TREVALI MINING CORPORATION

NOTE TO READER

Please be advised that the Management's Discussion and Analysis for the year ended December 31, 2018 (the "MD&A") which follows has been re-filed to replace the one filed yesterday, February 20, 2019, in order to correct typographical errors in the reported figures for C1 Cash Cost per pound and All-in sustaining cost per pound for the three months ended December 31, 2018 in the table at page 7 of the MD&A.

February 21, 2019.

TREVALI MINING CORPORATION

MANAGEMENT'S DISCUSSION AND ANALYSIS

For the year ended December 31, 2018

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INTRODUCTION

This Management's Discussion & Analysis ("MD&A") of our results of operations is prepared as of February 20, 2019 and should be read in conjunction with our audited consolidated financial statements for the year ended December 31, 2018 which have been prepared in accordance with International Financial Reporting Standards ("IFRS"). A reference to Trevali, the Company, us, we or our refers to Trevali Mining Corporation. All dollar amounts are in thousands of United States ("US") dollars, unless otherwise noted. References to C$ are to Canadian dollars. In addition, we use certain financial performance measures that are not measures recognized under IFRS and do not have a standardized meaning under IFRS: Refer to the 'Use of Non-IFRS Financial Performance Measures' section for the detailed description of these financial measures and a reconciliation to the most directly comparable financial measure under IFRS.

This MD&A contains certain forward-looking information and forward-looking statements that are subject to risk factors set out in the cautionary statement of this report under "Notes to Reader", as well as the risk factors discussed in our most recent Annual Information Form. This MD&A has been prepared in accordance with the requirements of the securities laws in effect in Canada, which may differ materially from the requirements of the United States securities laws applicable to US issuers. The technical and scientific information in the MD&A has been approved by qualified persons based on a variety of assumptions and estimates. For a discussion of each of the above matters, readers are urged to review the "Notes to Reader" section beginning on page 29 of this MD&A.

Additional information about us is contained in our continuous disclosure materials, including our most recent Annual Information Form, consolidated financial statements and Management Information Circular, available on SEDAR at www.sedar.com.

OUR BUSINESS

We are a natural resource company engaged in the acquisition, exploration, development and production of mineral properties. We are producing zinc concentrates from the Perkoa mine in Burkina Faso, and zinc and lead-silver concentrates from the Rosh Pinah mine in Namibia, the Caribou mine in the Bathurst Mining Camp, northern New Brunswick, Canada and the Santander mine in Peru. In addition, Trevali owns the Halfmile project, the Stratmat and Restigouche polymetallic deposits, the Ruttan mine in northern Manitoba, Canada and an effective 44% interest in the Gergarub project in Namibia as well as options to acquire majority positions in the Heath Steele and Murray Brook deposit located in New Brunswick, Canada.

In August 2017, we completed the acquisition of a portfolio of zinc assets from Glencore plc and certain of its subsidiaries (collectively referred to as "Glencore"), including a 90.0% interest in the Perkoa mine in Burkina Faso ("Perkoa"), an 80.1% interest in the Rosh Pinah mine in Namibia ("Rosh Pinah"), an effective 39% interest in the Gergarub project in Namibia, and an option to acquire 100% interest in the Heath Steele project in Canada along with related exploration properties and other assets.

On May 31, 2018, Trevali increased its beneficial ownership in Rosh Pinah from 80.1% to 90.0% through a partial share buy-back, which also increased our indirect ownership interest in the Gergarub deposit from 39% to 44%.

FINANCIAL AND OPERATIONAL HIGHLIGHTS

- Successfully achieved 2018 production guidance. Total 2018 zinc production of 407 million payable pounds, in-line with initial guidance of 400 – 427 million pounds set at the start of 2018. Total lead production of 41.7 million payable pounds and silver production of 1.3 million ounces. The increase in production compared to previous year is primarily due to the addition of Perkoa Mine and Rosh Pinah Mine which were acquired on August 31, 2017.

- During the last 18 months, strengthened the executive leadership team with the appointment of a new CFO, COO and other operating management team with extensive experience in mining operations. Subsequent to December 31, 2018, the Company announced that as part of the Company's ongoing transformation, vision and strategy to be a premier global base metals mining company, Mark Cruise plans to step down as President and Chief Executive Officer of the Company and Mike Hoffman plans to step down as Chair of the Board of Directors of the Company. During the interim period, the Board of Directors has formed a Transition Oversight Committee to oversee the search process and ensure an efficient transition, and to provide additional oversight and support to the President and Chief Executive Officer and his team, as well as the Chair, throughout the leadership transition.
- The net loss for year ended December 31, 2018 is due to the recognition of a non-cash impairment charge related to historic acquisition and construction costs and was primarily driven by the decline in the price of zinc. The Company completed an impairment analysis which considered the indicators of impairment in accordance with IAS 36: Impairment of Assets ("IAS 36"), and reduced the carrying value of its mine operations by a net $263.0 million (comprised of $311.8 million impairment of property, plant and equipment, goodwill and exploration and evaluation assets and a deferred tax recovery of $48.8 million).
- As a result of this impairment, the Company did not meet the tangible net worth ("TNW") ratio covenant on the $275.0 million Revolving Credit Facility (the "Facility") as at December 31, 2018 which provides the syndicate of lenders the option to accelerate the repayment terms of the Facility. Consequently, the carrying value of the Facility was reclassified to current liabilities despite an impairment having no impact on operating cash flow. Subsequent to year end, the TNW ratio was amended with the support of the full banking syndicate and confirmed the option to accelerate repayment will not be exercised. The Company is in full compliance with its debt covenants including the interest coverage and leverage ratio covenants and expects to report the carrying value of the Facility as non-current in its quarterly reporting for the three months ended March 31, 2019.
- Loss attributable to owners of Trevali in the fourth quarter was $238.8 million or $0.29 per share, compared to a profit of $23.8 million or $0.03 per share, over the same period a year ago. Adjusted Earnings per Share to all shareholders was $0.01 compared with $0.03 over the same period of previous year. The decrease of Adjusted Earnings per Share in the fourth quarter of 2018 is primarily due to lower production and higher costs at Caribou and a decrease in metal prices. These lower production levels resulted in a higher Operating Cost per tonne in the current quarter compared to 2017.
- Exploration activities continued to focus on extended mineralized zones at depth at all operations with updated year- end Mineral Resources and Mineral Reserves anticipated to be declared later in the first quarter. Specific highlights in 2018 include the emerging Santander Pipe deposit, which will remain a focus for 2019, extensions to the Perkoa deposit where the Hanging Wall zone was extended approximately 300 metres below the deepest level of the mine and material extensions along strike and at depth to the Western Ore field deposit at Rosh Pinah. Finally, regional exploration drilling commenced at Perkoa in Q4 of 2018 and has successfully intersected sulphide bearing (stringer – disseminated to narrow massive zones – non-economic to date) volcanogenic massive sulphide ("VMS") systems at several of the targets. Drill testing is ongoing.
- The decrease of working capital position to $16.9 million as of December 31, 2018 compared to $144.4 million at December 31, 2017 is due to the reclassification of $132.0 million related to the Facility from non-current liabilities to current, as noted above. Adjusted working capital is $148.8 million after adjusting for this temporary debt reclassification. As at December 31, 2018, net debt and total debt of the Company is $67.0 million and $132.4 million, respectively ($66.4 million and $160.6 million at December 31, 2017).

- On November 15, 2018, the Company announced that the Toronto Stock Exchange had accepted the Company's notice to implement a normal course issuer bid ("NCIB"). The approval allows the Company to purchase, for cancellation, up to 40.0 million common shares having a maximum aggregate purchase price of C$20 million, over a twelve month period commencing on November 19, 2018. As at December 31, 2018, the Company repurchased and cancelled 12.7 million common shares at a total cost of $3.5 million. The NCIB will expire no later than November 18, 2019.
- On September 18, 2018, the Company entered into an amended and restated credit agreement with a syndicate of lenders for a new $275.0 million Facility with $136.5 million drawn down as of December 31, 2018. The Facility replaced the $160.0 million term and $30.0 million revolving facilities entered into in August 2017 and it is expected to result in reduced interest payments and afford the Company the flexibility to repay debt without compromising total available liquidity. As noted above, the Company is in full compliance with its debt covenants including the tangible net worth ratio covenant.
- On May 31, 2018, Trevali increased its beneficial ownership in Rosh Pinah from 80.1% to 90.0% through a partial share buy-back, which also increased our indirect ownership interest in the Gergarub deposit from 39% to 44%.
- On April 27, 2018, the Company entered into an option agreement with Puma Exploration Inc. ("Puma"), pursuant to which Trevali has an option to acquire an interest in the Murray Brook Project by providing approximately $5.5 million in financing for Puma to enable it to close its acquisition of the project, ultimately leading to a 75:25 percent ownership interest in the Murray Brook Project between the Company and Puma, respectively, and a 51:49 percent ownership in the Murray Brook East Property, respectively. The option agreement was amended on November 30, 2018 to extend certain payment periods. As at December 31, 2018, the Company has advanced $2.7 million to Puma.
- The ongoing efficiency improvement projects at Perkoa Mine and Rosh Pinah Mine continue to advance as planned. Several ongoing projects such as the new high-efficiency heavy fuel oil power plant at Perkoa Mine, and a new filter press, as well as flotation circuit and grinding circuit modifications at Rosh Pinah Mine are expected to be completed in 2019. The completion of these projects is expected to reduce operating costs. A review of the mining method at Caribou is ongoing with the aim to identify a lower cost mining alternative and improve the mine's cash flows.

STRATEGY

Our vision is to be a premier global base metals mining company preferred by investors for solid performance and by communities, partners and employees for mutual benefit and trust.

Our mission is to deliver superior financial returns through operational excellence and strategic allocation of capital, while valuing our people and investing in the communities and environments where we safely operate.

People

Trevali has bolstered its management team as part of its objective to further optimize stakeholder returns. The corporate team has more than doubled in size in the past year. We have a new senior finance team with a new Chief Financial Officer and a new Head of Group Finance; a new operating team with a new Chief Operating Officer announced following Perkoa and Rosh Pinah acquisition; new general managers at two of our four mines; and an enhanced Health, Safety, Environment and Community team in addition to in-house legal counsel, resource management, human resources, corporate development and investor relations capabilities.

Optimize Existing Operations

New management and operating teams have facilitated the transfer of skills, practices and knowledge across our operations, implementing best practices and continuously improving efficiencies. For example, we transferred underground operational skills and practices from our Santander mine to Rosh Pinah to enhance ground support and safety. At Caribou, we transferred underground geotechnical and CRF experience gained at Perkoa to reduce dilution and improve rock stability. From Rosh Pinah and Caribou, we transferred systems tracking and mine planning protocols to the other operations.

