

29 September 2021

# PERMITS GRANTED AND EXPLORATION ACTIVITIES TO COMMENCE AT GRANMUREN Ni-Cu DEPOSIT

## HIGHLIGHTS

- Environmental and Exploration Work Plan Permits have now been granted by both the Environmental and Mining regulatory bodies in Sweden for 100% owned Tullsta Project
- The Work Permit is granted for a period of 2 years, and the Environmental Access Permit is granted for a 5 year period
- Next Phase of exploration work at the Granmuren Ni-Cu deposit will commence immediately
- The permits allow Ragnar to operate machinery and undertake exploration activities within the fields and forests surrounding the Granmuren nickel discovery area with standard working and environmental preservation conditions applying
- GeoVista have mobilized a field crew to immediately commence geophysical downhole Electro-Magnetic surveying of the drill holes to define off-hole EM conductors
- This will allow vectoring towards the core zone of the mineralised magmatic intrusive system which will provide high priority drill targets ready for diamond core drilling

Ragnar Metals Limited ("Ragnar" or "the Company", ASX: RAG) is pleased to update shareholders that the Swedish regulatory bodies have granted the required Environmental and Work Plan Permits, allowing Ragnar to commence the next phases of exploration activities at the Granmuren nickel-copper discovery within the Company's 100%-owned Tullsta Nickel Project in Sweden.

Chairman Steve Formica comments, "The granting of permits is a significant milestone for Ragnar and we are extremely pleased with stakeholder support received from the wider Granmuren community. We note that there is increasing activity in Scandinavia and we look forward to re-commencing nickel sulphide exploration activities of our highly prospective Tullsta project in Sweden."

## Next Steps

- Complete Down Hole Electro-Magnetic (DHEM) and surveying of the 4 completed drill holes.
- This will allow vectoring towards the core zone of the mineralised magmatic intrusive system which will provide high priority drill targets.
- Finalise drill hole positions and commence diamond core drilling program.

# **Directors**

Steve Formica Eddie King David Wheeler



Plan and completed Down Hole Induced Polarization & Resistivity/Chargeability (DHIP-R) geophysical surveying to further define the greater extent of the intrusive body and the sulphide mineralisation for future step out drilling works.

No objections to the proposed work programs were lodged by landowners and as a result, the Environmental Permit was granted on the 20/09/21 for a period of 5 years. Exploration activity works are granted for a 2-year period initially, with standard best practice conditions being applied to the permits such as minimising environmental impact, conservation of wetlands and high nature value trees, as well as immediate clean-up after completion of activities. There are no restrictive operating conditions that have being applied within the Work Plan area (Figure 1), making it very similar to exploring within Australia.

The proposed Work Plan, includes surface and downhole EM and IP/R geophysical surveys, step out diamond core drilling and general exploration activities within the Tullsta-Granmuren area (Figure 1), is now valid. A copy of the valid Work Plan has been submitted for registration with the Inspectorate of Mines (IOM), paving the way for Ragnar to commence the next round of planned activities.

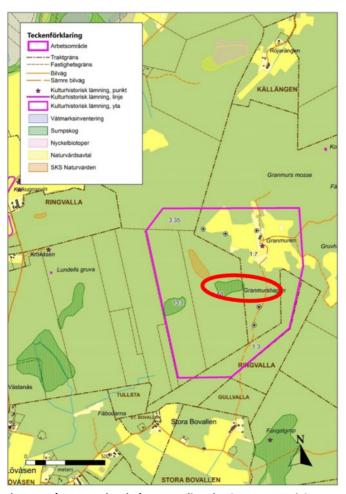


Figure 1: Granted Work Plan area (magenta border) surrounding the Granmuren Ni-Cu target zone (red oval).

The Work area covers tenements Berga nr1, Tullsta nr6 and Tullsta nr8.



Consulting geophysicists from GeoVista in Sweden have now mobilised the field crew to Tullsta to start laying out transmitter loops. The field crew will commence downhole surveying of the recently drilled deep diamond core holes that intersected sulphide mineralisation on the basal contact of the Granmuren mafic intrusion later this week.

The scope of the Electro-Magnetic work is to identify and characterize electrically conductive off-hole bodies that have been intersected by the recently completed drill holes. The location, size and orientation of the conductive bodies will be estimated by numerical modelling.

EM measurements will be carried out in time domain with a TerraTEM receiver and a Terra Tx50 transmitter. A Vectem V three-component probe will be used for downhole measurements. The location for the transmitter loop can be seen in Figure 2 below. The loop will have good coupling to the steeply dipping mineralization at depths of ~250 m and deeper. The primary field will be sub-parallel to shallow parts of the mineralization to avoid strong response from near-surface volumes.

The station spacing will be 10 m in the deeper parts of the holes (additional infill is possible at sharp gradients). Wider spacing may be used in shallow parts, away from the mineralization. Semi-massive pyrrhotite (±, pentlandite, chalcopyrite) mineralisation can be very conductive and a low base frequency of 2.5 Hz will be used by the geophysical survey crew. All boreholes will be tested with a dummy probe before commencing surveying to ensure no equipment is stuck down the hole.



