



TSX, NYSE American  
Symbol: TMQ

## News Release

### Trilogy Metals Announces Updated Resource Estimate for the Bornite Project

**January 20, 2022 - Vancouver, British Columbia – Trilogy Metals Inc. (TSX/NYSE American: TMQ)** ("Trilogy" or the "Company") is pleased to announce the release of an updated mineral resource estimate for the Bornite Project located in the highly prospective Ambler Mining District of Northwest Alaska. The Bornite Project forms part of the Upper Kobuk Mineral Projects ("UKMP"), owned by Ambler Metals LLC ("Ambler Metals"), the joint venture operating company equally owned by Trilogy and a wholly owned subsidiary of South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) ("South32").

#### Highlights of the Updated Bornite Resource Estimate

- At a base case 0.50% copper cut-off grade and constrained within a limiting pit shell, the Bornite Project is estimated to contain in-pit indicated mineral resources of **41.7 million tonnes grading 1.04% copper** for 955 million pounds of contained copper and in-pit inferred mineral resources of **93.9 million tonnes grading 0.98% copper** for 2.0 billion pounds of contained copper (see Table 1 for details).
- Below the resource limiting pit shell, and at a base case cut-off grade of 1.5% copper, the combined South Reef and Ruby Zone is estimated to contain additional inferred mineral resources of **50.3 million tonnes grading 2.97% copper** for 3.3 billion pounds of contained copper (see Table 1 for details).
- The South Reef area, which represents the bulk of the resources located below the pit shell, has inferred mineral resources estimated at **35.3 million tonnes grading 3.39% copper** for 2.6 billion pounds of contained copper (see Table 1 for details).
- Below the resource pit shell, the Ruby Zone has inferred mineral resources estimated to be **15 million tonnes grading 1.98% copper** for 653 million pounds of contained copper (see Table 1 for details).
- The total cobalt inferred mineral resource (in-pit and below pit), based on a cut-off grade of 0.5% copper, is **185.8 million tonnes grading 0.021% cobalt** for 88 million pounds of contained cobalt (see Table 2 for details).

The sensitivity of mineral resources located below the pit shell to the cut-off grade is shown in Table 3 for the South Reef area and in Table 4 for the Ruby Zone.

This mineral resource estimate was prepared for Trilogy Metals Inc. by Robert Sim, P.Geo., SIM Geological Inc. ("SGI") and Bruce M. Davis, FAusIMM, ("BMD"), who are both independent Qualified Persons as set forth by National Instrument 43-101. A National Instrument 43-101 (NI 43-101) technical report detailing the mineral resource estimate for the Bornite Project will

be completed and filed on SEDAR ([www.sedar.com](http://www.sedar.com)) within 45 days of this news release.

Table 1. Estimate of Copper Mineral Resources for the Bornite Project

Class	Type	Cut-off (Cu%)	Tonnes (million)	Average Grade Cu (%)	Contained Metal Cu (Mlbs)
Indicated	In-Pit	0.5	41.7	1.04	955
	<b>Total Indicated</b>		<b>41.7</b>	<b>1.04</b>	<b>955</b>
Inferred	In-Pit	0.5	93.9	0.98	2,034
Inferred	Below-Pit South Reef	1.5	35.3	3.39	2,639
Inferred	Below-Pit Ruby Zone	1.5	15.0	1.98	653
	<b>Total Inferred</b>		<b>144.1</b>	<b>1.68</b>	<b>5,326</b>

Notes:

- (1) Resources stated as contained within a pit shell developed using a metal price of US\$3.50/lb copper, mining costs of US\$3.00/tonne, milling costs of US\$11.00/tonne, underground mining cost of US\$65.00/tonne, G&A cost of US\$5.00/tonne, 87% metallurgical recoveries and an average pit slope of 43 degrees.
- (2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves.
- (3) It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with additional exploration.

Table 2. Estimate of Cobalt Mineral Resources for the Bornite Project

Class	Type	Cut-off (Cu%)	Tonnes (million)	Average Grade Co (%)	Contained Metal Co (Mlbs)
Inferred	In-Pit	0.5	135.6	0.017	51
Inferred	Below-Pit South Reef	1.5	35.3	0.039	30
Inferred	Below-Pit Ruby Zone	1.5	15.0	0.021	7
	<b>Total Inferred</b>		<b>185.8</b>	<b>0.021</b>	<b>88</b>

Notes:

- (1) Mineral Resources stated as contained within a pit shell developed using a metal price of US\$3.50/lb copper, mining costs of US\$3.00/tonne, milling costs of US\$11.00/tonne, underground mining cost of US\$65.00/tonne, G&A cost of US\$5.00/tonne, 87% metallurgical recoveries and an average pit slope of 43 degrees.
- (2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves.
- (3) It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with additional exploration.
- (4) Due to limited sample data, none of the cobalt mineral resource meets the confidence level for Indicated-class mineral resources. All cobalt mineral resources are considered to be in the Inferred category.

