



**GOLDEN STAR RESOURCES LTD.**

**2013 Q2**

**MANAGEMENT DISCUSSION AND  
ANALYSIS**

**For the quarterly period ended June 30, 2013**

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

The following discussion and analysis should be read in conjunction with the annual consolidated financial statements of Golden Star Resources Ltd ("Golden Star" or "Company" or "we", "our") for the year ended December 31, 2012 prepared in accordance with accounting principles generally accepted in the United States ("US GAAP"), and with the accompanying unaudited condensed interim consolidated financial statements and related notes for the period ended June 30, 2013 prepared in accordance with International Financial Reporting Standards ("IFRS"). This Management's Discussion and Analysis ("MD&A") of Financial Condition and Results of Operations includes information available to August 12, 2013. All amounts shown are in thousands of dollars unless noted otherwise. All currency amounts are stated in U.S. dollars unless noted otherwise.

Information presented in this MD&A is prepared in accordance with IFRS unless otherwise noted.

### **CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION**

This report 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. Forward-looking information and statements include, but are not limited to, information or statements with respect to the estimation of mineral reserves and resources, the timing of such estimates, the realization of mineral reserve estimates, the timing and amount of estimated future production, expected cash operating cost reductions, strip ratios, costs of production, capital expenditures, costs and timing of the development of new deposits and sources of funding for such development, success of exploration activities, permitting time lines, currency exchange rate fluctuations, requirements for additional capital, government regulation of mining operations and environmental risks, unanticipated reclamation expenses and objectives for 2013 and 2014.

Generally, these 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 thereof.

Forward-looking information and statements are made based upon certain assumptions and other important factors that, if untrue, could cause the actual results, performances or achievements of Golden Star to be materially different from future results, performances 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, regulatory restrictions (including environmental regulatory restrictions and liability), activities by governmental authorities (including changes in taxation), currency fluctuations, the speculative nature of gold exploration, the global economic climate, dilution, share price volatility, 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 actions, events or results to differ materially from those described in forward-looking information and statements, there may be other factors that cause actions, events or results 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, level of activity, 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 economical and political instability in foreign jurisdictions in which Golden Star operates; risks related to current global financial conditions; risks related to joint venture operations; actual results of current exploration activities; environmental risks; future prices of gold; possible variations in ore reserves, grade or recovery rates; mine development and operating risks; 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 "Description of the Business - Risk Factors" in Golden Star's Annual Report for the year ended December 31, 2012 available at [www.sedar.com](http://www.sedar.com). Although Golden Star has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information and statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results 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 our operating environment. Golden Star does not undertake to update any forward-looking information and statements that are included in this MD&A, except in accordance with 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, and a "qualified person" as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"). 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 NI 43-101. All mineral resources are reported exclusive of mineral reserves and mineral resources which are not mineral reserves do not have demonstrated economic viability. Information on data verification performed on the mineral properties mentioned in this MD&A that are considered to be material mineral properties to the Company are contained in Golden Star's Annual Report for the year ended December 31, 2012 and the current technical report for those properties, including the technical report dated May 1, 2013 titled "NI 43 101 Technical Report for the Prestea West Reef Feasibility Study, Ghana effective Date 1st May 2013", all available at [www.sedar.com](http://www.sedar.com).

### **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 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 value. 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 or indicated mineral resources will ever be upgraded into mineral reserves. You are urged to consider closely the disclosure on the mining industry technical terms in "Glossary of Terms" in our Annual Report for the fiscal year ended December 31, 2012, available on SEDAR at [www.sedar.com](http://www.sedar.com).

## **OVERVIEW OF GOLDEN STAR**

We are a Canadian federally-incorporated, international gold mining and exploration company producing gold in Ghana, West Africa. We also conduct gold exploration in other countries in West Africa and in South America. Golden Star Resources Ltd. was established under the *Canada Business Corporations Act* on May 15, 1992. Our principal and registered office is located at 150 King Street West, Sunlife Financial Tower, Suite 1200, Toronto, Ontario Canada M5H 1J9.

Through a 90% owned subsidiary, Golden Star (Wassa) Limited (“GSWL”), we own and operate the Wassa open-pit gold mine, the Father Brown open pit gold mine and a Carbon-in-leach (“CIL”) processing plant (“Wassa/HBB”), located approximately 35 kilometers from the town of Bogoso, Ghana. Through our 90% owned subsidiary Golden Star (Bogoso/Prestea) Ltd (“GSBPL”) we own and operate the Bogoso/Prestea gold mining and processing operation (“Bogoso/Prestea”) located near the town of Bogoso, Ghana. We hold interests in several gold exploration projects in Ghana and other parts of West Africa, and in South America we hold and manage exploration properties in Brazil.

Our business and development strategy is focused primarily on the exploration, development and operation of gold properties in Ghana, West Africa. We also pursue gold exploration activities in South America and other countries in West Africa.

Our current focus is to improve operating efficiencies and reduce operating and capital costs at both operations; to continue to strengthen Wassa/HBB by evaluating possible push backs of the Father Brown pit; and to further the development of the various gold deposits located near the Bogoso processing plants including the Prestea Underground mine.

Our longer term objective is to continue the growth of our mining business. We continue to evaluate potential acquisition and merger opportunities that could further increase our annual gold production. However, we presently have no agreement or understanding with respect to any specific potential transaction.

We also hold interests in several gold exploration projects in Ghana and other parts of West Africa, and in South America we hold and manage exploration properties in Brazil. See Item 2 - “Description of Properties” in our Annual Report on Form 10-K for the year ended December 31, 2012, for additional details on these properties.

All our operations, with the exception of certain exploration projects, transact business in U.S. dollars and keep financial records in U.S. dollars. Our accounting records are kept in accordance with IFRS. Our fiscal year ends December 31. We are a reporting issuer or the equivalent in all provinces of Canada, in Ghana and in the United States and file disclosure documents with securities regulatory authorities in Canada and Ghana and with the United States Securities and Exchange Commission.

## **ADOPTION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS**

Effective as of the second quarter of 2013, the Company prepares its financial statements in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). The comparative financial information from 2012 in this MD&A has also been restated to conform to IFRS. This MD&A should be read in conjunction with Note 25 “First Time Adoption of IFRS” to the Company's condensed interim consolidated financial statements.

To transition from US GAAP to IFRS, the main adjustment to net assets and net equity related to the IFRS 1 exemption on using fair value as deemed cost for items of mineral property and property, plant and equipment at Bogoso/Prestea. As a result of electing this exemption the asset value at Bogoso was reduced by \$148.5 million as compared to the value used for US GAAP as of January 1, 2012. As a result of the lower cost basis depreciation and amortization expense was lower under IFRS than under US GAAP.

## FINANCIAL AND OPERATING SUMMARY

		For the three months ended June 30,		For the six months ended June 30,	
<b>OPERATING SUMMARY</b>		<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
Wassa/HBB gold sold	oz	50,774	41,068	96,640	77,551
Bogoso/Pretea gold sold	oz	34,316	44,115	69,811	85,357
Total gold sold	oz	85,090	85,183	166,451	162,908
Average realized gold price	\$/oz	1,418	1,600	1,524	1,641
Cash operating cost per ounce - Wassa <sup>1</sup>	\$/oz	736	831	770	908
Cash operating cost per ounce - Bogoso <sup>1</sup>	\$/oz	1,584	1,101	1,501	1,178
Cash operating cost per ounce <sup>1</sup>	\$/oz	1,078	971	1,077	1,049
All-in sustaining cost per ounce <sup>1</sup>	\$/oz	1,378	1,199	1,363	1,338
All-in cost per ounce <sup>1</sup>	\$/oz	1,596	1,365	1,607	1,525
<b>FINANCIAL SUMMARY</b>					
Revenues	\$'000	120,693	136,313	253,603	267,333
Net (loss)/income attributable to Golden Star shareholders	\$'000	(128,828)	37	(120,823)	12,910
Adjusted net (loss)/income attributable to Golden Star shareholders <sup>3</sup>	\$'000	(19,780)	8,154	(19,421)	21,919
Cash generated from operations before working capital changes <sup>2</sup>	\$'000	331	34,834	14,571	58,409
Net (loss)/income per share attributable to Golden Star shareholders - basic and diluted	\$/share	(0.50)	—	(0.47)	0.05
Adjusted net (loss)/income per share attributable to Golden Star shareholders - basic and diluted <sup>3</sup>	\$/share	(0.08)	0.03	(0.07)	0.08

<sup>1</sup> See "Non-GAAP Financial Measures" on page 21 for a reconciliation of cash operating cost per ounce, all-in sustaining costs per ounce and all-in costs per ounce to Cost of sales before depreciation and amortization.

<sup>2</sup> See "Non-GAAP Financial Measures" on page 21 for an explanation of the calculation of cash generated by operations before working capital changes.

<sup>3</sup> See "Non-GAAP Financial Measures" on page 21 for a reconciliation of adjusted net (loss)/income attributable to Golden Star shareholders and adjusted net (loss)/income per share attributable to Golden Star shareholders to net (loss)/income attributable to Golden Star shareholders and net (loss)/income attributable to Golden Star shareholders per share.

Of significance to the June 30, 2013 position:

- As a result of the drop in gold prices we recorded before tax impairment charges of \$193.0 million for the six months ended June 30, 2013 related to the Bogoso/Pretea and Wassa/HBB operations.
- In mid April gold prices dropped below \$1,300 per ounce, down from \$1,694 per ounce at the beginning of 2013, resulting in a \$182 per ounce decrease in the average realized gold price for the second quarter of 2013.
- In response to the drop in gold prices during the second quarter combined with pit wall instability, we suspended mining at the Pampe open-pit prior to the end of the second quarter.
- Cash used for capital expenditures (including betterment stripping previously expensed under US GAAP) totaled \$56.7 million during the six months ended June 30, 2013.

<b>FINANCIAL CONDITION</b>	<b>As of June 30, 2013</b>	<b>As of December 31, 2012</b>
Cash and cash equivalents	\$ 52,698	\$ 78,884
Working capital	13,072	69,218
Total assets	433,994	656,296
Equity	186,387	328,177

## **CORPORATE DEVELOPMENTS**

### **GOLD PRICES**

We realized an average of \$1,418 per ounce for our gold shipments during the second quarter of 2013 compared with \$1,600 per ounce for our gold shipments during the second quarter of 2012.

