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**THOR MINING PLC**

Registered Numbers:  
United Kingdom 05276 414  
Australia 121 117 673

Registered Office:  
58 Galway Avenue  
MARLESTON, SA, 5035  
Australia

Ph: +61 8 7324 1935

Email:  
corporate@thormining.com

Website:  
[www.thormining.com](http://www.thormining.com)

Twitter  
[@ThorMining](https://twitter.com/ThorMining)

Enquiries:  
Nicole Galloway Warland  
Managing Director  
Thor Mining PLC  
+61 8 7324 1935

Nominated Advisor  
Jessica Cave  
WH Ireland Ltd  
+44 (0) 20 7220 1666

AIM & ASX Listings:  
Shares: THR  
OTCQB Listing  
Shares: THORF

Directors:  
Nicole Galloway Warland  
Mark Potter  
Mark McGeough  
Alastair Clayton

**Key Projects:**

- **Gold**  
*Ragged Range Pilbara WA*
- **Copper**  
*Alford East SA*
- **Uranium / Vanadium**  
*Colorado / Utah USA*
- **Tungsten**  
*Molyhil NT*

**Company Announcements Office**

**ASX Securities Limited,  
20, Bridge Street,  
Sydney, N.S.W. 2000**

**Ragged Range Project, WA  
Lithium Targets and Exploration Program**

The directors of Thor Mining Plc ("Thor") (AIM, ASX: THR, OTCQB: THORF) are pleased to provide an exploration update on the lithium prospectivity at the Company's 100% owned Ragged Range Project, located in the Eastern Pilbara, Western Australia.

