

Recommendation: Buy

Target Price: \$4.00

Current Price	\$2.58	Shares Outstanding (MM)	
52 Wk High	\$3.61	Basic	143.0
52 Wk Low	\$1.50	Diluted	154.2
Target Return	55%	CEO	Tony Giardini

Cash (MM)	US\$13	Market Cap. (MM)	US\$288
WC (MM)	US\$12	EV (MM)	US\$276
LT Debt (MM)	US\$0		

NAV (model)	\$4.00	NAV (spot)	\$4.68
P/NAV (model)	0.6x	P/NAV (spot)	0.6x

FYE Dec. 31		2026E	2027E	2028E
Sales	Q1	16	14	14
(MMlb Cu)	Q2	16	14	14
	Q3	16	14	14
	Q4	16	14	14
	FY	62	56	52
C1 Cu Cash Cost	FY	\$0.15	\$0.10	\$0.25
(US\$/lb)				

		2026E	2027E	2028E
Consolidated EPS	Q1	\$0.38	\$0.35	\$0.35
(US\$)	Q2	\$0.38	\$0.35	\$0.35
	Q3	\$0.38	\$0.35	\$0.35
	Q4	\$0.38	\$0.35	\$0.35
	FY	\$1.53	\$1.39	\$1.18

Consolidated CFPS	Q1	\$0.50	\$0.45	\$0.45
(US\$)	Q2	\$0.50	\$0.45	\$0.45
	Q3	\$0.50	\$0.45	\$0.45
	Q4	\$0.50	\$0.45	\$0.45
	FY	\$2.01	\$1.80	\$1.58
P/Cons. CFPS	FY	1.0x	1.1x	1.3x

### Company Description:

Trilogy is a base metal explorer and developer domiciled on the TSX. The company's portfolio is underpinned by the flagship Arctic project in Alaska. In addition to a significant copper profile (further bolstered by the neighbouring Bornite deposit), Arctic's open-pit FS mine plan includes +190 MMlb of payable zinc production per annum, which has garnered the attention of South32 through a 50/50 JV option (i.e., Ambler Metals) agreement that stands to enhance development efforts in the favorable jurisdiction.

## Trilogy Metals Inc.

(TMQ-TSX)

### Final Ambler Access Road Permits Received

Unless otherwise denoted, all figures shown in C\$

#### Investment Thesis:

Trilogy is an advanced-stage developer in Northwest Alaska's Ambler Mineral Belt. The Arctic copper-zinc project represents the most advanced component of the company's portfolio, which also includes the Bornite copper project ~27 km to the southwest. Ultimately, we view these two deposits as the catalysts for regional mine development that is largely underpinned by Trilogy's land position. Hence, successful project execution in conjunction with anticipated medium- to longer-term copper (and zinc) price strength should garner a higher valuation. An agreement inked with South32 in spring 2017 has provided significant exploration funding and a 50/50 JV partnership (i.e., Ambler Metals) that stands to enhance development efforts.

#### Highlights:

- Road To Resources Receives Final Federal Authorization**  
 On January 6, the Alaska Industrial Development and Export Authority (AIDEA), the agency leading the permitting efforts for the 211-mile long Ambler access road (AMDIAP) to Trilogy's flagship Upper Kobuk Mineral Projects (UKMP; includes the Arctic and Bornite deposit), signed agreements with the U.S. Bureau of Land Management (BLM) and the National Park Service (NPS), granting AIDEA a 50-year right-of-way on land owned and managed by the federal agencies along the route approved under the previously issued Joint Record of Decision (JROD) for the development of AMDIAP. The authorizing documents with the BLM and NPS are the final federal permits required for the access road project.
- Rigorous Permitting Process Nevertheless Draws Challenge**  
 Despite the rigorous permitting process, a coalition of national and Alaskan environmental NGOs have filed a lawsuit against the federal agencies responsible for issuing the JROD, arguing that due process was not carried out during the permitting of AMDIAP. Subsequently, AIDEA and Ambler Metals have filed for/received intervenor status in the lawsuit and will be defending the issuance of the JROD and the permits.
- Next Steps / Considerations**  
 NGO lawsuit aside, the successful conclusion of AMDIAP permitting reflects positively on Alaska's status as a mining-friendly jurisdiction that is 'open for business', and represents a major de-risking milestone for Trilogy and JV partner South32. With road permits in hand, we anticipate focus will shift to project (i.e., mine) permitting at Arctic (a +/- 3-year process; noting in part our model assumes production start-up in 2026). We would not be surprised to see progress on this front, further de-risking the sightline to production start-up, underpin project interest consolidation (likely via South32's acquisition of Trilogy)—in part noting Arctic's 'complimentary' profile relative to the company's other projects on a 100% basis (headlined by ~155 MMlb and ~192 MMlb of average annual copper and zinc production, respectively). We also remain cognizant Amber Metals US\$27 MM 2021E work budget includes a 7,000 m regional exploration campaign designed to further test The UKMP's compelling VMS potential.

On January 6, 2021, the Alaska Industrial Development and Export Authority (AIDEA), the agency leading the permitting efforts for the 211-mile long Ambler **access road (AMDIAP) to Trilogy's flagship Upper Kobuk Mineral Projects (UKMP)**, signed agreements with the U.S. Bureau of Land Management (BLM) and the National Park Service (NPS), granting AIDEA a 50-year right-of-way on land owned and managed by the federal agencies along the route approved under the previously issued Joint Record of Decision (JROD) for the development of AMDIAP. The authorizing documents with the BLM and NPS are the final federal permits required for the access road project.

Recall last **July, Trilogy and 50/50 Ambler Metals JV partner South32 received AMDIAP's JROD from the BLM**—a key milestone, which follows a ~3-year permitting process, approving the development of a 211-mile private gravel road that will provide industrial access to the Ambler Mining District (refer to [July 24, 2020](#), Cormark Morning Note). **The district is underpinned by Ambler Metals' UKMP**, which is composed of the flagship advanced-stage **Arctic polymetallic project, the JV's neighbouring Bornite copper deposit**, and its regional property package that is highly prospective for volcanogenic massive sulphide (VMS) deposits. Along with the JROD, the project has received a Section 404 Permit (governed by the Clean Water Act) from the U.S. Army Corp. of Engineers—establishing a program to regulate the discharge of dredge or fill material into waters of the United States (including wetlands). Recall there is currently no developed surface access to the district, which is proposed via the AMDIAP—a private 211 mile (~340 km) long (single lane) gravel road that extends west from the Dalton Highway, and crosses state lands (61%), Native corporation lands (15%), and federal lands (24%) managed by BLM and NPS (refer to [March 30, 2020](#), Cormark Morning Note).

The JROD approves development **of the access road's northern or 'A' route, which proved to be the environmentally preferred option**, having the smallest footprint at just under 4,500 acres, having the least impact on wetlands, and spanning the shortest distance from the Dalton Highway to the Ambler Mining District. Looking back, the state of Alaska began to identify and evaluate overland routes in 2009 and assigned the project to AIDEA in 2013. Despite the rigorous permitting process, a coalition of national and Alaskan environmental NGOs have filed a lawsuit against the federal agencies responsible for issuing the JROD, arguing that due process was not carried out during the permitting of AMDIAP. Subsequently, AIDEA and Ambler Metals have filed for/received intervenor status in the lawsuit and will be defending the issuance of the JROD and the permits.

