



MANAGEMENT'S DISCUSSION AND ANALYSIS

**FOR THE YEAR ENDED
DECEMBER 31, 2018**

TABLE OF CONTENTS

OUR BUSINESS	3
Q4 & FY 2018 FINANCIAL & OPERATING SUMMARY	3
REVIEW OF OPERATING AND FINANCIAL RESULTS	6
CONSOLIDATED FINANCIAL RESULTS	11
REVIEW OF FINANCIAL CONDITION	18
CAPITAL STRUCTURE	22
OFF-BALANCE SHEET ITEMS.....	22
RELATED PARTY TRANSACTIONS	22
DEVELOPMENT AND EXPLORATION PROJECTS	22
QUALIFIED PERSON.....	24
OUTSTANDING SHARE DATA.....	24
NON-IFRS PERFORMANCE MEASURES	24
RISKS AND UNCERTAINTIES	27
CRITICAL ACCOUNTING ESTIMATES.....	28
CHANGES IN ACCOUNTING POLICIES.....	29
DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING ..	30
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	31

MANAGEMENT’S DISCUSSION AND ANALYSIS FOR THE YEAR ENDED DECEMBER 31, 2018

This Management’s Discussion and Analysis (“MD&A”) should be read in conjunction with the consolidated annual audited financial statements for the year ended December 31, 2018, and related notes thereto which have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (IASB). For further information on Jaguar Mining Inc., reference should be made to its public filings (including its most recently filed annual information form (“AIF”) which is available on SEDAR at www.sedar.com). Information on risks associated with investing in the Company’s securities and technical and scientific information under National Instrument 43-101 concerning the Company’s material properties, including information about mineral resources and reserves, are contained in the Company’s most recently filed AIF and technical reports.

All amounts included in this MD&A are in United States dollars (“\$”), unless otherwise specified. References to C\$ are to Canadian dollars and R\$ are to Brazilian Reals. This report is dated as at March 27, 2019.

The Company has included certain non-GAAP financial measures, which the Company believes, that together with measures determined in accordance with IFRS, provide investors with an improved ability to evaluate the underlying performance of the Company. Non-GAAP financial measures do not have any standardized meaning prescribed under IFRS, and therefore they may not be comparable to similar measures employed by other companies. The data is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. The non-GAAP financial measures included in this MD&A include:

- Cash costs (per ounce sold);
- All-in sustaining costs (per ounce sold);
- Average realized price gold price (per ounce of gold sold);
- Adjusted operating cash flow;
- Adjusted EBITDA;
- Free cash flow (per ounce sold);
- Sustaining capital expenditures; and
- Non-sustaining capital expenditures.

Definitions and reconciliations associated with the above metrics can be found in Section Non-IFRS Performance Measures of this MD&A.

Where we say “we,” “us,” “our,” the “Company” or “Jaguar,” we mean Jaguar Mining Inc. or Jaguar Mining Inc. and/or one or more or all of its subsidiaries, as it may apply. The following abbreviations are used to describe the periods under review throughout this MD&A:

Abbreviation	Period	Abbreviation	Period
YTD 2018	January 1, 2018 – December 31, 2018	YTD 2017	January 1, 2017 – December 31, 2017
Q1 2018	January 1, 2018 – March 31, 2018	Q1 2017	January 1, 2017 – March 31, 2017
Q2 2018	April 1, 2018 – June 30, 2018	Q2 2017	April 1, 2017 – June 30, 2017
Q3 2018	July 1, 2018 – September 30, 2018	Q3 2017	July 1, 2017 – September 30, 2017
Q4 2018	October 1, 2018 – December 31, 2018	Q4 2017	October 1, 2017 – December 31, 2017

OUR BUSINESS

Jaguar Mining Inc (“Jaguar” or the “Company”) is a Canadian-listed junior gold mining, development, and exploration company operating in Brazil with three gold mining complexes, and a large land package with significant upside exploration potential. The Company’s principal operating assets are located in the state of Minas Gerais and include the Turmalina Gold Mine Complex (“Turmalina Gold mine and plant”) and Caeté Gold Mine Complex (“Pilar Gold mine”, “Roça Grande Gold mine” and “Caeté plant”). The Company also owns the Paciência Gold Mine Complex (“Paciência”), which has been on care and maintenance since 2012. Jaguar’s Brazilian assets and operations are held by Jaguar’s wholly-owned subsidiary Mineração Serras dos Oeste EIRELI. (“MSOL”).

Q4 & FY 2018 FINANCIAL & OPERATING SUMMARY

(\$ thousands, except where indicated)	For the three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Financial Data				
Revenue	\$ 21,377	\$ 26,626	\$ 94,918	\$ 105,231
Operating costs	14,014	15,526	54,581	69,140
Depreciation	4,997	5,302	19,208	22,572
Gross profit	2,366	5,798	21,129	13,519
Net income (loss)	(15,065)	16,034	(15,968)	(2,830)
Per share (“EPS”)	(0.05)	0.05	(0.05)	(0.01)
EBITDA ¹	(9,189)	22,927	7,122	26,871
Adjusted EBITDA ^{1,2}	2,833	7,698	20,716	21,711
Adjusted EBITDA per share ¹	0.01	0.02	0.06	0.07
Cash operating costs (per ounce sold) ¹	795	745	732	837
All-in sustaining costs (per ounce sold) ¹	1,279	1,104	1,244	1,212
Average realized gold price (per ounce) ¹	1,213	1,278	1,274	1,256
Cash generated from operating activities	5,180	5,387	21,183	14,968
Free cash flow ¹	(1,347)	502	(6,836)	(5,071)
Free cash flow (per ounce sold) ¹	(76)	24	(92)	(61)
Sustaining capital expenditures ¹	6,527	4,885	28,019	20,039
Non-sustaining capital expenditures ¹	302	1,111	2,544	4,582
Total capital expenditures	6,829	5,996	30,563	24,621

¹ Average realized gold price, sustaining and non-sustaining capital expenditures, cash operating costs and all-in sustaining costs, adjusted operating cash flow, free cash flow, EBITDA and adjusted EBITDA, adjusted EBITDA per share, and gross profit (excluding depreciation) are non-IFRS financial performance measures with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A.

² Adjusted EBITDA excludes non-cash items such as impairment and write downs. For more details refer to the Non-IFRS Performance Measures section of the MD&A.

	For the three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Operating Data				
Gold produced (ounces)	17,044	21,311	75,048	84,152
Gold sold (ounces)	17,622	20,841	74,530	83,750
Primary development (metres)	777	908	4,455	3,574
Secondary development (metres)	719	677	2,471	3,969
Definition, infill, and exploration drilling (metres)	12,292	13,973	42,315	48,498

Financial and Operational Summary

Revenue, Gross Profit, Gold Ounces Sold, Operating Costs and Adjusted EBITDA¹

- Revenue for Q4 2018 decreased 20% to \$21.4 million, compared with \$26.6 million in Q4 2017, due to 15% lower gold sales, and also the 5% decrease in the average gold realized price of \$1,213/oz in Q4 2018 as compared to \$1,278/oz for Q4 2017. FY 2018 revenue decreased 10% to \$94.9 million from \$105.2 million in FY 2017.
- Gross profit for the three and twelve months ended December 31, 2018 was \$2.4 million and \$21.1 million, respectively, compared to \$5.8 million and \$13.5 million for Q4 2017 and YTD 2017. Increased profitability reflects lower operating cash costs year-over-year that include the impact of company-wide expense reduction.
- Gold ounces sold for the three and twelve months ended December 31, 2018 were 17,622 ounces and 74,530 ounces, respectively, compared with 20,841 ounces and 83,750 ounces sold for the comparative periods. The decrease in gold ounces sold reflects lower than anticipated production mainly from Turmalina Gold Mine.
- Operating costs decrease 9.7% and 21.1% to \$14 million and \$54.6 million in Q4 2018 and FY 2018 respectively, compared with \$15.5 million and \$69.1 million in Q4 2017 and FY 2017 respectively.
- Adjusted EBITDA for Q4 2018 was \$2.8 million compared to \$7.7 million for Q4 2017, while adjusted EBITDA for the twelve months of 2018 was \$20.7 million compared to \$21.7 million in the twelve months of 2017.

Cash Operating Costs, Capital Expenditures, All-In-Sustaining Costs ("AISC"), Operating Cash Flow and Adjusted Operating Cash Flow¹

- Cash operating costs increased 7% to \$795 per ounce of gold sold for Q4 2018, compared to \$745 per ounce sold during Q4 2017, primarily due a 15% decrease in gold ounces sold. However, the cash operating costs decreased 13% to \$732 per ounce of gold sold for FY 2018, compared to \$837 per ounce sold during FY 2017.
- In Q4 2018 and FY 2018, sustaining capital investment increased 34% and 40% to \$6.5 million and \$28 million, respectively, compared to \$4.9 million and \$20 million in Q4 2017 and FY 2017, respectively.
- AISC was \$1,279 and \$1,244 per ounce of gold sold in Q4 2018 and FY 2018, respectively, compared to \$1,104 and \$1,212 per ounce sold during Q4 2017 and FY 2017, due primarily to lower production.
- Operating cash flow was \$5.2 million for Q4 2018, compared to \$5.4 million in Q4 2017, operating cash flow was \$21.2 million for FY 2018, compared to \$15 million for FY 2017 mainly as a result of expense reduction and cost containment measures, as well as the devaluation of the Brazilian Real versus the US dollar.
- Free cash flow was negative \$1.3 million for Q4 2018 based on operating cash flow less capital expenditures, compared to \$0.5 million in Q4 2017. Free cash flow was negative \$76 per ounce sold in Q4 2018 compared to \$24 per ounce sold in Q4 2017.

Cash Position and Working Capital

- As at December 31, 2018, the Company had a cash position of \$6.3 million, compared to \$18.6 million as at December 31, 2017. The December 31, 2018, cash balance excludes a \$2 million restricted cash deposit held with Auramet, and also a \$0.5 million margin deposit to Banco Votorantim S.A. The lower cash balance compared to the end of 2017 reflects \$30.6 million in total Capital Expenditures and lower gold sales that declined 11% in the year ended December 31, 2018.
- As at December 31, 2017, working capital was \$14.1 million, compared to \$2.4 million deficit as at December 31, 2018, which includes \$7.3 million in loans from Brazilian banks, which mature every six months and are expected to be rolled forward. Working capital reduction is mainly due to the replacement of the Spratt Resource Lending facility with Auramet Advance, as the latter is classified as a short term liability.

