

GOLDEN STAR

Consolidated Financial Statements

For the Years Ended December 31, 2015 and December 31, 2014

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 24, 2016



February 24, 2016

Independent Auditor's Report

To the Shareholders of Golden Star Resources Ltd.

We have completed an integrated audit of Golden Star Resources Ltd.'s (the company) 2015 and 2014 consolidated financial statements and its internal control over financial reporting as at December 31, 2015. 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, 2015 and 2014 and the consolidated statements of operations and comprehensive loss, cash flows, and changes in shareholders' equity for the years ended December 31, 2015 and 2014, 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, 2015 and 2014 and its financial performance and its cash flows for the years ended December 31, 2015 and 2014 in accordance with IFRS as issued by the IASB.

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PwC refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership.



Report on internal control over financial reporting

We have also audited the company's internal control over financial reporting as at December 31, 2015, 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, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.

PricewaterhouseCoopers LLP

Chartered Professional Accountants, Licensed Public Accountants

TABLE OF CONTENTS

FINANCIAL STATEMENTS

CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS	6
CONSOLIDATED BALANCE SHEETS	7
CONSOLIDATED STATEMENTS OF CASH FLOWS	8
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY	9

NOTES TO THE FINANCIAL STATEMENTS

1. NATURE OF OPERATIONS	10
2. BASIS OF PRESENTATION	10
3. SUMMARY OF ACCOUNTING POLICIES	10
4. CRITICAL ACCOUNTING JUDGEMENTS, ESTIMATES AND ASSUMPTIONS	15
5. FINANCIAL INSTRUMENTS	17
6. INVENTORIES	19
7. MINING INTERESTS	20
8. INCOME TAXES	20
9. ACCOUNTS PAYABLE AND ACCRUED LIABILITIES	22
10. REHABILITATION PROVISIONS	23
11. DEFERRED REVENUE	23
12. DEBT	24
13. COMMITMENTS AND CONTINGENCIES	27
14. SHARE-BASED COMPENSATION	28
15. LOSS PER COMMON SHARE	32
16. REVENUE	32
17. COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION	32
18. FINANCE EXPENSE, NET	33
19. OTHER INCOME	33
20. RELATED PARTY TRANSACTIONS	33
21. PRINCIPAL SUBSIDIARIES	33
22. OPERATIONS BY SEGMENT AND GEOGRAPHIC AREA	35
23. SUPPLEMENTAL CASH FLOW INFORMATION	36
24. IMPAIRMENT CHARGES	36
25. FINANCIAL RISK MANAGEMENT	37
26. CAPITAL RISK MANAGEMENT	38

GOLDEN STAR RESOURCES LTD.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Stated in thousands of U.S. dollars except shares and per share data)

	Notes	For the Years Ended December 31,	
		2015	2014
Revenue	16	\$ 255,187	\$ 328,915
Cost of sales excluding depreciation and amortization	17	245,494	304,912
Depreciation and amortization		37,339	26,219
Mine operating loss		<u>(27,646)</u>	<u>(2,216)</u>
Other expenses/(income)			
Exploration expense		1,307	556
General and administrative		14,281	16,367
Finance expense, net	18	10,670	7,375
Other income	19	(8,178)	(1,104)
(Gain)/loss on fair value of financial instruments	5	(1,712)	538
Impairment charges	24	34,396	57,747
Loss before tax		<u>(78,410)</u>	<u>(83,695)</u>
Income tax recovery	8	—	(254)
Net loss and comprehensive loss		<u>\$ (78,410)</u>	<u>\$ (83,441)</u>
Net loss attributable to non-controlling interest		<u>(10,729)</u>	<u>(10,362)</u>
Net loss attributable to Golden Star shareholders		<u><u>\$ (67,681)</u></u>	<u><u>\$ (73,079)</u></u>
Net loss per share attributable to Golden Star shareholders			
Basic and diluted	15	\$ (0.26)	\$ (0.28)
Weighted average shares outstanding-basic and diluted (millions)		259.7	259.4

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

GOLDEN STAR RESOURCES LTD.
CONSOLIDATED BALANCE SHEETS
(Stated in thousands of U.S. dollars)

	Notes	As of December 31, 2015	As of December 31, 2014
ASSETS			
CURRENT ASSETS			
Cash and cash equivalents		\$ 35,108	\$ 39,352
Accounts receivable		5,114	14,832
Inventories	6	36,694	54,279
Prepays and other		5,754	4,767
Total Current Assets		<u>82,670</u>	<u>113,230</u>
RESTRICTED CASH		6,463	2,041
MINING INTERESTS	7	149,849	142,782
Total Assets		<u>\$ 238,982</u>	<u>\$ 258,053</u>
LIABILITIES			
CURRENT LIABILITIES			
Accounts payable and accrued liabilities	9	\$ 110,811	\$ 123,451
Current portion of rehabilitation provisions	10	3,660	4,562
Current portion of long term debt	12	22,442	17,181
Current portion of deferred revenue	11	11,507	—
Total Current Liabilities		<u>148,420</u>	<u>145,194</u>
LONG TERM DEBT	12	91,899	85,798
DEFERRED REVENUE	11	53,872	—
REHABILITATION PROVISIONS	10	76,025	81,254
Total Liabilities		<u>370,216</u>	<u>312,246</u>
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		695,555	695,266
CONTRIBUTED SURPLUS		32,612	31,532
DEFICIT		(793,304)	(725,623)
Total Golden Star (Deficit)/Equity		<u>(65,137)</u>	<u>1,175</u>
NON-CONTROLLING INTEREST		(66,097)	(55,368)
Total Equity		<u>(131,234)</u>	<u>(54,193)</u>
Total Liabilities and Shareholders' Equity		<u>\$ 238,982</u>	<u>\$ 258,053</u>