**Last June, AIDEA's Board of Directors approved a Memorandum of Understanding (MOU) with Ambler Metals** specifying how the parties will jointly establish a plan regarding the permitting, feasibility, engineering and design, construction and operation, financing, and closure of the AMDIAP (refer to [July 24, 2020](#), Cormark Morning Note). During 2020, AIDEA and Ambler Metals invested ~US\$1 MM on predevelopment work, including the completion of a light detection and ranging survey (LIDAR), aerial photography, and cultural resource work. AIDEA plans to carry out additional fieldwork during the 2021 season while following all mandates required by the COVID-19 pandemic—complimenting ongoing discussions with Ambler Metals to secure a predevelopment funding agreement pertaining to AMDIAP detailed engineering (see below).

NGO lawsuit aside, **the successful conclusion of AMDIAP permitting reflects positively on Alaska's status as a mining-friendly jurisdiction that is 'open for business', and represents a major de-risking milestone for Trilogy and JV partner South32**. With road permits in hand, we anticipate focus will shift to project (i.e., mine) permitting at Arctic (a +/- 3-year process; noting in part our model assumes production start-up in 2026). We would not be surprised to see progress on this front, further de-risking the sightline to production start-up, underpin project interest consolidation (likely via **South32's acquisition of Trilogy**)—in part noting Arctic's 'complimentary' profile relative to the company's other projects on a 100% basis (headlined by ~155 MMlb and ~192 MMlb of average annual copper and zinc production, respectively).

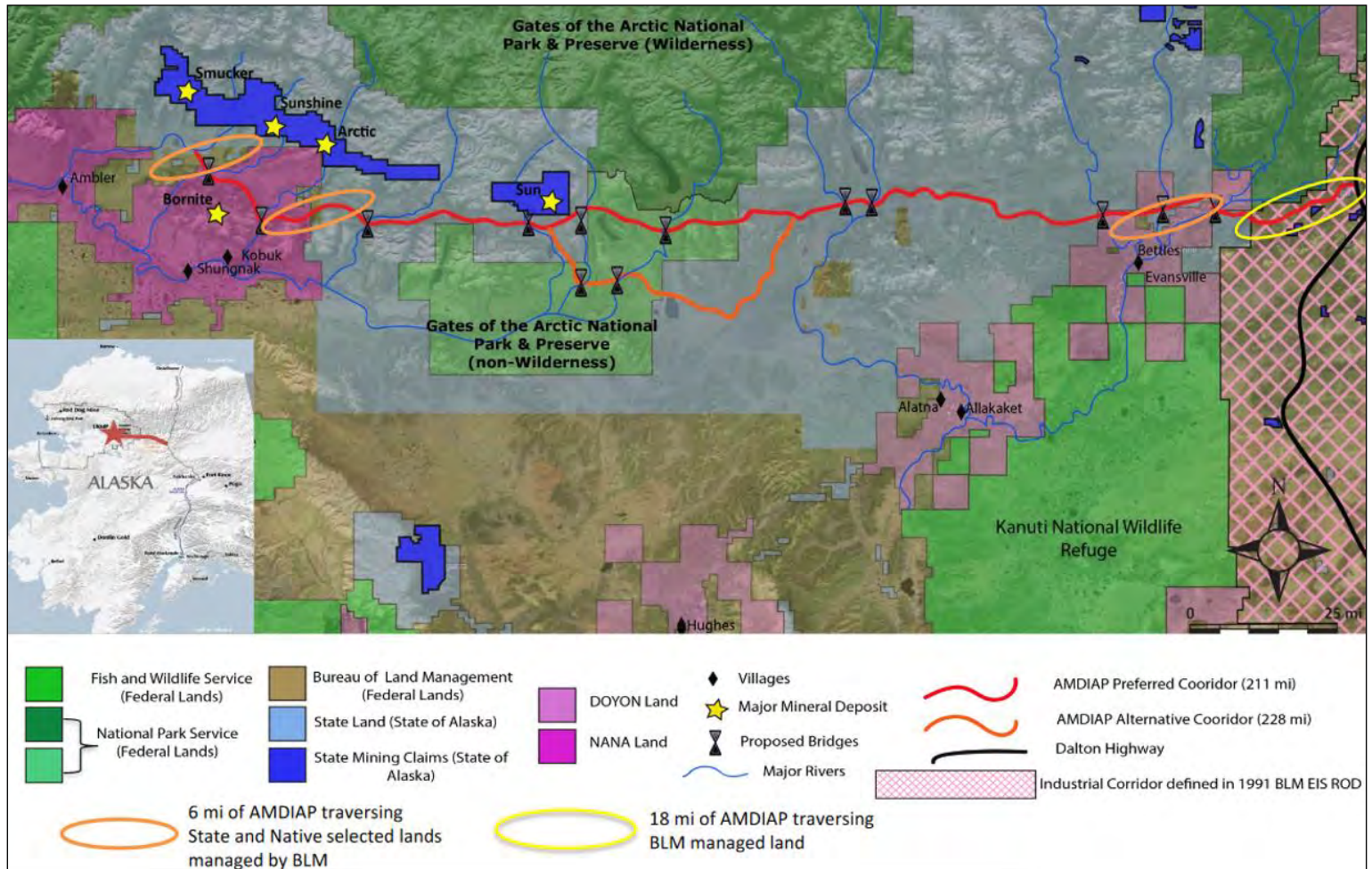
**Furthermore, UKMP is arguably now a key element of South32's project portfolio, and will continue to** receive funding for development and exploration over the foreseeable future (noting, as per agreement, South32 has already contributed US\$145 MM to the Ambler Metals JV; refer to [December 23, 2019](#), Cormark Morning Note). To this extent, we note the region hosts dozens of drill-ready targets along the ~100 km long Ambler VMS belt. These include the Sunshine prospect, which was the focus of a US\$2.0 MM regional exploration program in 2019, which yielded multiple mineralized drill intersections boasting comparable grades (up to ~8% CuEq) and thicknesses (up to ~15 m) to the Arctic deposit (refer to [November 8, 2020](#), Cormark Morning Note). Hence, continued exploration and permitting success stands to transform Ambler into a world-class mining district—**potentially garnering higher 'takeover premiums' (i.e., relative to today's [COVID-weighted] levels) 'when' 'South32' is ready to pull the trigger on consolidation.** To this extent, Amber Metals has approved a US\$27 MM budget to advance various components of the UKMP this year, including a 7,600 m infill campaign and additional engineering activities at Arctic and a 7,000 m regional exploration campaign at Sunshine (expected to begin in mid-July; refer to [November 20, 2020](#), Cormark Morning Note). Bottom line, we continue to view Arctic (and the greater UKMP portfolio) as a marquee base metal asset that boasts high grades, well-established relationships with indigenous and government stakeholders, and (now) the vote of confidence **South32's formal 50/50 partnership entails.**

