NORTHERN 127 COBALT

ASX: N27, N27O, N27OA

ASX RELEASE

1 July 2019

POSITIVE IRON ORE AND VANADIUM RESULTS UNDERPIN UPCOMING DRILLING PROGRAM

- **Metallurgical test work from the Snettisham Project (Alaska) demonstrates the potential to produce a high-grade magnetite product with vanadium credits**
- **A 63% Fe and 0.64% V_2O_5 concentrate (DTR) produced from surface samples**
- **Significantly the recoveries were achieved using a very coarse grind size of 250 microns**
- **Upcoming diamond drilling program, commencing in the second week of August, will test the grade and continuity of high-grade mineralisation and supply samples for further metallurgical test work**

Snettisham Iron Ore - Vanadium Potential

On 4 June 2019, the Company released a geophysical exploration target for the Snettisham Project as part of an assessment of the value of the magnetite iron ore to contribute to the economics of the project in addition to vanadium. The results from metallurgical testing confirm the potential for Snettisham to produce a high-quality magnetite concentrate with significant vanadium credits at a very coarse grind size.

The Snettisham Project contains several critical infrastructure requirements for processing a vanadium-rich magnetite concentrate and exporting it to market. These include:

- Close proximity to cheap electricity to undertake magnetic separation and operation of grinding facilities, a high voltage transmission line and several existing and proposed hydropower projects nearby.
- Access to bulk material handling and transport facilities to move the concentrate to steel markets in either the USA or China, deep water channel adjacent to project.
- Access to an experienced mining workforce to support year-round operations.

Table 1. Magnetite iron ore Exploration Target (ET) for the Snettisham Project (ASX Release, June 4, 2019)

Prospect	Low-grade*		High-grade**	
	Tonnage (Bt)	Grade (Fe%)	Tonnage (Mt)	Grade (Fe%)
Snettisham	1.1-2.1	14-26	297-551	28-52

The potential quantity and grade of the ET are conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Table 2. Summary DTR results from high- and low- grade rock chip samples

Summary High Grade								
			DAVIS TUBE MAG ASSAY					
Sample ID	Head Grade Fe (%)	Recovery (DTR%)	Fe (%)	SiO_2 (%)	Al_2O_3 (%)	P (%)	TiO_2 (%)	V_2O_5 (%)
SNET19RO0011	41.0	60.2	63.1	0.70	3.30	0.0005	5.36	0.64

Summary Low Grade								
			DAVIS TUBE MAG ASSAY					
Sample ID Composite	Head Grade Fe (%)	Recovery (DTR%)	Fe (%)	SiO_2 (%)	Al_2O_3 (%)	P (%)	TiO_2 (%)	V_2O_5 (%)
Average (1,5,6,7,8,9,10,12)	19.0	20.9	62.7	3.31	1.88	0.028	3.74	0.63