In order to improve cash flow stability and predictability, we are focused on enhanced concentrate transportation logistics and improving mine to mill planning and oversight.

Pursue Organic Growth Opportunities

Trevali plans to increase production and improve its cost position through strategic allocation of capital. At Rosh Pinah, Trevali's low operating cost and longest life mine, we are evaluating a capital-efficient, increase in mill throughput that will not only increase production, but is anticipated to improve efficiencies and enhance its position as the Company's lowest cost mine. Perkoa's heavy fuel oil project is expected to be commissioned in early 2019 with substantial annual savings (~$5 per tonne milled) and attractive returns (25+% IRR) expected.

Trevali also plans to grow the net asset value of the Company by exploration discovery and optimization of its current portfolio. Our proven exploration team is driving district-scale exploration to extend mine life. All our deposits remain open for expansion with exploration drill programs ongoing.

An exploration team was built at Perkoa with the objective of extending the life of that deposit in addition to conducting mineral belt scale exploration. The Rosh Pinah deposit is being re-evaluated from first principles and the exploration potential is ranked as excellent. At Santander, there is an increased focus on the Santander Pipe and its higher grades as well as regional exploration. Finally, in the Bathurst mining camp, the Company has six VMS deposits providing optionality and long-term feed to the Caribou mill.

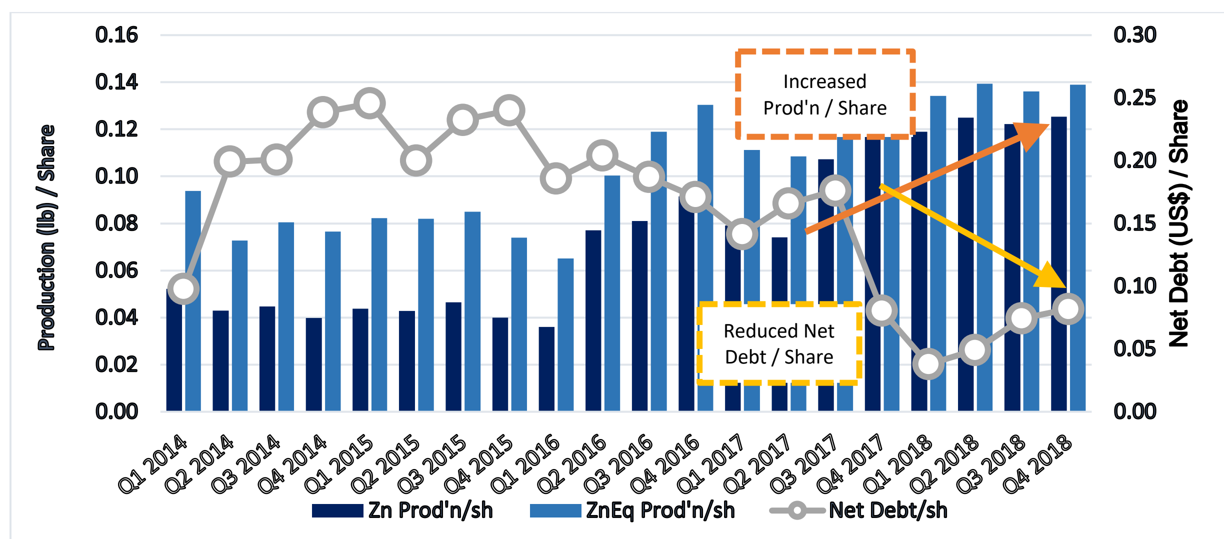
The Company is currently in the process of preparing updated mineral reserves and mineral resources statements as of December 31, 2018 and expects to publish these in near the end of Q1 2019.

Evaluate Accretive Investment Opportunities

Trevali strives to maintain a track record of disciplined and patient capital allocation. For example, based on market conditions we are returning cash to our shareholders through a C$20 million NCIB, taking advantage of the Company's strong balance sheet to increase production per share. For the year ended December 31, 2018, the Company purchased and cancelled 12,700,000 common shares at a total consideration of $3.5 million (C$4.7 million). In addition, further cash is being applied to repay our $275 million Facility with a further $25.0 million repaid in January 2019.

Growing Production and Reducing Net Debt, Benefiting All Shareholders

Trevali has been utilizing its balance sheet and cash flow to add incremental production. We have built liquidity and reduced net debt over the past year, optimizing the balance sheet and positioning the Company for future smart growth.



OUTLOOK

Our 2019 operational and financial performance will be influenced by our production and operating costs.

		2018 Actual	2019 Guidance
Production			
Payable zinc in concentrate	Mlbs	406.9	361 – 401
Payable lead in concentrate	Mlbs	42	44 – 49
Payable silver	Mozs	1.3	1.3 – 1.5
Costs			
Operating Cost[1]	$/tonne milled	68	69 – 76
C1 Cash Cost[1]	$/lb	0.77	0.81 – 0.88
AISC[1]	$/lb	0.96	0.99 – 1.09

[1] *Costs are based on various assumptions and estimates, including, but not limited to: production volumes, commodity prices (Zn: $1.13/lb Pb: $0.94/lb Ag: $14.50/lb), foreign currency exchange rates (NAD/USD: 13.50; XOF/USD: 560; PEN/USD 3.25; C$/USD $1.30) and normal operating conditions. See "Use of Non-IFRS Financial Performance Measures" for details.*

As noted in the Strategy section, we plan to leverage our strong financial position and operating cash flow to invest in our operating mines:

	2018 Actual	2019 Guidance
Exploration spending	$12.8 million	$8 million
Capital expenditures – sustaining/ expansionary	$76.7 million	$74 million

The 2019 exploration program will continue to focus on a combination of brownfield, near-mine, exploration targets to expand and discover new resources in proximity to existing mine infrastructure and extend the current mine lives. For 2019, the Company intends to invest a minimum $8.0 million in approximately 36,300 metres of diamond drilling from surface and underground primarily focused on the Perkoa and Santander mineral systems. Contingent on positive results and available funds, additional funding may be deployed towards further drilling.

Relative to 2018, higher capital expenditures at Rosh Pinah and Santander are planned, with incremental spending on process plant upgrades (new filter press and flotation and grinding circuit improvements) and power infrastructure, respectively, being the main drivers.

For a discussion of our 2019 expectations for individual mine production and costs, refer to the section Operations Review below and Trevali's news release dated January 17, 2019.

Commodity Markets

In addition to our operating results, financial performance is directly affected by several factors, including metals prices, foreign exchange rates, and input costs, including energy prices. The annual average price for zinc was up 1% in 2018 compared to 2017, while lead and silver prices were down 3% and 8%, respectively.

We believe strong fundamentals supportive of higher prices are present in the zinc market. Wood Mackenzie research forecasts global zinc demand to increase by 1.5% per year through 2023, equivalent to approximately 240,000 tonnes/year. Demand for zinc is expected to be driven by GDP growth, urbanization and infrastructure development, and as a "mid-cycle" commodity with expanding markets for consumer goods. While mined zinc supply is increasing, the pace of growth has continued to fall short of market expectations. Despite this mine supply growth, refined supply has failed to keep pace as low metal prices and treatment charges and more stringent environmental compliance requirements in China have limited the ability of smelters to respond and increase output. The combined impact has kept the zinc metal market in deficit position, with exchange inventories continuing to decline. Refined metal stocks are expected to fall to historically low levels in 2019, supporting higher zinc prices.

Sensitivity Analysis

The following table summarizes the effect of changes in the zinc price on the Company's 2019 revenue and net income outlook, based on an assumed production of 401 million pounds of payable zinc, which represents the top of the Company's production guidance for 2019.

Zinc $/lb	**$1.05**	**$1.10**	**$1.15**	**$1.20**	**$1.25**	**$1.30**
Revenue	$344	$364	$384	$404	$424	$444
EBITDA[1]	$82	$102	$122	$142	$162	$182
Net income	$1	$19	$37	$55	$73	$91

[1] *See "Use of Non-IFRS Financial Performance Measures" for details.*

The sensitivity analysis of changes in the zinc price is based on various assumptions and estimates, including, but not limited to: production volumes (401 million pounds of payable zinc), commodity prices (Pb: $0.94/lb Ag: $14.50/lb), foreign currency exchange rates (NAD/USD: 13.50; XOF/USD: 560; PEN/USD 3.25; C$/USD $1.30) and normal operating conditions. The sensitivity analysis contains "forward-looking statements" and represents management's good faith estimates or expectations of future revenues as of the date hereof. See the "Notes to Reader" section beginning at page 28 of this MD&A.

FINANCIAL AND OPERATIONAL SUMMARY

FINANCIAL SUMMARY

	Year ended December 31,	
	2018	2017
Cash and cash equivalent	$ 65,462	$ 94,135
Working capital	16,851	144,350
Adjusted working capital[1]	148,855	144,350
Total assets	825,740	1,180,159
Non-current liabilities	146,249	320,652
Total revenue	402,589	330,533
EBITDA	(176,569)	100,960
Adjusted EBITDA	137,049	119,029
Net (loss) income for the year	(230,595)	20,227
Basic and diluted (loss) income per common share (Owner of Trevali)	$ (0.27)	$ 0.03
Adjusted basic and diluted income per common share (Total)	$ 0.04	$ 0.07

[1] *Working capital at December 31, 2018 has been adjusted for the temporary reclassification of the carrying value of the Revolving Credit Facility from non-current to current liabilities.*

OPERATING SUMMARY

		Three months ended December 31,		Year ended December 31,	
		2018	2017	2018	2017[1]
Tonnes mined		723,384	832,878	2,973,669	2,128,018
Tonnes milled		737,496	818,690	3,054,768	2,250,464
Zinc head grade		8.8%	8.0%	8.3%	6.4%
Lead head grade		1.2%	1.6%	1.4%	1.7%
Silver head grade	(ozs/ton)	1.1	1.3	1.2	1.6
Zinc recovery rate		85.9%	84.2%	87.0%	83.2%
Lead recovery rate		70.3%	68.3%	65.1%	69.7%
Silver recovery rate		48.5%	48.7%	43.9%	50.7%
Zinc concentrate produced	DMT	114,572	113,284	453,582	247,129
Lead concentrate produced		13,426	15,442	53,677	53,784
Zinc concentrate grade		48.6%	49.9%	48.7%	49.3%
Lead concentrate grade		35.8%	42.5%	38.2%	41.5%
Silver in lead concentrate	(ozs/ton)	22.7	24.3	23.1	27.3
Zinc payable production	Mlbs	102.7	104.8	406.9	225.1
Lead payable production	Mlbs	9.7	13.5	41.7	45.8
Silver payable production	Moz	0.3	0.4	1.3	1.6
Sales					
Zinc concentrate sold	DMT	141,550	151,173	448,402	271,043
Lead concentrate sold	DMT	14,344	20,701	49,792	59,518
Operating Cost per tonne[2]	$/t	77	68	68	57
C1 Cash Cost per pound[2]	$/lb	0.90	0.81	0.77	0.69
All-in sustaining cost per pound[2]	$/lb	1.15	0.98	0.96	0.88

