# Northern Dynasty Minerals Ltd.



### IN SIGHT: AMERICA'S NEXT GREAT COPPER-GOLD MINE

### THE PEBBLE PROJECT

The **Future** of U.S. Mining & Metals

**SEPTEMBER 2020** 

All statements of Northern Dynasty Minerals Ltd. ("NDM") in this presentation, other than statements of historical facts, that address the permitting, development and production for the Pebble Project are forward-looking statements. These statements include statements regarding (i) the mine plan for the Pebble Project, (ii) the social integration of the Pebble Project into the Bristol Bay region and benefits for Alaska, (iii) the political and public support for the permitting process, (iv) the issuance of a positive Record of Decision by the US Army Corps of Engineers and the ability of the Pebble Project to secure state permits, (v) the rightsizing and de-risking of the Pebble Project, (vi) the design and operating parameters for the Pebble Project mine plan, (vii) exploration potential of the Pebble Project, (viii) future demand for copper and gold, (ix) the potential partnering of the Pebble Project, and (x) the ability and timetable of NDM to develop the Pebble Project and become a leading copper, gold and molybdenum producer. Although NDM believes the expectations expressed in these forward-looking statements are based on reasonable assumptions, such statements should not be in any way be construed as guarantees that the Pebble Project will secure all required government permits, establish the commercial feasibility of the Pebble Project or develop the Pebble Project. Assumptions used by NDM to develop forward-looking statements include the assumptions that (i) the Pebble Project will obtain all required environmental and other permits and all land use and other licenses without undue delay, (ii) studies for the development of the Pebble Project will be positive, (iii) NDM's estimates of mineral resources will not change, (iv) NDM will be able to establish the commercial feasibility of the Pebble Project, and (v) NDM will be able to secure the financing required to develop the Pebble Project. The likelihood of future mining at the Pebble Project is subject to a large number of risks and will require achievement of a number of technical, economic and legal objectives, including (i) obtaining necessary mining and construction permits, licenses and approvals without undue delay, including without delay due to third party opposition or changes in government policies, (ii) finalization of the mine plan for the Pebble Project, (iii) the completion of feasibility studies demonstrating that any Pebble Project mineral resources that can be economically mined, (iv) completion of all necessary engineering for mining and processing facilities, (v) the inability of NDM to secure a partner for the development of the Pebble Project, and (vi) receipt by NDM of significant additional financing to fund these objectives as well as funding mine construction, which financing may not be available to NDM on acceptable terms or on any terms at all. NDM is also subject to the specific risks inherent in the mining business as well as general economic and business conditions, such as the current uncertainties with regard to COVID-19. For more information, Investors should review the risk factors and related discussions in NDM's filings with the US Securities and Exchange Commission at www.sec.gov and its Canadian home jurisdiction filings available at www.sedar.com.

The National Environment Policy Act Environmental Impact Statement process requires a comprehensive "alternatives assessment" be undertaken to consider a broad range of development alternatives, the final project design and operating parameters for the Pebble Project and associated infrastructure may vary significantly from that contemplated in this presentation. As a result, the Company will continue to consider various development options and no final project design has been selected at this time.

This presentation also uses the terms "measured resources", "indicated resources" and "inferred resources". These terms are recognized and required by Canadian regulations (under National Instrument 43-101 Standards of Disclosure for Mineral Projects). The United States Securities and Exchange Commission (the "SEC") has adopted amendments to its disclosure rules to modernize the mineral property disclosure requirements for issuers whose securities are registered with the SEC under the U.S. Exchange Act, effective February 25, 2019 ("The SEC Modernization Rules"). The SEC Modernization Rules include the adoption of definitions of the terms and the categories of resources which are "substantially similar" to the corresponding terms under Canadian regulations in 43-101. Investors are cautioned not to assume that any part or all of the mineral deposits in these categories will ever be converted into reserves or be proven to be legally and economically mineable. Under Canadian rules, estimates of inferred resources may not form the basis of feasibility or pre-feasibility studies, or economic studies except for a Preliminary Economic Assessment as defined under NI 43-101. Investors are cautioned not to assume that part or all of an inferred resource is economically or legally mineable.

Cautionary & Forward Looking Information

The technical information contained in this presentation has been reviewed and approved by qualified persons who are not independent of NDM. Information on geology, drilling and exploration potential was reviewed by James Lang, PGeo., Mineral Resources by David Gaunt, PGeo., and engineering by Stephen Hodgson, PEng.



# **Investment Highlights**



A WORLD CLASS RESOURCE

- Among the globe's greatest accumulations of metal
- Untapped exploration upside
- Cu/Au/Mo/Ag grades facilitate near-term development



RIGHT-SIZED & DE-RISKED PROJECT

- Project designed for operating & permitting success
- Final EIS reflects a 'permittable' project<sup>1</sup>
- >US\$800M investment in science, engineering & social licence



CLEAR PATH TO VALUE

- Favourable Final EIS
  - ROD expected in fall
  - Strong, sustainable Native partnerships in southwest Alaska
- Strategic alignment at federal and state level



UNIQUE INVESTMENT OPPORTUNITY

- Extraordinary nearterm & long-term value upside
- Financing optionality
- Positioned to capture burgeoning markets for strategic metals

#### TSX: **NDM** NYSE AMERICAN: **NAK**

# THE TIME TO INVEST IN NORTHERN DYNASTY IS NOW RIGHTMINERIGHTTIME.COM

. Least Environmentally Damaging Practicable Alternative



## **Pebble: A World Class Mineral Resource**

### RESOURCES

6.5 B tonnes of Measured & Indicated
 4.5 B tonnes of Inferred

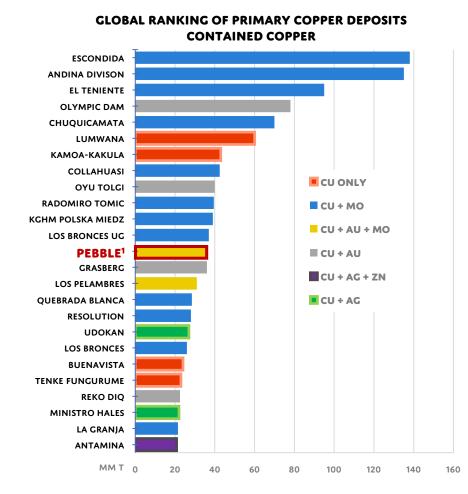
	MEASURED & INDICATED	INFERRED
Copper	57 B lb	25 B lb
Gold	71 M oz	36 M oz
Molybdenum	3.4 B lb	2.2 B lb
Silver	345 M oz	170 M oz
Rhenium	2.6 M kg	1.6 M kg

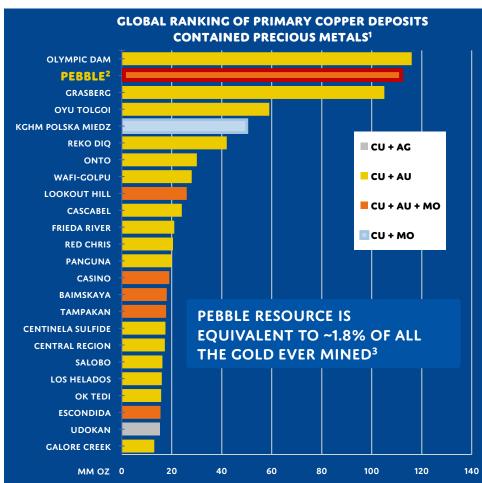
\* Refer to table of Measured, Indicated and Inferred Resources in Appendix

# **Global Ranking of Porphyry Deposits**

### **Contained Copper and Contained Gold**

PEBBLE: A GLOBALLY SIGNIFICANT UNDEVELOPED COPPER AND GOLD RESOURCE





Source: Company filings, S&P Global Market Intelligence, street research; BMO Capital Markets Note: Includes inferred resource. 1. Converted to Au Eq. at street consensus Au price of US\$1.500/oz and Ag price of US\$18.00/oz

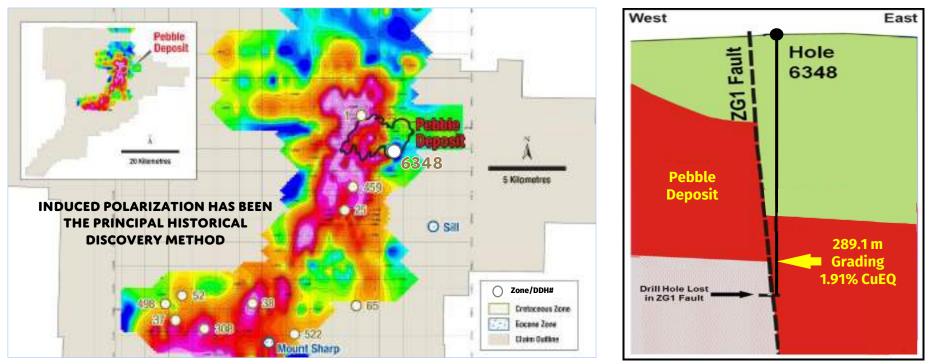
Source: Company filings, S&P Global Market Intelligence; BMO Capital Markets Note: Includes inferred resource. 1. At 0.30% U Eq. cut-off.

