

## QUARTERLY ACTIVITIES REPORT FOR THREE MONTHS ENDED

#### **31 DECEMBER 2018**

#### Snettisham Vanadium Project - Alaska

- Northern Cobalt has staked 48 mineral claims over a substantial vanadium project in south-western Alaska 50km south of Juneau on the coast
- The Company was able to acquire 100% of the project by simply pegging the ground, resulting in a very low-cost acquisition
- Historical samples of magnetite rich rock chips show potential for high grade vanadium with values up to 0.56 V<sub>2</sub>O<sub>5</sub>. These values are expected to increase significantly in magnetite concentrates.
- Key infrasturcture requirements are already in place
  - The Snettisham Hydroelectric Power Plant is sited 18 km to the north-west and the main transmission line runs within 2.5 km of the project
  - The project is located on the coast, adjacent to a deep water channel capable of hosting Panamax and Cape class vessels

#### Running Creek Copper-Cobalt Project – Wollogorang Cobalt Project

- Much higher cobalt values reported from assays compared with pXRF field results (280%), including 5m @ 1604 ppm Co from 20m (18RAB123)
- Assays at Running Creek Prospect confirm copper from surface to the end of hole at 55m, highlights;
  - 55m @ 0.78% Cu from 0m (hole 18RAB102),
  - o including 33m @ 1.08% Cu from 11m,
  - o including 13m @ 2.01% Cu from 11m
  - o and 12m @ 380 ppm Co from 22m
- This drill hole ends in mineralisation with the last metre assaying 0.37% Cu and 450 ppm Co
- New induced polarisation (IP) survey at Running Creek highlights a chargeable target beneath mineralisation

**CAPITAL STRUCTURE** 

Ordinary Shares Issued 51.3 M

Options and rights
Listed options 6.3 M @ 20c
Unlisted options 12.3 M @ 25c
Unlisted rights 2.5 M

Performance Shares Class A 9.6 M Class B 3.6 M

Last Capital Raise 24 April 2018 - SPP \$0.6M @ 35c **BOARD** 

Len Dean - Chair Michael Schwarz - MD Duncan Chessell - NED Andrew Shearer - NED Jarek Kopias - Co Sec

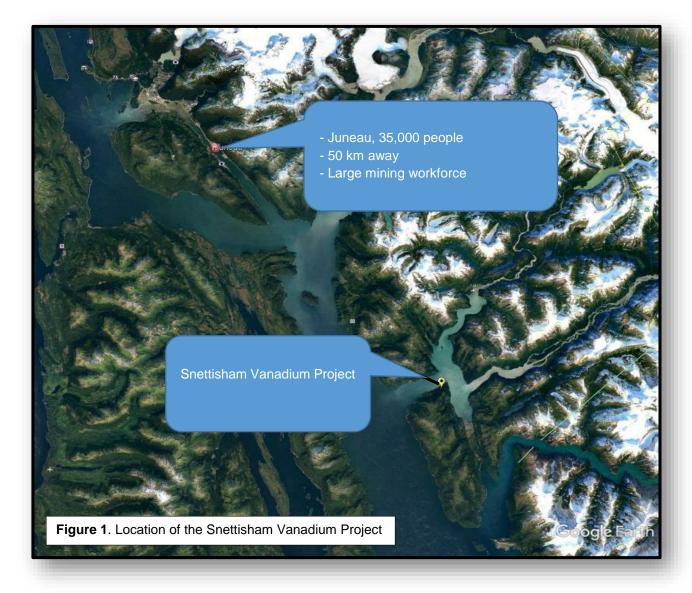


#### Gregjo Copper-Cobalt Prospect - Wollogorang Cobalt Project

- Large induced polarisation (IP) chargeability anomaly identified in multiple traverses across the Gregjo Prospect
- The anomaly is directly below copper mineralisation intersected in recent shallow drilling, extending up to 200m out from the Gregjo Fault and 800m along the fault
- Geochemical results received from the laboratory reproduce the grades of copper mineralisation recorded using a pXRF in the field

