

GOLDEN STAR

The logo for Golden Star, featuring a stylized eight-pointed star with a white center and gold points, positioned between the letters 'T' and 'R' of the word 'STAR'.

Management's Discussion and Analysis

For the Three and Six Months Ended June 30, 2019

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management's discussion and analysis provides information that management believes is relevant to an assessment and understanding of the consolidated financial condition and results of operations of Golden Star Resources Ltd. and its subsidiaries ("Golden Star" or "the Company" or "we" or "our"). This Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with the Company's condensed interim consolidated financial statements and related notes for the three and six months ended June 30, 2019, which are prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. This MD&A includes information available to, and is dated, July 30, 2019. Unless noted otherwise, all currency amounts are stated in U.S. dollars and all financial information presented in this MD&A is prepared in accordance with IFRS.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This MD&A contains "forward-looking information" within the meaning of applicable Canadian securities laws and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 concerning the business, operations and financial performance and condition of Golden Star. Generally, forward-looking information and statements can be identified by the use of forward-looking terminology such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "believes" or variations of such words and phrases (including negative or grammatical variations) or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" or the negative connotation or grammatical variation thereof. Forward-looking information and statements in this MD&A include, but are not limited to, information or statements with respect to: production, cash operating costs, and all-in sustaining costs estimates and guidance for 2019 on a consolidated basis; sustaining and development capital expenditure estimates and guidance for 2019 on a consolidated basis; the Company's achievement of 2019 consolidated guidance; the range of consolidated gold production for 2019; planned exploration and drilling at Wassa and Prestea in the third quarter of 2019; expected management and Board-level changes at the Company and its subsidiaries in the second half of 2019; the updating of mineral resource models at Father Brown and disclosure of the results thereof in the third quarter of 2019; the implementation of recommendations based on the operational review of Prestea Underground by CSA Global, including low-cost quick win initiatives beginning in August 2019, and execution of the long-term plan at some point in the future; the Company's debt servicing obligations for the remainder of 2019; and the sufficiency of cash available to support the Company's operations and mandatory expenditures for the next twelve months.

Forward-looking information and statements are made based upon certain assumptions and other important factors that, if untrue, could cause the actual results, performance or achievements of Golden Star to be materially different from future results, performance or achievements expressed or implied by such statements. Such statements and information are based on numerous assumptions regarding present and future business strategies and the environment in which Golden Star will operate in the future, including the price of gold, anticipated costs and ability to achieve goals. Certain important factors that could cause actual results, performances or achievements to differ materially from those set forth in the forward-looking information and statements include, among others, gold price volatility, discrepancies between actual and estimated production, mineral reserves and resources and metallurgical recoveries, mining operational and development risks, litigation risks, liquidity risks, suppliers suspending or denying delivery of products or services, regulatory restrictions (including environmental regulatory restrictions and liability), actions by governmental authorities (including changes in taxation), currency fluctuations, the speculative nature of gold exploration, the global economic climate, dilution, share price volatility, the availability of capital on reasonable terms or at all, local and community impacts and issues, results of pending or future feasibility studies, competition, loss of key employees, additional funding requirements and defective title to mineral claims or property. Although Golden Star has attempted to identify important factors that could cause actual results, performance or achievements to differ materially from those described in forward-looking information and statements, there may be other factors that cause actual results, performance or achievements not to be as anticipated, estimated or intended.

Forward-looking information and statements are subject to known and unknown risks, uncertainties and other important factors that may cause the actual results, performance or achievements of Golden Star to be materially different from those expressed or implied by such forward-looking information and statements, including but not limited to: risks related to international operations, including economic and political instability in foreign jurisdictions in which Golden Star operates; risks related to current global financial conditions; actual results of current exploration activities; environmental risks; future prices of gold; possible variations in mineral reserves and mineral resources, grade or recovery rates; mine development and operating risks; an inability to obtain power for operations on favourable terms or at all; mining plant or equipment breakdowns or failures; an inability to obtain products or services for operations or mine development from vendors and suppliers on reasonable terms, including pricing, or at all; accidents, labor disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities; risks related to indebtedness and the service of such indebtedness, as well as those factors discussed in the section entitled "Risk Factors" in Golden Star's Annual Information Form for the year ended December 31, 2018 (filed March 29, 2019). Although Golden Star has attempted to identify important factors that could cause

actual results, performances and achievements to differ materially from those contained in forward-looking information and statements, there may be other factors that cause results, performance and achievements not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results, performance, and achievements and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information and statements. Forward-looking information and statements are made as of the date hereof and accordingly are subject to change after such date. Except as otherwise indicated by Golden Star, these statements do not reflect the potential impact of any non-recurring or other special items or of any dispositions, monetizations, mergers, acquisitions, other business combinations or other transactions that may be announced or that may occur after the date hereof. Forward-looking information and statements are provided for the purpose of providing information about management's current expectations and plans and allowing investors and others to get a better understanding of the Company's operating environment. Golden Star does not undertake to update any forward-looking information and statements that are included in this MD&A, except as required by applicable securities laws.

CAUTIONARY NOTE REGARDING RESERVES AND RESOURCES

Scientific and technical information contained in this MD&A was reviewed and approved by Dr. Martin Raffield, Senior Vice-President, Technical Services for Golden Star, who is a "qualified person" as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"), and by S. Mitchel Wasel, BSc Geology, who is a Qualified Person pursuant to NI 43-101. Mr. Wasel is Vice President Exploration for Golden Star and an active member of the Australasian Institute of Mining and Metallurgy. All mineral reserves and mineral resources have been calculated in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") and in compliance with the requirements of NI 43-101. All mineral resources are reported inclusive of mineral reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Information on data verification performed on, and other scientific and technical information relating to, the mineral properties mentioned in this MD&A that are considered to be material mineral properties of the Company are contained in Golden Star's Annual Information Form for the year ended December 31, 2018 and the following current technical reports for those properties available at www.sedar.com: (i) Wassa - "NI 43-101 Technical Report on Resources and Reserves, Golden Star Resources, Wassa Gold Mine, Ghana" effective date December 31, 2018; and (ii) Prestea Underground - "NI 43-101 Technical Report on Resources and Reserves, Golden Star Resources, Bogoso/Prestea Gold Mine, Ghana" effective date December 31, 2017.

Cautionary Note to U.S. Investors

This MD&A has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ materially from the requirements of United States securities laws applicable to U.S. companies. Information concerning our mineral properties has been prepared in accordance with the requirements of Canadian securities laws, which differ in material respects from the requirements of the United States Securities and Exchange Commission (the "SEC") set forth in Industry Guide 7. Under the SEC's Industry Guide 7, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time of the reserve determination, and the SEC does not recognize the reporting of mineral deposits which do not meet the SEC Industry Guide 7 definition of "Reserve". In accordance with NI 43-101, the terms "mineral reserve", "proven mineral reserve", "probable mineral reserve", "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are defined in accordance with CIM standards. While the terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are recognized and required by NI 43-101, the SEC does not recognize them. You are cautioned that, except for that portion of mineral resources classified as mineral reserves, mineral resources do not have demonstrated economic viability. Inferred mineral resources have a high degree of uncertainty as to their existence and as to whether they can be economically or legally mined. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Therefore, you are cautioned not to assume that all or any part of an inferred mineral resource exists, that it can be economically or legally mined, or that it will ever be upgraded to a higher category. Likewise, you are cautioned not to assume that all or any part of measured mineral resources or indicated mineral resources will ever be upgraded into mineral reserves.

OVERVIEW OF GOLDEN STAR

Golden Star is an established, African-focused gold producer that holds a 90% interest in two producing gold mines in Ghana.

The Wassa Complex (“Wassa”) became an underground-only operation in January 2017. The Prestea Complex (“Prestea”) comprises the Prestea Open Pits and the Prestea Underground Mine (“Prestea Underground”) and is planned to become an underground-only operation. The Wassa Underground Mine (“Wassa Underground”) achieved commercial production on January 1, 2017, and Prestea Underground achieved commercial production on February 1, 2018.

Golden Star’s objective is to grow into a best-in-class, mid-tier gold producer. We aim to expand the Company and its production profile through the exploration and development of our existing mines, particularly Wassa, and through strategic value accretive acquisitions.

As the winner of the Prospectors & Developers Association of Canada 2018 Environmental and Social Responsibility Award, we are committed to leaving a positive and sustainable legacy in the locations where we operate.

The Company is a reporting issuer or the equivalent in all provinces of Canada, in Ghana and in the United States, and files disclosure documents with securities regulatory authorities in Canada and Ghana, and with the SEC in the United States.

SUMMARY OF OPERATING AND FINANCIAL RESULTS

		Three Months Ended June 30,		Six Months Ended June 30,	
		2019	2018	2019	2018
OPERATING SUMMARY					
Wassa gold sold	oz	37,725	38,249	80,724	74,102
Prestea gold sold	oz	11,017	22,310	21,514	44,817
Total gold sold	oz	48,742	60,559	102,238	118,919
Wassa gold produced	oz	37,356	38,532	80,266	74,038
Prestea gold produced	oz	11,066	22,677	21,440	44,787
Total gold produced	oz	48,422	61,209	101,706	118,825
Average realized gold price ¹	\$/oz	1,270	1,273	1,263	1,266
Cost of sales per ounce - Consolidated ²	\$/oz	1,093	1,106	1,016	1,153
Cost of sales per ounce - Wassa ²	\$/oz	831	944	774	971
Cost of sales per ounce - Prestea ²	\$/oz	1,987	1,383	1,924	1,468
Cash operating cost per ounce - Consolidated ²	\$/oz	886	809	805	857
Cash operating cost per ounce - Wassa ²	\$/oz	655	610	600	645
Cash operating cost per ounce - Prestea ²	\$/oz	1,677	1,149	1,573	1,224
All-in sustaining cost per ounce - Consolidated ²	\$/oz	1,212	1,104	1,089	1,117
All-in sustaining cost per ounce - Wassa ²	\$/oz	941	994	844	954
All-in sustaining cost per ounce - Prestea ²	\$/oz	2,143	1,293	2,006	1,401

¹ Average realized gold price per ounce in the six months ended June 30, 2018 excludes 2,049 pre-commercial production ounces sold at Prestea Underground in January 2018.

