquire 100% of Argo Metals Group Limited (Argo) via a share based transaction. Argo holds a 75% interest in the Reung Kiet lithium project located in southern Thailand.

The SPA includes an option to acquire West Mandalay Exploration Pty Ltd (WMX), which has the right to earn a 75% interest in the Khao Soon tungsten project, also located in southern Thailand.

The Argo acquisition facilitates Viking's entry into tech based metals with downstream processing opportunities and Thai Government support.

**Reung Kiet Lithium Project Key Highlights:**

- Lithium-bearing pegmatites identified over a 3-4 km strike within a combined prospective trend of plus 10 km.
- Contains two drill ready pegmatites, the Reung Kiet (RK) pegmatite is over 1.0 km long and up to 20 m wide with the lepidolite having a reported grade of 3.0% $Li_2O$, the Bang I Tum (BIT) pegmatite has a 2 km trend and is over 20 m wide in places, with the lepidolite having a reported grade of 4.0% $Li_2O$.
- Historical and recent exploration indicates the possible size and grade of both RK and BIT pegmatites deliver excellent potential for economic viability when coupled with available lepidolite processing technology and project location.
- Sampling reported by Argo and Viking includes 17 rock-chip samples that averaged 1.45% $Li_2O$ and 234 ppm $Ta_2O5$, with peak values of 1.98% $Li_2O$ and 308 ppm $Ta_2O_5$, confirming historical results.
- Displays massive lepidolite bearing pegmatites, exposed by previous tin mining.
- Located in an area with excellent infrastructure.
- The prospects have had no modern day exploration.
- Two drill ready prospects, with high probability of early success from testing beneath shallow open cuts and immediate strike extensions.

- Argo has entered into an MOU with leading lepidolite processing company Platypus Minerals Ltd (PLP) (ASX:PLP) for downstream processing in Thailand of lepidolite concentrate to produce battery quality lithium carbonate, and associated co-products.

- The project already has the support of the Thailand Government as it positions Thailand with an end to end solution for lithium battery manufacture.

**Khao Soon Tungsten Project:**

- Located within a major Sn-W-Sb province in southern Thailand, extensive recent exploration work of in excess of $4 million has identified numerous targets and provides an excellent basis for additional prospect generation and drilling.

- The Khao Soon Ridge prospect, demonstrates significant historical tungsten production at very high grades. Remnant mineralization sampled show very high grade. To be drill tested.

- Several recently discovered tungsten prospects with highly anomalous soil geochemistry and high grade rock chip sampling, with a large suite of high grade samples: ~235 assays >= 0.5%$WO_3$; ~75 >= 2.0%$WO_3$; and ~20 >= 5.0%$WO_3$.

More detailed technical information on the two projects is provided in the attached Appendices.

**Key Commercial Terms of SPA**

Viking and Argo have agreed terms structured to reward Argo's shareholders upon tangible value outcomes being achieved for VKA without drawing on VKA's cash reserves:

- 35 million VKA shares upon grant of the Reung Kiet tenements.

- 55 million VKA shares upon production of a commercial quantity of Lithium Carbonate.

- 80 million shares upon completion of a pre-feasibility study (PFS) for either a lithium or tungsten project.

- 100 million 2 years options issued at a 20% discount to the then 30 day VWAP on completion of a positive definitive feasibility study (DFS) for either a lithium or tungsten project.

- PFS and DFS milestone awards require the Argo project's cost of production to be in the bottom half of the cost of production of world-wide comparable operations.

Upon completion Paul Lock will be appointed as an Executive Director of VKA, while geologist, David Hobby, will be appointed Country Manager, Thailand.

**Pathway to Lithium Carbonate Production**

The PLP joint venture over Reung Kiet concentrate provides Viking with a pathway to Lithium Carbonate production.

PLP's lepidolite process technology uses well understood hydrometallurgical techniques to economically produce high purity Lithium Carbonate.

Hydrometallurgical test work by PLP and other developers indicates that a low energy process which allows the extraction of additional metal by-products can potentially drive the all in cost of lithium carbonate production into the bottom quartile of the cost curve.

Key terms of the PLP joint venture are:

- Viking and PLP to form a 50/50 incorporated Joint Venture to build a 2,500tpa Lithium Carbonate plant.
- The Joint Venture will jointly fund a Definitive Feasibility Study for the Lithium Carbonate plant.
- Viking will delineate a Mineral Resource and plan a mine to deliver the Lepidolite Concentrate to the plant.
- The Parties have agreed to a 3 month exclusivity to finalise a Joint Venture Agreement.

Executive Chairman Jack Gardner stated that "*The acquisition of Argo by VKA is line with our strategy of acquiring and developing minerals projects on highly favorable terms where we see substantial upside and opportunity to create shareholder value while minimizing risk. The acquisition of these potentially low cost curve tech metals projects located in a favorable and supportive jurisdiction offers the potential to supply fast growing markets for these commodities where the supply/demand fundamentals continue to be attractive. The MOU with Platypus Minerals will allow VKA to advance the Reung Kiet lithium project knowing it has a valid path to early production of Lithium Carbonate.*"

**ENDS**

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**Competent Persons Statement:** The information in this Public Report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Peter McMickan, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McMickan is a full time employee of Viking Mines Limited. Mr McMickan has sufficient experience that is relevant to the style of mineralization 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. Mr McMickan 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:**
This document may include forward looking statements. Forward looking statements may include, but are not limited to statements concerning Viking Mines Limited's planned exploration programs and other statements that are not historical facts. When used in this document, words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should", and similar expressions are forward looking statements. Although Viking Mines Limited believes that its expectations reflected in these forward looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward looking statements.