**PROJECT HIGHLIGHTS**

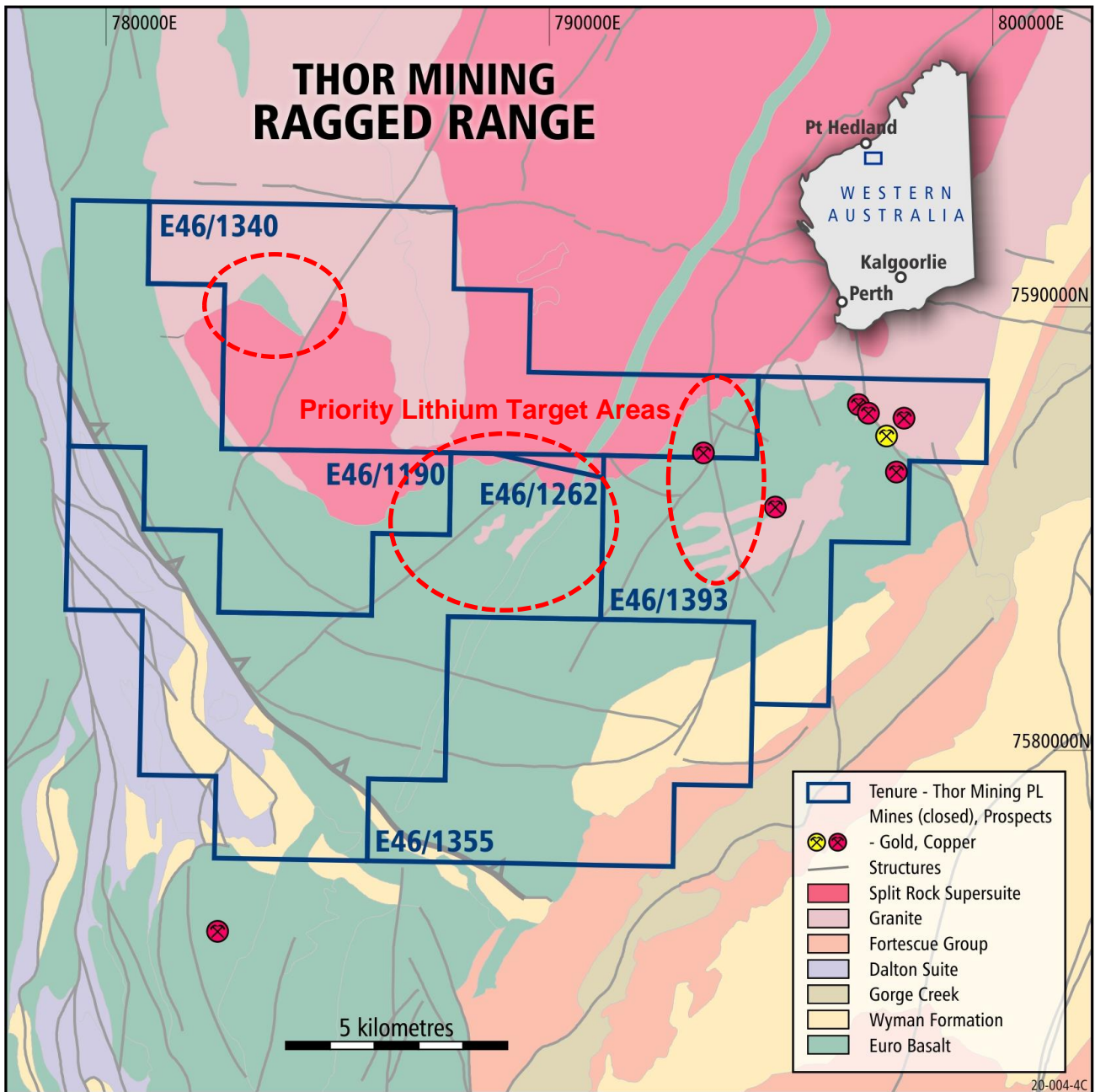
- Several lithium exploration targets have been identified at Thor's Ragged Range Project (Figure 1).
- The Pilbara Craton is highly prospective for lithium-caesium-tantalum (LCT) enriched pegmatites and hosts two "World Class" deposits at Wodgina and Pilgangoora that formed close to the Split Rock Supersuite (2.85 to 2.83Ma).
- Prospective LCT ground adjacent to the Split Rock Supersuite has been identified in three areas covering the northern portion of Thor's tenure.
- The lithium potential on the Ragged Range Project area has not been previously considered.
- E46/1393 tenement located in the northeast over the Kelly copper-gold workings has now been granted (Figure 1), with this structurally complex region favourable for lithium enriched pegmatites.
- With E46/1393 granted Thor plans to complete airborne magnetics and radiometrics over the north-eastern portion of the tenement package, with detailed geological mapping, pXRF analysis and rock chip sampling over the lithium targets, to determine pegmatite mineralogy and identify any lithium-caesium-tantalum minerals.