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
(Stated in thousands of U.S. dollars)

	Notes	For the Years Ended December 31,	
		2015	2014
OPERATING ACTIVITIES:			
Net loss		\$ (78,410)	\$ (83,441)
Reconciliation of net loss to net cash provided by operating activities:			
Depreciation and amortization		37,372	26,267
Net realizable value adjustment on inventory		1,524	1,453
Impairment charges	24	34,396	57,747
Share-based compensation	14	2,005	2,515
Gain on deferral of other long term liabilities	12	(2,432)	—
Accretion of other long term liabilities	12	912	—
Accretion of rehabilitation provisions	10	1,761	1,746
Amortization of financing fees		1,097	248
Recognition of deferred revenue	11	(9,621)	—
Proceeds from Royal Gold stream	11	75,000	—
Gain on reduction of rehabilitation provisions	19	(5,652)	—
Reclamation expenditures	10	(2,947)	(3,554)
Other	23	(1,568)	1,560
Changes in working capital	23	6,711	(2,130)
Net cash provided by operating activities		<u>60,148</u>	<u>2,411</u>
INVESTING ACTIVITIES:			
Additions to mining properties		(758)	(73)
Additions to plant and equipment		(1,416)	(499)
Additions to construction in progress		(54,877)	(33,083)
Change in accounts payable and deposits on mine equipment and material		4,974	(2,894)
Increase in restricted cash		(4,422)	(12)
Net cash used in investing activities		<u>(56,499)</u>	<u>(36,561)</u>
FINANCING ACTIVITIES:			
Principal payments on debt		(48,611)	(12,049)
Proceeds from debt agreements		22,000	20,000
Proceeds from Royal Gold loan, net		18,718	—
Net cash (used in)/provided by financing activities		<u>(7,893)</u>	<u>7,951</u>
Decrease in cash and cash equivalents		(4,244)	(26,199)
Cash and cash equivalents, beginning of period		39,352	65,551
Cash and cash equivalents, end of period		<u>\$ 35,108</u>	<u>\$ 39,352</u>

See Note 23 for supplemental cash flow information.

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

GOLDEN STAR RESOURCES LTD.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Stated in thousands of U.S. dollars except share data)

	Number of Common Shares	Share Capital	Contributed Surplus	Deficit	Non- Controlling Interest	Total Shareholders' Equity
Balance at December 31, 2013	259,105,970	\$ 694,906	\$ 29,346	\$ (652,544)	\$ (45,006)	\$ 26,702
Shares issued under options	384,113	360	(360)	—	—	—
Options granted net of forfeitures	—	—	2,053	—	—	2,053
DSU's granted	—	—	493	—	—	493
Net loss	—	—	—	(73,079)	(10,362)	(83,441)
Balance at December 31, 2014	259,490,083	\$ 695,266	\$ 31,532	\$ (725,623)	\$ (55,368)	\$ (54,193)
Shares issued under DSU's	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)

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

GOLDEN STAR RESOURCES LTD.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2015

(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 development project and a carbon-in-leach ("CIL") processing plant (collectively, "Wassa"), located approximately 35 kilometers 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") and the Prestea mining operations 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.

At Bogoso/Prestea, the Company processed both refractory and non-refractory ore. The Company suspended the refractory operation in the third quarter of 2015 in conjunction with its business strategy to focus on lower cost mining opportunities.

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 24, 2016.

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 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 that necessarily takes a substantial period of time to get ready for its intended use are capitalized until such time as the assets are substantially ready for their intended use. 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.

Property holding cost

Property holding costs are costs incurred to retain and maintain properties. Such costs are expensed in the period incurred.

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 and warrants, 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 Third 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. The Company accounts for these as liability awards and marks-to-market the fair value of the award until final settlement.

Performance share units

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.

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.

Convertible debentures

The Company's 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, 2015.

Changes in accounting policies

The Company has adopted the following new and revised standards, effective January 1, 2015. These changes were made in accordance with the applicable transitional provisions.

IFRS 13 *Fair value measurements* provides clarification related to the portfolio exception. The adoption of this improvement did not result in any impact to the Company's financial statements.

IFRS 8 *Operating segments* amended to require (i) disclosure of judgements made by management in aggregating segments, and (ii) a reconciliation of segment assets to the entity's assets when segment assets are reported. The adoption of this amendment did not result in any impact to the Company's financial statements.

Standards, interpretations and amendments not yet effective

IFRS 15 *Revenue from contracts with customers* supersedes IAS 18, *Revenue*, IAS 11, *Construction Contracts* and related interpretations. This standard is effective for first interim periods within years beginning on or after January 1, 2018. The Company is still assessing the impact of this standard.

IFRS 9 *Financial Instruments*, issued in November 2009 replaces IAS 39, *Financial Instruments: Recognition & Measurement*. IFRS 9 introduces new requirements for classification, measurement and impairment of financial assets and hedge accounting. IFRS 9 establishes two primary measurement categories for financial assets: (i) amortized cost, and (ii) fair value; establishes criteria for classification of financial assets within the measurement category based on business model and cash flow characteristics; and eliminates existing held for trading, held to maturity, available for sale, loans and receivable and other financial liabilities categories. IFRS 9 was originally issued in November 2009, reissued in October 2010, amended in November 2013 and completed in July 2014. IFRS 9 is effective for annual periods beginning on or after January 1, 2018 with early adoption permitted. The Company is still assessing the impact of this standard.

