



Focused on Cash Flow Generation

**Q3 2017  
RESULTS**  
**NOVEMBER 1, 2017**

# Disclaimer

**SAFE HARBOUR:** Some statements contained in this presentation are forward-looking statements or forward-looking information (collectively, "forward-looking statements") within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws. Investors are cautioned that forward-looking statements are inherently uncertain and involve risks and uncertainties that could cause actual results to differ materially. Such statements include comments regarding: production, cash operating cost, all-in sustaining cost and capital expenditure guidance for 2017; the potential expansion of production at Wassa Underground; the timing for the release of further drilling results from Wassa Underground; exploration at Wassa Underground and the impact thereof on grades; the conversion of Wassa to an underground-only operation and the timing and impact thereof; the timing for completing the next pushback at the Wassa Main Pit; the impact of delaying the next pushback at the Wassa Main Pit on Wassa's capital expenditures, grade, margin and processing plant; the targeted 2017 mining rate at Wassa Underground; the ability to conduct additional drilling at Wassa Underground and the timing for completion thereof; the impact on grade as mining operations move further into B Shoot; the ability for stoping ore blasted in late September 2017 to be included in Prestea Underground's Q4 2017 production results; the potential to add additional ounces to the short term mine plan at Wassa Underground and Prestea Underground and to increase the production rate at Prestea Underground; the ability to increase drill production and exploration at Wassa Underground and Prestea Underground during 2017 and 2018; the potential drilling targets in 2017; the timing for commercial production at Prestea Underground; the ability to mine via stoping at B Shoot at Wassa Underground and the timing and impact thereof; the achievement of 2017 production guidance; the ability to expand Mineral Reserves and Mineral Resources and extend the life of mine at Prestea Underground and Wassa Underground through exploration; and the dollar amount of capital expenditures to be incurred in Q4 2017. Factors that could cause actual results to differ materially include timing of and unexpected events at the Prestea and/or the Wassa processing plants; variations in ore grade, tonnes mined, crushed or milled; delay or failure to receive board or government approvals and permits; construction delays; the availability and cost of electrical power; timing and availability of external financing on acceptable terms or at all; technical, permitting, mining or processing issues, including difficulties in establishing the infrastructure for Wassa Underground or Prestea Underground, inconsistent power supplies, plant and/or equipment failures and an inability to obtain supplies and materials on reasonable terms (including pricing) or at all; changes in U.S. and Canadian securities markets; heavy rainfall and flooding of underground mines; and fluctuations in gold price and input costs and general economic conditions. There can be no assurance that future developments affecting the Company will be those anticipated by management. Please refer to the discussion of these and other factors in our Annual Information Form for the year ended December 31, 2016 filed on SEDAR at [www.sedar.com](http://www.sedar.com). The forecasts contained in this presentation constitute management's current estimates, as of the date of this presentation, with respect to the matters covered thereby. We expect that these estimates will change as new information is received and that actual results will vary from these estimates, possibly by material amounts. While we may elect to update these estimates at any time, we do not undertake to update any estimate at any particular time or in response to any particular event. Investors and others should not assume that any forecasts in this presentation represent management's estimate as of any date other than the date of this presentation.

**NON-GAAP FINANCIAL MEASURES:** In this presentation, we use the terms "cash operating cost per ounce", "All-In Sustaining Cost per ounce" and "AISC per ounce". These terms should be considered as Non-GAAP Financial Measures as defined in applicable Canadian and United States securities laws and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with International Financial Reporting Standards ("IFRS"). "Cash operating cost per ounce" for a period is equal to the cost of sales excluding depreciation and amortization for the period less royalties, the cash component of metals inventory net realizable value adjustments and severance charges divided by the number of ounces of gold sold (excluding pre-commercial production ounces) during the period. "All-In Sustaining Costs per ounce" commences with cash operating costs and then adds sustaining capital expenditures, corporate general and administrative costs, mine site exploratory drilling and greenfield evaluation costs and environmental rehabilitation costs, divided by the number of ounces of gold sold (excluding pre-commercial production ounces) during the period. This measure seeks to represent the total costs of producing gold from operations. These measures are not representative of all cash expenditures as they do not include income tax payments or interest costs. Changes in numerous factors including, but not limited to, mining rates, milling rates, gold grade, gold recovery, and the costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. We believe that these measures are the same or similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance. Please see our "Management's Discussion and Analysis of Financial Condition and Results of Operations for the three and nine months ended September 30, 2017" for a reconciliation of these Non-GAAP measures to the nearest IFRS measure.

