

Häggån Scoping Study Confirms the Scale and Optionality of Aura’s Critical Minerals Project in Sweden

- **Scoping Study reveals extraordinary Häggån scale and optionality**
 - Vanadium, potash, nickel, molybdenum, zinc and uranium¹ among a diversified suite of future-facing commodities
 - Swedish location positive in light of leadership in the European resource industry
 - 65MT Scoping Study covers less than 3% of Haggan’s known 2.0Bn tonne Mineral Resource Estimate.
- **Scoping Study delivers strong project sample for re-engagement with potential strategic partners**
- **Scoping Study underpins application for a 25-year Exploitation Permit**
- **Sweden is Europe’s leading mining and mineral nation, and its minerals strategy and anticipated legislative changes will strengthen that position**

Processing Rate Mtpa	V ₂ O ₅ ktpa	SOP ktpa	Capital US\$ million	NPV Base Case US\$ million	NPV (incl U3O8) ¹ US\$ million	IRR %	Payback years
3.5	10.4	217	\$592M	\$380 - \$1,231 ²	\$756 - \$1,606 ³	26-47% ²	1.5 to 2.0

Aura Energy Limited (ASX: AEE, AIM: AURA) (“Aura” or “the Company”) is pleased to release its Scoping Study for the Häggån Project (“Häggån” or “the Project”) in Sweden.

Aura Chairman Philip Mitchell said, “The Scoping Study underpins our 25-year Exploitation Permit Application and addressed <3% of the Haggan resource whilst confirming Haggan’s scale and optionality. Haggan’s products are crucial to Battery Technology, Agriculture and potentially with legislative change low carbon, secure and affordable electricity.

The Swedish Government acknowledges that for Sweden’s clean power system to function, a large part must be readily dispatchable, and nuclear power is the only non-fossil option. I noted Sweden’s Minister of the Environment’s comments to the Times of London on 18 August 2023 “There was a parliamentary majority behind lifting Sweden’s ban on uranium extraction and opening up by far the largest deposits in the European Union.

She noted that “Nearly 40 years after the completion of the country’s last new nuclear power plant, Minister Pourmokhtari has announced plans to build at least ten large reactors to meet an anticipated surge in demand for zero-carbon power”.

¹ This recognises the uranium ban is still in place, with the present government’s stated aim to remove the ban.

² V₂O₅ price of between US\$7.0/lb and \$13/lb, SOP price of US\$650/t K₂O, a Nickel price of US\$20,000/t, Mo price of US\$51,000/t and Zn price of US\$2,500/t, with 70% payability for base metal units.

³ V₂O₅ price of between US\$7.0/lb and \$13/lb, SOP price of US\$650/t K₂O, U₃O₈ price of US\$65/lb, a Nickel price of US\$20,000/t, Mo price of US\$51,000/t and Zn price of US\$2,500/t, with 70% payability for base metal units. Subject to anticipated Swedish legislative change

She said that while wind and solar power would be important, the country also needed massive volumes of nuclear-generated electricity because output can be reliably dialled up or down to keep the power supply steady through the peaks and troughs of renewable generation.”

“The government is aiming at doubling electricity production in 20 years,” Minister Pourmokhtari said. “For our clean power system to function, a large part of this has to be dispatchable where nuclear power is the only non-fossil option. Nuclear power also has a reduced environmental footprint and requires limited resources in comparison with most energy sources.”⁴

The 65MT Haggan Scoping Study covers <3% of Haggan’s known 2.0Bn tonne Mineral Resource Estimate. The Study portends a Tier 1 polymetallic mineral resource providing key minerals for a transitioning world. The remaining 97% of the resource will be further studied and offers exciting future prospects including further study of the potential of rare earth minerals known to occur in the Alum shales. The Scoping Study will support the engagement with potential strategic partners in the project.”

Aura Managing Director Dave Woodall said “The Häggån ore body is massive with a richly endowed polymetallic orebody that contains significant quantities of critical metals that are essential to the rapidly growing energy transition and agricultural supply chains including significant quantities of vanadium, potash, uranium, and base metals. Our project can be integral to the Swedish and European supply of these critical metals that can significantly de-risk the energy transition while providing benefits to all stakeholders.

Our next steps in the Prefeasibility Study will be to further infill drilling that aims to increase mine life and further enhance the project economics. “

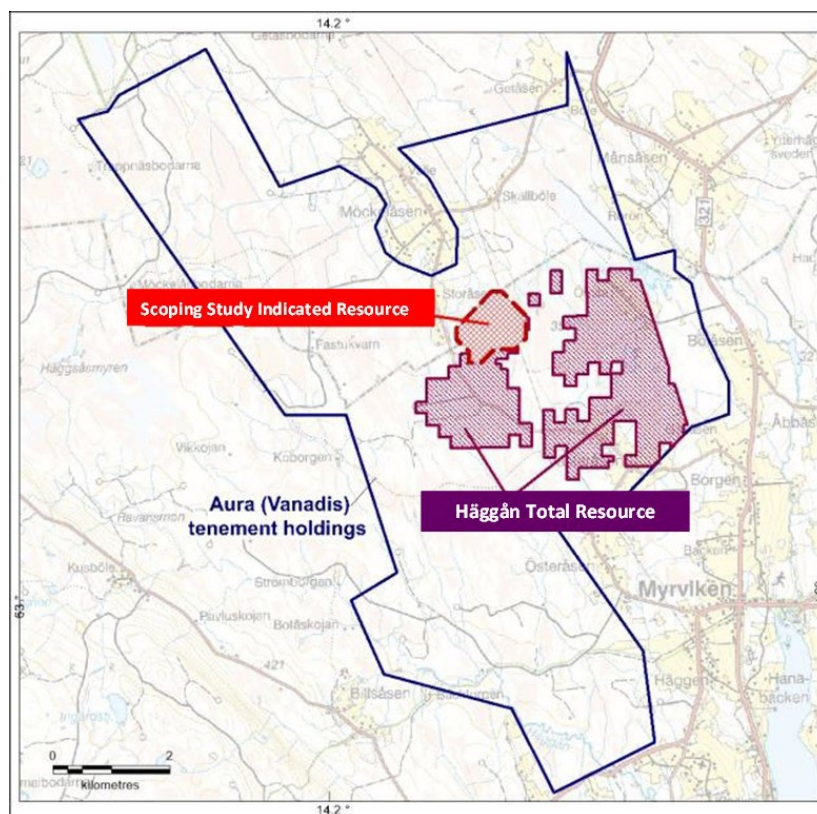


Figure 1 - Haggan Scoping Study Resource with less than 3% of the total Mineral Resource Estimate currently included in the mining plan

The Häggån Project is based on a substantial discovery in the Jämtland province in central Sweden, with a polymetallic global Mineral Resource Estimate of ~2 billion tonnes at a 0.2% V₂O₅ cutoff⁵. While vanadium is a significant driver of Häggån’s value, it contains economically significant volumes of other

⁴ The Times - Sweden to return to uranium mining 2023-08-18

⁵ ASX Release: Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019

strategic metals and minerals including potassium, nickel, zinc, molybdenum, and uranium. A significant benefit of the polymetallic deposit is the potential for economically extractable sulphate of potash (SOP) as a byproduct in the processing.

The Häggån Project is a significant polymetallic deposit that provides a key growth opportunity for Aura, with the scoping study using the Indicated Mineral Resource shown in Figure 2, a small percentage of the global resource. The Scoping Study is the culmination of a significant package of work, including the 2019 resource upgrade⁶, and provides the Company with a solid foundation for future growth and to undertake additional work to assess the path forward in Sweden.

V ₂ O ₅ Cut-Off %	Class	Mt Ore	V ₂ O ₅	Mo	Ni	Zn	K ₂ O	Million lbs	Mt
			%	ppm	ppm	ppm	%	V ₂ O ₅	K ₂ O
0.20	Indicated	42	0.35	217	375	512	4.13	320	1.74
	Inferred	1,963	0.30	212	337	463	3.80	13,010	127.6

Figure 2 -2019 Häggån Mineral Resource Statement⁷

There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

Included in the global resource published on 22 August 2012, "Outstanding Häggån uranium resource expands to 800 million pounds" is an Inferred Mineral Resource of 2.35 billion tonnes with U₃O₈ grade of 155 ppm at a cut-off of 100 ppm U₃O₈, for contained U₃O₈ of 800 Mlbs. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

The Project's major value drivers are vanadium and the key agricultural by-product sulphate of potash (SOP), with a mixed sulphide precipitate of nickel, zinc, and molybdenum proposed to be produced. Uranium is present in the polymetallic resource, like many deposits in Sweden, and while it can add to the Project's economic value there exists at present a ban on the mining of uranium in Sweden. The Scoping Study outlines an option for a treatment and stabilisation plan that would treat the uranium into an inert safe waste product for long-term disposal or with approval from the government and community recover it in the processing circuit for sale into the domestic and or European markets.

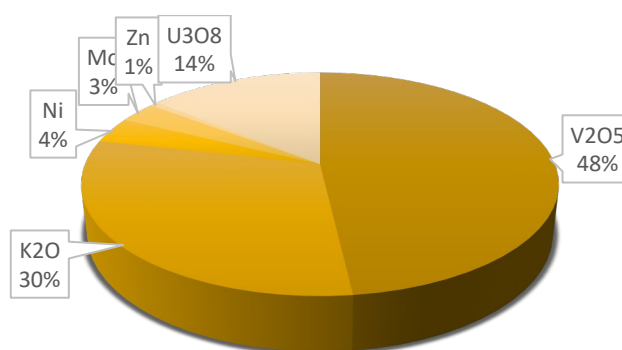


Figure 3 - Distribution of Revenue² by product inclusive of U₃O₈

⁶ ASX Release: Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019

⁷ ASX Release: Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019

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Cautionary Statement

The Scoping Study has been undertaken to ascertain whether a business case can be made to proceed to more definitive studies on the viability of the Häggån Project, which is based on the extraction of vanadium and by-products from the Alum Shale within the Häggån permits. It is a preliminary technical and economic study of the potential viability of the Häggån Project and is based on low-level technical and economic assessments, generally to a level of +/- 35% accuracy, that is not sufficient to support the estimation of Ore Reserves or to support any financial investment or development decision.

Further exploration and evaluation work, test work and studies are required before the Company will be in a position to estimate any Ore Reserves, to provide any assurance of an economic development case, or to provide certainty that the conclusions of the Scoping Study will be realised.

Prefeasibility and Feasibility studies will be required to confirm the project viability including drilling to expand the Indicated Mineral Resource and to establish a Measured Resource, metallurgical test work and process optimisation, detailed mine design, mine planning, evaluation of mining methods, engineering, updated and more accurate capital and operating cost estimates, environmental studies and permitting, community engagement and the establishment of ore reserves.

The Company believes it has reasonable grounds to report the results of the Scoping Study including the forward-looking statements and the forecast financial information that are based on the material assumptions outlined in the Scoping Study.

The mine plan on which this Scoping Study is based contains 77% Indicated Mineral Resources and 23% Inferred Mineral Resources over the life of the Project. The first 5 years of mining are based on 88% Indicated Mineral Resources, the first 11 years of production based on 95% Indicated Mineral Resources and thereafter the mine plan includes increasing amounts of Inferred Mineral Resources. The Inferred Mineral Resources are not a determining factor in estimating the viability of the Häggån Project.

The Project is viable on the basis of the Indicated Mineral Resources and the payback period of the Project of between 1.5 and 2.0 years is also based purely on the Indicated Mineral Resources.

There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

Metallurgical recoveries used in this Scoping Study are based on test work results for the key stages of the process flowsheet.

The Scoping Study is based on the material assumptions outlined in the Scoping Study. These include assumptions about the availability of funding. While the Company considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes anticipated by the Scoping Study will be achieved.

To achieve the outcomes of the Scoping Study, funding in the order of US\$592 million is estimated to be required for the Project development capital with an expected construction period of 3 years, in addition to pre-development funding of approximately US\$15 million to convert the Mineral Resources to an Ore Reserve and to complete a Prefeasibility and a Feasibility Study. Investors should note that there is no certainty that the Company will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that Aura could pursue other 'value realisation' strategies, such as direct financing into the Häggån Project via a joint venture or partial sale. If it does, this could materially reduce Aura's proportionate ownership of the Project.

Given the uncertainties involved, investors should not make investment decisions based solely on the results of this Scoping Study

Scoping Study highlights:

- A projected post-tax net present value ('NPV') ranging from **US\$380 - \$ 1,231 million**⁸, depending on final plant configuration and forward price assumptions.
- A post-tax Internal Rate of Return of **26% to 47%** and a payback period of 1.5 to 2.0 yrs.
- Initial capital cost of **US\$592M** would aim to generate an operating cash flow of between **US\$140M to US\$270M** per annum.
- Häggån currently has defined a global Mineral Resource Estimate of ~2 billion tonnes at an average grade of 0.3% V₂O₅, containing 13.3 billion lbs V₂O₅, at a 0.2% V₂O₅ cutoff⁹.
- The Base Case scenario proposes mining the high-grade zone at ~5.9Mtpa producing approximately:
 - 10,400 tpa V₂O₅ high-quality vanadium flake.
 - ~217,000 tpa sulphate of potash (SOP) by-product for sale as fertiliser.
 - 3,000 tpa Mixed sulphide product.

The Scoping Study is based on the material assumptions outlined in the Scoping Study.

Aura recognises the potential value that could be unlocked from Häggån's should uranium be recovered in an alternative configuration to the planned processing path. The Scoping Study analyses the potential value that could be unlocked should Häggån's uranium be extracted and sold, subject to changes in Swedish legislation and demonstration that the proposed operation will not impact the water quality or the environment. Aura continues to work with the Swedish Government, local community and relevant authorities and notes recent Swedish Government support for the removal of the uranium mining ban. The Swedish parliament also recently adopted a new energy target, changing from a "100% renewable" target to a "100% fossil-free" electricity target, which opened the door for increasing electricity generation from nuclear power.¹⁰

This shift in government tone has been a consistent narrative since the election of the coalition of government in September 2022. The new government came to power with a policy proposal to lift the uranium mining ban.

Formal implementation of the legislation to change the policy is progressing through the normal parliamentary process, with appropriate drafting and review underway¹¹.

The release of this Scoping Study provides a critical part of the information that is required for the application of an exploitation concession for the development of the Project and expanding consultation with all stakeholders at the national, regional, and community levels, critically with traditional inhabitants, the Sami people.

Next Steps

Following the positive outcome of this Scoping Study, Aura plans to progress the Häggån Project with the application for an exploitation concession. This work will include:

⁸ ² V₂O₅ price of between US\$7.0/lb and \$13/lb, SOP price of US\$650/t K₂O, U₃O₈ price of US\$65/lb, a Nickel price of US\$20,000/t, Mo price of US\$51,000/t and Zn price of US\$2,500/t, with 70% payability for base metal units.

⁹ ASX Release: Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019

¹⁰ <https://www.euractiv.com/section/energy-environment/news/sweden-adopts-100-fossil-free-energy-target-easing-way-for-nuclear/>

¹¹ The Times - Sweden to return to uranium mining 2023-08-18

- The commencement of baseline flora, fauna and water studies. These will be done using independent consultants and will be shared with the community to ensure transparency and collaboration with the project,
- Undertake a Pre-Feasibility Study ('PFS') including further resource and infill drilling, geotechnical and hydrogeological investigations, preliminary pit design scheduling options, and more detailed metallurgical test work, to further assess options, reduce risk and better define the Project, and
- Commence discussions with preferred strategic partners with financial capability to advance this world-class project.

This announcement has been authorised by the Board of Aura Energy Limited.

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About Aura Energy (ASX: AEE, AIM: AURA)

Aura Energy is an Australian-based minerals company that has major uranium and battery metals projects with large resources in both Africa and Europe. The Company is primarily focused on progressing the development to commence uranium production from the Tiris Project, a major greenfield uranium discovery in Mauritania.

A recent Enhanced Feasibility Study at Tiris has increased the project NPV significantly reconfirming the project as one of the lowest capex, lowest operating cost uranium projects that remain undeveloped in the world.

A Scoping Study into the Häggån Project in Sweden has outlined compelling economic value. Aura plans to follow up this study with further exploration to lift the Resource categorisation alongside close collaboration with the community surrounding the project to foster support to proceed.

Aura will continue to transition from a uranium explorer to a uranium producer, to capitalise on the rapidly growing demand for nuclear power as the world continues to shift towards a decarbonised energy sector.

Disclaimer Regarding Forward-Looking Statements

This ASX announcement (including the Scoping Study) contains various forward-looking statements. Forward-looking statements include but are not limited to statements concerning Aura Energy Limited's planned activities and other statements that are not historical facts. When used in this report, words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward-looking statements. In addition, summaries of Exploration Results and estimates of Mineral Resources and Ore Reserves could also be forward-looking statements. Although Aura Energy 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. The entity confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed. Nothing in this report should be construed as either an offer to sell or a solicitation to buy or sell Aura Energy Limited securities. For more information of specific risks associated with forward looking statements refer to the Key Risks section of the Scoping Study.

Competent Person Statements

Resource Modelling

The Competent Person for the 2012 Häggån Mineral Resource Estimate and classification, updated in 2019, is Mr Arnold van der Heyden of H&S Consultants Pty Ltd. The information in the report to which this statement is attached that relates to the 2019 Resource Estimate is based on information compiled under the supervision of Mr Arnold van der Heyden, who has sufficient experience that is relevant to the resource estimation. This qualifies Mr van der Heyden 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 van der Heyden is a consultant and director of H&S Consultants Pty Ltd, a Sydney-based geological consulting firm. Mr van der Heyden is a Member and Chartered Professional of The Australasian Institute of Mining and Metallurgy (AusIMM) and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to estimated Mineral Resources underpinning the production targets and the forecast financial information derived from the production targets for Häggån Project were initially reported by the Company in the announcement entitled "Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed" dated 10 October 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resources Estimates in the market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The Competent Person for drill hole data, cut-off grade and prospects for eventual economic extraction is Mr Neil Clifford. The information in the Scoping Study to which this statement is attached that relates to drill hole data, cut-off grade and prospects for eventual economic extraction is based on information compiled by Mr Neil Clifford. Mr Clifford has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking. This qualifies Mr Clifford 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 Clifford is an independent consultant to Aura Energy. Mr Clifford is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Clifford consents to the inclusion in the Scoping Study of the matters based on his information in the form and context in which it appears.

Metallurgical Test Work Outcomes

The Competent Person for the Häggån Metallurgical Test Work is Dr Will Goodall. Dr Goodall is Chief Development Officer with Aura Energy Ltd. The information in the report to which this statement is attached that relates to the test work is based on information compiled by Dr Will Goodall. Dr Goodall has sufficient experience that is relevant to the test work program and to the activity which he is undertaking. This qualifies Dr Goodall as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Goodall is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Dr Goodall consents to the inclusion in the Scoping Study of the matters based on his information in the form and context in which it appears.

Reasonable Basis for Forward-Looking Statements

No Ore Reserve has been declared in the Scoping Study. This ASX release has been prepared in compliance with the JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study production target and projected financial information are based have been included in this release (including the attached Scoping Study). Consideration of Modifying Factors in the format specified by JORC Code (2012) Table 1, Section 4 is attached to the Scoping Study.



ACN 115 927 681

Häggån Project

Scoping Study Report

September 2023



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of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning this announcement continue to apply and have not materially changed. Nothing in this report should be construed as either an offer to sell or a solicitation to buy or sell Aura Energy Limited securities.

For more information of specific risks associated with forward looking statements refer to the Key Risks section of this report.

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Häggån Project

Scoping Study Highlights

- The Häggån Project is a large poly-metallic deposit containing economically significant levels of V (**vanadium**), SOP (**sulphate of potash**), Ni (**nickel**), Zn (**zinc**), and Mo (**molybdenum**).
- A global Mineral Resource Estimate of 2 billion tonnes has been defined at an average grade of 0.3% V₂O₅, containing:
 - **13.3 billion lbs V₂O₅, at a 0.2% V₂O₅ cutoff**
- The Base Case scenario proposes open-cut mining from a high-grade zone at ~5.9Mtpa for 11 years
- Processing will involve ~3.8 Mtpa ROM ore on-site through a processing circuit to produce approximately **10,400 tpa V₂O₅ high-quality vanadium flake**
- This circuit would also recover **~217,000 tpa sulphate of potash (SOP)** by-product for sale as fertiliser
- The **post-tax net present value ('NPV')** ranges from **US\$456 to US\$1,307** million depending on the final plant configuration
- This equates to a **post-tax Internal Rate of Return of 28% to 49%** and a payback period of 1.5 to 2.0 yrs.
- Initial capital cost of US\$592M to produce operating cash flow of US\$153M to US\$282M per annum
- The Scoping Study Base Case was assessed over a range of price assumptions from a low of US\$7.00/lb V₂O₅ to a high of US\$13.00/lb V₂O₅.
- Uranium is also naturally present in the orebody, but the extraction and sale of this ore is currently banned. The report makes a preliminary assessment of the economic benefit of uranium on being permitted, a potential domestic supply for Sweden and Europe, but the fundamental value of the Häggån Project is driven by vanadium and sulphate of potash.

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1.1 GLOSSARY

Set out below are symbols, key terms and abbreviations referred to in the Häggån Scoping Study.

% w/w	Mass percentage by weight.
% w/v	Mass percentage by volume.
% v/v	Volume percent.
∅	Diameter.
µm	Microns, micrometers.
AACE	American Association of Cost Engineers.
AIM	London Stock Exchange.
AISC	All In Sustaining Cost.
ALARA	As Low As Reasonably Achievable.
ALS	ALS Minerals, responsible for the 2018 and 2019 metallurgical test work optimised for vanadium recovery.
ANSTO	Australian Nuclear Science & Technology Organisation.
ASIC	Australian Securities and Investments Commission.
ASX	Australian Stock Exchange.
AusIMM	The Australasian Institute of Mining and Metallurgy.
BCM, bcm	Bank cubic metres, a measure of volume applied to unbroken rock.
Beneficiation	A process that improves (benefits) the economic value of the ore by removing the gangue minerals, which results in a higher-grade product (concentrate) and a waste stream (tailings).
Carnotite	A hydrated uranium, vanadium and potassium oxide with the mineral formula $K_2(UO_2)_2(VO_4)_2 \cdot 3H_2O$ and approximately 53% of carnotite by weight is uranium.
Competent Person	A minerals industry professional who is a Member or Fellow of The Australasian Institute of Mining and Metallurgy, or of the Australian Institute of Geoscientists or of a Recognised Professional Organisation, as included in a list on the JORC and ASX websites. A Competent Person must have a minimum of five years relevant experience in the style of mineralisation or type of deposit under consideration and in the activity which that person is undertaking.
Cut-off grade	The lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit.
Cv	The unit of measurement for conductivity of a fluid expressed in microSiemens (uS/cm).
Mining Inspectorate	Mining Inspectorate (of Sweden) responsible for administering the Swedish Mining Code. Mining Inspectorate was established as a state authority in 1637.
DFS	Definitive Feasibility Study term as defined by ASX.
Domain	A term used mainly in mineral resource estimation or geotechnical investigations to describe regions of a geological model with similar physical or chemical characteristics. [HSF Note: definition not used in scoping study.]
EPCM	Engineering, procurement, construction and management.
EPC	Engineering, Procurement and Construction.
Equator Principles	A set of principles based on the IFC Performance Standards used by financial institutions to manage environmental and social risks and impacts in project financing
Gamma logging	A method of estimating uranium concentration in a drillhole by measuring radioactivity emitted by the mineralisation.
Grade	Any physical or chemical measurement of the characteristics of the material of interest in samples or product.
g/t	Grams per tonne (where 1 gram per tonne = 1 ppm).
H ₂ O ₂	Hydrogen Peroxide. A reagent used for precipitation of uranium oxide.

