



EXPLORE, DISCOVER, DEVELOP

25 OCTOBER 2018

HÄGGÅN VANADIUM PROJECT STUDY PROGRESSING WELL

HÄGGÅN CAPITAL AND OPERATING ESTIMATES COMPLETE

VANADIUM PRICE NOW AT US\$30.70/LB

SEPARATE LISTING OPTIONS REMAIN ACTIVE

Aura Energy Limited (AEE; ASX, AURA; AIM) is pleased to advise that the Häggån Vanadium Project Scoping Study is progressing well with substantial technical work completed over the past 8 weeks. Metallurgical test work combined with project capital and operating cost estimates have strongly increased Aura's confidence in the project.

Aura has studied the recovery of vanadium from the Häggån ore for many years; however, the vanadium price did not encourage further work at that time. During the 2012 Häggån Scoping Study (see Announcement dated 7 February 2012), Aura conducted the following work in relation to vanadium:

- Vanadium deportment was characterised and shown to be present in the V(III) valence state, hosted in the mica mineral roscoelite ($K(V^{3+}, Al, Mg)_2AlSi_3O_{10}(OH)_2$)
- Three programs of work monitored vanadium extraction, including 2 programs dedicated to evaluation of vanadium processing options
- 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 tests 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 on fresh ore material that had not been subjected to any beneficiation. This initial work demonstrated that extraction of vanadium was technically promising. This outcome drove the philosophy on the current technical program.

With the current drive into vanadium at Häggån, Aura built on this initial work and recently commissioned a series of test work programs to understand the processing requirements of this material. The test work steps were as follows:

- Evaluation of beneficiation by flotation of mica minerals and rejection of calcite at ALS Laboratories, Burnie Tasmania
- This work demonstrated best preliminary results of 83% of vanadium could be recovered to 64% of total mass, resulting in a beneficiation factor of 1.3 times (sample: DDH022)
- Additionally, rejection of 80% of calcite was achieved in this preliminary work (sample: DDH022)
- This calcite rejection will reduce acid consumption and operating costs
- Characterisation of vanadium deportment with host minerals and vanadium valence state at CSIRO Minerals

As part of the current study, Aura Energy engaged METS Engineering of Perth to complete estimates for both the capital and operating costs for the project. These estimates are now complete, the results are very encouraging and have driven the progression of the study to the next stage. Process options in this METS study utilise well proven technology in an innovative configuration that Aura believes will significantly improve the viability of processing vanadium black shale resources.

Preliminary costing has been completed by METS on the two process flow sheet configurations defined and is deemed to be technically viable based on the test work completed.

Publication of projected financial information in the Häggån Scoping Study requires the upgrade of the current Häggån Inferred Resource estimate to the Measured & Indicated Category. Site drilling has been slower than anticipated and whilst some drilling will be completed this year additional drilling will be required to achieve this Resource classification upgrade. This drilling will be completed early in the new year.

Vanadium Price Surging

The vanadium price has risen approximately 900% over the past 3 years and was most recently quoted at US\$30.70 per lb¹, benefitting from significant structural shifts in the Chinese steel industry where, in some cases, legislation has driven a three-fold increase in vanadium use. Currently low inventory levels with no near-term replacement capacity is driving this price continued rise.

“The progress on the Häggån Scoping Study has been rapid and driven by the fact that Aura has been working on the Häggån Project for over 10 years. Aura has significant drilling, geological evaluation, mineralogy and metallurgical test work completed placing the company in a technically strong position compared to many other peer vanadium projects which remain at an early stage”.

¹ Source: www.vanadiumprice.com vanadium pentoxide flake 98% price, China

“With vanadium, a commodity that is currently undergoing a significant resurgence, the activity at the Häggån deposit in Sweden has placed Aura in a strong position in the Battery Metals sector”, Mr Peter Reeve, Aura’s Executive Chairman, said.



