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# Annual Information Form

February 25, 2019

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**Teck**

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## Nomenclature

In this Annual Information Form, unless the context otherwise dictates, “**we**”, “**Teck**” or the “**Company**” refers to Teck Resources Limited and its subsidiaries.

## Cautionary Statement on Forward-Looking Information

This Annual Information Form contains certain forward-looking information and forward-looking statements as defined in applicable securities laws (collectively referred to as forward-looking statements). These statements relate to future events or our future performance. All statements other than statements of historical fact are forward-looking statements. The use of any of the words “anticipate”, “plan”, “continue”, “estimate”, “expect”, “may”, “will”, “project”, “predict”, “potential”, “should”, “believe” and similar expressions is intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. These statements speak only as of the date of this Annual Information Form. These forward-looking statements include, but are not limited to, statements concerning:

- forecast production;
- forecast operating costs and capital costs;
- sales forecasts;
- our strategies and objectives;
- future prices and price volatility for steelmaking coal, copper, zinc, blended bitumen and other products and commodities that we produce and sell, as well as oil, natural gas and petroleum products;
- the demand for and supply of steelmaking coal, copper, zinc, blended bitumen and other products and commodities that we produce and sell;
- expected receipt of regulatory approvals, and the expected timing thereof;
- expected receipt or completion of prefeasibility studies, feasibility studies and other studies and the expected timing thereof;
- proposed or expected changes in regulatory frameworks;
- our interest and other expenses;
- our tax position and the tax rates applicable to us;
- the adequacy of our logistics arrangements related to Fort Hills;
- curtailment measures imposed by the Government of Alberta and their impact on Fort Hills;
- the timing and costs of construction and production with respect to, and the issuance of the necessary permits and other authorizations required for, certain of our development and expansion projects, including, among others, the Quebrada Blanca Phase 2 (QB2) project, the NuevaUnión copper project, the Frontier project and our Project Satellite projects;

- expected mine lives and the possibility of extending mine lives;
- the closure of our Coal Mountain operations, including our expectation to continue to capture latent processing capacity by hauling a portion of the raw coal from Elkview to Coal Mountain for processing;
- our estimates of the quantity and quality of our mineral and oil reserves and resources;
- the production capacity, planned production levels and future production of our operations;
- availability of transportation for our products from our operations to our customers, including our participation in the crude-by-rail initiative;
- availability of any of our credit facilities;
- financial assurance requirements related to our projects and related agreements;
- potential impact of transportation, port, pipeline and other potential production disruptions;
- our planned capital expenditures and capital spending and timing for completion of our capital projects;
- our estimates of reclamation and other costs related to environmental protection;
- our future capital and mine production costs, including the costs and potential impact of complying with existing and proposed environmental laws and regulations in the operation and closure of various operations;
- the costs, steps and potential impact of managing water quality at our coal operations, including but not limited to the statements under “*Description of the Business — Individual Operations — Steelmaking Coal — Elk Valley Water Management*” including our expectations regarding timing and costs of active water treatment, capital spending guidance, the potential for saturated rock fills to reduce capital and operating costs associated with active water treatment, the regulatory process relating to active water treatment and estimates of our long-term costs of water management;
- our expectations regarding the increase in the royalty paid by POSCAN in respect of our Greenhills property;
- our expectation that we can upgrade Neptune Bulk Terminals’ operational capacity;
- our expectations regarding the regulatory application for Frontier and timelines for productions at Frontier;
- anticipated benefits, timing and cost of our ball mill project at Highland Valley;
- timing of the closing of the QB2 transaction and our expectation that the transaction will close;
- expectations regarding the QB 2 project, including expectations regarding financing, capacity, mine life, regulatory approvals, projected expenditures and timing of any development decision in respect thereof;
- expected spending and activities at our Project Satellite properties;

- anticipated benefits, timing and costs of the Red Dog mill upgrade projects;
- our financial and operating objectives;
- our exploration, environmental, community, health and safety initiatives;
- the outcome of legal and regulatory proceedings and other disputes in which we are involved;
- the outcome of our coal sales negotiations and negotiations with metals and concentrate customers concerning treatment charges, price adjustments and premiums;
- our dividend policy; and
- general business and economic conditions.

Canadian disclosure rules require us to present projected capital and projected operating costs for each of our material mining operations. The amounts presented for each operation are estimates, based on current mine plans and assumptions believed to be reasonable, including assumptions with respect to energy and labour costs and the Canadian/U.S. dollar exchange rate. Future capital expenditures are based on management's best estimate of expected future capital requirements for the extraction and processing of existing reserves and resources. Cash operating costs are not a measure recognized under International Financial Reporting Standards in Canada or generally accepted accounting principles in the United States. Various factors will cause actual results to vary from the projected operating and capital costs set out below. Our disclosed cash operating costs do not include transportation costs or royalties, and may not be comparable to similar measures reported by other issuers.

Inherent in forward-looking statements are risks and uncertainties beyond our ability to predict or control, including risks that may affect our operating or capital plans; risks generally encountered in the permitting and development of mineral and oil and gas properties such as unusual or unexpected geological formations, unanticipated metallurgical difficulties, delays associated with permit appeals or other regulatory processes, ground control problems, adverse weather conditions, process upsets and equipment malfunctions; risks associated with the *Canadian Corruption of Foreign Public Officials Act* and similar worldwide bribery laws; risks associated with labour disturbances and availability of skilled labour; risks associated with fluctuations in the market prices of our principal commodities, which are cyclical and subject to substantial price fluctuations; risks associated with changes to the tax and royalty regimes in which we operate; risks created through competition for mining and oil and gas properties; risks associated with lack of access to markets; risks associated with mineral and oil and gas reserve estimates; risks posed by fluctuations in exchange rates and interest rates, as well as general economic conditions; risks associated with access to capital; risks associated with changes to our credit ratings; risks associated with our material financing arrangements and our covenants thereunder; risks associated with climate change, environmental compliance, changes in environmental legislation and regulation and changes to our reclamation obligations; risks associated with our dependence on third parties for the provision of transportation, port, pipeline and other critical services; risks associated with non-performance by contractual counterparties; risks associated with potential disputes with partners and co-owners; risks associated with Aboriginal title claims and other title risks; social and political risks associated with operations in foreign countries; risks associated with the preparation of our financial statements; risks related to trade barriers or

import restrictions; risks of changes in tax laws or their interpretation; and risks associated with tax reassessments and legal proceedings. The amount and timing of actual capital expenditures is dependent upon, among other matters, being able to secure permits, equipment, supplies, materials and labour on a timely basis and at expected costs to enable the related capital project to be completed as currently anticipated. Fort Hills is not controlled by us and production schedules may be adjusted by our partners. Certain of our other operations and projects are operated through joint arrangements where we may not have control over all decisions, which may cause outcomes to differ from current expectations. Further factors associated with our Elk Valley Water Quality Plan are discussed under the heading “*Description of the Business — Individual Operations — Steelmaking Coal — Elk Valley Water Management*”. Declaration and payment of dividends is at the discretion of the Board, and our dividend policy will be reviewed regularly and may change. Closing of the QB2 transaction depends on certain regulatory approvals; if all required approvals are not received in a timely manner, the timing and ability to close will be jeopardized.

Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this Annual Information Form. Such statements are based on a number of assumptions that may prove to be incorrect, including, but not limited to, assumptions about:

- general business and economic conditions;
- interest rates;
- commodity and power prices;
- acts of foreign or domestic governments and the outcome of legal proceedings;
- the supply and demand for, deliveries of, and the level and volatility of prices of copper, coal, zinc and blended bitumen and our other metals and minerals, as well as oil, natural gas and other petroleum products;
- the timing of the receipt of permits and other regulatory and governmental approvals for our development projects and other operations, including mine extensions;
- our costs of production and our production and productivity levels, as well as those of our competitors;
- our ability to secure adequate transportation, pipeline and port services for our products;
- changes in credit market conditions and conditions in financial markets generally;
- the availability of funding to refinance our borrowings as they become due or to finance our development projects on reasonable terms;
- our ability to procure equipment and operating supplies in sufficient quantities and on a timely basis;
- the availability of qualified employees and contractors for our operations, including our new developments;
- our ability to attract and retain skilled staff;
- the satisfactory negotiation of collective agreements with unionized employees;

- the impact of changes in Canadian-U.S. dollar and other foreign exchange rates on our costs and results;
- engineering and construction timetables and capital costs for our development and expansion projects;
- costs of closure, and environmental compliance costs generally, of operations;
- market competition;
- the accuracy of our reserve and resource estimates (including, with respect to size, grade and recoverability) and the geological, operational and price assumptions on which these are based;
- tax benefits and tax rates;
- the outcome of our coal price and volume negotiations with customers;
- the outcome of our copper, zinc and lead concentrate treatment and refining charge negotiations with customers;
- the market price for our blended bitumen;
- curtailment measures on oil production taken by the Government of Alberta;
- the resolution of environmental and other proceedings or disputes;
- the future supply of low-cost power to the Trail smelting and refining complex;
- our ability to obtain, comply with and renew permits in a timely manner; and
- our ongoing relations with our employees and with our business and joint venture partners.

In addition, assumptions regarding the Elk Valley Water Quality Plan include assumptions that additional treatment will be effective at scale, and that the technology and facilities operate as expected, as well as additional assumptions discussed under the heading “*Description of the Business — Individual Operations — Steelmaking Coal — Elk Valley Water Management*”. Expectations regarding QB2 are based on current project assumptions and the final feasibility study. Expectations regarding Fort Hills are based on assumptions regarding the performance of the plant and other facilities at Fort Hills, and the operation of the project. Statements regarding the availability of our credit facilities are based on assumptions that we will be able to satisfy the conditions for borrowing at the time of a borrowing request and that the credit facilities are not otherwise terminated or accelerated due to an event of default. Assumptions relating to our expectations for the closing of the QB2 transaction, include that all regulatory approvals will be obtained in a timely manner.

We caution you that the foregoing list of important factors and assumptions is not exhaustive. Other events or circumstances could cause our actual results to differ materially from those estimated or projected and expressed in, or implied by, our forward-looking statements. You should also carefully consider the matters discussed under “*Risk Factors*” in this Annual Information Form and in our “*Cautionary Statement on Forward-Looking Information*” section of our Management’s Discussion and Analysis for the year ended December 31, 2018, and subsequent filings, that can be found under our profile on SEDAR ([www.sedar.com](http://www.sedar.com)) and on

EDGAR ([www.sec.gov](http://www.sec.gov)). Except as required by law, we undertake no obligation to update publicly or otherwise revise any forward-looking statements or the foregoing list of factors, whether as a result of new information or future events or otherwise.

### **Cautionary Note to U.S. Investors Concerning Estimates of Measured, Indicated and Inferred Mineral Resources and Oil and Gas Reserves**

This Annual Information Form has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ from the requirements of U.S. securities laws.

In this Annual Information Form we use the term “mineral resources” and its subcategories “measured”, “indicated”, and “inferred” mineral resources. Readers are advised that, while such terms are required by Canadian regulations, the U.S. Securities and Exchange Commission (SEC) does not currently require U.S. mining companies in their filings with the SEC to disclose estimates of mineral resources. Investors are cautioned not to assume that any part or all of the mineral resources in these categories will ever be converted into reserves. “Inferred mineral resources” have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. Under Canadian rules, issuers must not make any disclosure of results of an economic evaluation that includes inferred mineral resources, except in very limited cases. Investors are cautioned not to assume that part or all of an inferred mineral resource exists, or is, or will be, economically or legally mineable.

Canadian standards of oil and gas disclosure also differ significantly from the requirements of the SEC, and oil and gas reserve and resource information contained in this Annual Information Form may not be comparable to similar information disclosed by U.S. companies. The oil and gas reserves estimates in this Annual Information Form have been prepared in accordance with National Instrument 51-101 — *Standards of Disclosure for Oil and Gas Activities*, which has been adopted by securities regulatory authorities in Canada and imposes oil and gas disclosure standards for Canadian public issuers engaged in oil and gas activities and differs from the oil and gas disclosure standards of the SEC under Subpart 1200 of Regulation S-K. The SEC definitions of proved and probable reserves are different than the definitions contained in National Instrument 51-101. Therefore, proved and probable reserves disclosed in, or in the documents incorporated by reference into, this Annual Information Form in compliance with National Instrument 51-101 may not be comparable to those disclosed by U.S. companies.

## Glossary of Technical Terms

**bitumen:** a naturally occurring heavy viscous crude oil.

**blended bitumen:** bitumen blended with diluent to reduce its viscosity, such that the combined product can be easily pumped through a pipeline and placed in storage facilities.

**cathode:** an electrode in an electrolytic cell where electrons enter and which represents the final product of an electrolytic metal refining process.

**clean coal:** coal that has been processed to separate impurities and is in a form suitable for sale.

**coking coal:** coal possessing physical and chemical characteristics that facilitate the conversion into coke, which is used in the steelmaking process. Coking coal may also be referred to as metallurgical coal.

**concentrate:** a product containing valuable minerals from which most of the waste rock in the ore has been eliminated in a mill or concentrator.

**crude oil:** unrefined liquid hydrocarbons, excluding natural gas liquids.

**dump leach:** a process that involves dissolving and recovering minerals from typically lower-grade uncrushed ore from a mine dump.

**flotation:** a method of mineral separation in which a variety of reagents facilitate the attachment of certain minerals on to the surface of a froth while other minerals sink, thus effecting the separation of valuable minerals from non-valuable minerals.

**grade:** the classification of an ore according to its content of economically valuable material, expressed as grams per tonne for precious metals and as a percentage for most other metals.

**hard coking coal:** a type of coking coal used primarily for making high-strength coke for use in integrated steel mills.

**heap leach:** a process whereby metals are leached from a heap of crushed ore by leaching solutions seeping through the heap into a container or liner beneath the heap.

**hypogene:** primary sulphide ore located beneath shallow zones of ore affected by weathering processes.

**LME:** London Metals Exchange.

**mill:** a plant in which ore is ground to reduce particle size and physically liberating valuable from non-valuable minerals.

**MMbbl:** million barrels.

**oil sands:** sand and rock material that contains bitumen.

**ore:** naturally occurring material from which minerals of economic value can be extracted at a reasonable profit.

**orebody:** a contiguous, well-defined mass of material of sufficient ore content to make extraction economically feasible.

**pulverized coal injection (PCI) coal:** coal that is pulverized and injected into a blast furnace. Those grades of coal used in the PCI process are generally non-coking. PCI grade coal is used primarily as a heat source in the steelmaking process in partial replacement for high-quality coking coals, which are typically more expensive.

**semi-autogenous grinding (SAG):** a method of grinding rock in which particle size reduction is achieved through tumbling action of a rotating grinding mill that primarily utilizes the contact of rock-on-rock supplemented with steel grinding balls to breakdown particles.

**slag:** a substance formed by way of chemical action and fusion at furnace operating temperatures; a by-product of the smelting process.

**smelter:** a plant in which concentrates are processed into an upgraded product by application of heat.

**steelmaking coal:** the various grades of coal that are used in the steelmaking process, including both coals to produce coke and coals that are pulverized for injection into the blast furnace as a fuel.

**sulphide:** a mineral compound containing sulphur but no oxygen.

**supergene:** near-surface ore that has been subject to secondary enrichment by weathering.

**SX-EW:** an abbreviation for solvent extraction-electrowinning, a hydrometallurgical process to produce cathode copper from leached copper ores.

**tailings:** the slurry that remains after selected minerals have been removed from the ore during processing.

**thermal coal:** coal that is used primarily for its heating value. Thermal coals tend not to have the carbonization properties possessed by coking coals. Most thermal coal is used to produce electricity in thermal power plants.

**treatment and refining charges:** the charge a mine pays to a smelter as a fee for conversion of concentrates into refined metal.

## Corporate Structure

### Name, Address and Incorporation

Teck Resources Limited was continued under the *Canada Business Corporations Act* in 1978. It is the continuing company resulting from the merger in 1963 of the interests of The Teck-Hughes Gold Mines Ltd., Lamaque Gold Mines Limited and Canadian Devonian Petroleum Ltd., companies incorporated in 1913, 1937 and 1951, respectively. Over the years, several other reorganizations have been undertaken. These include our merger with Brameda Resources Limited and The Yukon Consolidated Gold Corporation in 1979, the merger with Highmont Mining Corporation and Iso Mines Limited in 1979, the consolidation with Afton Mines Ltd. in 1981, the merger with Copperfields Mining Corporation in 1983, and the acquisition of 100% of Cominco Ltd. in 2001. On July 23, 2001, Cominco Ltd. changed its name to Teck Cominco Metals Ltd. and on September 12, 2001, we changed our name to Teck Cominco Limited. On January 1, 2008, we amalgamated with our wholly owned subsidiary, Aur Resources Inc., by way of vertical short-form amalgamation under the name Teck Cominco Limited. On April 23, 2009, we changed our name to Teck Resources Limited from Teck Cominco Limited. On June 1, 2009 Teck Cominco Metals Ltd. changed its name to Teck Metals Ltd.

Since 1978, the Articles of Teck have been amended on several occasions to provide for various series of preferred shares and for other corporate purposes. On January 19, 1988, our Articles were amended to provide for the subdivision of our Class A common shares and Class B subordinate voting shares on a two-for-one basis. On September 12, 2001, the Articles were amended to effect the name change to Teck Cominco Limited and to convert each outstanding Class A common share into one new Class A common share and 0.2 Class B subordinate voting shares and to enact “coattail” provisions for the benefit of the Class B subordinate voting shares. Effective May 7, 2007, our Articles were amended to subdivide our Class A common shares and Class B subordinate voting shares on a two-for-one basis. See “*Description of Capital Structure*” below for a description of the attributes of the Class A common shares and Class B subordinate voting shares. On April 23, 2009, our Articles were amended to effect the name change to Teck Resources Limited as described above.

The registered and principal offices of Teck are located at Suite 3300, 550 Burrard Street, Vancouver, British Columbia, V6C 0B3.

## Intercorporate Relationships

Our financial statements consolidate the accounts of all of our subsidiaries. Our material subsidiaries as at December 31, 2018 are listed below. Unless otherwise indicated, all subsidiaries listed below are wholly owned by Teck. Indentation indicates that the majority of the voting securities of the relevant subsidiary are held by the subsidiary listed immediately above.

Company Name	Jurisdiction of Organization or Formation
Teck South American Holdings Ltd.	Canada
Teck Chilean Holdings Ltd.	Canada
Teck Resources Chile Limitada	Chile
Teck Base Metals Ltd.	Canada
Teck Metals Ltd.	Canada
Teck Resources Coal Partnership	British Columbia
Fording Partnership	Alberta
Teck Coal Partnership	Alberta
Elkview Mine Limited Partnership <sup>(1)</sup>	Alberta
Teck Highland Valley Copper Partnership	British Columbia
TCL U.S. Holdings Ltd.	Canada
TCAI Incorporated	Washington, U.S.A.
Teck American Incorporated	Washington, U.S.A.
Teck Alaska Incorporated	Alaska, U.S.A.

<sup>(1)</sup> 95% held, directly or indirectly, by Teck

In addition to the above, we own, directly or indirectly:

- a 21.3% limited partnership interest in Fort Hills Energy Limited Partnership;
- a 90% indirect share interest in Compañía Minera Teck Quebrada Blanca S.A. This is expected to decrease to 60% upon closing of the transaction with Sumitomo Metal Mining Co., Ltd. and Sumitomo Corporation – See “*Description of the Business – Copper – Quebrada Blanca Mine, Chile (Copper)*” for further information;
- a 90% share interest in Compañía Minera Teck Carmen de Andacollo S.A.; and
- a 22.5% indirect share interest in Compañía Minera Antamina S.A., which owns the Antamina copper and zinc mine in Peru.



## General Development of the Business

### Three-Year History

#### 2016

In 2016, average annual prices for our principal products increased compared to 2015, except for copper. Annual average prices in 2016 for copper and zinc were US\$2.21 and US\$0.95 per pound, respectively, compared with US\$2.49 and US\$0.87 per pound in 2015. Average realized coal prices increased from US\$93 per tonne in 2015 to US\$115 per tonne in 2016, due primarily to dramatic price increases in the second half of the year.

Work advanced on a number of projects through 2016. Construction of our Fort Hills oils sands project advanced through the year and was approximately 76% complete by year-end. See “*Description of the Business — Energy*” for a discussion of the project. We submitted a Social and Environmental Impact Assessment for our Quebrada Blanca Phase 2 Project in September 2016 and the updated feasibility study for the project was completed in the first quarter of 2017. We also announced an agreement to increase our interest in the Zafranal project in November, through the public acquisition of AQM Copper Inc., one of our partners on the project. This acquisition was completed in January 2017.

During the year we undertook a number of transactions that supported our liquidity and strengthened our financial position. In June, we issued US\$1.25 billion in aggregate principal amount of senior unsecured notes maturing in 2021 and 2024, and used the proceeds to repurchase, under a tender offer, notes maturing in 2017, 2018 and 2019, reducing near-term maturities. In September and early October we repurchased an additional US\$759 million face value of debt in market transactions. We also extended the maturity of US\$1.14 billion of our US\$1.2 billion revolving credit facility from June 2017 to June 2019. See “*General Description of Capital Structure — Credit Facilities and Debt Securities*” for further details of our credit facilities and debt securities.

Notwithstanding improving commodity prices, we continued to implement our cost reduction program through 2016 and were generally able to maintain or increase production and achieve significant reductions of cash unit costs across our operations during the year. Our cash and cash equivalents as at December 31, 2016 were \$1.4 billion against total debt of \$8.3 billion, with the decrease in our reported total debt mainly resulting from the repurchases described above.

#### 2017

In 2017, average annual prices for our principal products increased compared to 2016. Annual average prices in 2017 for steelmaking coal, copper and zinc were US\$174 per tonne, US\$2.80 and US\$1.31 per pound, respectively, compared with US\$115 per tonne, and US\$2.21 and US\$0.95 per pound in 2016.

During the year we announced a new dividend policy, completed and announced a number of dispositions of non-core assets, acquired further interests in a number of our projects and advanced various initiatives and projects intended to strengthen our financial position and our core business.

In April we announced a new dividend policy and the doubling of our annualized base dividend to \$0.20 per share, which was declared at \$0.05 per quarter. See “*Dividends*” below for a further discussion of our dividend policy. We also announced a normal course issuer bid, which allowed us to purchase up to 20 million Class B subordinate voting shares through to September 2018. In December, we paid a dividend of \$0.45 per share consisting of a supplemental dividend of \$0.40 per share and our regular base quarterly dividend of \$0.05 per share, which totalled approximately \$260 million. In addition, taking into account our strong cash position, we also announced our intention to apply an additional \$230 million to the repurchase of shares through March 31, 2018, of which 5.9 million Class B subordinate voting shares for \$175 million were repurchased in the fourth quarter.

In May we announced the sale of our two-thirds interest in the Waneta Dam and related transmission assets to Fortis Inc. for \$1.2 billion cash. BC Hydro subsequently exercised its right of first offer over the assets, and the sale of the Waneta Dam and associated assets to BC Hydro closed in July 2018. We also completed the sale of our 49% interest in the Wintering Hills wind power facility in 2017, for proceeds of \$59 million.

Acquisitions during the year included the closing of our purchase of AQM Copper Inc., which held an indirect 30% interest in our Zafranal copper-gold project located in Peru, and the acquisition of the minority 21% interest in our San Nicolás copper-zinc project located in Mexico. Zafranal and San Nicolás are part of our Project Satellite initiative launched in 2017, which is focused on surfacing value from substantial base metal assets in Teck’s portfolio. See “*Description of the Business — Copper*” for a further discussion of Project Satellite. In addition, we increased our interest in the Fort Hills oil sands mining and processing operations from 20% to 20.89% in 2017, and our interest ultimately increased to approximately 21.3% in 2018.

Work advanced on a number of projects through 2017. At our Fort Hills oil sands mining and processing operation, the mine, primary extraction, utilities and froth assets were commissioned. An intermediate product, bitumen froth, was produced in September 2017, and first oil was achieved on January 27, 2018. See “*Description of the Business — Energy*” for a discussion of the project. We commenced a \$72 million project to install an additional ball mill at our Highland Valley Copper Operations and a US\$110 million upgrade project at our Red Dog zinc operations, and continued to advance through the regulatory process for our Quebrada Blanca Phase 2 project. We also commenced and advanced studies and expansion work at in respect of other projects.

We also continued to strengthen our liquidity and financial position in 2017. Over the course of the year we retired US\$1.3 billion of debt through open market repurchases, tender offers and retirement at maturity. In October, we extended the maturity of our US\$3.0 billion revolving credit facility to October 2022 (from July 2020) and US\$1.2 billion revolving credit facility to October 2020 (from June 2019).

Our cash and cash equivalents as at December 31, 2017 were \$952 million against total debt of \$6.4 billion.

## 2018

In 2018, average annual prices for our principal products increased compared to 2017. Average realized annual prices in 2018 for steelmaking coal, copper and zinc were US\$187 per tonne, US\$2.96 per pound and US\$1.33 per pound, respectively, compared with US\$174 per tonne, US\$2.80 per pound and US\$1.31 per pound, respectively, in 2017. The average realized annual price for our blended bitumen in 2018 was US\$35 per barrel.

During the year we achieved first oil at Fort Hills; completed the sale of our interest in the Waneta Dam; acquired an additional 13.5% interest in Compania Minera Teck Quebrada Blanca, S.A. (QBSA), our majority owned subsidiary that holds the Quebrada Blanca Phase 2 project (QB2) and subsequently announced a transaction through which a new partner will subscribe for a 30% interest in QBSA; received regulatory approval for, and approved the construction of, our QB2 project; announced the retirement of our long-time Chairman and the appointment of his replacement; and advanced various initiatives and projects intended to strengthen our financial position and our core business.

In January, first oil was produced at Fort Hills, which has now been running at full capacity for much of the fourth quarter. Start-up has exceeded our expectations with respect to both production volumes and product quality.

In April, we acquired an additional 13.5% interest in QBSA, our majority owned subsidiary that holds the QB2 project, bringing our interest to 90%, and in August we received regulatory approval to develop the QB2 project.

In July, we completed the sale of our two-thirds interest in the Waneta Dam and related transmission assets to BC Hydro for \$1.2 billion cash. In connection with the sale, we entered into a 20-year arrangement with BC Hydro, with an option to extend for an additional 10 years, to purchase power for our Trail Operations.

Work advanced on a number of projects through 2018. Our project to install an additional ball mill at our Highland Valley Copper Operations progressed, targeting commissioning in 2019, and installation of our new acid plant at our Trail Operations advanced towards commissioning in mid-2019. Work also continued on an upgrade project at our Red Dog zinc operations with planned start-up in the first quarter of 2020.

In December our Board approved the QB2 project for full construction, with first production targeted for late 2021. Concurrently, we announced a transaction through which Sumitomo Metal Mining Co. Ltd. and Sumitomo Corporation will subscribe for a 30% indirect interest in QBSA, which holds the QB2 project, by contributing US\$1.2 billion to the project with additional contingent consideration payable in certain circumstances. Following closing of the transaction, Teck will hold a 60% interest in QBSA; Sumitomo Metal Mining Co., Ltd. and Sumitomo Corporation will collectively hold a 30% interest and Empresa Nacional de Minería will continue to hold a 10% carried interest.

In September, Dominic S. Barton joined our Board of Directors and in October Mr. Barton became Chair of the Board, replacing our long-standing Chairman of the Board, Dr. Norman B. Keevil, who retired, along with Mr. Warren S. R. Seyffert, Q.C., at the end of the year.

In October, we announced a normal course issuer bid, which allows us to purchase up to 40 million Class B subordinate voting shares through to October 2019. In December, we paid a dividend of \$0.15 per share consisting of a supplemental dividend of \$0.10 per share and our regular base quarterly dividend of \$0.05 per share, which totalled approximately \$86 million. In addition, taking into account our strong cash position, we also announced that the Board has directed management to apply an additional \$400 million to the repurchase of shares, of which 4.7 million Class B subordinate voting shares were repurchased in the fourth quarter for \$131 million.

We also continued to strengthen our liquidity and financial position in 2018. Over the course of the year we retired US\$1.0 billion of debt through open market repurchases, tender offers and retirement at maturity. In light of our strong financial position, we were able to terminate the subsidiary guarantees of our various credit facilities and public notes that were introduced during the commodity downturn in 2016.

Our cash and cash equivalents as at December 31, 2018 were \$1.7 billion against total debt of \$5.5 billion.

## Description of the Business

### General

Teck's business is exploring for, acquiring, developing and producing natural resources. Our activities are organized into business units focused on copper, steelmaking coal, zinc and energy. These are supported by Teck's corporate offices, which manage corporate growth initiatives and provide marketing, administrative, technical, financial and other services.

