



Expanding Production and Reducing Costs

**Q2 2017  
RESULTS**  
**AUGUST 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: the expansion of production and reduction of costs at Golden Star's projects; the exploration upside of the Company's projects and ability of the Company to increase mine lives and Mineral Resources and Mineral Reserves; the ability of the Company to transform into a high grade, low cost gold producer; the impact of Wassa Underground and Prestea Underground on the Company's production profile, cost profile, cash operating cost per ounce and AISC per ounce; the timing for commercial production at Prestea Underground; the timing for mining first transverse stopes at B Shoot of Wassa Underground; the achievement of full production rate at Wassa Underground; the achievement of 2017 production; production, cash operating cost and capital expenditure guidance for 2017; ore grade, production and capital expenditures at Mampon; blasting of the first stope and commencing commercial production at Prestea Underground; the ability to expand Mineral Reserves and extend the life of mine at Prestea Underground and Wassa Underground through exploration; the ability to convert Mineral Resources into Mineral Reserves; the timing for incurring 2017 capital expenditures; and the potential for growth of Golden Star's share price. 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", "AISC per ounce", "Adjusted Net Income", "Adjusted Net Income/Share", "Cash operating margin per ounce" and "Cash Flow from operations before working capital changes". 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. In order to indicate to stakeholders the Company's earnings excluding the non-cash (gain)/loss on the fair value of debentures, non-cash impairment charges and severance charges, the Company calculates "Adjusted Net Income" and "Adjusted Net Income per share" to supplement the condensed interim consolidated financial statements. "Cash operating margin per ounce" is calculated as gold price minus cash operating cost per ounce. "Cash flow from operations before working capital changes" is calculated by subtracting the "Changes in working capital" from "Net cash provided by operating activities" as found in the statements of cash flows. These measures are not necessarily indicative of operating profit or cash flow from operations as would be determined under IFRS. 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 six months ended June 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 5, 2015. Additional information is included in Golden Star's Annual Information Form for the year ended December 31, 2015 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

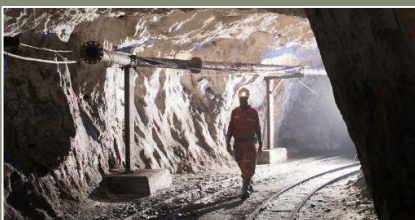


**Katharine Sutton**  
VP, Investor Relations &  
Corporate Affairs

# Why Invest in Golden Star?



West African-focused, mid-tier gold producer with two producing mines in Ghana



High grade development asset, Prestea Underground (13.93g/t Mineral Reserves)



Strong exploration upside potential - focused on increasing the mine lives of current operations



Experienced management team with a track record of discovery and project delivery



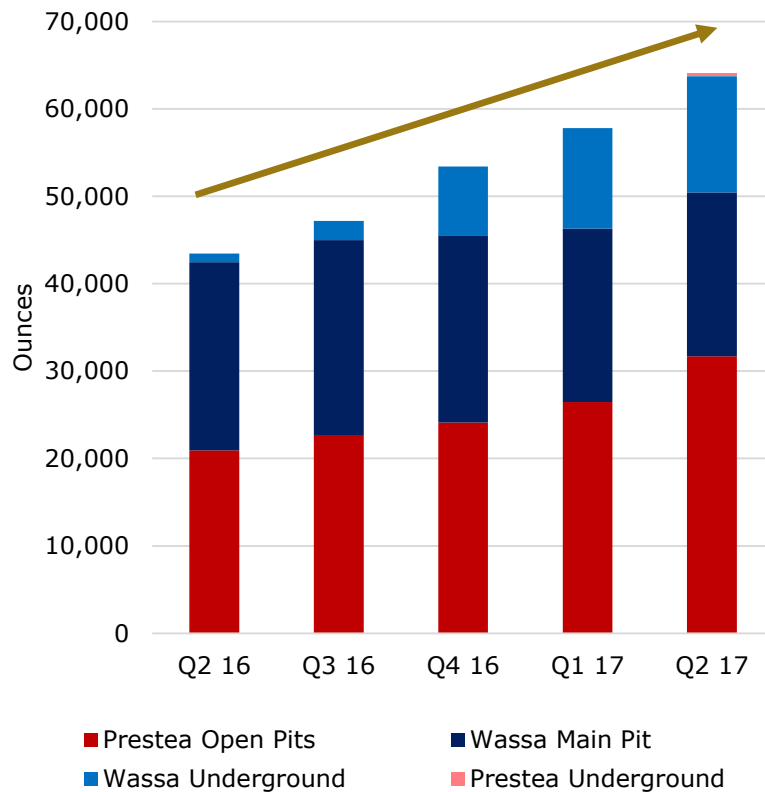
Undervalued compared to peer group and with robust liquidity through NYSE MKT listing