Aura continues to review the potential for an IPO of the Häggån Vanadium Project and this activity remains current. Aura Energy has a preference to complete the Häggån Vanadium IPO post the completion of the Häggån Vanadium Scoping Study in order to maximise value. With this interdependence on timing and the current turbulent market conditions, Aura will continue to monitor whether the previously anticipated IPO schedule is likely to be delayed to early in 2019; however other corporate initiatives underway may still take place in 2018.

For further information please contact:

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Competent Persons

The Competent Person for the Häggån Metallurgical Testwork is Dr Will Goodall.

The information in the report to which this statement is attached that relates to the testwork is based on information compiled by Dr Will Goodall. Dr Goodall has sufficient experience that is relevant to the testwork 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 report of the matters based on his information in the form and context in which it appears.

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.

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APPENDIX 1 PRELIMINARY BENEFICIATION TEST WORK UPDATE

1.1 Introduction

Beneficiation is an important part of development for the Haggan process flowsheet. The energy that must be put into exposing and oxidising the vanadium means that any reduction in mass of vanadium deficient minerals to the leach circuit is a positive outcome.

Preliminary test work indicated that vanadium bearing mica minerals were concentrated in the slimes fraction and a minor upgrade could be achieved by preferentially recovering this fraction. In addition, preliminary test work showed that mica minerals could be successfully concentrated and calcite minerals successfully rejected by flotation. These results led to an assumption in the preliminary process development that a V_2O_5 concentration of >0.8% could be achieved in feed to the leach circuit. This result was highly dependent on the concentration of mica in the feed ore material and higher beneficiated grades may be achievable if a lower proportion of the total mass was mica.

The beneficiation test work program will focus on confirming that mica minerals can be selectively recovered and acid consuming calcite selectively rejected. This should aim to achieve >80% recovery of vanadium to the leach feed, with <15% of calcite recovered. The following targets should also be met:

- Recovery of pyrite and other sulphide minerals should be maximised to retain acid generating potential in the oxidation stages.
- Recovery of carbon should be maximised to gain greatest energy recovery benefit.
- Recovery of nickel should remain >80%.
- Recovery of molybdenum should remain >80%.

The priority for each of the beneficiation targets should be:

- V recovery > calcite rejection > sulphide recovery > carbon recovery > Ni recovery? Mo recovery

The beneficiation techniques to be examined will include:

- Mica flotation
- Sulphide flotation
- Calcite flotation
- Cyclone desliming
- Reflux classifier
- Magnetic separation of mica.

The focus of this test work update is on preliminary test work undertaken on beneficiation of vanadium by mica flotation and calcite rejection. Other beneficiation unit options will be investigated in subsequent programs.

Test work was undertaken at ALS Metallurgy Laboratories, Burnie, Tasmania, Australia.

1.2 Samples

Metallurgical samples utilised in the preliminary beneficiation program were selected from available material remaining from scoping study test work completed as part of the 2012 Haggan Uranium scoping study. The drill hole composite samples utilised have been summarised in Table 1.

Samples were maintained in cold storage (-18°C) at Australian MinMet Metallurgical Laboratories (AMML), Gosford as crushed drill core in canvas bags within 240L steel drums since original use.