We have interests in the following operations:

	Type of Operation	Jurisdiction
Elkview	Steelmaking Coal Mine	British Columbia, Canada
Fording River	Steelmaking Coal Mine	British Columbia, Canada
Greenhills	Steelmaking Coal Mine	British Columbia, Canada
Line Creek	Steelmaking Coal Mine	British Columbia, Canada
Coal Mountain	Steelmaking Coal Mine	British Columbia, Canada
Cardinal River	Steelmaking Coal Mine	Alberta, Canada
Highland Valley	Copper/Molybdenum Mine	British Columbia, Canada
Antamina	Copper/Zinc Mine	Ancash, Peru
Quebrada Blanca	Copper Mine	Region I, Chile
Carmen de Andacollo	Copper/Gold Mine	Region IV, Chile
Trail Operations	Zinc/Lead Refinery	British Columbia, Canada
Red Dog	Zinc/Lead Mine	Alaska, U.S.A.
Pend Oreille	Zinc/Lead Mine	Washington, U.S.A.
Fort Hills	Oil Sands Mining and Processing Operation	Alberta, Canada

Our principal products are steelmaking coal, copper, zinc and blended bitumen. In addition we produce lead, silver, molybdenum, and various specialty and other metals, chemicals and fertilizers. We also actively explore for copper, zinc and gold.

The following table sets out our revenue by product for each of our last two financial years:

	2018 \$(Billions)	%	2017 <sup>(1)</sup> \$(Billions)	%
Copper <sup>(2)</sup>	2.242	18	2.022	17
Coal	6.349	50	6.014	50
Zinc <sup>(3)</sup>	2.391	19	2.364	20
Bitumen	0.407	3	-	-
Other <sup>(4)</sup>	1.175	10	1.510	13
Total	12.564	100	11.910	100

(1) Certain 2017 comparative figures have been restated for new IFRS pronouncements. Please refer to Note 32 to our audited annual consolidated financial statements for the year ended December 31, 2018.

(2) Copper revenues include sales of copper contained in concentrates and cathode copper.

(3) Zinc revenues include sales of refined zinc and zinc concentrate.

(4) Other revenues include sales of silver, lead, gold, molybdenum, various specialty metals, chemicals, energy and fertilizer.

## Product Summary

### Steelmaking Coal

Teck is the second-largest seaborne exporter of steelmaking coal in the world. Our hard coking coal, a type of steelmaking coal, is used primarily for making coke by integrated steel mills in Asia, Europe and the Americas. In 2018, sales to Asia accounted for approximately 75% of our annual coal sales volume, higher than in 2017 due to increased sales volumes to areas with the greatest demand growth, such as India and South East Asia. Approximately 75% of all coal we produce is high-quality hard coking coal, although the percentages can vary from period to period. We also produce lesser quality semi-hard coking coal, semi-soft coking coal, PCI and thermal coal products, which in aggregate accounted for a little over 25% of our annual sales volume in 2018.

Coal is processed at our mine sites. Processed coal is primarily shipped westbound from our mines by rail to terminals along the coast of British Columbia and from there by vessel to overseas customers. In 2018, approximately 5% of our processed coal was shipped eastbound directly by rail, or by rail and by ship via Thunder Bay, to customers in North America.

Globally, we compete in the steelmaking coal market primarily with producers based in Australia and the United States. For sales to China, we also compete with Mongolian and Chinese domestic coal producers. Coal pricing is generally established in U.S. dollars and the competitive positioning among producers can be significantly affected by exchange rates. Our competitive position in the coal market continues to be determined primarily by the quality of our various coal products and our reputation as a reliable supplier, as well as by our production and transportation costs compared to other producers throughout the world.

The high-quality seaborne steelmaking coal markets are cyclical, being driven by a combination of demand, production and export capacity. Strong steel market fundamentals support demand

and pricing for high-quality seaborne steelmaking coal. Conversely, in difficult steel markets, steelmakers can use a higher proportion of semi-soft and PCI coal products in their production process, which can result in reduced pricing premiums for higher quality hard coking coals.

Global steel production and demand for seaborne steelmaking coal remained strong in 2018. The World Steel Association reported strong steel production across all regions due to resilient steel pricing and demand supported by the recovery in investment activities in developed economies and the improved performance of emerging economies. Depletion and reduced production of some Eastern European coal mines continued to increase demand for seaborne steelmaking coal from European steel mills. A robust steelmaking coal market is supported by concerns regarding supply from Australia and the U.S, as well as demand impact of continued capacity growth in India and the relocation of steel production to coastal areas in China. While demand for steelmaking coal remains strong, pricing corrected from the beginning of 2019 reflecting shorter vessel queues in Australia and the relaxation of import restrictions in China in November 2018. We continue to monitor the effects that government policy and trade uncertainty might have on potential price volatility.

In the past few years, a number of our customers reduced the proportion of coal purchased through quarterly priced agreements and requested pricing for a portion of contract volumes on a spot basis in an effort to control costs in an environment of low steel prices. Coincident with the cyclone-induced price spike in April 2017, the pricing methodology for our quarterly contract sales changed from a negotiated quarterly benchmark to an index-linked pricing mechanism based on the average of key premium steelmaking coal price assessments. Quarterly priced sales represent approximately 40% of our sales, with the balance of our sales priced at levels reflecting market conditions when sales are concluded. Lower-grade semi-soft coals and PCI pricing continues to be negotiated on a quarterly benchmark basis.

Substantially all of our revenues from sales of coal products were derived from sales to third-party end users, most of which are steelmakers.

## Copper

We produce both copper concentrates and copper cathode. Our principal market for copper concentrates is Asia, with a lesser amount sold in Europe. Copper concentrates produced at the Highland Valley Copper mine are distributed to customers in Asia by rail to a port in Vancouver, British Columbia, and from there by ship. Copper concentrates produced at Antamina are transported by a slurry pipeline to a port at Huarney, Peru, and from there go by ship to customers in Asia and Europe. Copper concentrates produced at Carmen de Andacollo are trucked to the port of Coquimbo, Chile, and from there go by ship to customers in Asia and Europe. Copper concentrates are sold primarily under long-term contracts, with treatment and refining charges negotiated on an annual basis. Copper cathode from our Quebrada Blanca and Carmen de Andacollo mines is trucked from the mines and sold primarily under annual contracts to customers in Asia, Europe and North America.

The copper business is cyclical. Copper concentrate treatment charges rise and fall depending upon the supply of copper concentrates in the market and the demand for custom copper concentrates by the copper smelting and refining industry. Prices for copper cathode also rise and fall as a result of changes in demand for, and supply of, refined copper metal. The major use

of refined copper is in electrical wiring and electronic applications, with prices and premiums highly dependent on the demand for electrical wire in construction, communications and automotive applications. We compete with other producers of copper concentrates and cathodes, as well as copper sourced through scrap sources.

Global demand for copper metal is estimated by Wood Mackenzie to have grown by 3.0% in 2018 to reach an estimated 23.7 million tonnes. Demand improved in Asia with Chinese copper cathode demand growth estimated at 5.0% over 2017, much higher than initial projections at the beginning of the year. Demand growth in Europe was relatively flat, while demand in North America was up 3.3% with better semi-fabricated copper demand in Mexico, Canada and the US. Copper demand in South East Asia was stronger on improved export demand in several countries to meet increasing Indian demand, which was up 9.2% to 0.54 million tonnes. India was left undersupplied when one of the two domestic Indian smelters was shut during 2018, increasing export demand in South East Asia. Copper scrap availability decreased in 2018 as global trade patterns were disrupted by environmental restrictions on certain types of scrap imports into China. Scrap and unrefined copper imports into China, including blister and anode, were down 15% year-over-year to September 2018.

All of our revenues from sales of copper concentrates and cathode copper were derived from sales to third parties.

## Zinc

We produce refined zinc through our metallurgical operations at Trail and zinc concentrates through our mining operations. Our principal markets for refined zinc are North America and Asia. Refined zinc produced at our metallurgical operations at Trail, British Columbia, is distributed to customers in North America by rail and/or truck and to customers in Asia by ship.

Our principal markets for zinc concentrates are Asia and Europe. In addition, in 2018 approximately 34% of zinc concentrate produced at Red Dog was sold to our metallurgical operations at Trail for treatment and refining. All of the production from our Pend Oreille zinc mine is sold to Trail.

All of our 2018 revenues from sales of refined zinc and zinc concentrates (other than zinc concentrates produced at Red Dog or Pend Oreille that are sold to Trail) were derived from sales to third parties. We strive to differentiate our refined metal products by producing the alloys, sizes and shapes best suited to our customers' needs. We have substantial long-term frame contracts for the sale of zinc concentrates from the Red Dog mine to customers in Asia and Europe.

Trail's supply of zinc and lead concentrates, other than those sourced from Red Dog or Pend Oreille, is provided primarily through long-term contracts with mine producers in North America, South America and Australia.

The zinc business is cyclical. Treatment and refining charges rise and fall depending upon the supply of zinc concentrates in the market and the demand for custom zinc concentrates by the zinc smelting and refining industry. Refined zinc is used primarily for galvanizing steel, and prices and premiums are highly dependent on the demand for steel products.

## Energy

In January 2018 the Fort Hills mine in Alberta, which is operated by an affiliate of Suncor Energy Inc., produced first bitumen. As required by pipelines to meet shipping viscosity requirements, we purchase diluent to blend with our bitumen production and sell a blended bitumen product known as Fort Hills Reduced Carbon Lifecycle Dilbit Blend, or FRB.

Teck's principal markets for the blended bitumen are refinery operators in Alberta, Ontario, the U.S. Midwest and the U.S. Gulf Coast. Bitumen production from Fort Hills is transported on the Northern Courier Pipeline to the East Tank Farm in Alberta, which is owned by the Thebacha Limited Partnership and operated by an affiliate of Suncor. At the East Tank Farm, the Fort Hills bitumen is blended with diluent that has been sourced and delivered from Edmonton on the Norlite Pipeline. The blended bitumen is subsequently transported from the East Tank Farm on the Wood Buffalo Pipeline to Hardisty, Alberta, where Teck has contracted storage capacity for blended bitumen.

Our tankage at Hardisty is connected to major export pipelines, including the Enbridge common carrier pipeline, the existing Keystone pipeline and the Express crude oil pipeline; it is also connected to a large unit train loading facility. We sell our share of FRB to variety of customers at the Hardisty market hub and on the U.S. Gulf Coast. Approximately 80% of our blended bitumen sales are at Hardisty, with the remainder at the U.S. Gulf Coast. We have entered into a long-term take-or-pay transportation agreement on the existing Keystone pipeline to ship 10,000 barrels per day (bpd) of blended bitumen to customers on the U.S. Gulf Coast. The balance of our production will be either sold at Hardisty or shipped to customers via the Enbridge common carrier pipeline, or transported by rail if required.

Export pipeline capacity for Canadian crude oil versus overall supply was in deficit through 2018 and is expected to remain so through 2019 and beyond, until new export capacity is developed. Exacerbating the imbalance was a slower than expected ramp-up of crude-by-rail takeaway capacity.

In support of future export pipeline expansions, we have entered into long-term transportation contracts on the proposed Kinder Morgan TransMountain and TransCanada Keystone XL pipeline expansions that, if built, will deliver to Burnaby, British Columbia and the US Gulf Coast, respectively.

Prices for our blended bitumen are market based, and determined through a combination of global and Canadian benchmark indices. Like our other commodities, the oil industry is cyclical and is highly competitive. Blended bitumen prices are influenced by a combination of North American crude oil benchmark prices, including the New York Mercantile Exchange (NYMEX) light sweet crude oil (WTI). Canadian heavy crude oil of the kind we produce trades at a differential to WTI, and is known as Western Canadian Select or WCS. WCS is a widely-marketed crude grade with transparent market price references quoted at the Hardisty market hub in Canada and the U.S. Gulf Coast. The WCS discount to WTI varies over time depending on the supply and demand for heavy crude production and the markets available to producers of those products, which are in turn influenced by available pipelines and other transportation options.

WCS at Hardisty values were highly volatile throughout 2018 with differentials widening significantly in the third and fourth quarter. The widening was the result of overall increased Canadian crude production competing for limited export capacity and markets, exacerbated by planned maintenance turnarounds at refineries in the U.S. Midwest and Gulf Coast. The impact of these wider differentials at Hardisty to our sales values are somewhat mitigated by our sales into the U.S. Gulf Coast market.

WCS at Hardisty differentials have since materially improved, and are now reflective of the long-term average. Supply was reduced due to the announced 325,000 barrels per day production curtailment mandated by the Government of Alberta for the first quarter of 2019. The government subsequently revised the first quarter curtailment level to 250,000 barrels per day for the production months of February and March. In addition, Canadian crude-by-rail shipments sharply increased throughout 2018 and are now forecast to exceed 400,000 bpd in 2019. Throughout 2019, we will participate in the crude-by-rail initiative through an agreement to load 10,000 bpd of FRB blend onto customers' railcars at Hardisty.

## Individual Operations

### Steelmaking Coal

Our coal mineral holdings consist of a mix of fee simple lands owned by us and Crown leases and licences, which are subject to licensing and leasing fees. In the past, renewals of these licences and leases have generally been granted, although there can be no assurance that this will continue in the future.

Five of Teck's six operating coal mines are in British Columbia and are therefore subject to the B.C. Mineral Tax which is a two-tier tax with a minimum rate of 2% and a maximum rate of 13%. A minimum tax of 2% applies to operating cash flows, as defined by the regulations. A maximum tax rate of 13% applies to cash flows after taking available deductions for capital expenditures and other permitted deductions. The Alberta Coal Royalty, which is assessed on a similar basis, at rates of 1% and 13%, apply to the Cardinal River mine in Alberta.

All of Teck's coal mines are conventional open pit operations and are designed to operate on a continuous basis, 24 hours per day, 365 days per year. Operating schedules can be varied depending on market conditions and are subject to shutdowns for maintenance activities. Capacity may be restricted for a variety of reasons and actual production will depend on sales volumes. All of the mines are accessed by two-lane all-weather roads that connect to public highways. All the mines operate under permits granted by provincial and/or federal regulatory authorities. Each of the mines will require additional permits as they progress through their long-term mine plans. The issuance of certain permits for mine life extensions may depend on a number of factors including our ability to meet the water quality targets set out in the Elk Valley Water Quality Plan, as discussed below. All permits necessary for the current operations of the mines are in hand and in good standing. Annual infill drilling programs are conducted to confirm and update the geological models used to develop the yearly mine plans.

Following mining, the coal is washed in coal preparation plants using a variety of conventional techniques and conveyed to coal or gas-fired dryers for drying. Processed coal is conveyed to clean coal silos or other storage facilities for intermediate storage and load-out to railcars.

Our 2018 production of 26.2 million tonnes was a slight decline of 400,000 thousand tonnes from 2017, primarily due to declining production at Coal Mountain Operations as it reached the end of its life. The pressure event in the coal dryer at Elkview Operations that impacted production in the first quarter was fully offset in subsequent quarters by hauling a portion of raw coal from Elkview Operations to Coal Mountain Operations for processing.

Steelmaking coal production in 2019 is expected to be between 26.0 and 26.5 million tonnes. The business unit will continue to evaluate 2019 raw coal processing opportunities through the latent production capacity of Elk Valley processing plants. As in prior years, annual production volumes can be adjusted to reflect market demand for our products, subject to adequate rail and port service. Assuming that current market conditions persist, annual production from 2020 to 2022 is expected to be higher than in 2019.

### **Elk Valley Water Management**

We continue to implement the water quality management measures required by the Elk Valley Water Quality Plan (the Plan), an area-based management plan that was approved in 2014 by the British Columbia Minister of Environment. The Plan establishes short-, medium- and long-term water quality targets for selenium, nitrate, sulphate and cadmium to protect the environment and human health, as well as a plan to manage calcite formation. In accordance with the Plan, we have constructed and are operating the first active water treatment facility (AWTF) at West Line Creek. In the fourth quarter of 2018, we commissioned an additional treatment step to address an issue regarding selenium compounds in effluent from the West Line Creek AWTF. The facility is operating as designed. We have commenced construction on our next AWTF at Fording River Operations, which will use the same treatment process as the modified West Line Creek AWTF.

In 2018, we successfully operated our first saturated rock fill (SRF) project at Elkview Operations. The SRF has been in operation for the past 12 months and is demonstrating near-complete removal of nitrate and selenium from the feed water. Results to date from the full-scale trial show that the technology has the potential to replace future AWTFs, as well as to reduce capital and operating costs for water treatment. We are working to increase the capacity of the Elkview SRF to potentially reduce reliance on active water treatment. This approach has not yet received necessary approvals and we continue to progress the construction of additional AWTFs to comply with the Plan.

Capital spending on water treatment in 2019 is expected to be approximately \$235 million, including advancing a clean water diversion at Fording River, application of SRF technology at Elkview, construction of Fording River South AWTF, and advancing management of calcite and the early development of water treatment for Fording River North. This compares to approximately \$57 million of capital spending on water treatment in 2018.

In our previous guidance, we estimated total capital spending for water treatment between 2018 and 2022 of \$850 to \$900 million. We intend to complete construction of the Fording River South AWTF, currently under construction. If we are successful in permitting SRF projects to replace the Elkview AWTF and the Fording River North AWTF, we estimate that total capital spending on water treatment during this period would reduce to \$600 to \$650 million. If no reduction in AWTF capacity is permitted, overall capital in the same period would increase by approximately \$250 million over our previous guidance as a result of engineering scope changes at the Elkview

AWTF and an increased volume of water treated at the Fording River North AWTF. We have presented regulators with evidence that SRFs are a viable technical alternative to active water treatment and are working through a review process. We expect that this process will result in a decision in the first half of 2019.

We continue to advance research and development, including the SRF technology. We estimate that over the longer term, SRFs will have capital and operating costs that are 20% and 50%, respectively, of AWTFs of similar capacity. If we are successful in replacing a substantial portion of active water treatment capacity with SRFs, we believe that our long-term operating costs associated with water treatment could be reduced substantially.

All of the foregoing estimates are uncertain. Final costs of implementing the Plan will depend in part on the technologies applied and on the results of ongoing environmental monitoring and modelling. The timing of expenditures will depend on resolution of technical issues, permitting timelines and other factors. We expect that, in order to maintain water quality, some form of water treatment will continue for an indefinite period after mining operations end. The Plan contemplates ongoing monitoring to ensure that the water quality targets set out in the Plan are in fact protective of the environment and human health, and provides for adjustments if warranted by monitoring results. This ongoing monitoring, as well as our continued research into treatment technologies, could reveal unexpected environmental impacts, technical issues or advances associated with potential treatment technologies that could substantially increase or decrease both capital and operating costs associated with water quality management.

Inability to meet targets in the Plan or new information regarding environment inputs could adversely affect our ability to extend mining operations into new areas. See *“Risk Factors — We face risks associated with the issuance and renewal of environmental permits”*, *“Risk Factors - Failure to comply with environmental, health and safety laws may have a material adverse effect on our operations and projects”* and *“Risk Factors — Changes in environmental, health and safety laws may have a material adverse effect on our operations”* for a further discussion of permitting and water quality management.

During the third quarter of 2018, Teck received notice from Canadian federal prosecutors of potential charges under the Fisheries Act in connection with discharges of selenium and calcite from coal mines in the Elk Valley. Since 2014, compliance limits and site performance objectives for selenium and other constituents, as well as requirements to address calcite, in surface water throughout the Elk Valley and in the Koochanusa Reservoir have been established under a regional permit issued by the Provincial government, which references the Plan. If Federal charges are laid, potential penalties may include fines as well as orders with respect to operational matters. We expect that discussions with respect to the draft charges will continue at least into the third quarter of 2019. It is not possible at this time to fully assess the viability of our potential defences to any charges, or to estimate the potential financial impact on us of any conviction. Nonetheless, that impact may be material. See *“Risk Factors - Litigation”* for a further discussion of risks associated with this issue.

## Coal Transportation

Most of the coal produced at the mines in the Elk Valley region of British Columbia and at the Cardinal River mine in west-central Alberta is shipped to west coast ports in British Columbia.

Westbound rail service from the mines located in the Elk Valley is provided by Canadian Pacific Railway Company (CPR) pursuant to a 10-year agreement that expires in 2021. CPR transports a portion of these westbound shipments to Kamloops, B.C., and interchanges the trains with Canadian National Railway Company (CN) for further transportation to the west coast. CN also provides rail service from the Cardinal River mine to the west coast. Both CN's Cardinal River services and Kamloops' interchange services are provided to Teck Coal under a two-year agreement that expired on December 31, 2017. We are in discussions with CN in regard to a new contract and currently operate under Tariff for each segment.

A small portion of the coal produced at the mines in the Elk Valley is transported by rail and ship via Thunder Bay Terminals in Thunder Bay, Ontario, to customers in the Great Lakes region of Canada and by direct rail to the United States. CPR transports the United States shipments via CPR directly or via the Burlington Northern Santa Fe railway, in which case CPR transports the coal from Elk Valley to Coutts, Alberta, and then interchanges the trains with the Burlington Northern Santa Fe for further transport to the United States. Rail shipments destined for Thunder Bay and the United States are transported under rail tariff and related agreements.

Teck exports its seaborne coal primarily through three west coast terminals (Westshore, Neptune and Ridley). Westshore Terminals provides ship-loading services at Roberts Bank, British Columbia, and in 2018 provided services for approximately 66% of Teck's coal shipments. Our contract with Westshore Terminals provides us with 19 million tonnes of annual capacity through to March 2021, and we have contracted capacity at Ridley Terminals near Prince Rupert to provide for steelmaking coal shipments from our Cardinal River Operations in Alberta and surge capacity to manage interruptions throughout the supply chain.

Neptune Bulk Terminals, in which we have a 46% ownership interest, has a current annual capacity for steelmaking coal shipments of 12.5 million tonnes and provides ship-loading services for steelmaking coal shipments loaded on a cost-of-service basis. Construction work to upgrade Neptune's operational capacity commenced in 2018 and is expected to be completed in the third quarter of 2020.

## Property Description

The following sections cover details for each of the operating mines and potential projects. For the operating mines, the remaining reserve life is shown, calculated by dividing remaining reserves by current annual production rates. As mine plans and capacities change, these reserve lives will also change. Because each mine covers a substantial lease area, the development required for accessing the reserves can be substantial, and can involve a range of expenditures in terms of pit access and development and infrastructure to support the development. The reserve lives also assume that the required permits for life extensions will be obtained in a timely fashion to maintain production continuity, as has been the case in previous years.

### Geology of the Elk Valley Mines (B.C., Canada)

In the mines in the Elk Valley Region of British Columbia, coal is contained within the sedimentary Mist Mountain Formation of the lower Cretaceous Kootenay Group. The Mist Mountain sediments were involved in the mountain-building movements of the late Cretaceous to early Tertiary Laramide orogeny and are approximately 500 metres thick, with the depth of burial ranging from zero to 1,500 metres. The major structural features are north-south trending synclines with near horizontal to steep westerly dipping thrust faults and a few high-angle normal faults. This faulting has allowed for the Mist Mountain sequence to be repeated throughout the Elk Valley.

### Fording River Mine, B.C., Canada

The Fording River mine is located 29 kilometres northeast of the community of Elkford, in southeastern British Columbia. The mine site consists of approximately 23,000 hectares of coal lands, including four operating surface coal pits along with several areas planned for surface mine development held under multiple contiguous coal leases and licences. The leases and licences relating to Fording River are held by Teck Coal. Teck Coal also controls the surface and subsurface rights to the properties that are in operation and those that are planned for development.

Coal mined at Fording River is primarily steelmaking coal, although a small amount of thermal coal is also produced. The current annual production capacities of the mine and preparation plant are approximately 9.0 million and 9.5 million tonnes of clean coal, respectively.

Approximately half of the current production is derived from the Eagle Mountain pit area with the other half produced from the Swift pit area. Proven and probable reserves at Fording River are projected to support mining at planned production rates for a further 43 years. Fording River's reserve areas include Eagle Mountain, Swift, Turnbull, and Castle Mountain.

2019 projected capital costs for Fording River are approximately \$171 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Sustaining	102
Major Enhancement	69

2019 projected cash operating costs for Fording River are approximately \$575 million. The major components of the projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Labour	251
Supplies	235
Energy	124
Other (including general & administrative, inventory changes)	44
Less amounts associated with projected capitalized stripping	(79)
Total	575

The cash operating costs presented above do not include transportation or royalties.

### **Elkview Mine, B.C., Canada**

Teck Coal has a 95% partnership interest in the Elkview Mine. The remaining 5% is indirectly held equally by Nippon Steel & Sumitomo Metal Corporation, a Japanese steel producer, and POSCO, a Korean steel producer, each of which acquired a 2.5% interest in 2005. The Elkview mine is an open pit coal mine located approximately 3 kilometres east of Sparwood in southeastern British Columbia. The mine site consists of approximately 27,100 hectares of coal lands.

The coal produced is a high-quality mid-volatile hard coking coal. Lesser quantities of lower-grade hard coking coal are also produced. The current annual production capacities of the mine and preparation plant (on a 100% basis) are approximately 7.0 million and 7.0 million tonnes of clean coal, respectively.

Proven and probable reserves at Elkview are projected to support mining at planned production rates for a further 38 years.

2019 projected capital costs for Elkview are approximately \$127 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Sustaining	37
Major Enhancement	90

2019 projected cash operating costs for Elkview are approximately \$345 million. The major components of the projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Labour	201
Supplies	185
Energy	104
Other (including general & administrative, inventory changes)	62
Less amounts associated with projected capitalized stripping	(207)
Total	345

The cash operating costs presented above do not include transportation or royalties.

### **Greenhills Mine, B.C., Canada**

Greenhills is operated under a joint venture agreement among Teck Coal, POSCO Canada Limited (POSCAN) and POSCAN's parent, POSCO. Pursuant to the joint venture agreement, Teck Coal has an 80% interest in the joint venture while POSCAN has a 20% interest. Teck Coal and POSCAN own the mine equipment and preparation plant in proportion to their respective joint venture interests. Under the joint venture agreement, Teck Coal is the manager and operator of Greenhills and takes 80% of all coal produced at Greenhills. POSCAN takes the remaining 20% and pays a quarterly royalty based on the price achieved for Greenhills coal sales.

Teck Coal and POSCAN bear all costs and expenses incurred in operating Greenhills in proportion to their respective joint venture interests. POSCAN, pursuant to a property rights grant, has a right to 20% of all coal mined from certain defined lands at Greenhills until the end of the operational phase of the joint venture; POSCAN pays Teck a royalty for access to other coal reserves owned by Teck that are processed by Greenhills equipment and facilities. The joint venture agreement provides for a review of the terms of the agreement in 2018 and 2022 and, in the event the parties disagree on the continuation of the terms of the agreement, the operational phase will come to an end. Pursuant to this review, on February 11, 2019, we agreed with POSCAN to substantially increase the royalty paid by POSCAN in respect of its 20% share of production. At current coal prices of approximately US\$200 per tonne, the increase in the royalty will amount to approximately \$90 million annually. The new royalty remains in effect until December 31, 2022.

The Greenhills mine is located 8 kilometres northeast of the community of Elkford, in southeastern British Columbia. The mine site consists of approximately 11,800 hectares of coal lands. Coal mined at Greenhills is primarily steelmaking coal, although a small amount of thermal coal is also produced. The current annual production capacities of the mine and preparation plant (on a 100% basis) are 5.9 million and 5.4 million tonnes of clean coal, respectively.

Production is derived primarily from the Cougar pit area. Proven and probable reserves at Greenhills are projected to support mining at planned production rates for a further 28 years.

Our 80% share of 2019 projected capital costs for Greenhills is approximately \$64 million. The major components of our share of projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Sustaining	46
Major Enhancement	18

Our 80% share of 2019 projected cash operating costs for Greenhills is approximately \$269 million. The major components of our share of projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Labour	105
Supplies	111
Energy	60
Other (including general & administrative, inventory changes)	35
Less amounts associated with projected capitalized stripping	(42)
Total	269

The cash operating costs presented above do not include transportation or royalties.

### **Coal Mountain Mine, B.C., Canada**

The Coal Mountain mine is located 30 kilometres southeast of Sparwood in southeastern British Columbia. The mine site consists of approximately 3,000 hectares of coal lands

In 2018 Coal Mountain Operations experienced declining production as it reached the end of its mine reserve. Favourable geology at Coal Mountain provided an opportunity to mine and process a small amount of coal in the first quarter 2019. In 2018, we captured the latent processing capacity and hauled a portion of raw coal from the Elkview Operations to Coal Mountain Operations for processing and we anticipate this practice to continue through the first quarter of 2019.

### **Line Creek Mine, B.C., Canada**

The Line Creek mine is located approximately 25 kilometres north of Sparwood in southeastern British Columbia. Line Creek supplies steelmaking and thermal coal to a variety of international and domestic customers. The Line Creek property consists of approximately 8,200 hectares of coal lands.

The current annual production capacities of the mine and preparation plant are approximately 4.0 million and 4.0 million tonnes of clean coal, respectively. Proven and probable reserves at Line Creek are projected to support mining at planned production rates for a further 18 years.

### **Cardinal River Mine, Alberta, Canada**

The Cardinal River mine is located approximately 42 kilometres south of Hinton, Alberta. Prior to 2003 the mine was owned by Luscar and CONSOL, each of which retained a net revenue royalty of 2.5% based on any coal mined from the Cheviot pit and certain other former Luscar properties. The Cardinal River mine property consists of approximately 15,300 hectares of coal lands.

