

# Treasury Metals Announces Positive Preliminary Economic Assessment for Goliath Gold Complex

written by Raj Shah | February 2, 2021

February 2, 2021 ([Source](#)) – \$477 Million pre-tax NPV<sub>5</sub>%; pre-tax IRR OF 37.3% (post-tax \$328 Million and 30.2%) at US\$1,600 per ounce gold

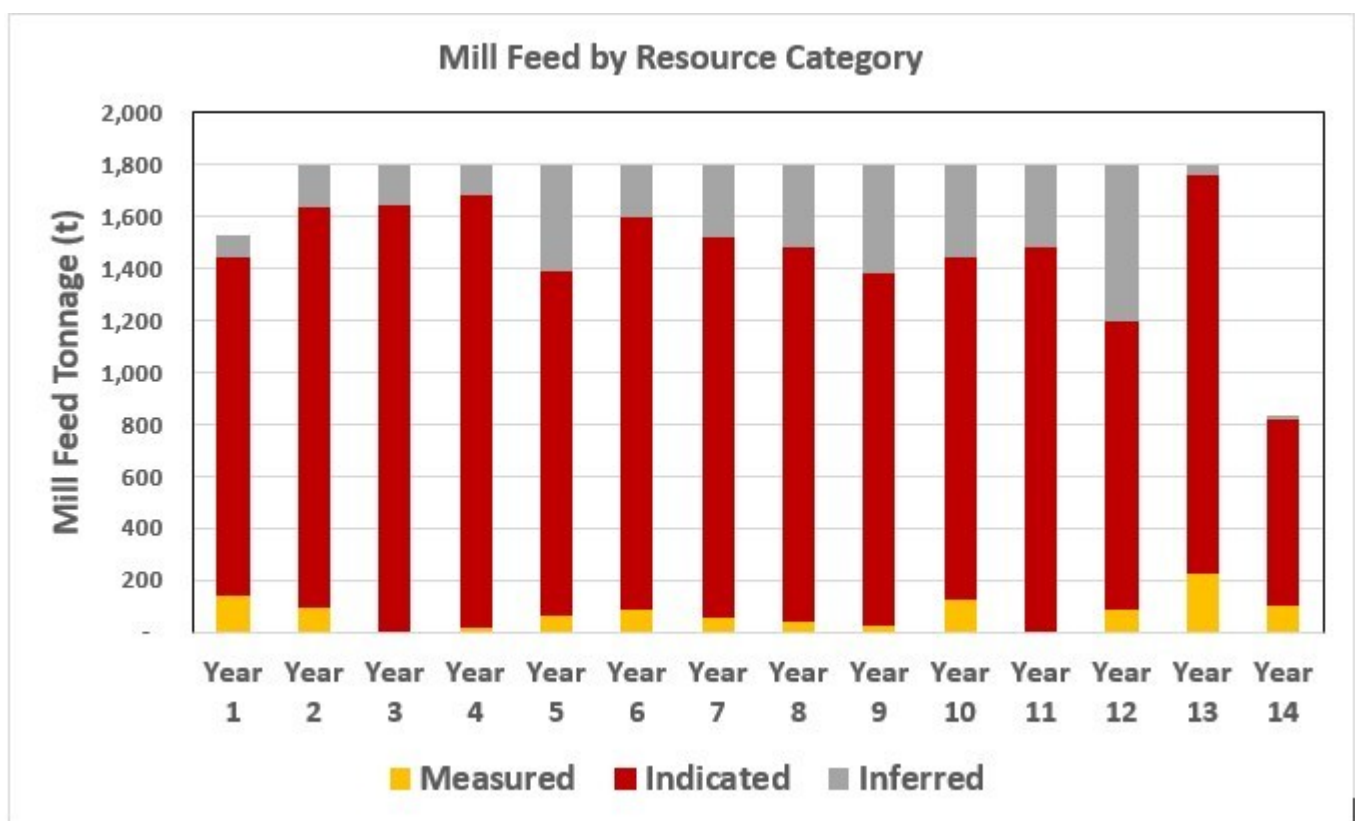
TSX: [TML](#) OTCQX: TSRMF

**Highlights (all currencies are reported in Canadian dollars unless otherwise specified):**

- LOW CAPITAL INTENSITY PROJECT WITH PRE-PRODUCTION CAPITAL COST OF \$233 MILLION AND PRE-TAX PAYBACK PERIOD OF LESS THAN 2 YEARS
- ROBUST ECONOMICS WITH POST-TAX \$328 MILLION NPV<sub>5</sub>%; IRR OF 30.2%; AT US\$1,600 PER OUNCE GOLD
- MINE LIFE OF 13 YEARS, WITH AVERAGE ANNUAL GOLD PRODUCTION DURING FIRST 9 YEARS OF 102,000 OUNCES AND TOTAL LOM RECOVERED GOLD OF ~1.1 MILLION OUNCES
- WORLD-CLASS INFRASTRUCTURE INCLUDES EXISTING HYDRO POWER, NATURAL GAS AND CP RAIL LINES PLUS TRANS-CANADA HIGHWAY
- BOARD APPROVAL TO ADVANCE THE PROJECT TO THE PRE-FEASIBILITY STUDY STAGE
- LEVERAGE TO GOLD PRICE: \$726 MILLION NPV<sub>5</sub>% PRE-TAX AT RECENT SPOT PRICE OF US\$1,850 PER OUNCE GOLD

