

Phoenix Global Mining Ltd / Ticker: AIM:PGM / Sector: Mining

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Phoenix Global Mining Ltd ('Phoenix' or the 'Company')
Preliminary Economic Assessment Completed for the Empire Mine Project, Idaho
16% increase in forecast annual copper production

Phoenix Global Mining Ltd (LSE AIM: PGM), the AIM quoted, North American-focused base and precious metals exploration and development company, is pleased to announce the results of the Preliminary Economic Assessment (PEA) for its Empire Mine project in Custer County, Idaho, USA.

PEA Highlights:

- **8,124 Tonnes Annual Copper Production**
- **\$65m average annual revenue, assuming \$8,265 per tonne copper price across life of mine**
- **8-Year Mine Life @ 0.24% Copper Cut-Off Grade**
- **76% Heap Leach Copper Recovery**
- **\$61.2m pre-production capex**
- **\$4,068 per tonne Copper Cash Cost of Production**
- **\$53.66 million after tax NPV (7.5% discount)**
- **23.5% IRR after tax**
- **PEA is based on open pit oxide copper production only, and excludes any potential revenue from gold, silver or zinc**

Dennis Thomas, the Company's CEO, said: *"I am pleased to report on the successful completion of our PEA on the Empire Mine open pit oxide deposit. This is a significant milestone for the Company and brings us an important step closer to copper production."*

The PEA shows an average copper cathode production rate of 8,124 tonnes a year from a 2 million tonne a year mine at a cash cost of production of US\$1.85 per pound of copper, an increase of 16% in annual copper production from our original projections. The project has robust economics and the 2018/2019 work programme will provide the opportunity to not only grow the existing Empire copper oxide resource but also to address the potential economic benefits of the gold, silver and zinc that were reported in the updated November 2017 resources following the 2017 drilling programme. The PEA does not consider production of these potential by-products. We are also confident that the project economics will continue to improve

as the operating and capital costs are further examined and refined through the course of the BFS and we look forward to updating shareholders as we progress through the BFS process

A Bankable Feasibility Study (BFS) work programme has been developed that will commence in Q3 this year and will build from the current PEA. The BFS will provide the necessary information to begin construction in 2019 with the goal of production by early 2021.”

Preliminary Economic Assessment		
Average annual copper production	8,124	Tonnes
Average annual revenue	65,010,500	US\$
Average annual operating costs	33,051,375	US\$
Average EBITDA	31,959,125	US\$
Mine life	8	Years
Revenue per tonne of copper	8,002	US\$ / tonne
Cash cost of production	4,068	US\$ / tonne
Pre-production capital costs	61,207,000	US\$
LOM cash flow pre-tax	134,580,000	US\$
LOM cash flow after tax	117,940,000	US\$
NPV (5%) pre-tax	82,800,000	US\$
NPV (5%) after tax	70,580,000	US\$
NPV (7.5%) pre-tax	64,210,000	US\$
NPV (7.5%) after tax	53,660,000	US\$

Project Overview

The Empire Project is located in southeast-central Idaho, in the Alder Creek Mining District and encompasses 109 contiguous mining claims, including 21 patented lode claims and 88 unpatented lode claims, covering 1774 acres (719 hectares). The Project consists of a skarn-hosted, open-pit, heap leach SX-EW copper resource and a deeper-rooted and past-producing high-grade copper, gold, silver and tungsten vein system. The subject of this PEA is the open-pit copper oxide resource.

Mineral Resources

The PEA is based on the previously reported November 7, 2017 Resource Update prepared by Hard Rock Consulting. This estimate encompasses the open-pit copper oxides occurring within an optimized pit-shell and includes 11,485 million tons in the Measured and Indicated category, grading 0.52% Cu above a cutoff grade of 0.184%, and 9,880 million tons of Inferred material above the same cutoff grading 0.41% Cu.

Mine Planning

The PEA mine plan was prepared by Hard Rock Consulting (HRC) using GemCom and AutoCad software. There were no constraints on land boundaries, allowing the pit shell and design pit to encompass and capture the majority of the MI&I resources in the November 7, 2017 Resource Report. The PEA-level phased pit design was based on slopes recommended by Call and Nicholas of 45-degrees in the oxide breccia rock type and 51-degrees in all other rock types. The 2.2 million tonne a year mine plan uses a cut-off grade of 0.24% copper.

