

## Resource Development Council October 4, 2018

Advancing the Ambler Mining District in Alaska by Forming Strong Partnerships





## **Forward Looking Statements**

This presentation 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, 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, costs of production, capital expenditures, costs and timing of the development of projects, the likelihood and timing of the AMDIAP, the potential future development of Bornite, the future operating or financial performance of the Company, planned expenditures and the anticipated activity at the UKMP Projects, 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; assumptions and discount rates being appropriately applied to the PFS; our assumptions with respect to the likelihood and timing of the AMDIAP; 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, 2017 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.

## **Forward Looking Statements**

#### Non-GAAP Performance Measures

Some of the financial measures referenced in this press release are non-GAAP performance measures. We have not reconciled forwardlooking full year non-GAAP performance measures contained in this news release to their most directly comparable GAAP measures, as permitted by Item 10(e)(1)(i)(B) of Regulation S-K. Such reconciliations would require unreasonable efforts at this time to estimate and quantify with a reasonable degree of certainty various necessary GAAP components, including for example those related to future production costs, realized sales prices and the timing of such sales, timing and amounts of capital expenditures, metal recoveries, and corporate general and administrative amounts and timing, or others that may arise during the year. These components and other factors could materially impact the amount of the future directly comparable GAAP measures, which may differ significantly from their non-GAAP counterparts.

#### **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 disclosure standards normally do not permit the inclusion of information concerning "measured mineral resources", "indicated mineral resources" or "inferred mineral resources" or other descriptions of the amount of mineralization in mineral deposits that do not constitute "reserves" by U.S. standards in documents filed with the SEC. Investors are cautioned not to assume that all or any part of "measured" or "indicated resources" will ever be converted into "reserves". Investors should also understand that "inferred mineral resources" have a great amount of uncertainty as to their existence and great uncertainty as to their economic and legal feasibility. Under Canadian rules, estimated "inferred mineral resources" may not form the basis of feasibility or pre-feasibility studies except in rare cases. Disclosure of "contained ounces" in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in-place tonnage and arade without reference to unit measures. The requirements of NI 43-101 for identification of "reserves" are also not the same as those of the SEC, and reserves reported by Trilogy Metals in compliance with NI 43-101 may not qualify as "reserves" under SEC standards. Arctic 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 Trust | Respect | Integrity accordance with U.S. standards.

## **Trilogy Corporate Highlights**

8 Billion Pounds of Copper, 3 Billion Pounds of Zinc and over 1 Million Ounces of Gold Equivalent Precious Metals And now with 77 Million Pounds of Cobalt

- High-Grade Copper with Significant Zinc, Cobalt and Precious Metals
- Located in Alaska: a Safe, Rule of Law Jurisdiction
- > Ambler Mining District Significant Exploration Upside
- Focused on Two Projects:
  - > Arctic at PFS Completed; Permitting & BFS Underway
    - Post Tax \$1.4 Billion NPV and 33% IRR
    - Average Annual Production: 160 Million Lbs Copper; 200 Million Lbs Zinc; 30 Million Lbs Lead; 30,000 Ozs Gold and 3 Million Ozs Silver
  - Bornite Exploration > 6 Billion lbs Copper and Growing



## **Copper and Cobalt** are Critical for a Green **Energy and Transportation Future**











## **Share Capitalization**



#### ~\$US122 Million Solid – Supportive Shareholder Base NYSE American and Toronto Exchanges - Symbol "TMQ" **Expended to Date** Fully Diluted<sup>2</sup> **Issued and Outstanding Options & Warrants**<sup>1</sup> 131.3 M 148.5 M 15.7 M Shareholder Base **Major Shareholders Balance Sheet** Electrum Group ~20% Retail, 16% Funded for Next 3 Years South32 Limited ~12% Management Baupost Group ~10% & Directors. ~\$31 Million 4% Paulson & Co. ~9% No debt Selz Capital ~8% Institutional. 0 80% Millennium ~5% ۰ Largely Institutionally Held Management ~3% ٠ Above totals more than 65% Meaningful Management Ownership

1) 9.1m stock options and 6,521,740 warrants, which are held 100% by Electrum, Paulson & Baupost as at Feb 28/18.

2) Fully diluted shares include 1.1M Deferred Share Units (Directors) and 0.4M Restricted Share Units (Officers) at Feb 28/18.