**Transforming into a high grade, non-refractory, low cost gold producer**

# Fifth Consecutive Quarter of Production Growth

**Multiple ore sources deliver significant reduction in risk profile**

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

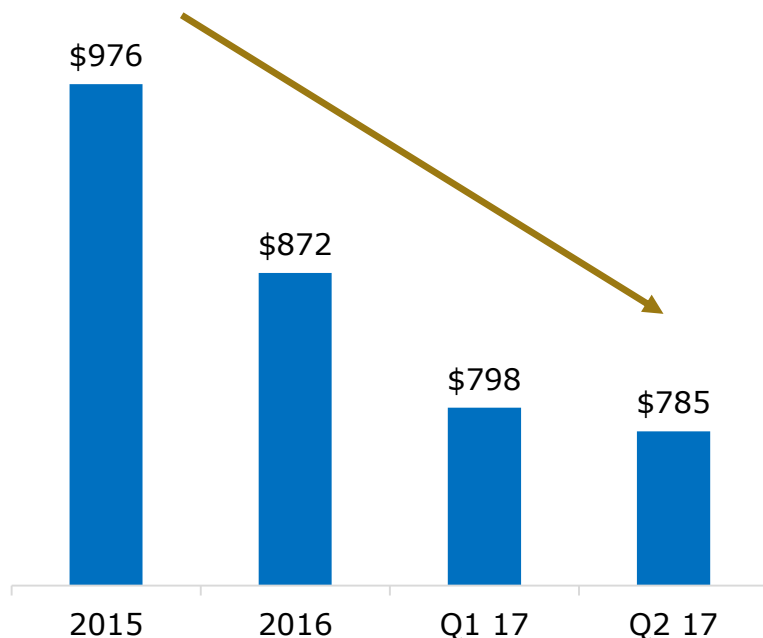


- Gold production of 64,176oz in Q2 2017
- Q2 2017 gold production by asset:
  - Wassa Main Pit: 18,873oz
  - Wassa Underground: 13,288oz
  - Prestea Open Pits: 31,689oz
  - Prestea Underground: 325oz
- Fourth consecutive record quarter of production for Prestea Open Pits – mine life extended until end of Q4 2017
- First production delivered from Prestea Underground development ore
- Wassa Underground continues to exceed expected daily mining rates
- Impact of higher grade, B Shoot ore from Wassa Underground being realized

# Operating Costs Continue to Reduce

**Lowest cash operating cost per ounce<sup>1</sup> and AISC per ounce<sup>1</sup> in five quarters**

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

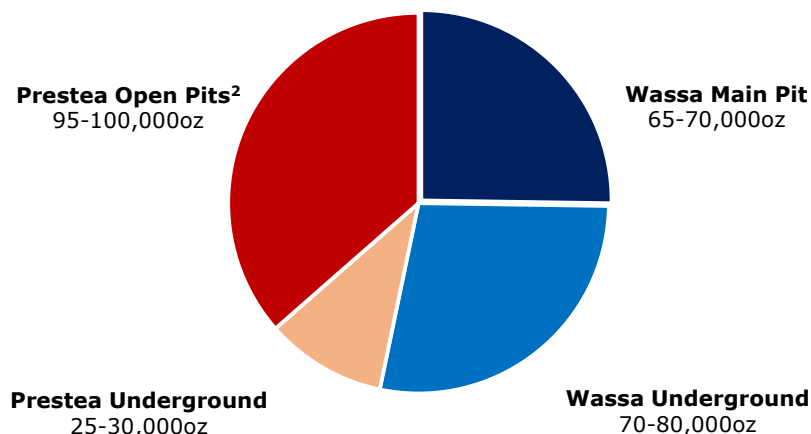


- GSR's cost structure has changed significantly since cessation of refractory operation
- Operating costs continue to decrease as impact of higher grade ore is realized
- 18% decrease in cash operating cost<sup>1</sup> to \$785/oz compared to Q2 2016
- 19% decrease in AISC<sup>1</sup> to \$960/oz compared to Q2 2016
- 38% decrease in cash operating cost per ounce<sup>1</sup> at Prestea Open Pits in Q2 2017 compared to Q2 2016

# 2017 Guidance

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

### 2017 Production Guidance By Asset



- Consolidated 2017 production guidance maintained at 255,000-280,000oz
- Consolidated 2017 cash operating cost<sup>1</sup> guidance maintained at \$780-860/oz
- Consolidated 2017 AISC per ounce<sup>1</sup> guidance maintained at \$970-1,070
- 2017 capital expenditures guidance increased to \$69m as portion of operating costs at Prestea Underground reallocated to capital expenditures



**Q2 2017  
OPERATIONAL  
REVIEW**

**Wassa Gold Mine**

**Prestea Gold Mine**

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## Q2 2017: Wassa Operational Results

Wassa		Q2 2017	Q2 2016
Total Ore Mined	kt	466	651
Total Waste Mined	kt	1,677	2,629
Total Ore Processed	kt	635	574
Grade Processed – Main Pit	g/t	1.23	1.16
Grade Processed – Underground	g/t	3.02	1.93
Recovery	%	94.6	94.0
Gold Production – Main Pit	oz	18,873	20,550
Gold Production - Underground	oz	13,288	993
Total Gold Production	oz	32,161	21,543
Total Gold Sales	oz	31,985	22,085
Cash Op. Cost <sup>1</sup>	\$/oz	980	975