## Appendix 1

Argo Thailand Project Summaries

### Reung Kiet Lithium Project

The Reung Kiet lithium project is located 60km north of Phuket in southern Thailand (Figure 1).

The project is close to infrastructure with a sealed main highway and high voltage power running through the property. The International Airport at Phuket is approximately a one hour drive from the project area. Port facilities are located on Phuket Island. The climate is tropical with rainfall of around 2m per year, falling during the July-October wet season. Elevations range from 5m to 350m above sea level. The proximity and quality of the infrastructure provides Viking year round access to the projects.


**Figure 1: Project locations in Thailand**

Three contiguous prospecting licence applications covering an area of 44 sq km have been applied for by single purpose Thai company Siam Industrial Metals Co. Ltd. (SIM). Argo holds 75% of SIM, with Sydney based Thai Goldfields NL holding the remaining 25%.

The Reung Kiet project is located within the 2,500km long, north-south trending Burma-Thai-Malaysia tin belt, one of the most significant historical tin producing regions in the world.

The project area sits adjacent and sub-parallel to the regionally extensive northeast trending Phangnga fault. The Cretaceous age Khao Po granite intrudes into Palaeozoic age Phuket Group sediments along the fault zone, and is thought to be the source of the pegmatite dykes and the associated Li-Sn-Ta mineralization (Figure 2). The pegmatites are located proximal to the granite in northeast trending fault zones, and are fine grained, aplitic in places, showing no evidence of zoning.

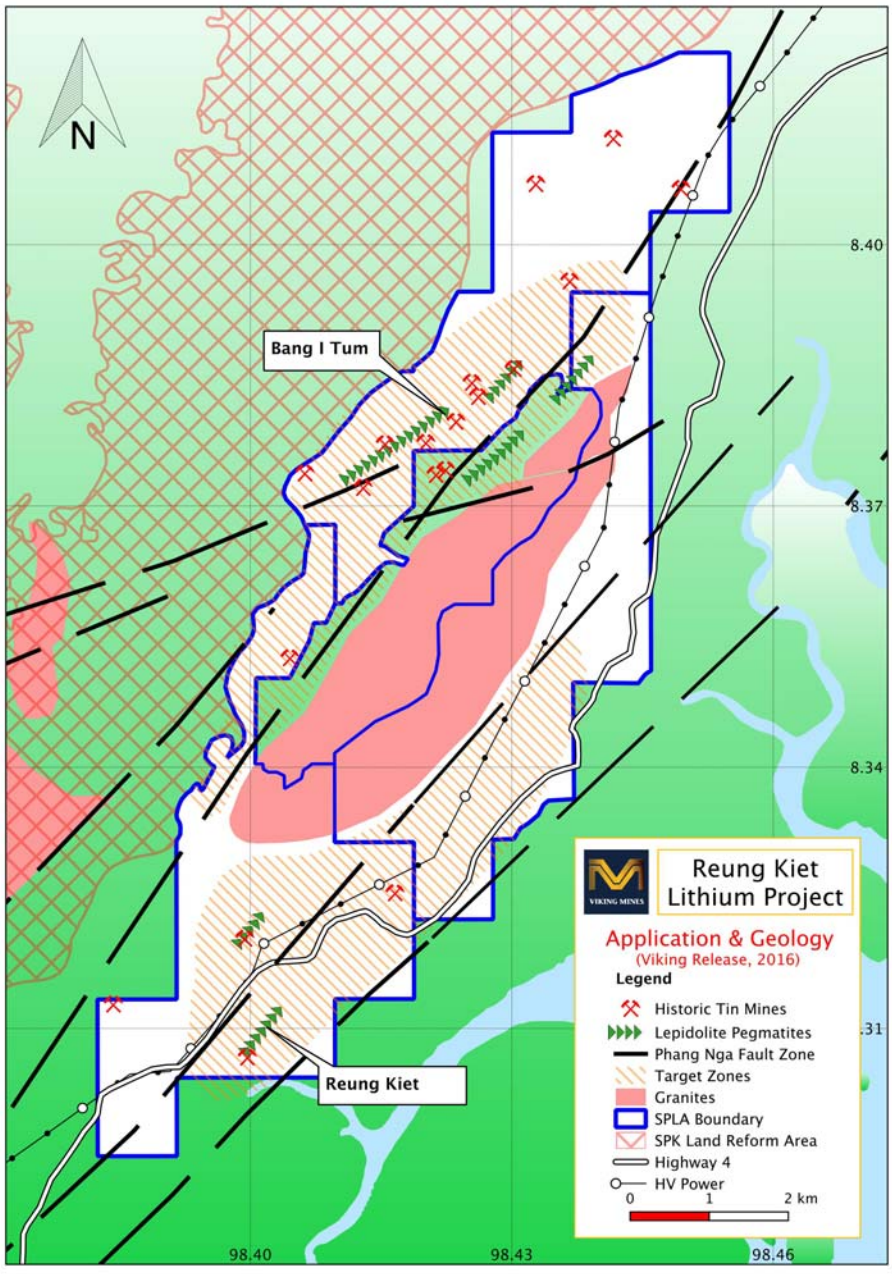


**Figure 2: Reung Kiet project tenure and prospects**

No modern day exploration work has been completed. There has been a history of past alluvial and hard rock tin mining activity up until the 1980's, as evidenced by numerous open pits on the project area.