**Nicole Galloway Warland, Managing Director of Thor Mining, commented:**

*"Thor's recent geological review of the Ragged Range project, triggered by the granting of E46/1393, has identified exciting lithium-caesium-tantalum targets associated with the highly prospective Split Rock Supersuite. These new targets will be advanced as soon as possible and have the potential for significant exploration discoveries, while we continue drill testing further gold exploration targets at the Sterling Prospect."*

*The Pilbara Craton already hosts two "world class" lithium deposits, and ground with battery metals prospectivity at our 100% owned Ragged Range project is an exciting new development, and has the potential to create substantial value for Thor shareholders."*

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**Figure 1:** Tenement Location Plan overlying GSWA 1:500k geology showing distribution of Split Rock Supersuite with priority lithium target areas (Red dash ovals).

The Ragged Range Project, located in the prospective Eastern Pilbara Craton, Western Australia, is 100% owned by Thor Mining – covering E46/1190, E46/1262, E46/1355, E46/1340 and recently granted E46/1393 (Figure 1).

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## **Regional Pilbara Lithium Prospectivity**

The Pilbara Craton is highly prospective for lithium–caesium–tantalum enriched (LCT) pegmatites and hosts two large and globally significant spodumene deposits at Wodgina (Mineral Resources Ltd) and Pilgangoora (Pilbara Minerals). The Wodgina lithium project is considered the largest hard rock, spodumene deposit in the world (<https://www.carbonart.com.au>).

The lithium rich pegmatites in the Pilbara are spatially and appear to be genetically related to the Split Rock Supersuite (2.85 to 2.83Ma), which are post tectonic (Sweetapple, M, 2017). These are mapped as highly fractionated, biotite, quartz and K Feldspar rich, monzogranites (Figure 2).