IFRS 7 *Financial Instruments - Disclosures* amended to require additional disclosures on transition from IAS 39 to IFRS 9. Effective on adoption of IFRS 9.

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 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 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 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 inputs to these models are taken from observable markets where possible, but if this is

not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments.

Income taxes

We deal with uncertainties and judgments in the application of complex tax regulations in the various jurisdictions where our properties are located. The amount of taxes paid is dependent upon many factors, including negotiations with taxing authorities in the various jurisdictions and resolution of disputes arising from our international tax audits. We recognize potential liabilities and record tax liabilities for anticipated tax audit issues in our various tax jurisdictions based on our best estimate of additional taxes payable. We adjust these 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 than 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 RGLD Streaming Agreement that has been entered into. Management has determined that based on the agreements reached that RGLD assumes significant business risk associated with the timing and amount of ounces of gold being delivered. As such, the deposits received from RGLD have been recorded as deferred revenue liabilities in the consolidated balance sheet.

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, 2015 and December 31, 2014:

	Level	December 31, 2015		December 31, 2014	
		Carrying value	Fair value	Carrying value	Fair value
Financial Liabilities					
Fair value through profit or loss					
5% Convertible Debentures	3	\$ 46,406	\$ 46,406	\$ 47,846	\$ 47,846
Warrants	2	407	407	—	—

There were no non-recurring fair value measurements of financial instruments as at December 31, 2015.

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, 2015, the warrants issued to Royal Gold, Inc. ("RGI") were added to the Level 2 fair value measurement hierarchy. During the year ended December 31, 2015, there were no transfers into or out of Level 1 or Level 3 fair value measurements.

The Company's finance department is responsible for performing the valuation of financial instruments, including Level 3 fair values. The valuation processes and results are reviewed and approved by the Executive Vice President and Chief Financial Officer at least once every quarter, in line with the Company's quarterly reporting dates. Valuation results are discussed with the Audit Committee as part of its quarterly review of the Company's consolidated financial statements.

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, 2015 and December 31, 2014 were as follows:

	<u>December 31, 2015</u>	<u>December 31, 2014</u>
5% Convertible Debentures		
Risk-free interest rate	1.1%	0.9%
Risk premium	41.0%	25.1%
Expected volatility	40.0%	40.0%
Remaining life (years)	1.4	2.4

The following table presents the changes in the Level 3 investments for the year ended December 31, 2015:

	<u>Fair value</u>
Balance, December 31, 2014	<u>\$ 47,846</u>
Gain in the period included in earnings	(1,440)
Balance, December 31, 2015	<u>\$ 46,406</u>

If the risk premium increases by 5%, the fair value of the 5% Convertible Debentures would decrease and the related gain in the consolidated statement of operations would increase by \$3.1 million for the year ended December 31, 2015. In general, an increase in risk premium would increase the gain on fair value of the 5% Convertible Debentures.

Warrants

Inputs used to determine the fair value of the Company's warrants at December 31, 2015 were as follows:

	<u>December 31, 2015</u>
Warrants	
Risk-free interest rate	1.2%
Expected volatility	83.2%
Remaining life (years)	3.6

The following table presents the changes in the Level 2 investments for the year ended December 31, 2015:

	<u>Fair value</u>
Balance, December 31, 2014	<u>\$ —</u>
Warrants granted	679
Gain in the period included in earnings	(272)
Balance, December 31, 2015	<u>\$ 407</u>

6. INVENTORIES

Inventories include the following components:

	As of December 31, 2015	As of December 31, 2014
Stockpiled ore	\$ 20,338	\$ 21,035
In-process ore	3,843	8,093
Materials and supplies	12,024	25,151
Finished goods	489	—
Total	\$ 36,694	\$ 54,279

The cost of inventories expensed for the year ended December 31, 2015 and 2014 was \$232.6 million and \$288.5 million, respectively.

A total of \$12.9 million of materials and supplies inventories and \$12.8 million of refractory ore inventory were written off in the year ended December 31, 2015 (December 31, 2014 - \$18.0 million of materials and supplies inventories) (See Note 24). \$2.2 million of net realizable value adjustments were recorded for stockpiled and in-process ore in the year ended December 31, 2015 (December 31, 2014 - \$3.8 million).

7. MINING INTERESTS

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

	Plant and equipment	Mining properties	Construction in progress	Total
Cost				
As of December 31, 2013	\$ 454,070	\$ 679,260	\$ 45,195	\$ 1,178,525
Additions	499	73	32,232	32,804
Transfers	6,717	32,824	(39,541)	—
Capitalized interest	—	—	851	851
Change in rehabilitation provision estimate	—	1,314	—	1,314
Disposals and other	(7,212)	—	(21)	(7,233)
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
Accumulated depreciation				
As of December 31, 2013	\$ 382,961	\$ 630,371	\$ —	\$ 1,013,332
Depreciation and amortization	19,249	6,307	—	25,556
Disposals and other	(5,409)	—	—	(5,409)
Impairment charges (see Note 24)	9,043	11,651	9,306	30,000
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 24)	4,544	4,190	—	8,734
As of December 31, 2015	\$ 423,665	\$ 680,779	\$ —	\$ 1,104,444
Carrying amount				
As of December 31, 2013	\$ 71,109	\$ 48,889	\$ 45,195	\$ 165,193
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 at December 31, 2015, equipment under finance leases had net carrying amounts of \$1.9 million. The total minimum lease payments are disclosed in Note 12 - Debt.

No depreciation is charged to construction in progress assets. Accumulated depreciation of construction in progress assets represents impairment charges taken on these assets in previous years.