Table 1

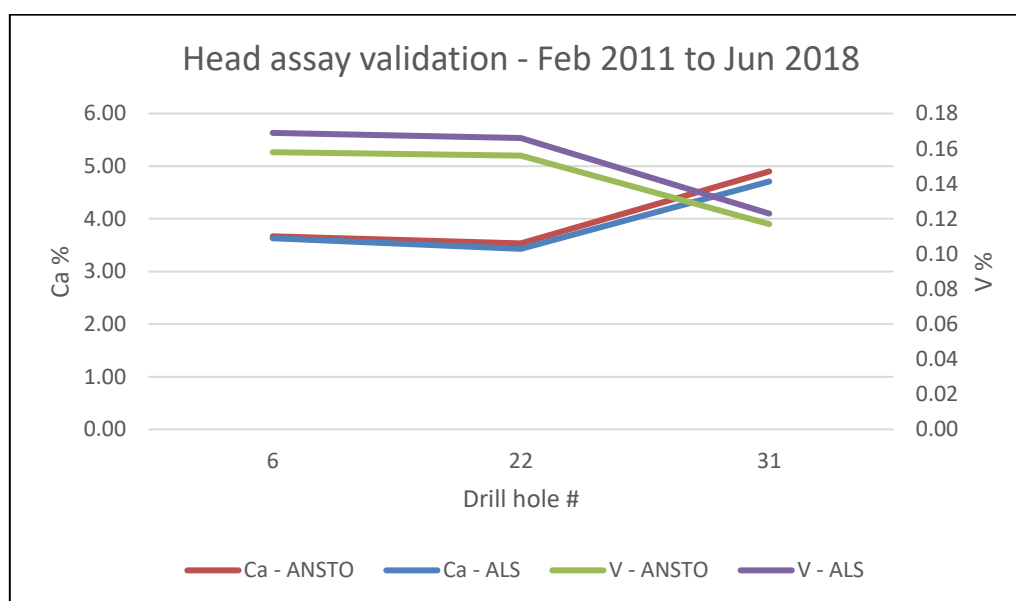
Diamond drill hole composite samples used in Preliminary beneficiation program. Original input samples for 2012 uranium Scoping Study Composite A.

Drill Hole	From	To	Excluded	# Bags	Available mass (kg)
DDH08-006	OSD-00508 48m	OSD-00571 198m	OSD-00524 OSD-00525 OSD-00526 OSD-00527	2 bags	40
DDH10-022	OSD-01878 54m	OSD-01972 244m	OSD-01961	4 bags	68
DDH10-031	OSD-02254 11.3m	OSD-02372 249.16m		3 bags	75

Head assay analysis of samples in 2012 Scoping Study program was undertaken in February 2011 by ANSTO minerals by XRF and included analysis for vanadium. Correlation to head assay performed in the current study (June 2018) using 4 acid digestion with ICP-MS (ALS: ME-MS61) and can be seen in Figure 1. This demonstrated a correlation with assay method error ranges.

Figure 1

Correlation of original Feb 2011 head assays with current June 2018 head assays.



1.3 Methods

The program included rougher flotation tests on each of the 3 drill hole composite samples investigated. Samples were milled to P80 75µm and de-slimes using a mini hydrocyclone. The de-slimes material was pre-conditioned with calcite depressant and rougher flotation was undertaken to produce 6 concentrates targeting recovery of mica minerals.

1.4 Results

The results of the program are preliminary and have not been subject to optimisation.

The rougher flotation results from the DDH006 composite sample have been summarised in Table 2.

Table 2

Rougher flotation results for vanadium and calcium recovery of DDH006 diamond drill composite sample (P80 of 75um).

Cumulative Products	Cum Weight	Wt (%)	V (ppm)	Cum (%)	Ca (%)	Cum (%)
T04 Prefloat	52.3	3.40	2090	4.31	0.91	0.82
RoC1	343.0	22.30	2302	31.1	0.88	5.15
RoC2	621.0	40.38	2274	55.7	0.98	10.43
RoC3	774.2	50.34	2248	68.6	1.06	14.00
RoC4	887.5	57.71	2217	77.6	1.12	17.05
RoC5	949.3	61.73	2178	81.5	1.15	18.71
RoC6	1023.8	66.58	2130	86.0	1.21	21.30
Calc Feed	1537.8	100.00	1650	100.0	3.80	100.0

The rougher flotation results from the DDH022 composite sample have been summarised in Table 3.

Table 3

Rougher flotation results for vanadium and calcium recovery of DDH022 diamond drill composite sample (P80 of 75um).