Pegmatites are located within 10 km of cogenetic peraluminous granites and leucogranites. The roof zones of large plutons are considered to be one of the most favourable positions for lithium enrichment (London, 2018). An idealized concentric pegmatite swarm is shown in Figure 3, showing the spatial zonation of pegmatites around a common granitic source which is a fundamental starting point for exploration models (London, 2018). Using this as a model, the Ragged Range area fits all these conditions.

Commercial lithium is found in the mineral spodumene  $\text{LiAl}(\text{Si}_2\text{O}_6)$  that can grow into very large crystals within pegmatite bodies. It is normally associated with minerals such as cassiterite (Sn), columbite–tantalite (Nb-Ta), lepidolite (lithium rich mica), beryl (Be) and garnets. These elements can be used as pathfinders in stream sediment sampling programs.

## **Ragged Range Lithium Potential Targets**

At the southern end of the Corunna Downs Batholith (Figure 2), crescent shaped post-tectonic granitic pluton is found (now termed the Montana Monzogranite part of the Split Rock Supersuite). The Montana Monzogranite is porphyritic and is largely unfoliated. Small units of the Montana Monzogranite are mapped in the NE corner of E46/1262, E46/1340 and E46/1393 and three target areas have been defined (Figure 1):

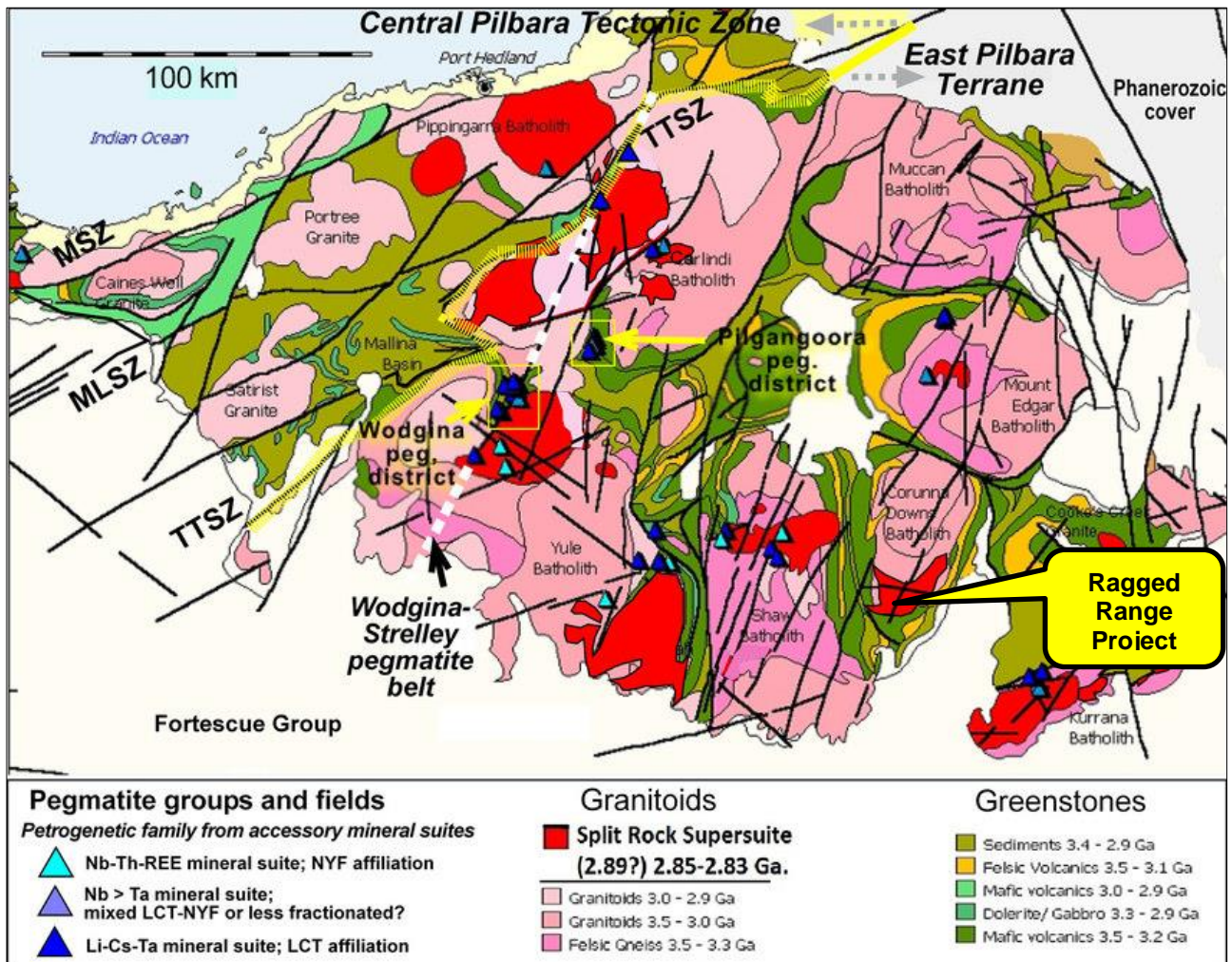
- 1) This NE corner of E46/1262 is potentially a roof zone of the Montana Monzogranite making it the most prospective area for lithium in the tenements (Figure 1 and 4).
- 2) The second target area is on E46/1393 where numerous structures cut the older Euro Basalt providing conduits for pegmatites emanating from the adjacent Montana Monzogranite (Figure 1).
- 3) The third area of interest is a small enclave of greenstone at the contact of the Montana Monzogranite in E46/1340 (Figure 1).

