

## **Northern Dynasty: US Army Corps of Engineers confirms Pebble permit application complete** Environmental Impact Statement (EIS) process to begin in Q1 2018

**January 5, 2018 Vancouver**– Northern Dynasty Minerals Ltd. (TSX: NDM; NYSE MKT: NAK) ("Northern Dynasty" or the "Company") announces that its wholly-owned US-based subsidiary Pebble Limited Partnership (the "Pebble Partnership") has received notice from the US Army Corps of Engineers ("USACE" or the "Corps") that the Clean Water Act 404 permitting documentation it submitted on December 22, 2017 has been accepted. In confirming that Pebble's application is complete, the Corps has confirmed that an Environmental Impact Statement ("EIS") level of analysis is required to comply with its National Environmental Policy Act ("NEPA") review of the Pebble Project, and has proposed a Memorandum of Agreement ("MOA") to guide development of that process.

"Pebble expects to finalize an MOA in the very near-term, and immediately distribute a 'Request for Proposal' to begin the process whereby the Corps will select the independent third-party contractor that will support them in the development of the Pebble EIS – the document that will be the basis for decisions made by federal permitting agencies," said Northern Dynasty CEO Ron Thiessen. "We are pleased by the expediency with which permitting for the Pebble Project has been initiated, and that the Corps will serve as the lead federal agency for the rigorous, objective, transparent and science-based EIS process."

To initiate the NEPA EIS permitting process, the Pebble Partnership applied for a Clean Water Act 404 permit, which specifies that the USACE will serve as the lead federal agency. The Corps is consulting with a number of other federal and state regulatory agencies and anticipates that they will participate in the EIS process as cooperating agencies – including the US Environmental Protection Agency, the US Fish & Wildlife Service, National Marine Fisheries Service and the State of Alaska.

Pebble's permit application documents, including a 'Project Description' that comprehensively sets out the project the Pebble Partnership proposes to develop, is available at <http://www.poa.usace.army.mil/Missions/Regulatory/Public-Notices-Section-Homepage/>. The Project Description is also available on the Northern Dynasty website under Pebble Project/Project Status.

As the NEPA EIS 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 from that set out below.

### *The Proposed Pebble Mine*

The Pebble Partnership is proposing to develop the Pebble copper-gold-molybdenum porphyry deposit in southwest Alaska as an open pit mine, with associated on and off-site infrastructure, including:

- a 230 megawatt power plant located at the mine site;
- an 83-mile transportation corridor from the mine site to a port site on the west side of Cook Inlet;
- a permanent, year-round port facility near the mouth of Amakdedori Creek on Cook Inlet; and,
- a 188-mile natural gas pipeline from the Kenai Peninsula to the Pebble Project site.

Following four years of construction activity, the proposed Pebble mine will operate for a period of 20 years. This includes 14 years of mining using conventional drill-blast-shovel operations, followed by six years of milling material from a low-grade ore ("LGO") stockpile. The mining rate will average 90 million

tons per year, with 58 million tons of mineralized material going through the mill each year (160,000 tons per day), for an extremely low life-of-mine waste to ore ratio of 0.1:1.

Pebble Partnership CEO Tom Collier reiterated that Pebble has taken great strides in recent years to re-design its project in response to stakeholder concerns. The development proposed in Pebble's Project Description is substantially smaller than previous iterations, and presents significant new environmental safeguards, including:

- a development footprint less than half the size previously envisaged;
- the consolidation of most major site infrastructure in a single drainage (the North Fork Koktuli), and the absence of any primary mine operations in the Upper Talarik drainage;
- a more conservative Tailings Storage Facility ("TSF") design, including enhanced buttresses, flatter slope angles and an improved factor of safety;
- separation of potentially acid generating ("PAG") tailings from non-PAG bulk tailings for storage in a fully-lined TSF;
- no permanent waste rock piles; and
- no cyanide usage.

"These are very substantial improvements that we have engineered over the past few years in response to the priorities and concerns of project stakeholders," Collier said. "We believe that as people become more familiar with our proposed project design and the environmental safeguards it incorporates, there will be an increasing degree of support for the project, and the significant economic potential it represents for the State of Alaska."