- 49% increase in gold production compared to Q2 2016
- 2 sources of ore – 59% of production from Wassa Main Pit and 41% from Wassa Underground
- Contribution to production from Wassa Underground is increasing
- Cash operating cost<sup>1</sup> of \$980/oz - \$5/oz increase compared to Q2 2016
- Cost increase was due to higher mining costs as Wassa transitions to being a combined underground and open pit operation
- Underground costs begin to normalize in Q2 2017 as mining costs per tonne continue to optimize

## Wassa Underground: Exceeding Planned Mining Rates



- Targeted 2017 mining rate of 1,400 tpd continues to be exceeded
- Average mining rate for H1 2017 of >1,600 tpd
- 22% increase in grade compared to Q2 2016 as higher grade B Shoot accessed at the end of March 2017
- Majority of production from B Shoot in Q2 2017
- Grade expected to increase further as mining operations move further into B Shoot

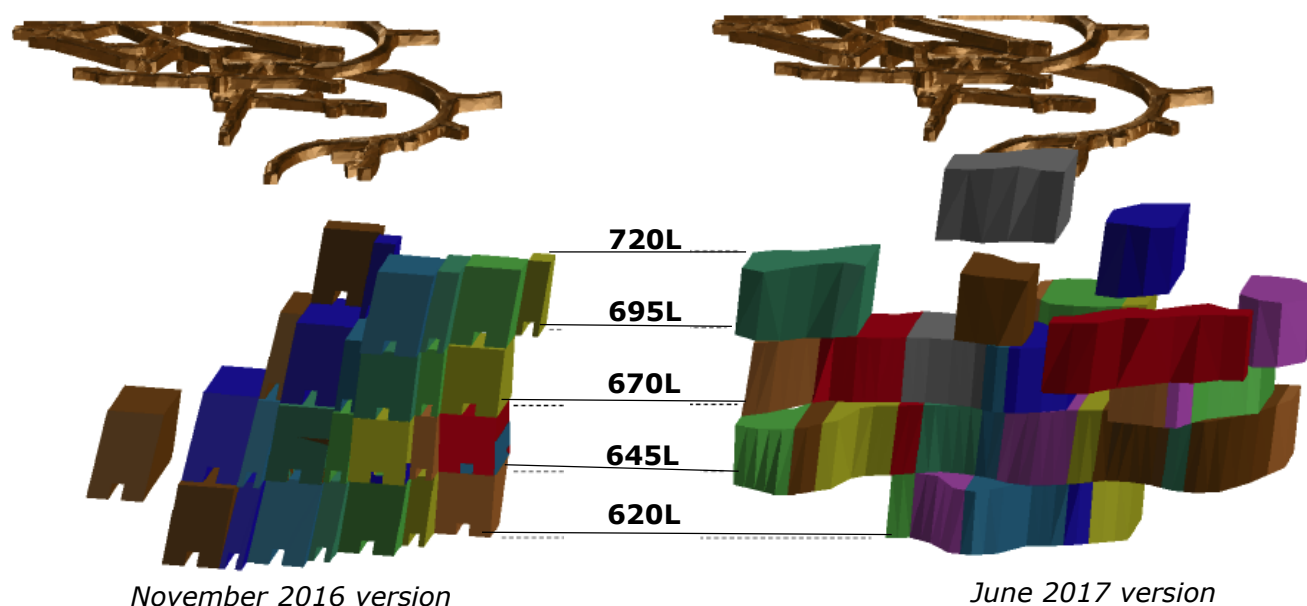
### Wassa 2017 Guidance:

65,000-70,000oz from Wassa Main Pit and 70,000-80,000oz from Wassa Underground

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

## Wassa Underground: Updated Short Term Mine Plan

- New plan reports 10% increase in mineable tonnages and 20% increase in ounces of gold, compared to previous plan
- Additional ore delivered from immediate horizons between 720 and 695 Level – expected to be mined via longitudinal stoping
- Efficiencies gained from less waste development and more ore development expected to allow for continued strong mining rates – stopes up to 30m wide mined via longitudinal stoping during Q2 2017
- Due to addition of new ore targets, transverse stoping is expected to begin after all longitudinal stopes have been mined





# Wassa Underground: 2017 Exploration

Three key focuses at Wassa Underground:

## *B Shoot North extension drilling*

- Expected to comprise 3,000m
- Objective: To test the potential to increase near-term production