**Treasury Metals Inc.** (TSX: [TML](#)) (OTCQB: TSRMF) (Frankfurt: TRC1) (“**Treasury**” or the “**Company**”) is pleased to announce the results

from a preliminary economic assessment (“PEA”) for the Company’s Goliath Gold Complex (“GGC” or the “Project”), which includes the Goliath, Goldlund and Miller deposits along a prospective 65-kilometre trend in northwestern Ontario. The PEA, prepared by Ausenco Engineering Canada Inc. (“Ausenco”) in accordance with National Instrument 43-101 (“NI 43-101”), demonstrates the potential to develop a low-cost 5,000 tonnes per day (“tpd”) combined open pit and underground mining operation with strong economics and the opportunity for significant benefit to the Company, Indigenous Nations and local stakeholders.



Mill Feed by Resource Category (CNW Group/Treasury Metals Inc.)

“With the announcement of the PEA results today, combined with receipt of the federal Environmental Assessment approval in 2019, we have confirmed the Goliath Gold Complex has sufficient critical mass and we expect Treasury Metals to become one of Ontario’s next gold producers. Our robust base case for the project supports a 13-year mine life with average annual production of 102,000 ounces of gold for the first nine years

with a post-tax NPV of \$328 million and IRR of 30.2%,” said Jeremy Wyeth, President and CEO of Treasury Metals. “The project is underpinned by a high-quality resource, and we have taken a conservative approach to resource estimation, with the total M&I ounces virtually unchanged from previous estimates. We also see significant exploration potential across our 330-square-kilometre land package. In 2021, we are focusing on in-fill and definition drilling to better define the resource, while also initiating step-out drilling to test new targets around both the Goliath and Goldlund deposits.”

Treasury continues to advance Goliath Gold Complex through the commencement of trade-off optimization studies as part of the pre-feasibility level study work, baseline environmental work, community engagement and other critical activities to the required level to facilitate the provincial permitting process.

### **Goliath Gold Complex PEA Overview**

The Goliath Gold Complex PEA was prepared by Ausenco in collaboration with other technical consultants and the Company’s operations and exploration teams (see Qualified Persons section below).

The PEA was prepared in accordance with National Instrument 43-101 and the technical report that summarizes the results of the Goliath Gold Complex PEA will be filed on the Company’s website and on SEDAR ([www.sedar.com](http://www.sedar.com)) within 45 days of this news release.

### **PEA Assumptions and Economic Results**

| <b>General</b>        |                     |           |
|-----------------------|---------------------|-----------|
| Gold price assumption | <i>per ounce</i>    | US\$1,600 |
| Exchange Rate         | <i>(\$US:\$CAD)</i> | 0.75      |

| <b>Economics (pre-tax)</b>   |                          |         |
|--|--------------------------|---------|
| Net present value (NPV 5%)   | <i>\$ millions</i>       | \$477   |
| Internal rate of return (IRR)  | %                        | 37.3%   |
| Payback (undiscounted)   | <i>Years</i>             | 1.92    |
| Average annual cash flow*  | <i>\$ millions</i>       | \$74    |
| Cumulative cash flow (undiscounted)*   | <i>\$ millions</i>       | \$991   |
| <b>Economics (post-tax)</b>  |                          |         |
| Net present value (NPV 5%)   | <i>\$ millions</i>       | \$328   |
| Internal rate of return (IRR)  | %                        | 30.2%   |
| Payback (undiscounted)   | <i>Years</i>             | 2.17    |
| Average annual cash flow*  | <i>\$ millions</i>       | \$58    |
| Cumulative cash flow (undiscounted)*   | <i>\$ millions</i>       | \$775   |
| <b>Mining</b>  |                          |         |
| Mine life  | <i>years</i>             | 13.5    |
| Total LOM recovered gold   | <i>,000 ounces</i>       | 1,064   |
| Average annual mining rate   | <i>million tpa</i>       | 1.8     |
| Average annual gold production, years 1-9  | <i>ounces/year</i>       | 102,000 |
| Peak gold production in year 5   | <i>ounces</i>            | 119,000 |
| Gold Recovery (LOM)  | %                        | 93.64%  |
| Initial capital costs  | <i>\$ millions</i>       | \$233   |
| AISC**   | <i>US\$ per ounce Au</i> | \$911   |
| *Cash flows during operational period  |                          |         |
| **AISC includes cash costs plus sustaining capital, closure cost and salvage value |                          |         |

The PEA is preliminary in nature, includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would

enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

### **Mining and Processing**

The PEA considers a combined open pit and underground mining operation utilizing the resources from three different pit areas over the life of the mine. It is envisioned that mining will be initiated at the Goliath project due to both its proximity to the processing facility and its existing federal EA approval. With significant environmental and baseline work underway it has been assumed that mining at the Goldlund deposit will follow the initial start of production by approximately one year. The Goliath underground operations are expected to begin development in year three with first underground production to come in year four of the proposed mining operations. Proposed open pit and underground mining is envisioned as being conventional truck and loader/shovel and long hole stoping, respectively.