The most significant body of exploration work was undertaken by the Institute of Geological Sciences, a precursor of the British Geological Survey (BGS) in the late 1960's. This work consisted of geological mapping, documenting old workings, some surface sampling and metallurgical test work.

The BGS were the first to recognize lepidolite (a lithium bearing mica) in the pegmatites at some of the operating tin mines in Phang Nga province in 1969, and highlight its economic potential to the miners.

At the **Reung Kiet prospect**, BGS reported that the pegmatite could be traced over 1,200m strike with a maximum width of 20m, striking northeast and dipping moderately (50-70$^0$) to the southeast. The main open pit is 300m long and an estimated 10-40m deep (Figure 3). The BGS identified that approximately 50% of the pegmatite at Reung Kiet is composed of lepidolite, with quartz and feldspar (albite) making up the remaining constituents. Heavy minerals, including tin (cassiterite) make up <1% of the pegmatite rock mass.

Recent landslides have exposed multiple pegmatite dykes on the southwest side of Reung Kiet knoll, some 500m southwest of the Reung Kiet pit. At this location moderate (50$^0$) southeast dipping pegmatite dykes containing lepidolite are exposed over a combined width of 15-20m across a 50m wide zone. Individual dykes are up to 3m thick. The deposit also remains open along strike to the northeast of the open pit for at least 0.4 km.

Metallurgical test work conducted by the BGS in the late 1960's from samples collected at the Reung Kiet pit has indicated that recoveries of 80% of the lepidolite are achieved through crushing pegmatite to -250 micron and froth floatation of the +10 micron fraction. Grade of this concentrate is ~3.5% lithium oxide ($Li_2O$).

**Figure 3: Reung Kiet main open pit (left) and banded lepidolite in pegmatite (right)**

BGS states that at the **Bang I Tum prospect**, several old tin mines along a 2km trend reveal pegmatites at least 20m wide and reported lepidolite grades exceeding 4% $Li_2O$. The main pit is 600m long and estimated to be 10-40m deep.

Recent terracing for rubber plantations have exposed multiple pegmatite dykes on a hill some 600m southwest of the main Bang I Tum pit. At this location ~30$^0$ southeast dipping lepidolite bearing pegmatite/aplite dykes are

exposed over a combined width of 15-20m across a 50-70m wide zone. Individual dykes are up to 6m thick. The prospect remains open along strike to the southwest for at least 1km. Additional lepidolite bearing pegmatites have also be observed about 350m west of Bang I Tum.

Float, outcrop channel and subcrop chip sampling (total 23 samples) of pegmatite conducted by Argo and Viking at the Reung Kiet and Bang I Tum prospects have returned values in the range 0.9-2.0% $Li_2O$, 0.05-0.1% Sn and 120-350ppm $Ta_2O_5$ for the mineralized pegmatites (Table 1, Appendix 2). Some of the pegmatite dykes were un-mineralized for lithium but do contain tin

**Table 1: Reung Kiet Project Sampling**

*Argo Reung Kiet Prospect Samples*

| Sample | Long E | Lat N | Type | Description | $Li_2O$ % | Sn % | $Ta_2O_5$ ppm |
|---|---|---|---|---|---|---|---|
| 20104 | 98.3928 | 8.3052 | Outcrop Channel | 3.5m white-pale pink, pegmatite/aplite dyke (0.3m metased, not sampled). | **1.53** | 0.05 | **308** |
| 20105 | 98.3928 | 8.3051 | Outcrop Channel | 2.5m white-pale pink, pegmatite/aplite dyke (0.4m metased, not sampled). | **1.23** | 0.07 | 205 |
| 20106 | 98.3928 | 8.3049 | Outcrop Channel | 1.5m white-pale pink, pegmatite/aplite dyke. | **1.66** | 0.08 | 156 |
| 20109 | 98.3965 | 8.3103 | Outcrop Channel | Small 'pod' of Lp amount 1m wide and 2m long | 0.02 | 0.09 | 10 |
| 20127 | 98.3967 | 8.3098 | Subcrop | Numerous cobbles of white-pink pegmatite | **0.99** | 0.08 | 249 |
| 20128 | 98.3968 | 8.3098 | Subcrop | Numerous cobbles of white-pink pegmatite | **1.4** | 0.08 | 270 |
| 20126 | 98.3964 | 8.3096 | Subcrop | Numerous cobbles of white-pink pegmatite/aplite | **1.33** | 0.07 | 255 |
| 20125 | 98.4002 | 8.3081 | Float | Cobbles of lepidolite rich pegmatite, aplite 'coarse reject tailings' | **1.98** | 0.06 | 227 |
| 20110 | 98.3934 | 8.3059 | Float | Float and subcrop of lep pegmatite in zone about 20m wide | **1.94** | 0.09 | 155 |

*Samples were analysed by mixed acid digest with ICP finish by ALS Chemex in Brisbane*

*Viking Reung Kiet Prospect Samples*

| Sample | Long E | Lat N | Type | Description | $Li_2O$ % | Sn % | $Ta_2O_5$ ppm |
|---|---|---|---|---|---|---|---|
| RK 003 | 98.3945 | 8.3101 | outcrop chip | 2m white-pale pink lepid pegmatite/aplite E side of pit | 0.14 | **0.1** | 171 |
| RK 005 | 98.3964 | 8.3096 | outcrop chip | 2m white-pale pink lepid pegmatite/aplite E side of pit | **1.49** | 0.07 | **342** |
| RK 010 | 98.3927 | 8.3054 | outcrop channel | 2m white-pale pink lepid pegmatite/aplite dyke, RK knoll | **1.73** | 0.07 | 317 |
| RK 011 | 98.3927 | 8.3054 | outcrop channel | 3m white-pale pink lepid pegmatite/aplite dyke, RK knoll | **1.86** | 0.05 | 250 |