Cumulative Products	Cum Weight	Wt (%)	V (ppm)	Cum (%)	Ca (%)	Cum (%)
T09 Prefloat	62.6	4.03	2060	5.20	0.8	0.91
RoC1	380.3	24.48	2260	34.7	0.8	5.73
RoC2	650.1	41.85	2235	58.7	0.9	10.59
RoC3	762.2	49.07	2213	68.1	1.0	13.55
RoC4	881.2	56.73	2165	77.0	1.1	16.72
RoC5	941.3	60.60	2133	81.0	1.1	18.32
RoC6	993.9	63.98	2080	83.4	1.1	20.10
Calc Feed	1553.4	100.00	1595	100.0	3.61	100.0

The rougher flotation results from the DDH031 composite sample have been summarised in Table 4.

Table 4

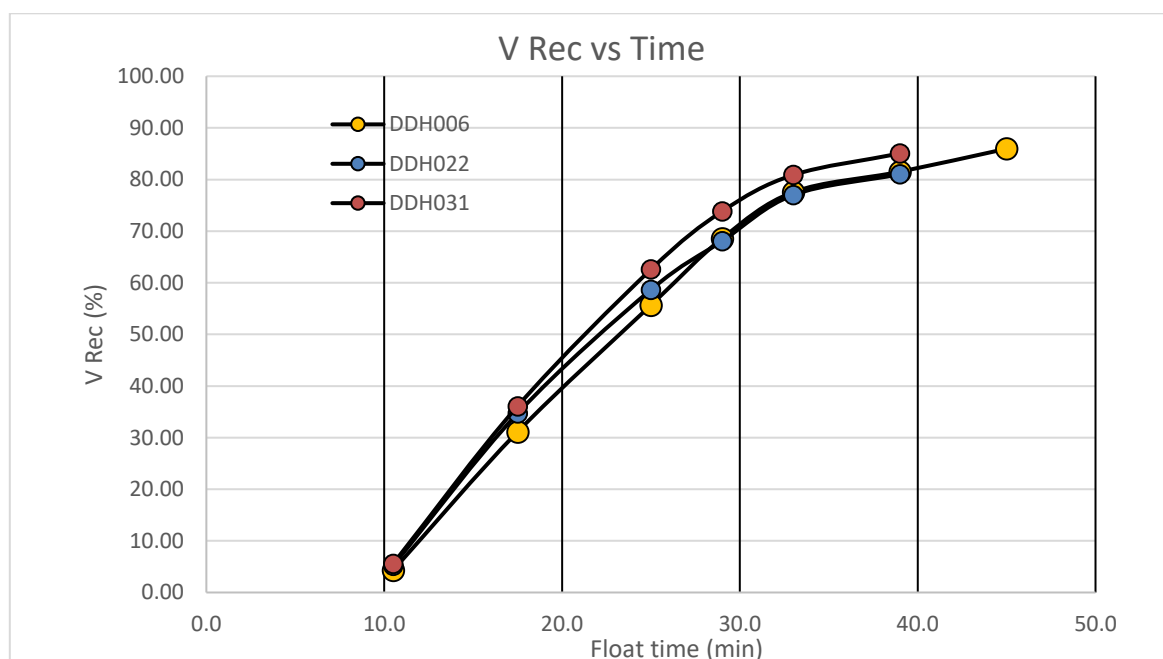
Rougher flotation results for vanadium and calcium recovery of DDH031 diamond drill composite sample (P80 of 75um).

Cumulative Products	Cum Weight	Wt (%)	V (ppm)	Cum (%)	Ca (%)	Cum (%)
T10 Prefloat	64.9	4.14	1560	5.56	0.7	0.55
RoC1	392.2	25.02	1677	36.1	1.0	4.92
RoC2	701.8	44.76	1625	62.6	1.2	10.70
RoC3	844.0	53.83	1594	73.8	1.4	14.89
RoC4	944.4	60.24	1561	80.9	1.5	18.25
RoC5	1016.0	64.80	1525	85.0	1.6	20.64
RoC6	1093.8	69.77	1480	88.8	1.7	23.77
Calc Feed	1567.8	100.00	1162	100.0	4.92	100.0

The vanadium recovery with flotation time for each of the tests has been compared in Figure 2. This demonstrated over 80% vanadium recovery for all samples to flotation concentrate and up to 85% vanadium recovery for DDH006. The flotation response was consistent between samples providing confidence that beneficiation by mica flotation should be explored in greater detail.