[1] *The Perkoa and Rosh Pinah Mines were acquired August 31, 2017. The 2017 comparatives include only the period from September 1 to December 31, 2017.*

[2] *See "Use of Non-IFRS Financial Performance Measures".*

OPERATIONS REVIEW

CONSOLIDATED REVENUES

		Three months ended December 31,			Year ended December 31,		
		2018	2017	Change	2018	2017	Change
Revenue							
Zinc revenue	$	145,594	200,479	(54,885)	526,177	337,890	188,287
Provisional pricing adjustments		2,027	4,210	(2,183)	(58,645)	1,311	(59,956)
Lead and silver revenue		14,710	30,300	(15,590)	62,309	83,277	(20,968)
Provisional pricing adjustments		(373)	50	(423)	(3,113)	608	(3,721)
Smelting and refining costs		38,540	46,267	(7,727)	124,139	92,553	31,586
Net revenue	$	123,418	188,772	(65,354)	402,589	330,533	72,056
Sales quantities							
Payable zinc	Mlbs	124.1	139.2	(15.1)	403.3	244.3	159.0
Payable lead	Mlbs	10.7	19.0	(8.3)	39.9	50.6	(10.7)
Payable silver	Mozs	0.3	0.5	(0.2)	1.2	1.6	(0.4)

All of Trevali's zinc and lead concentrate sales contracts provide final pricing in a future month (generally one to six months from the shipment date) based primarily on quoted London Metal Exchange ("LME") monthly average zinc and lead prices. Trevali recognizes revenues at the time of shipment based on estimated final pricing, with mark-to-market adjustments made each subsequent period until final pricing on the date of settlement.

Provisional pricing		Zinc	Lead
Spot 3-month future price as at September 28, 2018	$/lb	$ 1.15	$ 0.91
Provisionally price metal – September 30, 2018	Mlbs	96.3	5.1
Average 3-month future price for September 2018	$/lb	$ 1.10	$ 0.93
Average Q4 LME price	$/lb	$ 1.19	$ 0.89
Provisionally price metal – December 31, 2018	Mlbs	151.5	6.6
Average 3-month future price for December 2018	$/lb	$ 1.16	$ 0.90
Spot 3-month future price as at December 31, 2018	$/lb	$ 1.11	$ 0.92

Trevali estimates that each $0.05 change in the zinc price per pound realized from the December 31, 2018, $1.16 per pound provisional price recorded would have an average effect of approximately $4.5 million on 2019 revenues.

Fourth-Quarter Results

Loss attributable to shareholders in the fourth quarter was $238.8 million or $0.29 per share, compared to a profit of $23.8 million or $0.03 per share, over the same period a year ago. Total adjusted profit attributable to all shareholders, taking into account the items identified in the Use of Non-IFRS Financial Performance section below, was $12.0 million, or $0.01 per share, compared with $24.9 million, or $0.03 per share, in the same period of last year. The most significant adjusting item in the fourth quarter of 2018 is the net impairment of $263.0 million. The decrease of adjusted income per share in the fourth quarter of 2018 is primarily due to lower production and higher costs at Caribou and a decrease in metal prices.

Metal prices stabilized in late 2018 with a slight increase in the fourth quarter which resulted in a minimal provisional pricing adjustment. Compared to the fourth quarter of the previous year, the average LME zinc, lead and silver price in the fourth quarter of 2018 has decreased by 19%, 21% and 13% respectively. Lower production levels resulted in a higher Operating Cost per tonne in 2018 compared to the same quarter in the previous year.

The positive $2.0 million provisional price adjustment for zinc reflects the slight increase in the estimated final pricing at December 31, 2018 compared to the average realized zinc price during the fourth quarter.

Smelting and refining costs decreased in line with the decrease of production in the fourth quarter of 2018.

Full-Year Results

The net revenue for the year ended December 31, 2018 has increased by $72.1 million, compared to the previous year. This increase is mainly due to longer period of production included in 2018 as the 2017 comparative figures only include the production from Perkoa and Rosh Pinah for the period from September 1 to December 31, 2017 compared to a full year in 2018. The increase of sales volume partially offset the decrease in metal prices. This is reflected in the total negative mark-to-market adjustment of $61.8 million in 2018.

CONSOLIDATED MINE OPERATING EXPENSES

		Three months ended December 31,			Year ended December 31,		
		2018	**2017**	**Change**	**2018**	**2017**	**Change**
Ore mined	tonnes	723,384	832,878	(109,494)	2,973,669	2,128,018	845,651
Ore milled	tonnes	737,496	818,690	(81,194)	3,054,768	2,250,464	804,304
Zinc payable production	Mlbs	102.7	104.8	(2.1)	406.9	225.1	181.8
Lead payable production	Mlbs	9.7	13.5	(3.8)	41.7	45.8	(4.1)
Silver payable production	Moz	0.3	0.4	(0.1)	1.3	1.6	(0.3)
Mine operating expenses							
Production costs	$	67,883	117,076	(49,193)	215,726	185,688	30,038
Distribution costs	$	8,394	8,080	314	29,965	11,631	18,334
Royalties	$	3,565	5,003	(1,438)	11,609	6,595	5,014
Depreciation, depletion and amortization	$	14,365	20,708	(6,343)	67,562	40,532	27,030
	$	94,207	150,867	(56,660)	324,862	244,446	80,416

Fourth-Quarter Results

The decrease in mine operating expenses was mainly due to higher than normal production costs in 2017 resulting from the sale of stock that was acquired in the acquisition of Rosh Pinah and Perkoa and fair valued as part of the purchase price allocation effectively reducing the margin on the sale.

Full-Year Results

The increase in production costs was due to a decrease in production. Distribution costs increased greater than the increase in revenues due to $2.2 million of vessel demurrage charges incurred in 2018. Royalties increased in 2018 in line with the above noted increase in revenues. The increase in depreciation, depletion and amortization in 2018 was also due to the acquisition discussed above. The net result of the above variances was an increase in mine operating expenses in 2018 compared to 2017.

PERKOA MINE, BURKINA FASO

The Perkoa Mine is located in the Sanguie Province, approximately 120 kilometres west of the capital city of Ouagadougou, Burkina Faso. The Perkoa Mine has been in commercial operation since 2013 and currently produces zinc concentrate (there are no by-product metal revenues). The mine is expected to produce for another four years based on the most recent mineral resource – mineral reserve updates (see April 16, 2018 Mineral Reserves and Mineral Resources Statements for details) and production to date.

		Three months ended December 31,		Year ended December 31,	
		2018	**2017**	**2018**	**2017[1]**
Tonnes mined		161,815	203,635	708,263	270,909
Tonnes milled		185,662	180,022	724,995	237,832
Zinc head grade		15.4%	15.0%	14.9%	15.1%
Zinc recovery rate		90.0%	94.2%	91.8%	94.0%
Zinc concentrate produced	DMT	51,927	48,579	197,141	64,469
Zinc concentrate grade		49.6%	52.5%	50.3%	52.0%
Zinc payable production	Mlbs	47.6	47.7	184.0	62.8
Sales					
Zinc concentrate sold	DMT	57,769	84,824	194,770	84,824
Payable zinc	Mlbs	52.7	80.7	182.5	80.7
Operating Cost per tonne[2]	$/t	118	121	105	114
C1 Cash Cost per pound[2]	$/lb	0.88	1.09	0.80	0.91
AISC per pound[2]	$/lb	1.13	1.13	0.91	1.02
FINANCE					
Revenues, net	$	48,134	94,303	162,487	94,303
Mine operating expenses		36,402	71,444	108,402	71,444
Adjusted EBITDA[2]		11,732	22,859	54,085	22,859
Impairment and other		23,117	(14)	26,868	275
EBITDA[2]		(11,385)	22,873	27,217	22,584
Depreciation, depletion & amortization		1,390	10,761	27,904	10,761
EBIT[2]	$	(12,775)	12,112	(687)	11,823

[1] *The Perkoa Mine was acquired August 31, 2017. The 2017 comparatives include only the period from September 1 to December 31, 2017.*

[2] *See "Use of Non-IFRS Financial Performance Measures".*

Fourth-Quarter Results

Total ore milled in the fourth quarter of 2018 is similar to the same period of the previous year.

The decrease of mine site operating cost is consistent with the sale of a backlog of inventory at the end of 2017. In 2019, lower mined grades (estimated annual run-of-mine of 14.0% in 2019 versus 14.9% in 2018) are expected to lead to reduced metal production and consequently higher unitary costs. The increase in C1 Cash Cost over the nine months ended September 30, 2018 is due to the commencement of a new social development fund and while increased AISC is a direct result of $7.8 million of capital expenditures related to the construction of the heavy fuel oil plant ($5.3 million paid, $2.5 million accrued).

Full-Year Results

On August 8, 2018 a fatal accident at the Perkoa Mine claimed the life of one miner who was employed by the Company's mine contractor. The Trevali senior management team worked closely with the site's and contractor's management teams to thoroughly investigate the accident in conjunction with government authorities. The safety of everyone working in Trevali's operations is a priority and the Company has ensured that key learnings were shared with all of the Trevali operations to prevent future accidents (see news release dated August 9, 2018).

The increase in ore mined of 161% and ore milled of 205% compared to previous year is mainly due to a longer period of production included in the Company's MD&A. The 2017 comparatives figures only include the production for period from September 1 to December 31, 2017 compared to a full year in 2018.

The Company approved the procurement of a more efficient site power generating station in the first quarter of 2018. This project entails the installation of two 2.5MW heavy fuel oil generators for an estimated capital cost of $9.4 million and is expected to reduce the mine's Operating Cost by approximately $5 per tonne milled. The power generating station is expected to be commissioned in early 2019.

ROSH PINAH MINE, NAMIBIA

The Rosh Pinah underground zinc-lead mine is located in southwestern Namibia, approximately 800 km south of Windhoek and 20 km north of the Orange River, at the edge of the Namib Desert. The Rosh Pinah mine has been in continuous operation since 1969 and currently produces zinc and lead-silver concentrates. The zinc and lead concentrates are transported by truck to Luderitz, a port on the Namibian Coast, and then shipped to international markets. Lead concentrates are shipped approximately twice per year due to the relatively limited lead concentrate production. The mine is expected to produce for another eleven years based on the most recent mineral resource – mineral reserve estimates (see April 16, 2018 Mineral Reserves and Mineral Resources Statements for details) and production to date.