H&S Consultants Pty Ltd	H&S Consultants Pty Ltd, Sydney: responsible for the resource modelling; estimation of Inferred and Indicated Mineral Resources
HDPE	High density polyethylene.
HEW	High exposure workers HV.
HV workshop	Heavy vehicle workshop.
HTT	Hors Taxes - without tax.
IAEA	International Atomic Energy Agency.
Indicated Mineral Resource	That part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence and detail to support mine planning and evaluation of economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.
Inferred Mineral Resource	That part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.
JORC	The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves, as published by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia.
JORC 2012	The 2012 edition of the JORC Code.
Lbs	Pounds (where 2.2046 pounds = 1 kilogram).
LV workshop	Light vehicle workshop.
LEW	Low exposure workers.
m ²	Square meters.
m ³	Cubic meters.
MEW	Medium exposure workers.
METS	METS Engineering ('METS'): responsible for the assessment of process test work; process flowsheet options study; selection of process flowsheet; material balances; engineering and design of the processing plant and surface infrastructure; non-mining capital and operating cost estimates.
Mineralisation	The presence of minerals of possible economic value or the description of the process by which the concentration of valuable minerals occurs.
Mining Plus	An experienced global mining consultant with Melbourne offices. Responsible for the Whittle pit optimisation; preliminary mine scheduling; mining operating cost estimates.
Ministry of Environment and Energy	Swedish Government department responsible for Environment and Energy.
Ministry of Finance	Ministry of Finance is responsible for issues concerning central government finances, including coordination of the central government, customs and import duties
Ministry of Employment	Swedish Government department responsible for approving labour requirements.
MSL	Metres above mean sea level.
Measured Resource	That part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated which confidence sufficient to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes

	and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered;
Mineral Resource	A concentration or occurrence of material of economic interest in or on the earth's crust in such form and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated from specific geological evidence and knowledge, or interpreted from a well-constrained and portrayed geological model.
Mlb	Million pounds avoirdupois.
Mt	Million metric tonnes.
Mtpa	Million metric tonnes per annum.
ECAC	Swedish Government agency which regulated and oversaw all aspects of aviation in Sweden.
Na ₂ CO ₃	Sodium Carbonate, also referred to as Soda Ash. The primary leach reagent for uranium recovery.
NaHCO ₃	Sodium Bicarbonate – a reagent used in the uranium recovery process.
NaOH	Sodium Hydroxide, also referred to as caustic soda. A reagent used for pH adjustment and precipitation of uranium.
NORM	Naturally occurring radiative material.
Nuclear Energy Code	Five enactments constitute fundamental nuclear safety and radiation protection legislation: Act on Nuclear Activities (1984:3), Radiation Protection Act (2018:396), Environmental Code (1998:808), Act on Financing of Management of Residual Products from Nuclear Activities (2006:647) and Nuclear Liability Act (1968:45).
OH&S	Occupational Health and Safety.
ppm	Parts per million by weight.
PLC	Programmable Logic Controller.
PRISM database	A product of the PRISM Project (Projet de Renforcement Institutionnel du Secteur Minier) initiated in 1999 by the Mauritanian Ministry of Petroleum, Energy and Mines involving the acquisition of geological, geochemical and airborne geophysical data by various providers including the French Geological Survey (BRGM) and the British Geological Survey.
Project	Häggån Battery Metals Project
Public Health Agency of Sweden	Public Health Agency of Sweden is an expert authority with responsibility for public health issues at a national level.
RMP	Radiation Management Plan.
Radioactive equilibrium	The condition in which a radioactive substance and its radioactive decay products have attained such proportions that they all disintegrate at the same numerical rate and therefore maintain constant proportions. In geologically young uranium deposits, radioactive decay products may not have attained equilibrium concentrations. In this situation gamma radiation used to measure uranium concentration, which is emitted principally by the radioactive daughter products rather than by uranium itself, will usually underestimate uranium concentration.
Recovery	A measure in percentage terms of the efficiency of a process, usually metallurgical in gathering the valuable minerals. The measure is made against the total amount of valuable mineral present in the ore.
Reserve (Ore Reserve)	The term for the economic quantities and grade of valuable materials as strictly applied in compliance with the definition in the Australian JORC Code and in the Canadian National Instrument (NI) 43-101.
Resource (Mineral Resource)	The term for the estimate of the quantities and grade of valuable materials but with no economic considerations as strictly applied in compliance with the definition in the Australian JORC Code and in the Canadian National Instrument (NI) 43-101.
RL	Reduced Level (same as elevation coordinate).
ROM	Run-of-Mine (ore).
SCADA	Supervisory Control and Data Acquisition System.

SDU	Sodium Di-uranate.
Shear rate	The rate at which a progressive shearing deformation is applied to some material.
Shear stress	The component of stress coplanar with a material cross section. Shear stress arises from the force vector component parallel to the cross section of the material. Normal stress, on the other hand, arises from the force vector component perpendicular to the material cross section on which it acts.
Svenska Kraftnät	Svenska Kraftnät is the national electricity transmission grid operator. Sweden installed the first 400 kV line in the world in 1952, between Storfinnforsen and Midskog.
Swedish Krona	Currency of Sweden
Swedish Tax Agency / Skatteverket	Swedish Tax Agency manages civil registration of private individuals and collects taxes such as personal income tax, corporate tax, VAT and excise tax.
Swedish Transport Administration	Swedish Transport Administration is responsible for all intermodal long-term infrastructure planning for road, rail, sea and air transport, and for the planning, building, operation and maintenance of the state roads and railways.
Swedish Radiation Safety Authority (SSM)	Swedish Radiation Safety Authority (SSM) is the regulatory authority for nuclear safety, radiation protection, nuclear security and nuclear non-proliferation. SSM works proactively and preventively to maintain a high level of nuclear safety and radiation protection in Sweden and internationally.
Soda Ash	See Na ₂ CO ₃ .
Solids Density	Ratio of dry mass to liquid in a slurry expressed on a weight basis.
SOP	Sulphate of potash
TDS	Total dissolved solids mg/l in water.
TMP	Transport Management Plan.
TSF	Tailings storage facility.
U ₃ O ₈	Uranium oxide.
UOC	Uranium Oxide Concentrate
VAT	Value added tax.
VESDA	Very early smoke detection and alarm.
V	Vanadium
VBM	Vanadis Battery Metals AB
V ₂ O ₃	Vanadium trioxide.
V ₂ O ₅	Vanadium pentoxide.
WGS 84 ellipsoid	Standard reference system for geospatial data and the standard reference system for GPS coordinates.

2 EXECUTIVE SUMMARY

2.1 Project Overview

Aura Energy Ltd (AEE:ASX, AURA:AIM) ('Aura') has been progressing the proposed Häggån Project in Sweden since 2008.

Aura is pleased to report on the key findings of a Scoping Study that assesses the technical and economic viability of commercial development of the Häggån Project to produce vanadium pentoxide (V₂O₅), with sulphate of potash (SOP), nickel, molybdenum and zinc by-products.

The Häggån Project is based on a substantial discovery in the Jämtland province in central Sweden, with a poly-metallic resource of 2 billion tonnes at an average grade of 0.3% V₂O₅, containing 13.3 billion lbs V₂O₅, at a 0.2% V₂O₅ cutoff. The resource contains 320 million lbs V₂O₅ at 0.35% V₂O₅ as Indicated Mineral Resource, and 13.0 billion lbs V₂O₅ at 0.3% V₂O₅ as Inferred Mineral Resource. (Refer Table 1)

Whilst vanadium is a significant driver of Häggån's value, it is a large poly-metallic deposit containing economically significant volumes of other strategic metals and minerals. This report outlines that economically extractable mining of SOP (sulphate of potash), Ni (nickel), Zn (zinc), Mo (molybdenum) is possible. Mineral resource estimates have previously been conducted and reported on the Häggån Project in 2010, 2011, 2012 and 2018, and since then additional infill drilling has been carried out.

In summary, the new Mineral Resource Estimate at Häggån, at a range of V₂O₅ cut-offs, is presented in Table 1. The 0.2% V₂O₅ cut-off is used to report the Häggån Resource Estimate.

Table 1: 2019 Mineral Resource Statement, Häggån.

V ₂ O ₅ Cut-Off %	Class	Mt Ore	V ₂ O ₅	Mo	Ni	Zn	K ₂ O	Million lbs
			%	ppm	ppm	ppm	%	V ₂ O ₅
0.10	Indicated	45	0.34	213	365	501	4.11	332
	Inferred	2,503	0.27	200	312	433	3.73	14,873
0.20	Indicated	42	0.35	217	375	512	4.13	320
	Inferred	1,963	0.30	212	337	463	3.80	13,010
0.30	Indicated	61	0.38	223	398	536	4.22	258
	Inferred	954	0.35	226	374	503	3.95	7,390
0.40	Indicated	11	0.44	225	429	580	4.46	101
	Inferred	113	0.43	232	419	562	4.25	1,072

There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

At a higher cut-off grade of 0.4% V₂O₅, the resource contains approximately 113 million tonnes at an average grade of 0.43% V₂O₅ containing 1.1 billion lbs of V₂O₅ in Inferred Mineral Resources, and 11 million tonnes at an average grade of 0.44% V₂O₅ containing 101 million lbs V₂O₅ in Indicated Mineral Resource.

Of particular interest within this global resource, is the definition as Indicated Mineral Resource of a coherent zone of mineralisation of 42 million tonnes at +0.35% vanadium pentoxide commencing at surface and extending to +100 metres below surface. This is referred to as the Northwest High-Grade zone.

The Mineral Resource Estimate is based on 16,500m of diamond drilling in 91 drillholes. The Indicated

Mineral Resource is based on 3,530m in 25 diamond drillholes.

The high-grade V₂O₅ zone defined as Indicated Mineral Resource is open in all horizontal directions. More drilling will be required to define the limits of the high-grade resource.

This SS is focused primarily on the five (5) exploration permits held by Vanadis Battery Metals AB, which is 100% owned by Aura, totaling 57.6 km² over and around the Häggån resource. The entire Häggån resource lies within one of these, Häggån nr1 which covers 18.3 km². The Häggån nr1 permit is currently in its final period of tenure which expires on 28 August 2024. After this the area can be retained as a mining licence.

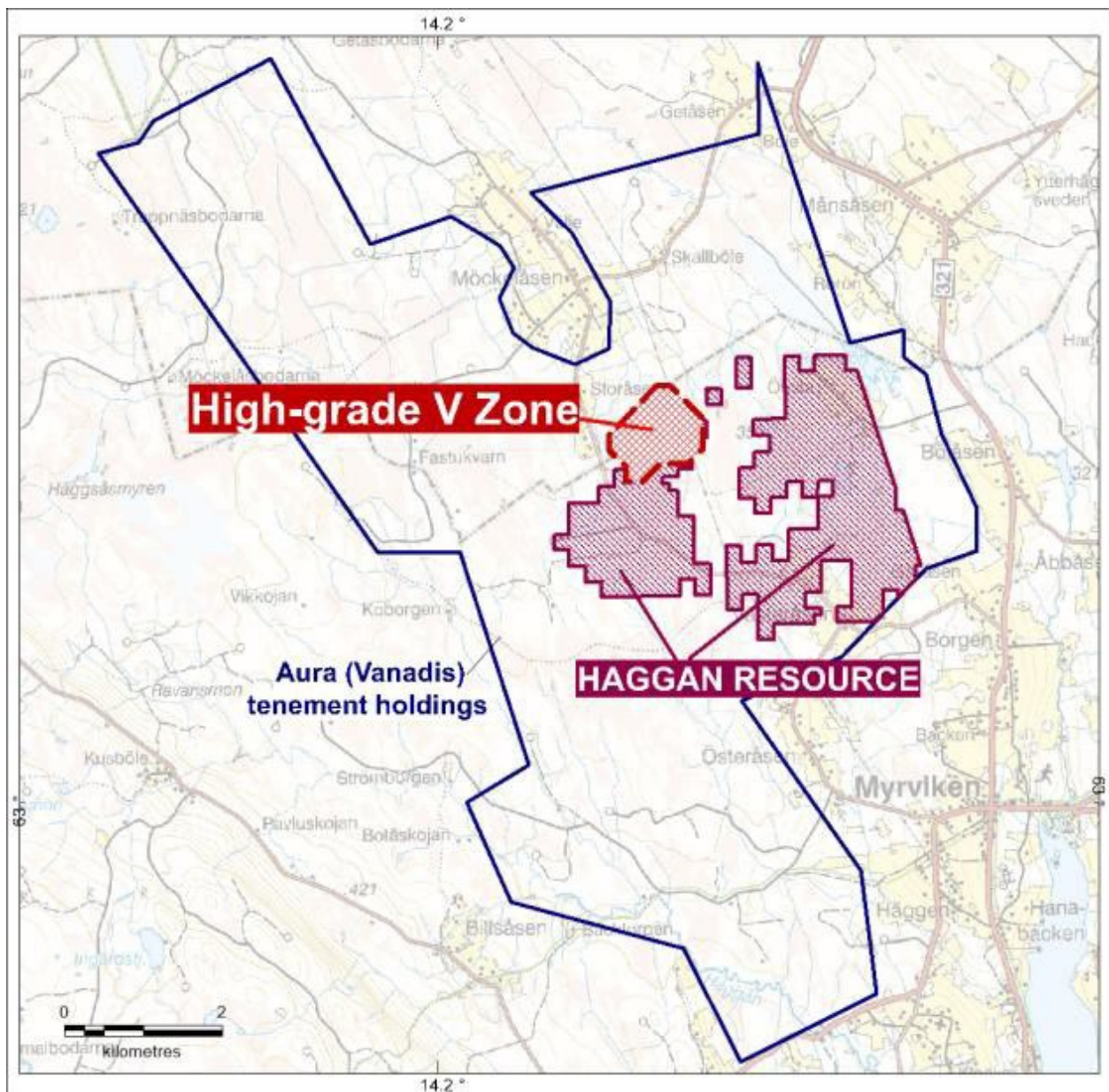


Figure 1: Situation of the High-Grade vanadium zone within the Häggån Resource. The mineral tenements are held 100% by Aura’s 100% owned Swedish subsidiary Vanadis Battery Metals AB.

The main technical parameters of the Base Case selected for the Häggån Project Scoping Study are:

- Open-cut mining of approximately 5.9 Mtpa run-of-mine ('ROM') ore over 11 years at an average life-of-mine ('LOM') grade of 0.35% V₂O₅ and a low LOM average waste to ore ratio of 0.7:1.
- Processing of approximately 3.8 Mtpa ROM ore on site through a process circuit including flotation, pressure acid leaching and solvent extraction, producing approximately 10,400 tpa V₂O₅ as a high-quality vanadium flake for use in high-capacity Vanadium Redox Flow Batteries and as an additive in the steelmaking process.
- Recovery of approximately 217,000 tpa sulphate of potash ('SOP') by-product for sale as fertiliser.
- High-grade ore above a 0.3% V₂O₅ cut-off grade will be mined and processed for the first 11 years of the Project. Low-grade ore mined between 0.1% and 0.3% V₂O₅ cut-off grade during this period will be stockpiled and then blended into plant feed for the final five years of the mine life.

2.1.1 Key Scoping Study Results

The financial highlights of the Häggån Vanadium Project Scoping Study Base Case are shown in Table 2 below. The Study estimates are to an accuracy of ±35% and are based on the material assumptions described in Appendix 1.

The Scoping Study Base Case was assessed over a range of price assumptions from a low of US\$7.00/lb V₂O₅ to a high of US\$13.00/lb V₂O₅. A mid-point price of US\$9.50/lb V₂O₅ has been used for comparative purposes in some instances.

Table 2: Häggån Vanadium Project Scoping Study Base Case financial highlights. Price assumption range from low of US\$7.00/lb V₂O₅ to a high of US\$13.00/lb V₂O₅

	Base case
Life of mine ('LOM') ore production	59Mt
Average V ₂ O ₅ grade - LOM	0.36% V ₂ O ₅
Average K ₂ O grade - LOM	4.17% K ₂ O
Overall V ₂ O ₅ recovery from plant feed	80%
V ₂ O ₅ production - LOM	166,500 tonnes V ₂ O ₅ (367 M lb)
Process throughput	3.6 Mtpa
Mine life (high-grade plant feed)	11 years
Total Mine life (low-grade feed blended in final 6 years)	27 years
Annual production – V ₂ O ₅	10,000 tpa V ₂ O ₅
Annual production – SOP	215,000 tpa SOP
V ₂ O ₅ price assumption range	US\$7.00/lb V ₂ O ₅ to US\$13.00/lb V ₂ O ₅
SOP price assumption	US\$650/t SOP
Initial capital cost	US\$592M
Operating cash flow (EBITDA) – total	US\$2.6B to US\$4.8B
Operating cash flow (EBITDA) - annual	US\$153M to US\$282M
After tax cash flow – total	US\$1.7B to US\$3.4B
After tax cash flow – annual	US\$97 to 198 million
Operating margin (EBITDA)	94% to 170%
Net direct cash operating cost ('C1')	US\$2.7/lb V ₂ O ₅
Net All-in sustaining operating cost ('AISC')	US\$2.9/lb V ₂ O ₅
Post-tax net present value ('NPV') (8% discount rate)	US\$456 to US\$1,307 million
Post-tax Internal Rate of Return	28% to 49%
Approximate Payback period	1.5 to 2.0 years

2.1.2 Scoping Study Team

The Häggån Scoping Study included numerous technical studies, site programs and engineering optimisation. This included three major drilling programs, two trenching programs, 18 metallurgical test work programs and engineering trade off studies.

Aura's technical team consists of high-quality experienced professionals supported by specialist consulting companies across a range of fields. A summary of the key consultants and experts that have provided input to the Scoping Study is provided in Table 3.

Table 3: Consulting companies engaged by Aura Energy

Consultant	Consultant function	Home location
Mining Plus	Mining Design Consultant	Melbourne, Australia
H&S Consultants Pty Ltd	Resource Estimation	Sydney, Australia
METS Engineering ('METS')	Engineering consultant Assessment of process test work; process flowsheet options study; selection of process flowsheet; material balances; engineering and design of the processing plant and surface infrastructure; non-mining capital and operating cost estimates.	Perth, Australia
ALS Minerals	2018 and 2019 metallurgical testwork optimized for vanadium recovery.	Brisbane, Australia
Aura Energy	Site location studies, input test work studies, with support from independent consultants and laboratories; financial evaluation; product marketing strategy.	Melbourne, Australia

2.1.3 Project Location

The Häggån Project is in the central Sweden province of Jämtland (Figure 2). The proposed mine site is in a rural area, approximately one hour by car from the city of Östersund. Östersund is well served by national and international air services, by rail and by road.



Figure 2: Location of Häggån Project, Sweden

The predominant spoken languages in Sweden are Swedish (main language); and five official minority languages: Sami, Finnish, Meänkieli (Tornedalen Finnish), Yiddish and Romani Chib. Swedish is the official language.

As of 31 May 2022, Sweden had a population of approximately 10.5 million.

Sweden is made up of many different religions: 61.4% Christianity, 55.2% Church of Sweden[c], 6.2% Other Christian, 36.0% no religion, 2.3% Islam and 0.3% Others.

Sweden is the largest Nordic country, the third-largest country in the European Union, and the fifth-largest country in Europe, area of 447,425 km².

In August 2021, the former Prime Minister Stefan Lofven announced his resignation and finance minister Magdalena Andersson was elected as the new head of Sweden's ruling Social Democrats in November 2021. On 30 November 2021, Magdalena Andersson became Sweden's first female prime minister. She formed a minority government made up of only the Social Democrats. Her plan for forming a new coalition government with the Green Party was unsuccessful because her budget proposal failed to pass in parliament. The general election in September 2022 ended with a narrow win for a coalition of conservative parties, meaning the resignation of Magdalena Andersson's government. On 18 October 2022, Ulf Kristersson of the Moderate Party (conservatives) became the new Prime Minister of Sweden. Kristersson's Moderates formed a coalition with the Christian Democrats and the Liberals. The new government is backed and cooperates with the nationalist party, the Sweden Democrats (SD). The government has in several ways expressed their support for increased mining, including shortening of permit processes and such. They have also stated that they want to lift the current ban on mining uranium.

2.1.4 Häggån Tenements and Permitting

Aura holds five exploration permits, totaling 57.6 km² that hosts the Häggån Resources. A summary of the five permits is shown in Table 4.

The entire Häggån Resources lie within the Häggån nr1 permit which covers 18.3 km² and is owned by Vanadis Battery Metals AB, a wholly owned subsidiary of Aura Energy Ltd. The Häggån nr1 permit is currently in its final period of tenure which expires on 28 August 2024. After this the area can be retained as a Mining Concession.

Table 4: Aura Energy current permits – Häggån Project

Name	Area (ha)	Valid To	Owners
Bolassen nr 1	222	2/02/2024	Vanadis Battery Metals AB (100%)
Haggan nr 1	1,832	28/08/2024	Vanadis Battery Metals AB (100%)
Kinderasen nr 1	1,165	2/02/2024	Vanadis Battery Metals AB (100%)
Mockelasen nr 1	1,761	21/01/2024	Vanadis Battery Metals AB (100%)
Skallbole nr 1	784	20/01/2024	Vanadis Battery Metals AB (100%)

Sweden has a long history of mining and has transparent and well-established processes for the granting of minerals exploration and mining concessions. The granting of concessions is managed by the Bergsstaten (Mines Inspectorate). Mining concessions are granted for 25 years, and this is extendable. An application for a Mining Concession is lodged with the Mines Inspectorate and must include feasibility studies based on, as a minimum, Indicated Mineral Resources. Landholders

directly affected are advised of the application and have a period of time to lodge any objections. The Mines Inspectorate assesses whether objections are valid under the Mining Legislation and if there are no valid objections will grant the Mining Concession.

In order to commence mining activities, an environmental permit pursuant to the Environmental Code is required. The environmental permit will define the conditions for the design, building, operation and closure of the mine. The application shall be submitted to the Land and Environment Court, which will grant the permit, subject to certain conditions for the protection of public and private interests.

Aura has been involved in exploration activities in the Häggån area since 2008 and has experienced no issues in obtaining exploration concessions and approvals from landowners involved.

In 2018 the Swedish Government passed a law banning the commercial extraction of uranium. However, the legislation makes it clear that if uranium occurs with other commercial minerals, mining is permissible as long the uranium is not removed from the concession. This will be the situation at Häggån, which was originally studied by Aura as a possible uranium project. Uranium recovered to solution in the Häggån Vanadium Project process will be encapsulated in a stable calcium phosphate waste stream and combined with paste tailings disposed of in the dry tailings storage facility. Aura Energy is confident that the ban on uranium mining will have no impact on permitting the Häggån Vanadium Project.

Aura will engage extensively and thoroughly with local, regional and other people affected by the Project and will complete comprehensive environmental and social impact studies which are an essential requirement prior to submitting an application for a Mining Concession.

The Resource lies beneath a number of small privately-owned land parcels used for forestry (pine plantations) with no dwellings or other significant development activity. It lies within a region with relatively high unemployment and limited employment prospects. Aura is not aware of any environmental factors that may prevent an operation proceeding. A strong focus will be placed in the pre-feasibility and feasibility study phases on establishment of best practice in surface and groundwater management.

2.1.5 Climate

Climatic conditions in central Sweden are best described as cold. The climate of Östersund is cold continental, with very cold winters, during which the temperature is often below freezing, and mild summers. Östersund is 350 meters (1,150 ft) above sea level, near lake Storsjön. Given the latitude (63°11'N), the white nights, in which the sun sets but it does not get completely dark even at midnight, occur from April 30 to August 12. In winter, there can be cold spells of arctic origin. The coldest record is -38 °C (-36.4 °F) and was set in December 1978. In summer, the temperature can reach 28/30 °C (82/86 °F) on the hottest days, but this happens very rarely. The highest record is 33.5 °C (92.3 °F) and was set in late June 1947.