Figure 2

Vanadium recovery to rougher flotation concentrate for all tests completed by ALS Burnie.

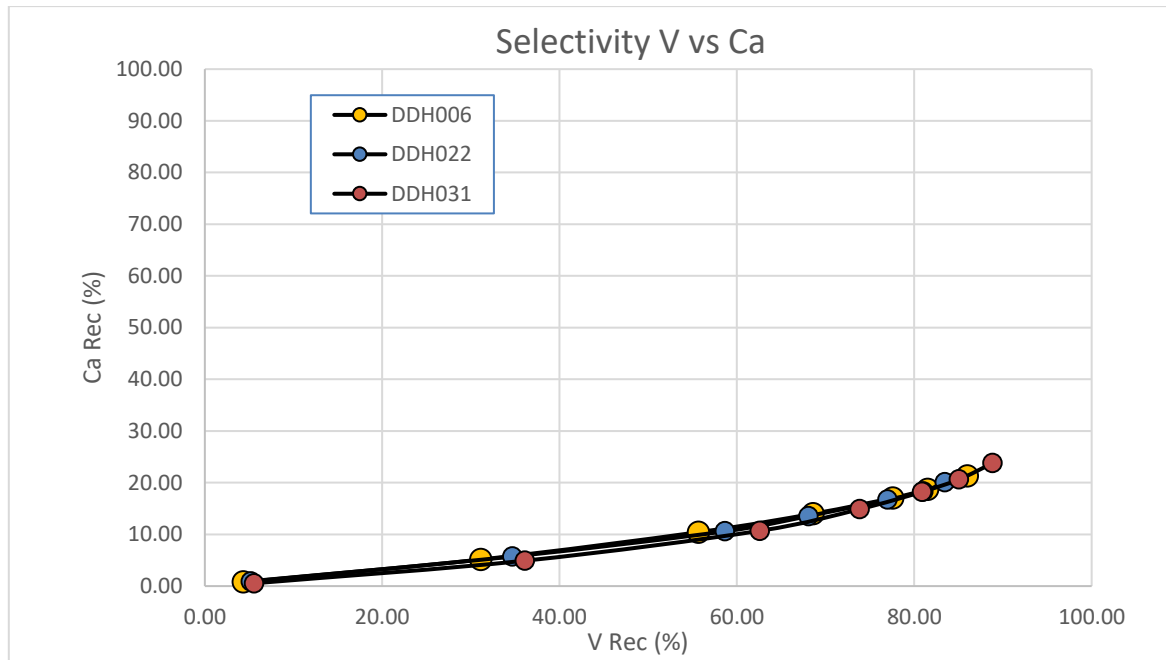


The selectivity of mica flotation over calcite, a major acid consuming mineral in the Häggån Project has been summarised for all tests in Figure 3. This demonstrated consistent calcium rejection, with less than 20% of calcium retained in rougher concentrates with greater than 80% vanadium recovery.

This supported the hypothesis that vanadium bearing mica could be selectively recovered by flotation, while rejecting acid consuming calcite. This warrants further optimisation test work.

Figure 3

Summary of selectivity of rougher flotation for vanadium over calcium in all tests.