² See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce to cost of sales excluding depreciation and amortization.

FINANCIAL SUMMARY		Three Months Ended June 30,		Six Months Ended June 30,	
		2019	2018 ³	2019	2018 ³
Gold revenues	\$'000	61,915	77,121	129,172	147,940
Cost of sales excluding depreciation and amortization	\$'000	46,506	57,717	90,310	117,291
Depreciation and amortization	\$'000	6,749	9,235	13,611	17,456
Mine operating margin	\$'000	8,660	10,169	25,251	13,193
General and administrative expense	\$'000	9,505	6,909	13,610	8,018
(Gain)/loss on fair value of financial instruments, net	\$'000	(424)	1,301	3,449	(4,141)
Income tax expense	\$'000	5,278	3,783	12,480	6,674
Net loss attributable to Golden Star shareholders	\$'000	(9,036)	(6,642)	(10,960)	(5,627)
Adjusted net income attributable to Golden Star shareholders ¹	\$'000	872	2,408	10,266	285
Loss per share attributable to Golden Star shareholders - basic	\$/share	(0.08)	(0.09)	(0.10)	(0.07)
Loss per share attributable to Golden Star shareholders - diluted	\$/share	(0.08)	(0.09)	(0.10)	(0.07)
Adjusted income per share attributable to Golden Star shareholders - basic ¹	\$/share	0.01	0.03	0.09	0.00
Cash provided by operations	\$'000	2,183	10,321	1,593	6,350
Cash provided by operations before working capital changes ²	\$'000	591	10,276	15,499	11,086
Cash provided by operations per share - basic	\$/share	0.02	0.14	0.01	0.08
Cash provided by operations before working capital changes per share - basic ²	\$/share	0.01	0.13	0.14	0.15
Capital expenditures	\$'000	16,993	10,186	30,135	21,768

¹ See “Non-GAAP Financial Measures” section for a reconciliation of adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders-basic to net loss attributable to Golden Star shareholders.

² See “Non-GAAP Financial Measures” section for an explanation of the calculation of cash provided by operations before working capital changes and cash provided by operations before working capital changes per share - basic.

³ Per share data has been re-stated to reflect the share consolidation that was implemented on October 30, 2018.

- Gold revenue totaled \$61.9 million in the second quarter of 2019, compared to \$77.1 million in the same period in 2018.** Gold revenue for the second quarter of 2019 was \$15.2 million or 20% lower than the same period in 2018, primarily as a result of a decrease in gold revenue generated from Prestea. Compared with the same period in 2018, gold revenue generated from Prestea decreased by 51%, resulting from the planned decrease in production from the Prestea Open Pits and lower than planned head grade at Prestea Underground due to a combination of excessive dilution and ore loss. Gold revenue generated from Wassa decreased by 1% as a result of processing fewer tonnes from the stockpile in 2019 as compared to prior year. The consolidated average realized gold price remained consistent at \$1,270 per ounce in the second quarter of 2019, compared to \$1,273 per ounce for the same period in 2018. For the six months ended June 30, 2019, gold revenue was \$129.2 million, a 13% decrease compared to \$147.9 million in the same period in 2018 due to a decrease in gold revenue at Prestea, offset by an increase at Wassa primarily a result of increased gold production from Wassa Underground.
- Gold sales totaled 48,742 ounces in the second quarter of 2019, compared to 60,559 ounces sold in the same period in 2018.** Gold sales in the second quarter of 2019 decreased 20% from the same period in 2018 primarily as a result of a decrease in gold sales from Prestea. Prestea gold sales of 11,017 ounces in the second quarter of 2019 were 51% lower than the same period in 2018 due primarily to the planned decrease in production from the Prestea Open Pits and the lower than planned head grade at Prestea Underground due to a combination of excessive dilution and ore loss. Production rates at Prestea Underground continue to be lower than expected and have not been able to offset the lower production at the Prestea Open Pits as planned. Wassa gold sales of 37,725 ounces in the second quarter of 2019 were 1% lower than the same period in 2018 as a result of a decrease in stockpile ore processed. For the six months ended June 30, 2019, gold sales of 102,238 ounces were 14% lower than the 118,919 ounces sold in the same period in 2018 due to a decrease in production at Prestea as a result of the planned reduction from the Prestea Open Pits and lower than planned head grade at Prestea Underground due to a combination of excessive dilution and ore loss. This was offset by an increase in production at Wassa which was primarily due to an increase in Wassa Underground tonnes mined and processed.
- Cost of sales excluding depreciation and amortization in the second quarter of 2019 totaled \$46.5 million compared to \$57.7 million in the same period in 2018.** Cost of sales excluding depreciation and amortization in the second quarter of 2019 decreased 19% compared to the same period in 2018 due mainly to a \$3.1 million decrease in operating costs to metals

inventory expense, as both Prestea and Wassa drew down less on ore stockpiles during the period. Mine operating expenses decreased \$2.7 million mainly due to reduced production from the Prestea Open Pits, offset partially by higher costs associated with increased mining rates at Wassa Underground. In addition, severance decreased \$1.5 million as suspension of the Wassa surface mining operation was completed in early 2018. Royalty expense decreased \$0.8 million due to lower gold sales in the period, and inventory net realizable value adjustments and write-offs decreased \$3.0 million primarily as a result of the materials and supplies inventories written off at Wassa in the prior period related to open pit mining. For the six months ended June 30, 2019, cost of sales excluding depreciation and amortization was \$90.3 million, a 23% decrease compared to \$117.3 million in the same period in 2018. The decrease is mainly due to a decrease at Wassa due to the suspension of the Wassa surface mining operation in the prior year and a decrease at Prestea as production decreased compared to the same period in 2018.

- **Consolidated cost of sales per ounce was \$1,093 in the second quarter of 2019, 1% lower than \$1,106 in the same period in 2018. Consolidated cash operating cost per ounce was \$886 in the second quarter of 2019, 10% higher than \$809 in the same period in 2018.** Cash operating cost at Wassa increased 7% in the second quarter of 2019 as gold sold was slightly lower compared to the same period in 2018 and mine operating expense increased due to an increase in total tonnes mined, as Wassa Underground has steadily increased its mining rates. Cash operating cost per ounce at Prestea increased 46% due mainly to a decrease in gold sold during the period, offset partially by a decrease in mine operating expenses and operating costs from metals inventory, resulting from reduced production from the Prestea Open Pits and a lower draw down of ore stockpiles in the period, respectively. Production rates at Prestea Underground continue to be lower than expected and have not been able to offset the lower production at the Prestea Open Pits as planned. For the six months ended June 30, 2019, consolidated cash operating cost per ounce decreased 6% to \$805 from \$857 in the same period in 2018 due mainly to a decrease in operating costs from metal inventory, offset partially by a decrease in gold sold at Prestea.
- **Depreciation and amortization expense totaled \$6.7 million in the second quarter of 2019 compared to \$9.2 million in the same period in 2018.** For the six months ended June 30, 2019, depreciation and amortization expense was \$13.6 million, a 22% decrease compared to \$17.5 million in the same period in 2018. The decrease in depreciation and amortization expense for the three and six months ended June 30, 2019 was due to decreases at both Wassa and Prestea. Wassa depreciation decreased mainly due to an increase in the total recoverable gold ounces over the life of mine of Wassa Underground, while Prestea depreciation decreased due to a decrease in gold production.
- **General and administrative expense totaled \$9.5 million in the second quarter of 2019, compared to \$6.9 million in the same period in 2018.** The increase in general and administrative expense for the second quarter of 2019 was due primarily to a \$3.7 million increase in termination costs related to the change in senior management in 2019, offset by a decrease in share-based compensation expense compared to the same period in 2018. Share-based compensation expense decreased in the period as the final Performance Share Units ("PSU") vested in December 2018, therefore the Company did not recognize a PSU expense in the period. General and administrative expense, excluding share-based compensation and termination costs related to the change in senior management in 2019, totaled \$4.7 million compared to \$3.7 million in the same period in 2018. For the six months ended June 30, 2019, general and administrative expense totaled \$13.6 million compared to \$8.0 million in the same period in 2018. The increase relates primarily to the \$3.7 million termination costs related to the change in senior management in 2019, an increase in professional and consulting fees, and an increase in share-based compensation as the Company's share price increased compared to the same period in 2018.
- **Finance expense totaled \$3.6 million in the second quarter of 2019, compared to \$5.4 million in the same period in 2018.** The decrease in finance expense for the second quarter of 2019 was due primarily to a \$1.5 million decrease in Royal Gold loan interest and amortization of Royal Gold loan financing fee as the loan was fully paid in the prior year. For the three months ended June 30, 2019 a total of \$1.0 million in interest payments were made, compared to \$1.1 million in the same period in 2018. For the six months ended June 30, 2019, finance expense totaled \$7.1 million compared to \$10.2 million in the same period in 2018. The decrease was mainly due to a \$2.0 million decrease in Royal Gold loan interest and amortization of Royal Gold loan financing fee as the loan was fully paid in the prior year, and a \$0.9 million increase in foreign exchange gain. For the six months ended June 30, 2019, a total of \$3.8 million in interest payments were made, compared to \$3.9 million in the same period in 2018.
- **The Company recorded a gain of \$0.4 million on fair value of financial instruments in the second quarter of 2019 compared to a \$1.3 million loss in the same period in 2018.** The \$0.4 million fair value gain in the second quarter of 2019 relates to a non-cash revaluation gain on the embedded derivative liability of the 7% Convertible Debentures. The \$1.3 million fair value loss recognized in the second quarter of 2018 was related to a non-cash revaluation loss on the embedded derivative liability of the 7% Convertible Debentures. For the six months ended June 30, 2019, the Company recorded a \$3.4 million loss on fair value of financial instruments, compared to a \$4.1 million gain in the same period in 2018. The valuation techniques used for these financial instruments are disclosed in the "Financial Instruments" section of this MD&A.
- **Income tax expense was \$5.3 million in the second quarter of 2019 compared to \$3.8 million for the same period in 2018.** For the six months ended June 30, 2019, income tax expense was \$12.5 million, compared to \$6.7 million in the same

period in 2018. The increase in income tax expense for the three and six months ended June 30, 2019 compared to the same periods in 2018 relates to the increase in mine operating margin at Wassa.