Table 5: Östersund - Average temperatures (1991-2020)

Month	Min (°C)	Max (°C)	Mean (°C)
January	-9	-3	-5.6
February	-9	-2	-5.6
March	-6	1	-2.2
April	-1	7	2.6
May	3	12	7.8

June	8	16	11.9
July	11	19	15
August	10	18	13.7
September	6	13	9.5
October	1	6	3.7
November	-3	1	-1.1
December	-7	-1	-4.2
Year	0.4	7.3	3.85

Table 6: Ostersund - Average precipitation

Month	Millimeters	Days
January	30	8
February	20	5
March	20	6
April	25	6
May	40	6
June	70	10
July	85	11
August	80	10
September	50	9
October	45	9
November	35	9
December	30	7
Year	525	96

Table 7: Ostersund - Sunshine hours

Month	Average	Total
January	1	30
February	2.5	70
March	5	155
April	6.5	200
May	8	240
June	8.5	255
July	8.5	260
August	6.5	200
September	4.5	130
October	3	85
November	1.5	40
December	1	25
Year	4.7	1700

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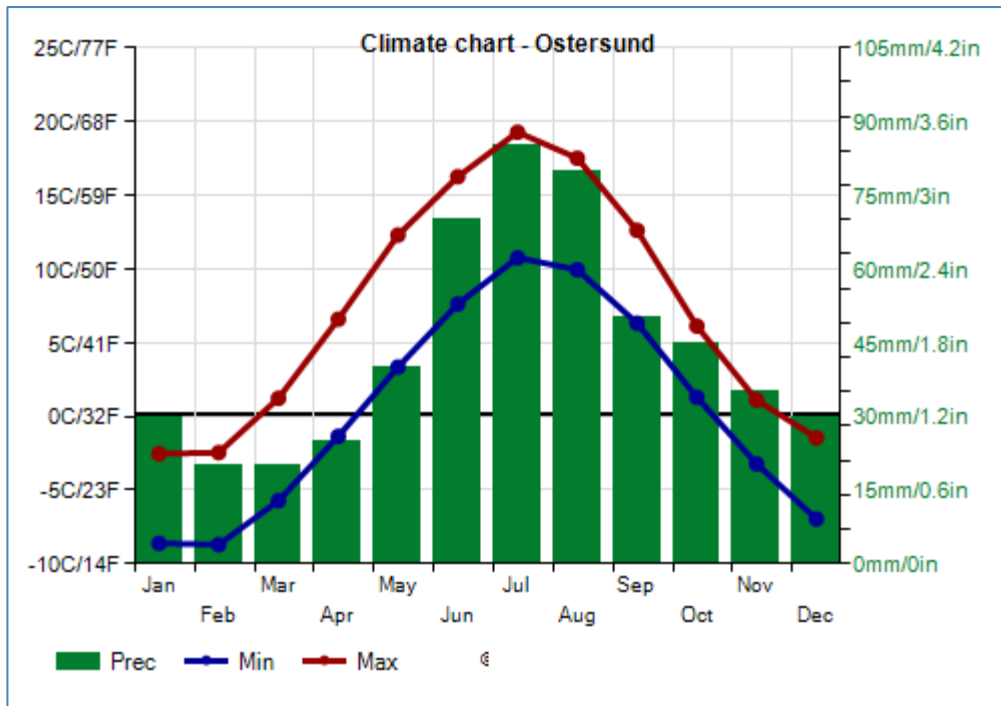


Figure 3: Climate chart - Ostersund

2.1.6 Project Ownership

The project is 100% owned by Aura Energy. Aura is an Australian-based mining company listed on the Australian Stock Exchange (ASX) in 2006 and on the London Stock Exchange (AIM) in 2016. Aura’s registered office is located in Melbourne, Victoria, Australia.

2.1.7 Value Added Tax (VAT)

The standard VAT rate in Sweden is 25%. with reduced rates of 12% and 6% for food, accommodation rental, books, newspapers and other goods and services. Examples of exempt supplies are healthcare, financial services, and education.

VAT is levied on exported goods and services at 0%.

Under the Mining Code, the company undertaking the mining project has VAT suspended for the duration of mining activities (development, production, and closure) on all goods and services otherwise subject to VAT.

2.1.8 Customs and Import Duties

As a general rule, all goods imported except those previously exempted by law, are subject to import duties. The import duties are calculated on the original invoice price (CIF value). When the buyer does not present the original invoice, customs officials evaluate the market value of the product and apply the respective rate.

The Company will be exempt from customs and import duties for a period covering development. Aura will also be negotiating a Customs and Import Duties free fixed time to assist with the ramp up.

2.2 Geology and Mineralisation

The Häggån Project consists of poly-metallic mineralisation and lies within a Cambrian to Lower Ordovician age geological unit known as the Alum Shale Formation ('Alum Shale'). The Alum Shale was laid down within the ancient Iapetus Ocean which formed when what is now Greenland rifted apart from Scandinavia. The shallow marine waters coupled with prolonged stability resulted in the deposition of highly bituminous shales. The shale facies are generally between 10 and 60 metres thick and extend sporadically in Scandinavia from northern Norway to southern Sweden. The Alum Shale contains elevated but variable levels of many metals, principally vanadium, nickel, molybdenum, zinc, cobalt and in places copper and uranium. These metals are believed to have been derived by weathering of granitic rocks in the adjoining Fennoscandian Shield and transported to the Iapetus Ocean, where the extreme anoxic conditions allowed the metals to precipitate or chelate with organic matter during sedimentation.

During the mid-Palaeozoic Era, the Iapetus Ocean closed due to the collision of the Laurentia (Greenland) continental plate with the Baltica plate (Scandinavia). This collision resulted in thrusting of the lower Palaeozoic sequences, including the Alum Shale, from the west to the east over older basement rocks of the Fennoscandian shield. Together with slices of older basement, the sedimentary rocks were thrust several hundred kilometres eastwards over the edge of the Fennoscandian Shield in several large sub-horizontal thrust sheets c. 400 Ma ago.

Häggån lies close to the eastern edge of this sedimentary thrust-sheet package. (Refer to Figure 4).

The thrusting has been important as it has caused repetition and thickening of the mineralised Alum Shale which constitutes the mineralised body at Häggån. This has led to the development of an unusual thickness, up to 200 metres, of the mineralised Alum Shale in the Aura permit areas relative to the undeformed Alum Shale developed elsewhere, greatly enhancing the tonnage of mineralisation within the Aura areas.

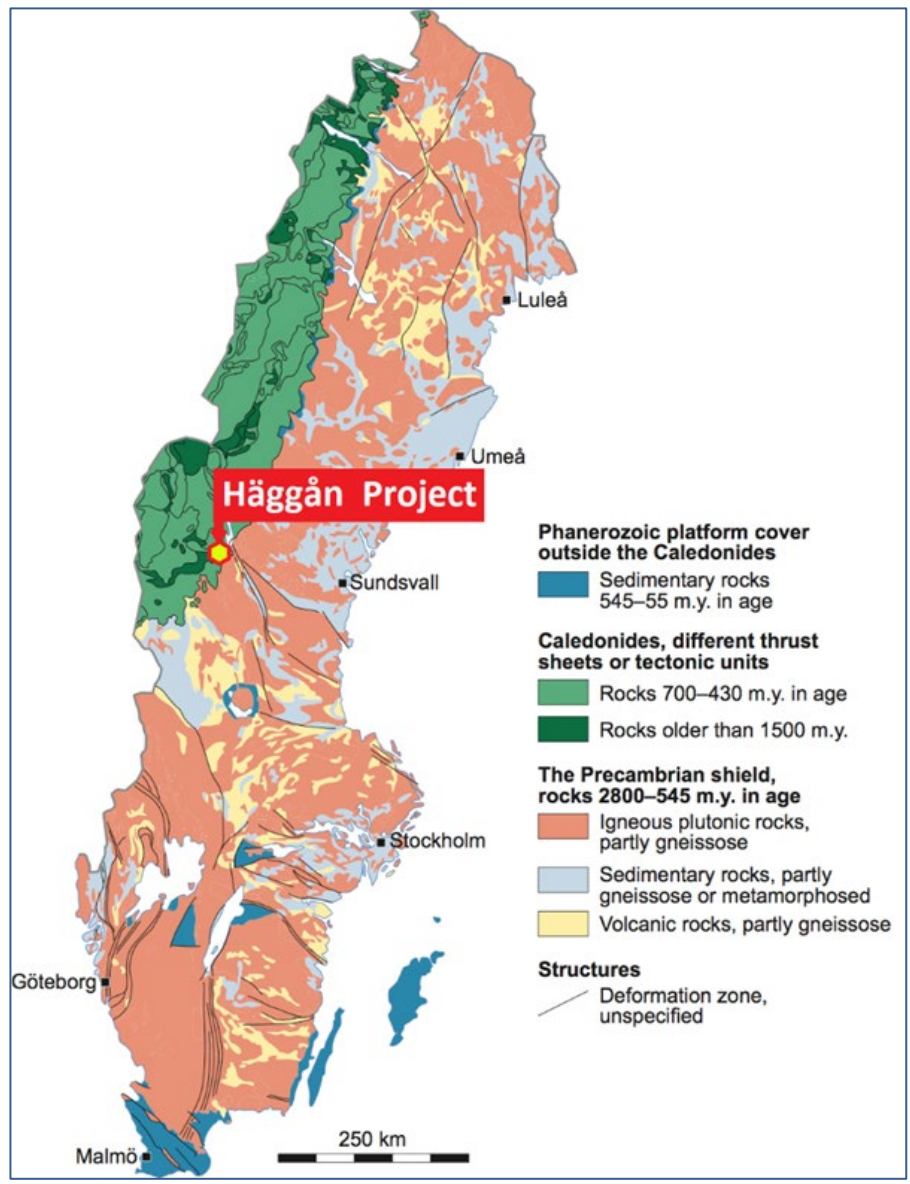


Figure 4: Häggån geological setting

2.3 Mineralisation

The mineralisation of the Alum Shale in the area investigated by Aura is enriched in various elements, principally:

- Vanadium
- Nickel
- Molybdenum
- Cobalt
- Zinc
- Uranium

Vanadium occurs within the lattice of the mineral roscoelite, a variety of mica, which also contains potassium. Nickel, molybdenum, cobalt, and zinc are present as sulphides. Uranium is largely adsorbed onto carbonaceous matter. All minerals except for recrystallised carbonates are very fine grained, typically around 10 microns in grain size.

The highest metal concentrations generally occur in the upper parts of the Alum Shale, and the

highest vanadium grades in the Aura licenses appear to occur in the upper thrust sheet.

2.4 Häggån Resource

A resource upgrade for the Häggån Vanadium Project was announced by the Company on 10 October 2019¹. This resource estimate is based on 16,500m of diamond drilling in 91 drill holes and has been reported, in accordance with the Joint Ore Reserves Committee ('JORC') Code of 2012, by H&S Consultants. The resource estimate is shown in Table 8 below at a range of V₂O₅ cut-off grades.

Table 8: Häggån Vanadium Project resource estimate

V ₂ O ₅ Cut-Off %	Class	Mt Ore	V ₂ O ₅	Mo	Ni	Zn	K ₂ O	Million lbs
			%	ppm	ppm	ppm	%	V ₂ O ₅
0.10	Indicated	45	0.34	213	365	501	4.11	332
	Inferred	2,503	0.27	200	312	433	3.73	14,873
0.20	Indicated	42	0.35	217	375	512	4.13	320
	Inferred	1,963	0.30	212	337	463	3.80	13,010
0.30	Indicated	61	0.38	223	398	536	4.22	258
	Inferred	954	0.35	226	374	503	3.95	7,390
0.40	Indicated	11	0.44	225	429	580	4.46	101
	Inferred	113	0.43	232	419	562	4.25	1,072

There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

A 0.2% V₂O₅ cut-off was selected to report the October 2019 Project Mineral Resource Estimate which includes an Indicated Mineral Resource of 42Mt at 0.35% V₂O₅ (containing 320Mlbs V₂O₅), and an Inferred Mineral Resource of 1.9Bt at 0.30% V₂O₅ (containing 13Blbs V₂O₅).

Of particular interest is the Indicated Mineral Resource defined at a 0.2% V₂O₅ cut-off grade, of 42 million tonnes at 0.35% V₂O₅ which is within a coherent zone of high-grade vanadium mineralisation commencing at surface and extending to depths of >100m below surface which is referred to as the Northwest High-Grade Zone ('NWHG Zone').

The NWHG Zone here extends approximately 1 kilometre in both north-south and east-west directions. There is a strong coherence of mineralisation within the NWHG Zone, on which the Indicated Mineral Resource is based, as shown in plan in Figure 5 and in cross-section in Figure 6 and Figure 7 below.

This Scoping Study has targeted mining of the NWHG Zone Indicated Mineral Resource, although also includes Inferred Mineral Resource that was within pit shells optimised on mining of only the Indicated Mineral Resource. A lower 0.1% V₂O₅ cut-off grade has been applied for mining in this Scoping Study, with only ore mined above a higher 0.3% V₂O₅ cut-off grade being directly fed into the processing plant over the first 11 years of the mine life, and low-grade ore between 0.1% and 0.3% V₂O₅ cut-off grade being stockpiled and processed from years 12 to 17 of the project.

¹ ASX Release: Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019

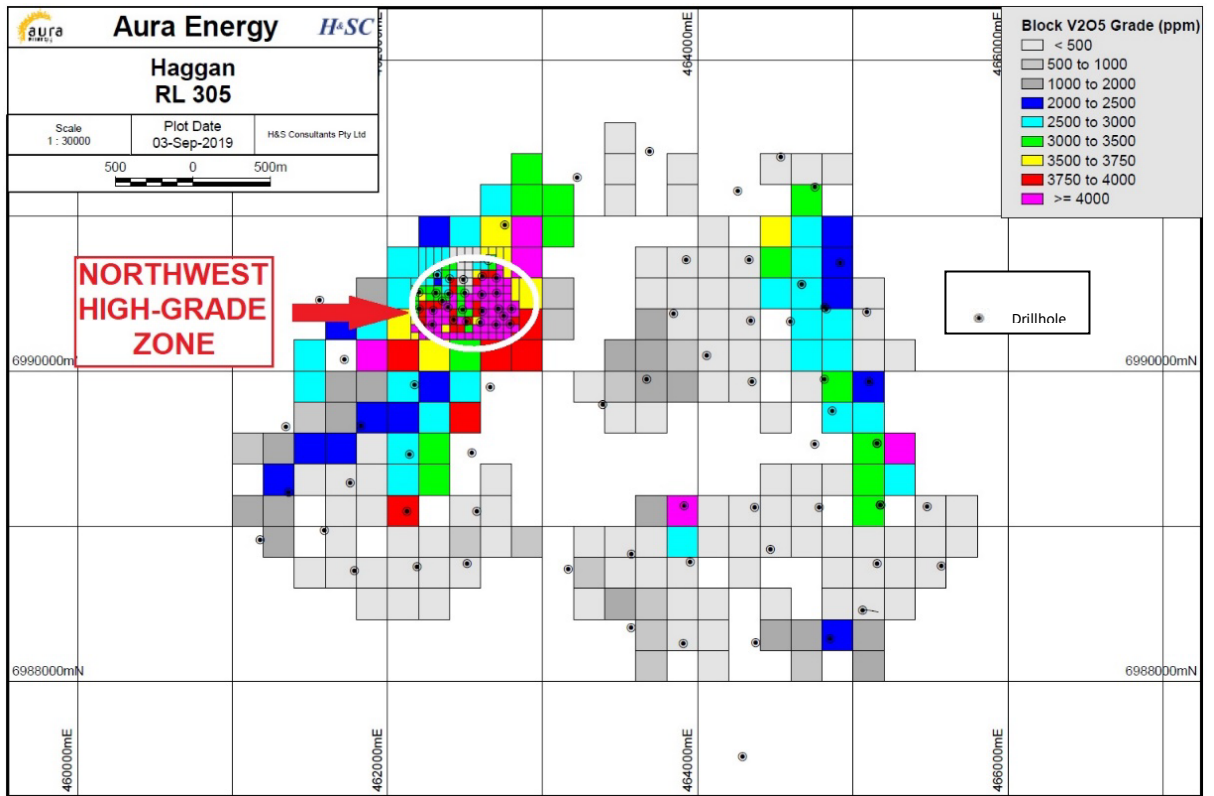


Figure 5: Horizontal section (plan view) of the Häggån Resource at approximately 45 metres below surface

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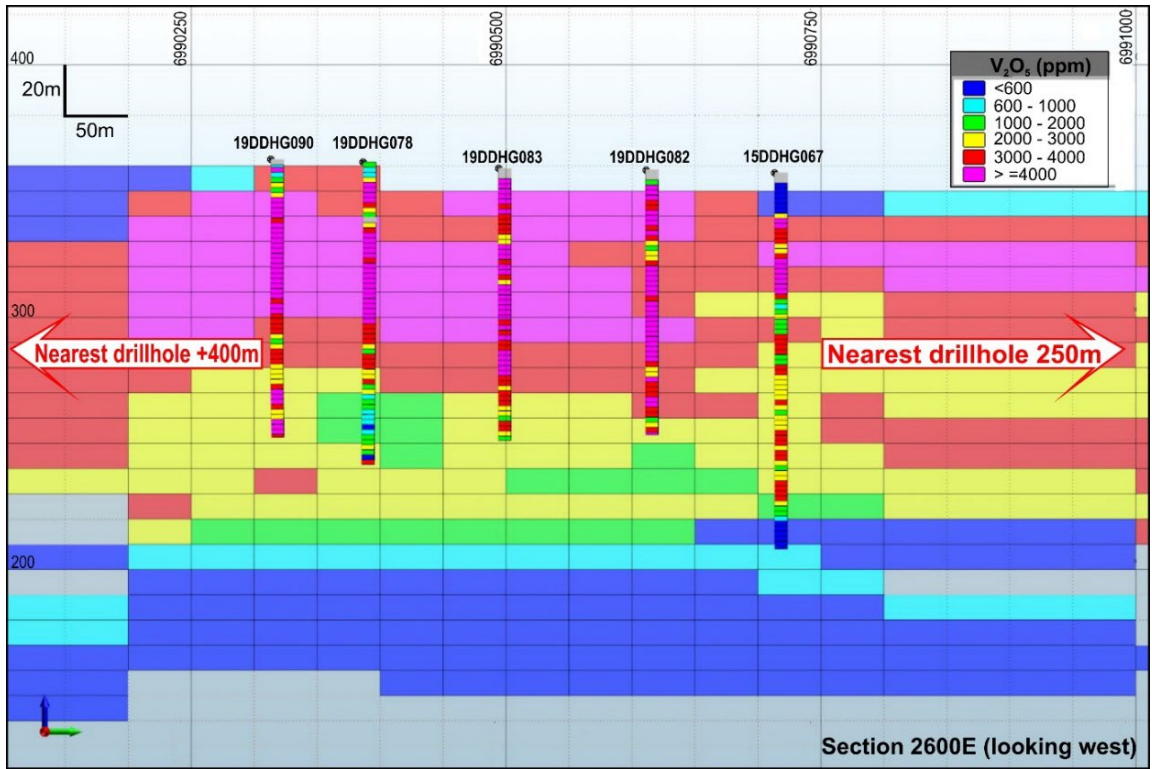


Figure 6: North-South section 2600E of Häggån Resource block model. The dimensions of the Indicated Mineral Resource blocks are 50m x 50m x 10m.

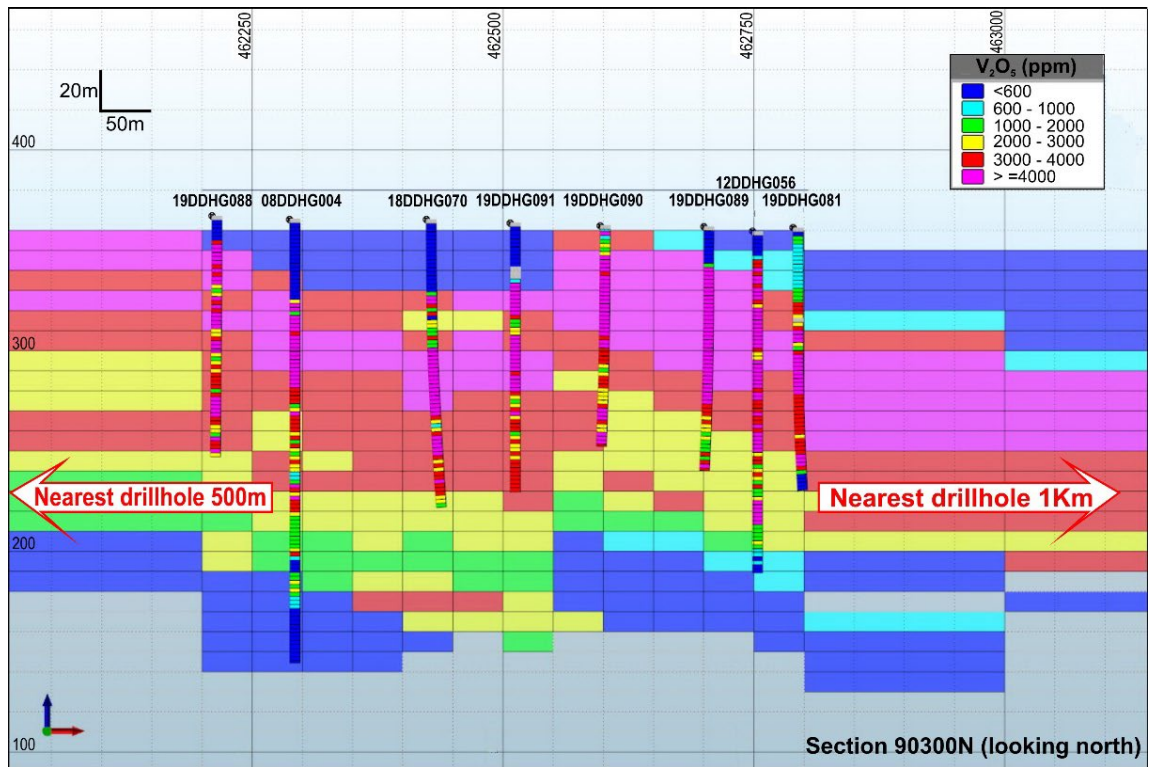


Figure 7: East-West section 90300N of Häggån Resource block model

The Indicated Mineral Resource remains open in all horizontal directions.

2.5 Mining

The mining study was completed on the NWHG Zone by mining consultants Mining Plus and was based upon idealised pit shells and not on detailed pit design, commensurate with the expected accuracy of a Scoping Study. It comprised:

- Selection of an open cut mining method
- Review and verification of the October 2019 resource model for mining process interrogation work
- Preliminary Whittle Pit Shell optimisation
- Preliminary LOM schedule with priority on Indicated Mineral Resources and on grade, with Inferred Mineral Resources used only later in the mine life
- Mining cost estimates using data from other Swedish open-cut projects

The mining study resulted in the generation of an optimum pit shell that provided very high extraction of the Indicated Mineral Resources in the NWHG Zone.

2.5.1 Mining Method

Conventional drill and blast within an open pit were selected for the Scoping Study Base Case.

2.5.2 Geotechnical

No geotechnical work has been undertaken by Aura at this stage to assess the pit slope angles and other pit design parameters. Instead, publicly available data from the geotechnical investigation of the adjacent Viken Project, owned by Continental Precious Metals Inc, a Canadian company, was used. Using this report and taking into consideration that the resource is relatively shallow, a batter angle of 65 degrees, along with 5m berms every 10 vertical metres, was considered to be suitable and conservative assumptions for the Scoping Study Base Case. Allowing for haulage ramps for access, this results in an overall wall angle of 41.4 degrees, as shown in Figure 8.

