

23 MAY 2018

NEW RESOURCE ESTIMATE - HÄGGÅN BATTERY METALS PROJECT

SIGNIFICANT NEW HIGH-GRADE VANADIUM ZONE DEFINED 90 MILLION TONNES @ 0.42 % V₂O₅

NEWLY DEFINED HIGH-GRADE ZONE VANADIUM ONLY 20 METRES FROM SURFACE AND EXTENDING TO APPROX. 100 METRES DEPTH

SHALLOW MINING DEPTHS WILL PROVIDE MAJOR BOOST TO PROJECT ECONOMICS IN EARLY YEARS

Aura Energy Limited (AEE; ASX, AURA; AIM) is pleased to advise that the results from its 100% owned Häggån Battery Metals Project in Sweden orebody modelling study has defined a significant high-grade Vanadium zone close to surface and resulted in a new overall resource estimate.

The orebody modelling, which confirmed the Global Resource of 15.1 Billion lbs V_2O_5 , was also designed to review the potential for higher grade vanadium zones in the Häggån deposit at a range of cut-off grades.

Importantly, the modelling work defined a new significant high-grade near-surface Vanadium zone of **90 million tonnes at 0.42%** V_2O_5 at a 4000 ppm cut-off.

"The discovery that a large high-grade vanadium zone exists close to surface in the Häggån deposit provides a significant boost to the economics of this Battery Metals project. Clearly, this newly defined high-grade zone provides an excellent location to start an open pit which will result in the rare event of mining the best ore grades from the very start of the project", Mr Peter Reeve, Aura's Executive Chairman, said.



Häggån is a large poly-metallic deposit containing economically significant levels of V (vanadium), Ni (nickel), Zn (zinc), Mo (molybdenum) and other Battery Metals. Resource estimates were previously conducted and reported on the Häggån Project in 2010, 2011 and 2012 and since then additional infill drilling has been carried out.

With the recent dramatic rise in the price of vanadium, the principal focus for the Häggån Project was altered and Aura commissioned a new vanadium resource estimation exercised by H&S Consultants.

In summary, the new Inferred Resource inventory at Häggån, at various V_2O_5 cut-offs, is as follows:

V2O5 Cut-off %	Tonnes (Million)	V2 O 5 %	V ₂ O ₅ Billion lbs	Ni (ppm)	Zn (ppm)	Mo (ppm)	U ₃ O ₈ (ppm)
0.40%	90	0.42%	0.8	400	550	220	160
0.30%	900	0.35%	7.0	370	500	230	170
0.20%	1,950	0.30%	12.8	330	440	210	160
0.10%	2,600	0.26%	15.1	300	400	200	150

Table 1: Inferred Resources at Häggån.

At a 0.1% V_2O_5 cut-off the Häggån Inferred Resource contains approx. 15.1 billion pounds V_2O_5 .

At a cut-off grade of $0.4\% \ V_2O_5$ the resource contains approx.90 million tonnes at an average grade of $0.42\% \ V_2O_5$, containing 840 million lbs of V_2O_5 .

Of particular interest within this 90 million tonnes is the definition of a coherent and large zone of mineralisation of <u>49 million tonnes at +0.4% vanadium pentoxide</u> commencing at a depth of 20 metres below surface and extending to around 100 metres below surface.

The coherence of this zone is shown clearly in both cross-section and plan in Figures 1 and 2 below and is a significant outcome for the project and this resource modelling exercise.

As shown in Figures 1 and 2, the large higher V_2O_5 grade zone exists at shallow depth in the northwest portion of the Häggån resource. The high-grade zone here extends approximately 1 kilometre in both north-south and east-west directions. In this area the resource extends to surface in places and blocks containing vanadium grades higher than $0.4\%~V_2O_5$ extend to within 20 metres of surface.

"To put this in context, if Häggån were to produce approximately 5% of the current global vanadium production, we would be able to mine this high-grade pod for around 20 years, from resource blocks containing over $0.4\%~V_2O_5$ ", Mr Reeve commented. "And mining would not have to go deeper than approximately 100 metres for the first 15 years of production."