The pit designs are based on PEA-level operating cost assumptions and appear to be consistent with current labour, fuel, reagent, and general processing costs.

Operating costs were calculated assuming CAT 777 trucks and CAT 992 loaders and DM45 production drills. The work schedule assumes two-12 hour shifts per day, 365 days per year at an assumed 92% availability for haul trucks and loaders, and 85% availability for all other equipment.

Production Schedule

The PEA mine plan was designed as a series of four phased push-backs to achieve a balanced production of ore and waste rock over the life of the mine. The mine preproduction requirements at the project are minimal given the presence of mineable mineralization near the bedrock surface. The first pit phases are planned near the crusher area to minimize haulage distances at the beginning of the mine life. Waste material from the pit areas will be utilized for construction of the heap leach pad, crusher area and other infrastructure.

Crushing, Screening and Agglomeration

Run-of-mine ("ROM") ore will be delivered to a modular crushing-screening plant at a rate of 350 short tons per hour. This throughput is based on 75% plant availability on a 24-hour basis. ROM material is expected to have a P_{100} of 24". The leach pad is currently being designed for crushed material having a P_{80} of $\frac{3}{4}$ ".

The crushing-screening plant will consist of dump hopper, a vibrating grizzly feeder, a jaw crusher, a secondary screen and cone crusher, and a tertiary screen and cone crusher. These components are connected by 30-in wide conveyors.

Ore grade material from the open pit will be crushed to 6.35 mm and then agglomerated with cement prior to loading on the heap leach pad in 10m lifts. Agglomerated ore will be conveyed to the leach pad via a series of grasshopper conveyors feeding a radial stacker.

Heap Leaching and Pregnant Leach Solution (PLS) Pond

Golder Associates have provided a PEA-level preliminary layout for a 20-million-tonne heap leach pad. The leach pad is located in an east-west valley located to the north of the Empire open pit in an area known as North Gulch. The layout includes perimeter roads and anchor trenches.

The PLS pond will receive the aggregate flow of PLS from the leach pad and has a pond capacity of 1,495,000 gallons. The contingency pond is designed to capture any overflow of the PLS pond in the event of a 24-hour 100-year storm event that saturates the leach pad. The design capacity is 8,380,000 gallons.

The leach pad is planned to be constructed in stages in order to minimize initial capital. Phase 1 will allow for 3 years of operation before phase 2 will need to be constructed.

Solvent Extraction, Tank Farm and Electrowinning (SX-EW)

Copper-bearing PLS will be pumped to the solvent extraction (SX) area for processing to extract the copper from solution. The SX stripping circuit consists of two stripping mixer-settlers in a series arrangement. Each SX stripper has two mix tanks and a settler which mix the copper-rich organic from the extraction settlers with strongly acidic lean electrolyte to transfer copper from the organic liquid to the electrolyte. Rich electrolyte loaded with copper leaving the stripping settlers will report to the loaded organic tanks in the tank farm.

The tank farm will be located below the solvent extraction facility and contains tanks, pumps, heat exchangers, and filters that service the SX-EW facilities. The tank farm will store and transfer organic, electrolyte, reagents, and crud, as well as provide storage for a 5-day supply of fresh reagents. The tank farm is designed with secondary containment capable of holding 110% of the contents of the largest tank.

The electrowinning facility removes copper from the rich electrolyte solution and plates the copper on cathodes using a direct current electrical process. The copper sheets are stripped, or "harvested", on a daily or weekly basis. The sheets are then sampled, bundled, weighed, and loaded onto flatbed trucks for transport to market.

A main electrical substation is located in the SX-EW plant area and receives power from a new 24.9kV power line coming from the Mackay substation 3 miles away belonging to Lost River Electric Cooperative in Mackay, Idaho. The Empire substation will transform power from 24.9 kV to 13.8 kV for the tankhouse, and lower voltages for distribution to the various areas of the plant. Medium and low voltage in the various plant areas will be 4160 V and 480 V. Motor control centres and electrical equipment rooms for the low voltage distribution are located at the crushing plant, the stockpile/agglomerator, the EW tankhouse, the SX circuit and tank farm, the leach pad/PLS pond and up at the truck shop near the Empire open pit.