#### *Mine Site Facilities and Operations*

- Mine site facilities will include: an open pit; a TSF; a LGO stockpile; overburden stockpiles; quarry sites; water management ponds; milling and processing facilities; and, supporting infrastructure, such as the power plant, water treatment plants, camp facilities and storage facilities.
- The open pit will be developed in stages with final dimensions of ~6,500 feet in length, ~5,500 feet in width and depths between 1,330 and 1,750 feet. A total of 1.2 billion tons of material will be mined, including 1.1 billion tons to be processed through the mill and 100 million tons of waste rock.
- Non-PAG waste rock will be used as a construction material for on-site roads and TSF embankments. The minority of waste rock considered PAG will be stored in a lined LGO stockpile until mine closure, at which time it will be back-hauled to the open pit for permanent sub-aqueous storage.
- Mineralized material will be processed via conventional froth flotation. On average, the process plant will produce ~600,000 tons of copper-gold concentrate each year, containing ~287 million lb copper, ~321,000 oz gold and 1.6 million oz silver, and ~15,000 tons of molybdenum concentrate each year, containing ~13 million lb molybdenum.
- A single TSF located in the North Fork Koktuli drainage will store 1.1 billion tons of tailings generated over 20 years of mine operations. About 88% will be non-PAG bulk tailings; the remaining 12% will be pyritic (PAG) tailings, which will be stored sub-aqueously in a separate, fully-lined cell within the TSF.

A total of four TSF embankments ranging from 600 (main embankment) to 60 feet (east embankment) in height will be developed, with centre-line or downstream construction methods used for all external embankments, and a conservative 2.6:1 (horizontal:vertical) slope applied to ensure safety and stability under all operating conditions (including maximum possible flood and seismic events).

#### *Transportation Corridor*

- Pebble has proposed an 83-mile transportation corridor from the mine site to a port site on the west side of Cook Inlet. The proposed road corridor has been designed to minimize impact on wetlands, minimize stream crossings and avoid areas of known subsistence and recreational use.
- The transportation corridor includes: a 30-mile private, 30-foot wide gravel road from the mine site to a ferry terminal on the north shore of Lake Iliamna; an 18-mile crossing of Lake Iliamna using a custom-designed ice-breaking ferry; and a 35-mile private, 30-foot wide gravel road from the south shore of Lake Iliamna to a port site at Amakdedori. Spur roads will connect the Pebble transportation system to the villages of Iliamna, Newhalen and Kokhanok.
- Daily transportation of mineral concentrate, mining equipment and supplies will require up to 35 round trips by truck each day, and one round trip by ferry.

#### *Port*

- A permanent, year-round port facility constructed at Amakdedori on the west side of Cook Inlet will facilitate the direct loading of mineral concentrate onto Handysize bulk carrier vessels, as well as the delivery via barge of mining equipment and supplies.
- The port will include shore-based facilities to receive and store containers and fuel, as well as two two-megawatt natural gas power generators, associated infrastructure and facilities. The port's marine component will include a causeway extending out to a marine jetty in 15-feet on natural water depth to facilitate roll-on/roll-off barge access and a separate berth for Handysize vessels. A dredged channel will be required to access the berth for Handysize ships.
- Port operations will facilitate up to 25 concentrate shipments via Handysize bulk carrier vessels each year, and up to 30 marine barge loads of mining equipment and supplies.

#### *Power Plant & Natural Gas Pipeline*

- To meet the mine's power requirements while providing sufficient peaking capacity and N+1 redundancy, a 230 megawatt power plant utilizing a high-efficiency combustion turbine or reciprocating engine generators operating in a combined-cycle configuration will be built at Pebble. Waste heat from the power plant will be used to heat mine buildings and supply process heat to water treatment plants.
- The mine site power plant, as well as smaller generating facilities at the port site and ferry landing sites, will be supplied by a 188-mile pipeline to connect with existing natural gas supply infrastructure near Happy Valley on the Kenai Peninsula.

From Happy Valley, a buried steel pipeline will travel south for nine miles to a compressor station near Anchor Point, which will feed a 94-mile subsea pipeline across Cook Inlet to come ashore at the Amakdedori port site. From the port site, the natural gas pipeline will traverse 81 miles to the mine site in three sections. It will be buried in a trench adjacent to the road prism on the south and north sides of Lake Iliamna, and run under Lake Iliamna for a distance of 18 miles between ferry landing sites.