JORC Code (2012 Edition) – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</p>	<p>The 2018 Häggån resource estimate was based on several drilling campaigns:</p> <ul style="list-style-type: none"> ▪ 2008: 3453m in 17 diamond drillholes ▪ 2010: 5091m in 25 “ ▪ 2011: 2279m in 10 “ ▪ 2012: 2226m in 14 “ ▪ 2015: 149m in 1 “ ▪ 2017: 374m in 2 “ <p>All drill 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</p> <p>The Alum Shale, host to the mineralisation has a relatively consistent content of the target metals.</p> <p>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.</p> <p>10-20 grams of pulp subsample were dispatched to ALS-Chemex in Vancouver, Canada for ICPMS analysis.</p> <p>A separate pulp subsample was dispatched to Becquerel Laboratories for DNC uranium assays.</p>
Drilling techniques	<p>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).</p>	<p>Diamond drill core; standard tube; all but one hole were drilled vertically</p> <p>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.</p> <p>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.</p> <p>One hole was drilled at an angle of -65° to 090° and was oriented.</p>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>Any core loss is marked by the drillers and then recorded in the log by the geologist.</p> <p>The Alum Shale, host to the mineralisation, consistently has recoveries of +90%. In addition the material has relatively consistent values of the target metals.</p> <p>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.</p>
Logging	<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>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.</p> <p>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.</p> <p>All core was photographed.</p> <p>All core was geologically logged.</p>
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>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.</p> <p>Whether sample sizes are appropriate to the grain size of the material being sampled.</p>	<p>Core was sawn in half using a core saw.</p> <p>All drill holes were diamond drill holes.</p> <ul style="list-style-type: none"> • 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. <p>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 drill core sample may contain many millions of individual grains of uranium minerals. Therefore sample size is appropriate.</p>

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <p>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.</p>	<p>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.</p> <p>ALS Chemex also assayed 2 standards, 1 duplicate and 1 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.</p>
Verification of sampling and assaying	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<p>No twin holes were drilled.</p> <p>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.</p> <p>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 into the independently managed Reflex Hub data base.</p> <p>No data enters the database without verification by the Database Manager.</p> <p>Database managed by external contractor Reflex Hub.</p> <p>In house copy and backup offsite.</p> <p>No adjustment to assay data.</p>
Location of data points	<p>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<p>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.</p> <p>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</p> <p>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% of drill holes the maximum deviation occurred in Hole 22 which had a dip of 75° at 250 m. This</p>

Criteria	JORC Code explanation	Commentary
		<p>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.</p> <p>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.</p> <p>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.</p>
Data spacing and distribution	<p>Data spacing for reporting of Exploration Results.</p> <p>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</p> <p>Whether sample compositing has been applied.</p>	<p>Exploration Results are not reported here as Mineral Resource Estimates exist.</p> <p>H&S Consultants (H&SC) considers the drillhole spacing to be sufficient for Inferred Resource confidence classification.</p> <p>Elsewhere spacing was irregular but with no hole being more than 850m from another.</p> <p>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.</p>
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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.</p>	<p>The mineralisation occurs in sub-horizontal sheets. It is considered that vertical drilling is the most appropriate drilling orientation for this mineralisation.</p>
Sample security	<p>The measures taken to ensure sample security.</p>	<p>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.</p>
Audits or reviews	<p>The results of any audits or reviews of sampling techniques and data.</p>	<p>No audits or reviews of the sampling techniques or data have been conducted.</p>

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	<p>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</p> <p>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</p>	<p>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.</p> <p>Only standard Swedish government royalties apply to these permits</p> <p>No native title interests are known to exist in the two permits.</p> <p>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</p> <p>The Häggån Nr 1 Exploration permit on which the entire resource is situated is valid until 28/8/2022.</p>
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.	<p>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.</p> <p>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 Haggan deposit.</p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea 	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
	<p>level in metres) of the drill hole collar</p> <ul style="list-style-type: none"> • dip and azimuth of the hole • down hole length and interception depth • hole length. <p>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.</p>	
<p>Data aggregation methods</p>	<p>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.</p> <p>Where aggregate intercepts 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.</p> <p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>No Exploration Results are reported here as they are superseded by Mineral Resource Estimates.</p>
<p>Relationship between mineralisation widths and intercept lengths</p>	<p>These relationships are particularly important in the reporting of Exploration Results.</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>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').</p>	<p>The mineralisation occurs in sub-horizontal sheets. It is considered that vertical drilling is the most appropriate drilling orientation for this mineralisation.</p>
<p>Diagrams</p>	<p>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant</p>	<p>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</p>