#### AMDIAP Background Recap

- **Recall the August 2020 FS (and February 2018 PFS) for Trilogy's flagship Arctic project assumes that AIDEA will finance the road through a public-private partnership—AIDEA would construct/maintain the road and charge a toll to its industrial users (including Arctic) to pay back the costs of financing the AMDIAP—preliminary estimates peg the road's initial capital cost at ~US\$350 MM.**
- **This model is very similar to AIDEA's involvement with respect to the DeLong Mountain Transportation System (DMTS; aka the Red Dog Mine Road and Port facilities), which was constructed in the 1980s.** The project was funded by private investors, which were paid back through road tolls—no State of Alaska general funds were used to construct the DMTS (similar structure anticipated for the AMDIAP).
- The ultimate amount paid in tolls by any user will be affected by the cost of the road, its financing structure, and the number of mines and other users of the road, which could also include commercial transportation of materials and consumer items that would use the AMDIAP to ship concentrates to the Port of Anchorage in Alaska and possibly provide goods and commercial materials to villages in the region. **Based on bonding currently availability to AIDEA, Arctic's FS includes a ~US\$20 MM per annum road toll payable over the mine's 12-year life—**included as an onsite operating cost (US\$8.04/t milled; including a related US\$2.50/t milled road maintenance charge). However, said structure now appears to be **evolving with Ambler Metals agreeing to match AIDEA's predevelopment work funding this year** through a recently signed MOU and Interim Funding Agreement—a structure we anticipate could also see Ambler Metals contributing up to ~US\$35 MM to accelerate AMDIAP development.
- **AIDEA's efforts to complete the AMDIAP evaluation** have gained unanimous support from the Northwest Arctic Borough (NWAB) Assembly and the North Slope Borough (NSB) Assembly, which represent the home-rule governments of the people of northern Alaska (on July 9, 2018, both Boroughs unanimously voted to support evaluation of an industrial road in the Ambler Mining District). The Native Assemblies recognize the potential social-economic benefits of the industrial road (e.g., enhancing food security in the region), and have expressed interest to explore opportunities for co-investment and ownership.



Figure 1: AMDIAP Route Map



Source: Trilogy Metals Inc.

### Ambler Metals JV Recap

- The Ambler Metals JV was formally formed on February 11, 2020—to which notable (former) interim CEO James (Jim) Gowans holds a board seat (refer to [December 23, 2019](#), Cormark Morning Note). Trilogy contributed the UKMP in northwestern Alaska (namely the flagship high-grade Arctic copper-zinc project, the neighbouring Bornite copper project, and a portfolio of established regional exploration targets), while South32 contributed US\$145 MM, resulting in each party owning a 50% interest in Ambler Metals. The funds are dedicated to advancing the Arctic and Bornite projects, along with exploration in the Ambler Mining District.
- Australian based South32's foray into North America is not limited to the Ambler Metals JV. Recall the company acquired the world-class Taylor zinc-lead-silver deposit in 2018 via the friendly premium \$2.1 B takeover of Arizona Mining. South32 is now well into a US\$109 MM FY20 infrastructure spend at the project—twin decline portals, paste backfill plant, truck, shop, lined tailings facility, and other major capital items are well advanced. The scope of the company's development plan has not been publicly disclosed yet. However, a PFS is expected to be tabled later this year (refer to [January 9, 2020](#), Cormark Research Report).

## NANA Ownership Considerations Recap

- Trilogy has established a formal native partnership with the NANA Regional Corporation Inc. (NANA)—one of 13 regional Native corporations created under the Alaska Native Claims Settlement Act (ANCSA) of 1971, which extinguished Native claims to almost all of Alaska in exchange for approximately one-ninth of the state's land and US\$963 MM in compensation. **NANA's stated mission is to "provide economic opportunities for its more than 13,500 Iñupiat shareholders and to protect and enhance NANA lands".** NANA is very well organized and funded, and has expressed a strong willingness to work with Trilogy on the development of the Ambler Mining District.
- NANA has a proven track record of cooperation with mining companies, as is evidenced through **the agreement with Teck for the development of the Red Dog mine, located on NANA's lands.** Under the agreement, Teck leases the mine and concentrator properties from NANA, but retains full control of the operations. As return for the use of NANA lands, Teck pays NANA a portion of the net proceeds from the mine. The initial amount was a 25% net profits interest (NPI), that has been/is scheduled to increase by 5% every five years to a maximum of 50% (increased to 35% in Q4/17).
- In 2011, Trilogy (then NovaCopper) and NANA signed a framework agreement, similar to that between NANA and Teck, for the exploration and development of the Ambler Mining District. The agreement established the 172,675-hectare area referred to as the UKMP. It included a **combination of Trilogy's existing State of Alaska mining claims and federal patented mining claims (recently increased to 75,082 hectares) and NANA's** Bornite and ANCSA lands (97,593 hectares), **contained within a larger 'area of interest'.**
- Under the terms of the agreement, NANA will receive a net smelter return (NSR) royalty (variable between **1.0% and 2.5% depending on location within the 'area of interest'**) and **has the option to participate as a project partner (16% to 25% interest; to be decided within 120 days of a positive production decision).** If NANA elects to participate, it would be responsible for its pro rata share of historical exploration and development costs (less US\$40 MM; to be paid in cash) and will be required to fund its share of future development costs. If NANA declines to participate as a project partner, it will receive a 15% net proceeds interest (NPI) royalty on production (after Trilogy recoups its capital expenditures with a 9% return [ROC]).
- NANA has not formally indicated its preferred 'ownership' structure. Hence, we have conservatively modelled the potentially least favorable outcome for Trilogy—our formal valuation assumes NANA will elect to exercise its full option to become a 25% participating project partner in 2023. **Based on our forecast of Trilogy's future exploration expenditures at Arctic and Bornite, we estimate NANA's 25% purchase price will total ~US\$10 MM.** Conversely, if NANA elects not to participate as a project partner, and instead receive the 15% NPI royalty, **Trilogy's fully financed after-tax corporate NAV would increase modestly to US\$739 MM (~13%) in our model.**
- For illustrative purposes, we note that **Trilogy's fully financed after-tax corporate NAV ranges from US\$1,333 MM (\$4.79 per fully diluted share; modelled 100% projects interest; i.e., NANA elects 15% NPI option and South32 exits—no longer a possible scenario given that the option has been exercised (see above), to US\$655 MM (\$4.00 per share; 37.5% projects interest; i.e., NANA and South32 elect to become project partners).** Cognizant our modelled ownership scenario **underpins the lowest 'absolute' corporate valuations, we reiterate it also provides the best risk aversion with regard to timely development.**
- **In December 2017, Alaska Native Leader William Iggiagruk Hensley joined Trilogy's board.** Born in Kotzebue Alaska, he played a key role with regard to the Alaska Native Claims Settlement Act that was signed by President Nixon in 1971. Mr. Hensley was elected to the House of Representatives and served four full terms as Senator and two further terms through an appointment by Governor Steve Cowper. As a founder of NANA, he served for 20 years as a director, became the head of NANA Development Corp., and finally President of NANA Regional Corp.