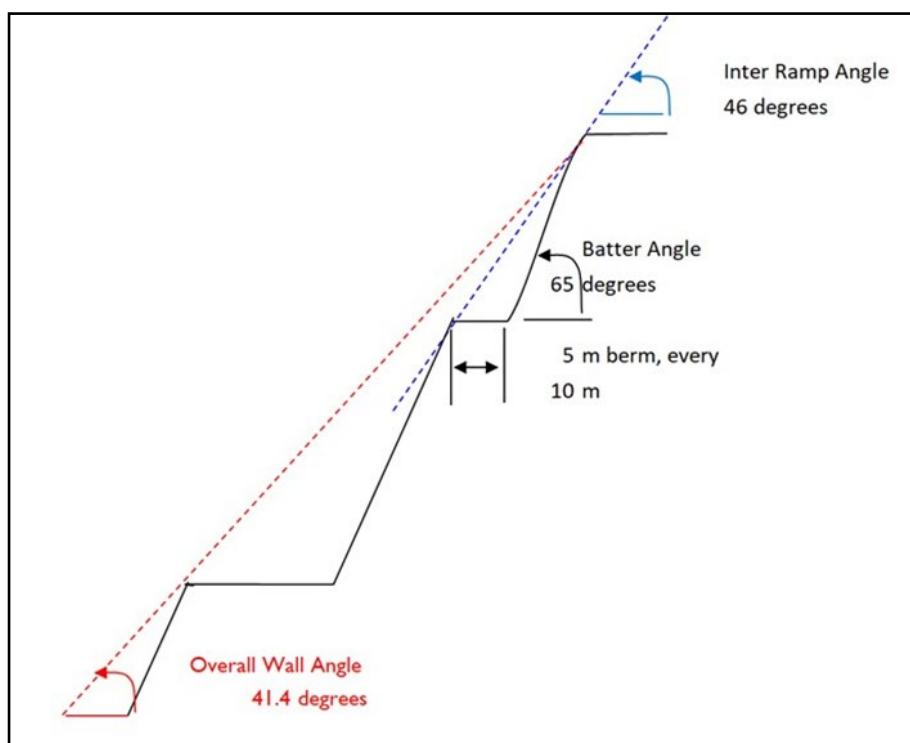


Figure 8: Pit slope assumptions for the Häggån Vanadium Open Pit

2.5.3 Pit Optimisation

Mining Plus ran a series of Whittle Pit optimisations on the NWHG Zone of the deposit and only on the Indicated Mineral Resources. There was in addition a significant quantity of Inferred Mineral Resources within this volume, but no value was placed on the Inferred Mineral Resources in the optimisation exercises, which were based solely on the ability of the Project economics to stand alone on the Indicated Mineral Resources.

The Inferred Mineral Resource material that occurred within the optimised Indicated Mineral Resource pit shells has however been included in the Preliminary Life of Mine Schedule.

Key pit optimisation parameters applied by Mining Plus for Whittle pit shell optimisation were:

- Break-even cut-off grade ('COG') of 0.08% V₂O₅
- Overall slope angle of 41.4 degrees
- Mining operating cost of US\$2.71/t material moved
- Preliminary processing cost (after SOP by-product credit) of US\$12.96/t milled
- Vanadium price of US\$10.90/lb V₂O₅
- V₂O₅ recovery of 71.6%
- Targeted annual production rate of 2.85Mtpa ore mined and processed
- Targeted annual vanadium production of 7,500tpa V₂O₅
- Discount rate of 10%

A number of sensitivity tests were applied by Mining Plus during the pit optimisation studies:

- Mining costs: -10% to +50%
- Processing costs: -10% to +20%
- Recoveries: +/- 2%
- Vanadium Price: US\$6/lb V₂O₅ to US\$12/lb V₂O₅
- Slope angle: +/- 2 degrees

The results of the optimisations suggested potential optimal open pits containing between 42 Mt and 45Mt of Indicated Mineral Resource at approximately 0.33% to 0.34% V₂O₅. The Base Case optimum pit shell selected contained 45Mt of Indicated Mineral Resource at 0.34% V₂O₅. Of note is that the outcomes indicated a robust result. The higher costs or lower recoveries tested did not materially affect the size of the Indicated Mineral Resource within the optimum pit shells.

2.5.4 Preliminary Mining Schedule

A Preliminary Life of Mine Schedule was prepared by Mining Plus using the Base Case optimum pit shell. The resource model block size used was 50m x 50m x 10m over the NWHG Zone. This block size is already suitable for mining without further reduction, allowing an assumption that sufficient dilution was already included. A low mining dilution factor of 5% and a mining recovery rate of 95% were nonetheless applied.

The mine schedule begins with mining from an initial starter pit shell (brown in Figure 9) followed by a series of six successive cutbacks. This method is shown in Figure 9 with the final shell (yellow) shown

dissected by a series of parallel planes making four western cutbacks (light blue, turquoise, green, yellow) and one on the east (dark blue).

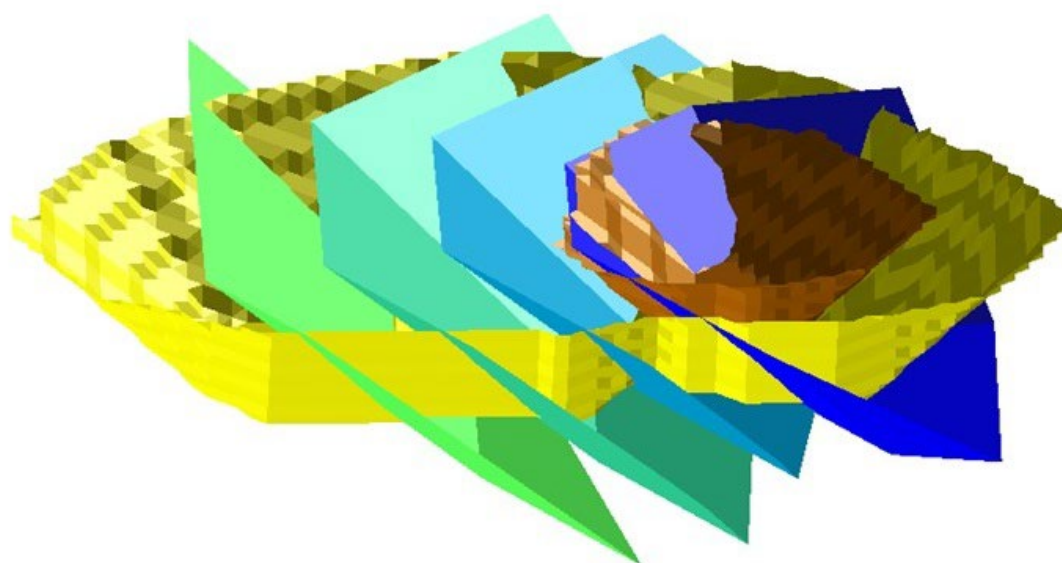


Figure 9: Parallel cutback layout

The Preliminary Life of Mine Schedule includes mining of 65Mt of Total Resources at 0.34% V₂O₅ over an 11-year project life at a nominal annual mining rate of 5.9Mtpa (see Table 9 below). The LOM average grade of K₂O will be 4.19%.

Through the first 11 years of production material from Indicated Mineral Resources will be prioritized. The only Inferred Mineral Resource material planned to be processed in this period would be from the transition from Pit 1 to Pit 2. Low-grade Indicated Mineral Resource material and all remaining Inferred Mineral Resource material will be stockpiled for processing from years 12 to 16. Through the initial 11 year period 95% of material processed will be in the Indicated Mineral Resource Category.

The average waste to ore ratio for the life of the mine was low at 0.7: 1.

Table 9: Indicated and Inferred Mineral Resources available for production planning

Description	Unit	Pit 1	Pit 2	Pit 3	Pit 4	Pit 5	Pit 6	TOTAL
Indicated	Mt	6.5	4.9	6.6	8.6	10.4	8.0	45.1
V ₂ O ₅	%	0.42%	0.35%	0.33%	0.32%	0.30%	0.31%	0.34%
K ₂ O	%	4.5%	4.1%	4.1%	4.1%	4.0%	4.0%	4.1%
Inferred	Mt	0.1	4.1	3.9	2.6	3.9	5.1	19.6
V ₂ O ₅	%	0.38%	0.41%	0.38%	0.34	0.32%	0.35%	0.36%
K ₂ O	%	3.9%	4.3%	4.3%	4.1%	4.1%	4.2%	4.2%
Waste	Mt	4.4	6.5	6.1	7.6	4.8	3.8	33.2
TOTAL	Mt	11.0	15.6	16.6	18.8	19.1	16.9	97.9

There is a low level of geological confidence with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

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The Preliminary Life of Mine Schedule for the Häggån Vanadium Project is shown in Figure 10.

Through the mining schedule low-grade material, between 0.1% and 0.3% V₂O₅ is to be stockpiled. In year 11 of the mine plan, mining is completed, and mill production continues from low-grade stockpiles from year 12 to year 16. Over the life of mine a total of 64Mt of ore is mined at an average grade of 0.35% V₂O₅, 4.17% K₂O, 406 ppm Ni, 221 ppm Mo and 548 ppm Zn.

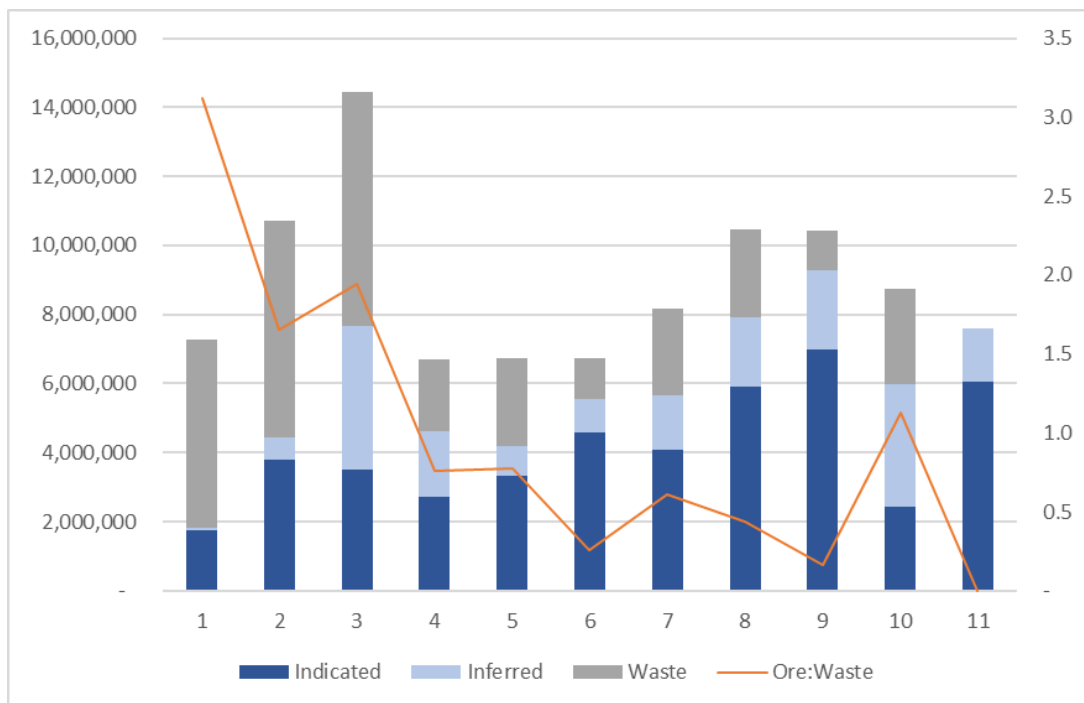


Figure 10 – Preliminary Life of Mine schedule for mining by category.

The distribution of Indicated Mineral Resources and Inferred Mineral Resources processed over the project life has been presented in Figure 11, along with stockpile size. Process throughput has been designed for 3.8Mtpa. Processing of 100% Indicated Mineral Resources is planned through the 2-year payback period. A small proportion of Inferred Mineral Resources is planned for processing from years 3 to 5 as additional Indicated Mineral Resources is accessed, followed by 100% Indicated Mineral Resources until year 12.

Low grade Indicated and remaining Inferred Mineral Resources is planned to be stockpiled for processing at completion of mining after year 12. The stockpiles reach a maximum capacity of 25Mt in Year 11. Stockpiles will be built based on the Mineral Resource category. Processing of Indicated Mineral Resource stockpiles will be undertaken in years 12 and 13.

The Company intends to undertake additional drilling of the Inferred Mineral Resource stockpiles during years 12 and 13, with the expectation to upgrade the Mineral Resource category to Indicated. For planning purposes, a conversion factor of 67% from Inferred to Indicated was applied, which was in-line with historic drilling conversion from Inferred to Indicated Mineral Resource.

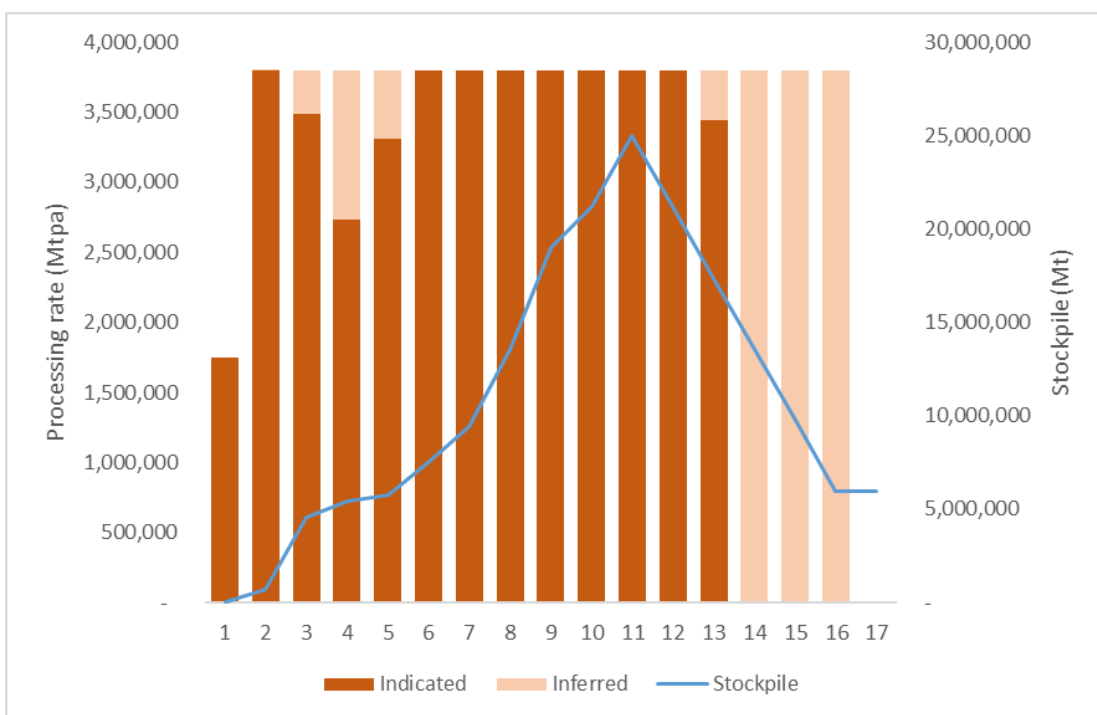


Figure 11: Preliminary life of mine schedule - Häggån Vanadium Project

The distribution of grade for vanadium and by-products over the processing life has been summarized in Figure 12.

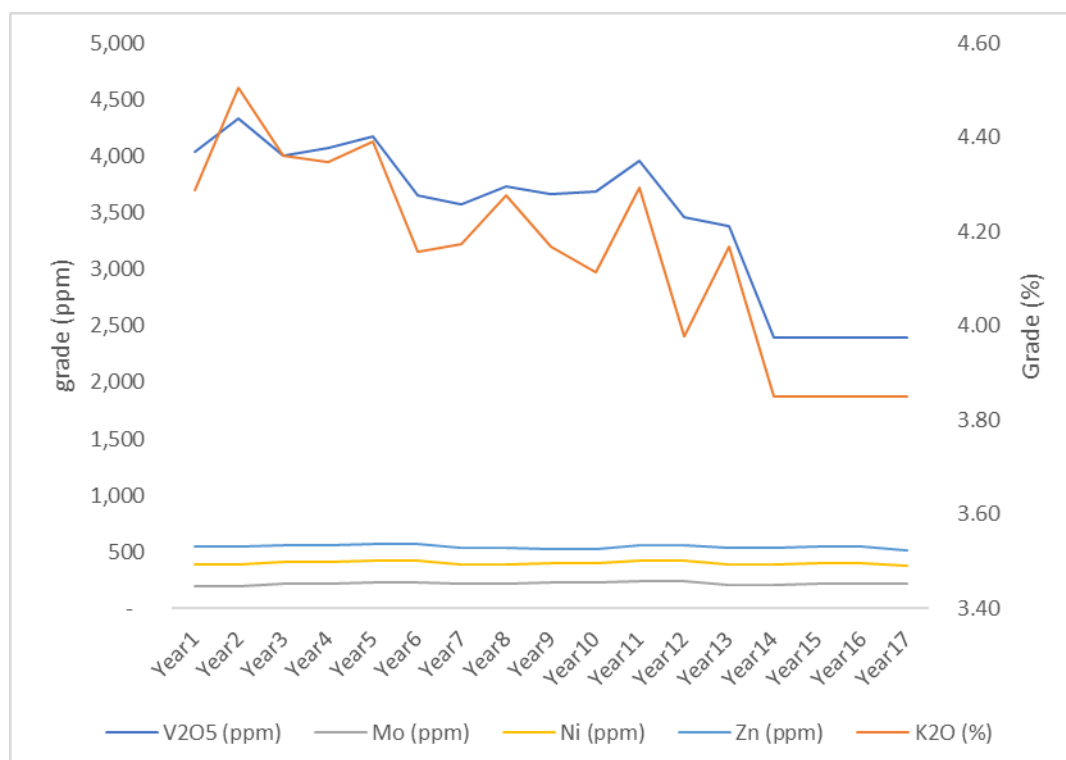


Figure 12 - Grade profile in processing for all products.

The Preliminary Life of Mine Schedule is based on Indicated Mineral Resources and Inferred Mineral Resources. Over the 17-year life of the project:

- 77% of total ore processed is from Indicated Mineral Resources

- 23% of total ore processed is from Inferred Mineral Resources

The first 2 years and years 6 to 12 of mining are based on 100% Indicated Mineral Resources. Thereafter, the later part of the mine plan (years 6 to 17) is based on increasing amounts of Inferred Mineral Resources being included in the schedule.

The Inferred Mineral Resource is not a determining factor in the viability of the Project. The Project is viable based purely on the Indicated Mineral Resource and the payback period of the project of between 1 and 2 years is based purely on the Indicated Mineral Resource.

Although no value has been placed on Inferred Mineral Resources in the pit optimisation, during the first 2 years of mine-life, 700,000 tonnes of Inferred Mineral Resource is mined along with Indicated Mineral Resources. These 700,000 tonnes of Inferred Mineral Resource which is mined during the first 2 years of mine-life has been treated as waste in the Scoping Study, with the following impacts:

- The costs of mining the Inferred Mineral Resources over the first 2 years are included in the study,
- All production based on Inferred Mineral Resources has been entirely removed from the first 2 years of the Preliminary Life of Mine Schedule,
- No revenue has been included in the Preliminary Life of Mine Schedule from Inferred Mineral Resources during the first 2 years.

From years 3 to 11 of mining Inferred Mineral Resources are planned to be stockpiled for processing after completion of the mine schedule and once all Indicated Mineral Resource stockpiles have been processed. It is the Company's intention to undertake additional drilling of the Inferred Mineral Resource stockpiles in years 12 and 13 of operation. For planning purposes, a conversion factor of 67% from Inferred to Indicated was applied, which was in-line with historic drilling conversion from Inferred to Indicated Mineral Resource. Processing of the Inferred Mineral Resource stockpiles does not have a measurable impact on project economics with IRR showing no change from the base case scenario when this material is removed from the production schedule.

2.5.5 Mining Operating Cost Estimate

The Scoping Study includes the assumption that contract mining will be applied. Mining Plus estimated a contractor mining cost of US\$2.71 /t of material mined, based on a number of previous studies for mines within Sweden, and recent data obtained by Mining Plus for operations with similar-sized equipment. The average unit costs obtained to estimate the contract mining cost for the project were;

- 2010 Häggån Uranium Scoping Study², US\$2.71 /t mining
- 2014 Viken PEA³, US\$2.43 /t mining
- 2018 Mining Plus Review of a Swedish mine, US\$2.50 /t mining
- 2018 Mining Plus DFS of a gold mine with similar equipment size, US\$2.66 /t mining

² ASX release: "Strong Positive Economic Results Confirmed for Häggån – Moving to Pre-Feasibility, 7th February 2012

³ Continental Precious Metals (2014) - NI 43-101 compliant Preliminary Economic Assessment ("PEA") evaluating the economic viability of producing vanadium, uranium, and molybdenum from the Viken Project

The US\$2.71 /t of material moved selected as a contractor operated mining cost for the Project is the highest of the four reference projects listed above, all of which are contract mining operations with the cost of equipment ownership and contractor profit margin included in the costs. US\$2.71 /t has been used for both ore and waste mining costs in the Scoping Study.

In addition, US\$1.20/t has been added to ore mining costs for rehandle of ore from Run of Mine stockpile to the Crusher, taking the Total Ore Mining Cost used in the Scoping Study to US\$3.91 /t Ore.

US\$1.20 /t has also been used as the cost of rehandling low-grade ore from low-grade ore stockpiles to the crusher in the later part of the project which is based on processing of low-grade ore stockpiles.

2.6 Processing

The Scoping Study examined several processing options:

- Vanadium pentoxide extraction and recovery by oxidative roasting with atmospheric acid leaching.
- Vanadium pentoxide extraction by pressure acid leaching.
- The viability of extracting by-products.
- On-site production or local purchase of leaching reagents.
- Expansion of the production rate.

2.6.1 Vanadium Mineralisation

Vanadium mineralisation is hosted within the mica mineral roscoelite ($K(V^{3+}, Al, Mg)_2AlSi_3O_{10}(OH)_2$).

2.6.2 Process Description

The Häggån process flowsheet selected for this study can be summarised as a process circuit including floatation, pressure acid leaching and solvent extraction. The process flowsheet is illustrated in Figure 13 below.

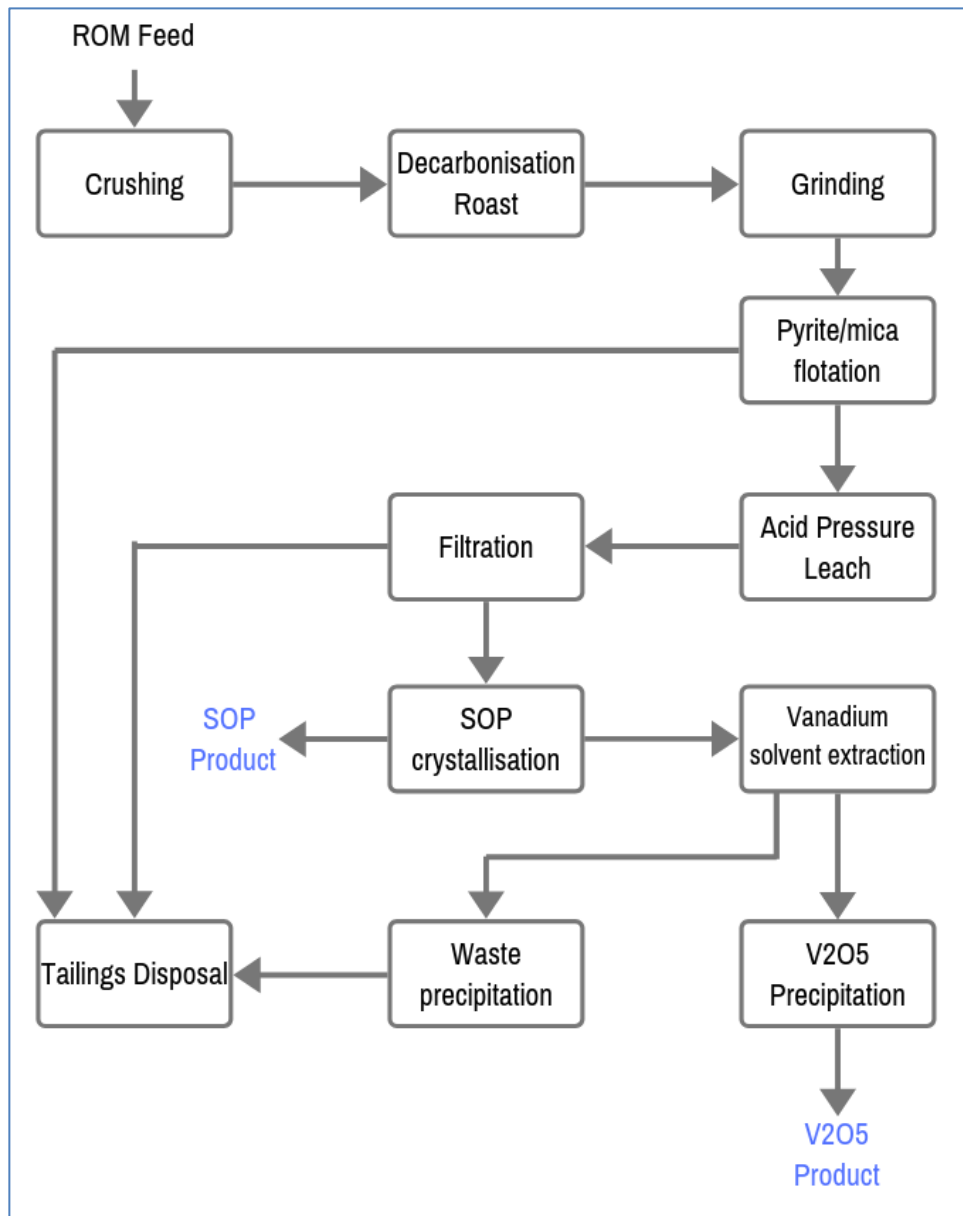


Figure 13: Häggån Vanadium Project – process flowsheet

The process involves crushing run-of-mine ore, followed by a decarbonisation roast and then ball milling to fine size. A concentrate rich in pyrite and vanadium bearing mica is then recovered by selective froth flotation, with much of the calcite rejected to the flotation tailings residue stream. The concentrate contains 85% of the vanadium in 50% of the ROM mass and is then leached at elevated temperature and pressure in an autoclave with sulphuric acid. This results in breakdown of the mica, releasing vanadium and other valuable products to solution. This stage of the process is referred to as acid pressure leaching.

