

**Release time** IMMEDIATE  
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## Polymetal International plc

### Feasibility Study results and construction approval for POX-2

**The Board of Polymetal International plc approved the POX-2 project on the basis of the recently completed Feasibility Study (FS) and authorised the immediate start of construction.**

“POX-2 leverages our core technical capabilities and creates substantial value. It also fully de-risks our business model by eliminating dependence on concentrate off-take markets”, said Vitaly Nesis, Group CEO of Polymetal. “Emerging trends in the global gold mining industry make POX-2 a crucial element of the Company’s long-term strategy”.

#### STRATEGIC RATIONALE

- The second POX line will meaningfully increase the value of Polymetal’s refractory reserve base, comprising approximately 55% of total ore reserves. The facility will process concentrates from Polymetal’s mines at Kyzyl, Nezhda, Mayskoye, and Voro.
- POX-2 is expected to generate significant economic benefits as all refractory concentrates will be retained for in-house processing as opposed to selling to third-party off-takers. The project will result in the incremental production of approximately 30-35 Koz of gold per year from the same amount of feedstock and will, on average, lower TCC by US\$ 100-150/oz per ounce for 500 Koz of annual gold production.
- POX-2 will ensure strategic security of downstream processing against the backdrop of tightening environmental regulations in China, currently the main market for refractory gold concentrates.
- The project will allow Polymetal to create capacity for treatment of third-party refractory concentrates, a market which has grown considerably in Russia and globally in recent years.
- POX-2 will further our sustainable development strategy. The environmental footprint of the Company’s value chain will shrink drastically on the back of substantial reductions in air pollution, water usage, and solid toxic waste.

#### FS HIGHLIGHTS

- The project’s base case IRR is 14% with an NPV of US\$ 112 million, based on the following assumptions:
  - 10% discount rate
  - US\$ 1,200/oz gold price
  - 65 RUB/USD exchange rate
  - A total of 4.3 Mt of concentrate containing 9.3 Moz of gold processed from Kyzyl, Nezhda, Mayskoye, and Voro over a period of 23 years
- Pre-production capital expenditures are estimated at US\$ 431 million and will be entirely funded out of Company’s operating cash flows.
- The plant’s design throughput capacity is 250-300 Ktpa of concentrate, depending on the levels of sulphur content. Maximum sulfide sulfur processing capacity is 48 Ktpa. This will complement the 200 Ktpa of concentrate and 30 Ktpa of sulfur capacity of the existing Amursk POX facility.
- The facility will utilise titanium-lined steel autoclave operating at 240 °C and the pressure of 43 bar.
- Hatch Inc. (Toronto, Canada) is responsible for the basic engineering, detailed engineering, POX procurement support and the supply of custom-made equipment for high-pressure and acidic processing areas. Polymetal Engineering is responsible for other processing areas, general site layout, and infrastructure.
- Polymetal project team will include more than 30 professionals who actively participated in the successful execution of the original POX (2013) and POX debottlenecking (2018) projects.

## PROJECT DEVELOPMENT TIMELINE

Polymetal envisages the following conceptual development timeline for the POX-2 Project:

- Start of detailed engineering and construction Q2 2019
- Receipt of all permits Q1 2020
- Delivery of the autoclave on-site Q3 2020
- Completion of civil construction works Q3 2021
- Completion of main equipment installation Q1 2022
- Completion of external infrastructure Q3 2022
- Mechanical completion and start of commissioning activities Q4 2022
- End of commissioning and first production Q3 2023
- Full ramp-up by end of Q4 2023

## PROCESSING

The POX-2 site is immediately adjacent to the current Amursk POX facility within the city of Amursk and will share some of the external infrastructure (gas main, access road, water main) with the existing POX facility. Additional electricity supply will be provided via a new dedicated power line from the regional 110Kw grid.

The project will include a new hydrometallurgical area (POX proper), CIL and intensive cyanidation areas, an oxygen plant, an upgrade to the existing dry tailings facility, reverse osmosis water treatment facility, and several smaller infrastructural facilities (warehouses, maintenance areas, etc.).

POX-2 is designed for processing double refractory concentrates, which contain micron gold particles encapsulated in sulfides (pyrites and arsenic pyrites) together with high concentrations of organic carbon. High carbon content drives high sorption activity (preg-robbing) and dictates the use of high-temperature (240°C) pressure oxidation compared with medium-temperature (200°C) oxidation utilized at the existing Amursk POX facility.

Pressure oxidation (POX) was selected as the most feasible processing technology for double refractory ores. It is able to achieve gold recoveries of 96% by utilizing high temperatures, elevated pressure and oxygen to recover encapsulated gold, while conventional cyanidation methods would result in sub-optimal recovery rates of 20-40%. Completed metallurgical tests on Kyzyl and Mayskoye high-carbon concentrates confirm the recovery rate of 96%.

The total design capacity of the POX-2 plant will be 250-300 Kt of concentrate per annum. The design of the new POX facility enables the Company to process feed with different properties without impacting any of the design parameters.

## CAPITAL EXPENDITURE

Total capital costs for the construction of the POX-2 project in 2019-2023 are estimated at US\$ 431 million, and will be funded out of Company's operating cash flows.

Category	Capital Cost, US\$ million
Engineering	31
Processing plant equipment	149
Construction	138
Infrastructure	56
Owner's team	9
Contingency	48
<b>Initial Capital Costs</b>	<b>431</b>

In 2017-2018, Polymetal spent approximately US\$ 26 million on POX-2, of which US\$ 12 million was for engineering activities and feasibility study and US\$ 14 million dedicated to pre-manufacturing engineering with equipment suppliers.

## SUSTAINABLE DEVELOPMENT

The FS incorporates several important design features that will minimise its environmental impact and mitigate related risks:

- Tailings from the plant will be in the form of dry cake. No impoundments or dam structures will be required.
- The project will have zero water discharge off-site. Process water will be fully recycled.

- The project will have minimal carbon dioxide discharge and no sulfur or arsenic oxides discharge.

The Project will boost social investments as Polymetal plans to invest approximately US\$ 6 million into more than 10 long-term projects most important to city residents, as well as our employees and their families. This will include the renovation and upgrade of educational, medical and sports facilities, as well as the enhancement of the Amursk city look and attractiveness. Polymetal also plans to build new apartment buildings that will house 100 families.

POX-2 will create more than 400 permanent jobs and generate approximately US\$ 20 million per year in taxes for all levels of government.

## Enquiries

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