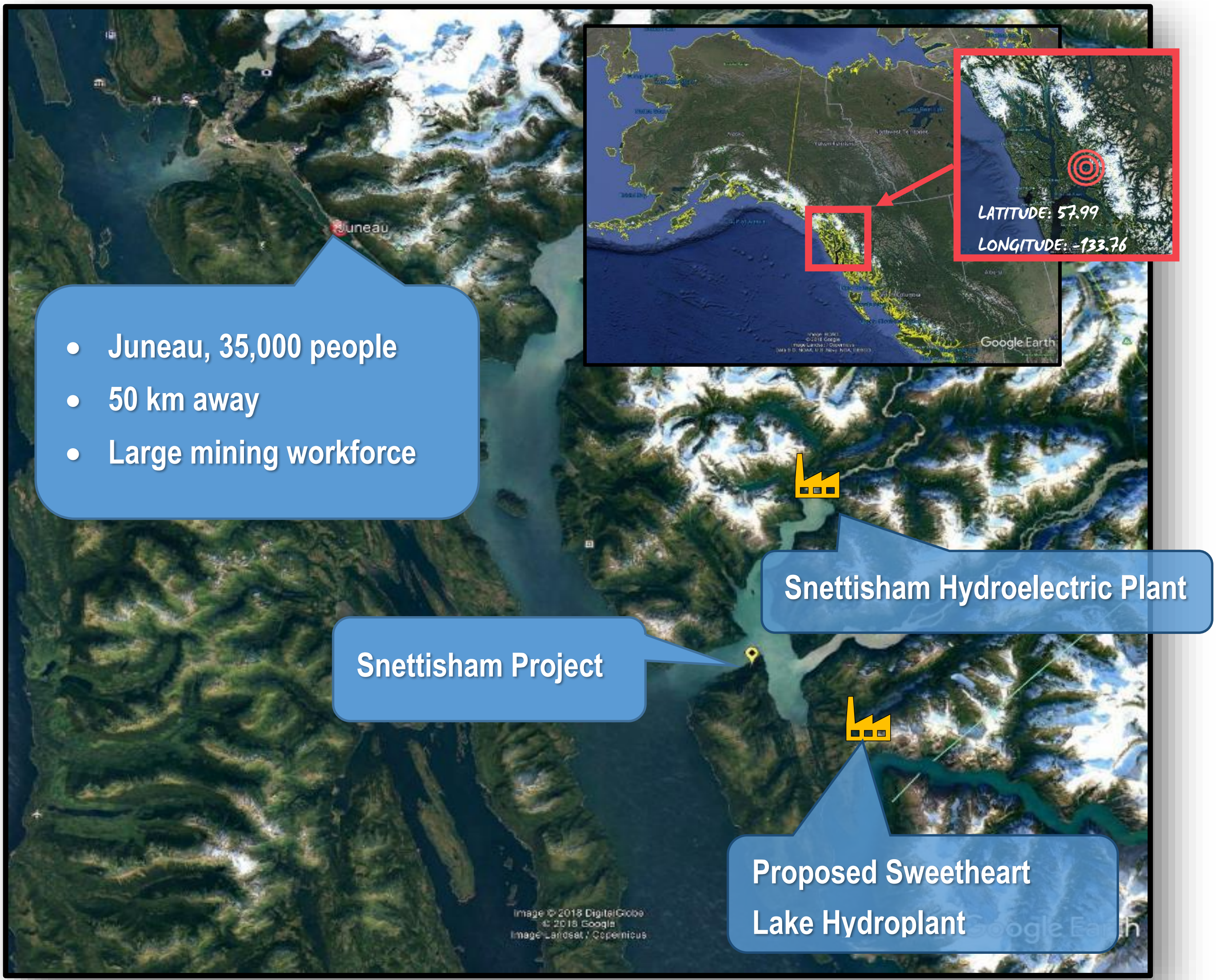

Figure 1. Location of the Snettisham Project in relation to the capital city of Juneau and surrounding infrastructure

Titaniferous and Vanadiferous Magnetite Mineralisation

Mineralisation at the Snettisham Prospect is interpreted to be associated with a mafic-ultramafic Alaskan zoned intrusive complex and consists of a titaniferous magnetite style of mineralisation. The main host to mineralisation is a pyroxenite unit which outcrops over an area of approximately 3800m by 1500m along the coast of the Snettisham Peninsula. Magnetite mineralisation within this body averages approximately 20% Fe based on historical drilling and rock chip sampling undertaken by the United States Geological Survey and confirmed by recent sampling by Northern Cobalt (Figure 2). A higher grader body of magnetite mineralisation within the pyroxenite body is indicated by a significant magnetic anomaly extending for over 2500m by 600m in the south-eastern part of the intrusion (Figure 3). This body averages >40% Fe based on magnetic susceptibility calculations (represented by sample SNET19RO0011).