The discharge slurry from the acid pressure leaching process is dewatered in a thickener from which pregnant solution overflows and remaining solid material underflows and is discharged to waste. The vanadium-rich solution passes to a potassium salt crystalliser for recovery of SOP, followed by sulphide precipitation to produce a Mixed Sulphide Precipitate containing Ni, Mo and Zn. The pH of the vanadium-rich solution is adjusted using limestone sourced from waste rock at the site, allowing iron to be chemically reduced and removed.

Vanadium is extracted from the purified solution by solvent extraction and precipitated as ammonium metavanadate, before being further purified by rotary calcination and converted to vanadium

pentoxide (V₂O₅) flake product. The barren solution from solvent extraction undergoes a process of calcium phosphate precipitation that will encapsulate impurity metals remaining in solution, importantly including uranium, as stable and safe compounds, which can then be disposed of in the dry tailings storage facility.

2.6.3 Tailings

Process tailings will be generated as a dewatered filter cake, a paste. Future studies will examine in detail the long-term technical viability and safety of the option to dispose of the paste in pit voids as cutbacks are completed. The paste will contain flotation rejects, pressure leach residue and calcium phosphate containing stabilised uranium and other metals. The uranium tenor will be similar to that currently existing in the unmined Alum Shale in the region, but it will be in a more stable matrix.

An allowance in the capital estimate of US\$12.5M has been made for construction of a preliminary tailings dam for disposal of tailings from years 1 to 3 of the operation. After this time mining of Pit 1 will have been completed. In-pit disposal waste will only commence at this time if the viability and safety of the option have been established and endorsed by third party expertise.

Any uranium tailings will be locked up in the process to form an inert low-grade waste which will be disposed of in a tailing dam.

2.7 Metallurgy

The Company undertook a series of metallurgical test work programs on representative composite drill core samples of the Häggån project Black Shale mineralisation between 2011 and 2019. An independent review of all previous metallurgical test work was undertaken by METS for this Scoping Study. METS has developed the process flowsheet and process recovery assumptions for the Häggån Vanadium Project based on a combination of these test work results and on results from comparable technical studies, together with METS' experience from other vanadium projects.

METS Engineering is a leading consultant for vanadium project development having undertaken work on ten vanadium projects, including recovery analysis, test work plan development, scoping, pre-feasibility and feasibility study assessment. METS Engineering considers that the assumptions upon which the Häggån Vanadium Project process flowsheet and process recovery are based are appropriate, and are in line with industry standards, for use in a Scoping Study being released on the ASX.

Process test work programs specifically targeted at vanadium extraction have been summarised in Table 10.

Table 10 - Summary of vanadium specific metallurgical test work programs for the Häggån Resource

Program	Date	Laboratory
Vanadium salt roast	2011	ALS Minerals
Vanadium oxidative roast	2011	ALS Minerals
Vanadium deportment and mineralogy	2018	CSIRO Minerals
Vanadium beneficiation – gravity and flotation	2018	ALS Minerals
Vanadium acid pressure leaching	2019	ALS Minerals

The recovery values and total vanadium recovery used for each stage of the Häggån process are

summarised in Table 11. These have been based on scoping level metallurgical test work performed on samples representative of the Häggån vanadium resource for the key stages of the process.

Table 11 - Metallurgical Scoping Study test work results and assumptions including comparable results from technical and project studies

	Scoping Study Assumption		Ni, Mo, Zn
	V ₂ O ₅	K ₂ SO ₄	
Flotation V₂O₅ recovery	85%	85%	85%
Pressure Leaching V₂O₅ recovery	96%	83%	96%
Solvent extraction V₂O₅ recovery	98%	-	
SOP crystallisation	-	85%	
MSP precipitation	-	-	98%
Overall V₂O₅ recovery	80%	60%	80%

2.7.1 Flotation Test work Results

Sulphide and silicate mineral flotation tests were conducted at ALS Minerals, Burnie, Tasmania in 2018. The results were reported in ASX announcement: Häggån Vanadium Project Study Progressing Well, 25th October 2018. These tests were conducted on representative drill core composite samples of the Häggån Black Shale mineralisation, which had not been subject to decarbonisation roasting. The tests successfully recovered 85% of the vanadium to a concentrate of 50% of the feed mass, when decarbonisation accounted for. This process rejected 85% of the acid-consuming calcite in the mineralisation, an excellent and important result. There remains potential for improvement of these results through removal of carbon from the material through roasting.

2.7.2 Acid Pressure Leaching Test Work Results

Acid pressure leaching test work was undertaken in November 2019 on representative drill core composite samples of the Häggån Black Shale mineralisation, which had been used in characterisation and beneficiation/flotation test work programs in 2018. This November 2019 test work was undertaken at ALS Minerals, Burnie using conditions recommended by METS Engineering which were optimised for vanadium recovery. These conditions have been summarised in Table 12.

Table 12 - Acid pressure leach conditions, ALS Minerals 2019

Condition	
Oxygen partial pressure	1,200 kPa O ₂
Total acid concentration – H ₂ SO ₄	200 g/L H ₂ SO ₄
Residence time	2 hours
Temperature	180°C

Samples used in the ALS Minerals November 2019 acid pressure leaching program were composites

of the mineralised zone from diamond drilling, summarised in Table 13. The samples were selected as representative of mineralisation in the Häggån resource, with a range of vanadium grades. These samples were split from composite samples used in the 2018 beneficiation and flotation program, summarised in ASX Release: Häggån Vanadium Project Study Progressing Well, 25th October 2018.

Table 13 – Summary of diamond drill hole composite samples used in acid pressure leaching test work program

Sample	Test	V ₂ O ₅ head grade	K ₂ O head grade
DDH006	AC1035	0.30%	3.66%
DDH022	AC1036	0.29%	3.64%
DDH031	AC1037	0.22%	3.36%

The results of acid pressure leaching tests targeted at vanadium recovery have been summarised in Table 14.

Table 14 – Summary of vanadium extraction by acid pressure leaching by sample

Test	Sample	Vanadium extraction
AC1035	DDH006	96.1%
AC1036	DDH022	96.9%
AC1037	DDH031	96.7%
Average		96.5%

These results demonstrated that consistently high vanadium extraction could be achieved across a range of samples. The tests returned an average vanadium extraction of 96.5%, with only 0.4% deviation from this average between the tests.

For further details on the November 2019 Acid Pressure Test work, please refer to Aura Energy announcement “Häggån Project Vanadium Metallurgical Testwork Results”, 29th November 2019.

2.7.3 Solvent Extraction assumptions

The solvent extraction process is a long-established, well-understood, widely used, conventional process. METS and Aura consider that 98% vanadium recovery is a reasonable assumption for the Scoping Study.

2.7.4 Overall Processing Vanadium Recovery

The overall process recovery of 80% V₂O₅ used in the Scoping Study was calculated from the process stage recoveries for flotation, acid pressure leaching and solvent extraction.

The overall process recovery of 80% V₂O₅ used in the Häggån Project Scoping Study is conservative when compared with other comparable vanadium studies reviewed, which averaged 84.6% V₂O₅ overall process recovery, and with 93.3% V₂O₅ overall process recovery used for the Balauşqandic Vanadium Project.

2.7.5 Potassium Sulphate (SOP) By-product Recovery

The recovery of SOP was determined by METS Engineering to be dependent on vanadium recovery. Detailed mineralogical characterisation of Häggån Black Shale drill core and drill core composite samples undertaken by The University of Tasmania in 2011 and CSIRO Minerals in 2018 defined that both vanadium and potassium are hosted in the potassium aluminium silicate mineral, roscoelite ($K(V^{3+}, Al, Mg)_2AlSi_3O_{10}(OH)_2$). Recovery of vanadium from this mineral by pressure acid leaching involves destruction of the mineral matrix, recovering the component elements, including both vanadium and potassium, to solution.

Recovery of potassium through the flotation process was measured in the ALS Minerals 2018 program and was closely linked to vanadium recovery. Recovery of potassium to beneficiation concentrate was 85%.

The extraction of potassium was measured in the November 2019 program through acid pressure leaching test work and results have been summarised in Table 15.

Table 15 - Summary of potassium extraction by acid pressure leaching by sample

Test	Sample	Potassium extraction
AC1035	DDH006	78.8%
AC1036	DDH022	84.4%
AC1037	DDH031	86.8%
Average		83.3%

Recovery of dissolved potassium as SOP (K_2SO_4) crystals can be achieved using a well understood crystallisation process that is used globally as part of the Mannheim Process for production of SOP, by which 70% of global SOP supply is produced. This process generally achieves close to 100% potassium recovery. For the Scoping Study METS Engineering recommended a SOP crystallisation recovery of 85% to allow for potential impact of aluminium impurities. This was the basis of process simulation undertaken by METS to support the outcome. The overall process recovery of the SOP by-product, including floatation, acid pressure leaching and crystallisation stages, was 60%.

2.7.6 Vanadium Pentoxide (V_2O_5) Flake Quality

The process is designed to produce V_2O_5 flake product at >98% purity, the standard product quality for use as a steel additive. The use of solvent extraction to concentrate vanadium in solution is, however, expected to allow production of high purity V_2O_5 flake (>99% V_2O_5), suitable for direct use in vanadium electrolyte. Although this product is anticipated to command a premium price in the market, no allowance for this has been made in the Study economics.

Metallurgical test work has been completed at scoping study level with focus on determination of technically viable process options. More detailed test work on geometallurgical domains and variability samples will be undertaken through the pre-feasibility and it is anticipated that pilot plant test work will be undertaken with the Pre-Feasibility and Feasibility Studies. Detailed test work on precipitation conditions for products requires bulk samples to generate sufficient representative solution, which will not be available until PFS and FS test work programs.

2.7.7 Sulphate of Potash (SOP) Product Quality

Whilst the composition of the pressure leach solution was not extensively studied in preliminary test work, Aura and Mets consider that there is sufficient information from its desktop study undertaken to assume that potassium sulphate can be recovered within the market specification. During the PFS, this will be characterised and test work can be performed to determine which salts crystallise out of solution and in what order. It is of high importance that the final potassium sulphate product is at a purity suitable for sale. The potassium sulphate product specification requirements are as follows:

- $K_2O > 50\%$
- $S > 17\%$
- $Cl < 1\%$

As potassium initially crystallises as potassium alum, it is believed that aluminium will be the main impurity element of concern, along with calcium which is required for separation of the aluminium. The crystallisation process for SOP production is well understood and Aura believes it to be reasonable to assume that process conditions to meet the purity requirements will be established. Preliminary simulation of the process chemistry was undertaken by METS. Aura understands that the potential impurity elements, Al and Ca are not considered material penalty elements in sale of the SOP product.

Metallurgical test work has been completed at scoping study level with focus on determination of technically viable process options. More detailed test work on geometallurgical domains and variability samples will be undertaken through the pre-feasibility and it is anticipated that pilot plant test work will be undertaken with the Pre-Feasibility and Feasibility Studies. Detailed test work on precipitation conditions for products requires bulk samples to generate sufficient representative solution, which will not be available until PFS and FS test work programs.

2.8 Mine Surface Infrastructure

Transportation systems are generally well developed in the nearby area. Road, rail and air transportation and freight, electrical power, and modern communications are all readily available in the Östersund area. The European highway route E14 passes within 35 km of the Häggån deposits and connects Sundsvall on the Swedish east coast to Trondheim on the west Norwegian coast. The E14 runs along the north shore of Lake Storsjön. The European highway route E45 which is approximately 13km distance from Myrviken at the south of the deposits, connects to the north and south of Sweden.

Adequate power is available for the project through the nearby State grid. Connection to the grid has been included in the infrastructure capital cost estimate.

Process water reticulation and recycling, potable water supply and reticulation and fire water supply and reticulation have been included in the METS Processing Plant capital cost estimate, which includes site earth works, site roads, surface water catchment, administration building, workshop and stores, site ablutions, crib room, mill control room, furniture and equipment.

Employee accommodation was not included in the capital cost estimate as it was assumed that Östersund has sufficient surplus housing.

2.9 Capital Cost Estimate

Capital cost estimates for the Scoping Study were based upon an Engineering, Procurement and Construction ('EPC') approach for the processing plant and surface infrastructure. Pricing is therefore

inclusive of a contractor's margin. Capital cost estimates for the Base Case scenario are shown in Table 16.

Table 16: Häggån Vanadium Project capital cost estimate

	Process Section	Initial Capital US\$M
Direct Capital	Crushing, grinding and flotation	86
	Vanadium leaching	113
	SOP crystallisation	10
	Vanadium solvent extraction and precipitation	18
	Tailings	16
	Reagents and services	16
	Oxygen and sulphur burning	107
	Site infrastructure	34
Indirect Capital		94
First Fills		6
Contingency (20%)		92
Total Establishment Capital		592

This cost is based on the preliminary processing flowsheet developed by Aura and METS and includes all labour, EPC services, equipment, materials, first fills, consumables and spare parts required to design, procure, construct and commission the Project.

The capital estimate allows for mine development through a mining contract and in-pit disposal of tailings, with a small interim tailings dam while sufficient access to pit is generated. These assumptions will be further explored during the PFS assessment.

The capital estimate was based on a combination of vendor estimates for major equipment and database estimates from METS Engineering. Key items included in vendor quotations were crushing, ball mills and autoclaves for the pressure leaching circuit.

Infrastructure costs have been estimated from METS database based on similar sized project located in Sweden. It was assumed that Östersund would provide sufficient accommodation for construction and operational personnel. Potable water and raw water infrastructure were assumed to be connected to the local piping network. Power supply is assumed to be from a connection to the national grid at approximately 40km from the plant. The power infrastructure estimation included a substation and the cost to run a 220kV cable 40 km. An allowance for site buildings was included as a factored estimate based on similar sized projects in the area.

A working capital allowance of 5% Direct capital costs was included in Indirect capital. An additional allowance for first fills of reagents was determined based on first principles.

The project capital cost estimate has been costed to an accuracy of $\pm 35\%$.

A contingency of 20% has been included, based on the quality of available information used for engineering design, the technology being used and the known grade of material feed stock.

2.9.1 Sustaining Capital Costs

Ongoing sustaining capital costs are included in operating costs based on industry rule of thumb of 1.5% pa of the total development capital cost.

2.9.2 Operating Cost Estimate

METS estimated the processing plant operating costs for the Scoping Study using information derived from test work, simulation data and knowledge from previous projects. Operating cost estimates for the Base Case scenario are shown in Table 17.

The operating cost model was populated with relevant labour rates, power usages of the various unit operations and reagent costs and consumptions. Exclusions from the model include:

- Currency fluctuations
- Operating cost contingencies
- Royalties and taxes (added separately by Aura)
- Other insurance

Mining costs were assumed to be from contract mining and captured in operating cost, rather than capital cost (see Mining Section 2.5 for further information).

Table 17: Häggån Vanadium Project operating cost estimate

	Base case LOM average	
	US\$/lb V ₂ O ₅	US\$/t milled
Mining	0.9	5.1
Reagents and consumables	6.4	36.3
Manpower	1.0	5.7
Power	0.04	0.2
Maintenance	0.6	3.4
Other	0.2	1.1
G&A	0.3	1.7
Sub-total C1 operating costs	9.4	53.6
<i>by-product credit*</i>	<i>(7.6)</i>	<i>(43.1)</i>
Total Net C1 operating costs	1.8	10.4
Sustaining Capital	0.2	1.1
Total Net all-in Sustaining Cost (AISC)	2.0	11.5

* by-product credit calculated based on overall K₂O recovery of 60%, converted to K₂SO₄ (K₂SO₄ contains ~50% K₂O) (Section 7.7), average SOP price of US\$/650 tonne (Section 11.2). In addition, Ni, Mo and Zn included as Mixed Sulphide Precipitate

credit, calculated on payability of 70%. Reported on a per pound V₂O₅ produced basis.

The expected net direct cash cost (C1) profile for the Project is shown in Figure 14. This indicates a significant drop in operating cost once mining is complete and low-grade stockpiles are processed. The net C1 operating cost for processing of stockpiled low-grade ore was approximately -US\$1.2/lb V₂O₅ when by-product credits are accounted for.

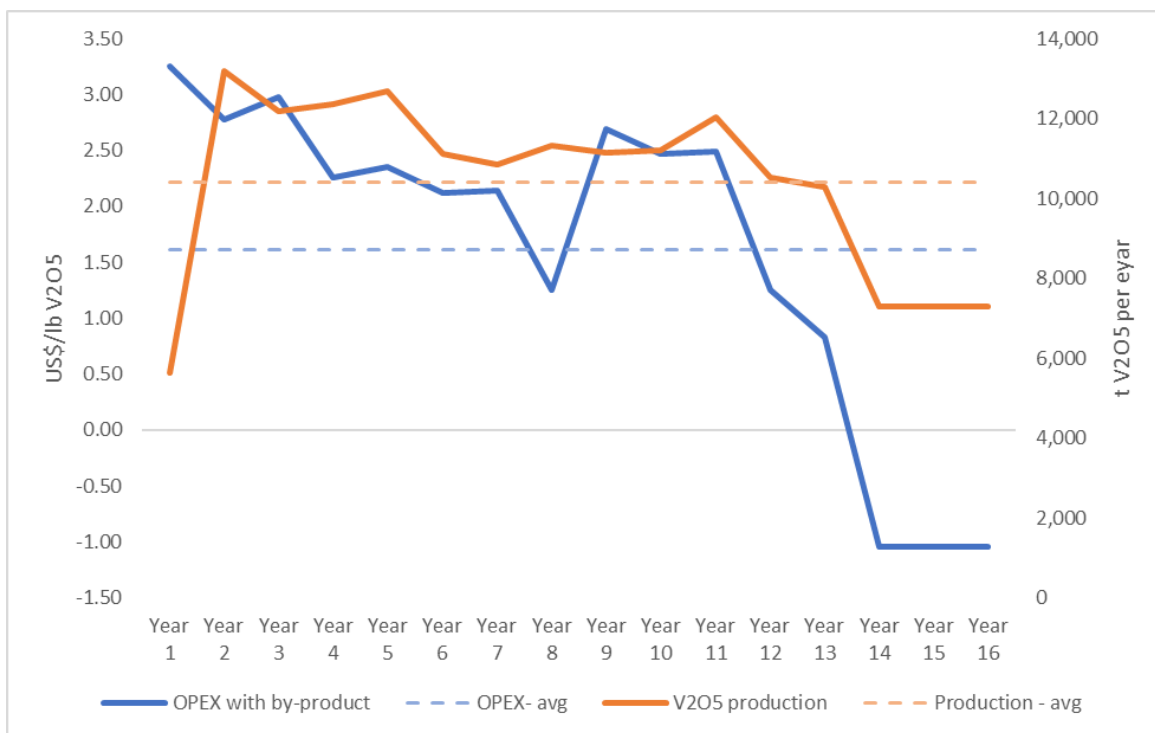


Figure 14: Operating cost and production profile for Häggån Vanadium Project.

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2.10 Marketing

2.10.1 Vanadium Pentoxide

The market for V₂O₅ has experienced a period of steady growth from 2018. Figure 15 shows stable consumption prior to 2018 of ~80,000 tonne per annum. Since then, consumption has increased by 30% to a peak of ~120,000 t in 2021.

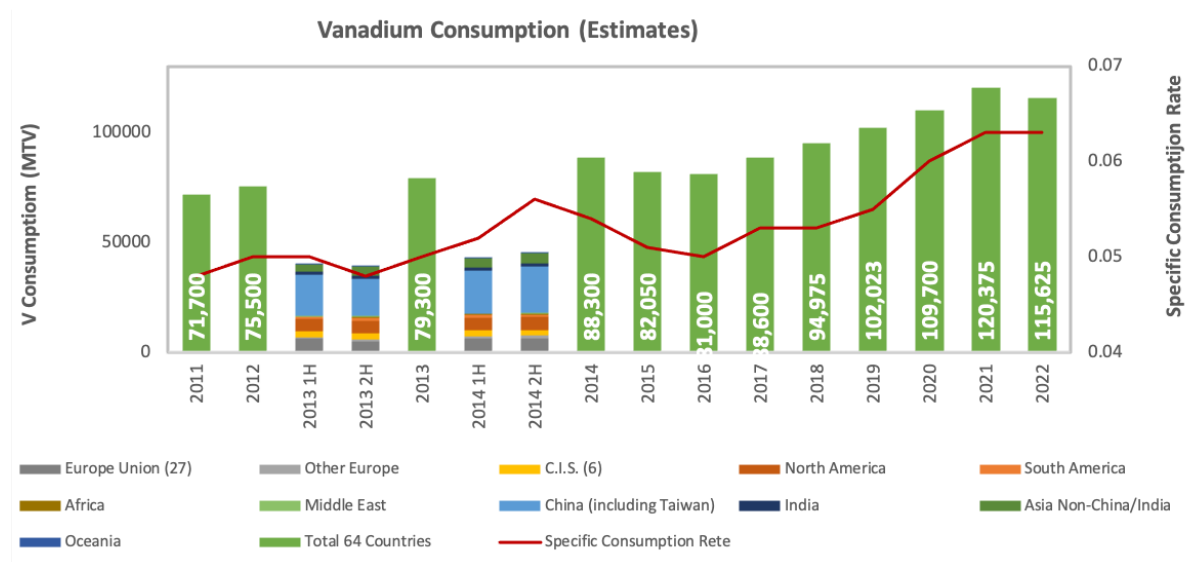


Figure 15 – Annual Vanadium consumption since 2011. Source: Guidehouse Insights 2022 (Vanitec) [Guidehouse Insights-Vanadium Redox Flow Batteries.pdf \(vanitec.org\)](#)

The market for V₂O₅ is currently driven by the use of vanadium as a noble alloy in steel production. The development of Vanadium Redox Flow Batteries (VRFB) has been identified as a huge potential growth area, however, Figure 16 shows that even at record consumption in 2021 VRFB's only accounted for 1.7% of consumption, with 90% still used in steel alloys.