Table 3. Sensitivity to Cut-Off Grade of Inferred Mineral Resources Below the Base Case Pit Shell in the South Reef Area

Inferred					
Cut-off (Cu %)	Tonnes (million)	Average Grade		Contained Metal	
		Cu (%)	Co (%)	Cu (Mlbs)	Co (Mlbs)
1.00	60.3	2.51	0.028	3,339	37
1.25	42.2	3.07	0.035	2,861	32
<b>1.50 Base Case</b>	<b>35.3</b>	<b>3.39</b>	<b>0.039</b>	<b>2,639</b>	<b>30</b>
1.75	31.8	3.57	0.041	2,499	29
2.00	29.8	3.67	0.043	2,413	28

Notes:

- (1) Base case cut-off grade of 1.50% copper is shown in bold in the table.
- (2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves.
- (3) It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with additional exploration.

Table 4. Sensitivity to Cut-Off Grade of Inferred Mineral Resources Below the Base Case Pit Shell in the Ruby Zone

Inferred					
Cut-off (Cu %)	Tonnes (million)	Average Grade		Contained Metal	
		Cu (%)	Co (%)	Cu (Mlbs)	Co (Mlbs)
1.00	48.7	1.5	0.019	1,604	21
1.25	26.8	1.75	0.02	1,033	12
<b>1.50 Base Case</b>	<b>15.0</b>	<b>1.98</b>	<b>0.021</b>	<b>653</b>	<b>7</b>
1.75	7.8	2.2	0.022	378	4
2.00	3.1	2.41	0.022	165	2

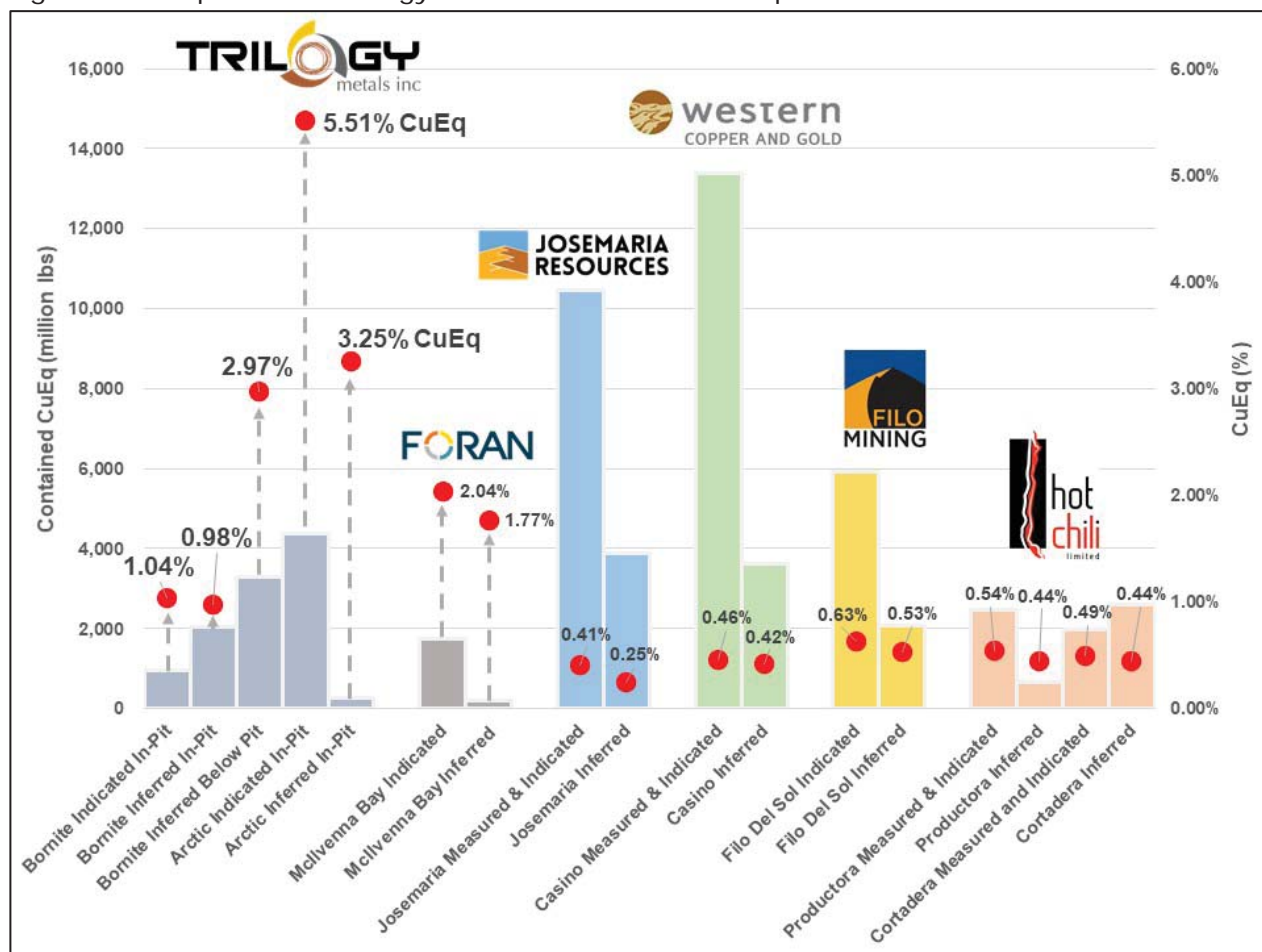
Notes:

- (1) Base case cut-off grade of 1.50% copper is shown in bold in the table.
- (2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves.
- (3) It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with additional exploration.

Tony Giardini, President and CEO of Trilogy, commented, "As seen in Figure 1, the Bornite and Arctic projects not only have a significant amount of copper but both assets also have some of the highest grades in the world and easily stand apart from our copper peers. I want to also note that the rationale of this updated resource estimate is to highlight the South Reef area which, based on drilling, appears to be amenable to underground bulk mining methods due to its exceptional mineralized widths and continuity. While our Ambler Metals Joint Venture team has been focused on the Arctic Project, which is located 24 kilometers from Bornite, we want to remind investors that Bornite is also a very compelling copper-cobalt project and is one of the highest-grade undeveloped copper assets in the world. We will now pass along this resource estimate to the Ambler Metals Joint Venture team which will look at ways at integrating this asset with our other assets within the UKMP."

Richard Gosse, Vice-President Exploration for Trilogy, commented, “The current resource update confirms the significant size and copper grades at the Bornite project and puts the spotlight on the high-grade resource in the South Reef area, which is being separately reported in the below-pit inferred resource category in this update. Besides its exceptional grade, South Reef is characterized by good thickness and continuity, and its discovery in 2011, more than 60 years after copper was first discovered at Bornite, points to the excellent exploration potential for other Bornite-type deposits nearby in the Cosmos Hills and the Ambler Lowlands.”

Figure 1. Comparison of Trilogy's Mineral Resources Compared to its Peers



Notes:

- (1) Peer group data as per latest company documents and public filings.
- (2) Assumes all assets on a 100% basis. Trilogy has a 50% interest in the UKMP which includes the Arctic and Bornite Projects.

### Comparison of 2018 and 2021 Resource Estimates

Table 5 shows a comparison between the 2018 resource estimate and the current estimate of mineral resources. As can be seen below, the Indicated and Inferred in-pit resource tonnage estimates increased by 3% and 12%, respectively. While the below-pit resource tonnage decreased by 13%, the average copper grade increased from 2.89% to 2.97%. Total inferred resource tonnage (in-pit and below-pit) decreased by about 2%.

Table 5. Comparison of Current and Previous Resource Estimates for the Bornite Deposit

Class	Type	Cut-off (Cu %)	December 2021			June 2018		
			Tonnes (million)	Average Grade Cu (%)	Contained Metal Cu (Mlbs)	Tonnes (million)	Average Grade Cu (%)	Contained Metal Cu (Mlbs)
Indicated	In-Pit	0.5	41.7	1.04	955	40.5	1.02	913
Inferred	In-Pit	0.5	93.9	0.98	2,034	84.1	0.95	1,768
Inferred	Below-Pit	1.5	50.3	2.97	3,292	57.8	2.89	3,683
Inferred	Total Inferred		144.1	1.68	5,326	141.9	1.74	5,450

Factors that contribute to the changes in mineral resources are summarized as follows:

- The current mineral resource estimate includes the results of drilling that was conducted in 2017, 2018, and 2019, but the 2017 drill holes were too widely spaced to support updated mineral resources on the northern (down-dip) part of the deposit at that time. The additional drilling had no impact on the distribution of mineral resources in the Indicated category located inside the resource pit shell. Most of the new drilling was located along the northern, down-dip side of the deposit, or in the vicinity of the South Reef area. These additional drill holes generally resulted in a slight reduction in the volume (tonnage) of mineral resources, but with a corresponding increase in both copper and cobalt grades.
- The interpretations of geologic domains and trend planes were updated based on all available drilling information. The differences in these interpretations compared to the previous resource estimate are relatively minor.
- The projected operating costs and metal prices used to generate the resource constraining pit shell were updated to reflect the current mining environment. The mining cost was increased, by 50% from US\$2.00/tonne to US\$3.00/tonne and the copper price was increased from US\$3.00/lb to US\$3.50/lb. These changes have resulted in a slightly larger resource constraining pit shell, which generally increased the volume of open-pit mineral resources and decreased the amount of underground mineral resources.
- The new mineral resource estimate was subjected to a critical review of the continuity of grade and thickness of mineralization below the pit shell; this was completed to ensure that the mineral resource exhibits reasonable prospects for eventual economic extraction using underground mining methods. This process has eliminated some of the more isolated mineralized areas that were present in the previous mineral resource estimate.

## 2017-2019 Drilling Campaigns

During the summer of 2017, seven drill holes were completed, totaling 8,437 meters, that tested the down-dip continuity of the northern part of the Bornite deposit. As stated previously, the spacing of these holes was considered too far apart to support the generation of additional mineral resource estimates at that time, and as a result, the estimate of copper mineral resources remained unchanged in the June 2018 report from those reported in the previous technical report dated April 2016. However, the June 2018 technical report did include, for the first time, an estimate of cobalt mineral resources for the Bornite Project.

In the summer of 2018, Trilogy Metals conducted a drilling program on the Bornite property

that included the completion of 12 holes totaling 10,123 meters that, in part, filled the gaps in previous drilling in the northern, down-dip part of the deposit.

In the summer of 2019, another drilling program, totaling 7,610 metres, was conducted on the property comprising eight holes that tested the continuity of the mineralization within the Bornite deposit and two holes that tested exploration targets located about 1 km south and southeast of the deposit.

### **Database and Methodology**

The project database comprises a total of 273 diamond drill (core) holes totaling 106,406 meters, including 203 holes that targeted the Ruby Zone to the west and 58 holes that targeted the South Reef area to the east. The remaining 12 holes in the database were exploratory in nature and tested for satellite mineralization proximal to the Bornite deposit or represent holes that encountered problems and were therefore abandoned. The database contains a total of 39,740 samples that were analyzed for copper content and 34,177 samples that were analyzed for cobalt content. Most holes were drilled by Trilogy Metals, plus a few select historical holes drilled by Kennecott Mines Company, containing additional analyses for elements such as zinc, lead, gold, silver, and cobalt. At this time, only copper and cobalt show any significant economic potential, and the others were excluded from the estimation of mineral resources.

Grade estimates are made into model blocks measuring 5m x 5m x 5m, using ordinary kriging with sample data composited to 2-meter intervals. The copper and cobalt resource models were validated using a combination of a visual review and statistical comparisons with models generated using other estimation methods. The effects of potentially anomalous high grade sample data were controlled using a combination of traditional top cutting as well as restricting the distance of influence during block grade interpolation. Copper and cobalt resources in the Inferred category occur within a maximum distance of 100 meters from a drill hole and exhibit reasonable confidence in the grade and continuity of mineralization. Copper resources included in the Indicated category are considered amenable to open-pit extraction methods and are delineated with holes spaced at a maximum distance of 75 meters. Note that there is less available cobalt sample data and, as a result, none of the cobalt mineral resource is included in the Indicated category. A portion of the mineral resource has been constrained within a pit shell generated based on the copper content in the model using a copper price of US\$3.50/lb, mining operating costs of US\$3.00/tonne, processing costs of US\$11.00/tonne and G&A costs of US\$5.00/tonne, copper process recovery of 87% and a pit slope of 45 degrees. Mineral resources located below the pit shell are based on an assumed mining cost of US\$65.00/tonne and exhibit the continuity and thickness to be considered amenable to underground extraction methods such as longhole stoping and cut-and-fill mining. It is assumed that extraction from the Bornite deposit is based on the copper content in the rocks and that cobalt would be a secondary contributor to the potential economic viability of the deposit. As a result, both copper and cobalt mineral resource estimates are defined based on a copper cut-off grade threshold.