In 2005, Teck Coal completed the development of the Cheviot Creek pit located approximately 20 kilometres south of the Cardinal River coal plant. Coal mined at Cardinal River is primarily steelmaking coal, although a small amount of thermal coal is also produced. The current annual production capacities of the mine and preparation plant are approximately 2.0 million and 3.5 million tonnes of clean coal, respectively.

We invested approximately \$7.5 million in 2018 to continue to evaluate the MacKenzie Redcap detailed design study and will be continuing this evaluation in 2019. The MacKenzie Redcap development, if it advances, is expected to supply approximately 1.8 million tonnes of steelmaking coal production per year and has the potential to extend production at Cardinal River Operations to approximately 2027, beyond the planned closure in 2020. Beyond 2020, that additional tonnage would add to the current longer-term planned production capacity of 27 million tonnes in the Elk Valley.

### **Quintette Coal Project, B.C., Canada**

Our Quintette mine in northeastern British Columbia has been closed since 2000. In the third quarter of 2012 we completed the feasibility study for reopening the Quintette mine. The feasibility study estimates the capital cost to reopen Quintette at \$858 million, not including escalation or interest during construction. The study contemplates an average clean coal production rate of 3.5 million tonnes per year over the estimated 12-year life of Quintette. We received a *Mines Act* Permit Amendment for Quintette in June 2013. Quintette has been placed on care and maintenance, and the potential restart has been deferred until it is determined the market conditions would support the economics and the incremental production on a sustained basis.

### **Other Coal Projects, B.C., Canada**

Other coal properties include Mt. Duke (92.6% interest) south of Tumbler Ridge, B.C., Elco (75% interest) at the north end of the Elk Valley, and the Coal Mountain Phase II Property (100% interest) situated between Elkview and the current Coal Mountain Operation.

## Copper

### Copper Operations

#### **Highland Valley Copper Mine, Canada (Copper)**

We hold a 100% interest in the Highland Valley Copper mine located near Kamloops, British Columbia through our wholly owned subsidiary Teck Highland Valley Copper Partnership (HVC).

Highland Valley's primary product is copper concentrate; it also produces molybdenum in concentrate. The property comprising the Highland Valley Copper mine consists of mineral leases, mineral claims and Crown grants. The mine property covers a surface area of approximately 34,000 hectares and HVC holds the mineral rights to that area pursuant to various leases, claims and licences.

The Highland Valley mine is located adjacent to Highway 97C connecting Merritt, Logan Lake and Ashcroft, British Columbia. Access to the mine is from a 1-kilometre access road from Highway 97C. The mine is approximately 50 kilometres southwest of Kamloops, and approximately 200 kilometres northeast of Vancouver. The mine operates throughout the year. Power is supplied by BC Hydro through a 138-kilovolt line which terminates at the Trans-Canada Highway west of Spuzzum in the Thompson Valley. Mine personnel live in nearby areas, primarily Logan Lake, Kamloops, Ashcroft, Cache Creek and Merritt.

The mine is an open pit operation. The processing plant, which uses autogenous and semi-autogenous grinding and flotation to produce metal in concentrate from the ore, has the capacity to process up to 145,000 tonnes of ore per day, depending on ore hardness. Water from mill operations is collected and contained in a tailings impoundment area. Mill process water is reclaimed from the tailings pond. The operation is subject to water and air permits issued by the Province of British Columbia and is in material compliance with those permits. The operation holds all of the permits that are material to its current operations.

An autonomous haulage pilot project was successfully started during the second half of 2018 in the Lornex pit, with six autonomous haulage trucks now fully operational. A \$73 million project to install an additional ball mill to increase grinding circuit capacity is progressing, with start-up anticipated in the third quarter of 2019. The project is anticipated to increase overall mill throughput by 5% and copper recovery by over 2% in comparison to levels that would otherwise be achieved.

Concentrates from the operation are transported first by truck to Ashcroft and then by rail to a port in Vancouver for export overseas, with the majority being sold under long-term sales contracts to smelters in Asia. The price of copper concentrate under these long-term sales agreements is based on LME prices during quotation periods determined with reference to the time of delivery, with treatment and refining charges negotiated annually. The balance is sold on the spot market. Molybdenum concentrates are sold to third-party roasters on market terms.

Ore is currently mined from the Valley and Lornex pits. The pits are located in the Guichon batholith, which hosts all of the orebodies located in the area. The host rocks of the Valley deposit are mainly porphyritic quartz monzonites and granodiorites of the Bethsaida phase of the batholith. These rocks are medium-to-coarse-grained with large phenocrysts of quartz and biotite.

The rocks of the deposit were subjected to hydrothermal alteration followed by extensive quartz veining, quartz-sericite veining, and silicification. Bornite, chalcopyrite and molybdenum were introduced with the quartz and quartz-sericite veins and typically fill angular openings in them. Accessory minerals consist of hornblende, magnetite, hematite, sphene, apatite and zircon. Pre-mineral porphyry and aplite dykes intrude the host rocks of the deposit.

The Lornex orebody occurs in skeena quartz diorite host rock, intruded by younger pre-mineral quartz porphyry and aplite dykes. The skeena quartz diorite is an intermediate phase of the Guichon batholith and is generally a medium-to-coarse grained equigranular rock distinguished by interstitial quartz and moderate ferromagnesian minerals. The sulphide ore is primarily fracture fillings of chalcopyrite, bornite and molybdenite with minor pyrite, magnetite, sphalerite and galena.

In 2015, additional drilling and engineering studies were conducted to define resources near the existing Valley, Lornex and Highmont pits, and to examine other options to optimize and extend production past the current mine life. Additional drilling and studies were conducted in 2016 and 2017 focused on evaluating the viability of a substantial expansion of the Valley and Highmont pits.

In 2018, 77 diamond drillholes, totalling approximately 16,800 metres, were drilled in the Valley, Lornex and Highmont pit areas. In addition, 13 holes, totalling 3,500 metres, were drilled near the pits and in the surrounding district. Quick logs of these holes indicate no material impacts on the quantity or grade of reserves and resources. Diamond drill core is split in halves using core saws and sampled in two-metre intervals (HQ diameter core). One half is sent to an independent, off-site laboratory for analysis and the other is retained for future reference. Field duplicates and external umpire checks of approximately 5% of pulp samples are elements of the Highland Valley quality assurance/quality control program procedures.

Highland Valley Copper's 2018 copper production was 100,800 tonnes, compared to 92,800 tonnes in 2017 and 119,300 tonnes in 2016. The increase in 2018 was primarily due to significantly higher copper grades and higher recoveries in the first half of 2018 compared to 2017. Copper and molybdenum ore grades declined as expected in the second half of 2018 as we mined ore from lower-grade sections of the Lornex and Valley pits. Grades are expected to increase further in 2019 in accordance with the current life of mine plan. Molybdenum production was slightly lower in 2018 at 8.7 million pounds, compared to 9.3 million pounds in 2017.

Copper production in 2019 is anticipated to be between 115,000 and 120,000 tonnes, with a relatively even distribution throughout the year. We expect annual copper production from 2020 to 2022 to be between 135,000 and 155,000 tonnes per year, increasing from the low end to the high end of the range during the three-year period. Copper production is anticipated to average about 150,000 tonnes per year after 2022, through to the end of the current mine plan in 2028. Molybdenum production in 2019 is expected to be approximately 6.0 million pounds contained in concentrate, with annual production expected to decline to between 4.0 and 5.0 million pounds per year afterwards. We have commenced studies to assess the potential economic viability of extending the Highland Valley Copper mine life to 2040.

See "*Mineral Reserves and Resources*" for information about the mineral reserve and resource estimates for Highland Valley, including metal price and exchange rate assumptions.

The Highland Valley copper mine is subject to the B.C. Mineral Tax which is a two-tier tax with a minimum rate of 2% and a maximum rate of 13%. A minimum tax of 2% applies to operating cash flows, as defined by the regulations. A maximum tax rate of 13% applies to cash flows after taking available deductions for capital expenditures and other permitted deductions.

2019 projected capital costs for Highland Valley are approximately \$120 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Sustaining	64
Major enhancement	56

2019 projected aggregate cash operating costs for Highland Valley are approximately \$557 million. The major components of the projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (\$/million)</u>
Labour	259
Supplies	216
Energy	112
Other (including general & administrative, inventory changes)	56
Less amounts associated with projected capitalized stripping	(86)
Total	557

The cash operating costs presented above do not include transportation or royalties.

#### **Antamina Mine, Peru (Copper, Zinc)**

We own indirectly 22.5% of the Antamina copper/zinc mine in Peru, with the balance held indirectly by BHP Billiton plc (33.75%), Glencore plc (33.75%) and Mitsubishi Corporation (10%). The participants' interests are represented by shares of Compañía Minera Antamina S.A. (CMA), the Peruvian company that owns and operates the project. Our interest is subject to a net profits royalty of 1.667% on CMA's free cash flow.

The Antamina property consists of numerous mining concessions and mining claims covering an area of approximately 82,200 hectares and an area of approximately 15,000 hectares of surface rights. These rights concessions and claims can be held indefinitely, contingent upon the payment of annual licence fees and provision of certain production and investment information. CMA also owns a port facility located at Huarmey and an electrical substation located at Huallanca. In addition, CMA holds title to all easements and rights of way for the 302-kilometre concentrate pipeline from the mine to CMA's port at Huarmey.

The deposit is located at an average elevation of 4,200 metres, 385 kilometres by road and 270 kilometres by air north of Lima, Peru. Antamina lies on the eastern side of the Western

Cordillera in the upper part of the Rio Marañon basin. Mine personnel live in a camp facility while at work and commute from both local communities and larger population centres, including Lima.

The mine is an open pit, truck-and-shovel operation. The ore is crushed within the pit and conveyed through a 2.7-kilometre tunnel to a coarse ore stockpile at the mill. It is then processed utilizing two SAG mills, followed by ball mill grinding and flotation to produce separate copper, zinc, molybdenum and lead/bismuth concentrates. The mill has the capacity to process approximately 145,000 tonnes per day, depending on ore hardness. A 302-kilometre-long slurry concentrate pipeline, approximately 22 centimetres in diameter with a single pump station at the mine site, transports copper and zinc concentrates to the port where they are dewatered and stored prior to loading onto vessels for shipment to smelters and refineries worldwide.

The mine is accessible via an access road maintained by CMA. Power for the mine is taken from the Peru national energy grid through an electrical substation constructed at Huallanca. Fresh water requirements are sourced from a dam-created reservoir upstream from the tailings impoundment facility. The tailings impoundment facility is located next to the mill. Water reclaimed from the tailings impoundment is used as process water in the mill operation. The operation is subject to water and air permits issued by the Government of Peru and is in material compliance with those permits. The operation holds all of the permits that are material to its current operations.

The Antamina polymetallic deposit is skarn-hosted. It is unusual in its persistent mineralization and predictable zonation, and has a SW-NE strike length of more than 2,500 metres and a width of up to 1,000 metres. The skarn is well-zoned symmetrically on either side of the central intrusion with the zoning used as the basis for four major subdivisions being a brown garnet skarn, green garnet skarn, wollastonite/diopside/green garnet skarn and a marbleized limestone with veins or mantos of wollastonite. Other types of skarn, including the massive sulphides, massive magnetite, and chlorite skarn, represent the remainder of the skarn and are randomly distributed throughout the deposit. The variability of ore types can result in significant changes in the relative proportions of copper and zinc produced in any given year.

In 2018, 15 primary and 43 branch infill drillholes, as well as five primary and nine branch deep drillholes were completed within the Antamina pit, for a total of approximately 41,200 metres. For diamond core, three-metre samples of half core (HQ or NQ) are collected and prepared for assay at an external laboratory. The remaining half of the core is retained for future reference. The assay program includes approximately 15% of quality-control samples, comprising reference materials, duplicates and blanks. The reference materials consist of matrix-matched material from Antamina, homogenized and certified in accordance with industry practice.

Antamina's copper production (100% basis) in 2018 was 446,100 tonnes, compared to 422,500 tonnes in 2017, with the increase primarily as a result of higher copper grades and recovery, partially offset by processing less copper-only ore. Zinc production was 409,300 tonnes in 2018, an increase from 372,100 tonnes produced in 2017, primarily due to processing more copper-zinc ore. In 2018, molybdenum production was 10.2 million pounds, which was 17% higher than 2017.

Our 22.5% share of Antamina's 2019 production is expected to be in the range of 95,000 to 100,000 tonnes of copper, 65,000 to 70,000 tonnes of zinc and approximately 2.0 million pounds of molybdenum in concentrate. The lower zinc production in 2019 is a result of mine sequencing,

and is expected to return to higher production levels after 2019 with higher grades and a higher proportion of copper-zinc ore to process. Our share of copper production is expected to be between 90,000 and 95,000 tonnes per year from 2020 to 2022. Our share of zinc production is expected to average between 100,000 and 110,000 tonnes per year from 2020 to 2022, although annual production will fluctuate due to feed grades and the amount of copper-zinc ore processed. Our share of annual molybdenum production is expected to be between 2.0 and 3.0 million pounds per year between 2020 and 2022.

Antamina has entered into long-term off-take agreements with affiliates of the Antamina shareholders on market terms for copper, zinc and molybdenum concentrates.

In Peru, the mining tax regime includes the Special Mining Tax and the Modified Mining Royalty, which apply to CMA's operating margin based on a progressive sliding scale ranging from 3% to 20.4%. CMA is also subject to Peruvian income tax.

Based on current designed tailings storage capacity, the mine life is expected to continue until 2028. CMA is currently conducting engineering studies for additional tailings storage options and alternative mine plans that could result in significant mine life extensions.

Our 22.5% share of 2019 projected capital costs for Antamina is approximately US\$77 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (US\$/million)</u>
Sustaining	67
Major Enhancement	10

Our 22.5% share of 2019 projected cash operating costs for Antamina is approximately US\$179 million. The major components of the projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (US\$/million)</u>
Labour	91
Supplies	94
Energy	45
Other (including general & administrative, inventory changes)	11
Less amounts associated with projected capitalized stripping	(62)
Total	179

The cash operating costs presented above do not include transportation or royalties.

Under a long-term streaming agreement with FN Holdings ULC (FNH), a subsidiary of Franco-Nevada Corporation, Teck has agreed to deliver silver to FNH equivalent to 22.5% of the payable silver sold by Compañía Minera Antamina S.A. FNH made a payment of US\$610 million on

closing of the arrangement in 2015 and will pay 5% of the spot price at the time of delivery for each ounce of silver delivered under the agreement, in addition to an upfront acquisition price paid in a previous year. After 86 million ounces of silver have been delivered under the agreement, the stream will be reduced by one-third. The streaming agreement restricts distributions from Teck Base Metals, our subsidiary that holds our 22.5% interest in CMA, to the extent of unpaid amounts under the agreement if there is an event of default under the streaming agreement or an insolvency of Teck. Compañía Minera Antamina S.A., which owns and operates Antamina, is not a party to the agreement and operations will not be affected by it.

The labour agreement at Antamina expired in the third quarter of 2018; negotiations for a new agreement are ongoing.

### **Quebrada Blanca Mine, Chile (Copper)**

The Quebrada Blanca mine is owned by a Chilean private company, Compañía Minera Teck Quebrada Blanca S.A. (QBSA). In April 2018, we acquired an additional 13.5% indirect interest in QBSA and as of December 31, 2018 we own 100% of the Series A shares of QBSA and 100% of the Series C shares of QBSA. Empresa Nacional de Minería (ENAMI), a Chilean government entity, owns 100% of the Series B shares of QBSA. When combined with the Series B shares of QBSA, our 100% interest in the Series A and Series C shares equates to a 90% interest in QBSA's total share equity. ENAMI's 10% interest is a carried interest and, as a result, ENAMI is generally not required to contribute further funding to QBSA and is entitled to a minimum dividend in certain circumstances.

In December, we announced a transaction through which Sumitomo Metal Mining Co. Ltd. and Sumitomo Corporation will subscribe for a 30% indirect interest in QBSA by contributing US\$1.2 billion to the project with additional contingent consideration due in certain circumstances. The transaction is expected to close at the end of March. Following the transaction, Teck will hold a 60% interest in QBSA; Sumitomo Metal and Sumitomo Corporation will collectively hold a 30% interest in QBSA and ENAMI will continue to hold a 10% carried interest.

QBSA owns the exploitation and/or exploration rights in the immediate area of the Quebrada Blanca deposit pursuant to various mining concessions and other rights. There are currently 119,587 ha of mining rights incorporating exploitation and exploration mining concessions held in the name of QBSA. The exploitation mining concessions have no expiry date. In addition, QBSA holds surface rights covering the mine site and other areas aggregating approximately 3,150 hectares as well as certain other exploration rights in the surrounding area and certain water rights.

The Quebrada Blanca property is located in the Tarapacá Region of northern Chile approximately 240 kilometres southeast of the port city of Iquique and 1,500 kilometres north of the city of Santiago, the capital of Chile. The Quebrada Blanca property is located approximately 4,400 metres above sea level. The local topography is represented by rounded hills disrupted by steep gulches. Vegetation cover consists of sparse tufts of grass and small shrubs. Access to the mine site is via road from Iquique. Mine personnel are based in a camp facility, and the majority commute from large population centres, including Iquique and Santiago.

Previously mined for its surficial supergene mineralization, the Quebrada Blanca Cu-Mo sulfide deposit is characterized by a series of Eocene-Oligocene aged intrusions, hydrothermal breccias and vein-related mineralization over an area of ~5 x 3 km and controlled primarily by a north-east oriented structures. Alteration associated with the emplacement of the porphyritic and related intrusions includes chalcopyrite- and bornite-related veins, disseminations, and cement fill associated with potassic alteration. A large, vertically zoned hydrothermal breccia developed in association with the potassic event. This breccia has biotite, biotite-magnetite, chalcopyrite and locally bornite preserved at depth, whilst at shallower levels it transitions to a tourmaline-rich breccia with pyrite and chalcopyrite. A series of quartz-molybdenite veins are commonly associated with the biotite-magnetite breccia on the east side of the deposit. A subsequent chalcopyrite and molybdenite event cuts across the system and is characterized by grey-green sericite and quartz veins. This type of transitional alteration is best-preserved in the western part of the deposit. A late quartz-sericite-pyrite assemblage cuts the copper-bearing stages, and is strongly controlled by northwest-oriented structures. This phyllic event also occurs along northeast-oriented structures, which were a key control in the location of the supergene mineralization at surface.

The Quebrada Blanca orebody occurs within a 2-kilometre by 5-kilometre quartz monzonite intrusive stock. Supergene enrichment processes have dissolved and redeposited primary (hypogene) chalcopyrite as a blanket of supergene copper sulphides, the most important being chalcocite and covellite, with lesser copper oxides/silicates such as chrysocolla in the oxide zone. Irregular transition zones, with (locally) faulted contacts separate the higher and lower-grade supergene/dump leach ores from the leached cap and hypogene zones.

Quebrada Blanca is an open pit mine that produces ore that, since the first quarter of 2017, has been sent directly to the dump leach circuit. Prior to the first quarter of 2017, ore was sent for both heap leach and dump leach production. Copper-bearing solutions are collected from the heap and dump leach pads for processing in an SX-EW plant that produces copper cathode. Mining operations in the open pit were suspended in the fourth quarter of 2018 as the supergene ore was exhausted. Copper cathode production is expected to continue through early 2020. Copper cathode is trucked to Iquique for shipment to purchasers.

The majority of copper cathode produced at Quebrada Blanca is sold under annual contracts to metal consumers and metal trading companies. The remaining copper cathode is sold on the spot market. The price of copper cathodes is based on LME prices plus a premium based on market conditions.

Quebrada Blanca produced 25,500 tonnes of copper cathode in 2018, compared to 23,400 tonnes in 2017. We expect production of approximately 20,000 to 23,000 tonnes of copper cathode in 2019.

### *Quebrada Blanca Phase 2*

As previously outlined, Quebrada Blanca Phase 2 (QB2) is expected to extend the life of the existing mine as a large-scale concentrate-producing operation. As part of the regulatory process for Quebrada Blanca Phase 2, we submitted a Social and Environmental Impact Assessment (SEIA) to the Region of Tarapacá Environmental Authority in the third quarter of 2016, which was approved in August 2018. As expected, various administrative and legal appeals have been filed

in respect of the SEIA approval, and QBSA and the relevant Chilean authorities are responding in the ordinary course.

The project was approved for full construction in December 2018. Teck, SMM and SC are in discussions with export credit agencies and commercial banks with respect to a proposed limited recourse project finance facility of up to US\$2.5 billion. The combination of proceeds from the transaction with SMM and SC and the proposed project financing will reduce Teck's share of equity contributions toward the un-escalated US\$4.739 billion estimated capital cost of the QB2 project to approximately US\$700 million with Teck's first contributions post-closing not required until late 2020. The target date for project completion and the start of commissioning and ramp up is the fourth quarter of 2021. Full production is expected in the middle of 2022.

In early 2017, we completed an updated feasibility study on the QB2 project, which incorporates recent project optimization and certain scope changes, including a different tailings facility located closer to the mine. The 2017 feasibility study estimated a capital cost for the development of the project on a 100% basis of US\$4.7 billion (in first quarter 2016 dollars, not including working capital or interest during construction). The study is based on an initial mine life of 25 years, consistent with the capacity of the new tailings facility. Various aspects of the QB2 project have been optimized and updated based on additional technical and engineering work completed since the 2017 feasibility study, in anticipation of the decision to sanction the project. Capital and operating costs have been re-estimated. The capital cost for development of the project is now estimated at US\$4.739 billion as of January 1, 2019 (in constant Q2 2017 dollars, not including working capital, escalation or interest during construction, and assuming a CLP/USD exchange rate of 625). Detailed engineering for the project is nearly 80% complete, and procurement is well advanced, increasing confidence in the capital cost estimate and construction schedule.

Mining operations will continue to use open pit methods, and conventional truck-and-shovel operations. From an operational standpoint, QB2 represents a continuation of the existing supergene mining activities; however, there are significant differences between the two mining operations, such as the significant increase in the ultimate pit depth, the change in mineralization type from enriched supergene to hypogene, and the proposed increase to the mining extraction rate.

The project scope includes the construction of a 143,000 tonne per day concentrator and related facilities, which will be connected to a new port and desalination plant by 165 kilometre concentrate and desalinated water pipelines. An additional access road, known as the A-97 bypass, will be constructed from the A-97B highway to the mine. In addition, there will be construction of a new overhead high voltage electric power transmission line. The primary crushing facility will contain a single primary crusher with a double-sided dump pocket for dumping ore from the mine haulage trucks. The coarse ore conveyor facility will consist of two overland conveyors to transport the crushed ore from the primary crusher to the coarse ore stockpile. The coarse ore stockpile will have a live capacity of 80,000 tonnes, and an overall 270,000 tonne capacity. The concentrator facility will contain two semi-autogenous grinding mills and four ball mills, cyclone feed pumps, and cyclone clusters.

On a 100% basis, average annual production capacity is expected to be 316,000 tonnes of copper equivalent per year for the first full five years of mine life.

QBSA has signed a number of power purchase agreements for electric power supply for QB2. There are three primary power purchase agreements for QB2 with staggered supply dates. Each of these agreements imposes a take-or-pay obligation on QBSA, under which QBSA is required to pay for the contracted power regardless of whether it is required in the operations. Supply from the first contract commenced in the fourth quarter of 2016 and the other supply dates commenced in early 2018.

QBSA's obligations under the power purchase agreements are guaranteed by Teck until QB2 enters production. So long as Teck's unsecured unsubordinated debt does not carry an investment grade credit rating from Moody's, Standard & Poor's or Fitch ratings agencies (or any two of these agencies, if Teck is rated by more than one of them), we are required to deliver letters of credit to support these guarantees. As of December 31, 2018, there were US\$672 million of letters of credit outstanding to support the guarantees. On February 21, 2019, Teck received its second investment grade credit rating and requested termination of all of the letters of credit relating to the QB2 power purchase agreements. Teck has delivered parent guarantees in replacement of the letters of credit.

The aggregate fixed commitment of the three primary power supply agreements is approximately US\$6.8 million per month, determined as of December 31, 2018. QBSA is taking steps to manage its exposure, and may sell power at spot market rates or under contract to offset its exposure under these take-or-pay contracts until power is required for the QB2 project. Based on current spot market rates, current mitigation efforts and QBSA's projected power consumption, its net estimated aggregate monthly exposure under its power arrangements is anticipated to be in the range of US\$5.5 to US\$6.6 million in 2019. Teck has agreed to cover Sumitomo's share of the cost of power under these existing power purchase agreements in excess of QBSA's actual needs until the earlier of the start-up of the first grinding line in the mill or September 30, 2022.

In 2018, 39 diamond drillholes were completed within the Quebrada Blanca deposit for a total of approximately 18 kilometers. For diamond core, 3-metre samples of half core are taken and crushed for assay at an external laboratory. The remaining half of the core is retained for future reference. The assay program includes approximately 15% of quality-assurance/quality-control samples, comprising reference materials, duplicates and blanks. The reference materials consist of matrix-matched material from Quebrada Blanca, homogenized and certified in accordance with industry practice.

2019 projected capital costs for QB2 are approximately US\$1,460 million. Assuming completion of the transaction with Sumitomo at the end of March, as expected, our share of the 2019 projected capital costs will be limited to approximately US\$285 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (US\$/million)</u>
New Mine Development	1,460

QB2 has a 28 year mine life and the Sanction Case (described below) includes 199 million tonnes of inferred resources within the life of mine plan. The majority of this inferred material is not scheduled to be mined until late in the mine life and is displacing lower grade economic material within the pit. Teck refers to the planned development of the QB2 project that includes these inferred resources as the "Sanction Case". Inferred resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserve. Inferred resources are subject to greater uncertainty than measured or indicated resources and it cannot be assumed that they will be successfully upgraded to measured and indicated through further drilling. Based on Teck's understanding of the deposit and history of resource to reserve conversion, the Sanction Case is regarded as a realistic and financeable development plan; however, key information regarding the reserve-only case is included in the table below for reference.

The table below summarizes the financial projections of the planned operation of QB2 for both the reserve case and the Sanction Case:

<u>100% Project Basis<sup>(1)(2)</sup></u>	<u>Units</u>	<u>Reserve Case</u>	<u>Sanction case</u>
IRR	%	13.5%	14.1%
NPV	US\$ M	\$2,030	\$2,426
Average Annual Cash Flow – 1 <sup>st</sup> Five Years <sup>(3)</sup>	US\$ M	\$935	\$956
Average Annual Cash Flow – After 1 <sup>st</sup> Five Years <sup>(4)</sup>	US\$ M	\$496	\$585
Payback Period	years	5.7	5.6

(1) Assumes US\$3.00 per pound of copper; US\$10.00 per pound of molybdenum and US\$18.00 per ounce of silver

(2) As at January 1, 2019 on an unlevered, after-tax bases for a Chilean domiciled entity assuming an optimized funding structure

(3) Excludes the first partial year of operation

(4) Excludes the last partial year of operation

Taxes payable in Chile that affect the operation include the Chilean Specific Mining Tax which applies to operating margin based on a progressive sliding scale from 5% to 14%. QB2 is also subject to federal income tax in Chile.

#### **Carmen de Andacollo Mine, Chile (Copper)**

The Carmen de Andacollo property is owned by a Chilean private company, Compañía Minera Teck Carmen de Andacollo (CDA). We own 100% of the Series A shares of CDA while ENAMI owns 100% of the Series B shares of CDA. Our Series A shares of CDA equate to 90% of CDA's total share equity and ENAMI's Series B shares comprise the remaining 10% of total share equity. ENAMI's interest is a carried interest and, as a result, ENAMI is not required to contribute further funding to CDA.

CDA owns the exploitation and/or exploration rights over an area of approximately 206 square kilometres in the area of the Carmen de Andacollo supergene and hypogene deposits pursuant to

various mining concessions and other rights. In addition, CDA owns the surface rights covering the mine site and other areas aggregating approximately 21 square kilometres as well as certain water rights. Since 1996, CDA has been conducting mining operations on the supergene deposit on the Carmen de Andacollo property that overlies the hypogene deposit and since 2010 has been processing hypogene ore through a concentrator on the site.

The Carmen de Andacollo property is located in Coquimbo Province in central Chile. The site is adjacent to the town of Carmen de Andacollo, approximately 55 kilometres southeast of the city of La Serena and 350 kilometres north of Santiago. Access to the Carmen de Andacollo mine is by paved roads from La Serena. The mine is located near the southern limit of the Atacama Desert at an elevation of approximately 1,000 metres. The climate around Carmen de Andacollo is transitional between the desert climate of northern Chile and the Mediterranean climate of the Santiago area. The majority of mine personnel live in the town of Carmen de Andacollo, immediately adjacent to the mine, or in the nearby cities of Coquimbo and La Serena.

The Carmen de Andacollo orebody is a porphyry copper deposit consisting of disseminated and fracture-controlled copper mineralization contained within a gently dipping sequence of andesitic to trachytic volcanic rocks and sub-volcanic intrusions. The mineralization is spatially related to a feldspar porphyry intrusion and a series of deeply rooted fault structures. A primary copper-gold sulphide hypogene deposit containing principally disseminated and quartz vein-hosted chalcopyrite mineralization lies beneath the supergene deposit. The hypogene deposit was subjected to surface weathering processes, resulting in the formation of a barren leached zone 10 to 60 metres thick. The original copper sulphides leached from this zone were re-deposited below the barren leached zone as a copper-rich zone comprised of copper silicates (chrysocolla) and supergene copper sulphides (chalcocite with lesser covellite).