¹ This is a non-GAAP financial performance measures with no standard definition under IFRS.
MD&A – Year Ended December 31, 2018

Auramet loan facility

Subsequent to December 31, 2018, the Company entered into a senior secured loan facility (“Auramet loan facility”) agreement with lender Auramet International LLC totaling \$7.9 million to fund working capital, executed on March 15, 2019. The Auramet loan facility was provided by security agreements comprising the Company’s and MSOL’s present and future assets, the shares of MSOL, and a loan guarantee by MSOL. As per the agreement, interest shall be prepaid and non-reimbursable in the amount of \$350,000, and principal is due at maturity on July 15, 2019. The Auramet loan facility holds a covenant which requires the Company to maintain a minimum net cash balance of \$3 million. To obtain the Auramet loan facility, the Company incurred transaction costs, totaling \$79,000, as an upfront fee due to Auramet and awarded Auramet a set of European style gold call options whereby Auramet holds an option to purchase up to 5,000 ounces of gold at a strike price of US\$1,350 per ounce, expiring January 2020. The Auramet loan facility provides bridge financing in the short-term as the Company continues to evaluate its options and decide on a longer-term debt financing solution to support its working capital, sustaining capital, and growth initiatives.

Tonnes Processed and Average Grade, Gold Production

- Total processing was 178,000 tonnes in FY 2018 (FY 2017 – 190,000 tonnes) at an average head grade of 3.38 g/t (FY 2017 – 3.87 g/t).
 - In Q4 2018, Turmalina processed 75,000 tonnes (Q4 2017 – 95,000 tonnes) at an average head grade of 3.56 g/t (Q4 2017 – 4.41 g/t).
 - Pilar processed 103,000 tonnes in Q4 2018 (Q3 2017 – 81,000 tonnes) at an average head grade of 3.25 g/t (Q4 2017 – 3.53 g/t).
- Total processed for FY 2018 was 698,000 tonnes (average head grade of 3.73 g/t), as compared to 833,000 tonnes processed in the FY of 2017 (average head grade of 3.47 g/t).
- Consolidated gold production decreased to 17,044 ounces in Q4 2018, compared to 21,311 ounces in Q4 2017, reflecting lower production from Turmalina year-over-year. Gold recovery was 88.1% in Q4 2018 compared to 90.2% in Q4 2017.
- Pilar production increased 14% to 9,301 ounces in Q4 2018 compared to 8,156 ounces in Q4 2017. Turmalina produced 7,743 ounces in Q4 2018, compared to 12,245 ounces in Q4 2017.

Exploration

- During 2018 the Company achieved solid growth in 2018 year-end Proven and Probable gold ounces that increased by 81% to 439,000 ounces net of 2017 depletion, compared to 2017.
- Exploration results in 2018 delivered a meaningful increase in both Proven and Probable tonnes and grade at Turmalina. Turmalina Orebody A and Orebody C both have demonstrated the potential for significant life at favorable grades of 5.47 and 4.73 g/t respectively.
- Both Turmalina and Pilar have over 4 years of Proven and Probable Reserves at current mining rates and over 3 years at current target production rates.
- During 2018, exploration efforts focused on Resource-Reserve Conversion via infill drilling at both operations after significantly increasing Resource Inventory in 2016-2017 through the growth exploration program as previously disclosed.
- Increased in Mineral Reserves greatly improves our confidence in the production capability to support a return to a growing gold production profile and the potential to extend the mine life at Turmalina and Pilar.

Consolidated Mineral Resources and Mineral Reserves Highlights

- Consolidated Pilar and Turmalina Mines Proven and Probable (2P) Reserves increased 81% year-over-year (net of 2018 depletion) to 439,000 ounces of gold at a weighted average grade of 4.39 g/t Au.
- Turmalina Proven and Probable tonnes increased by 74% and grade increased by 12% to 1,408 tonnes at 5.05 g/t containing 228,000 ounces of gold.
- Pilar Proven and Probable Reserve tonnes increased by 83% and grade decreased by 8% to 1,784 tonnes at 3.68 g/t containing 211,000 ounces of gold.
- Consolidated Proven Reserves increased 123% to 245,000 oz’s of gold at a weighted average grade of 4.01 g/t Au.

- Consolidated Probable Reserves increased 47% to 194,000 ounces of gold at a weighted average grade of 5.00 g/t Au.
- At both Pilar and Turmalina now have 4 years of Proven and Probable Reserves at current mining rates and over 3 years at target production rates.

REVIEW OF OPERATING AND FINANCIAL RESULTS

Turmalina Gold Mine Complex

Turmalina Quarterly Production

(\$ thousands, except where indicated)	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017
Tonnes of ore processed ('000)	75,000	88,000	77,000	81,000	95,000	107,000	112,000	113,000
Average head grade (g/t) ¹	3.56	3.62	3.46	3.57	4.41	3.10	3.37	3.79
Average recovery rate (%)	90%	90%	91%	91%	91%	91%	91%	91%
Gold (oz.)								
Produced	7,743	9,252	7,824	8,442	12,245	9,616	10,870	12,736
Sold	8,206	8,609	7,610	8,414	12,142	9,082	10,815	13,536
Cash operating cost (per oz. sold) ²	\$ 787	\$ 722	\$ 761	\$ 749	\$ 646	\$ 749	\$ 695	\$ 738
All-in sustaining cost (per oz. sold) ²	\$ 1,298	\$ 1,181	\$ 1,316	\$ 1,238	\$ 784	\$ 993	\$ 956	\$ 903
Cash operating cost (R\$ per tonne) ²	\$ 328	\$ 279	\$ 184	\$ 252	\$ 268	\$ 201	\$ 216	\$ 278

¹ The 'average head grade' represents the recalculated head-grade milled.

² Cash operating costs, average realized cost and All-in sustaining costs are a non-IFRS financial performance measure with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A.

During the fourth quarter of 2018, Turmalina produced 7,743 ounces of gold compared to 12,245 ounces in the corresponding 2017 period, a decrease of 37% or 4,502 ounces. The decrease in ounces produced was a result of a 21% decrease in the tonnes processed from 95,000 in Q4 2017 to 75,000 in Q4 2018, and also a 19% decrease in the average head grade (grams per ton) from 4.41 in Q4 2017 to 3.56 in Q4 2018. The cash operating cost per ounce sold for the fourth quarter of 2018 increased by 22%, or \$141 per ounce, as compared to the same period in 2017.

Turmalina Capital Expenditures

(\$ thousands)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Sustaining capital ¹				
Primary development	\$ 3,098	\$ 1,404	\$ 13,620	\$ 6,725
Brownfield exploration	487	80	951	632
Mine-site sustaining	611	189	1,919	1,510
Total sustaining capital¹	4,196	1,673	16,490	8,867
Total non-sustaining capital¹	224	858	1,720	2,621
Total capital expenditures	\$ 4,420	\$ 2,531	\$ 18,210	\$ 11,488

¹ Sustaining and non-sustaining capital are non-IFRS financial measures with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A. Capital expenditures are included in our calculation of all-in sustaining costs and all-in costs.

(metres)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Primary development	498	363	2,560	1,676
Secondary development	155	261	1,106	1,644
Total development	653	624	3,666	3,320
Definition drilling	1,798	228	3,307	1,606
Infill drilling	6,988	1,250	15,148	12,502
Exploration drilling	856	7,867	10,663	14,347
Total definition, infill, and exploration drilling	9,642	9,345	29,118	28,455

Mining

Turmalina is an underground mine utilizing the sub-level stoping mining method with a combination of rockfill and historically paste fill, with some areas of the mine previously using mechanized cut and fill mining methods. Production in Turmalina has recently been below historical averages. The fourth quarter was shortened by a planned shutdown of the main ramp for 11 days to address geotechnical issues. Lack of developed reserves has constrained mine flexibility. The development contractor Toniolo Busnello (“TBSA”) is developing the Orebody A ramp. Jaguar crews are developing the Orebody C ramp as well as ore development in both orebodies. The mine is changing the work schedule from 3 to 4 shifts/day to increase productive time/day. New production levels in both orebodies are planned to go into production in late 2019 to provide increased production rates and flexibility.

Recent exploration drilling in C Central has identified a third potential stoping area that could add production capability next year. Turmalina Proven and Probable Mineral Reserve tonnes increased by 74% and grade increased by 12% to Orebody A. 1,408 tonnes at 5.05 g/t containing 228,000 ounces of gold.

Processing

Ore produced at Turmalina is transported to the adjacent CIP processing plant. The Turmalina plant consists of three ball mills, with primary grinding done at Mill #3, which was rebuilt and commissioned at the end of 2016, with an estimated installed capacity of 1,600 tonnes per day. Using Mill #3, Turmalina is able to achieve the entire throughput of the plant and lower operating costs through electricity consumption savings, compared to using Mills #1 and #2 in 2016. Mills #1 and #2 have been taken off-line and can be used to occasionally supplement the capacity of Mill #3 if required.

In Q4 2018 the Turmalina plant processed 75,000 tonnes at a grade of 3.56 g/t compared with 95,000 tonnes a year earlier at 4.41 g/t. Overall the plant processed 321,000 tonnes at 3.55 g/t for the year 2018 compared with 427,000 tonnes at 3.65 g/t for the previous year.

Turmalina Free Cash Flow¹

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Turmalina Complex				
Revenue	\$ 9,955	\$ 15,512	\$ 41,822	\$ 57,266
Less cash operating costs	6,458	7,843	24,757	32,152
Less sustaining capital expenditures	4,196	1,673	16,490	8,867
Free Cash Flow	\$ (699)	\$ 5,996	\$ 575	\$ 16,247

¹ This is a non-GAAP financial performance measure with no standard definition under IFRS. For further information, refer to the Non-IFRS Financial Performance Measures section of the MD&A.

The free cash flow for the three and twelve months ended December 31, 2018, decreased compared to the same period in 2017, primarily as a result of the decrease in ounces sold, and also the increase in sustaining capital expenditures, focused mainly in the primary development.

Caeté Gold Mine Complex

Caeté Complex Quarterly Production

The Caeté Mining Complex includes the Pilar Mine and the Caete Processing Plant. On March 22, 2018, the Roça Grande mine was placed on care and maintenance. Ore from Pilar is trucked a total distance of approximately 40 kilometres by road to the Caeté plant. The Caeté plant has a capacity of 2,200 tonnes per day and includes gravity, flotation and CIP processing.

2018 was an exceptional year for the Pilar Mine and Caete Processing plant. Following the curtailment of operations at the Roca Grande mine in Q1 the Pilar Mine continued to exceed expectations.

(\$ thousands, except where indicated)	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017
Tonnes of ore processed (t)	103,000	87,000	94,000	93,000	95,000	106,000	104,000	101,000
Average head grade (g/t) ¹	3.25	4.40	4.03	3.93	3.33	3.62	2.97	3.17
Average recovery rate (%)	87%	90%	90%	89%	89%	90%	90%	91%
Gold (oz.)								
Produced	9,301	11,068	10,995	10,423	9,067	11,164	8,899	9,556
Sold	9,416	11,832	9,620	10,823	8,699	11,339	7,638	10,498
Cash operating cost (per oz. sold) ²	\$ 803	\$ 557	\$ 683	\$ 841	\$ 883	\$ 856	\$ 1,087	\$ 1,165
All-in sustaining cost (per oz. sold) ²	\$ 1,050	\$ 888	\$ 967	\$ 1,076	\$ 1,252	\$ 1,068	\$ 1,315	\$ 1,526
Cash operating cost (R\$ per tonne) ²	\$ 280	\$ 299	\$ 171	\$ 317	\$ 256	\$ 290	\$ 257	\$ 381

¹ The 'average head grade' represents the recalculated head-grade milled.