- **Net loss attributable to Golden Star shareholders for the second quarter of 2019 totaled \$9.0 million or \$0.08 loss per share (basic), compared to a net loss of \$6.6 million or \$0.09 loss per share (basic) in the same period in 2018.** The increase in net loss and loss per share attributable to Golden Star shareholders in the second quarter of 2019 was mainly due to a \$1.5 million decrease in mine operating margin and a \$2.6 million increase in general and administrative expenses, offset by a \$1.7 million increase in fair value gain on financial instruments. For the six months ended June 30, 2019, net loss attributable to Golden Star shareholders totaled \$11.0 million or \$0.10 loss per share (basic), compared to a net loss of \$5.6 million or \$0.07 loss per share (basic) in the same period in 2018. This increase is mainly due to a \$5.6 million increase in general and administrative expenses, \$5.8 million increase in income tax expense, \$7.6 million increase in fair value loss on financial instruments, offset by a \$12.1 million increase in mine operating margin.
- **Adjusted net income attributable to Golden Star shareholders (see “Non-GAAP Financial Measures” section) was \$0.9 million in the second quarter of 2019, compared to adjusted net income attributable to Golden Star shareholders of \$2.4 million for the same period in 2018.** The decrease in adjusted net income attributable to Golden Star shareholders for the second quarter of 2019 compared to the same period in 2018 was primarily due to an increase in general and administrative expenses (excluding share-based compensation) and a decrease in mine operating margin, offset by a decrease in finance expense compared to the same period in 2018. For the six months ended June 30, 2019, the adjusted net income attributable to Golden Star shareholders was \$10.3 million compared to \$0.3 million for the same period in 2018. The increase in adjusted net income attributable to Golden Star shareholders was mainly due to an increase in mine operating margin and decrease in finance expense, offset by an increase in general and administrative expenses (excluding share-based compensation).
- **Cash provided by operations before working capital changes (see “Non-GAAP Financial Measures” section) was \$0.6 million for the second quarter of 2019, compared to \$10.3 million in the same period in 2018.** The decrease in cash provided by operations before working capital changes was due primarily to a decrease in mine operating margin at Prestea and an increase in consolidated general and administrative expense (excluding share based compensation). For the six months ended June 30, 2019, cash provided by operations before working capital changes was \$15.5 million compared to \$11.1 million in the same period in 2018. The increase was primarily due to an increase in mine operating margin at Wassa, partially offset by an increase in consolidated general and administrative expense (excluding share based compensation).
- **Capital expenditures for the second quarter of 2019 totaled \$17.0 million compared to \$10.2 million in the same period in 2018.** Capital expenditures at Wassa during the second quarter of 2019 comprised 80% of total capital expenditures and totaled \$13.6 million, which included \$6.6 million on exploration drilling, \$2.5 million on Wassa Underground capitalized development, \$1.1 million on mobile equipment, \$0.4 million on the construction of a ventilation raise, \$1.2 million related to the tailings storage facility and the remainder on other equipment and capital expenditures. Capital expenditures at Prestea during the second quarter of 2019 comprised 20% of total capital expenditures and totaled \$3.4 million, which included \$2.7 million on sustaining capital related to Prestea Underground, \$0.3 million on exploration drilling and \$0.4 million on other equipment and capital expenditures.

OUTLOOK FOR 2019

Production and cost guidance

The Company's consolidated production and cost guidance has been revised. Consolidated gold production for 2019 is expected to be in the range of 190,000 to 205,000 ounces, representing a 14% decrease from the midpoint of the previous guidance range. At Prestea Underground, grade is expected to be lower due to barren zones not identified beforehand as a result of the large drill spacing, and mining rate for the remainder of 2019 is expected to be lower. This is partially offset by the extension of surface mining to the third quarter of 2019. At Wassa, grade for the full year is expected to be lower due to limited stope grade definition drilling and low mine plan flexibility, offset by an increase in ore tonnes mined.

Consolidated cash operating cost per ounce is expected to be in the range of \$800 to \$850 for 2019, representing 27% increase from the midpoint of the previous guidance range as a result of the revised gold production. Consolidated all-in sustaining cost per ounce is expected to be in the range of \$1,100 to \$1,200 for 2019, representing a 26% increase from the midpoint of the previous guidance range.

Revised production and cost guidance for 2019:

	Gold production	Cash operating costs	All-in sustaining costs
	thousands of ounces	\$ per ounce	\$ per ounce
Wassa	150 - 160	600 - 650	880 - 940
Prestea	40 - 45	1,450 - 1,650	1,900 - 2,150
Consolidated	190 - 205	800 - 850	1,100 - 1,200

Capital expenditure guidance

Capital expenditure guidance for 2019 remains unchanged.

	Sustaining	Development	Total
	\$ millions	\$ millions	\$ millions
Wassa	20.7	18.1	38.8
Prestea	9.5	—	9.5
Exploration	—	13.4	13.4
Consolidated	30.2	31.5	61.7

CORPORATE DEVELOPMENTS

Gold prices

Spot gold prices were \$1,409 per ounce at June 30, 2019, up from \$1,282 per ounce at December 31, 2018. The Company realized an average gold price of \$1,270 per ounce for gold sales during the second quarter of 2019, compared to an average realized gold price of \$1,273 per ounce for the same period in 2018. The spot gold price on July 30, 2019 was \$1,419 per ounce.

Revenue from spot sales during the second quarter of 2019 resulted in an average realized gold price of \$1,319 per ounce whereas revenue recognized from the gold purchase and sale agreement (the "Streaming Agreement") with RGLD Gold AG, a wholly-owned subsidiary of Royal Gold Inc., resulted in an average realized gold price of \$875 per ounce.

	Three Months Ended June 30, 2019		
	\$'000	Ounces	Realized price per ounce
Revenue - Stream arrangement			
Cash proceeds	\$ 1,407		
Deferred revenue recognized	3,306		
	\$ 4,713	5,384	\$ 875
Revenue - Spot sales	57,202	43,358	1,319
Total	61,915	48,742	\$ 1,270

\$60 Million Credit Facility

Subsequent to the quarter, on July 18, 2019, the Company signed a commitment letter for a senior secured credit facility in the principal amount of \$60 million (the "Credit Facility") with Macquarie Bank. The Credit Facility is expected to close during the third quarter of 2019 subject to normal course conditions precedent, including finalization of an intercreditor agreement with RGLD Gold AG. The Credit Facility will be used to refinance Ecobank Loan III, Ecobank Loan IV, and the Vendor Agreement, with any remaining balance to be available for general corporate purposes. The Credit Facility is available by way of a single drawdown with repayments of \$5 million quarterly, commencing on June 30, 2020. The final maturity date is March 31, 2023. The interest rate is 4.5% plus the applicable USD LIBOR rate. The Credit Facility is subject to normal course financial covenants.

Management Changes

On April 17, 2019, the Company announced that Sam Coetzer would be leaving the Company as of April 30, 2019, and that the Board of Directors had appointed Andrew Wray as President and Chief Executive Officer, effective May 1, 2019 and will be based in London.

On June 26, 2019, the Company announced that Daniel Owiredu would be stepping out of the role of Executive Vice President and Chief Operating Officer of Golden Star with effect from July 8, 2019, and would be replaced in that role by Graham Crew. During the transition period until December 31, 2019, Mr. Owiredu will take on the role of President of the Company.

As of January 1, 2020, Mr. Owiredu will step down as President and be appointed as Chairman of the Boards of Directors of the Company's subsidiaries, Golden Star (Wassa) Limited and Golden Star (Bogoso/Prestea) Limited.

Mr. Crew will relinquish his position on the Board of Directors of Golden Star once he takes over as Executive Vice President and Chief Operating Officer and will be based in London.

In addition to this change, Martin Raffield will be leaving his position as Executive Vice President, Chief Technical Officer of the Company with effect from September 30, 2019. Dr. Raffield's successor will be appointed in due course.

Exploration Update

Updated Technical Report for Wassa

On June 24, 2019, the Company filed an updated technical report pursuant to National Instrument 43-101 for its Wassa Gold Mine in Ghana entitled "NI 43-101 Technical Report on Resources and Reserves, Golden Star Resources, Wassa Gold Mine, Ghana" effective date December 31, 2018. See press release entitled "Golden Star Files Updated Technical Report for Wassa Gold Mine".

Wassa

On July 15, 2019, the Company reported significant gold mineralization 200 metres ("m") down plunge to the south of the Inferred Mineral Resource at the Wassa Underground demonstrating the extension of the deposit. The Company will continue with the inferred delineation and conversion drilling at Wassa into the third quarter of the year, then will be incorporating all of the results, including underground drilling, to the update of mineral resource and reserves for 2020 budgeting and year-end mineral resource and reserve estimation.

Father Brown

On July 15, 2019, the Company reported significant gold mineralization showing that the Adoikrom gold bearing structure extends over 200 m down plunge of the last drill hole. The drilling has been paused with the next step being to update the mineral resource models during the third quarter of 2019 which in turn will enable the Company's planning engineers to determine whether there is a viable underground mining project at Father Brown. The results of this study will also determine whether further drilling is warranted.

Prestea Underground

On June 3, 2019, the Company reported initial high grade extension drilling results from Prestea Underground which include 124.4 grams per tonne of gold over one metre. Assay results for eight diamond drill holes along the northern extension of the West Reef were received confirming ore body extensions to the north of the current reserves, approximately 150 m along strike between 21 and 24 levels. The exploration program for the third quarter of 2019 will continue to focus on further delineation of the mineralization in this area in order to potentially bring this material into mineral reserves. Also, definition drilling between 17 level and 21 level is expected to occur during the third quarter of 2019, after which exploration drilling will then be paused in the second half of 2019 to focus on operational improvements.