The process plant will treat 1.8Mt of ore per year at an average throughput of 4,875 tonnes per day with an availability of 92%. The plant design includes a three-stage crushing circuit, ball mill, gravity concentration, classification, standard leach and Carbon-In-Leach (CIL) technology, and detoxification before deposition into a Tailings Storage Facility (TSF).

The process plant has been designed to realize an average recovery of 95.7% of the gold sourced from Goliath, 91.9% sourced from Goldlund, and 89.6% sourced from Miller over the life of the project. Of this, the gravity circuit recovers 17%-44% of the gold across the three different ore sources. Gold recovery has been based on metallurgical test work completed on Goliath and Goldlund material between 2011 and 2017 with the confidence in recoveries reflecting the more extensive

metallurgical work done at Goliath compared to Goldlund and Miller. Metallurgical testing planned for 2021 at Goldlund and Miller is expected to improve recovery assumptions.

The Company will provide additional details related to Tailings Management and Closure in the PEA report filed on SEDAR within 45 days.

| <b>Mining &amp; Processing Inputs</b> |                        |        |
|---------------------------------------|------------------------|--------|
| <b>Mine life – Total</b>              | <i>years</i>           | 13.5   |
| <b>Mining Rate</b>                    |                        |        |
| Open Pit (Year 1-5 average)           | <i>tpd</i>             | 45,000 |
| Underground (Peak production)         | <i>tpd</i>             | 1,400  |
| <b>Open Pit</b>                       |                        |        |
| Total Mill feed                       | <i>million tonnes</i>  | 21.0   |
| Open Pit – gold grade                 | <i>g/t</i>             | 1.17   |
| Open Pit – silver grade               | <i>g/t</i>             | 0.80   |
| Total waste                           | <i>million tonnes</i>  | 82.5   |
| Total Material Mined                  | <i>million tonnes</i>  | 103.5  |
| Open pit strip ratio                  | <i>waste:mill feed</i> | 3.93   |
| <b>Underground</b>                    |                        |        |
| Total mill feed (underground)         | <i>million tonnes</i>  | 3.0    |
| Underground – stope gold grade        | <i>g/t</i>             | 3.67   |
| Underground – silver grade            | <i>g/t</i>             | 9.05   |
| <b>Processing</b>                     |                        |        |
| Feed Rate                             | <i>tpd</i>             | 4,875  |
| Total tonnes processed                | <i>Million tonnes</i>  | 24.0   |
| Mill head grade – gold                | <i>g/t</i>             | 1.47   |
| Mill head grade – silver              | <i>g/t</i>             | 1.82   |

|                     |   |       |
|---------------------|---|-------|
| LOM gold recovery   | % | 93.6% |
| LOM silver recovery | % | 60.0% |

A mine plan summary is included in Appendix 1 at the end of this news release.

### Operating Costs

Mining costs for owner operated mining were developed from first principles with local vendor quotations and detailed haulage profiles. Process plant operating costs were developed based on the labour requirements and calculated consumption rates of reagents, consumable materials, and electrical power associated with the plant equipment. Costing factors were applied leveraging in-house data based on comparable gold milling operations in Ontario. Processing costs include plant maintenance and upkeep.

| <b>Operating Costs (life of mine average)</b> |                       |       |
|---|-----------------------|-------|
| Mining costs (open pit)                       | <i>\$/t mined</i>     | 3.27  |
| Mining costs (open pit)                       | <i>\$/t processed</i> | 16.95 |
| Mining costs (underground)                    | <i>\$/t processed</i> | 70.31 |
| Processing costs                              | <i>\$/t processed</i> | 11.37 |
| G&A costs                                     | <i>\$/t processed</i> | 2.28  |
| Total site operating costs                    | <i>\$/t processed</i> | 40.70 |
| <b>Cash Costs</b>                             |                       |       |
| Cash costs (LOM)*                             | <i>\$/oz Au</i>       | 699   |
| All-in sustaining costs (LOM)**               | <i>\$/oz Au</i>       | 911   |

\*Cash costs consist of mining costs, processing costs, mine-level general & administrative expenses and refining charges and royalties

\*\*AISC includes cash costs plus sustaining capital, closure cost and salvage value

## Initial and Sustaining Capital Costs

Initial capital costs in the PEA are estimated to be \$233 million including a contingency of 5% on mining equipment, and 25% on all other direct costs, excluding pre-production stripping. Life of mine sustaining capital is estimated at \$313 million, primarily for Goliath underground development and TSF construction. A small sustaining capital budget is allocated to the processing plant, with general plant maintenance and upkeep accounted for in operating costs.

| <b>Initial Capital Costs (\$ millions)</b>          |       |
|---|-------|
| Mining equipment and infrastructure                 | \$20  |
| Pre-production mining                               | \$25  |
| Processing plant                                    | \$65  |
| Site infrastructure                                 | \$51  |
| Project delivery, owner's costs and other indirects | \$43  |
| Contingency   | \$30  |
| Total Initial Capital                               | \$233 |
| <b>Sustaining Capital Costs (\$ millions)</b>       |       |
| Mining equipment                                    | \$26  |
| Underground mine development                        | \$136 |
| Mining infrastructure                               | \$55  |
| TSF   | \$71  |
| Process plant sustaining capital                    | \$1   |
| Site closure and reclamation                        | \$24  |
| Total Sustaining Capital                            | \$313 |

Site closure and reclamation include final closure costs for the Goliath, Goldlund and Miller projects. Costs address demolition of facilities, placement of covers on the tailing facility and waste rock storage areas, and revegetation of disturbed areas.