There is negligible sampling to date along the Montana Monzogranite contact, with a few samples taken as part Thor's 2019 and 2020 stream sediment sampling programs (THR:ASX announcement 1/12/2020). No assays are available for Li however elevated Sn, Be, Nb and Ta routinely assayed, warrant further investigation.

In the Thor aeromagnetic data, radiometrics, (Figure 4) thorium and uranium are moderately anomalous over mapped small bodies of unknown derivation in the northeast corner of E46/1262, confirming the presence of pegmatites or monzogranite within the low response signal of the Euro Basalt. Interestingly, the prominent dyke that runs NNE/SSW across this area is both magnetic and has a moderate uranium and thorium response. It is therefore unlikely that this dyke is a simple dolerite body, as currently mapped.

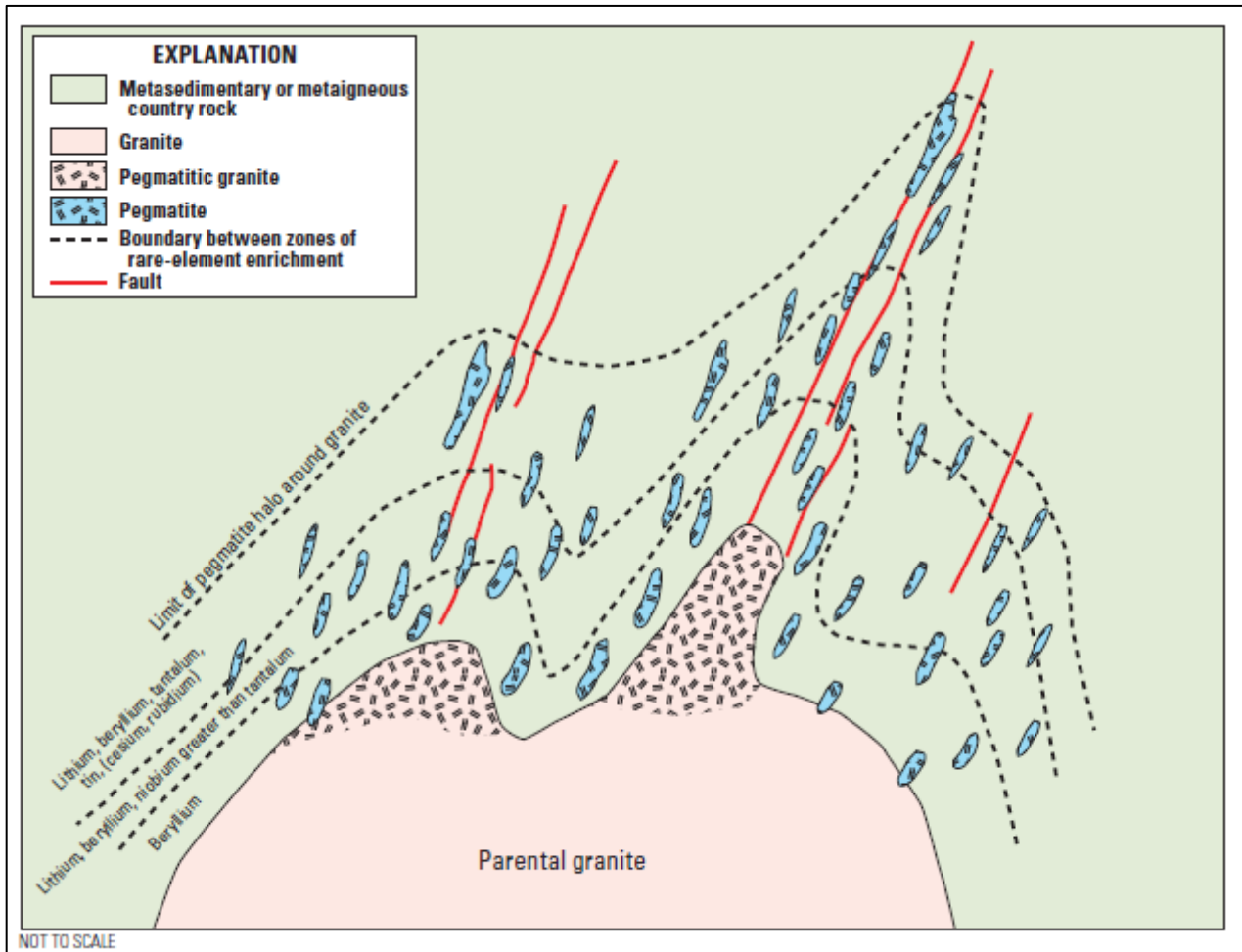


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**Figure 2:** Geological map of the units and terranes comprising the North Pilbara Craton (adapted from Sweetapple and Collins, 2002 and Hickman, 2016), highlighting the distribution of the Split Rock Supersuite (~2.85-2.83 Ga) and pegmatite fields and groups of LCT (Li-Cs-Ta), NYF (Nb-Y>F) and mixed (LCT-NYF) petrogenetic families of Cerny and Ercit (2005). Ragged Range tenure is shown covering the southern portion of the Split Rock Supersuite and Corunna Downs Batholith (after Sweetapple., 2017).