Figure 2: Ambler Mining District Ownership Sensitivity

	1	2	3	Base Case
<b>Modelled Trilogy Project Interest</b>	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>37.5%</b>
<b>Modelled NANA Project Interest</b>	-	<b>25%</b>	-	<b>25%</b>
<b>Modelled South32 Project Interest</b>	-	-	<b>50%</b>	<b>37.5%</b>
<b>Production (attributable basis)</b>				
Mineable Resource, MMt	43	33	22	16
LOM Annual Average Copper Production (contained), MMlb	161	121	81	60
LOM Annual Average Zinc Production (contained), MMlb	226	169	113	85
LOM Annual Average Lead Production (contained), MMlb	34	26	17	13
LOM Annual Average Gold Production (contained), koz	47	35	24	18
LOM Annual Average Silver Production (contained), MMoz	4	3	2	1
LOM Total Copper Production (contained), MMlb	1,932	1,449	966	725
LOM Total Zinc Production (contained), MMlb	2,711	2,033	1,355	1,017
LOM Total Lead Production (contained), MMlb	411	308	205	154
LOM Total Gold Production (contained), koz	567	426	284	213
LOM Total Silver Production (contained), MMoz	43	32	21	16
LOM Annual Average Copper Production (payable), MMlb	155	117	78	58
LOM Annual Average Zinc Production (payable), MMlb	192	144	96	72
LOM Annual Average Lead Production (payable), MMlb	32	24	16	12
LOM Annual Average Gold Production (payable), koz	32	24	16	12
LOM Annual Average Silver Production (payable), MMoz	3	3	2	1
LOM Total Copper Production (payable), MMlb	1,864	1,398	932	699
LOM Total Zinc Production (payable), MMlb	2,304	1,728	1,152	864
LOM Total Lead Production (payable), MMlb	388	291	194	146
LOM Total Gold Production (payable), koz	386	289	193	145
LOM Total Silver Production (payable), MMoz	41	30	20	15
<b>Operating Costs</b>				
LOM Average Operating Cost (on-site), US\$/tonnes milled	\$55	\$55	\$55	\$55
LOM Average Total Copper Cash Cost (net of credits), US\$/lb payable	\$(0.05)	\$(0.05)	\$(0.05)	\$(0.05)
<b>Capital Costs (attributable basis)</b>				
Initial Capital Cost, US\$MM	\$950	\$713	\$475	\$356
LOM Total Capital Cost (incl. sustain. cap. and closure costs), US\$MM	\$1,260	\$945	\$630	\$472
<b>Arctic Valuation (attributable basis)</b>				
Pre-Tax Cumulative Cash Flow, US\$MM	\$4,225	\$3,566	\$2,113	\$1,783
Project NAV Discount Rate, %	10%	10%	10%	10%
Pre-Tax Project NAV, US\$MM	\$1,240	\$1,059	\$620	\$530
Pre-Tax Project IRR, %	25%	26%	25%	26%
After-Tax Project NAV, US\$MM	\$887	\$794	\$443	\$397
After-Tax Project IRR, %	22%	24%	22%	24%
<b>Corporate Valuation</b>				
Corporate NAV, US\$MM	\$1,333	\$1,166	\$739	\$655
Shares OS (fully diluted, fully financed), MM	356	308	234	209
Corporate NAV, C\$/FD share	\$4.79	\$4.85	\$4.05	\$4.00

Source: Cormark Securities Inc.

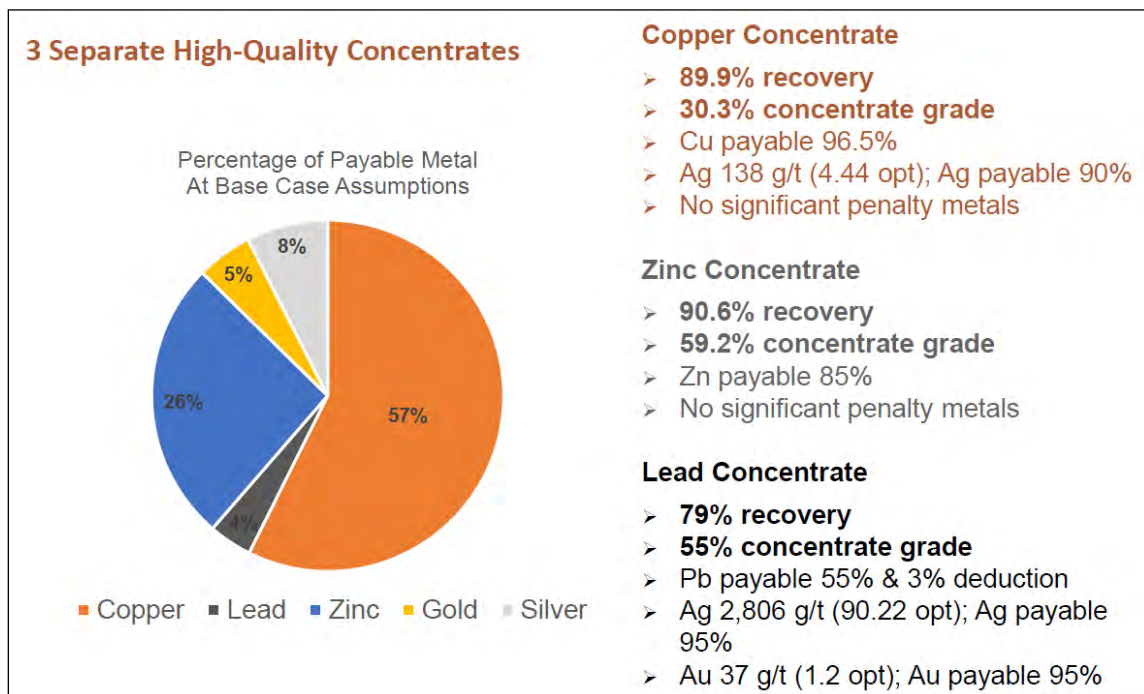


## Arctic 2020 FS Recap

Last August, Trilogy tabled a summary of FS results for the company's flagship Arctic project, superseding a PFS released in February 2018 (refer to [August 21, 2020](#), Cormark Morning Note). Details include:

- Mirroring the PFS, the latest study, headed by Ausenco, continues to envision a 12-year, 10,000 tpd conventional open-pit operation (**6.9:1 strip ratio**) centred on Arctic's (essentially unchanged) 43.4 MMt reserve, which now boasts modestly lower grades (2.8% decrease on a CuEq basis) reflecting additional modelled mine dilution (~5%). Further to this point, said FS reserve grades 2.24% copper, 3.12% zinc, 0.54% lead, 0.47 g/t gold, and 34.7 g/t silver (versus a PFS reserve figure of 43.0 MMt grading 2.32% copper, 3.24% zinc, 0.57% lead, 0.49 g/t gold, and 36.0 g/t silver).
- **Base metal production has decreased marginally on the back of metallurgical 'fine tuning' and the aforementioned additional mining dilution consideration.** Annual payable production is now expected to average 155 MMlb copper, 192 MMlb zinc, 32 MMlb lead, 32 koz gold, and 3.4 MMoz silver (versus previous PFS figures of 159 MMlb copper, 200 MMlb zinc, 34 MMlb lead, 31 koz gold, and 3.4 MMoz silver).
- Not surprisingly, key headline costs are (modestly) higher. In particular:
  - Initial capex is now estimated at US\$906 MM (including a 10% contingency), versus a US\$780 MM PFS figure (our model conservatively assumes US\$950 MM).
  - LOM sustaining capex now estimated at US\$114 MM, versus a US\$66 MM PFS figure—a notable **increase that primarily now reflects the construction of a water treatment plant late in Arctic's mine life** (see below).
  - Closure costs now estimated at US\$205 MM, versus US\$65 MM previously—a notable increase that primarily reflects operation of the above-mentioned water treatment plant in perpetuity (~100 years; **discounted back to 'Year 13' at 8%**).
  - LOM average onsite opex is now pegged at US\$50.65/t milled, versus US\$46.81/t previously (our model conservatively assumes US\$55/t milled).
  - Said FS onsite cost includes an Ambler access road (AMDIAP; see below) toll of US\$8.04/t milled—up from a PFS figure of US\$4.70/t milled, noting the latest estimate now includes a US\$2.50/t road maintenance cost. Headline processing costs have also increased to US\$18.31/t milled, versus US\$15.09/t previously (partially offset by modestly lower mining costs). The increase in part reflects higher power requirements (now 16.0 MW, previously 12.6 MW) and costs associated with a change **from LNG derived power contemplated in Arctic's PFS (US\$0.17/kWh) to logistically more beneficial diesel derived power modelled in the FS (US\$0.24/kWh; as well as higher modelled diesel input costs [US\$0.86/l in the FS, versus a PFS figure of US\$0.82/l]).**
  - Further to the 211-mile access road toll, we note the FS estimate remains subject to negotiation with AIDEA. Meanwhile, currently modelled consideration assumes that Arctic will be one of four eventual users of said infrastructure (in addition to developments centred on the Bornite, Smucker, and Sun deposits) with AMDIAP's initial capital cost (~US\$350 MM) proportionally amortized across all 4 projects' resource bases (and at Arctic, the project's 12-year FS mine life; which equates to a ~US\$20 MM per annum toll charge in the flagship project's FS). We are also under the impression that AIDEA may look to Ambler Metals support to **partially fund the AMDIAP's initial capital cost**—to upwards of US\$35 MM (matching the state agency's initial spend; similar to a nominally smaller Interim Funding Agreement signed between the two parties earlier this summer; see below) in an effort to accelerate access road development—an upfront Ambler Metals investment that would reduce future tolling rate considerations.

Figure 3: Arctic FS Product Summary



Source: Trilogy Metals Inc.

- Said onsite cost profile translates into an FS LOM average total (C1) copper cash cost of US\$0.32/lb net of credits and AISC of US\$0.98/lb—continuing to position Arctic well within the first quartile of the copper cash cost curve (versus previous PFS figures of US\$0.15/lb and US\$0.63/lb, respectively [based on the same metal price deck; see below]). We note the FS cash cost profile is underpinned in part by copper and zinc TCs of US\$85/DMT and US\$230/DMT, respectively (versus PFS rates of US\$80/DMT and US\$200/DMT, respectively).
- Base case FS economics are headlined by a US\$1.1 B after-tax project NAV8% (27% IRR / 2.6 year payback) at US\$3.00/lb copper, US\$1.10/lb zinc, US\$1.00/lb lead, US\$1,300/oz gold, and US\$18.00/oz silver—which compares to base case PFS figures of US\$1.4 B, 33%, 2.0 years at the same metal price deck.
- At US\$2.94/lb copper, US\$1.09/lb zinc, US\$0.89/lb lead, US\$2,001/oz gold, and US\$28.89/oz silver, **Arctic's FS generates a US\$1.3 B after-tax project NAV8% and 30% IRR.** Furthermore, copper bulls will note that at US\$4.00/lb (all other base case parameters held constant), **Arctic's FS generates a 36% after-tax IRR. Conversely, even at a 'dismal' copper price of US\$2.00/lb, Arctic's high-grade profile still generates a 16% IRR (increases to 22% at US\$2.50/lb copper).**
- Said 100% project economics do not include NANA ownership considerations—noting the indigenous regional corporation maintains the right, following a construction decision, to elect to purchase a 16% to 25% direct interest in the Arctic Project or, alternatively, to receive a 15% Net Proceeds Royalty (NPR; see above). However, the FS economics do include consideration for an agreed upon 1.0% Net Smelter Royalty (NSR) to be granted to NANA in exchange for a surface use rights.



## Valuation

Our valuation is based on Cormark's formal commodity price forecast, which includes long-term (+2022) copper and zinc prices of US\$3.25/lb and US\$1.15/lb, respectively, and in turn underpins a fully financed after-tax corporate NAV10-12% of US\$655 MM or \$4.00 per fully diluted share. Our valuation is based on Arctic's 2020 open-pit FS mine plan and a conceptual Bornite mine plan. Our \$4.00 per share target price is based on a 1.0x multiple to Trilogy's fully financed after-tax corporate NAV10-12%, which in turn is underpinned by Arctic's fully financed after-tax attributable (37.5% modelled interest) project NAV10% of US\$397 MM or \$2.43 per fully diluted share. We would not be surprised to see ongoing planning shift focus to a multi-mine (i.e., Arctic and Bornite) development scenario, possibly based around one (larger/expanded) centralized mill and concentrator complex.