*Samples analysed by sodium peroxide fusion digest with ICP-MS finish at SGS in Perth*

*Argo Bang I Tum Prospect Samples*

| Sample | Long E | Lat N | Type | Description | $Li_2O$ % | Sn % | $Ta_2O_5$ ppm |
|---|---|---|---|---|---|---|---|
| 20103 | 98.4182 | 8.3719 | Outcrop Chip | Outcrop, 1m wide fgr pegmatite, minor musc. Well to east of BIT trend. | 0 | 0.02 | 56 |
| 20111 | 98.4173 | 8.3799 | Outcrop Channel | 3.0m white-pale pink, pegmatite/aplite dyke | **1.27** | 0.09 | 136 |
| 20113 | 98.4171 | 8.3795 | Outcrop Channel | 2.5m white-pale pink, pegmatite/aplite dyke | **1.44** | **0.1** | 267 |
| 20100 | 98.4229 | 8.3839 | Float | Weath fgr pegmatite in pit. ~10% musc, stg Mn, metased outcrop 7m to N | 0 | **0.19** | 89 |
| 20101 | 98.4234 | 8.384 | Float | Wk weath, fgr Aplite, minor musc. Near metased outcrop. | 0 | **0.17** | 68 |
| 20112 | 98.4173 | 8.3796 | Float | Gravel-cobble white-pale pink, pegmatite/aplite zone 10-15m wide | **1.77** | 0.08 | 211 |

*Samples were analysed by mixed acid digest with ICP finish by ALS Chemex in Brisbane*

*Viking Bang I Tum Prospect Samples*

| Sample | Long E | Lat N | Type | Description | $Li_2O$ % | Sn % | $Ta_2O_5$ ppm |
|---|---|---|---|---|---|---|---|
| BIT 001 | 98.4175 | 8.3798 | outcrop channel | 2m white-pale pink lepid pegmatite/aplite dyke, SW of pit | **0.86** | 0.05 | 122 |
| BIT002 | 98.4175 | 8.3798 | outcrop channel | 7m white-pale pink lepid pegmatite/aplite dyke, SW of pit | **0.89** | **0.1** | 256 |
| BIT 007 | 98.4171 | 8.3785 | outcrop channel | 3m white-pale pink lepid pegmatite/aplite dyke, SW of pit | **1.34** | 0.09 | 323 |

*Samples analysed by sodium peroxide fusion digest with ICP-MS finish at SGS in Perth*

The Reung Kiet project is considered a brownfields exploration project with significant historic workings on at least two confirmed lithium bearing pegmatite zones. There are immediate drill targets, subject to landholder access agreements, testing under old workings at two prospects, Reung Kiet and Bang I Tum.

Excellent exploration potential exists for extensions of mineralized pegmatites under shallow cover and new discoveries on the project area.

## Khao Soon Tungsten Project

The Khao Soon tungsten project is located in southern Thailand about 145km north-east of Phuket (Figure 1).

Access to the area is excellent with sealed roads and grid power. Local and adjacent regional infrastructure is modern. The climate is tropical with rainfall of around 2m per year, mainly falling during the July-October wet season. Elevations range from 50m to 470m.

An Australian based company Thai Goldfields Pty Ltd (TGF) has been exploring the project since 2006 and have a contiguous block of four granted prospecting licences and two prospecting licence applications covering approximately 73 sq km (Figure 4). West Mandalay Exploration Pty Ltd (WMX) has concluded a farm-in joint venture agreement with TGF whereby WMX can earn a 75% interest in the tenements subject to satisfying agreed expenditure commitments.

The project area is centred on the old Khao Soon mine which was a significant historical tungsten (wolframite-ferberite) producer derived from underground mining in the 1970's. High grade tungsten mineralisation is hosted in structurally controlled fault zones and breccias occurring in silicified metasediments that form prominent ridges.

Regolith hosted tungsten mineralisation occurs in lowland areas where a thick laterite profile has developed. The extensions of the primary zones are interpreted to be masked by the lateritic regolith.