² Cash operating costs, average realized cost and All-in sustaining costs are a non-IFRS financial performance measure with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A.

Caeté Complex Free Cash Flow¹

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Caeté Complex				
Revenue	\$ 11,422	\$ 11,114	\$ 53,096	\$ 47,965
Less cash operating costs	7,557	7,682	29,824	37,917
Less sustaining capital expenditures	2,331	3,213	11,529	11,173
Free Cash Flow	\$ 1,534	\$ 219	\$ 11,743	\$ (1,125)

¹ This is a non-GAAP financial performance measure with no standard definition under IFRS. For further information, refer to the Non-IFRS Financial Performance Measures section of the MD&A.

Pilar Quarterly Production

(\$ thousands, except where indicated)	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017
Tonnes of ore processed (t)	103,000	87,000	94,000	81,000	81,000	88,000	85,000	84,000
Average head grade (g/t) ¹	3.25	4.40	4.03	4.13	3.53	3.77	3.16	3.39
Average recovery rate (%)	87%	90%	90%	89%	89%	90%	90%	91%
Gold (ozs)								
Produced	9,301	11,068	10,995	9,553	8,156	9,674	7,702	8,485
Sold	9,416	11,832	9,620	9,929	7,880	9,820	6,625	9,422
Cash operating cost (per oz sold) ²	\$ 803	\$ 557	\$ 683	\$ 805	\$ 835	\$ 804	\$ 1,033	\$ 1,092
All-in sustaining cost (per oz sold) ²	\$ 1,050	\$ 888	\$ 967	\$ 1,062	\$ 1,198	\$ 1,042	\$ 1,235	\$ 1,434
Cash operating cost (R\$ per tonne) ²	\$ 280	\$ 299	\$ 171	\$ 320	\$ 264	\$ 284	\$ 259	\$ 437

¹ The 'average head grade' represents the recalculated head-grade milled.

² Cash operating costs, average realized cost and All-in sustaining costs are a non-IFRS financial performance measure with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A.

During the fourth quarter of 2018, Pilar produced 9,301 ounces of gold compared to 8,156 ounces in Q4 2017, an increase of 14% due to the net impact of a 27% decrease in tonnes processed. Production increased 20% from FY 2018 to FY 2017 mainly as a result of an 8% increase in tonnes milled and 13% increase in the average head grade (g/t). Pilar has been using a specialized development contractor since 2016 to advance primary development. As the primary ramp advances ahead, the amount of secondary ore development completed by the contractor is reducing. The cash operating cost per ounce sold for Q4 2018 decreased 4% as compared to Q4 2017, primarily as a result of an increase in tonnes of ore processed.

Pilar Capital Expenditures

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Sustaining capital¹				
Primary development	\$ 1,410	\$ 1,958	\$ 8,487	\$ 6,592
Brownfield exploration	161	196	610	620
Mine-site sustaining	760	702	2,432	2,541
Total sustaining capital¹	2,331	2,856	11,529	9,753
Total non-sustaining capital¹	56	203	270	1,399
Total capital expenditures	\$ 2,387	\$ 3,059	\$ 11,799	\$ 11,152

¹ Sustaining and non-sustaining capital are non-IFRS financial performance measures with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A. Capital expenditures are included in our calculation of all-in sustaining costs and all-in costs.

(metres)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Primary development	279	475	1,895	1,634
Secondary development	564	416	1,365	2,124
Total development	843	891	3,260	3,758
Definition drilling	570	455	3,753	2,670
Infill drilling	1,872	2,431	8,336	6,863
Exploration drilling	208	1,252	411	9,266
Total definition, infill, and exploration drilling	2,650	4,138	12,500	18,799

Mining

Based on the strong exploration drilling results and increased reserves and resources, primary and secondary development that had been suspended since 2014 was resumed at Pilar during 2016. A development contractor arrived on site in 2016 to accelerate the main ramp below Level 10 to open up additional resources. The contractor continued to assist with primary and secondary development at Pilar during 2018. With the main ramp approximately 2 mining levels below current mining activities, the operation is well positioned with flexibility in the mine plan.

Processing

During Q4 the Caete plant processed 103,000 tonnes at a grade of 3.25 g/t compared to 95,000 tonnes at 3.33 g/t for the same period last year. For the full year the plant processed 377,000 tonnes at 3.88 g/t compared to 406,000 tonnes at 3.27 g/t.

Pilar Free Cash Flow¹

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Pilar				
Revenue	\$ 11,422	\$ 10,068	\$ 51,957	\$ 42,403
Less cash operating costs	7,557	6,582	28,713	31,619
Less sustaining capital expenditures	2,331	2,856	11,529	9,753
Free Cash Flow	\$ 1,534	\$ 630	\$ 11,715	\$ 1,031

¹ This is a non-GAAP financial performance measure with no standard definition under IFRS. For further information, refer to the Non-IFRS Financial Performance Measures section of the MD&A.

The free cash flow for the three and twelve months ended December 31, 2018, increased compared to the same period in 2017, primarily as a result of the decrease in ounces sold, 7,050 ounces year-over-year. The cash operating cost decreased to \$704 per ounce of gold sold for FY 2018, compared to \$837 per ounce sold during FY 2017, a reduction of \$233 per ounce sold, primarily as a result of expense reduction and cost containment measures.

The most recent NI 43-101 technical report for the Pilar Mine and Roça Grande Mine was prepared by RPA Inc. and it dated April 17, 2018 (filed on SEDAR on April 19, 2018).

CONSOLIDATED FINANCIAL RESULTS

Quarterly Financial Review¹

	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017
Revenue	\$ 21,377	\$ 25,426	\$ 22,888	\$ 25,228	\$ 26,626	\$ 26,062	\$ 23,352	\$ 29,192
Cost of sales (excluding depreciation) ²	(14,014)	(12,809)	(12,356)	(15,399)	(15,526)	(16,116)	(15,990)	(21,508)
Gross profit (excluding depreciation) ²	7,363	12,617	10,532	9,829	11,100	9,946	7,362	7,684
Net income (loss)	(15,065)	2,208	(1,334)	(1,781)	16,034	(7,664)	(3,323)	(7,877)
Cash flows from operating activities	5,180	6,566	4,079	4,979	5,387	7,509	216	1,855
Total assets	178,667	178,560	177,262	178,779	183,679	177,806	182,399	181,242
Total liabilities	74,812	60,145	61,471	61,783	65,293	75,591	72,671	74,330
Working Capital	(2,411)	1,590	4,025	10,978	14,132	23,171	9,561	3,052
Total Debt	9,743	8,070	9,049	14,908	17,525	19,997	24,299	21,340
Average realized gold price (per oz.) ²	\$ 1,213	\$ 1,244	\$ 1,328	\$ 1,311	\$ 1,278	\$ 1,276	\$ 1,266	\$ 1,215
Cash operating cost (per oz. sold) ²	\$ 795	\$ 627	\$ 717	\$ 800	\$ 745	\$ 809	\$ 857	\$ 924

¹ Sum of all the quarters may not add up to the annual total due to rounding.

² Average realized gold price, cost of sales (excluding depreciation), gross profit (excluding depreciation) and cash operating costs are all non-IFRS financial performance measures with no standard definition under IFRS. For further information, refer to the Non-IFRS Financial Performance Measures section of the MD&A.

Current assets decreased \$12.6 million as at December 31, 2018, compared to December 31, 2017, primarily as a result of the decrease in cash. Current liabilities increased \$4 million as at December 31, 2018, compared to December 31, 2017, due to the unsecured customer advances with Auramet of \$7 million, to replace the Company's higher cost "secured" loan facility with Sprott Resource Lending effective June 30, 2018. The impact in current liabilities, due to the customer advances, was mainly offset by a decrease in notes payable and accounts payable. Non-current liabilities increased \$5.5 million as at December 31, 2018, compared to December 31, 2017, primarily due to a change in tax rules in May 2018, which the company removed the federal taxes offset treatment, and consequentially its value added taxes asset and IRPJ and CSLL withholding taxes payable balances increased by \$8.6 million, offset by the decreases in notes payable in \$4.9 million, due to the repayment of the Sprott Resource effective June 30, 2018.

Revenue

(\$ thousands, except where indicated)	Three months ended December 31,			Twelve months ended December 31,		
	2018	2017	Change	2018	2017	Change
Revenue	\$ 21,377	\$ 26,626	(20%)	\$ 94,918	\$ 105,231	(10%)
Ounces sold	17,622	20,841	(15%)	74,530	83,750	(11%)
Average realized gold price ¹	\$ 1,213	\$ 1,278	(5%)	\$ 1,274	\$ 1,256	1%

¹ Average realized gold price is a non-IFRS financial performance measure with no standard definition under IFRS. For further information, refer to the Non-IFRS Financial Performance Measures section of the MD&A.

Revenue for the three and twelve months ended December 31, 2018 decreased 20% and 10% respectively, compared to the same period in 2017, primarily as a result of a 15% and 11% decrease in ounces sold. The market price of gold is a primary driver of our profitability and our ability to generate free cash flow. During the three months ended December 31, 2018, the market price of gold (London PM Fix) traded in a range of \$1,1186–\$1,279, averaged \$1,226 per ounce, and closed at \$1,279 per ounce on December 31, 2018. The average market price during the fourth quarter of 2018 was lower compared to the average market price of \$1,276 per ounce for the fourth quarter of 2017.

Production

A total of 178,000 tonnes were processed in Q4 2018 (Q4 2017 – 190,000 tonnes) at an average head grade of 3.38 g/t (Q4 2017 – 3.87 g/t), a 13% decrease in average head grade compared to the same period in 2017. Total production for FY 2018 was 698,000 tonnes (average head grade of 3.73 g/t), as compared to 833,000 tonnes processed in the FY of 2017 (average head grade of 3.47 g/t).