At 0.30% Cu Eq. cut-off.
 Source: World Gold Council (https://www.gold.org/about-gold/facts-about-gold) says that about 187,000 tonnes of gold have been mined since the beginning of civilization. Pebble resource represents 3,340 T (10,76,800,344 tonnes x 0.31 g/t = 3,340 T).



## **Pebble: Untapped Exploration Potential**

#### WORLD'S MOST EXTENSIVE MINERAL SYSTEM



- Multiple prospective targets already identified
- Pebble Deposit open at depth and to the east
  - Highest grades at Pebble truncated by the East Graben
  - Faulting was a post-mineralization event; patterns west of the ZG1 may be repeated to the east
  - DDH-6348 intersected 289.1 m grading 1.91% CuEQ below cover rocks in the graben no follow up

Source: USGS.

Note: CuEQ uses metal prices: \$3.00/lb Cu; \$1,400/oz Au; \$9.50/lb Mo Individual grades are 1.24% Cu, 0.79 g/t Au, 0.042% Mo



## **Pebble Potential: A Leading US Metals Producer**

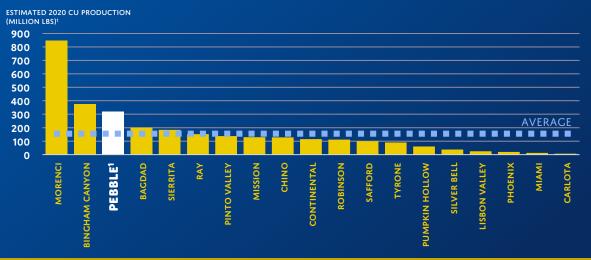
Average annual metal production over 20 years of mining:

- 613,000 tons of copper goldconcentrate
  - 318 million lb copper
  - 362,000 oz gold
  - 1.8 million oz silver
- 15,000 tons of molybdenum concentrate
  - 14 million lb molybdenum

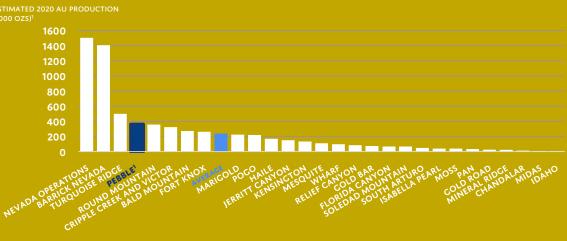
Significant new gold discoveries are decreasing<sup>2</sup>

Pebble hosts world's largest undeveloped gold resource<sup>3</sup>

#### PEBBLE WOULD BE ONE OF AMERICA'S LARGEST COPPER MINES...



#### ...AND A SIGNIFICANT A SIGNIFICANT GOLD PRODUCER

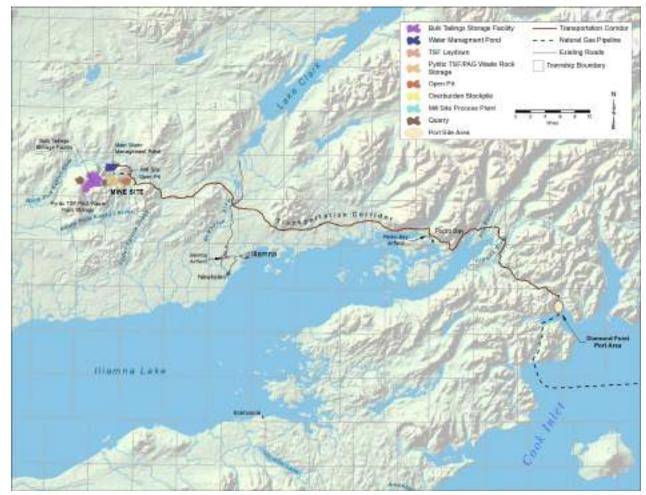




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## **Pebble Permitting Case: Right-Sized & De-Risked**

- Conventional open-pit mine
  - 20-year operating life
  - Mining rate: ~70M tons per annum (avg)
- 180,000 ton-per-day processing plant
  - 1.3B tons over 20 years
  - 12% of known mineral resource
- Conventional froth flotation with no contaminant penalties
- Low cost, efficient mining plan
  - 0.12:1 life of mine waste: mineralized material
- Project infrastructure to benefit Alaska
  - 270 MW natural gas fired generating plant
  - 82-mile land-based transportation system (road/pipelines)
  - Permanent, year-round port on Cook Inlet
  - 164-mile pipeline from existing natural gas infrastructure on Kenai Peninsula



PROJECT LOCATION & PROPOSED TRANSPORTATION CORRIDOR

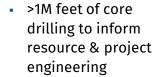
Note: See Disclosures Page 2



### **Pebble:** Program of Investment and De-risking



#### GEOLOGY & RESOURCE



- Genetic, geological & geometallurgical models to guide future exploration
- Resource base increased 10x since project acquired



#### PROJECT ENGINEERING

- Extensive geotechnical/ hydrological investigation
- Seismic design informed by probabilistic & deterministic analyses
- Metallurgical test work covers full range of processing
- Pit parameters fully defined
- Extensive road, ferry, port & gas line analyses



### ENVIRONMENTAL

#### Unprecedented scope & rigour of multidisciplinary studies

- High integrity scientific foundation by leading AK environmental consultants
- Environmentallydriven design to avoid, minimize & mitigate impacts
- Timely, efficient advancement of federal permitting process (2017 – 2020)

**REGULATORY &** 

PERMITTING

Pebble Project EIS

2

- Withdrawal of EPA's pre-emptive 'Proposed Determination'
- Publication of favorable Final EIS – July 2020
- Federal Record of Decision (ROD) expected this fall
- State of Alaska 5-yr permit for drilling/site studies



### STAKEHOLDER & PUBLIC RELATIONS

- Strong majority of Alaskans support NEPA EIS permitting process
- Partnerships with Alaska Native corporation landowners
- Strong local workforce & contracting relationships
- State & Federal Administration support

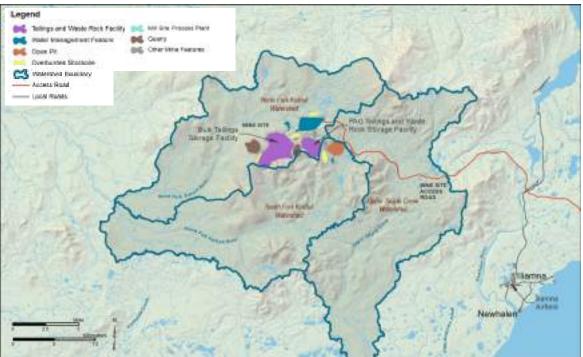
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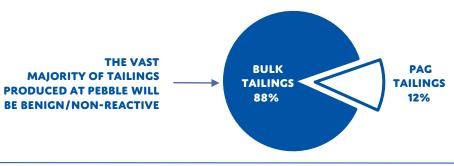
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## **Key Environmental Design Features**

- Robust water management plan
  - 76 years of data
- Compact project footprint
  - 0.025% of Bristol Bay watershed
  - No impact on critical fish habitat
  - No permanent waste rock piles
- Potentially acid-generating (PAG) tailings & waste rock separated and stored underwater in fully-lined facility
  - Transferred to open-pit for safe, permanent storage at closure
- Enhanced bulk tailings storage
  - Enhanced buttresses and conservative (2.6:1) slope angles achieve 'factor of safety' well-above industry norms
  - Flow-through embankment vastly reduces failure likelihood & consequence
  - No long-term water quality effects
  - Drained during operation, capped and dry post-closure
- No mine facilities in Upper Talarik/Kvichak drainage
- Benign processing reagents no cyanide



ALL PRIMARY MINE FACILITIES WILL BE SITED IN THE NORTH/SOUTH FORK KOKTULI DRAINAGE – AN AREA THAT PRODUCES 0.08% OF BRISTOL BAY SOCKEYE.



