

NEWS RELEASE 17-18

September 14, 2017

## PURE GOLD ANNOUNCES POSITIVE PRELIMINARY ECONOMIC ASSESSMENT FOR THE MADSEN GOLD PROJECT

***Pre-Tax NPV<sub>5%</sub> of \$365 million, IRR of 54%, and Pre-Production Capex of \$51 million***

VANCOUVER, B.C. – Pure Gold Mining Inc. (PGM – TSX-V) (“Pure Gold” or the “Company”) is pleased to announce results of a new Preliminary Economic Assessment (“PEA”) on its 100%-owned Madsen Gold Project (“Madsen”) in the Red Lake mining district of Ontario, Canada. The PEA, based on an updated resource estimate (see news release dated August 2, 2017), shows a robust 14-year underground mining operation with highly attractive economics at base case metal prices.

“With a significantly expanded resource, access to infrastructure, and exceptional growth potential, Madsen is one of the outstanding gold deposits in Canada,” stated Darin Labrenz, President and CEO of Pure Gold. “The completed study provides a measure of these attributes, outlining a long life high margin mine, with low initial capital requirements and a fast timeline to production. In addition, we have identified specific exploration targets and potential optimization opportunities that could further enhance the economics of the project. We look forward to rapidly advancing the Madsen Gold Project to become Ontario’s next gold mine”

### PEA HIGHLIGHTS

*Base case parameters assume a gold price of US\$1,275/oz and an exchange rate (C\$ to US\$) of 0.80. All currencies reported in Canadian dollars unless otherwise specified.*

- Pre-tax NPV<sub>5%</sub> and IRR of \$365 million and 54% respectively with a 2.7 year payback of initial capital
- After-tax NPV<sub>5%</sub> and IRR of \$ 258 million and 47 % respectively with a 2.8 year payback of initial capital
- Mine life is of 14 years with a 12 month pre-production period
- Life of mine (“LOM”) diluted head grade of 10.3 g/t gold
- Average annual gold production in years 3 through 9 of approximately 75,500 ounces, with peak annual production of approximately 85,000 ounces
- LOM direct operating cash cost<sup>(1)</sup> is estimated at US\$595 per ounce of gold recovered
- LOM operating cash cost<sup>(1)</sup> plus sustaining cost is estimated at US\$714 per ounce of gold recovered
- Pre-production capital cost estimated at \$50.9 million which includes a 15% contingency
- LOM sustaining capital costs estimated at \$134.7 million which includes a 5% contingency

*(1) Cash cost includes mining cost, mine-level G&A, mill and refining cost*

The PEA was prepared by Nordmin Engineering Ltd., Mining Services Division of Sudbury, Ontario (“Nordmin”). Nordmin reported on the scoping-level capital costs, operating costs, and project economics associated with the potential development of the Madsen mineral resource.

**The PEA is preliminary in nature and includes inferred mineral resources that are too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that PEA results will be realized. Mineral resources are not mineral reserves and do not have demonstrated economic viability.**

All figures are stated in Canadian Dollars (“C\$”) unless otherwise noted. The Technical Report pursuant National Instrument (“NI”) 43-101 guidelines for the Preliminary Economic Assessment will be filed on SEDAR within 45 days.

## PEA OVERVIEW

### PEA Details

The PEA is based on an underground mining operation utilizing the existing mining, milling, and tailings management infrastructure at Madsen. The existing Madsen portal and ramp are approximately one kilometre from the existing mill, and currently provide ramp access to the top 150 metres of the mine workings. The PEA mine plan includes further development of the ramp to a depth of 1,430 metres to access the mineral resource.

### PEA Parameters

Assumptions	
Gold Price	US\$1,275/oz
Exchange Rate (C\$ to US\$)	0.80
Production Profile	
Total Tonnes Milled	3.0 million
Diluted Head Grade	10.3 g/t
Mine Life	13.8 years
Daily mill commercial throughput	600 tpd
Gold Recovery	92%
Total Gold Ounces Recovered	911,497 oz
Average Annual Gold Production	66,109 oz
Peak Annual Gold Production	85,411 oz
Average Annual Gold Production Years 3 – 9	75,466 oz
Operating Costs	
Unit Operating Costs (per tonne processed)	
Mining Costs	\$155/tonne
Processing Costs	\$28/tonne
G&A	\$43/tonne
Average Cash Cost Years 3-9 <sup>(1)</sup>	US\$537/oz