### *Water Management*

- Pebble has proposed a comprehensive water management plan to provide sufficient water for mine operations, to minimize the volume of water diverted from natural flows, to discharge surplus waters captured at the mine site in a strategic manner to optimize downstream habitat conditions for salmon and other species, and to ensure water quality is maintained in all local streams.
- The Pebble mine will employ two water treatment plants to ensure that surplus water discharged into nearby streams meets applicable water quality standards, and is properly conditioned for aquatic life. Sufficient water storage, pumping capacity and treatment plant redundancy has been incorporated into the design to ensure that water management goals can be achieved under all operating conditions.

### *Reclamation and Closure*

- The Pebble Project has been ‘designed for closure’, in order that facilities can be removed and land reclaimed in such a way that it can be returned to a stable and productive state.
- Reclamation and closure activities will include: removal of mill and other facilities not required in the post-closure period; hauling of PAG waste rock into the open pit for sub-aqueous storage; recontouring of disturbed areas and placement of overburden for revegetation; installation of water management features to provide for long-term water quality monitoring and treatment.
- Prior to commencing construction, a Project Reclamation and Closure Plan must be approved and an associated financial assurance mechanism be put in place to ensure that the required financial resources are available to fund costs associated with physical closure of the project and long-term post-closure monitoring, water treatment and site maintenance.

By regulation, Pebble’s Project Reclamation and Closure Plan must be updated every five years to address any changes in closure and post-closure requirements, and associated financial obligations.

### *Workforce*

- The Pebble Project will directly employ ~2,000 workers during its four-year construction phase, and ~850 workers during its 20-year operations phase.

Northern Dynasty will be updating its 2014 Technical Report to reflect the information in the Project Description. Stephen Hodgson, PEng, Vice President Engineering for Northern Dynasty reviewed and approved the technical information in this news release.

## About Northern Dynasty Minerals Ltd.

Northern Dynasty is a mineral exploration and development company based in Vancouver, Canada. Northern Dynasty's principal asset, owned through its wholly-owned Alaska-based US subsidiary Pebble Limited Partnership and other wholly-owned subsidiaries, is a 100% interest in a contiguous block of 2,402 mineral claims in southwest Alaska, including the Pebble deposit. The Pebble Partnership is the proponent of the Pebble Project, an initiative to develop one of the world's most important mineral resources.

For further details on Northern Dynasty or the Pebble Project, please visit the Company's website at [www.northerndynastyminerals.com](http://www.northerndynastyminerals.com) or contact Investor Services at (604) 684-6365 or within North American at 1-800-667-2114. Review Canadian public filings at [www.sedar.com](http://www.sedar.com) and US public filings at [www.sec.gov](http://www.sec.gov)

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### Forward Looking Information and Cautionary Factors

This release includes certain statements that may be deemed "forward-looking statements". All statements in this release, other than statements of historical facts, that address exploration drilling, exploitation activities and events or developments that the Company expects are forward-looking statements. Although the Company believes the expectations expressed in its forward-looking statements are based on reasonable assumptions, such statements should not be in any way construed as guarantees of the ultimate size, quality or commercial feasibility of the Pebble Project or of the Company's future performance or the outcome of litigation.

Assumptions used by the Company to develop forward-looking statements include the following: the Pebble Project will obtain all required environmental and other permits and all land use and other licenses, studies and development of the Pebble Project will continue to be positive, and no geological or technical problems will occur. The likelihood of a partnering transaction is subject to risks related to the satisfactory completion of due diligence and negotiations, including finalization of definitive agreements and fulfilment of conditions precedent therein, including receipt of all necessary approvals. Such process may not be successfully completed or completed on terms satisfactory to the Company. 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 obtaining necessary mining and construction permits, approvals, licenses and title on a timely basis and delays due to third party opposition, changes in government policies regarding mining and natural resource exploration and exploitation, the final outcome of any litigation, completion of pre-feasibility and final feasibility studies, preparation of all necessary engineering for surface or underground mining and processing facilities as well as receipt of significant additional financing to fund these objectives as well as funding mine construction. Such funding may not be available to the Company on acceptable terms or on any terms at all. There is no known ore at the Pebble Project and there is no assurance that the mineralization at the Pebble Project will ever be classified as ore. The need for compliance with extensive environmental and socio-economic rules and practices and the requirement for the Company to obtain government permitting can cause a delay or even abandonment of a mineral project. The Company is also subject to the specific risks inherent in the mining business as well as general economic and business conditions. For more information on the Company, Investors should review the Company's filings with the United States Securities and Exchange Commission and its home jurisdiction filings that are available at [www.sedar.com](http://www.sedar.com).