## Economic Sensitivity to Gold Price

Sensitivities of post-tax NPV and post-tax IRR to gold price per ounce are as follows:

| Gold Price<br>US\$/oz | Post-Tax<br>NPV(5%)<br>Base Case | Initial CAPEX |        | Total OPEX |        | FX      |         |
|-----------------------|----------------------------------|---------------|--------|------------|--------|---------|---------|
|                       |                                  | (-25%)        | (+25%) | (-25%)     | (+25%) | (-25%)  | (+25%)  |
| \$1,200               | \$47                             | \$101         | (\$8)  | \$170      | (\$93) | \$331   | (\$163) |
| \$1,400               | \$189                            | \$244         | \$134  | \$308      | \$66   | \$513   | (\$15)  |
| \$1,600               | \$328                            | \$383         | \$273  | \$445      | \$208  | \$694   | \$102   |
| \$1,850               | \$498                            | \$553         | \$443  | \$615      | \$381  | \$921   | \$243   |
| \$2,000               | \$600                            | \$655         | \$545  | \$717      | \$484  | \$1,057 | \$326   |
| Gold Price<br>US\$/oz | Post-Tax<br>IRR<br>Base Case     | Initial CAPEX |        | Total OPEX |        | FX      |         |
|                       |                                  | (-25%)        | (+25%) | (-25%)     | (+25%) | (-25%)  | (+25%)  |
| \$1,200               | 9.3%                             | 16.9%         | 4.4%   | 19.0%      | 0.0%   | 30.4%   | 0.0%    |
| \$1,400               | 20.7%                            | 31.0%         | 14.3%  | 28.5%      | 11.3%  | 41.5%   | 3.5%    |
| \$1,600               | 30.2%                            | 42.7%         | 22.4%  | 37.1%      | 22.5%  | 51.4%   | 14.1%   |
| \$1,850               | 40.7%                            | 55.6%         | 31.3%  | 46.8%      | 34.0%  | 62.7%   | 24.6%   |
| \$2,000               | 46.4%                            | 62.6%         | 36.2%  | 52.2%      | 40.2%  | 69.2%   | 30.1%   |

## All-In-Sustaining-Cost\*

All-in-sustaining costs ("AISC")\* are built up as follows:

| AISC US\$ per ounce of Au* |        |
|----------------------------|--------|
| Operating Cost             | \$688  |
| Royalties                  | \$16   |
| Refining Cost              | \$11   |
| Silver Credit              | (\$16) |
| Subtotal Cash Cost         | \$699  |
| Sustaining Capital         | \$204  |

|               |       |
|---------------|-------|
| Salvage Value | (\$8) |
| Closure       | \$17  |
| Total AISC    | \$911 |

### **Mineral Resource Estimate**

The mineral resource estimate for Goliath used as the basis for the PEA with an effective date of December 16, 2020 was completed using a total of 726 surface drill holes with an aggregated length of 238,036 metres and a total of 96,912 assays. The QP responsible for the resource estimate is Pierre Desautels P.Geo of AGP Mining Consultants.

For Goldlund, the mineral resource estimate with an effective date of October 23, 2020 was completed using a total of 176,498 metres of drill core and channel samples entered as pseudo holes distributed in 856 surface drill holes, 189 surface trench channel samples, 480 underground drill holes, and 246 underground channel samples for a total of 114,102 gold assays. The QP responsible for the estimate is Chris Keech P. Geo. of CGK Consulting Services Inc.

For Miller, the mineral resource estimate with an effective date of October 26, 2020 was completed using a total of 96 surface drill holes totalling 7,386 metres. Of those, 26 intersected the mineralized domains and were used in the resource estimate. The QP responsible for the estimate is Paul Daigle P. Geo of AGP Mining Consultants.

The table summarizes the resource estimate for all three deposits. The material amenable to open pit extraction was reported within Lerchs-Grossman optimized resource constraining shell, while the material amenable to underground extraction was reported within a 3-dimensional wireframe representing a likelihood of being coherent mining shapes with reasonable prospect of being accessed. Open pit resource constraining shell

and underground resource shapes were provided by AGP's Engineering team.

For the Goliath Deposit, a gold price of US\$1,700 /ounce and a silver price of US\$23 /ounce was used for the cut-off determination. For open pit resources, a cut-off of 0.25 g/t gold was used. Resources below the open pit shell used a cut-off of 1.60 g/t gold to define possible underground resources. For the Goldlund and Miller Deposits, a gold price of US\$1,700 /ounce was used for the cut-off determination. For open pit resources, a cut-off of 0.26 g/t gold was used. Resources below the open pit shell at Goldlund used a cut-off of 1.60 g/t gold to define possible underground resources.