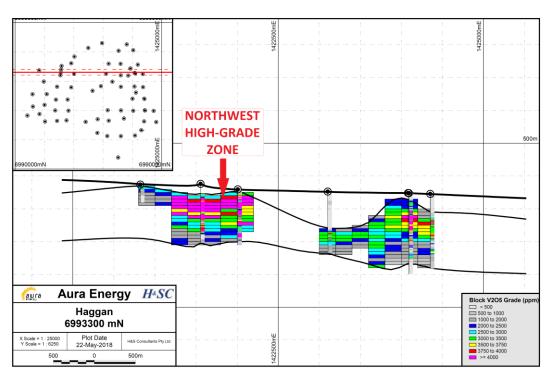


Figure 1: Cross-section of Häggån mineralisation showing vanadium grade distribution

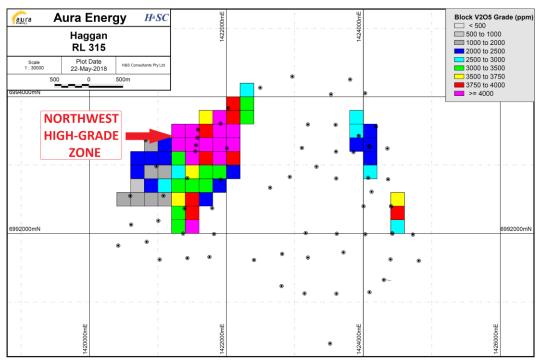


Figure 2: Horizontal section (plan view) of Häggån orebody at a depth approx. 45 metres below surface

At greater depths, blocks containing grades in excess of $0.35\% \text{ V}_2\text{O}_5$ occur throughout much of the polymetallic Häggån orebody (refer Figure 3).



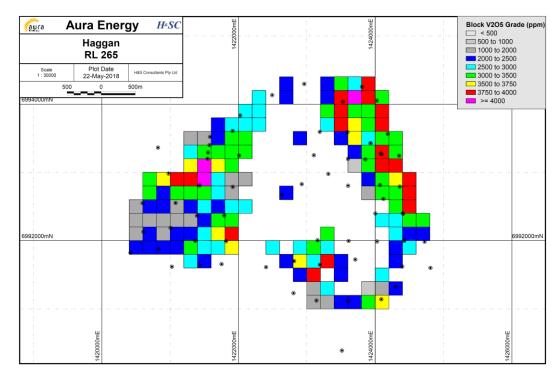


Figure 3: Horizontal section (plan view) of Häggån orebody at a depth approx. 95 metres below surface.

With over 15 billion pounds of V_2O_5 in Inferred Resource, Häggån is one of the world's largest known vanadium resources. Refer Figure 4.

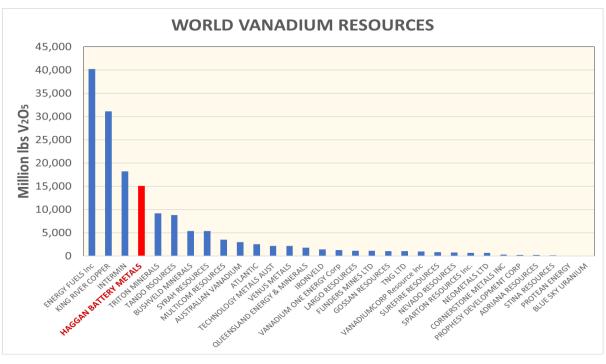


Figure 4: Contained V₂O₅ in Häggån Inferred Resource relative to other published vanadium resources.



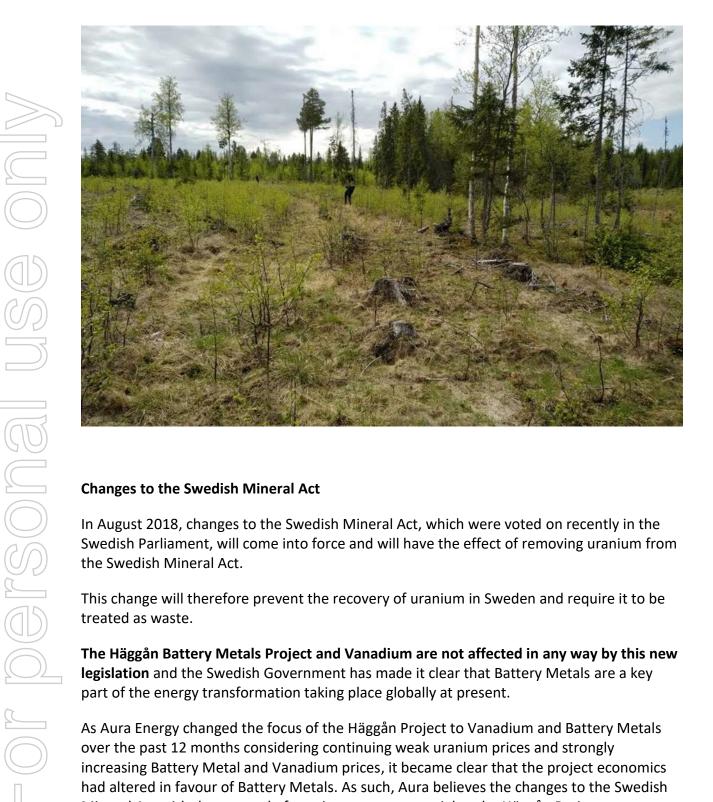
The following 3 photos were taken at the location of the High Grade Vanadium Zone.