**INFORMATION:** The information contained in this presentation has been obtained by Golden Star from its own records and from other sources deemed reliable, however no representation or warranty is made as to its accuracy or completeness. The technical information relating to Golden Star's material properties disclosed herein is based upon technical reports prepared and filed pursuant to National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") and other publicly available information regarding the Company, including the following: (i) "NI 43-101 Technical Report on a Feasibility Study of the Wassa Open Pit Mine and Underground Project in Ghana" effective December 31, 2014; (ii) "NI 43-101 Technical Report on Resources and Reserves, Golden Star Resources Ltd., Bogoso Prestea Gold Mine, Ghana" effective December 31, 2013, and (iii) "NI 43-101 Technical Report on a Feasibility Study of the Prestea Underground gold project in Ghana" effective November 3, 2015. Additional information is included in Golden Star's Annual Information Form for the year ended December 31, 2016 which is filed on SEDAR. Mineral Reserves were prepared under the supervision of Dr. Martin Raffield, Senior Vice President Technical Services for the Company. Dr. Raffield is a "Qualified Person" as defined by NI 43-101. The Qualified Person reviewing and validating the estimation of the Mineral Resources is S. Mitchel Wasel, Golden Star Resources Vice President of Exploration.

**CURRENCY:** All monetary amounts refer to United States dollars unless otherwise indicated.



# Management Participants



**Sam Coetzer**  
President and  
Chief Executive Officer

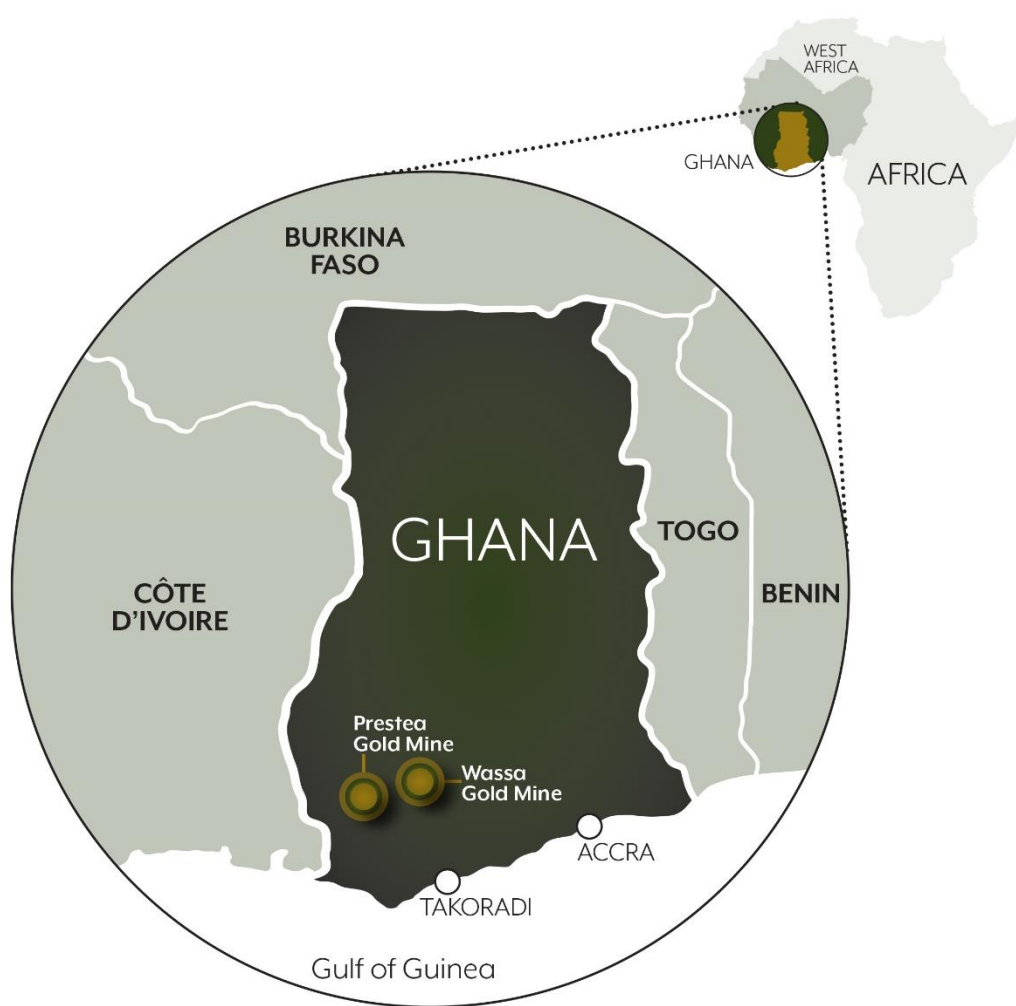


**André van Niekerk**  
EVP and Chief Financial  
Officer