While gold prices generally trended upward from a low of \$252 per ounce in 2001 to a high of \$1,895 per ounce in September 2011, spot prices fell from \$1,694 per ounce at the beginning of 2013 to \$1,192 per ounce near the end of the second quarter 2013. Spot prices as at August 9, 2013 are \$1,309 per ounce.

If gold prices were to remain at current levels our Mineral Reserves and Resources could be significantly lower when re-assessed at the end of 2013 than previously reported in our 2012 annual filing.

### **OPERATING COSTS AND CAPITAL SPENDING REDUCTIONS**

In response to the recent significant decline in gold prices, the Company has implemented the following measures:

- Budgeted capital expenditures for 2013 were reviewed and have been reduced by \$64 million to \$76 million for 2013 (see "Capital Resources"), including a reduction in our expected sustaining capital expenditure of approximately \$20 million to approximately \$40 million and a reduction in our development capital budget of \$45 million to \$36 million for the year.
- Operating cost reduction initiatives for 2013 total an estimated \$45 million representing approximately 10% of expected annual operating expenses.
- Our expected exploration spending for 2013 was reduced to \$16.5 million from \$20 million, of which approximately \$11 million has been spent to date.
- We re-optimized our pits at Wassa, Dumasi, and Mampon. The pit shells are now based on a \$1,100 per ounce gold price for Wassa and a \$1,200 per ounce gold price at Dumasi and Mampon relative to original \$1,450 per ounce pit shells used earlier in the Company's 2012 reserve estimate.
- Pitwall push backs at both Bogoso North and Chujah continue, leading to expected lower cost mining operations in 2014.

We expect the refractory operations to improve based on the following:

- Bogoso refractory pits are expected to reduce strip ratios from an average high of 11:1 to an average expected strip ratio of 3:1 over the next three quarters. We expect to fund the push backs using existing cash and additional funds available as a result of the cost savings described below.
- Bogoso operating expenses have been reduced through restructuring the workforce, supplier discounts, and reducing the number of contractors.
- Maintenance cost savings and fuel cost reductions were achieved through the recent purchase of two new excavators.
- Rented trucks were replaced with an owner-operated truck fleet.
- The Company completed re-negotiations of certain supplier contracts resulting in price improvements.
- Other operating improvements were initiated at Bogoso/Prestea and Wassa/HBB, including transport and delivery efficiencies, stock holding cost reductions, and improved purchasing procedures.
- Longer-term cost reduction initiatives include a review of all pending contracts and service providers and development capital plans for the remainder of 2013 and 2014. Risk assessments related to cost savings in metallurgy, plant maintenance, mining and mine maintenance, and community and environment initiatives are ongoing.

## **IMPAIRMENT CHARGES**

Upon completion of our quarterly assessment of the carrying value of our cash generating units ("CGUs"), the Company recorded impairment charges totaling \$195.9 million, comprised of \$86.1 million for Bogoso/Prestea, \$106.9 million for Wassa/HBB and \$2.9 million related to available for sale investments. The impairment charge at Bogoso/Prestea included a charge of \$49.3 million related to mine property, a charge of \$36.4 million related to property, plant and equipment and a charge of \$0.4 million related to the intangible assets. At Wassa/HBB \$87.5 million of the impairment charge relates to mine property and \$19.4 million is related to property, plant and equipment. The resulting non-cash charge was due the impact of the lower expected gold prices over the life of the mines and the shorter mine life at Wassa/HBB due to the lower gold price.

## **SUSPENSION OF MINING AT PAMPE**

As a result of pit wall instability, the Company decided to suspend the mining operations at Pampe pit. Pampe also had lower than expected recoveries during the second quarter of 2013, this along with the lower gold price in the second quarter of 2013 made mining the Pampe pit uneconomical. As a result impairment charges of \$14.5 million were recorded to write off the Pampe mine property since we do not expect to mine at Pampe in the near future.

## **DEVELOPMENT PROJECTS UPDATE**

### **WASSA/HBB**

#### **WASSA DRILLING PROGRAM**

While drilling activities continued to evaluate zones of gold mineralization below the Wassa open-pits during the second quarter, our Wassa drilling programs was slowed significantly with six of the contractor rigs being shut down by the end of the second quarter. Prior to the contractor rigs being demobilized, 47 drill holes totaling 14,265 meters were completed in the first half of 2013. The drilling during the second quarter was predominantly targeted at infilling gaps in the prior drilling as well as testing the higher grade plunge to the south. Drilling results to date in 2013 have confirmed that the mineralized zone continues to the south and remains open at depth.

The December 31, 2012 published mineral resource and reserve estimates of Wassa were based on drill results received up to the end of August 2012. We plan to incorporate all drill results since August 2012 to update the Wassa pit's mineral resource estimates in the third quarter of 2013.

#### **ECOBANK LOAN FACILITY**

On July 30, 2013, the Company, through its subsidiary GSWL, closed a \$50 million secured Medium Term Loan Facility ("Ecobank Loan") with Ecobank Ghana Limited ("Ecobank"), a pan-African full service bank, who acted as sole lender and arranger to the Company. The use of proceeds is to finance Wassa capital expenditures, inclusive of pre-feasibility studies, drilling operations, settlement, partial relocation and other capital expenditures. The Ecobank Loan has a term of 60 months from the date of initial drawing and is secured, among other things, against Wassa's existing plant, machinery and equipment. The interest rate will be three month LIBOR + 9%, per annum, payable monthly in arrears. Payment of interest and principal commences six months following the first drawdown. The Company, through its subsidiary GSWL, has drawn down \$10 million under this facility on the closing date of the loan.

### **BOGOSO/PRESTEA**

#### **Chujah Pit Expansion**

During 2012 we started a push back of the Chujah pitwall, to improve our access to ore and reduce our stripping ratio and consequently our mining operating costs. We expect that the Chujah push back will be completed during the second quarter of 2014. During the three and six months ended June 30, 2013 we capitalized \$8.6 million and \$18.3 million respectively, as mining property related to the push back.

#### **Dumasi**

During the first quarter of 2013, a negotiated resettlement agreement was signed which provides for relocation of the community of Dumasi to a new town site located a few kilometers north of the existing Dumasi community. The Dumasi village is located upon the Dumasi deposit, a key ore body for future development of our Bogoso operation. In conjunction with signing of the relocation agreement, ground clearing was initiated at the new Dumasi town site in anticipation of commencement of construction. During the six months ended June 30, 2013 we have incurred \$6.3 million of development costs mainly related to land clearing and land preparation for construction. During the second quarter, a decision was made to reduce Dumasi's development budget to \$5.7 million for the remainder of 2013.

## **Mampon**

Metallurgical and sterilization drilling was completed in the second quarter of 2013 at the Mampon deposit where we are now working to finalize a mining feasibility study. Upon the completion of this drilling, the drill rigs were used to infill and confirm the Mampon gold mineralization testing inferred mineral resource along a parallel trend proximal to Mampon and along strike of the known mineralization. Drilling in the first half included 55 holes totaling 4,762 meters. Work is now proceeding on pit and haul road engineering design.

Mampon project permitting efforts continued in the second quarter of 2013 with the completion of the data collection for the draft resettlement action plan. The plan is currently in review. Data collection for the environmental permit continued and it is expected that the environmental impact statement will be submitted when the engineering designs for the pits and access road are completed.

## **Prestea Underground**

A feasibility study for the West Reef section of the Prestea Underground was completed during the second quarter of 2013 and was published on SEDAR in July. The feasibility study demonstrates positive economics for the extraction of the West Reef steeply dipping, high-grade, narrow vein deposit using mechanized cut-and-fill mining with footwall ramp access. The mining target lies at a depth of 600 meters to 950 meters below surface, between 17 level and 24 level, about 2 kilometers to the south of the Prestea Mine Central Shaft. Initial access to the ore body for preparation work will be via the Central Shaft and 17 level. Two new raise-bored shafts are planned to be developed in the immediate vicinity of the West Reef to provide primary access, ore hoisting, and intake/exhaust ventilation.

Below is a summary of the feasibility study which can be found on our website:

- Probable Mineral Reserve of 1.43 million tonnes at a gold grade of 9.61 grams per tonne for 443,000 ounces of gold before recoveries. The Mineral Reserves have been estimated based on cut-off grades determined at a gold price of \$1,500 per ounce;
- Indicated Mineral Resource of 0.87 million tonnes at a gold grade of 18.3 grams per tonne for 507,000 ounces of gold inclusive of the Probable Mineral Reserve. The Mineral Resources have been estimated based on a \$1,750 per ounce gold price;
- Inferred Mineral Resource of 0.51 million tonnes at a gold grade of 11.6 grams per tonne for 190,000 ounces of gold, also based on a gold price of \$1,750 per ounce;
- Total project capital costs of \$150.1 million: comprising \$90.6 million initial capital; \$35.8 million capitalized operating costs; and \$23.7 million sustaining capital;
- Total project life of 9 years, including a 3 year pre-development period prior to production;
- Estimated cash operating costs of \$734 per ounce gold; and
- Payback period is 3 years from the start of production.

Permitting is underway for the West Reef project. During the first half of 2013 we spent \$0.6 million on geotechnical drilling at the Prestea Underground with our own rig testing the West Reef inferred material from the 17 level and the 24 level to complete the geotechnical and metallurgical holes. Drilling development costs incurred during the second quarter of 2013 totaled \$0.3 million. With completion of the feasibility study, drilling activities have been suspended.

During the first quarter of 2013 we received environmental and mining permits for Phase I development of the Prestea Underground mine. These permits allowed commencement of initial development in the Central Shaft area designed to establish limited scale gold production from the Prestea Underground (Phase 1). The Phase 1 activity targets ore production from existing infrastructure and remnant stopes in the Central Shaft area.

Permitting is underway for the West Reef project. A resettlement action plan for the Prestea West Reef and Prestea South projects are currently under review by the Prestea Huni Valley District Assembly. The environmental impact assessment is being finalized.

During the second quarter of 2013, the Government of Ghana approved the dissolution of the joint venture between GSBPL and the state-owned Prestea Gold Resources Ltd, effectively confirming GSBPL's ownership of the Prestea Underground mining lease. As a result, the 90% owned GSBPL owns 100% of the Prestea Underground mining lease as well as 100% of the Bogoso and Prestea surface mining leases. The Government of Ghana continues to own the remaining 10% of GSBPL.