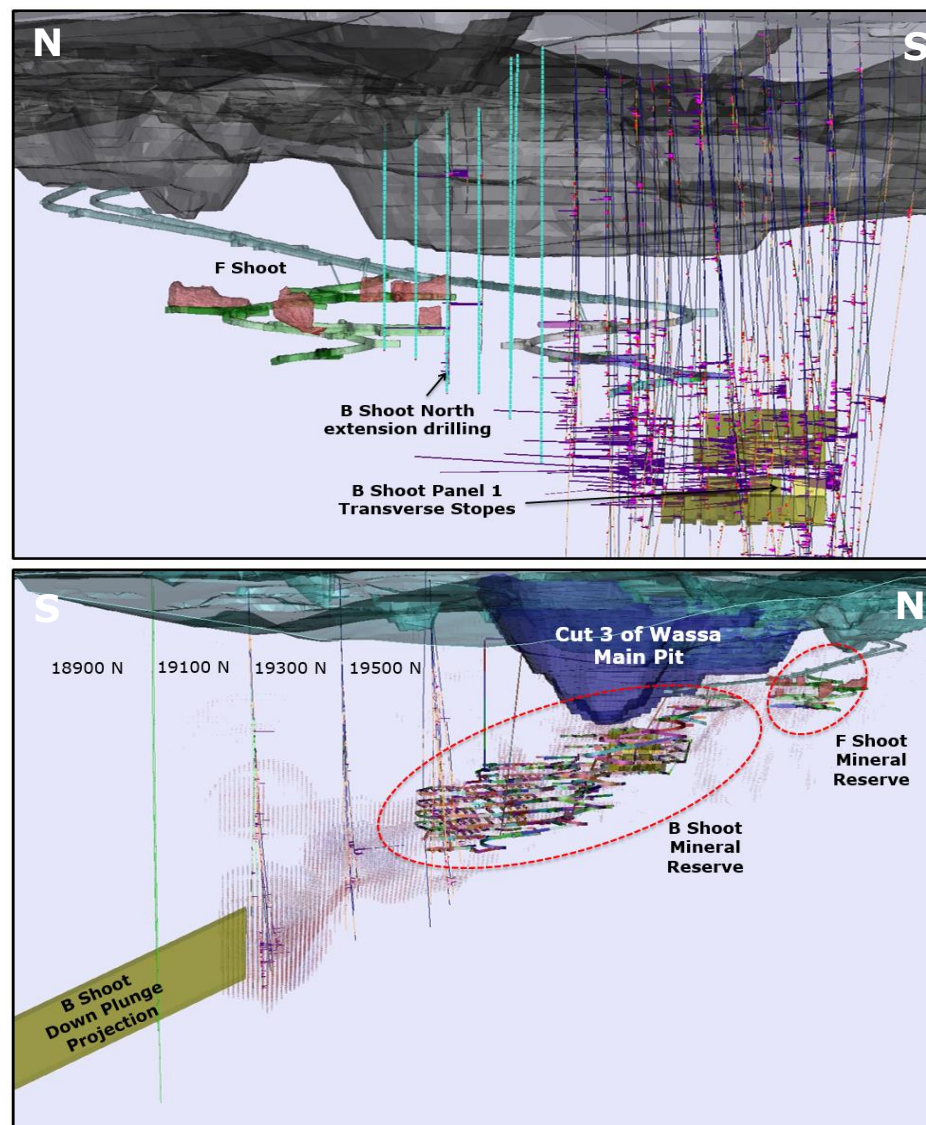
## *B Shoot South Step Out Fences*

- Expected to comprise 10,000m
- Objective: To ascertain if the B Shoot is continuous to the South

## *242 Trend Step Out Drilling*

- Expected to comprise 4,000m
- Objective: To increase Wassa's Inferred resources

Drilling of all targets was underway during Q2 2017 – results expected during Q3 2017



## Q2 2017: Prestea Operational Results

Prestea		Q2 2017	Q2 2016
Ore Mined	kt	352	306
Waste Mined	kt	956	1,067
Ore Processed	kt	371	378
Grade Processed	g/t	3.15	1.95
Recovery	%	88.4	85.9
Gold Production – Open Pits	oz	31,689	20,918
Gold Production – Underground	oz	325	-
Total Gold Production	oz	32,014	20,918
Total Gold Sales	oz	31,619	20,912
Cash Operating Cost <sup>1</sup>	\$/oz	585	943

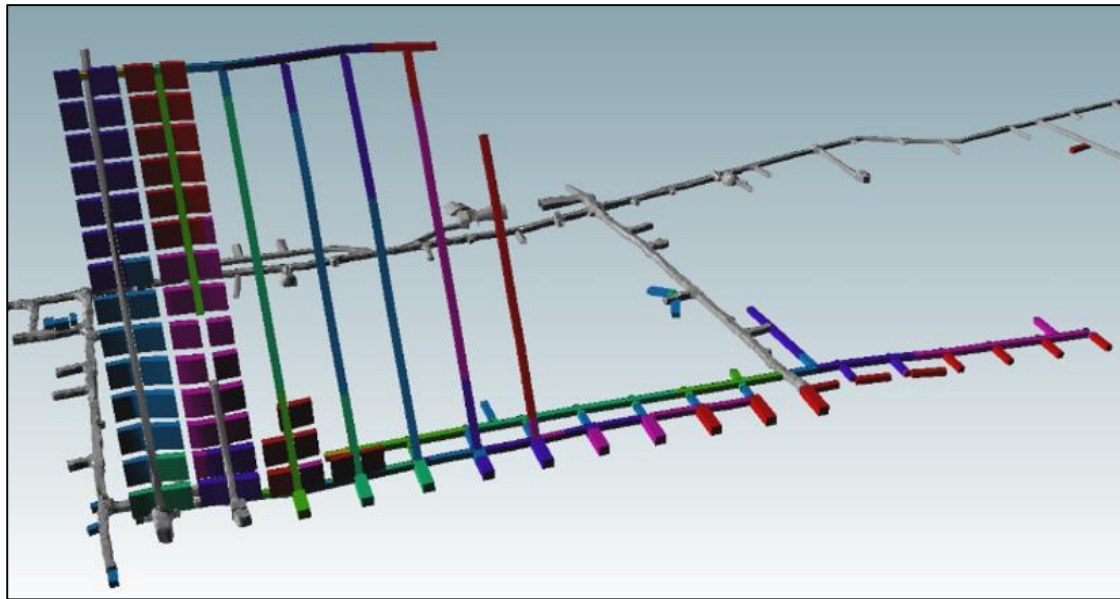
- Fourth consecutive quarter of record production from Prestea Open Pits
- Production from Prestea Open Pits now expected to continue until end of Q4 2017
- 53% increase in production from Prestea (open pit and underground) compared to Q2 2016 due to 62% higher grade processed
- Higher grade due to Mampon deposit and first 325oz delivered from Prestea Underground development ore
- 38% decrease in cash operating cost per ounce<sup>1</sup> as a result of strong production from Prestea Open Pits