LOM Average Cash Cost <sup>(1)</sup>	US\$595/oz
LOM Cash Cost plus Sustaining Cost	US\$714/oz
<b>Capital Requirements</b>	
Pre-production Capital Cost	\$50.9 million
Sustaining Capital Cost (Life of Mine)	\$134.7 million
<b>Project Economics</b>	
Royalties	None
Corporate Income Tax / Ontario Mining Tax	25% / 10%
<b>Pre-Tax</b>	
NPV (5% Discount Rate)	\$365 M
Internal Rate of Return	54%
Payback Period (years)	2.7
Cumulative Cash Flows	\$586 M
<b>Post-Tax</b>	
NPV (5% Discount Rate)	\$258 M
Internal Rate of Return	47%
Payback Period (years)	2.8
Cumulative Cash Flows	\$417 M

*(1) Cash cost includes mining cost, mine-level G&A, mill and refining cost*

## PEA Sensitivities

Gold Price (US\$/oz)	\$1,175	\$1,225	\$1,275	\$1,325	\$1,375
Pre-Tax NPV <sub>5%</sub> (C\$m)	\$289	\$327	<b>\$365</b>	\$403	\$442
After-Tax NPV <sub>5%</sub> (C\$m)	\$205	\$232	<b>\$258</b>	\$285	\$311
Pre-Tax IRR	44%	49%	<b>54%</b>	59%	64%
After-Tax IRR	38%	42%	<b>47%</b>	51%	56%

Fx (C\$ to US\$) Base Case US\$1,275/oz	1.15	1.20	1.25	1.30	1.35
Pre-Tax NPV <sub>5%</sub> (C\$m)	\$287	\$326	<b>\$365</b>	\$405	\$443
After-Tax NPV <sub>5%</sub> (C\$m)	\$204	\$231	<b>\$258</b>	\$285	\$312
Pre-Tax IRR	43%	48%	<b>54%</b>	59%	65%
After-Tax IRR	38%	42%	<b>47%</b>	51%	56%

## Mineral Resource

The Company's August 2017 mineral resource estimate forms the basis for the PEA. The resource estimate, prepared by Ginto Consulting Inc. is based upon a database with a cut-off date of April 11, 2017 which contains the results of 14,627 core drill holes. Of those, 13,151 drill holes informed the resource estimate with an overall average spacing of 6.3 metres in the high-grade domains and 9.5 metres in the low-grade domains.

### Mineral Resource Statement for Madsen Gold Project – Effective August 2, 2017\*

Resource Classification	Tonnes	Grade (Au g/t)	Contained Gold (oz.)
Indicated	5,785,000	8.9	1,648,000
Inferred	587,000	9.4	178,000

\* Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves. The estimate of Mineral Resources may be materially affected by changes in environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues that may arise subsequent to the effective date. The CIM definitions were followed for the classification of Indicated and Inferred Mineral Resources. The quantity and grade of reported Inferred Mineral Resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as an Indicated Mineral Resource and it is uncertain if further exploration will result in upgrading them to an Indicated Mineral Resource category. All figures have been rounded to reflect the relative precision of the

estimates. Mineral Resources are reported at a cut-off grade of 4.0 g/t gold based on US\$1,200 per troy ounce gold and gold metallurgical recoveries of 92 percent.

## Capital Costs

Pre-production capital costs are estimated at \$50.9 million with the majority of the costs associated with mill upgrades as well as ramp and surface development. Additional capital cost requirements include surface installations, a new ventilation system and a dewatering system which will utilize the existing shaft. Pre-production capital will be minimized by utilizing existing infrastructure, including a 600 tonne per day mill with carbon-in-pulp (CIP) circuit and tailings management facility. The existing Madsen portal and ramp will be further developed from its current access of 150 metres, down to a total depth of 1,430 metres. Access development will utilize widened and rehabilitated existing workings where possible.

Underground mining and haulage is anticipated to be completed by a contract miner using their own equipment, operating 365 days per year. Electrical grid power will provide the power to the project over the life of the mine. The site is currently serviced by 44 kV power.

LOM sustaining capital costs are estimated at \$134.7 million with the majority of the costs associated with ramp development, slashing existing workings, and new access development.

Capital Costs	Pre-Production	Sustaining	Total
Surface Infrastructure	\$3.5	\$1.0	\$4.5
Mining Infrastructure	\$14.3	\$108.6	\$122.9
Mobile Equipment	\$1.6	-	\$1.6
Ventilation	\$5.8	\$11.3	\$17.1
Electrical	\$2.4	-	\$2.4
Mill and Tailings Management Refurbishment	\$9.6	\$2.9	\$12.5
Water Management	\$5.9	-	\$5.9
Other	\$1.3	\$3.3	\$4.6
<b>Subtotal</b>	<b>\$44.3</b>	<b>\$127.1</b>	<b>\$171.4</b>
Contingency %	15%	5%	8%
Contingency	\$6.6	\$7.6	\$14.2
<b>Total Capital Costs</b>	<b>\$50.9</b>	<b>\$134.7</b>	<b>\$185.6</b>

\* in C\$ millions, numbers may not add due to rounding

## Mining

The PEA mine plan utilizes a combination of conventional cut & fill and shrinkage mining methods to extract the mineralized material. Mining shapes were created using Mineable Shape Optimizer as part of Datamine Studio 5D Planner, using variable cut-offs from 4.0 to 5.2 g/t, and these were evaluated for mining potential. A mining recovery of 95% and a dilution of 10% has been assumed for retained tonnes forming part of the

potential mine plan. Total mineralized material mined over the course of the mine life is 2.99 million tonnes at an average diluted head grade of 10.3 g/t gold. Using an estimated mill recovery of 92%, recovered gold totals 911,497 ounces.