The area is largely swamp and used for low level tree farming.









Changes to the Swedish Mineral Act

In August 2018, changes to the Swedish Mineral Act, which were voted on recently in the Swedish Parliament, will come into force and will have the effect of removing uranium from the Swedish Mineral Act.

This change will therefore prevent the recovery of uranium in Sweden and require it to be treated as waste.

The Häggån Battery Metals Project and Vanadium are not affected in any way by this new legislation and the Swedish Government has made it clear that Battery Metals are a key part of the energy transformation taking place globally at present.

As Aura Energy changed the focus of the Häggån Project to Vanadium and Battery Metals over the past 12 months considering continuing weak uranium prices and strongly increasing Battery Metal and Vanadium prices, it became clear that the project economics had altered in favour of Battery Metals. As such, Aura believes the changes to the Swedish Mineral Act with the removal of uranium are not material to the Häggån Project.

Key points from the Swedish government and the legislation include;

The Swedish Government has been clear that removing uranium from the Mineral Act will not affect mining for other metals such as Vanadium or other Battery Metals used for Battery production.



- The Swedish Government has allocated special funding for the new search of Battery Metals and have strongly supported development of the Battery Metal sector in Sweden. Aura will be speaking with the Government about the potential to access some of this funding to progress the Häggån Project.
- In the proposition, the Government has included an extensive evaluation on how the proposed changes to the Mineral Act and the Environmental Code affect the mining of innovation-critical metals and minerals. The evaluation will be conducted within five years after the new legislation is in place to ensure these Critical Metals are not affected by these legislative changes.

Summary of Resource Estimation and Reporting Criteria

In accordance with Australian Securities Exchange Listing Rule 5.8 and the JORC 2012 reporting guidelines, a summary of the material information used to estimate the Mineral Resource is set out below (for further detail please refer to the Appendix to this Announcement).

Geology and geological interpretation

Mineralisation at Häggån is hosted by bedded black shales of the Cambrian to Ordovician Alum Shale in tectonically or otherwise stratigraphically thickened metal enriched northnorth-west striking elongated geological domains. The mineralised sequence outcrops in an area in the east of the tenement but elsewhere underlies a variably thin cover of limestone. Minor inter-beds of carbonate enriched shale or siltstone occasionally occur within the mineralised sequence. The mineralised unit overlies a mixed sequence of siltstone and massive mineralized back shale above a granitoid gneissic basement. It is interpreted that there are a series of overthrusts which have displaced and caused thickening of Alum Shale within the resource area, and the sub-horizontal thrust sheets have influenced the grade distribution within the Häggån deposit.

Drilling techniques and hole spacing

The 2018 Häggån Resource Estimate is based on several drilling campaigns:

2008: 3453m in 17 diamond drillholes

2010: 5091m in 25 diamond drillholes

2011: 2279m in 10 diamond drillholes

2012: 1625m in 9 diamond drillholes

2015: 149m in 1 diamond drillhole

2017: 374m in 2 diamond drillholes

All drillholes except one were vertical. The majority of the holes were drilled with BQTQ bit (core diameter 47mm). Some holes were drilled in NQ2 (core diameter 50.6 mm) to provide material for metallurgical testwork.

Hole spacing over most of the resource is approx. 400 m by 400 m, with precise locations determined by ease of access. The final 3 drillholes were spaced 100m as the start of a resource upgrade drilling campaign.



Sampling and sub-sampling techniques

Assay samples were obtained from drillcore using a core saw. Half-core over 2 metre intervals was combined for assay purposes. The core samples were dried at 105°C, crushed to 70% -2 mm. 250 g was split by riffle splitter followed by fine pulverizing to 85% less than 75 micron.

10-20 grams of pulp subsample were dispatched to ALS-Chemex in Vancouver for assay.

Sampling analysis method

All samples were analysed by ICPMS for a wide range of elements following 4-acid digestion.

Cut-off grades

Based on a Scoping Study carried out in 2012 previous resource estimates at Häggån were based on a lower cut-off grade of 100 ppm U_3O_8 .

The 2018 Resource Estimate reported here uses a range of cut-off grades, the lowest being 0.1% (1000 ppm) V_2O_5 . At current V_2O_5 prices this is a much higher value cut-off than that used previously for the reason that using lower V_2O_5 cut-offs makes little difference to the contained V_2O_5 in the resource, as only a small proportion of the resource has a grade less than 1000 ppm V_2O_5 .

Estimation methodology

The vanadium, nickel, zinc, molybdenum, uranium, calcium and sulphur concentrations were estimated by Ordinary Kriging using Micromine software. H&SC considers Ordinary Kriging to be an appropriate estimation technique for this type of mineralisation.

H&SC created a wireframe solid to define the volume represented by vanadium grades above background concentrations. This wireframe is largely limited to the shale unit. Only the volumes inside the wireframes were estimated using only assays from within the respective wireframes.