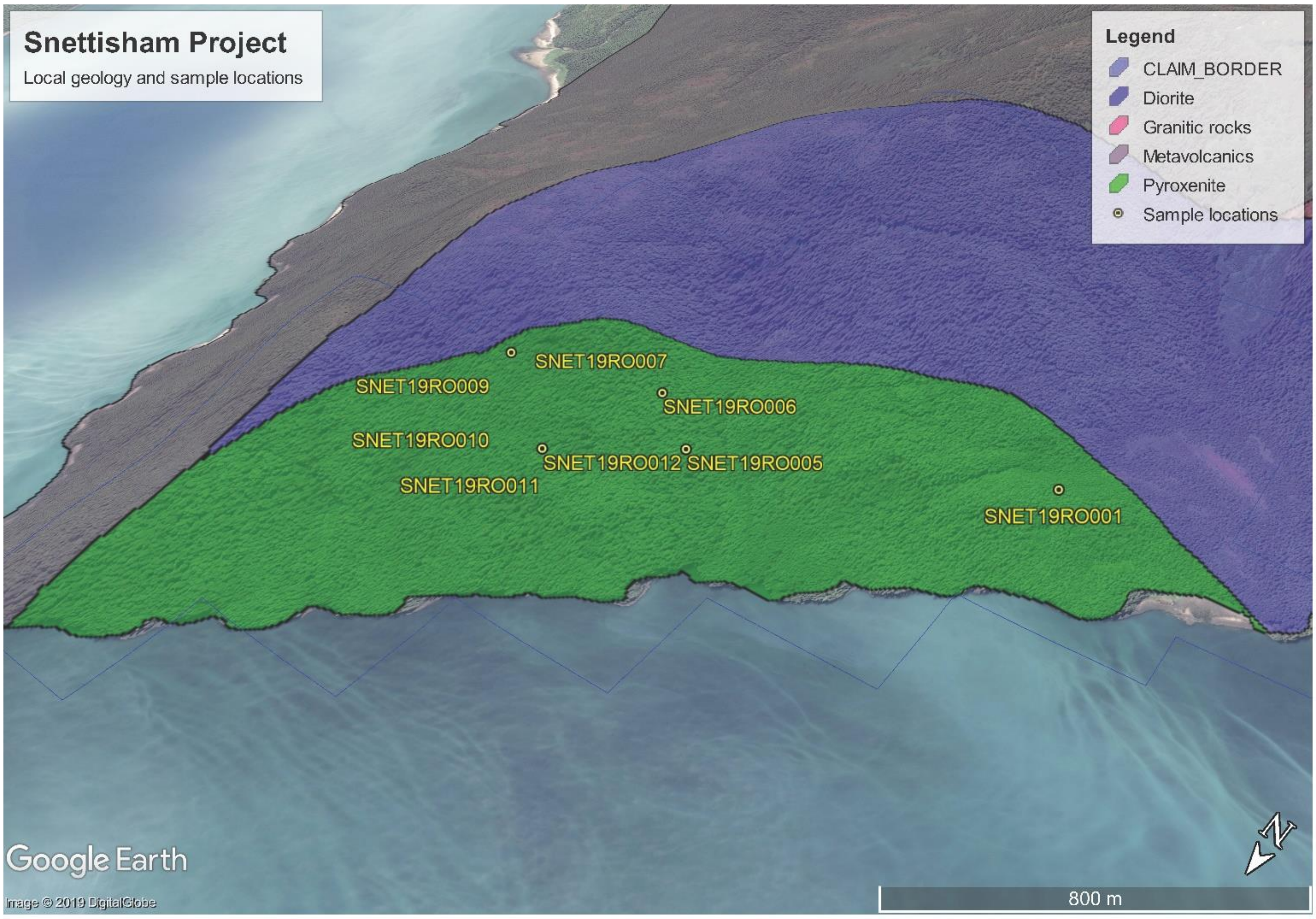

Figure 2. Samples were taken at within the magnetite bearing pyroxenite unit at Snettisham.