Figure 4: NAV Breakdown and Sensitivity

	Cormark Model	\$2.00	\$2.50	\$3.00	\$3.50	\$4.00	Spot Price
<b>Long-term Copper Price Forecast, US\$/lb</b>		\$2.00	\$2.50	\$3.00	\$3.50	\$4.00	
<b>Long-term Zinc Price Forecast, US\$/lb</b>		\$0.75	\$1.00	\$1.25	\$1.50	\$1.75	
<b>Long-term Lead Price Forecast, US\$/lb</b>		\$0.50	\$0.75	\$1.00	\$1.25	\$1.50	
<b>Long-term Gold Price Forecast, US\$/oz</b>		\$800	\$1,000	\$1,200	\$1,400	\$1,600	
<b>Long-term Silver Price Forecast, US\$/oz</b>		\$5.00	\$10.00	\$15.00	\$20.00	\$25.00	
<b>Long-term C\$/US\$ FX Rate</b>		\$1.40	\$1.30	\$1.20	\$1.10	\$1.00	
<b>Fully Financed FD Shares, MM</b>	209	209	209	209	209	209	209
<b>Corporate Adjustments</b>							
Corporate Adjustments, US\$MM	\$117	-	\$117	\$117	\$117	\$117	\$117
Corporate Adjustments, C\$ per FD Share	\$0.72	-	\$0.73	\$0.67	\$0.62	\$0.56	\$0.72
<b>Projects</b>							
Arctic After-Tax Project NAV10%, US\$MM	\$397	-	\$131	\$314	\$494	\$675	\$477
Arctic After-Tax Project NAV10%, C\$ per FD Share	\$2.43	-	\$0.81	\$1.80	\$2.60	\$3.22	\$2.92
Bornite After-Tax Project NAV12%, US\$MM	\$66	-	-	\$41	\$89	\$135	\$96
Bornite After-Tax Project NAV12%, C\$ per FD Share	\$0.40	-	-	\$0.23	\$0.47	\$0.65	\$0.59
<b>Total After-Tax Projects NAV10-12%, US\$MM</b>	<b>\$463</b>	-	\$131	\$354	\$583	\$810	<b>\$572</b>
<b>Total After-Tax Projects NAV10-12%, C\$ per FD Share</b>	<b>\$2.83</b>	-	\$0.81	\$2.03	\$3.07	\$3.87	<b>\$3.50</b>
<b>Subtotal Valuation (Corporate Adjustments + Projects)</b>							
<b>Subtotal After-Tax Corporate NAV10-12%, US\$MM</b>	<b>\$580</b>	-	\$248	\$472	\$700	\$927	<b>\$689</b>
<b>Subtotal After-Tax Corporate NAV10-12%, C\$ per FD Share</b>	<b>\$3.55</b>	-	\$1.54	\$2.70	\$3.68	\$4.43	<b>\$4.22</b>
<b>Resource + Exploration Upside Credit</b>							
Attributable Resource Credit, US\$MM	-	-	-	-	-	-	-
Attributable Resource Credit, C\$ per FD Share	-	-	-	-	-	-	-
Regional Exploration Upside Credit, US\$MM	\$75	-	\$75	\$75	\$75	\$75	\$75
Regional Exploration Upside Credit, C\$ per FD Share	\$0.46	-	\$0.47	\$0.43	\$0.39	\$0.36	\$0.46
<b>Total Resource + Exploration Upside Credit, US\$MM</b>	<b>\$75</b>	-	\$75	\$75	\$75	\$75	<b>\$75</b>
<b>Total Resource + Explor. Upside Credit, C\$ per FD Share</b>	<b>\$0.46</b>	-	\$0.47	\$0.43	\$0.39	\$0.36	<b>\$0.46</b>
<b>Total Valuation</b>							
<b>Total After-Tax Corporate NAV10-12%, US\$MM</b>	<b>\$655</b>	-	\$323	\$547	\$775	\$1,002	<b>\$764</b>
<b>Total After-Tax Corporate NAV10-12%, C\$ per FD share</b>	<b>\$4.00</b>	-	\$2.01	\$3.13	\$4.08	\$4.79	<b>\$4.68</b>
<b>Implied Target Price @ 1.0x After-Tax Corp. NAV10-12%, C\$</b>	<b>\$4.00</b>	-	\$2.00	\$3.25	\$4.00	\$4.75	<b>\$4.75</b>
<b>2026E Model Attributable CFPS, US\$</b>	<b>\$0.80</b>	\$0.23	\$0.50	\$0.72	\$0.94	\$1.18	<b>\$0.89</b>
<b>2027E Model Attributable CFPS, US\$</b>	<b>\$0.67</b>	\$0.19	\$0.38	\$0.59	\$0.81	\$1.04	<b>\$0.76</b>

Cormark model NAV is calculated on a January 1, 2021 forward basis, with production start-up at Arctic in 2026.

Cormark model is based on US\$3.25/lb copper, US\$1.15/lb zinc, US\$1.00/lb lead, US\$1,900/oz gold, and US\$24.00/oz silver, and a C\$/US\$ FX rate of 1.28.

Spot pricing is based on US\$3.57/lb copper, US\$1.26/lb zinc, US\$0.90/lb lead, US\$1,846/oz gold, US\$24.97/oz silver, and a C\$/US\$ FX rate of 1.28

Source: Cormark Securities Inc.

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Figure 5: Target Price Sensitivity To Copper And Zinc Pricing

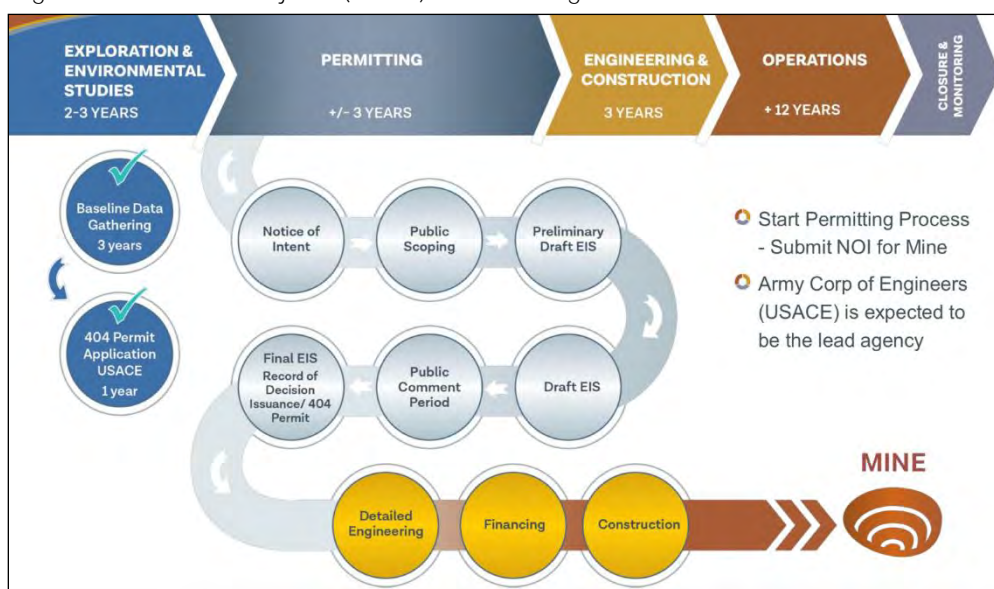
		Copper (US\$/lb)					
		\$1.75	\$2.25	\$2.75	\$3.25	\$3.75	\$4.25
Zinc (US\$/lb)	\$0.75	\$0.50	\$1.50	\$2.50	\$3.50	\$4.25	\$5.25
	\$1.00	\$1.00	\$2.00	\$3.00	\$3.75	\$4.75	\$5.50
	\$1.15	\$1.00	\$2.25	\$3.25	\$4.00	\$4.75	\$5.75
	\$1.25	\$1.25	\$2.25	\$3.25	\$4.25	\$5.00	\$5.75
	\$1.50	\$1.50	\$2.75	\$3.50	\$4.50	\$5.25	\$6.25
	\$1.75	\$2.00	\$3.00	\$4.00	\$4.75	\$5.75	\$6.50

Based on a 1.0x multiple to fully financed after-tax corporate NAV10-12%  
Source: Cormark Securities Inc.

Given current uncertainty regarding the scope and timing of a potential open-pit and/or underground mining operation at Bornite, we have utilized a risk-adjusted 12% discount rate for our conceptual Bornite project valuation, which is further muted by an assumed 2030 production start-up timeline (in the context of said 12% discount rate and our 2021-forward NAV calculation basis). Hence, given Bornite's (overall) lower grade, modelled lack of by-product credits (cobalt), and time-value-of-money considerations associated with developing a modelled 20,000 tpd standalone operation entirely from operational free cash flow, the project is only marginally accretive to Trilogy's fully financed after-tax corporate NAV in our model (noting Bornite generates a fully financed after-tax attributable [37.5% modelled interest; see above] project NAV12% of US\$41 MM or \$0.26 per fully diluted share). That said, we acknowledge that Bornite would likely provide key scalability to a potential partner (or suitor) looking to capitalize on a larger production opportunity in the Ambler Mining District.

