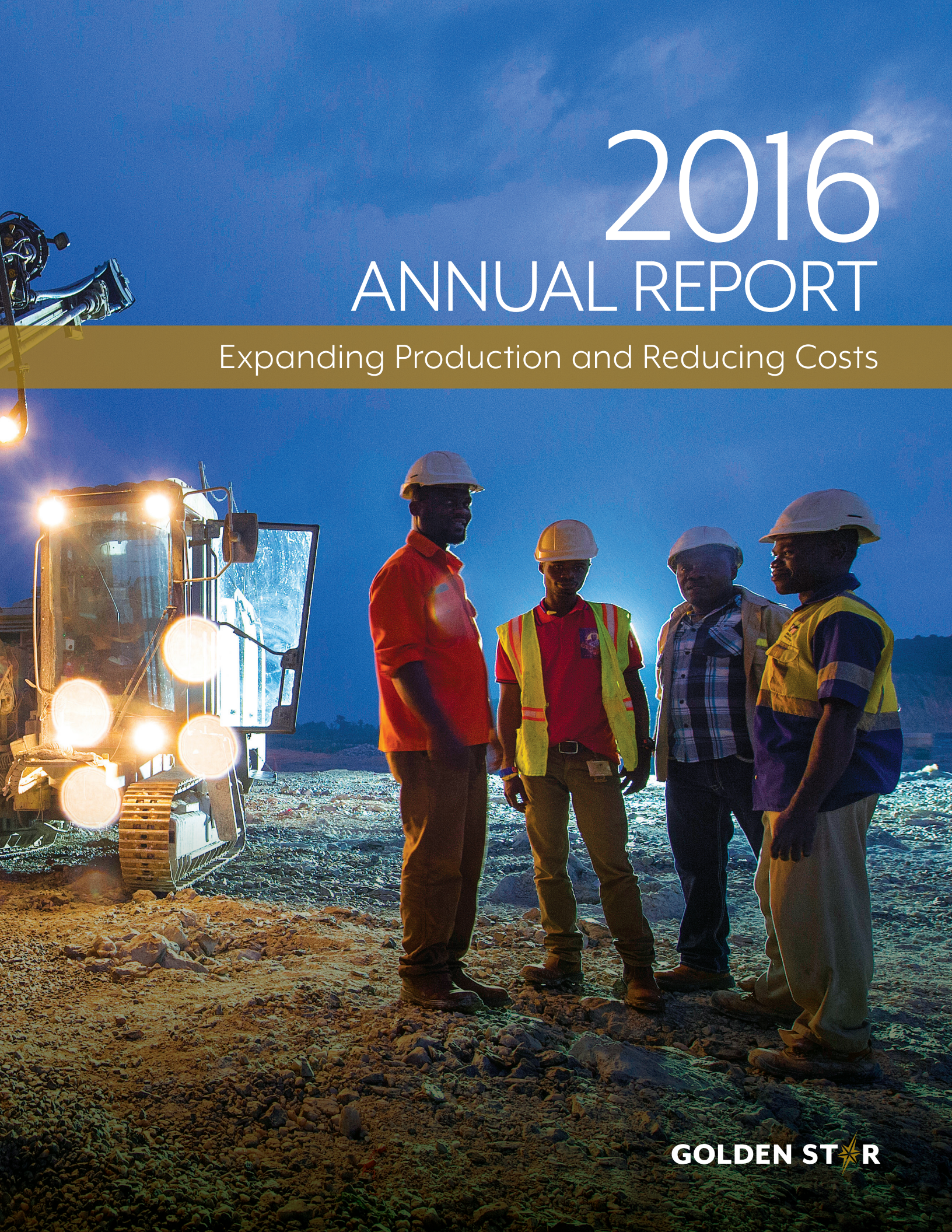
2016 ANNUAL REPORT

Expanding Production and Reducing Costs



GOLDEN STAR

COMPANY PROFILE

Golden Star is an established gold mining company that owns and operates the Wassa and Prestea mines situated on the prolific Ashanti Gold Belt in Ghana, West Africa. Golden Star is strategically focused on increasing operating margins and cash flow through the development of its two high grade, low cost underground mines in conjunction with existing open pit operations. The Wassa Underground Gold Mine commenced commercial production in January 2017 and the Prestea Underground Gold Mine is expected to achieve commercial production in mid-2017.

Gold production in 2017 is expected to be 255,000-280,000 ounces with cash operating costs* of $780-860 per ounce.

Golden Star is listed on the Toronto Stock Exchange (TSX: GSC), the New York Stock Exchange MKT (NYSE MKT: GSS), and the Ghanaian Stock Exchange (GSE: GSR).

* See "non-GAAP Financial Measures" in the Management's Discussion and Analysis (MD&A)

For more information on the Company, please visit www.gsr.com.

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HIGHLIGHTS

Gold production of 194,054 ounces, in the top half of the guidance range

Cash operating cost* of $872/ounce, an 11% decrease compared to 2015

Mine operating margin* of $27.5 million, compared to a loss of $27.6 million in 2015

Capital expenditures of $84.4 million, with 83% primarily representing development capital for the two underground projects

Wassa Underground achieved commercial production on **January 1, 2017** and **Prestea Underground** advanced significantly towards commercial production in **mid-2017**

* See "Non-GAAP Financial Measures" in the MD&A

MESSAGE FROM THE CHAIRMAN

Golden Star has made substantial progress during 2016 on its strategy to transform into a high grade, low cost gold producer. In 2013 the Board of Directors supported the management team's plan to cease our refractory operation at Bogoso and instead focus on the non-refractory, high grade, underground potential of our two assets. By 2015 Golden Star had replaced our two million ounces of refractory Mineral Reserves with non-refractory Mineral Reserves and by the end of 2017 we expect to have two producing underground mines, in addition to our surface production.

During the past year we achieved a number of critical milestones in the development of our two underground projects including the blasting of the first stope at Wassa Underground and completing the rehabilitation of the shaft at Prestea Underground. We also received the mining lease for the high grade Mampon deposit, which will generate robust cash flow in 2017. At a corporate level, the transformation was equally substantial. We restructured our debt repayments in order to align them more closely to forecast cash flow and we raised two tranches of equity in order to strengthen our balance sheet further.

It is a great achievement to construct two underground mines at the same time as meeting our full year 2016 guidance on all metrics. It shows the strength and depth of our team and is testament to their motivation and hard work. I am particularly proud that we built the two mines with our own team and without the use of contractors. Similarly, the management team has continued to mature and grow in confidence and this is reflected in the more consistent performance we have delivered at both operations.

Safety and well-being is a key focus for everyone at Golden Star. Our Lost Time Frequency Index of 0.36 per million hour for the year is a credit to our teams in Ghana and we will continue to improve our performance over the coming years. I am also very proud of our commitment to corporate responsibility. One example of this is our program to raise awareness of breast cancer: during the past three years we have screened approximately 10,000 women in our host communities for the disease. Another example is our GSOPP (Golden Star Oil Palm Plantation) project. We have over 300 smallholder farmers, 350 contract workers and over 1,050 hectares of land involved, creating a sustainable legacy for the Company.

Looking ahead, I believe Golden Star will continue to grow in sophistication as we further reduce our risk profile and increase our profitability. We have a number of important milestones on the horizon for 2017 including declaring commercial production at Prestea Underground and accessing the higher grade, transverse stoping areas of the B Shoot zone in Wassa Underground. We will also invest in a larger exploration program with the intention of extending the lives of both operations and confirming the potential of one of the largest land packages in Ghana. Once achieved, these milestones will bring us closer to our objective of becoming a high grade, low cost producer.

On behalf of the Board, I thank sincerely all of Golden Star's employees for their hard work and dedication over the past year. I would also like to thank our shareholders for their support and commitment to the Company and to thank our host communities for their continued partnership. Finally I would like to thank my fellow Directors for their valuable contribution during the year.

Tim Baker
Chairman

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

In 2016, Golden Star continued to reach important milestones in our transformation into a high grade, low cost, non-refractory producer. I am very impressed by what our teams have achieved at all levels of the Company: from the operations, to our balance sheet, to our social licence to operate in Ghana. We have continued to deliver on our strategy and we are well positioned for a strong 2017.

Employee safety and well-being are at the heart of our company and I am delighted that our efforts were once again recognized at the Ghana Mining Awards. I am also very proud of our corporate responsibility team as it is their work that will enable Golden Star to leave a positive and sustainable legacy beyond the lives of our mining operations. The achievements of our team were underlined by the support we received from our host communities, local suppliers, new and existing shareholders and the government of Ghana. We value these partnerships highly and we look forward to delivering robust returns for all of our stakeholders.

Looking now at the operations, in 2016 we again achieved our full year guidance in terms of production, cash operating costs and capital expenditures. We delivered gold production of 194,054 ounces, which was in the top half of the range, and our costs continued to decrease following the closure of the refractory operations in 2015.

In 2017 we expect to deliver stronger production and lower operating cash costs. Our full year 2017 guidance shows that production is expected to increase by 31% to 44% compared to 2016's production results and our cash operating costs will decrease by 1% to 11%.

During 2016 we also saw the development of our two underground projects gain momentum. In July 2016 the first stope was blasted at Wassa Underground, with commercial production achieved post-period end on January 1, 2017.

At Prestea Underground we expect to blast the first stope in the second quarter of 2017 and to achieve commercial production around mid-year. We advanced both of these projects with our own workforce in addition to carrying out a number of other infrastructure upgrades such as completing a new Tailings Storage Facility and upgrading the Wassa processing plant. I am very proud of what our operating teams and development teams have achieved and I have seen a new vigor emerge throughout our company and a "can do" culture establishing itself.

In addition to our existing operations, Golden Star is endowed with one of the largest land packages of any company in Ghana. 2017 will see exploration become a focus again for Golden Star with the objective of growing our Mineral Resource inventory and increasing the lives of our operations.

At the corporate level, the transformation has continued. During 2016 we focused on strengthening our balance sheet through debt and equity transactions and we now have a solid financial footing to allow us to achieve our objectives. I was pleased to see that our share price reflected the improvements we have made across all areas of the company, with growth of 330% during the year, and I am delighted to welcome new shareholders to our company and to thank our existing shareholders for their continued support. We will work hard to retain your confidence.

Finally, I would like to thank my fellow Board members for their enthusiasm, hard work and valuable guidance as we continued along our path to be a combined open pit and underground gold producer. We remain confident that we can deliver on our strategy and I am excited about the great potential that exists within our team. I look forward to providing further updates on our continued progress over the course of 2017.

Samuel T. Coetzer
President and Chief Executive Officer

GOLDEN STAR OPERATIONS

Prestea Mines

Prestea is located in south-western Ghana. At present, Golden Star is producing gold from the Prestea Open Pits, which are a series of oxide surface deposits close to the Prestea Underground Gold Mine. The Prestea West Reef deposit is hosted within a ribbon banded quartz vein associated with abundant free gold, pyrite and minor arsenopyrite occurring as a halo, dominantly in the hanging wall of the vein. The intention was for the Prestea Open Pits to provide a bridge between production from the refractory operation on the adjacent Bogoso concession area ceasing in Q3 2015 and non-refractory production from Prestea Underground commencing in mid-2017. Prestea Underground was first mined in the late 1800s and it is one of the highest grade development projects in West Africa, with Mineral Reserves grading 13.93 grams per tonne. The rehabilitation of Prestea Underground advanced strongly during 2016 and the first stopes are expected to be blasted in Q2 2017. Production from Prestea Underground is expected to be 90,000 ounces per year over an initial 5.5 year mine life, with an All-In Sustaining Cost* of $615 per ounce. Golden Star believes there is significant potential to expand production and extend the mine's life through exploration. Full year 2017 production is anticipated to be 65,000-70,000 ounces from the Prestea Open Pits and 45,000-50,000 ounces from Prestea Underground at a cash operating cost* of $715-780 per ounce.

Wassa Mines

Wassa is also located in south-western Ghana, approximately 40 kilometres from Prestea. The Wassa deposit is hosted by quartz carbonite veins with pyrite, it is one of the earliest gold mineralizing events in West Africa and has been affected by at least four deformational episodes. Golden Star began production from Wassa in 2005 and mined a series of surface deposits before consolidating a number of smaller pits to form the Wassa Main Pit. In mid-2016 the Wassa Underground gold mine began production and commercial production was achieved on January 1, 2017. From Q1 2017 onwards, Golden Star will be mining the same orebody, known as the B Shoot, via the Wassa Main Pit and Wassa Underground. Wassa has a 2.7 million tonne per annum producing plant 500 metres from the Wassa Main Pit and ore from both Wassa Main Pit and Wassa Underground is blended and processed here. Wassa has a mine life of seven years and production is expected to be approximately 175,000 ounces per annum on average during this time. The B Shoot remains open down plunge so Golden Star believes there is significant potential to expand production and extend the mine's life through exploration. Full year 2017 production guidance is anticipated to be 85,000-95,000 ounces from Wassa Main Pit and 60,000-65,000 ounces from Wassa Underground at a cash operating cost* of $830-915 per ounce.

WASSA

TAKORADI

Key Facts on Ghana

- Ghana is the oldest democratic independent state in Africa, south of the Sahara.
- Ghana has a stable constitutional democracy, with the most recent parliamentary and Presidential elections taking place in December 2016.
- Ghana is Africa's second largest gold producer after South Africa.
- Ghana has a long history of large scale gold mining, with four prolific greenstone belts that have yielded +120Moz of gold in past production.
- Ghana is a respected mining jurisdiction with stable and well legislated royalty and tax laws.

Notes

* See "Non-GAAP Financial Measures" in MD&A

CORPORATE RESPONSIBILITY

Golden Star is committed to being a part of the community in which we operate. Our mission is the responsible and profitable production of gold. We value respect, honesty, teamwork, accountability and open communication in all relationships, and we are committed to safety, employee well-being and protection of the environment.

WHAT DOES CORPORATE RESPONSIBILITY MEAN TO US?

Our objective is to maintain a socially responsible business that brings economic prosperity while ensuring responsible environmental stewardship and ethical business practice.

In 2016 to increase transparency, Golden Star launched onto a variety of social media platforms. We can now be followed on Facebook, LinkedIn and Twitter and more information is available about our commitment to corporate responsibility on our blog: www.goldenstarinthecommunity.blogspot.ca

Voluntary Principles on Security and Human Rights

As a signatory to the UN Global Compact, and as a member of the World Gold Council, we support the Voluntary Principles on Security and Human Rights. All private and public security personnel working at our operations are required to participate in training related to the Voluntary Principles, and sign a certificate confirming commitment to the principles.

Safety, health and wellbeing

Golden Star values and is committed to safety and employee well-being. We believe that job-related injuries and illnesses are unacceptable.

In support of our commitment, we continue to improve our health and safety systems, and grow our skills and capacity in support of our changing business.

In 2016 Golden Star was recognized by the Ghana Mining Industry Awards and Minerals Commission at annual awards ceremonies, winning awards for health and safety, and first aid. One of our employees, Sidi Adam, also was recognized with the first ever Excellence Award.

More importantly than any award, we remain committed to the continual improvement of health and safety to ensure everyone goes home safely every day. In 2016 there were no fatal incidents at our operations, however every injury is unacceptable, and so our journey must continue.

Precautionary approach to the environment

We are committed to meeting or surpassing regulatory requirements in all our activities, while safeguarding the local environment for our stakeholder communities, and future generations. We continue to operate extensive programs of environmental monitoring to demonstrate a high level of conformance.

GOLDEN STAR OIL PALM PLANTATION
The Golden Star Oil Palm Plantation (GSOPP) celebrated its tenth anniversary in 2016.

WORKING IN PARTNERSHIP WITH OTHER ORGANIZATIONS

Golden Star is committed to being a part of the community in which we operate by building strong relationships based on mutual trust and recognition of each other's rights.

Ghana's National CSR Policy

In 2016 Ghana launched its National Corporate Social Responsibility Policy to promote the sustainable development of Ghana. Robert Gyamfi, a Golden Star Community Relations Manager, was honoured for his "immense contribution and selfless dedication to this National call" by the Minister for Trade and Industry.

Early detection saves lives

In 2016 Golden Star, and its partners the Deutsche Gesellschaft für Internationale Zusammenarbeit or GIZ and Ghana Health Services, screened over 4,000 women for breast cancer. This brings our three year total to more than 10,400 women and girls and the project has potentially saved as many as 270 lives.

From its humble start in 2013, the program continues to increase in depth and in 2016 had the following elements:

- Screening across all Districts of the Golden Star catchment communities
- Outreach to 30 communities at 41 locations, including seven junior and senior secondary schools
- Recording of risk factor information for all participants to support diagnosis, treatment and cancer research
- Provision of education materials to participants, and community health facilities
- Breast cancer awareness and self-examination talks during screening sessions
- Participatory training and capacity building for Ghana Health Services nurses by Breast Care International.

Prevention is Better Than Cure

Another important health partnership project is the first ever prevention-focused community clinic in Ghana. In its first year of operations, the Akyempim clinic, which brings together curative and preventative services, has been a huge success. The Prevention is Better Than Cure partners are now planning expansion of the approach into the Quasi-Government Hospitals services in Ghana.

GOLDEN STAR'S COMMUNITY INITIATIVES

We are committed to developing long term alternative economic and capacity-building projects to provide enduring social and economic benefits from our operations.

Golden Star Oil Palm Plantation (GSOPP)

In 2016 our award-winning, social enterprise initiative GSOPP celebrated its tenth anniversary. Established in April 2006 as a non-profit subsidiary, GSOPP promotes the development of oil palm plantations amongst our catchment communities, using the smallholder concept.

GOLDEN STAR and its partners have screened over 10,400 women in Ghana for breast cancer over the past three years.

Funded by Golden Star with $1 per ounce of gold produced, to date we have directed over $5.3 million to this important initiative, to reduce poverty through employment generation, and promote wealth creation through sustainable agri-business. GSOPP now employs over 300 smallholder farmers and 350 contract workers. It covers over 1,050 hectares with plantations in ten host communities.

Golden Star Development Foundation (GSDF)

Golden Star contributes $1 per ounce of gold plus 0.1% of pre-tax profit to the GSDF for community development and support. Projects are selected by the communities through consultative committees, respecting the rights of our host communities to determine their own development needs.

In 2016 key projects of the development foundations included:

- Purchase of domestic waste disposal tractor and trailers for Prestea
- Provision of potable water supply systems to host communities
- Construction of a community centre at Kubekro
- Student scholarships.

Since the establishment of GSDF in 2006, we have contributed over $3.3 million to the Foundation.

Golden Star Skills Training and Employability Programme (GSSTEP)

Inaugurated in 2009, GSSTEP provides employment skills to young people, expands employment opportunities in our catchment communities and provides viable employment alternatives to reduce reliance on unauthorized activities, such as artisanal mining.

Since its inception, 12 GSSTEP programs have provided skills training to 568 trainees in masonry, commercial cookery, carpentry, and mobile phone repairs amongst other areas and Golden Star has contributed over $1.0 million to GSSTEP.

MEMBERS OF THE BOARD

Tim Baker
Chairman

Tim was appointed Chairman of the Board in January 2013. Tim most recently served as the COO and EVP of Kinross Gold Corporation. He is a geologist with over 30 years of global project development, operational, and geological experience including in Chile, Tanzania, the United States, Canada, Venezuela, Kenya and Liberia. Tim is also a Director of Antofagasta PLC, Sherritt International and Rye Patch Gold Corp.

Sam Coetzer
President and Chief Executive Officer, Director

Sam was appointed President and CEO of Golden Star in January 2013. He joined the Company in December 2012 and previously served as EVP and COO, as well as a Director. Sam is a mining engineer with over 26 years of international mining experience with Kinross, Xstrata, Xstrata Coal, and Placer Dome. Sam was the Senior Vice President at Kinross responsible for the South Americas in 2010 prior to joining Golden Star.

Gil Clausen
Director

Gil is the President and CEO of Brio Gold Inc. and former President and CEO of Augusta Resource Corporation. He serves as an independent director of Plata Latina Minerals Corporation. With over 30 years' industry experience, Gil has been responsible for executing growth strategies for mining companies on a range of continents and across a variety of commodities. He is a Professional Engineer and holds a Bachelor's degree and a Master's degree, each in Mining Engineering from Queens University, Canada.

Anu Dhir
Director

Anu is a co-founder of ZinQ Mining, a private base metals and precious metals royalty company that focuses on the Latin America region. She is also the Managing Director of Miniqs Limited, a private group primarily interested in developing resource projects. Prior to Miniqs and ZinQ Mining, Anu was VP, Corporate Development and Company Secretary at Katanga Mining Limited. Anu is a non-executive director of Trillium Health Partners and holds a BA from the University of Toronto and a law degree from Quinnipiac University, U.S.

Robert Doyle
Director

Robert has over 30 years' mining experience. Most recently, he was Founder and CEO of Medoro Resources, now Gran Colombia Gold Corp. Prior to this, Robert served as EVP and CFO of Pacific Stratus Energy, CFO of Coalcorp Mining, and CFO of Bolivar Gold Corp. Currently, Robert serves as a Director and Chairman of the audit committee of Mandalay Resources Corp. and Detour Gold Corporation. Robert is a Chartered Accountant and a Chartered Director.

Tony Jensen
Director

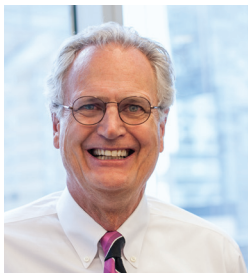
Tony has over 30 years' of mining industry experience and is President, CEO and a Board member of Royal Gold Inc. Prior to this, Tony was the Mine General Manager of the Cortez Joint Venture and spent 18 years with Placer Dome. He is a member of the National Mining Association Board and Finance Committee, the World Gold Council Board and Remuneration Committee Chairman, and the South Dakota School of Mines and Technology University Board.

Craig Nelson
Director

Craig is a geologist with over 35 years' experience in the mining industry. Craig was Founder and CEO of Avanti Mining. Formerly, he was EVP, Exploration of Gold Fields Limited; Founder, CEO and Chairman of Metallica Resources (now New Gold), and has also held a variety of strategic positions at Lac Minerals Ltd. Craig holds a M.S. from the University of New Mexico and a B.A. from the University of Montana, both in geology.

Daniel Owiredu
Executive Vice President and Chief Operating Officer, Director

Daniel joined Golden Star in 2006 as VP, Operations and was appointed COO in January 2013, joining the Board in November 2014. He has over 30 years' experience in Ghana and West Africa. Most recently, Daniel was Deputy COO Africa for AngloGold Ashanti, managing the construction and operation of the Bibiani mine as well as the operation of several other mines. Daniel is the Chairman of the GCB Bank and was formerly Ghana's President of the Chamber of Mines.



Bill Yeates
Director

Bill was a founding partner of Hein & Associates LLP (Hein). He has over 40 years' auditing experience, having served on the Financial Accounting Standards Advisory Council; the Professional Practice Executive Committee of the Center for Audit Quality; the Executive Committee of the Center for Public Company Audit Firms of the American Institute of Certified Public Accountants ("AICPA"); the SEC Practice Section Executive Committee and the SEC Regulations Committee of the AICPA. Bill is a CPA.

SENIOR MANAGEMENT:

André van Niekerk,
Executive Vice President and Chief Financial Officer

Bruce Higson-Smith
Senior Vice President, Corporate Strategy

Martin Raffield
Senior Vice President, Project Development and Technical Services

Karen Walsh
Vice President, People and Organizational Development

Mitch Wasel
Vice President, Exploration

Katharine Sutton
Director, Investor Relations and Corporate Affairs

MINERAL RESERVES AND MINERAL RESOURCES

PROVEN AND PROBABLE MINERAL RESERVES

	December 31, 2016 PROVEN MINERAL RESERVE			December 31, 2016 PROBABLE MINERAL RESERVE			December 31, 2016 PROVEN + PROBABLE MINERAL RESERVE			December 31, 2015 PROVEN + PROBABLE MINERAL RESERVE		
	Tonnes (000)	Grade g/t Au	Content (000) oz	Tonnes (000)	Grade g/t Au	Content (000) oz	Tonnes (000)	Grade g/t Au	Content (000) oz	Tonnes (000)	Grade g/t Au	Content (000) oz
Wassa Open Pit	–	–	–	11,264	1.56	565	11,264	1.56	565	14,179	1.46	667
Wassa Underground	–	–	–	5,477	4.21	742	5,477	4.21	742	5,397	4.59	796
Stockpiles	695	0.96	21	–	–	–	695	0.96	21	789	0.93	24
Subtotal Wassa	**695**	**0.96**	**21**	**16,741**	**2.43**	**1,307**	**17,436**	**2.37**	**1,328**	**20,365**	**2.27**	**1,486**
Mampon	–	–	–	301	4.64	45	301	4.64	45	304	4.60	45
Prestea South	–	–	–	510	2.31	38	510	2.31	38	1,892	2.30	140
Prestea Underground	–	–	–	1,094	13.93	490	1,094	13.93	490	1,041	14.02	469
Stockpiles	115	2.55	9	–	–	–	115	2.55	9	25	2.69	2
Subtotal Prestea	**115**	**2.55**	**9**	**1,905**	**9.35**	**573**	**2,020**	**8.96**	**582**	**3,261**	**6.26**	**656**
GSR Total	**810**	**1.18**	**31**	**18,646**	**3.13**	**1,879**	**19,456**	**3.05**	**1,910**	**23,626**	**2.82**	**2,143**

Notes to the Mineral Reserve Statement:

1. The Mineral Reserves as of December 31, 2016, were estimated using a gold price assumption of $1,100 per ounce.
2. The slope angles of all pit designs are based on geotechnical criteria as established by external consultants. The shape and size of the pit designs are guided by consideration of the results from a pit optimization program.
3. Cut-off grades have been estimated based on operating cost projections, mining dilution and recovery, government royalty payment requirements and applicable metallurgical recovery. Marginal cut-off grade estimates for the open pits are as follows: Wassa: 0.7 g/t; Mampon (part of the Prestea reserves): 1.5 g/t; and Prestea South: 1.2 g/t. Break-even cut-off grade estimates for the underground mines are as follows: Wassa Underground: 2.4 g/t; and Prestea Underground: 7.7 g/t.
4. Numbers may not add correctly due to rounding.
5. Only non-refractory ore is included in Golden Star's Mineral Reserves.