Independent Review Recommendations at Prestea Underground

As a result of the operational challenges at Prestea Underground, CSA Global was contracted to review the mine's operations with the mandate to take a holistic approach to understanding the challenges facing the operation. All aspects of technical, operational and management areas were examined in order for recommendations to be set forth to the Company for improvements at Prestea.

CSA Global has identified a range of issues affecting performance at the operation driving both lower volumes as well as excessive dilution. These include insufficient geological and geotechnical data, poor definition of the reef position, inadequate alignment of Alimak raises, inaccurate long hole drilling and blasting, low equipment mechanical availability and lack of access to the top level.

In order to address these issues, two main initiatives are being undertaken. Firstly, the prioritization and implementation of a number of low-cost, quick win initiatives are being undertaken with immediate effect, including increased definition drilling, development of a geotechnical block model, improved supervision, additional critical small equipment, capacity building and better defined key performance indicators. Secondly, the long-term mine plan will be redesigned and will assess whether the current mining method or a revised Alimak design with shorter raises is appropriate and whether a complementary mining method to bring additional flexibility is appropriate.

WASSA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Wassa) Limited, the Company owns and operates the Wassa Complex. Wassa is located in the southwestern region of Ghana, approximately 35 kilometers northeast of the town of Tarkwa. In 2018, Golden Star operated the Wassa Main Pit (an open pit operation) and Wassa Underground (an underground operation). As of February 1, 2018, Wassa became an underground-only operation. Wassa has a non-refractory processing plant (the “Wassa processing plant”) consisting of a carbon-in-leach (“CIL”) system with a capacity of 2.7 million tonnes per annum. In the first half of 2018, ore from both the Wassa Main Pit and Wassa Underground was processed at the Wassa processing plant, while in the first half of 2019 ore from Wassa Underground and stockpiles was processed at the Wassa processing plant.

		Three Months Ended June 30,		Six Months Ended June 30,	
		2019	2018	2019	2018
WASSA FINANCIAL RESULTS					
Revenue	\$'000	47,893	48,588	101,885	93,940
Mine operating expenses	\$'000	24,067	21,952	47,500	43,178
Severance charges	\$'000	—	1,576	225	4,970
Royalties	\$'000	2,439	2,517	5,238	4,883
Operating costs from metals inventory	\$'000	636	1,374	959	4,625
Inventory net realizable value adjustment and write-off	\$'000	—	3,103	—	3,103
Cost of sales excluding depreciation and amortization	\$'000	27,142	30,522	53,922	60,759
Depreciation and amortization	\$'000	4,226	5,581	8,598	11,189
Mine operating margin	\$'000	16,525	12,485	39,365	21,992
Capital expenditures	\$'000	13,622	7,881	24,688	14,487
WASSA OPERATING RESULTS					
Ore mined - Main Pit	t	—	—	—	54,281
Ore mined - Underground	t	312,115	238,953	638,862	452,345
Ore mined - Total	t	312,115	238,953	638,862	506,626
Waste mined - Main Pit	t	—	—	—	72,538
Waste mined - Underground	t	78,214	73,122	134,443	146,650
Waste mined - Total	t	78,214	73,122	134,443	219,188
Ore processed - Main Pit/Stockpiles	t	52,786	140,517	92,829	356,069
Ore processed - Underground	t	312,115	235,415	638,862	448,807
Ore processed - Total	t	364,901	375,932	731,691	804,876
Grade processed - Main Pit/Stockpiles	g/t	0.64	0.72	0.64	0.83
Grade processed - Underground	g/t	3.51	4.99	3.92	4.78
Recovery	%	95.9	96.1	95.8	95.7
Gold produced - Main Pit/Stockpiles	oz	1,192	3,013	1,998	9,005
Gold produced - Underground	oz	36,164	35,519	78,268	65,033
Gold produced - Total	oz	37,356	38,532	80,266	74,038
Gold sold - Main Pit/Stockpiles	oz	1,561	2,730	2,456	9,070
Gold sold - Underground	oz	36,164	35,519	78,268	65,033
Gold sold - Total	oz	37,725	38,249	80,724	74,102
Cost of sales per ounce ¹	\$/oz	831	944	774	971
Cash operating cost per ounce ¹	\$/oz	655	610	600	645
All-in sustaining cost per ounce ¹	\$/oz	941	994	844	954

¹ See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce to cost of sales excluding depreciation and amortization.

For the three months ended June 30, 2019 compared to the three months ended June 30, 2018

Production

Gold production from Wassa was 37,356 ounces for the second quarter of 2019, a 3% decrease from the 38,532 ounces produced during the same period in 2018. This decrease in production was primarily due to a decrease in stockpile production as there was a 62% decrease in stockpile ore tonnes processed compared to the same period in 2018.

Wassa Underground

Wassa Underground produced 36,164 ounces of gold (or approximately 97% of Wassa's total production) in the second quarter of 2019, compared to 35,519 ounces in the same period in 2018 (or approximately 92% of Wassa's total production). This 2% increase in production was related to the 31% increase in ore tonnes mined and 33% increase in ore tonnes processed, resulting from productivity improvements, offset by a 30% decrease in grade due to limited flexibility with the mine plan. Mining rates at Wassa Underground increased to approximately 3,470 tpd on average in the second quarter of 2019 compared to approximately 2,620 tpd in the same period in 2018. Underground ore processed increased 33% to 312,115 tonnes in the second quarter of 2019 compared to 235,415 tonnes in the same period in 2018.

Wassa Main Pit/Stockpiles

Wassa Main Pit produced 1,192 ounces in the second quarter of 2019, compared to 3,013 ounces in the same period in 2018. This decrease in production is a result of a 62% decrease in stockpile ore tonnes processed and an 11% decrease in stockpile ore grade processed compared to the same period in 2018.

Gold revenue

Gold revenue for the second quarter of 2019 was \$47.9 million, a decrease of 1% from \$48.6 million in the same period in 2018 due mainly to a decrease in gold sold. Gold sold decreased 1% to 37,725 ounces for the second quarter of 2019, compared to 38,249 ounces in the same period in 2018. The decrease was primarily due to a decrease in stockpile ore processed and grade compared to the same period in 2018. The average realized gold price remained consistent at \$1,270 per ounce for the second quarter of 2019 compared to \$1,270 per ounce in the same period in 2018.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$27.1 million for the second quarter of 2019, compared to \$30.5 million for the same period in 2018. The decrease was due primarily to a \$1.6 million decrease in severance charges, as suspension of the Wassa surface mining operation was completed in early 2018, a \$0.7 million decrease in operating costs from metals inventory related to a reduction in drawdown of ore stockpiles compared to the same period in 2018, a \$3.1 million decrease in inventory net realizable value adjustment and write-off as materials and supplies inventories related to open pit mining were written off in the same period in 2018, and a \$0.1 million decrease in royalty expense due to lower gold sales. Partially offsetting these decreases was a \$2.1 million increase in mine operating expenses, resulting from an increase in total tonnes mined, as Wassa Underground has steadily increased its mining rates.

Depreciation and amortization

Depreciation and amortization expense decreased to \$4.2 million for the second quarter of 2019, compared to \$5.6 million for the same period in 2018 due mainly to an increase in the total recoverable gold ounces over the life of mine of Wassa Underground.

Costs per ounce

Cost of sales per ounce decreased 12% to \$831 for the second quarter of 2019 from \$944 in the same period in 2018. Cash operating cost per ounce increased 7% to \$655 from \$610 for the same period in 2018. The higher cash operating costs per ounce in the second quarter of 2019 compared to the same period in 2018 were primarily a result of a decrease in gold sold and an increase in mine operating expenses. All-in sustaining cost per ounce decreased 5% to \$941 from \$994 for the same period in 2018 mainly due to a decrease in sustaining capital expenditures.

Capital expenditures

Capital expenditures for the second quarter of 2019 totaled \$13.6 million compared with \$7.9 million incurred during the same period in 2018. The increase in capital expenditures was due primarily to an increase of \$5.3 million in exploration drilling, a \$0.4 million increase related to the construction of a ventilation raise and a \$1.2 million increase related to the tailings storage facility. Offsetting these increases was a \$0.7 million decrease in capitalized development related to a decrease in development meters compared to the same period in 2018.

For the six months ended June 30, 2019 compared to the six months ended June 30, 2018

Production

Gold production from Wassa was 80,266 ounces for the six months ended June 30, 2019, an 8% increase from the 74,038 ounces produced in 2018. This increase in production was due to the Wassa Underground mine as tonnes mined and processed increased compared to the same period in 2018. As of February 1, 2018, Wassa became an underground-only mining operation, however, open pit stock piled ore continued to be processed throughout the year.

Wassa Underground

Wassa Underground produced 78,268 ounces of gold (or approximately 98% of Wassa's total production) for the six months ended June 30, 2019, compared to 65,033 ounces in 2018 (or approximately 88% of Wassa's total production). This 20% increase in production was related to increased tonnes mined, processed and recovery, resulting from productivity improvements. This was partially offset by an 18% decrease in grade due to limited flexibility with the mine plan. Mining rates at Wassa Underground increased to approximately 3,550 tpd on average for the six months ended June 30, 2019, compared to approximately 2,490 tpd in the same period in 2018. Ore processed increased 42% for the six months ended June 30, 2019 to 638,862 tonnes compared to 448,807 tonnes in the same period in 2018.

Wassa Main Pit/Stockpiles

Wassa Main Pit produced 1,998 ounces for the six months ended June 30, 2019, compared to 9,005 in the same period in 2018. This decrease in production is a result of a 74% decrease in stockpile ore tonnes processed and a 23% decrease in stockpile ore grade processed compared to the same period in 2018.