#### Snettisham Vanadium Project - Alaska

Northern Cobalt Limited (**ASX: N27**) has staked 48 mineral claims over the Snettisham Vanadium Project in south-western Alaska. In its global search for a new vanadium project, the company identified the potential for large scale mineralisation and its unique position regarding fundamental infrastructure requirements such as cheap electricity, transport options and proximity to the mining town of Juneau in southern Alaska. The Snettisham Vanadium Project occurs within titaniferous magnetite, concentrated within an Alaskan-style mafic-ultramafic intrusion, extending over 3.8 km along the coast of the Snettisham Peninsula and up to 1.5 km inland.





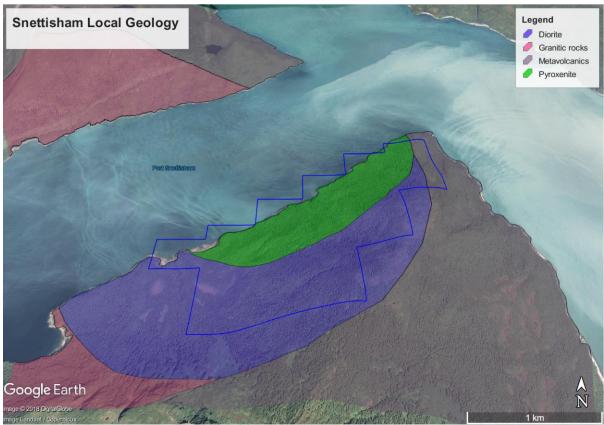
#### Infrastructure

There are several critical infrastructure requirements for processing a vanadium concentrate and exporting it to market. These include:

- Cheap electricity to undertake magnetic separation and operation of grinding facilities.
- Access to bulk material handling and transport facilities to move the concentrate to steel markets in either the US or China.
- Access to an experienced mining workforce to support year-round operations.

The Snettisham Vanadium Project is uniquely situated to take advantage of infrastructure facilities already in place.

- The Snettisham Hydroelectric Power Plant is situated 18 km to the north-west and the main transmission line runs within 2.5 km of the project.
- The project is located on the coast, adjacent to a deep-water channel capable of hosting Panamax and Cape class vessels.
- Juneau, the capital city of Alaska, with a population of 35,000 people, is located approximately 50 km to the north of the project. The population is a mining community supporting gold and base metal mines in the local area.



**Figure 2.** Local geology of the Snettisham Vanadium Project. Northern Cobalt's claim outline is indicated by the blue line. Vanadium bearing magnetite pyroxenite is green



#### **Project Geology**

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 appear 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.

Most of the claim area is composed of an igneous rock termed pyroxenite. At the northern end near Sentinel Point, the vanadium bearing magnetite pyroxenite is bordered by phyllite and the borders to the south and southwest are composed mostly of diorite. The main vanadium bearing phase is in the form of magnetite as an accessory mineral in the pyroxenite.

Pacific Rim Minerals visited the project in November 2010 and documented the following description of magnetite in the pyroxenite; "Massive magnetite is easily located with a simple pencil magnet along the coast by the Port of Snettisham and to the north near Sentinel Point. Moving into the interior from Port Snettisham and up to the 300+ metre elevation, magnetite is easily locatable with a pencil magnet. Outcrops of massive magnetite are well exposed along the coast and in cliffs and ledges that are found in the steeper hill sides along the southeast portions of the claim block". Exploration history and acquisition of the property:

The Snettisham Project has been a focus of magnetite style iron ore exploration since the early 1950's.