The absence of extreme values precluded the need for top-cutting.

No assumptions were made regarding the recovery of by-products.

Variography was performed for, vanadium, nickel, zinc, molybdenum, uranium, calcium and sulphur on composite data from the Häggån mineralised volume.

Block dimensions are 200x200x10m (east, north, and vertical respectively). The plan dimensions were chosen as they are nominally half the drill hole spacing. The vertical dimension was shortened to reflect downhole data spacing and flat-lying nature of the mineralisation.

Two search passes were employed with progressively larger radii and decreasing search criteria. The first pass used radii of 400x400x10m whereas the second 800x800x20m (along strike, across strike and vertical respectively). The search ellipses formed flat discs. Both passes used a four-sector search and a maximum of six composites per sector (total maximum = 24 composites). The first pass required a minimum of eight composites and the



second pass required a minimum of six composites. Both passes required a minimum drill hole count of two. The blocks in the Häggån deposit that were populated in the first pass were classified as Inferred Mineral Resources. Blocks populated in the second pass formed the foundation of an Exploration Target quotient. Minor modifications were made to this scheme in order to reflect the competent person's view of the deposit.

The maximum extrapolation of Inferred Mineral Resource estimates is 380 m. The relatively large extrapolation distances is supported by the continuity and predictably indicated by the areas drilled.

The estimation procedure was reviewed as part of an internal H&SC peer review. No independent check models were produced due to the similarity between the 2018 estimates and the earlier estimates that were conducted by a different operator.

The final H&SC block model was reviewed visually by H&SC and it was concluded that the block model fairly represents the grades observed in the drill holes. H&SC also validated the block model statistically using a variety of histograms, and summary statistics.

Mining and processing methods and parameters

Given the flat lying nature of the mineralisation and the low overburden to resource ratios the resource is very well suited to standard open pit mining.

A significant volume of test work has been undertaken on definition of vanadium deportment and process behaviour, and for the other resource metals. This demonstrated that vanadium is present mainly in the form of V(III) hosted with the mica mineral roscoelite.

The results of testwork involving cyclone de-sliming of ground material (carried out by Australian Nuclear Science and Technology Organisation (ANTSO) in 2011 indicated that upgrade of 1.35 times vanadium feed grade could be achieved with 73% recovery and rejection of 45% of feed mass.

Extraction of vanadium was shown to be typical for a mica mineral host in Black Shales. Minimal vanadium extraction was observed in atmospheric acid leach. Recovery of up to 59% vanadium has been achieved by salt roast and acid leach, which compares favourably with industry average recovery for this process option of 50-55% vanadium. Acid pressure leaching has shown to be the most promising processing option, with 61% vanadium recovery from un-optimised sighter tests.

The observed results demonstrated that the Häggån Black Shale could be expected to behave as a typical mica-hosted vanadium resource similar to currently operating projects elsewhere. Testwork is continuing to determine the optimum metallurgical flowsheet.

For further information please contact:

Mr Peter Reeve Executive Chairman Phone +61 (0)3 9516 6500 info@auraenergy.com.au



Competent Persons

The Competent Person for the 2012 Häggån Mineral Resource Estimate and classification, updated in 2018, is Mr Rupert Osborn MSc of H&S Consultants Pty Ltd. The information in the report to which this statement is attached that relates to the 2018 Resource Estimate is based on information compiled by Mr Rupert Osborn, who has sufficient experience that is relevant to the resource estimation. This qualifies Mr Osborn 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 Osborn is an employee of H&S Consultants Pty Ltd, a Sydney based geological consulting firm. Mr Osborn is a Member of The Australian Institute of Geoscientists (AIG) 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 Competent Person for drill hole data, cut-off grade and prospects for eventual economic extraction is Mr Neil Clifford. The information in the report 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 report of the matters based on his information in the form and context in which it appears.

The Competent Person for matters relating to ore beneficiation and extraction is Dr Will Goodall. The information in the report to which this statement is attached that relates to ore beneficiation and extraction is based on information compiled by Dr Will Goodall. Dr Goodall 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 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 an independent consultant to Aura Energy. Dr Goodall is a Member 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.