MEASURED AND INDICATED MINERAL RESOURCES

	December 31, 2016 INDICATED MINERAL RESOURCES			December 31, 2016 MEASURED + INDICATED MINERAL RESOURCES			December 31, 2015 MEASURED + INDICATED MINERAL RESOURCES		
	Tonnes (000)	Grade g/t Au	Ounces (000)	Tonnes (000)	Grade g/t Au	Ounces (000)	Tonnes (000)	Grade g/t Au	Ounces (000)
Wassa	44,347	2.33	3,328	44,347	2.33	3,328	54,647	2.02	3,556
Bogoso/Prestea	19,818	3.85	2,451	19,818	3.85	2,451	21,452	3.72	2,564
Total (including Refractory)	64,165	2.80	5,778	64,165	2.80	5,778	76,099	2.50	6,120
Total (excluding Refractory)	49,741	2.7	4,382	49,741	2.74	4,382	61,359	2.38	4,700

INFERRED MINERAL RESOURCES

	December 31, 2016 INFERRED MINERAL RESOURCES			December 31, 2015 INFERRED MINERAL RESOURCES		
	Tonnes (000)	Grade g/t Au	Ounces (000)	Tonnes (000)	Grade g/t Au	Ounces (000)
Wassa	15,581	4.20	2,102	16,492	4.15	2,200
Bogoso/Prestea	4,835	6.64	1,032	4,997	6.88	1,105
Total (including Refractory)	20,417	4.77	3,134	21,486	4.78	3,305
Total (excluding Refractory)	19,305	4.89	3,034	20,305	4.82	3,144

Notes to the Measured and Indicated Mineral Resources and the Inferred Mineral Resource Statement*:

1. The Mineral Resources for Wassa Other include Father Brown, Benso and Chichiwilli.
2. The Mineral Resources for Bogoso/Prestea Other include Chujah, Dumasi, Bogoso North, Buesichem, Opon, and Ablifa.
3. The Wassa Underground Mineral Resource has been estimated below the $1,300 per ounce of gold pit shell using an economic gold grade cut-off of 1.81 g/t Au, which the Company believes would be the lower cut-off for underground.
4. The Father Brown Underground Mineral Resource has been estimated below the $1,300 per ounce of gold pit shell using an economic gold grade cut-off of 3.17 g/t Au, which the Company believes would be the lower cut-off for underground.
5. Prestea Underground Mineral Resource has been estimated below the $1,300 pit shell of Prestea South down to 3,800m elevation using a gold cut-off at 5.43 g/t Au.
6. Mineral Resources were estimated using optimized pit shells at a gold price of $1,300 per ounce. Other than gold price, the same optimized pit shell and underground parameters and modifying factors used to determine the Mineral Reserves were used to determine the Mineral Resources.
7. Mineral Resources are inclusive of Mineral Reserves.
8. Numbers may not add correctly due to rounding.

Additional Information

The Mineral Resources estimates in the above tables were reviewed and approved by S. Mitchel Wasel, Vice President Exploration for Golden Star and a "Qualified Person" pursuant to National Instrument 43-101, and the Mineral Reserves estimates in the above tables were reviewed and approved by Dr. Martin Raffield, Senior Vice President Project Development and Technical Services for Golden Star and a "Qualified Person" pursuant to National Instrument 43-101. See "Note Regarding Reserves and Resources" in the MD&A.

The full Mineral Reserve and Mineral Resource tables, including a more detailed breakdown by asset, can be viewed at: www.gsr.com/operations/reserves-and-resources

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

The following discussion and analysis provides information that management believes is relevant to an assessment and understanding of the consolidated financial condition and results of operations of Golden Star Resources Ltd. and its subsidiaries ("Golden Star" or "the Company" or "we" or "our"). This Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with the Company's audited consolidated financial statements and related notes for the year ended December 31, 2016, which are prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). This MD&A includes information available to, and is dated, February 21, 2017. Unless noted otherwise, all currency amounts are stated in U.S. dollars and all information presented in this MD&A is prepared in accordance with IFRS.

Cautionary note regarding forward-looking information

This MD&A contains "forward-looking information" within the meaning of applicable Canadian securities laws and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995, concerning the business, operations and financial performance and condition of Golden Star. Generally, forward-looking information and statements can be identified by the use of forward-looking terminology such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", "believes" or variations of such words and phrases (including negative or grammatical variations) or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" or the negative connotation thereof. Forward-looking information and statements in this MD&A include, but are not limited to, information or statements with respect to: production, cash operating costs and all-in sustaining costs estimates for 2017; the timing for transforming Wassa and Prestea into lower cost producers; the impact of the brownfield underground development projects at Wassa and Prestea on the Company; the ability of the Company to transform into a reliable and stable low cost producer when both underground projects are in full production and the timing for such production; Wassa and Prestea Underground mines being in commercial production by the end of 2017 and full production in 2018; Wassa's 2017 production level, as well as decreases in grade and strip ratio during 2017; gold production increases at Wassa Underground from the third quarter of 2017 onwards; accessing the transverse stopes of the B Shoot at Wassa Underground and the timing thereof; the B Shoot being a higher grade area of the Wassa Underground ore body; the conclusion of production at the Prestea Open Pits during the third quarter of 2017; the commencement of mining and production from the Mampon deposit during the second quarter of 2017 and the conclusion of mining and production from Mampon in the third quarter of 2017; production at Prestea Underground during the development phase of the project; construction activities at Prestea Underground advancing according to schedule and stoping starting in the second quarter of 2017; total construction spending at Prestea Underground; pre-commercial production revenue at Prestea Underground; the Company's debt repayment and servicing obligations during 2017; the ability to defer discretionary capital spending in 2017 and the amount that can be deferred; the manner in which the Company will repay the outstanding principal balance of the 5% Convertible Debentures; expected rehabilitation provisions; sustaining and development capital expenditures estimates for 2017; total capital expenditures expected to be incurred at Prestea Underground and Wassa in 2017; the amounts of capital to be spent on various activities at Wassa and Prestea; exploration spending during 2017; the change to Alimak stoping at Prestea Underground mine and the safety and efficiency of such method of mining at Prestea Underground mine; the timing of stoping at Prestea Underground mine; the sufficiency of the Company's existing cash balance; the ounces and grade of, and timing for mining at Mampon; working capital, debt repayments and requirements for additional capital; and the ability of the Company to repay the outstanding principal amount of the 5% Convertible Debentures when due.

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

Forward-looking information and statements are subject to known and unknown risks, uncertainties and other important factors that may cause the actual results, performance or achievements of Golden Star to be materially different from those expressed or implied by such forward-looking information and statements, including but not limited to: risks related to international operations, including economic and political instability in foreign jurisdictions in which Golden Star operates; risks related to current global financial conditions; actual results of current exploration activities; environmental risks; future prices of gold; possible variations in mineral reserves and mineral resources, grade

or recovery rates; mine development and operating risks; an inability to obtain power for operations on favourable terms or at all; mining plant or equipment breakdowns or failures; an inability to obtain products or services for operations or mine development from vendors and suppliers on reasonable terms, including pricing, or at all; accidents, labor disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities; risks related to indebtedness and the service of such indebtedness, as well as those factors discussed in the section entitled "Risk Factors" in Golden Star's Annual Information Form for the year ended December 31, 2015. Although Golden Star has attempted to identify important factors that could cause actual results, performances and achievements to differ materially from those contained in forward-looking information and statements, there may be other factors that cause results, performance and achievements not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results, performance, and achievements and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information and statements. Forward-looking information and statements are made as of the date hereof and accordingly are subject to change after such date. Except as otherwise indicated by Golden Star, these statements do not reflect the potential impact of any non-recurring or other special items or of any dispositions, monetizations, mergers, acquisitions, other business combinations or other transactions that may be announced or that may occur after the date hereof. Forward-looking information and statements are provided for the purpose of providing information about management's current expectations and plans and allowing investors and others to get a better understanding of the Company's operating environment. Golden Star does not undertake to update any forward-looking information and statements that are included in this MD&A, except as required by applicable securities laws.

Cautionary note regarding reserves and resources

Scientific and technical information contained in this MD&A was reviewed and approved by Dr. Martin Raffield, Senior Vice-President, Technical Services for Golden Star who is a "qualified person" as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and by S. Mitchel Wasel, BSc Geology who is a Qualified Person pursuant to NI 43-101. Mr. Wasel is Vice President Exploration for Golden Star and an active member of the Australasian Institute of Mining and Metallurgy. All mineral reserves and mineral resources have been calculated in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") and in compliance with the requirements of NI 43-101. All mineral resources are reported inclusive of mineral reserves. Mineral resources which are not mineral reserves do not have demonstrated economic viability. Information on data verification performed on, and other scientific and technical information relating to, the mineral properties mentioned in this MD&A that are considered to be material mineral properties of the Company are contained in Golden Star's Annual Information Form for the year ended December 31, 2015 and the following current technical reports for those properties available at www.sedar.com: (i) Wassa – "NI 43-101 Technical Report on feasibility study of the Wassa open pit mine and underground project in Ghana" effective date December 31, 2014; (ii) Bogoso – "NI 43-101 Technical Report on Resources and Reserves Golden Star Resources Ltd., Bogoso Prestea Gold Mine, Ghana" effective date December 31, 2013; and (iii) Prestea Underground – "NI 43-101 Technical Report on a Feasibility Study of the Prestea Underground Gold Project in Ghana" effective date November 3, 2015.

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 viability. Inferred mineral resources have a high degree of uncertainty as to their existence and as to whether they can be economically or legally mined. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Therefore, you are cautioned not to assume that all or any part of an inferred mineral resource exists, that it can be economically or legally mined, or that it will ever be upgraded to a higher category. Likewise, you are cautioned not to assume that all or any part of measured or indicated mineral resources will ever be upgraded into mineral reserves.

OVERVIEW OF GOLDEN STAR

Golden Star is an established gold producer that holds a 90% interest in the Wassa and Bogoso/Prestea gold mines in Ghana. The Company has two open pit producing mines (Wassa Main Pit and the Prestea Open Pits), one producing underground mine (Wassa Underground) and one underground development project (Prestea Underground). Wassa Underground achieved commercial production on January 1, 2017 and Prestea Underground is expected to achieve commercial production in mid-2017. The Company is a reporting issuer or the equivalent in all provinces of Canada, in Ghana and in the United States, and files disclosure documents with securities regulatory authorities in Canada, Ghana and with the SEC in the United States.

SUMMARY OF OPERATING AND FINANCIAL RESULTS

		Three months ended December 31,		For the years ended December 31,	
		2016	2015	2016	2015
OPERATING SUMMARY					
Wassa Main Pit gold sold	oz	21,076	30,880	93,284	107,751
Wassa Underground gold sold	oz	7,867	—	11,062	—
Bogoso/Prestea gold sold	oz	23,893	20,498	89,517	113,902
Total gold sold	oz	52,836	51,378	193,863	221,653
Total gold produced	oz	53,403	52,141	194,054	222,416
Average realized gold price	$/oz	1,184	1,098	1,211	1,151
Cost of sales per ounce – Consolidated[1]	$/oz	1,114	903	1,060	1,276
Cost of sales per ounce – Wassa[1]	$/oz	1,430	813	1,186	1,061
Cost of sales per ounce – Bogoso/Prestea[1]	$/oz	836	1,040	928	1,479
Cash operating cost per ounce – Consolidated[1]	$/oz	880	715	872	976
Cash operating cost per ounce – Wassa[1]	$/oz	1,090	625	941	838
Cash operating cost per ounce – Bogoso Prestea[1]	$/oz	694	849	800	1,108
All-in sustaining cost per ounce – Consolidated[1]	$/oz	1,197	893	1,093	1,149
FINANCIAL SUMMARY					
Gold revenues	$'000	53,255	56,420	221,290	255,187
Cost of sales excluding depreciation and amortization	$'000	43,994	39,354	172,616	245,494
Depreciation and amortization	$'000	6,117	7,054	21,160	37,339
Mine operating margin/(loss)	$'000	3,144	10,012	27,514	(27,646)
General and administrative expense	$'000	517	2,521	25,754	14,281
(Gain)/Loss on fair value of financial instruments, net	$'000	(888)	(1,658)	25,628	(1,712)
Loss on repurchase of 5% Convertible Debentures, net	$'000	—	—	11,594	—
Net income/(loss) attributable to Golden Star shareholders	$'000	3,446	13,781	(39,647)	(67,681)
Adjusted net income/(loss) attributable to Golden Star shareholders[2]	$'000	64	7,003	11,183	(28,355)
Income/(loss) per share attributable to Golden Star shareholders – basic and diluted	$/share	0.01	0.05	(0.13)	(0.26)
Adjusted income/(loss) per share attributable to Golden Star shareholders – basic[2]	$/share	0.01	0.03	0.04	(0.11)
Cash provided by operations	$'000	25,234	12,633	53,249	60,148
Cash provided by operations before working capital changes[3]	$'000	23,896	29,725	75,457	53,437
Cash provided by operations per share – basic	$/share	0.08	0.05	0.18	0.23
Cash provided by operations before working capital changes per share – basic and diluted	$/share	0.07	0.11	0.26	0.21
Capital expenditures	$'000	23,779	13,726	84,356	57,051

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

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

3 See "Non-GAAP Financial Measures" section for an explanation of the calculation of cash provided by operations before working capital changes.

- **Gold sales of 52,836 ounces in the fourth quarter of 2016 were 3% higher than the 51,378 ounces sold in the same period in 2015.** Bogoso/Prestea gold sales in the fourth quarter of 2016 were 17% higher than the same period in 2015 due to higher throughput and higher ore grade processed. Gold sales from Wassa Main Pit decreased to 21,076 ounces due mainly to a 21% decrease in ore grade processed as a result of mining in a lower grade zone of the Wassa Main Pit. The incidental revenue from the 7,867 ounces attributed to the Wassa Underground Mine is accounted as a reduction to the capital expenditures in the development of the Wassa Underground as the Wassa Underground Mine was not yet in commercial production by December 31, 2016. For the year ended December 31, 2016, gold sales of 193,863 ounces were 13% lower than the 221,653 ounces sold in the same period in 2015, due primarily to lower throughput at Bogoso/Prestea as 2016 production was exclusively from the lower cost Prestea non-refractory operation.
- **Consolidated cost of sales per ounce was $1,114 in the fourth quarter of 2016, 23% higher than $903 in the same period in 2015. Consolidated cash operating cost per ounce was $880 in the fourth quarter of 2016, 23% higher than $715 in the same period in 2015.** The increase in both the consolidated cost of sales per ounce and the consolidated cash operating cost per ounce was due to the decrease in gold sold attributable to the Wassa Main Pit as a result of a 31% decrease in ore grade processed compared to the same period in 2015. These higher costs per ounce at Wassa were offset partially by the lower costs per ounce at Bogoso/Prestea as production at Bogoso/Prestea increased compared to the same period in 2015. The impact expected from cost of sales per ounce and the cash operating cost per ounce at the Wassa Underground Mine do not affect the consolidated cost of sales per ounce or the consolidated cash operating cost per ounce as costs relating to the Wassa Underground Mine are accounted for as a reduction to the capital expenditures in the development of the Underground Mine as commercial production had not been achieved by December 31, 2016. For the year ended December 31, 2016, consolidated cost of sales per ounce was $1,060 compared to $1,276 for the same period in 2015, representing a 17% decrease. Consolidated cash operating cost per ounce was $872 for the year ended December 31, 2016, compared to $976 in the same period in 2015, representing a 11% decrease. Both consolidated cost of sales per ounce and cash operating cost per ounce decreased in 2016 compared to the prior year due to the suspension of the high cost refractory plant at Bogoso/Prestea, which resulted in a $68.6 million reduction in cost of sales in 2016.
- **Gold revenues totaled $53.3 million in the fourth quarter of 2016, compared to $56.4 million in the same period in 2015.** The 5% decline in gold revenues was a result of fewer ounces sold at Wassa Main Pit, partially offset by a higher realized gold price in the fourth quarter of 2016 as compared to the same period in 2015. The decline in ounces sold at Wassa was a result of a decrease in ore grade processed. For the year ended December 31, 2016, gold revenue totaled $221.3 million, a 13% decline compared to $255.2 million in the same period in 2015 due primarily to lower gold sales at Bogoso/Prestea following the suspension of the high cost refractory operation at Bogoso and lower gold sales at Wassa as a result of lower ore grade processed.
- **Cost of sales excluding depreciation and amortization in the fourth quarter of 2016 totaled $44.0 million compared to $39.4 million in the same period in 2015.** The 12% increase in cost of sales excluding depreciation and amortization for the fourth quarter of 2016 was due mainly to higher mining costs and lower build-up of inventories at Wassa. For the year ended December 31, 2016, cost of sales excluding depreciation and amortization totaled $172.6 million, down 30% from $245.5 million in the same period in 2015, due primarily to a decrease in mine operating expenses at the Bogoso/Prestea mine. Lower mine operating expenses were a result of exclusively mining and processing lower cost Prestea oxide ore through the non-refractory plant in 2016 as compared to processing primarily refractory ore through the higher cost refractory plant in 2015.
- **Depreciation and amortization expense totaled $6.1 million in the fourth quarter of 2016 compared to $7.1 million in the same period in 2015.** The decrease in depreciation and amortization expense in the fourth quarter of 2016 was primarily the result of higher mineral reserve and resource estimates at the Bogoso/Prestea compared to the same period in 2015. For the year ended December 31, 2016, depreciation and amortization totaled $21.2 million compared to $37.3 million in the same period in 2015, primarily a result of the lower production at both operations and higher reserve and resource estimates at the Bogoso/Prestea compared to prior year.
- **General and administrative costs totaled $0.5 million in the fourth quarter of 2016, compared to $2.5 million in the same period in 2015.** The decrease in general and administrative costs in the fourth quarter of 2016 was due primarily to a $2.3 million share-based compensation recovery. General and administrative costs excluding non-cash share-based compensation was $2.8 million in the fourth quarter of 2016 compared to $2.3 million in the same period in 2015. For the year ended December 31, 2016, general and administrative costs totaled $25.8 million compared to $14.3 million in the same period in 2015. The increase was due to the higher non-cash share-based compensation accrued for the year ended December 31, 2016, compared to the same periods in 2015. Share-based compensation increased in 2016 as a result of significant improvement in the Company's share price. General and administrative costs excluding non-cash share-based compensation was $11.9 million in 2016, slightly lower than the $12.3 million in the same period in 2015.

- **The Company recorded a gain of $0.9 million on financial instruments in the fourth quarter of 2016 compared to $1.7 million in the same period in 2015.** The gain in the fourth quarter of 2016 was comprised of a $1.0 million gain on forward and collar contracts and a $0.5 million non-cash revaluation gain on warrants, offset by a $0.5 million non-cash revaluation loss of the derivative liability of the 7% Convertible Debentures and a $0.1 million non-cash revaluation loss on the 5% Convertible Debentures. The $1.7 million fair value gain recognized in the fourth quarter of 2015 was comprised of a $1.6 million non-cash revaluation gain on the 5% Convertible Debentures and a $0.1 million non-cash revaluation gain on warrants. The valuation techniques used for these financial instruments are disclosed in the "Financial Instruments" section of this MD&A. For the year ended December 31, 2016, the Company recorded $37.2 million of losses on financial instruments compared to a gain of $1.7 million in the same period in 2015. The losses in 2016 were comprised of a $17.2 million non-cash revaluation loss on the 5% Convertible Debentures, a $11.6 million loss on repurchases of the 5% Convertible Debentures, a $3.8 million non-cash revaluation loss of the derivative liability of the 7% Convertible Debentures, a $2.3 million non-cash revaluation loss on warrants and a $2.3 million loss on forward and collar contracts.
- **Net income attributable to Golden Star shareholders for the fourth quarter of 2016 totaled $3.4 million or $0.01 income per share, compared to a net income of $13.8 million or $0.05 income per share for the same period in 2015.** The decrease in net income attributable to Golden Star shareholders for the fourth quarter was due to lower mine operating margin at Wassa and lower other income. Mine operating margin was lower at Wassa due to lower revenue as a result of lower production at the Wassa Main Pit in the fourth quarter of 2016. Other income was lower in the fourth quarter of 2016 as there was a gain of $5.7 million on reduction of the Bogoso refractory operation asset retirement obligation recognized in the fourth quarter in 2015. For the year ended December 31, 2016, net loss attributable to Golden Star shareholders totaled $39.6 million or $0.13 loss per share, compared to a net loss of $67.7 million or $0.26 loss per share in the same period in 2015. The decrease in net loss attributable to Golden Star shareholders for 2016 was due mainly to higher mine operating margin at Bogoso and no impairment charges for 2016 compared to $34.9 recognized in 2015. These were partially offset by higher losses on financial instruments and higher non-cash share-based compensation expenses.
- **Adjusted net income attributable to Golden Star shareholders (see "Non-GAAP Financial Measures" section) was $0.1 million in the fourth quarter of 2016, compared to $7.0 million for the same period in 2015.** The lower adjusted net income attributable to Golden Star shareholders in the fourth quarter of 2016 compared to the same period in 2015 was due to the mine operating loss at Wassa in the fourth quarter of 2016 resulting from lower revenue from gold sales attributable to the Wassa Main Pit. For the year ended December 31, 2016, adjusted net income attributable to Golden Star shareholders (see "Non-GAAP Financial Measures" section) was $11.2 million compared to an adjusted loss of $28.4 million attributable to Golden Star shareholders in the same period in 2015. The adjusted net income attributable to Golden Star shareholders in 2016 compared to the adjusted net loss attributable to Golden Star shareholders in 2015 was principally due to higher mine operating margin at the Bogoso/Prestea operation in 2016.
- **Cash provided by operations before working capital was $23.9 million for the fourth quarter of 2016, compared to $29.7 million in the same period in 2015.** The decrease in cash provided by operations before working capital was impacted primarily by the mine operating loss at Wassa in the fourth quarter of 2016. For the year ended December 31, 2016, cash provided by operations before working capital was $75.5 million compared to $53.4 million in the same period in 2015 due mainly to the higher mine operating margin at Bogoso/Prestea, partially offset by the lower mine operating margin at Wassa and the lower amount of advance payments under the Streaming Agreement (as defined below) received in 2016 compared to 2015. Total advance payment of $60.0 million under the Streaming Agreement was received in 2016 compared to $75.0 million in 2015.
- **Capital expenditures for the fourth quarter of 2016 totaled $23.8 million compared to $13.7 million in the same period in 2015.** Capital expenditures for the fourth quarter and year ended December 31, 2016 were higher than the same periods in 2015 primarily due to expenditures on development activities relating to the Wassa Underground Mine and the Prestea Underground Mine in 2016. The major capital expenditures in the fourth quarter of 2016 at Wassa included $2.8 million of expenditures relating to the development of the Wassa Underground Mine and $3.3 million for the improvement of the tailings storage facility. Capital expenditures at Bogoso/Prestea during the fourth quarter of 2016 included $10.8 million on expenditures relating to the development of the Prestea Underground Mine and $2.2 million on the Prestea Open Pit Mines. For the year ended December 31, 2016, capital expenditures totaled $84.4 million compared to $57.1 million in the same period in 2015.

OUTLOOK FOR 2017

Production and cost guidance

	Gold production thousands of ounces	Cash operating costs $ per ounce	All-in sustaining costs $ per ounce
Wassa Main Pit	85 – 95		
Wassa Underground	60 – 65		
Wassa Consolidated	**145 – 160**	**830 – 915**	
Prestea Open Pit Mines	65 – 70		
Prestea Underground[1]	45 – 50		
Prestea Consolidated	**110 – 120**	**715 – 780**	
CONSOLIDATED	**255 – 280**	**780 – 860**	**970 – 1,070**

1 Costs incurred at Prestea Underground will be capitalized until commercial production is achieved. As a result, pre-commercial production costs are reflected in the Company's development capital expenditure guidance set out in the table below and are not included in the Company's cash operating cost per ounce guidance set out in the table above.

Wassa Main Pit – Production is expected to remain at approximately the same level as 2016. Grade and strip ratio are expected to decline slightly in 2017 resulting in slightly lower production guidance.

Wassa Underground – Commercial production at Wassa Underground was achieved on January 1, 2017. Gold production is anticipated to increase significantly from the third quarter of 2017 onwards as Golden Star's mining operations begin to access the transverse stopes of the B Shoot, which is a higher grade area of the Wassa Underground ore body.

Prestea Open Pit Mines – Production is expected to be lower in 2017 relative to the prior year as Golden Star expects production to conclude at the Prestea Open Pits during the third quarter of 2017. Production from the Mampon deposit, which is expected to commence during the second quarter of 2017 and conclude in the third quarter of 2017, will slightly offset this decrease.

Prestea Underground – Commercial production at Prestea Underground is expected to be achieved in mid-2017. During the development phase of the Prestea Underground Mine, the Company expects to produce 7,000 – 7,500 ounces in 2017. As these ounces are expected to be produced prior to the commercial production phase of the mine, the revenues from these ounces will be credited against the capital expenditures incurred.

