

# Brio Gold Completes Underground PEA at Santa Luz, Adds Over 500,000 Low Cost Ounces to Expected Production

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TORONTO, Dec. 07, 2017 - [Brio Gold Inc.](#) (TSX: BRIO) ("BRIO GOLD" or the "Company") is pleased to announce that it has completed a preliminary economic assessment on the C1 Underground Mineral Resource ("C1 Underground PEA") at the Santa Luz Project ("Santa Luz" or the "Project"). Brio Gold completed a Feasibility Study on its open pit deposit ("Open Pit FS") earlier this year. Based on the results of the C1 Underground PEA, the Company plans on converting the C1 Underground Mineral Resources into Mineral Reserves by way of a Pre-Feasibility Study ("PFS"). The Company is also studying a combined underground and open pit mine plan for the PFS at the existing throughput rate that should improve the stripping profile and overall cashflow profile of the Santa Luz Project. The Company will also evaluate a potential mill expansion case. Work on the PFS has commenced, and the Company expects to complete the study in the first half of 2018.

*Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. All dollar figures are in U.S. dollars, unless otherwise indicated.*

*"The PEA demonstrates the significant positive impact that adding higher grade mill feed from the underground could have on the open pit plan," commented Gil Clausen, Brio Gold's President and CEO. "The C1 Underground is expected to add significant value to the Santa Luz Project, making our flagship asset both bigger and better. Underground development investment is planned to start after the establishment of steady gold production from the open pit, which means we should be able to self-fund its development. In fact, it can be started at any time as underground development is not expected to interfere with the open pit operations at all. Santa Luz will provide significant growth to Brio Gold's production profile, and will undoubtedly be our flagship mine."*

## Underground PEA Highlights

The C1 Underground operation is expected to add approximately 511,000 ounces of recovered gold to the total life of mine production and extend the mine life by three years. This represents 50% more production compared to the open pit only mine plan, which is based on Mineral Reserves. Start up of underground stoping production is proposed for 2021, with pre-operational development planned to be funded from operating cashflow.

The C1 Underground operation after-tax net present value ("NPV") (5% discount rate) is estimated at \$103 million on a stand-alone basis, and it adds nearly 50% more value to the Project. Highlights from the C1 Underground PEA and the Open Pit FS are summarized below. All costs and values assume a gold price of \$1,300 per ounce, and a Brazilian Real to U.S. Dollar exchange rate of 3.5 to 1.

	C1 Underground PEA	Open Pit FS
Average annual gold production (LOM, full year) (koz)	62	100
Total gold production (koz)	511	1,056
Mine life (years)	9	10
Average cash costs (\$ per oz)	\$738	\$776
Average all-in sustaining costs (AISC) (\$ per oz)	\$778	\$812
After-tax net present value (NPV) (5%)	\$103M	\$208M

The C1 Underground PEA is based on the June 30, 2017 Mineral Resource estimate, which was announced on September 5, 2017. A cut-off grade of 1.6 g/t gold was applied to the C1 Underground Mineral Resources. Mine designs were developed, and a C1 Underground life of mine schedule was generated. The deposit remains open down-dip and along strike. Production in the C1 Underground mine plan contains 70% Measured and Indicated Mineral Resources ("M&I") and 30% Inferred Mineral Resources ("Inferred"). The Company has planned approximately 5,000 metres of infill drilling in 2018 to potentially convert the Inferred to M&I for the next phase of study.

This PEA is preliminary in nature as it includes some Inferred Mineral Resources that are considered too

speculative geologically to allow them to be categorized as Mineral Reserves, and there is no certainty that the preliminary economic assessment applied to them will be realized.

## C1 Underground Mining and Processing

The Underground PEA envisions a mechanized long-hole stoping mining operation, using cemented paste backfill at an average mining rate of 2,500 tonnes per day (tpd). Start-up of production for the underground is planned for 2021. Plant capacity remains unchanged from the Open Pit FS at 2.7 million tonnes per annum or approximately 7,500 tpd. It is anticipated that when the underground operation commences production, nominal tonnage will be 5,000 tpd from the open pit and 2,500 tpd from the underground. The C1 Underground mineralization is the down dip extension of the open pit deposit, therefore the processing flowsheet and recoveries are expected to be the same as the Open Pit FS. Average overall gold recoveries for both the open pit and underground are expected to be 84%. The Company will conduct further metallurgical test work to confirm the assumption on C1 Underground gold recoveries, and the results will be included in the upcoming C1 Underground PFS. A summary of the C1 Underground PEA operating metrics is provided below and a LOM production schedule is available in Appendix 1 at the end of this press release.