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling	The 2018 Häggån resource estimate was based on several drilling campaigns: 2008: 3453m in 17 diamond drillholes 2010: 5091m in 25 diamond drillholes 2011: 2279m in 10 diamond drillholes 2012: 2226m in 14 diamond drillholes 2015: 149m in 1 diamond drillholes 2017: 374m in 2 diamond drillholes Half core samples were obtained by diamond drilling. Half core samples were provided to ALS Chemex for preparation. Samples collected in 2008, 2010, 2011, 2012 were analysed for uranium by delayed neutron counting by Becquerel Laboratories and other elements by ICPMS by ALS-Chemex; all other drill samples were assayed for uranium & other elements by ICPMS by ALS-Chemex The Alum Shale, host to the mineralisation has a relatively consistent content of the target metals. Half core was taken using a sample interval of 2m. Sample was dried at 105°C, then crushed to 70% - 2 mm using ALS-Chemex method CRU1. 250 g was split using a riffle splitter by method SPL21, followed by fine pulverizing to 85% less than 75 micron by method PUL31. 10-20 grams of pulp subsample were dispatched to ALS-Chemex in Vancouver, Canada for ICPMS analysis. A separate pulp subsample was dispatched to Becquerel Laboratories for DNC uranium assays.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond drill core; standard tube; all but one hole were drilled vertically The majority of the holes were drilled with BQTQ (core diameter 47mm) or an equivalent size depending on the contractor used. Some holes were drilled in NQ2 (core diameter 50.6 mm) to get more material for metallurgical testing. Approximately 20% of holes have been surveyed downhole. The majority of holes surveyed have limited location error, with a maximum location error at the bottom of a hole of 11 m. One hole was drilled at an angle of -65° to 090° and was

Criteria	JORC Code explanation	Commentary
		oriented.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Any core loss is marked by the drillers and then recorded in the log by the geologist. The Alum Shale, host to the mineralisation, consistently has recoveries of +90%. In addition the material has relatively consistent values of the target metals. Assays in the few intervals which include high core loss appear typical of assays in areas of high recovery nearby. There is no evidence of any grade bias that might arise from the small number of intervals with poor or no core recovery.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	Core was aligned and checked for continuity and marked out in one meter intervals. It was checked for drill bit marking as bit matrices are known to contain molybdenum. Comments were recorded in the database regarding the presence of bit marks. Core was geologically logged recording lithology, oxidation, mineralogy (where possible), texture & structure and scanned with a handheld scintillometer. Down hole depth intervals were recorded with an accuracy of 20 cm. All core was photographed. All core was geologically logged.
Sub- sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	 Core was sawn in half using a core saw. All drill holes were diamond drill holes. Half core was taken using a sample interval of 2 m Sample was dried at 105°C, then crushed to 70% - 2 mm using ALS-Chemex method CRU1. 250 g was split using a riffle splitter by method SPL21, followed by fine pulverizing to 85% less than 75 micron by method PUL31. 10-20 grams of pulp subsample were dispatched to ALS-Chemex in Vancouver, Canada for ICPMS analysis. A separate pulp subsample was dispatched to Becquerel Laboratories for DNC uranium assays. Precision of sampling and analysing pulps is considered to be within +/- 5% and acceptable for use in resource estimation at any confidence level. The grain size of the Alum Shale is extremely fine, less than 10 microns, and commonly around 1 micron. The uranium mineralisation is finely disseminated throughout the shale, again at a micron scale or less Consequently the mineralisation and its host rock are very well represented in the 2m samples of core collected (average sample 3.3 kg). Because of the extremely fine nature of the mineralisation each dricore sample may contain many millions of

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Criteria	JORC Code explanation	Commentary		
		sample size is appropriate.		
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the	Because of the very fine nature of the host Alum Shale and the mineralisation minerals, it is considered that the laboratory procedures are appropriate for this mineralisation. The Delayed Neutron Counting method is considered to give a total assay for uranium. The ICPMS method after 4 acid digestion is considered to give near total assay for all resource elements. ALS Chemex also assayed 2 standards, 1 duplicate and 1		
	analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	blank for each batch of 40 samples as part of their internal QAQC. QAQC data were inspected by Aura before data were accepted and entered into the Aura database. Review of these QAQC results indicates acceptable levels of accuracy and precision have been established.		
Verification	The verification of significant	No twin holes were drilled.		
of sampling and assaying	intersections by either independent or alternative company personnel.	The following information primary data is recorded: Collar, alteration, assays, drilling type, Geology, Geotech, Magnetic susceptibility, mineralisation, radiometrics, samples, scintillometer, spectrometer, structure, veining, surface samples, batch details.		
	The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.			
		All logging was done by the geologist digitally in an Excel spreadsheet. Photos of the core are taken after the hole was logged. Data is kept on site on an external hard drive as well as being sent by email to Aura Energy in Australia where it was uploaded		
	Discuss any adjustment to assay data.	into the independently managed Reflex Hub data base.		
		No data enters the database without verification by the Database Manager.		
		Database managed by external contractor Reflex Hub.		
		In house copy and backup offsite.		
		No adjustment to assay data.		
and down-hole surveys), trenches, mine workings and	used to locate drill holes (collar	Drill hole locations have been confirmed with a DGPS. Initial location is taken during drilling with handheld GPS when the casing has been put down.		
	trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used.	All drill collars prior to 2015 were recorded in Swedish grid system RT 90 2.5. Subsequent holes were recorded in grid system SWEREF 99 TM following a change by the Swedish government. All collars were converted to SWEREF 99 TM for the 2018 resource estimation		
		Holes were vertical in all cases except Hole 39. Aura conducted down hole surveys for deviation using a Reflex Ex Trac survey device in approximately 20%		