The Carmen de Andacollo mine is an open pit mine. Copper concentrate is produced by processing hypogene ore through semi-autogenous grinding and a flotation plant with the capacity to process up to 55,000 tonnes of ore per day depending on ore hardness. Some supergene ore is also mined, which is transported to heap leach pads. Copper-bearing solutions are processed in an SX-EW plant to produce grade A copper cathode.

The majority of copper cathode produced at Carmen de Andacollo is sold under annual contracts with metal trading companies. The remaining Carmen de Andacollo copper cathode production is sold in the spot market. The price of copper cathodes is based on LME prices plus a premium based on market conditions. Copper concentrates are sold under long-term contracts to smelters in Asia and Europe, using the LME price as the basis for copper pricing, and with treatment and refining charges negotiated on an annual basis.

During 2018, nine diamond drillholes totalling approximately 2,200 metres were drilled at the Carmen de Andacollo mine. Four of these drillholes were for geological logging and grade modelling purposes, and five of these drillholes were for geotechnical and hydrogeological purposes. The geological logging of these drillholes confirms the geological features identified in the deposit and only local changes of geological boundaries were recognized. Diamond drill core is split in halves and sampled in 2.5-metre intervals. One half is sent to the lab at the site for analysis and the other is retained for future reference. For this drilling campaign, one in five samples was submitted to metallurgical testing; subsequently, these samples were returned to the mechanical preparation process. Coarse blank, field duplicated (prior to shipment to the

laboratory), crushing duplicated, fine coarse blank, pulp duplicated and standards were used as part of the quality assurance/quality control program.

Carmen de Andacollo produced 63,500 tonnes of copper contained in concentrate in 2018, 12% less than 2017, primarily due to lower copper grades as anticipated in the mine plan partially offset by higher mill throughput. Copper cathode production was 3,700 tonnes in 2018, compared with 3,500 tonnes in 2017. Gold production, on a 100% basis, of 59,600 ounces was higher than the 54,500 ounces produced in 2017, with 100% of the gold produced for the account of RGLD Gold AG, a wholly owned subsidiary of Royal Gold, Inc. In effect, 100% of gold production from the mine has been sold to RGLD Gold AG, which pays a cash price of 15% of the monthly average gold price at the time of each delivery, in addition to an upfront acquisition price paid in previous years.

Consistent with the mine plan, copper grades are expected to continue to decline towards reserve grades in 2019 and future years. Carmen de Andacollo's production in 2019 is expected to be in the range of 60,000 to 65,000 tonnes of copper in concentrate and approximately 2,000 tonnes of copper cathode. Annual copper in concentrate production is expected to be approximately 60,000 tonnes for the subsequent three-year period. Cathode production volumes are uncertain past 2019, although there is some potential to extend production.

The current life of mine for Carmen de Andacollo is expected to continue until 2035. Additional permitting or amendments will be required to execute the life of mine plan.

Taxes payable in Chile that affect the operation include the Chilean Specific Mining Tax which applies to operating margin based on a progressive sliding scale from 5% to 14%. CDA is also subject to federal income tax in Chile.

## Project Satellite

In March 2017, we publicly launched our Project Satellite initiative, the focus of which is to surface value from five substantial base metals assets all of which are located in the Americas: Zafranal, San Nicolás, Galore Creek, Mesaba, and Schaft Creek. Since 2017, we have invested in consolidating our ownership in a number of the assets, renewing partnerships in others, developing a path-to-development for each asset, and establishing project teams to carry out a range of technical, environmental and social work programs that aim to remove value impediments and to create a more certain business case for each asset.

The focus in 2018 has been to complete environmental and social baseline studies, community engagement programs, and engineering and design work to prepare social and environmental impact assessments (SEIAs) and development permit applications on the Zafranal and San Nicolás assets. In addition, we advanced the Zafranal feasibility study that is scheduled for completion in the first quarter of 2019. At San Nicolás, the project team focused on collecting information to inform a prefeasibility study which was initiated in the fourth quarter of 2018. Lastly, a significant effort was made to renew the Galore Creek partnership, which culminated in the introduction of Newmont Mining Corporation as our 50/50 partner in the Galore Creek Partnership.

### **Zafranal, Peru**

The Zafranal property, located in southern Peru 85 kilometres northwest of Arequipa within the Provinces of Castilla and Caylloma, is a mid-sized copper-gold porphyry deposit. The project is held by Compañía Minera Zafranal S.A.C. (CMZ), in which Teck holds an 80% interest, with Mitsubishi Materials Corporation holding the other 20%.

During 2017 and 2018, CMZ completed 35,880 metres of infill and geotechnical drilling programs along with extensive hydrogeological, environmental, social and archeological studies. With the benefit of an additional 163 diamond drill holes, updated geological and geometallurgical models were developed which were used to inform updated reserve and resource estimates as well as an updated mine plan for the feasibility study. With this additional drilling and modeling work complete, 92% of the mineralization is now categorized as proven mineral reserves; 6.3% as probable mineral reserves, 1.0% as measured mineral resources; 0.4% as indicated mineral resources and 12.3% as inferred mineral resources.

During 2018, the project team significantly advanced its understanding of the regional and local hydrogeological environment within both the planned mine and tailings management facility areas. A multi-year water study was completed which identified available and sustainable water sources for the life of the project. Work programs focused on clean water, health and wellness, local infrastructure, and small business development were successfully completed in partnership with several local communities. The feasibility study and the SEIA studies initiated in November 2017 are expected to be completed in the first half of 2019.

Our share of spending in 2018 was \$29 million and our share of planned spending in 2019 is \$40 million that will be included in capital expenditures for new mine development within our copper business unit.

### **San Nicolás, Mexico**

The San Nicolás property, located in Zacatecas State, one of the oldest mining regions in Mexico, is a massive sulphide deposit with significant copper, zinc, gold and silver. The property is held by Minas de San Nicolas, S.A. de C.V. which is a wholly owned indirect subsidiary of Teck.

During 2018, the San Nicolás project team completed property-wide environmental and social baseline studies, regional and property specific hydrogeological studies and preliminary project engineering programs that had been initiated in the third quarter of 2017. In addition, 30,226 metres of infill, metallurgical, geotechnical and hydrogeological drilling in 109 reverse circulation and diamond drill holes was completed in 2018. This additional drilling, together with the completion of an improved geological and geometallurgical model, resulted in 29% of the mineral resources being categorized as measured mineral resources, 67% as indicated mineral resources and 4% as inferred mineral resources.

This additional geological, geotechnical, hydrogeological and metallurgical information and engineering focused field information, in combination with the baseline study work, has been compiled and integrated and will be used to support a prefeasibility study and an SEIA each of which commenced in November 2018. We expect to complete the prefeasibility study and the SEIA in the second half of 2019.

A community office was established in November 2018 in San Nicolás, a small village located immediately south of the project area, to expand awareness and understanding of the planned project with community members in the region.

Spending in 2018 was \$18 million and planned spending in 2019 is \$26 million that will be included in capital expenditures for new mine development within our copper business unit.

### **Galore Creek, Canada**

The Galore Creek property, located in the territory of the Tahltan in northwestern British Columbia approximately 150 kilometres northwest of the Port of Stewart, BC and 370 kilometres northwest of Smithers, BC, is a significant copper-gold-silver porphyry deposit. The project is owned by the Galore Creek Partnership, a 50/50 partnership between Teck and Newmont Mining Corporation (Newmont), and is managed by Galore Creek Mining Corporation (GCMC), a wholly owned subsidiary of the Galore Creek Partnership.

Following Newmont's acquisition of a 50% interest in Galore Creek from NOVAGOLD Canada Inc. in July 2018, Teck and Newmont agreed to fund future work programs estimated to be \$12 to \$20 million annually (on a 50% basis) over a three-to-four year period and to reinstate permitting activities as appropriate. Further, the partners established a project team to carry out the necessary work and studies to inform an updated prefeasibility study which is expected to commence in late 2019 or early 2020.

During 2018, the majority of the program work at Galore Creek was directed at maintaining the mineral properties, managing GCMC's commitments under the existing environmental impact assessment and special use permits, maintaining commitments with the Tahltan, and carrying out preliminary geological mapping, prospecting and mineral deposit studies. The mapping and prospecting work identified several high quality targets in the Galore Creek Valley that have the potential to positively impact the life of mine and provide resources for future development. These targets, along with other high quality prospects in the substantial land tenure package, will be further evaluated in 2019.

Our share of spending in 2018 was \$5 million and our share of planned spending in 2019 is \$19 million which is included in capital expenditures for new mine development within our copper business unit.

### **Mesaba, United States**

The Mesaba property, located in northeastern Minnesota 100 kilometres north of Duluth, is part of a potentially significant copper, nickel and platinum-palladium-cobalt mining district in the United States. Known ore deposits in the district, including Mesaba, consist of metallurgically complex disseminated copper-nickel sulphides that require a range of mineral processing steps to make saleable concentrate or metal products while meeting state and federal requirements to protect the environment. Mineral rights over the Mesaba deposit are held 100% by Teck through lease agreements with private interests and the State of Minnesota.

A Mesaba project team was formed during 2018 and carried out a range of planning activities, preliminary development and environmental studies and mineral resource estimate work. Drill core logging, extensive re-assaying, sample analysis and geometallurgical modeling work was

completed in mid-2018. This work has resulted in an estimate of measured mineral resources of 244 million tonnes of 0.47% copper, 0.1% nickel, indicated mineral resources of 1,344 million tonnes of 0.42% copper, 0.09% nickel and inferred mineral resources of 1,464 million tonnes of 0.35% copper and 0.08% nickel each with important gold, silver, platinum and palladium credits.

In concert with the resource estimation work, in September 2018 we completed a Mineral Inventory Resource Assessment, which is used to describe overall mineral potential and assist in framing future exploration programs. In addition to study work, we acquired several key land parcels in the project area that helped consolidate our land position in and around the project footprint.

Spending in 2018 was \$6 million and planned spending in 2019 of \$14 million will be included in exploration expenses.

### **Schaft Creek, Canada**

The Schaft Creek property, located in the territory of the Tahltan in northwestern British Columbia, approximately 60 kilometres south of Telegraph Creek and 37 kilometres northeast of the Galore Creek property, is a large copper-molybdenum-gold porphyry deposit. The project is a 75/25 joint venture between Teck and Copper Fox Metals Inc., with Teck holding a 75% interest and acting as the operator.

A multi-disciplinary team was established in early 2018 to describe and further characterize several development scenarios for the Schaft Creek deposit that stemmed from the primary development option outlined in the 2013 Feasibility Study. Based on the work completed in 2018, additional scoping level engineering and design work is planned in 2019 that will assess risks and opportunities associated with a range of development scenarios, the focus of which is to improve financial returns over those outlined in the 2013 Feasibility Study.

Planned fieldwork in 2018 on the Schaft Creek project, intended to collect environmental data, maintain camp and facilities, and maintain existing permits, was not carried out as planned due to wildfires in the district that limited the availability of qualified contractors and access to the project site. Obligations to the Tahltan, outlined in a Communication and Exploration Agreement signed in early 2018, were met. The fieldwork that was not completed in 2018 will be carried out in 2019.

Planned spending in 2019 is \$2 million and will be included in capital expenditures for new mine development within our copper business unit.

## **Other Copper Projects**

### **NuevaUnión, Chile**

In November 2015 we combined Goldcorp's La Fortuna (formerly El Morro) project and Teck's Relincho project, located approximately 40 kilometres apart in the Huasco Province in the Atacama region of Chile, into a single copper-gold-molybdenum project called NuevaUnión. We hold a 50% interest in NuevaUnión. A prefeasibility study was completed in early 2018, which incorporates key design changes to improve project economics and respond to input from communities and Indigenous Peoples. A Feasibility Study was commenced in the third quarter of 2018 and is expected to be completed by the end of 2019.

### **CESL Limited (CESL)**

In 2018, our CESL hydrometallurgical facility, located in Richmond, B.C., continued to advance the commercialization of our proprietary copper, nickel and copper-arsenic process technologies on internal and external opportunities.

## **Zinc**

### **Mining Operations**

#### **Red Dog Mine, United States (Zinc, Lead)**

The Red Dog zinc-lead mine, concentrator and shipping facility in the Northwest Arctic Borough, approximately 144 kilometres north of Kotzebue, Alaska, commenced production in December 1989 and began shipping concentrates in July 1990. The Red Dog mine is operated by Teck Alaska Incorporated on lands owned by, and leased from, the NANA Regional Corporation (NANA). The Red Dog mine covers approximately 1,000 hectares.

Red Dog mine is located on a ridge between the middle and south forks of Red Dog Creek, in the DeLong Mountains of the Western Brooks Range. The topography is moderately sloping, with elevations ranging from 260 metres to 1,200 metres above sea level. Vegetation is classified as woody tundra. The mine is accessible from a paved airstrip, five kilometres from the Red Dog mine, which allows jet access from Anchorage and Kotzebue. Mine personnel are generally drawn from surrounding communities as well as from other locations within the State and in North America. Power for the mine is produced on-site by diesel generators with a maximum capacity of 30 megawatts, sufficient for present and expected future power requirements. Potable water is sourced from Bons Creek.

Red Dog is comprised of a number of sedimentary hosted exhalative lead-zinc sulphide deposits hosted in Mississippian-age to Pennsylvanian-age sedimentary rocks. The orebodies are lens shaped and occur within structurally controlled (thrust faults) plates, are relatively flat-lying and are hosted by marine clastic rocks (shales, siltstones, turbidites) and lesser chert and carbonate rocks. Barite rock is common in and above the sulphide units. Silicification is the dominant alteration type.

The sulphide mineralization consists of semi-massive to massive sphalerite, pyrite, marcasite and galena. Common textures within the sulphide zone include massive, fragmental, veined and, rarely, sedimentary layering.

Ore is currently mined from the Aqqaluk and Qanaiyaq pits. All future ore production is also expected to be mined from these pits. The mining method employed is conventional open pit drill-and-blast and truck-and-shovel technology. The mineral processing facilities employ conventional grinding and sulphide flotation methods to produce zinc and lead concentrates.

Tailings storage and waste disposal areas have adequate design capacity to sustain the current life of mine plan. All contaminated water from the mine area and waste dumps is collected and contained in a tailings impoundment and seasonally discharged through a water treatment plant. Mill process water is reclaimed from the tailings pond.

In 2018, 19 holes totalling approximately 3,050 metres were drilled in the Aqqaluk pit for resource definition and geotechnical data collection. In addition, 13 holes totalling approximately 650 metres were drilled in the Qanaiyaq pit for resource infill and confirmation. Updates to the Aqqaluk and Qanaiyaq resource models are in progress. While we are not able to fully quantify the impacts until the model updates are complete, no material impacts to the quantity or grade of reserves or resources are anticipated. Diamond drill core (both HQ and NQ diameters) is sawn into halves and sampled in 1.5-metre intervals, with one half being sent to Bureau Veritas in Vancouver for analysis and the other half retained at Red Dog for future reference. The quality assurance/quality control program consists of standards and blanks inserted at regular intervals as well as core, coarse crush and pulp duplicates all analyzed by Bureau Veritas. Five percent of core sample pulps are split and sent to a second lab as a check.

The mine and concentrator properties are leased from, and are being operated under the terms of a development and operating agreement with, NANA, a Regional Alaska Native corporation. Since the third quarter of 2007, we have paid NANA a percentage of the net proceeds of production from the mine, starting at 25% and increasing to 50% by successive increments of 5% at five-year intervals. The net proceeds of production percentage increased from 25% to 30% in the fourth quarter of 2012 and increased to 35% in October 2017. The development and operating agreement also provides for employment and contracting preferences and additional lease rental payments. In addition to the royalties payable to NANA, the operation is subject to federal and state income taxes and the Alaska Mining Licence tax, which applies at 7% of taxable income.

A payment in lieu of taxes (PILT) agreement between Teck Alaska and the Northwest Arctic Borough (the Borough) expired on December 31, 2015. Teck Alaska and the Borough agreed to a new 10-year PILT agreement effective January 1, 2016. Under the new agreement, PILT payments to the Borough, based on the net book value of the mine lands, buildings and equipment in accordance with U.S. Generally Accepted Accounting Principles, increase by approximately US\$4 million to between US\$14 million and US\$18 million per year. In addition, Teck Alaska will make annual payments to a separate fund aimed at social investment in villages in the region. These payments, based on mine profitability, will be between US\$4 million and US\$8 million per year, with US\$11 million invested in the first year.

The mine is in material compliance with all of its permits and related regulatory instruments, and has obtained all of the permits that are material to its current operations.

In 2018, approximately 34% of the zinc concentrate produced at Red Dog was shipped to our metallurgical facilities at Trail, British Columbia, and the balance to customers in Asia and Europe. The lead concentrate production is also shipped to Trail and to customers in Asia. The majority of concentrate sales are pursuant to long-term contracts at market prices, subject to annually negotiated treatment charges. The balance is sold on the spot market at prices based on prevailing market quotations. The shipping season at Red Dog is restricted to approximately 100 days per year because of sea ice conditions and Red Dog's sales are seasonal, with the majority of sales in the last five months of each year. Concentrate is stockpiled at the port facility and is typically shipped between July and October.

In 2018, zinc production at Red Dog increased to 583,200 tonnes compared to 541,900 tonnes in 2017, primarily due to higher zinc grades and recoveries. Lead production in 2018 declined to

98,400 tonnes, compared to 111,300 tonnes in 2017, primarily due to lower grades and recoveries.

Work continues on the mill upgrade project that is expected to increase average mill throughput by about 15% over the remaining mine life, helping to offset lower grades and harder ore in the Aqqaluk pit. This project is expected to be complete by the end of 2019 at a capital cost of US\$110 million.

Because the upgrade project will permit lower-grade material to be processed, the current mine life, based on existing developed deposits, will remain unchanged through to 2031. In 2019, we plan to continue an exploration drilling program and various studies focused on extending the life of Red Dog past 2031, including possible development of the Paalaaq, Anarraaq and Aktigirug deposits.

Red Dog's production of contained metal in 2019 is expected to be in the range of 535,000 to 555,000 tonnes of zinc and 85,000 to 90,000 tonnes of lead. From 2020 to 2022, Red Dog's production of contained metal is expected to be in the range of 500,000 to 520,000 tonnes of zinc and 85,000 to 100,000 tonnes of lead per year, respectively.

2019 projected capital costs for Red Dog are approximately US\$117 million. The major components of the projected capital costs are:

<u>Component</u>	<u>Approximate projected cost (US\$/million)</u>
Sustaining	72
Major Enhancement	45

2019 projected cash operating costs for Red Dog are approximately US\$242 million. The major components of the projected cash operating costs are:

<u>Component</u>	<u>Approximate projected cost (US\$/million)</u>
Labour	127
Supplies	75
Energy	41
Other (including general & administrative, inventory changes)	33
Less amounts associated with capitalized stripping	(34)
Total	242

The cash operating costs presented above do not include transportation or royalties.

### **Pend Oreille Mine, United States (Zinc, Lead)**

We own 100% of the Pend Oreille mine, near Metaline Falls, Washington, which began commercial production in early 2004 under Teck's ownership. In February 2009, we suspended operations and put the mine on care and maintenance as a result of low zinc prices. The mine restarted operations in December 2014.

The Pend Oreille mine is a carbonate-hosted zinc-lead orebody situated within the Metaline Formation in the southern portion of the Kootenay arc, an arcuate, narrow belt of sedimentary, volcanic and metamorphic rocks separating Precambrian metasediments to the east and Mesozoic volcanic and sedimentary units to the west. Metaline carbonates host the known zinc-lead deposits within the district.

Mineralization at the Pend Oreille mine is located within the Yellowhead horizon of the Metaline Formation, an intensely altered stratabound dolomitic solution breccia, which has been invaded and replaced by fine-grained pyrite with lesser zinc and lead sulphides. The sulphide zone has relatively simple mineralogy. Sphalerite and galena are the two ore minerals of interest. Gangue minerals include pyrite, dolomite and calcite. The Pend Oreille mine is an underground mine. The mineral processing facilities employ conventional grinding and sulphide flotation methods to produce high-quality zinc and lead concentrates. Pend Oreille holds all permits necessary for its operation and is in material compliance with these permits.

The mine achieved zinc production of 29,700 tonnes in 2018, compared to 33,100 tonnes in 2017. We expect production for the first nine months of 2019 to be between 20,000 and 30,000 tonnes of zinc in concentrate. Production rates beyond the third quarter of 2019 are uncertain.

### **Other Zinc Projects**

We have a 100% interest in the Teena/Reward project which is located eight kilometres west of the McArthur River Mine in the Northern Territory of Australia.

### **Refining and Smelting**

#### **Trail Operations**

Teck Metals owns and operates the integrated smelting and refining complex at Trail, British Columbia. The complex's major products are refined zinc, lead and silver. It also produces a variety of precious and specialty metals, chemicals and fertilizer products.

The zinc refinery consists of six major metallurgical plants, one fertilizer plant and two specialty metal plants. Depending on the mix of feeds, the facility has an annual capacity of approximately 300,000 to 310,000 tonnes of refined zinc. Zinc concentrates are initially treated in either roasters or pressure leach plants, where sulphur is separated from the metal-bearing solids. The zinc is put into solution where it is first purified to remove other metal impurities and then electroplated onto cathodes in an electrolytic refining plant. The zinc cathodes are melted and then the zinc is cast into various shapes, grades and alloys to meet customer requirements. Other valuable metals, including indium and germanium, are also recovered as co-products in the zinc plant. The lead smelting operation consists of two major metallurgical plants and one specialty metal plant. Lead concentrates, recycled lead acid batteries, residues from the zinc circuits and various other lead- and silver-bearing materials are treated in the KIVCET flash furnace to produce lead bullion.

The bullion is electro-refined in the refinery to produce high-purity lead. The valuable silver and gold are also recovered in this circuit after further processing. Shutdown of the KIVCET furnace for regular maintenance is scheduled to occur approximately every four years. As a result, the KIVCET furnace was shut down for part of the third and fourth quarter of 2018.

Refined zinc production in 2018 was 302,900 tonnes, compared with 310,100 tonnes the previous year. Refined lead production was 61,000 tonnes, down from 87,100 tonnes in 2017, primarily due to the planned extended maintenance shutdown of the KIVCET furnace in late 2018. Other factors impacting production included a temporary shutdown of some facilities due to wildfire smoke and the treatment of lower-grade lead concentrate compared to last year as a result of operating disruptions at some mines that supply lead concentrates which required us to process alternative concentrates. Silver production declined to 11.6 million ounces in 2018 from 21.4 million ounces in 2017 due to the KIVCET maintenance shutdown and lower silver inputs.

Our recycling process treated 41,700 tonnes of material during the year, and we plan to treat about 44,700 tonnes in 2019. Our focus remains on treating lead acid batteries and cathode ray tube glass, plus small quantities of zinc alkaline batteries and other post-consumer waste.

In November 2016, we announced that we would invest \$174 million in the installation of a second new acid plant to improve efficiency and environmental performance at Trail Operations. The construction of the acid plant is over 90% complete with commissioning planned in the second quarter of 2019.

In 2019, we expect Trail Operations to produce 305,000 to 310,000 tonnes of refined zinc, approximately 70,000 to 75,000 tonnes of refined lead and approximately 13.0 to 14.0 million ounces of silver. Zinc production from 2020 to 2022 is expected to increase to 310,000 to 315,000 tonnes per year, while annual lead production is expected to rise to 85,000 to 95,000 tonnes. Silver production depends on the amount of silver contained in the purchased concentrates.

Metallurgical effluent, together with site rainfall drainage water, is collected in ponds and treated through an effluent treatment plant before discharge into the Columbia River. The smelter operates under a variety of permits, including effluent and air emission permits issued by the British Columbia Ministry of Environment. The operation is in material compliance with all of its environmental permits and has obtained all of the permits that are material to its operations.

In July 2018, we sold our two-thirds interest in the Waneta Dam to BC Hydro. In connection with the sale, we entered into a 20-year arrangement with BC Hydro, with an option to extend for an additional 10 years, to purchase power for our Trail Operations. Our arrangement with BC Hydro retains our prior obligation to provide for the firm delivery of energy and capacity from Waneta to BC Hydro until 2036. If Teck Metals fails to deliver power as provided for in the agreement, it could be liable to pay liquidated damages to BC Hydro based on the market rate for power at the time of the shortfall. The costs of the liquidated damages could be significant if the shortfall continues and is not covered by our insurance policies.

We also own the related 15-kilometre transmission and distribution system from Waneta to the United States, which BC Hydro has agreed to purchase on a deferred schedule.

## Energy

### Fort Hills Mine

Fort Hills mines, extracts and sells the recoverable bitumen found in certain oil sands deposits underlying six Alberta Oil Sands Leases No.'s 7404080933, 7404080932, 7400120008, 7406020438, 7405090634 and 7406020437. The Fort Hills leases are located approximately 90 kilometres north of Fort McMurray, Alberta, and cover a contiguous area of approximately 23,675 hectares on the east bank of the Athabasca River.

On November 30, 2005, we acquired a 15% limited partnership interest in Fort Hills Energy L.P. (the Fort Hills Partnership), which owns the Fort Hills mine. In 2007, we entered into an agreement to increase our interest in the Fort Hills Partnership to 20%. We further increased our interest to approximately 20.89% in 2017 and again to 21.3% in January 2018. As at December 31, 2018, the other limited partners were Suncor Energy Inc. (Suncor) with a 54.1% interest and Total E&P Canada Ltd. (Total) with a 24.6% interest. Relations among the partners are governed by a limited partnership agreement and a unanimous shareholder agreement pertaining to the governance of Fort Hills Energy Corporation, the general partner of the Fort Hills Partnership, in which the limited partners hold *pro rata* share interests.

Suncor Energy Operating Inc., an affiliate of Suncor, acts as contract operator of Fort Hills pursuant to an operating services contract. The contract operator has exclusive authority to operate Fort Hills, subject to the oversight of a management committee on which each of the shareholders of the general partner are represented. Certain fundamental decisions concerning Fort Hills require super-majority, and in certain cases, unanimous, approval of the management committee. Subject to certain exceptions, limited partners have a right of first refusal in the event of a transfer of another's limited partnership interest.

Bitumen production from the first two secondary extraction trains at Fort Hills commenced in the first quarter of 2018, followed by the third and final train in May. All commissioning and construction activities are now complete and Fort Hills ran at full design nameplate capacity for much of the fourth quarter of 2018. Teck's share of the overall costs was \$3.7 billion from the date the project was sanctioned through to completion, including the impact of foreign exchange.

Fort Hills has produced 45.6 million barrels of bitumen, or 125,000 barrels per day, since first oil in January 2018. Our share of production since January 1, 2018 was 9.7 million barrels, or 26,580 barrels per day, which was near the high end of our guidance of 8.5 million to 10.0 million barrels for 2018.

To meet pipeline viscosity requirements Teck, along with the other Fort Hills partners, are required to purchase diluent blend-stock. In order to facilitate this and the transportation of blended bitumen to the market hub at Hardisty, the Fort Hills partners have jointly entered into long-term take-or-pay agreements with regional pipelines, terminals and blend facilities. These agreements relate to:

- hot bitumen transportation from Fort Hills to the East Tank Farm on the Northern Courier Pipeline, operated by TransCanada;
- diluent transportation from Edmonton to the East Tank Farm on the Norlite Pipeline, operated by Enbridge;

- use of diluent and bitumen blending facility at the East Tank Farm, operated by the Thebacha partnership, a joint venture between Suncor and regional First Nations (Fort McKay First Nation and Mikisew Cree First Nation); and
- blended bitumen transportation from the East Tank Farm to the market hub at Hardisty, Alberta, on the Wood Buffalo Pipeline, operated by Enbridge.

We have separately contracted a 425,000-barrel working-capacity storage tank for our share of blended bitumen at Hardisty, Alberta, and 100,000 barrels of diluent storage capacity at Fort Saskatchewan, Alberta.

We sell our blended bitumen to customers at Hardisty and on the U.S. Gulf Coast. Our tankage at Hardisty is connected to major export pipelines, including the Enbridge common carrier pipeline, the existing Keystone pipeline and the Express crude oil pipeline. Our tankage is also connected to a large unit train loading facility. We have entered into a long-term take-or-pay agreement on the existing Keystone pipeline to ship 10,000 barrels per day of blended bitumen to our customers on the U.S. Gulf Coast. We have also entered into agreements to ship an additional 10,000 barrels per day on the proposed Keystone XL pipeline expansion and an additional 12,500 barrels per day on the proposed TransMountain pipeline expansion to customers on the U.S. Gulf Coast and in Burnaby, B.C., respectively. The balance of our production will be sold at Hardisty, shipped to customers via the Enbridge common carrier pipeline, or transported by rail if required.