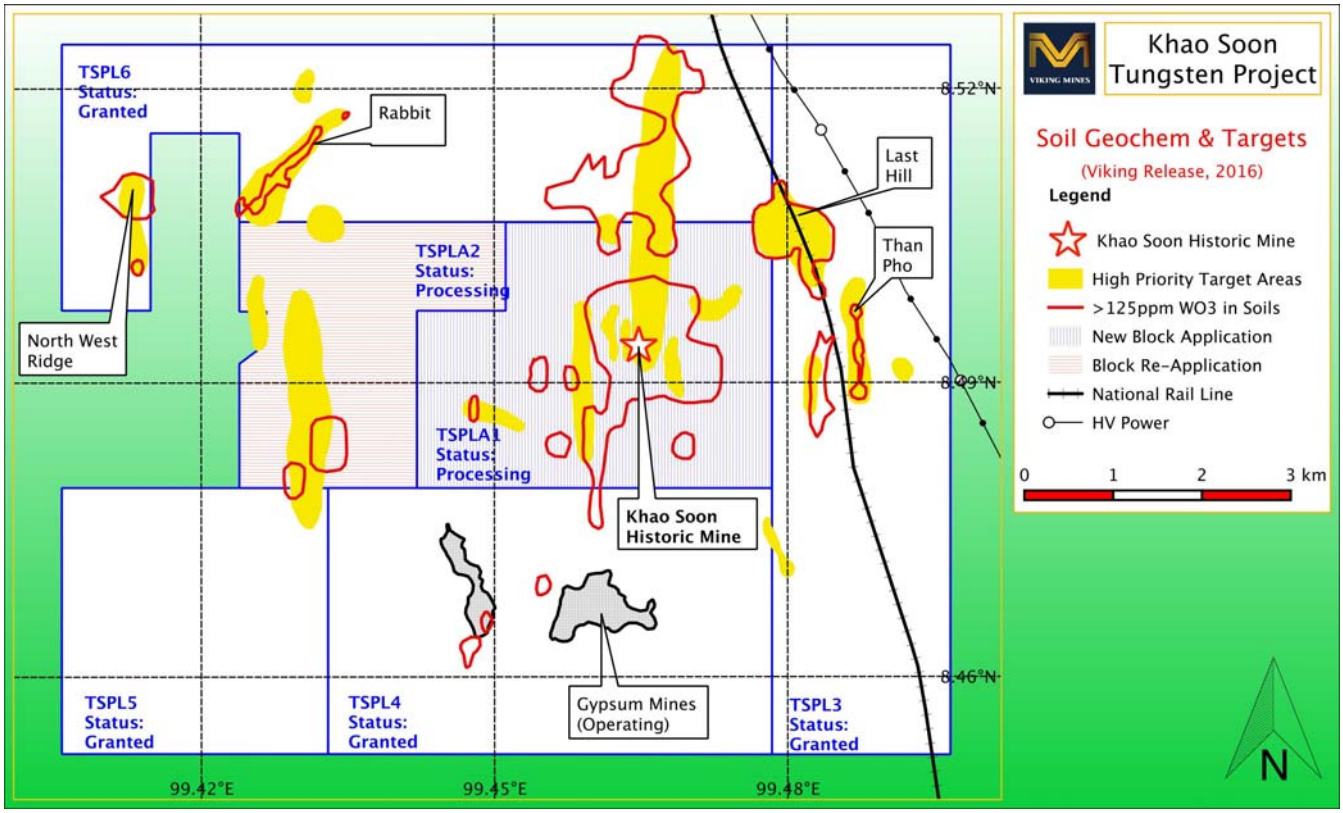


**Figure 4: Khao Soon Project prospect areas and tenure**

Tungsten mineralisation at the Khao Soon mine was reportedly discovered in October 1970. Hundreds of shafts and numerous adits were illegally excavated during the 1970's. The deepest workings penetrated to about 80m below surface. For much of the 10 or so years that the deposit was mined it had a chequered history. The

tungsten price collapse in 1979 led to a decrease in production and activity. In 1980 the Thai military closed the mine. Smaller scale mining likely ceased due to the protracted collapse in tungsten prices that continued to the mid 1980's. Estimated historical production is in the order of 500,000 tonnes of ore yielding 11,000 tonnes of $WO_3$, at an average grade of ~2.2% $WO_3$.

TGF commenced exploration in the Khao Soon area in 2006. Since that time exploration has included:

- Traverse sampling of adits using handheld XRF (~ 4,000 readings)
- Limited follow-up channel chip sampling underground
- Surveying and geological mapping of adits totalling approximately 9km
- Regional soil sampling (nearly 10,000 samples) covering 73 sq km
- Geological mapping /interpretation over selected targets
- Rock chip sampling (approximately 5,000 samples) over much of licence areas
- Metallurgical test-work and petrology of Khao Soon mineralisation
- Detailed Gravity Survey of Khao Soon Ridge
- Re-processing and interpretation of regional aeromagnetics
- Induced Polarisation/Resistivity survey of Khao Soon Ridge
- RC aircore drilling of soil anomalies at regolith Target 1 and Target 2
- Conceptual development, mining and processing studies

At the **Khao Soon prospect,** tungsten mineralisation is hosted within brecciated and silicified sediments of Permo-Carboniferous age. The silicification has formed prominent ridges in the area.

Tungsten occurs as ferberite ($FeW0_3$) which commonly forms the matrix of the mineralised breccia in association with un-mineralised clasts of silicified metasediment, or coats microfractures in the metasediment. The breccia appears to be hydrothermal in nature and form a series of semi-continuous interconnected pipes, pods, lodes and fracture fill zones scattered over an area about 1km long and 500m wide. It appears that the mineralization is controlled by north-south and north-west trending fault structures.

Surface rock chip sampling by TGF has yielded numerous high-grade results ~235 assays >= 0.5%WO3; ~75 >= 2.0%$WO_3$; and ~20 >= 5.0%$WO_3$, TGF underground sampling results range up to 11% $WO_3$.

Surface disturbance is extensive with collapsed workings, adits, shafts, old spoil heaps and processing foundations scattered across the prospect area. A 0.5-1m thick colluvial soil horizon is developed with partial oxidation extending to approximately 30 metres depth.

The prospect is located on the yet to be granted SPLA1 tenement. The Khao Soon historic mine area is within a designated as a Forestry/Watershed area, which requires Thai Cabinet approval for grant. This process is well progressed, the strategic nature of the project and its fit with Thai industrial policy, and the fact that the Forestry/Watershed area is largely plantation and mine spoils, bodes well for a positive decision.

The **Than Pho prospect** was discovered by TGF 100m x 25m spaced soil sampling. Some old workings have subsequently been found in the vicinity of the anomaly where TGF sampling returned values up to 2.7% $WO_3$ in rock chips.