### Prestea 2017 Guidance:

95,000-100,000oz from Prestea Open Pits and 25,000-30,000oz from Prestea Underground  
Cash operating cost<sup>1</sup> of \$680-725/oz

## Prestea Underground: Raise Development Progressing

- First raise 100% complete
- Second raise approximately 70% complete and construction of third nest underway
- Project handed over to production management team
- First stope expected to be blasted during Q3 2017
- Commercial production expected to be achieved in Q4 2017



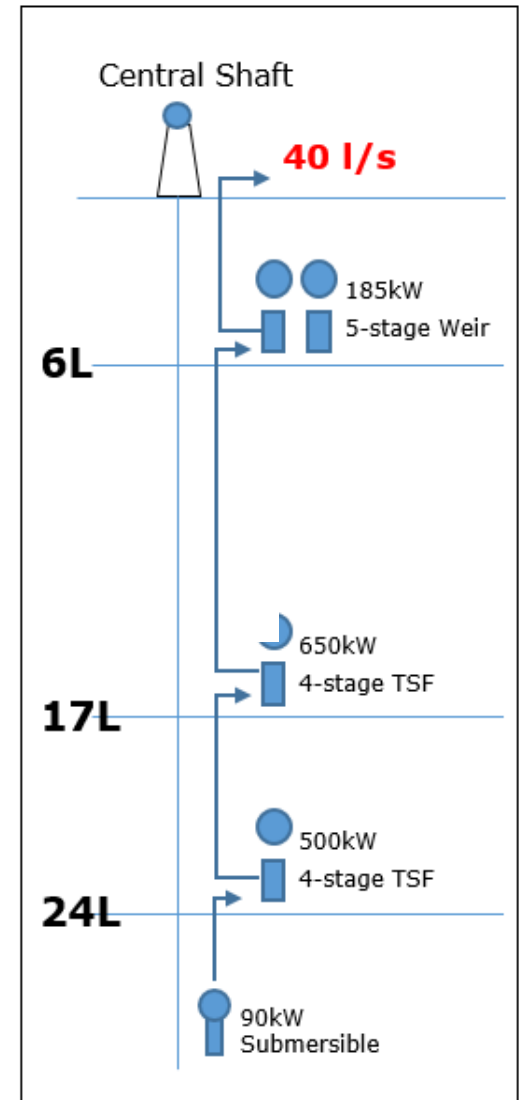
*Expected raise development by end of 2017*