Certain of these arrangements permit the infrastructure owners to require Teck to deliver letters of credit or other financial assurances if Teck does not maintain investment grade ratings by specified ratings agencies. Teck had approximately \$204 million in letters of credit outstanding at December 31, 2018 as financial assurance related to certain pipeline and storage agreements we entered into in connection with Fort Hills. In addition, if requested by all of Teck's counterparties, the amount of these letters of credit could increase up to approximately \$499 million. These Fort Hills-related letters of credit will be terminated if and when we regain investment grade ratings.

Due to extreme price volatility for Alberta crude oil, the Government of Alberta announced a temporary curtailment of provincial crude oil and bitumen production of approximately 325,000 barrels per day effective January 1, 2019. Although some uncertainty on the impacts of the curtailment remains, consistent with the Government of Alberta announcement on December 2, 2018, the production estimates under "*Description of the Business – Oil and Gas Reserves – Production Estimate*" assume the mandatory industry-wide production curtailment of 325,000 barrels per day is in place for the first four months of the year declining to 95,000 barrels per day for the remainder of 2019.

Teck engaged GLJ Petroleum Consultants Ltd. (GLJ) to prepare an independent evaluation of the reserves at Fort Hills effective as of December 31, 2018. The best estimate of Teck's share of the proved plus probable reserves at Fort Hills as at December 31, 2018 is 566 million barrels of bitumen. In 2018, Teck's share of reserves decreased by 28 million barrels due to: the production of 44.6 million barrels of bitumen (on a 100% basis) during 2018 and a slight decrease in ore recovery certainty in the north pit as the latest data indicates that the piezometric head of the underlying Keg River aquifer in that area is higher than previously estimated, each partially offset by an increase in our ownership of Fort Hills from 20.89% to 21.3%. The revised mine plan is still

expected to support mining at design production rates for over 46 years. See “*Oil and Gas Resources*” below for a further discussion of the reserves for Fort Hills.

Fort Hills is subject to the royalty framework issued by the Government of Alberta (the Oil Sands Royalty), and regulated by the Oil Sands Royalty Regulation 2009 (OSRR 2009) and related regulations. Under the Oil Sands Royalty, royalties for Fort Hills are based on a sliding scale of 25% to 40% of net revenue, subject to a minimum royalty within a range of 1% to 9% of gross revenue. Revenues used in royalty formulas are driven by realized net prices to arm’s-length customers or, if there are insufficient arm’s-length sales, benchmark prices for Western Canadian Select (WCS) while sliding-scale percentages in royalty formulas depend on prices for West Texas Intermediate (WTI) from CAD\$55/bbl for the minimum rate to the maximum rate at a WTI price of CAD\$120/bbl. Fort Hills remains subject to the minimum royalty (the pre-payout phase) until Fort Hills’ cumulative gross revenue exceeds its cumulative costs, including an annual investment allowance. After the pre-payout phase, the higher of the minimum and regular royalty rates will apply.

Fort Hills is required to upgrade the bitumen produced from the second phase of the project in Alberta or to pay a penalty to the Government of Alberta.

Our share of Fort Hills major enhancement capital expenditures for 2019 is expected to be \$100 million and our share of sustaining capital expenditures for 2019 is expected to be \$60 million.

## Frontier Project

The Frontier oil sands project is wholly owned by Teck and consists of approximately 56,000 hectares of oil sands leases and is located on the west side of the Athabasca River. The Frontier project was designed for a total nominal production of approximately 260,000 barrels per day of bitumen.

During 2018, Teck relinquished 4,608 hectares from its Frontier oil sands leases as well as other oil sands leases back to the Crown to be included as part of a Biodiversity Stewardship Area located just south of the Wood Buffalo National Park.

The regulatory application review of Frontier continued in 2018 with a public hearing before a joint federal/provincial panel, which ran from September through mid-December. The earliest a federal decision statement could be expected for Frontier is in the second half of 2019.

Our expenditures on Frontier are limited to supporting this process. We continue to evaluate the future project schedule and development options as part of our ongoing capital review and prioritization process. Should the project proceed, first oil is not expected before the first quarter of 2026, with production expected to continue for 41 years.

## Lease 421 Area

We own a 50% interest in the Lease 421 Area — oil sands leases 421, 022, 023 and 899 — east of the Athabasca River (approximately 17,900 hectares on a 100% basis). To date, a total of 89 core holes have been completed in the Lease 421 Area.

## Exploration

In 2018, we incurred exploration expenditures of \$69 million, including \$6 million for mine site and development/engineering projects. Approximately 59% of expenditures were dedicated to exploration for copper, 20% for zinc and 14% for gold, and approximately 7% were dedicated to other commodities. Of the total exploration expenditures, approximately 53% was spent in North America, 28% in South America, 13% in Europe and Asia, and 6% in Australia. In 2019, planned exploration expenditures are expected to be approximately \$81 million, including \$14 million for mine site and development/engineering projects.

Exploration is carried out through sole funding and joint ventures with major and junior exploration companies. Exploration is focused on areas in proximity to our existing operations or development projects in regions that we consider have high potential for discovery.

## Corporate

For financial reporting purposes, we report on a corporate segment that includes all of our activities in commodities other than copper, coal, zinc and energy, our corporate development and growth initiatives, and groups that provide administrative, technical, financial and other support to all of our business units.

## Mineral Reserves and Resources

See “Notes to Mineral Reserves and Resources Tables” below, after the Mineral Resources table.

### MINERAL RESERVES as at 31 December 2018 <sup>(1)</sup>

	Proven		Probable		Total		Teck Interest (%)	Recoverable Metal (000 t) <sup>(7)</sup>
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)		
<b>Copper</b>								
Highland Valley Copper	363,000	0.32	172,500	0.28	535,500	0.30	100.0	1,440
Antamina								
Copper only ore OP	153,800	1.01	125,600	0.96	279,500	0.98	22.5	570
Copper-zinc ore OP	81,000	0.87	128,600	0.79	209,600	0.82	22.5	300
Total	234,900	0.96	254,200	0.87	489,100	0.91	22.5	870
Quebrada Blanca								
Heap leach <sup>(2)</sup>	13,800	0.09			13,800	0.09	90.0	10
Dump leach ore <sup>(2)</sup>	10,300	0.31			10,300	0.31	90.0	20
Total	24,100	0.18			24,100	0.18	90.0	30
Quebrada Blanca - Mill	476,300	0.51	923,800	0.47	1,400,000	0.48	90.0	5,540
Andacollo - Heap leach <sup>(2)</sup>	800	0.24	4,300	0.13	5,100	0.15	90.0	3
Andacollo - Mill	100,100	0.34	216,300	0.32	316,400	0.33	90.0	810
NuevaUnion								
Relincho	552,200	0.34	899,800	0.36	1,452,100	0.35	50.0	2,250
La Fortuna	333,600	0.58	243,200	0.45	576,700	0.53	50.0	1,310
Total	885,800	0.43	1,143,000	0.38	2,028,800	0.40	50.0	3,560
<b>Molybdenum</b>								
Highland Valley Copper	363,000	0.006	172,500	0.009	535,500	0.007	100.0	20
Antamina								
Copper only ore OP	153,800	0.038	125,600	0.034	279,500	0.036	22.5	10
Quebrada Blanca								
Quebrada Blanca - Mill	476,300	0.018	923,800	0.019	1,400,000	0.018	90.0	170
NuevaUnion								
Relincho	552,200	0.014	899,800	0.017	1,452,100	0.016	50.0	60

**MINERAL RESERVES as at 31 December 2018 <sup>(1)</sup>**

	Proven		Probable		Total		Teck Interest (%)	Recoverable Metal (000 t) <sup>(7)</sup>
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)		
<b>Zinc</b>								
Antamina								
Copper-zinc ore OP	81,000	2.0	128,600	2.0	209,600	2.0	22.5	750
Red Dog								
Mine			56,000	13.1	56,000	13.1	100.0	5,910
Pend Oreille			400	6.1	400	6.1	100.0	20
<b>Lead</b>								
Red Dog								
Mine			56,000	3.8	56,000	3.8	100.0	1,070
Pend Oreille			400	1.1	400	1.1	100.0	2

	Proven		Probable		Total		Teck Interest (%)	Recoverable Metal (000 oz) <sup>(7)</sup>
	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>		
<b>Gold</b>								
Andacollo - Mill <sup>(6)</sup>	100,100	0.11	216,300	0.10	316,400	0.11	90.0	660
NuevaUnion								
La Fortuna	333,600	0.55	243,200	0.38	576,700	0.48	50.0	2,960
<b>Silver</b>								
Antamina								
Copper only ore OP	153,800	7.2	125,600	8.0	279,500	7.6	22.5	12,260
Copper-zinc ore OP	81,000	16.6	128,600	13.1	209,600	14.5	22.5	13,950
Total	234,900	10.5	254,200	10.6	489,100	10.5	22.5	26,210
Quebrada Blanca								
Quebrada Blanca-Mill	476,300	1.4	923,800	1.3	1,400,000	1.3	90.0	36,680
Red Dog								
Mine			56,000	70.5	56,000	70.5	100.0	76,060

**MINERAL RESERVES as at 31 December 2018 <sup>(1)</sup>**

	Proven		Probable		Total		Teck Interest (%)	Clean Coal (000 t)
	Tonnes (000's)		Tonnes (000's)		Tonnes (000's)			
<b>Metallurgical Coal <sup>(3)</sup></b>								
Fording River	166,400		221,500		387,900		100.0	387,900
Elkview	6,800		258,300		265,100		95.0	251,800
Greenhills	9,700		155,300		165,100		80.0	132,100
Line Creek	2,400		57,800		60,200		100.0	60,200
Cardinal River	2,300		12,300		14,600		100.0	14,600
Quintette (Mt Babcock)	700		35,400		36,000		100.0	36,000
<b>PCI Coal <sup>(3)</sup></b>								
Cardinal River	0		400		400		100.0	400
<b>Thermal Coal <sup>(3)</sup></b>								
Line Creek	400		10,100		10,600		100.0	10,600
Quintette (Mt Babcock)	0		900		900		100.0	900

Project Satellite	Proven		Probable		Total		Teck Interest (%)	Recoverable Metal (000 t) <sup>(7)</sup>
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)		
<b>Copper</b>								
Zafranal	408,800	0.39	32,000	0.21	440,700	0.38	80.0	1,150
<b>Gold</b>								
Zafranal	408,800	0.07	32,000	0.05	440,700	0.07	80.0	440

**MINERAL RESOURCES as at 31 December 2018 <sup>(1)</sup>**

	Measured		Indicated		Inferred		Teck Interest (%)
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	
<b>Copper</b>							
Highland Valley Copper Antamina	499,400	0.30	671,800	0.24	166,000	0.21	100.0
Copper only ore OP	88,000	0.62	315,500	0.79	528,000	0.76	22.5
Copper-zinc ore OP	24,000	0.92	137,500	1.02	238,000	0.97	22.5
Copper only ore UG					296,200	1.28	22.5
Copper Zinc ore UG					174,200	1.26	22.5
Total	111,900	0.68	453,000	0.86	1,236,400	0.99	22.5
Quebrada Blanca							
Quebrada Blanca - Mill	36,200	0.42	1,558,000	0.40	3,125,200	0.38	90.0
Andacollo - Heap leach <sup>(2)</sup>	8,600	0.39	26,700	0.15			90.0
Andacollo - Mill	36,600	0.29	256,100	0.26	47,400	0.26	90.0
NuevaUnion							
Relincho	132,400	0.23	329,200	0.31	589,800	0.37	50.0
La Fortuna	400	0.56	52,800	0.67	377,000	0.51	50.0
Total	132,800	0.24	382,100	0.36	966,900	0.42	50.0
<b>Molybdenum</b>							
Highland Valley Copper Antamina	499,400	0.008	671,800	0.009	166,000	0.007	100.0
Copper only ore OP	88,000	0.018	315,500	0.023	528,000	0.028	22.5
Copper only ore UG					296,200	0.020	22.5
Total	88,000	0.018	315,500	0.023	824,200	0.025	22.5
Quebrada Blanca							
Quebrada Blanca - Mill	36,200	0.014	1,558,000	0.016	3,125,200	0.018	90.0
NuevaUnion							
Relincho	132,400	0.007	329,200	0.011	589,800	0.013	50.0

**MINERAL RESOURCES as at 31 December 2018 <sup>(1)</sup>**

	Measured		Indicated		Inferred		Teck Interest (%)
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	
<b>Zinc</b>							
Antamina							
Copper-zinc ore OP	24,000	1.4	137,500	1.6	238,000	1.6	22.5
Copper zinc ore UG					174,200	1.4	22.5
Total	24,000	1.4	137,500	1.6	412,200	1.5	22.5
Red Dog							
Red Dog Mine			12,900	8.7	8,100	11.3	100.0
Red Dog District					19,400	14.4	100.0
Pend Oreille			400	4.4	2,300	6.4	100.0
<b>Lead</b>							
Red Dog							
Red Dog Mine			12,900	2.9	8,100	4.3	100.0
Red Dog District					19,400	4.2	100.0
Pend Oreille			400	0.9	2,300	1.3	100.0
	Measured		Indicated		Inferred		Teck Interest (%)
	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	
<b>Gold</b>							
Andacollo - Mill <sup>(6)</sup>	36,600	0.11	256,100	0.10	47,400	0.08	90.0
NuevaUnion							
La Fortuna	400	0.47	52,800	0.85	377,000	0.55	50.0
<b>Silver</b>							
Antamina							
Copper only ore OP	88,000	6.9	315,500	9.0	528,000	7.7	22.5
Copper-zinc ore OP	24,000	16.4	137,500	18.2	238,000	14.9	22.5
Copper only ore UG					296,200	13.0	22.5
Copper Zinc ore UG					174,200	17.2	22.5
Total	111,900	8.9	453,000	11.8	1,236,400	11.7	22.5
Quebrada Blanca							
Quebrada Blanca - Mill	36,200	1.2	1,558,000	1.1	3,125,200	1.1	90.0
Red Dog							
Red Dog Mine			12,900	53.5	8,100	81.6	100.0
Red Dog District					19,400	73.4	100.0

**MINERAL RESOURCES as at 31 December 2018 <sup>(1)</sup>**

	<b>Measured</b>	<b>Indicated</b>	<b>Inferred</b>	<b>Teck Interest (%)</b>
	<b>Tonnes (000's)</b>	<b>Tonnes (000's)</b>	<b>Tonnes (000's)</b>	
<b>Metallurgical Coal <sup>(5)</sup></b>				
Fording River	407,600	925,500	775,600	100.00
Elkview	223,000	156,700	205,600	95.00
Greenhills	162,200	247,200	177,100	80.00
Line Creek	312,200	406,500	372,800	100.00
Cardinal River	13,400	2,200	500	100.00
Quintette (Mt Babcock)	31,800	92,000	114,400	100.00
Mt Duke	24,300	102,400	122,600	92.68
Elco	25,100	115,300	112,300	75.00
CMO Phase II (Martin Wheeler)	102,200	71,700	7,900	100.00
<b>PCI Coal <sup>(5)</sup></b>				
Cardinal River	500	200	50	100.00
Coal Mountain	56,800	22,900	4,800	100.00
<b>Thermal Coal <sup>(5)</sup></b>				
Line Creek	1,700	1,900	1,800	100.00
Quintette (Mt Babcock)	30	200	200	100.00
Mt Duke	200	700	1,300	92.68
Elco	700	6,100	6,000	75.00
CMO Phase II (Martin Wheeler)	2,800	3,700	900	100.00

**MINERAL RESOURCES as at 31 December 2018 <sup>(1)</sup>**

Project Satellite	Measured		Indicated		Inferred		Teck Interest (%)
	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	Tonnes (000's)	Grade (%)	
<b>Copper</b>							
Galore Creek	256,800	0.72	846,700	0.39	198,100	0.27	50.0
Schaft Creek	166,000	0.32	1,127,200	0.25	316,700	0.19	75.0
Mesaba	244,100	0.47	1,334,100	0.42	1,462,000	0.35	100.0
Zafranal	5,100	0.19	2,300	0.21	62,800	0.24	80.0
San Nicolas	32,400	1.27	76,500	1.12	4,700	1.25	100.0
<b>Molybdenum</b>							
Schaft Creek	166,000	0.021	1,127,200	0.016	316,700	0.019	75.0
<b>Zinc</b>							
San Nicolas	32,400	1.9	76,500	1.5	4,700	0.8	100.0
<b>Nickel</b>							
Mesaba	244,100	0.11	1,334,100	0.10	1,462,000	0.09	100.0
<b>Cobalt</b>							
Mesaba	244,100	0.009	1,334,100	0.007	1,462,000	0.006	100.0

	Measured		Indicated		Inferred		Teck Interest (%)
	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	Tonnes (000's)	Grade (g/t) <sup>(4)</sup>	
<b>Gold</b>							
Galore Creek	256,800	0.36	846,700	0.23	198,100	0.21	50.0
Schaft Creek	166,000	0.20	1,127,200	0.15	316,700	0.14	75.0
Mesaba	244,100	0.03	1,334,100	0.03	1,462,000	0.03	100.0
Zafranal <sup>(8)</sup>	5,100	0.04	2,300	0.05	62,800	0.10	80.0
San Nicolas	32,400	0.46	76,500	0.42	4,700	0.23	100.0
<b>Silver</b>							
Galore Creek	256,800	5.8	846,700	3.7	198,100	2.7	50.0
Schaft Creek	166,000	1.5	1,127,200	1.2	316,700	1.1	75.0
Mesaba	244,100	1.2	1,334,100	1.0	1,462,000	0.7	100.0
San Nicolas	32,400	26.0	76,500	23.8	4,700	14.2	100.0
<b>Platinum</b>							
Mesaba	244,100	0.04	1,334,100	0.03	1,462,000	0.04	100.0
<b>Palladium</b>							
Mesaba	244,100	0.12	1,334,100	0.09	1,462,000	0.13	100.0

**Notes:**

- (1) Mineral reserves and resources are mine and property totals and are not limited to our proportionate interests.
- (2) For heap leach and dump leach operations, copper grade are reported as % soluble copper rather than % total copper. Soluble copper is defined by an analytical methodology which uses acid and cyanide reagents to approximate the portion of copper recoverable in the heap and dump leach processes.
- (3) Coal reserves are reported as tonnes of clean coal.
- (4) g/t = grams per tonne.
- (5) Coal resources are reported as tonnes of raw coal.
- (6) In 2015, an interest in future gold production from the Andacollo mine was sold. Compañía Minera Teck Carmen de Andacollo has agreed to sell and deliver to the purchaser an amount of gold equal to 100% of the payable gold produced from the Carmen de Andacollo mine until 900,000 ounces have been delivered, and 50% thereafter. Reserves and resources are stated without accounting for this production interest.
- (7) Recoverable Metal refers to the amount of metal contained in concentrate or cathode copper.
- (8) At Zafrañal, gold in oxide material is considered to be non-recoverable.

## Definitions for Mineral Reserves and Mineral Resources

**Mineral Reserves and Mineral Resources:** “**Proven**” and “**probable**” mineral reserves and “**Measured**”, “**Indicated**” and “**Inferred**” mineral resources are estimated in accordance with the definitions of these terms adopted by the Canadian Institute of Mining, Metallurgy and Petroleum in November, 2010 updated in May 2014 and incorporated in National Instrument 43-101, *Standards of Disclosure for Mineral Projects*, by Canadian securities regulatory authorities.

Mineral resources are reported separately from, and do not include, that portion of the mineral resources classified as mineral reserves.

**Metallurgical coal:** means the various grades of coal that are used to produce coke, which is used in the steel making process.

**PCI coal:** means coal that is pulverized and injected into a blast furnace. Those grades of coal used in the PCI process are generally non-coking. PCI grade coal is used primarily as a heat source in the steel making process in partial replacement for high quality coking coals which are typically more expensive.

**Thermal coal:** means coal that is used primarily for its heating value. Thermal coals tend not to have the carbonization properties possessed by metallurgical coals. Most thermal coal is used to produce electricity in thermal power plants.

The Canadian Institute of Mining, Metallurgy and Petroleum definitions for mineral resources and mineral reserves are as follows:

A “**mineral resource**” is a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

An “**inferred mineral resource**” is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An inferred

mineral resource has a lower level of confidence than that applying to an indicated mineral resource and must not be converted to a mineral reserve. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration. An inferred mineral resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drillholes. Inferred mineral resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed prefeasibility or feasibility studies, or in the life of mine plans and cash flow models of developed mines. Inferred mineral resources can only be used in economic studies as provided under National Instrument 43-101.

An “**indicated mineral resource**” is that part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An indicated mineral resource has a lower level of confidence than that applying to a measured mineral resource and may only be converted to a probable mineral reserve. Mineralization may be classified as an indicated mineral resource by the qualified person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. An indicated mineral resource estimate is of sufficient quality to support a prefeasibility study which can serve as the basis for major development decisions.

A “**measured mineral resource**” is that part of a mineral resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A measured mineral resource has a higher level of confidence than that applying to either an indicated mineral resource or an inferred mineral resource. It may be converted to a proven mineral reserve or to a probable mineral reserve. Mineralization or other natural material of economic interest may be classified as a measured mineral resource when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

A “**mineral reserve**” is the economically mineable part of a measured and/or indicated mineral resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at prefeasibility or feasibility level as appropriate that include application of modifying factors. These studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

A “**probable mineral reserve**” is the economically mineable part of an indicated, and in some circumstances, a measured mineral resource. The confidence in the modifying factors applying to a probable mineral reserve is lower than that applying to a proven mineral reserve.

A “**proven mineral reserve**” is the economically mineable part of a measured mineral resource. A proven mineral reserve implies a high degree of confidence in the modifying factors.

### ***Methodologies and Assumptions***

Mineral reserve and mineral resource estimates are based on various assumptions relating to operating matters, including with respect to production costs, mining and processing recoveries, mining dilution, cut-off values or grades, as well as assumptions relating to long-term commodity prices and, in some cases, exchange rates. Cost estimates are based on feasibility study estimates or operating history.

Methodologies used in reserve and resource estimates vary from property to property depending on the style of mineralization, geology and other factors. Geostatistical methods, appropriate to the style of mineralization, have been used in the estimation of reserves at Teck’s material base metal properties.

Assumed metal prices vary from property to property for a number of reasons. Teck has interests in a number of joint ventures for which assumed metal prices are a joint venture decision. In certain cases, assumed metal prices are historical assumptions made at the time of the relevant reserve and resource estimates. For operations with short remaining lives, assumed metal prices may reflect shorter-term commodity price forecasts.

## **Comments on Individual Operations**

### **Highland Valley Copper**

Reserve and resource estimates were prepared assuming long-term metal prices of US\$3.00/lb copper, US\$9.40/lb molybdenum, US\$20.00/oz silver and US\$1,250/oz gold and an exchange rate of CAD\$1.20 per US\$1.00. Resources and reserves are reported at a 0.11% copper equivalent cut-off and a 1.7 molybdenum factor. A 0.11% copper equivalent cut-off equals a net smelter return (NSR) of US\$5.51 per tonne.

There was a net decrease of 54 million tonnes of Proven and Probable reserves in 2018 mostly as a result of normal mining activity. The overall reduction is partially offset by updates to the resource model and changes in mine design. Resources significantly decreased by 356 million tonnes when compared to 2017, primarily because of higher assumed long-term operating costs. The resource estimate at Highland Valley is extremely sensitive to changes in these assumptions.

### **Antamina**

Open pit reserve estimates were prepared assuming long-term metal prices of US\$2.94/lb copper, US\$1.05/lb zinc, US\$7.96/lb molybdenum and US\$19.54/oz. silver. Open pit and underground resource estimates were prepared assuming long-term metal prices of: US\$3.30/lb copper, US\$1.23/lb zinc, US\$9.50/lb molybdenum and US\$20.70/oz silver.

Cut-off grades at Antamina are based on the net value before taxes that the relevant material is expected to generate per hour of concentrator operation at assumed prices, and varies by year in an effort to maximize the net present value of the pit.

Antamina engaged a third party to conduct an evaluation of the reasonable prospects for eventual economic extraction for both copper-only and copper-zinc ores to be mined by a more selective underground method than considered in 2017. The mineralized material located below the 2018 mineral resource pit shell was targeted and reported at a conceptual level in sufficient detail to declare Inferred mineral resources.

The total, open pit and underground, resources reported in 2018 are 565 million tonnes of Measured and Indicated and over 1.2 billion tonnes of Inferred. These figures are reduced from those reported in 2017 mostly due to the change in conceptual underground mine design method that reduces tonnes, partially offset by a positive impact in grade, and updates to the resource model.

### **Quebrada Blanca**

Supergene reserves have been fully depleted in 2018. The Quebrada Blanca (hypogene) reserve and resource estimates were prepared assuming a long-term copper price of US\$3.00/lb and a long-term molybdenum price of US\$9.40/lb.

The hypogene mineral reserves show an increase of 141 million tonnes due to optimization of tailings storage capacity. A more robust resource estimate with higher confidence, updated with over 23,000 m of drilling and revised geological models, supports reporting an additional 270 million tonnes of Measured and Indicated and 985 million tonnes of Inferred resources compared to 2017 reported figures.

### **Carmen de Andacollo**

The Carmen de Andacollo operation includes a heap leach copper operation and a copper-gold hypogene concentrator. The year-end 2018 reserves and resources are based on the same models that supported 2017 figures; however, different economic assumptions were used to optimize the reserves and resources pit shells.

The hypogene reserves and resources are estimated using a mine plan that considers hourly throughput rates in the optimization model. This variable estimates the processing plant hourly performance based on the ore hardness. Hypogene reserve estimates assume long-term metal prices of US\$3.00/lb copper and US\$1,250/oz gold. Mineral reserves show some reduction from 2017 by depletion from normal mining activities. Hypogene resources have increased by 120 million tonnes due mostly to favourable operating costs that enabled a reduction of the cut-off for reporting resources.

### **NuevaUnión**

Teck has a 50% interest in NuevaUnión. At the end of the first quarter of 2018, a prefeasibility study (PFS) on the NuevaUnión project was completed which incorporates key design changes to improve project economics and respond to community and Indigenous peoples input. Reserves and resources for two deposits, Relincho and La Fortuna have been updated based on this study.

Reserves at Relincho and La Fortuna deposits consider a bulk open-pit mining operation that will be developed in three production phases that will alternate mining operations between the two deposits.

Relincho mineral reserves and mineral resources are reported using an average NSR cut-off of US\$ 8.50/t, which assumes metal prices of US\$ 3.00/lb copper and US\$ 7.50/lb molybdenum.

La Fortuna mineral reserves and open pit mineral resources are reported using an average NSR cut-off of US\$ 10.0/t, which assumes metal prices of US\$ 3.00/lb copper and US\$ 1,250/oz gold. Mineral resources outside of the mineral reserve pit are defined using a conceptual underground mining envelope. This approach assumes the same recoveries, metal prices, processing and general & administration costs as used for the open pits but with mining costs and dilution assumptions that are more appropriate to bulk underground mining.

### **Red Dog**

Teck reports reserves and resources for Red Dog divided into two reporting groups based on the spatial proximity and the land ownership associated with the deposits in and around Red Dog. The names assigned to these groups are “Mine” and “District”.

In the “Mine” group, Teck is currently operating two deposits accessible by open pit mining: Aqqaluk, and Qanaiyaq. The Aqqaluk deposit, with first ore milled in August 2010; is scheduled to be mined through 2031. Mining of the Qanaiyaq deposit started with first ore milled in January 2017 and is planned to have a life span through 2028. The Red Dog Mine area also contains the undeveloped Paalaaq deposit, which is currently only defined to a resource level of confidence.

The “District” group consists entirely of Inferred resources from the Anarraaq deposit which lies approximately 11 km northwest of the current Red Dog operations. Resources for this deposit are unchanged, at 19.4 million tonnes, from 2017 statement.

All reserves and resources were estimated using long-term metal prices: US\$1.10/lb for zinc, US\$0.90/lb for lead and US\$20.00/oz for silver. Red Dog Mine reserve tonnage has reduced by only 1.5 million tonnes. Gains due to higher metal price assumptions and lower costs and updated mine designs partially offset production depletion of 4.2 million tonnes. Red Dog Mine resources increased by 8.6 million tonnes, primarily due to reporting low-grade possibly reactive material as a resource for the first time.

### **Pend Oreille**

Production in 2018 accounted for 380 kt depletion from reserves, and additional 152 kt from resources. Pend Oreille continued to develop and revise its mine plan with the inclusion of new mining shapes and adjustment of existing mining shapes based on new geologic interpretation. In 2018 the models for the different mine areas were continuously updated as infill drilling progressed.

The reserves and resources for the East Mine (Washington Rock and West Yellowhead resources estimates remain unchanged) are estimated using a 4.5% zinc cut-off. Recovery is 88% for zinc and 61% for lead. The reserves and resource for the MX area of Pend Oreille are

estimated using a 4.5% zinc equivalent cut-off. All resources and reserves are estimated using US\$1.10/lb zinc and US\$0.90/lb for lead.

### **San Nicolás**

Based on the results of the ongoing drilling program, mineral resources have been updated in 2018. NSR calculations include metal price assumptions as US\$3.00/lb copper, US\$1.10/lb zinc, US\$1,250/oz gold and US\$20/oz silver and scaled costs from previous studies.