- 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", United 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 samples 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 (Arrowstar) 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.
- In 2013 Arrowstar commissioned Burton Consulting Limited to undertake a NI43-101 Technical report on the Port Snettisham Iron Ore Property. In this report they detail eight rock chip samples of magnetite bearing pyroxenite sampled from scree and outcrop along the beach. These analytical results were as follows:

Table 1. Analytical results of target rock unit\*

Sample	Fe <sub>3</sub>	- 0													
Campic	I <b>U</b> 3	FeCon	$Al_2O_3$	CaO	Cu	K <sub>2</sub> O	MgO	Mn	Na <sub>2</sub> O	Р	S	SiO <sub>2</sub>	TiO <sub>2</sub>	V <sub>2</sub> O5	LOI
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	8.55	16.58	5.53	16.9	0.007	0.626	12.1	0.147	0.39	0.007	0.009	39.6	2.613	0.158	0.06
5	24.38	40.86	4.85	10.84	0.01	0.028	4.46	0.36	0.15	1.242	0.019	14.48	5.002	0.339	0.00
6	12.07	20.94	4.07	16.25	0.005	0.062	11.71	0.121	0.21	0.003	0.011	35.87	2.42	0.179	0.01
7	8.92	15.55	2.68	9.15	0.003	0.111	22.97	0.15	0.13	0.014	0.018	37.21	1.136	0.087	4.10
8	12.03	21.35	5.51	15.33	0.005	0.522	11.19	0.141	0.21	0.001	0.007	34.22	3.048	0.185	0.06
9	35.87	57.72	5.02	0.83	0.014	0.005	4.72	0.233	0.02	<0.001	0.008	2.31	6.471	0.564	0.00
10	10.25	19.72	6.66	17.42	0.005	0.284	8.24	0.263	0.77	0.668	0.017	34.74	2.956	0.147	0.00
11	7.26	16.12	10.34	15.01	0.013	1.013	9.38	0.19	1.42	0.959	0.252	34.4	2.704	0.124	0.23



\*these estimates are foreign estimates and are not reported in accordance with the JORC code. It is uncertain that following evaluation and/or further exploration work that the foreign estimates will be able to be reported as mineral

resources or ore reserves in accordance with the JORC

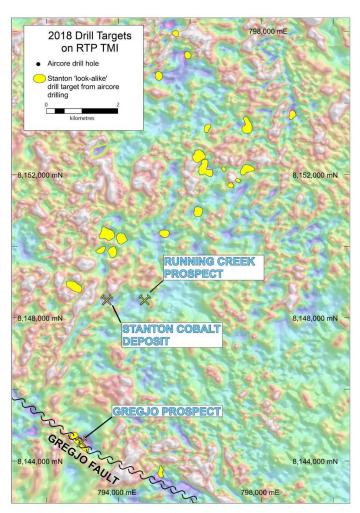
Code.

Sample 9 with a  $V_2O_5$  assay of 0.56% is believed to best represent the high-grade; massive magnetite being targeted by Northern Cobalt in the upcoming exploration program. There are numerous lines of evidence from detailed magnetic surveys and the visual observations of previous explorers to support the possibility of large bodies of massive magnetite within the pyroxenite body.

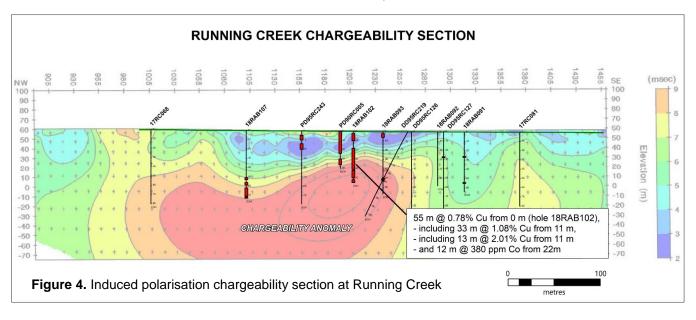
## Wollogorang Cobalt Project - Running Creek Prospect

Northern Cobalt Limited announced it has confirmed copper and cobalt mineralisation, with laboratory assays, identified in drilling and analysed by pXRF in an announcement to the market on the 9 October 2018. The best mineralisation was identified in drill hole 18RAB102 which contained a thick intersection of high-grade copper mineralisation with associated cobalt mineralisation.