	C1 Underground Only PEA	Open Pit Only FS
Total material mined (million tonnes)	7.9	186.7
Total waste mined (million tonnes)	0.8	160.6
Total ore processed (million tonnes)	7.1	28.2
Average LOM annual production (koz) (full years)	62	100
Total gold production (koz)	511	1,056
Total mine life (years)	9	10
Average LOM gold recoveries	84%	84%
Average LOM gold feed grade (g/t)	2.65	1.39*

\* Includes existing low-grade stockpiles.

For a 3D animation of the current open pit and C1 Underground planned operation visit Brio Gold's website at <http://briogoldinc.com/operations/santa-luz/>.

## C1 Underground Capital and Operating Cost Estimates

The capital cost estimated for developing the underground deposit is approximately \$74 million, which includes underground development and infrastructure, installation of a paste backfill plant, and a 35% contingency of approximately \$19 million. The Company plans to fund the underground capital from internal cash flow from the operations in 2019 and 2020. A summary of the capital expenditures, which are calculated using a Brazilian Real to U.S. Dollar exchange rate of 3.5 to 1, is provided below.

C1 Underground PEA CAPEX (2019-2021) (\$M)	
Capitalized Development	\$12.4
Paste Fill Plant & Surface Distribution	\$13.2
Mobile Equipment	\$14.3
Infrastructure	\$10.0
EPCM/Owner's/Indirect Costs	\$5.0
Underground Sub-Total	\$54.9
Contingency (35%)	\$19.2
Total Underground CAPEX	\$74.1

Sustaining capital expenditures for the life of mine for the C1 Underground is estimated to be \$23.2 million.

Total operating unit costs for the C1 Underground are expected to be \$50.71 per tonne milled. Average LOM cash costs and AISC are expected to be \$738 per ounce and \$778 per ounce, respectively. A summary of costs in U.S. Dollars (assuming a 3.5:1 Brazilian Real to U.S. Dollar exchange rate) is provided below.

	C1 Underground PEA	Open Pit FS
Operating Unit Costs (\$/t milled)		
Mining Cost	\$32.18	\$12.28
Processing	\$15.24	\$14.13

G&A and Other	\$3.30	\$4.09*
Total Operating Costs (\$/t milled)	\$50.71	\$30.50
Cash Costs (\$ per oz)	\$738	\$776
AISC (\$ per oz)	\$783	\$812

\* Other includes re-handling costs.

## C1 Underground Project Stand-Alone Economics

The C1 Underground PEA stand-alone case calculates an after-tax NPV at a 5% discount rate of \$103 million, which adds nearly 50% more value to the Open Pit FS after-tax NPV of \$208 million. The after-tax IRR for the underground is estimated at 27%. A sensitivity to gold price and exchange rate is summarized below:

After-tax NPV (5%) (\$M)	Gold Price (\$ per ounce)		
	\$1,200	\$1,300	\$1,400
3.25	\$54	\$86	\$118
<del>3.25</del> USD	\$71	\$103	\$135
3.75	\$85	\$117	\$149

Brio Gold's current currency hedges are expected to reduce the exposure and risk to the Company's Brazilian cost structure, including the costs associated with the Santa Luz project. The Company has hedging arrangements in place for 2017 and 2018 covering R\$28 million per month of forward rate contracts at a rate of R\$3.55 to US\$1.00, and R\$56 million per month of zero-cost collars with average call and put strike prices of R\$3.30 and R\$3.90, respectively. In 2019, the Company has R\$30 million per month of forward rate contracts at a fixed exchange rate averaging R\$ 3.48 to US\$1.00.

## NI 43-101 Technical Report

The Santa Luz C1 Underground PEA will be filed on SEDAR within 45 days of the date of this news release.

## Qualified Persons

The Mineral Resource estimate for Santa Luz that forms the basis for the C1 Open Pit FS and the C1 Underground PEA was prepared by Roscoe Postle Associates Inc. (RPA) in accordance with standards as defined by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") "CIM Definition Standards-For Mineral Resources and Mineral Reserves", adopted by CIM Council on May 10, 2014. Messrs. Hugo Miranda, C.P., Mark Mathisen, Stuart Collins, P.E., and Richard Addison, P.E., serve as the Qualified Persons as defined by National Instrument 43-101 for the Technical Report summarizing the C1 Open Pit FS. Mr. Collins is the Qualified Person for the Mineral Reserve. Mr. Mathisen is the Qualified Person for the related Mineral Resource. Mr. Addison is the Qualified Person for the Ore Processing and Infrastructure. Messrs. Miranda, Mathisen, Collins, and Addison, all of whom were independent of the Company at the time of the mineral reserve and mineral resource estimate, have approved the contents of this news release related to the C1 Open Pit FS.