## **BOGOSO TAILINGS RECOVERY PROJECT START-UP**

In April 2013, Bogoso started up the Bogoso tailings recovery facility which was installed in 2012 and carried out a test run. This facility pumps old tailings slurry from a decommissioned Bogoso tailings pond directly into the Bogoso non-refractory plant. Additional drilling and metallurgical testing was performed during the second quarter to obtain a better understanding of

the amount and grade of the old tailings. Early in the third quarter of 2013, we resumed pumping the tailings slurry to Bogoso's non-refractory plant on a full time basis to replace the non-refractory ore from the now suspended Pampe pit.

## **PRESTEA SOUTH PROPERTIES**

We expect to initiate development of the Prestea South deposits, including construction of a 10 kilometer haul road and the design and development of a series of surface pits along the Ashanti Trend structure south of the town of Prestea when the permitting process is complete. Ore from these pits will be hauled, via a 10 kilometer access road, to the Bogoso processing plants with refractory ore going to the Bogoso refractory plant and non-refractory ore to the Bogoso non-refractory plant.

A revised draft environmental impact statement ("EIS") was submitted to the Ghana Environmental Protection Agency ("EPA") in April 2011 and recent design changes to the Prestea South project have been incorporated into a supplemental EIS that has also been submitted to the EPA. The project development is currently awaiting the public hearing and GSBPL is continuing the community / stakeholder consultation process in anticipation of the public hearing.

## **CONSOLIDATED RESULTS OF OPERATIONS**

	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
<b>SUMMARY OF CONSOLIDATED FINANCIAL RESULTS</b>				
Bogoso/Prestea gold sold (oz)	34,316	44,115	69,811	85,357
Wassa/HBB gold sold (oz)	50,774	41,068	96,640	77,551
Total gold sold (oz)	85,090	85,183	166,451	162,908
Average realized price (\$/oz)	1,418	1,600	1,524	1,641
Cash operating cost <sup>1</sup> - combined (\$/oz)	1,078	971	1,077	1,049
Gold revenues (\$'000)	120,693	136,313	253,603	267,333
Cost of sales excluding depreciation and amortization (\$'000)	101,178	89,542	197,297	184,412
Cash flow provided by operations (\$'000)	29,544	24,124	41,459	46,244
Cash flow provided by operations per share (\$)	0.11	0.09	0.16	0.18
Net (loss)/income attributable to Golden Star shareholders (\$'000)	(128,828)	37	(120,823)	12,910
Net (loss)/income per share – basic (\$)	(0.50)	—	(0.47)	0.05

<sup>1</sup> See "Non-GAAP Financial Measures" on page 21 for a reconciliation of Cash operating cost per ounce to Cost of sales excluding depreciation and amortization.

## **THREE MONTHS ENDED JUNE 30, 2013 COMPARED TO THREE MONTHS ENDED JUNE 30, 2012**

Results for the three months ended June 30, 2013 include a net loss attributable to Golden Star shareholders of \$128.8 million or \$0.50 per share, compared with net income of nil or nil per share in the same period of 2012. The major factor contributing to the loss is the impairment charges totaling \$195.9 million recorded, primarily to write down Bogoso/Prestea and Wassa/HBB's carrying value.

Gold revenues totaled \$120.7 million, down from \$136.3 million in the same period in 2012. Our mines sold 85,090 ounces in the second quarter of 2013, compared with the 85,183 ounces sold in the same quarter of 2012 and the average realized gold price fell to \$1,418 per ounce, down 11.4% from \$1,600 per ounce in the second quarter of 2012.

### *Cost of sales excluding depreciation and amortization*

Second quarter 2013 cost of sales totaled \$101.2 million, up \$11.6 million from \$89.5 million for the same period of 2012, including a \$3.4 million net realizable write down of our run of mine stockpiles as a result of lower gold prices. Mine operating expenses were reduced by \$1.1 million to \$84.7 million as a result of the cost saving measures implemented at Bogoso/Prestea during the quarter. During the second quarter of 2012, we added ore tonnes to ore stockpile inventory resulting in a decrease to cost of sales, however during the second quarter of 2013, we drew down stockpiles resulting in a net decrease in our metals inventory and increasing our cost of sales by \$10.4 million.

### *Depreciation and amortization*

Mining related depreciation and amortization totaled \$24.0 million for the quarter, up from \$22.6 million for the second quarter of 2012, of which \$3.1 million relates to the net realizable value adjustment of metals inventory recorded in the second quarter of 2013.

#### *Other Expenses/(income)*

Second quarter 2013 general and administrative costs of \$4.3 million were slightly lower than the \$4.6 million incurred in the second quarter of 2012, mainly due to fewer stock options issued during the second quarter of 2013.

The second quarter 2013 fair value gain on the 5% Convertible Debentures was calculated based on the discounted cash flows of the debt component and a Black-Scholes valuation for the conversion feature. The fair value of the conversion feature decreased in the second quarter of 2013 as a result of a decrease in the price of our common shares during the same period, reflecting a \$43.9 million gain during the quarter. In comparison, a \$1.1 million fair value loss on our 4% and 5% Convertible Debentures was recorded in the second quarter of 2012.

With less debt outstanding in the second quarter of 2013 compared to the same period last year, interest expense decreased from \$3.7 million for the second quarter of 2012 to \$1.4 million for the same period in 2013. Also included in interest expense in 2012 was transaction costs of \$2.1 million related to the refinancing of the 4% Convertible Debentures.

Upon completion of our quarterly assessment of the carrying value of our cash generating units ("CGUs"), the Company recorded impairment charges totaling \$195.9 million, comprised of \$86.1 million for Bogoso/Prestea, \$106.9 million for Wassah/HBB and \$2.9 million related to available for sale investments. The impairment charge at Bogoso/Prestea included a charge of \$49.3 million related to mine property, a charge of \$36.4 million related to property, plant and equipment and \$0.4 million related to intangible assets. At Wassah/HBB \$87.5 million of the impairment charge relates to mine property and \$19.4 million is related to property, plant and equipment. The resulting non-cash charge was due to the impact of the lower than expected gold prices over the life of the mines and the shorter mine life at Wassah/HBB due to the lower gold price. At June 30, 2013 we recorded an impairment charge of \$2.9 million related to the drop in fair value of the TGM shares compared to the \$7.0 million impairment charges recorded during the three months ended June 30, 2012.

#### **SIX MONTHS ENDED JUNE 31, 2013 COMPARED TO SIX MONTHS ENDED JUNE 30, 2012**

Results for the six months ended June 30, 2013 include a net loss attributable to Golden Star shareholders of \$120.8 million or \$0.47 per share, compared with net income of \$12.9 million or \$0.05 per share in the same period of 2012. The major factor contributing to the loss this year is the impairment charges totaling \$195.9 million recorded, primarily to write down Bogoso/Prestea and Wassah/HBB's carrying values.

#### *Gold Revenues*

Gold revenues totaled \$253.6 million, down from \$267.3 million in the same period in 2012. Our mines sold 166,451 ounces in the first half of 2013, up 2.2% from the 162,908 ounces sold in the same period of 2012, however the average realized gold price fell to \$1,524 per ounce, down 7.1% from \$1,641 per ounce in the first half of 2012.

#### *Cost of sales excluding depreciation and amortization*

In the first six months of 2013, cost of sales totaled \$197.3 million, up \$12.9 million from \$184.4 million for the same period of 2012, mainly due to a \$5.3 million net realizable write down of our run of mine ore stockpiles as a result of the lower gold prices. Mine operating expenses of \$177.0 million for the six months ended June 30, 2013 remained essentially unchanged from 2012. During the first half of 2012, we added ore tonnes to metals inventory resulting in a decrease to cost of sales, however we drew down stockpiles during 2013 resulting in a net decrease in our metals inventory, increasing our cost of sales.

#### *Depreciation and amortization*

Mining related depreciation and amortization totaled \$40.5 million for the six months ended, up from \$38.7 million for the same period in 2012, of which \$3.3 million relates to the net realizable inventory adjustment recorded in the first half of 2013.

#### *Other Expenses/(income)*

General and administrative costs for the half year were essentially the same as the first half of 2012.

The first half of 2013 fair value gain of \$51.5 million on the 5% Convertible Debentures was calculated based on the discounted cash flows of the debt component and a Black-Scholes valuation for the conversion feature. The fair value of the conversion feature decreased further in the second quarter of 2013 as a result of a decrease in the price of our common shares during the same period, contributing to the gain for the six months ended June 30, 2013. In addition the fair value of the debt component also decreased due to higher yield requirements in the market. In comparison, a \$2.0 million fair value loss on our 4% and 5% Convertible Debentures was recorded for the first half of 2012.

With less debt outstanding in the first half of 2013 compared to the same period last year, interest expense decreased from \$6.5 million for the first half of 2012 to \$2.7 million for the same period in 2013. Also included in interest expense in 2012 were transaction costs of \$2.1 million related to the refinancing of the 4% Convertible Debentures.

Upon completion of our quarterly assessment of the carrying value of our CGUs, the Company recorded impairment charges totaling \$195.9 million, comprised of \$86.1 million for Bogoso/Prestea and \$106.9 million for Wassah/HBB. The impairment

charge at Bogoso/Prestea included a charge of \$49.3 million related to mine property, a charge of \$36.4 million related to property, plant and equipment and \$0.4 million related to intangible assets. At Wassa/HBB \$87.5 million of the impairment charge relates to mine property and \$19.4 million is related to property, plant and equipment. The resulting non-cash charge was due the impact of the lower than expected gold prices over the life of the mines and the shorter mine life at Wassa/HBB due to the lower gold price. In the first half of 2013 we recorded an impairment charge of \$2.9 million related to the drop in fair value of the TGM shares compared to the \$7.0 million impairment charges recorded in the same period during 2012.