An IP survey, recently undertaken by Northern Cobalt across the Running Creek Prospect has identified a large chargeable feature beneath the currently identified mineralisation (Figure 4). Northern Cobalt interprets this feature to represent an extension of high-grade coppercobalt mineralisation at depth.



**Figure 3**. 2018 RTP magnetic image showing the Stanton Deposit and Running Creek and Gregjo Prospects





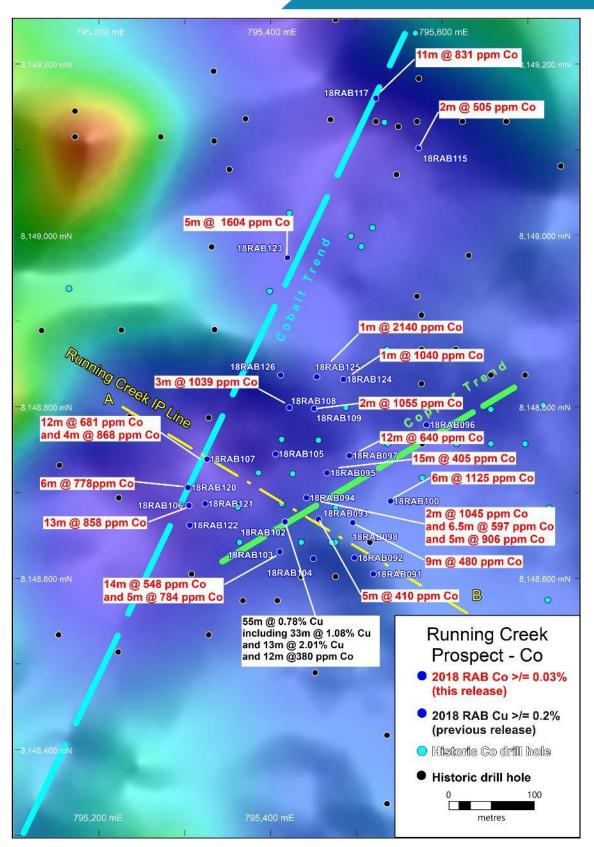


Figure 5. Significant cobalt results and at Running Creek on total magnetic Intensity image



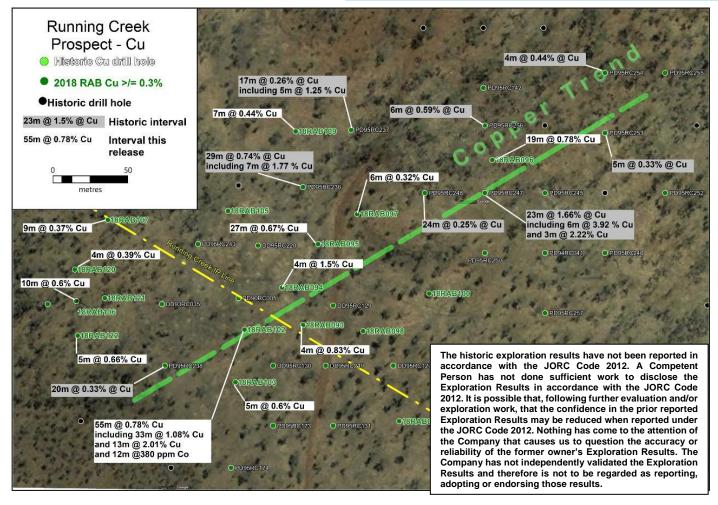


Figure 6. Google Earth image with RAB hole locations and copper results

#### **Gregjo Prospect**

Northern Cobalt Limited announced it has identified a significant IP chargeability anomaly beneath the previously identified copper mineralisation at the Gregjo Prospect in the Northern Territory, Australia. Recently received laboratory results confirm copper mineralisation along the Gregjo Fault with at least five (5) drill holes along the fault intersecting mineralisation over 1% Cu along a distance of >300m (Figure 8).