The prospect is defined by a discontinuous >500ppm north-south striking tungsten anomaly over a strike length of 1km and width of 50-100m. The "bulls eye" anomaly highs may represent breccias developed in intersecting fault zones and/or fault dislocations. Tungsten bearing fractured and brecciated sediments outcrop on the anomaly.

**The Rabbit prospect** was also discovered by TGF 100m x 25m spaced soil sampling. Some old workings have subsequently been found in the vicinity of the anomaly, where sampling has returned values up to 1% $WO_3$ in rock chips.

The prospect is defined by a coherent >500ppm north-east striking tungsten anomaly over a strike length of 1.2km and width of 30-60m. Ferberite bearing fractured sediments outcrop on the anomaly.

Two samples were collected by Viking and one by Argo during a site visit with results below:

| Sample | Long E | Lat N | Prospect | Type | Description | $WO_3$ % |
|---|---|---|---|---|---|---|
| KS 008 | 99.4315 | 8.5153 | Khao Soon | u/g grab | part ox sil metased, brecciated and fract fill Fe ox and wolframite. Collapsed stope | 1.02 |
| RAB 009 | 99.4316 | 8.4331 | Rabbit | outcrop chip | 2m Chips off in situ boulders of sil metased with ox qv and fract | 0.26 |
| 20117* | 99.431593 | 8.51537 | Rabbit | outcrop chip | Chips of large boulders of s- metased and QZ BX | 0.83 |

*Argo sample

The Viking results confirm that both the Khao Soon Ridge and Rabbit prospects host significant tungsten mineralization.

**Regolith hosted tungsten mineralisation** is extensively developed on the lower slopes, valleys and flats, where tungsten occurs in a thick lateritic profile. A total of 64 air core holes (for 1539.5m) were drilled by TGF at two soil anomaly targets (Target 1 and Target 2). The average thickness of the sub-horizontal regolith mineralized zones is 3-9m at Target 1 and 6-15m at Target 2. The mineralised zones commence at or near surface with individual 3m sample assay values between 0.3%-0.7% $WO_3$. These highly anomalous values in the regolith may be vectors to underlying hard rock tungsten mineralization. VKA is currently reviewing the results of this drill program.

Evaluation of the hard rock tungsten mineralization is currently at an early stage, no drilling having specifically targeted this mineralization. Three prospect areas have been identified to date, two of which are immediately accessible, subject to landholder access agreements. Good potential exists for new prospect areas to be identified with further exploration.