### **WASSA/HBB OPERATIONS**

Through a 90% owned subsidiary, Golden Star (Wassa) Limited (“GSWL”), we own and operate the Wassa open-pit gold mine, the Father Brown open pit gold mine and a carbon-in-leach (“CIL”) processing plant (collectively “Wassa/HBB”), located approximately 35 kilometers from the town of Bogoso, Ghana. The design capacity of the CIL processing plant (“Wassa processing plant”) is nominally 3.0 million tonnes per annum but varies depending on the ratio of hard to soft ore. The Father Brown mine is located approximately 80 kilometers south of Wassa along the Company’s dedicated haul road. Ore from the Father Brown and Wassa mines is sent to the Wassa processing plant for processing. Wassa/HBB produced and sold 158,899 ounces of gold in year ended December 31, 2012 and 96,640 ounces of gold in the six months ending June 30, 2013.

	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
<b>WASSA/HBB FINANCIAL RESULTS</b>				
Revenue	\$ 72,120	\$ 65,750	\$ 147,077	\$ 127,175
Mine operating expenses	34,686	36,066	70,660	75,265
Royalties	3,612	3,291	7,365	6,373
Costs to metals inventory	2,678	(1,933)	3,799	(4,874)
Net realizable value adjustment	265	—	265	—
Cost of sales excluding depreciation and amortization	41,241	37,424	82,089	76,764
Depreciation and amortization	17,353	17,416	29,492	28,374
Mine operating margin	\$ 13,526	\$ 10,910	\$ 35,496	\$ 22,037
<b>WASSA/HBB OPERATING RESULTS</b>				
Ore mined (t)	430,091	715,021	955,729	1,379,751
Waste mined (t)	2,877,662	3,818,386	6,033,062	8,263,598
Ore and heap leach materials processed (t)	651,453	641,359	1,308,457	1,322,879
Grade processed (g/t)	2.55	2.06	2.45	1.90
Recovery (%)	95.0	94.8	94.9	94.3
Gold sales (oz)	50,774	41,068	96,640	77,551
Cash operating cost (\$/oz) <sup>1</sup>	736	831	770	908

<sup>1</sup> See "Non-GAAP Financial Measures" on page 21 for a reconciliation of Cash operating cost per ounce to Cost of sales excluding depreciation and amortization.

### **THREE MONTHS ENDED JUNE 30, 2013 COMPARED TO THREE MONTHS ENDED JUNE 30, 2012**

Wassa/HBB's second quarter 2013 revenues of \$72.1 million were up by \$6.3 million from \$65.8 million for the same period of 2012, mainly as a result of higher gold sales during 2013. Second quarter 2013 gold sold was 50,774 ounces, 9,706 ounces higher than gold sold during the second quarter of 2012. Gold revenues from the higher gold sales were partially offset by a decrease in the average realized gold price, down from \$1,600 per ounce for the second quarter of 2012 to \$1,418 per ounce for the second quarter of 2013.

The higher gold production is primarily due to a 24% increase in ore grade processed in second quarter of 2013 as compared to the same period last year. The increase in ore grade was due primarily to a change in ore sources. During the first half of 2012 our Benso mine was sending ore to the Wassa processing plant, but Benso's reserves were exhausted by the middle of 2012.

Since then, the higher grade Father Brown mine has been sending ore to the Wassa plant. In addition to the higher grade ore from Father Brown, recent improvements to the Wassa processing plant, including CIL agitator upgrades and genset start-up synchronization, have resulted in an increase in ore tonnes processed as compared to a year earlier.

Cost of sales for Wassa/HBB totaled \$41.2 million in the second quarter of 2013, \$3.8 million higher than the \$37.4 million incurred in the second quarter of 2012. The higher cost of sales is mainly related a draw down of ore stockpiles totaling \$2.7 million during the first quarter of 2013 compared with a \$1.9 million inventory build-up during the same quarter last year. While cost of sales was higher than a year earlier, mine operating expenses were \$34.7 million, or \$1.4 million lower than in the second quarter of 2012, due to a drop in the tonnages of ore and waste mined in the quarter. The drop in tonnages also relates to the change in ore source and higher grade at the Father Brown pit. Royalty expense was up slightly in 2013 on higher gold revenues.

During the second quarter of 2013 depreciation and amortization expense totaled \$17.4 million, essentially unchanged from a year earlier.

Wassa's cash operating costs totaled \$37.4 million for the second quarter of 2013, \$3.1 million higher than the \$34.1 million incurred during the second quarter of 2012. The higher cash operating costs were more than offset by the increase in the amount of gold sold, resulting in cash operating cost per ounce of \$736 per ounce for the second quarter of 2013, \$95 per ounce lower than the cash operating cost per ounce of \$831 per ounce during the second quarter of 2012.

During the second quarter 2013, the Company recorded impairment charges at Wassa/HBB aggregating \$106.9 million, comprised of \$19.4 million related to property plant an equipment, and \$87.5 million related to mine property. The impairment test for Wassa/HBB was based on a \$1,100 per ounce optimized pit-shell and the average of the consensus gold prices of various financial institutions. The resulting non-cash charge impairment charge was primarily due to the recent drop in the expected long term gold prices and a shorter mine life.

## **SIX MONTHS ENDED JUNE 30, 2013 COMPARED TO SIX MONTHS ENDED JUNE 30, 2012**

Gold revenues of \$147.1 million were \$19.9 million higher in 2013, due to a 25% increase in gold sold during the first half of 2013. The revenues from the higher gold sales were partially offset by a decrease in the average realized gold price, down from \$1,640 per ounce for the six months ended June 30, 2012 to \$1,522 per ounce for the six months ended June 30, 2013.

The increase in ounces sold was primarily due to a 29% increase in ore grade processed in the first half of 2013, as a result of the higher grade ore processed from the Father Brown open-pit, compared to mining the lower grade ore from the Benso open pits in 2012.

Cost of sales for Wassa/HBB totaled \$82.1 million in the first half of 2013, \$5.3 million higher than the \$76.8 million incurred during 2012. The higher cost of sales is mainly related to the \$3.8 million draw-down of ore stockpiles in 2013 compared with a \$4.9 million inventory build-up in 2012. Mine operating costs totaled \$70.7 million, or \$4.6 million lower than 2012, due to a decrease in tonnes mined. Royalty expense increased from 2012 due to the higher gold revenue during the same period in 2013.

Wassa/HBB's cash operating costs totaled \$74.5 million for the first half of 2013, slightly higher than the \$70.4 million incurred in 2012. The higher cash operating costs were more than offset by the increase in the amount of gold sold, resulting in cash operating cost per ounce of \$770 per ounce for the first half of 2013, \$138 per ounce lower than the cash operating cost per ounce of \$908 per ounce during 2012.

During the second quarter of 2013, the Company recorded impairment charges at Wassa/HBB aggregating \$106.9 million, comprised of \$19.4 million related to property, plant an equipment, and \$87.5 million related to mine property. The impairment test for Wassa/HBB was based on a \$1,100 per ounce optimized pit-shell and the average of the consensus gold prices of various financial institutions. The resulting non-cash charge impairment charge was primarily due to the recent drop in the expected long term gold prices and a shorter mine life.

## **BOGOSO/PRESTEA OPERATIONS**

Through a 90% owned subsidiary, Golden Star (Bogoso/Prestea) Limited (“GSBPL”), we own and operate the Bogoso/Prestea gold mining and processing operations (“Bogoso/Prestea”) located near the town of Bogoso, Ghana. GSBPL operates a gold ore processing facility at Bogoso/Prestea with a capacity of up to 3.5 million tonnes of ore per annum, which uses bio-oxidation technology to treat refractory ore (“Bogoso refractory plant”). In addition, GSBPL has a CIL processing facility located adjacent to the refractory plant, which is suitable for treating non-refractory gold ores (“Bogoso non-refractory plant”) at a rate up to 1.5 million tonnes per annum. Bogoso/Prestea produced and sold 172,379 ounces of gold in 2012 and 69,811 ounces of gold in the six months ending June 30, 2013.

Through GSBPL, we own the Prestea Underground, which is located on the Prestea property and consists of a currently inactive underground gold mine and associated support facilities. We have recently published a feasibility study in respect of

the feasibility of reopening the mine. See Prestea Underground above.

	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
<b>BOGOSO/PRESTEA FINANCIAL RESULTS</b>				
Revenue	\$ 48,573	\$ 70,563	\$ 106,526	\$ 140,158
Mine operating expenses	46,604	49,720	100,962	100,640
Royalties	2,429	3,530	5,329	7,012
Costs to metals inventory	7,742	(1,132)	3,793	(61)
Net Realizable value adjustment	3,162	—	5,124	57
Cost of sales excluding depreciation and amortization	59,937	52,118	115,208	107,648
Depreciation and amortization	6,642	5,140	10,982	10,313
Mine operating margin	\$ (18,006)	\$ 13,305	\$ (19,664)	\$ 22,197
<b>BOGOSO/PRESTEA OPERATING RESULTS</b>				
Ore mined refractory (t)	265,642	604,596	682,555	1,374,268
Ore mined non-refractory (t)	95,498	244,627	347,895	385,197
Total ore mined (t)	361,140	849,223	1,030,450	1,759,465
Waste mined (t)	5,854,541	5,013,827	13,325,500	12,255,752
Refractory ore processed (t)	646,191	570,450	1,169,406	1,181,676
Refractory ore grade (g/t)	2.15	2.60	2.14	2.57
Gold recovery – refractory ore (%)	67.3	71.3	69.3	72.3
Non-refractory ore processed (t)	63,154	201,912	280,719	374,927
Non-refractory ore grade (g/t)	2.08	2.71	2.60	2.68
Gold recovery - non-refractory ore (%)	54.1	62.2	52.5	55.3
Gold sold refractory (oz)	29,856	34,051	56,223	68,354
Gold sold non-refractory (oz)	4,460	10,064	13,588	17,003
Gold sales (oz)	34,316	44,115	69,811	85,357
Cash operating cost (\$/oz) <sup>1</sup>	1,584	1,101	1,501	1,178

<sup>1</sup> See "Non-GAAP Financial Measures" on page 21 for a reconciliation of cash operating cost per ounce to cost of sales excluding depreciation and amortization.

### THREE MONTHS ENDED JUNE 30, 2013 COMPARED TO THREE MONTHS ENDED JUNE 30, 2012

Bogoso/Prestea's second quarter 2013 revenues totaled \$48.6 million, down \$22.0 million from \$70.6 million in 2012. The realized gold price averaged \$1,415 per ounce in the second quarter of 2013, down 11.6% from \$1,600 per ounce a year earlier. In addition gold sold decreased to 34,316 ounces in the second quarter of 2013, down 9,799 ounces from 44,115 ounces in the same period in 2012.