PRIMARY MINE FACILITIES & LOCAL HYDROGRAPHY

Note: See Disclosures Page 2



## Final Environmental Impact Statement (EIS)

### Pebble EIS initiated December 2017; published July 2020

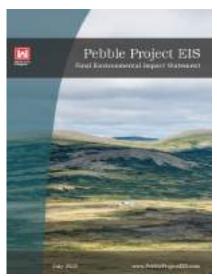
- Intensive federal permitting process led by US Army Corps of Engineers under National Environmental Policy Act (NEPA)
- Eight federal & three state cooperating agencies, plus L+P Borough and federally recognized tribes, including:
  - US Environmental Protection Agency, US Fish & Wildlife Service
  - AK Dept. of Natural Resources, AK Dept. of Environmental Conservation

### Final EIS:

- First time an independent, expert regulatory body has comprehensively reviewed a development plan put forward by Pebble Project proponents
- The most relevant and defensible science-based assessment of the project ever developed, and the administrative record upon which final permitting decisions will be made
- Describes a 'project of merit' that will:
  - fully protect clean water, healthy fisheries & other environmental values
  - create tremendous benefits for Alaska's people and governments
- Expected to support a positive Record of Decision (ROD)



### US Army Corps of Engineers®



### pebbleprojecteis.com



## **Final EIS: Findings**

### On subsistence fish & wildlife resources:

• *"Overall, impacts to fish and wildlife would not be expected to impact harvest levels. Resources would continue to be available because no population level decrease in resources would be anticipated."* 

### On the Bristol Bay commercial fishery:

- "No measurable change in the number of returning salmon and the historical relationship between ex-vessel values and wholesale values...or processor operations."
- "... would not be expected to have a measurable effect on fish numbers and result in long-term changes to the health of the commercial fisheries in Bristol Bay."

### On water quality:

- "...direct and indirect impacts of treated contact waters to off-site surface water are not expected to occur."
- "...no effects on any community groundwater or surface water supplies"

### On local communities:

- "The increase in job opportunities, year-round or seasonal employment, steady income, and lower cost of living ...would have beneficial impacts."
- *"The project could reduce or eliminate the current local population decline because of the increase in employment opportunities and indirect effects on education"*





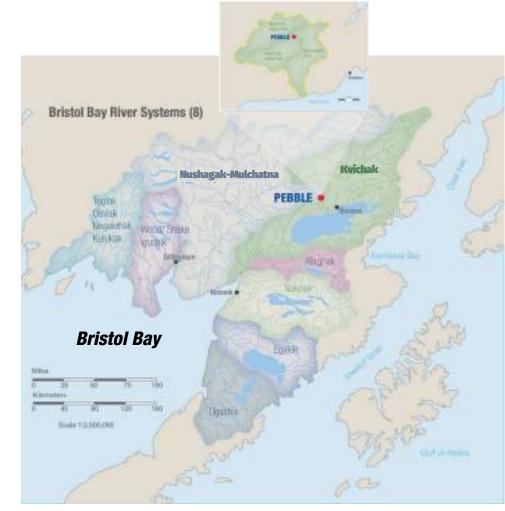
## Final EIS: No measurable impact on fish or fisheries

- Based on the Pebble Project design submitted for permitting, and considering all relevant environmental safeguards and mitigations, the USACE found that "impacts to Bristol Bay salmon are not expected to be measurable."
- The Final EIS concludes:
  - within the Bristol Bay region as a whole (40,000 sq. miles)

*"The mine site area is not connected to the Togiak, Ugashik, Naknek, and Egegik watersheds and is not expected to affect fish populations or harvests from these watersheds."* 

- Within the large regional watersheds that will host project facilities (~23,000 sq. miles) "(The project) would not have measurable effects on the number of adult salmon returning to the Kvichak and Nushagak river systems."
- Within the project footprint area (~10 sq. miles)

"...impacts to anadromous and resident fish populations from these direct habitat losses would not be measurable, and would be expected to fall within the range of natural variability."





### **Pebble: Next Goals<sup>1</sup>**

### • Final EIS & Record of Decision: Next 90 days

- Lead federal regulator, the US Army Corps of Engineers, published a favorable Final EIS for Pebble Project on July 24, 2020
- 'Record of Decision' (ROD) and issuance of key federal permits expected in the fall.
- Receipt of a positive ROD & completion of federal permitting represent a substantial step toward realizing a globally significant mineral resource

### • Strategic Partnership: Targeting 2020/2021

- Pebble viewed as a Tier-1 opportunity
- Timeline influenced by COVID-19 travel restrictions
- State Permitting: 2020 2023
  - Pebble will initiate State of Alaska permitting as soon as practicable
  - Strategic, sequenced approach to advance project timeline while partnering process unfolds
  - State permits based on clear, objective performance standards and detailed engineering requirements
  - State of Alaska actively supports responsible mineral development
- Final Investment Decision: 2023/24
- Construction: 2023/24 2026/27
- Commencement of Mine Operations / First Concentrate Shipment: 2026/27



## **Pebble:** Potential Benefits for Alaska<sup>1</sup>

- Alaska's ongoing fiscal crisis exacerbated by COVID-19 and declining oil & gas pricing/investment IOBS Pebble represents: Capital investment and GDP growth lobs and economic diversification Much needed government revenue **CONTRIBUTION TO** New transportation and power **ALASKA** infrastructure GDP Southwest Alaska/Bristol Bay region characterized by: High levels of unemployment and underemployment STATE TAXES Among America's highest cost of & ROYALTIES living Decreasing population, outmigration and school closures The information in this section is indicative only and is based on the mine Note: development case submitted in the 404 permit application. As part of the EIS preparation process the Corps will undertake a comprehensive alternatives LAKE & PENINSULA assessment and consider a broad range of development alternatives. See disclosure on Page 2. As a result, we will continue to consider various BOROUGH development options and no final project design has been selected at this time. The information is intended to provide information about general economic REVENUE effects/contribution of a development at Pebble to Alaska and the Lake and Borough Peninsula region. It should not be used to evaluate the Pebble Project's impact on Northern Dynasty. Includes estimates of mineral licensing tax, corporate tax, and state royalties
  - Estimated Potential Economic Impact of Pebble Project over 20 years of mine life.

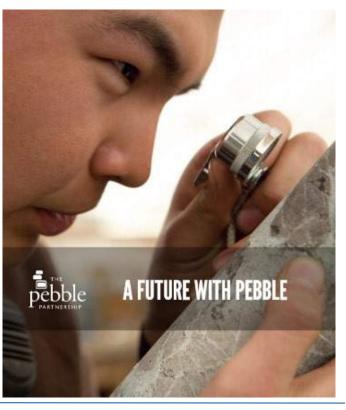
~850 DIRECT ~2,000 TOTAL **AVERAGE MINING** WAGE = US\$100K+ **OPERATING BUDGET OF** US\$400M+ (ANNUAL) **US\$49M - US\$66M** (ANNUAL) US\$970M - US\$1.32B **OVER 20 YEARS US\$19M - US\$21M** (ANNUAL) US\$377M - US\$420M **OVER 20 YEARS** 



## **Pebble: Social integration with Bristol Bay region**

- Pebble has multiple partnership agreements with Alaska Native landowners/stakeholders in the project area to deliver:
  - Transportation corridor access to Pebble mine site
  - Direct financial benefits, contracting and employment for Alaska Native corporations and shareholders
  - Bristol Bay residents who are full partners in the Pebble enterprise
- Pebble Performance Dividend announced June 2020:
  - Revenue sharing for full-time residents of Bristol Bay
  - Distribute a 3% net profit royalty interest
  - Min. \$3M annual payment beginning at construction
- Process to initiate public dialogue around regional power sharing announced June 2020
- MOU to establish transportation/port operations partnership with consortium of Alaska Native village corporations announced July 2020
- Workforce development plan to maximize local hire and local benefits through:
  - On-site training, internships, scholarships
    & educational partnerships
  - Region-wide recruitment and transport
  - Work schedules that facilitate subsistence lifestyles







### Alaska: A Proven Mining and Resource Development Jurisdiction

### Established mining industry:

- Six operating mines
- Multiple late-stage development projects

### Ranked #4 Globally for Investment Attractiveness:

Investment Attractiveness Index Fraser institute Annual Survey of Mining Companies 2019

### State fiscal crisis:

 Governor Dunleavy to AMA: "Alaska is open for business"

### Committed to due process and the rule of law:

 Bristol Bay Area Plan (2005) *"The general resource management intent for the Pebble Copper Area is to accommodate mineral exploration and development..."*

#### An 'owners' state':

- Alaska State Constitution (1959): *"It is the Policy of the State of Alaska to encourage...the development of its resources by making them available for maximum use consistent with the public interest"*
- The Permanent Fund





## Alaska Political and Public Support for EIS permitting process

- July 2019: EPA formally withdraws Obama-era pre-emptive veto to *"focus on permit review process for the Pebble Mine Project"*
  - Supported by AK Governor Mike Dunleavy and Alaska's federal delegation
- November 2018: Alaskans elect a pro-development Governor over an anti-Pebble opponent
- Key Alaska State legislators support permitting process for Pebble
  - State Senate: 13 Republicans/ 7 Democrats
  - State House: 23 Republicans/ 16 Democrats/ 1 Independent
- Alaska voters defeat anti-Pebble/ anti-resource development ballot measure in November 2018
  - 62% no/ 38% yes
- Strong majority of Alaskans consistently express confidence in federal/state permitting process to determine whether Pebble should proceed to development