Consolidated Production Costs

(\$ thousands, except where indicated)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Direct mining and processing cost	\$ 13,650	\$ 14,569	(6%)	\$ 51,738	\$ 65,026	(20%)
Mining	9,117	8,265	10%	33,664	39,803	(15%)
Processing	4,533	6,304	(28%)	18,074	25,223	(28%)
Royalties, production taxes and others	364	957	(62%)	2,843	4,114	(31%)
Royalty expense and CFEM taxes	790	895	(12%)	3,204	3,169	1%
NRV adjustment and others	(426)	62	(787%)	(361)	945	(138%)
Total operating expenses	\$ 14,014	\$ 15,526	(10%)	\$ 54,581	\$ 69,140	(21%)
Depreciation	4,997	5,302	(6%)	19,208	22,572	(15%)
Total cost of sales	\$ 19,011	\$ 20,828	(9%)	\$ 73,789	\$ 91,712	(20%)

¹ Cash operating costs is a non-IFRS financial performance measure with no standard definition under IFRS. Refer to the Non-IFRS Financial Performance Measures section of the MD&A.

Total operating expenses decreased 21% from \$69.1 million in the year ended December 31, 2017, to \$54.6 million in 2018, primarily as a result of expense reduction and cost containment measures, as well as the sharp devaluation of the Brazilian Real versus the US dollar, with the average exchange rate during Q4 2018 being R\$3.81 per US dollar compared to R\$3.25 per US dollar in Q4 2017. The decrease in depreciation expense is a result of a change in the basis for the calculation of depreciation for Pilar by utilizing Measured and Indicated Mineral Resources compared to the prior period for which the basis was Proven and Probable Mineral Reserves. This change in accounting estimate was made in Q1 2018 to ensure depreciation reflects Management's best estimate of the useful life of Pilar and was accounted for prospectively.

Operating Expenses

(\$ thousands)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Changes in other provisions and VAT taxes	\$ 2,159	\$ 840	157%	\$ 2,226	\$ 3,653	(39%)
General and administrative expenses	1,843	2,407	(23%)	8,968	10,144	(12%)
Exploration and evaluation costs	184	84	119%	775	769	1%
Care & maintenance costs (Paciência and Roça Grande mines)	364	287	27%	2,187	1,282	71%
Stock-based compensation	155	140	11%	1,086	991	10%
Amortization	32	42	(24%)	150	239	(37%)
Impairment charges	9,028	(20,008)	(145%)	9,028	(14,830)	(161%)
Other operating expenses	2,052	848	142%	7,360	3,262	126%
Total operating expenses	\$ 15,817	\$ (15,360)	(203%)	\$ 31,780	\$ 5,510	477%

Care and Maintenance Costs

Paciência Gold Mine Complex

The Paciência Gold Mine Complex remained on care and maintenance during the fourth quarter of 2018. No gold has been produced since the third quarter of 2012. No underground development or drilling work was carried out by the Company at Paciência during Q4 2018. The complex has been secured and the facilities are preserved and patrolled. A limited maintenance staff turns on the mills and equipment on a monthly basis to maintain the plant in working order. Paciência's carrying amount was written down to nil.

Roça Grande Gold Mine

Due to high operating costs, the Roça Grande Mine was placed on care and maintenance on March 22, 2018. No underground development or drilling work was carried out by the Company at Roça Grande during Q4 2018. Roça Grande's carrying amount was written down to nil.

General and Administration Expenses

The general and administration ("G&A") expenses exclude mine-site administrative costs that are charged directly to operations and include legal, accounting, costs to maintain offices and personnel in Belo Horizonte, Brazil and Toronto, Canada, and other corporate costs associated with being a publicly-traded company.

(\$ thousands)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Directors' fees	\$ 123	\$ 130	(5%)	\$ 467	\$ 417	12%
Audit related and insurance	241	189	28%	1,016	770	32%
Corporate office (Toronto)	419	443	(5%)	1,943	2,548	(24%)
Belo Horizonte office	1,060	1,645	(36%)	5,542	6,409	(14%)
Total G&A expenses	\$ 1,843	\$ 2,407	(23%)	\$ 8,968	\$ 10,144	(12%)

For the twelve months ended December 31, 2018, the total G&A expenses decreased 12% compared to the same period in 2017. Costs associated with the Belo Horizonte office were 14% lower in the twelve months ended in December 31, 2018. Costs for the corporate office in Toronto were 24% lower for the twelve months of 2018 compared to the same period of 2017, due to cost cutting measures.

Changes in Other Provisions and VAT Taxes

(\$ thousands)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Changes to legal provisions	\$ 2,269	\$ (402)	(664%)	\$ 4,367	\$ 1,418	208%
Changes to recoverable taxes provision	(110)	1,242	(109%)	(2,141)	2,235	(196%)
Changes to legal provisions and recoverable VAT	\$ 2,159	\$ 840	157%	\$ 2,226	\$ 3,653	(39%)

In the twelve month period ended December 31, 2018, the Company received the final tax assessments issued by the Brazilian Federal Tax Authority following the conclusion of its audit over the Company's historical Federal VAT input tax credits recognized in fiscal year 2013. Based on the results confirmed, the Company made a change in accounting estimate and reduced its provision criteria for tax credits recognized after January 1, 2012 from 20% as at December 31, 2017 to 5% as at December 31, 2018.

Legal Provisions

As at December 31, 2018, there were 381 employee-initiated active lawsuits (December 31, 2017 – 438) against the Company, largely related to disputed overtime, break/interval and time at disposal. Based on Management's assessment of the likelihood of loss related to 286 lawsuits (December 31, 2017 – 301), the Company has recorded approximately \$9.7 million as labour legal provisions, with \$3.9 million classified as a current liability as at December 31, 2018 (December 31, 2017 – \$9.5 million and \$4.1 million, respectively).

During Q4 2018, 13 new lawsuits were initiated. The Company paid approximately \$373,000 in appeal deposits and escrow payments, \$578,000 in settlement installments, and \$149,000 for other costs such as social security, income tax, legal fees and expert fees. The total amount spent in Q4 2018 was \$1.1 million compared to \$704,000 in Q4 2017.

Recoverable Taxes Provision

As at December 31, 2018, gross recoverable taxes that are primarily denominated in Brazilian Reals amounted to \$15.6 million (December 31, 2017 – \$22.5 million). As at December 31, 2018, the provision for recoverable taxes was approximately \$4.1 million (December 31, 2017 – \$7.3 million). Consequently, the net book value of recoverable taxes as at December 31, 2018 was \$19.1 million (December 31, 2017 – \$15.2 million).

Certain taxes paid in Brazil on consumables and property, plant and equipment generate tax credits through various mechanisms. The Company is currently working on several initiatives to ensure optimum utilization of those tax credits, which include assessment of the tax credits for offset against taxes otherwise payable and restitution in cash.

The Company has recorded a provision against its recoverable taxes in Brazil given the limited methods available to recover such taxes and the length of time it will take to recover such taxes. The provision reduces the net carrying amount of value added taxes and other taxes to their estimated recoverable value.

The Company continues to pursue approval of Federal VAT input tax credits with respect to the years 2008 through 2011 for its MSOL operating subsidiary. MSOL is the operating subsidiary for the Turmalina complex comprising the Turmalina mine and the Caeté complex comprising the Pilar and Roça Grande mines. The Company received a cash refund in the amount of R\$3.5 million (approximately \$1.0 million) in March 2016, related to MSOL. In July 2016, the Company initiated a lawsuit to obtain a court order to force the tax authority to review the Company's remaining tax credits for MSOL with respect to the years 2008 to 2011, amounting to R\$36.0 million (approximately \$11.0 million). A court order was granted and by November 2016, the Tax Authority reviewed the claim and granted a favourable decision to partially recognize the amount claimed, deeming R\$1.5 million (approximately \$0.5 million) due to the Company. The Company collected this amount and proceeded to appeal the Tax Authority's review result in pursuit of further tax credit refund recognition on the remainder of this claim. At December 31, 2018, the Company is awaiting the Tax Authority's review result of its appeal to receive the remainder.

ICMS is a type of value added tax which can either be sold to other companies (usually at a discount rate of 15% – 30%) or be used to purchase specified machinery and equipment, as subject to approval by government authority. The ICMS credits can only be realized in the state where they were generated; in the case of Jaguar, this is in the state of Minas Gerais, Brazil. In the year ended December 31, 2018, the Company sold R\$11.6 million (approximately \$3.7 million) in ICMS export tax credits. The Company received approval from the state tax authority to sell an additional R\$ 13 million (approximately \$3.56 million) in ICMS export tax credits. As at December 31, 2018, the Company held R\$ 5 million (approximately \$1.29 million) in ICMS export tax credits authorized for sale but not yet sold (December 31, 2017 – R\$5 million, approximately \$1.5 million).

Impairment

The Turmalina, Caeté, and Paciência projects are each cash generating units ("CGUs") which include property, plant and equipment, mineral rights, deferred exploration costs, and asset retirement obligations net of amortization. The CGUs also include mineral exploration project assets relating to properties not in production such as mineral rights and deferred exploration costs. A CGU is generally an individual operating mine or development project.

As at December 31, 2018, the Company assessed each CGU for triggers of potential impairment or potential reversal to impairment. In the event such triggers were identified, the Company proceeded to compare the CGU's carrying value to the recoverable amount determined. The recoverable amount was determined to be the fair value less costs to dispose ("FVLCD") and the Company's estimate of the FVLCD is classified as Level 3 in the fair value hierarchy based on the inputs used in the valuation technique.

The significant assumptions used in determining the recoverable amount of the project were LOM production profiles, future gold prices, reserves and resources, discount rates, foreign exchange rates, and capital expenditures. LOM plans are typically developed annually and are based on management's current best estimates of optimized mine and processing plans, future operating costs, and capital expenditures. The Company bases its future gold price estimate with reference to forward prices and industry analyst consensus.

As an indicator of potential impairment to be recognized against carrying value for the year ended December 31, 2018, the Company identified at its Turmalina CGU two consecutive years with operational challenges experienced and less-than-budgeted ounces produced, resulting in higher cash costs per ounce incurred.

Turmalina

The estimates of future cash flows were derived from the most recent LOM plans which extend to 2027 for Turmalina. For the determination of the impairment charge, a gold price estimate of \$1,275 was used for 2019, and \$1,300 for 2020 and beyond. A discount rate of 10.5% was used to present value the estimated future cash flows from the operation. The assessment indicated that the carrying value of the Turmalina project exceeded the its discounted cash flows as at December 31, 2018, and consequently an impairment charge of \$13.3 million was recorded. The impairment charge for the year ended December 31, 2018 was allocated as follows: \$12.6 million to property, plant and equipment and \$0.7 million to mineral exploration projects.

Pilar

The estimates of future cash flows were derived from the most recent LOM plans which extend to 2027 for Pilar. For the determination of the impairment reversal, a gold price estimate of \$1,275 was used for 2019, and \$1,300 for 2020 and beyond. A discount rate of 10.5% was used to present value the estimated future cash flows from the operation. The assessment indicated that the discounted cash flows of the Caeté project exceeded the carrying value of the project as at December 31, 2018, and consequently an impairment reversal of \$4.2 million was recorded. The impairment reversal for the year ended December 31, 2018 was allocated as follows: \$3.8 million to property, plant and equipment and \$0.4 million to mineral exploration projects.