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, 2015 and December 31, 2014 include the following components:

	As of December 31, 2015	As of December 31, 2014
Deferred tax assets		
Non-capital loss carryovers	\$ 9,268	\$ 17,444
Other	697	140
Deferred tax liabilities		
Mine property costs	5,359	11,943
Other	4,606	5,641
Net deferred tax liabilities	<u>\$ —</u>	<u>\$ —</u>

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

	As of December 31, 2015	As of December 31, 2014
Deductible temporary differences		
Canada	\$ 5,051	\$ 2,433
U.S.		—
Ghana	53,759	52,679
	<u>\$ 58,810</u>	<u>\$ 55,112</u>
Tax losses		
Canada	\$ 37,054	\$ 44,312
U.S.	274	158
Ghana	248,908	204,063
	<u>\$ 286,236</u>	<u>\$ 248,533</u>
Total unrecognized deferred tax assets		
Canada	\$ 42,105	\$ 46,745
U.S.	274	158
Ghana	302,667	256,742
	<u>\$ 345,046</u>	<u>\$ 303,645</u>

The income taxes recovery includes the following components:

	For the years ended December 31,	
	2015	2014
Current tax recovery		
Current tax on net earnings	\$ —	\$ —
Adjustments in respect to prior years	—	(254)
Income tax recovery	<u>\$ —</u>	<u>\$ (254)</u>

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,	
	2015	2014
Net loss before tax	\$ (78,410)	\$ (83,695)
Statutory tax rate	26.5%	26.5%
Tax benefit at statutory rate	\$ (20,779)	\$ (22,179)
Foreign tax rates	(19,187)	(19,578)
Expired loss carryovers	1,938	17,161
Other	38	(41)
Non-deductible expenses	584	842
Change in future tax assets due to exchange rates	5,049	3,399
Change in unrecognized deferred tax assets	32,357	20,142
Income tax recovery	\$ —	\$ (254)

At December 31, 2015, the Company had a tax pool and loss carryovers expiring as follows:

	Canada	Ghana	Other
2015	\$ —	\$ 8,721	\$ —
2016	—	46,540	—
2018	—	19,460	—
2019	—	93,916	—
2026	15,221	—	—
2027	12,124	—	—
2028	10,943	—	—
2029	16,593	—	2
2030	14,830	—	—
2031	27,824	—	—
2032	13,468	—	—
2033	7,193	—	402
2034	10,363	—	364
2035	8,302	—	14
Indefinite	22,379	561,748	—
Total	<u>\$ 159,240</u>	<u>\$ 730,385</u>	<u>\$ 782</u>

\$691.4 million of the Ghana tax pool is usable against taxable income generated at Bogoso/Pretea, with the remaining amount totaling \$39.0 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, 2015	As of December 31, 2014
Trade and other payables	\$ 71,081	\$ 79,528
Accrued liabilities	33,214	38,201
Payroll related liabilities	4,658	4,954
Accrued severance	1,858	768
Total	\$ 110,811	\$ 123,451

During the year ended December 31, 2015, certain payables have been reclassified to other long-term liabilities (See Note 12).

In 2015, the Company recorded accrued severance of \$12.8 million relating to the suspension of the Bogoso refractory operation. \$10.9 million of this amount has been paid by December 31, 2015. The Company also expensed \$1.8 million of severance at the Wassa operation.

10. REHABILITATION PROVISIONS

At December 31, 2015, the total undiscounted amount of the estimated future cash needs was estimated to be \$86.7 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,	
	2015	2014
Beginning balance	\$ 85,816	\$ 86,310
Accretion of rehabilitation provisions	1,761	1,746
Changes in estimates	(4,945)	1,314
Cost of reclamation work performed	(2,947)	(3,554)
Balance at the end of the period	<u>\$ 79,685</u>	<u>\$ 85,816</u>
Current portion	\$ 3,660	\$ 4,562
Long term portion	76,025	81,254
Total	<u>\$ 79,685</u>	<u>\$ 85,816</u>

For the year ended December 31, 2015, the Company has recorded a change of estimates of \$4.9 million on its rehabilitation provisions of the mine sites. The impact of the changes of estimates were an increase of \$1.9 million to the reclamation provisions for Wassa and a decrease of \$6.8 million to the reclamation provisions for Bogoso/Prestea. The rehabilitation provision for Wassa was \$18.8 million (2014 - \$18.2 million) The Company expects the payments for reclamation to be incurred between 2016 to 2029. An increase in estimate for Wassa of \$1.9 million was recorded due to a revision in the timing of payments. The rehabilitation provision for Bogoso/Prestea was \$60.9 million (2014 - \$67.6 million). The Company expects the payments for reclamation to be incurred between 2016 to 2027. A decrease in estimate for Bogoso/Prestea of \$6.8 million relates to a \$5.7 million reduction in expected reclamation costs relating to the refractory operation and a \$1.1 million reduction in the expected reclamation costs relating to the non-refractory operation. The reduction of \$5.7 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 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 due to the significant decline in gold price in the second half of 2015. Under the July 28, 2015 Streaming Agreement, Golden Star initially delivered 8.5% of Bogoso/Prestea and Wassa (“the Mines”) production to RGLD at a cash purchase price of 20% of spot gold. This cash purchase price of 20% of spot gold of 8.5% of the Mines production was to remain in effect until 185,000 ounces had been delivered. A further 5% of the Mines production at a cash purchase price of 20% of spot gold was to be delivered thereafter until an additional 22,500 ounces was delivered. Thereafter, 3% of the Mines production at a cash purchase price of 30% of spot gold was to be delivered in perpetuity. The economic effective date of delivery was April 1, 2015.