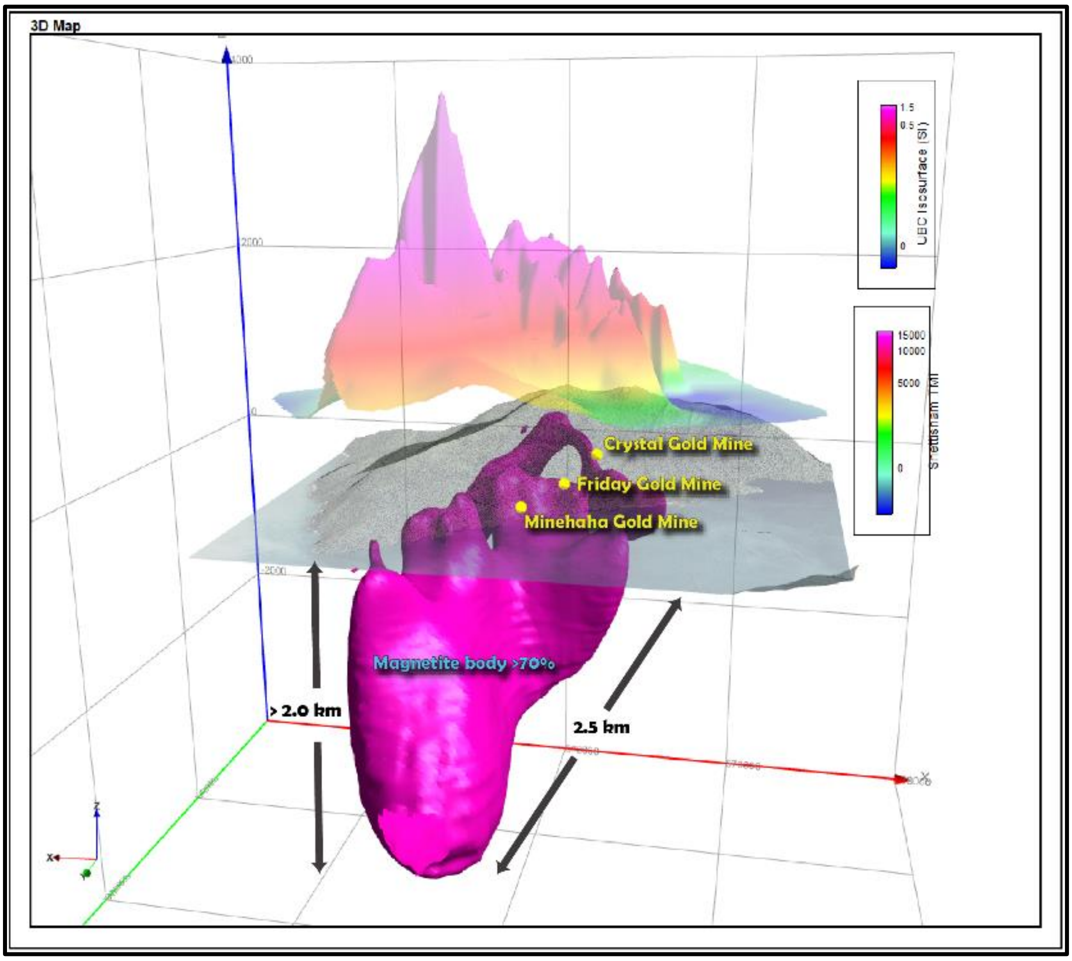

Figure 3. 3D Model (UBC Inversion) of the Snettisham Magnetic Anomaly

Competent Person Statement

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Michael Schwarz who is a member of the Australian Institute of Geoscientists. Mr Michael Schwarz is a full-time employee of the company and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Michael Schwarz consents to the inclusion in the report of the matters based on his information in the form in which it is appears.

The information in this report that relates to exploration results is based on, and fairly represents, information and supporting documentation compiled by Mr Michael Schwarz who is a member of the Australian Institute of Geoscientists. Mr Michael Schwarz is an employee of Northern Cobalt and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Michael Schwarz consents to the inclusion in the report of the matters based on his information in the form in which it is appears and confirms that the data reported as foreign estimates are an accurate representation of the available data and studies of the material mining project. This report includes results that have previously been released under JORC 2012 by the Company as "Snettisham Iron Ore Potential and Exploration Target" on 4 June 2019, *"Southern Alaska Vanadium Project Acquired" on 18 December 2018 "Magnetic Survey Identifies Vanadium and Iron Ore Potential" on 26 February 2019 and "3D Model confirms Vanadium and Gold Potential at Snettisham" on 14 March 2019. The Company is not aware of any new information or data that materially affects the information included in this announcement and all material assumptions and technical parameters underpinning the Mineral Resource and/or Exploration Target continue to apply and have not materially changed.*