Infrastructure and Services

Ancillary facilities at the mine site include a prefabricated modular guardhouse and truck scale, a pre-engineered metal warehouse/maintenance building, a truck shop and a fuel station.

In the town of Mackay, other ancillary facilities will include the administration building and an assay lab for production samples from the mine. A separate solution lab will be housed in a room at the EW building for control of process solutions.

The administration building is provided for the general administrative personnel, safety, environmental and office services. Currently, the building is specified to be a pre-engineered building. Space is also provided for an analytical laboratory. A warehouse/maintenance building is provided in the SX-EW plant area and a security gate house is provided at the main entrance to the plant.

Mine Access Road

The access to the Empire mine follows along the existing Smelter Avenue that leads from Mackay to the mine site. The mine access road has been designed for a maximum grade of 8% and will be widened to 40 ft to accommodate two-way traffic and oversize vehicles delivering mining equipment. Berms and drainage channels have been incorporated into the PEA design.

Power Supply and Distribution

Grid power for the Empire mine will be provided by Lost River Electric Cooperative, located in Mackay, and is assumed in the PEA at a bulk industrial rate of \$0.07 per kW-hr. Power will be supplied through a new 24.9 kV power line from the Mackay substation.

Water Supply and Distribution

The Empire copper SX-EW operation will be a zero-discharge facility. All water that is used in the operation will be recycled into the raffinate leach solution.

The PEA estimates operational requirements of approximately 386 gpm for the processing circuit, truck shop, and dust control, with approximately 194 gpm lost to evaporation and irreducible moisture content in the heap. Fresh water and fire water will be stored in tanks at the site and will be filled with water from the Company's Cliff Creek water right and from a constructed catchment basin. Potable water will be sourced from Mackay.

Commodity Price Projections

In view of the medium-to long term copper supply shortfall a copper price of \$3.75 per pound (\$8,265 per tonne) has been used for the base case analysis. This price is based on the average forecast copper price as reported by Metal Bulletin Apex Copper.

Permitting and Environmental

As part of the PEA process, the Company determined that the most practical and economical mining and processing scenario would be to design the heap leach pad and SX-EW facility on unpatented claims north of the open-pit. This decision was made based on slope angles and safety factor calculations.

As a result, the Empire project will require the submission of a Plan of Operations and Record of Decision prior to operation. Project permitting will require a joint agency review and approval process for disturbance on patented land subject to regulation by the Idaho Department of Lands (IDL) and unpatented land in the Salmon-Challis National Forest (SCNF) managed by the Forest Service. It is anticipated that the Forest Service will be the lead agency for environmental reviews of the entire project, which will solicit input from state agencies and other federal agencies.

To initiate permitting, the Company will submit a Plan of Operation to the Forest Service. The plan must include general information including dates and duration of proposed operations, site location, access - including construction specifications for earthwork, layout of operation, description of operational details, engineering designs for structures, and environmental protection measures (EPMs). The EPMs must address air and water quality, fish and wildlife impacts, cultural resources, protection of scenic values, and solid and hazardous waste management. There are no water quality concerns that have been identified in the Project Area.

The Forest Service will conduct an environmental review, as required by the National Environmental Policy Act ("NEPA"). Formal scoping of the NEPA review will be initiated after submittal of the Plan of Operation. The project may be reviewed under an Environmental Assessment, since it does not fall into one of the categories of actions that normally require an Environmental Impact Statement, particularly since the claim block is not located within an inventoried roadless area, wilderness area, or proposed wilderness area.

A reclamation performance bond will be posted prior to the issuance of the Record of Decision. A single bond instrument could be issued to satisfy the requirements of the Forest Service and IDL on the unpatented and patented claims.

Economic Model and Analysis

The PEA for the Empire Project evaluates the project as a heap leach SX-EW copper cathode operation at a mining rate of 2 million tonnes of ore a year. The economic viability of the Project was evaluated using a constant-dollar, after-tax discounted cashflow.