The 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. 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. If Golden Star exercises its option on the additional \$5 million stream advance, the stream percentage from the earlier of January 1, 2018 or commercial production of the underground mines would be increased to 10.9% at a cash purchase price of 20% spot gold until 250,000 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, 2015, the Company has received advanced payments of \$75 million and the balance will be advanced in quarterly payments, as the Wassa and Prestea development projects progress on satisfaction of certain requirements. Since the inception of the Streaming Agreement, the Company has sold 12,701 ounces of gold to RGLD. Revenue recognized on the ounces sold to RGLD during the year ended December 31, 2015 consisted of \$2.9 million of spot payment proceeds and \$9.6 million of deferred revenue recognized (see Note 16).

	For the Year Ended December 31, 2015
Beginning balance	\$ —
Deposits received	75,000
Deferred revenue recognized	(9,621)
Balance at the end of the period	<u>\$ 65,379</u>
Current portion	\$ 11,507
Long term portion	53,872
Total	<u>\$ 65,379</u>

12. DEBT

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

	As of December 31, 2015	As of December 31, 2014
Current debt:		
Equipment financing credit facility	\$ 2,761	\$ 4,512
Finance leases	1,016	983
Ecobank Loan I	—	11,686
Ecobank Loan II	4,889	—
Warrants at fair value (see Note 5)	407	—
Current portion of other long term liabilities	13,369	—
Total current debt	<u>\$ 22,442</u>	<u>\$ 17,181</u>
Long term debt:		
Equipment financing credit facility	\$ 1,625	\$ 3,833
Finance leases	2,019	2,880
Ecobank Loan I	—	31,239
Ecobank Loan II	16,548	—
5% Convertible Debentures at fair value (see Note 5)	46,406	47,846
Royal Gold loan	18,175	—
Other long term liabilities	7,126	—
Total long term debt	<u>\$ 91,899</u>	<u>\$ 85,798</u>

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 loans

Ecobank loan I

In 2013, the Company through its subsidiary Golden Star (Wassa) Limited closed a \$50 million secured Medium Term Loan Facility ("Ecobank Loan I") with Ecobank Ghana Limited and subsequently drew down \$50 million of the facility. The loan had a term of 60 months from the date of initial drawing and was secured by, among other things, Wassa's existing plant, machinery and equipment. The interest rate was three month LIBOR plus 9% per annum, payable monthly in arrears. Principal amounts are payable quarterly in arrears.

During the year ended December 31, 2015, the Company retired the remaining \$38.0 million outstanding on the Ecobank loan I with funds received from RGI and RGLD.

Ecobank loan II

In the third quarter of 2014, the Company through its subsidiary Golden Star (Wassa) Limited closed an additional \$25 million secured Medium Term Loan Facility ("Ecobank Loan II") with Ecobank Ghana Limited. Drawdowns under the loan have been available to finance the development of the underground mine at Wassa. This additional \$25 million loan has a term of 60 months from the date of initial drawdown and is secured by, among other things, Wassa's existing plant, machinery and equipment. The interest rate on the loan is three month LIBOR plus 11%, per annum, payable monthly in arrears beginning a month following the initial drawdown. Payment of principal commences six months following the initial drawdown and is thereafter payable quarterly in arrears. The Company will be required to adhere to certain financial covenants from the end of 2016. At December 31, 2014, the Company had not made any drawdowns on this facility.

During the year ended December 31, 2015, the Company drew down \$22.0 million on the Ecobank loan II. The Company has until the second quarter of 2016 to make further draw downs on the remaining \$3.0 million available under the loan.

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 exempt from the registration requirements of the U.S. Securities Act of 1933, as amended.

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.

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, 2015, interest was paid at a rate of 7% with a total of \$0.6 million paid during the year ended December 31, 2015. The fair value of the loan is net of initial valuation of the warrants issued to RGI and financing fees incurred.

Warrants

As part of the term loan transaction with RGI, 5,000,000 warrants to purchase Golden Star shares were issued to RGI. In addition to exercising the warrants for Golden Star common shares, the holder of the warrants 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 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. The warrants have a \$0.27 exercise price and expire on the fourth year anniversary of the date of issuance.

Other long term liabilities

During the year ended December 31, 2015, the Company reached an agreement with the electricity provider in Ghana, to repay \$30.4 million of payables. The plan includes a deferral of \$22.0 million of amounts owed to 2016 and 2017, which have been 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. If the Company’s electricity provider demands repayment of the outstanding balance and it is not repaid, it could cease to provide power to the Company which would impact the Company’s ability to operate the Bogoso/Prestea operation and which also could result in the Company being in default of certain of its contractual obligations with third parties. Unless alternative sources of power are available to Bogoso/Prestea on terms acceptable to the Company, this could have a material adverse effect on the Company’s results of operations and financial condition.

Schedule of payments on outstanding debt as of December 31, 2015:

	2016	2017	2018	2019	2020	Maturity
Equipment financing loans						
Principal	\$ 2,761	\$ 931	\$ 694	\$ —	\$ —	2016 to 2018
Interest	180	34	4	—	—	
Finance leases						
Principal	1,016	1,088	931	—	—	2018
Interest	172	100	24	—	—	
Ecobank Loan II						
Principal	4,889	4,889	4,889	4,889	2,444	2020
Interest	2,314	1,747	1,188	629	105	
5% Convertible Debentures						
Principal	—	77,490	—	—	—	June 1, 2017
Interest	3,875	1,937	—	—	—	
Royal Gold loan						
Principal	—	—	—	20,000	—	2019
Interest ¹	1,437	1,437	1,437	839	—	
Other long term liabilities						
	13,369	8,630	—	—	—	
Total principal	\$ 22,035	\$ 93,028	\$ 6,514	\$ 24,889	\$ 2,444	
Total interest	7,978	5,255	2,653	1,468	105	
	\$ 30,013	\$ 98,283	\$ 9,167	\$ 26,357	\$ 2,549	

¹ Interest payments estimated based on \$1,150 per ounce gold price.