**The low-grade exploration target is based on the calculated volume of 20% Fe material based on the UBC inversion with a +/- 30% variation applied. The volume of the 20% Fe material was calculated at 434 million m3 which was then multiplied by the density of pyroxenite containing 20% Fe in the form of magnetite which has a specific gravity of 3.75 s.g. units. This gives a calculated weight of 434,000,000 m3 x 3.75 = 1,628,000,000 t or 1.63 Bt (subject to rounding).*

***The high-grade exploration target is based on the calculated volume of 40% Fe material based on the UBC inversion with a +/- 30% variation applied. The volume of the 40% Fe material was calculated at 91.8 million m3 which was then multiplied by the density of pyroxenite containing 40% Fe in the form of magnetite which has a specific gravity of 4.62 s.g. units. This gives a calculated weight of 91,800,000 m3 x 4.62 = 424,000,000 t or 424 Mt (subject to rounding).*

For further information please contact:
Michael Schwarz
Managing Director, Northern Cobalt Ltd
M: +61 402 101 790
E: mschwarz@northerncobalt.com.au

Appendix 1. Complete DTR test work results of all rock chip samples to ensure compliance with the JORC Code (2012) requirements for the reporting of the exploration results for the Snettisham Project

			DAVIS TUBE MAG ASSAY					
Sample ID	Head Grade Fe (%)	Recovery (DTR%)	Fe (%)	SiO_2 (%)	Al_2O_3 (%)	P (%)	TiO_2 (%)	V_2O_5 (%)
SNET19RO001	17.9	22.2	60.7	1.88	3.09	0.002	5.14	0.66
SNET19RO005	18.3	18.9	60.8	4.66	1.08	0.064	3.75	0.58
SNET19RO006	16.4	15.8	61.0	5.19	2.25	0.058	3.95	0.55
SNET19RO007	16.6	17.9	63.7	2.83	1.77	0.005	4.00	0.68
SNET19RO008	17.3	14.8	63.2	4.61	1.32	0.068	1.90	0.55
SNET19RO009	27.5	33.0	64.9	1.38	1.95	0.001	4.07	0.71
SNET19RO0010	17.3	17.7	64.5	3.44	0.99	0.009	2.60	0.62
SNET19RO0011	41.0	60.2	63.1	0.70	3.30	0.0005	5.36	0.64
SNET19RO0012	21.1	27.3	62.8	2.50	2.61	0.017	4.50	0.66

Sample Location table

Sample ID	Project	Date	Sampler	Quadrangle	Datum	UTM Easting	UTM Northing	UTM Zone	Elevation (m)	Elevation (ft)	Surface Sample Type
SNET19RO001	Snettisham	04-Apr-19	Gregovich	SUMDUM D-6	WGS84	571272	6426992	8V	81	266	ROCK CHIP - OUTCROP
SNET19RO005	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572060	6427477	8V	116	381	ROCK CHIP - OUTCROP
SNET19RO006	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572196	6427403	8V	195	640	ROCK CHIP - OUTCROP
SNET19RO007	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572354	6427438	8V	237	778	ROCK CHIP - OUTCROP
SNET19RO008	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572555	6427581	8V	251	824	ROCK GRAB - FLOAT
SNET19RO009	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572672	6427773	8V	204	669	ROCK GRAB - FLOAT
SNET19RO010	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572568	6427885	8V	164	538	ROCK CHIP - OUTCROP
SNET19RO011	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572383	6427900	8V	147	482	ROCK CHIP - OUTCROP
SNET19RO012	Snettisham	05-Apr-19	Gregovich	SUMDUM D-6	WGS84	572316	6427729	8V	151	495	ROCK CHIP - OUTCROP

Appendix 2. The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of the exploration results for the Snettisham Project

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 (eg 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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	Rock chip samples Rock chip samples were taken of material with varying degrees of magnetic susceptibility to obtain representative samples of the magnetite content across the targeted pyroxenite body. See Figure 2 in main text.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	No drilling reported
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.*	No drilling reported.
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*	No drilling reported