Criteria	JORC Code explanation	Commentary
		of drill holes the maximum deviation occurred in Hole 22 which had a dip of 75° at 250 m. This represents an average deviation of 0.3 degrees per meter and a maximum location error at the bottom of the hole of 11 m for holes assumed to be vertical. Other surveyed holes had visibly less deviation.
		Most drill holes are located on an approximate 400 m by 400 m grid; exact locations depended partially on access. The final 3 drillholes were spaced 100m.
		Topography: Collar RLs were determined by locating drill holes on local topographic map Hackas (18E NV) and visually interpolating between 2m contours. Rechecking by Aura of holes after the 2010 drilling program indicated that errors of around 2 m in RL appear to be typical.
Data spacing and	Data spacing for reporting of Exploration Results.	Exploration Results are not reported here as Mineral Resource Estimates exist.
distribution	Whether the data spacing and distribution is sufficient to establish the degree of	H&S Consultants (H&SC) considers the drillhole spacing to be sufficient for Inferred Resource confidence classification.
	geological and grade continuity appropriate for the Mineral Resource and Ore Reserve	Elsewhere spacing was irregular but with no hole being more than 850m from another.
estimation procedure(s) and classifications applied. Whether sample compositing has	The vast majority of sample intervals are 2 m in length. For the purposes of Resource Estimation samples were composited to 2 m intervals. The boundaries of the mineralization wireframes were honoured.	
Orientation of data in relation to geological structure	been applied. Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The mineralisation occurs in sub-horizontal sheets. It is considered that vertical drilling is the most appropriate drilling orientation for this mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	Drillcore was collected by Aura personnel from the drillsite and immediately taken and housed in Aura's local locked core shed. After logging the core was transported to ALS Laboratories facility by either Aura or ALS personnel for core sawing, sample preparation and assaying.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews of the sampling techniques or data have been conducted.

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Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites,	The Inferred resources of the Häggån Project are located on exploration permit Häggån No. 1. This permit is held in the name of Aura Energy Ltd' 100% owned Swedish subsidiary company, Aura Sweden AB. Aura Sweden has a 100% interest in these permits. Only standard Swedish government royalties apply to these permits
	wilderness or national park and environmental settings.	No native title interests are known to exist in the two permits.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a	A small, 2 hectare Natura 2000 area occurs against the eastern boundary of Häggån No.1 permit; this area is not in the vicinity of the currently planned mining area should a project be initiated at Häggån
	licence to operate in the area.	The Häggån Nr 1 Exploration permit on which the entire resource is situated is valid until 28/8/2022.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The area has not been explored prior to Aura Energy.
Geology	Deposit type, geological setting and style of mineralisation.	Mineralisation at is hosted by bedded black shales of the Cambrian to Ordovician Alum Shale in tectonically or otherwise stratigraphically thickened metal enriched north-north-west striking elongated geological domains. The mineralised sequence outcrops in an area in the east of the tenement but elsewhere underlies a variably thin cover of limestone. Minor inter-beds of carbonate enriched shale or siltstone occasionally occur within the mineralised sequence. The mineralised unit overlies a mixed sequence of siltstone and massive mineralized back shale above a granitoid gneissic basement.
		It is interpreted that there are a series of overthrusts which have displaced and caused thickening of Alum Shale within the resource area, and the subhorizontal thrust sheets have influenced the grade distribution within the Haggan deposit.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	Drillhole collar locations are shown on Figure 2 of the ASX Announcement which this table accompanies. Further specific drillhole data is not relevant to the reporting of this resource estimation.

Criteria	JORC Code explanation	Commentary
	 dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts	No Exploration Results are reported here as they are superseded by Mineral Resource Estimates.
	incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the	The mineralisation occurs in sub-horizontal sheets. It is considered that vertical drilling is the most appropriate drilling orientation for this mineralisation.
	mineralisation with respect to the drill hole angle is known, its nature should be reported.	
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but	Appropriate maps and sections, and tabulations of intersects, can be found on the Aura Energy website (www.auraenergy.com.au) or in releases to the Australian Stock Exchange (ASX), available on the ASX website.