Capital expenditures guidance

	Sustaining $ millions	Development $ millions	Total $ millions
Wassa Main Pit	5.9	1.1	7.0
Wassa Underground	9.0	3.4	12.4
Prestea Open Pit Mines	5.0	–	5.0
Prestea Underground	0.4	31.2	31.6
Exploration	–	2.4	2.4
CONSOLIDATED	**20.3**	**38.1**	**58.4**

Wassa – The Company expects to spend $5.9 million and $9.0 million on sustaining capital expenditures at the Wassa Main Pit and Wassa Underground operations, respectively. The Company expects to spend $1.1 million of capital on development at the Wassa Main Pit Mine related to the completion of the tailings storage facility and $3.4 million at the Wassa Underground Mine.

Prestea – The Company expects to spend $5.0 million and $0.4 million on sustaining capital expenditures at the Prestea Open Pits and Prestea Underground operations, respectively. The Company expects to spend $31.2 million on the development of the Prestea Underground Mine, which is expected to achieve commercial production in mid-2017. Revenue earned on underground ounces produced will be credited against capital expenditures until commercial production is achieved.

CORPORATE DEVELOPMENTS

Gold prices

Spot gold prices increased from $1,062 per ounce at December 31, 2015 to $1,159 per ounce on December 30, 2016. The Company realized an average gold price of $1,211 per ounce for gold sales during 2016, compared to an average realized gold price of $1,151 per ounce for 2015. The spot gold price on February 21, 2017 was $1,237 per ounce.

Revenue from spot sales during 2016 resulted in an average realized price of $1,245 per ounce whereas revenue recognized from the gold purchase and sale agreement (the "Streaming Agreement") with RGLD Gold AG ("RGLD") resulted in an average realized price of $886 per ounce.

	Year ended December 31, 2016		
	$'000	Ounces	Realized price
Revenue – Stream arrangement			
Cash proceeds	$ 4,385		
Deferred revenue recognized	11,267		
	$ 15,652	17,662	$ 886
Revenue – Spot sales	205,638	165,136	1,245
TOTAL REVENUE	**$ 221,290**	**182,798**	**$ 1,211**

Bought deal

On February 7, 2017, the Company completed a bought deal public offering which resulted in the issuance of 31,363,950 common shares including 4,090,950 common shares issued upon full exercise of the over allotment option, at a price CAD$1.10 per share for net proceeds of $24.8 million.

Wassa Underground Mine achieved commercial production

On January 6, 2017, the Company announced that commercial production had been achieved at its Wassa Underground Mine in Ghana, effective January 1, 2017. Gold production is anticipated to continue to ramp up during 2017 as Golden Star's mining operations begin to access the B Shoot, which is a higher grade area of the Wassa Underground ore body. The Company plans to begin longitudinal stoping of the B Shoot in the first quarter of 2017, with the larger, transverse stopes expected to be accessed in the third quarter of 2017.

Conversions of 7% Convertible Debentures

During the fourth quarter of 2016, $5.0 million principal outstanding of the 7% convertible debentures were converted into 5,555,667 shares. Subsequent to the year ended December 31, 2016, a further $7.0 million principal outstanding of the 7% Convertible Debentures were converted to 7,778,886 shares. In total, $12.0 million principal outstanding of the 7% Convertible Debentures has been converted into 13,335,553 common shares at February 21, 2017. Total principal that remains outstanding on the 7% Convertible Debentures is $53.0 million.

Debt restructuring

During the year ended December 31, 2016, the Company entered into the following financing transactions to strengthen its balance sheet:

- On August 3, 2016, the Company completed a public offering of 40,000,000 common shares at a price of $0.75 per share. The underwriters for the offering exercised in full their option to purchase an additional 6,000,000 common shares. As a result, a total of 46,000,000 common shares were sold by the Company for gross proceeds of $34.5 million (net proceeds of $31.8 million).
- On August 3, 2016, the Company also completed a private placement of $65.0 million aggregate principal amount of the 7% Convertible Senior Notes due 2021 (the "7% Convertible Debentures"). As part of the offering of the 7% Convertible Debentures, the Company exchanged $42.0 million principal amount of its outstanding 5% Convertible Debentures due June 1, 2017 (the "5% Convertible Debentures") for an equal principal amount of the 7% Convertible Debentures. The principal amount exchanged is included in the total aggregate principal amount of the 7% Convertible Debentures issued. The Company did not receive any cash proceeds from the exchange. The net proceeds received from this private placement was $20.7 million. During the year ended December 31, 2016, debt holders converted $5.0 million principal amount of the 7% Convertible Debentures. As at December 31, 2016, $60.0 million principal amount of the 7% Convertible Debentures remain outstanding and will mature on August 15, 2021.

- The net cash proceeds from the above-referenced offering of common shares together with the net proceeds from the private placement of 7% Convertible Debentures were used to strengthen the Company's balance sheet by retiring certain outstanding indebtedness. In August 2016, the Company repaid the remaining outstanding balance of $22.4 million of its loan with Ecobank Ghana Limited. On August 3, 2016, the Company also repurchased $18.2 million principal amount of its 5% Convertible Debentures at face value. Total repurchases of the 5% Convertible Debentures during 2016 totaled $21.8 million in principal amount. As at December 31, 2016, $13.6 million principal amount of the 5% Convertible Debentures remain outstanding and will mature on June 1, 2017.
- On May 9, 2016, the Company completed a bought deal public offering which resulted in 22,750,000 common shares sold at a price of $0.66 per share for gross proceeds of $15.0 million (net proceeds of $13.7 million). In May 2016, the Company also entered into an agreement with a significant current account creditor to settle $36.5 million of current liabilities. Under this agreement, the Company made a payment of $12.0 million in the second quarter of 2016 and deferred payment of the remaining $24.5 million until January 2018, after which the outstanding balance will be repaid in equal installments for 24 months commencing January 31, 2018. Interest of 7.5% per annum will accrue on the outstanding balance and will be payable beginning in January 2017.

Mining lease for high grade Mampon deposit received

On October 27, 2016, the Company announced that it had received a mining lease for the Mampon deposit ("Mampon") in Ghana. Mampon is a high grade, oxide deposit containing approximately 45,000 ounces of gold at 4.60 grams per tonne. Following the receipt of the mining lease, the Company received the environmental permit in January 2017 and expects to start mining Mampon in the second quarter of 2017.

Advance payment under Streaming Agreement received

During the fourth quarter of 2016, the Company received an advance payment of $20.0 million pursuant to the Streaming Agreement with RGLD. On January 3, 2017, the Company received the final $10.0 million of scheduled advance payment pursuant to the Streaming Agreement. Since the inception of the Streaming Agreement in July 2015, the Company has received total advance payments of $145.0 million, which represents the full expected proceeds pursuant to the Streaming Agreement.

Forward and collar contracts

During the first quarter of 2016, the Company initiated a gold hedging program to limit its exposure to fluctuations in the gold price during the development phase of the Wassa Underground and Prestea Underground projects. During the year ended December 31, 2016, the Company realized a loss of $2.3 million on settled costless collars and forward sales contracts. The Company has no outstanding forward and collar contracts at December 31, 2016.

Appointment of Gil Clausen to the Board of Directors

On July 18, 2016, Golden Star further strengthened its board by appointing Gil Clausen. Mr. Clausen is the president and Chief Executive Officer of Brio Gold and former president and chief executive officer and director of Augusta Resource Corporation. He also serves as an independent director of Plata Latina Minerals Corporation. With over 30 years of executive, financial, developmental and operational industry experience, Mr. Clausen has been responsible for executing growth strategies for mining companies on a range of continents and across a variety of commodities.

DEVELOPMENT PROJECTS UPDATE

Wassa Underground development

Wassa Underground commenced pre-commercial production in early July 2016. The successful blasting of the first stope delivered the first ore from the new underground mine to the Wassa processing plant, where it was blended with ore from Wassa Main Pit. Underground ore was mined using longitudinal longhole stoping, although the primary mining method that will be used in Wassa Underground from the third quarter of 2017 is transverse stoping.

The development of Wassa Underground's infrastructure and all plant modifications have been completed. Underground development has progressed sufficiently in order to accommodate the near term mine plan, including a twin decline and a ventilation system. Construction activities were completed at the end of the fourth quarter of 2016. Commercial production was declared at Wassa Underground Mine in January 2017.

The first stopes are in the upper part of the F Shoot, which is one of the more moderate grade areas of the underground mine. Golden Star is using the F Shoot mineralization for test stoping and to complete the training of our underground personnel as the mine development moves towards the higher grade B Shoot.

Due to this focus on the F Shoot, Golden Star expects to begin mining the first stopes of the B Shoot in the first quarter of 2017. Production from Wassa Underground during 2016 was 11,062 ounces recovered.

The capital expenditures for Wassa Underground are shown in the table below:

(In millions of U.S. dollars)	Fourth quarter 2016	2016	Project-to-date
Capital spending	$ 1.2	$ 20.0	$ 39.8
Capitalized borrowing costs	0.2	3.8	6.3
CAPITAL EXPENDITURES	**$ 1.4**	**$ 23.8**	**$ 46.1**

Prestea

The Prestea mine consists of an underground mine that has been in existence for over 100 years along with adjacent surface deposits. The Prestea mine is located 16 km south of the Bogoso mine and processing plants in the town of Prestea. The underground mine is currently being refurbished and drive development commenced in the third quarter of 2016. A number of high grade surface deposits exist to the south of the underground mine which the Company is currently mining and processing through the non-refractory processing plant.

PRESTEA UNDERGROUND MINE

Refurbishment work continued to progress as expected at the high grade Prestea Underground Mine during the fourth quarter of 2016.

Manroc Developments Inc. ("Manroc") was selected following a competitive bid process, involving a number of mining contractors. Manroc specializes in Alimak stoping, a mechanized shrinkage mining method. Manroc's role will be to provide Alimak raise mining, stoping and equipment maintenance training to Golden Star personnel over a three year contract period.

Alimak stoping was selected as the mining method for Prestea Underground Mine due to its safety and efficiency benefits over conventional shrinkage mining. Prestea Underground Mine is a narrow, high grade deposit, with Mineral Reserves of 1.0Mt at 14.02g/t for 469,000 ounces (based on mineral reserves and mineral resources estimates at December 31, 2015) and further exploration potential.

Underground development continued with a total development advance of approximately 420 meters completed by mid-February 2017. This development focused on crosscut advancement towards the West Reef and construction of a workshop and electrical bays and the slashing of existing drives to a size suitable for mechanized load-haul-dump equipment.

The rock winder upgrade progressed to 95% completion in 2016 with commissioning completed in January 2017, enabling an increase in hoisting capacity to satisfy the production profile in 2017. The mining rate in the Prestea Underground Mine is expected to be approximately 650 tonnes per day and the shaft's capacity is expected to be approximately 1,200 tonnes per day.

In early January 2017 the West Reef ore body was intersected on 24 Level for the first time by Golden Star's mining operations in two separate cross cuts. The focus is now on establishing the infrastructure and entrance into the first of the stopes. During the first quarter of 2017, 650 tonnes of material was hauled and hoisted from 24 Level to surface in order to test the haulage and hoisting system. Ore is currently being stockpiled at the processing facility at Bogoso, with the intention to run a batch through as an early test. Construction activities continue to advance according to schedule and stoping is expected to start in the second quarter of 2017, with commercial production anticipated to be declared in mid-2017.

The capital expenditures for Prestea Underground Mine are shown in the table below:

(In millions of U.S. dollars)	Fourth quarter 2016	2016	Project-to-date
Capital spending	$ 9.6	$ 34.3	$ 39.4
Capitalized borrowing costs	1.2	2.5	3.7
CAPITAL EXPENDITURES	**$ 10.8**	**$ 36.8**	**$ 43.1**

Total construction capital expenditures prior to commercial production, net of pre-commercial production revenue, is expected to be $61 million for the underground mine. The Company expects a total capital expenditures, net of pre-commercial production revenue, of approximately $18 million to be incurred in the first half of 2017 prior to achieving commercial production in the second half of 2017.

WASSA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Wassa) Limited, the Company owns and operates the Wassa Main Pit (an open pit mine) and Wassa Underground (an underground mine). The Wassa Operations are located in the southwestern region of Ghana, approximately 35 kilometers northeast of the town of Tarkwa. Wassa has a non-refractory processing plant (the "Wassa processing plant") consisting of a carbon-in-leach ("CIL") system with a capacity of 2.7 million tonnes per annum. Ore from both the Wassa Main Pit and Wassa Underground is processed at the Wassa processing plant.

		Three months ended December 31,		For the years ended December 31,	
		2016	2015	2016	2015
WASSA FINANCIAL RESULTS					
Revenue	$'000	$ 24,785	$ 33,760	$ 112,341	$ 123,189
Mine operating expenses	$'000	23,139	22,532	92,938	95,152
Severance charges	$'000	–	–	113	1,816
Royalties	$'000	1,770	1,728	6,483	6,234
Operating costs to metals inventory	$'000	(161)	(3,231)	(5,149)	(4,886)
Inventory net realizable value adjustment	$'000	1,190	–	1,190	1,524
Cost of sales excluding depreciation and amortization	$'000	25,938	21,029	95,575	99,840
Depreciation and amortization	$'000	4,202	4,068	15,094	14,522
Mine operating (loss)/margin	$'000	$ (5,355)	$ 8,663	$ 1,672	8,827
Capital expenditures	$'000	10,155	8,001	41,805	33,912
WASSA OPERATING RESULTS					
Ore mined	t	632,040	806,153	2,496,817	2,849,061
Waste mined	t	2,196,572	2,924,040	9,974,537	10,631,663
Ore processed – Main Pit	t	593,286	620,047	2,444,339	2,495,176
Ore processed – Underground	t	115,602	–	178,255	–
Ore processed – total		708,888	620,047	2,622,594	2,495,176
Grade processed – Main Pit	g/t	1.22	1.77	1.27	1.46
Grade processed – Underground	g/t	2.27	–	2.06	–
Recovery	%	92.9	93.9	93.6	93.4
Gold produced – Main Pit	oz	21,411	31,395	93,319	108,266
Gold produced – Underground	oz	7,865	–	11,062	–
Gold produced – total	oz	29,276	31,395	104,381	108,266
Gold sold – Main Pit	oz	21,076	30,880	93,284	107,751
Gold sold – Underground	oz	7,867	–	11,062	–
Gold sold – total	oz	28,943	30,880	104,346	107,751
Cost of sales per ounce[1]	$/oz	1,430	813	1,186	1,061
Cash operating cost per ounce[1]	$/oz	1,090	625	941	838

1 See "Non-GAAP Financial Measures" section for a reconciliation of cost of sales per ounce and cash operating cost per ounce to cost of sales excluding depreciation and amortization.

Three months ended December 31, 2016 compared to three months ended December 31, 2015

PRODUCTION

Gold production was 29,276 ounces for the fourth quarter of 2016, a 7% decrease from the 31,395 ounces produced during the same period of 2015 due to lower production from ore mined in the Wassa Main Pit as ore grade processed from the Open Pit declined compared to the same period in 2015 due to mining in a lower ore grade zone, consistent with management's expectations. 27% of the production in the fourth quarter of 2016 was attributed to the Wassa Underground operation compared to none in the same period in 2015. Ore grade processed from the Wassa Underground operation during the fourth quarter of 2016 was 2.27 g/t, compared to 1.22 g/t processed from the Wassa Main Pit for the same period.

GOLD REVENUES

Gold revenues were $24.8 million for the fourth quarter of 2016, a 27% decrease compared to $33.8 million for the same period in 2015. The decrease was due to a 32% decrease in ounces of gold sold attributable to the Wassa Main Pit, offset by an increase in the average realized gold price to $1,176 per ounce in the fourth quarter of 2016, compared to $1,093 per ounce for the same period in 2015. Gold revenue from incidental gold sales in the fourth quarter of 2016 attributable to the Wassa Underground Mine is accounted for as a reduction to the capital expenditures for the development of the Wassa Underground Mine as the Wassa Underground Mine had not archived commercial production by December 31, 2016.

COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

Cost of sales excluding depreciation and amortization was $25.9 million for the fourth quarter of 2016, compared to $21.0 million incurred during the same period in 2015. The higher cost of sales was mainly related to the lower build up of inventories and $1.2 million net realizable value adjustment on inventories recognized in the fourth quarter of 2016. In 2015, significantly more ore was mined than processed resulting in an inventory credit.

DEPRECIATION AND AMORTIZATION

Depreciation and amortization for the fourth quarter of 2016 totaled $4.2 million, compared to the $4.1 million recorded for the same period in 2015. The depreciation and amortization in 2016 was primarily impacted by the lower reserve and resource estimates compared to the same period in 2015.

COSTS PER OUNCE

Cost of sales per ounce for the fourth quarter of 2016 totaled $1,430, up 76% from $813 in the same period in 2015. Cash operating cost per ounce for the fourth quarter of 2016 totaled $1,090, up 74% from $625 for the same period in 2015. The higher cost of sales per ounce and the higher cash operating cost per ounce were due to the $1.2 million net realizable value adjustment on inventories recognized in the fourth quarter of 2016 and a 32% decrease in gold sold attributable to the Wassa Main Pit as a result of a 31% decrease in ore grade processed due to mining in a lower ore grade zone.

CAPITAL EXPENDITURES

Capital expenditures for the fourth quarter of 2016 totaled $10.2 million compared with $8.0 million during the same period in 2015. Sustaining capital expenditures were $3.9 million for the three months ended December 31, 2016 compared to $1.1 million for the same period in 2015. Development capital expenditures were $6.2 million for the three months ended December 31, 2016 compared to $6.9 million in the same period in 2015. Development capital expenditures in the fourth quarter of 2016 included $2.9 million relating to the development of the Wassa Underground Mine and $3.3 million for the improvement of the tailings storage facility.

For the year ended December 31, 2016 compared to year ended December 31, 2015

PRODUCTION

Gold production was 104,381 ounces for the year ended December 31, 2016, a 4% decrease from the 108,266 ounces produced during the same period in 2015. Production from the Wassa Main Pit was lower in 2016 compared to 2015 due to lower ore grade. For the year ended December 31, 2016, 11% of the production in 2016 was attributed to the Underground operation in comparison to nil in the same period in 2015.

GOLD REVENUES

Gold revenues were $112.3 million for the year ended December 31, 2016, compared to $123.2 million for the same period in 2015. The decrease was due to a 14% decrease in ounces of gold sold attributable to the Wassa Main Pit, offset by an increase in the average realized gold price to $1,204 per ounce for the year ended December 31, 2016, compared to $1,143 per ounce for the same period in 2015. Gold revenue from incidental gold sales in 2016 attributable to the Wassa Underground Mine is accounted for as a reduction to the capital expenditures for the development of the Wassa Underground Mine as the Underground Mine had not achieved commercial production by December 31, 2016.

COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

Cost of sales excluding depreciation and amortization was $95.6 million for the year ended December 31, 2016, compared to $99.8 million incurred during the same period in 2015. The lower cost of sales in 2016 was mainly related to lower mine operating expenses as a result of less material mined and lower severance charges.

DEPRECIATION AND AMORTIZATION

Depreciation and amortization for the year ended December 31, 2016 totaled $15.1 million, compared to the $14.5 million recorded for the same period in 2015. The higher depreciation and amortization in 2016 was primarily impacted by the lower reserve and resource estimates in 2016 compared to the same period in 2015.

COSTS PER OUNCE

Cost of sales per ounce for 2016 totaled $1,186, up 12% from $1,061 in the same period in 2015. Cash operating cost per ounce for the year ended December 31, 2016 totaled $941, up 12% from $838 for the same period in 2015. The 14% decrease in ounces sold at the Wassa Main Pit contributed to the higher cost of sales per ounce and the higher cash operating cost per ounce in 2016.

CAPITAL EXPENDITURES

Capital expenditures for the year ended December 31, 2016 were $41.9 million compared with $33.9 million during the same period in 2015. Sustaining capital expenditures were $8.2 million for the year ended December 31, 2016 compared to $6.5 million in the same period in 2015. Development capital expenditures were $33.7 million for the year ended December 31, 2016 compared to $27.4 million in the same period in 2015. Development capital expenditures in 2016 included $23.8 million of expenditures relating to the development of the Wassa Underground Mine and $9.5 million for the improvement of the tailings storage facility.

BOGOSO/PRESTEA OPERATIONS

Through a 90% owned subsidiary, Golden Star (Bogoso/Prestea) Limited, the Company owns and operates the Bogoso gold mining and processing operations and the Prestea mining operations located near the town of Prestea, Ghana. Bogoso/Prestea has a CIL processing facility, which is suitable for treating non-refractory gold ore (the "non-refractory plant") with capacity of up to 1.5 million tonnes per annum. Bogoso/Prestea also operated a gold ore processing facility with a capacity of 2.7 million tonnes of ore per annum, which used bio-oxidation technology to treat refractory ore (the "refractory plant"). The Company suspended the refractory operation at the end of the third quarter of 2015.

The Prestea mining operations consist of an underground mine, neighbouring open pit, oxide deposits and associated support facilities. Bogoso/Prestea currently processes the Prestea open pits ore through the non-refractory plant. Ore feed from the open pit operations commenced in the third quarter of 2015. The Prestea Underground Mine is currently being refurbished and commercial production is expected to be achieved in mid-2017.

		Three months ended December 31,		For the years ended December 31,	
		2016	2015	2016	2015
BOGOSO/PRESTEA FINANCIAL RESULTS					
Revenue	$'000	$ 28,470	$ 22,660	$ 108,949	$ 131,998
Mine operating expenses	$'000	17,021	17,591	73,046	128,332
Severance charges	$'000	–	(231)	(184)	12,810
Royalties	$'000	1,468	1,143	5,599	6,669
Operating costs to metals inventory	$'000	(433)	(178)	(1,420)	(2,157)
Cost of sales excluding depreciation and amortization	$'000	18,056	18,325	77,041	145,654
Depreciation and amortization	$'000	1,915	2,986	6,066	22,817
Mine operating margin/(loss)	$'000	$ 8,499	$ 1,349	$ 25,842	$ (36,473)
Capital expenditures	$'000	13,530	5,725	42,413	23,139
BOGOSO/PRESTEA OPERATING RESULTS					
Ore mined refractory	t	–	–	–	1,230,333
Ore mined non-refractory	t	341,246	301,397	1,499,656	480,583
Total ore mined	t	341,246	301,397	1,499,656	1,710,916
Waste mined	t	614,805	894,081	4,039,768	3,603,153
Refractory ore processed	t	–	–	–	1,520,541
Refractory ore grade	g/t	–	–	–	2.15
Gold recovery – refractory ore	%	–	–	–	67.5
Non-refractory ore processed	t	377,580	317,764	1,504,139	1,409,128
Non-refractory ore grade	g/t	2.51	2.36	2.21	1.32
Gold recovery – non-refractory ore	%	83.0	83.1	83.9	64.3
Gold produced – refractory	oz	–	1,042	–	76,981
Gold produced – non-refractory	oz	24,128	19,704	89,673	37,169
Gold produced – total	oz	24,128	20,746	89,673	114,150
Gold sold – refractory	oz	–	1,042	–	76,981
Gold sold – non-refractory	oz	23,893	19,456	89,517	36,921
Gold sold – total	oz	23,893	20,498	89,517	113,902
Cost of sales per ounce[1]	$/oz	836	1,040	928	1,479
Cash operating cost per ounce[1]	$/oz	694	849	800	1,108

1 See "Non-GAAP Financial Measures" section for a reconciliation of cost of sales per ounce and cash operating cost per ounce to cost of sales excluding depreciation and amortization.

Three months ended December 31, 2016 compared to three months ended December 31, 2015

PRODUCTION

Bogoso/Prestea gold production was 24,128 ounces for the fourth quarter of 2016, compared to 20,746 ounces for the same period in 2015 due to higher throughput and higher ore grade processed.

GOLD REVENUES

Gold revenues for the fourth quarter of 2016 were $28.5 million, up 26% from $22.7 million in the fourth quarter of 2015 as a result of a 17% increase in gold sales and a 8% increase in average realized gold price. The realized gold price averaged $1,192 per ounce in the fourth quarter of 2016, compared with $1,105 per ounce in the same period in 2015. Gold sold totaled 23,893 ounces in the fourth quarter of 2016, compared to 20,498 ounces in the same period of 2015.

COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

Cost of sales excluding depreciation and amortization was $18.1 million for the fourth quarter of 2016, down from $18.3 million for the same period in 2015, primarily due to a decrease in mine operating expenses. Mine operating expenses totaled $17.0 million in the fourth quarter of 2016, 3% lower than the $17.6 million incurred during the same period in 2015 mainly as a result of lower mining costs due to less material mined.

DEPRECIATION AND AMORTIZATION

Depreciation and amortization expense of $1.9 million for the fourth quarter of 2016 was 37% lower than the $3.0 million for the fourth quarter of 2015 due to higher reserve and resource estimates at the Bogoso/Prestea operation compared to the same period in 2015.

COSTS PER OUNCE

Cost of sales per ounce for the fourth quarter of 2016 totaled $836, down 20% from $1,040 for the same period in 2015. Cash operating cost per ounce was $694 for the fourth quarter of 2016, down 18% from $849 for the same period in 2015. The lower cost of sales per ounce and the lower cash operating cost per ounce were due to an increase in gold sold in the fourth quarter of 2016 compared to the same period in 2015.

CAPITAL EXPENDITURES

Capital expenditures for the fourth quarter of 2016 were $13.5 million compared to $5.7 million incurred during the same period in 2015. The increase is primarily a result of an increase in development capital expenditures for the Prestea Underground Mine. Development capital expenditures increased to $10.8 million in the fourth quarter of 2016 compared to $3.4 million in the same period in 2015.