Roça Grande

In March 2018, as part of refocusing its attention, resources and efforts on Turmalina and Pilar mines, the Company made a strategic decision to suspend its Roça Grande mine operations. As at December 31, 2018 the carrying amount for the Roça Grande project is \$nil, due to past impairment charges (December 31, 2017 - \$nil), and there were no indicators of potential reversal of impairment identified.

Non-Operating Expenses (Recoveries)

(\$ thousands)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Foreign Exchange Loss (Gain)	\$ 417	\$ (1,103)	(138%)	\$ (1,187)	\$ (478)	148%
Financial instruments loss (gain)	263	-	100%	2,441	(327)	(846%)
Finance costs	840	1,541	(45%)	3,690	5,593	(34%)
Loss on disposal of subsidiary	-	4,902	(100%)	-	4,902	(100%)
Other non-operating expenses (recoveries)	87	(224)	(139%)	331	(148)	(324%)
Non-operating expenses	\$ 1,607	\$ 5,116	(69%)	\$ 5,275	\$ 9,542	(45%)

During the three and twelve months ended December 31, 2018, finance costs mainly represent interest on debt and accretion expense.

Sprott Resource Lending Facility

On November 7, 2016, the Company entered into an agreement with Sprott Private Resource Lending (Collector) LP ("Sprott Lending") for a secured loan facility (the "Sprott Facility") totaling \$10 million ("Tranche 1") to fund accelerated growth exploration initiatives. Tranche 1 of the Sprott Facility is payable over a term of 30 months, in equal monthly repayments of principal, plus interest, with an interest rate of 6.5% per annum, plus the greater of US dollar LIBOR or 1.25% per annum. On September 9, 2017, the Company entered into an agreement with Sprott Lending for an additional tranche of the Sprott Facility totaling \$5 million ("Tranche 2"). Tranche 2 of the Sprott Facility is payable over a term of 36 months, in equal monthly repayments of principal, plus interest, with an interest rate of 6.5% per annum, plus the greater of US dollar LIBOR or 1.25% per annum.

In May 2018, the Company reached an agreement for a new \$7 million, unsecured customer advance agreement with Auramet (the "Auramet advance") which was used in conjunction with a new Brazil debt facility of \$2.4 million to fully repay the Company's Secured Loan facility with Sprott Resource Lending, effective June 30, 2018. During the year ended December 31, 2018, the Company made principal repayments and interest payments of \$9.4 million and \$324,000, respectively (\$5.0 million and \$827,000, respectively, during the year ended December 31, 2017).

The Sprott Facility was a financial liability and was initially measured at fair value and subsequently measured at amortized cost using the effective interest method. During the year ended December 31, 2018, \$336,000 was recorded as finance costs in consolidated statements of operations and comprehensive income (loss) related to the remaining accretion of the transaction costs (\$428,000 for the year ended December 31, 2017). The Sprott Facility was fully repaid, effective December 31, 2018.

Auramet Advance

On May 9th, 2018, the Company entered into an agreement with Auramet International LLC for an unsecured customer advance ("Auramet advance") in the form of a gold purchase and sale agreement whereby Auramet extended up to \$7 million in minimum prepayment amounts each of \$1 million to Jaguar. As part of the agreement, the Company is required to maintain a \$2 million margin deposit with Auramet. Funds advanced under the Auramet advance are subject to interest at 1-month LIBOR + 7.5%, and hold a covenant to maintain a minimum net cash balance of \$5 million, including a margin deposit. The Auramet advance requires settlement in full at maturity, and on November 9th, 2018, the Company restructured its customer advance contract with Auramet International LLC to extend its maturity from May 31, 2019 to October 31, 2019.

On May 9th, 2018, the Company also agreed to a European style gold call options agreement with Auramet whereby Auramet holds an option to purchase up to 7,000 ounces of gold (1,000 ounces per month) at a strike price of US\$1,450 per ounce on expiration dates maturing monthly between May 2019 and November 2019. As at and for year ended December 31, 2018, the call options remained outstanding, spot gold prices remained below the call option's strike price, and the Company recorded no gain or loss to the consolidated statements of operations and comprehensive income (loss) (\$nil for the year ended December 31, 2017).

Taxes

Brazilian Taxes

Brazilian tax regulation involves three jurisdictions and tax collection levels: Federal, State and Municipal. The main taxes levied are: corporate income tax with companies generally subject to income tax at a rate of 25%, social contribution tax on the net profit at a current rate of 9%, and VAT taxes at a rate of 9.25% for PIS/CONFINS and 12–18% for ICMS.

PIS and COFINS are Federal taxes imposed monthly on gross revenue earned by legal entities. The calculation method is, in the Company's case, non-cumulative, under which PIS and COFINS are levied on gross revenue at 1.65% and 7.6%, respectively, with deductions of input tax credits for expenses strictly connected to the company's business and prescribed

by the regulating laws. The export of goods and services are exempt provided funds effectively enter the country. PIS and COFINS are due on importations of goods and services from abroad (i.e. PIS-Import and CO-FINS-Import).

In June 2018, the Company decided to enter into an Administrative Agreement with the Minas Gerais State Tax Authority in order to pay an historical debt (2008 – 2014) of R\$8.3 million (approximately \$2.2 million) in ICMS taxes. The agreement was ratified by the parties in July 2018. This debt has its origin in ICMS levied on electricity (“Demanda Contratada”) in which the Superior Courts have been ruled in the taxpayer’s favour. The Company had filed an appeal against the levy of the ICMS and the likelihood of the Company losing the appeal was assessed as remote. Although the Company would likely win the judicial lawsuit, the Company took the decision to pay the mentioned debt in instalments, using its tax credits (non-cash), in order to facilitate and accelerate its ICMS tax credits recovery as cash.

In September 2018, the Company received a social security tax (INSS – Instituto Nacional do Seguro Social) assessment from Brazil’s Federal Tax Authority with respect to fiscal years 2014 and 2015, challenging the social security tax rate basis applied by the Company, which as per Brazilian tax legislation is variable based on the Company’s historical work accident rate. The tax assessment claimed entitlement to a total additional R\$1.9 million (approximately \$0.5 million) due from the Company. Upon review, the Company and its legal counsel assessed its probability of loss as more likely than not and entered a settlement agreement with the Federal Tax Authority to reduce its exposure to fines and interest and extend its cash flow impact, agreeing to pay a total of R\$1.5 million (approximately \$0.4 million), in cash, over 60 (sixty) equal monthly installments starting in October 2018.

As at December 31, 2017, the Company held R\$26.0 million (\$8.1 million) in value added taxes assets offsetting its IRPJ and CSLL withholding taxes payable balance to \$nil. In the year ended December 31, 2018, with the change in tax rules as further detailed in Note 6(1), the Company removed its offset treatment. As a result, its value added taxes asset balance increased by R\$33.4 million (\$8.6 million) and its withholding taxes payable balance increased accordingly, recognizing R\$1.5 million (\$0.4 million) as current and R\$31.7 million (\$8.2 million) as non-current.

Government Royalty

In July 2017, an executive decree was published increasing the Brazilian royalty that is levied on gold sales, *Compensação Financeira pela Exploração de Recursos Minerais (“CFEM”)*, from 1% to 1.5% effective November 1, 2017. The legislation also outlines a change in the methodology for calculating the royalty from being calculated on gross revenue, less refining charges and insurance, as well as any applicable sales taxes, to being calculated on gross revenue only.

Income and Deferred Taxes Expenses

(\$ thousands)	Three months ended			Twelve months ended		
	December 31,			December 31,		
	2018	2017	Change	2018	2017	Change
Current income tax expense	\$ 7	\$ 8	(13%)	\$ 42	\$ 1,297	(97%)
Income tax expense	\$ 7	\$ 8	(13%)	\$ 42	\$ 1,297	(97%)

The income tax provision is subject to a number of factors, including the allocation of income between different countries, different tax rates in various jurisdictions, the non-recognition of tax assets, foreign currency exchange rate movements, changes in tax laws and the impact of specific transactions and assessments. Due to the number of factors that can potentially impact the effective tax rate and the sensitivity of the tax provision to these factors, it is expected that the Company’s effective tax rate will fluctuate in future periods.

REVIEW OF FINANCIAL CONDITION

Outstanding Debt, Liquidity and Cash Flow

Total debt outstanding as at December 31, 2018, was \$16.7 million (of which \$7.0 million was the unsecured customer advance with Auramet International LLC (“Auramet advance”)), compared to \$17.5 million as at December 31, 2017 (of which \$9.0 million was the amortized cost of the Sprott Facility).

As at December 31, 2018, the Company had a negative working capital of \$2.4 million as at December 31, 2018 (\$14.1 million as at December 31, 2017). Working capital as at December 31, 2018, includes \$7.3 million in loans from Brazilian banks (\$5.2 million as at December 31, 2017), which mature every six months and are expected to continue to be rolled forward.

	December 31, 2018	December 31, 2017
Cash and cash equivalents	\$ 6,275	\$ 18,628
Cash and gold bullion	\$ 6,275	\$ 18,628
Non-cash working capital		
Other current assets:		
Restricted cash	5,262	2,926
Inventory	12,136	12,257
Recoverable taxes	10,421	10,848
Other accounts receivable	566	3,576
Prepaid expenses and advances	1,920	1,241
Derivatives	331	-
Current liabilities:		
Accounts payable and accrued liabilities	(17,506)	(17,896)
Notes payable	(9,500)	(12,385)
Customer advances	(7,000)	-
Current tax liability	-	(994)
Other taxes payable	(503)	-
Reclamation provisions	(335)	-
Contingent liabilities	(3,871)	(4,069)
Derivative liabilities	(607)	-
Working capital¹	\$ (2,411)	\$ 14,132

¹ This is a non-GAAP financial performance measure with no standard definition under IFRS.

The use of funds during the three and twelve months ended December 31, 2018, is outlined below:

(\$ thousands)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Cash generated from operating activities	\$ 5,180	\$ 5,387	\$ 21,183	\$ 14,968
Investing activities				
Capital expenditures on equipment and brownfield exploration				
Mineral exploration projects	\$ (60)	\$ (223)	\$ (256)	\$ (416)
Purchase of property, plant and equipment	(6,237)	(4,813)	(28,738)	(23,494)
Proceeds from disposition of property, plant and equipment	-	208	168	514
Proceeds from disposition of Mineral exploration projects	-	2,000	-	4,200
Cash used in investing activities	\$ (6,297)	\$ (2,828)	\$ (28,826)	\$ (19,196)
Financing activities				
Cash received upon issuance of shares via Finders Warrants redemption	\$ 352	\$ -	\$ 352	\$ -
Cash received upon issuance of shares via private placement	-	-	-	5,775
Cash received upon issuance of customer advances	-	-	7,000	-
Net change in debts	1,678	(2,750)	(9,029)	(6,840)
Restricted cash margin deposits paid	(500)	-	(2,500)	-
Interest paid	(498)	(90)	(1,037)	(1,571)
Cash provided by (used in) financing activities	\$ 1,032	\$ (2,840)	\$ (5,214)	\$ (2,636)
Effect of exchange rate changes on cash balances	(311)	(335)	504	(812)
Net increase (decrease) in cash and equivalents	\$ (396)	\$ (616)	\$ (12,353)	\$ (7,676)

The \$20.7 million results in operating cash flows for FY 2018 is primarily due to the decrease in cash operating costs, which is a result of the cost-cutting measures and the sharp devaluation of the Brazilian Real, with the average exchange rate being R\$3.81 in Q4 2018 and \$3.66 in YTD 2018 per US dollar, compared to R\$3.25 and R\$3.19 in the respective period of 2017.