**Katharine Sutton**  
VP, Investor Relations &  
Corporate Affairs

# Golden Star: Snapshot



**2017 production guidance**  
255,000-280,000oz



**2017 AISC<sup>1</sup> guidance**  
\$970-1,070/oz



**Mineral Reserves & Resources<sup>2</sup>**  
1.9Moz / 4.4Moz



**2017 capex budget**  
\$69.3m

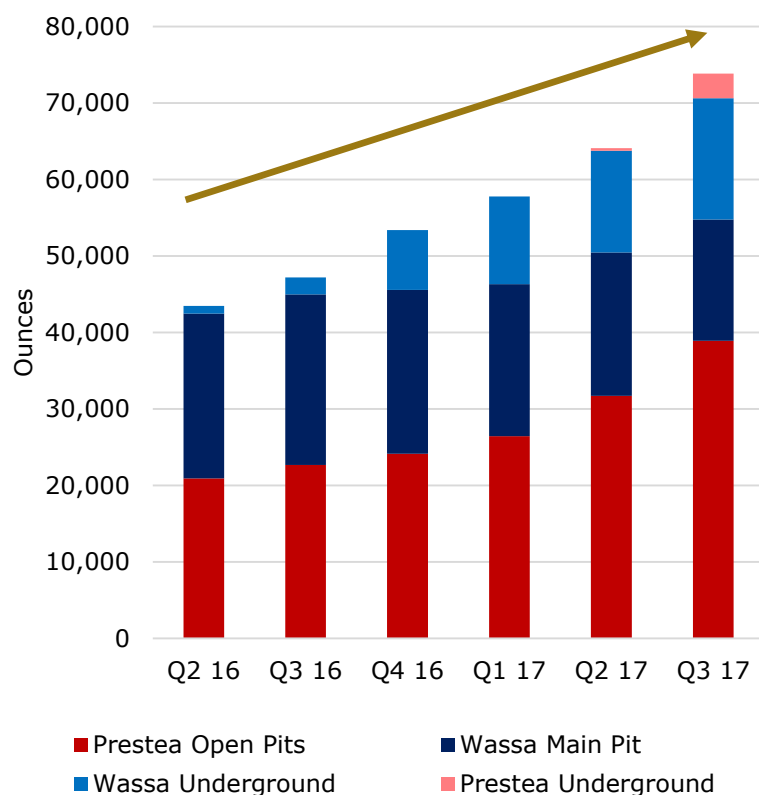


**Cash balance<sup>3</sup>**  
\$30.0m

# Sixth Consecutive Quarter of Production Growth

## High grade underground mines continuing to ramp up

**Gold Production:  
Q2 2016 to Q3 2017**

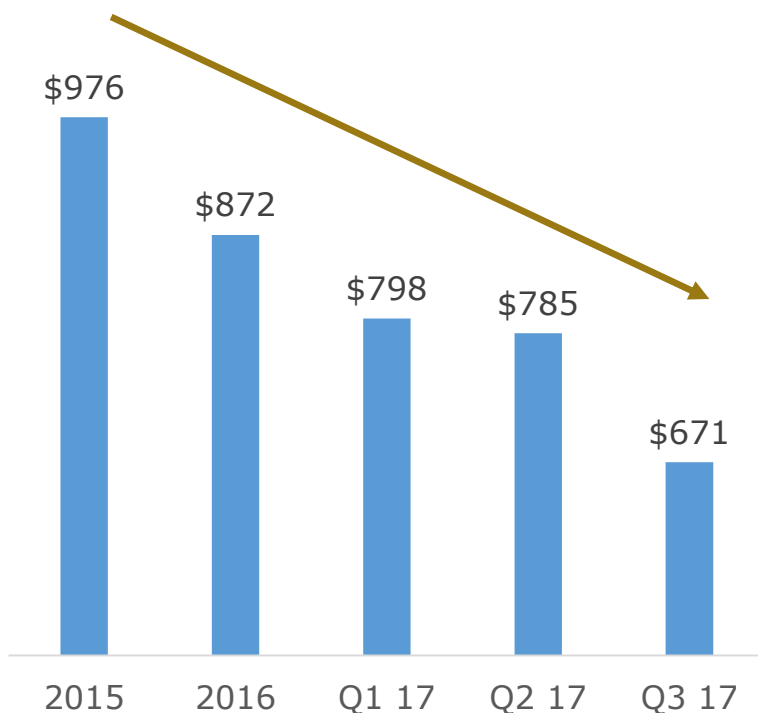


- Gold production of 73,827oz in Q3 2017
- Q3 2017 gold production by asset:
  - Wassa Main Pit: 15,847oz
  - Wassa Underground: 15,877oz
  - Prestea Open Pits: 38,899oz
  - Prestea Underground: 3,204oz
- Fifth consecutive record quarter of production for Prestea Open Pits
- First stope blasted at Prestea Underground in late September 2017 – stoping ore will be reflected in Q4 2017 production results
- Wassa Underground continues to exceed expected daily mining rates

# Operating Costs Continue to Reduce

**Lowest cash operating cost per ounce<sup>1</sup> reported in 7 years and lowest AISC per ounce<sup>1</sup> in 4 years**

**Cash Operating Cost Per Ounce<sup>1</sup>**



- Operating costs continue to decrease as impact of higher grade ore is realized
- 30% decrease in cash operating cost<sup>1</sup> to \$671/oz compared to Q3 2016
  - Lowest cash operating cost<sup>1</sup> reported since 2010
- 26% decrease in AISC<sup>1</sup> to \$848/oz compared to Q3 2016
  - Lowest AISC<sup>1</sup> since GSR began reporting AISC<sup>1</sup> in Q1 2013
- 38% decrease in cash operating cost<sup>1</sup> at Prestea in Q3 2017 (\$520/oz) compared to Q3 2016 and 23% decrease at Wassa (\$856/oz) over the same period