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## **Ambler Mining District - Alaska**



Safe Jurisdiction – mining district hosts deposits rich in copper, zinc, lead, gold, silver and cobalt



- Politically Stable
- Rule of Law
- Recognized Mineral Potential
- Resource Extractive Industries are the Largest Contributors to Alaska's Economy
- Well Established
  Permitting Process
- Supportive Borough Gov't – tax base for region
  - NANA Agreement
- > NANA Alaskan Regional Native Corporation with 14,000 Iñupiat shareholders
- > Land owner and Joint partner with Teck on Red Dog
- > Largest Zinc mine in the world operating for nearly 30 years
- > Good jobs and Local taxes from mine supports NW Arctic Borough Government and School District

## Strong local support

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## **Corporate Highlights - Partnerships**



Advancing the Ambler Mining District in Alaska by Forming Strong Partnerships

Three Partnerships

Local Native Partnership with NANA – Business Relationship with strong community relationships

Infrastructure Partnership with State of Alaska - AIDEA to build road infrastructure

Financial Partnership with South32



## **Alaska Native Partnership - NANA**



## Formal Agreement for Strong Community Relationships

- NANA is a for-profit US corporation with a social responsibility
- One of 13 regional native corps created as a result of the Alaska Native Claims Settlement Act (ANCSA) passed by Congress and signed in law by President Nixon in 1971
- Control 353,000 Acres in 100 Km long District
- Net Smelter Royalty (1% to 2.5%)
- Option for NANA to be an equity partner (16% to 25%) or receive a net proceeds royalty (15% NPI)
- Promote employment for NANA shareholders & scholarships
- Oversight Committee created which includes three sub-committees
  - Subsistence
  - Workforce Development
  - Communications



## **Workforce** Development



	2017	2016	2015	2014	2013	2012
# UKMP Direct Hires*	50	31	32	13	58	65
% NANA Shareholders	64%	55%	66%	62%	66%	<mark>58%</mark>

- % of NANA Shareholders that are direct hires remains above 50% historically.
- In 2017, a larger program has resulted in a return to a higher percent as more positions have opened up.
- Total Upper Kobuk hire is 48%

\*Numbers do not include contractors (i.e. Drillers, NMS, etc.)



## **Workforce Development**



# THE ALASKA DE MILIONALISTA DE

The official magazine of the Alaska Miners Association and the mining industry in Alaska



January 2018

Shareholder teamwork

Page 23

Legislative Preview What you can expect in Juneau in 2018

Stand for Alaska What it means for Alaska miners Trust Land Office Developing Icy Cape Trilogy Kuuvangmuit Scholarship Fund

- Nicole Tickett
- From Shungnak
- Trilogy Employee for 6 years
- Second year UAA
  Student in Geology



## **Infrastructure Partnership - AIDEA**

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## **Infrastructure Partnership - AIDEA**



## Ambler Mining District Industrial Access Project (AMDIAP)



- A road connecting the Ambler mining district to 4 ice-free ports; year-round shipping ports at multiple locations (Mackenzie, Anchorage, Seward & Whittier)
- Rail option from Fairbanks to ports cost savings
- Alaska Industrial Development & Export Authority (AIDEA) has begun the permitting process for the road
- Notice of Intent filed in the US federal register on February 28, 2017 – Begins EIS
- Scoping completed Jan 31, 2018. Draft EIS anticipated Mar 2019 and Final EIS Dec 2019
- National Park Service to complete EEA by end of 2018
- AIDEA to permit and build AMDIAP (similar to Red Dog road and port – DMTS)
- Finance construction costs with low interest bonds
- Payback over 30+ years with tolls



## Ambler Mining District Industrial Access Project (AMDIAP)







## **Business Partnership – South 32**



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(16)

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## Financial Partnership - South32 Limited



## Announced on April 10, 2017

Now a 12.5% Shareholder

- South32 is a global diversified metals and mining company, demerged from BHP Billiton in 2015, with high quality operations producing bauxite, alumina, aluminum, energy and metallurgical coal, manganese, nickel, silver, lead and zinc...but not copper and cobalt
- > 17<sup>th</sup> Largest Mining Company in the World
- \$7 Billion Annual Revenue
- Generating over \$1.5 Billion in Free Cash Flow a Year
- Trilogy and South32 have signed an agreement whereby South32 has been granted an option to form a 50-50 joint venture to hold our Alaskan assets
- Option Payments US\$10 M/year for up to 3 years
- South32 can exercise option to form the JV by January 2020 by contributing approximately \$150 Million







# UPPER KOBUK MINERAL PROJECTS





## 

## **String of Pearls**

## Ambler mining district hosts deposits rich in copper, zinc, lead, gold, silver....and cobalt



## **Reserves at the Arctic Project**



## **Probable Mineral Reserves**



Additional Inferred Resources of 3.5 Mt, with average grades of 1.71% Cu, 2.72% Zn, 0.60% Pb, 0.36 g/t Au and 28.69 g/t Ag. See Appendix for Reserve Estimate for the Arctic Project.