### **Pebble Limited Partnership**

### Leadership Experience in Alaska & Permitting to Advance Pebble



#### **CHAIRMAN & CEO:** JOHN SHIVELY

- 50-year resident and leader in Alaska, with State government, Native Corp and business
- Extensive experience in economic development, and project review and negotiation
- Recognized by Chamber of Commerce and Alaska Federation of Natives



#### CHIEF OF STAFF: **SHALON HARRINGTON**

- Most recently, Director of Government Affairs for the largest Alaska Native Regional Corporation
- 10+ years Chief of Staff to a State Senator, a Legislative Liaison for the Governor, and Chief of Staff for the Mayor of Anchorage in Alaska
- Prior work in DC as the Committee Clerk for the U.S. House of Representatives Committee on Natural Resources



#### **EXECUTIVE VP. PUBLIC AFFAIRS:** MARK HAMILTON

- Long time influential Alaskan, with a distinguished career in US military and advanced education
- President emeritus of the University of Alaska



#### **SENIOR VP CORPORATE AFFAIRS:**

#### PETER ROBERTSON

- Extensive Washington experience in government, private sector, and non-profit
- Key roles as Chief of Staff and as Deputy Administrator (#2 position) the US EPA., and as Professional Staff Member on the Committee on the Budget in the House of Representatives



#### **SENIOR VP ENGINEERING & PROJECT DIRECTOR:**

- **STEPHEN HODGSON, P.ENG**
- 40+ years in engineering as consultant, in project management, design and implementation, and in mine operations at some of the world's most significant mining projects, including Red Dog in Alaska



#### **VP PERMITTING:**

- JAMES FUEG, CPG, PMP • 25 years in mineral exploration and resource
- development; over 20 years in Alaska • Recent EIS and NEPA permitting experience as
- Technical Services Manager for the Donlin Gold Project in Alaska



#### **VP PUBLIC AFFAIRS:** MIKE HEATWOLE

- Long time Alaskan with strong government, industry and community involvement
- Experience includes Alaska State Legislature and the US Senate



#### **DIRECTOR OF REGIONAL AFFAIRS: ABE WILLIAMS**

- Fourth generation Bristol Bay commercial fisherman
- Member of the Naknek Native Village Tribe and Bristol **Bay Native Corporation Shareholder**
- Served 15 years as President, Paug-Vik Native Corporation, 6 years on board of Bristol Bay Borough School District, 3 years on Bristol Bay Borough assembly







## **Pebble: Strategic Metals**

### US Economic & Military Security, and Climate Change Adaptation

- Pebble will be a key domestic source of US strategic metals
- US currently dependent on foreign imports

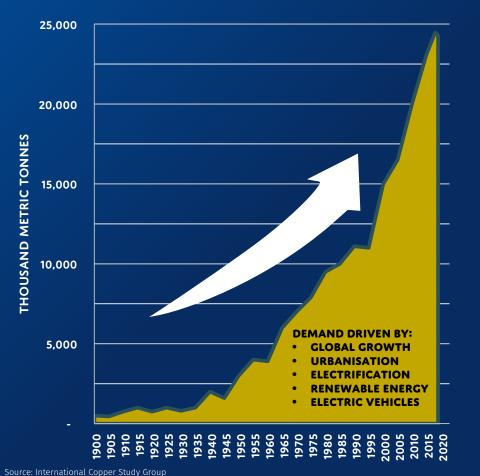
METAL	NET IMPORTS	US IMPORT RELIANCE	KEY USES
Copper (KT)	695	35%	Construction; transportation; electronics; clean and renewable energy technologies
Rhenium (KG)	39	82%	High-octane fuels; jet engines
Silver (KT)	4	68%	Electronics and electrical applications



Source: https://pubs.usgs.gov/periodicals/mcs2020/mcs2020.pdf

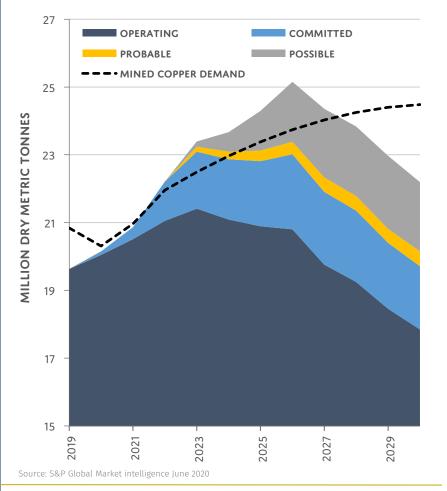


### **Copper: A Significant Structural Deficit is Forecast**



(1900-2018)

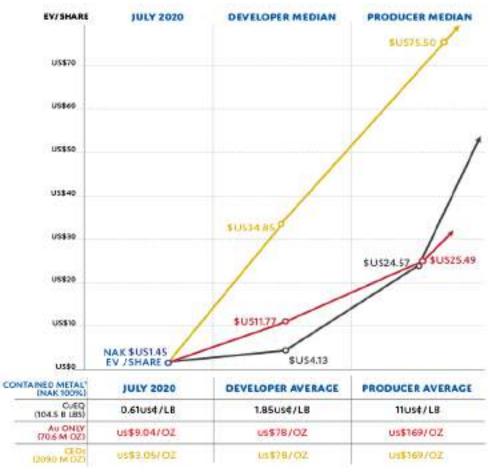
#### SIGNIFICANT COPPER SUPPLY WORLD REFINED COPPER USAGE **DEFICIT EXPECTED TO EMERGE**





### Northern Dynasty: The Value is Clear

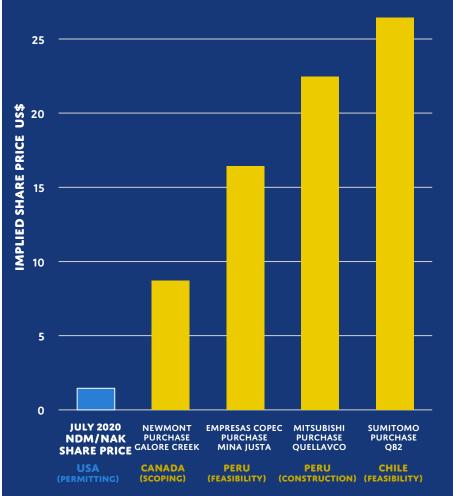
RESOURCE PROVIDES POTENTIAL FOR SIGNIFICANT IN-SITU VALUATION UPSIDE RELATIVE TO COPPER AND GOLD PEERS AS THE PEBBLE PROJECT ADVANCES



1. Source material(s), calculation assumptions and/or methodology are listed in the appendixes at the end of presentation. Note: GEO = Gold Equivalent Ounces

#### NDM SHARE PRICE IMPLIED BY 2018-2019 COPPER TRANSACTIONS

BASED ON TRANSACTION PRICE AND M+I RESOURCES

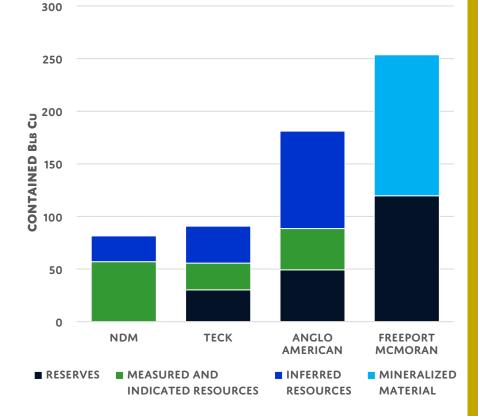


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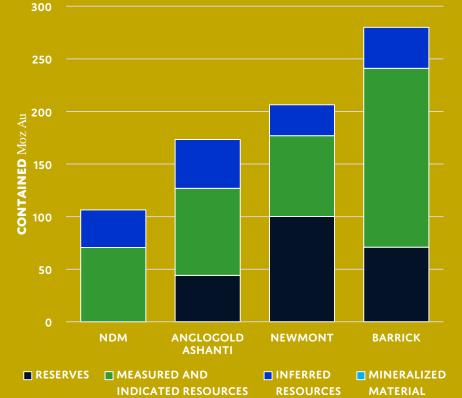