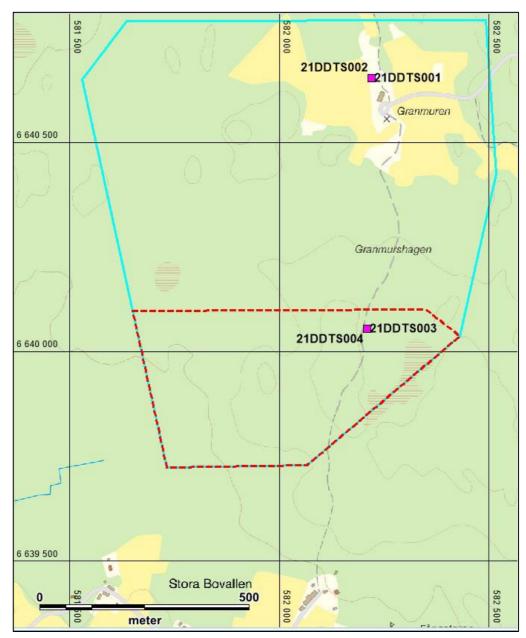


Figure 2: Down Hole Electro-Magnetic transmitter loop location (red dashed polygon) within the Granmuren survey area.

Drillhole collars are shown by the magenta symbols and there are two boreholes at each boring site. The approved

Work Permit area is shown by the blue polygon.

# Competent Person Statement

The information in this announcement relating to Exploration Results is based on information compiled by Neil Hutchison of Geolithic Geological Services, who is a consultant to Ragnar Metals, and a member of The Australasian Institute of Geoscientists. Mr Hutchison has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity 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 Resource and Ore Reserves".

Mr Hutchison consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



For the purpose of ASX Listing Rule 15.5, the Board has authorised for this announcement to be released.

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#### **ABOUT THE PROJECT**

Ragnar Metals owns 100% of the Tullsta and Gaddebo Projects which are located near Sala within the Bergslagen District of Sweden, 110km NW of the capital Stockholm (Figure 3). The Tullsta nickel project comprises of 4 contiguous granted permits covering an area of 93.61km<sup>2</sup> (Figure 4 & Table 1) and cover the extent of the gabbroic mafic intrusion which hosts the Granmuren nickel mineralisation.

Ragnar also owns the Gaddebo Project (Figure 3) to the SSE of Tullsta.

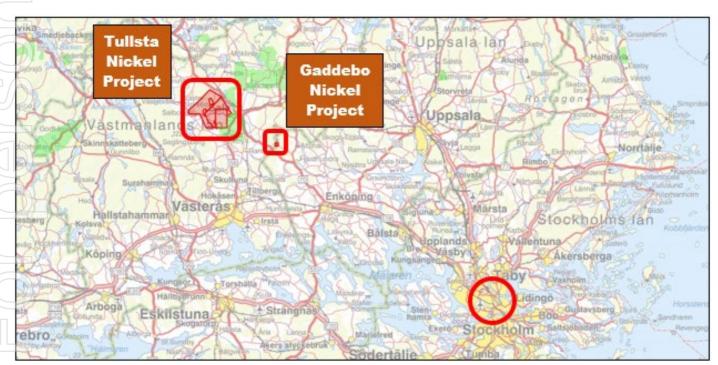


Figure 3: Tullsta Nickel Project is located near Sala, 110km NW of the Swedish capital, Stockholm.

The Tullsta Project contains the Granmuren Nickel Deposit which is located within Berga Nr1 tenement (Figure 4) and was discovered in 2012 by drilling of a VTEM survey anomaly. Mineralisation at Granmuren comprises two thick fingers of highly sulphidic pyroxenitic-gabbroic intrusions which predominantly



comprise of disseminated-blebby sulphide mineralisation containing high tenure remobilised Ni-Cu-Co mineralisation. In 2018 GeoVista completed geophysical IP-Resistivity testwork on several drill core samples collected from the deposit during the 2018 field trip completed by Geolithic and GeoVista geologists. In late 2019, Ragnar completed an Induced Polarization & Resistivity/ Chargeability Survey (IP-R) over the Granmuren mineralised zone within the Berga nr1 permit and subsequently defined down plunge drill targets at depth, potentially extending the mineralisation at Granmuren as well as defining new untested drill targets.

Current drilling in 2021 has now discovered significant primary magmatic sulphide mineralisation at depth along the basal contact of Granmuren Intrusive Complex which will be further geophysical analysed and drill tested.

Table 1: Ragnar Metals Tullsta Project Tenement Details.

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	Name	License Id	Owner	Area Ha	Valid From	Valid To
	Berga nr 1	2018 48	Ragnar Metals Limited (100.00%)	2181.52	28/03/2018	22/03/2022
	Tullsta nr 6	2017 158	Ragnar Metals Limited (100.00%)	2695.03	6/11/2017	6/11/2023
	Tullsta nr 7	2019 5	Ragnar Metals Limited (100.00%)	4452.74	25/01/2019	25/01/2022
	Tullsta nr 8	2020 45	Ragnar Metals Limited (100.00%)	31.41	7/05/2020	7/05/2023
	Total Area			9360.70		

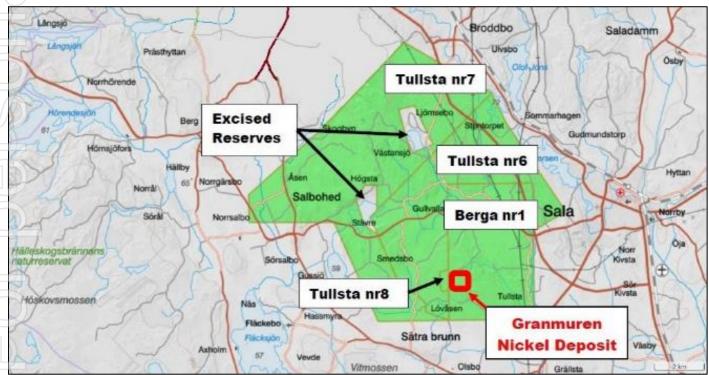


Figure 4: Ragnar Metals 100% owned tenure at the Tullsta Nickel Project to the west of the historic mining town of Sala. The Granmuren Nickel Deposit is situated within the Berga nr1 permit which adjoins the additional Tullsta tenure.