The 2018 resource estimate assumes different NSR cut-offs for different geometallurgical domains from US\$9.20/t to US\$12.00/t based on an estimate of the marginal cost of production for the relevant ore.

### **Galore Creek**

Teck has a 50% interest in Galore Creek. The year-end 2018 resource statement presents a conceptual change to the project. Only mineral resources are reported in 2018 and are estimated based on commodity prices of US\$3.00/lb copper, US\$1,200/oz gold and US\$20/oz silver.

### **Schaft Creek**

Schaft Creek resources are based on a 2018 Resource Model Update. Open pit mineral resources are reported at an NSR cut-off of US\$4.31/t and constrained by a conceptual open pit shape. The resource estimate categorizes 10% of the mineral resources as Measured, 70% as Indicated and 20% as Inferred.

### **Mesaba**

Mineral resources are reported at a cut-off of 0.2% copper, equivalent to a NSR cut-off of US\$5.24/ton, and consider the estimates of copper, nickel, silver, cobalt, gold, platinum and palladium.

### **Zafranal**

End-of-year 2018 resource and reserves are supported by a feasibility study being prepared for Compañía Minera Zafranal S.A.C. (CMZ). The resource model is built with updated geological interpretations and assay results from 404 drill holes totaling 120,300 metres. There has been approximately 22,359 metres of new core drilling since the completion of the prefeasibility study in 2016.

Resource and reserves estimates at Zafranal are prepared using price assumptions of US\$3.00/lb copper and US\$1,200/oz gold. Mining and processing costs, as with other important input parameters, were updated from the prefeasibility study. The total contained metal used in the reserves table are based on variable metallurgical recoveries of up to 89.5% for copper and up to 56% for gold. Open pit mineral reserves are reported using a variable NSR cut-off of US\$6.10 to \$6.35/t averaging US\$6.11/t.

### **Fording River**

The reserve economics assume a long-term selling price at the Port of Vancouver of US\$130/tonne for metallurgical coal at an exchange rate of CAD\$1.20 per US\$1.00.

### **Elkview**

Teck has a 95% interest in the Elkview mine. The reserve economics assume a long-term selling price at the Port of Vancouver of US\$130/tonne for metallurgical coal at an exchange rate of CAD\$1.20 per US\$1.00.

### **Greenhills**

Teck is an 80% member of the Greenhills Joint Venture. The reserve economics assume a long term selling price at the Port of Vancouver of US\$130/tonne for metallurgical coal at an exchange rate of CAD\$1.20 per US\$1.00.

### **Line Creek**

The reserve economics assume a long term selling price at the Port of Vancouver of US\$130/tonne for metallurgical coal and US\$75/tonne for oxide coal at an exchange rate of CAD\$1.20 per US\$1.00.

### **Cardinal River**

The reserve economics assume a long term selling price of US\$130/tonne for metallurgical coal and US\$100/tonne for PCI coal at an exchange rate of CAD\$1.20 per US\$1.00.

### **Quintette (Mt Babcock)**

The reserve economics assume a long-term selling price of US\$130/tonne for metallurgical coal and US\$75 for oxide coal at an exchange rate of CAD\$1.20 per US\$1.00.

## **Risks and Uncertainties**

Mineral reserves and mineral resources are estimates of the size and grade of the deposits based on the assumptions and parameters currently available. These assumptions and parameters are subject to a number of risks and uncertainties, including, but not limited to, future changes in metals prices and/or production costs, differences in size, grade, continuity, geometry or location of mineralization from that predicted by geological modeling, recovery rates being less than those expected and changes in project parameters due to changes in production plans. Except as expressly described elsewhere in this Annual Information Form, there are no known environmental, permitting, legal, title, taxation, sociopolitical, marketing or other issues that are currently expected to materially affect the mineral reserves or resources. Certain operations will require further permits over the course of their operating lives in order to continue operating. Where management expects such permits to be issued in the ordinary course, material that may only be mined after such permits are issued is included in Proven and Probable reserves. Specific current permitting issues are described in the narrative concerning the relevant operation under the headings “*Description of the Business*” and “*Health and Safety and Environmental Protection*” and under the heading “*Risk Factors — We face risks associated with the issuance and renewal of environmental permits.*”

## Qualified Persons

Estimates of mineral reserves and resources for our material base metal properties have been prepared under the general supervision of Rodrigo Marinho, P.Geo., who is an employee of Teck Resources Limited. Mineral reserve and resource estimates for Antamina have been prepared under the supervision of Luis Mamani and Lucio Canchis, who are both SME Registered Members and employees of Compañía Minera Antamina S.A. Messrs. Marinho, Canchis and Mamani are the Qualified Persons for the purposes of National Instrument 43-101. Reserve and resource estimates for coal properties were prepared under the general supervision of Don Mills P.Geo. and Robin Gold P.Eng., employees of Teck Coal Limited, who are the Qualified Persons for the purposes of National Instrument 43-101.

## Oil and Gas Reserves

The reserves information set out below for the Fort Hills mine is based upon evaluations conducted by GLJ, an independent qualified reserves evaluator.

The effective date of the reserves data and other oil and gas information below for Fort Hills is December 31, 2018. Estimates of reserves and projections of production were prepared by GLJ using information provided up to December 31, 2018. The reserves information set out below for Fort Hills is taken from a report prepared by GLJ on January 28, 2019. All reserves information in this section is based on Teck's 21.3% interest in Fort Hills.

Classifications of oil and gas reserves as Proved or Probable are only attempts to define the degree of certainty associated with the estimates. There are numerous uncertainties inherent in estimating quantities of oil reserves. It should not be assumed that the estimates of future net revenues presented in the tables below represent the fair market value of the reserves. There is no assurance that the forecast price and cost assumptions will be attained and variances could be material. The reserves estimates provided herein are estimates only and there is no guarantee that the estimated reserves will be recovered. Actual reserves may be greater or less than the estimates disclosed.

## Reserve Categories and Resources

### Reserves

For oil and gas, reserves are estimated remaining quantities of oil and natural gas and related substances anticipated to be recoverable from known accumulations, as of a given date, based on analysis of drilling, geological, geophysical and engineering data; the use of established technology; and specified economic conditions that are generally accepted as being reasonable. Reserves are classified into Proved or Probable according to the degree of certainty associated with the estimates.

**Proved reserves** are those reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated Proved reserves.

**Probable reserves** are those additional reserves that are less certain to be recovered than Proved reserves. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated Proved plus Probable reserves.

Each of the Proved and Probable reserves categories may be divided into developed and undeveloped categories. All of Teck's reserves are currently categorized as **developed reserves** since Fort Hills is now in operation. Undeveloped reserves are those reserves expected to be recovered from known accumulations where a significant expenditure (e.g., construction of a primary extraction facility) is required and the necessary equipment is not yet installed to render them capable of production.

### Fort Hills Mine

The reserves data presented below summarizes our Proved and Probable reserves and the net present values of future net revenue for these reserves. The reserves data uses forecast prices and costs prior to provision for, and therefore do not take into account, interest, general and administrative expenses or the impact of any hedging activities. In addition, provisions for the abandonment and reclamation of the mines and associated facilities to which reserves have been assigned have been included; all other abandonment and reclamation costs have not been included. These forecasts and other assumptions are taken from the GLJ evaluation report with an effective date of December 31, 2018. Future net revenues have been presented on a before and after tax basis in accordance with National Instrument 51-101.

The future net revenue, development and operating cost, exchange rate, price and other assumptions set out in this "*Description of the Business — Oil and Gas Reserves and Resources — Fort Hills Mine*" section of this AIF are the estimates or assumptions of GLJ, our independent reserves evaluator. In order to estimate reserves and future net revenues, GLJ makes a number of assumptions, including assumptions regarding inflation rates, currency exchange rates, and prices for oil and other products. For planning, project economics, forecasts, accounting and other purposes, our management makes assumptions regarding those same factors and our assumptions generally differ from those of GLJ. Different assumptions would lead to different present value and net revenue figures, and could affect reserve estimates.

GLJ estimates capital and operating costs associated with Fort Hills are based on Suncor's estimates, as operator, with consideration to those achieved by other oil sands mining projects. These GLJ-estimated costs differ somewhat from those that the Fort Hills partners use for planning and decision-making for the project, which are based on detailed engineering studies. See "*Description of the Business — Energy — Fort Hills Mine*" for a further description of the project operator estimates regarding costs.

All of our reserves are associated with Fort Hills. Bitumen is the only product type associated with our reserves. Reserves are presented on a gross and net basis. “**Gross**” in relation to Teck’s interest in reserves means Teck’s working interest as at December 31, 2018 (21.3%) share before deduction of royalties. “**Net**” in relation to Teck’s interest in reserves means Teck’s working interest as at December 31, 2018 (21.3%) share after deduction of royalties.

**Summary of Oil and Gas Reserves  
at December 31, 2018  
(forecast prices and costs)**

(in millions of barrels)	Reserves	
Reserves Category	Bitumen	
	Gross	Net
<b>Proved Reserves</b>		
Developed Producing	371	343
Developed Nonproducing	0	0
Undeveloped	0	0
<b>Total Proved Reserves</b>	<b>371</b>	<b>343</b>
Probable Reserves	195	165
<b>Total Proved plus Probable Reserves</b>	<b>566</b>	<b>508</b>

**Summary of Net Present Value of Future Net Revenue at December 31, 2018  
(forecast prices and costs)**

The net present value of future net revenues below in respect of Teck's interest in Fort Hills were computed by applying an average price forecast based on forecasts from three qualified reserves evaluators (including GLJ), GLJ's forecast costs as described below, legislated tax rates and Teck's tax pools. The estimates of future net revenue do not necessarily provide a reliable estimate of the expected future cash flows to be obtained from our share of the Fort Hills reserves and do not necessarily represent the fair market value of our Proved and Probable oil reserves. The independent reserves evaluator makes various assumptions, including with respect to production rates and capital and operating costs that may differ from those that the Fort Hills partners use for planning and decision-making for the project, which are based on detailed engineering studies and historical site cost data.

Reserves Category	Net Present Value of Future Revenue										Unit value (\$/bbl) <sup>(1)</sup>
	Before Income Taxes Discounted at (%/year) (\$ millions)					After Income Taxes Discounted at (%/year) (\$ millions)					
	0%	5%	10%	15%	20%	0%	5%	10%	15%	20%	
<b>Proved Reserves</b>											
Producing	5437	2472	1260	703	417	4648	2219	1172	671	405	3.67
Developed Nonproducing	0	0	0	0	0	0	0	0	0	0	0.00
Undeveloped	0	0	0	0	0	0	0	0	0	0	0.00
<b>Total Proved</b>	5437	2472	1260	703	417	4648	2219	1172	671	405	3.67
Total Probable	4424	1134	403	201	128	3111	846	325	176	118	2.44
<b>Total Proved plus Probable</b>	9860	3606	1662	904	545	7759	3065	1497	847	522	3.27

(1) Unit values are future net revenues, before deducting estimated cash income taxes payable, discounted at 10%, using net reserves.

**Total Future Net Revenue as at December 31, 2018 (undiscounted)  
(forecast prices and costs)**

The future net revenues below in respect of Teck's interest in Fort Hills were computed by applying an average price forecast based on forecasts from three qualified reserves evaluators (including GLJ), GLJ's forecast costs as described below, legislated tax rates and Teck's tax pools. The estimates of future net revenue do not necessarily provide a reliable estimate of the expected future cash flows to be obtained from our share of the Fort Hills reserves and do not necessarily represent the fair market value of our proved and probable oil reserves. The capital and operating costs below reflect GLJ's estimates and differ from those that the Fort Hills partners use for planning and decision-making for the project, which are based on detailed engineering studies and historical cost data. See "Description of the Business — Energy — Fort Hills Mine" for a further description of the project operator projections regarding costs.

(in \$ millions) (undiscounted)	Revenue	Royalties	Operating Costs	Capital Development Costs	Abandon- ment and Reclamat- ion Costs	Future net revenue before income taxes	Income taxes	Future net revenue after income taxes
Proved Producing	24057	1864	14181	2065	510	5437	788	4648
Proved Developed Nonproducing	0	0	0	0	0	0	0	0
Proved Undeveloped	0	0	0	0	0	0	0	0
<b>Total Proved</b>	<b>24057</b>	<b>1864</b>	<b>14181</b>	<b>2065</b>	<b>510</b>	<b>5437</b>	<b>788</b>	<b>4648</b>
Total Probable	18973	3017	9930	1143	459	4424	1313	3111
<b>Total Proved Plus Probable Reserves</b>	<b>43030</b>	<b>4880</b>	<b>24111</b>	<b>3208</b>	<b>970</b>	<b>9860</b>	<b>2101</b>	<b>7759</b>

**Future Net Revenue by Product Type at December 31, 2018  
(at forecast prices and cost)**

Reserves Category	Production group	Future Net Revenue Before Income Taxes <sup>(1)</sup> (discounted at 10%/year)	
		(\$ millions)	(\$/bbl)
Proved Producing	Bitumen	1260	3.67
Total Proved	Bitumen	1260	3.67
Total Proved Plus Probable Reserves	Bitumen	1662	3.27

<sup>(1)</sup> Unit values are based on Teck's net reserves.

### Forecast Prices Used in Estimates

The determination of reserves requires assumptions of crude oil, natural gas and other important benchmark reference prices, as well as inflation and exchange rates. The forecast prices used in preparing Teck's reserves data, including estimated future net revenues, are provided below and were used by GLJ, our independent qualified reserves evaluator.

The table below reflects a December 31, 2018 average of three qualified reserves evaluators (including GLJ), forecast reference prices, and associated inflation and exchange rates. For determining costs associated with Fort Hills, GLJ has included a 2.0% inflation rate for 2020 onwards.

The forecast reference prices, exchange rates, inflationary assumptions and other forecasts used in preparing the reserves data do not necessarily reflect the assumptions of Teck's management or the Fort Hills partners. The forecast price and other assumptions noted below are not used in Teck's investment or management decisions or for Teck's accounting purposes.

Year	Exchange Rate (\$US/\$CAD)	West Texas Intermediate Crude Oil at Cushing Oklahoma \$US/bbl (then current USD)	WCS Crude at Hardisty \$CAD/bbl (then current CAD)	Edmonton Pentanes Stream Quality \$CAD/bbl <sup>(1)</sup> (then current CAD)
2018 <sup>(2)</sup>	0.7716	64.76	49.87	79.05
2019	0.7567	58.58	51.55	70.10
2020	0.7817	64.60	59.58	79.21
2021	0.7967	68.20	65.89	83.33
2022	0.8033	71.00	68.61	86.20
2023	0.8067	72.81	70.53	88.16
2024	0.8083	74.59	72.34	90.20
2025	0.8083	76.42	74.31	92.43
2026	0.8083	78.40	76.44	94.87
2027	0.8083	79.98	78.10	96.80
2028	0.8083	81.59	79.81	98.79
2029+	0.8083	83.22	81.40	100.76

(1) Price used when determining the cost of diluent associated with bitumen reserves. Assumed diluent prices equal the posted pentanes prices plus a premium of \$4.00/bbl (2019 dollars).

(2) Pricing for 2018 reflects the company's historical weighted average prices.

### Reconciliation of Changes in Reserves

National Instrument 51-101 requires a reporting issuer to disclose changes between the reserves estimates as at the effective date and the corresponding estimates made as at the last day of the preceding financial year of the reporting issuer.

(in millions of barrels)	Total Oil Reserves		
	Bitumen (Company Gross)		
	Proved	Probable	Proved Plus Probable
At December 31, 2017	365.6	228.7	594.3
Production	(9.4)	0.0	(9.4)
Acquisitions	7.4	3.8	11.2
Revisions	7.1	(37.2)	(30.0)
At December 31, 2018	370.7	195.4	566.1

### Additional Information Relating to Reserves Data

All of Teck's Proved and Probable reserves relate to Fort Hills and were first attributed to Teck in 2013. On October 30, 2013, the co-owners of Fort Hills announced project sanction. The plant began producing limited quantities of a bitumen froth product in the fourth quarter of 2017, followed by the first oil milestone on January 27, 2018 when the secondary extraction plant began operating.

(in millions of barrels)	Bitumen (Company Gross)			
	Proved		Probable	
	First Attributed	Total at Year End	First Attributed	Total at Year End
2016	-	346.0	-	227.0
2017	15.6	365.6	9.7	228.7
2018	-	-	-	-

### Future Development Costs

The table below provides the development costs GLJ has estimated and assumed are to be incurred for purposes of the estimation of the future net revenue attributable to the reserves. The GLJ future development costs set out below differ from those that the Fort Hills partners use for construction planning and decision-making for the project, which are based on detailed engineering studies and historical cost data. See “*Description of the Business — Energy — Fort Hills Mine*” for a further description of the project operator projections regarding development costs.

Reserves Category (\$ thousands)	2019	2020	2021	2022	2023	Remainder	Total	Total (10% discounted)
Total Proved	146,739	165,180	140,976	77,159	157,404	1,377,829	2,065,287	905,160
Total Proved plus Probable Reserves	156,653	174,897	149,269	81,697	166,663	2,479,158	3,208,337	999,507

We believe that internally generated cash flows, existing credit facilities and access to capital markets will be sufficient to fund our future development costs. However, there can be no guarantee that the necessary funds will be available or that we will allocate funding to develop all of our reserves. Failure to develop those reserves would have a negative impact on our future cash flow.

The interest or other costs of external funding are not included in the reserves and future net revenue estimates and would reduce future net revenue, depending upon the funding sources utilized. We do not believe that interest or other funding costs would make development of any property uneconomic.

### Production History

2018 - Fort Hills <sup>(1)</sup>	Unit	Q1	Q2	Q3	Q4	Average
Total bitumen production	mbbls/d	11.9	27.9	27.4	38.8	26.6
Bitumen price realized <sup>(2)(3)</sup>	\$/bbl	-	64.59	53.41	8.98	32.81
Crown royalties	\$/bbl	-	(3.59)	(2.90)	(0.98)	(2.04)
Transportation costs	\$/bbl	-	(8.90)	(9.58)	(8.22)	(8.83)
Production costs	\$/bbl	-	(38.25)	(39.04)	(26.91)	(32.89)
Operating netback <sup>(3)</sup>	\$/bbl	-	13.85	1.89	(27.13)	(10.95)

<sup>(1)</sup> Other than bitumen production, which includes production from the full 2018 year, numbers provided below are provided following completion of commissioning on June 1, 2018 only.

<sup>(2)</sup> Bitumen price realized represents the realized petroleum revenue (blended bitumen sales revenue) net of diluent expense and before royalties. Blended bitumen sales revenue represents revenue from our share of the heavy crude oil blend known as Fort Hills Reduced Carbon Life Cycle Dilbit Blend, sold at the Hardisty and U.S. Gulf Coast market hubs.

<sup>(3)</sup> Operating netback and Bitumen price realized are non-GAAP financial measures. See “*Non-GAAP Measures*” for additional information, including where to find a reconciliation of these measures to GAAP measures.

### Production Estimate

GLJ has forecast Fort Hills production for 2019 to be 148,000 barrels per day and 158,000 barrels per day in the total proved and the total proved plus probable reserves categories, respectively (of which Teck’s share would be 31,531 barrels per day and 33,662 barrels per day). Consistent with the Government of Alberta announcement on December 2, 2018, these estimates assume the mandatory industry-wide production curtailment of 325,000 barrels per day is in place for the first four months of the year declining to 95,000 barrels per day for the remainder of 2019. This restriction was implemented January 1, 2019 in order to help boost regional oil prices. The curtailment rules state that they will be fully repealed on December 31, 2019 and GLJ has forecast Fort Hills production accordingly.

### Other Oil and Gas Information

#### Tax Horizon

Because of available tax pools, we are currently shielded from cash income taxes, but not resource taxes, in Canada. We remain subject to cash taxes in foreign jurisdictions. When we will become subject to cash income taxes in Canada is dependent on a number of factors, including but not limited to the price of the commodities that our various business units deal in and the level of our future investments in Canadian operations.

## Health and Safety and Environmental Protection

Our current and future operations, including development activities and commencement of production on our properties or areas in which we have an interest, are subject to laws and regulations in Canada, the U.S., Chile and elsewhere governing occupational health and safety, protection and remediation of the environment, site reclamation, management of toxic substances and similar matters. Compliance with these laws and regulations can affect the planning, designing, operating, closing and remediating of our mines, refineries and other facilities.

Whether in Canada, the U.S., Chile or elsewhere, we work to apply technically proven and economically feasible measures to protect the environment and worker health and safety throughout the mining life cycle of exploration, construction, mining, processing and closure. Although we believe that, except as described in the narrative concerning the relevant operation, our operations and facilities are currently in substantial compliance in all material respects with all existing laws, regulations and permits, there can be no assurance that additional significant costs will not be incurred to comply with current or future regulations or that liabilities associated with non-compliance will not be incurred.

We are often an active participant in the public regulatory review, revision and development processes with government agencies and non-governmental organizations and, as such, typically have insight regarding emerging regulatory developments and trends. We apply this insight when we estimate risks and liabilities associated with current and future regulatory matters including in the areas of health and safety and the environment. We conduct regular environmental and health and safety audits. The overall objective of our audits is to identify environmental and health and safety risks and assess regulatory compliance. Environmental, health and safety regulations are constantly evolving and it can be a significant challenge to meet changing standards.

### **Health and Safety**

Safety is a core value at Teck. Safety performance and workplace occupational health and hygiene are key priorities for us. Safety statistics are collected from each business unit and operation monthly. Targets for health and safety key performance indicators are set each year and are one factor used in determining management compensation. Safety incidents are thoroughly investigated and findings reports are shared across our business, and occasionally across the industry, to assist in the prevention of similar incidents. We continue to implement our occupational health and hygiene strategy to prevent occupational disease and our high potential risk control strategy and hazard identification training program to prevent serious injuries and fatalities. Our Courageous Safety Leadership program also helps us build a positive culture of safety across the company. At this time, we do not anticipate significant liability associated with long-term occupational health issues.

### **Reclamation and Closure**

In order to obtain mining permits and approvals from regulatory authorities, mine operators must typically submit a reclamation plan for restoring, upon prolonged suspension or completion of mining operations, the mined property to a productive use and meet many other permitted conditions. Typically, we submit the necessary permit applications several months or even years before we plan to begin activities. Some of the permits we require are becoming increasingly

difficult and expensive to obtain, and the application and review processes are taking longer to complete, becoming increasingly complex in terms of required background information, and are subject to challenge. For a further discussion of risks associated with the issuance and renewal of environmental permits, see *“Risk Factors — We face risks associated with the issuance and renewal of environmental permits”*.

For accounting purposes, current costs associated with permit compliance are treated as normal operating costs necessary to maintain operations on an ongoing basis. In addition, amounts are accrued in our accounts to provide for certain and probable future decommissioning, reclamation, site restoration and other closure costs. Financial assurance of various forms, including letters of credit and surety bonds, are posted with various governmental authorities as security to cover estimated reclamation obligations. Our provisions for future reclamation and site restoration are estimated based on known requirements. Many of our sites undergo extensive progressive reclamation during operations so as to proactively address mined-out areas and lessen the works required upon mine closure. The reclamation programs are guided by land capability assessments, which integrate several factors in the reclamation approach, including biological diversity, establishment of sustainable vegetation, diversity of physical landforms and requirements for wildlife habitat. All of our mining operations have closure plans in place that are developed to the level of detail appropriate to the stage of life of the operation. All of the plans undergo regular updates.

Certain idle and closed mines are under continuous care and maintenance as well as progressive closure and, as noted above, many of our active sites undergo extensive progressive reclamation during operations. Cost estimates for these planned and anticipated closure and remediation activities are reviewed on a regular basis and revised as plans for individual sites are refined and implemented, typically with input and oversight from regulatory agencies and other stakeholders.

Our decommissioning and restoration provision as at December 31, 2018 is \$1,614 million, of which \$610 million is attributable to our operating coal operations, \$382 million is attributable to our operating copper operations, \$323 million is attributable to our operating zinc operations, \$50 million is attributable to our energy operations and \$249 million is attributable to closed properties. Of that amount, we expect to spend approximately \$91 million in 2019. As at December 31, 2018, we had letters of credit and other bonding in place to secure our reclamation obligations in the aggregate amount of approximately \$2.1 billion. British Columbia and Chile are continuing to review their reclamation security requirements, which we expect may result in future increases to the financial security that we may be required to post in respect of our reclamation obligations.

See the disclosure regarding environmental matters under the respective descriptions of our material operations for further details of environmental matters impacting those operations.

### **Climate Change and Carbon Pricing**

As part of the ongoing efforts to address climate change, regulations to control greenhouse gas emissions continue to be developed and enhanced in many jurisdictions. Recognizing our role in combating climate change, we continue to take action to reduce greenhouse gas emissions by improving our energy efficiency and implementing low-carbon technologies at our operations and by working with governments and regulators to advocate for effective and efficient carbon pricing.

However, regulatory uncertainty and resulting uncertainty regarding the costs of technology required to comply with current or anticipated regulations make it difficult to predict the ultimate costs of compliance.

Societal focus on controlling carbon emissions, minimizing climate change and preparing for climate change adaptation continues to mount. In 2017, British Columbia announced a planned increase to the carbon tax beginning in 2018, with an increase in the tax rate to \$35/tonne and increasing by \$5/tonne of carbon dioxide-equivalent (CO<sub>2</sub>e) per year until reaching \$50/tonne of CO<sub>2</sub>e. At the same time, the Government of British Columbia made a commitment to address impacts to emissions-intensive, trade-exposed industries to ensure that British Columbia operations maintain their competitiveness and that carbon leakage is avoided. On January 1, 2018, Alberta introduced the Carbon Competitiveness Incentive Regulation, an industry-specific carbon pricing policy requiring large emitters, and other facilities that have opted in, to reduce their emissions intensity below a prescribed level, or to purchase emissions credits in concert with or as an alternative to physical abatement, with significant penalties for failure to achieve compliance. In June 2018, the Government of Canada introduced the Greenhouse Gas Pollution Pricing Act that establishes a federal carbon levy for any Province or Territory that has not implemented a compliant carbon-pricing regime. Federal carbon levy rates will start with a minimum price of \$10 per tonne in 2018, increasing \$10 per year to \$50 per tonne by 2022. The Greenhouse Gas Pollution Price Act comes into effect in April 2019 and will only apply in provinces or territories whose policies are not deemed sufficiently similar. Both BC and Alberta's policies meet these requirements at this time, and as a result, the national carbon pricing regulations will not currently apply to our operations.

While climate change regulations continue to evolve in most jurisdictions in which we operate, we expect that regional, national, or international regulations, which seek to reduce greenhouse gas emissions, will continue to be established or revised. The cost of reducing our emissions or of obtaining the equivalent amount of credits or offsets in the future, if regulations permit this, remains highly uncertain. The cost of compliance with various climate change regulations will ultimately be determined by the regulations themselves and by the markets that evolve for carbon credits and offsets. Teck's direct greenhouse gas emissions attributable to our operations for 2018 are estimated to be approximately 2.9 million tonnes (CO<sub>2</sub>e). The most material indirect emissions associated with our activities are those from the use of our steelmaking coal by our customers. Based on our 2018 sales volumes, emissions from the use of our steelmaking coal would have been approximately 76 million tonnes of CO<sub>2</sub>.

For 2018, our seven B.C.-based operations incurred \$58.8 million in British Columbia provincial carbon tax and our Cardinal River operation in Alberta paid \$1.2 million in carbon costs, primarily from our use of coal, diesel fuel and natural gas. We may in the future face similar taxation for our activities in other jurisdictions. Similarly, the customers of some of our products may also be subject to new carbon costs or taxation in the future in the jurisdictions where the products are ultimately used.

### **Water Regulation**

In addition to climate change, issues surrounding water regulation remain of particular importance. We continue to monitor regulatory initiatives and participate in consultation opportunities with governments. For example, we are participating in the Canadian federal

government consultation focused on developing a Coal Mining Effluent Regulation and updating the Canadian Metal Mining Effluent Regulation. The ultimate form of these regulations may have a material effect on compliance costs, mine plans, and our capital and operating costs at affected mines. See *"Risk Factors — Changes in environmental, health and safety laws may have a material adverse effect on our operations"*. We are continuing to work to implement a plan for the management of selenium and other constituents at all of our operating steelmaking coal mines in the Elk Valley. Our costs of implementing this plan are uncertain and will depend on the results of ongoing environmental monitoring, other technical developments, and future actions by regulators. See *"Description of the Business — Coal"* and *"Risk Factors — We face risks associated with the issuance and renewal of environmental permits"* for further information.

## Social and Environmental Policies

We have adopted and implemented social and environmental policies and practices that are essential to our operations. Our operating practices are governed by the principles set out in our Code of Ethics and our Code of Sustainable Conduct.

The Code of Sustainable Conduct emphasizes our overall commitment to sustainability and sets out specific requirements in areas related to: (i) legal compliance and ethical business conduct; (ii) impact risk and opportunity management; (iii) identification, control and promotion of safety and health performance; (iv) sound environmental conduct and continuous improvement in performance; (v) fostering dialogue with stakeholders and respect for the rights, interests and aspirations of Indigenous People; (vi) support for local communities and promotion of responsible use and supply of our products; and (vii) maintaining a confidential feedback mechanism and conducting regular audits to ensure adherence to the Code.