The Company is reliant on both external and internal sources of cash for its current short term and long term working capital requirements and to fund its exploration programs and business development activities. Without additional financing or other satisfactory arrangements by no later than the second half of 2019, the Company's financial resources may not be sufficient to adequately maintain and/or further develop its projects. The Company's current liquidity and capital resources raise doubt about the Company's ability to continue as a going concern beyond 2019 without an inflow of new funds during the year. See Note 1 to the Company's audited annual financial statements for the year-ended December 31, 2018. The Company's ability to continue as a going concern is dependent upon the ability of the Company to obtain necessary financing or other satisfactory arrangements to fund its operating and capital expenses until business circumstances improve so as to allow the Company to be self-sufficient and internally funded. The Company's ability to continue its exploration, development and production activities is dependent on management's ability to secure additional financing in the future, which may be completed by way of traditional equity or debt financings or in a number of alternative ways including, but not limited to, a combination of: new strategic partnerships; joint venture arrangements; project-level or subsidiary-level third-party financings; royalty or streaming financing; the sale of non-core assets; a convertible debt financing; a rights offering; and/or other capital market alternatives. Management is pursuing additional financial sources, and while the Company's management has been successful in obtaining financing for the Company in the past, there can be no assurance it will be able to do so in the future or that these sources of funding or initiatives will be available for the Company or that they will be available on terms which are acceptable to the Company.

Annual Review – Three Year Financial Summary

(\$ thousands, except per share amounts)	2018	2017	2016	Change 2018 vs 2017	Change 2017 vs 2016
Revenue	\$ 94,918	\$ 105,231	\$ 120,539	\$ (10,313)	\$ (15,308)
Gross profit (loss)	21,129	13,519	13,775	7,610	(256)
Net (loss) income	(15,968)	(2,830)	(82,795)	(13,138)	79,965
Basic (loss) income per share	(0.05)	(0.01)	(0.50)	(0.04)	0.49
Current assets	36,911	49,476	52,555	(12,565)	(3,079)
Non-current assets	141,756	134,203	140,233	7,553	(6,030)
Total assets	178,667	183,679	192,788	(5,012)	(9,109)
Current liabilities	39,322	35,344	41,223	3,978	(5,879)
Non-current liabilities	35,490	29,949	37,231	5,541	(7,282)
Total liabilities	74,812	65,293	78,454	9,519	(13,161)

Revenue for 2018 decreased 20% to \$94.4 million, compared with \$105.2 million in 2017, due to 11% lower gold sales. Current assets decreased \$12.5 million as at December 31, 2018 compared to December 31, 2017, driven primarily by an \$12.4 million decrease in Cash and cash equivalents, offset by a \$2.5 million increase in restricted cash due to \$2 million margin deposit to Auramet International LLC, pursuant to the customer advance agreement with Auramet, and also a \$0.5 million margin deposit to Banco Votorantim S.A. The decrease in Cash and cash equivalents is attributed to a \$5.2 million outflow in 2018 financing activities as the Company repaid its high interest-bearing debt in favor of reducing its ongoing finance costs, a \$28.8 million outflow in capital investment activities, offset by a \$21.2 million inflow in cash generated from operating activities.

Subsequent events

Subsequent to December 31, 2018, the Company engaged an additional \$11.8 million in foreign exchange hedge contracts, including \$11.8 million in put options with strike prices ranging between R\$3.70/USD and R\$3.75/USD and expiry dates between March 2019 and August 2019, and \$11.8 million in call options with strike prices ranging between R\$3.76/USD and R\$4.03/USD also holding expiry dates from March 2019 to August 2019.

In 2019, the Company also entered into gold forward contracts with Auramet to sell 17,200 ounces at a weighted average price of US\$1,300/oz, whereas 6,797 ounces were already fulfilled up through the date of issuance of these consolidated financial statements. These contracts have expiry dates ranging from 30 to 90 days and orders unfulfilled prior to expiry are renewed automatically for a period equal to that contracted.

Contractual Obligations and Commitments

The Company's contractual obligations as at December 31, 2018, are summarized as follows:

As at December 31, 2018	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years	Total
Financial Liabilities					
Accounts payable and accrued liabilities ¹	\$ 17,506	\$ -	\$ -	\$ -	\$ 17,506
Other Taxes Payable					
ICMS Settlement Due	419	837	384	-	1,640
INSS	83	166	83	-	332
Withholding taxes	178	8,170	-	-	8,348
Notes payable					
Principal					
Bank indebtedness ²	7,270	-	-	-	7,270
Capital leasing obligations	1,451	12	-	-	1,463
Vale note	875	250	-	-	1,125
Interest	159	-	-	-	159
Reclamation provisions ⁴	1,909	5,486	4,920	6,663	18,978
Contingent liabilities	3,871	7,610	-	-	11,481
Derivatives payable	607	-	-	-	607
Other liabilities	-	2,913	-	-	2,913
Total financial liabilities	\$ 34,328	\$ 25,444	\$ 5,387	\$ 6,663	\$ 71,822
Other Commitments					
Customer advances					
Principal					
Auramet advance	7,000	-	-	-	7,000
Interest	651	-	-	-	651
Operating lease agreements	\$ 46	\$ -	\$ -	\$ -	\$ 46
Suppliers' agreements ³	425	-	-	-	425
Total other commitments	\$ 8,122	\$ -	\$ -	\$ -	\$ 8,122
Total	\$ 42,450	\$ 25,444	\$ 5,387	\$ 6,663	\$ 79,944

¹ Amounts payable as at December 31, 2018.

² Bank indebtedness represents the principal on Brazilian short-term bank loans which are renewed in 180 day periods.

³ Purchase obligations for supplies and consumables - includes commitments related to new purchase obligations to secure a supply of cyanide, reagents, mill balls and other spares. The Company has the contractual right to cancel the mine operation contracts with 30 days advance notice. The amount included in the commitments table represents the contractual amount due within 30 days.

⁴ Reclamation provisions - amounts presented in the table represent the undiscounted uninflated future payments for the expected cost of reclamation.

CAPITAL STRUCTURE

The capital structure of the Company as at December 31, 2018, is outlined below:

All amounts in \$ thousands, except number of common shares	As at December 31, 2018	
Bank indebtedness	\$	7,270
Capital leasing obligations		1,399
Vale note		1,074
Customer advances		7,000
Total debt	\$	16,743
Less: cash and cash equivalents		(6,275)
Total net debt¹	\$	10,468
Number of common shares outstanding		328.5 million

¹ Net debt is a Non-IFRS Performance Measure and is defined as total indebtedness excluding unamortized transaction costs and premiums or discounts associated with debt, less cash and cash equivalents. Net debt provides a measure of indebtedness in excess of the current cash available. The Company reduces gross indebtedness by cash and cash equivalents on the basis that they could be used to pay down debt.

OFF-BALANCE SHEET ITEMS

The Company does not have any off-balance sheet investment or debt arrangements.

RELATED PARTY TRANSACTIONS

The Company incurred legal fees from Azevedo Sette Advogados (“ASA”), a law firm where Luis Miraglia, a director of Jaguar, is a partner. Fees paid to ASA are recorded at the exchange amount, representing the amount agreed to by the parties and included in general and administrative expenses in the interim condensed consolidated statements of operations and comprehensive loss. Legal fees paid to ASA were \$42,000 for the year ended December 31, 2018 (\$131,000 for the year ended December 31, 2017).

On November 7, 2016 and on June 9, 2017, the Company entered into two secured loan facilities with Sprott Private Resource Lending (Collector) LP, which is an indirectly wholly-owned subsidiary of Sprott Inc., of which the Chairman is Mr. Eric Sprott. Mr. Sprott is a shareholder and held approximately 21.9% of the common shares of the Company as at December 31, 2018 (December 31, 2017 – 21.9%). On June 28, 2018, the Company fully repaid both secured loan facilities, and the Company had no amount payable to Sprott Private Resource Lending (Collector) LP at December 31, 2018.

DEVELOPMENT AND EXPLORATION PROJECTS

Development Project – Gurupi

Avanco – Gurupi Project Earn-In Agreement

On October 4, 2016, the Company announced that it entered into an earn-in agreement with Avanco Resources Limited (“Avanco”), pursuant to which Avanco may earn up to a 100% interest in the Gurupi Project. On September 17, 2017, Jaguar and Avanco agreed to a revised, accelerated earn-in agreement with Avanco, pursuant to which Avanco will earn up to a 100% ownership interest in the Gurupi Project after meeting some short-term milestones and making a series of payments to Jaguar.

Main Terms of the Revised Accelerated Earn-in Agreement

Upon the satisfactory completion of certain closing conditions, the agreement provides Avanco with the right to acquire 100% of Jaguar's interest in the Gurupi Project by paying to Jaguar an aggregate cash payment of \$4 million in two installments of \$2 million each (\$2 million, due immediately upon signature and \$2 million due immediately upon transfer of ownership) and committing to a net smelter royalty due to Jaguar. Jaguar received an initial aggregate cash payment of \$4 million, in two installments of \$2 million each in September and October 2017. The Company expects to collect the additional \$5 million from Avanco in a series of 10 instalments of \$500,000 during fiscal year 2019, starting in the month in which Avanco receives "clear title and access" to the project.

Within 24 months of the initial \$4 million payment, Avanco will arrange to have published an Australian Joint Ore Reserve Committee (JORC) code compliant technical report regarding the Project with mineral reserves in excess of 500,000 ounces of gold. Any delay in this milestone will result in a project delay fee payable to Jaguar of \$250,000 per nine months of delayed period. Within 60 months of the initial \$4 million payment, Avanco will aim to commission the Gurupi mine and plant. Any delay in this commissioning milestone will result in a separate project delay fee payable to Jaguar of \$250,000 per nine months of delayed period.

Consistent with the original earn-in agreement, Jaguar will retain a life of mine Net Smelter Return ("NSR") royalty ("Royalty") from production at Gurupi. The royalty will be 1% NSR on the first 500,000 ounces of gold or gold ounce equivalents sold; 2% NSR on sales from 500,001 to 1,500,000 ounces of gold or gold ounce equivalents; and 1% NSR on gold sales exceeding 1,500,000 ounces of gold or gold ounce equivalents.