# Prestea Underground: Pumping Issues Rectified

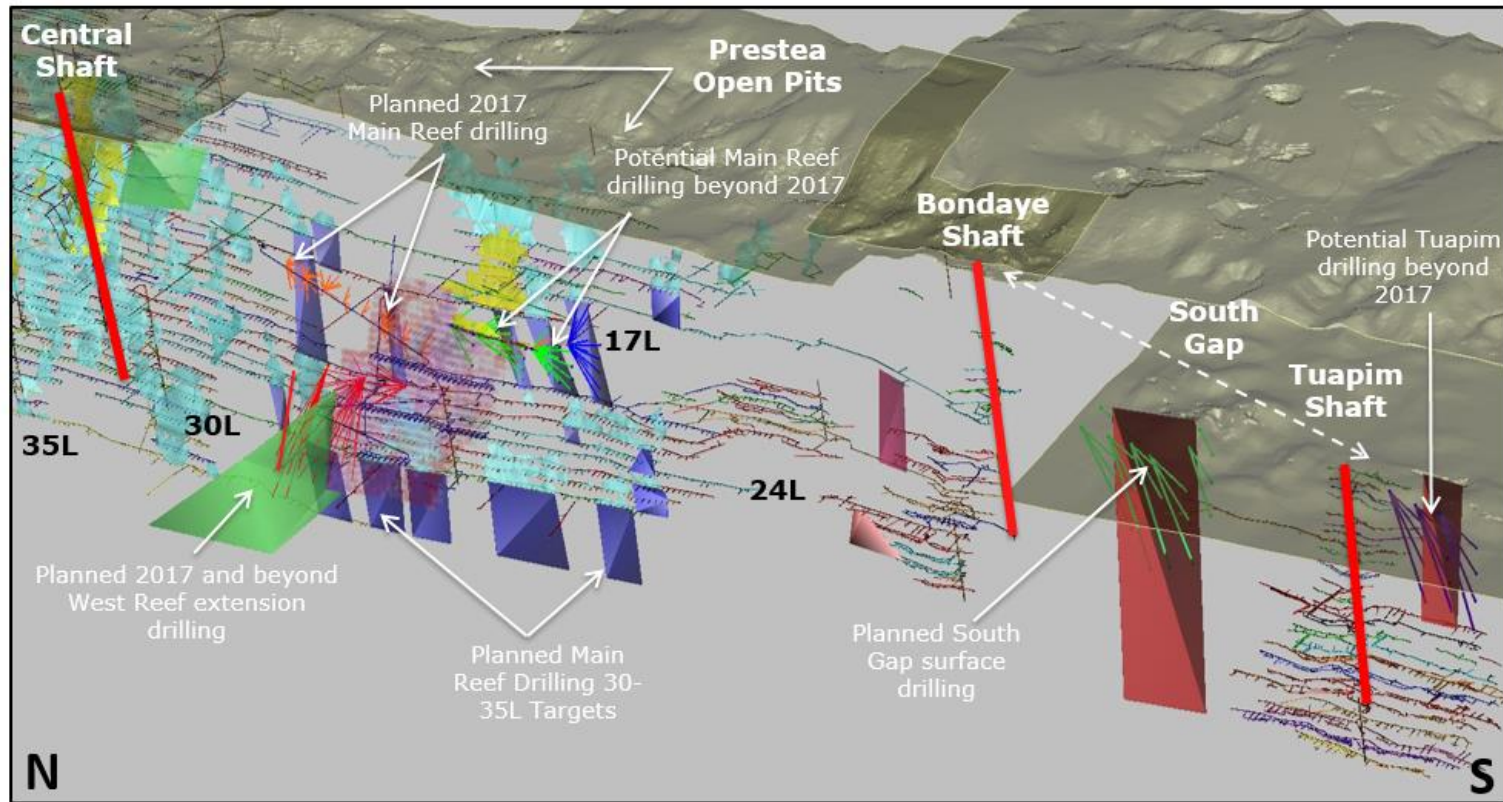
- Pumping system began to come under pressure due to increased mining activity
- Company took decision to suspend hoisting to safeguard shaft infrastructure
- Suspension impacted rate of waste development and operations team prioritized stope development
- Development material was stockpiled underground, allowing raise development to continue throughout period
- By start of Q3 2017, situation was rectified and hoisting resumed