## **Pebble Comparisons**

#### CONTAINED COPPER AT PEBBLE VERSUS RESERVE & RESOURCE BASE OF SELECT MAJOR COPPER PRODUCERS



#### CONTAINED GOLD AT PEBBLE VERSUS RESERVE & RESOURCE BASE OF SELECT MAJOR GOLD PRODUCERS

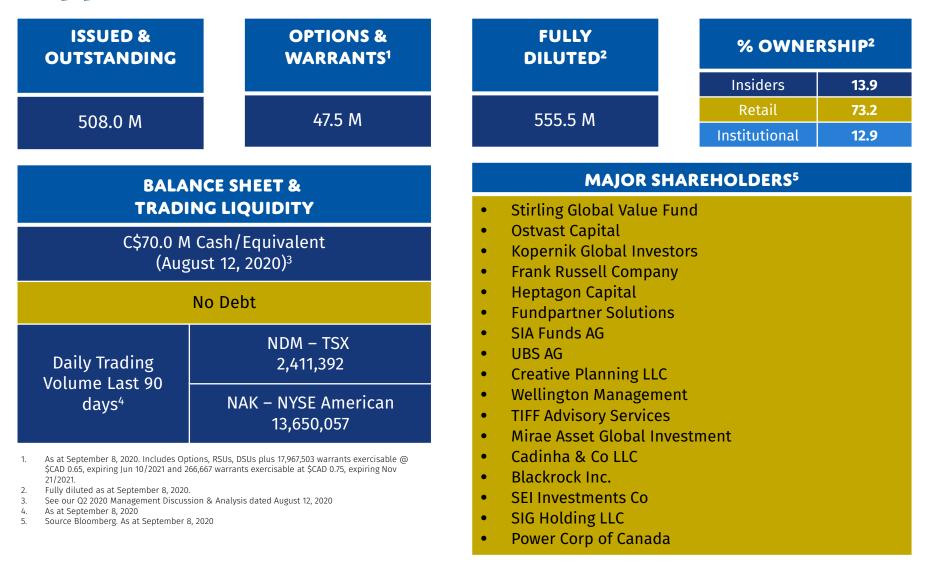


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### Northern Dynasty Share Capitalization: Supportive Shareholder Base





### **Northern Dynasty: Proven Experienced Leadership**

#### **MANAGEMENT**

#### • **RONALD THIESSEN CEO and Director**

Mr. Thiessen, a Chartered Professional Accountant (FPCA, FCA) with more than 25 years of corporate development experience, leads Northern Dynasty's corporate development and financing activities. In addition to his role as President and CEO, Mr. Thiessen is a Director of the Pebble Limited Partnership. He is also President and CEO of Hunter Dickinson Inc.

#### MARK PETERS Chief Financial Officer

Mr. Peters is a Chartered Professional Accountant (CPA, CA) who has more than 20 years of experience in the areas of financial reporting and taxation, working primarily with Canadian and US public corporations. He served as CFO for Hunter Dickinson Services Inc. since 2016 and a TSX Venture-listed company since 2012. Prior to that, Mr. Peters led the tax department for the HDI group of companies and worked for PricewaterhouseCoopers LLP.

#### **BRUCE JENKINS Executive Vice President Environment & Sustainability**

Mr. Jenkins is a corporate and environmental science executive with more than 40 years of experience in project and corporate management. Mr. Jenkins oversees environmental affairs and sustainable development for Northern Dynasty. He is also Executive Vice President, Environment and Sustainability for Hunter Dickinson Inc.

#### ADAM CHODOS Executive Vice President Corporate Development

Mr. Chodos is a senior executive with over 19 years of experience in Corporate Development and Investment Banking advisory. Mr. Chodos was most recently a Director of Corporate Development for Teck Resources and, before that, was a Group Executive with Newmont's Corporate Development team. He also spent nine years as an Investment Banker with J.P. Morgan Securities Inc., in New York, and had a significant role in US\$28 billion of mergers, acquisitions, divestitures and capital markets transactions in the resource sector. He is also Executive Vice President, Corporate Development for Hunter Dickinson Services Inc.

• STEPHEN HODGSON Vice President, Engineering

See Pebble Limited Partnership Team Biographies (Slide 19).

#### • SEAN MAGEE Vice President, Public Affairs

Mr. Magee is a former journalist and speech writer who brings more than 25 years communications experience to his role as Vice President, Public Affairs for Northern Dynasty. Mr. Magee's experience and expertise spans the fields of government and stakeholder relations, community and First Nations/Native engagement, media relations, crisis and issues management. He has played a central role at Pebble for more than a decade. Mr. Magee has had a working relationship with Hunter Dickinson Inc. for over 20 years and is the company's Executive VP of Strategic Communications and Public Affairs.

#### • MIKE WESTERLUND Vice President, Investor Relations

Mr. Westerlund brings 20 years experience in the mines and mineral space including 8 years heading up the investor relations department at Hecla Mining Company, a US\$3 billion precious metals miner with 5 operating mines.

#### TREVOR THOMAS Company Secretary

Mr. Thomas is the company secretary to Northern Dynasty Minerals. Mr. Thomas has practiced in the areas of corporate commercial, corporate finance, securities and mining law since 1995, both in private practice environment as well as in-house positions and is currently in-house General Counsel for Hunter Dickinson Inc.

#### **BOARD OF DIRECTORS**

#### • ROBERT DICKINSON Chairman

Mr. Dickinson, an economic geologist with more than 40 years of mineral exploration experience who is an inductee of the Canadian Mining Hall of Fame, leads Northern Dynasty's project development activities. In addition to his role as Executive Chairman, Mr. Dickinson is a director of the Pebble Limited Partnership. He is also Chairman of Hunter Dickinson Inc.

- RONALD THIESSEN CEO and Director (refer to Management listing)
- DESMOND BALAKRISHNAN

Desmond Balakrishnan is a lawyer practicing in the areas of Corporate Finance and Securities, Mergers and Acquisitions, Lending, Private Equity and Gaming and Entertainment for McMillan LLP, where he has been a partner since 2004. McMillan serves as the Company's Canadian attorneys. He has been lead counsel on over \$3 billion in financing transactions and in mergers and acquisitions aggregating in excess of \$6 billion. He also serves as a director and/or officer of several resource, finance and gaming firms. He holds CLA and BA from Simon Fraser University and a Bachelor of Laws (with Distinction) from the University of Alberta.

STEVEN DECKER

Steven Decker is a Chartered Financial Analyst® charter holder with more than 20 years of investment experience as an Analyst and Portfolio Manager. He holds an MBA in Finance from the Marshall School of Business at the University of Southern California where he received the Marcia Israel Award for Entrepreneurship & was a manager of the California Equity Fund.

GORDON KEEP

Gordon Keep is a Professional Geologist with extensive business experience in investment banking and creating public natural resource companies, Mr. Keep is CEO of Fiore Management & Advisory Corp., a private financial advisory firm. He also serves as an officer and/or director for several natural resource companies. He holds a B.Sc. in Geological Science from Queen's University and an MBA from the University of British Columbia.

#### DAVID LAING

David Laing is a mining engineer and executive, with 40 years' experience in mining operations, projects, engineering studies, mining finance, investor relations, mergers and acquisitions, corporate development and company building. He has also held senior positions in mining investment banking and technical consulting, most recently as Chief Operating Officer of Equinox Gold, and True Gold.

#### CHRISTIAN MILAU

Christian Milau, CEO Equinox Gold, is a Chartered Professional Accountant (CPA, CA) and mining executive with experience in acquisition, financing, development, and operation of mines. Mr. Milau also has background in finance and capital markets, and government and stakeholder relations, including successfully negotiating with governments on various community, security, fiscal and tax matters.

#### • KEN PICKERING

Mr. Pickering is a Professional Engineer, mining executive & international consultant with 40 years of experience in a variety of capacities in the natural resources industry. He has led the development, construction & operation of mining projects throughout the world. These include: the Escondida Mine in Chile & several billion dollar expansion phases, the Tintaya copper operations in Peru, BHP Iron ore operations in Western Australia, the Spence copper leaching project in Northern Chile & Pinto Valley operations/Resolution project in the Western United States. Mr. Pickering is also a Director of Teck Resources & Endeavour Silver.