| <b>Deposit</b>                          | <b>Cut-off<br/>Grade<br/>(g/t)</b> | <b>Quantity<br/>( '000<br/>tonnes)</b> | <b>Grade<br/>Gold<br/>(g/t)</b> | <b>Contained<br/>Gold<br/>( '000 oz)</b> |
|---|------------------------------------|--|---------------------------------|--|
| <b>Measured Resources</b>               |                                    |  |                                 |  |
| Goliath Open Pit                        | 0.25                               | 1,471                                  | 1.90                            | 90                                       |
| Goliath Underground                     | 1.6                                | 98                                     | 4.84                            | 16                                       |
| <b>Total Measured</b>                   |                                    | <b>1,569</b>                           | <b>2.09</b>                     | <b>105</b>                               |
| <b>Indicated Resources</b>              |                                    |  |                                 |  |
| Goliath Open Pit                        | 0.25                               | 26,956                                 | 0.87                            | 757                                      |
| Goliath Underground                     | 1.6                                | 2,592                                  | 3.16                            | 263                                      |
| Goldlund Open Pit                       | 0.26                               | 24,300                                 | 1.07                            | 840                                      |
| <b>Total Indicated</b>                  |                                    | <b>53,848</b>                          | <b>1.07</b>                     | <b>1,860</b>                             |
| <b>Total Measured and<br/>Indicated</b> |                                    | <b>55,417</b>                          | <b>1.10</b>                     | <b>1,965</b>                             |
| <b>Inferred Resources</b>               |                                    |  |                                 |  |
| Goliath Open Pit                        | 0.25                               | 5,644                                  | 0.65                            | 76                                       |
| Goliath Underground                     | 1.6                                | 704                                    | 2.75                            | 62                                       |

|                       |      |               |             |            |
|-----------------------|------|---------------|-------------|------------|
| Goldlund Open Pit     | 0.26 | 14,400        | 0.56        | 260        |
| Goldlund Underground  | 1.6  | 233           | 6.8         | 51         |
| Miller Open Pit       | 0.26 | 1,981         | 1.24        | 79         |
| <b>Total Inferred</b> |      | <b>22,962</b> | <b>0.77</b> | <b>528</b> |

Note on Mineral Resources:

(1) Mineral resources are estimated in conformance with the CIM Mineral Resource definitions referred to in NI 43-101 Standards of Disclosure for Mineral Projects. This mineral resource estimate covers the Goliath Deposit, the Goldlund Deposit and the Miller deposit.

(2) Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The quantity and grade of the reported Inferred Mineral Resources in this estimation are conceptual in nature and are estimated based on limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. For these reasons, an Inferred Mineral Resources has a lower level of confidence than an Indicated Mineral Resources and it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

(3) Goliath: Mineral resources are reported within an optimized constraining shell using a gold price of US\$1700/0z and a Silver price of US\$23/0z and recoveries of 95.5% for gold and 62.6% for silver and a base mining, processing + G&A costs of \$CDN18.68/tonne open pit, \$CDN93.54/tonne for underground. Grades were estimated using 1.5-meter capped composites via Ordinary kriging for the Main and C zones and inverse distance cubed for all other zones.

(4) Goldlund: Mineral resources are reported within an optimized constraining shell using a gold price of US\$1700/Oz and gold recovery of 89% and a mining and processing + G&A costs of \$CDN18.51/tonne open pit, \$CDN93.53/tonne for underground and \$CDN2.71/tonne for base mill feed cost. Gold grades were estimated using 2.0 m capped composites within 9 mineralized zones using ordinary kriging.

(5) Miller: Mineral resources are reported within an optimized constraining shell using a gold price of US\$1700/Oz and gold recovery of 89% and a mining, base mill feed and G&A cost of US\$21.22/tonnes.

Grades were estimated using 2.0 m capped composites within the granodiorite domain using Inverse Distance Cubed interpolation.

(6) Summation errors may occur due to rounding.

Overall, a more conservative approach was taken to the mineral resource estimation methodologies on all sites in anticipation of a potential future mining and construction decision. For both Goliath and Goldlund a probabilistic estimation approach was used to model the gold and silver mineralization.

For Goliath, this differs from the previous mineral resource estimate approach that used discrete wireframes created from both geological contacts and drill assay results for the underground model and wider wireframes for the open pit model. With the new methodology, the entire mineralized corridor for the Main Zone and C-Zone were wireframed conventionally and then, internally sub-divided in a low grade, medium grade and high grade components using a probabilistic approach. The resulting single model respects the known geological information while ensuring that the grade distribution is more representative of the field condition. This has resulted in having a more conservative approach to continuity of the mineralization in both the low grade (Open Pit) and high grade (Underground) zones.

For Goldlund, the mineral resource estimation approach has considered a more conservative treatment of unsampled historic intervals to limit the influence of high-grade samples within the mineralized zones. The Goldlund probability mineral resource estimation approach has also revised the search strategy and geological domains to ensure that the modelling better reflects the controls on gold mineralization. This has resulted in a more conservative mineral resource estimate with more tonnes at a lower average grade above cut-off. Drilling is currently underway that specifically targets areas that have insufficient drill hole density with the goal of increasing the confidence in the continuity and adding inferred mineral resources in those areas.

The results of these updated resource estimates allow for a much larger proportion of Measured and Indicated resources to be included in the proposed mining plan. The following graph shows the high proportion of Measured and Indicated resources within the proposed mine plan. Additional exploration drilling is currently ongoing that is anticipated to enhance resource continuity based on this approach to previously assumed levels.

Further details on the mineral resource estimate will be available in the technical report on [www.sedar.com](http://www.sedar.com) and on the Company's website at [www.treasuremetals.com](http://www.treasuremetals.com).