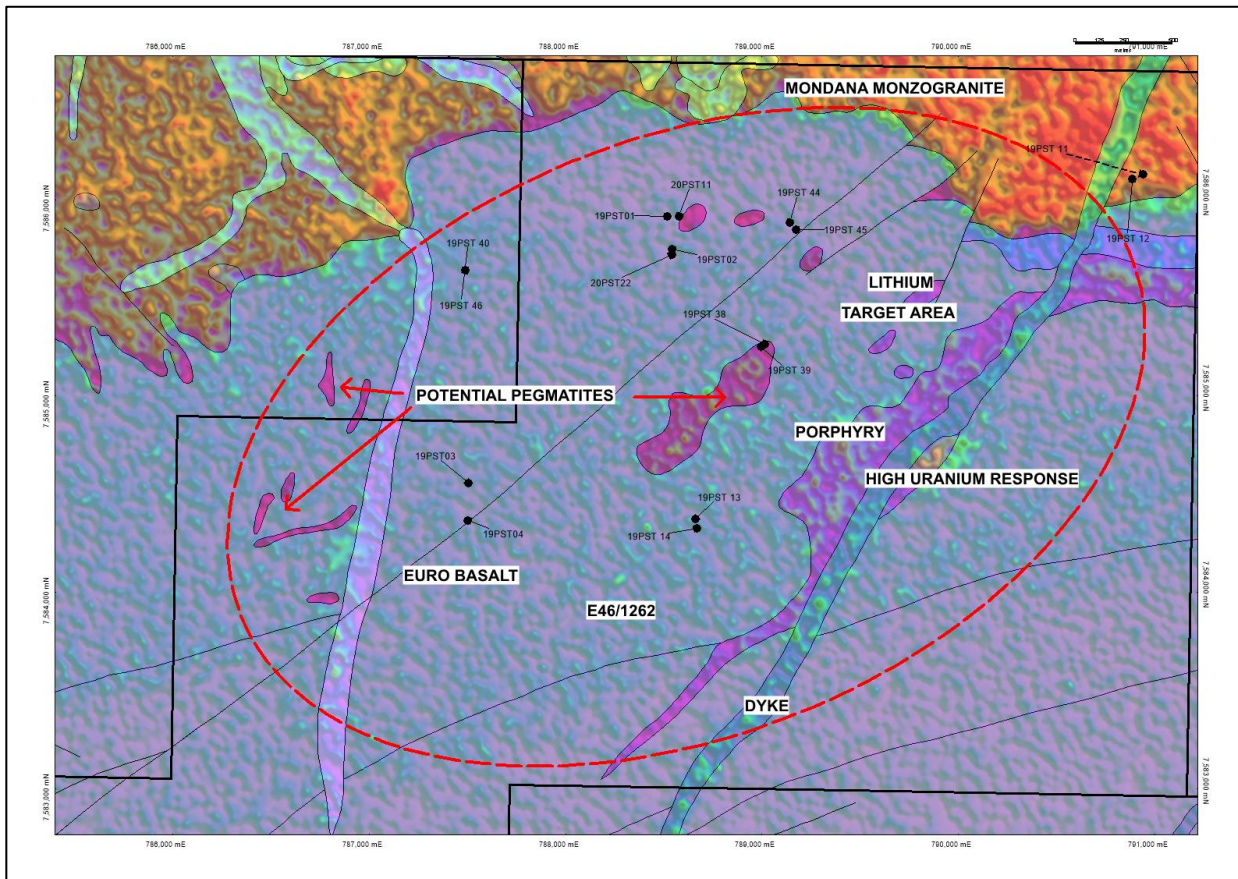
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**Figure 3:** Idealised concentric, regional zoning pattern in a pegmatite swarm from USGS 2010 publication (not to scale). Characteristic rare-element suites of the most enriched pegmatites in each zone are indicated. The most enriched pegmatites tend to occur distally with respect to the parental granite.



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**Figure 4:** Uranium channel radiometrics overlain on 1:100K Geology (GSWA) highlighting potential pegmatites and lithium targets in the north-eastern corner of E46/1262

## Next Steps

In parallel to the gold exploration activities at the Sterling Prospect, the following lithium work program is planned:

- 1) Airborne magnetic/radiometric survey to be flown over the eastern portion of the tenure including E46/1340 and E46/1393.
- 2) A detailed review of all available high-resolution imagery and aster data, to see if the presence of pegmatites can be visually detected.
- 3) Reconnaissance stream sediment sampling and prospecting along the contact of the Mondana Monzogranite (E46/1262, E46/1190, E46/1393 and E46/1340), with detailed sampling (Figure 1),
  - a. in the higher ranked ground in the northern corner of E46/1262
  - b. the structurally more complex area of E46/1393
  - c. the small slice of greenstone within the Mondana Monzogranite on E46/1340,
- 4) Investigation of all small granitic and pegmatitic bodies in the target area. Lithium is detectable on XRF and will fluoresce in UV light. Positive samples can then be assayed for lithium and key pathfinder elements including Ce, Rb, Sn, Ta and W.

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### **References**

Bagas L, Van Kranendonk J and Pawley M: 2004, Geology of the Split Rock 1:100000 Sheet, GSWA.

Bradley D C, McCauley A D, and Stillings L M: 2010, Mineral-Deposit Model for Lithium-Cesium-Tantalum Pegmatites. USGS.

London D: 2018, Ore forming processes within granitic pegmatites, Ore Geology Reviews 101.

Sweetapple M T: 2017, A review of the setting and internal characteristics of lithium pegmatite systems of the Archaean North Pilbara and Yilgarn Craton. GSWA.