Mineral resources were incorporated into the economic evaluation using Measured, Indicated and Inferred material. These are based on the November 2017 NI 43-101 resources.

After-Tax cash flows were calculated on a yearly basis for the life of the mine. Federal, state and local taxes were considered for this evaluation.

The Project is projected to have robust economics at the base case copper price of \$3.75/lb. The projected sensitivities in the Net Present Value from variations in the discount rate have also been calculated on an After-Tax basis

The project economics are summarized below:

			Imperial	Metric
Resources	Cut-off grade		0.24%	0.24%
	Measure & indicated	short tons/tonnes	10,024,000	9,096,189
		Cu Grade %	0.56%	0.56%
	Inferred	short tons/tonnes	8,098,000	7,348,457
		Cu Grade %	0.46%	0.46%
	Waste	short tons/tonnes	48,565,000	44,069,873
		Strip Ratio	2.68	2.68
Mine Production	Average ore per day	short tons/tonnes	6,200	5,626
	Average ore per year	short tons/tonnes	2,200,000	1,996,370
	Average waste per year	short tons/tonnes	5,896,000	5,350,272
	Life of mine (LOM)	years	8	8
Copper Production	LOM Cu grade	%	0.52%	0.52%
	Contained copper	short tons/tonnes	94,234	85,512
	Average metallurgical recovery	%	76.0%	76.0%
	LOM recovered copper	short tons/tonnes	71,618	64,989
	Average annual copper production	short tons/tonnes	8,952	8,124
LOM Revenue	Base case copper price	US\$ / short ton / per tonne	7,500	8,265
		US\$ / pound copper	3.75	3.75
	LOM gross revenue	US\$	537,136,080	537,136,080
	LOM Net revenue after freight, insurance, royalties	US\$	520,084,000	520,084,000
LOM Operating Costs	Mining	US\$	115,480,000	
	Processing	US\$	122,959,000	
	G&A	US\$	22,511,000	
	Mining licences & property tax	US\$	3,461,000	
	Total	US\$	264,411,000	264,411,000
LOM EBITDA		US\$	255,673,000	
Average annual revenue		US\$	65,010,500	
Average annual operating cost		US\$	33,051,375	
Average annual EBITDA		US\$	31,959,125	31,959,125
Pre Production Capital Costs	Lease purchase or contract mining	US\$	185,000	

	Crushing & agglomerating	US\$	11,122,000	
	Leach pads & ponds	US\$	5,419,000	
	Process plant	US\$	21,629,000	
	Infrastructure	US\$	3,435,000	
	Site general	US\$	13,879,000	
	Utilities	US\$	3,538,000	
	Bonding	US\$	2,000,000	
	Total	US\$	61,207,000	61,207,000
Ongoing Capital Costs	Crushing & agglomerating	US\$	2,145,000	
	Leach pads & ponds	US\$	7,085,000	
	Mining equipment lease purchase	US\$	18,310,000	
	Reclamation bonding	US\$	4,000,000	
	Salvage	US\$	643,000	
	Total	US\$	30,897,000	30,897,000
Cash Flow	LOM cash flow pre tax	US\$	134,580,000	
	LOM cash flow after tax	US\$	117,940,000	
NPV 5.0%	NPV pre tax	US\$	82,800,000	
	NPV after tax	US\$	70,580,000	
NPV 7.5%	NPV pre tax	US\$	64,210,000	
	NPV after tax	US\$	53,660,000	
IRR	IRR pre tax	%	26.3%	26.3%
	IRR after tax	%	23.5%	23.5%
Operating Costs / Pound Copper	Mining	US\$ / pound copper	0.81	
	Processing	US\$ / pound copper	0.86	
	General & Administration	US\$ / pound copper	0.16	
	Mine License & Property Tax	US\$ / pound copper	0.02	
	Cash Cost / lb Cu	US\$ / pound copper	1.85	

Capital Cost Estimates

Capital costs for developing the Empire mine are estimated from other recent mine development capital costs as well as quotes for some of the larger components. The operating costs were determined based on HRC's industry knowledge and prior experience, Info Mine's Cost Mine Service, and actual costs data from operating mines of similar size. Golder Associates prepared the heap leach facility construction capital cost estimate, and M3 Engineering contributed PEA-level design information and takeoff data for the plant capital and operating cost estimates.