Gold revenue

Gold revenue for the six months ended June 30, 2019 was \$101.9 million, an increase of 8% from \$93.9 million in 2018 due mainly to an increase in gold sold. Gold sold increased 9% to 80,724 ounces for the six months ended June 30, 2019 compared to 74,102 ounces in 2018. The increase was primarily a result of increased gold production from Wassa Underground. The average realized gold price remained consistent at \$1,262 per ounce for the six months ended June 30, 2019 compared to \$1,268 per ounce in 2018.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$53.9 million for the six months ended June 30, 2019 compared to \$60.8 million in 2018. The decrease was due primarily to a \$4.7 million decrease in severance charges as suspension of the Wassa surface mining operation was completed in early 2018, a \$3.1 million decrease in inventory net realizable value adjustment and write-off as materials and supplies inventories related to open pit mining were written off in the same period in 2018, and a \$3.7 million decrease in operating costs from metals inventory due to a reduction in drawdown of ore stockpiles compared to the same period in 2018. Partially offsetting these decreases were a \$4.3 million increase in mine operating expenses, resulting from an increase in total tonnes mined, as Wassa Underground has steadily increased its mining rates and a \$0.4 million increase in royalty expense due to higher gold sales.

Depreciation and amortization

Depreciation and amortization expense decreased to \$8.6 million for the six months ended June 30, 2019 compared to \$11.2 million in 2018 due mainly to an increase in the total recoverable gold ounces over the life of mine of Wassa Underground.

Costs per ounce

Cost of sales per ounce decreased 20% to \$774 for the six months ended June 30, 2019 compared to \$971 in 2018. Cash operating cost per ounce decreased 7% to \$600 for the six months ended June 30, 2019 from \$645 in 2018. All-in sustaining cost per ounce decreased 11% to \$844 for the six months ended June 30, 2019 from \$954 in 2018. The lower costs per ounce for the six months ended June 30, 2019 as compared to 2018 was primarily a result of an increase in gold sold related to increased production from Wassa Underground.

Capital expenditures

Capital expenditures for the six months ended June 30, 2019 totaled \$24.7 million compared to \$14.5 million during the same period in 2018. The increase in capital expenditures is due primarily to an increase of \$9.4 million in exploration drilling, a \$1.6 million increase related to the construction of a ventilation raise and a \$1.6 million increase related to the tailings storage facility. Offsetting these increases was a \$1.7 million decrease in capitalized development related to a decrease in development meters compared to the same period in 2018.

PRESTEA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Bogoso/Prestea) Limited, the Company owns and operates the Prestea Complex located near the town of Prestea, Ghana. The Prestea complex consists of Prestea Underground (an underground operation), the Prestea Open Pits (neighboring open pits formed from oxide deposits) and associated support facilities. Prestea has a CIL processing facility with capacity of up to 1.5 million tonnes per annum, located 14 km away at Bogoso, which is suitable for treating non-refractory gold ore (the “non-refractory plant”). Ore from both Prestea Underground and the Prestea Open Pits is processed in the non-refractory plant. Prestea Underground achieved commercial production on February 1, 2018.

		Three Months Ended June 30,		Six Months Ended June 30,	
		2019	2018	2019	2018
PRESTEA FINANCIAL RESULTS					
Revenue	\$'000	14,022	28,533	27,287	54,000
Mine operating expenses	\$'000	18,706	23,504	35,169	46,424
Severance charges	\$'000	30	—	99	—
Royalties	\$'000	726	1,483	1,401	2,947
Operating costs (to)/from metals inventory	\$'000	(229)	2,134	(1,332)	5,924
Inventory net realizable value adjustment and write-off	\$'000	131	74	1,051	1,237
Cost of sales excluding depreciation and amortization	\$'000	19,364	27,195	36,388	56,532
Depreciation and amortization	\$'000	2,523	3,654	5,013	6,267
Mine operating loss	\$'000	(7,865)	(2,316)	(14,114)	(8,799)
Capital expenditures	\$'000	3,371	2,305	5,447	7,281
PRESTEA OPERATING RESULTS					
Ore mined - Open pits	t	158,300	45,547	203,007	274,255
Ore mined - Underground	t	37,155	31,373	75,833	63,819
Ore mined - Total	t	195,455	76,920	278,840	338,074
Waste mined - Open pits	t	219,400	146,316	253,637	652,313
Waste mined - Underground	t	2,014	—	3,222	2,211
Waste mined - Total	t	221,414	146,316	256,859	654,524
Ore processed - Open pits	t	174,718	342,226	270,372	686,918
Ore processed - Underground	t	37,155	31,373	75,833	63,819
Ore processed - Total	t	211,873	373,599	346,205	750,737
Grade processed - Open pits	g/t	1.55	2.33	1.46	1.84
Grade processed - Underground	g/t	4.09	13.56	5.19	10.58
Recovery	%	83.2	88.0	84.8	88.0
Gold produced - Open pits	oz	7,196	10,214	10,226	24,843
Gold produced - Underground	oz	3,870	12,463	11,214	19,944
Gold produced - Total	oz	11,066	22,677	21,440	44,787
Gold sold - Open pits	oz	7,147	9,847	10,300	24,873
Gold sold - Underground	oz	3,870	12,463	11,214	19,944
Gold sold - Total	oz	11,017	22,310	21,514	44,817
Cost of sales per ounce ¹	\$/oz	1,987	1,383	1,924	1,468
Cash operating cost per ounce ¹	\$/oz	1,677	1,149	1,573	1,224
All-in sustaining cost per ounce ¹	\$/oz	2,143	1,293	2,006	1,401

¹ See “Non-GAAP Financial Measures” section for a reconciliation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce to cost of sales excluding depreciation and amortization.

For the three months ended June 30, 2019 compared to the three months ended June 30, 2018

Production

Gold production from Prestea was 11,066 ounces in the second quarter of 2019, a 51% decrease from the 22,677 ounces produced during the same period in 2018. This decrease in production was due primarily to the planned reduction from the Prestea Open Pits and lower than planned head grade at Prestea Underground due to a combination of excessive dilution and ore loss.

Prestea Open Pits

The Prestea Open Pits produced 7,196 ounces in the second quarter of 2019, compared to 10,214 ounces in the same period in 2018. This decrease in production was planned, as the Prestea Open Pits were expected to complete gold production in 2018. Mining has continued into the second quarter of 2019 with additional ore being sourced from the pits close to Bogoso.

Prestea Underground

Prestea Underground produced 3,870 ounces in the second quarter of 2019 compared to 12,463 ounces in the same period in 2018. Production decreased 69% in the second quarter of 2019 compared to the same period in 2018, as a result of a 70% decrease in ore grade processed, offset partially by a 18% increase in ore tonnes processed. Production during the quarter was impacted by stopes performing poorly due to waste zones within the current stoping area not previously identified in the resource block model. These waste zones necessitated redesign and re-slotting of some stopes and resulted in production delays and excessive internal dilution. Further unplanned dilution was encountered due to poor ground conditions resulting in hanging wall failures as well as inaccurate production drilling in some instances. A number of initiatives have been implemented including closer spaced definition (grade control) drilling to address these issues and will form part of the broader review of the operation.

Gold revenue

Gold revenue for the second quarter of 2019 was \$14.0 million, a decrease of 51% from \$28.5 million in the same period of 2018 due mainly to a decrease in gold sales. Gold sold decreased 51% to 11,017 ounces for the second quarter of 2019, compared to 22,310 ounces in the same period of 2018. The decrease was primarily a result of a decrease in gold production from the Prestea Open Pits and Prestea Underground. The average realized gold price remained consistent at \$1,273 per ounce for the second quarter of 2019 compared to \$1,279 per ounce for the same period in 2018.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$19.4 million for the second quarter of 2019, compared to \$27.2 million for the same period in 2018. The decrease was due primarily to a \$4.8 million decrease in mine operating expenses related to less production from the Prestea Open Pits, a \$2.4 million decrease in operating costs from metals inventory, and a \$0.8 million decrease in royalty expense resulting from lower gold sales, offset by a \$0.1 million increase inventory net realizable value adjustment and write-off.

Depreciation and amortization

Depreciation and amortization expense decreased to \$2.5 million for the second quarter of 2019, compared to \$3.7 million for the same period in 2018 due mainly to a decrease in gold production, offset partially by the commencement of depreciation of Prestea Underground assets as commercial production was achieved on February 1, 2018.

Costs per ounce

Cost of sales per ounce increased 44% to \$1,987 for the second quarter of 2019 from \$1,383 in the same period in 2018. Cash operating cost per ounce of \$1,677 increased 46% to \$1,149 for the same period in 2018. All-in sustaining cost per ounce increased 66% to \$2,143 from \$1,293 for the same period in 2018. The increase in costs per ounce were primarily due to lower gold sales in the period, offset partially by lower mine operating expenses and operating costs from metals inventory.

Capital expenditures

Capital expenditures for the second quarter of 2019 totaled \$3.4 million compared to \$2.3 million incurred during the same period in 2018. The increase relates primarily to a \$0.6 million increase in capitalized development of Prestea Underground.

For the six months ended June 30, 2019 compared to the six months ended June 30, 2018

Production

Gold production from Prestea was 21,440 ounces for the six months ended June 30, 2019, a 52% decrease from the 44,787 ounces produced in 2018. This decrease in production was due primarily to the planned reduction from the Prestea Open Pits and the slower than expected ramp up at Prestea Underground.

Prestea Open Pits

The Prestea Open Pits produced 10,226 ounces for the six months ended June 30, 2019, compared to 24,843 ounces in 2018. This decrease in production was planned, as the Prestea Open Pits were expected to complete gold production in 2018. Mining has continued into the first half of 2019 with additional ore being sourced from the pits close to Bogoso.