The Rosh Pinah mine is 90% owned by Trevali and 10% by Namibian Broad-Based Empowerment Groupings and an Employee Empowerment Participation Scheme ("EEPS"). On May 31, 2018, Trevali increased its beneficial ownership in Rosh Pinah from 80.1% to 90.0% and its indirect ownership interest in the Gergarub deposit from 39% to 44% through a partial share buy-back for $23.1 million.

		Three months ended December 31,		Year ended December 31,	
		2018	**2017**	**2018**	**2017[1]**
Tonnes mined		158,354	177,820	627,295	237,865
Tonnes milled		149,201	171,020	641,980	227,650
Zinc head grade		10.9%	8.4%	9.2%	8.5%
Lead head grade		0.8%	1.4%	1.0%	1.6%
Silver head grade	(ozs/ton)	0.4	0.5	0.5	0.6
Zinc recovery rate		84.9%	80.0%	86.8%	82.0%
Lead recovery rate		65.4%	60.4%	64.7%	60.0%
Silver recovery rate		53.2%	52.0%	46.8%	51.0%
Zinc concentrate produced	DMT	27,682	23,399	107,568	31,239
Lead concentrate produced		4,020	3,086	14,069	4,286
Zinc concentrate grade		49.7%	49.4%	47.7%	51.0%
Lead concentrate grade		19.8%	48.3%	30.5%	49.0%
Silver in lead concentrate	(ozs/ton)	6.9	16.0	8.8	16.0
Zinc payable production	Mlbs	25.4	21.3	94.2	29.3
Lead payable production	Mlbs	1.5	3.1	8.5	4.4
Silver payable production	Moz	0.0	0.0	0.1	0.1
Sales					
Zinc concentrate sold	DMT	45,528	21,656	103,313	31,379
Lead concentrate sold	DMT	5,891	8,265	11,279	8,265
Payable zinc	Mlbs	39.1	20.7	91.4	29.7
Payable lead	Mlbs	3.3	8.6	7.7	8.6
Payable silver	Moz	0.0	0.1	0.1	0.1
Operating Cost per tonne[2]	$/t	71	58	59	56
C1 Cash Cost per pound[2]	$/lb	0.91	0.40	0.70	0.47
AISC per pound[2]	$/lb	1.11	0.82	0.90	0.85

		Three months ended December 31,		Year ended December 31,	
		2018	2017	2018	2017[1]
FINANCE					
Revenues, net	$	36,937	37,373	91,980	45,632
Mine operating expenses		19,287	32,196	50,233	35,381
Adjusted EBITDA[2]		17,650	5,177	41,747	10,251
Impairment and other		82,102	(798)	80,305	401
EBITDA[2]		(64,452)	5,975	(38,558)	9,850
Depreciation, depletion & amortization		9,432	2,402	17,991	4,109
EBIT[2]	$	(73,884)	3,573	(56,549)	5,741

[1] *The Rosh Pinah Mine was acquired August 31, 2017. The 2017 comparatives include only the period from September 1 to December 31, 2017.*

[2] *See "Use of Non-IFRS Financial Performance Measures".*

Fourth Quarter Results

Zinc production was higher over the same quarter of the previous year as higher grades and recoveries offset lower mill throughput, as harder ore and higher head grades from the new Western Ore Field necessitated a reduction in milling rates. The increased Operating Cost and C1 Cash Cost is a direct result of lower milled tonnes due to higher grade feed from the mine and the sale of backlogged tonnes during the fourth quarter, representing 44% of pounds sold due to moisture and logistical challenges.

The decrease in mine operating expenses is a result of unusually high expenses in 2017 resulting from the sale of a backlog of inventory at the end of 2017.

Full-Year Results

The increase in ore mined of 164% and ore milled of 182% compared to the previous year is primarily due to a longer period of production included in the Company's MD&A. The 2017 comparative figures only include production for the period from September 1 to December 31, 2017 compared to a full year in 2018.

Business improvement programs have been implemented to target key operational areas including production drilling support, introduction of raise-boring to improve the stope production cycle, improved ore blending strategies and mobile fleet optimization. The mine site is also implementing improved operational activity-based planning processes and compliance monitoring. The Rosh Pinah 2.0 optimization study remains ongoing and is anticipated to be completed in the second half of 2019.

CARIBOU MINE, CANADA

The Company's wholly owned zinc-lead-silver Caribou Mine is located 50 kilometres west of Bathurst, New Brunswick, Canada. The Caribou Mine has been in production since the Company restarted underground mining operations in the first quarter of 2015 and commercial production was declared effective July 1, 2016. The mine produces zinc concentrates with lead-silver concentrate by-products. The mine is expected to produce for another five years based on the most recent mineral resource – mineral reserve estimates (see April 16, 2018 Mineral Reserves and Mineral Resources Statements for details) and production to date.

		Three months ended December 31,		Year ended December 31,	
		2018	**2017**	**2018**	**2017**
Tonnes mined		184,635	250,225	887,141	937,459
Tonnes milled		174,180	252,857	884,529	945,436
Zinc head grade		6.0%	6.0%	5.9%	5.9%
Lead head grade		2.3%	2.6%	2.3%	2.6%
Silver head grade	(ozs/ton)	1.9	2.3	2.0	2.2
Zinc recovery rate		72.9%	77.7%	75.6%	77.0%
Lead recovery rate		67.6%	65.7%	61.8%	63.0%
Silver recovery rate		38.2%	39.5%	36.4%	39.0%
Zinc concentrate produced	DMT	16,842	25,021	83,950	90,580
Lead concentrate produced		6,838	10,644	31,972	38,706
Zinc concentrate grade		44.9%	47.3%	46.9%	48.0%
Lead concentrate grade		39.3%	40.0%	38.8%	39.0%
Silver in lead concentrate	(ozs/ton)	18.7	21.8	20.5	21.4
Zinc payable production	Mlbs	13.7	21.7	72.0	79.9
Lead payable production	Mlbs	5.5	8.7	25.3	30.9
Silver payable production	Moz	0.1	0.2	0.7	0.9
Sales					
Zinc concentrate sold	DMT	18,637	28,408	85,554	94,240
Lead concentrate sold	DMT	5,831	10,699	30,948	40,402
Payable zinc	Mlbs	15.0	23.9	72.9	81.7
Payable lead	Mlbs	4.6	8.7	24.4	31.5
Payable silver	Moz	0.1	0.3	0.7	0.9
Operating Cost per tonne[1]	$/t	90	55	68	59
C1 Cash Cost per pound[1]	$/lb	1.28	0.55	0.85	0.62
AISC per pound[1]	$/lb	1.93	0.66	1.14	0.72
FINANCE					
Revenues, net	$	17,710	37,031	82,917	118,447
Mine operating expenses		15,084	16,150	60,802	59,695
Adjusted EBITDA[2]		2,626	20,881	22,115	58,752
Impairment and other		67,991	(269)	66,439	2,718
EBITDA[2]		(65,365)	21,150	(44,324)	56,034
Depreciation, depletion & amortization		2,319	4,416	10,751	13,972
EBIT[2]	$	(67,684)	16,734	(55,075)	42,062

[1] *See "Use of Non-IFRS Financial Performance Measures".*

Fourth Quarter Results

The mine has experienced challenging hanging wall rock mass conditions leading to changes to geotechnical control management, primarily requiring the move to cemented rock fill from unconsolidated fill. As previously reported on October 22, 2018, adverse conditions were experienced in two mining zones resulting in the cessation of retreat mining and the subsequent loss of production (almost 50,000 tonnes) from the remaining 2018 mine plan. This situation also led to a higher Operating Cost per tonne in the current quarter compared to the same quarter in the previous year. Further investment was made to increase mine flexibility through development activities and the mine is on track to return to normal production levels at the end of the first quarter of 2019.

Full-Year Results

The cessation of retreat mining during the fourth quarter of 2018 has led to lower production volume and a higher Operating Cost per tonne in the current year compared to the previous year.

Further external engineering studies are ongoing and in order to increase mining flexibility, Caribou management have strategically slowed the mining rate in order to accelerate mine development in the fourth quarter 2018 through to the first quarter 2019 to build more optionality and stability in the mine to deliver safe, strong and reliable results in 2019. As part of the ongoing engineering studies, alternative mining methods are being evaluated with the objective of reducing costs to improve the mine's productivity and cash flows.

SANTANDER MINE, PERU

The Company's wholly-owned Santander Mine is located approximately 215 kilometres northeast of Lima, Peru. The Santander Mine commenced commercial production January 1, 2014 and produces zinc concentrates with lead-silver concentrate by-products. The mine is expected to produce for another two years based on the most recent mineral resource –mineral reserve estimates (see April 16, 2018 Mineral Reserves and Mineral Resources Statements for details) and production to date.

		Three months ended December 31,		Year ended December 31,	
		2018	2017	2018	2017
Tonnes mined		218,580	201,198	750,970	681,785
Tonnes milled		228,454	214,791	803,265	839,546
Zinc head grade		4.3%	4.1%	4.3%	3.9%
Lead head grade		0.7%	0.5%	0.6%	0.8%
Silver head grade	(ozs/ton)	1.1	0.8	0.9	1.1
Zinc recovery rate		89.2%	86.9%	89.3%	87.0%
Lead recovery rate		80.4%	77.6%	80.0%	80.0%
Silver recovery rate		61.9%	56.9%	61.3%	64.0%
Zinc concentrate produced	DMT	18,121	16,286	64,923	60,841
Lead concentrate produced		2,568	1,712	7,636	10,792
Zinc concentrate grade		47.9%	47.3%	47.7%	48.0%
Lead concentrate grade		51.4%	47.6%	50.0%	47.0%
Silver in lead concentrate	(ozs/ton)	58.1	54.6	60.0	53.3
Zinc payable production	Mlbs	16.0	14.1	56.8	53.1
Lead payable production	Mlbs	2.7	1.7	7.9	10.5
Silver payable production	Moz	0.2	0.1	0.5	0.6

		Three months ended December 31,		Year ended December 31,	
		2018	2017	2018	2017
Sales					
Zinc concentrate sold	DMT	19,616	16,285	64,764	60,600
Lead concentrate sold	DMT	2,621	1,738	7,564	10,851
Payable zinc	Mlbs	17.3	14.0	56.5	52.2
Payable lead	Mlbs	2.8	1.7	7.8	10.6
Payable silver	Moz	0.2	0.1	0.5	0.6
Operating Cost per tonne[1]	$/t	33	47	43	40
C1 Cash Cost per pound[1]	$/lb	0.59	0.88	0.72	0.67
AISC per pound[1]	$/lb	0.63	1.22	0.99	0.95
FINANCE					
Revenues, net	$	20,636	20,064	65,205	72,151
Mine operating expenses		9,070	10,369	37,863	37,394
Adjusted EBITDA[2]		11,566	9,695	27,342	34,757
Impairment and other		88,558	130	88,795	264
EBITDA[2]		(76,992)	9,565	(61,453)	34,493
Depreciation, depletion & amortization		1,224	3,129	10,916	11,690
EBIT[2]	$	(78,216)	6,436	(72,369)	22,803

[1] *See "Use of Non-IFRS Financial Performance Measures".*

Fourth Quarter Results

Over the course of the fourth quarter, Santander transitioned to fully owner operated, recovered from third quarter production disruptions and managed to meet its forecasted annual production target delivering a 2018 monthly zinc production record for the mine in December. Decreased unitary costs are a direct result of the receipt of an insurance settlement. The mine is well positioned for production in 2019 with all development in place for the year.