**Short term issue resolved - hoisting resumed by start of Q3 2017**



*Current pumping configuration*

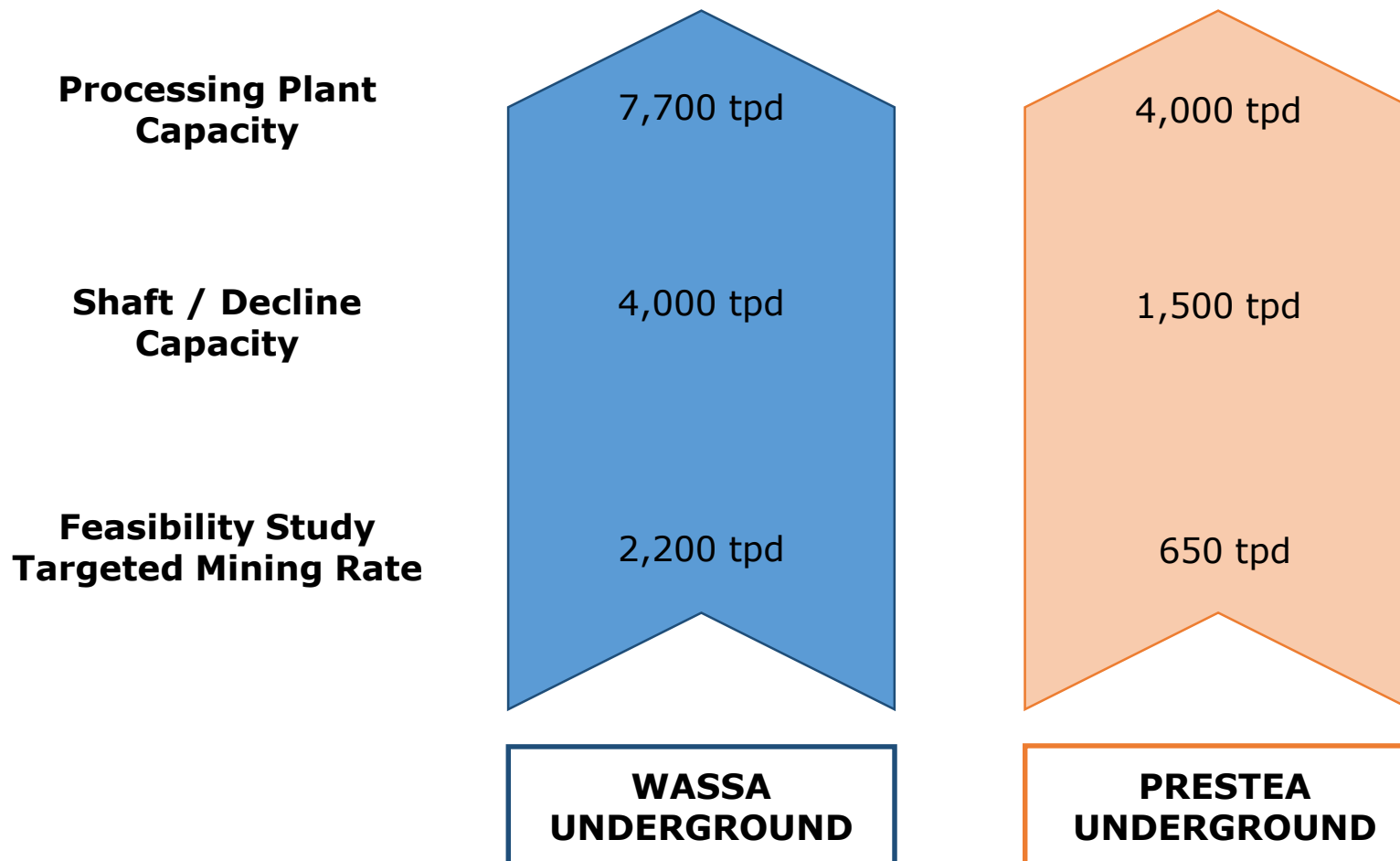
# Prestea Underground: 2017 Exploration



- Three key focuses for 2017 exploration program at Prestea Underground:
  - Primarily focused on the extension and definition of the West Reef – objective is to increase high grade ore to processing plant in near term
  - Other focuses include initial testing of the Main Reef and the South Gap area to add ore into the mine plan in the medium to long term

## Expansion Potential At Both Underground Operations

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





**Q2 2017  
FINANCIAL  
REVIEW**

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## Q2 2017: Financial Highlights

		Q2 2017	Q2 2016
Revenue	\$'000	77,335	51,457
Gold Sales	oz	63,604	42,997
Average Realized Gold Price	\$/oz	1,222	1,225
Net Income/(Loss)	\$'000	13,883	(22,034)
Net Income/(Loss) per share - basic	\$/share	0.04	(0.08)
Adjusted Net Income <sup>1</sup>	\$'000	7,703	1,433
Adjusted Net Income <sup>1</sup>	\$/share	0.02	0.01
Cash Flow from Operations before working cap. changes <sup>1</sup>	\$'000	14,198	19,293
Cash Flow from Operations before working cap. changes <sup>1</sup>	\$/share	0.04	0.07
Capital Expenditures	\$'000	18,307	23,007
Cash & Cash Equivs.	\$'000	25,889	7,577

- 50% increase in revenue compared to Q2 2016 due to higher gold production at Wassa and Prestea
- 204% increase in mine operating margin to \$13.3m as a result of higher revenue
- \$13.9m net income compared to \$20.2m net loss in Q2 2016, primarily due to higher mine operating margin at Prestea
- Capex of \$18.3m with \$12.5m attributable to development of Prestea Underground
- \$25.9m of cash at end of Q2 2017, including \$10m drawdown from Ecobank debt facility – remain fully funded for capital program
- Repayment of remaining \$13.6m of 5% Convertible Debentures



## LOOKING AHEAD

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## **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 – expected Q3 2017

2017 exploration program results – expected Q3/Q4 2017

Achieve commercial production at Prestea Underground – expected Q4 2017



# GOLDEN STAR

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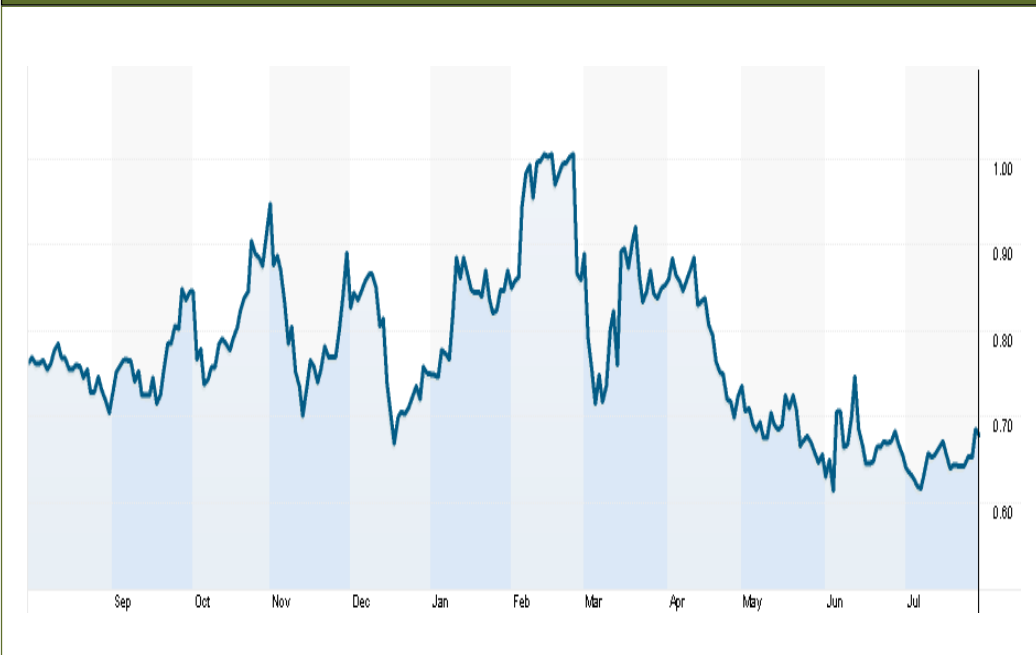
WASSA UNDERGROUND MINE  
**MAIN DECLINE**  
Your safety is our main priority