**Q3 2017  
OPERATIONAL  
REVIEW**

**Wassa Gold Mine**

**Prestea Gold Mine**

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## Q3 2017: Wassa Operational Results

WASSA		Q3 2017	Q3 2016
Total Ore Mined	kt	607	608
Total Waste Mined	kt	1,493	2,742
Total Ore Processed	kt	669	699
Grade Processed – Main Pit	g/t	1.20	1.08
Grade Processed – Underground	g/t	2.61	1.93
Recovery	%	93.1	93.4
Gold Production – Main Pit	oz	15,847	20,088
Gold Production - Underground	oz	15,877	2,202
Total Gold Production	oz	31,724	22,290
Total Gold Sales	oz	31,999	22,431
Cash Operating Cost <sup>1</sup>	\$/oz	856	1,110

- 42% increase in gold production compared to Q3 2016
- 50% of production from Wassa Underground and 50% from Wassa Main Pit in Q3 2017
- 19% increase in production from Wassa Underground compared to Q2 2017
- 23% decrease in cash operating cost<sup>1</sup> compared to Q3 2016, primarily due to 43% increase in gold sold
- Wassa Underground continued to exceed its targeted mining rate of 1,400tpd for 2017 and achieved average rate of over 2,200tpd in Q3 2017

### Wassa 2017 Guidance:

Gold production of 135,000-150,000 ounces

Cash operating cost<sup>1</sup> of \$880-935/oz



## Wassa Underground: Grade Increasing in Early Q4 2017



- Initial stope designs resulted in lower than expected grade supplied to the plant from Wassa Underground in Q3 2017
- Situation rectified though increased definition drilling - grades have improved early in Q4 2017
- Increase in grade suggests improved stope design and interpretation of ore body
- Productivity continuing to improve as a result of additional drills and more accurate stope blasting

**Focusing on definition drilling and scheduling to ensure grades are higher going forwards**

## Focusing on High Margin Ounces

### **Transitioning to underground-only operation from early 2018 to generate strongest cash flow**

- Decision taken to defer the next pushback of Wassa Main Pit, Cut 3, until a time when the gold price is higher
- Reduces capital expenditure required for Wassa in 2018
- Focuses production on higher grade, higher margin ounces
- Processing plant capacity is expected to be reduced to 3,800 tpd
- Mining rate from Wassa Underground is anticipated to be increased to 2,700-3,000 tpd in 2018, with potential to expand further over time



## Q3 2017: Prestea Operational Results

PRESTEA			
		Q3 2017	Q3 2016
Total Ore Mined	kt	470	469
Total Waste Mined	kt	1,025	1,212
Total Ore Processed	kt	408	387
Grade Processed	g/t	3.60	2.20
Recovery	%	86.7	82.7
Gold Production – Open Pits	oz	38,899	22,684
Gold Production - Underground	oz	3,204	-
Total Gold Production	oz	42,103	22,684
Total Gold Sales	oz	42,380	22,930
Cash Operating Cost <sup>1</sup>	\$/oz	520	835

- Fifth consecutive quarter of record production from Prestea Open Pits
- 86% increase in production compared to Q3 2016 due primarily to 64% increase in grade processed as a result of Mampon deposit and Prestea Underground
- Prestea Underground production delivered from development ore
- First stope blasted in late September 2017 – stoping ore will be reflected in Q4 2017 production results
- 38% decrease in cash operating cost per ounce<sup>1</sup> compared to Q3 2016

### Prestea 2017 Guidance:

Gold production of 120,000-130,000 ounces

Cash operating cost<sup>1</sup> of \$680-725/oz



# Development of Prestea Underground Continues to Progress

- Raise development progressing well with 2 raises complete and 3<sup>rd</sup> raise continuing to advance
- Estimated grade of the material from the first 3 raises is 16 g/t Au
- Successful breakthrough between the north and south side of the footwall drive has improved through ventilation and exposed next 13 planned stopes
- Breakthrough also allows for ore and waste to be excavated separately – greater degree of flexibility
- Majority of capital expenditure is complete - \$32.6m incurred in first 9 months of 2017 with remaining \$3.5m<sup>1</sup> expected in Q4 2017
- First stope blasted in late September 2017 and commercial production expected in Q4 2017





**Q3 2017  
FINANCIAL  
REVIEW**

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## Q3 2017: Financial Snapshot

- 58% increase in revenue to \$87.8m in Q3 2017 compared to Q3 2016 due to higher gold production at Wassa and Prestea
- 365% increase in mine operating margin compared to Q3 2016 as a result of higher revenue and both operations moving towards a lower cost structure
- Net income of \$11.9m in Q3 2017 compared to net loss of \$23.1m in Q3 2016
- Fully funded to deliver capital program with \$30.0m cash and \$15m of Ecobank facility remaining undrawn