For the year ended December 31, 2016 compared to year ended December 31, 2015

PRODUCTION

Bogoso/Prestea non-refractory gold production was 89,673 ounces for the year ended December 31, 2016, compared to 37,169 ounces for the same period in 2015 when non-refractory ounces were limited due to the commencement of mining and processing of the non-refractory Prestea oxide ore in the third quarter of 2015. Refractory gold production, which was suspended in the third quarter, produced 76,981 ounces of gold in 2015.

GOLD REVENUES

Gold revenues for the year ended December 31, 2016 were $108.9 million compared to $132.0 million for the same period in 2015. Gold sold totaled 89,517 ounces in the year ended December 31, 2016, down 21% from 113,902 ounces sold in the same period in 2015 as a result of the suspension of the high cost refractory operation in the third quarter of 2015. This was partially offset by a 5% increase in the realized gold price, which averaged $1,217 per ounce in the year ended December 31, 2016, compared to $1,159 per ounce in the same period in 2015.

COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

Cost of sales excluding depreciation and amortization was $77.0 million for the year ended December 31, 2016, down 47% from the $145.7 million for the same period in 2015, primarily due to a decrease in mine operating expenses and severance charges that were recorded in 2015. Mine operating expenses totaled $73.0 million for the year ended December 31, 2016, 43% lower than the $128.3 million incurred during the same period in 2015 due to lower mining and processing costs as a result of the suspension of the high cost refractory operation in 2015.

DEPRECIATION AND AMORTIZATION

Depreciation and amortization expense decreased to $6.1 million for the year ended December 31, 2016, compared to $22.8 million for the same period in 2015. The lower depreciation and amortization expense for the year ended December 31, 2016 was due to lower production in 2016 and higher reserve and resource estimates compared to the same period in 2015.

COSTS PER OUNCE

Cost of sales per ounce for 2016 totaled $928, down 37% from $1,479 for the same period in 2015. Cash operating cost per ounce was $800 for the year ended December 31, 2016, down 28% from $1,108 for the same period in 2015. The lower cost of sales per ounce and the lower cash operating cost per ounce in 2016 were due to the change in cost profile as a result of mining oxide, non-refractory ore at Prestea compared to refractory ore mined at Bogoso during 2015. Mining and processing costs in 2016 were attributable to the lower cost non-refractory operation whereas 68% of gold sold in 2015 was attributable to the higher cost, higher power consuming refractory operation.

CAPITAL EXPENDITURES

Capital expenditures for the year ended December 31, 2016 were $42.4 million compared to $23.1 million during the same period in 2015. The increase relates primarily to an increase in development capital expenditures, which totaled $36.8 million in 2016 compared to $19.8 million in 2015. Development capital expenditures in 2016 were mostly attributable to the Prestea Underground Mine.

SUMMARIZED QUARTERLY FINANCIAL RESULTS

	Three months ended,							
(Stated in thousands of U.S. dollars except per share data)	Q4 2016	Q3 2016	Q2 2016	Q1 2016	Q4 2015	Q3 2015	Q2 2015	Q1 2015
Revenues	$ 53,255	$ 55,511	$ 51,457	$ 61,067	$ 56,420	$ 56,452	$ 65,796	$ 76,519
Cost of sales excluding depreciation and amortization	43,994	44,608	42,956	41,058	39,354	55,199	78,738	72,203
Net income/(loss)	2,551	(23,792)	(22,836)	2,314	14,217	(8,526)	(68,988)	(15,113)
Net income/(loss) attributable to shareholders of Golden Star	3,446	(23,110)	(22,034)	2,051	13,781	(6,832)	(61,503)	(13,127)
Adjusted net income/(loss) attributable to Golden Star shareholders[1]	64	1,148	1,433	8,538	7,003	(11,205)	(15,727)	(8,426)
Income/(loss) per share attributable to Golden Star shareholders – basic and diluted	$ 0.01	$ (0.07)	$ (0.08)	$ 0.01	$ 0.05	$ (0.03)	$ (0.24)	$ (0.05)
Adjusted income/(loss) per share attributable to Golden Star shareholders – basic[1]	$ 0.01	$ 0.01	$ 0.01	$ 0.03	$ 0.03	$ (0.04)	$ (0.07)	$ (0.03)

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

SELECTED ANNUAL INFORMATION

	As of December 31,		
(Stated in thousands of U.S. dollars except per share data)	2016	2015	2014
Cash and cash equivalents	$ 21,764	$ 35,108	$ 39,352
Working capital[1]	(60,459)	(65,750)	(31,964)
Total assets	298,850	238,982	258,053
Long-term financial liabilities	89,445	91,899	85,798
Deficit	(120,761)	(131,234)	(54,193)

	For the years ended December 31,		
(Stated in thousands of U.S. dollars except per share data)	2016	2015	2014
Revenue	$ 221,290	$ 255,187	$ 328,915
Net loss attributable to Golden Star	(39,647)	(67,681)	(73,079)
Loss per share attributable to Golden Star shareholders – basic and diluted	(0.13)	(0.26)	(0.28)

1 Working Capital is calculated as Current Assets minus Current Liabilities as disclosed on the Consolidated Balance Sheet.

USE OF PROCEEDS FROM FINANCING

During the year ended December 31, 2016, the Company received total net cash proceeds of $66.2 million from three financings during the year:

- $13.7 million of net proceeds from the bought deal public offering of 22.75 million common shares which closed on May 9, 2016;
- $31.8 million of net proceeds from the underwritten public offering of 46 million shares which closed on August 3, 2016; and
- $20.7 million of net proceeds from the private placement of $65 million aggregate principal amount of 7% Convertible Debentures which closed on August 3, 2016 (the Company exchanged $42 million principal amount of its outstanding 5% Convertible Debentures for an equal principal amount of its 7% Convertible Debentures and therefore did not receive any cash proceeds pursuant to such exchange).

The following table compares how the Company intended to use the net proceeds from these financings at the time of the respective offerings against the actual use of these funds:

Intended use	Actual use
$13.7 million net proceeds from the May 9, 2016 bought deal public offering:	
$12.0 million to fund the reduction of certain company debt and remaining amount for working capital and general corporate purposes.	$12.0 million was used to fund the reduction of certain company debt and $1.7 million was used for working capital and general corporate purposes.
$31.8 million net proceeds from the underwritten public offering and $20.7 million of net proceeds from the private placement of $65 million principal of 7% Convertible Debentures which both closed on August 3, 2016:	
Retire certain outstanding indebtedness including the 5% Convertible Debentures and the Ecobank Loan II and for general corporate purposes.	$22.4 million was used to fully repay the Ecobank Loan II; $18.2 million was used to retire a portion of the outstanding 5% Convertible Debentures; and $11.9 million for general corporate purposes, a portion of which will be used to partially settle the remaining 5% Convertible Debentures which mature on June 1, 2017.

Accordingly, the actual use of proceeds of the above-referenced offerings was consistent with the intended use at the time of each offering.

LIQUIDITY AND FINANCIAL CONDITION

The Company held $21.8 million in cash and cash equivalents as of December 31, 2016, down from $35.1 million at December 31, 2015. The Company received an additional $10.0 million scheduled advance payment from RGLD on January 3, 2017. The Company also received gross proceeds of CAD $34.5 million on February 7, 2017 from a completed bought deal public offering. During the year ended December 31, 2016, operations provided $53.2 million, investing activities used $86.5 million and financing activities provided $19.9 million of cash.

Before working capital changes, operations provided $75.5 million of operating cash flow during the year ended December 31, 2016, compared to $53.4 million in the same period in 2015. Advance payments of $60.0 million were received from RGLD pursuant to the Streaming Agreement during 2016 compared to $75.0 million in 2015. Cash provided by operations before working capital changes increased primarily due to a higher mine operating margin during the year ended December 31, 2016 compared to the same period in 2015, offset by a $15.0 million decrease in advance payment from RGLD.

Working capital used $22.2 million during the year ended December 31, 2016, compared to $6.7 million provided by working capital in the same period in 2015. The working capital changes in 2016 related to a $11.7 million decrease in accounts payable and accrued liabilities, a $9.4 million increase in inventory, a $2.2 million increase in accounts receivable, offset by a $1.1 million decrease in prepaid and other. The reduction of accounts payable and accrued liabilities included a payment of $12.0 million to a vendor pursuant to an agreement reached in the second quarter of 2016. There is $24.5 million in payables remaining with this vendor which is payable in 24 equal monthly installments starting in January 2018 which has been reclassified as long-term debt.

Investing activities used $86.5 million during 2016, which included $36.8 million on the development of the Prestea Underground Mine, $23.8 million on the development of the Wassa Underground Mine, $9.5 million on the expansion of the tailings storage facility at Wassa, $6.8 million in equipment upgrades at Wassa and $5.1 million on the Prestea open pit mines.

Financing activities provided $19.9 million cash in 2016 compared to $7.9 million used in 2015. Financing activities for the year ended December 31, 2016 included net proceeds of $13.7 million from the bought deal public offering in May 2016, net proceeds of $31.8 million from the equity offering in August 2016 and net proceeds of $20.7 million from the private offering of the 7% Convertible Debentures. Cash flow used for financing activities included $19.9 million repurchase of the 5% Convertible Debentures and net $27.3 million net repayment of debt which included the repayment of the Ecobank Loan II in full.

LIQUIDITY OUTLOOK

As December 31, 2016, the Company had a working capital deficit of $60.5 million. In addition, the Company's debt repayment and servicing obligation for 2017 are expected to total approximately $23.7 million. As at December 31, 2016, the Company had a cash balance of $21.8 million and on January 3, 2017, the Company received a scheduled $10.0 million payment from RGLD pursuant to the Streaming Agreement. The Company also received gross proceeds of CAD $34.5 million under the completed bought deal public offering on February 7, 2017.

In addition to cash operating costs, the Company pays a 5% royalty to the Government of Ghana, reclamation expenditures and corporate general and administration expenditures.

The Company expects to incur $58.4 million on capital expenditures during 2017, of which approximately $38.1 million is development capital expenditure and approximately $20.3 million is sustaining capital expenditure. If gold prices fall significantly from current levels, the Company could defer discretionary capital spending of up to approximately $22 million to meet its obligations.

The Company has $13.6 million principal amount of the 5% Convertible Debentures due on June 1, 2017. On maturity, the Company may, at its option, satisfy the repayment obligation by paying the principal amount of the 5% Convertible Debentures in cash or, subject to certain limitations, by issuing that number of the Company's common shares (see Note 12 of the Audited Consolidated Financial Statements for the year ended December 31, 2016).

The Company intends to settle the remaining balance of $13.6 million of its 5% Convertible Debentures in cash. However, the Company may decide to settle the balance in shares or a combination of shares and cash depending on expected gold price, the Company's cash balance prior to maturity, the Company's share price prior to maturity and the expected future cash flow generated by operations.

Based on the Company's cash balance together with the operating cash flow that the Company anticipates generating in 2017 based on the Company's expected production range of approximately 255,000 ounces to 280,000 ounces of gold at an expected all-in sustaining cost of $970 per ounce to $1,070 per ounce in 2017 (see "Outlook for 2017" section in this MD&A), the Company believes that it will have sufficient cash available to support its 2017 operations and mandatory expenditures. However, operating cash flow may decline in certain circumstances, most of which are beyond the Company's control, such as decreases in gold prices or increases in the cost of raw materials and inputs used by the Company to produce gold. Accordingly, the Company may continue to incur negative operating cash flow. The Company may need to deploy a portion of its working capital to fund such negative operating cash flows or seek additional sources of funding.

TABLE OF CONTRACTUAL OBLIGATIONS

(Stated in thousands of U.S. dollars)	Payment due by period				
	Less than 1 year	1 to 3 years	4 to 5 years	More than 5 years	Total
Accounts payable and accrued liabilities	$ 94,973	$ –	$ –	$ –	$ 94,973
Debt[1]	15,695	45,526	59,999	–	121,220
Interest on long term debt	8,014	12,719	8,400	–	29,133
Purchase obligations	14,570	–	–	–	14,570
Rehabilitation provisions[2]	5,515	19,489	24,321	35,048	84,373
TOTAL	**$ 138,767**	**$ 77,734**	**$ 92,720**	**$ 35,048**	**$ 344,269**

1 Includes the outstanding repayment amounts from the 5% Convertible Debentures maturing on June 1, 2017, the 7% Convertible Debentures maturing on August 15, 2021, the loan from Royal Gold, the finance leases and the vendor agreement.

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

RELATED PARTY TRANSACTIONS

There were no material related party transactions in the year ended December 31, 2016 and 2015 other than compensation of key management personnel which is presented in the table below. Key management personnel are defined as members of the Board of Directors and certain senior officers. Compensation of key management personnel are made on terms equivalent to those prevailing in an arm's length transaction.

	For the years ended December 31,	
	2016	**2015**
Salaries, wages, and other benefits	$ 2,337	$ 2,438
Bonuses	1,311	983
Share-based compensation	9,736	593
	$ 13,384	**$ 4,014**

OFF-BALANCE SHEET ARRANGEMENTS

The Company has no material off-balance sheet arrangements.

NON-GAAP FINANCIAL MEASURES

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

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

"Cash operating cost" for a period is equal to "Cost of sales excluding depreciation and amortization" for the period less royalties, the cash component of metals inventory net realizable value adjustments and severance charges, and "cash operating cost per ounce" is that amount divided by the number of ounces of gold sold (excluding pre-commercial production ounces sold) during the period. We use cash operating cost per ounce as a key operating metric. We monitor this measure monthly, comparing each month's values to prior periods' values to detect trends that may indicate increases or decreases in operating efficiencies. We provide this measure to investors to allow them to also monitor operational efficiencies of the Company's mines. We calculate this measure for both individual operating units and on a consolidated basis. Since cash operating costs do not incorporate revenues, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. We believe that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

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

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

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

	Three months ended December 31,		For the years ended December 31,	
(Stated in thousands of U.S. dollars except cost per ounce data)	**2016**	**2015**	**2016**	**2015**
Cost of sales excluding depreciation and amortization	$ 43,994	$ 39,354	$ 172,616	$ 245,494
Depreciation and amortization	6,117	7,054	21,160	37,339
COST OF SALES	**$ 50,111**	**$ 46,408**	**$ 193,776**	**$ 282,833**
Cost of sales excluding depreciation and amortization	$ 43,994	$ 39,354	$ 172,616	$ 245,494
Severance charges	–	231	71	(14,626)
Royalties	(3,238)	(2,871)	(12,082)	(12,903)
Metals inventory net realizable value adjustment	(1,190)	–	(1,190)	(1,524)
CASH OPERATING COSTS	**39,566**	**36,714**	**159,415**	**216,441**
Royalties	3,238	2,871	12,082	12,903
Metals inventory net realizable value adjustment	1,190	–	1,190	1,524
Accretion of rehabilitation provision	342	440	1,368	1,761
General and administrative costs, excluding share-based compensation	2,833	2,346	11,904	12,276
Sustaining capital expenditures	6,664	3,488	13,779	9,801
ALL-IN SUSTAINING COSTS	**$ 53,833**	**$ 45,859**	**$ 199,738**	**$ 254,706**
Ounces sold[1]	44,969	51,378	182,801	221,653
COST PER OUNCE MEASURES ($/OZ):				
Cost of sales per ounce	1,114	903	1,060	1,276
Cash operating cost per ounce	880	715	872	976
All-in sustaining cost per ounce	1,197	893	1,093	1,149

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

	Three months ended December 31, 2016		
(Stated in thousands of U.S. dollars except cost per ounce data)	Wassa	Bogoso/ Prestea	Combined
Cost of sales excluding depreciation and amortization	$ 25,938	$ 18,056	$ 43,994
Depreciation and amortization	4,202	1,915	6,117
COST OF SALES	**$ 30,140**	**$ 19,971**	**$ 50,111**
Cost of sales excluding depreciation and amortization	$ 25,938	$ 18,056	$ 43,994
Royalties	(1,770)	(1,468)	(3,238)
Metals inventory net realizable value adjustment	(1,190)	–	(1,190)
CASH OPERATING COSTS	**$ 22,978**	**$ 16,588**	**$ 39,566**
Ounces sold[1]	21,076	23,893	44,969
Cost of sales per ounce	$ 1,430	$ 836	$ 1,114
Cash operating cost per ounce	$ 1,090	$ 694	$ 880

1 For the calculation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce, Wassa ounces sold only include those attributable to the Wassa Main Pit. The ounces mined from the Wassa Underground are excluded as Wassa Underground was not in commercial production for the year ended December 31, 2016. As such, Wassa Underground expenditures are capitalized net of revenues.

	For the years ended December 31, 2016		
(Stated in thousands of U.S. dollars except cost per ounce data)	Wassa	Bogoso/ Prestea	Combined
Cost of sales excluding depreciation and amortization	$ 95,575	$ 77,041	$ 172,616
Depreciation and amortization	15,094	6,066	21,160
COST OF SALES	**$ 110,669**	**$ 83,107**	**$ 193,776**
Cost of sales excluding depreciation and amortization	$ 95,575	$ 77,041	$ 172,616
Severance charges	(113)	184	71
Royalties	(6,483)	(5,599)	(12,082)
Metals inventory net realizable value adjustment	(1,190)	–	(1,190)
CASH OPERATING COSTS	**$ 87,789**	**$ 71,626**	**$ 159,415**
Ounces sold[1]	93,284	89,517	182,801
Cost of sales per ounce	$ 1,186	$ 928	$ 1,060
Cash operating cost per ounce	$ 941	$ 800	$ 872

	Three months ended December 31, 2015		
(Stated in thousands of U.S. dollars except cost per ounce data)	Wassa	Bogoso/ Prestea	Combined
Cost of sales excluding depreciation and amortization	$ 21,029	$ 18,325	$ 39,354
Depreciation and amortization	4,068	2,986	7,054
COST OF SALES	**$ 25,097**	**$ 21,311**	**$ 46,408**
Cost of sales excluding depreciation and amortization	$ 21,029	$ 18,325	$ 39,354
Severance charges	–	231	231
Royalties	(1,728)	(1,143)	(2,871)
CASH OPERATING COSTS	**$ 19,301**	**$ 17,413**	**$ 36,714**
Ounces sold[1]	30,880	20,498	51,378
Cost of sales per ounce	$ 813	$ 1,040	$ 903
Cash operating cost per ounce	$ 625	$ 849	$ 715

1 For the calculation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce, Wassa ounces sold only include those attributable to the Wassa Main Pit. The ounces mined from the Wassa Underground are excluded as Wassa Underground was not in commercial production for the year ended December 31, 2016. As such, Wassa Underground expenditures are capitalized net of revenues.

(Stated in thousands of U.S. dollars except cost per ounce data)	For the years ended December 31, 2015		
	Wassa	Bogoso/ Prestea	Combined
Cost of sales excluding depreciation and amortization	$ 99,840	$ 145,654	$ 245,494
Depreciation and amortization	14,522	22,817	37,339
COST OF SALES	**$ 114,362**	**$ 168,471**	**$ 282,833**
Cost of sales excluding depreciation and amortization	$ 99,840	$ 145,654	$ 245,494
Severance charges	(1,816)	(12,810)	(14,626)
Royalties	(6,234)	(6,669)	(12,903)
Metals inventory net realizable value adjustment	(1,524)	–	(1,524)
CASH OPERATING COSTS	**$ 90,266**	**$ 126,175**	**$ 216,441**
Ounces sold[1]	107,751	113,902	221,653
Cost of sales per ounce	$ 1,061	$ 1,479	$ 1,276
Cash operating cost per ounce	$ 838	$ 1,108	$ 976

1 For the calculation of cost of sales per ounce, cash operating cost per ounce and all-in sustaining cost per ounce, Wassa ounces sold only include those attributable to the Wassa Main Pit. The ounces mined from the Wassa Underground are excluded as Wassa Underground was not in commercial production for the year-ended December 31, 2016. As such, Wassa Underground expenditures are capitalized net of revenues.

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

We use cash operating cost per ounce and cash (used in)/provided by operations before working capital changes as key operating metrics. 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 investors to allow them to also monitor operational efficiencies of the mines owned by the Company. We calculate these measures for both individual operating units and on a consolidated basis.

Cash operating cost per ounce and cash provided by operations 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 IFRS. There are material limitations associated with the use of such non-GAAP measures. Since these measures do not incorporate revenues, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, 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.

Beginning in this reporting period, the Company began reporting cost of sales per ounce in addition to the previously disclosed cash operating cost per ounce. It is the Company's belief that this new metric are important for a comprehensive disclosure of the financial and operational results of the Company as this metric is now used by certain peer companies in the gold mining industry.

Adjusted net income/(loss) attributable to Golden Star shareholders

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

	Three months ended December 31,		For the years ended December 31,	
(Stated in thousands of U.S. dollars except per share data)	**2016**	**2015**	**2016**	**2015**
Net income/(loss) attributable to Golden Star shareholders	$ 3,446	$ 13,781	$ (39,647)	$ (67,681)
Add back:				
Share-based compensation expenses	(2,316)	175	13,850	2,005
Loss/(gain) on fair value of financial instruments	(888)	(1,658)	25,628	(1,712)
Loss on repurchase of 5% Convertible Debentures, net	–	–	11,594	–
Severance charges	–	(231)	(71)	14,626
Gain on reduction of asset retirement obligations	(198)	(5,652)	(198)	(5,652)
Impairment charges	–	–	–	34,396
	44	**6,415**	**11,156**	**(24,018)**
Adjustments attributable to non-controlling interest	20	588	27	(4,337)
Adjusted net income/(loss) attributable to Golden Star shareholders	**$ 64**	**$ 7,003**	**$ 11,183**	**$ (28,355)**
Adjusted income/(loss) per share attributable to Golden Star shareholders – basic	$ 0.01	$ 0.03	$ 0.04	$ (0.11)
Weighted average shares outstanding – basic (millions)	331.0	259.7	294.1	259.7

In order to indicate to stakeholders the Company's earnings excluding the non-cash loss/(gain) on fair value of financial instruments, non-cash loss on repurchase of the 5% Convertible Debentures, non-cash impairment charges, non-cash gain on reduction of asset retirement obligations, non-cash share-based compensation expenses, and severance charges, the Company calculates "adjusted net income/(loss) attributable to Golden Star shareholders" and "adjusted income/(loss) per share attributable to Golden Star shareholders" to supplement the audited consolidated financial statements. The adjusted income/(loss) per share attributable to Golden Star shareholders is calculated using the weighted average number of shares outstanding using the basic method of earnings per share.

Adjusted net income/(loss) attributable to Golden Star shareholders and adjusted income/(loss) 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 all non-cash expense and income items, changes in working capital and non-operating cash costs, they are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Changes in numerous factors including, but not limited to, our share price, risk free interest rates, gold prices, mining rates, milling rates, ore grade, gold recovery, costs of labor, consumables and mine site general and administrative activities can cause these measures to increase or decrease. The Company believes that these measures are similar to the measures of other gold mining companies, but may not be comparable to similarly titled measures in every instance.

OUTSTANDING SHARE DATA

As of February 21, 2017, there were 374,499,286 common shares of the Company issued and outstanding, 15,572,606 stock options outstanding, 5,842,224 deferred share units outstanding, 5,000,000 warrants outstanding, 5% Convertible Debentures which are convertible into an aggregate of 8,249,091 common shares and 7% Convertible Debentures which are convertible into an aggregate of 58,886,667 common shares.

CRITICAL ACCOUNTING JUDGMENTS, ESTIMATES AND ASSUMPTIONS

The critical accounting estimates and assumptions are disclosed in Note 4 of the audited consolidated financial statements for the year ended December 31, 2016.

CHANGES IN ACCOUNTING POLICIES

The changes in accounting policies and standards, interpretations and amendments not yet effective are disclosed in Note 3 of the audited consolidated financial statements for the year ended December 31, 2016.

FINANCIAL INSTRUMENTS

(Stated in thousands of U.S. dollars)	Fair value at December 31, 2016	Basis of measurement	Associated risks
Cash and cash equivalents	$ 21,764	Loans and receivables	Interest/Credit/Foreign exchange
Accounts receivable	7,299	Loans and receivables	Foreign exchange/Credit
Trade and other payables	86,662	Amortized cost	Foreign exchange/Interest
Warrants	2,729	Fair value through profit and loss	Market price
Equipment financing facility	1,119	Amortized cost	Interest
Finance leases	1,959	Amortized cost	Interest
5% Convertible Debentures	13,294	Fair value through profit and loss	Interest
7% Convertible Debentures	47,617	Amortized cost	Interest
Royal Gold loan, net of fees	18,496	Amortized cost	Interest
Vendor agreement	22,338	Amortized cost	Interest/Foreign exchange
Long term derivative liability	15,127	Fair value through profit and loss	Market price

Loans and receivables – Cash and cash equivalents and accounts receivables mature in the short term and approximate their fair values.

Amortized costs – Trade and other payables, the 7% Convertible Debentures, the Royal Gold loan, the vendor agreement, the equipment financing facility and the finance leases approximate their carrying values as the interest rates are comparable to current market rates. Carrying value of the vendor agreement has been discounted to reflect its fair value.

Fair value through profit or loss

Warrants – The fair value of the warrants is estimated using a Black-Scholes model. For the three and twelve months ended December 31, 2016, a revaluation gain of $0.5 million and a revaluation loss of $2.3 million were recorded respectively.