13. 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, we 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, 2015 are as follows:

Less than 1 year	\$	3,236
Between 1 and 5 years		1,341
More than 5 years		—
Total	\$	<u>4,577</u>

14. 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,	
	2015	2014
Share-based compensation	<u>\$ 2,005</u>	<u>\$ 2,515</u>

Share options

We have one stock option plan, the Third Amended and Restated 1997 Stock Option Plan (the “Plan”) approved by shareholders in May 2010, under which options are granted at the discretion of the Board of Directors. 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 25,000,000 shares, of which 3,365,151 are available for grant as of December 31, 2015. 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, 2015 and 2014 were based on the weighted average assumptions noted in the following table:

	For the Years Ended December 31,	
	2015	2014
Expected volatility	68.98%	77.85%
Risk-free interest rate	1.30%	1.43%
Expected lives	5.59 years	6.01 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, 2015 was \$0.23 (year ended December 31, 2014 - \$0.57). As at December 31, 2015, there was \$0.3 million of share-based compensation expense (December 31, 2014 - \$0.7 million) relating to the Company's share options to be recorded in future periods. For the year ended December 31, 2015, the Company recognized an expense of \$0.7 million (year ended December 31, 2014 - \$2.1 million).

A summary of option activity under the Company's Stock Option Plan during the years ended December 31, 2015 and 2014 are as follows:

	Options (^{'000})	Weighted- Average Exercise price	Weighted- Average Remaining Contractual Term (Years)
Outstanding as of December 31, 2013	12,848	2.45	5.5
Granted	3,975	0.86	9.2
Forfeited	(1,710)	2.07	5.3
Expired	(178)	6.95	—
Outstanding as of December 31, 2014	14,935	2.01	5.7
Granted	3,421	0.30	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
Exercisable as of December 31, 2014	10,808	2.33	5.0
Exercisable as of December 31, 2015	10,050	1.84	4.8

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

Range of exercise price (Cdn\$)	Options outstanding			Options exercisable	
	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

The number of options outstanding by strike price as of December 31, 2014 is shown in the following table:

Range of exercise price (Cdn\$)	Options outstanding			Options exercisable	
	Number outstanding at December 31, 2014 ('000)	Weighted-average remaining contractual life (years)	Weighted-average exercise price (Cdn\$)	Number outstanding at December 31, 2014 ('000)	Weighted-average exercise price (Cdn\$)
0.50 to 1.50	4,209	8.6	0.89	1,486	0.96
1.51 to 2.50	6,506	4.7	1.85	5,101	1.86
2.51 to 3.50	2,513	4.9	2.99	2,513	2.99
3.51 to 7.00	1,707	3.4	3.94	1,708	3.94
	14,935	5.7	2.01	10,808	2.33

Share Bonus Plan

In December 1992, the Company established an Employees' Stock Bonus Plan (the "Bonus Plan") for any full-time or part-time employee (whether or not a director) of the Company or any of our subsidiaries who has rendered meritorious services which contributed to the success of the Company or any of its subsidiaries. The Bonus Plan provides that a specifically designated committee of the Board of Directors may grant bonus common shares on terms that it might determine, within the limitations of the Bonus Plan and subject to the rules of applicable regulatory authorities. The Bonus Plan, as amended, provides for the issuance of 900,000 common shares of bonus stock, of which 710,854 common shares were issued as at December 31, 2012. There were no bonus shares issued subsequent to the issuance on December 31, 2012.

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 original award date, less all applicable tax withholding.

For the year ended December 31, 2015, the DSUs that were granted vested immediately and a compensation expense of \$0.7 million was recognized for these grants (year ended December 31, 2014 - \$0.5 million). As of December 31, 2015, 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, 2015 and 2014:

	For the Years Ended December 31,	
	2015	2014
Number of DSUs, beginning of period ('000)	1,962	1,382
Grants	2,941	965
Exercises	(407)	(384)
Number of DSUs, end of period ('000)	4,496	1,962

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, 2015, there was approximately \$0.2 million of total unrecognized compensation cost related to unvested SARs (December 31, 2014 - \$0.6 million). For the year ended December 31, 2015, the Company recognized an expense of \$nil related to these cash settled awards (year ended December 31, 2014 - \$nil).

A summary of the SARs activity during the year ended December 31, 2015 and 2014:

	For the Years Ended December 31,	
	2015	2014
Number of SARs, beginning of period ('000)	3,220	3,027
Grants	1,255	460
Forfeited	(1,541)	(267)
Number of SARs, end of period ('000)	2,934	3,220

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. For the year ended December 31, 2015, the Company recognized an expense of \$0.6 million (year ended December 31, 2014 - nil).