### **Permitting and Approvals**

The approach to environmental permitting and approvals for the Goliath Gold Complex will be to treat the Goliath, Goldlund and Miller deposits as three distinct projects for provincial permitting, all being processed at the mill facility within the existing federal EA approval for Goliath.

The schedule for permitting and approvals for the Goliath Gold Project is more advanced than the schedule for Goldlund and

Miller, given that a Federal Environmental Assessment (EA) has already been completed for this Project. Specifically, on August 19, 2019, Treasury Metals received Federal Government approval under the *Canadian Environmental Assessment Act, 2012* for the Goliath Gold Project, with the Minister of Environment and Climate Change Canada concluding that with implementation of appropriate mitigation measures, the Project is not likely to cause significant adverse environmental effects. Therefore, following the release of the PEA, the Goliath Gold Project may proceed directly into provincial permitting and other environmental approvals using the updated proposed mining plan, while additional baseline data collection will be completed for Goldlund and Miller to support anticipated future provincial approval processes. A full year of baseline data collection has been completed for the Goldlund site and will continue throughout the remainder of 2021 to support the anticipated future provincial approval processes.

### **Opportunities**

The PEA has outlined a number of initiatives that may enhance the project which include:

- For Goldlund, 6,400 metres of additional infill drilling in Zone 1 to confirm the continuity of high-grade mineralization and convert indicated to measured mineralization; 29,000 metres of additional infill drilling in Zones 2, 3, 4, 6, 8, and 9 to convert inferred mineralization to indicated mineralization; and 7,200 metres of exploration drilling to confirm the northeast extensions of Zones 1 and 4.
- For Goliath, the focus will be on converting the remaining Inferred resources to the Indicated category in preparation for a Pre-Feasibility Study. The proposed resource conversion program consists of approximately 31,000 metres of additional drilling across the full

strike of proposed underground mine plan. A small, limited drill program is also proposed for resource expansion between covering a strike length of 200 metres on the eastern portion of the deposit which could result in sufficient material amenable to open pit extraction. This small program consists of approximately 3,000 metres of additional drilling.

- Further metallurgical test work to increase gold recovery at Goldlund and Miller.
- The use of mined out open pit areas provide an opportunity for the storage of tailings and waste material. There is a significant volume that could be utilized for storage on a long term basis that would both reduce cost, and importantly provide an opportunity to limit the footprint and volume of tailings stored above surface.
- The transport of Goldlund mineralized materials represents a significant cost that could be reduced by the use of ore sorting technology. Goldlund material has been shown to be amenable to such technology and prioritized for study.
- The optimization of transporting material from the Goldlund and Miller sites to the Goliath Mill facility represents an opportunity for reduced cost. Additional studies will be completed in the next phase to better define the capital and operating costs of various options including different trucking options and the use of technologies such as Railveyor that provide efficient transport options.
- Additional testing of the correlation of gold to silver at the Goldlund and Miller deposits has the opportunity to add silver to the resource if completed. The limited test data at the Goldlund resource is not sufficient to be included as part of the resource, but it should be noted that in this limited testing there does appear to be silver associated with some samples. A more fulsome assay



program should be instituted to re-assay available samples and include assaying for future drill programs to investigate whether or not sufficient correlation is possible to create a silver by product from mining.

### **Next Steps**

The Company intends to immediately initiate trade-off and optimization studies as part of a formal Pre-Feasibility Study, baseline environmental work, and other critical studies with a view to completing all required engineering work to facilitate the provincial permitting process later this year. Engagement with local communities and Indigenous Nations will also continue throughout the year.

In addition, the Company will continue exploration drilling at the Goldlund deposit totalling approximately 42,000 metres, which will include both infill and definition drilling, as well as additional drilling at the Miller deposit. The Company intends to mobilize a second drill at the Goliath deposit in the spring to conduct infill and definition drilling totalling approximately 27,000 metres in order to explore targets at depth and along strike which are outside the existing resource. Contingent on the success of the drill program and market conditions, the Company may consider mobilizing a third exploration drill.

### **Qualified Persons**

The PEA for the Treasury Metal Goliath Gold Complex summarized in this news release was completed by Ausenco together with other technical consultants and will be incorporated in a NI 43-101 technical report which will be available under Treasury's SEDAR profile at [www.sedar.com](http://www.sedar.com), and on the Treasury website at [www.treasuremetals.com](http://www.treasuremetals.com) within 45 days of this news release. The affiliation and areas of responsibility for each of the Qualified Persons involved in preparing the PEA, upon which the

technical report will be based, are as follows: Mr. Tommaso Roberto Raponi, P.Eng – Qualified Person for Processing and Metallurgy; Mr. Pierre Desautels, P.Geo. – Qualified Person for Goliath Mineral Resource Evaluation; Mr. Christopher Keech, P.Geo – Qualified Person for Goldlund Mineral Resource Evaluation; Mr. Paul Daigle, P.Geo – Qualified Person for Miller Resource Evaluation; Mr. Gordon Zurowski, P.Eng – Qualified Person for Mine Engineering and Costing; Reagan McIsaac, Ph.D., P.Eng. – Qualified Person for Tailings Management; Sheila Daniel, P.Geo. – Qualified Person for Closure and Closure Costing,

By virtue of their education, membership to a recognized professional association and relevant work experience, Mr. Tommaso Roberto Raponi, Mr. Pierre Desautels, Mr. Christopher Keech, Mr. Paul Daigle, and Mr. Gordon Zurowski, are independent Qualified Persons as defined under NI 43-101.