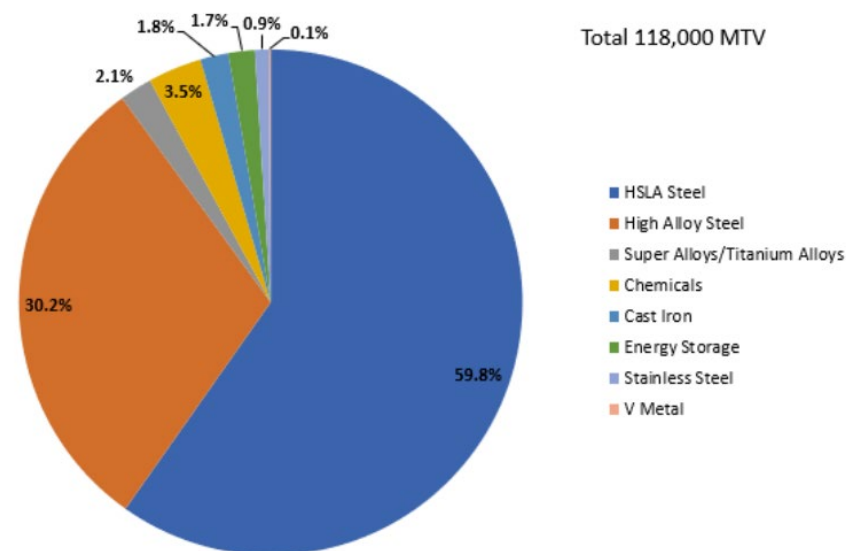
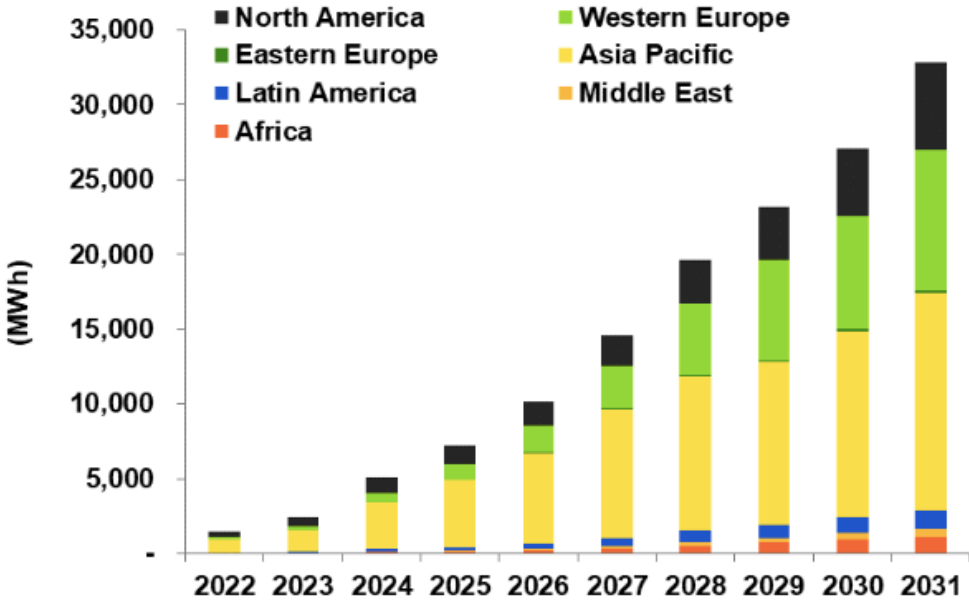


Figure 16 - Distribution of vanadium usage in 2021. Source: Guidehouse Insights 2022 (Vanitec) [Guidehouse Insights-Vanadium Redox Flow Batteries.pdf \(vanitec.org\)](#)

The aggressive emission reduction targets adopted globally have increased the need for emission free

and low emission sources of power generation. Significant investment is occurring in renewable energy sources, which to be effective in providing stable power supply must be paired with large scale energy storage solutions. These include technologies such as pumped hydroelectricity, flywheels, hydrogen and batteries, such as VRFB's. VRFB's are a proven technology with 209,800kWh of capacity installed globally. Given this, significant growth is forecast over the coming decade, increasing to 33MWh by 2031 (Figure 17).

Annual Installed VRFB Utility-Scale and Commercial and Industrial Battery Deployment Energy Capacity by Region, All Application Segments, World Markets: 2022-2031



(Source: Guidehouse Insights)

Figure 17 - Forecast growth in installation of vanadium redox flow batteries for grid scale energy storage to 2031. Source: Guidehouse Insights 2022 (Vanitec) Guidehouse_Insights-Vanadium_Redox_Flow_Batteries.pdf (vanitec.org)

It is forecast that with this growth, VRFB's will account for 75% of vanadium consumption by 2030. Assuming no additional growth in vanadium use for steel alloys this would result in growth in the total vanadium market to ~400,000 tpa through the life of the Häggån Project.

Vanadium is predominantly produced as a by-product in magnetite production, with the price exhibiting high volatility. Historic price movement for vanadium pentoxide from 2017 is shown in Figure 18.

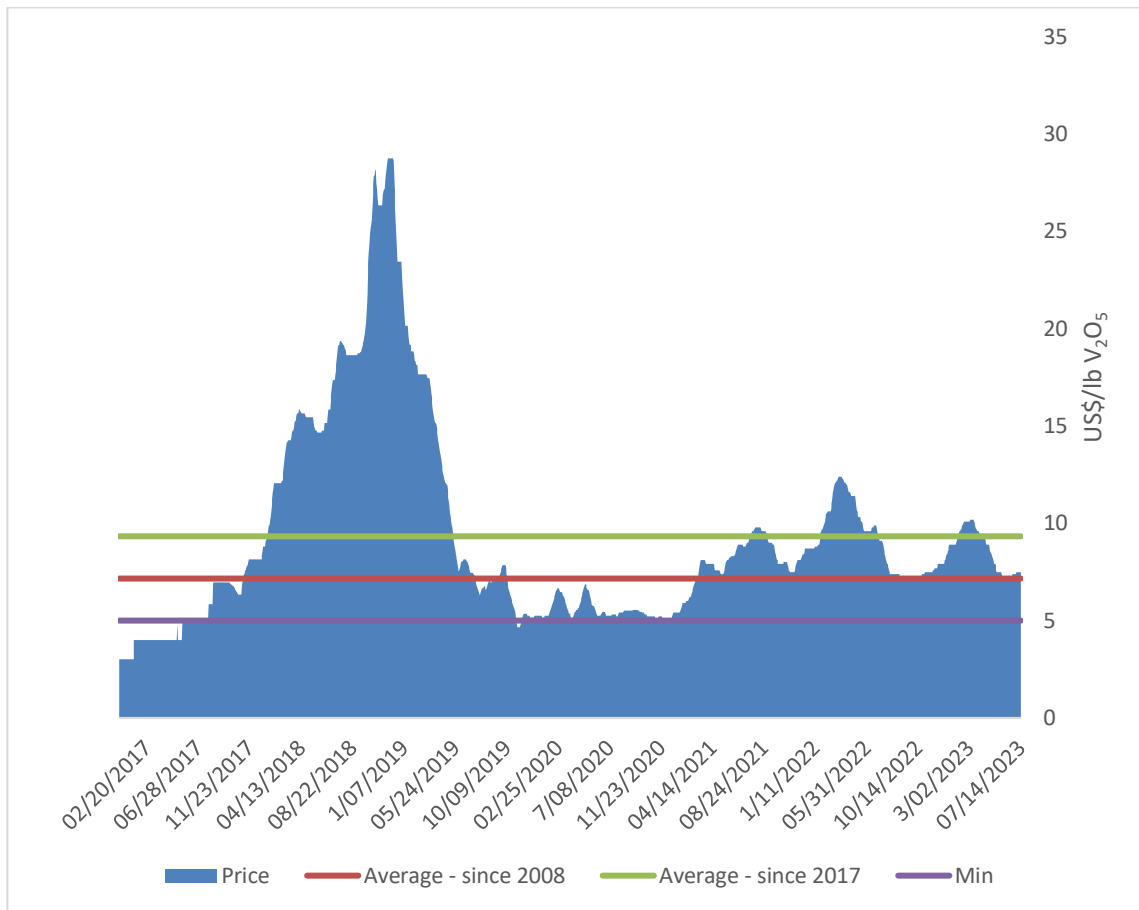


Figure 18 - Historic vanadium price performance. Source: Investing.com
 (<https://au.investing.com/commodities/vanadium-pentoxide-98-min-europe-futures-advanced-chart>)

The average historic price can be broken into two areas. During periods of stable supply/demand dynamics, approximately 75% of the time from 2008, the mean price has been US\$7/lb V₂O₅. Since 2017 the upward volatility has increased, with the mean price increasing to US\$9.50/lb V₂O₅, with 4 events where the price exceeded US\$10.50/lb V₂O₅ and one sustained spike in 2018/19 where the price peaked at US\$33/lb V₂O₅. This supports a structural shift and general upward movement in the average vanadium price as growth of VRFB installations increases.

The minimum price of US\$2.95/lb V₂O₅ occurred in 2006 but since mid-2017 the price has not gone below a floor of US\$5/lb V₂O₅.

The pricing scenarios used for V₂O₅ in the Häggån Project have aimed to demonstrate the robustness of the Project across various growth scenarios. These have been summarised in Table 18, along with the basis for each assumption.

It should be noted that in these scenarios the price has been based on 98% V₂O₅ purity, which is the industry standard. It is the intention to produce higher purity (99.5% V₂O₅) from the Häggån process, allowing direct use in VRFB electrolyte. It is anticipated that this will attract a premium price, however, insufficient work has been done to determine the quantum of this premium.

**Table 18 - Price scenarios and assumptions for vanadium used to assess
Häggån Battery Metals Project**

Scenario	Low	Mean	High
V ₂ O ₅ Price (US\$/lb)	\$7.00	\$9.50	\$13.00
Commentary	<p>Mean price for V₂O₅ from 2008 to 2023. Represents a scenario where either:</p> <ul style="list-style-type: none"> - VRFB adoption for energy storage stagnates. - Or, new supply from low cost sources (<US\$2/lb V₂O₅ OPEX), such as recycling or processing of tailings. Grows at an equivalent rate to VRFB growth. 	<p>Estimate of incentive price required for new primary production to be commissioned.</p> <p>Reflects a scenario where forecast growth in VRFB adoption places moderate pressure on V₂O₅ supply.</p> <p>A conservative approach has been taken for the mean price, with a lower forecast than other aspiring primary V₂O₅ developers.</p>	<p>Conservative estimate of long term V₂O₅ price in scenario where sustained pressure is placed on supply by rapid growth in VRFB adoption.</p> <p>In this scenario it is likely that significant price volatility would also be observed.</p>

In addition, a pricing scenario where a vanadium price of US\$5/lb V₂O₅ is sustained for the life of the Project has been examined to determine the robustness of the project in a minimum pricing scenario.

2.11 Sulphate of Potash market.

Sulphate of Potash ('SOP') is an important product for the Häggån Project, contributing 35% to 50% of revenue, depending on V₂O₅ price and acting to stabilise the revenue of the historically volatile vanadium market.

SOP is considered a premium-quality potash. It contains two key nutrients for growing crops: potassium and sulphur. Using SOP improves crop quality and crop and makes plants more resilient to drought, frost, insects and even disease. SOP has been known to improve the look and taste of foods and can boost a plant's ability to absorb key nutrients like phosphorus and iron.

Most often, SOP is used on high-value crops like fruits, vegetables, nuts, tea, coffee and tobacco. It works better on crops that are sensitive to chloride, which can be toxic to some fruit and vegetable plants.

SOP is not a naturally occurring mineral, and usually must be produced through chemical methods. Because of the resource-intensive processes used to create it, SOP is priced higher than Muriate of Potash ('MOP'), KCl. Historically, the premium for SOP over MOP has been ~US\$250/t K₂O.

The most common method used to produce the fertilizer SOP is called the Mannheim process. It involves pouring potassium and other raw minerals into a muffle furnace that is heated above 600 degrees Celsius, creating a reaction between potassium chloride and sulfuric acid. Fertilizer produced like this accounts for roughly 50 to 60 percent of global SOP supply.

The second most common way of making SOP, accounting for about 25 to 30 percent of supply, is by reacting potassium chloride with various sulfate salts to form what is called a double salt.

The proposed process for Häggån is to crystallise SOP directly from the sulphate leach solution, avoiding the requirement for intermediate products.

The global market in 2021 for SOP was 1.8Mt, with growth of 4.4% pa forecast for the coming decade. This represents a niche fraction of the broader MOP market, which consumes ~35 Mt pa. Based on the Häggån base case with 3.6Mtpa throughput and 215ktpa SOP production, the project could account for 12% of current global requirements.

In 2021 and 2022, MOP and consequently SOP prices showed rapid growth, mainly due to the war in Ukraine and sanctions imposed on Russia and Belarus. These two countries account for 40% of global MOP exports. This led to prices approaching US\$1000/t in 2022, which is unsustainable for agriculture and resulted in lower potassium-based fertilizer usage and stabilization in prices.

This historic price of SOP can be seen across key markets in Figure 19

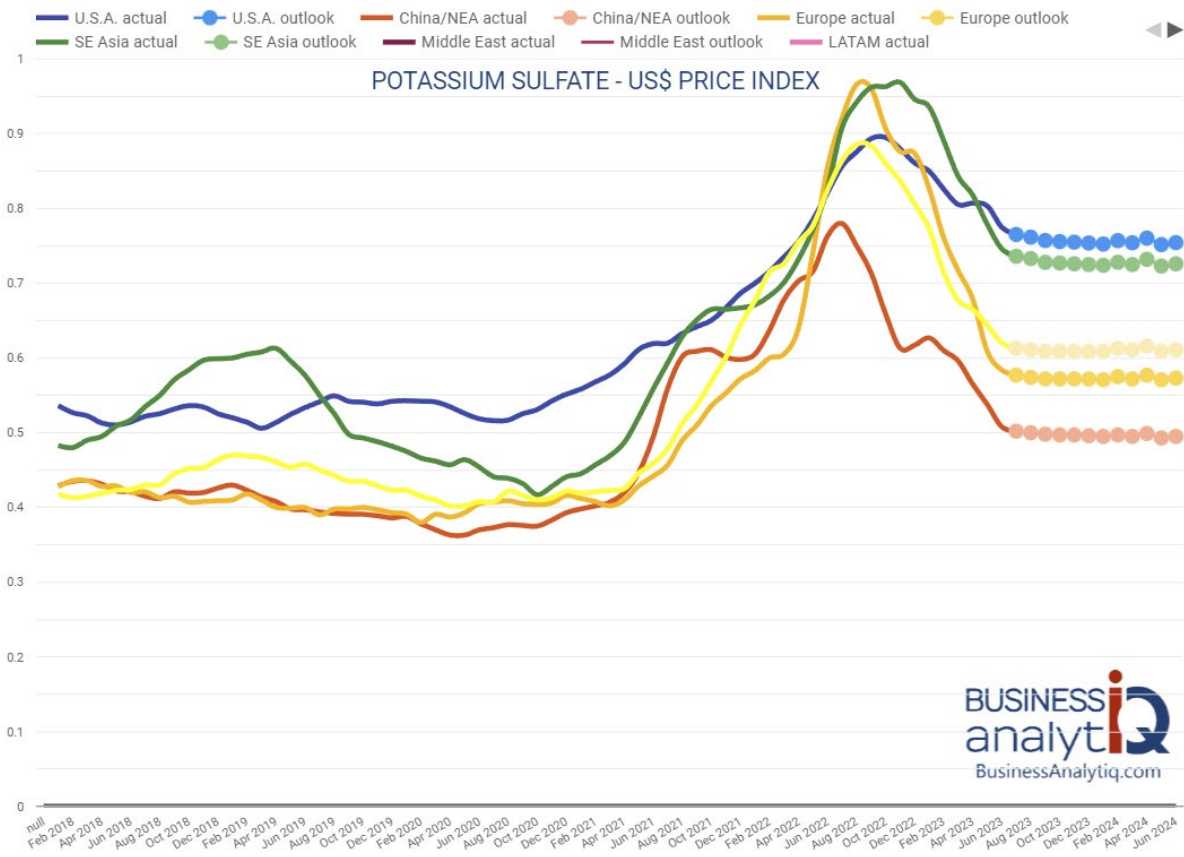


Figure 19 - Potassium sulphate (SOP) price index from 2018. Source: BusinessAnalytiq (<https://businessanalytiq.com/procurementanalytics/index/potassium-sulfate-price-index>)

Price projects from CRU have been shown in Figure 20. These show a steadily rising price in European markets after a minimum in 2025.

The baseline assumption price of SOP for the Häggån Project has been US\$650/t K₂O. This represented a midpoint of current market prices and a low range of long term forecasts.

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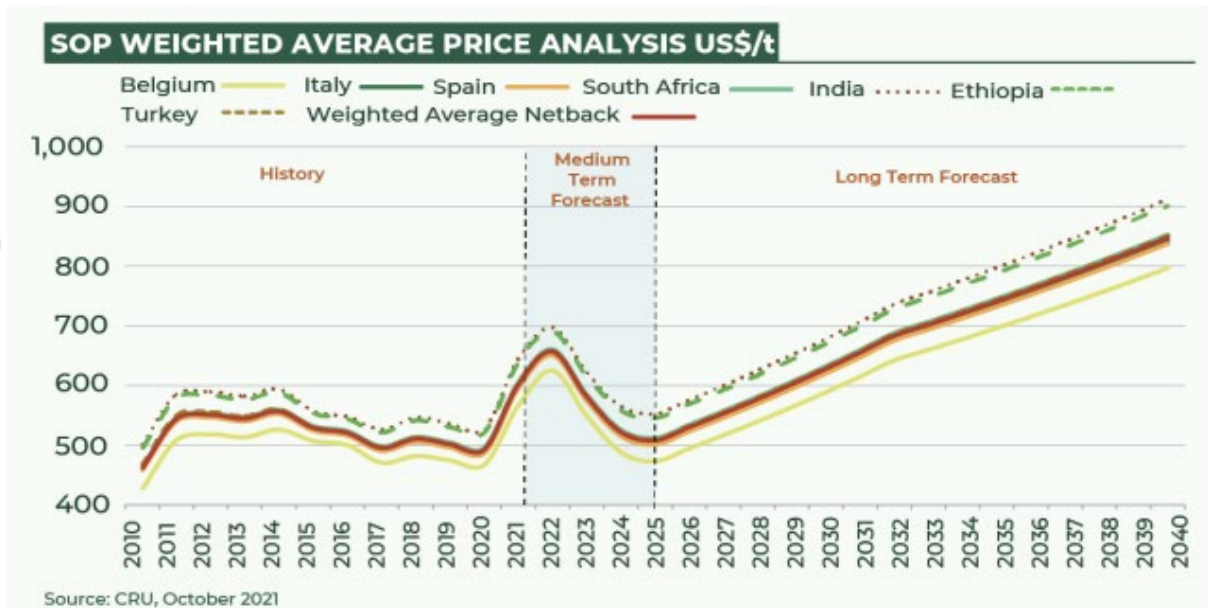


Figure 20 - SOP weighted average price analysis and Forecast to 2040. Source: CRU 2021

2.11.1 By-product pricing

Based on this the recovery of by-product metals available in the Resource estimate was considered. This included:

- Sulphate of Potash ('SOP')
- Nickel, Molybdenum and zinc, in the form of a Mixed Sulphide Precipitate for sale to a smelter.
- Uranium was considered separately in Appendix 1.

Prices for by-products were based on the mean average price for 2022/23. A summary of market assumptions for by-product pricing can be found in section 7. An assumption of 70% payability on Ni, Mo and Zn contained in a Mixed Sulphide Precipitate was used.

Table 19 - By-product price assumptions

Product	Price assumption
Sulphate of Potash	US\$650/t
Nickel	US\$20,000/t
Molybdenum	US\$51,000/t
Zinc	US\$2,500/t

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Figure 21 – 5Y Price history for nickel. Source:www.tradingeconomics.com (25/07/2023)



Figure 22 - 5Y Price history for molybdenum. Source:www.tradingeconomics.com (25/07/2023)

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Figure 23 - 5Y Price history for zinc. Source:www.tradingeconomics.com (25/07/2023)

2.12 Risk Assessment

2.12.1 Financing

There is a risk that Aura will not be able to secure sufficient funding for the equity portion of the Project capital. Funding and mitigation strategies are discussed in Section 2.13.5 - Funding.

2.12.2 Vanadium Market and Price

The study assumes that a vanadium price of between US\$7.00/lb V₂O₅ and US\$13.00/lb V₂O₅, with a base case mid-point of US\$9.50/lb V₂O₅, will prevail for the life of the Project. Aura believes that these assumptions are reasonable, reflecting potential forecast growth in use of vanadium in energy storage applications. The Project remains robust over a range of vanadium prices as shown in the Sensitivity Analysis section (Section - 2.13.4).

2.12.3 Sales Agreements

Sales agreements require sufficient samples for potential customers to assess product purity. These samples will not be available until completion of the final phase of test work. It is planned to provide such samples during the feasibility study stage.

Initial discussions with Vanadium Redox-Flow Battery (VFRB) manufacturers have indicated significant appetite for high purity V₂O₅ such as will be produced from the Häggån process, for use as vanadium battery electrolyte.

2.12.4 Resource Risks

There is a risk that geological and grade continuity of the Häggån resources may vary from the current estimates as further infill drilling is completed. Given the high continuity of the resource between drill holes, this risk is considered to be low and will be addressed in the next stages of exploration and studies which establish mineral Reserves.

2.12.5 Metallurgical Risks

There is a risk that metallurgical recoveries for the process may be lower than scoping study test work results. Benchmarking with other comparable vanadium projects shows that the Häggån project overall recoveries to be conservative assumptions. Pilot scale test work during the Pre-Feasibility Study will reduce this risk further. The impact on Project economics of not achieving recovery assumptions has been assessed in section 2.13.4 - Sensitivity Analysis.

Generation of SOP product of adequate purity may not be achieved. Insufficient samples have been available to assess the purity of SOP product generated. Future test work programs will generate enough SOP product for characterisation and assessment by end users.

Acid consumption through the pressure leaching circuit may be higher than anticipated. The acid consumption used for this report was calculated based on reaction stoichiometry. The consumption was found to be 34% higher than the pressure acid leaching test result when only considering the reactions occurring and ignoring the free acid in solution. This discrepancy is thought to be related to the extent of muscovite dissolution.

2.12.6 Country Risk

Sweden is a stable mining jurisdiction with a transparent and well-established process for granting of minerals exploration and mining concessions.

In 2016 Sweden was second in the Fraser Institute analysis of policy landscape for investment. In 2018 Sweden had moved down but remains in the top quartile of mining jurisdictions. The Fraser Institute is part of McGill University, Canada and every two years conducts surveys on mining jurisdictions, providing the benchmark for ranking of investment attractiveness.

Swedish legislation in 2018 now prevents the sale of fissile uranium products. The Häggån mineralisation contains uranium, which will pass into solution during the pressure leach stage. The proposed process includes provision to encapsulate leached uranium within a stable calcium phosphate compound. The stabilised compound will be disposed of within the planned dry tailings facility.

2.12.7 Environment and Community Risk

Based on high level assessments undertaken to date by Aura, there are no serious risks detected as regards to the local environment. However, there is always a certain degree of environmental risk when it comes to all mining projects. Aura has not identified any environmental hazard that cannot be addressed and handled in a within normal operations of a mining project. The final environmental standards will be determined and included in the next phase of the project resolving any matters related to the environment according to the Code of the environment (Miljöbalken) in Sweden.

In the community, there is local political opposition towards the mine, as well as concern among the local population primarily related water, environmental footprint and the economic benefits to the local community and region. During the Autumn of 2023 and beyond, Aura will engage in local dialogue to inform, mitigate concerns, and show their intention to be an active and long-term partner in the community.

In the political dialogue on the national level, Aura has raised the idea of introducing a new value transfer mechanism for mining in Sweden, where part of the revenue is allocated back to the community where the mining occurs. There is currently a suggestion in an investigation made by the Swedish Government, and Aura would find it positive to see such a mechanism turned into law.