### **Location and Distribution of Mineral Resources**

The location of the Bornite Project is shown in Figure 2. The distribution of open pit and underground mineral resources at the South Reef and Ruby Zone are shown in Figures 3 and 4.



Figure 2. Location of the Arctic and Bornite Projects within the UKMP

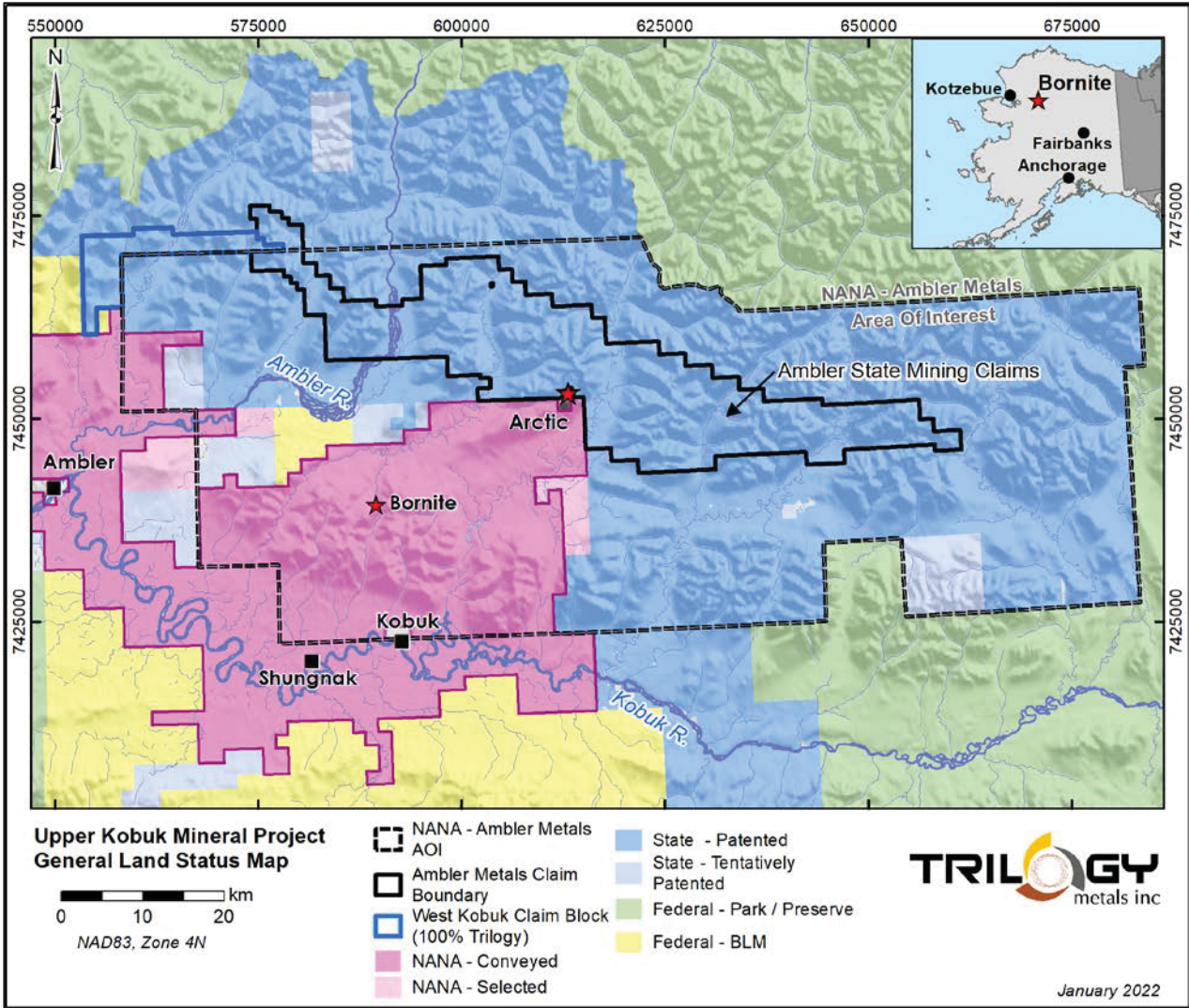


Figure 3. Perspective View Looking Northwest of Mineral Resources at Bornite

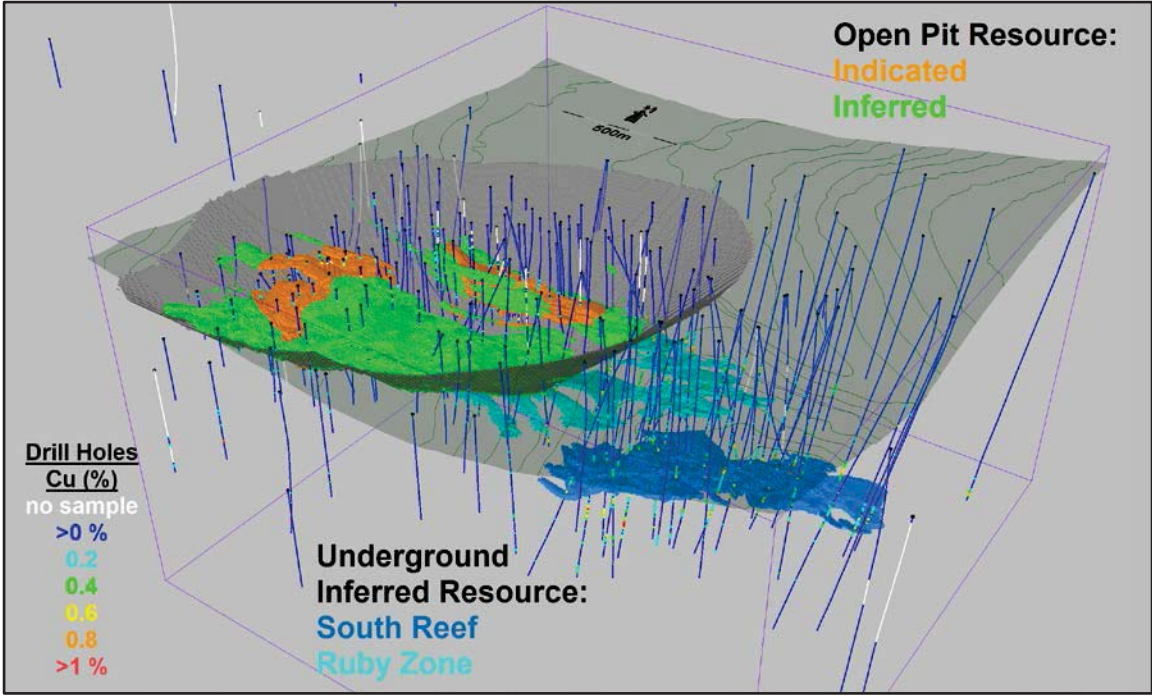
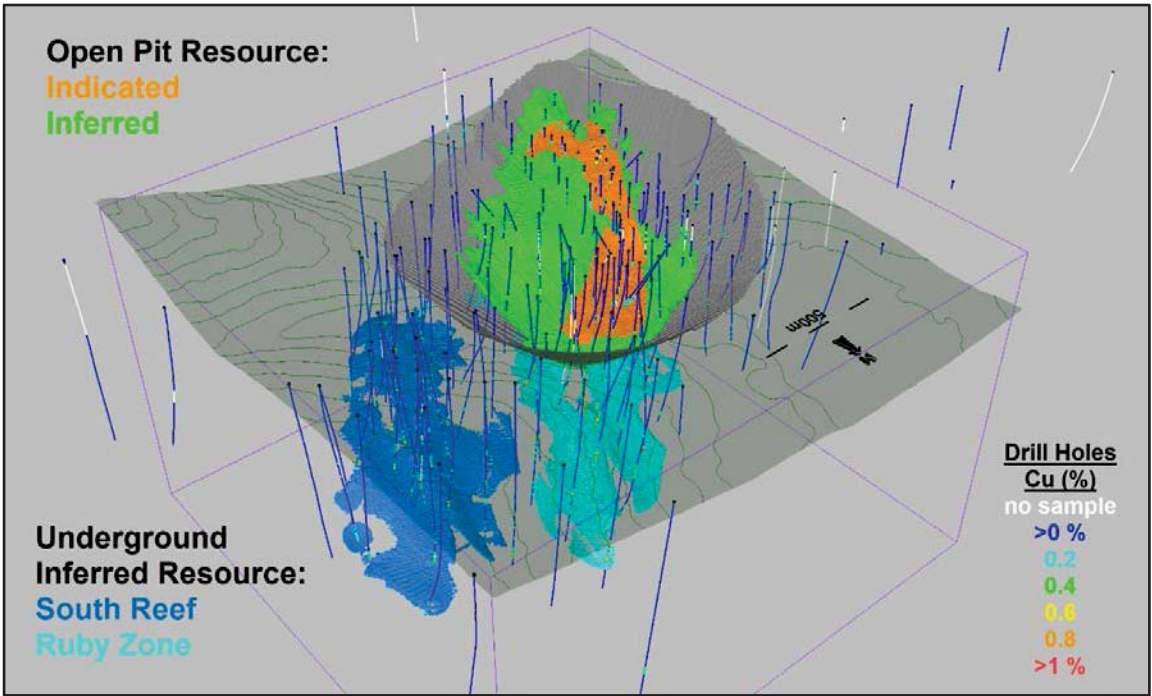