### **Data Verification**

The Qualified Persons responsible for the preparation of the PEA and the technical report in respect thereof have verified the data disclosed in this news release, including sampling, analytical, and test data underlying the information contained in this news release. Geological, mine engineering and metallurgical reviews included, among other things, reviewing mapping, core logs, and re-logging existing drill holes, review of geotechnical and hydrological studies, environmental and community factors, the development of the life of mine plan, capital and operating costs, transportation, taxation and royalties, and review of existing metallurgical test work. In the opinion of the Qualified Persons, the data, assumptions, and parameters used to estimate Mineral Resources, the metallurgical model, the economic analysis, and the PEA are sufficiently reliable for those purposes. The technical report in respect of the PEA, when filed, will contain more detailed information

concerning individual responsibilities, associated quality assurance and quality control, and other data verification matters, and the key assumptions, parameters and methods used by the Company.

Mark Wheeler, P.Eng., Director, Projects, and Adam Larsen, Exploration Manager, are both considered as a “Qualified Person” for the purposes of National Instrument 43-101 Standards of Disclosure for Mineral Project (“**NI 43-101**”), and have reviewed and approved the scientific and technical disclosure contained in this news release on behalf of Treasury.

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### **About Treasury Metals Inc.**

Treasury Metals Inc. is a gold focused company with assets in Canada. Treasury’s Goliath Gold Complex, which includes the Goliath, Goldlund and Miller deposits along a 65-kilometre trend, is located in Northwestern Ontario. The deposits benefit substantially from excellent access to the Trans-Canada Highway, related power and rail infrastructure, and close proximity to several communities including Dryden and Sioux Lookout, Ontario. The Company also owns several other projects throughout Canada, including the Lara Polymetallic Project, Weebigee-Sandy Lake Gold Project JV, and grassroots gold exploration property Gold Rock.

To view further details about Treasury, please visit the Company’s website at [www.treasuremetals.com](http://www.treasuremetals.com).

### **About Ausenco**

Ausenco is a global company based across 26 offices in 14 countries, with projects in over 80 locations worldwide. Combining deep technical expertise with a 30-year track record, Ausenco delivers innovative, value-add consulting studies, project delivery, asset operations and maintenance solutions to

the mining & metals, oil & gas and industrial sectors.

### **Forward-Looking Statements**

*This news release contains information and projections that constitute "forward-looking statements" under applicable securities laws. All statements in this release, other than statements of historical facts, that address events or developments that management of the Company expect, are forward-looking statements. Forward-looking statements are frequently, but not always, identified by words such as "expects", "anticipates", "believes", "plans", "projects", "intends", "estimates", "envisages", "potential", "possible", "strategy", "goals", "objectives", or variations thereof or stating that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved, or the negative of any of these terms and similar expressions. Forward-looking information in this news release includes, but is not limited to statements regarding: the Company's expectations relating to the development of the Goliath Gold Complex, including, without limitation, the anticipated mine life and annual gold production of any mine to be developed, the ability of the Company to implement a "hub and spoke" regional production strategy, the anticipated operating costs, initial and sustaining capital costs, all-in sustaining costs, closure costs and post-tax NPV and IRR of any such development, the processing methodologies expected to be used in connection with any such development and the gold recovery of such processing methodologies; the economics and benefit to the Company, Indigenous Nations and local stakeholders that would result from any such development; the mineralization of the Goliath Gold Complex; the exploration potential across the Company's 330 square-kilometre land package and the results of future exploration activities thereon; expectations regarding the Company's ability to expand its resource in parallel with*

development; the approach to permitting that will be taken by the Company with respect to the Goliath Gold Complex and the timing of receiving all necessary permits; expectations regarding future work anticipated to be completed on the Goliath Gold Complex, including, without limitation, trade-off and optimization studies, baseline environmental work, exploration drilling and other critical studies and the anticipated timing thereof; expectations regarding the timing of the Company progressing to the feasibility stage with respect to its evaluation of the Goliath Gold Complex; expectations regarding the initiatives suggested by the PEA that might enhance the Goliath Gold Complex project, including, without limitation, additional infill drilling, further metallurgical testing work, the use of mined out open pit areas for the storage of tailings material, the use of ore sorting technology, the optimization of transporting material from the Goldlund and Miller sites to the Goliath Mill facility, additional testing of the correlation of gold to silver at the Goldlund and Miller deposits and the review of locating the process plant and tailings storage facility on the Goldlund property. Actual results or developments may differ materially from those described in or implied by the forward-looking statements contained herein. Treasury disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, save and except as may be required by applicable securities laws.