# **Investment Highlights**



## TSX: NDM THE TIME TO INVEST IN NORTHERN DYNASTY IS NOW RIGHTMINERIGHTTIME.COM

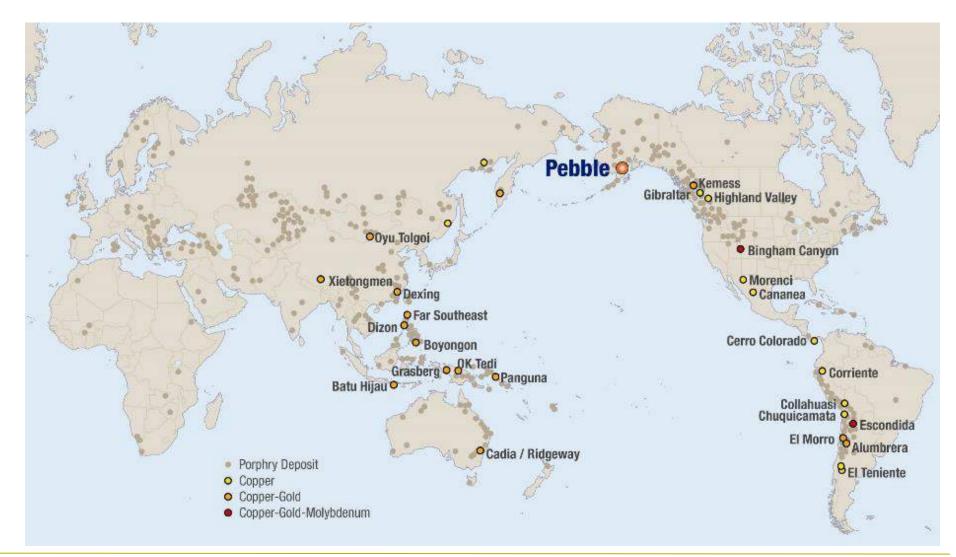
1. Least Environmentally Damaging Practicable Alternative







### **Pebble: Among the World's Greatest Stores** of Mineral Wealth



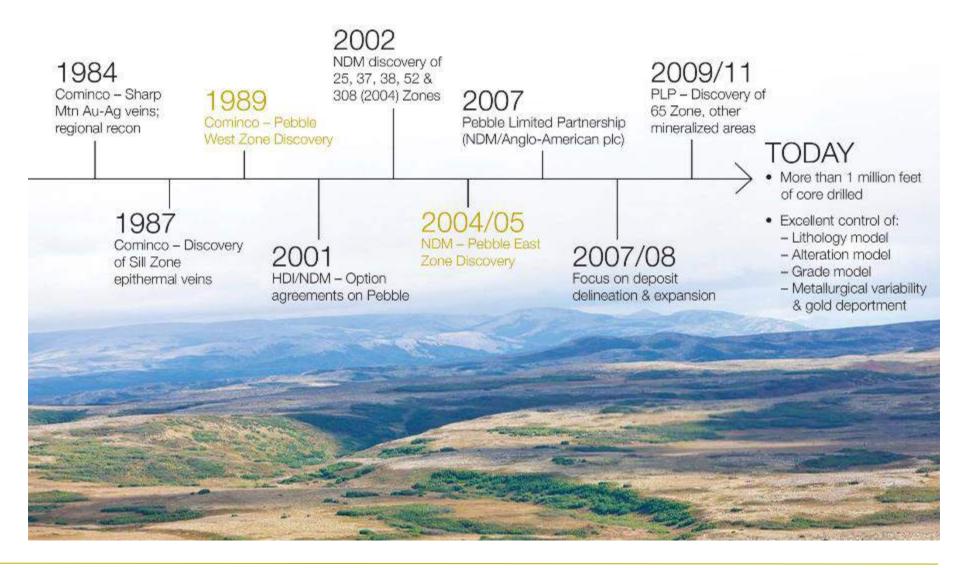


## Southwest Alaska & Bristol Bay





## **Pebble: Exploration History**





### Pebble: 6.5 Billion Tonnes Measured & Indicated 4.5 Billion Tonnes Inferred

#### Pebble Resource Estimate

August 2020

Category	Cutoff CuEQ %	CuEQ %	Million Tonnes	Cu (%)	Au (g/t)	Mo (ppm)	Ag (g/t)	Re (ppm)	Cu (B lbs)	Au (M oz)	Mo (B lbs)	Ag (M oz)	Re (Kkg)
	0.3	0.65	527	0.33	0.35	178	1.7	0.32	3.83	5.93	0.21	28.1	167
	0.4	0.66	508	0.34	0.36	180	1.7	0.32	3.81	5.88	0.20	27.4	163
Measured	0.6	0.77	279	0.40	0.42	203	1.8	0.36	2.46	3.77	0.12	16.5	100
	1.0	1.16	28	0.62	0.62	302	2.3	0.52	0.38	0.56	0.02	2.0	14
	0.3	0.77	5,929	0.41	0.34	246	1.7	0.41	53.58	64.81	3.21	316.4	2,443
المعقوم المعا	0.4	0.82	5,185	0.45	0.35	261	1.8	0.44	51.42	58.35	2.98	291.7	2,271
Indicated	0.6	0.99	3,455	0.55	0.41	299	2.0	0.51	41.88	45.54	2.27	221.1	1,748
	1.0	1.29	1,412	0.77	0.51	343	2.4	0.60	23.96	23.15	1.07	109.9	853
	0.3	0.76	6,456	0.40	0.34	240	1.7	0.41	56.92	70.57	3.42	344.6	2,615
Measured +	0.4	0.81	5,693	0.44	0.35	253	1.8	0.43	55.21	64.06	3.18	320.3	2,431
Indicated	0.6	0.97	3,734	0.54	0.41	291	2.0	0.50	44.44	49.22	2.40	237.7	1,848
	1.0	1.29	1,440	0.76	0.51	342	2.4	0.60	24.12	23.61	1.08	112.0	867
	0.3	0.55	4,454	0.25	0.25	226	1.2	0.36	24.54	35.80	2.22	170.4	1,603
Informed	0.4	0.68	2,646	0.33	0.30	269	1.4	0.44	19.24	25.52	1.57	119.1	1,154
Inferred	0.6	0.89	1,314	0.48	0.37	292	1.8	0.51	13.90	15.63	0.85	75.6	673
	1.0	1.20	361	0.68	0.45	377	2.3	0.69	5.41	5.22	0.30	26.3	251

#### NOTES:

David Gaunt, P.Geo., a qualified person as defined under 43-101 who is not independent of Northern Dynasty, is responsible for the estimate.

Copper equivalent (CuEQ) calculations use metal prices: US\$1.85/lb for Cu, US\$902/oz for Au and US\$12.50/lb for Mo, and recoveries: 85% Cu, 69.6% Au, and 77.8% Mo (Pebble West zone) and 89.3% Cu, 76.8% Au, 83.7% Mo (Pebble East zone).

Contained metal calculations are based on 100% recoveries.

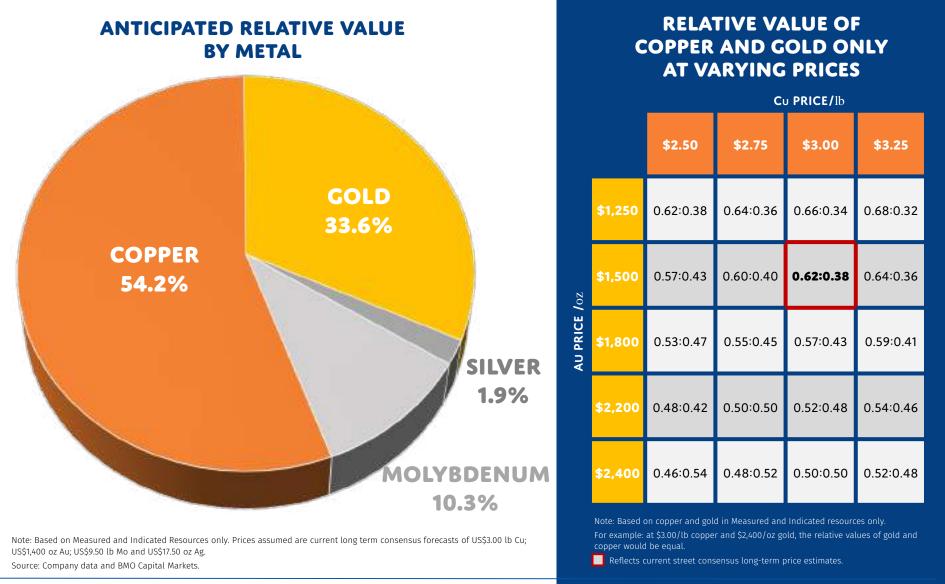
A 0.30% CuEQ cut-off is considered to be appropriate for porphyry deposit open pit mining operations in the Americas.

The mineral resource estimate is constrained by a conceptual pit shell that was developed using a Lerchs-Grossman algorithm and is based in the following parameters: 42 degree pit slope; metal prices and recoveries of US\$1,540.00/oz and 61% Au, US\$3.63/lb and 91% Cu, US\$20.00/oz and 67% Ag and US\$12.36/lb and 81% Mo, respectively; a mining cost of US\$1.01/ton with a US\$0.03/ton/bench increment and other costs (including processing, G&A and transport) of US\$6.74/ton.

All mineral resource estimates, cut-offs and metallurgical recoveries are subject to change as a consequence of more detailed analyses that would be required in pre-feasibility and feasibility studies.