For further information, please contact:

**THOR MINING PLC**

**Nicole Galloway Warland**, Managing Director

+61 8 7324 1935

nicole@thormining.com

### **Competent Persons Report**

*The information in this report that relates to exploration results is based on information compiled by Nicole Galloway Warland, who holds a BSc Applied geology (HONS) and who is a Member of The Australian Institute of Geoscientists. Ms Galloway Warland is an employee of Thor Mining PLC. She has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she 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'. Nicole Galloway Warland consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.*

Updates on the Company's activities are regularly posted on Thor's website [www.thormining.com](http://www.thormining.com), which includes a facility to register to receive these updates by email, and on the Company's twitter page [@ThorMining](https://twitter.com/ThorMining).

### **About Thor Mining PLC**

Thor Mining PLC (AIM, ASX: THR; OTCQB: THORF) is a diversified resource company quoted on the AIM Market of the London Stock Exchange, ASX in Australia and OTCQB Market in the United States.

The Company is advancing its diversified portfolio of precious, base, energy and strategic metal projects across USA and Australia. Its focus is on progressing its copper, gold, uranium and vanadium projects, while seeking investment/JV opportunities to develop its tungsten/molybdenum assets.

Thor owns 100% of the Ragged Range Project, comprising 92 km<sup>2</sup> of exploration licences with highly encouraging early-stage gold and nickel results in the Pilbara region of Western Australia, with follow up drilling planned for 2022.

At Alford East in South Australia, Thor is earning an 80% interest in copper deposits considered amenable to extraction via In Situ Recovery techniques (ISR). In January 2021, Thor announced an Inferred Mineral Resource Estimate of 177,000 tonnes contained copper & 71,000 oz gold<sup>1</sup>.

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Thor also holds a 30% interest in Australian copper development company EnviroCopper Limited, which in turn holds rights to earn up to a 75% interest in the mineral rights and claims over the resource on the portion of the historic Kapunda copper mine and the Alford West copper project, both situated in South Australia, and both considered amenable to recovery by way of ISR.<sup>23</sup>

Thor holds 100% interest in two private companies with mineral claims in the US states of Colorado and Utah with historical high-grade uranium and vanadium drilling and production results.

Thor holds 100% of the advanced Molyhil tungsten project, including measured, indicated and inferred resources<sup>4</sup>, in the Northern Territory of Australia, which was awarded Major Project Status by the Northern Territory government in July 2020. Drilling in November December 2021 intersected strike extensions to the main ore zone.

Adjacent to Molyhil, at Bonya, Thor holds a 40% interest in deposits of tungsten, copper, and vanadium, including Inferred resource estimates for the Bonya copper deposit, and the White Violet and Samarkand tungsten deposits.

Notes

<sup>1</sup> [www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210127-aiden-copper.gold-estimate-alford-east-sa.pdf](http://www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210127-aiden-copper.gold-estimate-alford-east-sa.pdf)

<sup>2</sup> [www.thormining.com/sites/thormining/media/pdf/asx-announcements/20172018/20180222-clarification-kapunda-copper-resource-estimate.pdf](http://www.thormining.com/sites/thormining/media/pdf/asx-announcements/20172018/20180222-clarification-kapunda-copper-resource-estimate.pdf)

<sup>3</sup> [www.thormining.com/sites/thormining/media/aim-report/20190815-initial-copper-resource-estimate---moonta-project--rns---london-stock-exchange.pdf](http://www.thormining.com/sites/thormining/media/aim-report/20190815-initial-copper-resource-estimate---moonta-project--rns---london-stock-exchange.pdf)

<sup>4</sup> [www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210408-molyhil-mineral-resource-estimate-updated.pdf](http://www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210408-molyhil-mineral-resource-estimate-updated.pdf)

<sup>5</sup> [www.thormining.com/sites/thormining/media/pdf/asx-announcements/20200129-mineral-resource-estimates---bonya-tungsten--copper.pdf](http://www.thormining.com/sites/thormining/media/pdf/asx-announcements/20200129-mineral-resource-estimates---bonya-tungsten--copper.pdf)