Forward-looking statements in this news release reflect the Company's views with respect to future events and are necessarily based upon a number of assumptions and estimates that, while considered reasonable by management, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors, both known and unknown, could cause actual results,

performance or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by the forward-looking statements contained in this presentation and the Company has made assumptions and estimates based on or related to many of these factors. Such factors include, but are not limited to: the risk of that the assumptions underlying the PEA and the Company's financial projections, including, without limitation, assumptions relating to the price of gold and the exchange rate from USD to CAD, are inaccurate; the risk that the results of the Company's exploration of the Goliath Gold Complex to date does not accurately reflect of the mineralization of the Goliath Gold Complex; the risk that the Company will not be able to undertake all planned development and permitting activities in a manner consistent with its expectations and without material delay; the risk that the Company will not be able to maintain all necessary existing permits; the fact that mineral reserve and mineral resource figures relating to the Goliath Gold Complex are only estimates and are subject to revision based on developing information; health, safety and environmental risks; the risk that the Company will not have the resources to finance the development of the Goliath Gold Complex as contemplated or at all; uncertainties related to negotiations with contractors and other material parties in connection with the development of the Goliath Gold Complex; risks associated with the mining industry, including operational risks in exploration and development as a result of the COVID-19 pandemic; and such additional risks listed under the heading "Risk Factors" in the Company's Annual Information Form dated March 27, 2020 and in other filings of the Company with securities and regulatory authorities which are available on SEDAR at [www.sedar.com](http://www.sedar.com).

Should one or more of these risks or uncertainties materialize, or should assumptions underlying the forward-looking statements

*prove incorrect, actual results, performance or achievements could vary materially from that expressed or implied by the forward-looking statements contained herein. Readers are cautioned not to place undue reliance on the forward-looking information.*

## Appendix 1

### Mine Plan Summary

|                    | Total          | Total  | Year<br>-1 | Year<br>1 | Year<br>2 | Year<br>3 | Year<br>4 | Year<br>5 | Year<br>6 | Year<br>7 | Year<br>8 | Year<br>9 | Year<br>10 | Year<br>11 | Year<br>12 | Year<br>13 | Year<br>14 |
|--------------------|----------------|--------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| Mill Feed          | Mill Feed (Kt) | 23,966 | –          | 1,530     | 1,800     | 1,800     | 1,800     | 1,800     | 1,800     | 1,800     | 1,800     | 1,800     | 1,800      | 1,800      | 1,800      | 1,800      | 836        |
|                    | Au (g/t)       | 1.47   | –          | 2.37      | 1.93      | 1.76      | 1.98      | 2.16      | 2.09      | 1.78      | 1.61      | 1.60      | 1.13       | 0.52       | 0.45       | 0.41       | 0.41       |
|                    | Ag (g/t)       | 1.82   | –          | 1.5       | 1.6       | –         | 1.3       | 4.0       | 3.0       | 2.7       | 2.7       | 2.1       | 2.5        | 0.1        | 0.6        | 1.7        | 1.7        |
| Goliath Mill Feed  |                |        |            |           |           |           |           |           |           |           |           |           |            |            |            |            |            |
| Open Pit           | Mill Feed (Kt) | 6,099  |            | 301       | 353       | –         | 26        | 602       | 197       | –         | –         | –         | 1,314      | –          | 670        | 1,800      | 836        |
|                    | Au (g/t)       | 0.97   |            | 3.22      | 2.98      | –         | 2.74      | 2.21      | 1.33      | –         | –         | –         | 0.66       | –          | 0.41       | 0.41       | 0.41       |
|                    | Ag (g/t)       | 2.77   |            | 7.80      | 7.98      | –         | 10.50     | 4.36      | 2.97      | –         | –         | –         | 2.05       | –          | 1.68       | 1.68       | 1.68       |
| Underground        | Mill Feed (Kt) | 2,965  |            | –         | –         | –         | 181       | 450       | 511       | 511       | 511       | 501       | 283        | 18         | –          | –          | –          |
|                    | Au (g/t)       | 3.67   |            | –         | –         | –         | 3.31      | 3.62      | 4.22      | 4.04      | 3.32      | 3.27      | 3.56       | 4.92       | –          | –          | –          |
|                    | Ag (g/t)       | 9.05   |            | –         | –         | –         | 11.14     | 10.27     | 9.32      | 9.34      | 9.45      | 7.60      | 6.61       | 8.37       | –          | –          | –          |
| Goldlund Mill Feed | Mill Feed (Kt) | 13,590 |            | 1,229     | 1,447     | 1,800     | 1,593     | 749       | 925       | 1,171     | 1,111     | 1,085     | 36         | 1,782      | 662        | –          | –          |
|                    | Au (g/t)       | 1.25   |            | 2.16      | 1.68      | 1.76      | 1.82      | 1.24      | 1.22      | 0.78      | 0.78      | 0.78      | 0.77       | 0.48       | 0.48       | –          | –          |
|                    | Ag (g/t)       | –      |            | –         | –         | –         | –         | –         | –         | –         | –         | –         | –          | –          | –          | –          | –          |
| Miller Mill Feed   | Mill Feed (Kt) | 1,312  |            | –         | –         | –         | –         | –         | 167       | 118       | 178       | 214       | 168        | –          | 468        | –          | –          |
|                    | Au (g/t)       | 1.16   |            | –         | –         | –         | –         | –         | 1.32      | 1.91      | 1.92      | 1.85      | 0.76       | –          | 0.46       | –          | –          |
|                    | Ag (g/t)       | –      |            | –         | –         | –         | –         | –         | –         | –         | –         | –         | –          | –          | –          | –          | –          |

SOURCE Treasury Metals Inc.

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## Related Links

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