5% Convertible Debentures – 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 the US treasury rate with maturity similar to the remaining life of the 5% Convertible Debentures. The discount rate used is determined by adding the risk premium to the risk-free interest rate. A market-based volatility rate was also applied to the fair value computation. For the three and twelve months ended months ended December 31, 2016, revaluation losses of $0.1 million and $17.2 million were recorded respectively. Realized loss on repurchase of $Nil and $11.6 million were recognized respectively for the three and twelve months ended December 31, 2016.

Long term derivative liability – The fair value of the derivative liability relating to the 7% Convertible Debentures is estimated using a convertible note valuation model. For the three and twelve months ended December 31, 2016, revaluation loss of $0.5 million and $3.8 million were recorded. Gain on conversions of $Nil and $0.9 million were recognized respectively for the three and twelve months ended December 31, 2016.

DISCLOSURES ABOUT RISKS

The Company's exposure to significant risks include, but are not limited to, the following risks: change in interest rates on our debt, change in foreign currency exchange rates, commodity price fluctuations, liquidity risk and credit risk. In recognition of the Company's outstanding accounts payable, the Company cannot guarantee that vendors or suppliers will not suspend or deny delivery of products or services to the Company. For a complete discussion of the risks, refer to the discussion in Notes 26 and 27 of the audited consolidated financial statements for the year ended December 31, 2016.

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 December 31, 2016, the Company's disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed by the Company in reports it files is recorded, processed, summarized and reported, within the appropriate time periods and is accumulated and communicated to management, including the President and Chief Executive Officer and Executive Vice President and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's report on internal control over financial reporting

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

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

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

The Company's management, under the supervision of the President and Chief Executive Officer and the Executive Vice President and Chief Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting. In making this assessment, it used the criteria set forth in the Internal Control – integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013). Based on our assessment, management has concluded that, as at December 31, 2016, the Company's internal control over financial reporting is effective based on those criteria.

The Company's internal control over financial reporting as at December 31, 2016 has been audited by PricewaterhouseCoopers ("PWC") Chartered Professional Accountants, Licensed Public Accountants who also audited the Company's Consolidated Financial Statements for the year ended December 31, 2016. PwC as stated in their report that immediately precedes the Company's audited consolidated financial statements for the year ended December 31, 2016, expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Changes in internal control over financial reporting

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

RISK FACTORS AND ADDITIONAL INFORMATION

The risk factors for the year ended December 31, 2016, are substantially the same as those disclosed and discussed under the headings "Risk Factors – Risks Relating to the Company's Business and its Industry" and "Risk Factors – Governmental and Regulatory Risks" in our short form prospectus dated January 31, 2017. Additional and/or updated risk factors, if applicable, will be included in our annual information form for the year ended December 31, 2016, which will be filed on SEDAR at www.sedar.com.

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL STATEMENTS

The accompanying consolidated financial statements of Golden Star Resources Ltd. (the "Company") and all information in this financial report are the responsibility of management. The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards and, where appropriate, include management's best estimates and judgments.

Management maintains a system of internal control designed to provide reasonable assurance that assets are safeguarded from loss or unauthorized use, and that financial information is timely and reliable. However, any system of internal control over financial reporting, no matter how well designed and implemented, has inherent limitations and may not prevent or detect all misstatements.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and is ultimately responsible for reviewing and approving the consolidated financial statements.

The Board carries out this responsibility principally through its Audit Committee. The Board of Directors appoints the Audit Committee, and all of its members are independent directors. The Audit Committee meets periodically with management and the auditors to review internal controls, audit results, accounting principles and related matters. The Board of Directors approves the consolidated financial statements on recommendation from the Audit Committee.

PricewaterhouseCoopers LLP, an independent firm of Chartered Professional Accountants, was appointed by the shareholders at the last annual meeting to examine the consolidated financial statements and provide an independent professional opinion. PricewaterhouseCoopers LLP has full and free access to the Audit Committee.

"Samuel T. Coetzer"
Samuel T. Coetzer
President and Chief Executive Officer

"André van Niekerk"
André van Niekerk
Executive Vice President and Chief Financial Officer

Toronto, Canada
February 21, 2017

February 21, 2017

TO THE SHAREHOLDERS OF GOLDEN STAR RESOURCES LTD.

We have completed integrated audits of Golden Star Resources Ltd.'s (the company) 2016 and 2015 consolidated financial statements and its internal control over financial reporting as at December 31, 2016. Our opinions, based on our audits, are presented below.

Report on the consolidated financial statements

We have audited the accompanying consolidated financial statements of the company, which comprise the consolidated balance sheets as at December 31, 2016 and December 31, 2015 and the consolidated statements of operations and comprehensive loss, cash flows, and changes in shareholders' equity for the years then ended, and the related notes, which comprise a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement. Canadian generally accepted auditing standards also require that we comply with ethical requirements.

An audit involves performing procedures to obtain audit evidence, on a test basis, about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting principles and policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion on the consolidated financial statements.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the company as at December 31, 2016 and December 31, 2015 and its financial performance and its cash flows for the years then ended in accordance with IFRS as issued by the IASB.

PricewaterhouseCoopers LLP
PwC Tower, 18 York Street, Suite 2600, Toronto, ON, Canada M5J 0B2
T: +1 416 863 1133, F:+1 416 365 8215, www.pwc.com/ca

Report on internal control over financial reporting

We have also audited the company's internal control over financial reporting as at December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Management's responsibility for internal control over financial reporting

Management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting.

Auditor's responsibility

Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit. We conducted our audit of internal control over financial reporting in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control, based on the assessed risk, and performing such other procedures as we consider necessary in the circumstances.

We believe that our audit provides a reasonable basis for our audit opinion on the company's internal control over financial reporting.

Definition of internal control over financial reporting

A 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 generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) 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 financial statements.

Inherent limitations

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, the company maintained, in all material respects, effective internal control over financial reporting as at December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.

PricewaterhouseCoopers LLP

Chartered Professional Accountants, Licensed Public Accountants

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GOLDEN STAR RESOURCES LTD

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

		For the years ended December 31,	
	NOTES	2016	2015
REVENUE	17	**$ 221,290**	**$ 255,187**
Cost of sales excluding depreciation and amortization	18	172,616	245,494
Depreciation and amortization		21,160	37,339
MINE OPERATING MARGIN/(LOSS)		27,514	(27,646)
OTHER EXPENSES/(INCOME)			
Exploration expense		1,818	1,307
General and administrative		25,754	14,281
Finance expense, net	19	7,832	10,670
Other income	20	(3,349)	(8,178)
Loss/(gain) on fair value of financial instruments, net	5	25,628	(1,712)
Loss on repurchase of 5% Convertible Debentures, net	5	11,594	—
Impairment charges	25	—	34,396
NET LOSS AND COMPREHENSIVE LOSS		$ (41,763)	$ (78,410)
Net loss attributable to non-controlling interest		(2,116)	(10,729)
NET LOSS ATTRIBUTABLE TO GOLDEN STAR SHAREHOLDERS		**$ (39,647)**	**$ (67,681)**
NET LOSS PER SHARE ATTRIBUTABLE TO GOLDEN STAR SHAREHOLDERS			
Basic and diluted	16	$ (0.13)	$ (0.26)
Weighted average shares outstanding-basic and diluted (millions)		294.1	259.7

(Stated in thousands of U.S. dollars except shares and per share data)

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED BALANCE SHEETS

	NOTES	As of December 31, 2016	2015
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents		$ 21,764	$ 35,108
Accounts receivable		7,299	5,114
Inventories	6	44,381	36,694
Prepaids and other		3,926	5,754
TOTAL CURRENT ASSETS		**77,370**	**82,670**
RESTRICTED CASH		6,463	6,463
MINING INTERESTS	7	215,017	149,849
TOTAL ASSETS		**$ 298,850**	**$ 238,982**
LIABILITIES			
CURRENT LIABILITIES			
Accounts payable and accrued liabilities	9	$ 94,973	$ 110,811
Derivative liabilities	5	2,729	407
Current portion of rehabilitation provisions	10	5,515	3,660
Current portion of deferred revenue	11	19,234	11,507
Current portion of long term debt	12	15,378	22,035
TOTAL CURRENT LIABILITIES		**137,829**	**148,420**
REHABILITATION PROVISIONS	10	71,867	76,025
DEFERRED REVENUE	11	94,878	53,872
LONG TERM DEBT	12	89,445	91,899
LONG TERM DERIVATIVE LIABILITY	5	15,127	—
OTHER LONG TERM LIABILITY	15	10,465	—
TOTAL LIABILITIES		**419,611**	**370,216**
SHAREHOLDERS' EQUITY			
SHARE CAPITAL			
First preferred shares, without par value, unlimited shares authorized			
No shares issued and outstanding		—	—
Common shares, without par value, unlimited shares authorized	13	746,542	695,555
CONTRIBUTED SURPLUS		33,861	32,612
DEFICIT		(832,951)	(793,304)
DEFICIT ATTRIBUTABLE TO GOLDEN STAR		**(52,548)**	**(65,137)**
NON-CONTROLLING INTEREST		(68,213)	(66,097)
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		**$ 298,850**	**$ 238,982**

(Stated in thousands of U.S. dollars)

The accompanying notes are an integral part of the consolidated financial statements.
Signed on behalf of the Board,

"Timothy C. Baker"
Timothy C. Baker, Director

"William L. Yeates"
William L. Yeates, Director

GOLDEN STAR RESOURCES LTD

CONSOLIDATED STATEMENTS OF CASH FLOWS

	NOTES	For the years ended December 31, 2016	2015
OPERATING ACTIVITIES:			
Net loss		$ (41,763)	$ (78,410)
Reconciliation of net loss to net cash provided by operating activities:			
Depreciation and amortization		21,173	37,372
Impairment charges	25	—	34,396
Share-based compensation	15	13,850	2,005
Loss on fair value of embedded derivatives	5	3,812	—
Loss/(gain) on fair value of 5% Convertible Debentures	5	17,235	(1,440)
Loss on repurchase of 5% Convertible Debentures, net	5	11,594	—
Loss/(gain) on fair value of warrants	5	2,322	(272)
Recognition of deferred revenue	11	(11,267)	(9,621)
Proceeds from Royal Gold stream	11	60,000	75,000
Reclamation expenditures	10	(5,527)	(2,947)
Gain on reduction of rehabilitation provisions	20	(198)	(5,652)
Other	24	4,226	3,006
Changes in working capital	24	(22,208)	6,711
NET CASH PROVIDED BY OPERATING ACTIVITIES		**53,249**	**60,148**
INVESTING ACTIVITIES:			
Additions to mining properties		(2,108)	(758)
Additions to plant and equipment		(613)	(1,416)
Additions to construction in progress		(81,635)	(54,877)
Change in accounts payable and deposits on mine equipment and material		(2,794)	4,974
Increase in restricted cash		—	(4,422)
Proceeds from sale of assets		657	—
NET CASH USED IN INVESTING ACTIVITIES		**(86,493)**	**(56,499)**
FINANCING ACTIVITIES:			
Principal payments on debt	12	(29,345)	(48,611)
Proceeds from debt agreements		3,000	22,000
Proceeds from 7% Convertible Debentures, net	12	20,714	—
5% Convertible Debentures repurchase		(19,941)	—
Proceeds from Royal Gold loan, net		—	18,718
Shares issued, net	13	45,450	—
Exercise of options		22	—
NET CASH PROVIDED BY/(USED IN) FINANCING ACTIVITIES		**19,900**	**(7,893)**
Decrease in cash and cash equivalents		(13,344)	(4,244)
Cash and cash equivalents, beginning of period		35,108	39,352
CASH AND CASH EQUIVALENTS, END OF PERIOD		**$ 21,764**	**$ 35,108**

(Stated in thousands of U.S. dollars)

See Note 24 for supplemental cash flow information.

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

	Number of common shares	Share capital	Contributed surplus	Deficit	Non-controlling interest	Total shareholders' equity
BALANCE AT DECEMBER 31, 2014	**259,490,083**	**$ 695,266**	**$ 31,532**	**$ (725,623)**	**$ (55,368)**	**$ (54,193)**
Shares issued under DSUs	407,012	289	(289)	—	—	—
Options granted net of forfeitures	—	—	652	—	—	652
DSU's granted	—	—	717	—	—	717
Net loss	—	—	—	(67,681)	(10,729)	(78,410)
BALANCE AT DECEMBER 31, 2015	**259,897,095**	**$ 695,555**	**$ 32,612**	**$ (793,304)**	**$ (66,097)**	**$ (131,234)**
Shares issued (see Note 13)	75,360,692	55,180	—	—	—	55,180
Shares issued under DSUs	39,744	9	(9)	—	—	—
Shares issued under options	58,919	39	(17)	—	—	22
Options granted net of forfeitures	—	—	751	—		751
DSU's granted	—	—	524	—	—	524
Share issue costs	—	(4,241)	—	—	—	(4,241)
Net loss	—	—	—	(39,647)	(2,116)	(41,763)
BALANCE AT DECEMBER 31, 2016	**335,356,450**	**$ 746,542**	**$ 33,861**	**$ (832,951)**	**$ (68,213)**	**$ (120,761)**

(Stated in thousands of U.S. dollars except share data)

The accompanying notes are an integral part of the consolidated financial statements.

(All currency amounts in tables are in thousands of U.S. dollars unless noted otherwise)

1. NATURE OF OPERATIONS

Golden Star Resources Ltd. ("Golden Star" or "the Company" or "we" or "our") is a Canadian federally-incorporated, international gold mining and exploration company headquartered in Toronto, Canada. The Company's shares are listed on the Toronto Stock Exchange (the "TSX") under the symbol GSC, the NYSE MKT under the symbol GSS and the Ghana Stock Exchange under the symbol GSR. The Company's registered office is located at 150 King Street West, Sun Life Financial Tower, Suite 1200, Toronto, Ontario, M5H 1J9, Canada.

Through a 90% owned subsidiary, Golden Star (Wassa) Limited, we own and operate the Wassa open-pit gold mine, the Wassa underground mine and a carbon-in-leach ("CIL") processing plant (collectively, "Wassa"), located northeast of the town of Tarkwa, Ghana. Through our 90% owned subsidiary Golden Star (Bogoso/Prestea) Limited, the Company owns and operates the Bogoso gold mining and processing operations ("Bogoso"), the Prestea open-pit mining operations and the Prestea underground development project located near the town of Prestea, 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.

2. BASIS OF PRESENTATION

Statement of compliance

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"), as issued by the International Accounting Standards Board ("IASB") and with interpretations of the International Financial Reporting Interpretations Committee ("IFRIC") which the Canadian Accounting Standards Board has approved for incorporation into Part 1 of the CPA Canada Handbook – Accounting.

These consolidated financial statements were approved by the Board of Directors of the Company on February 21, 2017.

Basis of presentation

These consolidated financial statements include the accounts of the Company and its subsidiaries, whether owned directly or indirectly. The financial statements of the subsidiaries are prepared for the same period as the Company using consistent accounting policies for all periods presented. All inter-company balances and transactions have been eliminated. Subsidiaries are entities controlled by the Company. Non-controlling interests in the net assets of consolidated subsidiaries are a separate component of the Company's equity.

These consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and discharge of all liabilities in the normal course of business.

The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments and the Company's 5% Convertible Debentures which are measured at fair value through profit or loss.

3. SUMMARY OF ACCOUNTING POLICIES

Cash and cash equivalents

Cash includes cash deposits in any currency residing in chequing and sweep accounts. Cash equivalents consist of money market funds and other highly liquid investments purchased with maturities of three months or less. Investments with maturities greater than three months and up to one year are classified as short-term investments, while those with maturities in excess of one year are classified as long-term investments. Cash equivalents and short-term investments are stated at amortized cost, which typically approximates market value.

Inventories

Inventory classifications include "stockpiled ore," "in-process inventory," "finished goods inventory" and "materials and supplies". The stated value of all production inventories include direct production costs and attributable overhead and depreciation incurred to bring the materials to their current point in the processing cycle. General and administrative costs for corporate offices are not included in any inventories.

Stockpiled ore represents coarse ore that has been extracted from the mine and is stored for future processing. Stockpiled ore is measured by estimating 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. Stockpiled ore value is based on the costs incurred (including depreciation and amortization) in bringing the ore to the stockpile. Costs are added to the stockpiled ore based on current mining costs per tonne and are removed at the average cost per tonne of ore in the stockpile.

In-process inventory represents material that is currently being treated in the processing plants to extract the contained gold and to transform it into a saleable product. The amount of gold in the in-process inventory is determined by assay and by measure of the quantities of the various gold-bearing materials in the recovery process. The in-process gold is valued at the average of the beginning inventory and the cost of material fed into the processing stream plus in-process conversion costs including applicable mine-site overheads, depreciation and amortization related to the processing facilities.

Finished goods inventory is saleable gold in the form of doré bars. Included in the costs are the direct costs of the mining and processing operations as well as direct mine-site overheads, amortization and depreciation.

Materials and supplies inventories consist mostly of equipment parts and other consumables required in the mining and ore processing activities.

All inventories are valued at the lower of average cost or net realizable value.

Property, plant and equipment

Property, plant and equipment assets, including machinery, processing equipment, mining equipment, mine site facilities, buildings, vehicles and expenditures that extend the life of such assets, are initially recorded at cost including acquisition and installation costs. Property, plant and equipment are subsequently measured at cost, less accumulated depreciation and accumulated impairment losses.

The costs of self-constructed assets include direct construction costs and direct overhead during the construction phase. Indirect overhead costs are not included in the cost of self-constructed assets.

Depreciation for mobile equipment and other assets having estimated lives shorter than the estimated life of the ore reserves is calculated using the straight-line method at rates which depreciate the cost of the assets, less their anticipated residual values, if any, over their estimated useful lives. Mobile mining equipment is amortized over a five year life. Assets, such as processing plants, power generators and buildings, which have an estimated life equal to or greater than the estimated life of the ore reserves, are amortized over the life of the proven and probable reserves of the associated mining property using a units-of-production amortization method, less their anticipated residual values, if any. The net book value of property, plant and equipment assets is charged against income if the mine site is abandoned and it is determined that the assets cannot be economically transferred to another project or sold.

The residual values, useful lives and method of depreciation of property, plant and equipment are reviewed at each reporting period end, and adjusted prospectively if appropriate.

Gains and losses on the disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount, and are recognized net in the consolidated statement of operations.

Mining properties

Mining property assets, including property acquisition costs, tailings storage facilities, mine-site development and drilling costs where proven and probable reserves have been established, pre-production waste stripping, condemnation drilling, roads, feasibility studies and wells are recorded at cost. The costs of self-constructed assets include direct construction costs, direct overhead costs and allocated interest during the construction phase. Indirect overhead costs are not included in the cost of self-constructed assets.

Mining property assets are amortized over the life of the proven and probable reserves to which they relate, using a units-of-production amortization method. At open pit mines the costs of removing overburden from an ore body in order to expose ore during its initial development period are capitalized.

Underground mine development costs

Underground mine development costs include development costs to build new shafts, drifts and ramps that will enable the Company to physically access ore underground. The time over which the Company will continue to incur these costs depends on the mine life. These underground development costs are capitalized as incurred. Capitalized underground development costs incurred to enable access to specific ore blocks or areas of the underground mine, and which only provide an economic benefit over the period of mining that ore block or area, are depreciated on a units-of-production basis, whereby the denominator is estimated ounces of gold in proven and probable reserves and the portion of resources within that ore block or area that is considered probable of economic extraction. If capitalized underground development costs provide an economic benefit over the entire mine life, the costs are depreciated on a units-of-production basis, whereby the denominator is the estimated ounces of gold in total accessible proven and probable reserves and the portion of resources that is considered probable of economic extraction.

Betterment stripping (waste removal) costs

As part of its operations, the Company incurs stripping (waste removal) costs both during the development phase and production phase of its operations. Stripping costs incurred as part of development stage mining activities incurred by the Company are capitalized as part of mining properties.

Stripping costs incurred during the production stage are incurred in order to produce inventory or to improve access to ore which will be mined in the future. Where the costs are incurred to produce inventory, the production stripping costs are accounted for as a cost of producing those inventories. Where the costs are incurred to improve access to ore to be mined in the future, the costs are recognized as a stripping activity asset (a non-current asset) if improved access to the ore body is probable, the component of the ore body can be accurately identified and the costs associated with improving the access can be reliably measured. If these criteria are not met the cost is expensed to the consolidated statement of operations as incurred.

The betterment stripping asset is subsequently depreciated using the units-of-production amortization method over the life of the identified component of the ore body that became more accessible as a result of the betterment stripping activity.

Borrowing costs

Borrowing costs attributable to the acquisition, construction or production of a qualifying asset are capitalized. Qualifying assets are assets that require a significant amount of time to prepare for their intended use, including projects that are in the exploration and evaluation, development or construction stages. Capitalized borrowing costs are considered an element of the cost of the qualifying asset which is determined based on gross expenditures incurred on an asset. Capitalization ceases when the asset is substantially complete or if active development is suspended or ceases. Where the funds used to finance a qualifying asset form part of general borrowings, the amount capitalized is calculated using a weighted average of rates applicable to the relevant borrowings during the period. Where funds borrowed are directly attributable to a qualifying asset, the amount capitalized represents the borrowing costs specific to those borrowings. Other borrowing costs are recognized as an expense in the period in which they are incurred.

Impairment of long-lived assets

The Company assesses at each reporting period whether there is an indication that an asset or group of assets may be impaired. When impairment indicators exist, the Company estimates the recoverable amount of the asset and compares it against the asset's carrying amount. The recoverable amount is the higher of its fair value less cost of disposal ("FVLCD") and the asset's value in use ("VIU"). If the carrying amount exceeds the recoverable amount, an impairment loss is recorded in the consolidated statement of operations.

In assessing VIU, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset not already reflected in the estimates of future cash flows. The cash flows are based on best estimates of expected future cash flows from the continued use of the asset and its eventual disposal.

FVLCD is best evidenced if obtained from an active market or binding sale agreement. Where neither exists, the fair value is based on the best estimates available to reflect the amount that could be received from an arm's length transaction.

Future cash flows are based on estimated quantities of gold and other recoverable metals, expected price of gold (considering current and historical prices, price trends and related factors), production levels and cash costs of production, capital and reclamation costs, all based on detailed engineered life-of-mine plans.

Numerous factors including, but not limited to, unexpected grade changes, gold recovery variances, shortages of equipment and consumables, equipment failures, and collapse of pit walls could impact our ability to achieve forecasted production schedules from proven and probable reserves. Additionally, commodity prices, capital expenditure requirements and reclamation costs could differ from the assumptions used in the cash flow models used to assess impairment. The ability to achieve the estimated quantities of recoverable minerals from exploration stage mineral interests involves further risks in addition to those factors applicable to mineral interests where proven and probable reserves have been identified, due to the lower level of confidence that the identified mineralized material can ultimately be mined economically.

If an impairment loss reverses in a subsequent period, the carrying amount (post reversal) of the related asset is increased to the revised estimate of recoverable amount to the extent that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset previously. Reversals of impairment losses are recognized in the statement of operations in the period the reversals occur.

Material changes to any of the factors or assumptions discussed above could result in future asset impairments.

Rehabilitation provisions

The Company records a liability and corresponding asset for the present value of the estimated costs of legal and constructive obligations for future site reclamation and closure where the liability is probable and a reasonable estimate can be made of the obligation. The estimated present value of the obligation is reassessed on a periodic basis or when new material information becomes available. Increases or decreases to the obligation usually arise due to changes in legal or regulatory requirements, the extent of environmental remediation required, methods of reclamation, cost estimates, inflation rates, or discount rates. Changes to the provision for reclamation and remediation obligations related to operating mines, which are not the result of current production of inventory, are recorded with an offsetting change to the related asset. Changes to the provision for reclamation and remediation obligations related to suspended mine operations are recognized in the consolidated statements of operations and comprehensive loss. The present value is determined based on current market assessments of the time value of money using discount rates based on the risk-free rate maturing approximating the timing of expected expenditures to be incurred, and adjusted for country related risks. The periodic unwinding of the discount is recognized in the consolidated statement of operations as a finance expense.

Deferred revenue

Deferred revenue consists of payments received by the Company for future delivery of payable gold under the terms of the Company's Streaming Agreement. As deliveries are made, the Company will record a portion of the deferred revenue as sales, on a unit of production basis over the volume of gold expected to be delivered during the term of the streaming arrangement. The amount by which the deferred revenue balance is reduced and recognized into revenue is based on a rate per ounce of gold delivered under the stream. This rate per ounce of gold delivered is based on the remaining deferred revenue balance divided by the ounces that are expected to be delivered under the Stream Arrangement over the life of the arrangement. This estimate is re-evaluated at each reporting period with any resulting changes in estimate reflected prospectively.

The Streaming Agreement has been recorded as a contract for the future delivery of gold ounces at the contracted price. The upfront payments are accounted for as prepayments of yet-to-be delivered ounces under the contract and are recorded as deferred revenue. The initial term of the contract is 40 years and the deposit bears no interest.

Foreign currency transactions

The Company's presentation currency of its consolidated financial statements is the U.S. dollar, as is the functional currency of its operations. The functional currency of all consolidated subsidiaries is the U.S. dollar. All values are rounded to the nearest thousand, unless otherwise stated.

Monetary assets and liabilities denominated in foreign currencies are translated into U.S. dollars at period end exchange rates. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are translated into U.S. dollars at the exchange rate at the date that the fair value was determined. Income and expense items are translated at the exchange rate in effect on the date of the transaction. Exchange gains and losses resulting from the translation of these amounts are included in net loss, except those arising on the translation of available-for-sale investments that are recorded in other comprehensive income. Non-monetary assets and liabilities denominated in foreign currencies that are measured at historical cost are translated at the exchange rate in effect at the transaction date.