**Mine operating margin**

\$26.9m



**Net income**

\$11.9m



**Cash provided by operations**

\$23.7m



**Capex incurred**

\$17.9m



**Debt<sup>1</sup>**

\$108m



**Cash balance<sup>1</sup>**

\$30.0m

**Financial position gaining strength and flexibility**



EXPLORATION

84.10

69.40

9.44

# Wassa Underground Extended Through Step Out Drilling

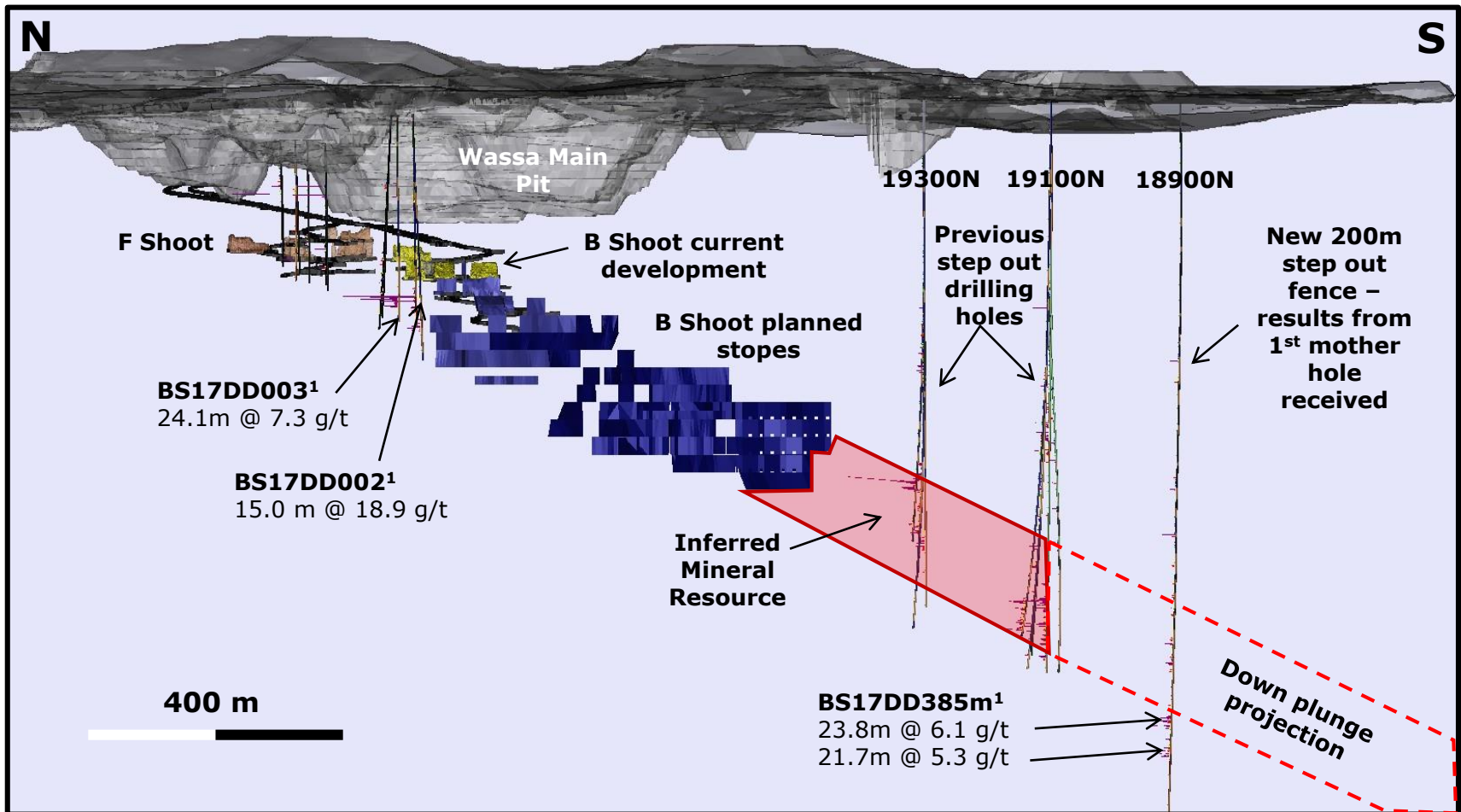
**Latest drilling results confirm high grade B Shoot extends to the north and south and remains open in both directions**

WASSA UNDERGROUND				
HOLE ID	From (m)	To (m)	Drilled Width (m)	Grade Au (g/t)
<b>B Shoot North</b>				
<b>BS17DD002</b>	294.0	309.0	15.0	18.9
<b>BS17DD002</b>	300.0	302.0	2.0	91.8
<b>BS17DD003</b>	289.9	314.0	24.1	7.3
<b>B Shoot South</b>				
<b>BS17DD385M</b>	1001.0	1024.8	23.8	6.1
<b>BS17DD385M</b>	1018.0	1020.0	2.0	20.2
<b>BS17DD385M</b>	1049.3	1071.0	21.7	5.3