STENCH  
GAS



# Appendices: Market Information

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



## Analyst Coverage

- BMO Capital Markets
- CIBC Capital Markets
- Clarus Securities
- Credit Suisse
- National Bank Financial
- Scotia Bank

## Key Institutional Shareholders

- Van Eck
- Franklin Templeton
- Oppenheimer Funds
- Sentry Investments
- Earth Resources
- 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	376,189,702
Options	16,756,712
Share Price <sup>2</sup>	\$0.67
Market Capitalization	\$252m
Cash <sup>3</sup>	\$25.9m
Debt <sup>3</sup>	\$94.1m
Daily Volumes Traded (3 Month Average) <sup>2</sup>	2.4m 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**

# Mampon: Strong Near-Term Cash Flow

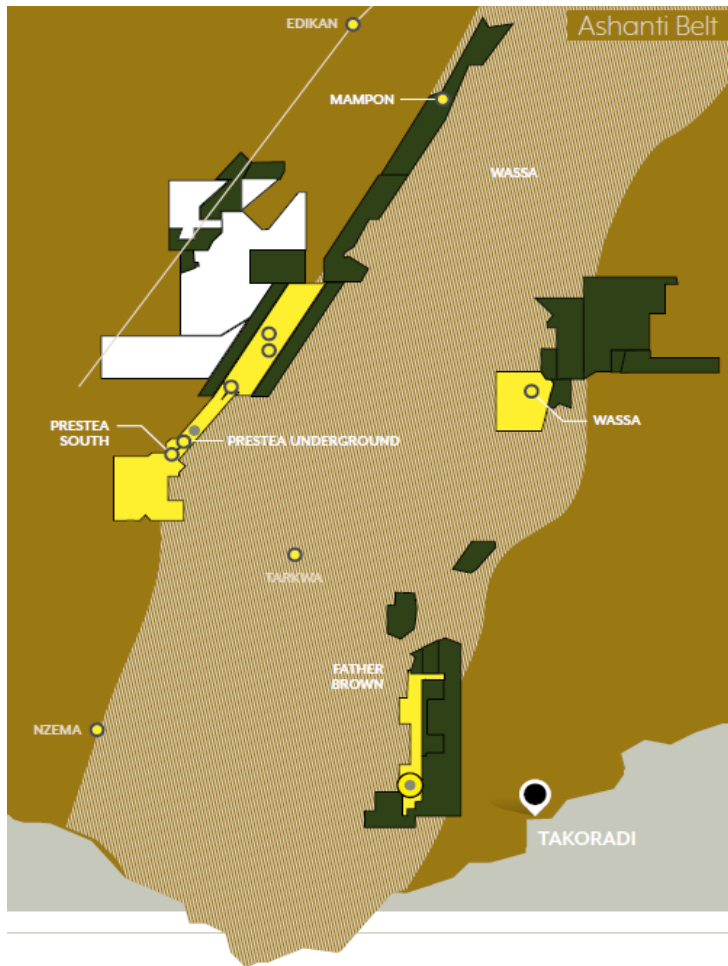
## Mining commenced in late Q1 2017

- Mampon is an oxide deposit 65km to the north of the CIL processing plant
- Mineral Reserves of 45,000oz of gold (301Kt at 4.64g/t)
- All permits received by end of 2016 including mining lease, environmental permit and forestry permit
- High grade ore from Mampon is being blended with ore from Prestea Open Pits to enhance GSR's cash flow in Q2 and Q3 2017





# 2017 Exploration Strategy



## Legend

- Mining license area
- Exploration license area
- Care and maintenance – no longer mined

- Three key objectives of the 2017 exploration strategy:
  - To increase supply of high grade, underground ore to the processing plants in the near term
  - To increase the lives of both operations in the medium term
  - To identify the potential of Golden Star's 1,156km<sup>2</sup> concession area
- First phase of program is expected to comprise 48,000m
- Further drilling may be conducted subject to the results received
- 171% increase to 2017 exploration budget to \$6.5 million for the first phase of drilling
- Drilling is underway at Prestea Underground and Wassa B Shoot North and South

# Mineral Reserves and Resources

Mineral Reserves <sup>1,2,3</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>1,2,3</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's Mineral Reserves and Resources please refer to 'NI 43-101 Technical Report on a Feasibility Study of the Wassa Open Pit and Underground Project in Ghana', dated December 31, 2014, which is filed on SEDAR and at [www.gsr.com](http://www.gsr.com)
2. For Prestea's Mineral Reserves and Resources please refer to 'NI 43-101 Technical Report on a Feasibility Study of the Prestea Underground Gold Project in Ghana', dated November 3, 2015, which is filed on SEDAR and at [www.gsr.com](http://www.gsr.com)
3. All numbers exclude refractory ore.