Full-Year Results

During the first quarter 2018, the Santander mill averaged 1,674 tonnes per day which is materially below the 2,000 tonne-per-day design rate. This was due to planned maintenance work on a ball mill resulting in approximately 25% lower processing capacity. After completing the scheduled major mill maintenance program in March 2018, the mill achieved throughput of 223,884 tonnes (an operational record) and mine output of 198,318 tonnes during the second quarter. During the third quarter of 2018, the Santander Mine's main access road was periodically blocked by a small group of community members and other persons not affiliated with the mine. This blockade was lifted late September 2018 and full production resumed within the week. In 2018, the Santander mine produced 56.8 million pounds of payable zinc, higher than the previous fiscal year.

EXPLORATION AND DEVELOPMENT

Trevali's 2018 exploration program was part of a medium to long-range exploration strategy initially focused on brownfield and near-mine exploration targets. The primary aim was to expand and discover new mineral resources adjacent to existing mine infrastructure, replace mined inventory, grow sustainable production, extend expected mine life and ultimately, contingent on success, provide production growth optionality to the operations.

The 2018 exploration program included approximately 70,000 metres of diamond drilling for surface and underground targeting in-to-near mine resource growth totaling $13.0 million. The exploration drilling program included 15,162 metres at Perkoa, 15,352 metres at Rosh Pinah, 17,871 metres at the Bathurst Mining Camp, and 21,447 metres at Santander.

Specific highlights include the emerging Santander Pipe deposit, which will remain a focus for 2019 and extensions to the Perkoa deposit where the Hanging Wall zone was extended approximately 300 metres below the current mine plan. Finally, regional exploration drilling commenced at Perkoa in the fourth quarter of 2018 has successfully intersected sulphide bearing (stringer – disseminated to narrow massive zones – non-economic to date) VMS systems at several of the targets. Drill testing is ongoing.

The 2019 exploration program will continue to focus on brownfield, near-mine, exploration targets to expand and discover new resources in proximity to existing mine infrastructure and extend the current mine lives. For 2019, the Company intends to invest a minimum $8.4 million on approximately 36,300 metres of diamond drilling from surface and underground primarily focused on the Perkoa and Santander mineral systems. Contingent on positive results and available funds, additional funding may be deployed towards further drilling.

Perkoa Exploration, Burkina Faso

Underground resource expansion drilling continued to focus on areas located below the current mine plan and confirms that high grade mineralization remains open at depth. Drilling results will be incorporated in the 2018 mineral resource update to be released the first quarter 2019. In addition, exploration continues to test the depth and lateral extents of Perkoa system. A deep surface drilling program commenced in December using directional drilling targeting the down dip extensions of the Hanging Wall Lens and to test the potential for additional mineral horizons.

Regionally, the exploration team continues to advance priority targets along the approximately 25-kilometre strike of the Perkoa Mine Horizon identified to date. At the Byrhado prospect, five stacked gossan horizons hosted within a package of siliceous felsic volcanics, tuffs and sediments cross cut cross cut by an intense quartz stockwork were identified. Follow-up surface (air-core drilling) geochemistry was highly anomalous for key pathfinder elements however, no significant mineralization was intersected. Nonetheless the results indicate that the property package is prospective for similar volcanic-hosted sulphide systems. A combined geological – geophysical (electromagnetic conductor), geochemical anomaly, termed the AF1 target was tested with three holes totaling 1,126 metres in December. Two of the diamond drillholes AF18005 and AF18006 intersected disseminated low grade VMS mineralized horizon ranging in downhole width from 1.0 and 2.2 metres in length respectively (assay results pending). Elsewhere the exploration team continues to delineate additional drill ready targets using a combination of geology, geophysics (surface and downhole) and geochemistry (air-core drilling). The exploration program is ongoing with activities continuing into 2019.

Rosh Pinah Exploration, Namibia

Following the success of the 2017 resource expansion program ongoing underground exploration continued to extend and define the emerging NW extension of the Western Orefield. Drilling results will be incorporated in the 2018 mineral resource update to be released the first quarter 2019.

During the quarter the exploration team re-targeted the deposit from first principles with a focus on the historically mined Eastern and Southern Orefield. The exploration initiative identified numerous priority targets in an area previously considered geologically closed.

Multi-disciplinary regional exploration also commenced on the Exclusive Prospecting License (EPL2616) surrounding and adjacent to the Rosh Pinah Mine which is considered underexplored. Six drill holes totaling 2,450 metres have been completed with boreholes GNEDD001 to GNEDD006 targeting surface gossans and geophysical/structural targets north of Gergarub deposit. Significant hydrothermal activity was identified in four of the six holes drilled to date and contingent on results additional follow-up exploration may occur.

Gergarub Project, Namibia

Trevali has an effective 44% interest in the Gergarub Project, Namibia. No significant exploration work has been conducted by the majority owner for the year ended December 31, 2018.

Caribou Mine, Canada

An 8,809-metre exploration drill program consisting of 1,716 metres drilled from two surface holes and 7,093 metres from 24 underground holes was conducted targeting the down-dip extensions of the East Limb, Hinge Zone, and the newly discovered CX Zone, all of which remain open for extension. Drilling results will be incorporated in the 2018 mineral resource update to be released the first quarter 2019.

Murray Brook, Canada

The Murray Brook deposit is located 10 kilometres west of the Caribou Mill and 10 kilometres east of the Restigouche Deposit along the Caribou ore horizon.

Trevali has an option to acquire up to a 75% interest in the Murray Brook Project by providing approximately $5.5 million in financing to enable Puma to close its acquisition of the project (see news release dated March 2, 2018).

A seven hole 1,700-metre geotechnical and metallurgical drill program was undertaken to provide material for ongoing mine design and planning purposes. Drilling targeted a variety of mineral domains to provide representative sample suites from the deposit. Drilling confirmed good to excellent mineral continuity and significant zinc, lead and copper grades were returned over wide intervals. Metallurgical recovery testing is in progress with results anticipated during the first quarter of 2019.

Restigouche Project, Canada

On July 27, 2017, Trevali acquired the mining lease for the former Restigouche zinc-lead-silver mine located approximately 20 kilometres west-southwest of the Trevali's Caribou Mine in the Bathurst Mining Camp of New Brunswick, Canada. Furthermore, Trevali entered into a Limited Environmental Liability Agreement ("LELA") with the Province of New Brunswick ("Province") regarding historic environmental liabilities. Under the LELA, Trevali will be responsible for all environmental liability and reclamation costs associated with the Restigouche mine on closure, other than in respect to any historic environmental liabilities.

During the second quarter 2018, the Company completed approximately 6,000 metres of diamond drilling at Restigouche and results from the drilling program will be used to update the resource estimate in the first quarter 2019. Mine planning and design evaluations are ongoing and it is anticipated that this work will be completed during the first quarter as part of the overall Bathurst Mine to Mill strategy.

Heath Steele Project, Canada

Trevali has an option to acquire a 100% interest in the former producing Heath Steele property and related exploration properties and assets in the Bathurst Mining Camp of New Brunswick, Canada.

Three drill holes totaling 2,750 metres were completed in October to test extensions of the deposit at depth, with no significant intercepts.

Santander Exploration, Peru

Exploration drilling continues to test the Magistral deposit extensions approximately 350 vertical metres below current development. In 2018, 32 underground drill holes, totaling approximately 11,570 metres were completed.

Nine drill holes for a total of 5,986 metres were completed at the Santander Pipe target in 2018 targeting depth of approximately 500 to 1,000 metres below the topographic surface. Drill holes were primarily focused on better defining high grade mantos below the historic workings. Results of this drilling to date are positive and have allowed for an improved model of geology and mineralization. The results for the Pipe drilling will be included in the 2018 resource estimate to be completed in the first quarter of 2019.

The approximately 45-square-kilometre Santander exploration block remains under-explored and recent geophysical, mapping and geochemical surveys have defined several high priority targets which require follow up work. Two holes totaling 1,776 metres were drilled on the Blato prospect (located 700 metres north of the Magistral North mine) with both holes intersecting broad zones skarn alteration including approximately 7 metres of massive magnetite replacement associated with varying amounts of sphalerite. Quartz-molybdenite veining was also interested in both drill holes.

Property wide surface mapping and geochemical sampling program was completed 2018 and surface electromagnetic surveys were carried out over known mineralization and along prospective trends. Results from this work has defined electromagnetic anomalies over known mineralization and has identified new targets on the approximately 45 square kilometre property package.

The Magistral and Santander Pipe deposits down-plunge and lateral extents will continue to be drill tested in 2019. Additionally, it is anticipated that several high-priority drill-ready exploration targets (Puajanca, Blato and Blanquita) will also be tested during the course of 2019.

FINANCIAL REVIEW

Financial Results

	Three months ended December 31, 2018	Year ended December 31, 2018
Net income for the 2017 period	$ 25,164	$ 20,227
(Decrease) increase in revenues	(65,353)	72,056
Decrease (increase) in components of expenses:		
Mine operating expenses	56,660	(80,416)
General and administrative	72	(650)
Impairment	(311,828)	(311,828)
Other items	(1,649)	22,380
Income tax recovery	45,156	47,636
Net loss for the 2018 period	$ (251,778)	$ (230,595)

The increase of net loss for the fourth quarter of 2018 and year ended December 31, 2018 is mainly due to the recognition of impairment expense of $311.8 million (net impairment of $263.0 million after related deferred income tax recovery of $48.8 million) in the fourth quarter following the Company’s impairment analysis which considered the indicators of impairment in accordance with IAS 36 and IFRS 6: Exploration for and Evaluation of Mineral Resources. The impairment is also responsible for the reduction in income taxes for both periods, as noted above, the related deferred income tax recovery was $48.8 million.

Impairment

The Company completed its regular assessment of whether there is an indication of asset impairment or whether a previously recorded impairment may no longer be required. As detailed in the Company's audited financials statements for the year ended December 31, 2018, the valuation of assets is sensitive to changes in these physical, cost and economic assumptions.