Income taxes

Income taxes comprise the provision for (or recovery of) taxes actually paid or payable (current taxes) and for deferred taxes.

Current taxes are based on taxable earnings in the year. Current tax is calculated using tax rates and laws that were enacted or substantively enacted at the balance sheet date in the respective jurisdictions.

Current income tax assets and current income tax liabilities are only offset if a legally enforceable right exists to offset the amounts and the Company intends to settle on a net basis or to realize the asset and settle the liability simultaneously.

Deferred income tax assets and liabilities are recognized for the expected future tax consequences attributable to temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements. Deferred income tax assets and liabilities are computed using enacted or substantially enacted income tax rates in effect when the temporary differences are expected to reverse. The effect on the deferred tax assets and liabilities of a change in tax rates is recognized in the period of substantial enactment. The provision for or the recovery of deferred taxes is based on the changes in deferred tax assets and liabilities during the period.

The carrying amount of deferred income tax assets is reviewed at the end of each reporting period and recognized to the extent that it is probable that taxable earnings will be available against which deductible temporary differences can be utilized.

Net income/(loss) per share

Basic income/(loss) per share of common stock is calculated by dividing income available to Golden Star's common shareholders by the weighted average number of common shares issued and outstanding during the period. In periods with earnings, the calculation of diluted net income per common share uses the treasury stock method to compute the dilutive effects of stock options, warrants, convertible debentures and other potentially dilutive instruments. In periods of loss, diluted net loss per share is equal to basic income per share.

Revenue recognition

Revenue from the sale of metal is recognized when the significant risks and rewards of ownership have passed to the purchaser. This occurs when the amount of revenue can be measured reliably, the metal has been delivered, title has passed to the buyer and it is probable that the economic benefits associated with the transaction will flow to the entity. All of our spot sales of gold are transported to a South African gold refiner who locates a buyer and arranges for sale of our gold on the same day that the gold is shipped from the mine site. The sales price is based on the London P.M. fix on the day of shipment. Title and risk of ownership pass to the buyer on the day doré is shipped from the mine sites. Revenue recognition for our stream arrangement is disclosed in the accounting policy for deferred revenue.

Share-based compensation

Under the Company's Fourth Amended and Restated 1997 Stock Option Plan, common share options may be granted to executives, employees, consultants and non-employee directors. Compensation expense for such grants is recorded in the consolidated statements of operations and comprehensive loss, with a corresponding increase recorded in the contributed surplus account in the consolidated balance sheets. The expense is based on the fair value of the option at the time of grant, measured by reference to the fair value determined using a Black-Scholes valuation model, and is recognized over the vesting periods of the respective options on a graded basis. Consideration paid to the Company on exercise of options is credited to share capital.

Under the Company's Deferred Share Unit ("DSU") plan, DSUs may be granted to executive officers and directors. Compensation expense for such grants is recorded in the consolidated statements of operations and comprehensive loss with a corresponding increase recorded in the contributed surplus account in the consolidated balance sheets. The expense is based on the fair values at the time of grant and is recognized over the vesting periods of the respective DSUs. Upon exercise the Company's compensation committee may, at its discretion, issue cash, shares of a combination thereof.

The Company's Share Appreciation Rights ("SARs") plan allows SARs to be issued to executives, employees and directors. These awards are settled in cash on the exercise date equal to the Company's stock price less the strike price. Since these awards are settled in cash, the Company marks-to-market the associated expense for each award at the end of each reporting period using a Black-Scholes model. The Company accounts for these as liability awards and marks-to-market the fair value of the award until final settlement.

Under the Company's Performance Share Units ("PSU") plan, PSUs may be granted to executives, employees and non-employee directors. Each PSU represents one notional common share that is redeemed for cash based on the value of a common share at the end of the three year performance period, to the extent performance and vesting criteria have been met. The cash award is determined by multiplying the number of units by the performance adjusting factor, which range from 0% to 200%. The performance factor is determined by comparing the Company's share price performance to the share price performance of a peer group of companies. As the Company is required to settle these awards in cash, they are accounted for as liability awards with corresponding compensation expense recognized. Long term PSU liability is recognized on the balance sheet as Other Long Term Liability and the current portion is included in accounts payable and accrued liabilities.

Leases

Leases that transfer substantially all of the benefits and risks of ownership to the Company are recorded as finance leases and classified as property, plant and equipment with a corresponding amount recorded with current and long-term debt. All other leases are classified as operating leases under which leasing costs are expensed in the period incurred.

Financial instruments

The Company recognizes all financial assets initially at fair value and classifies them into one of the following three categories: fair value through profit or loss ("FVTPL"), available-for-sale ("AFS") or loans and receivables, as appropriate. The Company has not classified any of its financial assets as held to maturity.

The Company recognizes all financial liabilities initially at fair value and classifies them as either FVTPL or loans and borrowings, as appropriate. The Company has not classified any of its derivatives as designated as hedging instruments in an effective hedge.

5% CONVERTIBLE DEBENTURES

The Company's 5% Convertible Debentures are considered financial instruments at FVTPL. The convertible debentures contain embedded derivatives that significantly modify the cash flows that otherwise would be required by the contract. The convertible debentures are recorded at fair value determined based on unadjusted quoted prices in active markets when available, otherwise by valuing the embedded derivative conversion feature and the debt component separately. The conversion feature is valued using a Black-Scholes model and the value of the debt is determined based on the present value of the future cash flows. Changes in fair value are recorded in the consolidated statement of operations. Upfront costs and fees related to the convertible debentures were recognized in the statement of operations as incurred and not deferred.

WARRANTS

The Company's warrants are considered financial instruments at FVTPL. The holder of the warrants can exercise for Golden Star common shares and has an option to request a cashless exercise. As a result, the warrants have been classified as financial liability instruments and are recorded at fair value at each reporting period end using a Black-Scholes model. Warrant pricing models require the input of certain assumptions including price volatility and expected life. Changes in these assumptions could affect the reported fair value of the warrants.

DERIVATIVES

From time to time the Company may utilize foreign exchange and commodity price derivatives to manage exposure to fluctuations in foreign currency exchange rates and gold prices, respectively. The Company does not employ derivative financial instruments for trading purposes or for speculative purposes. Our derivative instruments are recorded on the balance sheet at fair value with changes in fair value recorded in the consolidated statement of operations. The Company did not have any foreign exchange derivatives outstanding at December 31, 2016.

7% CONVERTIBLE DEBENTURES EMBEDDED DERIVATIVE

The Company's 7% Convertible Debentures embedded derivative is considered a financial instrument at FVTPL. The embedded derivative was recorded at fair value on the date of debt issuance. It is subsequently remeasured at their fair value at each reporting date, and the changes in the fair value are recorded in the consolidated statement of operations. The fair value of the embedded derivative is determined using a convertible note valuation model, using assumptions based on market conditions existing at the reporting date.

Share capital

Common shares are classified as equity. Costs directly attributable to the issue of new shares or share options are shown in equity as a deduction, net of tax, from the gross proceeds.

Changes in accounting policies

The Company has adopted the following new and revised standards, effective January 1, 2016. These changes were made in accordance with the applicable transitional provisions.

IAS 1 *Presentation of financial statements* was amended to clarify guidance on materiality and aggregation, the presentation of subtotals, the structure of financial statements and the disclosure of accounting policies. The adoption of this amendment did not result in any impact to the Company's financial statements.

IFRS 7 *Financial instruments: Disclosures* amended to (i) add guidance on whether an arrangement to service a financial asset which has been transferred constitutes continuing involvement, and (ii) clarify that the additional disclosure required by the amendments to IFRS 7, *Disclosure – Offsetting financial assets and financial liabilities*, is not specifically required for interim periods, unless required by IAS 34. The adoption of this improvement did not result in any impact to the Company's financial statements.

Standards, interpretations and amendments not yet effective

IAS 7 *Statement of cash flows – Disclosures related to financing activities* was amended to require disclosures about changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes. This amendment is effective for years beginning on/after January 1, 2017. The Company does not expect the standard to have a material impact on the financial statements.

IAS 12 *Income taxes – Deferred tax* was amended to clarify (i) the requirements for recognizing deferred tax assets on unrealized losses; (ii) deferred tax where an asset is measured at a fair value below the asset's tax base, and (iii) certain other aspects of accounting for deferred tax assets. This amendment is effective for years beginning on/after January 1, 2017. The Company does not anticipate that there will be any impact on the financial statements.

IFRS 15 *Revenue from Contracts with Customers* was amended to clarify how to (i) identify a performance obligation in a contract; (ii) determine whether a company is a principal or an agent; and (iii) determine whether the revenue from granting a license should be recognized at a point in time or over time. In additional to the clarifications, the amendments include two additional reliefs to reduce cost and complexity for a company when it first applies the new standard. The amendments have the same effective date as the standard, which is January 1, 2018. The Company is still assessing the impact of this standard.

IFRS 16 *Leases* specifies how an IFRS reporter will recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Lessors continue to classify leases as operating or finance, with IFRS 16's approach to lessor accounting substantially unchanged from its predecessor, IAS 17. IFRS 16 was issued in January 2016 and applies to annual reporting periods beginning on or after January 1, 2019. The Company is still assessing the impact of this standard.

4. CRITICAL ACCOUNTING JUDGEMENTS, ESTIMATES AND ASSUMPTIONS

Preparation of our 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.

Inventory valuation

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.

The net realizable value of materials and supplies is recorded based on the expected usage of the inventory items, salvage value and condition of the inventory items, all of which are based on management estimates and judgments.

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 and amortization of the related mining assets and the recognition of deferred revenue.

Betterment stripping costs

Significant judgment is required to distinguish between development stripping, production stripping which relates to extraction of inventory and development stripping which relates to the creation of a betterment stripping and 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 betterment stripping for each component. The Company considers 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/amortized 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 mineral reserves. 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 and amortization 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 reserve estimates.

Carrying value of assets and impairment charges

The Company undertakes a review of its assets 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 its FVLCD and VIU. 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 as well as any other constructive obligations that exist. 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 reassessed and remeasured at each reporting date.

Fair value of financial instruments, including embedded derivatives

Where the fair value of financial assets and financial liabilities recorded in the financial statements cannot be derived from active markets, their fair value is determined using valuation techniques including the discounted cash flow model. The inputs to these models are taken from observable markets where possible, but where 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.

When measuring the fair value of an asset or liability, the Company uses observable market data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities

Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs)

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 tax estimates 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 that the ultimate assessment, a tax benefit is recognized.

A deferred tax asset is recognized to the extent that it is probable that taxable earnings will be available against which deductible temporary differences can be utilized.

Deferred revenue

Significant judgment is required in determining the appropriate accounting for the Streaming Agreement that has been entered into. Management has determined that based on the agreements reached that assumes significant business risk associated with the timing and amount of ounces of gold being delivered. As such, the deposits received have been recorded as deferred revenue liabilities in the consolidated balance sheet. Deferred revenue is recognized as revenue based on the percentage of ounces delivered in the period over the total estimated ounces to be delivered over the life of the Streaming Agreement.

Commencement of commercial production

Prior to the period when a mine has reached management's intended operating levels, costs incurred as part of the development of the related mining property are capitalized and any gold sales during the development period are offset against the cost capitalized. The Company defines the commencement of commercial production as the date that a mine has achieved a consistent level of production. Depreciation/amortization of capitalized costs for mining properties begins when operating levels intended by management has been reached.

There are a number of factors the Company considers when determining if condition exist for the commencement of commercial production of an operating mine. Management examines the following factors when making that judgement:

- All major capital expenditures to bring the mine to the condition necessary for it to be capable of operating in the manner intended by management have been completed;
- The completion of a reasonable period of testing of the mine properties;
- The mine and/or mill has reached a pre-determined percentage of design capacity; and
- The ability to sustain ongoing production of ore.

5. FINANCIAL INSTRUMENTS

The following tables illustrate the classification of the Company's recurring fair value measurements for financial instruments within the fair value hierarchy and their carrying values and fair values as at December 31, 2016 and December 31, 2015:

		December 31, 2016		December 31, 2015	
	Level	Carrying value	Fair value	Carrying value	Fair value
FINANCIAL LIABILITIES					
Fair value through profit or loss					
5% Convertible Debentures	3	$ 13,294	$ 13,294	$ 46,406	$ 46,406
Warrants	2	2,729	2,729	407	407
7% Convertible Debentures embedded derivative	3	15,127	15,127	–	–

There were no non-recurring fair value measurements of financial instruments as at December 31, 2016.

The three levels of the fair value hierarchy are:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities;

Level 2 – Inputs other than quoted prices that are observable for the asset or liability either directly or indirectly; and

Level 3 – Inputs that are not based on observable market data.

The Company's policy is to recognize transfers into and transfers out of the fair value hierarchy levels as of the date of the event or change in circumstances that caused the transfer. During the year ended December 31, 2016, the non-hedge derivative contracts entered into by the Company were added as Level 2 fair valued financial instruments within the fair value measurement hierarchy. During the year ended December 31, 2016, the 7% Convertible Senior Notes due 2021 (the "7% Convertible Debentures") embedded derivative was added as Level 3 fair value instruments within the fair value measurement hierarchy. During the year ended December 31, 2016, there were no transfers into or out of Level 1 fair value measurements.

The valuation techniques that are used to measure fair value are as follows:

5% CONVERTIBLE DEBENTURES

The debt component of the 5% Convertible Debentures is valued based on discounted cash flows and the conversion feature is valued based on a Black-Scholes model. The risk free interest rate used in the fair value computation is the interest rate on US treasury bills with maturity similar to the remaining life of the 5% Convertible Debentures. The discount rate used is determined by adding our risk premium to the risk free interest rate. A market-based volatility rate has been applied to the fair value computation. Inputs used to determine the fair value on December 31, 2016 and December 31, 2015 were as follows:

	December 31, 2016	December 31, 2015
5% CONVERTIBLE DEBENTURES		
Risk-free interest rate	0.6%	1.1%
Risk premium	10.6%	41.0%
Expected volatility	40.0%	40.0%
Remaining life (years)	0.4	1.4

The following table presents the changes in the 5% Convertible Debentures for the year ended December 31, 2016:

	Fair value
BALANCE, DECEMBER 31, 2015	$ 46,406
Repurchase[1]	(19,941)
Exchange[2]	(42,000)
Loss on repurchase, net	11,594
Loss in the period included in earnings	17,235
BALANCE, DECEMBER 31, 2016	**$ 13,294**

1 On April 7, 2016, the Company repurchased $3.6 million principal amount of its 5% Convertible Debentures for $1.7 million. On August 3, 2016, the Company repurchased $18.2 million principal amount of its 5% Convertible Debentures for $18.2 million. Total interest payments of $0.5 million were also made upon repurchase of the debentures.

2 The Company entered into exchange and purchase agreements with two holders of its 5% Convertible Debentures to exchange $42.0 million principal amount for an equal principal amount of newly issued 7% Convertible Debentures (see Note 12).

If the risk premium increases by 5%, the fair value of the 5% Convertible Debentures would decrease and the related loss in the Statement of Operations would decrease by $0.3 million at December 31, 2016. In general, an increase in risk premium would increase the gain on fair value of the 5% Convertible Debentures.

WARRANTS

As part of the term loan transaction with Royal Gold, Inc. ("RGI"), 5,000,000 warrants to purchase Golden Star shares were issued to RGI. The warrants have a $0.27 exercise price and expire on July 28, 2019, being the fourth year anniversary of the date of issuance. These instruments are fair valued based on a Black-Scholes model with the following inputs on December 31, 2016 and December 31, 2015:

	December 31,	
	2016	**2015**
WARRANTS		
Risk-free interest rate	0.8%	1.2%
Expected volatility	82.6%	83.2%
Remaining life (years)	2.6	3.6

The following table presents the fair value changes in the warrants for the year ended December 31, 2016:

	Fair value
Balance, December 31, 2015	$ 407
Loss in the period included in earnings	2,322
BALANCE, DECEMBER 31, 2016	**$ 2,729**

7% CONVERTIBLE DEBENTURES EMBEDDED DERIVATIVE

The debt component of the 7% Convertible Debentures is recorded at amortized cost using the effective interest rate method, and the conversion feature is classified as an embedded derivative measured at fair value through profit or loss.

The embedded derivative was valued upon the initial measurement date and at December 31, 2016 using a convertible note valuation model. The significant inputs used in the convertible note valuation are as follows:

	December 31, 2016
Embedded derivative	
Risk-free interest rate	1.7%
Risk premium	12.9%
Expected volatility	45.0%
Remaining life (years)	4.6

The following table presents the changes in the 7% Convertible Debentures embedded derivative for the year ended December 31, 2016:

	Fair value
Balance, August 3, 2016	$ 12,259
Gain on conversions	(944)
Loss in the period included in earnings	3,812
BALANCE, DECEMBER 31, 2016	**$ 15,127**

If the risk premium increases by 5%, the fair value of the 7% Convertible Debentures embedded derivative would decrease and the related loss in the Statement of Operations would decrease by $0.1 million at December 31, 2016. In general, an increase in risk premium would increase the gain on fair value of the derivative liability.

NON-HEDGE DERIVATIVE CONTRACTS

During the year ended December 31, 2016, the Company entered into the following gold forward and collar contracts with maturities of the contracts ranging from March to December 2016:

- Forward contracts for 9,000 ounces of gold at $1,188 per ounce; and
- Costless collars consisting of puts and calls, on 38,000 ounces of gold with a floor price of $1,125 per ounce and a ceiling ranging between $1,240 per ounce and $1,325 per ounce.

The non-hedge accounted forward and collar contracts were considered fair value through profit or loss financial instruments with fair value determined using pricing models that utilize a variety of observable inputs that are a combination of quoted prices, applicable yield curves and credit spreads.

During the year ended December 31, 2016, the Company recognized losses of $2.3 million on settled derivative contracts. All of the derivative contracts the Company entered into in 2016 have been settled. At December 31, 2016, there were no outstanding gold forward and collar contracts.

6. INVENTORIES

Inventories include the following components:

	As of December 31,	
	2016	**2015**
Stockpiled ore	$ 23,833	$ 20,338
In-process ore	5,008	3,843
Materials and supplies	14,824	12,024
Finished goods	716	489
TOTAL	**$ 44,381**	**$ 36,694**

The cost of inventories expensed for the year ended December 31, 2016 and 2015 was $160.5 million and $232.6 million, respectively.

No materials and supplies inventories were written off in the year ended December 31, 2016 (year ended December 31, 2015 – $12.9 million of materials and supplies inventories and $12.8 million of refractory ore inventory). $1.2 million of net realizable value adjustments were recorded for stockpiled ore in the year ended December 31, 2016 (year ended December 31, 2015 – $2.2 million on stockpiled and in-process ore).

7. MINING INTERESTS

The following table shows the breakdown of the cost, accumulated depreciation and net book value of plant and equipment, mining properties and construction in progress:

	Plant and equipment	Mining properties	Construction in progress	Total
COST				
AS OF DECEMBER 31, 2014	**$ 454,074**	**$ 713,471**	**$ 38,716**	**$ 1,206,261**
Additions	1,416	758	52,042	54,216
Transfers	6,881	14,810	(21,691)	—
Capitalized interest	—	—	2,835	2,835
Change in rehabilitation provision estimate	—	707	—	707
Disposals and other	(9,726)	—	—	(9,726)
AS OF DECEMBER 31, 2015	**$ 452,645**	**$ 729,746**	**$ 71,902**	**$ 1,254,293**
Additions	613	2,108	75,375	78,096
Transfers	9,379	12,749	(22,128)	—
Capitalized interest	—	—	6,260	6,260
Change in rehabilitation provision estimate	—	2,054	—	2,054
Disposals and other	(1,199)	—	—	(1,199)
AS OF DECEMBER 31, 2016	**$ 461,438**	**$ 746,657**	**$ 131,409**	**$ 1,339,504**
ACCUMULATED DEPRECIATION				
AS OF DECEMBER 31, 2014	**$ 405,844**	**$ 648,329**	**$ 9,306**	**$ 1,063,479**
Depreciation and amortization	21,218	18,954	—	40,172
Disposals and other	(7,941)	9,306	(9,306)	(7,941)
Impairment charges (see Note 25)	4,544	4,190	—	8,734
AS OF DECEMBER 31, 2015	**$ 423,665**	**$ 680,779**	**$ —**	**$ 1,104,444**
Depreciation and amortization	8,673	12,010	—	20,683
Disposals and other	(640)	—	—	(640)
AS OF DECEMBER 31, 2016	**$ 431,698**	**$ 692,789**	**$ —**	**$ 1,124,487**
CARRYING AMOUNT				
As of December 31, 2014	$ 48,230	$ 65,142	$ 29,410	$ 142,782
As of December 31, 2015	$ 28,980	$ 48,967	$ 71,902	$ 149,849
AS OF DECEMBER 31, 2016	**$ 29,740**	**$ 53,868**	**$ 131,409**	**$ 215,017**

As at December 31, 2016, equipment under finance leases had net carrying amounts of $1.1 million. The total minimum lease payments are disclosed in Note 12 – Debt.

Construction in progress is shown net of $13.6 million (2015 – $nil) pre-commercial production revenue from the Wassa Underground development project. No depreciation is charged to construction in progress assets. For the year ended December 31, 2016, the general capitalization rate for borrowing costs was 7%.

8. INCOME TAXES

We recognize deferred tax assets and liabilities based on the difference between the financial reporting and tax basis of assets and liabilities using the tax rates enacted or substantively enacted when the temporary differences are expected to reverse.

Our net deferred tax liabilities at December 31, 2016 and December 31, 2015 include the following components:

	As of December 31,	
	2016	**2015**
DEFERRED TAX ASSETS		
Non-capital loss carryovers	$ 9,349	$ 9,268
Other	—	697
DEFERRED TAX LIABILITIES		
Mine property costs	9,349	5,359
Other	—	4,606
NET DEFERRED TAX LIABILITIES	**$ —**	**$ —**

The composition of our unrecognized deferred tax assets by tax jurisdiction is summarized as follows:

	As of December 31,	
	2016	**2015**
DEDUCTIBLE TEMPORARY DIFFERENCES		
Canada	$ 12,421	$ 5,051
U.S.	—	—
Ghana	49,777	53,759
	$ 62,198	**$ 58,810**
TAX LOSSES		
Canada	$ 41,731	$ 37,054
U.S.	309	274
Ghana	262,719	248,908
	$ 304,759	**$ 286,236**
TOTAL UNRECOGNIZED DEFERRED TAX ASSETS		
Canada	$ 54,152	$ 42,105
U.S.	309	274
Ghana	312,496	302,667
	$ 366,957	**$ 345,046**

The income taxes recovery includes the following components:

	For the years ended December 31,	
	2016	**2015**
CURRENT TAX RECOVERY		
Current tax on net earnings	$ —	$ —
Adjustments in respect to prior years	—	—
INCOME TAX RECOVERY	**$ —**	**$ —**

A reconciliation of expected income tax on net loss before minority interest at statutory rates with the actual income tax recovery is as follows:

	For the years ended December 31,	
	2016	**2015**
Net loss before tax	$ (41,763)	$ (78,410)
Statutory tax rate	26.5%	26.5%
TAX BENEFIT AT STATUTORY RATE	**$ (11,067)**	**$ (20,779)**
Foreign tax rates	(12,555)	(19,187)
Expired loss carryovers	3,052	1,938
Other	(30)	38
Non taxable/deductible items	641	584
Change in deferred tax assets due to exchange rates	(894)	5,049
Change in unrecognized deferred tax assets	20,853	32,357
INCOME TAX RECOVERY	**$ —**	**$ —**

At December 31, 2016, the Company had a tax pool and loss carryovers expiring as follows:

	Canada	Ghana	Other
2018	$ —	$ 46,540	$ —
2019	—	19,460	—
2020	—	109,841	—
2021	—	601,496	—
2026	3,862	—	—
2027	11,407	—	—
2028	11,280	—	—
2029	17,105	—	2
2030	15,288	—	—
2031	28,682	—	—
2032	13,884	—	—
2033	7,415	—	402
2034	10,683	—	364
2035	8,175	—	115
2036	16,124	—	—
Indefinite	26,324	—	—
TOTAL	**$ 170,229**	**$ 777,337**	**$ 883**

$722.8 million of the Ghana tax pool is usable against taxable income generated at Bogoso/Prestea, with the remaining amount totaling $54.5 million usable against taxable income generated at Wassa.

9. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities include the following components:

	As of December 31,	
	2016	2015
Trade and other payables	$ 48,591	$ 71,081
Accrued liabilities	38,071	31,496
Payroll related liabilities	8,311	6,376
Accrued severance	—	1,858
TOTAL	**$ 94,973**	**$ 110,811**

During the year ended December 31, 2016, the Company entered into an agreement with a significant current account creditor to settle $36.5 million of current liabilities. Under this agreement, the Company paid $12.0 million and deferred the payment of the remaining $24.5 million until January 2018, after which the outstanding balance will be repaid in equal installments over 24 months commencing on January 31, 2018 (see Note 12).