During the second quarter of 2013 the Pampe open-pit mining operation was suspended due to pit wall instability, the lower gold price and lower than expected gold recoveries. Since the Pampe open-pit was the primary ore source for non-refractory operations, the non-refractory processing plant was placed on care and maintenance. Consequently non-refractory gold sales were down 55.7% from the second quarter of 2012. In addition, refractory gold sales were 12.3% lower due to lower gold grade processed, and slightly lower gold recovery during the second quarter 2013, despite 13.3% more ore tonnes being processed by the refractory processing plant, due to fewer maintenance related stoppages during the quarter ended June 30, 2013.

Bogoso/Prestea's cost of sales excluding depreciation and amortization increased by \$7.8 million to \$59.9 million for the second quarter of 2013. A \$3.2 million net realizable value inventory adjustment and recovery of \$7.7 million of operating costs from inventory were the two major factors causing the increase in cost of sales. The \$3.2 million of net realizable value adjustments represents the cash portion of metals inventory written off because the cost per ounce of the ounces sitting in the

stockpiles and in in-process inventory exceed the current gold price. In comparison, net realizable value adjustments were nil in the same period of 2012.

Mine operating expenses totaled \$46.6 million in the second quarter of 2013, lower than the \$49.7 million incurred in the same period of 2012.

A new water treatment plant was commissioned in the first quarter of 2013, and we incurred \$1.2 million in water treatment costs in the second quarter of 2013 that were not incurred in second quarter of 2012.

Cash operating costs for the second quarter of 2013 totaled \$54.3 million, up 11.9% from \$48.6 million in 2012. The increase was mainly related to the \$7.7 million draw-down of ore stockpiles and in-plant inventory in 2013 compared with a \$1.1 million inventory build-up in 2012, partially offset by a 3.1 million decrease in mine operating expenses during the second quarter of 2013.

As a result of the above and the lower gold ounces sold, cash operating cost per ounce increased from \$1,101 per ounce in the second quarter of 2012 to \$1,584 per ounce in the second quarter of 2013.

During the second quarter 2013, the Company recorded impairment charges at Bogoso/Prestea aggregating \$86.1 million, comprised of \$36.4 million related to property, plant and equipment, \$49.3 million related to mine property and \$0.4 million related to intangible assets. The impairment test for Bogoso/Prestea was based on a \$1,200 per ounce optimized pit shell for the Mampon, Dumasi and Prestea South pits and a \$1,450 per ounce optimized pit shell for the Chujah and Bogoso North pits and the average of the consensus gold prices of various financial institutions. The resulting non-cash charge was primarily due to the recent drop in expected long term gold prices.

### **SIX MONTHS ENDED JUNE 30, 2013 COMPARED TO SIX MONTHS ENDED JUNE 30, 2012**

Gold revenues for the first six months of 2013 totaled \$106.5 million, down \$33.6 million from \$140.2 million in 2012. The lower gold revenues were the result of lower realized gold prices and fewer gold ounces sold in 2013 as compared to 2012. Gold sold totaled 69,811 ounces in the first six months of 2013, down 15,546 ounces from 85,357 ounces in the same period of 2012.

Refractory gold sales dropped to 56,223 ounces in the first half of 2013, down 12,131 ounces from the 68,354 ounces sold in the same period of 2012 mainly due to a drop in ore grade processed and gold recovery. Refractory ore grade processed during 2013 was 16.7% lower than in the first half of 2012, this due to the lower gold grade of the ore available during the push backs at the Chujah and Bogoso North pits in 2013, while in 2012 Bogoso/Prestea had better access to higher grade ores. As a result of the lower gold grade, gold recovery in the refractory processing plant dropped to 69.3%.

Non-refractory gold sales dropped to 13,588 ounces in 2013, down 3,415 ounces from the 17,003 ounces sold in 2012, as a result of the lower non-refractory plant through-put, lower ore grade and lower gold recovery. During the second quarter of 2013 Bogoso lost most of its supply of non-refractory ore when the Pampe open-pit mining operation was suspended due to pit-wall instability at the Pampe pit. Since the Pampe open-pit was the primary ore source for the non-refractory operation, the non-refractory processing plant was placed on care and maintenance until the tailings reclaim project was re-started in July 2013.

In addition to lower gold production, the realized gold price was down, averaging \$1,526 per ounce in the first six months of 2013, compared with \$1,642 per ounce in the same period a year earlier.

Bogoso/Prestea's cost of sales excluding depreciation and amortization increased by \$7.6 million to \$115.2 million in the first half of 2013 from \$107.6 million for the same period in 2012. Bogoso's mine operating expenses totaled \$101.0 million, similar to the six months ended 2012. A new water treatment plant was commissioned in the first quarter of 2013, and during the first six months of 2013, we incurred \$1.4 million in water treatment costs that were not incurred in the same period of 2012. In addition, as described above, cost of sales excluding depreciation and amortization increased \$5.1 million, due to a net realizable value ore and metals inventory adjustment.

As a result of the above, cash operating cost per ounce increased from \$1,178 per ounce for the first half of 2012 to \$1,584 per ounce in the first half of 2013.

During the first half of 2013, the Company recorded impairment charges at Bogoso/Prestea aggregating \$86.1 million, comprised of \$36.4 million related to property, plant and equipment, \$49.3 million related to mine property and \$0.4 million related to intangible assets. The impairment test for Bogoso/Prestea was based on a \$1,200 per ounce optimized pit shell for Mampon, Dumasi and the Prestea South pits and a \$1,450 per ounce optimized pit shell for the Chujah and Bogoso North pits and the average of the consensus gold prices of various financial institutions. The resulting non-cash charge was primarily due to the recent drop in the expected long term gold prices.

## **LIQUIDITY AND FINANCIAL CONDITION**

We held \$52.7 million in cash and cash equivalents as of June 30, 2013, down from \$78.9 million at December 31, 2012. Operations generated \$41.5 million of cash during the six months ended June 30, 2013, and cash flow used for investing and financing activities aggregated \$64.2 million and \$3.5 million, respectively during the period.

Before working capital changes, operations provided \$14.6 million of operating cash flow during the first half of 2013, down from \$58.4 million in same period last year. The decrease was primarily related to the increase in mine operating costs at the Bogoso/Prestea operation.

Working capital changes added a net \$26.9 million during the six months ended June 30, 2013, compared to a decrease of \$12.2 million in same period in 2012. Accounts receivable remained essentially unchanged during the first half of 2013, similar to the first half of 2012. Deposits decreased by \$2.1 million during the first six months of 2013 compared to a \$0.7 million increase for the same period during 2012. The decrease in deposits in 2013 reflects a drop in the number of down payments on long-lead time purchases. In summary, net cash provided by operating activities was \$41.5 million for the for the six months ended June 30, 2013, as compared to \$46.2 million in the same period of 2012.

A net of \$64.2 million was used in investing activities during first six months of 2013, including \$44.7 million on mining property development and \$12.0 million for the acquisition of new equipment and facilities at the mine sites.

Major capital expenditures at Wassa/HBB during the first half of 2013 included \$9.9 million on development drilling, mostly at the Wassa open-pit, \$1.2 million on Father Brown mine development costs and \$2.4 million on Wassa plant upgrades. Major capital spending items at Bogoso/Prestea during the first six months of 2013 included \$6.3 million on the Dumasi resettlement project, development expenditures at Mampon and Prestea South of \$2.6 million, \$1.4 million for completion of construction of a water treatment plant, mining equipment of \$5.2 million and \$18.3 million of capitalized betterment stripping at the Chujah pit.

Financing activities used \$3.5 million during the first six months of 2013, mainly as a result of scheduled debt repayments of \$3.6 million on the equipment financing facility. During the six months ended June 30, 2012, net cash provided by financing activities were \$3.1 million, which consisted of \$4.4 million in scheduled debt repayments and \$7.4 million of new borrowings under the equipment financing facility.

All of our cash is held as cash or is invested in funds that hold only U.S. treasury notes and bonds.

Wassa/HBB incurred taxable income in 2012 for the first time and will pay approximately \$12.6 million of 2012 taxes in 2013, of which \$8.4 million was paid during the first quarter of 2013 and \$4.2 million will be paid in the third quarter of 2013. We expect that Wassa/HBB will generate taxable income in 2013 and make additional tax payments in 2013.

## **SUBSEQUENT EVENTS**

### **Sale of True Gold Mining Shares**

On July 29, 2013, the Company completed the sale of our available for sale investment, 24,521,101 shares of True Gold Mining Inc ("TGM") for net proceeds of \$7.4 million resulting in a gain of approximately \$1.5 million in the third quarter of 2013.

### **Ecobank Loan**

On July 30, 2013, the Company, through GSWL, closed a \$50 million secured Medium Term Loan Facility ("Ecobank Loan") with Ecobank Ghana Limited ("Ecobank"), a pan-African full service bank, who acted as sole lender and arranger to GSWL. The proceeds will be used to finance Wassa capital expenditures, inclusive of pre-feasibility studies, drilling operations, settlement, partial relocation and other capital expenditures. The Ecobank Loan has a term of 60 months from the date of initial drawing and is secured, among other things, by Wassa's existing plant, machinery and equipment. The interest rate is three month LIBOR + 9%, per annum, payable monthly in arrears. Payment of interest and principal commences six months following the first drawdown. The Company drew down \$10 million under this facility on July 30, 2013.

## **LIQUIDITY OUTLOOK**

As at December 31, 2012 we expected that capital expenditures in 2013 would be higher than in prior years, as a result of implementing a series of organic growth projects at our existing properties expected to increase gold output and achieve lower costs per ounce in the future. However, in response to the recent substantial decline in gold prices we re-assessed our spending plans for 2013 and are deferring spending on development projects until gold prices improve from their current level.

## CAPITAL RESOURCES

The following table shows our actual capital spending and the revised capital spending plans for 2013.