Criteria	JORC Code explanation	Commentary
	<p>discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</p>	<p>ASX website.</p>
Balanced reporting	<p>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.</p>	<p>No Exploration Results are reported here as they are superseded by Mineral Resource Estimates.</p>
Other substantive exploration data	<p>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.</p>	<p>This information has been reported to the ASX over the 10 years since the discovery drill hole.</p>
Further work	<p>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	<p>Aura’s current planning includes:</p> <ul style="list-style-type: none"> ○ 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	<p>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.</p> <p>Data validation procedures used.</p>	<p>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.</p> <p>No core photographs were available.</p> <p>Basic drill hole database validation completed by H&SC include:</p> <ul style="list-style-type: none"> Assayed intervals were assessed and checked for duplicate entries, sample overlaps and unusual assay values. Downhole geological logging was also checked for interval overlaps and inconsistent data. The downhole survey data provided was checked for unrealistic deviations. <p>Assessment of the data confirms that it is suitable for resource estimation.</p>
Site visits	<p>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</p> <p>If no site visits have been undertaken indicate why this is the case.</p>	<p>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.</p> <p>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 Inferred.</p>
Geological interpretation	<p>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</p> <p>Nature of the data used and of any assumptions made.</p> <p>The effect, if any, of alternative interpretations on Mineral Resource estimation.</p> <p>The use of geology in guiding and controlling Mineral Resource estimation.</p> <p>The factors affecting continuity both of grade and geology.</p>	<p>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.</p> <p>The confidence in the geological interpretation is high as the sedimentary package is reasonably predictable over large areas.</p> <p>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.</p> <p>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</p>

Criteria	JORC Code explanation	Commentary
		<p>were limited by search criteria. Oxidation was not considered. The shale unit is predominantly overlain by limestone and underlain by quartzite.</p>
Dimensions	<p>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.</p>	<p>The estimated Mineral Resource covers a roughly oval 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.</p> <p>The upper limit of the Mineral Resource is at a depth below surface of 10 m although the average depth is about 130 m. The maximum depth of the Mineral Resource is 275 m</p>
Estimation and modelling techniques	<p>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 extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</p> <p>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</p> <p>The assumptions made regarding recovery of by-products.</p> <p>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</p> <p>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</p> <p>Any assumptions behind modelling of selective mining units.</p> <p>Any assumptions about correlation between variables.</p> <p>Description of how the geological interpretation was used to</p>	<p>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.</p> <p>There are moderate correlations between vanadium, and molybdenum, nickel, zinc, uranium and sulphur. Calcium concentrations are not correlated with any of the other estimated elements.</p> <p>The low CV and absence of extreme values precluded the need for top-cutting.</p> <p>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 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, 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 modified using the regression from ICP uranium assays to DNC uranium values.</p> <p>In some cases, where scintillation counts indicate low levels of ionising radiation, samples within the 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 samples had been taken, the concentrations vanadium, molybdenum, nickel, zinc and sulphur were derived from the derived uranium concentration using regressions from the DNC</p>

Criteria	JORC Code explanation	Commentary
	<p>control the resource estimates.</p> <p>Discussion of basis for using or not using grade cutting or capping.</p> <p>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</p>	<p>uranium assays. Calcium concentrations did not show a correlation with uranium and unsampled intervals were therefore assigned values based on the average value for the logged rock type.</p> <p>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.</p> <p>The block model and composites were flattened relative to the top surface of the mineralisation wireframe for estimation.</p> <p>A total of 4,155 two metre composites were used to estimate the mineralised wireframe at Häggån.</p> <p>The resources at Häggån were estimated in August 2011 by Simon Gatehouse of Hellman & Schofield Pty Ltd and by Rupert Osborn of H&SC in August 2012. The estimated grades in the 2018 estimate are very close to those reported in previous estimates. The tonnage has increased as the resources are now reported at a V₂O₅ cut-off. The similarity between the estimates is expected as the methodology is similar and the resource estimates are considered to be relatively stable.</p> <p>No assumptions were made regarding the recovery of by-products. The molybdenum, nickel, zinc and uranium concentrations were estimated but it is unclear if these can be economically recovered through beneficiation.</p> <p>Variography was performed for vanadium, molybdenum, nickel, zinc, uranium, calcium and sulphur on composite data from the Häggån mineralised volume.</p> <p>Drill holes at Häggån are on an irregular grid with a nominal spacing of 400x400 m. Drill hole assays were composited to two metres for estimation. Block dimensions are 200x200x10m (E, N, RL 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. Discretisation was set to 5x5x2 (E, N, RL respectively).</p> <p>Two search passes were employed with progressively larger radii and decreasing search criteria. 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. 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</p>