All ramp and level waste development would be performed by mining contractor using a combination of two boom electric hydraulic drill jumbos, 3.5 cubic-yard bucket LHD's, 20 tonne haul trucks, scissor lift/bolters and other rubber tired support equipment. Mining will be facilitated by a combination of diesel and battery-powered equipment, with diesel equipment being utilized for upper levels of the mine (above 16 level) and battery-powered equipment utilized for lower levels of the mine. The use of battery-powered equipment in the lower levels of the mine will eliminate emissions associated with the movement of ore and waste and will result in materially reduced ventilation requirements. A mine and mill management team will be employed by the Company and will manage the mining contractor. Total LOM waste development is summarized below.

**LOM Development in PEA Mine Plan**

<b>Waste Development</b>	<b>Metres</b>
Ramp	17,164
Slash	9,781
Ventilation Raise	1,232
Access Development	10,955
<b>Total</b>	<b>39,132</b>

**Processing**

The PEA considers upgrading the existing mill and tailings management facility which have been on care and maintenance since 1999. Mill production of 600 tonnes per day is assumed to be achievable by modernizing controls and instrumentation of the reagent and grinding circuits and installation of new pumps. Mill and tailings dam upgrades, inclusive of contingency, is estimated at \$12.5 million, of which \$9.6 million is included as a pre-production capital cost item and \$2.9 million is sustaining capital.

The mill consists of a single stage crushing circuit and a two stage grinding circuit followed by cyanide leaching. The leached gold is collected in a CIP circuit which is subsequently stripped using mild caustic and collected on stainless steel mesh cathodes by electrowinning. The product from electrowinning is refined into doré bars in an induction furnace.

A 92% gold recovery has been used in the cash flow model, based on the historical average recovery rate of the mill when it operated from 1997 to 1999.

The Company benefits from existing permits, including the Environmental Compliance Approval, which allows for operation of a 1,089 tonne per day mill and CIP circuit with discharge of treated tailings to the existing tailings facility. This permit will require updating due to regulatory changes. Pure Gold is currently undertaking baseline studies focused on optimizing water resource usage, recovery and recycling and this has been used to establish an updated operation general arrangement.

## Operating Costs

Operating Costs	\$/t processed	\$/oz	US\$/oz
Mining Cost	\$155	\$511	\$409
Processing Cost	\$28	\$93	\$74
G&A Cost	\$43	\$141	\$112
<b>Total Cash Cost<sup>(1)</sup></b>	<b>\$227</b>	<b>\$745</b>	<b>\$595</b>
Sustaining Capital	\$45	\$148	\$118
<b>Cash Cost plus Sustaining Capital</b>	<b>\$272</b>	<b>\$892</b>	<b>\$714</b>

(1) Cash cost includes mining cost, mine-level G&A, mill and refining cost; numbers may not add due to rounding

## Project Enhancement Opportunities

The PEA demonstrates that Madsen has the potential to be economically viable. The study also outlines several opportunities for project enhancement. Additional opportunities include:

- Consideration of mineral resources in satellite deposits Russet South and Fork, to be disclosed in an updated resource estimate targeted for Q4 2017, with an opportunity to improve mine flexibility and potentially increase mill throughput;
- Potential expansion of the Madsen Mine resource, through application of the Company's geologic model to target extensions to the known resource;
- Optimization of mine plan including investigation of potential for mechanized cut and fill and long hole mining, review of ramp sequencing to optimize capital requirements and optimize delivery of higher grade material;
- Review mill processing rates as well as potential increases to throughput rate under the existing Environmental Compliance Approval which allows for operation of a 1,089 tonnes per day mill and CIP circuit, resulting in an increase in annual gold production;
- Further metallurgical test work to optimize gold recovery which historically averaged closer to 94%; and
- Conversion of inferred resources to measured and indicated (no certainty they will be converted)

## Next Steps

Over the coming months, the Company will be focused on:

- Completing a detailed Project Development schedule which will provide a critical path to a production decision, including detailed engineering and permitting;
- Resource definition drilling from the Madsen ramp, designed to test for extensions to the current mineral resource;

- Exploration drilling from surface with the goal of identifying and extending new zones of gold mineralization close to existing mine infrastructure, including up-dip of the 8 zone and down dip of known mineralization at Russet South
- Resource modelling of satellite deposits with a goal of releasing an updated mineral resource estimate for Madsen in Q417; and
- Ongoing environmental baseline work to support the update of existing permits and filing for additional permits that may be required.