(\$millions)	Actual spending for the six months ended June 30, 2013 <sup>1</sup>	Expected for the remainder of 2013 <sup>2</sup>	Total expected spending 2013 <sup>2</sup>
<b>Sustaining capital spending</b>			
Bogoso/Prestea refractory	\$ 10.5	\$ 5.6	\$ 16.1
Bogoso/Prestea non-refractory	0.1	0.1	0.2
Wassa/HBB	6.8	17.2	24.0
<b>Total</b>	<b>17.4</b>	<b>22.9</b>	<b>40.3</b>
<b>Development capital spending</b>			
Bogoso/Prestea refractory	4.1	4.9	9.0
Bogoso/Prestea non-refractory	5.3	0.8	6.1
Wassa/HBB	11.6	9.4	21.0
<b>Total</b>	<b>21.0</b>	<b>15.1</b>	<b>36.1</b>
<b>Total capital spending</b>	<b>\$ 38.4</b>	<b>\$ 38.0</b>	<b>\$ 76.4</b>

<sup>1</sup> The capital spending for the six months ended June 30, 2013 shown above exclude betterment stripping of \$18.3 million, previously expensed under US GAAP now capitalized under IFRS.

<sup>2</sup> Exclude \$18.9 million of betterment stripping that we expect to incur to push back the Chujah pit at Bogoso/Prestea, previously betterment stripping was expensed under US GAAP.

As of June 30, 2013, we had \$14.6 million of outstanding loans under our \$35.0 million equipment financing facility leaving a borrowing capacity of \$20.4 million. During the second quarter of 2013, we did not enter into any new loans on our equipment financing facility. We made \$3.6 million of principal payments on the equipment financing loans in the first half of 2013, and we expect to repay an additional \$3.2 million of principal during the remainder of 2013. We also expect to pay \$0.4 million of interest on the equipment financing facility, and \$1.9 million of interest on the 5% Convertible Debentures during the remainder of 2013.

During the remainder of 2013 we expect to fund operations and capital projects through operating cash flow, the equipment financing facility, the Ecobank Loan and cash on hand. If these sources of are not sufficient, planned capital projects could be delayed or operations curtailed. While we may also pursue additional debt or equity financing, there can be no assurance that additional financing will be available at all or on terms acceptable to us.

## TABLE OF CONTRACTUAL OBLIGATIONS

	Payment due (in thousands) by period				
	Total	Less than 1 Year	1 to 3 years	3 to 5 years	More than 5 Years
Debt <sup>1</sup>	\$ 92,060	\$ 3,180	\$ 8,530	\$ 80,350	\$ —
Interest on long term debt	16,995	2,378	8,676	5,941	—
Purchase obligations	14,895	14,895			—
<b>Total</b>	<b>\$ 123,950</b>	<b>\$ 20,453</b>	<b>\$ 17,206</b>	<b>\$ 86,291</b>	<b>\$ —</b>

<sup>1</sup> Includes \$77.5 million of 5% Convertible Debentures maturing in November 2017. Golden Star has the right to repay the \$77.5 million in cash or in common shares at the due date under certain circumstances. The presentation shown above assumes payment is made in cash and also assumes no conversions of the debt to common shares by the holders prior to the maturity date.

## LOOKING AHEAD

Our objectives for the remainder of 2013 include:

- achieving further reductions in operating costs throughout the Company.

- evaluate possible push backs of the Father Brown pit;
- permitting of Dumasi pit, approval of the Dumasi resettlement action plan and commencement of construction of the Dumasi resettlement town site;
- permitting and planning of the Mampon pit and associated infrastructure;
- permitting and planning of the Prestea South pits and associated infrastructure;
- continuing the construction of the tailings storage facility at Wassa/HBB; and
- continuation of underground activities at the Prestea Underground mine;

As more fully disclosed under Risk Factors in our MD&A for the year ended December 31, 2012, numerous factors could cause our estimates and expectations to be wrong or could lead to changes in our plans. Under any of these circumstances, the estimates described above could change materially.

### **RELATED PARTY TRANSACTIONS**

There were no material related party transactions in 2013 and 2012 other than compensation of key management personnel which are presented in the table below. Key management personnel is defined as members of the Board of Directors and certain senior officers.

	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
Salaries, wages, and other benefits	\$ 542	\$ 614	\$ 1,047	\$ 1,244
Severances and bonus	944	—	1,695	755
Share-based compensation	278	347	1,129	2,150
	<u>\$ 1,764</u>	<u>\$ 961</u>	<u>\$ 3,871</u>	<u>\$ 4,149</u>

### **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

Preparation of our condensed interim consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that can affect reported amounts of assets, liabilities, revenues and expenses and the accompanying disclosures. Estimates and assumptions are continuously evaluated and are based on management's historical experience and on other assumptions we believe to be reasonable under the circumstances. However, uncertainty about these judgments, estimates and assumptions could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

### **EXPLORATION AND EVALUATION EXPENDITURE**

The application of the Company's accounting policy for exploration and evaluation expenditure requires judgment in determining whether it is likely that future economic benefits will flow to the Company. If, after exploration and evaluation expenditure is capitalized, information becomes available indicating that the recovery of the carrying amount of an exploration and evaluation asset is unlikely the Company writes off the amount capitalized in the period the new information becomes available.

### **MINERAL RESERVES**

Determining mineral reserves and resources is a complex process involving numerous variables and is based on a professional evaluation using accepted international standards for the assessment of mineral reserves. Estimation is a subjective process, and the accuracy of such estimates is a function of the quantity and quality of available data, the assumptions made and judgments used in engineering and geological interpretation. Mineral reserve estimation may vary as a result of changes in the price of gold, production costs, and with additional knowledge of the ore deposits and mining conditions.

Differences between management's assumptions including economic assumptions such as metal prices and market conditions could have a material effect in the future on the Company's results and financial position, particularly a change in the rate of depreciation, depletion and amortization of the related mining assets.

### **BETTERMENT STRIPPING COSTS**

Significant judgment is required to distinguish between development stripping and production stripping which relates to extraction of inventory and production stripping which relates to the creation of a stripping activity asset. Once the Company has identified its stripping for each surface mining operation, it identifies the separate components for the ore bodies in each of

its mining operations. An identifiable component is a specific volume of the ore body that is made more accessible by the stripping activity. Significant judgment is required to identify these components and to determine the expected volumes (waste and ore) to be stripped in each component.

Judgment is also required to identify a suitable production measure to be used to allocate production stripping costs between inventory and any stripping activity asset for each component. The Company considers that the ratio of the expected volume of ore to be mined for a specific component of the ore body, to be the most suitable production measure.

## **UNITS OF PRODUCTION DEPRECIATION**

The mineral properties and a large portion of the property, plant and equipment is depreciated using the units of production method over the expected operating life of the mine based on estimated recoverable ounces of gold, which are the prime determinants of the life of a mine. Estimated recoverable ounces of gold include proven and probable reserves and non-reserve material when sufficient objective evidence exists that it is probable the non-reserve material will be produced. Changes in the estimated mineral reserves will result in changes to the depreciation charges over the remaining life of the operation. A decrease in the mineral reserves would increase depreciation expense and this could have a material impact on the operating results. The amortization base is updated on an annual basis based on the new mineral estimates.

## **CARRYING VALUE OF ASSETS AND IMPAIRMENT CHARGES**

The Company undertakes a review of each asset or cash generating unit ("CGU") at each reporting period to determine whether any indication of impairment exists. Where an indicator of impairment exists, a formal estimate of the recoverable amount of the asset or CGU is made, which is considered to be the higher of the fair value less cost to sell and value in use. An impairment loss is recognized when the carrying value of the asset or CGU is higher than the recoverable amount. In undertaking this review, management of the Company is required to make significant estimates of, amongst other things, discount rates, future production and sale volumes, metal prices, reserves and resource quantities, future operating and capital costs and reclamation costs to the end of the mine's life. These estimates are subject to various risks and uncertainties, which may ultimately have an effect on the expected recoverability of the carrying values of the asset or CGU. In determining a CGU, management has examined the smallest identifiable group of assets that generates cash inflows that are largely independent of cash inflows from other assets or group of assets.

## **REHABILITATION PROVISIONS**

Environmental reclamation and closure liabilities are recognized at the time of environmental disturbance, in amounts equal to the discounted value of expected future reclamation and closure costs. The estimated future cash costs of such liabilities are based primarily upon environmental and regulatory requirements of the various jurisdictions in which we operate. The liability represents management's best estimates of cash required to settle the liability, inflation, assumptions of risks associated with future cash flows and the applicable risk-free interest rates for discounting the future cash outflow. The liability is assessed at each reporting date.

## **INVENTORY VALUATION**

All of our inventories are recorded at the lower of average cost or net realizable value ("NRV"). The allocation of costs to ore in stockpiles and the determination of NRV involve the use of estimates. Stockpiled ore represents coarse ore that has been extracted from the mine and is stored for future processing. Stockpiled ore is measured using estimates such as the number of tonnes (via truck counts or by physical surveys) added to, or removed from the stockpile, the number of contained ounces (based on assay data) and estimated gold recovery percentage. Timing and recovery of stockpiled ore can vary significantly from the estimates.

## **FAIR VALUE HIERARCHY**

If the fair value of financial assets and financial liabilities recorded in the balance sheet cannot be derived from active markets, then fair value is determined using valuation techniques such as discounted cash flow models. The inputs to these models are taken from observable markets where possible, but if this is not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

## **INCOME TAXES**

We deal with uncertainties and judgments in the application of complex tax regulations in the various jurisdictions where our properties are located. The amount of taxes paid is dependent upon many factors, including negotiations with taxing authorities

in the various jurisdictions and resolution of disputes arising from our international tax audits. We recognize potential liabilities and record tax liabilities for anticipated tax audit issues in our various tax jurisdictions based on our best estimate of additional taxes payable. We adjust these reserves in light of changing facts and circumstances, however, due to the complexity of some of these uncertainties, the ultimate resolution may result in payment that is materially different from our estimates of our tax liabilities. If our estimate of tax liability proves to be less than the ultimate assessment, an additional charge to expense would result. If the estimate of tax liabilities proves to be greater than the ultimate assessment, a tax benefit is recognized.

A deferred tax asset is recognized if we have assessed that it is more likely than not that the benefits will be realized in future periods. This assessment is based on our estimates of the future taxable earnings generated by our operations.