Prestea Underground

Prestea Underground produced 11,214 ounces for the six months ended June 30, 2019, compared to 19,944 ounces in 2018. Production decreased 44% compared to the same period in 2018, as a result of a 51% decrease in ore grade processed, offset partially by a 19% increase in ore tonnes processed. Production during the quarter was impacted by stopes performing poorly due to waste zones within the current stoping area not previously identified in the resource block model. These waste zones necessitated redesign and re-slotting of some stopes and resulted in production delays and excessive internal dilution. Further unplanned dilution was encountered due to poor ground conditions resulting in hanging wall failures as well as inaccurate production drilling in some instances. A number of initiatives have been implemented including closer spaced definition (grade control) drilling to address these issues and will form part of the broader review of the operation.

Gold revenue

Gold revenue for the six months ended June 30, 2019 was \$27.3 million, a decrease of 49% from \$54.0 million in 2018 due mainly to a decrease in gold sold. Gold sold decreased 52% to 21,514 ounces for the six months ended June 30, 2019 compared to 44,817 ounces in 2018. The decrease was primarily a result of a decrease in gold production from the Prestea Open Pits and Prestea Underground. The average realized gold price increased 5% to \$1,268 per ounce for the six months ended June 30, 2019 compared to \$1,205 per ounce in 2018.

Cost of sales excluding depreciation and amortization

Cost of sales excluding depreciation and amortization was \$36.4 million for the six months ended June 30, 2019, compared to \$56.5 million in 2018. The decrease was due primarily to a \$11.3 million decrease in mine operating expenses related to less production, a \$7.3 million decrease in operating costs to metals inventory, and a \$1.5 million decrease in royalties resulting from lower gold sales

Depreciation and amortization

Depreciation and amortization expense decreased to \$5.0 million for the six months ended June 30, 2019, compared to \$6.3 million in 2018 due mainly to a decrease in gold production, offset partially by the commencement of depreciation of Prestea Underground assets as commercial production was achieved on February 1, 2018.

Costs per ounce

Cost of sales per ounce increased 31% to \$1,924 for the six months ended June 30, 2019, compared to \$1,468 in 2018. Cash operating cost per ounce increased 28% to \$1,573 for the six months ended June 30, 2019 compared to \$1,224 in 2018. All-in sustaining cost per ounce increased 43% to \$2,006 for the six months ended June 30, 2019 compared to \$1,401 in 2018. The increase in cost per ounce was primarily due to the decrease in ounces sold for the six months ended June 30, 2019 compared to 2018.

Capital expenditures

Capital expenditures for the six months ended June 30, 2019 totaled \$5.4 million, compared to \$7.3 million incurred in 2018. The decrease relates primarily to a \$0.6 million decrease in capitalized borrowing costs relating to Prestea Underground which achieved commercial production on February 1, 2018. In addition, there was a \$0.5 million decrease in capital expenditures related to the Prestea Open Pits and Mampon, as some of these deposits ceased production during 2018, and a \$0.8 million decrease in exploration drilling.

SUMMARIZED QUARTERLY FINANCIAL RESULTS

(Stated in thousands of U.S dollars except per share data)	Three Months Ended,							
	Q2 2019	Q1 2019	Q4 2018	Q3 2018 ²	Q2 2018 ²	Q1 2018 ²	Q4 2017 ²	Q3 2017 ²
Revenues	\$ 61,915	\$ 67,257	\$ 57,339	\$ 67,738	\$ 77,121	\$ 70,819	\$ 81,845	\$ 87,772
Cost of sales excluding depreciation and amortization	46,506	43,804	57,565	48,873	57,717	59,574	66,401	53,502
Net (loss)/income	(10,882)	(2,659)	(11,894)	(4,222)	(7,560)	(395)	13,825	13,703
Net (loss)/income attributable to shareholders of Golden Star	(9,036)	(1,924)	(9,318)	(3,178)	(6,642)	1,015	12,601	12,117
Adjusted net income/(loss) attributable to Golden Star shareholders ¹	872	9,394	(5,211)	3,011	2,408	(2,124)	10,701	19,827
Net (loss)/income per share attributable to Golden Star shareholders - basic	(0.08)	(0.02)	(0.09)	(0.04)	(0.09)	0.01	0.17	0.16
Net (loss)/income per share attributable to Golden Star shareholders - diluted	(0.08)	(0.02)	(0.09)	(0.04)	(0.09)	(0.03)	0.16	0.16
Adjusted income/(loss) per share attributable to Golden Star shareholders - basic ¹	0.01	0.09	(0.05)	0.04	0.03	(0.03)	0.14	0.26

¹ See "Non-GAAP Financial Measures" section for a reconciliation of adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders (basic) to net loss attributable to Golden Star shareholders.

² Per share quarterly financial information has been re-stated to reflect the share consolidation that was implemented on October 30, 2018.

LIQUIDITY AND FINANCIAL CONDITION

The Company held \$66.2 million in cash and cash equivalents as at June 30, 2019 compared to \$96.5 million in cash and cash equivalents at December 31, 2018. During the six months ended June 30, 2019, operations provided \$1.6 million, investing activities used \$26.9 million and financing activities used \$5.0 million of cash.

Before working capital changes, operations provided \$15.5 million of operating cash flow during the six months ended June 30, 2019, compared to \$11.1 million in the same period in 2018. Cash provided by operations before working capital changes increased primarily due to an increase in consolidated mine operating margin related to Wassa, as Wassa Underground gold sold increased compared to the same period in 2018.

Working capital used \$13.9 million during the six months ended June 30, 2019, compared to \$4.7 million in the same period in 2018. The working capital changes included a \$2.7 million decrease in accounts payable and accrued liabilities, a \$6.4 million decrease in other liability as the final amount owing on the PSU liability was paid in April 2019, a \$2.8 million increase in inventory, and a \$2.1 million increase in accounts receivable, offset by a \$0.1 million decrease in prepaids and other. Accounts payable and accrued liabilities increased slightly from \$78.5 million at December 31, 2018 to \$80.5 million at June 30, 2019.

Investing activities used \$26.9 million during the six months ended June 30, 2019, which included \$12.4 million on exploration drilling, \$9.7 million on the development of Wassa Underground, \$4.3 million on the development of Prestea Underground and \$3.7 million on equipment purchases and other. Offsetting these capital expenditures was a \$3.2 million increase in accounts payable and deposits on mine equipment and material.

Financing activities used \$5.0 million during the six months ended June 30, 2019, compared to \$8.4 million in the same period in 2018. Financing activities was comprised of \$5.6 million in principal repayments of debt, offset by \$0.6 million received on exercise of options.

LIQUIDITY OUTLOOK

As at June 30, 2019, the Company had \$66.2 million in cash and a working capital deficit of \$19.0 million, compared to \$96.5 million in cash and working capital of \$5.9 million at December 31, 2018. The Company expects Prestea to incur losses for the remainder of 2019, however this is expected to be offset by cash flow generated from the Wassa mine.

The Company expects to incur \$34.5 million on capital expenditures during the remainder of 2019 of which \$16.0 million is expected to be development capital and \$18.6 million is expected to be sustaining capital. The Company's debt servicing obligations are expected to be \$27.3 million for the remainder of 2019.

Subsequent to the quarter, on July 18, 2019, the Company signed a commitment letter for a senior secured credit facility in the principal amount of \$60 million (the "Credit Facility") with Macquarie Bank. The Credit Facility is expected to close during the third quarter of 2019 subject to normal course conditions precedent, including finalization of an intercreditor agreement with

RGLD Gold AG. The Credit Facility will be used to refinance Ecobank Loan III, Ecobank Loan IV, and the Vendor Agreement, with any remaining balance to be available for general corporate purposes. The Credit Facility is available by way of a single drawdown with repayments of \$5 million quarterly, commencing on June 30, 2020. The final maturity date is March 31, 2023. The interest rate is 4.5% plus the applicable USD LIBOR rate. The Credit Facility is subject to normal course financial covenants.

Based on the Company's cash balance together with the operating cash flow that the Company anticipates generating and the Credit Facility, the Company expects to have sufficient cash available to support its operations and mandatory expenditures for the next twelve months.

TABLE OF CONTRACTUAL OBLIGATIONS

As at June 30, 2019, the Company is committed to the following:

(Stated in thousands of U.S dollars)	Payment due by period				Total
	Less than 1 Year	1 to 3 years	4 to 5 years	More than 5 Years	
Accounts payable and accrued liabilities	\$ 80,462	\$ —	\$ —	\$ —	\$ 80,462
Debt ¹	28,073	69,985	5,806	—	103,864
Interest on long-term debt	7,388	8,387	349	—	16,124
Purchase obligations	18,248	—	—	—	18,248
Rehabilitation provisions ²	10,416	18,546	24,778	17,919	71,659
Total	144,587	96,918	30,933	17,919	290,357

¹ Includes the outstanding repayment amounts from the 7% Convertible Debentures maturing on August 15, 2021, Ecobank Loan III, Ecobank Loan IV, finance leases and the Vendor Agreement.

² Rehabilitation provisions indicates the expected undiscounted cash flows for each period.

RELATED PARTY TRANSACTIONS

There were no material related party transactions for the three and six months ended June 30, 2019 and 2018 other than compensation of key management personnel which is presented in Note 18 of the condensed interim consolidated financial statements for the three and six months ended June 30, 2019 and June 30, 2018. Key management personnel are defined as members of the Board of Directors and certain senior officers. Compensation of key management personnel are made on terms equivalent to those prevailing in an arm's length transaction.

OFF-BALANCE SHEET ARRANGEMENTS

The Company has no material off-balance sheet arrangements.

NON-GAAP FINANCIAL MEASURES

In this MD&A, we use the terms “cash operating cost”, “cash operating cost per ounce”, “all-in sustaining costs”, “all-in sustaining costs per ounce”, “loss attributable to Golden Star shareholders”, “adjusted income per share attributable to Golden Star shareholders”, “cash provided by operations before working capital changes”, and “cash provided by operations before working capital changes per share - basic”.

“Cost of sales excluding depreciation and amortization” as found in the statements of operations includes all mine-site operating costs, including the costs of mining, ore processing, maintenance, work-in-process inventory changes, mine-site overhead as well as production taxes, royalties, severance charges and by-product credits, but excludes exploration costs, property holding costs, corporate office general and administrative expenses, foreign currency gains and losses, gains and losses on asset sales, interest expense, gains and losses on derivatives, gains and losses on investments and income tax expense/benefit.