10. REHABILITATION PROVISIONS

At December 31, 2016, the total undiscounted amount of the estimated future cash needs was estimated to be $84.4 million. A discount rate assumption of 2% and an inflation rate assumption of 2% were used to value the rehabilitation provisions. The changes in the carrying amount of the rehabilitation provisions are as follows:

	For the years ended December 31,	
	2016	2015
BEGINNING BALANCE	**$ 79,685**	**$ 85,816**
Accretion of rehabilitation provisions	1,368	1,761
Changes in estimates	1,856	(4,945)
Cost of reclamation work performed	(5,527)	(2,947)
BALANCE AT THE END OF THE PERIOD	**$ 77,382**	**$ 79,685**
Current portion	$ 5,515	$ 3,660
Long term portion	71,867	76,025
TOTAL	**$ 77,382**	**$ 79,685**

For the year ended December 31, 2016, the Company has recorded a change of estimate of $1.9 million on its rehabilitation provisions of the mine sites. The impact of the changes of estimates were an increase of $1.3 million to the reclamation provisions for Wassa and an increase of $0.6 million to the reclamation provisions for Bogoso/Prestea. The rehabilitation provision for Wassa was $19.3 million (2015 – $18.8 million) The Company expects the payments for reclamation to be incurred between 2017 to 2026. An increase in estimate for Wassa of $1.3 million was recorded due to a revision in the timing of payments. The rehabilitation provision for Bogoso/Prestea was $58.1 million (2015 – $60.9 million). The Company expects the payments for reclamation to be incurred between 2017 to 2027. An increase in estimate for Bogoso/Prestea of $0.6 million relates to a $0.2 million reduction in expected reclamation costs relating to the refractory operation and a $0.8 million increase in the expected reclamation costs relating to the non-refractory operation. The reduction of $0.2 million relating to the reclamation costs of the refractory operation was recorded as other income since the carrying value of the underlying refractory assets were $nil after suspension of its operation in 2015.

11. DEFERRED REVENUE

On July 28, 2015, the Company through its subsidiary Caystar Finance Co. completed a $130 million gold purchase and sale agreement ("Streaming Agreement") with RGLD Gold AG ("RGLD"), a wholly-owned subsidiary of RGI. This Streaming Agreement was subsequently amended on December 30, 2015 to provide an additional $15 million of streaming advance payment with an option, subject to Golden Star satisfying certain conditions, to access a further $5 million (this option was not exercised and has expired). The Streaming percentages were adjusted as follows to reflect the $15 million additional advance payment: From January 1, 2016, the Company will deliver 9.25% of the Mines' production to RGLD at a cash purchase price of 20% of spot gold. From the earlier of January 1, 2018 or commercial production of the underground mines, Golden Star will deliver 10.5% of production at a cash purchase price of 20% of spot gold until 240,000 ounces have been delivered. Thereafter, 5.5% of production at a cash purchase price of 30% of spot gold will be delivered.

The upfront payments are accounted for as prepayments of yet-to-be delivered ounces under the contract and are recorded as deferred revenue. The initial term of the contract is 40 years and the deposit bears no interest.

During the year ended December 31, 2016, the Company sold 17,664 ounces of gold to RGLD. Revenue recognized on the ounces sold to RGLD during the year ended December 31, 2016 consisted of $4.4 million of cash payments received and $11.3 million of deferred revenue recognized in the period (see Note 17). The Company has delivered a total of 30,365 ounces of gold to RGLD since the inception of the Streaming Agreement.

	For the years ended December 31,	
	2016	**2015**
BEGINNING BALANCE	**$ 65,379**	**$ —**
Deposits received	60,000	75,000
Deferred revenue recognized	(11,267)	(9,621)
BALANCE AT THE END OF THE PERIOD	**$ 114,112**	**$ 65,379**
Current portion	$ 19,234	$ 11,507
Long term portion	94,878	53,872
TOTAL	**$ 114,112**	**$ 65,379**

12. DEBT

The following table displays the components of our current and long term debt instruments:

	As of December 31,	
	2016	2015
CURRENT DEBT:		
Equipment financing credit facility	$ 931	$ 2,761
Finance leases	1,153	1,016
Ecobank Loan II	—	4,889
5% Convertible Debentures at fair value (see Note 5)	13,294	—
Current portion of vendor agreement	—	13,369
TOTAL CURRENT DEBT	**$ 15,378**	**$ 22,035**
LONG TERM DEBT:		
Equipment financing credit facility	$ 188	$ 1,625
Finance leases	806	2,019
Ecobank Loan II	—	16,548
5% Convertible Debentures at fair value (see Note 5)	—	46,406
7% Convertible Debentures	47,617	—
Royal Gold loan	18,496	18,175
Vendor agreement	22,338	7,126
TOTAL LONG TERM DEBT	**$ 89,445**	**$ 91,899**
Current portion	$ 15,378	$ 22,035
Long term portion	89,445	91,899
TOTAL	**$ 104,823**	**$ 113,934**

Equipment financing credit facility

Bogoso/Prestea and Wassa maintained an equipment financing facility with Caterpillar Financial Services Corporation, with Golden Star as the guarantor of all amounts borrowed. The facility provided credit financing for mining equipment at a fixed interest rate of 6.5%. Amounts drawn under this facility are repayable over a period of two to five years. Each outstanding equipment loan is secured by the title of the specific equipment purchased with the loan until the loan has been repaid in full.

Finance leases

The Company financed mining equipment at Wassa and Bogoso/Prestea through equipment financing leases. These finance leases are payable in equal installments over a period of 60 months and have implicit interest rates of 6.9%. Each outstanding finance lease is secured by the title of the specific equipment purchased with the lease until the lease has been repaid in full.

Ecobank Loan II

In the third quarter of 2014, the Company through its subsidiary Golden Star (Wassa) Limited closed a $25 million secured Medium Term Loan Facility ("Ecobank Loan II") with Ecobank Ghana Limited. This $25 million loan had a term of 60 months from the date of initial drawdown and was secured by, among other things, Wassa's existing plant, machinery and equipment. The interest rate on the loan was three month LIBOR plus 11%, per annum, payable monthly in arrears beginning a month following the initial drawdown.

During the year ended December 31, 2015, the Company drew down $22.0 million on the Ecobank Loan II.

During the first quarter of 2016, the Company drew down the remaining $3 million of the Ecobank Loan II. During the third quarter of 2016, the Ecobank Loan II, as well as all accrued interest thereon, was repaid in full using the proceeds from the shares issued in the Equity Offering (see Note 13).

5% Convertible Debentures

The 5% Convertible Debentures were issued on May 31, 2012, in the amount of $77.5 million, in exchange for $74.5 million of our 4% convertible senior unsecured debentures (the "4% Convertible Debentures") in privately negotiated transactions with certain holders of the 4% Convertible Debentures.

The 5% Convertible Debentures are governed by the terms of an indenture dated May 31, 2012, by and between the Company and The Bank of New York Mellon, as Indenture Trustee.

Interest on the 5% Convertible Debentures is payable semi-annually in arrears on May 31 and November 30 of each year until maturity on June 1, 2017. The 5% Convertible Debentures are, subject to certain limitations, convertible into common shares at a conversion rate of 606.0606 common shares per $1,000 principal amount of the 5% Convertible Debentures (equal to an initial conversion price of $1.65 per share), or approximately 25% above the closing price of the Company's common shares on the NYSE MKT on May 17, 2012, the last full trading day prior to entry into the purchase agreement. The 5% Convertible Debentures are not redeemable at the Company's option, except in the event of certain change in control transactions where 90% or more of the outstanding 5% Convertible Debentures have accepted a mandatory offer from the Company to purchase them.

On maturity, the Company may, at its option, satisfy the repayment obligation by paying the principal amount of the 5% Convertible Debentures in cash or, subject to certain limitations, by issuing that number of the Company's common shares obtained by dividing the principal amount of the 5% Convertible Debentures outstanding by 95% of the weighted average trading price of the Company's common shares on the NYSE MKT for the 20 consecutive trading days ending five trading days preceding the maturity date (the "Current Market Price") provided that the aggregate maximum number of common shares to be issued may not exceed 19.99% of the issued and outstanding common shares as of the closing date. If the Company elects to repay the principal amount of the 5% Convertible Debentures at maturity by issuing common shares, and the Company is limited under the terms of the indenture from issuing a number of common shares sufficient to fully repay the 5% Convertible Debentures outstanding at maturity, the Company is required to pay the balance owing in cash, based on the difference between the principal amount of the 5% Convertible Debentures outstanding and the value of the common shares (based on the Current Market Price) delivered in repayment of the 5% Convertible Debentures.

The 5% Convertible Debentures are direct senior unsecured indebtedness of the Company, ranking equally and ratably with all other senior unsecured indebtedness, and senior to all subordinated indebtedness of the Company. None of the Company's subsidiaries has guaranteed the 5% Convertible Debentures, and the 5% Convertible Debentures do not limit the amount of debt that the Company or our subsidiaries may incur.

The 5% Convertible Debentures are accounted for at fair value and marked to market each reporting period and the corresponding gain/loss on fair value is recorded in the Statement of Operations.

On April 7, 2016, the Company repurchased $3.6 million principal amount of its 5% Convertible Debentures for $1.7 million. On August 3, 2016, the Company repurchased $18.2 million principal amount of its 5% Convertible Debentures for $18.2 million. Total interest payments of $0.5 million were also made upon repurchase of the debentures. The Company recorded a loss on repurchase of $11.6 million (see Note 5). As at December 31, 2016, $13.6 million principal amount of 5% Convertible Debentures remains outstanding.

During the year ended December 31, 2016, the Company entered into exchange and purchase agreements with two holders of its 5% Convertible Debentures to exchange $42.0 million principal amount of the outstanding convertible debentures for an equal principal amount of newly issued 7% Convertible Debentures.

The 5% Convertible Debentures mature on June 1, 2017, and therefore have been classified as current liabilities.

As at December 31, 2016, the fair value of the 5% Convertible Debentures is valued at $13.3 million with a loss on fair value of $17.2 million and a loss on repurchase of $11.6 million recorded in the year ended December 31, 2016 (see Note 5).

7% Convertible Debentures

The 7% Convertible Debentures were issued on August 3, 2016, in the amount of $65.0 million due August 15, 2021. The Company entered into exchange and purchase agreements with two holders of its 5% Convertible Debentures due June 1, 2017 to exchange $42.0 million principal amount of the outstanding 5% Convertible Debentures for an equal principal amount of 7% Convertible Debentures (the "Exchange"), with such principal amount being included in the issuance of the $65.0 million total aggregate principal amount of the 7% Convertible Debentures. The Company did not receive any cash proceeds from the Exchange. The 7% Convertible Debentures are governed by the terms of an indenture dated August 3, 2016, by and between the Company and The Bank of New York Mellon, as indenture trustee.

The 7% Convertible Debentures are senior unsecured obligations of the Company, bear interest at a rate of 7.0% per annum, payable semi-annually on February 1 and August 1 of each year, beginning on February 1, 2017, and will mature on August 15, 2021, unless earlier repurchased, redeemed or converted. Subject to earlier redemption or purchase, the 7% Convertible Debentures are convertible at any time until the close of business on the third business day immediately preceding August 15, 2021 at the option of the holder, and may be settled, at the Company's election, in cash, common shares of the Company, or a combination of cash and common shares based on an initial conversion rate. The initial conversion rate of the 7% Convertible Debentures, subject to adjustment, is approximately 1,111 common shares of the Company per $1,000 principal amount of 7% Convertible Debentures being converted, which is equivalent to an initial conversion price of approximately $0.90 per common share. The initial conversion price represents a 20% premium to the price per common share in the concurrent public offering of the Company's common shares that was completed on August 3, 2016 (see Note 13). The initial conversion rate is subject to adjustment upon the occurrence of certain events. If the 7% Convertible Debentures are converted before August 1, 2019, the Company will, in addition to the consideration payable with the conversion, be required to make a conversion make-whole payment in cash, common shares of the Company or a combination thereof, at the Company's election, equal to the present value of the remaining scheduled payments of interest that would have been made on the 7% Convertible Debentures converted had such debentures remained outstanding from the conversion date to August 1, 2019, subject to certain restrictions. The present value of the remaining scheduled interest payments will be computed using a discount rate equal to 2.0%.

Prior to August 15, 2019, the Company may not redeem the 7% Convertible Debentures except in the event of certain changes in applicable tax law. On or after August 15, 2019, the Company may redeem all or part of the outstanding 7% Convertible Debentures at the redemption price, only if the last reported sales price of the Company's common shares for 20 or more trading days in a period of 30 consecutive trading days ending on the trading day prior to the date the Company provides the notice of redemption to holders exceeds 130% of the conversion price in effect on each such trading day. The redemption price is equal to the sum of (1) 100% of the principal amount of the 7% Convertible Debentures to be redeemed, (2) any accrued and unpaid interest to, but excluding, the redemption date, and (3) a redemption make-whole payment, payable in cash, common shares of the Company or a combination thereof, at the Company's election, equal to the present value of the remaining scheduled payments of interest that would have been made on the 7% Convertible Debentures to be redeemed had such debentures remained outstanding from the redemption date to August 15, 2021 (excluding interest accrued to, but excluding, the redemption date, which is otherwise paid pursuant to the preceding clause (2)). The present value of the remaining scheduled interest payments will be computed using a discount rate equal to 2.0%.

The conversion feature referred to above is an embedded derivative. The Company selected to bifurcate the conversion feature from the host instrument, thereby separating it from the debt component. The debt component is recorded at amortized cost, and the embedded derivative is accounted for at fair value. At August 3, 2016, the date of the debt issuance, the fair value of the embedded derivative was $12.3 million. At December 31, 2016, the fair value of the embedded derivative was $15.1 million. The revaluation loss of $3.8 million and gain on conversions of $0.9 million is recorded in the Statement of Operations (see Note 5).

On November 1, 2016, $1.0 million principal amount of the 7% Convertible Debentures was converted for 1,111,111 common shares. On December 6, 2016, $4.0 million principal amount of the 7% Convertible Debentures was converted for 4,444,444 common shares. On December 8, 2016, $1,000 principal amount of the 7% Convertible Debentures was converted for 1,111 common shares. The Company recorded a net gain on conversions of $0.05 million. As at December 31, 2016, $60.0 million principal amount of 7% Convertible Debentures remains outstanding.

The following table presents the Balance Sheet information related to the 7% Convertible Debentures at December 31, 2016:

	As of December 31,
	2016
Principal value of the debt component	$ 65,000
Unamortized value of the debt discount and issuance costs	(13,675)
Conversions	(3,883)
Share issue costs allocated on conversion	175
NET CARRYING VALUE OF THE DEBT COMPONENT	**$ 47,617**

Royal Gold loan

In July 2015, the Company through its subsidiary Caystar Finance Co. closed a $20 million term loan with RGI and subsequently drew down $20 million of the facility. The loan has a term of 4 years and is secured by, among other things, assets of Wassa and Bogoso/Prestea. Interest is payable based on the average daily London Bullion Market Association ("LBMA") gold price multiplied by 62.5% divided by 10,000 to a maximum interest rate of 11.5% per annum. Interest payments are to be made on the last business day of each fiscal quarter, commencing in the quarter which the funding occurred. Commencing June 30, 2017, the Company will be required to make mandatory repayments at a percentage of any excess cash flow earned. For the year ended December 31, 2016, the interest rate was approximately 8% with a total of $1.6 million paid during the year ended December 31, 2016. The fair value of the loan is determined net of initial valuation of the warrants issued to RGI and financing fees incurred.

Vendor agreement

During the year ended December 31, 2015, the Company reached an agreement with a significant account creditor, to repay $30.4 million of payables. The plan included a deferral of $22.0 million of amounts owed to 2016 and 2017, which were reclassified from accounts payable to other long term liabilities, net of a $2.4 million gain on deferral of other long term liabilities and $0.9 million of accretion thereof in the year ended December 31, 2015.

On May 4, 2016, the Company entered into another agreement with the same creditor which superseded the previous agreement, to settle $36.5 million of current liabilities. Under this current agreement, the Company paid $12.0 million and deferred the payment of the remaining $24.5 million until January 2018, after which the outstanding balance will be repaid in equal installments over 24 months commencing on January 31, 2018. Interest of 7.5% will accrue and be payable beginning in January 2017. A $2.7 million gain was recognized in Other Income on remeasurement of the deferral during the second quarter of 2016.

Schedule of payments on outstanding debt as of December 31, 2016:

	Year ending December 31,					
	2017	2018	2019	2020	2021	Maturity
EQUIPMENT FINANCING LOANS						
Principal	$ 931	$ 188	$ —	$	$ —	2016 to 2018
Interest	34	4	—	—	—	
FINANCE LEASES						
Principal	1,153	806	—	—	—	2018
Interest	100	24	—	—	—	
5% CONVERTIBLE DEBENTURES						
Principal	13,611	—	—	—	—	June 1, 2017
Interest	340	—	—	—	—	
7% CONVERTIBLE DEBENTURES						
Principal	—	—	—	—	59,999	August 15, 2021
Interest	4,200	4,200	4,200	4,200	4,200	
ROYAL GOLD LOAN						
Principal	—	—	20,000	—	—	2019
Interest[1]	1,500	1,500	875	—	—	
VENDOR AGREEMENT						
Principal	—	12,266	12,266	—	—	
Interest	1,840	1,418	498	—	—	
TOTAL PRINCIPAL	$ 15,695	$ 3,260	$ 32,266	$ —	$ 59,999	
TOTAL INTEREST	8,014	7,146	5,573	4,200	4,200	
	$ 23,709	**$ 20,406**	**$ 37,839**	**$ 4,200**	**$ 64,199**	

1 Interest payments on the Royal Gold loan are based on the average daily London Bullion Market Association ("LBMA") gold price multiplied by 62.5% divided by 10,000 to a maximum interest rate of 11.5% per annum. The estimated interest payments are calculated based on $1,200 per ounce LBMA gold price.

13. SHARE CAPITAL

		Number of common shares	Share capital
BALANCE AT DECEMBER 31, 2014		**259,490,083**	**$ 695,266**
Shares issued under DSUs		407,012	289
BALANCE AT DECEMBER 31, 2015		**259,897,095**	**$ 695,555**
Bought deal	a	22,750,000	15,015
Equity offering	b	46,000,000	34,500
Conversion of 7% Convertible Debentures	c	6,610,692	5,665
Shares issued under DSUs		39,744	9
Shares issued under options		58,919	39
Share issue costs		—	(4,241)
BALANCE AT DECEMBER 31, 2016		**335,356,450**	**$ 746,542**

a. On April 28, 2016, the Company entered into an agreement with BMO Nesbitt Burns Inc. (the "Underwriter") under which the Underwriter purchased on a bought deal basis 22,750,000 common shares at a price of $0.66 per share for gross proceeds of $15.0 million. The Company incurred share issue costs of $1.3 million resulting in net proceeds of $13.7 million. The net proceeds were used for settlement with a significant current account creditor.

b. On August 3, 2016, the Company issued 40,000,000 common shares in an underwritten public offering led by the Underwriter, at a price of $0.75 per share (the "Equity Offering"). The Company granted the underwriters of the Equity Offering a 30-day option to purchase up to 6,000,000 additional common shares. The option was exercised for 6,000,000 common shares on August 3, 2016 resulting in gross proceeds under the Equity Offering of $34.5 million. The Company incurred share issue costs of $2.7 million resulting in net proceeds of $31.8 million.

c. During the year ended December 31, 2016, the following conversions of the 7% Convertible Debentures occurred:

- On November 1, 2016, the Company issued 1,111,111 common shares on conversion of $1.0 million principal amount of the 7% Convertible Debentures.
- On December 6, 2016, the Company issued 4,444,444 common shares on conversion of $4.0 million principal amount of the 7% Convertible Debentures. The Company also issued 1,054,026 common shares as a make-whole payment on conversion.
- On December 8, 2016, the company issued 1,111 common shares on conversion of $1,000 principal amount of the 7% Convertible Debentures.

The Company recorded $5.7 million shares issued and share issue costs of $0.2 million, resulting in $5.5 million net. The Company also recorded a net gain on conversions of $0.05 million.

14. COMMITMENTS AND CONTINGENCIES

Our commitments and contingencies include the following items:

Environmental bonding in Ghana

The Ghana Environmental Protection Agency ("EPA") requires environmental compliance bonds that provide assurance for environmental remediation at our Bogoso/Prestea and Wassa mining operations. To meet this requirement the Company has environmental bonds totaling $9.6 million and $8.1 million for Wassa and Bogoso/Prestea respectively with a commercial bank in Ghana. These bonds are guaranteed by Golden Star Resources Ltd. There is also a cross guarantee between Wassa and Bogoso/Prestea. The Company also held cash deposits of $3.5 million and $3.0 million for each operation, which are recorded as restricted cash on the consolidated balance sheets.

Government of Ghana's rights to increase its participation

Under Act 703, the Government of Ghana has the right to acquire a special share in our Ghanaian subsidiaries at any time for no consideration or such consideration as the Government of Ghana and such subsidiaries might agree, and a pre-emptive right to purchase all gold and other minerals produced by such subsidiaries. A special share carries no voting rights and does not participate in dividends, profits or assets. If the Government of Ghana acquires a special share, it may require us to redeem the special share at any time for no consideration or for consideration determined by us. To date, the Government of Ghana has not sought to exercise any of these rights at our properties.

Royalties

GOVERNMENT OF GHANA

The Ghana Government receives a royalty equal to 5% of mineral revenues earned by Bogoso/Prestea and Wassa.

DUNKWA PROPERTIES

As part of the acquisition of the Dunkwa properties in 2003, the Company agreed to pay the seller a net smelter return royalty on future gold production from the Mansiso and Asikuma properties. As per the acquisition agreement, there will be no royalty due on the first 200,000 ounces produced from Mampon which is located on the Asikuma property. The amount of the royalty is based on a sliding scale which ranges from 2% of net smelter return at gold prices at or below $300 per ounce and progressively increases to 3.5% for gold prices in excess of $400 per ounce. Since this property is currently undeveloped, we are not required to pay a royalty on this property.

Exploration agreements

OBUOM

In October 2007, we entered into an agreement with AMI Resources Inc. ("AMI"), which gives AMI the right to earn our 54% ownership position in the Obuom property in Ghana. Should AMI eventually obtain full rights to our position on the property and develop a gold mining operation at Obuom, we would receive from AMI a 2% net smelter return royalty on 54% of the property's gold production.

Operating leases and capital commitments

The Company is a party to certain contracts relating to operating leases, office rent and capital commitments. Future minimum payments under these agreements as at December 31, 2016 are as follows:

Less than 1 year	$	2,643
Between 1 and 5 years		1,440
More than 5 years		2
TOTAL	**$**	**4,085**

15. SHARE-BASED COMPENSATION

Non-cash employee compensation expenses recognized in general and administrative expense in the Statements of Operations and Comprehensive Loss are as follows:

	For the years ended December 31,			
		2016		**2015**
Share options	$	751	$	652
Deferred share units		524		717
Share appreciation rights		616		39
Performance share units		11,959		597
	$	**13,850**	**$**	**2,005**

Share options

On May 5, 2016, the Fourth Amended and Restated 1997 Stock Option Plan (the "Fourth Amended and Restated 1997 Stock Option Plan") was approved by shareholders to (i) reserve an additional 10,000,000 common shares for the Fourth Amended and Restated 1997 Stock Option Plan, thereby increasing the total number of common shares issuable from 25,000,000 Common Shares under the Stock Option Plan to 35,000,000 common shares under the Fourth Amended and Restated 1997 Stock Option Plan; (ii) provide for the grant of "incentive stock options" (being stock options designated as "incentive stock options" in an option agreement and that are granted in accordance with the requirements of, and that conforms to the applicable provisions of, Section 422 of the Internal Revenue Code); and (iii) to make such other changes to update the provisions of the Stock Option Plan in light of current best practices. Options granted are non-assignable and are exercisable for a period of ten years or such other period as is stipulated in a stock option agreement between Golden Star and the optionee. Under the Plan, we may grant options to employees, consultants and directors of the Company or its subsidiaries for up to 35,000,000 shares, of which 11,107,216 are available for grant as of December 31, 2016. The exercise price of each option is not less than the closing price of our shares on the Toronto Stock Exchange on the day prior to the date of grant. Options typically vest over periods ranging from immediately to four years from the date of grant. Vesting periods are determined at the discretion of the Compensation Committee.

The fair value of option grants is estimated at the grant dates using the Black-Scholes option-pricing model. Fair values of options granted during the year ended December 31, 2016 and 2015 were based on the weighted average assumptions noted in the following table:

	For the years ended December 31,	
	2016	**2015**
Expected volatility	72.40%	68.98%
Risk-free interest rate	1.28%	1.30%
Expected lives	4.86 years	5.59 years
Dividend yield	0%	0%

Expected volatilities are based on the mean reversion tendency of the volatility of Golden Star's shares. Golden Star uses historical data to estimate share option exercise and employee departure behavior and this data is used in determining input data for the Black-Scholes model. Groups of employees that have dissimilar historical behavior are considered separately for valuation purposes. The expected term of the options granted represents the period of time that the options granted are expected to be outstanding. The risk-free rate for periods within the contractual term of the option is based on the Bank of Canada administered interest rates in effect at the time of the grant.

The weighted average fair value per option granted during the year ended December 31, 2016 was $0.35 (year ended December 31, 2015 – $0.23). As at December 31, 2016, there was $0.3 million of share-based compensation expense (December 31, 2015 – $0.3 million) relating to the Company's share options to be recorded in future periods. For the year ended December 31, 2016, the Company recognized an expense of $0.8 million (year ended December 31, 2015 – $0.7 million).