Criteria	JORC Code explanation	Commentary
	relevant intersections 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.*	No drilling reported
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 analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	**Analytical Laboratory Analyses** Rock chip samples were sent to ALS laboratories in Fairbanks, Alaska where they were crushed, pulverised and analysed using method ME-XRF21n. A sub-sample of each rock chip was crushed to -3.35mm and sent to ALS Metallurgy in Perth. **DTR Test work** The following criteria were used for the DTR test work • Sample Size: 150 grams • Initial pulp time: 30 seconds • Screen size: 250µm (60 Mesh) • Subsequent pulp time: 5 seconds/ 4 grams oversize DTS settings • Sample Size: 20 grams of pulp • Magnetic Field Strength: 4000 gauss • Stroke Frequency: 60 / min • Stroke Length: 38 mm • Tube Angle: 45 degrees • Tube Diameter: 25 mm • Water Flow Rate: 540 mL / min • Wash Time: 15 minutes OR wash till water is clean in the tube. DTR procedure as follows. 1. Split 150 grams of head material for DTR testwork 2. Pulverise 150 gram head material for 30 seconds in a C125 ring mill using a LM–1 pulveriser. 3. Wet screened pulverised sample at 250 µm, recovering both oversized & undersized products. 4. Pulverise oversize fraction (+250 µm)

Criteria	JORC Code explanation	Commentary
		was for 5 seconds per 4 grams of material. 5. Items 3 and 4 are repeated until less than 5 grams of material are above a 250 µm screen. 6. Split 20 grams of pulverised sample from the head material for Davis tube testing at 4000 Gauss, 60 strokes per minute and a flow rate of 540 ml/minute.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	No verification reported
Location of data points	*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.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	The geodetic system used for the geophysical survey was WGS 84 in UTM Zone 8N
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *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.* *Whether sample compositing has been applied.*	Rock chip samples were taken of material with varying degrees of magnetic susceptibility to obtain representative samples of the magnetite content across the targeted pyroxenite body. See Figure 2 in main text.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *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.*	Samples were taken from within the outcropping magnetic pyroxenite body. See above.
Sample security	*The measures taken to ensure sample security.*	Samples were sent accompanied by Northern Cobalt contractors from the project site to Juneau, Alaska where they were packed, and air freighted directly to ALS Laboratories in Fairbanks
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No audits reported

Section 2 Reporting of Exploration Results

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

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, wilderness or national park and environmental settings.* *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.*	The Snettisham Project consists of a series of mineral claims in the State of Alaska (USA) The claims have only recently been pegged and are currently in good standing. The claims overly federal controlled land administrated by the Bureau of Land Management
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other. parties.*	Based on work undertaken from 1950 to 1956, the U.S. Bureau of Mines produced a report titled "Studies of the Snettisham Magnetite Deposit South East Alaska, Bureau of Mines Report of Investigations 5195", States Department of the Interior, February 1956". In this report they completed a magnetic survey, drilled 11 holes for a total depth of 1,995 metres (in 1953), completed detailed geochemistry and petrographic studies and collected enough sample to beneficiate the iron ore using dry magnetic separation. In 1969 Marcona Corporation completed a drilling program and feasibility study for production with Marubeni Corporation, unfortunately no reports from this work have been found. In 2011, Arrowstar Resources entered into an option agreement with Gulfside Minerals to acquire 100% of the property. Arrowstar undertook a detailed ground magnetic survey, rock chip sampling and Davis Tube Separation studies. A sharp decline in the iron ore price in 2013 led them to relinquish all interest in the project.
Geology	*Deposit type, geological setting and style of mineralisation.*	The body in Port Snettisham is an elliptical intrusion about 3.2 kilometres maximum outcrop that is mainly composed of hornblende-magnetite clinopyroxenite, biotite-magnetite pyroxenite, and hornblende-biotite-magnetite clinopyroxenite. There appears to be numerous metasomatic replacement episodes. The pyroxenite locally grades into diorite. As in several other such bodies in south-eastern Alaska, the magnetite content is locally high enough to be considered as a source of iron, titanium, vanadium, and possibly platinum-group elements.
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*	No drill holes reported

Criteria	JORC Code explanation	Commentary
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar *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 (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *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.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No drilling results reported
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the 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 (eg 'down hole length, true width not known').*	No drilling results reported
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	See attached release.
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.*	All relevant representative samples of the target unit have been reported
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.*	No other relevant data to report.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth*	Planned further work detailed in this release.

Criteria	JORC Code explanation	Commentary
	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.*	