## CHANGES IN ACCOUNTING POLICIES

### International Financial Reporting Standards

In conjunction with the recent relocation of the Company's corporate headquarters from the US to Canada, the Company reported its financial results in accordance with IFRS for the first time in its June 30, 2013 condensed interim consolidated financial statements, with an effective transition date of January 1, 2012, including IFRS 1 First-Time Adoption of International Financial Reporting Standards, and IAS 34, Interim Financial Reporting. The adoption of IFRS did not have a material impact on the Company's operations and business decisions. The change however did have a significant impact in the manner the company discloses certain information within its balance sheet and statement of operations as described below.

The Company's IFRS accounting policies are disclosed in Note 3 "Summary of Significant Accounting Policies" to the condensed interim consolidated financial statements for the three and six months ended June 2013. Reconciliation between the Company's financial statements as previously reported under US GAAP and current reporting under IFRS is detailed in Note 25 "First Time Adoption of IFRS" of the condensed interim consolidated financial statements. The following is an overview of the impacts to the Company's financial results due to the transition to IFRS.

The following is a discussion of the significant changes in our financial statements as of December 31, 2012 caused by our adoption of IFRS:

**Deemed cost adjustments of Bogoso mining assets** - Upon adoption of IFRS, the carrying value of the Bogoso mining properties and mine equipment accounts were adjusted to their fair value amounts (deemed cost) as of January 1, 2012, reducing the basis in these assets by \$148.5 million. As a result, the recorded value of our mining assets were \$137.0 million lower as of December 31, 2012 than they would have been under US GAAP.

**Stripping costs during the production phase (Betterment stripping)** - US GAAP required that the costs of removing overburden ("stripping") be treated as a current period operating cost. IFRS provides for deferral of the portion of stripping costs that provide improved access to future ore mined and such costs are deferred as an asset until such time as the ore benefiting from the stripping activity is mined. As a result, upon adoption of IFRS, stripping costs expensed for US GAAP were reclassified as a mineral property asset. As of December 31, 2012, the balance in this account was \$28.1 million higher than it would have been under US GAAP. This amount reduced the mine operating costs and was shown as an investing cash flow under IFRS.

**Exploration and evaluation assets** - We have elected under IFRS to capitalize the exploration and development costs of new projects. Under US GAAP, exploration and development costs are capitalized only upon completion of a feasibility study which establishes a mineral reserve. As a result, past exploration and development cost expensed for US GAAP of \$16.7 million was reclassified as a long term asset on the Company's opening IFRS balance sheet. As of December 31, 2012 this new account had a balance of \$10.9 million and would have been nil under US GAAP.

**Gain on sale of assets** - Prior to 2012, the Company had invested in exploration projects that were subsequently disposed of or sold to an unrelated party in 2012. Since these properties had not progressed to the point where a feasibility study could be completed, under US GAAP all historical costs associated with the properties were expensed as incurred. As a result, upon sale or disposition of the properties their basis was nil. Upon adoption of IFRS the past costs of this property were reclassified as an exploration and evaluation assets and upon the sale or disposition, this new basis was deducted from any sales proceeds resulting in a \$5.7 million lower gain on the sale or disposal of the asset under IFRS.

### STANDARDS, INTERPRETATIONS AND AMENDMENTS NOT YET EFFECTIVE

IFRIC 21 Accounting for levies imposed by government clarifies that the obligating event that gives rise to a liability to pay a levy is the activity described in the relevant legislation that triggers the payment of the levy. This standard is effective for annual periods beginning on or after January 1, 2014. The Company is currently assessing the impact of this interpretation.

IAS 32 Financial instruments: presentation was amended to address inconsistencies in current practice when applying the offsetting criteria in IAS 32. Under this amendment, the meaning of currently has a legally enforceable right of set-off was

clarified as well as providing clarification that some gross settlement systems may be considered equivalent to net settlement. This amendment is effective for annual periods beginning on or after January 1, 2014 and is not expected to have a significant impact on the Company.

IFRS 9 Financial instruments, addresses classification and measurement of financial assets. It replaces the multiple category and measurement models in IAS 39, Financial instruments - Recognition and Measurement, for debt instruments with a new mixed measurement model having only two categories: amortized cost and fair value through profit and loss. IFRS 9 also replaces the models for measuring equity instruments. Such instruments are either recognized at fair value through profit or loss or at fair value through other comprehensive income. Where equity instruments are measured at fair value through other comprehensive income, dividends are recognized in the statement of earnings to the extent that they do not clearly represent a return of investment; however, other gains and losses (including impairments) associated with such instruments remain in accumulated comprehensive income indefinitely.

Requirements for financial liabilities were added to IFRS 9 in October 2010 and they largely carried forward existing requirements in IAS 39 except that fair value changes due to credit risk for liabilities designated at fair value through profit and loss are generally recorded in other comprehensive income. This standard is effective for annual periods beginning on or after January 1, 2015. The Company is still assessing the impact of this standard.

The IASB has amended IAS 36 to remove the requirement to disclose recoverable amount when a CGU contains goodwill or indefinite lived intangible assets but there has been no impairment. The amendment requires additional disclosure of the recoverable amount of an asset or CGU when an impairment loss has been recognized or reversed; and detailed disclosure of how the fair value less costs of disposal has been measured when an impairment loss has been recognized or reversed.

### **NON-GAAP FINANCIAL MEASURES**

In this MD&A, we use the terms "cash operating cost per ounce", "all-in sustaining costs", "all-in costs", "cash generated used by/before working capital changes", "adjusted net (loss)/income attributable to Golden Star shareholders" and "adjusted net (loss)/income per share attributable to Golden Star shareholders".

"Cost of sales excluding depreciation and amortization" as found in our 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, and by-product credits, but excludes exploration costs, property holding costs, corporate office general and administrative expenses, foreign currency gains and losses, impairment charges, corporate business development costs, gains and losses on asset sales, interest expense, gains and losses on derivatives, gains and losses on investments and income tax expense/benefit.

"All-in sustaining costs" commences with cash operating costs and then adds sustaining capital expenditures, corporate general and administrative costs, mine site exploratory drilling and and greenfield evaluation costs and environmental rehabilitation costs. 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, our 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.

The new "all-in costs" measure starts with "all-in sustaining costs" and adds additional costs, which reflect the varying costs of producing gold over the life-cycle of a mine, including: non-sustaining capital expenditures (capital expenditures at new projects and capital expenditures at existing operations that increase the productive capacity of the mine or extend the mine life beyond the existing pits), and other non-sustaining costs (primarily exploration and evaluation ("E&E") costs, community relations costs and general and administrative costs that are not associated with current operations). This definition recognizes that there are different costs associated with the life-cycle of a mine and that it is therefore appropriate to distinguish between sustaining and non-sustaining costs. We believe that "all-in sustaining costs" and "all-in 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 our operating performance and also our 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 we believe these measures are useful non-GAAP operating metrics and supplement our IFRS disclosures. These measures are not representative of all of our cash expenditures as they do not include income tax payments or interest costs. "All-in sustaining costs" and "all-in costs" 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 previous periods have been recalculated to conform to our current definition.

“Cash operating cost per ounce” for a period is equal to “Cost of sales excluding depreciation and amortization” for the period less, royalties, production taxes, minus the cash component of metals inventory net realizable value adjustments divided by the number of ounces of gold sold during the period.

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

(Stated in thousands of US dollars)	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
<b>Cost of sales excluding depreciation and amortization</b>	\$ 101,178	\$ 89,542	\$ 197,297	\$ 184,412
Royalties	(6,041)	(6,821)	(12,694)	(13,385)
Metals inventory net realizable value adjustment	(3,427)	—	(5,389)	(57)
<b>Cash operating costs</b>	<u>91,710</u>	<u>82,721</u>	<u>179,214</u>	<u>170,970</u>
Royalties	6,041	6,821	12,694	13,385
Metals inventory net realizable value adjustment	3,427	—	5,389	57
Accretion of rehabilitation provisions	148	159	296	277
General and administrative costs	4,328	4,639	11,758	11,830
Sustaining capital expenditures	11,630	7,784	17,510	21,416
<b>All-in sustaining costs</b>	<u>117,284</u>	<u>102,124</u>	<u>226,861</u>	<u>217,935</u>
Exploration expense	633	551	1,275	1,689
Capitalized evaluation and exploration expenditures	215	277	218	403
Development capital expenditures	17,663	13,311	39,175	28,453
<b>All-in costs</b>	<u>\$ 135,795</u>	<u>\$ 116,263</u>	<u>\$ 267,529</u>	<u>\$ 248,480</u>
Ounces sold	85,090	85,183	166,451	162,908
Cost per ounce measures (\$/oz):				
Cash operating cost per ounce	1,078	971	1,077	1,049
All-in sustaining cost per ounce	1,378	1,199	1,363	1,338
All-in cost per ounce	1,596	1,365	1,607	1,525

The tables below reconciles Cost of sales excluding depreciation and amortization to cash operating costs per ounce for each of our operating mines:

	For the three months ended June 30, 2013		
	Wassa/HBB	Bogoso/Prestea	Combined
<b>Cost of sales excluding depreciation and amortization</b>	\$ 41,241	\$ 59,937	\$ 101,178
Royalties	(3,612)	(2,429)	(6,041)
Metals inventory net realizable value adjustment	(265)	(3,162)	(3,427)
<b>Cash operating costs</b>	<u>\$ 37,364</u>	<u>\$ 54,346</u>	<u>\$ 91,710</u>
Ounces sold	50,774	34,316	85,090
Cash operating cost per ounce	\$ 736	\$ 1,584	\$ 1,078

	For the three months ended		
	June 30, 2012		
	Wassa/HBB	Bogoso/Prestea	Combined
<b>Cost of sales excluding depreciation and amortization</b>	\$ 37,424	\$ 52,118	\$ 89,542
Royalties	(3,291)	(3,530)	(6,821)
Metals inventory net realizable value adjustment	—	—	—
<b>Cash operating costs</b>	<u>\$ 34,133</u>	<u>\$ 48,588</u>	<u>\$ 82,721</u>
Ounces sold	41,068	44,115	85,183
Cash operating cost per ounce	\$ 831	\$ 1,101	\$ 971

	For the six months ended		
	June 30, 2013		
	Wassa/HBB	Bogoso/Prestea	Combined
<b>Cost of sales excluding depreciation and amortization</b>	\$ 82,089	\$ 115,208	\$ 197,297
Royalties	(7,365)	(5,329)	(12,694)
Metals inventory net realizable value adjustment	(265)	(5,124)	(5,389)
<b>Cash operating cost</b>	<u>\$ 74,459</u>	<u>\$ 104,755</u>	<u>\$ 179,214</u>
Ounces sold	96,640	69,811	166,451
Cash operating cost per ounce	\$ 770	\$ 1,501	\$ 1,077

	For the six months ended June 30,		
	June 30, 2012		
	Wassa/HBB	Bogoso/Prestea	Combined
<b>Cost of sales excluding depreciation and amortization</b>	\$ 76,764	\$ 107,648	\$ 184,412
Royalties	(6,373)	(7,012)	(13,385)
Metals inventory net realizable value adjustment	—	(57)	(57)
<b>Cash operating cost</b>	<u>\$ 70,391</u>	<u>\$ 100,579</u>	<u>\$ 170,970</u>
Ounces sold	77,551	85,357	162,908
Cash operating cost per ounce	\$ 908	\$ 1,178	\$ 1,049

"Cash generated before working capital changes" is calculated by subtracting the "Changes in working capital" from "Net cash provided by operating activities" as found in our statements of cash flows.