Mr. Robert Michaud, P.Eng., of RPA, is the Qualified Person for information regarding the C1 Underground PEA. RPA has relied on the Company for calculation of taxes and royalties applicable to the Project. Mr. Michaud is independent of the Company, and has approved the contents of this news release.

All QPs have reviewed and verified that the technical information related to the C1 Underground PEA and C1 Open Pit FS contained in this news release is accurate.

## About Brio Gold

Brio Gold is a new Canadian mining company with significant gold producing, development and exploration stage properties in Brazil. Brio Gold's portfolio includes three operating gold mines and a fully-permitted, fully-constructed mine that was on care and maintenance and currently is in development to be re-started at the end of 2018. Brio Gold produced approximately 190,000 ounces of gold in 2016 and at full run-rate expects annual production to be approximately 400,000 ounces of gold.

**CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS:** *This news release contains or incorporates by reference "forward-looking statements" and "forward-looking information" under applicable Canadian securities legislation. Forward-looking information includes, but is not limited to information with respect to the Company's strategy, plans or future financial or operating performance, the outcome of the legal matters involving the damages assessments and any related enforcement proceedings. Forward-looking statements are characterized by words such as "plan," "expect", "budget", "target", "project", "intend", "believe", "anticipate", "estimate" and other similar words, or statements that certain events or conditions "may" or "will" occur. Forward-looking statements are based on the opinions, assumptions and estimates of management considered reasonable at the date the statements are made, and are inherently subject to a variety of risks and uncertainties and other known and unknown factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. These factors include the Company's expectations in connection with the production and exploration, development and expansion plans at the Company's projects discussed herein being met, the impact of proposed optimizations at the Company's projects, the impact of the proposed new mining law in Brazil, and the impact of general business and economic conditions, global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future conditions, fluctuating metal prices (such as gold and silver), currency exchange rates (such as the Brazilian real versus the United States dollar), the impact of inflation, possible variations in ore grade or recovery rates, changes in the Company's hedging program, changes in accounting policies, changes in mineral resources and mineral reserves, risks related to asset disposition, risks related to metal purchase agreements, risks related to acquisitions, changes in project parameters as plans continue to be refined, changes in project development, construction, production and commissioning time frames, unanticipated costs and expenses, higher prices for fuel, steel, power, labour and other consumables contributing to higher costs and general risks of the mining industry, failure of plant, equipment or processes to operate as anticipated, unexpected changes in mine life, final pricing for concentrate sales, unanticipated results of future studies, seasonality and unanticipated weather changes, costs and timing of the development of new deposits, success of exploration activities, permitting timelines, government regulation and the risk of government expropriation or nationalization of mining operations, risks related to relying on local advisors and consultants in foreign jurisdictions, environmental risks, unanticipated reclamation expenses, risks relating to joint venture operations, title disputes or claims, limitations on insurance coverage and timing and possible outcome of pending and outstanding litigation and labour disputes, risks related to enforcing legal rights in foreign jurisdictions, as well as those risk factors discussed or referred to herein. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company undertakes no obligation to update forward-looking statements if circumstances or management's estimates, assumptions or opinions should change, except as required by applicable law. The reader is cautioned not to place undue reliance on forward-looking statements. The forward-looking information contained herein is presented for the purpose of assisting investors in understanding the Company's expected financial and operational performance and results as at and for the periods ended on the dates presented in the Company's plans and objectives and may not be appropriate for other purposes.*

## APPENDIX 1: C1 UNDERGROUND LIFE OF MINE PRODUCTION SCHEDULE

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Material Mined (kt)	39	158	723	1,057	862	924	985	962	824	770	475	129
Ore Mined (kt)	0	17	464	936	849	899	875	906	811	770	475	129
Waste (kt)	39	141	259	121	14	25	110	56	14	0	0	0
Ore Processed (kt)	0	0	481	936	849	899	875	906	811	770	475	129
Head Grade (g/t)	0	0	2.41	2.48	2.72	2.72	2.72	2.59	2.66	2.77	2.77	2.75
Gold Recovery	0	0	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%
Recovered Gold (koz)	0	0	31.33	62.78	62.26	66.12	64.19	63.37	58.14	57.49	35.56	9.60

FOR FURTHER INFORMATION PLEASE CONTACT:

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