- Aura has an ongoing and constructive dialogue with the Swedish Government and Parliament as regards to the project.
- The Swedish Government is very progressive about the future of battery metals in its economy and vanadium is a part of this. Companies such as Northvolt are an example of how much effort is being invested by the Swedish Government to get battery projects and mining projects in place to support this initiative.

2.13 Financial analysis

2.13.1 Accuracy of Estimates

The Scoping Study cost estimates have been completed to an estimated accuracy of +/- 35%.

2.13.2 Financial Analysis Assumptions

Financial analysis was performed using the following assumptions:

- Corporate tax rate of 22%;
- 2% property tax based on facilities constructed as part of the development;
- 0.02% gross revenue per annum royalty rate;
- Cashflow analysis from commencement of construction.
- The estimate is given in United States dollars (USD) taken from the market on 20/06/2018.
 - 0.65 AUD: 1 USD
 - 8.89 SEK: 1 USD
 - 0.86 EURO: 1 USD
- Capital Cost estimates – see Section 2.9
- Operating Cost estimates – see Section 2.9.2

2.13.3 Financial Highlights

The Base case scenario is outlined in Table 20 and indicates a viable and robust project.

The Scoping Study Base Case was assessed over a range of price assumptions from a low of US\$7.00/lb V₂O₅ to a high of US\$13.00/lb V₂O₅. For comparisons a Base Case mid-point price of US\$9.50/lb V₂O₅ was used.

Table 20: Häggån Vanadium Project Scoping Study Base Case financial highlights. Price assumption range from low of US\$7.00/lb V₂O₅ to a high of US\$13.00/lb V₂O₅.

	Base case
Life of mine ('LOM') ore production	59Mt
Average V ₂ O ₅ grade - LOM	0.36% V ₂ O ₅
Average K ₂ O grade - LOM	4.17% K ₂ O
Overall V ₂ O ₅ recovery from plant feed	80%
V ₂ O ₅ production - LOM	166,500 tonnes V ₂ O ₅ (367 M lb)
Process throughput	3.6 Mtpa
Mine life (high-grade plant feed)	11 years
Total Mine life (low-grade feed blended in final 6 years)	27 years
Annual production – V ₂ O ₅	10,000 tpa V ₂ O ₅
Annual production – SOP	215,000 tpa SOP
V ₂ O ₅ price assumption range	US\$7.00/lb V ₂ O ₅ to US\$13.00/lb V ₂ O ₅
SOP price assumption	US\$650/t SOP
Initial capital cost	US\$592M
Operating cash flow (EBITDA) – total	US\$2.6B to US\$4.8B
Operating cash flow (EBITDA) - annual	US\$153M to US\$282M
After tax cash flow – total	US\$1.7B to US\$3.4B
After tax cash flow – annual	US\$97 to 198 million
Operating margin (EBITDA)	94% to 170%
Net direct cash operating cost ('C1')	US\$2.7/lb V ₂ O ₅
Net All-in sustaining operating cost ('AISC')	US\$2.9/lb V ₂ O ₅
Post-tax net present value ('NPV') (8% discount rate)	US\$456 to \$1,307 million
Post-tax Internal Rate of Return	28% to 49%
Approximate Payback period	1.5 to 2.0 years

At a **Net All In Sustaining Operating Cost (AISC) of approximately US\$2.90 /lb V₂O₅** produced over the life of the project the Base Case Project is expected to generate an attractive **operating margin of between 94% and 170%** on EBITDA based on the range of vanadium price assumptions.

The Häggån Vanadium Project Scoping Study has demonstrated attractive economics with a **Base Case post-tax NPV_{8%} of between US\$456M and US\$1,307M**, for the range of vanadium price assumptions, determined to an accuracy of ±35%. The **post-tax IRR of the project is approximately**

28% to 45% and the payback period is approximately 1.5 to 2.0 years.

Capital costs required for the project are estimated at US\$592M, with mine and process plant production commencing 24 months from the start of construction.

2.13.4 Sensitivity Analysis

A sensitivity analysis has been completed for the Project around the Base case mid-point assumptions. This highlighted that V₂O₅ product price, ROM grade, overall process recovery and operating costs have the greatest impact on the Project Base Case Post -Tax Net Present Value at an 8% Discount Rate, as demonstrated in Figure 24. Within each of these ranges (+/- 35% change in input assumptions) the Project remains economically viable.

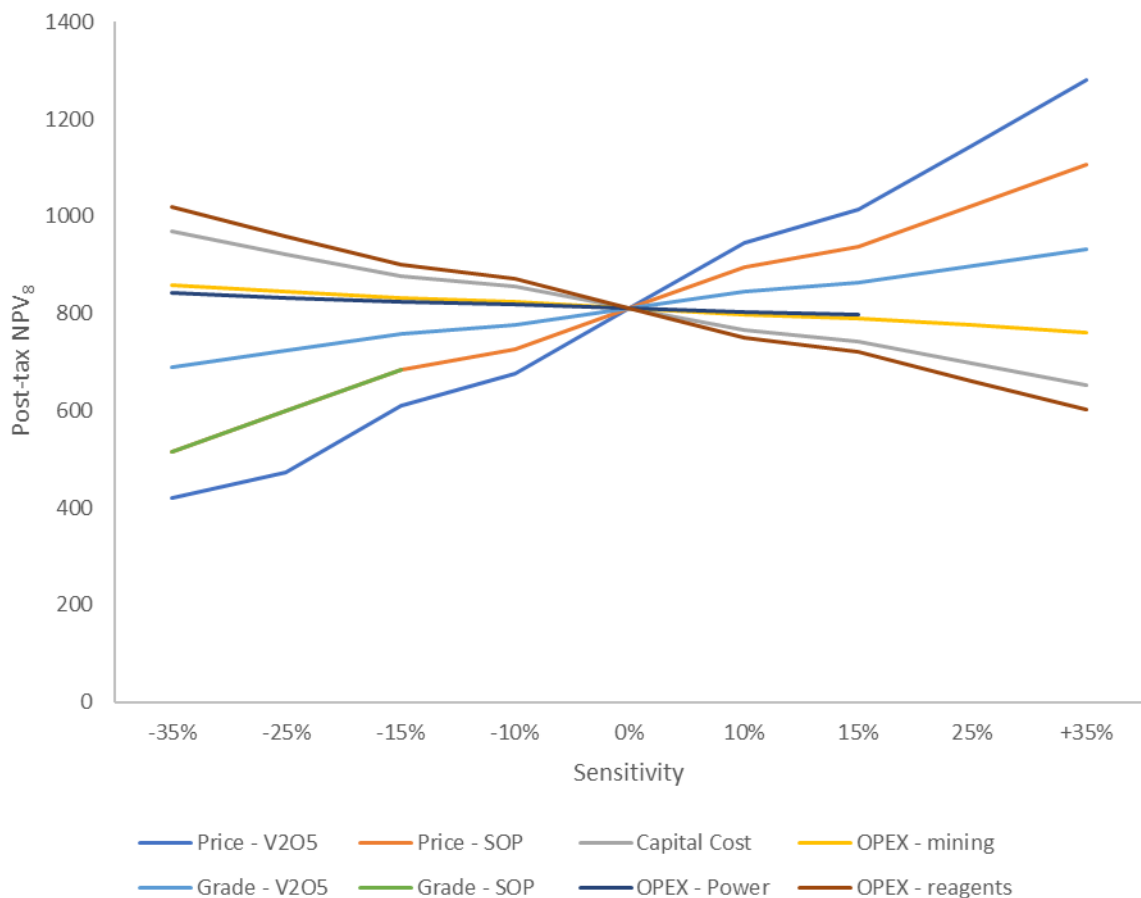


Figure 24: Häggån Vanadium Project sensitivity analysis

The range of sensitivity values applied over the +/-35% change were:

- V₂O₅ Price from US\$8.45 /lb to US\$17.55 V₂O₅
- SOP Price from to US\$338/tonne to US\$702/tonne
- OPEX for mining from US\$2.50/t ROM to US\$5.20/t ROM
- Grade V₂O₅ from 0.22% to 0.46% V₂O₅
- Overall recovery of V₂O₅ from 52% to 92%
- Grade SOP from 2.7% to 5.61% K

- Capital estimate from US\$368M to US\$765M

The sensitivity of V₂O₅ price, ROM V₂O₅ grade and overall process V₂O₅ recovery were all linked, plotting on the same line. These, along with operating costs, are the main drivers of project value. A 35% reduction in these variables still resulted in a positive project.

The main driver of operating cost is the sulphuric acid price. Production of acid at site will reduce the potential fluctuations in sulphuric acid price, significantly reducing price risk once the acid plant has been constructed. The Project remains economically viable at current low vanadium prices.

Inferred Mineral Resource Sensitivity

Analysis of a production schedule based on using only 100% Indicated Mineral Resource reduced the estimated project IRR to a range of 26% - 46%, or a reduction of less than 3% on the Base Case results. This is not considered to be a material negative impact on the economic viability of the project.

SOP By-Product Sensitivity

The base case for the Haggan Vanadium Project includes production of Sulphate of Potash ('SOP') by-product. This provides an integral baseline of stable revenue for the project to provide greater robustness against the historically volatile vanadium price. Under the baseline assumptions, outlined in Appendix 1, the sale of SOP product contributes 37% of total after tax revenue. While integral to the project, and a key differentiating factor compared to other Shale hosted vanadium projects, removal of SOP revenue would result in an overall project margin of 45%, compared to 94% margin for the full base case. The standalone vanadium project would equate to an NPV₈ of US\$26M and reduced capital of US\$550M. However, as with many mining projects where by-products are an important factor the inclusion of the SOP by-product is considered a valuable portion of the project and will be included in the base case progressing to the PFS study.

2.13.5 Funding

To achieve the range of outcomes indicated in the Scoping Study, funding in the order of US\$591M will be required for Project development. In addition, pre-development funding of approximately US\$15M for exploration to convert the mineral resource to an ore reserve and to complete a Prefeasibility Study and then a Feasibility Study has been estimated. Whilst there is no certainty that Project development funding will be obtained on satisfactory terms, at the time required, or at all, the Aura Directors believe that providing the Project economics indicated by the Scoping Study are confirmed by the next stages of studies on the Project, it is reasonable to assume that sufficient sources of funding for the development of the Häggån Vanadium Project will be established.

Aura Directors believe that it is most likely that the abovementioned pre-development and development funding required for the Häggån Vanadium Project may be achieved as:

- Continued equity funding of Pre-Development costs including the PFS and Feasibility Study via Aura Energy.
- The mix of products from the Project is of strategic importance in Sweden and the European Union. This may increase the value of the project in attracting support from Export Credit Agency (ECA) finance within Europe.
- The Aura Board and management have a strong track record in developing projects.
- The current state of the vanadium market indicates that demand from China may increase via

changes to its steel quality requirements and also from Vanadium Redox Flow Batteries. Both these could positively impact the vanadium price and the ability to fund the Häggån Project.

Factors which support this assumption, without stating that funding will be necessarily obtained, include:

- The robust economics of the Project that make it attractive for investors looking for vanadium market exposure, especially in relation to growth in energy storage applications for vanadium.
- The track record of the Company and its Directors in raising funding through share placements.
- The current level of engagement of the Aura Board and management with potential strategic partners who may wish to invest.
- The chance of attracting off-take agreement financing (a common form of financing in the vanadium industry) as the Project moves through the final Feasibility Study.

Investors should note again that there is no certainty that Aura will be able to obtain sufficient funding when needed. It is possible that funding may dilute or otherwise affect the value of Aura's existing shares. It is also possible that Aura could pursue other 'value realisation' strategies such as sale, partial sale or joint venture of the Project. If it does, this could materially reduce Aura's proportionate ownership of the Project.

2.14 Recommendations and Next Steps

As a result of the outcomes of the Scoping Study, subject to obtaining funding, Aura plans to undertake a Pre-Feasibility Study ('PFS') on the Häggån Vanadium Project to further assess internal project options, reduce risk and better define the Project. If the results of the PFS continue to indicate a robust investment, a Feasibility Study will follow to further confirm and de-risk the Project and to provide the detail required for a development investment decision.

The PFS is expected to take 12-18 months, depending on the depth of studies required, and will aim to outline the most attractive investment option. This option will then be the focus of the more detailed investigation of the entire spectrum of mine development requirements in the Feasibility Study, anticipated to require a further 12-18 months.

The PFS will include further resource drilling and infill drilling, geotechnical and hydrogeological investigations, preliminary pit design and scheduling options, more detailed metallurgical test work, alternative process options, water management and environmental baseline and management studies. Engagement with local and broader communities will be a vital element of the PFS. Aura recognises that best practice environmental management and strong support from the community are critical for the project. Particular attention will be given to water, waste and emissions management, and to employment opportunities for local people.

It has been estimated that expenditure for the PFS program would be approximately US\$5M. Upon successful completion of the PFS program and assuming a decision to proceed is made a further approximately US\$10M expenditure has been estimated for completion of a Feasibility Study.

Some of the more important elements to be addressed in the PFS are:

2.14.1 Commercial

- Advance discussions with potential strategic partners on the development of the Häggån Vanadium Project.
- Advance discussions with Export Credit Agencies (ECA) to support financing of the Häggån Vanadium Project.
- Advance discussions with respective land title owners and explore opportunities for development of value-added industry in the local area, specifically in grid-scale battery manufacture.
- Investigate opportunities for sale of surplus electricity to the local grid.
- Liaise with key stakeholder groups on approval processes and potential concerns that need to be addressed.

2.14.2 Technical

- Additional resource drilling to expand the Indicated Mineral Resource component in the mining schedule to 100% Indicated Mineral Resources which, along with further work on the modifying factors, is aimed at conversion of Mineral Resources to Ore Reserves required for the PFS.
- Mineralogical characterisation to define proportions of vanadium-rich to vanadium-poor mica minerals (both types exist in the deposit).
- Characterisation of comminution (size reduction processes) behaviour of shale before and after roasting.
- Detailed option analysis of beneficiation unit operations with focus on optimisation of mica, sulphide and carbon minerals and rejection of calcite.
- Detailed option analysis of pressure leaching methods and conditions.
- Characterisation analysis of SOP crystallisation to define product purity.
- Detailed option analysis for vanadium solvent extraction and precipitation circuits to define product characteristics.
- Detailed characterisation of all process waste streams as inputs for development of waste management strategies.
- Baseline environmental monitoring at the Häggån site.

2.14.3 Additional Project Work

- Community engagement programs.
- Planning and commencement of work to define the inputs for the future Environmental Impact Statement, for example:
 - Definition of environmental and social baseline conditions.
 - Detailed environmental and social risk assessments and mitigation.
 - Assessment of local economic development opportunities, including employment and support of local industry.

- Safety and health systems planning
- Hydrogeological, surface and ground water assessments and management.
- Air quality assessments and management.
- Archaeology and cultural heritage assessments.
- Consultation and public participation
- Legal and regulatory requirements



Appendix 1 – Uranium circuit option

The Alum Shale making up the Häggån resource contains a large endowment of uranium at consistent but low grade. The project has previously been investigated as a uranium project, with a scoping study released in 2012 assessing the potential for recovery of uranium using a bio heap leach process flowsheet. This project required large scale mining, with the optimum scenario envisaged to process 30 Mtpa over a long project life.

Subsequently, the viability of the proposed process from an environmental and social perspective has been reassessed. This identified that large scale bulk processing methods, such as heap leaching were unsuitable for the region. The risk of water contamination was assessed as high for heap leaching and Aura determined that lower footprint process options were more suitable for the area. In addition, in 2018 Sweden removed uranium from the mining act, eliminating the possibility to develop a uranium focused mine.

The uranium concentration averages 140ppm U_3O_8 , with uranium characterised as amorphous inclusions hosted with the carbon matrix of the Alum Shale. In the pressure oxidation and leaching process proposed for extraction of vanadium and other by-products uranium will leach with a high efficiency.

In the baseline scenario for the Häggån poly-metallic project, uranium that is recovered to solution is stabilised in a calcium phosphate matrix for disposal with the tailings. It has been suggested that if the people of Sweden desired a domestic source of uranium in the future an additional circuit could be added to the Haggan poly-metallic project to produce Uranium Oxide Concentrate (UOC), or Yellowcake.

2.14.4 Circuit modification

To adapt the Häggån poly-metallic project circuit for production of uranium a new circuit would need to be commissioned. This circuit would replace the calcium phosphate precipitation circuit.

The circuit proposed for precipitation and purification of uranium would include solvent extraction, precipitation as ammonium diuranate, purification and final precipitation as U_3O_8 powder. The final precipitation and packaging plant would be based on the modular solution proposed to use in the Tiris Uranium Project.

The capital requirement for the additional circuit has been estimated based on the relevant circuits within the Tiris Uranium Project. This would require additional expenditure of US\$30.7M.

2.14.5 Production

The potential production of U_3O_8 for the base case scenario has been shown in Figure 25. This shows potential average production of ~460t U_3O_8 per year, at this scale the Häggån Battery Metals Project has potential to supply 25% to 50% of Sweden's annual U_3O_8 requirements. This would provide an excellent basis for securing supply for Sweden's energy requirements.

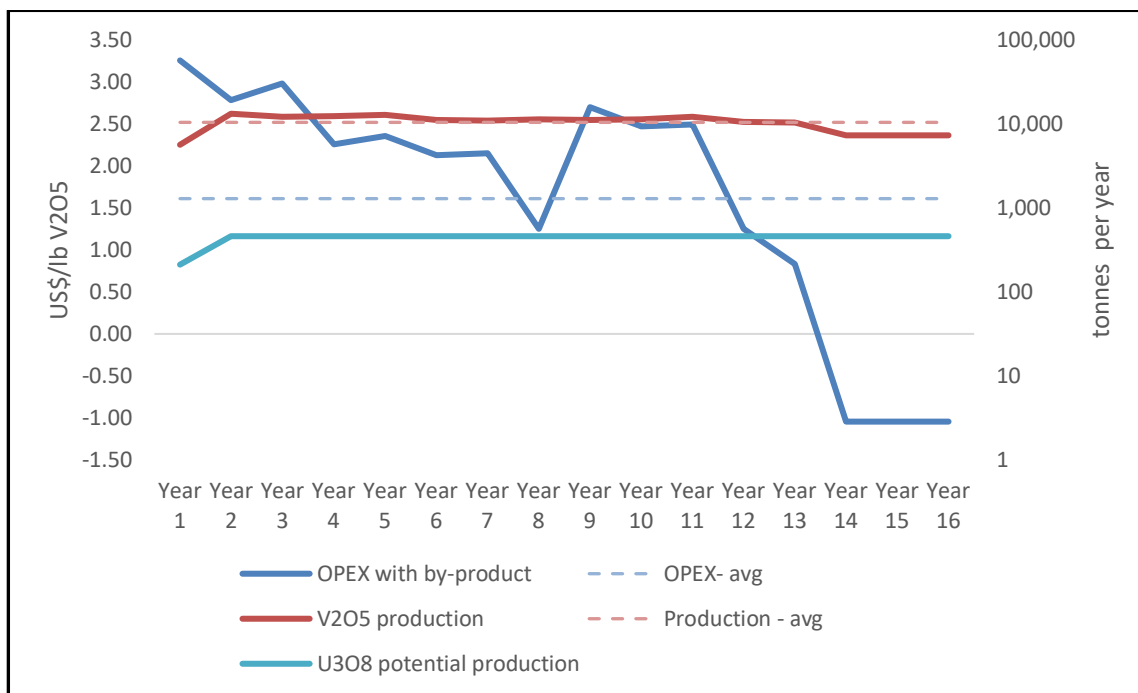


Figure 25 – U₃O₈ production profile by throughput scenario

2.15 Economic analysis

Modelling of the effect of adding a U₃O₈ by-product to the Häggån poly-metallic project was undertaken. Assumptions from the base case modelling were maintained, with the addition of U₃O₈ at a price of US\$65/lb U₃O₈.

The revenue distribution between products can be seen in Figure 26. This shows that under baseline price assumptions U₃O₈ could account for 14% of revenue, with vanadium remaining the dominant product.

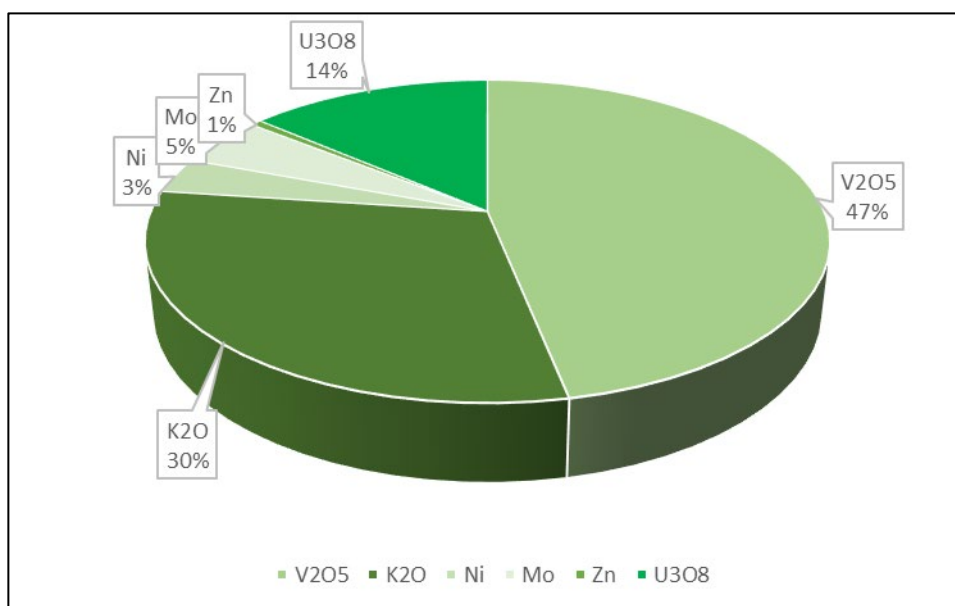


Figure 26 - Distribution of revenue by product, including U₃O₈ in baseline case for 3.6Mtpa processing throughput.

V₂O₅ price of US\$9.5/lb, SOP price of US\$650/t K₂O, U₃O₈ price of US\$65/lb, Nickel price of US\$20,000/t, Mo price of US\$51,000/t and Zn price of US\$2,500/t, with 70% payability for base metal units.

A summary of key metrics for the Häggån Battery Metals Project if uranium credits were included has been provided in Table 21.

Table 21 - Financial analysis outcomes by scenario with inclusion of U₃O₈

Throughput	NPV8 US\$M	EBITDA US\$M/a	LOM Years	Payback Years	NPV8: CAPEX	EBITDA: CAPEX	All in Cost US\$/lb V ₂ O ₅
3.6	1,334	297	17	1	2.2	8.4	-1.7

The results in Table 21 demonstrate that addition of a uranium by-product credit would have a significant positive impact on the economics of the project. The variation in key metrics has been summarised in Table 22.

Table 22 - Variation of base case economics with inclusion of U₃O₈.

Scenario	Uranium % Revenue	NPV8 variation	IRR increase
3.6Mtpa	13%	37%	6%

Table 22 shows that uranium could contribute up to 13% of revenue for the Häggån Battery Metals Project. Interestingly, if all other by-products are removed the potential share of revenue for U₃O₈ rises to 21%, demonstrating that vanadium remains the dominant value driver.

The low cost of production for U₃O₈ results in a more significant increase in NPV₈ and IRR, especially at lower throughput scenarios. At the proposed base case throughput of 3.6Mtpa the addition of a uranium by-product could add 37% to the NPV₈ and 6% to the IRR.

2.16 Sensitivity

The sensitivity of the Project to V_2O_5 price with uranium by-product included can be seen in Figure 27.