Criteria	JORC Code explanation	Commentary
	not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	No Exploration Results are reported here as they are superseded by Mineral Resource Estimates.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	This information has been reported to the ASX over the 10 years since the discovery drill hole.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Aura's current planning includes: Infill drilling to upgrade a portion of the resource to Measured/Indicated classifications Further beneficiation & metallurgical studies Further mining, marketing and economic studies leading to completion of a feasibility study.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	Data collated by Aura Energy from assays received from independent certified laboratories. All data is entered into the Aura database maintained by Reflex Hub after validation. No core photographs were available. Basic drill hole database validation completed by H&SC include: • Assayed intervals were assessed and checked for duplicate entries, sample overlaps and unusual assay values.

Criteria	JORC Code explanation	Commentary
		 Downhole geological logging was also checked for interval overlaps and inconsistent data. The downhole survey data provided was checked for unrealistic deviations. Assessment of the data confirms that it is suitable for resource estimation.
Site visits	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.	Neil Clifford of Aura Energy has visited the Häggån resource site in 2015. 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. No site visit to the Häggån Project was completed by H&SC due to time and budgetary constraints. All the estimated Mineral Resources are classified as
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	Inferred. The interpretations of deposit scale geology and mineralisation that formed the basis of the mineral resource estimates are based on interpretations provided by Aura Energy. These interpretations are based on drill hole logs and assay data. The confidence in the geological interpretation is high as the sedimentary package is reasonably predictable over large areas. The interpreted geology and mineralisation is simple and therefore any alternative interpretations are unlikely to significantly alter the Mineral Resource estimates. Faults might cross-cut the estimated resource but are unlikely to effect the global Mineral Resource estimate. The estimated mineralisation is located almost entirely within a shale unit (the Alum Shale). A wireframe was constructed to define the volume represented by vanadium grades elevated relative to background concentrations. The wireframe was treated as a hard boundary during estimation so that blocks inside the wireframe were estimated using only drill hole data from within the wireframe. Due to the high continuity of the vanadium mineralisation the wireframes were extended beyond drilled extents and estimates were limited by search criteria. Oxidation was not considered. The shale unit is predominantly
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	overlain by limestone and underlain by quartzite. The estimated Mineral Resource covers a roughly ova area around 4,400 m wide east-west and 3,400 m north-south. This Mineral Resource is split into two discrete patches separated by 200 to 1,500 m. The mineralisation is interpreted to span the swathe between the patches. Mineralisation in this swathe forms part of the Exploration Target inventory as lack of drilling precludes the classification as a Mineral Resource. The upper limit of the Mineral Resource is at a depth below surface of 10 m although the average depth

Criteria	JORC Code explanation	Commentary
		is about 130 m. The maximum depth of the Mineral Resource is 275 m
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of	The vanadium, molybdenum, nickel, zinc, uranium, calcium and sulphur concentrations were estimated by Ordinary Kriging using the Micromine software. H&SC considers Ordinary Kriging to be an appropriate estimation technique for this type of this mineralisation. There are moderate correlations between vanadium,
	extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	and molybdenum, nickel, zinc, uranium and sulphur. Calcium concentrations are not correlated with any of the other estimated elements. The low CV and absence of extreme values precluded the need for top-cutting.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of	Uranium concentrations were derived from Delayed Neutron Counting (DNC) analysis where available. DNC uranium values are not available from drill core drilled in 2008 and for some drill holes and intervals after this. The majority of intervals that did not have DNC uranium values
	such data. The assumptions made regarding recovery of by-products.	did have mixed acid ICP uranium assays. Regression analysis of intervals that had both DNC and ICP uranium values showed that the DNC derived uranium values are, on average,
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	slightly higher than the ICP derived values and it is believed that the mixed acid ICP method is likely to slightly understate the more refractory proportion of uranium. The ICP uranium values for intervals that did not have DNC values were
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search	modified using the regression from ICP uranium assays to DNC uranium values. In some cases, where scintillation counts indicate low levels of ionising radiation, samples within the
	employed. Any assumptions behind modelling of selective mining units.	mineralisation wireframes were not assayed using either ICP or DNC. In these cases uranium concentrations were derived from the scintillation counts using the relationship between DNC and radiometrics. For these intervals, where no
	Any assumptions about correlation between variables.	samples had been taken, the concentrations vanadium, molybdenum, nickel, zinc and sulphur were derived from the derived uranium
	Description of how the geological interpretation was used to control the resource estimates.	concentration using regressions from the DNC uranium assays. Calcium concentrations did not show a correlation with uranium and unsampled
	Discussion of basis for using or not using grade cutting or capping.	intervals were therefore assigned values based on the average value for the logged rock type.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	H&SC created a wireframe solid to define the volume represented by vanadium grades above background concentrations for the Häggån deposit. This wireframe is largely limited to the shale unit. Blocks outside the wireframe are not included in the reported Mineral Resource.
		The block model and composites were flattened relative to the top surface of the mineralisation wireframe for estimation.
		A total of 4,155 two metre composites were used to