Greenfield Exploration

Jaguar currently holds approximately 64,000 hectares of mineral rights in Brazil. New mining legislation in Brazil has been tabled and the outcome of any mining law reform is, as of yet, unknown. The Company is currently reviewing its greater tenement portfolio with the aim of highlighting opportunities to unlock and leverage unrealized value that can be attributed to a strategic portfolio of advanced, partially tested or untested exploration targets in these areas. This review will inform discussions on future exploration or divestment decisions for these areas. Holding costs of the assets which are considered strategic remain minimal.

Apart from properties in relatively close proximity to the existing mining operations, the only significant greenfield asset within the exploration portfolio is the Pedra Branca target where good grade surface expressions were identified by mapping and channel samples and have led to some 8,000 metres of exploration drilling to date. Due to prior financial constraints, this prospect has remained dormant but offers opportunity for further exploration should funds be available.

Pedra Branca Project

The Pedra Branca Project is located in the State of Ceará in northeastern Brazil and is currently comprised of 24 exploration licences, totalling 38,926 hectares covering a 38-kilometre section of a regional shear zone. Final exploration reports and a Preliminary Economic Analysis ("PEA") have been delivered to the National Department of Mineral Production (DNPM) for three of these licences. The concessions are located in and around municipal areas with good infrastructure. The mineralized structures are open along strike with potential for significant gold mineralization.

The Pedra Branca Project is 100% owned by Jaguar. Based on the acquisition agreement of the project entered into with Glencore Xstrata plc. ("Glencore"), Glencore holds rights to a NSR of 1% on future gold production and rights of first refusal on any Base Metal Dominant Deposit (as defined in the amendment) discovered which, if exercised, would allow Glencore to hold 70% of equity in a newly formed legal entity to hold such rights upon payment of 300% of the Company's exploration expenditures incurred exclusively on the relevant Base Metal Dominant Area of the property.

QUALIFIED PERSON

Scientific and technical information contained in this MD&A have been reviewed and approved by Jonathan Victor Hill, BSc (Hons) (Economic Geology - UCT), Senior Expert Advisor Geology and Exploration to the Jaguar Mining Management Committee, who is also an employee of Jaguar Mining Inc., and is a “qualified person” as defined by National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* (“NI 43-101”).

OUTSTANDING SHARE DATA

The following are the issued and outstanding common shares and numbers of shares issuable under share-based compensation and warrants:

	As at March 28, 2019
Issued and outstanding common shares	328,505,675
Stock options	2,817,148
Deferred share units	5,670,768
Total	336,993,591

NON-IFRS PERFORMANCE MEASURES

The Company has included the following non-IFRS performance measures in this document: cash operating costs per tonne of ore processed, cash operating costs per ounce of gold sold, all-in sustaining costs per ounce of gold sold, cash operating margin per ounce of gold sold, all-in sustaining margin per ounce sold, adjusted operating cash flow, free cash flow, earnings before tax, depreciation and amortization (“EBITDA”), Working Capital, and adjusted EBITDA. These non-IFRS performance measures do not have any standardized meaning prescribed by IFRS and, therefore, may not be comparable to similar measures presented by other companies.

The Company believes that, in addition to conventional measures prepared in accordance with IFRS, certain investors use this information to evaluate the Company’s performance. Accordingly, they are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. More specifically, Management believes that these figures are a useful indicator to investors and management of a mine’s performance as they provide: (i) a measure of the mine’s cash margin per ounce, by comparison of the cash operating costs per ounce to the price of gold; (ii) the trend in costs as the mine matures; and (iii) an internal benchmark of performance to allow for comparison against other mines. The definitions of these performance measures and reconciliation of the non-IFRS measures to reported IFRS measures are outlined below.

Reconciliation of Cash Operating Costs, All-In Sustaining Costs and All-In Costs per Ounce Sold

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Operating costs (per note 20 of the consolidated FS)	\$ 14,014	\$ 15,526	\$ 54,581	\$ 69,140
Cost adjustment ¹	-	-	-	930
Adjusted operating expenses	14,014	15,526	54,581	70,070
General & administration expenses	1,843	2,407	8,968	10,144
Corporate stock-based compensation	155	140	1,086	991
Sustaining capital expenditures	6,527	4,885	28,019	20,039
All-in sustaining cash costs	22,539	22,958	92,654	101,244
Reclamation - accretion (operating sites)	-	50	47	257
All-in sustaining costs	\$ 22,539	\$ 23,008	\$ 92,701	\$ 101,501
Non-sustaining capital expenditures	302	1,111	2,544	4,582
Exploration and evaluation costs (greenfield)	184	84	775	769
Reclamation - accretion (non-operating sites)	44	66	112	112
Care and maintenance (non-operating sites)	364	287	2,187	1,282
All-in costs	\$ 23,433	\$ 24,556	\$ 98,319	\$ 108,246
Ounces of gold sold	17,622	20,841	74,530	83,750
Cash operating costs per ounce sold	\$ 795	\$ 745	\$ 732	\$ 837
All-in sustaining costs per ounce sold	\$ 1,279	\$ 1,104	\$ 1,244	\$ 1,212
All-in costs per ounce sold	\$ 1,330	\$ 1,178	\$ 1,319	\$ 1,292
Average realized gold price	\$ 1,213	\$ 1,278	\$ 1,274	\$ 1,256
Cash operating margin per ounce sold	\$ 418	\$ 533	\$ 542	\$ 419
All-in sustaining margin per ounce sold	\$ (66)	\$ 174	\$ 30	\$ 44

¹ Cost adjustment includes any unusual items recorded during the quarter that do not relate to the current quarter's cost of sales or are non-cash items.

Reconciliation of Cash Operating Costs, All-In Sustaining Costs per Ounce Sold by Mine Complex/Site

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Turmalina Complex				
Operating costs	\$ 6,458	\$ 7,843	\$ 24,757	\$ 32,152
Sustaining capital expenditures	4,196	1,673	16,490	8,867
All-in sustaining costs¹	\$ 10,654	\$ 9,516	\$ 41,247	\$ 41,019
Ounces of gold sold	8,206	12,142	32,839	45,575
Cash operating costs per ounce sold¹	\$ 787	\$ 646	\$ 754	\$ 705
All-in sustaining cost per ounce sold^{1,2}	\$ 1,298	\$ 784	\$ 1,256	\$ 900
Caeté Complex				
Operating costs	\$ 7,557	\$ 7,682	\$ 29,824	\$ 37,917
Sustaining capital expenditures	2,331	3,213	11,529	11,173
All-in sustaining costs¹	\$ 9,888	\$ 10,895	\$ 41,353	\$ 49,090
Ounces of gold sold	9,416	8,699	41,691	38,174
Cash operating costs per ounce sold¹	\$ 803	\$ 883	\$ 715	\$ 993
All-in sustaining cost per ounce sold^{1,2}	\$ 1,050	\$ 1,252	\$ 992	\$ 1,286
Pilar Mine				
Operating costs	\$ 7,557	\$ 6,582	\$ 28,713	\$ 31,619
Sustaining capital expenditures	2,331	2,856	11,529	9,753
All-in sustaining costs¹	\$ 9,888	\$ 9,438	\$ 40,242	\$ 41,372
Ounces of gold sold	9,416	7,880	40,797	33,747
Cash operating costs per ounce sold¹	\$ 803	\$ 835	\$ 704	\$ 937
All-in sustaining cost per ounce sold^{1,2}	\$ 1,050	\$ 1,198	\$ 986	\$ 1,226

¹ Results of individual mines may not add up to the consolidated numbers due to rounding.

¹ Cash operating costs and all-in sustaining costs are all non-gaap financial performance measures with no standard definition under IFRS. Results of individual mines may not add up to the consolidated numbers due to rounding.

² The AISC calculation by mine site does not include allocation of Corporate (Toronto and Belo Office G&A).

Reconciliation of Free Cash Flow

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Cash generated from operating activities	\$ 5,180	\$ 5,387	\$ 21,183	\$ 14,968
Sustaining capital expenditures	(6,527)	(4,885)	(28,019)	(20,039)
Free cash flow	\$ (1,347)	\$ 502	\$ (6,836)	\$ (5,071)
Ounces of gold sold	17,622	20,841	74,530	83,750
Free cash flow per ounce sold	\$ (76)	\$ 24	\$ (92)	\$ (61)

Reconciliation of Net Loss to EBITDA and Adjusted EBITDA

(\$ thousands, except where indicated)	Three months ended		Twelve months ended	
	December 31,		December 31,	
	2018	2017	2018	2017
Net loss	\$ (15,065)	\$ 16,034	\$ (15,968)	\$ (2,830)
Income tax expense	7	8	42	1,297
Finance costs	840	1,541	3,690	5,593
Depreciation and amortization	5,029	5,344	19,358	22,811
EBITDA	\$ (9,189)	\$ 22,927	\$ 7,122	\$ 26,871
Impairment charges	9,028	(20,008)	9,028	(14,830)
Loss on disposal of subsidiary	-	4,902	-	4,902
Changes in other provisions and VAT taxes	2,159	840	2,226	3,653
Foreign exchange loss (gain)	417	(1,103)	(1,187)	(478)
Stock-based compensation	155	140	1,086	991
Inventory write-down	-	-	-	929
Financial instruments loss (gain)	263	-	2,441	(327)
Adjusted EBITDA	\$ 2,833	\$ 7,698	\$ 20,716	\$ 21,711

¹ This is a non-gaap financial performance measure with no standard definition under IFRS.

RISKS AND UNCERTAINTIES

The business of the Company involves significant risk due to the nature of mining, exploration and development activities. Certain risk factors are related to the mining industry in general while others are specific to Jaguar. The Company's exposure to risks and other uncertainties are more particularly described in the Company's Annual Information Form for the year ended December 31, 2018, filed on SEDAR under the profile of Jaguar Mining Inc. Such risk factors could materially affect the future operating results of the Company and could cause actual events to differ materially from those described in forward-looking statements relating to the Company.

Further exploration on, and development of, the Company's properties will require additional capital. In addition, a positive production decision on any of the Company's development projects would require significant capital for project engineering and construction. Accordingly, the continuing development of the Company's properties will depend upon the Company's ability to either generate sufficient funds internally or to obtain financing through the joint venturing of projects, debt financing, equity financing or other means.

The Company's principal operations and mineral properties are located in Brazil. There are additional business and financial risks inherent in doing business in Brazil as compared to the United States or Canada. Since 1996, Transparency International has published the "Corruption Perceptions Index" ("CPI") annually ranking countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. The CPI ranks countries on a scale from 100 (very clean) to 0 (highly corrupt). In 2018 and out of 180 countries in the World, Canada was ranked 9th with CPI score of 81, the United States was ranked 22nd with a CPI score of 71, and Brazil was ranked 105th with a CPI score of 35. In 2016, Brazil had a score of 40 and was ranked 79th. The average score on the 2018 Corruption Perceptions Index was 43 out of 100. Anything below 50 indicates governments are failing to tackle corruption and it represents a challenge in those countries requiring extra attention by those who conduct business there.