Figure 4. Perspective View Looking Southwest of Mineral Resources at Bornite





## Geology and Mineralization

The Bornite deposit is located approximately 24 km southwest of the Arctic deposit, subject of Trilogy's Feasibility Study completed in 2020, that will be served by the Ambler Access Road. Bornite is a carbonate-hosted copper deposit with associated cobalt and is made up of three stratabound copper bodies or 'reefs' that plunge northeast at about -25 degrees. These include the Lower and Upper Reefs, referred to as the Ruby Zone, with both in-pit and below-pit resources. Approximately 250 meters southeast of the Ruby Zone is the South Reef Zone, discovered in 2011. South Reef's 2% copper shell starts at about 400 meters below surface and plunges to the northeast at about -25 degrees to approximately 1,000 meters below surface. The true thickness of the resource at South Reef is variable, ranging from 5 meters to over 40 meters and averages about 15-20 meters.

The geology of the Bornite resource area is composed of alternating intervals of carbonate rocks (limestone and dolostone) and calcareous phyllite. Limestone transitions laterally into dolostone near zones of mineralization and is hydrothermally altered. Copper mineralization at Bornite is comprised of chalcopyrite, bornite, and chalcocite as stringers, veinlets, and breccia fillings distributed in stacked, roughly stratabound zones exploiting favorable stratigraphy.

Cobalt mineralization at Bornite is comprised of cobaltiferous pyrite within and enveloping the copper mineralized zones and carrollite and cobaltite directly associated with copper bearing minerals.

## 2021 Exploration Activities

During the 2021 field season, field mapping and relogging of drill core advanced the understanding of the Bornite deposit, and the potential for additional deposits was advanced with a new interpretation of the carbonate sequence at Bornite and an improved structural understanding of the Cosmos Hills. The Bornite sequence is now interpreted as a tectonized "normal" carbonate slope deposit that consists of calcitic material (lime mud) derived from a nearby shallow-marine source area, interlayered with variable amounts of terrigenous mud. Importantly, superimposed on the active limestone slope system is the local presence of dolostone-clast conglomerate that are likely derived from subaqueous horst blocks of pre-existing older dolostone that shed into the slope limestone system. The fault scarp(s) that shed dolostone clasts were probably part of a seafloor paleo-topographic system that developed during regional extension and associated fault-mediated syn-depositional subsidence. Proximal-distal relationships may help locate structures that delivered mineralizing fluids because dolostone conglomerates dominate the stratigraphy in the mineralized areas of the Bornite deposit. Massive sulphide distribution and characteristics suggest that syn-sedimentary faults associated with dolostone-clast conglomerates may have later served as conduits for mineralizing fluids. A better understanding of the configuration of the sedimentary system is recommended as its characteristics could assist in future exploration looking for other Bornite-style deposits.

## Qualified Persons

Robert Sim, P.Geo., a Qualified Person as defined by NI 43-101, is responsible for the estimate of mineral resources presented in this news release and has reviewed, verified, and approved the contents of this news release as they relate to the mineral resource estimate, including the sampling, analytical, and test data underlying the mineral resource estimate. Mr. Sim is independent from Trilogy Metals and confirms there were no limitations from the company in verifying the drilling and sample data with site visit observations and monitoring of the QA/QC

program.

Richard Gosse, Vice President of Exploration for Trilogy, is a Qualified Person as defined by National Instrument 43-101. Mr. Gosse has reviewed the scientific and technical information in this news release and approves the disclosure contained herein.

## **About Trilogy Metals**

Trilogy Metals Inc. is a metal exploration and development company which holds a 50 percent interest in Ambler Metals LLC which has a 100 percent interest in the Upper Kobuk Mineral Projects ("UKMP") in Northwestern Alaska. On December 19, 2019, South32, a globally diversified mining and metals company, exercised its option to form a 50/50 joint venture with Trilogy. The UKMP is located within the Ambler Mining District which is one of the richest and most-prospective known copper-dominant districts located in one of the safest geopolitical jurisdictions in the world. It hosts world-class polymetallic VMS deposits that contain copper, zinc, lead, gold and silver, and carbonate replacement deposits which have been found to host high-grade copper and cobalt mineralization. Exploration efforts have been focused on two deposits in the Ambler Mining District – the Arctic VMS deposit and the Bornite carbonate replacement deposit. Both deposits are located within a land package that spans approximately 181,387 hectares. Ambler Metals has an agreement with NANA Regional Corporation, Inc., an Alaska Native Corporation that provides a framework for the exploration and potential development of the Ambler Mining District in cooperation with local communities. Trilogy's vision is to develop the Ambler Mining District into a premier North American copper producer.