Criteria	JORC Code explanation	Commentary
		were conducted in order to better understand the possibility of acid leach processing and to begin to assess their importance as possible deleterious elements. It is unclear at this stage whether uranium will be considered as a deleterious element due to the recent changes in Swedish mining law.
		The final H&SC block model was reviewed visually by H&SC and it was concluded that the block model fairly represents the grades observed in the drill holes. H&SC also validated the block model statistically using a variety of histograms, boundary plots and summary statistics.
		No production has taken place so no reconciliation data is available.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry weight basis. The moisture constant was not determined.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A vanadium cut-off of 1000 ppm is used to report the resources as it is assumed that material can be economically mined at this grade in an open pit scenario. This cut-off grade was used at the request of Aura Energy, who take responsibility for reasonable prospects for eventual economic extraction
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The Mineral Resources reported here have been estimated on the assumption that the deposits will be bulk mined by open-pit. The model block size (200x200x10m) is the effective minimum mining dimension for this estimate. Any internal dilution has been factored in with the modelling and as such is appropriate to the block size.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the	Three programs of preliminary metallurgical test work have monitored vanadium extraction including two programs dedicated to the evaluation of vanadium processing options. The key features relating to vanadium recovery are noted below. Vanadium is present in the V(III) valence state, hosted in the mica mineral roscoelite (K(V3+, Al, Mg)2AlSi3O10(OH)2).

Criteria	JORC Code explanation	Commentary
	metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Vanadium was identified as mainly in the V(III) valence state, generally refractory to direct acid leaching. Atmospheric acid leaching showed up to 1.8% vanadium recovery.
		Upgrade by de-slime hydrocyclone of 1.35 times vanadium feed grade could be achieved with 73% recovery and rejection of 45% of feed mass
		Oxalate salt roast with acid leach showed up to 59% vanadium recovery.
		Calcination with acid leach showed up to 32% vanadium recovery.
		Acid pressure leach showed up to 61% vanadium recovery.
		Parts of the uranium mineralisation in the Alum Shale have been mined in the past.
		No penalty elements identified in work so far.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	No environmental impact assessments have been conducted. It is assumed that any remedial action to limit the environmental impacts of mining and processing will not significantly affect the economic viability of the project. Parts of the uranium mineralisation in the Alum Shale have been mined elsewhere in Sweden in the past.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the	A total of 16 bulk density measurements were taken using an Archimedes Principle technique from diamond drill core of the 2010 drilling campaign. Only five of these measurements were taken from the shale unit that hosts the vast majority of the mineralisation. The density of these five intersections show low variability and average 2.52 t/m3. This density was applied to the entire volume represented by the mineralisation wireframes. No reduction was made for weathering. The bulk density is the bulk density of samples on a moisture corrected dried mass basis and was determined using the following formula:

Criteria	JORC Code explanation	Commentary
	deposit.	Bulk Density = (WA/(Ww-WA)) * (WD/WA)
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	 WA Weight of sample in air, with natural moisture Ww Weight of sample in water WD Weight of sample in air after drying at 105-110°C More density test work is recommended in order to raise the confidence of the resource estimate.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	The blocks in the Häggån deposit that were populated in the first pass are classified as Inferred Mineral Resources. A small proportion of blocks at the top of the mineralised wireframe were populated in the second pass as the requirements for the minimum number of data were not met. These blocks were also classified as Inferred in areas where blocks below were populated in the first pass. Blocks populated in the second pass formed the basis of an Exploration Target inventory not reported here.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	Relevant factors are considered to have been accounted for the Inferred Resources. Confidence and classification of the Mineral Resources may be improved by:
		 additional drilling to tighten the spacing between drill holes
		conducting more density test work
		 regional mapping to identify major faults
		 additional density measurements The classification appropriately reflects the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The Mineral Resource estimates presented here were completed in May 2018. The Mineral Resource estimate has not been independently audited or reviewed but has been subject to an internal H&SC review.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource 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 resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative	The relative accuracy and confidence level in the Mineral Resource estimates are considered to be in line with the generally accepted accuracy and confidence of Inferred Mineral Resources. This has been determined on a qualitative, rather than quantitative, basis, and is based on the Competent Person's experience with similar deposits.
		The geological nature of the deposit, and the low coefficients of variation lend themselves to reasonable level of confidence in the resource estimates although the relatively large drill hole spacing of 400x400 m inhibits the confidence in the estimated Resources. The estimates are considered to be global estimates.
	discussion of the factors that	The block model was created using blocks of a size

Criteria	JORC Code explanation	Commentary
	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. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	considered appropriate for local grade estimation however none of the material is considered to be relevant for technical and economic analysis as it has been classified as Inferred or Exploration Target. Reserve calculation must be conducted or Resources classified as Indicated or Measured. No mining of the deposit has taken place so no production data is available for comparison.

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