In addition to the Code of Ethics and the Code of Sustainable Conduct, we have adopted a Health and Safety Policy, a Health and Safety Guide for Exploration, a Water Policy, a Human Rights Policy, an Inclusion and Diversity Policy, an Indigenous Peoples Policy, a Tax Policy and a Policy setting out our expectations for suppliers and contractors. We have taken steps to implement the Code of Sustainable Conduct and related policies through adoption of our Health, Safety, Environment and Community Management Standards, which provide direction to all operations and auditable criteria against which performance is measured. Safety and sustainability (including environment and community) performance are metrics used in our bonus plan.

We set objectives in these areas for improvement on an annual basis, and these are used to determine specific objectives for corporate and operational groups within our organization. Overall responsibility for achievement of objectives rests with senior personnel. For example, our Safety and Sustainability Committee of the Board (which reports to the Board of Directors), our corporate Health, Safety, Environment, and Community Risk Management Committee and our Materials Stewardship Committee, which are comprised of members of senior management, provide oversight in these areas.

We measure and report our performance on an ongoing and comprehensive basis. Internal monthly, quarterly and annual reporting tracks performance indicators, including compliance with permits, environmental monitoring, health and safety performance, materials inputs and outputs, community concerns expressed and actions taken in response, and reclamation and remediation activities.

## Human Resources

As at December 31, 2018, there were approximately 10,000 employees classified as “regular” employees working at the various operations and projects we manage, as well as our corporate offices. Of those employees, approximately 4,400 were employed by our Coal operations, 2,500 by our Copper operations, 2,200 by our Zinc operations and 900 by our Exploration, Energy, and projects and corporate groups. Our regular employees figure excludes employees classified as casual, fixed-term or inactive.

We reached two agreements in 2018 relating to collective arrangements; both agreements were with our two unions at Quebrada Blanca. The collective agreement at Antamina expired at the end of July 2018; negotiations for a new agreement are ongoing.

Collective bargaining agreements covering unionized employees at our principal operations (including Antamina) are as follows:

	<b>Expiry Date of Collective Agreement</b>
Antamina	July 31, 2018
Line Creek	May 31, 2019
Carmen de Andacollo	September 30, 2019 (workers' union) and December 31, 2019 (supervisors' union)
Coal Mountain	December 31, 2019
Elkview	October 31, 2020
Fording River	April 30, 2021
Highland Valley Copper	September 30, 2021
Quebrada Blanca	January 31, 2022 (administrative union); November 30, 2019 (Union No. 1); and March 31, 2022 (Union No. 2)
Trail	May 31, 2022
Cardinal River	June 30, 2022

We are preparing to commence bargaining on new collective agreements that expire later this year at Carmen de Andacollo, Line Creek and Quebrada Blanca. In January, unionized employees at Coal Mountain operations voted to extend the expiry date of that collective agreement to December 31, 2020.

## Technology

Teck undertakes and participates in a number of research and development programs designed to improve exploration, mining and processing for new projects and operations, environmental performance in operations, and technologies to assist the sale of products, and hence enhance overall competitiveness and reduce costs.

We have technology and research groups at our Applied Research and Technology facility located in Trail, B.C., at our CESL facility in Richmond, B.C., and at our Product Technology Centre in Mississauga, Ontario. The primary focus of these facilities is to create value through the development, testing and implementation of technologies related to our principal products. The programs are aligned with business units and are integrated with operations or other business activities. Our research and development expense for 2018 was \$35 million.

## Foreign Operations

The Red Dog mine located in Alaska, the Pend Oreille mine in Washington State, the Antamina mine located in Peru, and the Quebrada Blanca and Carmen de Andacollo mines located in Chile are our significant operating assets located outside of Canada. We hold a 22.5% interest in Antamina through our equity interest in CMA, the operating company for the mine. We hold a 100% interest in the Red Dog mine, subject to the royalty in favour of NANA described under the heading “*Description of the Business — Zinc — Red Dog Mine, United States (Zinc, Lead)*” above. We own 90% of the Chilean operating companies that own Quebrada Blanca and Carmen de Andacollo. Foreign operations accounted for approximately 28% of our 2018 consolidated revenue and represented approximately 28% of our total assets as at December 31, 2018.

We also have interests in various exploration and development projects in various foreign countries, with significant activities in Australia, Chile, Ireland, Mexico, Peru, Turkey and the United States. We currently have foreign exploration offices in all of those countries, except the United States. See “*Risk Factors — We operate in foreign jurisdictions and face added risks and uncertainties due to different economic, cultural and political environments*” for further information on the risks associated with these foreign properties.

## Competitive Conditions

Our business is to sell steelmaking coal, base metals, metal concentrates, specialty metals and blended bitumen at prices determined by world markets over which we have no influence or control. These markets are cyclical. Our competitive position is determined by our costs compared to those of other producers throughout the world, and by our ability to maintain our financial capacity through metal, coal and oil price cycles and currency fluctuations. Costs are governed principally by the location, grade and nature of orebodies and mineral deposits; costs of equipment, fuel, power and other inputs; costs of transport and other infrastructure; the location of our Trail metal refining facility and its cost of power; and by operating and management skill.

Over the long term, our competitive position will be determined by our ability to locate, acquire and develop economic orebodies and replace current production, as well as by our ability to hire and retain skilled employees. In this regard, we also compete with other mining companies for employees, mineral properties, joint venture agreements and the acquisition of investments in other mining companies.

## Risk Factors

You should carefully consider the risks and uncertainties described below as well as the other information contained in this Annual Information Form. These risks and uncertainties are not the only ones facing us. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also impair our business operations. If any of these events actually occur, our business, prospects, financial condition, cash flows and operating results could be materially harmed.

### **We face risks in the mining, metals and oil business.**

The business of exploring for minerals is inherently risky. Few properties that are explored are ultimately developed into producing mines. The reasons why a mineral property may be non-productive often cannot be anticipated in advance. Even after the commencement of mining operations, those operations may be subject to risks and hazards, including environmental hazards, industrial accidents, unusual or unexpected geological formations, unanticipated metallurgical difficulties, ground control problems, seismic activity, weather events, labour-force disruptions, supply problems and delays, and flooding.

Our mining, oil and exploration operations require reliable infrastructure such as roads, rail, ports, pipelines, power sources and transmission facilities, and water supplies. Availability and cost of infrastructure affects the production and sales from operations, as well as our capital and operating costs.

The Trail metallurgical operations, our concentrate mills, our coal preparation plants, and our oil extraction and processing plants are also subject to risks and hazards, including process upsets and equipment malfunctions. Equipment and supplies may from time to time be unavailable on a timely basis.

Our operating mines and certain closed sites have large tailings dams, which could fail as a result of seismic activity or for other reasons.

The occurrence of any of the foregoing could result in damage to or destruction of mineral properties or production or logistics facilities, personal injuries or death, environmental damage, delays or interruption of production, increases in production costs, monetary losses, legal liability and/or adverse governmental action.

### **Fluctuations in the market price of base metals, steelmaking coal, specialty metals and blended bitumen may significantly adversely affect the results of our operations.**

The results of our operations are significantly affected by the market price of base metals, steelmaking coal, blended bitumen, and specialty metals which are cyclical and subject to substantial price fluctuations. Our earnings are particularly sensitive to changes in the market price of steelmaking coal, copper, zinc and blended bitumen. Market prices can be affected by numerous factors beyond our control, including levels of supply and demand for a broad range of industrial products, substitution of new or different products in critical applications for our existing products, expectations with respect to the rate of inflation, the relative strength of the Canadian dollar and of certain other currencies, interest rates, speculative activities, transportation and pipeline capacity, global or regional political or economic crises, government policy changes,

including tariffs and the potential for trade disputes and sales of base metals by holders in response to such factors.

The Chinese market is a significant source of global demand for commodities, including steelmaking coal, zinc and copper. A sustained slowdown in China's growth or demand, or a significant slowdown in other markets, in either case, that is not offset by reduced supply or increased demand from other regions could have an adverse effect on the price and/or demand for our products.

If prices should decline below our cash costs of production and remain at such levels for any sustained period, we could determine that it is not economically feasible to continue commercial production at any or all of our operations. We may also curtail or suspend some or all of our exploration activities, with the result that our depleted reserves are not replaced. A substantial reduction in hard coking coal price premiums would have a material adverse effect on our business.

Prices for our blended bitumen can be influenced by global and regional factors that are beyond our control and can result in a high degree of volatility. Prices are also affected by, among other things, constraints on rail and pipeline capacity, regional supply and demand imbalances, political developments, decisions by the Organization of the Petroleum Exporting Countries (OPEC) or other governments to impose or not impose quotas, compliance or non-compliance with agreed quotas by OPEC members, and weather.

A prolonged period of low and/or volatile commodity prices, particularly of one or more of our principal products, could have a significant adverse affect on our operations, business and financial condition.

Our general policy has been not to hedge changes in prices of our mineral or energy products. From time to time, however, we have in the past and may in the future undertake hedging programs in specific circumstances, with an intention to reduce the risk of declines in a commodity's market price while optimizing upside participation, to maintain adequate cash flows and profitability to contribute to the long-term viability of our business. There are, however, risks associated with hedging programs including, among other things, the risk of opportunity losses in the event of an increase in the world price of the commodity, an increase in interest rates, the possibility that rising operating costs will make delivery into hedged positions uneconomic, counterparty risks and the impact of production interruption events.

**Product alternatives may reduce demand for our products.**

Most of our products are primarily used in specific applications, such as the use of copper in electrical wiring and electronic applications, the use of refined zinc to galvanize steel, the use of steelmaking coal in steel production and the use of heavy crude oils, such as our blended bitumen, to make refined petroleum products. Alternative technologies are continually being investigated and developed with a view to reducing production costs or for other reasons, such as minimizing environmental or social impact. If competitive technologies emerge that use other materials in place of our products, demand and price for our commodities might fall.

For example, substantially all of our coal production is high-quality hard coking coal, which commands a significant price premium over other forms of coal because of its value in use in

blast furnaces for steel production. High-quality hard coking coal is globally scarce, and has specific physical and chemical properties that are necessary for efficient blast furnace operation. Steel producers are continually investigating alternative steel production technologies with a view to reducing production costs. Many of those alternative technologies are designed to use lower quality coals or other sources of carbon instead of higher cost high-quality hard coking coal. While conventional blast furnace technology has been the most economic large-scale steel production technology for decades, and while emergent technologies typically take many years to commercialize, there can be no assurance that over the longer term competitive technologies not reliant on hard coking coal could emerge, which could reduce demand and price premiums for hard coking coal.

As the world transitions to a lower-carbon economy, there is increasing focus on low-carbon technologies to replace carbon-intensive ones. Changes in carbon regulation or taxation may decrease demand for our blended bitumen product.

**Volatility in commodity markets and financial markets may adversely affect our ability to operate and our financial condition.**

Recent global financial conditions and commodity markets have been volatile. From time to time, access to financing has been negatively affected by many factors, including the financial distress of banks and other credit market participants. This volatility has from time to time affected and may in the future affect our ability to obtain equity or debt financing on acceptable terms, and may make it more difficult to plan our operations and to operate effectively. If volatility or market disruption affects our access to financing on reasonable terms, our operations and financial condition could be adversely affected.

**Failure to secure water rights could have negative effects on our operations and financial condition.**

Water rights are an area of significant and increasing focus for our foreign operations, and community relations are significantly impacted by access and sourcing of water. If water supplies become scarce or are negatively affected by environmental events or factors such as drought, water supplies to our operations might be reduced in order to maintain supply to the local communities in which we operate or for ecological purposes. Any reduction in the availability of water, or other necessary infrastructure supplies, may preclude development of otherwise potentially economic mineral deposits or may negatively affect costs, production and/or sales from our affected operations.

**Our arrangements relating to our relationship with BC Hydro regarding the Waneta hydroelectric plant may require us to incur substantial costs.**

In connection with the sale of our interest in the Waneta hydroelectric plant in 2018, we entered into a 20-year arrangement with BC Hydro, with the ability to renew for an additional 10 years, to use a portion of the energy derived from the Waneta hydroelectric plant for our Trail Operations. Under our arrangement with BC Hydro, Teck Metals is required to provide firm delivery of a portion of the energy from the Waneta hydroelectric plant to BC Hydro until 2036. If Teck Metals does not deliver power as required, it could be required to purchase replacement power in the open market or to pay liquidated damages to BC Hydro based on the market rate for power at the

time of the shortfall. These costs are generally not covered by our insurance policies and we could incur substantial costs, especially if the shortfall is protracted.

In addition, the portion of power that Teck Metals is required to make available to BC Hydro is estimated to be surplus to the current and anticipated future requirements of our Trail Operations. If our entitlement to power from the Waneta hydroelectric plant (taking into account our arrangements with BC Hydro) is not sufficient to supply the requirements of our Trail Operations, we may be required to reduce production at our Trail Operations, or purchase power in the open market, in order to address any shortfall. Following expiry of this lease we may be required to purchase power in the open market to power our Trail Operations, which may require us to incur substantial additional costs to operate our Trail Operations.

**We face risks in connection with our committed downstream arrangements in connection with Fort Hills.**

Under the arrangements governing Fort Hills, we are obliged to lift our *pro rata* share of project production, and to supply the diluent required in order to create a bitumen blend that meets pipeline specifications. In order to meet our lifting obligations and to ensure that our share of project production reaches a market, we are required to enter into commitments to secure tankage and transportation (pipeline, rail) capacity. These commitments involve long-term take-or-pay obligations. There is a risk that there may be delays or interruptions in the availability of appropriate pipeline or rail capacity, that we may be unable to provide the required diluent despite our efforts to secure diluent supply, or that unanticipated events may otherwise interfere with our ability to lift and dispose of our share of Fort Hills production. In any of these events, we may face additional costs or penalties under the Fort Hills arrangements. In addition, interruptions in production at Fort Hills may not relieve us of take-or-pay obligations incurred in connection with our downstream arrangements, causing us to incur significant costs. We may face material losses in any of these situations, which may not be covered by insurance.

**We have indebtedness to service and repay.**

As of December 31, 2018, we and our consolidated subsidiaries had total indebtedness of \$5.5 billion. We must generate sufficient amounts of cash to service and repay our debt, and our ability to generate cash will be affected by general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control.

**Our material financing agreements contain financial and other covenants that may impose restrictions on our business and, if breached by us, may require us to redeem, repay, repurchase or refinance our existing debt obligations prior to their scheduled maturity.**

We are party to a number of financing agreements, including our credit facilities and the indentures governing our various public indebtedness, which contain financial and other covenants, including restrictive covenants. If we breach covenants contained in our financing agreements, we may be required to redeem, repay, repurchase or refinance our existing debt obligations prior to their scheduled maturity, and our ability to do so may be restricted or limited by the prevailing conditions in the capital markets, available liquidity and other factors. If we are unable to refinance any of our debt obligations in such circumstances, our ability to make capital expenditures and our financial condition and cash flows could be adversely impacted. In addition,

our ability to borrow under our credit facilities is subject to our compliance with certain covenants, and the making of certain representations and warranties at the time of a borrowing request. See “*Credit Facilities and Debt Securities*” for further information regarding, and a further discussion of the covenants in, our financing arrangements.

In addition, from time to time, new accounting rules, pronouncements and interpretations are enacted or promulgated that may require us, depending on the nature of those new accounting rules, pronouncements and interpretations, to reclassify or restate certain elements of our financing agreements and other debt instruments, which may in turn cause us to be in breach of the financial or other covenants contained in our financing agreements and other debt instruments.

**We may not have access to credit in the future, and access to letters of credit may require the deposit of cash collateral.**

If future debt financing is not available to us when required or is not available on acceptable terms, we may be unable to grow our business, finance our projects, take advantage of business opportunities, respond to competitive pressure or refinance maturing debt, any of which could have a material adverse effect on our operating results and financial condition.

We have significant financial support in the form of outstanding letters of credit issued by banks, which reduces the amount of other credit, including loans, that issuing banks may be willing to extend to us by way of debt financing. We also have a significant amount of surety bonds issued by insurance companies. These letters of credit and surety bonds are required for a number of purposes, mainly as security for reclamation obligations and security for our take-or-pay commitments in respect of our Fort Hills downstream arrangements and Quebrada Blanca Phase 2 power arrangements. The surety bonds and credit facilities that support our letters of credit do not currently require us to deliver cash collateral or other security, although we may elect to do so from time to time to reduce borrowing costs. If letters of credit, surety bonds or other acceptable financial assurance are not available to us on an unsecured basis, we may be required to deliver cash collateral to a financial institution that will issue the financial assurance, which would reduce our cash available for use in our business.

In addition, certain of our letters of credit are issued under uncommitted standby facilities. Our standby letter of credit facilities may be terminated at the election of the bank counterparty upon at least 90 days’ notice. In the event that a standby letter of credit facility is terminated, we would be required to deliver cash collateral to the bank counterparty if we were unable to terminate the letter of credit issued by the bank. Providers of our surety bonds also have the right to require the delivery of cash collateral upon 60 days’ notice.

Investor or general societal pressures may limit the appetite of certain institutions to lend to, or hold debt securities of, issuers, such as Teck, in carbon-intensive industries or industries with a track record of social and environmental controversy, despite our efforts to adhere to the best industry practices regarding social and environmental matters.

**We may be adversely affected by interest rate changes.**

Our exposure to changes in interest rates results from investing and borrowing activities undertaken to manage our liquidity and capital requirements. We have incurred indebtedness that bears interest at fixed and floating rates, and we may from time to time enter into interest rate swap agreements to effectively convert some fixed rate exposure to floating rate exposure. There can be no assurance that we will not be materially adversely affected by interest rate changes in the future. In addition, our use of interest rate swaps exposes us to the risk of default by the counterparties to those arrangements. Any default by a counterparty could have a material adverse effect on our business.

**Our business is subject to the Canadian *Corruption of Foreign Public Officials Act*, the U.S. *Foreign Corrupt Practices Act* and similar worldwide anti-bribery laws, a breach or violation of which could lead to civil and criminal fines and penalties, loss of licences or permits and reputational harm.**

We operate in certain jurisdictions that have experienced governmental and private sector corruption to some degree, and, in certain circumstances, strict compliance with anti-bribery laws may conflict with certain local customs and practices. For example, the Canadian *Corruption of Foreign Public Officials Act*, the U.S. *Foreign Corrupt Practices Act*, and anti-corruption and anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments for the purpose of obtaining or retaining business or other commercial advantage. In recent years, there has been a general increase in both the frequency of enforcement and the severity of penalties under such laws, resulting in greater scrutiny of and punishment to companies convicted of violating anti-corruption and anti-bribery laws. Furthermore, a company may be found liable for violations by not only its employees, but also by its contractors and third-party agents.

Our Code of Ethics, our Anti-Corruption Policy and other corporate policies mandate compliance with these anti-corruption and anti-bribery laws, and we have implemented training programs, internal monitoring and controls, and reviews and audits to ensure compliance with such laws. However, there can be no assurance that our internal control policies and procedures will always protect us from recklessness, fraudulent behaviour, dishonesty or other inappropriate acts committed by our affiliates, employees, contractors or agents. Violations of these laws, or allegations of such violations, could lead to civil and criminal fines and penalties, litigation, loss of operating licences or permits, or withdrawal of mining tenements, and may damage our reputation, which could have a material adverse effect on our business, financial position and results of operations, or cause the market value of our shares to decline. We may face disruption in our permitting, exploration or other activities resulting from our refusal to make “facilitation payments” in certain jurisdictions where such payments are otherwise prevalent.

**Our insurance may not provide adequate coverage.**

We maintain large self-insured retentions and insure against most risks up to reasonably high limits through capture insurance companies. Our property, business interruption and liability insurance may not provide sufficient coverage for losses related to certain hazards, and large losses within our captive insurers could have an effect on our consolidated financial position. Insurance against certain risks, including certain liabilities for environmental pollution, may not be

available to us or to other companies within the industry. In addition, our insurance coverage may not continue to be available at economically feasible premiums, or at all. Any such event could have a material adverse effect on our business.

**We could be subject to potential labour unrest or other labour disturbances as a result of the failure of negotiations in respect of our collective agreements.**

Approximately 5,800 of our approximately 10,000 regular employees (as of December 31, 2018) are employed under collective bargaining agreements. We could be subject to labour unrest or other labour disturbances as a result of delays in or the failure of negotiations in respect of our collective agreements, which could, while ongoing, have a material adverse effect on our business. See “*Description of the Business — Human Resources*” for a description of our regular employee category and the expiry dates of the collective bargaining agreements covering unionized employees at our material projects.

**We may not be able to hire enough skilled employees to support our operations.**

We compete with other mining companies to attract and retain key executives and skilled and experienced employees. The mining industry is labour intensive and our success depends to a significant extent on our ability to attract, hire, train and retain qualified employees, including our ability to attract employees with needed skills in the geographic areas in which we operate. We face competition for limited candidates in many trades and professions, and may see current employees leave to pursue other opportunities. We could experience increases in our recruiting and training costs, and decreases in our operating efficiency, productivity and profit margins if we are not able to attract, hire and retain a sufficient number of skilled employees to support our operations.

**Our pension and other post-retirement liabilities and the assets available to fund them could change materially.**

We have substantial assets in defined benefit pension plans which arise through employer contributions and returns on investments made by the plans. The returns on investments are subject to fluctuations depending upon market conditions and we are responsible for funding any shortfall of pension assets compared to our pension obligations under these plans.

We also have certain obligations to current and former employees with respect to post-retirement benefits. The cost of providing these benefits can fluctuate and the fluctuations can be material.

Our liabilities under defined benefit pension plans and in respect of other post-retirement benefits are estimated based on actuarial and other assumptions. These assumptions may prove to be incorrect and may change over time, and the effect of these changes can be material.

**A number of our concentrate products include varying amounts of minor elements that are subject to increasing environment regulation, which may expose us to higher smelter treatment charges, penalties or limit our ability to sell certain products.**

Our customer smelters are subject to increasingly stringent environmental regulation, in particular with respect to minor elements such as mercury, cadmium and thallium, which could adversely affect their ability to treat copper, zinc and lead concentrates from certain of our operations. We rely on customer smelters to process our concentrates into metals for sale. We may be required to pay higher smelter treatment charges or specific penalties relating to minor elements present in our concentrates, we may incur additional costs to blend certain products, or we may not be able to sell certain products at all in certain jurisdictions, depending on the regulatory environment.

**The profitability of our Trail Operations depends in part on our ability to sell various products that may face more stringent environmental regulation.**

In addition to zinc and lead, Trail Operations produces various minor metals and other compounds, which are sold into specialized markets. Changes in market demand for these products, or changes in export regulations or other regulatory restrictions, may limit our ability to sell these products. If we are unable to sell certain products at a profit, we may incur significant storage and disposal costs, or costs to change our production facilities or processes.

**Fluctuations in the price and availability of consumed commodities affect our costs of production.**

Prices and availability of commodities consumed or used in connection with exploration, development, mining, smelting, refining and blending, such as natural gas, diesel, oil, diluent and electricity, as well as reagents such as copper sulphate, fluctuate and these fluctuations affect the costs of production at our various operations. Our smelting and refining operations at Trail require concentrates, some of which are produced at our Red Dog and Pend Oreille mines and some of which we purchase from third parties. The availability of those concentrates and the treatment charges we can negotiate fluctuate depending on market conditions. These fluctuations can be unpredictable, can occur over short periods, and may have a material adverse impact on our operating costs or on the timing and costs of various projects. Our general policy is not to hedge our exposure to changes in prices of the commodities we use in our business.

**We face competition in product markets.**

The mining industry in general is intensely competitive and even if commercial quantities of mineral resources are developed, a profitable market may not exist for the sale of the minerals. We must sell base metals, metal concentrates, by-product metals and concentrate, blended bitumen and steelmaking coal at prices determined by world markets over which we have no influence or control. Our competitive position is determined by our costs in comparison to those of other producers in the world. If our costs increase due to our locations, grade and nature of orebodies, foreign exchange rates, government policy changes or our operating and management skills, our profitability may be affected. We have to compete with larger companies that have greater assets and financial and human resources than us and which may be able to sustain larger losses than us.

**We may face market access restrictions or tariffs.**

Access to our markets may be subject to ongoing interruptions or trade barriers due to policies and tariffs of individual countries, and the actions of certain interest groups to restrict the import of certain commodities. Our products may also be subject to tariffs that do not apply to producers based in other countries. In 2018, the Chinese government imposed tariffs on our zinc and lead concentrates produced in the U.S. While these tariffs did not materially affect our business or our access to Chinese markets in 2018, there is no assurance that they will not do so in the future or that those tariffs will not increase in the future. Other than the foregoing, there are currently no significant trade barriers existing or impending of which we are aware that do, or could, materially affect our access to certain markets; however, there can be no assurance that our access to these markets will not be restricted in the future, or that tariffs or similar measures will not impair the competitiveness of our products.

**Our reserve and resource estimates may prove to be incorrect.**

Disclosed reserve and mine life estimates should not be interpreted as assurances of mine life or of the profitability of current or future operations. We estimate and report our mineral and oil and gas reserves and resources in accordance with the requirements of the applicable Canadian securities regulatory authorities and industry practice.

We disclose both mineral reserves and mineral resources. Mineral resources are concentrations or occurrences of minerals that are judged to have reasonable prospects for economic extraction, but for which the economics of extraction cannot be assessed, whether because of insufficiency of geological information or lack of feasibility analysis, or for which economic extraction cannot be justified at the time of reporting. Consequently, mineral resources are of a higher risk and are less likely to be accurately estimated or recovered than mineral reserves.

In general, our mineral reserves and resources are estimated by persons who are, or were at the time of their report, employees of the respective operating company for each of our operations under the supervision of our employees. These individuals are not “independent” for purposes of applicable securities legislation. Generally, we do not use outside sources to verify mineral reserves or resources, except at the initial feasibility stage.

The mineral and oil and gas reserve and resource figures included or incorporated in this disclosure document by reference are estimates based on the interpretation of limited sampling and subjective judgments regarding the grade, continuity and existence of mineralization, as well as the application of economic assumptions, including assumptions as to operating costs, production costs, mining and processing recoveries, cut-off grades, long-term commodity prices and, in some cases, exchange rates, inflation rates and capital costs. As a result, changes in estimates or inaccuracy of estimates may affect our reserves and resources. The sampling, interpretations or assumptions underlying any reserve or resource estimate may be incorrect, and the impact on reserves or resources may be material.

Should the mineralization and/or configuration of a deposit ultimately turn out to be significantly different from that currently envisaged, or should regulatory standards or enforcement change, then the proposed mining plan may have to be altered in a way that could affect the tonnage and grade of the reserves mined and rates of production and, consequently, could adversely affect

the profitability of the mining operations. In addition, short-term operating factors relating to the reserves, such as the need for orderly development of orebodies or the processing of new or different ores, may cause reserve and resource estimates to be modified or operations to be unprofitable in any particular fiscal period.

There can be no assurance that our projects or operations will be, or will continue to be, economically viable, that the indicated amount of minerals or hydrocarbons will be recovered, or that they will be recovered at the prices assumed for purposes of estimating reserves.

**We face risks associated with the issuance and renewal of environmental permits.**

Numerous governmental permits or approvals are required for mining operations. We have significant permitting activities currently underway for new projects and for the extension or expansion of existing operations. In addition, many existing permits require periodic renewals. Examples of current significant permitting efforts include the Quebrada Blanca Phase 2 project, the Frontier oil sands project and steelmaking coal mine operations in the Elk Valley. When we apply for these permits and approvals, we are often required to prepare and present data to various government authorities pertaining to the potential effects or impacts that any proposed project may have on the environment and on communities. The authorization, permitting and implementation requirements imposed by any of these authorities may be costly and time-consuming, and may delay commencement or continuation of mining operations. Regulations also provide that a mining permit or modification can be delayed, refused or revoked. In certain jurisdictions, some parties have extensive rights to appeal the issuance of permits or to otherwise intervene in the regulatory process. Permits may be stayed or withdrawn during the pendency of appeals. Delays associated with permitting may cause us to incur material additional costs in connection with the development of new projects, including penalties or other costs in relation to long-lead equipment orders and other commitments associated with projects. If we are unable to secure permits, we may be unable to extend, expand or continue with existing operations or construct new projects.