“Cost of sales per ounce” is equal to cost of sales excluding depreciation and amortization for the period plus depreciation and amortization for the period divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period.

“Cash operating cost” for a period is equal to “cost of sales excluding depreciation and amortization” for the period less royalties, the cash component of metals inventory net realizable value adjustments, materials and supplies write-off and severance charges,

and "cash operating cost per ounce" is that amount divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period. We use cash operating cost per ounce as a key operating metric. We monitor this measure monthly, comparing each month's values to prior periods' values to detect trends that may indicate increases or decreases in operating efficiencies. We provide this measure to investors to allow them to also monitor operational efficiencies of the Company's mines. We calculate this measure for both individual operating units and on a consolidated basis. Since cash operating costs do not incorporate revenues, changes in working capital or non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, mining rates, milling rates, ore grade, gold recovery, 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 similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

"All-in sustaining costs" commences with cash operating costs and then adds the cash component of metals inventory net realizable value adjustments, royalties, sustaining capital expenditures, corporate general and administrative costs (excluding share-based compensation expenses and severance), and accretion of rehabilitation provision. For mine site all-in sustaining costs, corporate general and administrative costs (excluding share-based compensation expenses and severance) are allocated based on gold sold by each operation. "All-in sustaining costs per ounce" is that amount divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period. This measure seeks to represent the total costs of producing gold from current operations, and therefore it does not include capital expenditures attributable to projects or mine expansions, exploration and evaluation costs attributable to growth projects, income tax payments, interest costs or dividend payments. Consequently, this measure is not representative of all of the Company's cash expenditures. In addition, the calculation of all-in sustaining costs does not include depreciation expense as it does not reflect the impact of expenditures incurred in prior periods. Therefore, it is not indicative of the Company's overall profitability. Share-based compensation expenses are also excluded from the calculation of all-in sustaining costs as the Company believes that such expenses may not be representative of the actual payout on equity and liability based awards.

The Company believes that "all-in sustaining costs" will better meet the needs of analysts, investors and other stakeholders of the Company in understanding the costs associated with producing gold, understanding the economics of gold mining, assessing the operating performance and the Company's ability to generate free cash flow from current operations and to generate free cash flow on an overall Company basis. Due to the capital intensive nature of the industry and the long useful lives over which these items are depreciated, there can be a disconnect between net earnings calculated in accordance with IFRS and the amount of free cash flow that is being generated by a mine. In the current market environment for gold mining equities, many investors and analysts are more focused on the ability of gold mining companies to generate free cash flow from current operations, and consequently the Company believes these measures are useful non-IFRS operating metrics ("non-GAAP measures") and supplement the IFRS disclosures made by the Company. These measures are not representative of all of Golden Star's cash expenditures as they do not include income tax payments or interest costs. Non-GAAP measures are intended to provide additional information only and do not have standardized definitions under IFRS and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. These measures are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. The table below reconciles these non-GAAP measures to the most directly comparable IFRS measures and, where applicable, previous periods have been recalculated to conform to the current definition.

The table below reconciles consolidated cost of sales excluding depreciation and amortization to cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
(Stated in thousands of U.S dollars except cost per ounce data)				
Cost of sales excluding depreciation and amortization	46,506	57,717	90,310	117,291
Depreciation and amortization	6,749	9,235	13,611	17,456
Cost of sales	<u>53,255</u>	<u>66,952</u>	<u>103,921</u>	<u>134,747</u>
Cost of sales excluding depreciation and amortization	46,506	57,717	90,310	117,291
Severance charges	(30)	(1,576)	(324)	(4,970)
Royalties	(3,165)	(4,000)	(6,639)	(7,830)
Inventory net realizable value adjustment and write-off	(131)	(3,177)	(1,051)	(4,340)
Cash operating costs	<u>43,180</u>	<u>48,964</u>	<u>82,296</u>	<u>100,151</u>
Royalties	3,165	4,000	6,639	7,830
Inventory net realizable value adjustment and write-off	131	3,177	1,051	4,340
Accretion of rehabilitation provision	166	131	365	345
General and administrative costs, excluding share-based compensation and severance ¹	4,726	3,689	7,885	7,436
Sustaining capital expenditures	7,725	6,913	13,093	10,491
All-in sustaining costs	<u>59,093</u>	<u>66,874</u>	<u>111,329</u>	<u>130,593</u>
Ounces sold ²	48,742	60,559	102,238	116,870
Cost of sales per ounce	\$ 1,093	\$ 1,106	\$ 1,016	\$ 1,153
Cash operating cost per ounce	\$ 886	\$ 809	\$ 805	\$ 857
All-in sustaining cost per ounce	\$ 1,212	\$ 1,104	\$ 1,089	\$ 1,117

¹ Severance charges are termination costs related to the change in senior management in 2019.

² Ounces sold used in the calculation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce excludes 2,049 pre-commercial production ounces sold at Prestea Underground in January 2018.

The tables below reconcile cost of sales excluding depreciation and amortization to cash operating cost per ounce for each of the operating mines:

	For the Three Months Ended June 30, 2019		
	Wassa	Prestea	Combined
(Stated in thousands of U.S dollars except cost per ounce data)			
Cost of sales excluding depreciation and amortization	27,142	19,364	46,506
Depreciation and amortization	4,226	2,523	6,749
Cost of sales	<u>31,368</u>	<u>21,887</u>	<u>53,255</u>
Cost of sales excluding depreciation and amortization	27,142	19,364	46,506
Severance charges	—	(30)	(30)
Royalties	(2,439)	(726)	(3,165)
Inventory net realizable value adjustment and write-off	—	(131)	(131)
Cash operating costs	<u>24,703</u>	<u>18,477</u>	<u>43,180</u>
Royalties	2,439	726	3,165
Inventory net realizable value adjustment and write-off	—	131	131
Accretion of rehabilitation provision	32	134	166
General and administrative costs, excluding share-based compensation and severance ¹	3,658	1,068	4,726
Sustaining capital expenditures	4,650	3,075	7,725
All-in sustaining costs	<u>35,482</u>	<u>23,611</u>	<u>59,093</u>
Ounces sold	37,725	11,017	48,742
Cost of sales per ounce	\$ 831	\$ 1,987	\$ 1,093
Cash operating cost per ounce	\$ 655	\$ 1,677	\$ 886
All-in sustaining cost per ounce	\$ 941	\$ 2,143	\$ 1,212

¹ Severance charges are termination costs related to the change in senior management in 2019.

**For the Six Months Ended
June 30, 2019**

(Stated in thousands of U.S dollars except cost per ounce data)

	Wassa	Prestea	Combined
Cost of sales excluding depreciation and amortization	53,922	36,388	90,310
Depreciation and amortization	8,598	5,013	13,611
Cost of sales	<u>62,520</u>	<u>41,401</u>	<u>103,921</u>
Cost of sales excluding depreciation and amortization	53,922	36,388	90,310
Severance charges	(225)	(99)	(324)
Royalties	(5,238)	(1,401)	(6,639)
Inventory net realizable value adjustment and write-off	—	(1,051)	(1,051)
Cash operating costs	<u>48,459</u>	<u>33,837</u>	<u>82,296</u>
Royalties	5,238	1,401	6,639
Inventory net realizable value adjustment and write-off	—	1,051	1,051
Accretion of rehabilitation provision	95	270	365
General and administrative costs, excluding share-based compensation and severance ¹	6,226	1,659	7,885
Sustaining capital expenditures	8,153	4,940	13,093
All-in sustaining costs	<u>68,171</u>	<u>43,158</u>	<u>111,329</u>
Ounces sold	80,724	21,514	102,238
Cost of sales per ounce	\$ 774	\$ 1,924	\$ 1,016
Cash operating cost per ounce	\$ 600	\$ 1,573	\$ 805
All-in sustaining cost per ounce	\$ 844	\$ 2,006	\$ 1,089

¹ Severance charges are termination costs related to the change in senior management in 2019.

**For the Three Months Ended
June 30, 2018**

(Stated in thousands of U.S dollars except cost per ounce data)

	Wassa	Prestea	Combined
Cost of sales excluding depreciation and amortization	30,522	27,195	57,717
Depreciation and amortization	5,581	3,654	9,235
Cost of sales	<u>36,103</u>	<u>30,849</u>	<u>66,952</u>
Cost of sales excluding depreciation and amortization	30,522	27,195	57,717
Severance charges	(1,576)	—	(1,576)
Royalties	(2,517)	(1,483)	(4,000)
Inventory net realizable value adjustment and write-off	(3,103)	(74)	(3,177)
Cash operating costs	<u>23,326</u>	<u>25,638</u>	<u>48,964</u>
Royalties	2,517	1,483	4,000
Inventory net realizable value adjustment and write-off	3,103	74	3,177
Accretion of rehabilitation provision	—	131	131
General and administrative costs, excluding share-based compensation	2,330	1,359	3,689
Sustaining capital expenditures	6,759	154	6,913
All-in sustaining costs	<u>38,035</u>	<u>28,839</u>	<u>66,874</u>
Ounces sold	38,249	22,310	60,559
Cost of sales per ounce	\$ 944	\$ 1,383	\$ 1,106
Cash operating cost per ounce	\$ 610	\$ 1,149	\$ 809
All-in sustaining cost per ounce	\$ 994	\$ 1,293	\$ 1,104

**For the Six Months Ended
June 30, 2018**

(Stated in thousands of U.S dollars except cost per ounce data)

	Wassa	Prestea	Combined
Cost of sales excluding depreciation and amortization	60,759	56,532	117,291
Depreciation and amortization	11,189	6,267	17,456
Cost of sales	71,948	62,799	134,747
Cost of sales excluding depreciation and amortization	60,759	56,532	117,291
Severance charges	(4,970)	—	(4,970)
Royalties	(4,883)	(2,947)	(7,830)
Inventory net realizable value adjustment and write-off	(3,103)	(1,237)	(4,340)
Cash operating costs	47,803	52,348	100,151
Royalties	4,883	2,947	7,830
Inventory net realizable value adjustment and write-off	3,103	1,237	4,340
Accretion of rehabilitation provision	81	264	345
General and administrative costs, excluding share-based compensation	4,634	2,802	7,436
Sustaining capital expenditures	10,180	311	10,491
All-in sustaining costs	70,684	59,909	130,593
Ounces sold¹	74,102	42,768	116,870
Cost of sales per ounce	\$ 971	\$ 1,468	\$ 1,153
Cash operating cost per ounce	\$ 645	\$ 1,224	\$ 857
All-in sustaining cost per ounce	\$ 954	\$ 1,401	\$ 1,117

¹ Ounces sold used in the calculation of cost of sales per ounce and cash operating cost per ounce in the six months ended June 30, 2018 excludes 2,049 pre-commercial production ounces sold at Prestea Underground in January 2018.