Criteria	JORC Code explanation	Commentary
		<p>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.</p> <p>The maximum extrapolation of Inferred Mineral Resource estimates is 380 m. The relatively large extrapolation distances are supported by the continuity and predictably indicated by the areas drilled.</p> <p>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 previous estimates.</p> <p>Estimates of the calcium and sulphur concentrations 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.</p> <p>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.</p> <p>No production has taken place so no reconciliation data is available.</p>
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	<p>The Mineral Resources reported here have been estimated on the assumption that the deposits will be bulk mined by open-pit.</p> <p>The model block size (200x200x10m) is the effective minimum mining dimension for this estimate.</p> <p>Any internal dilution has been factored in with the modelling and as such is appropriate to the block size.</p>

Criteria	JORC Code explanation	Commentary
	<p>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.</p>	
<p>Metallurgical factors or assumptions</p>	<p>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 assumptions regarding 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.</p>	<p>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.</p> <p>Vanadium is present in the V(III) valence state, hosted in the mica mineral roscoelite (K(V³⁺, Al, Mg)₂AlSi₃O₁₀(OH)₂).</p> <p>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.</p> <p>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</p> <p>Oxalate salt roast with acid leach showed up to 59% vanadium recovery.</p> <p>Calcination with acid leach showed up to 32% vanadium recovery.</p> <p>Acid pressure leach showed up to 61% vanadium recovery.</p> <p>Parts of the uranium mineralisation in the Alum Shale have been mined in the past.</p> <p>No penalty elements identified in work so far.</p>
<p>Environmental factors or assumptions</p>	<p>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.</p>	<p>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.</p>

Criteria	JORC Code explanation	Commentary
Bulk density	<p>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.</p> <p>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 deposit.</p> <p>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</p>	<p>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.</p> <p>The bulk density is the bulk density of samples on a moisture corrected dried mass basis and was determined using the following formula:</p> $\text{Bulk Density} = (WA/(Ww-WA)) * (WD/WA)$ <p>Where:</p> <ul style="list-style-type: none"> • 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 <p>More density test work is recommended in order to raise the confidence of the resource estimate.</p>
Classification	<p>The basis for the classification of the Mineral Resources into varying confidence categories.</p> <p>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).</p> <p>Whether the result appropriately reflects the Competent Person's view of the deposit.</p>	<p>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.</p> <p>Blocks populated in the second pass formed the basis of an Exploration Target inventory not reported here.</p> <p>Relevant factors are considered to have been accounted for the Inferred Resources.</p> <p>Confidence and classification of the Mineral Resources may be improved by:</p> <ul style="list-style-type: none"> • additional drilling to tighten the spacing between drill holes • conducting more density test work • regional mapping to identify major faults • additional density measurements <p>The classification appropriately reflects the Competent Person's view of the deposit.</p>
Audits or reviews	<p>The results of any audits or reviews of Mineral Resource estimates.</p>	<p>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.</p>

Criteria	JORC Code explanation	Commentary
<p>Discussion of relative accuracy/confidence</p>	<p>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 discussion of the factors that could affect the relative accuracy and confidence of the estimate.</p> <p>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.</p> <p>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	<p>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.</p> <p>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.</p> <p>The estimates are considered to be global estimates. The block model was created using blocks of a size 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 on Resources classified as Indicated or Measured.</p> <p>No mining of the deposit has taken place so no production data is available for comparison.</p>