#### **Qualified Persons and 43-101 Disclosure**

Ken Donner, P.Eng., Vice President, Operations for the Company, is the designated Qualified Person for this news release within the meaning of National Instrument 43-101 (“NI 43-101”) and has reviewed and verified that the technical information contained herein is accurate and approves of the written disclosure of same.

Marc Jutras, P.Eng, of Ginto Consulting Inc., is an independent Qualified Person as defined by NI 43-101 and has reviewed and approved the contents of this news release. Mr. Jutras supervised the preparation of the Mineral Resource estimate with an effective date of August 2, 2017.

Roy Levesque P.Eng., Sr. Mining Engineer for Nordmin Engineering Ltd., is an independent Qualified Person as defined by NI 43-101 and has reviewed and approved the contents of this news release. Mr. Levesque is responsible for Financial Analysis, Mine Planning, Development and Operating Costs.

John Folinsbee, P. Eng, of Heads Ore Tails Metallurgical Consulting Inc. is an independent Qualified Person as defined by NI 43-101 and has reviewed and approved the contents of this news release. Mr. Folinsbee is responsible for Mineral Processing and Metallurgy.

#### **Conference Call and Webcast**

Pure Gold will host a conference call and webcast today, Thursday September 14, 2017 at 10:00 a.m. Eastern Time.

Pure Gold will provide an overview of the results of the PEA before opening the call to questions from participants. To join the call please dial:

Toll Free: 1-800-319-4610  
Local / International: +1-604-638-5340

An accompanying webcast is available at <http://services.choruscall.ca/links/puregold20170914.html>.

A replay of the teleconference will be available for seven days at 1-604-638-9010, access code 1703.

#### **ABOUT PURE GOLD**

Our mandate is pure and simple. To dream big. To colour outside the lines. To use smart science and creativity to unlock the next major discovery at the Madsen Gold Project in Red Lake, Ontario. And become Canada's next iconic gold company.

Additional information about the Company and its activities may be found on the Company's website at [www.puregoldmining.ca](http://www.puregoldmining.ca) and under the Company's profile at [www.sedar.com](http://www.sedar.com).

## ON BEHALF OF THE BOARD

"Darin Labrenz"

**Darin Labrenz, President & CEO**

### Investor inquiries:

Adam Buchanan, Manager, Investor Relations

Tel: 604-646-8000

[info@puregoldmining.ca](mailto:info@puregoldmining.ca)

*All statements in this press release, other than statements of historical fact, are "forward-looking information" with respect to Pure Gold within the meaning of applicable securities laws, including, but not limited to statements with respect to those that address potential quantity and/or grade of minerals, potential size and expansion of a mineralized zone, proposed timing of exploration and development plans. Forward-looking information is often, but not always, identified by the use of words such as "seek", "anticipate", "plan", "continue", "planned", "expect", "project", "predict", "potential", "targeting", "intends", "believe", "potential", and similar expressions, or describes a "goal", or variation of such words and phrases or state that certain actions, events or results "may", "should", "could", "would", "might" or "will" be taken, occur or be achieved. Forward-looking information is not a guarantee of future performance and is based upon a number of estimates and assumptions of management at the date the statements are made including, among others, assumptions about future prices of gold and other metal prices, currency exchange rates and interest rates, favourable operating conditions, political stability, obtaining governmental approvals and financing on time, obtaining renewals for existing licences and permits and obtaining required licences and permits, labour stability, stability in market conditions, availability of equipment, accuracy of any mineral resources, successful resolution of disputes and anticipated costs and expenditures. Many assumptions are based on factors and events that are not within the control of Pure Gold and there is no assurance they will prove to be correct.*

*Such forward-looking information, involves known and unknown risks, which may cause the actual results to be materially different from any future results expressed or implied by such forward-looking information, including, risks related to the interpretation of results at the Madsen Gold Project; changes in project parameters as plans continue to be refined; current economic conditions; future prices of commodities; possible variations in grade or recovery rates; the costs and timing of the development of new deposits; failure of equipment or processes to operate as anticipated; the failure of contracted parties to perform; the timing and success of exploration activities generally; delays in permitting; possible claims against the Company; labour disputes and other risks of the mining industry; delays in obtaining governmental approvals, financing or in the completion of exploration as well as those factors discussed in the Annual Information Form of the Company dated June 16, 2017 in the section entitled "Risk Factors", under Pure Gold's SEDAR profile at [www.sedar.com](http://www.sedar.com).*

*Although Pure Gold has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Pure Gold disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise unless required by law.*