“Cash provided by 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. “Cash provided by operations before working capital changes per share - basic” is “Cash provided by operations before working capital changes” divided by the basic weighted average number of shares outstanding for the period.

We use cash operating cost per ounce and cash provided by operations before working capital changes as key operating metrics. We monitor these measures monthly, comparing each month's values to the values in prior periods to detect trends that may indicate increases or decreases in operating efficiencies. These measures are also compared against budget to alert management of trends that may cause actual results to deviate from planned operational results. We provide these measures to investors to allow them to also monitor operational efficiencies of the mines owned by the Company.

Cash operating cost per ounce and cash provided by operations before working capital changes should be considered non-GAAP financial measures as defined in Canadian securities laws and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. There are material limitations associated with the use of such non-GAAP measures. Since these measures do not incorporate revenues, changes in working capital or non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, mining rates, milling rates, ore grade, gold recovery, 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 similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

Adjusted net income attributable to Golden Star shareholders

The table below shows the reconciliation of net loss attributable to Golden Star shareholders to adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders:

(Stated in thousands of U.S dollars except per share data)	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	2019	2018
Net loss attributable to Golden Star shareholders	(9,036)	(6,642)	(10,960)	(5,627)
Add back/(deduct):				
Share-based compensation expense	1,058	3,220	2,004	582
(Gain)/loss on fair value of financial instruments	(424)	1,301	3,449	(4,141)
Severance charges ¹	3,751	1,576	4,045	4,970
Loss/(gain) on change in asset retirement obligations	862	(327)	587	(1,121)
Income tax expense	5,278	3,783	12,480	6,674
	1,489	2,911	11,605	1,337
Adjustments attributable to non-controlling interest	(617)	(503)	(1,339)	(1,052)
Adjusted net income attributable to Golden Star shareholders	872	2,408	10,266	285
Adjusted income per share attributable to Golden Star shareholders - basic	\$ 0.01	\$ 0.03	\$ 0.09	\$ 0.00
Weighted average shares outstanding - basic (millions) ²	108.9	76.2	108.8	76.2

¹ Severance charges includes termination costs related to the change in senior management in 2019.

² Weighted average shares outstanding - basic has been re-stated to reflect the share consolidation that was implemented on October 30, 2018.

The Company uses “Adjusted net income attributable to Golden Star shareholders” for its own internal purposes. Management’s internal budgets and forecasts and public guidance do not reflect the items which have been excluded from the determination of adjusted net income attributable to Golden Star shareholders. Consequently, the presentation of adjusted net income attributable to Golden Star shareholders enables shareholders to better understand the underlying operating performance of our core mining business through the eyes of management. Management periodically evaluates the components of adjusted net earnings based on an internal assessment of performance measures that are useful for evaluating the operating performance of our business and a review of non-GAAP measures used by mining industry analysts and other mining companies.

“Adjusted net income attributable to Golden Star shareholders” is calculated by adjusting net loss attributable to Golden Star shareholders for share-based compensation expenses, gain/loss on fair value of financial instruments, severance charges, loss/gain on change in asset retirement obligations and income tax expense. “Adjusted income per share attributable to Golden Star shareholders” for the period is “Adjusted net income attributable to Golden Star shareholders” divided by the weighted average number of shares outstanding using the basic method of earnings per share.

Adjusted net income attributable to Golden Star shareholders and adjusted income per share attributable to Golden Star shareholders should be considered non-GAAP financial measures as defined in the Canadian securities laws and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP. There are material limitations associated with the use of such non-GAAP measures. Since these measures do not incorporate all non-cash expense and income items, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, our share price, risk-free interest rates, gold prices, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. The Company believes that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

OUTSTANDING SHARE DATA

As of July 30, 2019, there were 109,141,742 common shares of the Company issued and outstanding, 3,934,683 stock options outstanding, 1,230,358 deferred share units outstanding, 971,295 share units of 2017 PRSUs outstanding and 7% Convertible Debentures which are convertible into an aggregate of 11,444,000 common shares.

CRITICAL ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

For a full list of judgments, estimates and assumptions, please refer to Note 4 of the 2018 Annual Financial Statements.

CHANGES IN ACCOUNTING POLICIES

The Company has adopted the following new and revised standards, effective January 1, 2019. These changes were made in accordance with the applicable transitional provisions.

IFRS 16 *Leases* specifies how an IFRS reporter will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is twelve months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17. IFRS 16 was issued in January 2016 and applies to annual reporting periods beginning on or after January 1, 2019.

On January 1, 2019, the Company adopted the requirements of IFRS 16 *Leases*. As a result, the Company updated its accounting policy for leases to align with the requirements of IFRS 16. The Company elected to use the modified retrospective approach to initially adopt IFRS 16 which resulted in recognizing the cumulative effect of prior period amounts as an adjustment to the opening balance sheet through opening deficit on January 1, 2019.

Under IFRS 16, the Company recognized lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17 *Leases*. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as of January 1, 2019. The weighted average lessee's incremental borrowing rate applied to the lease liabilities on January 1, 2019 was 7.5%.

The associated right-of-use assets for property leases were measured on a retrospective basis as if the new rules had always been applied. The change in accounting policy affected the following items in the balance sheet on January 1, 2019:

- Mining interests (plant and equipment) - increase of \$0.7 million
- Long term debt (finance leases) - increase of \$0.5 million

The net impact on retained earnings on January 1, 2019 was a decrease of \$0.1 million.

IFRIC 23 *Uncertainty over income tax treatments* clarifies how the recognition and measurement requirements of IAS 12, Income Taxes, are applied where there is uncertainty over income tax treatments effective for years beginning on or after January 1, 2019. There was no accounting impact to the financial statements on adoption of this standard.

FINANCIAL INSTRUMENTS

(Stated in thousands of U.S dollars)	Fair value at June 30, 2019	Basis of measurement	Associated risks
Cash and cash equivalents	\$ 66,154	Amortized cost	Interest/Credit/Foreign exchange
Accounts receivable	5,327	Amortized cost	Foreign exchange/Credit
Trade and other payables	73,131	Amortized cost	Foreign exchange/Interest
Finance leases	1,356	Amortized cost	Interest
Ecobank Loan III	17,208	Amortized cost	Interest
Ecobank Loan IV	15,733	Amortized cost	Interest
7% Convertible Debentures	45,758	Amortized cost	Interest
Vendor Agreement	17,142	Amortized cost	Interest/Foreign exchange
Long-term derivative liability	7,626	Fair value through profit and loss	Market price

Amortized cost - Cash and cash equivalents, accounts receivable, trade and other payables, the 7% Convertible Debentures, the Ecobank Loan III, the Ecobank Loan IV, the Vendor Agreement and the finance leases approximate their carrying values as the interest rates are comparable to current market rates. Carrying value of the Vendor Agreement has been discounted to reflect its fair value.

Fair value through profit or loss - The fair value of the long-term derivative liability relating to the 7% Convertible Debentures is estimated using a convertible note valuation model. For the six months ended June 30, 2019, a total loss of \$3.4 million was recorded to the statement of operations.

DISCLOSURES ABOUT RISKS

The Company's exposure to significant risks include, but are not limited to, the following risks: change in interest rates on our debt, change in foreign currency exchange rates, commodity price fluctuations, liquidity risk and credit risk. In recognition of the Company's outstanding accounts payable, the Company cannot guarantee that vendors or suppliers will not suspend or deny delivery of products or services to the Company. The Company may not be able to implement the recommendations of CSA Global on a timely basis which may trigger an impairment test of the Prestea Operation. For a complete discussion of the risks, refer to the Company's Annual Information Form for the year ended December 31, 2018 available on the SEDAR website at www.sedar.com.

CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

The Company's management, with the participation of its President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures. Based upon the results of that evaluation, the Company's President and Chief Executive Officer and Executive Vice President and Chief Financial Officer have concluded that, as of June 30, 2019, the Company's disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by the Company in reports it files is recorded, processed, summarized and reported, within the appropriate time periods and is accumulated and communicated to management, including the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

The Company's management, with the participation of its President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, are responsible for establishing and maintaining adequate internal control over financial reporting. Under the supervision of the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, the Company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The Company's internal control over financial reporting includes policies and procedures that:

- pertain to the maintenance of records that accurately and fairly reflect, in reasonable detail, the transactions and dispositions of assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS and that the Company's receipts and expenditures are made only in accordance with authorizations of management and the Company's directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the Company's consolidated financial statements.

The Company's management, including the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, believes that any disclosure controls and procedures or internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, they cannot provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been prevented or detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by unauthorized override of the control. The design of any control system also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Accordingly, because of the inherent limitations in a cost effective control system, misstatements due to error or fraud may occur and not be detected.

Changes in Internal Control Over Financial Reporting

There has been no change in the Company's design of internal controls and procedures over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting during the period covered by this MD&A.

RISK FACTORS AND ADDITIONAL INFORMATION

Additional information regarding the Company, including the Company's Annual Information Form for the year ended December 31, 2018, is available under the Company's profile on SEDAR at www.sedar.com.