## Appendix 2: JORC Code, 2012 Edition – Table 1

Reung Kiet and Khao Soon Projects

### Section 1 Sampling Techniques and Data

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| Sampling techniques | Nature and quality of sampling (eg cut channels, random chips, downhole gamma sondes, handheld XRF instruments, etc).<br><br>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.<br><br>Aspects of determination of mineralisation that are Material to the Report (eg 'RC drilling used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'; or where there is coarse gold that has inherent sampling problems). | Rock-chip, channel and float samples. Samples collected were around 1- 3kg of lepidolite-rich pegmatite occurring as outcrops and subcrops. For historic TGF soil and rock chip sampling the XRF Analyser used was a "Thermo NITON XL3t" in "in Soil or Industrial Bulk mode' with a 60-150 seconds reading time.<br><br>Samples were selected in order to ascertain the degree of lithium enrichment in the different pegmatites and enable geochemical characterisation of individual pegmatites. As such, the samples are representative of the lithium mineralisation within the pegmatites but do not necessarily represent the composition of the entire pegmatite.<br><br>A total of 23 samples were collected by Argo and Viking's experienced field geologists and sent to either ALS Chemex in Brisbane or SGS in Perth for analyses.<br><br>Laboratory QAQC duplicates and blanks were inserted.<br><br>Air core drilling was conducted to obtain mostly 3m samples from which an average 0.3kg sub-sample was pulverized to produce a 60gram assay pulp for hand held XRF analysis For historical TGF results, soil and rock chips were dried, crushed (rocks only to -3mm) and 0.5-0.8kgkg sub-sample pulverized to 90% passing 75 microns, using in-house facilities in Thailand. Most rock samples were prepared at commercial laboratories in Thailand. |
| Drilling techniques | Drill type (eg core, reverse circulation, etc) and details (eg core diameter, triple tube, depth of diamond tails, face-sampling bit, whether core is oriented; if so, by what method, etc). | Reverse circulation (air core) drilling was employed with a hole diameter of 75mm or 3". This is a face sampling drilling method. |
| Drill sample recovery | Method of recording and assessing core and chip sample recoveries and results assessed.<br><br>Measures taken to maximise sample recovery, ensuring representative nature of samples.<br><br>Is sample recovery and grade related; has sample bias occurred due to preferential loss/gain of fine/coarse material? | There was no formal method for recording drill sample recovery. Samples from the drill hole were collected from the rig cyclone into a polyweave sack.<br>Drillers were instructed to maximize recovery and minimize potential contamination. Each sample represented 3m (one rod) except at end of hole where 1-3m samples were drilled. |
| Logging | Have core/chip samples been geologically/geotechnically logged to a level of detail to support appropriate resource estimation, mining studies and metallurgical studies.<br><br>Is logging qualitative or quantitative in nature. Core (or costean, channel, etc) photography.<br><br>The total length and percentage of the relevant intersections logged. | Rock-chip samples are not logged, however sample type and geological details are recorded.<br><br>Each drill sample was geologically logged with salient features recorded |
| Sub-sampling techniques and | If core, cut or sawn and whether quarter, half or all core taken.<br><br>If non-core, riffled, tube sampled etc and sampled wet or dry? | Not applicable, no drill core.<br><br>For aircore drilling the generally 20-30kg bag sample from the rig was laid down, the bag cut and the sample slightly flattened. An aluminium scoop was used to sample this |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| sample preparation | For all sample types, nature, quality and appropriateness of sample preparation technique.<br><br>QAQC procedures for all sub-sampling stages to maximise representivity of samples.<br><br>Measures taken to ensure sampling is representative of the material collected, e.g. results for field duplicate/second-half sampling.<br><br>Whether sample sizes are appropriate to the grain size of the material being sampled. | material on a rough grid. These sub-samples generally weighed between 2.5-4.5kg. There are 20 wet samples recorded in the dataset. These were scooped samples directly from a bag or a bucket. All of the drill sub-samples (coarse reject) are stored in plastic bags at the TGF office in Chawang. All of these samples were used to derive a further sub-sample, again using the scoop method. These sub-samples weigh around 250-450grams (pulp reject). This sample was oven dried, and then pulverized to around 75% passing 75 microns. A 60 gram sample (assay pulp) was then extracted using a small teaspoon and placed into a separate small plastic bag, and was then subject to assay.<br><br>All samples were dry. No duplicate samples collected.<br><br>Laboratory standards, splits and repeats were used for quality control.<br><br>The sample type, size, preparation and method is of acceptable industry standard and practice for this stage of investigation and style of mineralization. |
| Quality of assay data and laboratory tests | Nature, quality and appropriateness of the assaying and laboratory procedures used; whether the technique is considered partial or total.<br><br>For geophysical tools, spectrometers, handheld XRF instruments etc, parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied, their derivation, etc.<br><br>Nature of QAQC procedures adopted (eg standards, blanks, duplicates, external laboratory checks); whether acceptable accuracy levels (ie lack of bias) / precision established. | Sample preparation is integral to the analysis process as it ensures a representative sample is presented for assay. The preparation process includes sorting, drying, crushing, splitting and pulverising. For Argo, the samples were dried, crushed and sub-sample pulverized to 90% passing 75 microns using in-house facilities in Thailand. For Viking samples were dried, crushed and sub-sample pulverized to 90% passing 75 microns by SGS in Bangkok. Pulps were then air freighted to Australia for analysis.<br><br>Samples were assayed for Argo by mixed acid digest with ICP finish by ALS Chemex in Brisbane for Li, Sn and Ta<br><br>Samples were assayed for Viking by sodium peroxide fusion digest with ICP-MS finish at SGS in Perth for Li, Sn, Ta and W.<br><br>Laboratory standards, splits and repeats were used for quality control.<br><br>For historical TGF samples these were analysed using a hand held Niton XRF for W. Random samples typically above 500ppm W were re-analysed by independent laboratory using XRF. QA/QC unknown. |
| Verification of sampling and assaying | Verification of significant intersections by independent / alternative company personnel.<br><br>The use of twinned holes.<br><br>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.<br><br>Discuss any adjustment to assay data. | Sample results have been checked by company Senior Geologist.<br><br>No twinned holes drilled<br><br>Assays reported as Excel xls files and secure pdf files.<br><br>Data entry carried out digitally by field personnel to minimize transcription errors. Field documentation procedures and database validation conducted to ensure that field and assay data are merged accurately.<br><br>Following factor adjustments applied to assay data for reporting purposes:<br>Li to $Li_2O$ 2.153<br>Ta to $Ta_2O_5$ 1.22<br>W to $WO_3$ 1.261 |
| Location of | Accuracy and quality of surveys used to locate drill holes | Sample and drill hole locations picked up with hand held GPS, with approximately 3-5m accuracy, sufficient for first |

| Criteria | JORC Code explanation | Commentary |
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| data points | (collar and down-hole surveys), trenches, mine workings etc used in estimation.<br><br>Specification of grid system used.<br><br>Quality and adequacy of topographic control. | pass pegmatite mapping.<br><br>All locations recorded in lat/long or WGS 84 Zone 47N.<br><br>Topographic locations interpreted from GPS pickups, adequate for first pass sampling and mapping. |
| Data spacing and distribution | Data spacing for reporting of Exploration Results.<br><br>Is data spacing and distribution sufficient to establish degree of geological and grade continuity appropriate for Resource / Reserve estimation procedure(s) and classifications applied?<br><br>Whether sample compositing has been applied. | All rock samples were selected by the geologist to assist with identification of the nature of the mineralisation present at each location. No set sample spacing was used and samples were taken based upon geological variation at the location.<br>TGF soil samples were collected by field crew under supervision.<br>Air core drill hole spacing approx 200m x 50m<br>Sample compositing was not applied |
| Orientation of data in relation to geological structure | Does the orientation of sampling achieve unbiased sampling of possible structures; extent to which this is known/understood.<br><br>If relationship between drilling orientation and orientation of mineralised structures has introduced a sampling bias, this should be assessed and reported if material. | Channel samples collected off exposed faces, which do not provide orientation, or true width information. Associated structural measurements and interpretation by geologist can assist in understanding geological context.<br><br>The drill sampling is undertaken from vertical holes through a horizontally layered laterite deposit<br><br>All other samples are point samples. |
| Sample security | The measures taken to ensure sample security. | Samples were securely packaged when transported by independent carrier or company personnel to ensure safe arrival at assay preparation and analysis facility. |
| Audits or reviews | The results of any audits or reviews of sampling techniques and data. | None conducted on field samples at this stage of the exploration program<br><br>Argo/MMM has conducted audit sampling of drill assay pulps, reject pulps and coarse reject pulps. Comparison of these results indicate the TGF sampling, sub-sampling and assay data is acceptable . |