We use cash operating cost per ounce and cash generated before working capital change as key operating indicators. We monitor these measures monthly, comparing each month's values to prior periods' values 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 our investors to allow them to also monitor operational efficiencies of our mines. We calculate these measures for both individual operating units and on a consolidated basis.

Cash operating cost per ounce and cash generated before working capital changes should be considered as 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 revenues, 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 GAAP. 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 (LOSS)/INCOME ATTRIBUTABLE TO GOLDEN STAR SHAREHOLDERS

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

	For the three months ended June 30,		For the six months ended June 30,	
	2013	2012	2013	2012
Net (loss)/income attributable to Golden Star shareholders	\$ (128,828)	\$ 37	\$ (120,823)	\$ 12,910
Add back:				
(Gain)/loss on fair value of convertible debenture	(43,879)	1,145	(51,525)	2,037
Impairment charges	195,920	6,972	195,920	6,972
Tax recovery related to impairment charges	(26,328)	—	(26,328)	—
	(3,115)	8,154	(2,756)	21,919
Adjustments attributable to non-controlling interest	(16,665)	—	(16,665)	—
Adjusted net (loss)/income attributable to Golden Star shareholders	\$ (19,780)	\$ 8,154	\$ (19,421)	\$ 21,919
Adjusted net (loss)/income per share attributable to Golden Star shareholders				
Basic and diluted	(0.08)	0.03	(0.07)	0.08
Weighted average shares outstanding (millions)	259.2	258.8	259.1	258.8
Weighted average shares outstanding - diluted (millions)	259.2	258.9	259.1	258.8

In order to indicate to stakeholders the Company's earnings excluding the non-cash (gain)/loss on the fair value of debentures and non-cash impairment charges, the Company calculates "adjusted net (loss)/income attributable to Golden Star shareholders" and "adjusted net (loss)/income per share attributable to Golden Star shareholders" to supplement the condensed interim consolidated financial statements.

Adjusted net (loss)/income attributable to Golden Star shareholders and adjusted net (loss)/income per share attributable to Golden Star shareholders should be considered as 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 revenues, 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 GAAP. 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. 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.

## SUMMARIZED FINANCIAL RESULTS

(Stated in thousands of U.S dollars except per share data)	Three Months Ended,							
	June 30, 2013	March 31, 2013	December 31, 2012	September 30, 2012	June 30, 2012	March 31, 2012	December 31, 2011 *	September 30, 2011 *
Revenues	\$ 120,693	\$ 132,910	\$ 149,710	\$ 133,497	\$ 136,313	\$ 131,020	\$ 118,814	\$ 125,880
Net (loss)/income	(145,671)	7,923	14,338	(19,274)	1,366	13,271	7,337	(9,429)
Net (loss)/income attributable to shareholders of Golden Star	(128,828)	(8,005)	(38)	(20,059)	37	12,873	7,241	(10,196)
Net (loss)/income per share attributable to shareholders of Golden Star:								
- Basic and diluted	\$ (0.50)	\$ (0.03)	\$ —	\$ (0.08)	\$ —	\$ 0.05	\$ 0.03	\$ (0.04)

\* Based on US GAAP

## OUTSTANDING SHARE DATA

As of August 9, 2013, there were 259,105,970 common shares of the Company issued and outstanding, 14,190,000 stock options outstanding, 626,454 deferred share units outstanding, and 3,082,000 share appreciation rights outstanding.

## FINANCIAL INSTRUMENTS

(Stated in thousands of U.S dollars)	Fair value at June 30, 2013	Basis of measurement	Associated risks
Cash and cash equivalents	\$ 52,698	Carrying value	Interest/Credit/Foreign exchange
Accounts receivable	12,574	Carrying value	Credit
Available for sale investments	5,831	Available for sale	Market/Liquidity
Trade payable	56,786	Amortized cost	Interest
5% Convertible Debentures	47,749	Fair value through profit and loss	Interest
Equipment financing loans	12,574	Amortized cost	Interest

**Carrying value** - Cash and cash equivalents and accounts receivables mature in the short term and approximate their fair values.

**Available for sale investments** - The fair value of available for sale investments is determined based on a market approach reflecting the closing price of each particular security at the balance sheet date. The closing price is a quoted market price obtained from the exchange for the principal active market for the security. An impairment charge of \$2.9 million was recognized in the three and six months period ended June 30, 2013.

**Amortized costs** - Trade and other payable and equipment financing loans approximate their carrying values as the interest rates are comparable to current market rates

**Fair value through profit or loss** - The debt component of the 5% Convertible Debentures is valued based on discounted cash flows and the conversion feature is valued using a Black-Scholes model. The risk free interest rate used in the fair value computation is the interest rate on US treasury rate with maturity similar to the remaining life of the convertible debenture. The discount rate used is determined by adding our risk premium to the risk free interest rate. Volatility is calculated based on the weekly volatility of our share price observable on the NYSE MKT for a historical period equal to the remaining life of the convertible debenture. Investors trading in these instrument would normally cap the volatility used in the Black-Scholes model. To be consistent, we cap the weekly volatility in our calculation at 40%. During the three and six months ended June 30, 2013, a revaluation gain of \$43.9 million and \$51.5 million was included in earnings.

## QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk includes, but is not limited to, the following risks: changes in interest rates on our debt, changes in foreign currency exchange rates, commodity price fluctuations, liquidity risk and credit risk.

### **Interest Rate Risk**

Interest rate risk is the risk that the future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Our 5% Convertible Debentures and the outstanding loans under our equipment financing facility bear interest at a fixed rate and are not subject to changes in interest payments. We have not entered into any agreements to hedge against unfavorable changes in interest rates, but may in the future actively manage our exposure to interest rate risk.

### **Foreign Currency Exchange Rate Risk**

Currency risk is risk that the fair value of future cash flows will fluctuate because of changes in foreign currency exchange rates. In addition, the value of cash and cash equivalents and other financial assets and liabilities denominated in foreign currencies can fluctuate with changes in currency exchange rates.

Since our revenues are denominated in U.S. dollars and our operating units transact much of their business in U.S. dollars, we are typically not subject to significant impacts from currency fluctuations. However, certain purchases of labor, operating supplies and capital assets are denominated in Ghana cedis, euros, British pounds, Australian dollars and South African rand. To accommodate these purchases, we maintain operating cash accounts in non-US dollar currencies and appreciation of these non-US dollar currencies against the U.S. dollar results in a foreign currency gain and a decrease in non-U.S. dollar currencies results in a loss. In the past, we have entered into forward purchase contracts for South African rand, euros and other currencies

to hedge expected purchase costs of capital assets. During 2012 and the first half of 2013, we had no currency related derivatives. At June 30, 2013, and December 31, 2012, we held \$7.8 million and \$3.8 million, respectively, of US dollar equivalents in foreign currency.

### **Commodity Price Risk**

Gold is our primary product and, as a result, changes in the price of gold can significantly affect our results of operations and cash flows. Based on our expected gold production in 2013, a \$10 per ounce change in gold price would result in approximately a \$3.4 million and \$2.6 million change in our sales revenues and operating cash flows, respectively. To reduce gold price volatility, we have at various times entered into gold price derivatives. During the first half of 2013 and 2012, we did not hold any gold price derivatives and thus, there were no financial instruments subject to gold price risk.

### **Liquidity Risk**

Liquidity risk is the risk that we will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset. We manage the liquidity risk inherent in these financial obligations by preparing quarterly forecasts and annual long-term budgets which forecast cash needs and expected cash availability to meet future obligations. Typically these obligations are met by cash flows from operations and from cash on hand. Scheduling of capital spending and acquisitions of financial resources may also be employed, as needed and as available, to meet the cash demands of our obligations.

Our ability to repay or refinance our future obligations depends on a number of factors, some of which may be beyond our control. Factors that influence our ability to meet these obligations include general global economic conditions, credit and capital market conditions, results of operations and the price of gold.

### **Credit Risk**

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Our credit risk is primarily associated with liquid financial assets and derivatives. We limit exposure to credit risk on liquid financial assets by holding our cash, cash equivalents, restricted cash and deposits at highly-rated financial institutions. During the first six months of 2013, all of our excess cash was invested in funds that hold only U.S. treasury bills and bonds. We mitigate the credit risks of our derivatives by entering into derivative contracts with only high quality counter parties. Risks associated with gold trade receivables is considered minimal as we sell gold to a credit-worthy buyer who settles promptly within two days of receipt of gold bullion.

## **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 the end of the period covered by this MD&A, 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.

### ***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, is 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.

There has been no change in the Company's internal control over financial reporting during the six months ended June 30, 2013 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

***Limitations of Controls and Procedures***

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.

**RISK FACTORS AND ADDITIONAL INFORMATION**

The risk factors for the quarter ended June 30, 2013, are substantially the same as those disclosed and discussed in our Annual Report on Form 10-K for the year ended December 31, 2012.

Additional information regarding Golden Star, including the Company's Annual Report on Form 10-K for the year ended December 31, 2012, is available under the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com).