Corruption does not only occur with the misuse of public, government or regulatory powers, it also can occur in business's supplies, inputs and procurement functions (such as illicit rebates, kickbacks and dubious vendor relationships) as well as the inventory and product sales functions (such as inventory shrinkage or skimming). Employees as well as external parties (such as suppliers, distributors and contractors) have opportunities to commit procurement fraud, theft, embezzlement and other wrongs against the Company. While corruption, bribery and fraud risks can never be fully eliminated, the Company reviews

and implements controls to reduce the likelihood of these irregularities occurring. The Company utilizes an internal auditor, third-party security services and closed-circuit video surveillance at its operations in Brazil.

The Company has invested resources to document and assess its system of internal control over financial reporting and undertakes an evaluation process of such internal controls. Internal control over financial reporting are procedures designed to provide reasonable assurance that transactions are properly authorized, assets are safeguarded against unauthorized or improper use, and transactions are properly recorded and reported. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, safeguards with respect to the reliability of financial reporting and financial statement preparation.

As part of the annual audit of the Company's annual financial statements, the Company's external auditor assesses the effectiveness of the Company's internal controls for financial reporting and communicates to the Company's audit committee any significant deficiencies that the external auditor has identified. In the past, the external auditor has at times identified some deficiencies that have been reviewed, assessed, discussed with the external auditor and, if required, remedied by the Company. The Company currently believes that no material weakness exists in regard its internal controls for financial reporting that result in a reasonable possibility that a material misstatement of Company's financial statements will not be prevented or detected on a timely basis. However, if the Company fails to maintain the adequacy of its internal control over financial reporting, as either the Company's or applicable regulatory standards are modified, supplemented, or amended from time to time, then the Company may not be able to ensure that it can conclude on an ongoing basis that it has effective internal controls over financial reporting. If in the future the Company is required to disclose a material weakness in its internal controls over financial reporting, then this could result in the loss of investor confidence in the reliability of the Company's financial statements, which in turn could harm the Company's business and negatively impact the trading price of its common shares. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm the Company's operating results or cause it to fail to meet its reporting obligations.

The Company currently has a working capital deficit and will be reliant on external equity, long-term debt or other types of financing for its short-term and long-term working capital requirements and to fund its exploration and development programs. There is no assurance that a future significant financing will be available to the Company, or that it will be available on acceptable terms. If an equity or convertible securities financing is undertaken and completed by the Company, the Company's current stockholders will suffer immediate dilution to their equity and voting interests as a result of such a financing. If additional capital is not available in sufficient amounts or on a timely basis, the Company will experience liquidity problems, and the Company could face the need to significantly curtail current operations, change its planned business strategies and pursue other remedial measures. Any curtailment of business operations would have a material negative effect on operating results, the value of the Company's outstanding common shares and the Company's ability to continue as a going concern.

CRITICAL ACCOUNTING ESTIMATES

The preparation of the condensed interim consolidated financial statements in conformity with IFRS requires Management to make estimates, judgments, and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected. Certain estimates, such as those related to the assessment of recoverability of the carrying amount of property, plant, equipment and mineral exploration projects, royalty receivable, valuation of recoverable taxes, deferred tax assets and liabilities, reclamation provisions, derivatives, liabilities associated with certain long-term incentive plans, measurement of inventory, provisions for legal actions and contingencies, and disclosure of contingent assets and liabilities depend on subjective or complex judgments about matters that may be uncertain. Changes in these estimates could materially impact the Company's condensed interim consolidated financial statements.

The critical accounting estimates, judgments, and assumptions applied in the preparation of the Company's condensed interim consolidated financial statements for the three and twelve months ended December 31, 2018, are consistent with those applied and disclosed in the audited annual consolidated financial statements for the year ended December 31, 2018.

For details of these estimates, judgments, and assumptions, please refer to the Company's audited annual consolidated financial statements for the year ended December 31, 2018, which are available on the Company's website and on SEDAR.

Going concern

The Company's financial statements were prepared on a going concern basis (see Note 2 to the annual audited consolidated financial statements), which assumes that the Company will continue its operations for the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of business as they become due.

The Company has incurred a net loss of \$16.0 million for the year ended December 31, 2018 and has an accumulated deficit of \$465.6 million. The Company considers that the near term economic outlook presents challenges in terms of sustained commodity prices as well as maintaining production levels and acknowledges the development and sustaining capital requirements and foreign exchange risks associated with its business operations. Whilst the Company has instituted measures to preserve cash, improve operations and is seeking to secure additional financing, these circumstances create uncertainties over future results and cash flows.

The Company had a working capital deficiency of \$2.4 million as at December 31, 2018. The Company will need to obtain additional financing in order to meet its near-term operating cash requirements, debt payments, development and sustaining capital expenditures. There is no assurance that the Company's financing initiatives will be successful or sufficient.

On March 15, 2019, the Company entered into a senior secured loan facility ("Auramet loan facility") agreement with lender Auramet International LLC totaling \$7.9 million with a maturity date of July 15, 2019 to fund working capital requirements, under ground development at Turmalina and for general corporate purposes while it continues to explore its longer term financing options.

The business of mining and exploring for minerals involves a high degree of risk and there can be no assurance that current operations or exploration programs will result in profitable mining operations. This fact, along with the factors discussed in the preceding paragraphs results in a material uncertainty that casts significant doubt as to the Company's ability to continue to operate as a going concern. The recoverability of the carrying value of property, plant and equipment and mineral exploration projects is dependent upon the success of the above operating, exploration and financing activities and the future gold price. Changes in future conditions could require material write-downs of the carrying value of property, plant and equipment and mineral exploration projects.

If the going concern assumption was not appropriate for these consolidated financial statements, then adjustments would be necessary to the carrying value of assets and liabilities, the reported expenses, and the statement of financial position classifications used, and such adjustments could be material. The consolidated financial statements do not include any adjustment to the carrying amount, or classification of assets and liabilities, if the Company was unable to continue as a going concern.

CHANGES IN ACCOUNTING POLICIES

The accounting policies and estimates applied in these condensed interim consolidated financial statements are consistent with those used in the Company's audited annual consolidated financial statements for the year ended December 31, 2018, except for a change in the units of production depreciation, a definition of the accounting treatment for customer advances, that were effective and adopted as of January 1, 2018:

- Customer advances – Significant judgment was required in determining the appropriate accounting treatment for interest-bearing customer advances. The upfront cash deposit received from the customer is accounted for as deferred revenue, as the Company has determined that such will be recognized through the delivery of non-financial products (gold concentrate) rather than cash or financial assets. It is the Company's intentions to settle the advance obligations through its own production and, if this were not possible, this would lead to the advance arrangement becoming a derivative since a cash settlement payment may be required. This would cause a change to the accounting treatment, resulting in the revaluation of the fair value of the agreement through the income statement on a recurring basis.

- Units of production depreciation –As of January 1, 2018, the Company changed the accounting estimates used to depreciate the Caeté’s mining properties and mineral exploration projects on a unit-of-production basis from using the expected amount of recoverable reserves to the use of the expected amount of recoverable mineral resources. The change in accounting estimate was made to ensure depreciation reflects management’s best estimate of the useful life of the Caeté project and has been accounted for on a prospective basis. Due to the annual updating of recoverable mineral resources, it is impracticable to estimate the impact of the change in estimate in future periods.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING

Disclosure Controls and Procedures

Disclosure controls and procedures are designed to provide reasonable assurance that material information is gathered and reported to senior management, including the President and Chief Executive Officer (“CEO”) and the Chief Financial Officer (“CFO”), as appropriate to permit timely decisions regarding public disclosure.

The Company’s Management, including the CEO and CFO, has as at December 31, 2018, designed Disclosure Controls and Procedures (as defined in National Instrument 52-109 of the Canadian Securities Administrators), or caused them to be designed under their supervision, to provide reasonable assurance that material information relating to the issuer is made known to them by others, particularly during the period in which the interim filings are being prepared; and information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation.

Internal Control over Financial Reporting

The Company’s Management, including the CEO and CFO, is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the CEO and CFO and effected by Management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. There have been no changes in the Company’s internal control over financial reporting during the year ended December 31, 2018, that have materially affected, or are reasonably likely to affect, the Company’s internal control over financial reporting.

Limitations of Controls and Procedures

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this MD&A constitute “forward-looking information” within the meaning of applicable Canadian securities legislation. This forward-looking information includes, but is not limited to, statements concerning the Company’s future objectives, Measured and Indicated Mineral Resources, Proven and Probable Mineral Reserves, their average grade, the commencement period of production, cash operating costs per ounce and completion dates of feasibility studies, gold production and sales targets, capital expenditure costs, future profitability and growth in mineral reserves. Forward-looking information can be identified by the use of words such as “are expected,” “is forecast,” “is targeted,” “approximately,” “plans,” “anticipates,” “projects,” “anticipates,” “continue,” “estimate,” “believe” or variations of such words and phrases or statements that certain actions, events or results “may,” “could,” “would,” “might,” or “will” be taken, occur or be achieved. Forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results or performance to be materially different from any future results or performance expressed or implied by the forward-looking information. These factors include the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drilling results and other geological data, fluctuating gold prices and monetary exchange rates, the possibility of project delays and cost overruns or unanticipated costs and expenses, uncertainties relating to the availability and costs of financing needed in the future, uncertainties related to production rates, timing of production and the cash and total costs of production, changes in applicable laws including laws related to mining development, environmental protection, and the protection of the health and safety of mine workers, the availability of labour and equipment, the possibility of civil insurrection, labour strikes and work stoppages and changes in general economic conditions. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those contained in forward-looking information, there may be other factors that could cause actions, events or results to differ from those anticipated, estimated or intended.

This forward-looking information represents the Company’s views as of the date of this MD&A. The Company anticipates that subsequent events and developments may cause the Company’s views to change. The Company does not undertake to update any forward-looking information, either written or oral, that may be made from time to time by, or on behalf of the Company, subsequent to the date of this discussion, other than as required by law. For a discussion of important factors affecting the Company, including fluctuations in the price of gold and exchange rates, uncertainty in the calculation of mineral resources, competition, uncertainty concerning geological conditions and governmental regulations and assumptions underlying the Company’s forward-looking information, see “CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS” and “RISK FACTORS” in the Company’s Annual Information Form for the year ended December 31, 2018 that can be accessed under the profile of Jaguar Mining Inc. on SEDAR at www.sedar.com. Further information about the Company is available on its corporate website at www.jaguarmining.com.