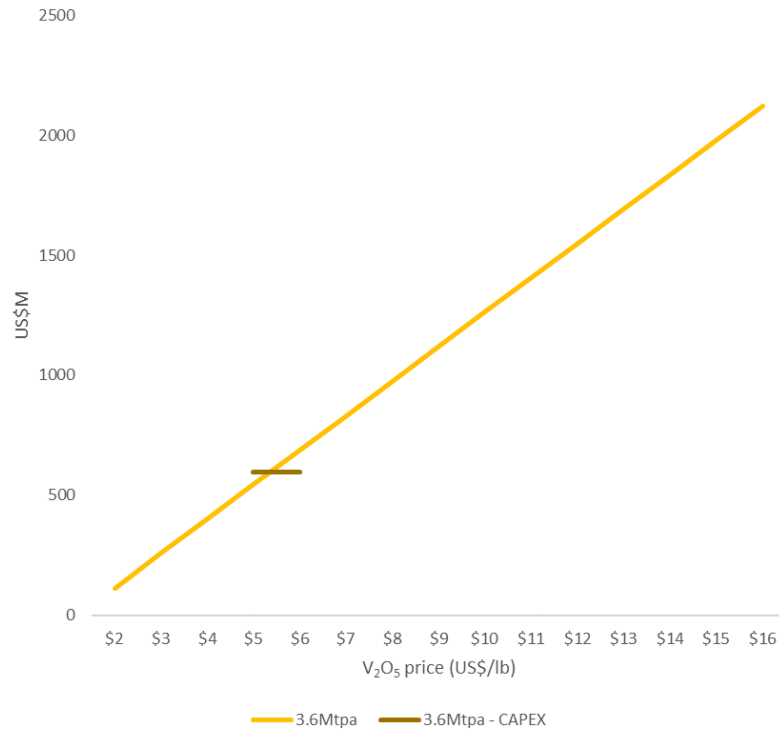


Figure 27 - Sensitivity of NPV_8 to V_2O_5 price with uranium by-product included, for throughput scenarios ranging from 0.9Mtpa to 7.2Mtpa. CAPEX included for comparison.

JORC Code, 2012 Edition – Table 1, Section 4

The following Table is sourced from the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition) (JORC Code 2012)) and presents assumptions on which the Scoping Study is based.

For clarity, this table is not being used to report Ore Reserves. Instead, as per the ASX Interim Guidance: Reporting Scoping Studies dated November 2016, this table is being used as a framework to disclose underlying study assumptions.

Summary of Material Assumptions based on Section 4 Estimation and Reporting of Ore Reserves modified for a Scoping Study which includes an approximate Production Target and Forecast Financial Information

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves. 	<ul style="list-style-type: none"> The Häggån Mineral Resource was provided to the ASX 10th October 2019 for the Häggån Project, no Ore Reserve has been reported. The Mineral Resource update was reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, (JORC Code 2012) and validated by H&S Consultants Pty Ltd.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> Neil Clifford of Aura Energy visited the Häggån resource site immediately before and after the 2018/19 resource drilling program. A site visit was conducted by and reported on by the Independent Geologist acting for Wardell Armstrong as part of Aura's AIM listing requirements. Rupert Osborn of H&SC visited the Häggån Project for two days in December 2018. Mr Osborn discussed the geology and logging procedures with the site geologist, observed drill core and checked the location of ten drill holes using a handheld GPS.
Study status	<ul style="list-style-type: none"> The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered. 	<ul style="list-style-type: none"> No Ore Reserve has been reported. The Production Target reported is supported by assumptions for the scoping study (SS or Scoping Study) reported in this publication. Financial modelling completed to support this Production Target estimate is based on the SS and this modelling shows that the Production Target is economically viable at V₂O₅ SOP and base metal prices supported by a range of consensus longterm price scenarios in the range of US\$7-13/lb V₂O₅, US\$650/t SOP, US\$20,000/t Ni, US\$33,000/t Mo and US\$2,500/t Zn. It should be noted the economic analysis does not include revenue from the Inferred resource during the payback period for the Production Target (2 years).
Cut-off parameters	<ul style="list-style-type: none"> The basis of the cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> The cut off grade used to determine ore tonnes is 0.08% V₂O₅. The definition of the Production Target Estimate cut-off grade can be seen in "costs" section of JORC Table 1 Section 4 below. Aura completed numerous metallurgical and geometallurgical studies on composite samples of mineralisation at Häggån, which were summarised in ASX and AIM announcement, "Häggån Battery Metal Project Resource Upgrade Estimate Successfully Completed, 10 October 2019. These results together with updated mining and processing costs, and other cost inputs support the application of a marginal cut-off grade of 0.08% V₂O₅. This

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Criteria	JORC Code explanation	Commentary
<p><i>Mining factors or assumptions</i></p>	<ul style="list-style-type: none"> <i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i> <i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i> <i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i> <i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i> <i>The mining dilution factors used.</i> <i>The mining recovery factors used.</i> <i>Any minimum mining widths used.</i> <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i> <i>The infrastructure requirements of the selected mining methods.</i> 	<p>cut-off is comparable to peer projects with similar mineralisation types and processing assumptions.</p> <ul style="list-style-type: none"> Aura Energy proposes to use conventional mining methods employing drill and blast, backhoe excavators and dump trucks to expose and recover the ore. The mining method proposed is utilised world wide and is low risk. Key pit optimisation parameters applied by Mining Plus for Whittle pit shell optimisation were: <ul style="list-style-type: none"> Break-even cut-off grade ('COG') of 0.08% V₂O₅ Overall slope angle of 41.4 degrees Mining operating cost of US\$2.71/t material moved Preliminary processing cost (after SOP by-product credit) of US\$12.96/t milled Vanadium price of US\$10.90/lb V₂O₅ V₂O₅ recovery of 71.6% Targeted annual production rate of 2.85Mtpa ore mined and processed Targeted annual vanadium production of 7,500tpa V₂O₅ Discount rate of 10% A number of sensitivity tests were applied by Mining Plus during the pit optimisation studies: <ul style="list-style-type: none"> Mining costs: -10% to +50% Processing costs: -10% to +20% Recoveries: +/- 2% Vanadium Price: US\$6/lb V₂O₅ to US\$12/lb V₂O₅ Slope angle: +/- 2 degrees The Production Target is based on 77% Indicated Resources and 23% Inferred Resources used as ore within the mine production schedule and financial modelling. Inferred Mineral Resource for the purpose of the Ore Reserve estimate is treated as waste in the first 2 years which has been economically carried by the Ore. Low grade material (<0.3% V₂O₅) is planned to be stockpiled for processing at completion of the mining schedule. The mine production schedule assumes effective operation of the mining fleet and is based on realistic utilisation estimates The geological block models used as basis for Production Target are Ordinary Kriging resource models and as such no additional mining dilution or recovery factors have been added. Pit optimisations were carried out using Daussalt Whittle software.
<p><i>Metallurgical factors or assumptions</i></p>	<ul style="list-style-type: none"> <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i> <i>Whether the metallurgical process is well-tested technology or novel in nature.</i> <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i> <i>Any assumptions or allowances made for deleterious elements.</i> <i>The existence of any bulk sample or pilot scale test</i> 	<ul style="list-style-type: none"> The metallurgical process proposed is conventional beneficiation with pressure oxidation leach, solvent extraction and sequential product precipitation. All metallurgical processes proposed are well tested technology and appropriate for the styles of mineralisation. Extensive metallurgical test work has been undertaken and included: <ol style="list-style-type: none"> Material characterisation mineralogy (University of South Australia) Geometallurgical testing Comminution tests (SGS) beneficiation tests (ANSTO)

Criteria	JORC Code explanation	Commentary
	<p><i>work and the degree to which such samples are considered representative of the orebody as a whole.</i></p> <ul style="list-style-type: none"> • <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i> 	<ul style="list-style-type: none"> ▪ Cyclone de-slime ▪ Flotation ▪ Gravity Separation ▪ Electrostatic and magnetic separation <ol style="list-style-type: none"> 5. Diagnostic leaching (ANSTO Minerals) 6. Column and tank atmospheric acid leaching 7. Salt roast with water/acid leach. (ALS Minerals) 8. Oxidising roasting with acid leach (ALS Minerals) 9. Acid pressure leach. (ALS Minerals) <ul style="list-style-type: none"> • Metallurgical domaining was defined based on two whole ore composite samples, defined based on lithological associations. Mineralogical characterisation was performed on a series of drill hole intervals as variability samples, and metallurgical composites. • Average recovery of V₂O₅, K₂SO₄ and Ni, Mo, Zn was 85% to flotation concentrate. • Vanadium recovery in Acid Pressure leach at 180C and Oxygen partial pressure of 1,200 kPa O₂ between 96.1% and 96.7% was achieved. Potassium recovery in Acid Pressure leach was between 79% and 87%, with average leach recovery of 83% used for the Scoping Study. • The solvent extraction process is a long-established, well-understood, widely used, conventional process. METS and Aura consider that 98% vanadium recovery is a reasonable assumption for the Scoping Study. • The overall process recovery of 80% V₂O₅ used in the Scoping Study was calculated from the process stage recoveries for flotation, acid pressure leaching and solvent extraction. • The overall process recovery of 80% V₂O₅ used in the Scoping Study is conservative when compared with other comparable vanadium studies reviewed, which averaged 84.6% V₂O₅ overall process recovery, and with 93.3% V₂O₅ overall process recovery used for the Balasqandic Vanadium Project. • The overall process recovery of the SOP by-product, including floatation, acid pressure leaching and crystallisation stages, was 60%. • Deleterious minerals were identified as calcite (CaCO₃) and organic carbon (C). These minerals were monitored in geometallurgical domaining and included in domain definition parameters to manage impact on process. Clay minerals were also identified as potentially deleterious and monitored through inclusion of particle size distribution definitions in geometallurgical domaining. • Acid consumption through the pressure leaching circuit may be higher than anticipated. The acid consumption used for this report was calculated based on reaction stoichiometry. The consumption was found to be 34% higher than the pressure acid leaching test result when only considering the reactions occurring and ignoring the free acid in solution. This discrepancy is thought to be related to the extent of muscovite dissolution. • Metallurgical test work has been undertaken at a

Criteria	JORC Code explanation	Commentary
		<p>scoping study level with focus on determination of technically viable process options. More detailed test work on geometallurgical domains and variability samples will be undertaken through the pre-feasibility and it is anticipated that pilot plant test work will be undertaken with the Feasibility Study.</p> <ul style="list-style-type: none"> The process is designed to produce V₂O₅ flake product at >98% purity, the standard product quality for use as a steel additive. The use of solvent extraction to concentrate vanadium in solution is, however, expected to allow production of high purity V₂O₅ flake (>99% V₂O₅), suitable for direct use in vanadium electrolyte. Although this product is anticipated to command a premium price in the market, no allowance for this has been made in the Study economics. Whilst the composition of the pressure leach solution was not extensively studied in preliminary test work, Aura and Mets consider that there is sufficient information from its desktop study undertaken to assume that potassium sulphate can be recovered within the market specification.
<p><i>Environmental</i></p>	<ul style="list-style-type: none"> <i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i> 	<ul style="list-style-type: none"> The major studies are underway to provide inputs to the Environmental Impact Study (EIA) and Environmental Impact Report (RIMA) included the following: <ol style="list-style-type: none"> Archaeology and Cultural Heritage Ecology and Biodiversity Meteorology, Air Quality, Noise and Vibration Socio-economic, Health, Transport and Security Hydrology, Hydrogeology and Water Waste rock, beneficiation reject, and process plant tailings are inert and will be disposed of in mined out pits. The final location for all waste products is backfilled into the mining voids, however some stockpiling will be required until pit voids become available. It is planned that the process plant tailings will be preferentially placed into the mining voids followed by the coarser screening plant rejects and finally the mine waste and overburden. The processing plant tailings are a filtered product at a 63% solids density Waste characterisation studies are currently underway for inclusion in Pre-Feasibility Study analysis.
<p><i>Infrastructure</i></p>	<ul style="list-style-type: none"> <i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i> 	<ul style="list-style-type: none"> Transportation systems are generally well developed in the nearby area. Road, rail and air transportation and freight, electrical power, and modern communications are all readily available in the Östersund area. The European highway route E14 passes within 35 km of the Häggån deposits and connects Sundsvall on the Swedish east coast to Trondheim on the west Norwegian coast. The E14 runs along the north shore of Lake Storsjön. The European highway route E45 which is approximately 13km distance from Myrviken at the south of the deposits, connects to the north and south of Sweden.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> Adequate power is available for the project through the nearby State grid. Connection to the grid has been included in the infrastructure capital cost estimate. Process water reticulation and recycling, potable water supply and reticulation and fire water supply and reticulation have been included the METS Processing Plant capital cost estimate, which includes site earth works, site roads, surface water catchment, administration building, workshop and stores, site ablutions, crib room, mill control room, furniture and equipment. Employee accommodation was not included in the capital cost estimate as it was assumed that Östersund has sufficient surplus housing.
<p>Costs</p>	<ul style="list-style-type: none"> <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i> <i>The methodology used to estimate operating costs.</i> <i>Allowances made for the content of deleterious elements.</i> <i>The source of exchange rates used in the study.</i> <i>Derivation of transportation charges.</i> <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i> <i>The allowances made for royalties payable, both Government and private.</i> 	<ul style="list-style-type: none"> The mine, process plant and infrastructure capital cost estimate for a range of throughput options at start-up from 1.8Mtpa to 3.8Mtpa was prepared by METS Engineers from information developed in-house by Aura Energy and Material Assumptions presented here. The basic key information package provided by Aura included block Process Flow Diagrams (PFDs) as well as key Design Criteria to allow an extension of the design by others. The capital estimate was based on a combination of vendor estimates for major equipment and database estimates from METS Engineering. Key items included in vendor quotations were crushing, ball mills and autoclaves for the pressure leaching circuit The capital estimate allows for mine development through a mining contract and in-pit disposal of tailings, with a small interim tailings dam while sufficient access to pit is generated. These assumptions will be further explored during the PFS assessment. Infrastructure costs have been estimated from METS database based on similar sized project located in Sweden. It was assumed that Östersund would provide sufficient accommodation for construction and operational personnel. Potable water and raw water infrastructure were assumed to be connected to the local piping network. Power supply is assumed to be from a connection to the national grid at approximately 40km from the plant. The power infrastructure estimation included a substation and the cost to run a 220kV cable 40 km. An allowance for site buildings was included as a factored estimate based on similar sized projects in the area. A working capital allowance of 5% Direct capital costs was included in Indirect capital. An additional allowance for first fills of reagents was determined based on first principles. The project capital cost estimate has been costed to an accuracy of ±35%. A contingency of 20% has been included, based on the quality of available information used for engineering design, the technology being used and the known grade of material feed stock.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> • Cost estimate was prepared for the Feasibility Study and the cost estimate is compliant to Australasian Institute of Mining & Metallurgy (AusIMM) Class 5 estimate with an accuracy -35% to +35%. Capital costs included the process facilities, site infrastructure, utilities and support facilities and a contingency and for the Scoping Study totalled US\$592. • FS operating costs for processing and G&A were derived from first principles by Consultants (mining), METS Engineering and Aura Energy (treatment and services) and Aura Energy (G&A) • The Scoping Study includes the assumption that contract mining will be applied. Mining Plus estimated a contractor mining cost of US\$2.71 /t of material mined, based on a number of previous studies for mines within Sweden, and recent data obtained by Mining Plus for operations with similar-sized equipment. The average unit costs obtained to estimate the contract mining cost for the project were; <ol style="list-style-type: none"> 1. 2010 Häggån Uranium Scoping Study , US\$2.71 /t mining 2. 2014 Viken PEA , US\$2.43 /t mining 3. 2018 Mining Plus Review of a Swedish mine, US\$2.50 /t mining 4. 2018 Mining Plus DFS of a gold mine with similar equipment size, US\$2.66 /t mining • The US\$2.71 /t of material mined selected as a contractor operated mining cost for the Project is the highest of the four reference projects listed above, all of which are contract mining operations with the cost of equipment ownership and contractor profit margin included in the costs. US\$2.71 /t has been used for both ore and waste mining costs in the Scoping Study. • In addition, US\$1.20/t has been added to ore mining costs for rehandle of ore from Run of Mine stockpile to the Crusher, taking the Total Ore Mining Cost used in the Scoping Study to US\$3.91 /t Ore. • US\$1.20 /t has also been used as the cost of rehandling low-grade ore from low-grade ore stockpiles to the crusher in the later part of the project which is based on processing of low-grade ore stockpiles. • As the revenue from vanadium, SOP, Ni, Mo and Zn sales is effectively received in US\$ exchange rates for the Swedish Krona and to a much lesser extent other currencies have been used at the prevailing public mid-rate when costs have been estimated. • Transportation and local freight costs have been provided by international and local suppliers as part of the estimation of capital and operating costs and are well established for projects in Mauritania. • The royalty paid to the Swedish government will be 0.02% of gross revenue
Revenue factors	<ul style="list-style-type: none"> • <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties,</i> 	<ul style="list-style-type: none"> • A financial model for the Häggån Project has been developed by Aura Energy for the Scoping Study. • The quantity of ore and head grade delivered to the mill each year is estimated using the optimised block model

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	<p><i>net smelter returns, etc.</i></p> <ul style="list-style-type: none"> The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products. 	<p>over the life-of-mine.</p> <ul style="list-style-type: none"> Metallurgical recoveries are then applied to the mine schedule to calculate final yearly production volumes. Fixed and variable unit costs for mining on an US\$/t waste or ore and US\$/t ROM for processing have been applied to generate the annual operating cost for the Project. Commodity prices is based on the long term consensus incentive price to stimulate development of new projects sufficient to meet a range of market demand forecasts. Revenues for Production Target calculations have been based on the US\$ vanadium pentoxide flake price (per pound V₂O₅) from historical averages and consensus forecasts. This was with the range estimate of \$7/lb V₂O₅ to \$13/lb V₂O₅, The mean of analyst forecasts and peer projects was US\$9.50/lb V₂O₅.
<p>Market assessment</p>	<ul style="list-style-type: none"> The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract. 	<ul style="list-style-type: none"> The market for V₂O₅ is currently driven by the use of vanadium as a noble alloy in steel production. The development of Vanadium Redox Flow Batteries (VRFB) has been identified as a huge potential growth area. The aggressive emission reduction targets adopted globally have increased the need for emission free and low emission sources of power generation. Significant investment is occurring in renewable energy sources, which to be effective in providing stable power supply must be paired with large scale energy storage solutions. These include technologies such as pumped hydroelectricity, flywheels, hydrogen and batteries, such as VRFB's. VRFB's are a proven technology with 209,800kWh of capacity installed globally. Given this, significant growth is forecast over the coming decade, increasing to 33MWh by 2031. It is forecast that with this growth, VRFB's will account for 75% of vanadium consumption by 2030. Assuming no additional growth in vanadium use for steel alloys this would result in growth in the total vanadium market to ~400,000 tpa through the life of the Häggån Project. <ul style="list-style-type: none"> The average historic price can be broken into two areas. During periods of stable supply/demand dynamics, approximately 75% of the time from 2008, the mean price has been US\$7/lb V₂O₅. Since 2017 the upward volatility has increased, with the mean price increasing to US\$9.50/lb V₂O₅, with 4 events where the price exceeded US\$10.50/lb V₂O₅ and one sustained spike in 2018/19 where the price peaked at US\$33/lb V₂O₅. This supports a structural shift and general upward movement in the average vanadium price as growth of VRFB installations increases. The minimum price of US\$2.95/lb V₂O₅ occurred in 2006 but since mid-2017 the price has not gone below a floor of US\$5/lb V₂O₅ Pricing scenarios applied in assessment of the Production Target for the Scoping study include: <ol style="list-style-type: none"> Low scenario – US\$7/lb V₂O₅ - Mean price for V₂O₅ from 2008 to 2023. Represents a scenario where either: <ul style="list-style-type: none"> VRFB adoption for energy storage stagnates. Or, new supply from low cost sources (<US\$2/lb V₂O₅ OPEX), such as recycling or processing of tailings. Grows at an equivalent

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		<p style="text-align: right;">rate to VRFB growth.</p> <ol style="list-style-type: none"> 2. Mean scenario – US\$9.50/lb V₂O₅ - Estimate of incentive price required for new primary production to be commissioned. Reflects a scenario where forecast growth in VRFB adoption places moderate pressure on V₂O₅ supply. A conservative approach has been taken for the mean price, with a lower forecast than other aspiring primary V₂O₅ developers. 3. High scenario – US\$13/lb V₂O₅ - Conservative estimate of long term V₂O₅ price in scenario where sustained pressure is placed on supply by rapid growth in VRFB adoption. In this scenario it is likely that significant price volatility would also be observed. <ul style="list-style-type: none"> • The global market in 2021 for SOP was 1.8Mt, with growth of 4.4% pa forecast for the coming decade. This represents a niche fraction of the broader MOP market, which consumes ~35 Mt pa. Based on the Häggån base case with 3.6Mtpa throughput and 215ktpa SOP production, the project could account for 12% of current global requirements. • In 2021 and 2022, MOP and consequently SOP prices showed rapid growth, mainly due to the war in Ukraine and sanctions imposed on Russia and Belarus. These two countries account for 40% of global MOP exports. This led to prices approaching US\$1000/t in 2022, which is unsustainable for agriculture and resulted in lower potassium-based fertilizer usage and stabilization in prices. • The baseline assumption price of SOP for the Häggån Project has been US\$650/t K₂O. This represented a mid-point of current market prices and low range of long term forecasts. • Prices for by-products were based on the mean average price for 2022/23. A summary of market assumptions for by-product pricing can be found in section 7. An assumption of 70% payability on Ni, Mo and Zn contained in a Mixed Sulphide Precipitate was used. <ol style="list-style-type: none"> 1. Ni price of US\$20,000/t 2. Mo price of US\$33,000/t 3. Zn price of US\$2,500/t
Economic	<ul style="list-style-type: none"> • <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i> • <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i> 	<ul style="list-style-type: none"> • Aura Energy performed an economic and financial review of the Häggån Project using a range of V₂O₅ price scenarios and spot base metal prices as described above. A discounted cash flow model has been developed with a valuation date of August 2023. • NPV₈ range from US\$456M at sales price of US\$7/lb V₂O₅ to US\$1,307M at sales price of US\$13/lb V₂O₅
Social	<ul style="list-style-type: none"> • <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i> 	<ul style="list-style-type: none"> • The Häggån Project Exploration licences are located on private land. Preliminary negotiations with landholders will be undertaken in support of application for exploitation concession, currently underway. • Negotiations with local Sami representatives will be undertaken with application for exploitation concession.

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Other	<ul style="list-style-type: none"> To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements. The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent. 	<ul style="list-style-type: none"> Swedish legislation in 2018 now prevents the sale of fissile uranium products. The Haggån mineralisation contains uranium, which will pass into solution during the pressure leach stage. The proposed process includes provision to encapsulate leached uranium within a stable calcium phosphate compound. The stabilised compound will be disposed of within the planned dry tailings facility.
Classification	<ul style="list-style-type: none"> The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any). 	<ul style="list-style-type: none"> No classification of Ore Reserve has been undertaken.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Ore Reserve estimates. 	<ul style="list-style-type: none"> External audits of Production Target have not been undertaken. The Production Target estimate, mine design, scheduling, and mining cost model has been subject to internal peer review processes by Aura Energy. No material flaws have been identified.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> Reporting of the project Production Target considers; <ol style="list-style-type: none"> the Mineral Resources compliant with the JORC Code 2012 Edition, the conversion of these resources into an Ore Reserves, and the costed mining plan capable of delivering ore from a mine production schedule Dilution of the Mineral Resource model and an allowance for ore loss was included in the Production Target estimate. All the Mineral Resources intersected by the open pit mine designs classified as Indicated Resource has been included in the Production Target after consideration of all mining, metallurgical, social, environmental, statutory and financial aspects of the Project. The mine planning and scheduling assumptions are based on current industry practice, which are seen as globally correct at this level of study; which further work in the next level of study to understand any periodic cost fluctuations. The project team has estimated the cost estimates and financial evaluation with specialist consultants and team members, which are considered sufficient to support this level of study. The accuracy of the cost estimate is +/-35%. Consistent with the level of study costs are based on database values.