Our model includes 2027E attributable CFPS of US\$0.59 (from Arctic; i.e., once the company establishes a commercial production profile). Looking further ahead, additional production from Bornite in +2030 would boost annualized attributable CFPS to +US\$0.75 in our model. We are cognizant of the challenges every mining company faces with respect to timely cost-effective production start-up at one, let alone two, operations. Our arguably conservative valuation reflects a cautious stance given Trilogy's efforts to develop mines at Arctic and Bornite refer to [October 27, 2017](#), Cormark Research Report).

Figure 6: Arctic Project (mine) Permitting Process



Source: Trilogy Metals Inc.

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Figure 7: Trilogy Metals Inc. – Summary

<b>Trilogy Metals Inc. (TMQ-T)</b>	Target Price, C\$	\$4.00	Shares OS, MM	143.0
Rating: BUY	Current Price, C\$	\$2.58	Shares FD, MM	154.2
Target Price: C\$4.00	Return, %	55%	Market Cap, US\$MM	\$288
Metric: 1.0x fully financed AT Corp. NAV10-12%	52-Week High / Low, C\$	\$3.61 / \$1.50	Company CEO	Tony Giardini
	Volume (100-day average)	26,515	Web Site	www.trilogymetals.com

Balance Sheet and Capitalization				
	US\$MM	US\$/Sh.	C\$MM	C\$/Sh.
Market Capitalization	\$288	\$2.02	\$369	\$2.58
Current Cash	\$13	\$0.09	\$16	\$0.11
F/D Cash Adds	\$13	\$0.09	\$16	\$0.11
Working Capital	\$12	\$0.08	\$15	\$0.11
Long-term Debt	-	-	-	-
Book Value	\$186	\$1.30	\$238	\$1.67
Enterprise Value (EV)	\$276	\$1.93	\$354	\$2.47

EV = Market Capitalization - Working Capital + Long-term Debt

Financial Forecast			
	2026	2027	2028
Forecast Cu Price, US\$/lb	\$3.25	\$3.25	\$3.25
C\$/US\$ FX Rate	1.28	1.28	1.28
Average Shares OS, MM	198	198	198
Cash, US\$MM	\$112	\$210	\$293
Working Capital, US\$MM	\$111	\$209	\$292
Long-term Debt, US\$MM	\$190	\$166	\$143
Revenue, US\$MM	\$821	\$788	\$721
Operating Costs, US\$MM	\$(307)	\$(310)	\$(303)
Depreciation, US\$MM	\$(70)	\$(73)	\$(73)
Corporate G&A, US\$MM	\$(4)	\$(4)	\$(4)
Exploration, US\$MM	-	-	-
Consolidated Earnings, US\$MM	\$302	\$275	\$233
<b>Consolidated EPS, US\$</b>	<b>\$1.53</b>	<b>\$1.39</b>	<b>\$1.18</b>
Attributable Earnings, US\$MM	\$108	\$98	\$83
<b>Attributable EPS, US\$</b>	<b>\$0.54</b>	<b>\$0.49</b>	<b>\$0.42</b>
Consolidated OCF, US\$MM	\$398	\$356	\$314
<b>Consolidated CFPS, US\$</b>	<b>\$2.01</b>	<b>\$1.80</b>	<b>\$1.58</b>
Attributable OCF, US\$MM	\$158	\$133	\$117
<b>Attributable CFPS, US\$</b>	<b>\$0.80</b>	<b>\$0.67</b>	<b>\$0.59</b>
Current Price / Attributable CFPS	2.5x	3.0x	3.4x
Target Price / Attributable CFPS	3.9x	4.6x	5.3x
Current EV / Attributable OCF	1.8x	2.1x	2.4x
Target Implied EV / Attributable OCF	4.7x	5.5x	6.3x
CAPEX, US\$MM	\$(152)	\$(9)	\$(9)
<b>Investing CF, US\$MM</b>	<b>\$(152)</b>	<b>\$(9)</b>	<b>\$(9)</b>
Proceeds from Equity, US\$MM	-	-	-
Proceeds from Debt, US\$MM	-	-	-
Debt Repayment, US\$MM	\$(33)	\$(32)	\$(31)
Contributions from NC Interests, US\$MM	\$95	\$6	\$83
Distributions to NC Interests, US\$MM	\$(240)	\$(223)	\$(196)
<b>Financing CF, US\$MM</b>	<b>\$(178)</b>	<b>\$(249)</b>	<b>\$(221)</b>
Free Cash Flow, US\$MM	\$68	\$98	\$83
<b>FCFPS, US\$</b>	<b>\$0.34</b>	<b>\$0.49</b>	<b>\$0.42</b>

Arctic Production Profile (100% basis, 37.5% modelled interest)			
	2026	2027	LOM
Ore Milled, MMt	3.5	3.7	43.4
Copper Head Grade, %	2.5%	2.2%	2.2%
Zinc Head Grade, %	3.0%	2.9%	3.1%
Copper Recovery, %	90%	90%	90%
Zinc Recovery, %	91%	91%	91%
Copper Production (contained), MMlb	172	156	1,932
Zinc Production (contained), MMlb	210	211	2,711
Onsite Operating Cost, US\$/t milled	\$55	\$55	\$55
<b>Total Copper Cash Cost, US\$/lb NoC</b>	<b>\$0.15</b>	<b>\$0.10</b>	<b>(\$0.05)</b>

Bornite Production Profile (100% basis, 37.5% modelled interest)			
	2026	2027	LOM
Ore Milled, MMt	-	-	109.7
Copper Head Grade, %	-	-	1.8%
Cu Recovery, %	-	-	87%
Copper Production (In Con.), MMlb	-	-	3,727
Onsite Operating Cost, US\$/t milled	-	-	\$50
<b>Total Copper Cash Cost, US\$/lb</b>	-	-	<b>\$2.00</b>

Attributable Corporate Sales Forecast			
	2026	2027	LOM
Copper Sales, MMlb	62	56	2,027
Zinc Sales, MMlb	67	67	864
<b>Total Copper Cash Cost, US\$/lb NoC</b>	<b>\$0.15</b>	<b>\$0.10</b>	<b>\$1.30</b>

Share Capital Dilution				
	Number	Price	Proceeds	Expiry
Warrants	-	-	-	-
Options	10.0MM	C\$1.62	C\$16.1MM	-
Share Units	1.2MM	-	-	-
<b>Total Dilution</b>	<b>11.2MM</b>	<b>C\$1.44</b>	<b>C\$16.1MM</b>	

Recent Financings	
April 20, 2018 - US\$28.7 MM bought deal (24.8 MM shares @ US\$1.16)	
April 10, 2017 - US\$30 MM total cash contribution from South32 over the next three years	