The open pit mining equipment is assumed to be leased rather than purchased. The type of lease is assumed to be a capital equipment lease. Total initial capital is estimated at \$67.9 million, including a \$6.8 million contingency

Sustaining capital costs are included for phase 2 and 3 of the leach pad. A portion of the leach pad conveying system is also delayed for purchase into year 1.

Operating Cost Estimates

Operating costs for the Project were developed from material and consumption data provided by M3 Engineering, HRC's industry knowledge and prior experience, and Info Mine's Cost Mine Service.

Taxes

State, local, and federal taxes, including income taxes and the Idaho Mining License tax, have been considered in this study, and are included in the economic analysis.

Royalties

A 2.5 percent royalty, calculated on the gross proceeds less transportation and refining costs, has been included for all the metal produced, as required by underlying agreements.

Consultants

The following consultants have contributed to the PEA and have been involved with the project since Q2 2017:

- Resources and Mine Planning Hard Rock Consulting LLC – Lakewood, Colorado
- Open Pit Slope Stability Call & Nicholas – Tucson, Arizona
- Heap Leach Pad and Ponds Designs Golder Associates Inc – Tucson, Arizona
- Metallurgical Testwork Minerals Technology LLC – Tucson, Arizona
- Process Plant and Infrastructure M3 Engineering & Technology Corp. – Tucson, Arizona
- Environmental Base Line and Permits CES – Pocatello, Idaho

Qualified Person

The information in this announcement has been reviewed by Roger Turner A.C.S.M., M.Sc., M.I.M.M.M., C.Eng., Chief Technical Officer and Director of the Company. Mr Turner is a graduate mining engineer from the Camborne School of Mines with an MSc in Economic Geology from Leicester University with more than 40 years' experience in mine development, construction and operation and is a qualified person under the

AIM Rules. Mr Turner consents to the inclusion of the information in the form and context in which they appear.

Market Abuse Regulation (MAR) Disclosure

Certain information contained in this announcement would have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

****ENDS****

For further information please visit www.pgmining.com or contact:

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Notes

Phoenix Global Mining Ltd (AIM: PGM) is a North American-focused, base and precious metal explorer and developer, which is fast-tracking the historically-producing Empire Mine in Idaho, USA, back into production and exploring for cobalt in Idaho and gold in Canada.

Having established an initial copper oxide JORC and NI 43-101 resource of 19.4 mt grading 0.47% copper ('Cu') for 90,547t contained Cu, plus zinc, gold and silver, Phoenix has defined a two-phase development strategy. Phase One is focused on commencing low cost, open pit production from the current oxide resource, targeting 7,000t copper cathode per annum. Stage Two will look to extend the life of mine by targeting the deeper (below c.120m), higher grade copper sulphides, where intercepts of up to 11.4% Cu have been recovered. Preliminary Economic Analysis work on the priority open pit oxide resource is already underway. It is estimated that only 5% of the potential ore system has been explored to date and

accordingly there is significant opportunity to increase the resource through phased exploration; the current resource relates to the oxide resource only, which remains open along strike and does not include the deeper, higher grade sulphides. Phoenix owns 80% of Empire.

The Company also holds 100% of the Bighorn and Redcastle cobalt-copper properties in Idaho, USA, which are located north of the Empire Mine on the Idaho Cobalt Belt. These are situated close to the town of Cobalt and are close to projects being advanced by Canadian junior miners, including eCobalt Solutions and US Cobalt. Exploration will continue during 2018 to identify drilling targets.

The Company has also acquired an exclusive option to earn into 80% of the Gordon Lake Project, in the Northwest Territories, Canada, a high-grade shear hosted gold project comprising of 17 known mineralised zones of which only four have been tested with 59 diamond drill holes. The Company will proceed to examine the optimal way forward to develop the project as a low-cost underground gold producer.

With a management team that has successfully constructed, commissioned and operated mines and low risk, mining-friendly jurisdictions with excellent infrastructure, Phoenix is looking to fulfil its ambitions to become a mid-tier base and precious metals producing company, offering exposure to three high value and high demand metals with compelling demand/supply fundamentals.