## **Company Contacts**

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## **Cautionary Note Regarding Forward-Looking Statements**

*This press release includes certain "forward-looking information" and "forward-looking statements" (collectively "forward-looking statements") within the meaning of applicable Canadian and United States securities legislation including the United States Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, included herein, including, without limitation, statements relating to the future demand for and price of cobalt, the future price of copper, the estimation of mineral reserves and mineral resources, the realization of mineral reserve and mineral resource estimates, the timing and amount of estimated future production, the South Reef Zone appearing to be amenable to underground bulk mining methods, the possible integration of the Bornite Project within the UKMP, the filing and timing of an updated Technical Report on the Bornite Project, costs of production, capital expenditures, costs and timing of the development of projects, the potential future development of Bornite, the future operating or financial performance of the Company, planned expenditures and the anticipated activity at the UKMP, are forward-looking statements. Forward-looking statements are frequently, but not always, identified by words such as "expects", "anticipates", "believes", "intends", "estimates", "potential", "possible", and similar expressions, or statements that events, conditions, or results "will", "may", "could", or "should" occur or be achieved. These forward-looking statements may include statements regarding perceived merit of properties; exploration plans and budgets; mineral reserves and resource estimates; work programs; capital expenditures; timelines; strategic plans;*

*market prices for precious and base metals; or other statements that are not statements of fact. Forward-looking statements involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate, and actual results and future events could differ materially from those anticipated in such statements. Important factors that could cause actual results to differ materially from the Company's expectations include the uncertainties involving success of exploration, development and mining activities, permitting timelines, requirements for additional capital, government regulation of mining operations, environmental risks, unanticipated reclamation expenses; mineral reserve and resource estimates and the assumptions upon which they are based; capital estimates; prices for energy inputs, labour, materials, supplies and services the interpretation of drill results, the need for additional financing to explore and develop properties and availability of financing in the debt and capital markets; uncertainties involved in the interpretation of drilling results and geological tests and the estimation of reserves and resources; the need for cooperation of government agencies and native groups in the development and operation of properties as well as the construction of the access road; the need to obtain permits and governmental approvals; risks of construction and mining projects such as accidents, equipment breakdowns, bad weather, non-compliance with environmental and permit requirements, unanticipated variation in geological structures, metal grades or recovery rates; unexpected cost increases, which could include significant increases in estimated capital and operating costs; fluctuations in metal prices and currency exchange rates; and other risks and uncertainties disclosed in the Company's Annual Report on Form 10-K for the year ended November 30, 2020 filed with Canadian securities regulatory authorities and with the United States Securities and Exchange Commission and in other Company reports and documents filed with applicable securities regulatory authorities from time to time. The Company's forward-looking statements reflect the beliefs, opinions and projections on the date the statements are made. The Company assumes no obligation to update the forward-looking statements or beliefs, opinions, projections, or other factors, should they change, except as required by law.*

### **Cautionary Note to United States Investors**

*This press release has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ from the requirements of U.S. securities laws. Unless otherwise indicated, all resource and reserve estimates included in this press release have been prepared in accordance with Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM)—CIM Definition Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council, as amended ("CIM Definition Standards"). NI 43-101 is a rule developed by the Canadian Securities Administrators which establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. Canadian standards, including NI 43-101, differ significantly from the requirements of the United States Securities and Exchange Commission (SEC), and resource and reserve information contained herein may not be comparable to similar information disclosed by U.S. companies. In particular, and without limiting the generality of the foregoing, the term "resource" does not equate to the term "reserves". Under U.S. standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. The SEC's Industry Guide 7 did not permit the inclusion of information concerning "mineral resources". The SEC's new mining disclosure rules under Regulation S-K 1300 are closer, but not identical to NI 43-101 and CIM Definition Standards. As the Company is not yet subject to Regulation S-K 1300, it remains subject to SEC industry Guide 7. Bornite does not have known reserves, as defined under SEC Industry Guide 7. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards under either SEC's Industry Guide 7 or Regulation S-K 1300.*