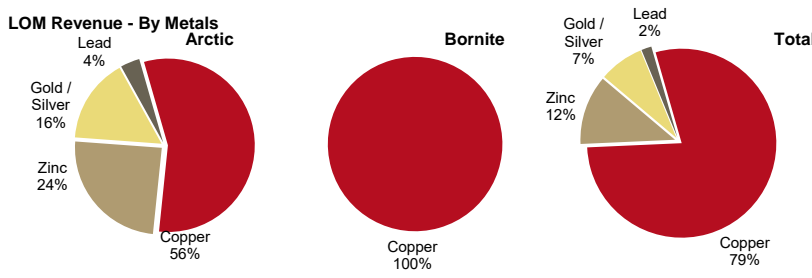
Major Shareholders				
	Basic (MM)	Basic (%)	FD (MM)	FD (%)
Electrum Group	29.4	21%	29.4	19%
South32	16.4	11%	16.4	11%
Paulson & Co.	14.3	10%	14.3	9%
Baupost Group	13.6	10%	13.6	9%
Selz Capital	13.6	10%	13.6	9%
Management and Directors	7.4	5%	18.6	12%
<b>Total</b>	<b>143.0</b>	<b>42%</b>	<b>154.2</b>	<b>39%</b>

Corporate NAV Summary and Sensitivity							
	Cormark						Spot
Forecast Copper Price, US\$/lb	\$3.25	\$2.00	\$2.50	\$3.00	\$3.50		\$3.57
Forecast Zinc Price, US\$/lb	\$1.15	\$0.75	\$1.00	\$1.25	\$1.50		\$1.26
Forecast C\$/US\$ FX Rate	1.28	1.40	1.30	1.20	1.10		1.28
Arctic AT NAV10%, US\$MM	\$397	-	\$131	\$314	\$494		\$477
Bornite AT NAV12%, US\$MM	\$66	-	\$41	\$89			\$96
Corporate Adjustments, US\$MM	\$117	-	\$117	\$117	\$117		\$117
Additional Exploration Credit, US\$MM	\$75	-	\$75	\$75	\$75		\$75
<b>Corporate NAV, US\$MM</b>	<b>\$655</b>	-	<b>\$323</b>	<b>\$547</b>	<b>\$775</b>		<b>\$764</b>
<b>Corporate NAV, C\$/FD Share</b>	<b>\$4.00</b>	-	<b>\$2.01</b>	<b>\$3.13</b>	<b>\$4.08</b>		<b>\$4.68</b>
Target Price / Corporate NAV	1.0x	-	2.0x	1.3x	1.0x		0.9x
2026E Model Attrib. CFPS, US\$	\$0.80	\$0.23	\$0.50	\$0.72	\$0.94		\$0.89
2027E Model Attrib. CFPS, US\$	\$0.67	\$0.19	\$0.38	\$0.59	\$0.81		\$0.76

Model FD Shares (fully financed): 209MM

Metal Inventory						
	Tonnes (MM)	Cu (%)	CuEq (%)	Cu (MMlb)	CuEq (MMlb)	EV/lb CuEq (US\$/lb)
Arctic Mineable (100%)	43	2.2%	4.3%	2,145	4,103	-
Bornite Mineable (100%)	110	1.8%	1.8%	4,283	4,283	-
<b>Total Model Mineable (100%)</b>	<b>153</b>	<b>1.9%</b>	<b>2.5%</b>	<b>6,429</b>	<b>8,387</b>	<b>\$0.033</b>
<b>Attributable Model Mineable (37.5%)</b>	<b>57</b>	<b>1.9%</b>	<b>2.5%</b>	<b>2,411</b>	<b>3,145</b>	<b>\$0.088</b>
<b>Total P&amp;P Reserve (100%)</b>	<b>43</b>	<b>2.2%</b>	<b>4.3%</b>	<b>2,145</b>	<b>4,103</b>	<b>\$0.067</b>
<b>Attributable P&amp;P Reserve (37.5%)</b>	<b>16</b>	<b>2.2%</b>	<b>4.3%</b>	<b>804</b>	<b>1,539</b>	<b>\$0.180</b>
Bornite In Pit M&I (100%)	41	1.0%	1.0%	911	911	-
<b>Total M&amp;A (100%)</b>	<b>41</b>	<b>1.0%</b>	<b>1.0%</b>	<b>911</b>	<b>911</b>	<b>\$0.303</b>
Arctic Inferred (100%)	3.5	1.7%	3.5%	132	268	-
Bornite In Pit Inferred (100%)	84.1	1.0%	1.1%	1,761	1,971	-
Bornite Below Pit Inferred (100%)	57.8	2.9%	3.0%	3,683	3,830	-
<b>Total Inferred (100%)</b>	<b>145</b>	<b>1.7%</b>	<b>1.9%</b>	<b>5,576</b>	<b>6,069</b>	<b>\$0.046</b>
<b>Total Reserve and Resource (100%)</b>	<b>229</b>	<b>1.7%</b>	<b>2.2%</b>	<b>8,632</b>	<b>11,083</b>	<b>\$0.025</b>
<b>Attributable Reserve and Resource (37.5%)</b>	<b>86</b>	<b>1.7%</b>	<b>2.2%</b>	<b>3,237</b>	<b>4,156</b>	<b>\$0.067</b>

Trilogy Metals Inc. Consensus Estimate Summary (Reuters data sourced via Capital IQ)						
C\$	Analysts	Buys	Holds	Sells	Mn Target High / Low	CSI vs. Cons.
Consensus Valuation	5	4	1	-	\$3.50 \$4.00 / \$2.50	14%



Based on Cormark's metal price forecast.

Source: Cormark Securities Inc.

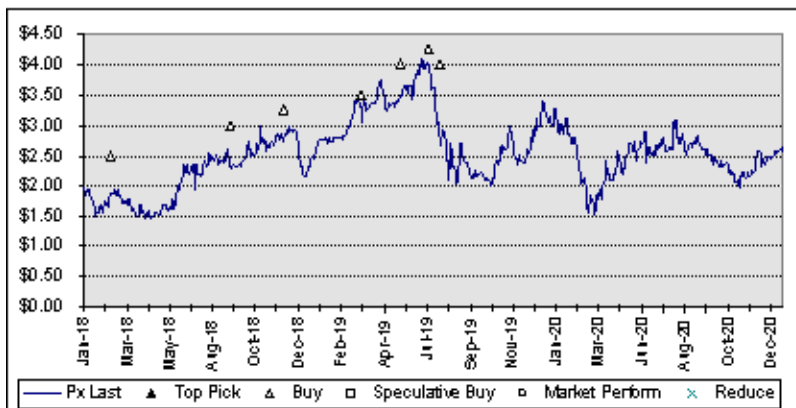
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**Trilogy Metals Inc.**

Updated January 11, 2021

**Price Chart and Disclosure Statement**

\*Information updated monthly on or about the 5th of each month.



Recommendation / Target Chg	Date	C\$
	23-Jul-19	4.00 (B)
	04-Jul-19	4.25 (B)
	22-May-19	4.00 (B)
	21-Mar-19	3.50 (B)
	20-Nov-18	3.25 (B)
	28-Aug-18	3.00 (B)
	22-Feb-18	2.50 (B)
	10-Jan-18	2.00 (B)

\*Cormark has this percentage of its universe assigned as the following:

<i>Buy or Top Pick</i>	68%
<i>Market Perform</i>	11%
<i>Reduce or Tender</i>	1%
<i>Not Rated</i>	20%

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Market Perform expected to perform with its peer group  
Reduce expected to underperform its peer group  
Tender clients are advised to tender their shares to a takeover bid  
Not Rated currently restricted from publishing, or our recommendation is under review

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