- Results confirm B Shoot extends approximately 50m to the north of current planned stoping area and 200m to the south of Wassa's Inferred Mineral Resources
- Indicates that Wassa is a larger deposit than previously estimated - potential to expand production in the short term and longer term
- B Shoot South drilling will comprise 7,000m in total and B Shoot North comprised 4,164m
- Further drilling results expected from Wassa Underground during Q4 2017
- First exploration program at Wassa Underground since 2014



## B Shoot: Ore Body Remains Open Down Plunge



- Further drilling of B Shoot South needed to gain comprehensive understanding of ore body's extension
- B Shoot North extension represents potential to add ounces to mine plan in the near term



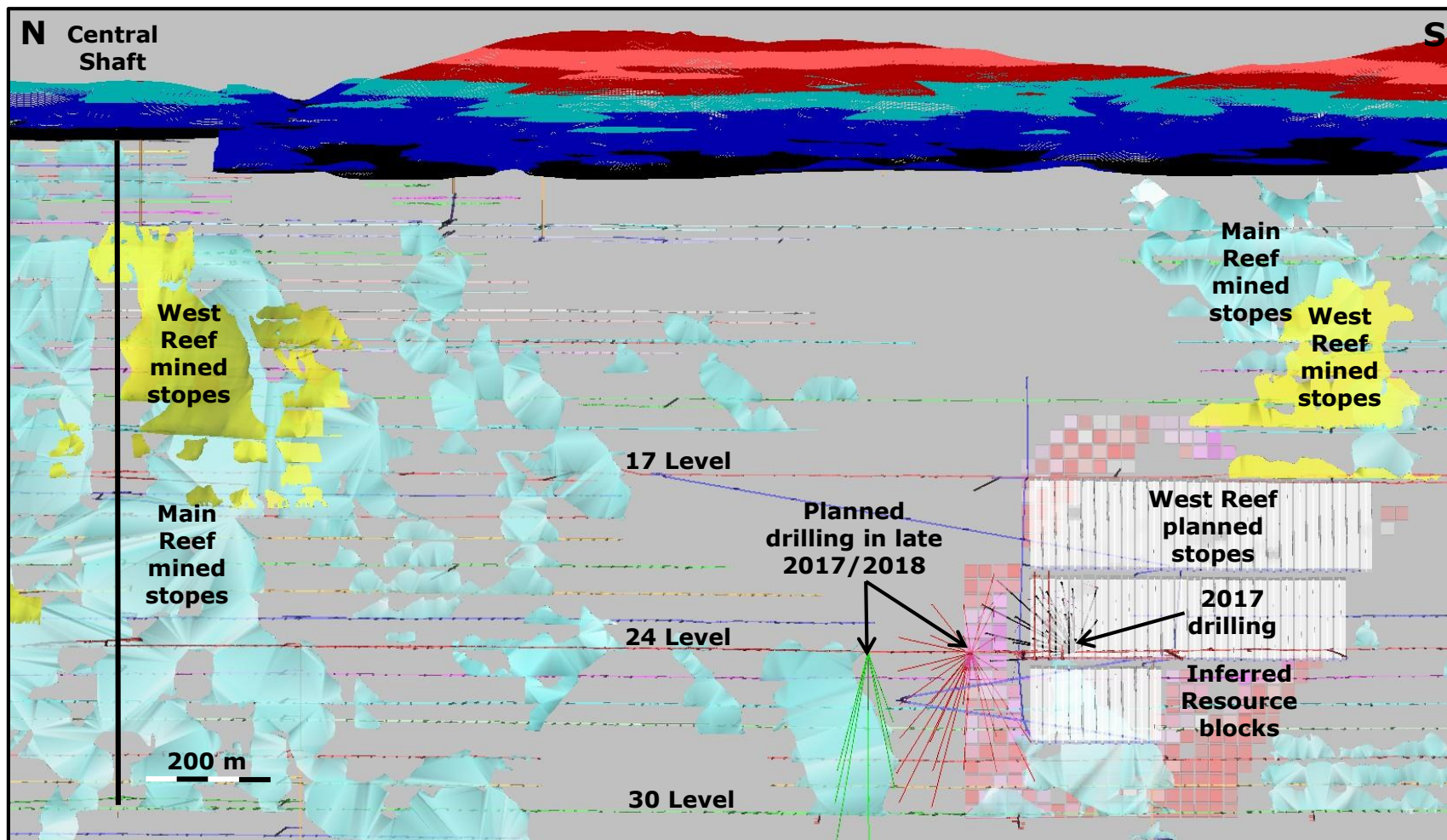
# Prestea Underground Extended to the North

**First results in West Reef extension drilling confirms ore body extends to the north**

PRESTEA UNDERGROUND				
Hole ID	From (m)	To (m)	~True width (m)	Grade g/t
Extension Drilling				
WR17-24-274S19	182.3	183.2	0.5	67.2
WR17-24-274S22	159.3	161.2	1.5	13.7
WR17-24-274S25	174.1	174.7	0.5	132.4
In-Fill Drilling				
WR17-24-274S16	141.1	141.6	0.5	87.6
WR17-24-274S17	144.2	145.7	1.5	64.5
WR17-24-274S18	152.7	153.9	1.1	23.7