- 18RAB013 7m @ 1.23% Cu from 1m
  - o including 1m @ 4.24% Cu
- 18RAB009 15m @ 0.53% Cu from 5m
  - o including 4m @ 1.08% Cu
- 18RAB020 20m @ 0.72% Cu from 1m
  - o including 1m @ 1.4% Cu
  - o and 3m @ 1.67% Cu
- 18RAB031 11m @ 0.65% Cu from 16m
  - o including 1m @ 1.97% Cu
- 18RAB051 3m @ 1.57% Cu from 13m
  - o and 1m @ 0.78% Cu



Mineralisation at the Gregjo Prospect, located approximately 3.4 km south of the Stanton Cobalt Deposit, is associated with a north-west trending structure (Figure 3). The Gregjo Prospect was originally identified by CRA in the 1990's, as a surface geochemical anomaly with minor copper mineralisation, with limited extent. Reinterpretation of the main controls of mineralisation by Northern north-west Cobalt along trending structures and subsequent drill testing in 2018, has identified the source of the copper mineralisation causing surface geochemical anomaly Following the drilling an IP survey was undertaken across the Gregjo Prospect to define possible depth extensions to copper mineralisation (Figure 7). The results of the IP survey identified a large chargeable feature beneath the currently identified

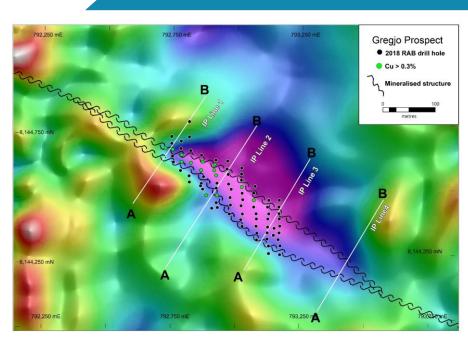


Figure 7. Plan of IP survey traverses and RAB drilling at Gregio

mineralisation (Figure 9). Northern Cobalt interprets this feature to represent an extension of high-grade oxide copper mineralisation identified at surface to primary mineralisation at depth. The anomaly can be identified in sections 1,2 and 4 but appears to be missing from section 3, possibly due to unfavourable host rocks at this location or being offset by a cross cutting fault. The distance between sections 1 and 4 exceeds 800m of strike.