Areas of particular significance in the carrying value review included:

- A review of commodity price and foreign exchange rate assumptions;
- A review of operating cost assumptions taking into account the most recent cost performance as a result of managing geotechnical challenges at Caribou, the harder ore and head grade challenges at Rosh Pinah, as well as overall inflationary cost pressures across the Company's assets.
  - Caribou: management continues to evaluate modifications to the extraction method in order to improve productivity and decrease costs with a mining method review expected to be completed in the coming months.
  - Rosh Pinah: process and plant improvements expected to be completed in the second half of 2019.
- A review of capital expenditure at each of the mines, specifically the longer term requirements, primarily around tailings facility development at Santander; and
- A review of the exploration and undeveloped assets within the Company's portfolio including: Halfmile, Stratmat and Gergarub, on the back of the longer-term street consensus pricing for our commodities.

Despite the impairment, the Company's financial position remains healthy as discussed in the Financial Condition section below and the Board and management remain committed to investing in assets to improve future cash flows and creating a strong platform to build future shareholder value.

General and administrative

Compared to the same period of the previous year, general and administrative expenses for the three months and year ended December 31, 2018 have slightly decreased by $0.1 million and increased by $0.6 million, respectively. The increase was consistent with the increase of corporate activities and appointment of senior executives to support the increased size of the Company (increase in operating mines from two to four), following the acquisition on August 31, 2017.

Other Items

	Three months ended December 31,			Year ended December 31,		
	2018	**2017**	**Change**	**2018**	**2017**	**Change**
(Gain) loss on Foreign exchange	$ (732)	$ (5)	$ (727)	$ 1,684	$ 6,917	$ (5,233)
Interest expense	4,897	4,230	667	14,408	20,509	(6,101)
Business acquisition costs	–	360	(360)	–	12,619	(12,619)
Impairments	311,828	–	311,828	311,828	–	311,828
Other expense (income), net	1,485	(585)	2,070	106	(1,467)	1,573
	$ 317,478	$ 4,000	$ 313,478	$ 328,026	$ 38,578	$ 289,448

The increase of other expenses for three months and year ended December 31, 2018, compared to the same period of previous year is mainly due to the recognition of impairments of $311.8 million. This increase is partly offset with the absence of business acquisition costs related to the acquisition of Perkoa and Rosh Pinah mine in 2017 and a decrease in interest expense resulting from the refinanced Facilities (August 2017 and September 2018) that bear interest at lower rates.

Tax Expense (Recovery)

	Three months ended December 31,			Year ended December 31,		
	2018	2017	Change	2018	2017	Change
Current income tax expense	$ 6,187	$ 5,305	$ 882	$ 13,159	$ 7,878	$ 5,281
Deferred income tax (recovery) expense	(45,170)	868	(46,038)	(41,103)	11,814	(52,917)
	$ (38,983)	$ 6,173	$ (45,156)	$ (27,944)	$ 19,692	$ (47,636)

The decrease of tax expense is primarily due to the reversal of deferred income tax balances directly resulting from the impairments. Current income tax expense is consistent for the three months but slightly higher for the year ended December 31, 2018 primarily due to the addition of Rosh Pinah and Perkoa for the full year where their results were only included from the date of the acquisition, August 31, 2017, in the prior year.

LIQUIDITY AND CAPITAL RESOURCES

Financial Condition

	December 31, 2018	December 31, 2017
Total debt	$ 132,424	$ 160,557
Cash and cash equivalents	65,462	94,135
Net debt	66,962	66,422
Working capital	$ 16,851	$ 144,350
Adjusted working capital[1]	$ 148,855	$ 144,350

[1] *Working capital at December 31, 2018 has been adjusted for the temporary reclassification of the carrying value of the Revolving Credit Facility from non-current to current liabilities.*

In September 2018, Trevali entered into an amended and restated credit agreement with a syndicate of lenders for the $275.0 million Facility. This Facility replaced the August 2017 $160.0 million Term Facility and $30.0 million Revolving Facility.

The Facility bears interest on a sliding scale: (i) at a rate of LIBOR plus between 2.0% to 3.0%; or (ii) at a base rate plus between 1.0% to 2.0%, based on the Company's consolidated leverage ratio. Commitment fees for the undrawn portion of the Facility will also be on a sliding scale between 0.450% to 0.675%. The Facility matures in four years on September 18, 2022. As at December 31, 2018, the Company has $136.5 million drawn on this Facility.

Trevali also has letters of credit, issued under the Facility, totaling $9.6 million to support $5.8 million in various reclamation bonding requirements with its Caribou Mine and $3.8 million to secure funding receipts related to a long-term receivable.

As noted previously, while the Company did not meet the Facility's TNW ratio covenant as at December 31, 2018, subsequent to year end, the TNW ratio was amended with the support of the full banking syndicate and confirmed the option to accelerate payment will not be exercised. The Company is in full compliance with its debt covenants including the interest coverage and leverage ratio covenants.

The Company's financial position and liquidity remains strong inclusive of $65.5 million in cash and cash equivalents with available liquidity totalling $194.4 million, inclusive of $128.9 million available on the Facility which the Company expects to report as non-current in its quarterly reporting for the three months ended March 31, 2019.

Cash Flows

	December 31, 2018	December 31, 2017	Change
Operating cash flows before changes in working capital	$ 121,012	$ 96,134	$ 24,878
Changes in working capital	(4,977)	18,649	(23,626)
Net cash provided by operating activities	116,035	114,783	1,252
Net cash used in investing activities	(80,599)	(280,440)	199,841
Net cash (used in) provided by financing activities	$ (63,035)	$ 248,772	$ (311,807)

Compared to previous year, the operating cash flows in 2018 increased by $1.3 million. This increase was mainly due to the increase of the Company's revenue as the result of the incorporation of the Perkoa mine and Rosh Pinah mine production after Trevali acquired them on August 31, 2017.

Cash flow was invested in 2018 primarily in property, plant and equipment and exploration and evaluation assets. In current year, the Company spent about $79.9 million to purchase plant, property and exploration and evaluation assets, of which $5.3 million was for the heavy fuel oil project at Perkoa and $13.8 million was for exploration, compared to $59.1 million in previous year. In addition, in the previous year the Company acquired Perkoa and Rosh Pinah Mines and spent about $222.7 million (2018 – $nil).

Cash flow used in financing activities for 2018 are comprised of the Rosh Pinah share buy-back which increased the Company's ownership from 80.1% to 90.0% ($23.1 million), settlement of finance leases ($12.1 million), purchase and cancellation of the Company's own shares under the NCIB which commenced in November 2018 ($3.5 million) and repayment of debt (net $15.5 million). The cash flows provided by financing activities in 2017 were primarily related to the acquisition of Rosh Pinah and Perkoa which included the issuance of common shares and refinancing of debt and finance leases.

CONTRACTUAL OBLIGATIONS AND COMMITMENTS

Commitments

In the normal course of business, the Company enters into contracts that give rise to commitments for future minimum payments. The following table summarizes the approximate timing of payment of the remaining maturities of the Company's commitments at December 31, 2018 in undiscounted cashflows:

	2019	2020	2021	2022	Beyond 2022	Total
Debt[1]	$ 136,500	$ –	$ –	$ –	$ –	$ 136,500
Accounts payable	58,541	–	–	–	–	58,541
Operating lease obligations	5,430	4,105	1,042	796	682	12,056
Purchase commitments	37,479	36,060	36,060	23,950	13,172	146,721
Reclamation and rehabilitation	–	–	–	–	54,591	54,591
	$ 237,950	$ 40,165	$ 37,102	$ 24,746	$ 68,445	$ 408,408

[1] *As a result of the Company's amended TNW ratio covenant on the Facility, it is expected that this balance will be reported as a non-current liability in the next quarterly reporting for the three months ended March 31, 2019 and consequently payable in 2022.*

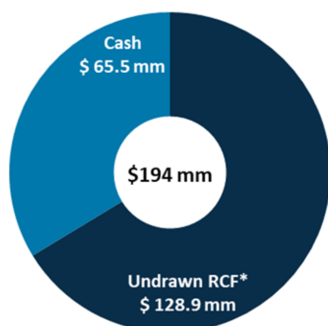
The Company enters into commitments for capital expenditures in advance of the expenditures being incurred. Approvals are obtained prior to expenditure being incurred in line with the Company's capital budget.

Contingencies

The Company and its subsidiaries are subject to routine legal proceedings and tax audits. Although the Company cannot predict the result of any legal proceeding or tax filing, the Company believes that the likelihood of any liability arising from any such claim is remote and that the liability, if any, arising from any litigation or tax filing assessment, individually or in aggregate, will not have a significant effect on the financial position or profitability of the Company and its subsidiaries.

The Company operates in Burkina Faso, Namibia, Canada and Peru and is subject to various tax and environmental laws and regulations. The Company is in material compliance with those laws and regulations and all probable contingencies have been reasonably estimated and accrued.

LIQUIDITY



Based on Trevali's existing cash balance, our expectations for positive operating cash flow from the Santander, Caribou, Rosh Pinah and Perkoa mines and the refinancing completed in 2018, we expect to have sufficient resources to meet our committed expenditures for the next twelve months, as well as our planned exploration and development activities for the foreseeable future. However, this is highly dependent on metal prices and the ability of the Company to maintain cost and grade controls at its operations and is subject to changes in the Company's growth plans and strategy. The Company continues to evaluate accretive investment opportunities, and accordingly, such opportunities may require additional capital.

The Company's operating cash flows are very sensitive to the price of zinc and lead, foreign exchange rate fluctuations, as well as ore grade fluctuations, and any cash flow outlook provided may vary significantly. Spending and capital investment plans may also be adjusted in response to changes in operating cash-flow expectations. An increase in average zinc and lead prices from current levels may result in an increase in planned expenditures in 2019 and, conversely, weaker average zinc and lead prices could result in a reduction of planned expenditures. For information on our sensitivity to zinc prices, refer to the Commodity Markets and Sensitivity Analysis sections above.

The Company has not entered into any long-term hedging arrangement in respect of its metal sales.

OUTSTANDING SHARE DATA

Trevali's authorized capital consists of an unlimited number of common shares without par value, of which 818,496,085 are issued and outstanding as of the date of this MD&A.

CAPITAL MANAGEMENT

The Company maintains minimal cash reserves in Burkina Faso, Namibia, Canada and Peru. The Company's cash reserves are on demand deposits with well-established in-country banks.

Liquidity risk is the risk that the Company will encounter difficulty in satisfying financial obligations as they fall due. The Company manages its liquidity risk by optimizing its cash holdings, forecasting cash flows required by operations and anticipated investing and financing activities.