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## Arctic PFS – Inputs & Economic Results



	2018 PFS	
Mine Life	12 years	
Mill Capacity	10,000 t/d	
Average Annual Production	159M lbs Cu 199M lbs Zn 33M lbs Pb 3.3M oz Ag 30,600 oz Au	
Base Case Metal Prices	\$3.00/b Cu \$1.10/lb Zn \$1.00/lb Pb \$18.00/oz Ag \$1,300/oz Au	
Pre-Tax NPV (\$ million) at 8%	1,935.2	
After-Tax NPV (\$ million) at 8%	1,412.7	
Cash Costs, Net of By-product Credits (\$/Ib Cu payable)	0.15	
All-in Cost (\$/lb of Cu payable)	0.63	
Annual Free Cash Flow at Today's Metal Prices (in million of US\$)	~ 450	
Capital Intensity Ratio (\$ initial capital / tonne of copper equivalent)	6,203	
After-Tax IRR (%) / Pre-Tax IRR (%)	33.0 / 38.0	
Payback Period - After-Tax (years)	2.0	







(21)

## **Arctic Producing Quality Concentrates**



## **3 Separate High-Quality Concentrates**



Copper Lead Zinc Gold Silver

### **Copper Concentrate**

- > 90% recovery
- > 30.3% concentrate grade
- Cu payable 96.5%
- > Ag 169 g/t (4.93opt); Ag payable 90%
- > No significant penalty metals

## Zinc Concentrate

- > 91.7% recovery
- > 59.2% concentrate grade
- > Zn payable 85%
- > No significant penalty metals

## Lead Concentrate

- > 80% recovery
- > 55% concentrate grade
- Pb payable 95%, subject to 3% deduction for concentrates <60% grade</li>
- Ag 2,383 g/t (69.5opt); Ag payable 95%
- > Au 34 g/t (1opt); Au payable 95%

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## **District Exploration Upside**



## Ambler mining district hosts deposits rich in copper, zinc, lead, gold and silver & cobalt



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(23)

## **Camp at Bornite**





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## **Bornite – Testing Northern Extension**

## 2017 & 2018 Diamond Drill Programs

## **Expanding Resources**

• 22 exploration holes, up to 1,200 meters deep



6 Billion Pounds of Copper 77 Million Pounds of Cobalt





## **Overview of SubArctic Creek Valley – looking Northeast**







## **Overview of Mine Site – looking Northeast**





## Typical Truck and Shovel Open Pit Mining Operation Loading Ore and Waste

## Similar in Size to Red Dog





## Typical Crush-Grind-Flotation Mill Circuit with On-Site Power Generation Using LNG





## Crushing, Conveying and Ore Stockpile









## **Concentrate Containers – No Losses**





## **Alaska Railroad Transportation Plan**









## Port in South Central Alaska





## RotoBox Dumps Concentrate Directly into Ship Hold





36

## Arctic – Towards Permitting in 2019



## **Next Steps for Arctic**

## 2018 Arctic Budget of US\$6.7 Million



## **Continued Permitting AMDIAP Road**

Input, MOU with AIDEA, Consultants, Legal



## Ore Sorting

- Complete the ore sorting program that has been initiated in FY2017
- 2 tonne bulk sample of ore grade material sent to Steinert Labs for testing
- Consider impacts to the PFS
  - 20-30% dilution at mine face
  - XRT sorting to remove waste from mined material
  - potential to upgrade "ore" grade
  - potential to reduce mill throughput, power, manpower, tailings
  - → every tonne processed costs ~\$20/t milled

## Arctic Feasibility Study

• By 2020



## **Permitting Arctic Mine**

- Begin preparation of a permitting document and pre-permitting consulting
- Begin speaking to the relevant agencies
- Submit permits in 1H 2019



## **Mine Permitting Process**

## **Requires Federal, State and Borough Approvals**





- 404 Wetland Permit is the only Federal Permit Required
- All other significant permits issued by the State of Alaska
  - Mine Operating Permit
  - Air Quality
    Permit
  - Dam Operating
    Permit
  - Water Discharge
    Permit

39

NWA Borough Authorization





# Taikuu!





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