- Extension to West Reef represents potential to add additional ounces to the short term mine plan, increasing production rate
- Results for 7 DD holes in-fill drilling program also received
- Continue to confirm high grade nature, strong continuity of gold mineralization and thickness of West Reef (averaging 1.1 metres)
- Drill production is expected to increase during remainder of 2017 through mobilization of a second underground rig
- Exploration program is anticipated to ramp up further in 2018 to enable GSR to fully assess Prestea Underground's longer term potential

# Prestea Underground: 2017 Drilling



- Planned drilling in late 2017/2018 will access the larger, longer term exploration target - the projected down plunge extension of the high grade West Reef ore body



## FUTURE GROWTH & LOOKING AHEAD

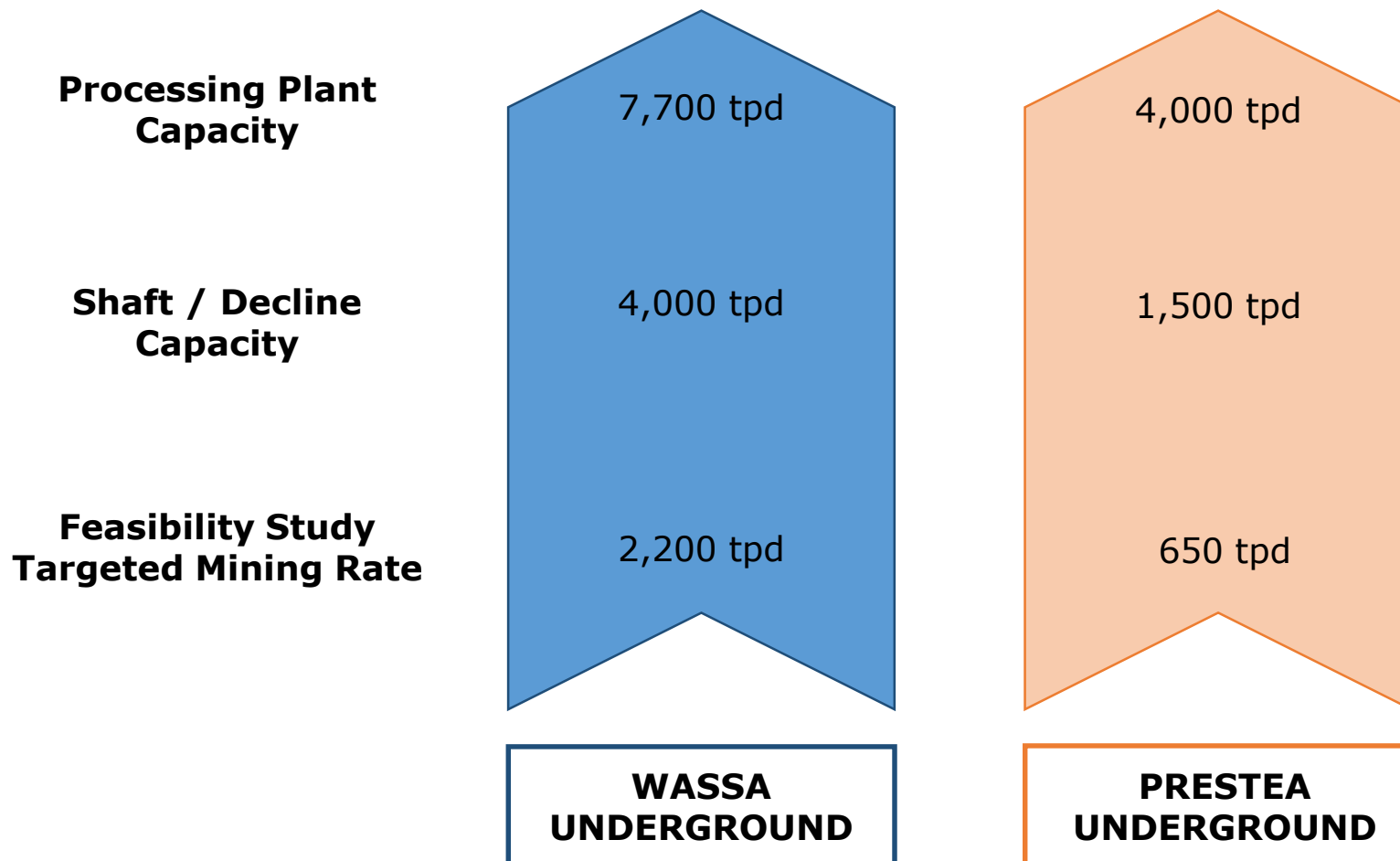
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## Expansion Potential At Both Underground Operations

**Potential to significantly increase production using existing underutilized capacity**



## KEY MILESTONES IN 2017

- ✓ Achieve commercial production at Wassa Underground – January 1, 2017
- ✓ Commence longitudinal stoping of higher grade B Shoot zone of Wassa Underground – Q1 2017
- ✓ Commence mining of Mampon deposit – Q1 2017
- ✓ Blasting of first stope at Prestea Underground – Q3 2017