The Company monitors its capital structure and, based on changes in operations and economic conditions, may adjust the structure by issuing new shares, issuing new debt or retiring existing debt. The Company prepares quarterly forecasts and annual budgets, which are approved by the Company's Board of Directors, to facilitate the management of its capital requirements.

For 2019, the Company intends to allocate its capital resources to the ongoing development of its current mining operations and exploration programs as noted above.

TREND ANALYSIS

Selected Annual Information

The following table sets forth selected annual financial information extracted from the Company's audited consolidated financial statements for the years noted:

	Year ended December 31,		
	2018	2017	2016
Revenues	$ 402,589	$ 330,533	$ 102,870
Net (loss) income	$ (230,595)	$ 20,227	$ 9,209
Net (loss) income per share – basic and diluted (Owner of Trevali)	$ (0.27)	$ 0.03	$ 0.02
Adjusted net income per share – basic and diluted (total)	$ 0.04	$ 0.07	$ 0.02

	December 31,		
	2018	2017	2016
Total assets	$ 825,740	$ 1,180,159	$ 409,646
Current debt	$ 132,167	$ 36,404	$ 25,472
Non current debt	$ 257	$ 124,153	$ 54,337

Trevali completed the acquisition of the Rosh Pinah and Perkoa mines on August 31, 2017 transforming the Company into a top-ten global zinc producer. In addition, the Company commenced commercial production at the Caribou mine on July 1, 2016. These two factors have caused revenues, net income and total assets to increase in each of the past two years. Also contributing to the increase in total assets was ongoing underground mine development at all the mines. The decrease of total assets and net loss in 2018 is primarily due to the net impairment charge of $263.0 million.

The increase in the non-current liabilities was primarily due to credit facilities entered into by the Company in order to fund the acquisition of the Rosh Pinah and Perkoa mines, settle finance leases, increase the ownership of Rosh Pinah by 9.9%, as well as funding of ongoing operations.

Summary of Quarterly Results

The following table sets forth selected consolidated financial (and operating) information for each of our eight most recently completed quarters:

	2018				2017			
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Revenues	123,418	30,539	133,914	114,718	188,771	64,399	37,440	39,923
Zinc sales (Mlbs)	124	76	114	89	139	44	28	34
EBITDA[1]	(271,499)	(22,401)	58,785	58,546	56,275	20,013	10,809	13,863
Adjusted EBITDA[1]	41,082	(21,307)	68,197	49,077	56,046	34,809	14,058	14,116
Net (loss) income	(251,778)	(30,846)	23,454	28,575	25,174	(7,754)	118	2,689
Net (loss) income per share – basic and diluted	(0.29)	(0.04)	0.03	0.03	0.03	(0.01)	0.00	0.01
Adjusted income (loss) per share[1]	0.01	(0.04)	0.04	0.02	0.03	0.01	0.01	0.01

[1] *See "Use of Non-IFRS Financial Performance Measures".*

The Company's mining and exploration activities are conducted throughout the year, and there are no notable variations due to seasonality.

Revenues

Variations in revenue relate to the quantity of metal sold, metal prices and terms of sales agreements.

The Company saw a step up in revenue in the fourth quarter of 2017 with the acquisition of the Rosh Pinah and Perkoa mines, the first full quarter of operations after the acquisition.

During the third quarter 2017, Trevali experienced an above-average inventory build-up due to port logistical challenges at Perkoa adversely impacting revenue in this quarter. There was a corresponding increase in revenues with the sale of this inventory in the fourth quarter of 2017.

During the third quarter 2018, the Company experienced an inventory build-up due to moisture issues increasing drying time at Rosh Pinah in addition to normal course logistical challenges with overland transport at Perkoa and a negative provisional price adjustment of $24.4 million. As a result, the third quarter 2018 revenues were lower than concentrate production, with a corresponding increase in the fourth quarter 2018.

The Company continues to work proactively to prevent similar timing issues and expects to have more normalized quarter-to-quarter revenues in the future.

EBITDA and Net income (loss)

These metrics both increased in the fourth quarter of 2017 as a result of the acquisition of Rosh Pinah and Perkoa which completed August 31, 2017 and remained stable except for the third quarter of 2018 which was negatively impacted by a provisional pricing adjustment of $42.6 million and the fourth quarter when the net impairment of $263.0 million was recorded.

Trevali operates in various jurisdictions and makes references to Canadian dollars as “CAD”, Peruvian soles as “PEN”, Namibian dollars as “NAD” and West African Franc as “XOF”.

RELATED PARTY TRANSACTIONS

Glencore

On August 31, 2017, Glencore acquired 193,432,310 Trevali common shares as part of Trevali’s acquisition of the Perkoa and Rosh Pinah mines. As of December 31, 2018, Glencore owns 210,835,925 Trevali common shares representing approximately 25.8% of the total issued and outstanding common shares.

Glencore purchases Trevali’s concentrate production under market term off-take agreements with each of its mines. Trevali entered into the following transactions during the years ended December 31, 2018 and 2017:

	Year ended December 31,	
	2018	**2017**
Net revenue on concentrate sales	$ 402,589	$ 330,533
Concentrate plant finance lease – principal and interest	–	24,963
Santander working capital facility – principal and interest	–	16,431
Production costs	17,294	18,326
Mine development[1]	10,303	13,599
Interest expense on concentrate sales advances	$ 387	$ –
	December 31, 2018	**December 31, 2017**
Payable to Glencore	$ 1,539	$ 8,407

[1]Capitalised to property, plant and equipment.

P.E. Minerals Namibia (Proprietary) Limited

P.E. Minerals Namibia (Proprietary) Limited is a minority shareholder of Rosh Pinah and owns the right to use the Rosh Pinah Mine Grant Number ML39 with Rosh Pinah paying a market rate lease. This mining licence expires during 2020 and negotiations with the Ministry of Mines and Energy in Namibia to renew the license commenced in 2018. Management does not foresee any reason for the license application to be denied.

Management compensation

	Year ended December 31,	
	2018	2017
Salaries and benefits	$ 2,969	$ 1,138
Share-based compensation	930	6,265
Other short-term benefits	51	464
	$ 3,950	$ 7,867

USE OF ACCOUNTING ESTIMATES AND JUDGMENTS

The preparation of financial statements in accordance with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the year. Actual outcomes could differ from these estimates. These consolidated financial statements include estimates which, by their nature, are uncertain. The impacts of such estimates are pervasive throughout the financial statements and may require accounting adjustments. Revisions to accounting estimates are recognized in the period in which the estimate is revised and future years if the revision affects both current and future years.

These estimates are based on historical experience, current and future economic conditions and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Significant assumptions and judgments about the future and other sources of estimation uncertainty that management has made at the end of the reporting period, which could result in a material adjustment to the carrying amounts of assets and liabilities, in the event that actual results differ from assumptions made, relate to the following areas:

- Business combinations and goodwill;
- Review of asset carrying values and impairment assessment;
- Deferred income taxes;
- Provision for environmental rehabilitation;
- Useful lives of mineral properties, plant and equipment;
- Estimated Mineral Reserves and Resources; and
- Revenue recognition.

See note 2 of our 2018 annual audited financial statements for a detailed discussion of these accounting estimates and judgments.

ACCOUNTING CHANGES

Application of new and revised accounting standards

The Company has adopted IFRS 9: Financial Instruments and IFRS 15: Revenue from Contracts with Customers. Refer to note 3 of our 2018 audited consolidated financial statements for additional information.

New standards and interpretations not yet adopted

For information on new standards and interpretations not yet adopted, refer to note 3 of our 2018 audited consolidated financial statements.

INTERNAL CONTROL OVER FINANCIAL REPORTING (“ICFR”)

The CEO and the CFO, with the assistance of management, conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as at December 31, 2018. Based on the evaluation, the CEO and the CFO have concluded that as at December 31, 2018, the Company's internal control over financial reporting is effective, based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) on Internal Control — Integrated Framework (2013).

Our internal control system over disclosure controls and procedures is designed to provide reasonable assurance that material information relating to the Company is made known to management and disclosed to others and information required to be disclosed by the Company in our annual filings, interim filings or other reports filed or submitted by us under securities legislation is recorded, processed, summarized and reported within the time periods specified in the securities legislation.

The inherent limitations in all control systems are such that they can provide only reasonable, not absolute, assurance that all control issues and instances of fraud or error, if any, within the Company have been detected. Therefore, no matter how well-designed, ICFR has limitations and can provide only reasonable assurance with respect to financial statement preparation and may not prevent and detect all misstatements.

As of December 31, 2018, Trevali's management evaluated the effectiveness of its disclosure controls. Based on that evaluation, the CEO and the CFO have concluded that Trevali's disclosure controls and procedures and internal controls over financial reporting, provide reasonable assurance that they were effective. There have been no changes in our internal control over financial reporting during the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

Management is responsible for establishing and maintaining adequate ICFR. Any system of ICFR, no matter how well designed, has inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. There were no material changes in the Company's ICFR during the year ended December 31, 2018.

USE OF NON-IFRS FINANCIAL PERFORMANCE MEASURES

This MD&A refers to the following non-IFRS financial performance measures: Earnings before interest, taxes, depreciation and amortization ("EBITDA"), Earnings before interest and taxes ("EBIT"), Adjusted EBITDA, Adjusted Earnings per Share, net debt, Operating Cost per tonne, C1 Cash Cost per pound and All-In Sustaining Cost ("AISC") per pound.

These measures are not recognized under IFRS as they do not have any standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other issuers. We use these measures internally to evaluate the underlying operating performance of the Company for the reporting periods presented. The use of these measures enables us to assess performance trends and to evaluate the results of the underlying business of the Company. We understand that certain investors, and others who follow the Company's performance, also assess performance in this way.

We believe that these measures reflect our performance and are useful indicators of our expected performance in future periods. This 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.

EBITDA and EBIT

EBITDA provides insight into our overall business performance (a combination of cost management and growth) and is the corresponding flow drivers towards the objective of achieving industry-leading returns. This measure assists readers in understanding the ongoing cash generating potential of the business including liquidity to fund working capital, servicing debt, and funding capital expenditures and investments opportunities. EBITDA is profit attributable to shareholders before net finance expense, income taxes and depreciation, depletion, and amortization. EBIT is EBITDA after depreciation, depletion, and amortization. Other companies may calculate EBIT and EBITDA differently.

Adjusted EBITDA and Adjusted Earnings per Share

Adjusted EBITDA consists of EBITDA less the impact of impairments or reversals of impairment and other non-cash expenses or recoveries. The non-cash expenses and recoveries are removed from the calculation of EBITDA as the Company does not believe they are reflective of the Company's ability to generate liquidity and its core operating results.