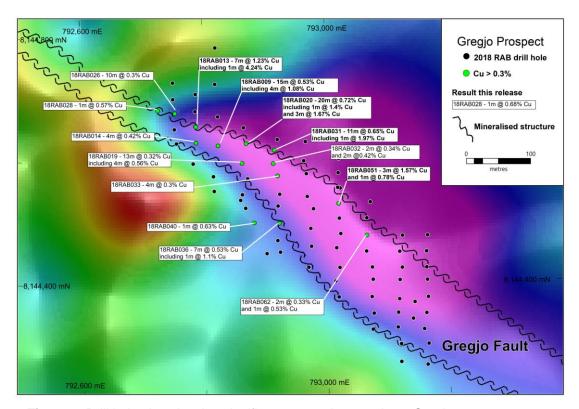


Figure 8. Drill hole plan showing significant copper intersections, Gregjo

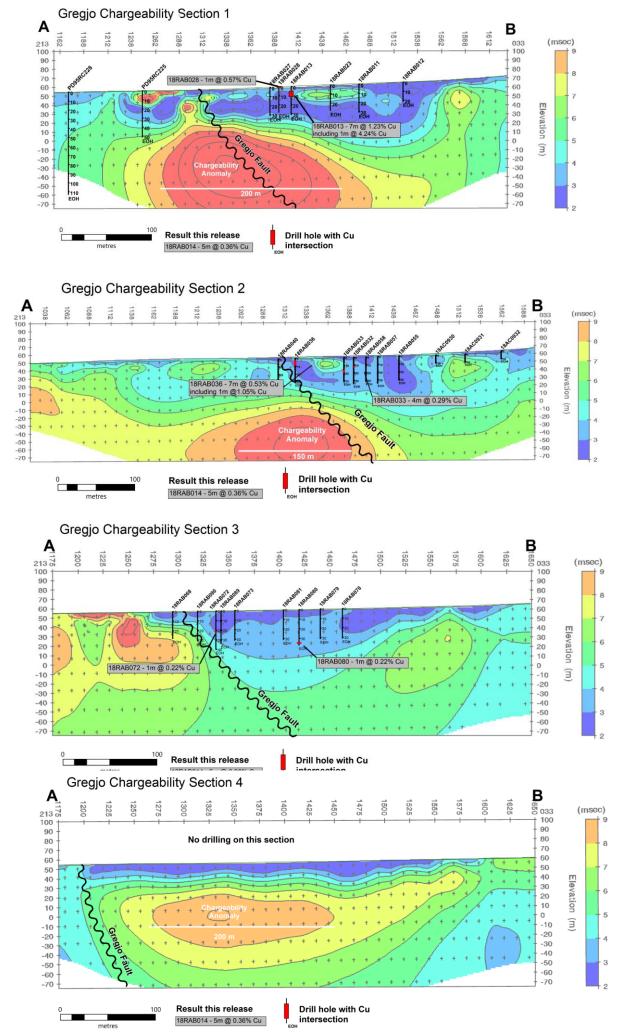


Figure 9. Induced polarisation chargeability sections at Gregjo



#### Corporate

#### Share capital changes

On 20 December 2018, Northern Cobalt issued 500,000 shares as consideration for services in relation to acquisition of the Alaskan Vanadium project.

A summary of movements and balances of equity securities between 1 October 2018 and this report are listed:

	Quo	oted	Unquoted		
	Ordinary shares	Options	Options	Performance rights	Performance shares
On issue at start of the Quarter	50,813,406	6,323,337	12,250,000	2,500,000	13,175,000
Consideration shares	500,000	-	-	-	-
Total securities on issue at the date of this report	51,313,406*	6,323,337	12,250,000	2,500,000	13,175,000

<sup>\* 8,510,000</sup> ordinary shares are escrowed to 22 September 2019



#### Tenement table

Tenement number	Tenement name	Beneficial Interest at	Changes during
		the end of the Quarter	Quarter
Northern Territory,	Australia		
Wollogorang			
EL30496	Karns	100%	None
EL30590	Selby	100%	None
EL31272	Running Creek	100%	None
EL31546	Wollogorang	100%	None
EL31547	Wollogorang	100%	None
EL31548	Wollogorang	100%	None
EL31549	Wollogorang	100%	None
EL31550	Wollogorang	100%	None
Arunta			
EL28837	Alcoota Pegmatite Field	100%	None
EL28838	Alcoota Pegmatite Field	0%	Relinquished
EL28886	Alcoota Pegmatite Field	100%	None
EL29470	Plenty River Pegmatite Field	0%	Relinquished
EL29481	Harts Range Pegmatite Field	100%	None
EL29511	Harts Range Pegmatite Field	100%	None
EL29851	Harts Range Pegmatite Field	100%	None
EL30007	Harts Range Pegmatite Field	0%	Relinquished
EL31147	Harts Range Pegmatite Field	100%	None
Alaska USA			
AKAA 095408 to	Snettisham (48 contiguous	100%	Acquired during the
AKAA 095408	blocks)		quarter

Three Arunta tenements were relinquished following assessment of exploration potential.