## 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.<br><br>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. | Reung Kiet: Three contiguous prospecting licence applications (SPLA1-3) covering an area of 44 sq km have been applied for by Thai company Siam Industrial Metals Co. Ltd. (SIM). ). Argo Metals Group Limited (Argo) holds 75% of SIM, with Sydney based Thai Goldfields NL holding the remaining 25%.Project is located 60km north of Phuket in southern Thailand.<br>Khao Soon: Australian based company Thai Goldfields (TGF) have a contiguous block of four granted prospecting licences (SPL3-6) and two prospecting licence applications (SPLA1,2) covering approximately 73 sq km. West Mandalay Exploration Pty Ltd (WMX) have concluded a farm-in joint venture agreement with TGF whereby WMX can earn a 75% interest in the tenements subject to satisfying agreed expenditure commitments. Project is located in southern Thailand about 145km north-east of Phuket. SPLA1 application covers an area designated as a Forestry/Watershed area, which requires Parliamentary approval for grant. |
| Exploration done by other parties | Acknowledgment and appraisal of exploration by other parties. | Reung Kiet: Institute of Geological Sciences, a precursor of the British Geological Survey (BGS) in the late 1960's. This work consisted of geological mapping, documenting old |

| Criteria | JORC Code explanation | Commentary |
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| | | workings, some surface sampling and metallurgical test work.<br><br>Khao Soon: Thai Goldfields (TGF) commenced exploration in the Khao Soon area in 2006. Since that time exploration has included:<br><br>Traverse sampling of adits using handheld XRF (~ 4,000 readings)<br>Limited follow-up channel chip sampling underground<br>Surveying and geological mapping of adits totalling approximately 9km<br>Regional soil sampling (nearly 10,000 samples) covering 73 sq km<br>Geological mapping /interpretation over selected targets<br>Rock chip sampling (approximately 5,000 samples) over much of licence areas<br>Metallurgical test-work and petrology of Khao Soon mineralisation<br>Detailed Gravity Survey of Khao Soon Ridge<br>Re-processing and interpretation of regional aeromagnetics<br>Induced Polarisation/Resistivity survey of Khao Soon Ridge<br>RC aircore drilling of soil anomalies at regolith Target 1 and Target 2<br>Conceptual development, mining and processing studies<br><br>Mandalay Mining and Metals Pty. Ltd (MMM), on behalf of WMX, completed a JORC (2012) resource estimate for the Khao Soon regolith tungsten resource in November 2015. This resource estimate is under review |
| Geology | Deposit type, geological setting and style of mineralisation. | Reung Kiet: The project area sits adjacent and sub-parallel to the regionally extensive northeast trending Phangnga fault. The Cretaceous age Khao Po granite intrudes into Palaeozoic age Phuket Group sediments along the fault zone, and is thought to be the source of the pegmatite dykes and the associated Li-Sn-Ta mineralization .The pegmatites are located proximal to the granite in northeast trending fault zones, and are fine grained, aplitic in places, showing no evidence of zoning.<br>Khao Soon: Tungsten mineralisation is hosted within brecciated and silicified sediments of Permo-Carboniferous age. It appears that the mineralization is controlled by north-south and north-west trending fault structures. |
| Drillhole Information | A summary of information material to the understanding of the exploration results including a tabulation for all Material drill holes of:<br>• easting and northing of the drill hole collar<br>• elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar<br>• dip and azimuth of the hole<br>• downhole length and interception depth<br>• hole length.<br>If exclusion of this information is not Material, the Competent Person should clearly explain why this is the case. | Reung Kiet – not applicable<br>Khao Soon – all historical drilling focussed on shallow regolith mineralization which is not to focus of Viking exploration interest. All drill hole information included in Appendix 2, Khao Soon Tungsten Regolith Resource Estimate |
| Data aggregation methods | Weighting averaging techniques, maximum/ minimum grade cutting and cut-off grades are Material and should be stated.<br>Where compositing short lengths of high grade results and longer lengths of low grade results, compositing procedure to be stated; typical examples of such aggregations to be shown in detail.<br>Assumptions for metal equivalent values to be clearly | Not applicable, sample results reported as individual surface samples. |

| Criteria | JORC Code explanation | Commentary |
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| | stated. | |
| Relationship between mineralisation widths and intercept lengths | These relationships are particularly important in the reporting of Exploration Results.<br><br>If mineralisation geometry with respect to the drillhole angle is known, its nature should be reported.<br><br>If it is not known and only down hole lengths are reported, a clear statement to this effect is required (eg 'down hole length, true width not known'). | Not applicable, rock chip sample results reported as individual surface samples collected off subcrop or exposed faces. For channel samples relationship between sample width and true width not known. |
| Diagrams | Appropriate maps and sections (with scales) and tabulations of intercepts to be included for any significant discovery. These to include (not be limited to) plan view of collar locations and appropriate sectional views. | Not Applicable |
| 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. | Results of assays for Li, Sn, W and Ta of all samples collected by Argo and Viking reported above |
| 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 meaningful and material exploration data relevant to the deposit style sought has been reported |
| Further work | The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).<br><br>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas (if not commercially sensitive). | At the time of reporting, the results were still being evaluated.<br><br>It is envisaged that further mapping and sampling is warranted to investigate potential additional lithium pegmatites, together with drilling to test extensions at depth. |