A summary of the PSU activity during the year ended December 31, 2015 and 2014:

	For the Years Ended December 31,	
	2015	2014
Number of PSUs, beginning of period ('000)	2,346	—
Grants	8,010	2,648
Forfeited	(738)	(302)
Number of PSUs, end of period ('000)	9,618	2,346

15. LOSS PER COMMON SHARE

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

	For the Years Ended December 31,	
	2015	2014
Net loss attributable to Golden Star shareholders	\$ (67,681)	\$ (73,079)
Weighted average number of basic and diluted shares (millions)	259.7	259.4
Net loss per share attributable to Golden Star shareholders:		
Basic and diluted	\$ (0.26)	\$ (0.28)

16. REVENUE

Revenue includes the following components:

	For the Years Ended December 31,	
	2015	2014
Revenue - Stream arrangement		
Spot payment proceeds	\$ 2,873	\$ —
Deferred revenue recognized	9,621	—
	12,494	—
Revenue - Spot sales	242,693	328,915
Total revenue	<u>\$ 255,187</u>	<u>\$ 328,915</u>

17. COST OF SALES EXCLUDING DEPRECIATION AND AMORTIZATION

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

	For the Years Ended December 31,	
	2015	2014
Contractors	\$ 37,112	\$ 58,732
Electricity	39,042	47,621
Fuel	19,915	28,622
Raw materials and consumables	62,835	90,716
Salaries and benefits	45,255	53,087
Transportation costs	2,093	2,503
General and administrative	9,698	9,780
Other	7,534	9,490
Betterment stripping costs capitalized	—	(5,864)
Mine operating expenses	<u>\$ 223,484</u>	<u>\$ 294,687</u>
Severance charges	14,626	2,844
Operating costs to metal inventory	(7,043)	(10,531)
Inventory net realizable value adjustment	1,524	1,453
Royalties	12,903	16,459
	<u>\$ 245,494</u>	<u>\$ 304,912</u>

18. FINANCE EXPENSE, NET

Finance income and expense includes the following components:

	For the Years Ended December 31,	
	2015	2014
Interest income	\$ (26)	\$ (30)
Interest expense, net of capitalized interest (see Note 7)	8,344	7,560
Net foreign exchange loss/(gain)	591	(1,901)
Accretion of rehabilitation provision	1,761	1,746
	<u>\$ 10,670</u>	<u>\$ 7,375</u>

19. OTHER INCOME

Other income includes the following components:

	For the Years Ended December 31,	
	2015	2014
Loss/(gain) on retirement of assets	\$ 88	\$ (271)
Gain on reduction of asset retirement obligations	(5,652)	—
Other income	(2,614)	(833)
	<u>\$ (8,178)</u>	<u>\$ (1,104)</u>

20. RELATED PARTY TRANSACTIONS

There were no material related party transactions for the years ended December 31, 2015 and 2014 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, such compensation made on terms equivalent to those prevailing in an arm's length transaction:

	For the Years Ended December 31,	
	2015	2014
Salaries, wages, and other benefits	\$ 2,438	\$ 2,139
Bonuses	983	868
Share-based compensation	593	1,145
	<u>\$ 4,014</u>	<u>\$ 4,152</u>

21. PRINCIPAL SUBSIDIARIES

The consolidated financial statements include the accounts of the Company and all of its subsidiaries at December 31, 2015. The principal operating subsidiaries are Wassa and Bogoso/Pretea, 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,	
	2015	2014	2015	2014
Non-controlling interest percentage	10%	10%	10%	10%
Current assets	\$ 95,421	\$ 93,472	\$ 9,257	\$ 46,126
Current liabilities	121,631	79,224	966,036	907,052
	(26,210)	14,248	(956,779)	(860,926)
Non-current assets	98,581	76,876	58,991	69,166
Non-current liabilities	35,990	51,068	70,379	72,794
	62,591	25,808	(11,388)	(3,628)
Net assets/(liabilities)	36,381	40,056	(968,167)	(864,554)
Accumulated non-controlling interests	<u>\$ (11,457)</u>	<u>\$ (11,824)</u>	<u>\$ 77,554</u>	<u>\$ 67,192</u>

Summarized income statement

	Wassa		Bogoso/Prestea	
	For the years ended December 31,		For the years ended December 31,	
	2015	2014	2015	2014
Revenue	\$ 116,470	\$ 142,734	\$ 126,223	\$ 186,181
Net loss and comprehensive loss	(3,675)	(10,875)	(103,613)	(92,747)

Summarized cash flows

	Wassa		Bogoso/Prestea	
	For the years ended December 31,		For the years ended December 31,	
	2015	2014	2015	2014
Cash flows provided by/(used in) operating activities	8,217	991	(40,647)	(13,326)
Cash flows used in investing activities	(35,900)	(14,744)	(20,597)	(21,817)
Cash flows provided by financing activities	22,091	3,425	53,977	37,742

22. 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
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
2014					
Revenue	\$ 142,734	\$ 186,181	\$ —	\$ —	\$ 328,915
Mine operating expenses	114,667	180,020	—	—	294,687
Severance charges	—	2,844	—	—	2,844
Operating costs to metal inventory	(5,126)	(5,405)	—	—	(10,531)
Inventory net realizable value adjustment	800	653	—	—	1,453
Royalties	7,144	9,315	—	—	16,459
Cost of sales excluding depreciation and amortization	117,485	187,427	—	—	304,912
Depreciation and amortization	14,619	11,600	—	—	26,219
Mine operating margin/(loss)	10,630	(12,846)	—	—	(2,216)
Impairment charges	9,747	48,000	—	—	57,747
Income tax expense	(254)	—	—	—	(254)
Net loss attributable to non-controlling interest	(1,087)	(9,275)	—	—	(10,362)
Net loss attributable to Golden Star	\$ (10,894)	\$ (44,027)	\$ (512)	\$ (17,646)	\$ (73,079)
Capital expenditures	\$ 16,406	\$ 17,249	\$ —	\$ —	\$ 33,655
December 31, 2015					
Total assets	\$ 149,019	\$ 68,454	\$ 21,606	\$ (97)	\$ 238,982
December 31, 2014					
Total assets	\$ 130,010	\$ 115,497	\$ 834	\$ 11,712	\$ 258,053

Currently our gold production is shipped to a South African gold refinery. Except for the sales to RGLD as part of the streaming arrangement, 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.