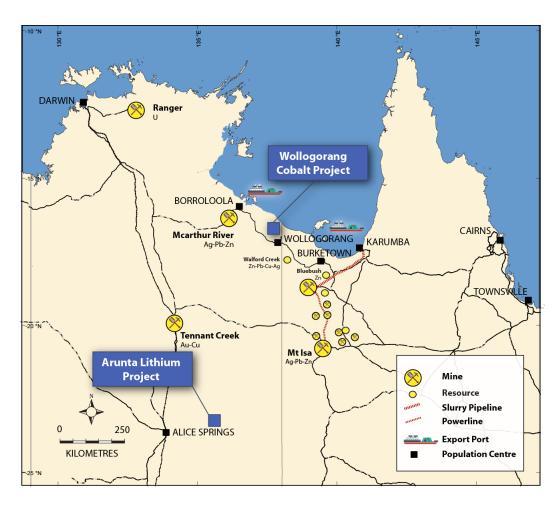


#### **Competent Person Statement**

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 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 announcement is 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 "Copper Discovered at First Drill Target" on 28 August 2018, "Copper Discovery grows at GregJo Prospect" on 19 September 2018, "Copper Intersection Confirms New Model at Running Creek" on 9 October 2018, "Cobalt System Developing at Running Creek" on 19 October 2018, "Cobalt and Copper System Confirmed at Running Creek" on the 14th December 2018, "Southern Alaska Vanadium Project Acquired" on the 18th December 2018 and "Geophysics highlights potential at GregJo" on the 23 January 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 continue to apply and have not materially changed.

Historical results have been obtained from open file company report CR2002-0102 lodged with the Department of Primary Industries and Resources, NT. https://geoscience.nt.gov.au/gemis/ntgsjspui/handle/1/3





#### **Project Location**

The Wollogorang Cobalt Project occurs in the far north-eastern corner of the Northern Territory, a mining friendly jurisdiction. The Project area is 180 km to the south-east of the population centre of Borroloola. The capital city of Darwin is 870 km to the north-west and the McArthur River Mine is approximately 150 km to the west-northwest.

The Arunta Lithium Project occurs in the south-east of the Northern Territory, a mining friendly authority. The Project area is 180 km to the north-east of the population centre of Alice Springs. The capital city of Darwin is 1250 km to the north-west.

For further information please contact: Michael Schwarz

Managing Director, Northern Cobalt Ltd

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+Rule 5.5

### Appendix 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

#### Name of entity

Northern Cobalt Limited

ABN

Quarter ended ("current quarter")

99 617 789 732

31 December 2018

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(825)	(2,381)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(155)	(212)
	(e) administration and corporate costs	(103)	(247)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	3	23
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Research and development refunds	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(1,080)	(2,817)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	(9)	(49)
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-

<sup>+</sup> See chapter 19 for defined terms

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(9)	(49)

3.	Cash flows from financing activities
3.1	Proceeds from issues of shares
3.2	Proceeds from issue of convertible notes
3.3	Proceeds from exercise of share options
3.4	Transaction costs related to issues of shares, convertible notes or options
3.5	Proceeds from borrowings
3.6	Repayment of borrowings
3.7	Transaction costs related to loans and borrowings
3.8	Dividends paid
3.9	Other (provide details if material)
3.10	Net cash from / (used in) financing activities

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	2,215	3,992
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,080)	(2,817)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(9)	(49)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	1,126	1,126

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

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5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	106	695
5.2	Call deposits	1,020	1,520
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,126	2,215

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	114
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-

6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

The amount above includes all payments to Directors and also includes payments to entities associated with Leonard Dean. The payments relate to executive services and directors' fees on commercial terms.

7.	Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1	Aggregate amount of payments to these parties included in item 1.2	-
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3	Include below any explanation necessary to understand the transaction items 7.1 and 7.2	ns included in

Not applicable			

<sup>+</sup> See chapter 19 for defined terms

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1	Loan facilities	-	-
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)	-	-

8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.

Not applicable

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Exploration and evaluation	400
9.2	Development	-
9.3	Production	-
9.4	Staff costs	80
9.5	Administration and corporate costs	110
9.6	Other (provide details if material)	-
9.7	Total estimated cash outflows	590

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	Northern Territory EL28838 EL29470 EL30007	Beneficial interest – tenements not renewed	100%	0%
10.2	Interests in mining tenements and petroleum tenements acquired or increased	Alaska USA AKAA 095408 to AKAA 095455	Beneficial interest acquired in 48 contiguous tenement blocks	0%	100%

<sup>+</sup> See chapter 19 for defined terms

#### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here: Date: 25 January 2019

Company secretary

Print name: Jaroslaw (Jarek) Kopias

#### **Notes**

- 1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

<sup>+</sup> See chapter 19 for defined terms