Adjusted Earnings per Share consist of net income or loss in the period less the impact of impairments or reversals of impairment, gain (loss) on foreign exchange, business acquisition cost and other income or expenses.

	Three months ended December 31,		Year ended December 31,	
	2018	**2017**	**2018**	**2017**
Net (loss) income	$ (251,778)	$ 25,164	$ (230,595)	$ 20,227
Income tax expense	6,187	5,308	13,159	7,878
Deferred income tax (recovery) expense	(45,170)	868	(41,103)	11,814
Interest expense	4,897	4,230	14,408	20,509
EBIT	$ (285,864)	$ 35,570	$ (244,131)	$ 60,428
Depreciation, depletion and amortization	14,365	20,708	67,562	40,532
EBITDA	$ (271,499)	$ 56,278	$ (176,569)	$ 100,960
Other (income) expense	1,485	(585)	106	(1,467)
Loss on foreign exchange	(732)	(5)	1,684	6,917
Business acquisition costs	–	360	–	12,619
Impairment	311,828	–	311,828	–
Adjusted EBITDA	41,082	56,048	137,049	119,029

Net (loss) income	(251,778)	25,164	(230,595)	20,227
Gain (loss) on foreign exchange	(732)	(5)	1,684	6,917
Business acquisition costs	–	360	–	12,619
Impairment, net	263,040	–	263,040	–
Other income	1,485	(585)	106	(1,467)
Adjusted income	12,015	24,934	34,235	38,296
Adjusted Earnings per Share	0.01	0.03	0.04	0.07
Weighted average number of shares outstanding – basic (‘000)	834,252	825,604	830,120	544,451

Net debt

Net debt demonstrates how our debt is being managed and is defined as total current and long-term portions of debt and finance leases less cash and cash equivalents.

	December 31, 2018	December 31, 2017
Current portion of finance lease	$ 164	$ 2,404
Current portion of debt	132,004	34,000
Non-current portion of finance lease	256	9,845
Non-current portion of debt	–	114,308
Total debt	132,424	160,557
Less: cash and cash equivalents	65,462	94,135
Net debt	$ 66,962	$ 66,422

Operating Cost per tonne:

This measures the mine site cash operating cost per tonne milled. This measure includes mine operating production expenses such as mining, processing, administration, indirect charges such as surface maintenance and camp expenses, and inventory stock movement divided by tonnes milled. Operating Cost per tonne does not include smelting and refining, distribution (freight), royalties, by-product revenues, depreciation, depletion, amortization, reclamation, and capital sustaining and exploration expenses.

Expressed in thousands of US dollars, except tonnes and per tonne amounts.

	Three months ended December 31, 2018				
	Perkoa	**Rosh Pinah**	**Caribou**	**Santander**	**Total**
Production costs	$ 29,835	$ 15,367	$ 14,769	$ 7,913	$ 67,884
Inventory stock movement	(7,867)	(4,710)	922	(376)	(12,031)
Cash operating costs	$ 21,968	$ 10,657	$ 15,691	$ 7,537	$ 55,853
Tonnes milled	185,662	149,201	174,180	228,455	737,498
Operating Cost per tonne	$ 118	71	90	33	76

	Year ended December 31, 2018				
	Perkoa	**Rosh Pinah**	**Caribou**	**Santander**	**Total**
Production costs	$ 82,050	$ 39,987	$ 59,273	$ 34,416	$ 215,726
Inventory stock movement	(5,752)	(2,109)	459	25	(7,377)
Operating costs	$ 76,298	$ 37,878	$ 59,732	$ 34,441	$ 208,349
Tonnes milled	724,995	641,980	884,529	803,265	3,054,769
Operating Cost per tonne	$ 105	59	68	43	68

C1 Cash Cost per pound

This measures the cash costs to produce a pound of payable zinc. This measure includes mine operating production expenses such as mining, processing, administration, indirect charges (including surface maintenance and camp), and inventory stock movement, smelting, refining and freight, distribution, royalties, and by-product metal revenues divided by pounds of payable zinc produced. C1 Cash Cost per pound does not include depreciation, depletion, and amortization, reclamation expenses, capital sustaining and exploration expenses.

AISC per pound

This measures the cash costs to produce a pound of payable zinc plus the capital sustaining costs to maintain the mine and mill. This measure includes the C1 Cash Cost per pound and capital sustaining costs divided by pounds of payable zinc produced. All-In Sustaining Cost per pound does not include depreciation, depletion, and amortization, reclamation and exploration expenses.

Expressed in thousands of US dollars, except tonnes and per tonne amounts.

	Three months ended December 31, 2018				
	Perkoa	**Rosh Pinah**	**Caribou**	**Santander**	**Total**
Production costs	$ 29,835	$ 15,367	$ 14,769	$ 7,913	$ 67,884
Smelting and refining costs	13,297	12,262	7,603	5,378	38,540
Distribution costs	5,438	1,802	314	840	8,394
Royalty expense	1,129	2,118	–	318	3,565
By-product revenue	–	(3,622)	(6,006)	(4,710)	(14,338)
Inventory stock movement	(7,867)	(4,710)	922	(376)	(12,031)
C1 Cash Costs	$ 41,832	$ 23,217	$ 17,602	$ 9,363	$ 92,014
Capital expenditures	11,958	4,908	8,814	693	26,373
All-In Sustaining Costs (AISC)	$ 53,790	$ 28,125	$ 26,416	$ 10,056	$ 118,387
Payable zinc produced (Mlbs)	47.6	25.4	13.7	16.0	102.7
C1 Cash Cost per pound	$ 0.88	$ 0.91	$ 1.28	$ 0.59	$ 0.90
AISC per pound	$ 1.13	$ 1.11	$ 1.93	$ 0.63	$ 1.15

	Year ended December 31, 2018				
	Perkoa	Rosh Pinah	Caribou	Santander	Total
Production costs	$ 82,050	$ 39,987	$ 59,273	$ 34,416	$ 215,726
Smelting and refining costs	44,405	26,707	35,407	17,620	124,139
Distribution costs	21,135	4,893	1,530	2,407	29,965
Royalty expense	5,215	5,354	–	1,040	11,609
By-product revenue	–	(9,175)	(35,396)	(14,625)	(59,196)
Inventory stock movement	(5,752)	(2,109)	459	25	(7,377)
C1 Cash Costs	$ 147,053	$ 65,657	$ 61,273	$ 40,883	$ 315,866
Capital expenditures	20,894	19,533	20,898	15,455	76,781
All-In Sustaining Costs (AISC)	$ 167,947	$ 85,190	$ 82,171	$ 56,338	$ 391,647
Payable zinc produced (Mlbs)	184.0	94.2	72.0	56.8	406.9
C1 Cash Cost per pound	$ 0.80	$ 0.70	$ 0.85	$ 0.72	$ 0.77
AISC per pound	$ 0.91	$ 0.90	$ 1.14	$ 0.99	$ 0.96

NOTES TO READER

Cautionary Note Regarding Forward-Looking Information and Statements

This MD&A contains certain “forward-looking information” within the meaning of Canadian securities legislation and “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, “forward-looking statements”).

Forward-looking statements relate to future events or future performance and reflect management’s expectations or beliefs regarding future events including, but not limited to, statements with respect to the Company’s growth strategies, the leadership transition, expected annual savings from capital projects, demand for commodities, reduced interest payments, anticipated effects of commodity prices on 2019 revenues, expectations of positive operating cash flow and sufficient resources, estimation of mineral reserves and mineral resources, the realization of mineral reserve estimates, the timing and amount of estimated future production, costs of production, capital expenditures, success of mining operations, environmental risks, unanticipated reclamation expenses, title disputes or claims, future anticipated property acquisitions, the content, cost, timing and results of future anticipated exploration programs, life of mine expectancies and limitations on insurance coverage. In certain cases, forward-looking statements can be identified by the use of words such as “plans”, “expects” or “does not expect”, “is expected”, “outlook”, “guidance”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or “does not anticipate”, or “believes”, or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “might”, “will be taken”, “occur” or “be achieved” or the negative of these terms or comparable terminology. In this MD&A, certain forward-looking statements are identified by words including “guidance”, “may”, “future”, “expected”, “intends” and “estimates”.

By their very nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, risks related to actual results of current exploration activities; changes in project parameters as plans continue to be refined; future prices of zinc, lead, silver and other minerals and the anticipated sensitivity of our financial performance to such prices; possible variations in ore reserves, grade or recovery rates; accidents; assumptions related to geotechnical conditions of underground and open pit mining and tailings facilities; dependence on key personnel; potential conflicts of interest involving our directors and officers; labour pool constraints; labour disputes; availability of infrastructure required for the development of mining projects; delays or inability to obtain governmental and regulatory approvals for mining operations or financing or in the completion of development or construction activities; counterparty risks associated with sales of our metals; increased operating and capital costs; foreign currency exchange rate fluctuations; operating in foreign jurisdictions with risk of changes to governmental regulation; compliance with governmental regulations; compliance with environmental laws and regulations; land reclamation and mine closure obligations; challenges to title

or ownership interest of our mineral properties; maintaining ongoing social license to operate; impact of climatic conditions on the Company's Santander, Caribou, Rosh Pinah and Perkoa mining operations; corruption and bribery; limitations inherent in our insurance coverage; compliance with debt covenants; competition in the mining industry; our ability to integrate new acquisitions into our operations; cybersecurity threats; litigation; and other risks of the mining industry including, without limitation, other risks and uncertainties that are more fully described in the Company's annual information form, interim and annual audited consolidated financial statements and management's discussion and analysis of those statements, all of which are filed and available for review under the Company's profile on SEDAR at www.sedar.com.

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Historical results of operations and trends that may be inferred from this MD&A may not necessarily indicate future results from operations. The Company provides no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company's forward-looking statements are based on the beliefs, expectations and opinions of management as of the date the statements are published, and the Company's assumes no obligation to update any forward-looking statements in the future, except as required by law. Accordingly, readers should not place undue reliance on forward-looking statements.

Qualified Person and Quality Control/Quality Assurance

EurGeol Dr. Mark D. Cruise, our President and CEO and Daniel Marinov, P.Geo, our VP Exploration, are qualified persons as defined by National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* of the Canadian Securities Administrators and have supervised and approved the preparation of the scientific and technical information that forms the basis for this MD&A. Mr. Marinov is responsible for all aspects of the work, including the quality control/quality assurance programs.

For a description of the key assumptions, parameters and methods used to estimate mineral reserves and resources, as well as data verification procedures and a general discussion of the extent to which the estimates of scientific and technical information may be affected by any known environmental, permitting, legal title, taxation, sociopolitical, marketing or other relevant factors, please see the Technical Reports for our material properties as filed by us on SEDAR at www.sedar.com.