23. SUPPLEMENTAL CASH FLOW INFORMATION

During the year ended December 31, 2015, there was no payment of income taxes (year ended December 31, 2014 - \$9.3 million). The Company paid \$8.7 million of interest during the year ended December 31, 2015 (year ended December 31, 2014 - \$7.9 million).

Changes in working capital for the year ended December 31, 2015 and 2014 are as follows:

	For the Years Ended December 31,	
	2015	2014
Decrease/(increase) in accounts receivable	\$ 9,718	\$ (6,632)
Increase in inventories	(6,804)	(6,273)
(Increase)/decrease in prepaids and other	(670)	2,193
Increase in accounts payable and accrued liabilities	4,467	18,088
Decrease in current tax liability	—	(9,506)
Total changes in working capital	\$ 6,711	\$ (2,130)

Other include the following components:

	For the Years Ended December 31,	
	2015	2014
Loss/(gain) on retirement of assets	\$ 88	\$ (117)
(Gain)/loss on fair value of 5% Convertible Debentures (see Note 5)	(1,440)	538
Gain on fair value of warrants (see Note 5)	(272)	—
Loss/(gain) on marketable securities	56	(151)
Long term inventory	—	1,290
	\$ (1,568)	\$ 1,560

24. IMPAIRMENT CHARGES

The following table shows the breakdown of the impairment charges recognized during the year ended December 31, 2015 and 2014:

	For the Years Ended December 31,	
	2015	2014
Mining interests	8,734	30,000
Materials and supplies inventories	12,887	18,000
Refractory ore inventory	12,775	—
Exploration and evaluation assets	—	9,747
	\$ 34,396	\$ 57,747

Impairment charges recorded during 2015 totaled \$34.4 million 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.

25. 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, 2015:

(Stated in thousands of U.S dollars)	Payment due (in thousands) by period				
	Less than 1 Year	1 to 3 years	3 to 5 years	More than 5 Years	Total
Accounts payable and accrued liabilities	\$ 110,811	\$ —	\$ —	\$ —	\$ 110,811
Debt ¹	4,889	87,268	27,333	—	119,490
Finance leases	3,777	3,644	—	—	7,421
Interest on long term debt	7,978	7,908	1,573	—	17,459
Other long term liabilities ²	13,369	8,630	—	—	21,999
Purchase obligations	7,944	—	—	—	7,944
Rehabilitation provisions ³	3,660	17,916	26,208	38,941	86,725
Total	\$ 152,428	\$ 125,366	\$ 55,114	\$ 38,941	\$ 371,849

¹ Includes the outstanding repayment amounts from the 5% Convertible Debentures maturing in June 2017, the Ecobank Loan II, the loan from RGI and the equipment financing loans. Golden Star has the right to repay the \$77.5 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. The presentation shown above assumes payment is made in cash and also assumes no conversions of the 5% Convertible Debentures into common shares by the holders prior to the maturity date.

² These amounts represent the agreement with the electricity provider in Ghana for deferral of payments of certain accounts payable to 2016 and 2017.

³ Rehabilitation provisions indicates the expected undiscounted cash flows for each period.

As at December 31, 2015, the Company has current assets of \$82.7 million compared to current liabilities of \$148.4 million. During 2015, the Company reached an agreement with the electricity provider in Ghana to repay \$30.4 million of payables. The repayment plan includes a deferral of approximately \$22 million to 2016 and 2017. If the Company's electricity provider demands repayment of the outstanding balance and it is not repaid, it could cease to provide power to the Company which would impact the Company's ability to operate the Bogoso/Pretea operation and which also could result in the Company being in default of certain of its contractual obligations with third parties. Unless alternative sources of power are available to Bogoso/Pretea on

terms acceptable to the Company, this could have a material adverse effect on the Company's results of operations and financial condition.

The Company expects to meet its short-term financing needs through cash flow from operations, \$70 million of further upfront payments to be received in 2016 and 2017 under the Streaming Agreement, with an option to access an additional \$5 million, subject to the Company satisfying certain conditions (See Note 11), the \$3 million undrawn Ecobank Loan II, and future 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. Failure by the Company to repay the 5% Convertible Debentures when due, or to make other satisfactory arrangements and/or the failure to restructure the 5% Convertible Debentures may cause the Company to delay or indefinitely postpone development activities or may cause the Company to suspend or terminate its operations, forfeit rights in its properties, or default under various other third party obligations, any of which could have a material adverse effect on the Company's results of operations and financial condition.

Interest rate risk

Interest rate risk is the risk that the future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Our 5% Convertible Debentures and the outstanding loans under our equipment financing facility bear interest at a fixed rate and are not subject to changes in interest payments. The Ecobank Loan II bears interest based on the three month LIBOR plus 11% per annum. Based on our current \$22.0 million outstanding balance on Ecobank Loan II, a 100 basis points change in the three month LIBOR rate will result in \$0.3 million per annum change in interest expense. 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 2015 and 2014, we had no currency related derivatives. At December 31, 2015 and December 31, 2014, we held \$1.2 million and \$1.5 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 \$10 per ounce change in gold price would result in approximately a \$2.1 million and \$2.0 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, 2015, 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.

26. 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, 2015	As of December 31, 2014
Equity	\$ (131,234)	\$ (54,193)
Long-term debt	91,899	85,798
	\$ (39,335)	\$ 31,605
Cash and cash equivalents	35,108	39,352
	\$ (4,227)	\$ 70,957

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.