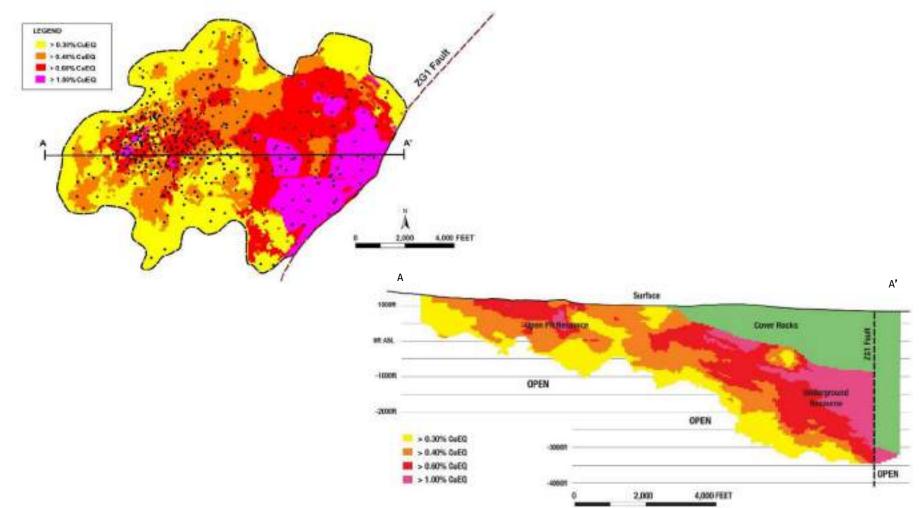


## **Pebble:** Metal Value Comparisons





## **Pebble:** Plan View and Cross Section

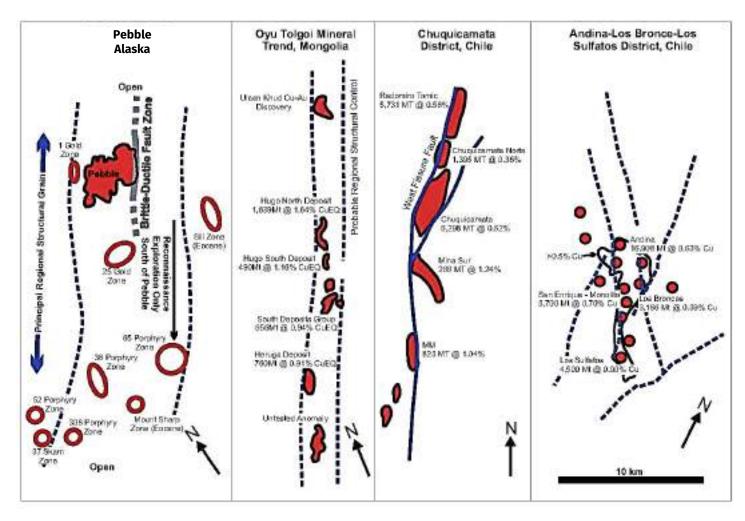


Note: Metal prices used for copper equivalent (CuEQ) are same as for resource (see Page 31).



## **Pebble:** May Host Other Major Deposits

- The extent of mineralization at Pebble is comparable to:
  - Oyu Tolgoi
  - Chuquicamata
  - Los Bronces/ Andina
- Exploration potential at deposit and within region is noteworthy



Each area is shown at the same scale





### Pebble Project EIS

Final Environmental Impact Statement



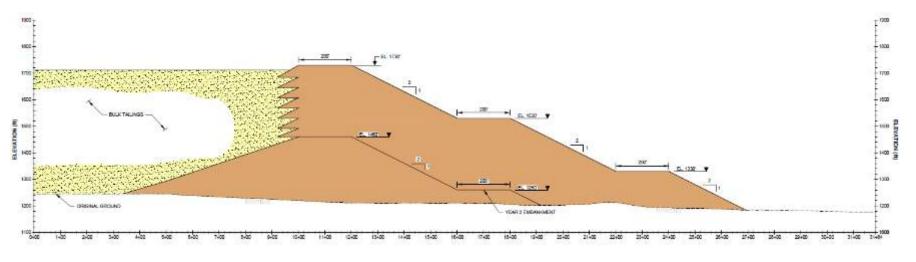
 First independent, science-based, transparent and expert view of Pebble Project impacts and permitability

- Published July 2020 by US Army Corps of Engineers
- Available at pebbleprojecteis.com
- Pebble will not harm the Bristol Bay fishery
  - Pebble will fully co-exist with the Bristol Bay salmon fishery
  - No decrease in resource abundance or harvest levels
  - No population-level effects, even in the instance of tailings failure
- Pebble will not affect water resources of Bristol Bay
  - Water quality in nearby streams will be maintained
  - Downstream water flows will continue to support healthy aquatic habitat
  - No water quality impairment post-closure
- Pebble will make an important contribution to a disadvantaged region, and the State of Alaska as a whole:
  - Jobs and investment
  - Improvements in the health and well-being of residents
  - More sustainable communities and important contributions to regional and State government revenue



## **Pebble: Tailings Storage Facility (TSF)** (Potential Design)<sup>1</sup>

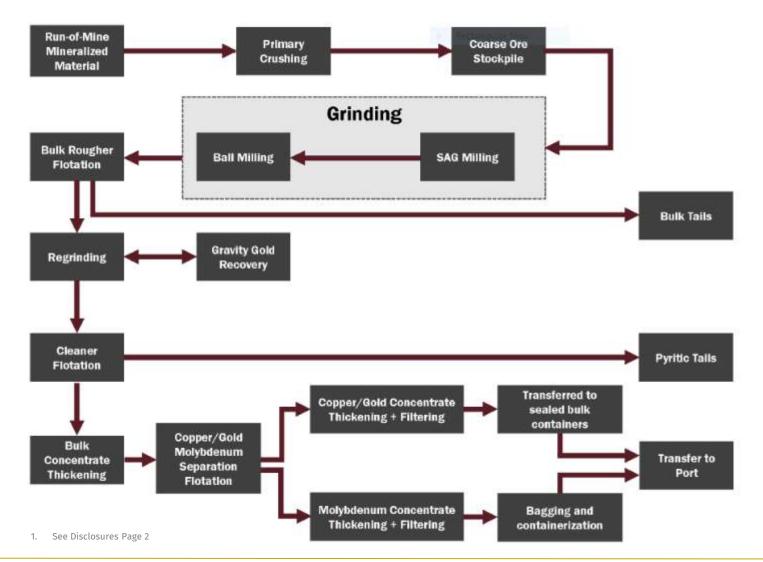
- Two engineered facilities to segregate PAG (0.1 billion tons) and non-PAG tailings (1.1 billion tons)
- Non-PAG facility designed with a flow-through main embankment (530 feet high)
- PAG tailings stored with PAG waste rock in a separate lined facility
- PAG tailings and waste rock to be relocated to the pit at closure
- Enhanced buttresses and improved Factor of Safety
  - Conservative 2.6:1 (horizontal:vertical) slope angle



1. See Disclosures Page 2



### **Pebble: Conventional Froth Flotation** Potential Process Flow Sheet<sup>1</sup>





### **Pebble: Mine Site** Potential General Layout<sup>1</sup>



1. See Disclosures Page 2



## **Pebble: Transportation System**<sup>1</sup>





PROPOSED DIAMOND **POINT PORT** 



82-MILE ALL-WEATHER ACCESS ROAD FOR TRANSPORTING MINE EQUIPMENT, **FUEL & SUPPLIES** 



**COPPER CONCENTRATE SLURRY PIPELINE<sup>2</sup>** 



**CONCENTRATE PIPELINE PUMP STATION<sup>2</sup>** 



# Pebble: Power Supply<sup>1</sup>

- 270 MW natural gas-fired power plant at mine site
  - Smaller power plant at port site
- 164 mile pipeline to connect to Kenai Peninsula
  - Sub-marine crossing of Cook Inlet