A summary of option activity under the Company's Fourth Amended and Restated 1997 Stock Option Plan during the year ended December 31, 2016 are as follows:

	Options ('000)	Weighted-average exercise price ($CAD)	Weighted-average remaining contractual term (years)
OUTSTANDING AS OF DECEMBER 31, 2014	**14,935**	**2.01**	**5.7**
Granted	3,421	0.38	9.4
Forfeited	(4,340)	2.36	4.4
Expired	(105)	4.58	—
OUTSTANDING AS OF DECEMBER 31, 2015	**13,911**	**1.48**	**5.9**
Granted	3,245	0.62	8.7
Exercised	(59)	0.48	8.7
Forfeited	(610)	1.09	5.4
Expired	(368)	3.25	—
OUTSTANDING AS OF DECEMBER 31, 2016	**16,119**	**1.29**	**5.7**
Exercisable as of December 31, 2015	10,050	1.84	4.8
Exercisable as of December 31, 2016	11,738	1.55	4.8

The number of options outstanding by strike price as of December 31, 2016 is shown in the following table:

	Options outstanding			Options exercisable	
Range of exercise price (Cdn$)	Number outstanding at December 31, 2016 ('000)	Weighted-average remaining contractual life (years)	Weighted-average exercise price (Cdn$)	Number outstanding at December 31, 2016 ('000)	Weighted-average exercise price (Cdn$)
0.30 to 0.50	3,096	8.0	0.38	1,690	0.38
0.51 to 1.50	6,384	7.7	0.77	3,409	0.86
1.51 to 2.50	4,780	2.6	1.84	4,780	1.84
2.51 to 3.50	1,434	3.5	2.97	1,434	2.97
3.51 to 5.00	425	2.4	3.69	425	3.69
	16,119	**5.7**	**1.29**	**11,738**	**1.55**

The number of options outstanding by strike price as of December 31, 2015 is shown in the following table:

	Options outstanding			Options exercisable	
Range of exercise price (Cdn$)	Number outstanding at December 31, 2015 ('000)	Weighted-average remaining contractual life (years)	Weighted-average exercise price (Cdn$)	Number outstanding at December 31, 2015 ('000)	Weighted-average exercise price (Cdn$)
0.30 to 0.50	3,369	9.0	0.38	887	0.39
0.51 to 1.50	3,315	7.8	0.92	1,936	0.96
1.51 to 2.50	4,967	3.5	1.85	4,967	1.85
2.51 to 3.50	1,788	3.8	3.00	1,788	3.00
3.51 to 5.00	472	3.1	3.71	472	3.71
	13,911	**5.9**	**1.48**	**10,050**	**1.84**

Deferred share units ("DSUs")

On March 9, 2011 the Board adopted a Deferred Share Unit Plan ("DSU Plan") which was subsequently approved by shareholders at the May 2011 annual meeting of shareholders. The DSU Plan provides for the issuance of Deferred Share Units ("DSUs"), each representing the right to receive one Golden Star common share upon redemption. DSUs may be redeemed only upon termination of the holder's services to the Company, and may be subject to vesting provisions. DSU awards are granted at the sole discretion of the Company's compensation committee. The DSU Plan allows directors, at their option, to receive all or any portion of their director retainer by accepting DSUs in lieu of cash.

The compensation committee may also award DSUs to executive officers and/or directors in lieu of cash as a component of their long term performance compensation, the amount of such awards being in proportion to the officer's or director's achievement of pre-determined performance goals. As with DSU awards for directors' retainers, DSUs received as performance compensation are redeemable only upon termination of the holder's services to the Company. The Company may, at its option, provide cash in lieu of common shares upon a holder's redemption, the cash value being established by the share price on the DSU redemption date, less all applicable tax withholding.

For the year ended December 31, 2016, the DSUs that were granted vested immediately and a compensation expense of $0.5 million was recognized for these grants (year ended December 31, 2015 – $0.7 million). As of December 31, 2016, there was no unrecognized compensation expense related to DSUs granted under the Company's DSU Plan.

A summary of DSU activity during the year ended December 31, 2016 and 2015:

	For the years ended December 31,	
	2016	**2015**
Number of DSUs, beginning of period ('000)	4,496	1,962
Grants	1,277	2,941
Exercises	(40)	(407)
NUMBER OF DSUS, END OF PERIOD ('000)	**5,733**	**4,496**

Share appreciation rights ("SARs")

On February 13, 2012, the Company adopted a Share Appreciation Rights Plan, and granted 1,543,043 share appreciation rights ("SARs") that vest after a period of three years.

As of December 31, 2016, there was approximately $0.3 million of total unrecognized compensation cost related to unvested SARs (December 31, 2015 – $0.2 million). For the year ended December 31, 2016, the Company recognized an expense of $0.6 million related to these cash settled awards (year ended December 31, 2015 – $0.0 million).

A summary of the SARs activity during the year ended December 31, 2016 and 2015:

	For the years ended December 31,	
	2016	**2015**
Number of SARs, beginning of period ('000)	2,934	3,220
Grants	1,850	1,255
Exercises	(10)	—
Forfeited	(678)	(1,541)
Expired	(1,409)	—
NUMBER OF SARS, END OF PERIOD ('000)	**2,687**	**2,934**

Performance share units ("PSUs")

On January 1, 2014, the Company adopted a Performance Share Unit ("PSU") Plan. Each PSU represents one notional common share that is redeemed for cash based on the value of a common share at the end of the three year performance period, to the extent performance and vesting criteria have been met. The PSUs vest at the end of a three year performance period based on the Company's total shareholder return relative to a performance peer group of gold companies as listed in the PSU Plan. The cash award is determined by multiplying the number of units by the performance adjustment factor, which range from 0% to 200%. The performance adjustment factor is determined by comparing the Company's share price performance to the share price performance of a peer group of companies. As the Company is required to settle these awards in cash, they are accounted for as liability awards with corresponding compensation expense recognized.

Each PSU represents one notional common share that is redeemed for cash based on the value of a common share at the end of the three year performance period, to the extent performance and vesting criteria have been met. The PSUs vest at the end of a three year performance period based on the Company's total shareholder return relative to a performance peer group of gold companies as listed in the PSU Plan. The cash award is determined by multiplying the number of units by the performance adjustment factor, which range from 0% to 200%. The performance adjustment factor is determined by comparing the Company's share price performance to the share price performance of a peer group of companies. For the year ended December 31, 2016, the Company recognized an expense of $12.0 million (year ended December 31, 2015 – $0.6 million). As at December 31, 2016, the long term PSU liability is $10.5 million, recognized on the balance sheet as Other Long Term Liability and the current portion of $2.1 million is included in accounts payable and accrued liabilities.

A summary of the PSU activity during the year ended December 31, 2016 and 2015:

	For the years ended December 31,	
	2016	**2015**
Number of PSUs, beginning of period ('000)	9,618	2,346
Grants	6,058	8,010
Forfeited	(196)	(738)
NUMBER OF PSUS, END OF PERIOD ('000)	**15,480**	**9,618**

16. LOSS PER COMMON SHARE

The following table provides reconciliation between basic and diluted loss per common share:

	For the years ended December 31,	
	2016	**2015**
Net loss attributable to Golden Star shareholders	$ (39,647)	$ (67,681)
WEIGHTED AVERAGE NUMBER OF BASIC AND DILUTED SHARES (MILLIONS)	**294.1**	**259.7**
LOSS PER SHARE ATTRIBUTABLE TO GOLDEN STAR SHAREHOLDERS:		
Basic and diluted	**$ (0.13)**	**$ (0.26)**

17. REVENUE

Revenue includes the following components:

	For the years ended December 31,	
	2016	**2015**
Revenue – Streaming Agreement		
Cash payment proceeds	$ 4,385	$ 2,873
Deferred revenue recognized	11,267	9,621
	15,652	12,494
Revenue – Spot sales	205,638	242,693
TOTAL REVENUE	**$ 221,290**	**$ 255,187**

During the year, the Company capitalized $13.6 million of pre-commercial production revenue to construction in progress. These proceeds were capitalized as they relate to ounces sold from the Wassa Underground which had not reached commercial production at December 31, 2016.

18. COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

Cost of sales excluding depreciation and amortization include the following components:

	For the years ended December 31,	
	2016	**2015**
Contractors	$ 32,869	$ 34,764
Electricity	18,378	36,869
Fuel	12,647	19,161
Raw materials and consumables	44,016	71,233
Salaries and benefits	43,404	43,047
Transportation costs	1,949	1,991
General and administrative	6,216	9,203
Other	6,505	7,216
Mine operating expenses	$ 165,984	$ 223,484
Severance charges	(71)	14,626
Operating costs to metal inventory	(6,569)	(7,043)
Inventory net realizable value adjustment	1,190	1,524
Royalties	12,082	12,903
	$ 172,616	**$ 245,494**

19. FINANCE EXPENSE, NET

Finance income and expense includes the following components:

	For the years ended December 31,	
	2016	**2015**
Interest income	$ (26)	$ (26)
Interest expense, net of capitalized interest (see Note 7)	6,167	8,344
Net foreign exchange (gain)/loss	(749)	591
Accretion of rehabilitation provision	1,368	1,761
Conversion make-whole payment	1,072	—
	$ 7,832	**$ 10,670**

20. OTHER INCOME

Other income includes the following components:

	For the years ended December 31,	
	2016	2015
Gain/(loss) on disposal of assets	$ (180)	$ 88
Gain on reduction of asset retirement obligations	(198)	(5,652)
Gain on deferral of payables (see Note 9)	(2,682)	(2,432)
Other income	(289)	(182)
	$ (3,349)	**$ (8,178)**

21. RELATED PARTY TRANSACTIONS

There were no material related party transactions for the year ended December 31, 2016 and 2015 other than the items disclosed below.

Key management personnel

Key management personnel is defined as members of the Board of Directors and certain senior officers. Compensation of key management personnel are as follows, with such compensation made on terms equivalent to those prevailing in an arm's length transaction:

	For the years ended December 31,	
	2016	2015
Salaries, wages, and other benefits	$ 2,337	$ 2,438
Bonuses	1,311	983
Share-based compensation	9,736	593
	$ 13,384	**$ 4,014**

22. PRINCIPAL SUBSIDIARIES

The consolidated financial statements include the accounts of the Company and all of its subsidiaries at December 31, 2016. The principal operating subsidiaries are Wassa and Bogoso/Prestea, in which the Company has a 90% ownership interest in each.

Set out below is summarized financial information for each subsidiary that has non-controlling interests that are material to the group. The amounts are disclosed on a 100% basis and disclosure for each subsidiary are based on those included in the consolidated financial statements before inter-company eliminations.

Summarized statement of financial position

	Wassa		Bogoso/Prestea	
	As of December 31,		As of December 31,	
	2016	**2015**	**2016**	**2015**
Non-controlling interest percentage	10%	10%	10%	10%
Current assets	$ 90,627	$ 95,421	$ 13,957	$ 9,257
Current liabilities	166,230	121,631	1,011,786	966,036
	(75,603)	**(26,210)**	**(997,829)**	**(956,779)**
Non-current assets	125,628	98,581	95,527	58,991
Non-current liabilities	19,513	35,990	81,155	70,379
	106,115	**62,591**	**14,372**	**(11,388)**
Net assets/(liabilities)	30,512	36,381	(983,457)	(968,167)
NON-CONTROLLING INTEREST	**$ (10,870)**	**$ (11,457)**	**$ 79,083**	**$ 77,554**

Summarized income statement

	Wassa		Bogoso/Prestea	
	For the years ended December 31,		For the years ended December 31,	
	2016	**2015**	**2016**	**2015**
Revenue	$ 103,991	$ 116,470	$ 101,648	$ 126,223
Net loss and comprehensive loss	(5,870)	(3,675)	(15,289)	(103,613)

Summarized cash flows

	Wassa		Bogoso/Prestea	
	For the years ended December 31,		For the years ended December 31,	
	2016	**2015**	**2016**	**2015**
Cash flows provided by/(used in) operating activities	16,757	8,217	(43,190)	(40,647)
Cash flows used in investing activities	(42,189)	(35,900)	(43,244)	(20,597)
Cash flows provided by financing activities	18,376	22,091	88,330	53,977

23. OPERATIONS BY SEGMENT AND GEOGRAPHIC AREA

The Company has reportable segments as identified by the individual mining operations. Segments are operations reviewed by the executive management. Each segment is identified based on quantitative and qualitative factors.

For the years ended December 31,	Wassa	Bogoso/ Prestea	Other	Corporate	Total
2016					
Revenue	$ 112,341	$ 108,949	$ —	$ —	$ 221,290
Mine operating expenses	92,938	73,046	—	—	165,984
Severance charges	113	(184)	—	—	(71)
Operating costs to metal inventory	(5,149)	(1,420)	—	—	(6,569)
Inventory net realizable value adjustment	1,190	—	—	—	1,190
Royalties	6,483	5,599	—	—	12,082
Cost of sales excluding depreciation and amortization	95,575	77,041	—	—	172,616
Depreciation and amortization	15,094	6,066	—	—	21,160
Mine operating margin	1,672	25,842	—	—	27,514
Net loss attributable to non-controlling interest	(587)	(1,529)	—	—	(2,116)
Net income/(loss) attributable to Golden Star	$ 603	$ 28,687	$ (6,096)	$ (62,841)	$ (39,647)
Capital expenditures	$ 41,805	$ 42,413	$ 88	$ 50	$ 84,356
2015					
Revenue	$ 123,189	$ 131,998	$ —	$ —	$ 255,187
Mine operating expenses	95,152	128,332	—	—	223,484
Severance charges	1,816	12,810	—	—	14,626
Operating costs to metal inventory	(4,886)	(2,157)	—	—	(7,043)
Inventory net realizable value adjustment	1,524	—	—	—	1,524
Royalties	6,234	6,669	—	—	12,903
Cost of sales excluding depreciation and amortization	99,840	145,654	—	—	245,494
Depreciation and amortization	14,522	22,817	—	—	37,339
Mine operating margin/(loss)	8,827	(36,473)	—	—	(27,646)
Impairment charges	—	34,396	—	—	34,396
Net loss attributable to non-controlling interest	(368)	(10,361)	—	—	(10,729)
Net income/(loss) attributable to Golden Star	$ 2,427	$ (54,495)	$ 686	$ (16,299)	$ (67,681)
Capital expenditures	$ 33,912	$ 23,139	$ —	$ —	$ 57,051

	Wassa	Bogoso/ Prestea	Other	Corporate	Total
December 31, 2016					
Total assets	$ 175,738	$ 109,691	$ 8,786	$ 4,635	$ 298,850
December 31, 2015					
Total assets	$ 149,019	$ 68,454	$ 21,606	$ (97)	$ 238,982

Currently, approximately 90% of our gold production is sold and shipped to a South African gold refinery. Except for the sales to RGLD as part of the Streaming Agreement, the refinery arranges for sale of the gold on the day it is shipped from the mine sites and we receive payment for gold sold two working days after the gold leaves the mine site. The global gold market is competitive with numerous banks and refineries willing to buy gold on short notice. Therefore, we believe that the loss of our current customer would not materially delay or disrupt revenue.

24. SUPPLEMENTAL CASH FLOW INFORMATION

During the year ended December 31, 2016 and 2015, there was no payment of income taxes. The Company paid $7.2 million of interest during the year ended December 31, 2016 (year ended December 31, 2015 – $8.7 million).

Changes in working capital for the year ended December 31, 2016 and 2015 are as follows:

	For the years ended December 31,	
	2016	**2015**
(Increase)/decrease in accounts receivable	$ (2,185)	$ 9,718
Increase in inventories	(9,369)	(6,804)
Decrease/(increase) in prepaids and other	1,059	(670)
Increase in accounts payable and accrued liabilities	1,656	4,467
Decrease in current portion of vendor agreement	(13,369)	—
TOTAL CHANGES IN WORKING CAPITAL	**$ (22,208)**	**$ 6,711**

Other includes the following components:

	For the years ended December 31,	
	2016	**2015**
Gain/(loss) on disposal of assets	$ (180)	$ 88
Net realizable value adjustment on inventory	1,190	1,524
(Gain)/loss on marketable securities	(69)	56
Gain on deferral of payables (see Note 9)	(2,682)	(2,432)
Accretion of vendor agreement (see Note 9)	2,008	912
Accretion of rehabilitation provisions (see Note 10)	1,368	1,761
Amortization of financing fees	884	1,097
Amortization of 7% Convertible Debentures discount	870	—
Conversion make-whole payment in common shares (see Note 13)	885	—
Gain on conversion of 7% Convertible Debentures, net	(48)	—
	$ 4,226	**$ 3,006**

25. IMPAIRMENT CHARGES

The following table shows the breakdown of the impairment charges recognized during the year ended December 31, 2016 and 2015:

	For the years ended December 31,	
	2016	**2015**
Mining interests	—	8,734
Materials and supplies inventories	—	12,887
Refractory ore inventory	—	12,775
	$ —	**$ 34,396**

Impairment charges recorded during 2015 totaled $34.4 million and were based on the Company's assessment at June 30, 2015 that forecasted mine operating loss for the Bogoso refractory operation prior to the planned suspension was an indicator of impairment for the Bogoso refractory assets.

Mining Interests

An impairment charge of $8.7 million ($8.7 million, net of tax) was recorded against Bogoso's refractory assets at June 30, 2015. The impairment charge comprised of $4.2 million related to mine property and $4.5 million related to property, plant and equipment. These impairment charges represent the excess of carrying values over the total recoverable amount calculated on a value-in-use basis of the Bogoso refractory assets.

The gold price assumption used for the impairment assessment at June 30, 2015 was based on a short-term gold price of $1,150 per ounce. Projected cash flows were discounted using a weighted average cost of capital which includes estimates for risk-free interest rates, market return on equity, share volatility, debt-to-equity ratios and risks specific to the CGUs. Management's estimates of the recoverable amounts were classified as Level 3 in the fair value hierarchy.

Sensitivities

The projected cash flows were significantly affected by changes in assumptions including future capital expenditures and production cost estimates.

For the impairment charge recorded at June 30, 2015, a 10% change to the gold price assumption would not have had any impact to the impairment charge recognized on the Bogoso refractory assets.

Inventory write-off

$12.9 million of materials and supplies inventories and $12.8 million of refractory ore inventory at the Bogoso refractory operation were written off at June 30, 2015 based on a review of the inventory turnover and the expected inventory usage and recovery of ounces in ore prior to the subsequent suspension of the refractory operation in the third quarter of 2015.

26. FINANCIAL RISK MANAGEMENT

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 and commodity price fluctuations.

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 monthly financial summaries, 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, mineral reserves and resources and the price of gold.

The following table shows our contractual obligations as at December 31, 2016:

	Payment due (in thousands) by period				
(Stated in thousands of U.S. dollars)	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years	Total
Accounts payable and accrued liabilities	$ 94,973	$ —	$ —	$ —	$ 94,973
Debt[1]	15,695	45,526	59,999	—	121,220
Interest on long term debt	8,014	12,719	8,400	—	29,133
Purchase obligations	14,570	—	—	—	14,570
Rehabilitation provisions[2]	5,515	19,489	24,321	35,048	84,373
TOTAL	**$ 138,767**	**$ 77,734**	**$ 92,720**	**$ 35,048**	**$ 344,269**

1 Includes the balance of the 5% Convertible Debentures maturing in June 2017, the 7% Convertible Debentures maturing in August 2021, the loan from RGI, the finance leases and the vendor agreement. Golden Star has the option to settle the $13.6 million principal amount of the 5% Convertible Debentures in cash or in common shares at the due date under certain circumstances provided that the aggregate maximum number of common shares to be issued may not exceed 19.99% of the issued and outstanding common shares as of the closing date. Golden Star may not redeem the 7% Convertible Debentures prior to August 15, 2019, except in the event of certain changes in applicable tax law. On or after August 15, 2019, the Company may redeem all or part of the outstanding 7% Convertible Debentures at the redemption price, only if the last reported sales price of the Company's common shares for 20 or more trading days in a period of 30 consecutive trading days ending on the trading day prior to the date the Company provides the notice of redemption to holders exceeds 130% of the conversion price in effect on each such trading day. The presentation shown above assumes payment is made in cash and also assumes no conversions of the 5% Convertible Debentures and 7% Convertible Debentures into common shares by the holders prior to the maturity date.

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

As at December 31, 2016, the Company has current assets of $77.4 million compared to current liabilities of $137.8 million. As at December 31, 2016, the Company had a cash balance of $21.8 million and on January 3, 2017, the Company received a scheduled $10.0 million payment from RGLD pursuant to the Streaming Agreement (see Note 11). The Company also received net proceeds of $24.8 million under the completed bought deal public offering on February 7, 2017 (see Note 28).

The Company expects to meet its short-term financial needs through its cash on hand, cash flow from operations, and further long term financing as required, including alternative options to facilitate the repayment or refinancing, in whole or in part, of the 5% Convertible Debentures maturing on June 1, 2017. These alternatives should provide the Company with the flexibility to fund any potential cash flow shortfall. There can be no assurance however that if additional financing is required it will be available at all or on terms acceptable to the Company.

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, 7% Convertible Debentures, vendor agreement and the outstanding loans under our equipment financing facility bear interest at a fixed rate and are not subject to changes in interest payments. The Royal Gold loan has interest calculated based on the average daily London Bullion Market Association ("LBMA") gold price multiplied by 62.5% divided by 10,000 to a maximum interest rate of 11.5% per annum. Based on our current $20.0 million outstanding balance on the Royal Gold loan, a $100 increase in the LBMA gold price would increase interest charges by $0.1 million on an annual basis. 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, South African rand and Canadian dollars. 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 2016 and 2015, we had no currency related derivatives. At December 31, 2016 and December 31, 2015, we held $1.8 million and $1.2 million, respectively, of 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 gold production in the year, a $100 per ounce change in gold price would result in approximately a $18.0 million and $17.1 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 hedges. As at December 31, 2016, the Company does not have any outstanding gold price derivative contracts.

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. 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.

27. CAPITAL RISK MANAGEMENT

The Company manages its capital in order that it will be able to continue as a going concern while maximizing the return to shareholders through the optimization of the debt and equity balance.

In the management of capital, the Company includes the components of equity, long-term debt, net of cash and cash equivalents, and investments.

	As of December 31,	
	2016	**2015**
Equity	$ (120,761)	$ (131,234)
Long-term debt	89,445	91,899
	$ (31,316)	$ (39,335)
Cash and cash equivalents	21,764	35,108
	$ (9,552)	**$ (4,227)**

The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. In doing so, the Company may issue new shares, restructure or issue new debt and acquire or dispose of assets.

In order to facilitate the management of its capital requirements, the Company prepares annual budgets that are updated as necessary depending on various factors, including successful capital deployment and general industry conditions. The Company's treasury policy specifies that cash is to be held in banks with a rating of A or higher by Moody's or Standard & Poor's. In addition, the Company's investment policy allows investment of surplus funds in permitted investments consisting of US treasury bills, notes and bonds, government sponsored agency debt obligations, corporate debt or municipal securities with credit rating of at least AA. All investments must have a maximum term to maturity of one year.

28. SUBSEQUENT EVENTS

On January 3, 2017, the Company received $10.0 million of streaming advance payment from RGLD pursuant to the Streaming Agreement. (see Note 11)

On January 6, 2017, the Company announced that commercial production has been achieved at its Wassa Underground Gold Mine in Ghana, effective January 1, 2017.

On February 7, 2017, the Company closed a bought deal of 31,363,950 common shares, which includes shares issued upon full exercise of the over-allotment option, at a price of C$1.10 per share, for net proceeds to the Company of $24.8 million (the "Offering"). The Offering was led by Clarus Securities Inc. and included National Bank Financial Inc., BMO Capital Markets, Scotia Capital Inc., and CIBC World Markets Inc. The Company intends to use the net proceeds from the Offering to fund: 1) exploration projects on the Company's properties 2) capital expenditures at the Wassa Gold Mine and the Prestea Gold Mine 3) the partial repayment of the Company's 5% Convertible Debentures and 4) working capital and general corporate purposes.

Subsequent to the year ended December 31, 2016, $7.0 million principal outstanding of the 7% Convertible Debentures were converted to 7,778,889 shares. In total, $12.0 million principal outstanding of the 7% Convertible Debentures has been converted into 13,335,556 common shares at February 21, 2017. Total principal that remains outstanding on the 7% Convertible Debentures is $53.0 million.

CONTACT DETAILS

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REGISTRAR AND TRANSFER AGENT

QUESTIONS REGARDING THE CHANGE OF STOCK OWNERSHIP, CONSOLIDATION OF ACCOUNTS, LOST CERTIFICATES, CHANGE OF ADDRESS AND OTHER SUCH MATTERS SHOULD BE DIRECTED TO:
CST TRUST COMPANY
ATTENTION: SHAREHOLDER SERVICES
P.O. BOX 700, STATION B
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STOCK EXCHANGE LISTINGS

TORONTO STOCK EXCHANGE SYMBOL: GSC
NYSE MKT STOCK EXCHANGE SYMBOL: GSS
GHANA STOCK EXCHANGE SYMBOL: GSR

GHANA COMMERCIAL BANK SHARE REGISTRY

GCB BANK LIMITED
THORPE ROAD
P.O. BOX 134
HEAD OFFICE
ACCRA, GHANA

AUDITORS

PRICEWATERHOUSECOOPERS LLP

Cautionary Note regarding Forward-Looking Information

Some statements contained in this Annual Report are "forward-looking statements" and "forward looking information" within the meaning of applicable securities laws. Readers are cautioned that forward-looking statements and information are inherently uncertain and involve risks, assumptions and uncertainties that could cause actual performance, results and achievements to differ materially. There can be no assurance that future developments affecting Golden Star will be those anticipated by management. Please refer to the discussion in the MD&A under the heading "Cautionary Note Regarding Forward-Looking Information". The forecasts contained in this Annual Report constitute management's current estimates as of the date hereof with respect to the matters covered thereby. Golden Star expects that these estimates will change as new information is received. While Golden Star may elect to update these estimates at any time, Golden Star does not undertake to update any estimate at any particular time or in response to any particular event.

All costs are in U.S. Dollars unless otherwise stated.

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