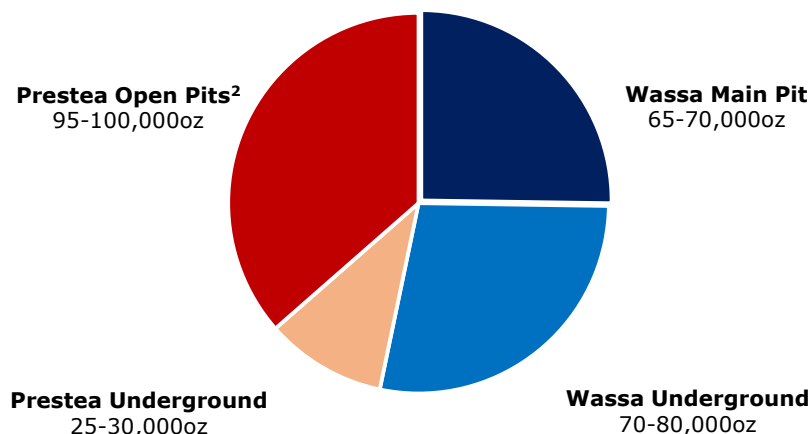
Further 2017 exploration program results – expected Q4 2017

Achieve commercial production at Prestea Underground – expected Q4 2017

# 2017 Guidance

## On track to achieve consolidated 2017 full year production guidance

### 2017 Production Guidance By Asset



- Consolidated 2017 production guidance of 255,000-280,000oz
- Consolidated 2017 cash operating cost<sup>1</sup> guidance of \$780-860/oz
- Consolidated 2017 AISC per ounce<sup>1</sup> guidance of \$970-1,070
- 2017 capital expenditures guidance of \$69m





## Contact Us

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## Follow Us



# Appendices: Market Information

## One Year Share Price (GSS)<sup>1,2</sup>



## Analyst Coverage

- Beacon Securities
- BMO Capital Markets
- CIBC Capital Markets
- Clarus Securities
- Credit Suisse
- Desjardins Capital Markets
- Scotia Bank

## Key Institutional Shareholders

- Van Eck
- Franklin Templeton
- Oppenheimer Funds
- Sentry Investments
- Earth Resources
- Konwave (Gold 2000)
- AGF Management
- USAA Asset Management

## Market Information<sup>1</sup>

Markets	NYSE American / TSX / GSE
Tickers	NYSE: GSS TSX: GSC GSE: GSR
Shares in Issue	380,581,075
Options	16,656,712
Share Price <sup>2</sup>	\$0.78
Market Capitalization	\$297m
Cash <sup>3</sup>	\$30.0m
Debt <sup>3</sup>	\$108.2m
Daily Volumes Traded (3 Month Average) <sup>2</sup>	1.5m shares



# A Responsible Corporate Citizen

SUSTAINABLE  
DEVELOPMENT  
GOALS

#gsr17

99%

of workforce  
is Ghanaian

51%

of workforce  
hail from host  
communities

>84%

of goods and services  
value provided  
by Ghanaian  
companies

SUSTAINABLE  
DEVELOPMENT  
GOALS

#gsr17



\$47m in salaries in 2016



\$5.7m in sustainable  
agribusiness to date



\$3.4m in development  
fund projects to date

**\$36.7m paid in Government payments in 2016**

# Mineral Reserves and Resources

Mineral Reserves <sup>1,2</sup>	Tonnes ('000)	Grade (Au g/t)	Content (Koz)
<b>Proven Reserves</b>			
Wassa	695	0.96	21
Prestea	115	2.55	9
<b>Total</b>	<b>810</b>	<b>1.18</b>	<b>31</b>
<b>Probable Reserves</b>			
Wassa	16,741	2.43	1,307
Prestea	1,905	9.35	573
<b>Total</b>	<b>18,646</b>	<b>3.13</b>	<b>1,879</b>
<b>Total Proven &amp; Probable</b>	<b>19,456</b>	<b>3.05</b>	<b>1,910</b>

Mineral Resources <sup>1,2</sup>	Tonnes ('000)	Grade (Au g/t)	Content (Koz)
<b>Measured &amp; Indicated Mineral Resources</b>			
Wassa	44,347	2.33	3,328
Prestea	5,394	6.08	1,055
<b>Total</b>	<b>49,741</b>	<b>2.74</b>	<b>4,382</b>
<b>Inferred Mineral Resources</b>			
Wassa	15,581	4.20	2,102
Prestea	3,723	7.79	933
<b>Total</b>	<b>19,305</b>	<b>4.88</b>	<b>3,034</b>

1. For Wassa and Prestea's Mineral Reserves and Resources please refer to the Annual Information Form for the year ended December 31, 2016 and dated March 27, 2017, which is filed on SEDAR and at [www.gsr.com](http://www.gsr.com)
2. All numbers exclude refractory ore.