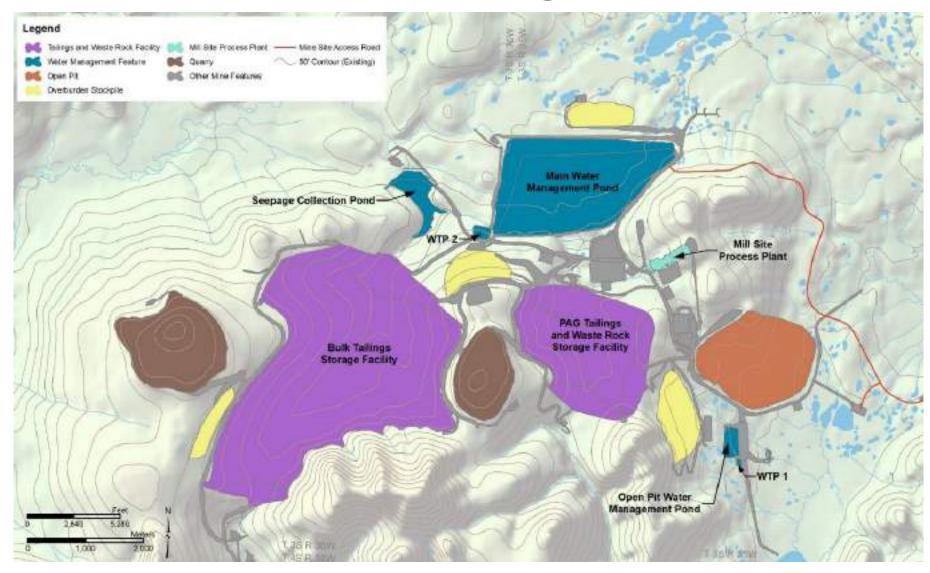




1. See Disclosures Page 2



## **Pebble:** Potential Water Management<sup>1</sup>

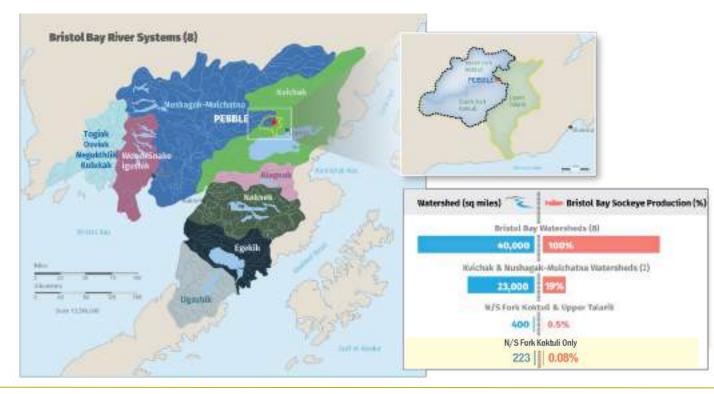


1. See Disclosures Page 2



### **Bristol Bay Watershed Context: Hydrology/Fisheries** The Real story – The Fishery is Not Threatened

- 400 sq. mile drainage area studied in EBD\* comprises about 1% of the total Bristol Bay (BB) watershed
- Smaller project design reduces drainages in which primary mine facilities are sited to 223 sq. miles; a 44% reduction
- Primary mine facilities will occupy less than 3% of this 223 sq. miles
- Greatly reduces **potential** impact on sockeye fishery from 0.5% to 0.08% of entire BB fishery; an 84% reduction
- Mitigation must, by law, offset any potential impact





## Natural Fish Habitat Constraints Create Mitigation/Enhancement Opportunities

## Numerous Pebble/Bristol Bay streams not producing fish at full potential due to natural constraints:

- beaver dams & other barriers
- dewatered & relic channels
- low habitat complexity
- limiting water quality
- poor seeding due to low escapement

### Deposit area watersheds are minor systems contributing negligible water & habitat in context of massive Bristol Bay area.

## Significant opportunities exist to apply proven techniques to remove constraints & enhance fish production:

- agency friendly
- proven success with +50 years of fish habitat mitigation track record
- typically low technology measures
- cost-effective



EARLY JUNE 2004

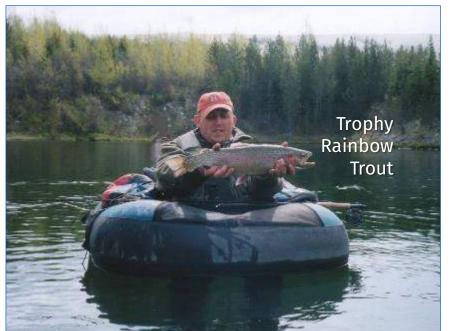


LATE JULY 2004 EXACT SAME LOCATION



## **Mines & Healthy Fisheries Do Co-Exist** Gibraltar Mine, British Columbia







HEALTHY FISH WITH METAL LEVELS EQUAL TO OR LESS THAN THAT FOUND IN CONTROL LAKES OUTSIDE THE MINE AREA.

#### **CONCLUSION**

WE HAVE THE SCIENCE TO BUILD AND OPERATE A SAFE MINE



## **Northern Dynasty Analyst Coverage**

- John Tumazos John Tumazos Very Independent Research
- Andrew Mikitchook BMO Capital Markets
- Mike Kozak Cantor Fitzgerald
- Heiko Ihle H.C. Wainwright
- Gordon Lawson Paradigm Capital
- Craig Hutchison TD Securities



### **References & Source Material**

#### **NOTES FOR SLIDE 22**

#### Graph: Resource provides potential for significant in-situ valuation upside relative to copper and gold peers as the Pebble Project advances

#### <u>As at July 2, 2020</u>

Source: BMO Capital Markets, Bloomberg, Public Disclosure

- 1. Measured and Indicated Resources only, excludes Inferred Resources. See appendices for details on Qualified Persons as defined in NI 43-101
- 2. Assumptions: EV = Enterprise Value = Market Capitalization less cash. Theoretical in the money shares x US\$1.45, less actual cash, less estimated cash proceeds from exercise of in-the-money warrants/options.
- 3. Copper equivalent (CuEQ) and gold equivalent (GEO) metrics calculated using calculated using long-term street consensus pricing of: US\$3.00/lb Cu, US\$1,400/oz Au, US\$9.50/lb Mo, US\$17.50/oz Ag

#### Graph: Implied NDM Share price calculated using recent transaction value

Methodology:

- Calculate total contained CuEQ lbs for each deposit in M+I resource category common to selected deposits using metal prices of: US\$3.00/lb Cu, US\$1,400/oz Au, US\$9.50/lb Mo, US\$17.50/oz Ag
- Based on transaction amount and attributable CuEq lbs derive a **'\$ per CuEq lb'** factor for each deposit
- Calculate "Implied NDM share price" using calculated total value of Pebble M+I using '\$ per CuEq lb' factor divided by NDM float (total I/O shares)

Source data:

•	<u>Galore</u> :	NovaGold Resources Inc July 26, 2018 News Release; Resource:
		https://www.gcmc.ca/wp-content/uploads/2019/07/2014-09-30-Galolore-Creek-Reserves-and-Resources.pdf
•	<u>Mina Justa</u> :	Empresas Copec SA April 23/30 2018 News Releases; Resource: <u>https://secure.kaiserresearch.com/i/jk/tr16/TRCHD20090608.pdf</u> -
		Marcona Copper Property, Mina Justa Project Definitive Feasibility Study Technical Report NI 43-101 June 2009, which is consistent with a
		recent statement on the resource by Empresa Copec management.
•	<u>Quellaveco</u> :	Anglo American plc June 14, 2018 News Release: Resource: https://www.angloamerican.com/~/media/Files/A/Anglo-American-
		Group/PLC/investors/annual-reporting/2019/aa-ore-reserves-and-mineral-resources-2018.pdf
•	<u>Quebrada Blanca 2:</u>	Transaction: Teck Resources Limited Dec 4, 2018 News Release; Resource:
		https://www.teck.com/investors/reserves-&-resources/reserves-and- <b>resources</b>

#### **SOURCES FOR SLIDE 23**

- TECK: <a href="https://www.teck.com/investors/reserves-&-resources/reserves-and-resources">https://www.teck.com/investors/reserves-&-resources/reserves-and-resources</a>
- ANGLO AMERICAN: https://www.angloamerican.com/~/media/Files/A/Anglo-American-Group/PLC/investors/annual-reporting/2019/aa-ore-reserves-and-mineralresources-2018.pdf
- FREEPORT MCMORAN: https://s22.q4cdn.com/529358580/files/doc\_financials/annual/FCX\_AR\_2018.pdf
- NEWMONT: <a href="https://www.newmont.com/wp-content/uploads/2020/02/Newmont-Reports-2019-Reserves-and-Resources\_Final.pdf">https://www.newmont.com/wp-content/uploads/2020/02/Newmont-Reports-2019-Reserves-and-Resources\_Final.pdf</a>
- ANGLOGOLD ASHANTI: <a href="http://www.aga-reports.com/18/download/AGA-RR18.pdf">http://www.aga-reports.com/18/download/AGA-RR18.pdf</a>
- BARRICK: https://barrick.q4cdn.com/788666289/files/doc\_financials/2019/q4/2019-Reserves-and-Resources.pdf

NOTES FOR COPPER PRODUCTION

- USGS Annual Metal Report: https://prd-wret.s3-us-west-2.amazonaws.com/assets/palladium/production/s3fs-public/atoms/files/mcs-2019-coppe.pdf
- https://www.teck.com/investors/reserves-&-resources/
- https://www.angloamerican.com/~/media/Files/A/Anglo-American-Group/PLC/investors/annual-reporting/2019/aa-ore-reserves-and-mineral-resources-2018.pdf
- https://s22.q4cdn.com/529358580/files/doc\_financials/annual/FCX\_AR\_2018.pdf





Northern Dynasty Minerals Ltd.

TSX: NDM NYSE AMERICAN: NAK

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