Past or ongoing violations of mining or environmental laws could provide a basis to revoke existing permits or to deny the issuance of additional permits. In addition, evolving reclamation or environmental concerns may threaten our ability to renew existing permits or obtain new permits in connection with future development, expansions and operations. Ongoing operation of our steelmaking coal mines in the Elk Valley, British Columbia, continually requires new permits or amendments to existing permits from applicable government agencies. We received approval in 2014 of a plan to manage water quality for the Elk Valley watershed as a whole. The Elk Valley Water Quality Plan is intended to provide a regulatory framework for permitting current and future projects and for managing the cumulative effects of new projects. The plan contemplates ongoing monitoring of the receiving environment, and adjustment of water quality targets if unacceptable environmental impacts are identified. There can be no assurance that the water quality targets set out in our valley-wide water quality management plan will prove to be suitably protective of the environment, that our planned mitigation efforts will be sufficient to meet those targets, or that ongoing monitoring will not disclose unanticipated environmental effects of our operations that will require additional mitigation. For example, we previously announced that we were working to address an issue regarding selenium compounds in effluent from the West Line Creek active water treatment facility, which was constructed as part of our Elk Valley Water Quality Plan, and

we delayed commencement of construction of our next water treatment facility, at the Fording River operation, to incorporate certain related design changes. Notwithstanding the approval of the plan in 2014, during the third quarter of 2018, we received notice from Canadian federal prosecutors of potential charges under the *Fisheries Act* in connection with discharges of selenium and calcite from coal mines in the Elk Valley. See “*Legal Proceedings and Regulatory Actions – Fisheries Act*” for more details. We cannot operate our Elk Valley coal mines in compliance with the *Fisheries Act* and its current associated regulations. Federal regulatory issues may create additional difficulties in obtaining permits for our Elk Valley operations, whether or not charges are eventually laid or we are successful in defending any charges.

Any negative developments referred to above may result in consequential delays in permitting new mining areas, which would limit our ability to maintain or increase steelmaking coal production in accordance with our long-term plans or to realize the projected mine life of our operations. The potential shortfall in production may be material.

**We face risks associated with our reclamation obligations.**

We are required to reclaim properties as mining progresses and after mining is completed and specific requirements vary among jurisdictions. We are required by various governments in the jurisdictions in which we operate to provide financial assurances to cover any reclamation obligations we may have at our mine sites. The amount of these financial assurances is significant and is subject to change from time to time by the governments in the jurisdictions in which we operate, and may exceed our estimates for such costs. The amount and nature of our financial assurance obligations depend on a number of factors, including our financial condition and reclamation cost estimates. Reclamation cost estimates can escalate because of new regulatory requirements, changes in site conditions or conditions in the receiving environment, or changes in analytical methods or scientific understanding of the impacts of various constituents in the environment. Since 2016, the B.C. government has been carrying out a review of its financial assurance requirements for reclamation obligations. While it is not clear what the new requirements will be, we expect they will result in a substantial increase to our financial assurance requirements, for both our ongoing operations and our projects in B.C.

Changes to the form or amount of our financial assurance obligations in respect of reclamation obligations could significantly increase our costs, making the maintenance and development of existing or new mines less economically feasible. Increases in financial assurance requirements could severely impact our credit capacity and our ability to raise capital for other projects or acquisitions. We may be unable to obtain letters of credit or surety bonds to satisfy these requirements, in which case we may be required to deposit cash as financial assurance. If we are unable to satisfy these requirements, we may face loss of permits, fines and other material and negative consequences.

Although we currently make provisions for our reclamation obligations, there can be no assurance that these provisions will be accurate in the future. Failure to provide regulatory authorities with the required financial assurances could potentially result in the closure of one or more of our operations, which could result in a material adverse effect on our operations and therefore our profitability.

**Climate change may have an adverse effect on our operations or on demand for our products.**

Climate change may have an adverse effect on our operations or on demand for our products. Climate change may, among other things, cause or result in sea level increases, changes in precipitation, changes in fresh water levels, increases in extreme weather events, melting permafrost in the Arctic and resource shortages. While our operations are located well above sea level, an increase in sea level could affect our ocean transportation and shipping facilities. Extreme weather events have the potential to disrupt operations at our mines and to impact our transportation infrastructure, including by affecting the length of our shipping season at our Red Dog mine. Climate change may also result in shortages in certain consumables and other products required to sustain our operations, and any such shortage could impact our production capacity. Our Red Dog mine is located in the Arctic and could be materially impacted by melting permafrost.

Climate change may have similar impacts on our customers, reducing demand for our products. In addition, government action to address climate change and societal pressures towards a lower-carbon economy may reduce the demand for our products. Climate change may result in increased regulations for our operations or those of our customers and/or restrict the development of our projects, which may increase costs and/or limit production.

Concerns regarding climate change may lead to further changes in legal and regulatory regimes, and technological development of alternatives to certain of our products, such as steelmaking coal and oil.

Although we make efforts to anticipate potential costs associated with climate change to mitigate the physical risks of climate change, and work with governments to influence regulatory requirements regarding climate change, there can be no assurances that these efforts will be effective or that climate change or associated governmental action will not have an adverse impact on our operations and therefore our profitability.

**Regulatory efforts to control or reduce greenhouse gas emissions or societal pressures in relation to climate change could materially negatively affect our business.**

Our businesses include several operations that emit large quantities of carbon dioxide, or that produce or may produce products that emit large quantities of carbon dioxide when consumed by end users. This is particularly the case with our steelmaking coal operations and our oil sands operation and projects. Carbon dioxide and other greenhouse gases are the subject of increasing public concern and regulatory scrutiny. See *“Health and Safety and Environmental Protection — Climate Change and Carbon Pricing”*.

The primary source of greenhouse gas emissions in Canada is the use of hydrocarbon energy. Our operations depend significantly on hydrocarbon energy sources to conduct daily operations, and there are typically no economic substitutes for these forms of energy. While carbon tax legislation has been adopted in several jurisdictions where we operate, it is not yet possible to reasonably estimate the nature, extent, timing and cost of any additional taxes or other programs that may be enacted.

Most of our steelmaking coal products are sold outside of Canada, and sales are not expected to be significantly affected by the greenhouse gas emissions targets Canada committed to under the Paris Agreement or the resulting provincial and federal carbon tax legislation. However, the broad adoption of emission limitations or other regulatory efforts to control or reduce greenhouse gas emissions by other countries could materially negatively affect the demand for steelmaking coal and oil, as well as restrict development of new steelmaking coal or oil sands projects and increase production and transportation costs.

Investor concerns regarding environmental matters may adversely affect our ability to access capital markets, and similar concerns may reduce the appetite of lenders and insurers to lend to us or to provide insurance for our assets and operations.

**We may be adversely affected by currency fluctuations.**

Our operating results and cash flow are affected by changes in the Canadian dollar exchange rate relative to the currencies of other countries. Exchange rate movements can have a significant impact on results, as a significant portion of our operating costs are incurred in Canadian and other currencies, most revenues are earned in U.S. dollars, and a significant portion of the capital costs for our QB2 project will be incurred in Chilean pesos. To reduce the exposure to currency fluctuations, we enter into foreign exchange contracts from time to time, but these hedges do not eliminate the potential that those fluctuations may have an adverse effect on us. In addition, foreign exchange contracts expose us to the risk of default by the counterparties to those contracts, which could have a material adverse effect on our business. In addition, our operating costs are influenced by the strength of the currencies of those countries where our operations are located, such as Chile, Peru and the United States.

**The depletion of our mineral reserves may not be offset by future discoveries or acquisitions of mineral reserves.**

We must continually replace mineral reserves depleted by production to maintain production levels over the long term. This is done by expanding known mineral reserves or by locating or acquiring new mineral deposits.

There is, however, a risk that depletion of reserves will not be offset by future discoveries of mineral reserves. Exploration for minerals and oil and gas is highly speculative and the projects involve many risks. Many projects are unsuccessful and there are no assurances that current or future exploration programs will be successful. Further, significant costs are incurred to establish mineral or oil and gas reserves and to construct mining and processing facilities. Development projects have no operating history upon which to base estimates of future cash flow and are subject to the successful completion of feasibility studies, obtaining necessary government permits, obtaining title or other land rights, and availability of financing. In addition, assuming discovery of an economic orebody, depending on the type of mining operation involved many years may elapse from the initial phases of drilling until commercial operations are commenced. Accordingly, there can be no assurances that our current work programs will result in any new commercial mining operations or yield new reserves to replace and/or expand current reserves in a timely manner.

**Failure to comply with environmental, health and safety laws may have a material adverse effect on our operations and projects.**

Environmental, health and safety legislation affects nearly all aspects of our operations, including mine development, worker health and safety, waste disposal, emissions controls, and protection of endangered and protected species. Compliance with environmental, health and safety legislation can require significant expenditures and can restrict the manner in which mining operations can be conducted.

In addition, failure to comply with environmental, health or safety legislation may result in the imposition of significant fines and/or penalties, the temporary or permanent suspension of operations or other regulatory sanctions including cleanup costs arising out of contaminated properties, damages, the loss of important permits, or civil suits or criminal charges. Exposure to these liabilities arises not only from our existing operations, but also from operations that have been closed or sold to third parties. Some of our historical operations have generated significant environmental contamination and other issues in the context of current regulation. We could also be held liable for worker exposure to hazardous substances. There can be no assurance that we will at all times be in compliance with all environmental, health and safety regulations or that steps to achieve compliance would not materially adversely affect our business.

**Changes in environmental, health and safety laws may have a material adverse effect on our operations and projects.**

In February 2018, the Government of Canada proposed new regulations under the *Fisheries Act* relating to coal mining effluent. While these regulations are still in development, they could impose significant costs and operating limitations on our steelmaking coal operations. In the absence of these new regulations, our coal mining activities cannot be conducted in compliance with the *Fisheries Act* and we may face significant liability as a result. There can be no assurance that the new regulations will completely remedy this situation. Also in 2018, the Government of Canada proposed sweeping changes to the federal government's current environmental assessment and regulatory processes for resource development projects. While this legislation is still in development and has not been approved, any new legislation may affect our ability to obtain or renew permits for our Canadian operations and projects in an efficient and cost-effective manner or at all. In addition, on November 2018, the British Columbia government introduced a bill to reform British Columbia's environmental assessment process for resource projects which, if passed may affect our ability to obtain or renew necessary permits for our operations and projects in British Columbia in an efficient and cost-effective manner or at all.

Environmental, health and safety laws and regulations are evolving in all jurisdictions where we have activities. We are not able to determine the specific impact that future changes in environmental laws and regulations may have on our operations and activities, and our resulting financial position; however, we anticipate that capital expenditures and operating expenses will increase in the future as a result of the implementation of new and increasingly stringent environmental, health and safety regulations. For example, emissions standards for carbon dioxide and sulphur dioxide are becoming increasingly stringent, as are laws relating to the use and production of regulated chemical substances. Further changes in environmental, health and safety laws, new information on existing environmental, health and safety conditions or other events, including legal proceedings based upon such conditions, or an inability to obtain

necessary permits, could require increased financial reserves or compliance expenditures, or otherwise have a material adverse effect on us. Changes in environmental, health and safety legislation could also have a material adverse effect on product demand, product quality and methods of production and distribution. In the event that any of our products were demonstrated to have negative health effects, we could be exposed to workers' compensation and product liability claims, which could have a material adverse effect on our business.

**Our operations depend on information technology systems, which may be disrupted.**

We rely on information technology systems and networks in our operations. We could be materially and adversely affected in the event that our information technology systems or networks are compromised. This information technology infrastructure may be subject to security breaches or other cybersecurity incidents, or may be compromised by natural disasters or defects in software or hardware systems. Potential consequences of our information technology systems being compromised include material and adverse impacts on our financial condition, operations, production, sales, and reputation, including environmental and physical damage to our operations or surrounding areas.

**We are highly dependent on third parties for the provision of transportation services.**

Due to the geographical location of many of our mining properties and operations, we are highly dependent on third parties for the provision of transportation services, including rail, pipeline and port services. We negotiate prices for the provision of these services in circumstances where we may not have viable alternatives to using specific providers, or have access to regulated rate setting mechanisms. Contractual disputes, demurrage charges, rail, pipeline and port capacity issues, availability of vessels and railcars, weather problems or other factors can have a material adverse effect on our ability to transport materials according to schedules and contractual commitments, and result in lower than anticipated sales volumes and revenue. Recently we have experienced a loss of revenue and an increase in cost of coal product due, in part, to logistics issues with our transportation service providers. In 2018, we experienced significant challenges with pipeline capacity for our energy products resulting in low realized prices for our blended bitumen. In December 2018, the Government of Alberta announced temporary curtailment measures that affect our production at Fort Hills. There can be no assurances that pipeline capacity challenges or production curtailment will not continue or increase in the future, each of which may materially affect our energy operations and revenue.

**Our Red Dog operation is subject to a limited annual shipping window, which increases the consequences of restrictions on our ability to ship concentrate from the operation.**

Like our other mines, our Red Dog mine operates year-round on a 24-hour-per-day basis. Due to sea ice and weather conditions, the annual production of the mine must be stored at the port site and shipped within an approximate 100-day window when sea ice and weather conditions permit. Two purpose-designed shallow draft barges transport the concentrates to deep-water moorings. The barges cannot operate in severe swell conditions.

Unusual ice or weather conditions, or damage to the barges or ship loading equipment could restrict our ability to ship all of the stored concentrate. Failure to ship the concentrate during the

shipping season could have a material adverse effect on our sales, as well as on our Trail Operations, and could materially restrict mine production subsequent to the shipping season.

**Indigenous Peoples' title claims and rights to consultation and accommodation may affect our existing operations worldwide as well as development projects and future acquisitions.**

Governments in many jurisdictions must consult with Indigenous Peoples with respect to grants of mineral rights and the issuance or amendment of project authorizations. Consultation and other rights of Indigenous Peoples may require accommodations, including undertakings regarding financial compensation, employment, and other matters in impact and benefit agreements. This may affect our ability to acquire within a reasonable time frame effective mineral titles or environmental permits in these jurisdictions, including in some parts of Canada in which Aboriginal title is claimed, and may affect the timetable and costs of development of mineral properties in these jurisdictions. The risk of unforeseen Aboriginal title claims or grievances also could affect existing operations as well as development projects and future acquisitions. These legal requirements and the risk of Aboriginal opposition may increase our operating costs and affect our ability to expand or transfer existing operations or to develop new projects.

**We are subject to changes in law or policy in relation to taxes, fees and royalties**

We are subject to taxes (including income taxes and mineral taxes), various fees and royalties imposed by various levels of government across the jurisdictions in which we operate. The laws imposing these taxes, fees and royalties and the manner in which they are administered may in the future be changed or interpreted in a manner that materially and adversely affects our business, financial position and results of operations.

**We operate in foreign jurisdictions and face added risks and uncertainties due to different economic, cultural and political environments.**

Our business operates in a number of foreign countries where there are added risks and uncertainties due to the different economic, cultural and political environments. Some of these risks include nationalization and expropriation, social unrest and political instability, uncertainties in perfecting mineral titles, trade barriers and exchange controls and material changes in taxation. Further, developing country status or an unfavourable political climate may make it difficult for us to obtain financing for projects in some countries.

**We face risks associated with our development projects.**

We are involved in a number of development projects. Our major projects include our Quebrada Blanca Phase 2, Frontier, NuevaUnión, San Nicolás, Mesaba, Zafranal and Galore Creek projects. We also have a number of other projects in our development portfolio.

Development and exploitation of the hypogene resource at Quebrada Blanca Phase 2 will require considerable capital expenditures and various environmental and other permits and governmental authorizations. NuevaUnión, San Nicolás, Zafranal and our Frontier project are all in early stages of development.

Construction and development of these projects are subject to numerous risks, including, without limitation:

- risks resulting from the fact that the projects are at various early stages of development and therefore are subject to development and construction risks, including the risk of significant cost overruns and delays in construction, and technical and other problems;
- risks associated with delays in obtaining, or conditions imposed by, regulatory approvals;
- risks associated with obtaining amendments to existing regulatory approvals or permits, and additional regulatory approvals or permits that will be required;
- risks of other adverse regulatory developments, including the imposition of new regulations;
- risks of significant fluctuation in prevailing prices for copper and other metals, oil, other petroleum products and natural gas, which may affect the profitability of the projects;
- risks associated with the fact that our company and Goldcorp Inc. are 50% partners in NuevaUnión and major project decisions require the agreement of both parties;
- risks associated with the fact that our company and Newmont Mining Corporation are 50% partners in the Galore Creek project and major project decisions require the agreement of both parties;
- risks associated with the closing of the acquisition of a 30% interest in QBSA by Sumitomo Metal Mining Co. Ltd. and Sumitomo Corporation;
- risks associated with fact that our company and Sumitomo Metal Mining Co. Ltd. Sumitomo Corporation and the Chilean government entity, ENAMI are or will be partners in the Quebrada Blanca 2 project and certain decisions will require the agreement of one or more of our partners;
- risks associated with litigation;
- risks resulting from dependence on third parties for services and utilities;
- risk associated with our failure to develop or manage a project in accordance with our planning expectations;
- risks associated with the ability of our partners to finance their respective shares of project expenditures; and
- risks associated with our being in a position to finance our share of project costs, or obtaining financing for these projects on commercially reasonable terms, or at all.

**We face risks associated with our joint venture operations and projects.**

A number of our projects and operations are developed and operated through joint venture or shared ownership arrangements with third parties. These joint arrangements include, among others, Quebrada Blanca Phase 2, Fort Hills, Antamina, NuevaUnión, Zafranal, Galore Creek, Elkview and Greenhills. We face risks from the fact that at certain of our operations, like Fort Hills and Antamina, we are a minority partner and major decisions may be made without our consent, meaning we may not have control over a number of factors including, timing and amount of

capital and operating expenditures, operation and production decisions, risk management and other operational practices.

We also face risks from the fact that at certain other projects, like NuevaUnión and Galore Creek, we hold a 50% interest and many decisions require the consent of our partner, and, even at projects where we hold a majority interest, such as Quebrada Blanca, Zafranal, Elkview and Greenhills, major decisions affecting the project or operations may require agreement with our partners. Dispute resolution provisions with respect to major project decisions in the relevant agreements may result in major project decisions being made without our consent or may trigger other remedies.

The success and timing of these projects depend on a number of factors that may be outside our control including, the financial resources of our partners and the objectives and interests of our partners. While joint venture partners may generally reach consensus regarding the direction and operation of the project, there are no assurances that this will always be the case or that future demands and expectations will continue to align. Failure for joint venture partners to agree on matters requiring consensus may lead to development or operational delays, failure to obtain necessary permits or approvals in an efficient manner or at all, remedies under dispute resolution mechanisms, or the inability to progress with the development of the relevant project in accordance with expectations or at all, which could materially affect the development of such projects and our business and financial condition.

**Although we believe our financial statements are prepared with reasonable safeguards to ensure reliability, we cannot provide absolute assurance.**

We prepare our financial reports in accordance with accounting policies and methods prescribed by International Financial Reporting Standards. In the preparation of financial reports, management may need to rely upon assumptions, make estimates or use their best judgment in determining the financial condition of the company. Significant accounting policies are described in more detail in the notes to our annual consolidated financial statements for the year ended December 31, 2018. In order to have a reasonable level of assurance that financial transactions are properly authorized, assets are safeguarded against unauthorized or improper use, and transactions are properly recorded and reported, we have implemented and continue to analyze our internal control systems for financial reporting. Although we believe our financial reporting and financial statements are prepared with reasonable safeguards to ensure reliability, we cannot provide absolute assurance in that regard.

**We are subject to legal proceedings, the outcome of which may affect our business.**

The nature of our business subjects us to numerous regulatory investigations, claims, lawsuits and other proceedings in the ordinary course of our business. The results of these legal proceedings cannot be predicted with certainty. There can be no assurances that these matters will not have a material adverse effect on our business. See “*Legal Proceedings and Regulatory Actions*” below.

## Dividends

Our Class A common shares and Class B subordinate voting shares rank equally as to the payment of dividends. Total dividends per share declared and paid in the past three years were:

Year ended December 31	2018	2017	2016
Dividends paid per share	0.30	\$0.60	\$0.10

In 2017, our Board adopted a dividend policy which contemplates the payment of a quarterly base dividend and annual consideration of a supplemental dividend. Each year, the Board reviews the free cash flow generated by the business, the outlook for business conditions and priorities regarding capital allocation, and determine whether a supplemental dividend should be paid. Any supplemental dividends declared are expected to be paid on the last business day of the calendar year. If declared, supplemental dividends may be highly variable from year to year, given the volatility of commodity prices and the potential need to conserve cash for certain project capital expenditures or other corporate policies. In accordance with the policy, the dividends declared and paid in 2018 include an aggregate \$0.20 per share base dividend and \$0.10 per share supplemental dividend. The payment of dividends is at the discretion of the Board, who will review the dividend policy regularly.

All dividends paid on our Class A common shares and Class B subordinate voting shares after 2005 are eligible dividends for purposes of the federal and provincial enhanced dividend tax credit that may be claimed by Canadian resident individuals.

We may not pay dividends on the Class A common shares and Class B subordinate voting shares unless all dividends on any preferred shares outstanding have been paid to date. We do not currently have any preferred shares outstanding.

## Description of Capital Structure

### General Description of Capital Structure

#### Share Capital

Teck is authorized to issue an unlimited number of Class A common shares and Class B subordinate voting shares and an unlimited number of preference shares, issuable in series.

Class A common shares carry the right to 100 votes per share. Class B subordinate voting shares carry the right to one vote per share. Each Class A common share is convertible, at the option of the holder, into one Class B subordinate voting share. In all other respects, including dividend rights and the distribution of property upon dissolution or winding-up of the Company, the Class A common shares and Class B subordinate voting shares rank equally.

The attributes of the Class B subordinate voting shares contain so called “coattail” provisions, which provide that, in the event that an offer (an Exclusionary Offer) to purchase Class A common shares, which is required to be made to all or substantially all holders thereof, is not made concurrently with an offer to purchase Class B subordinate voting shares on identical

terms, then each Class B subordinate voting share will be convertible into one Class A common share at the option of the holder during a certain period, provided that any Class A common shares received upon such conversion are deposited to the Exclusionary Offer. Any Class B subordinate voting shares converted into Class A common shares pursuant to such conversion right will automatically convert back to Class B subordinate voting shares in the event that any such shares are withdrawn from the Exclusionary Offer or are not otherwise ultimately taken up and paid for under the Exclusionary Offer.

The Class B subordinate voting shares will not be convertible in the event that holders of a majority of the Class A common shares (excluding those shares held by the offeror making the Exclusionary Offer) certify to Teck that they will not, among other things, tender their Class A common shares to the Exclusionary Offer.

If an offer to purchase Class A common shares does not, under applicable securities legislation or the requirements of any stock exchange having jurisdiction, constitute a “takeover bid” or is otherwise exempt from any requirement that such offer be made to all or substantially all holders of Class A common shares, the coattail provisions will not apply.

The above is a summary only. Reference should be made to the articles of Teck, a copy of which may be obtained on SEDAR at [www.sedar.com](http://www.sedar.com) or by writing to the Corporate Secretary.

#### **Securities subject to contractual restriction on transfer**

On July 15, 2009, Teck issued 101.3 million Class B subordinate voting shares to Fullbloom Investment Corporation (Fullbloom), a wholly owned subsidiary of China Investment Corporation (CIC). Each of Fullbloom and CIC have agreed that neither of them will, without the prior written consent of Teck, knowingly dispose or agree to dispose (directly or indirectly) of all or a significant portion of their Class B shares to any person that at the time of the disposition is (i) either itself, or through its affiliates, a direct participant in the mining, metals or minerals industries with respect to a substantial portion of the business of itself and its affiliates taken together, (ii) a material customer of Teck, or (iii) a person who, based on Fullbloom and CIC’s actual knowledge without inquiry, is not dealing at arm’s-length with any of the persons referred to in (i) or (ii) in connection with securities of Teck, in each case anywhere in the world. These transfer restrictions are subject to certain exceptions.

In September 2017, Fullbloom sold 42 million of its Class B subordinate voting shares. As a result, 59.3 million shares remain subject to the restrictions described above, representing 10.5% of Teck’s outstanding Class B subordinate voting shares as of February 25, 2019.

## **Credit Facilities and Debt Securities**

### **Credit Facilities**

We maintain various committed and uncommitted credit facilities for liquidity and for the issuance of letters of credit. As at December 31, 2018, we or our subsidiaries were party to various credit agreements establishing the following credit facilities (collectively, the credit facilities):

- A US\$4 billion revolving credit facility provided by a syndicate of lenders, which matures on November 23, 2023 and which, as at December 31, 2018, was undrawn

- A US\$600 million revolving credit facility provided by a syndicate of lenders, which matures on November 23, 2021. As at December 31, 2018, US\$573 million of letters of credit were outstanding.
- A \$200 million uncommitted standby letter of credit facility with Bank of Montreal. As at December 31, 2018, \$147 million of letters of credit under the facility were outstanding.
- A \$150 million uncommitted credit facility with Royal Bank of Canada. As at December 31, 2018, \$101 million of letters of credit under the facility were outstanding.
- A \$100 million uncommitted standby letter of credit facility with Canadian Imperial Bank of Commerce. As at December 31, 2018, \$60 million of letters of credit under the facility were outstanding.
- A \$50 million uncommitted standby letter of credit facility with the Toronto-Dominion Bank. As at December 31, 2018, \$38 million of letters of credit under the facility were outstanding.
- A \$125 million uncommitted standby letter of credit facility with BNP Paribas. As at December 31, 2018, \$97 million of letters of credit under the facility were outstanding.
- A \$125 million uncommitted standby letter of credit facility with United Overseas Bank. As at December 31, 2018, \$115 million of letters of credit under the facility were outstanding.
- A \$100 million uncommitted standby letter of credit facility with National Bank of Canada. As at December 31, 2018, \$75 million of letters of credit under the facility were outstanding.
- A \$75 million uncommitted standby letter of credit facility with Sumitomo Mitsui Banking Corporation. As at December 31, 2018, \$46 million of letters of credit under the facility were outstanding.
- A \$50 million uncommitted standby letter of credit facility with MUFG Bank Ltd. As at December 31, 2018, \$39 million of letters of credit under the facility were outstanding.
- A US\$75 million uncommitted standby letter of credit facility with Banco del Estado de Chile. As at December 31, 2018, US\$75 million of letters of credit under the facility were outstanding.
- A US\$75 million uncommitted standby letter of credit facility with Banco de Credito E Inversiones. As at December 31, 2018, US\$75 million of letters of credit under the facility were outstanding.
- A US\$450 million Performance Security Guarantee Issuance and Indemnity Agreement with Export Development Canada (EDC), regarding our Red Dog mine. As at December 31, 2018, US\$419 million of letters of credit, issued by third-party banks but secured by EDC under this arrangement, were outstanding.
- A \$150 million Performance Security Guarantee Issuance and Indemnity Agreement with EDC, regarding our coal operations. As at December 31, 2018, \$125 million of letters of credit, issued by third-party banks but secured by EDC under this arrangement, were outstanding.

- A US\$150 million credit facility with Goldman Sachs Mortgage Company. As at December 31, 2018, US\$150 million of letters of credit were outstanding.

In addition to the letters of credit outstanding under the facilities listed above, we also had, as at December 31, 2018, \$369 million of stand-alone letters of credit and \$350 million of surety bonds outstanding. The stand-alone letters of credit are issued by financial institutions on an as-negotiated basis mainly to support our reclamation obligations. While a variety of banks issue these stand-alone letters of credit, approximately \$311 million were issued by the Bank of Nova Scotia. The surety bonds are provided by insurance companies and support our reclamation obligations.

Our uncommitted standby letter of credit facilities may be terminated at the election of the bank counterparty upon at least 90 days' notice. In the event that a standby letter of credit facility is terminated, we would be required to deliver cash collateral to the bank counterparty if we were unable to terminate the letter of credit issued by the bank. These facilities are typically renewed on an annual basis. From time to time, at our election, we may reduce the fees paid to banks issuing letters of credit by making short-term deposits of excess cash with those banks. The deposits earn a competitive rate of interest and are generally refundable on demand. At December 31, 2018, we had US\$811 million of such deposits. Our surety bonds provide the insurance issuer with the right, on 60 days' notice, in certain circumstances, to require Teck to obtain the return of a surety bond or to deliver cash collateral if we are unable to return the bond.

The owner of the Antamina project, CMA, is party to a credit facility. We hold a 22.5% interest in CMA. As at December 31, 2018, our proportionate share of CMA's US\$100 million senior revolving credit facility was US\$22.5 million. This facility is fully drawn and is non-recourse to us and the other Antamina project sponsors. The facility matures on April 30, 2020.

Both of our US\$4.0 billion and US\$600 million revolving credit facilities contain restrictive and financial covenants, including:

- a requirement to maintain a net debt to total capitalization (net debt over debt-plus-equity) ratio of not more than 0.55:1.0. As of December 31, 2018, our ratio of net debt to total capitalization for purposes of our credit facilities was 0.13:1.0;
- a restriction on certain of our subsidiaries incurring indebtedness of more than an aggregate of US\$675 million unless the relevant subsidiary guarantees the credit facility;
- a provision requiring prepayment in the event of a change of control at Teck; and
- a prohibition on agreements that might restrict certain subsidiaries from issuing dividends or other distributions to, or making or repayment of loans to, Teck.

In November 2018, the subsidiary guarantees of our revolving and bilateral credit facilities were terminated.

Our revolving credit facilities include customary events of default, which include non-payment of principal, interest, fees or other amounts owing in connection with such credit facilities, inaccuracy of representations and warranties, violation of covenants (subject, in the case of certain affirmative covenants, to a grace period), a payment default by Teck or any material subsidiary (as defined in the applicable credit facility) in respect of indebtedness equal to or in

excess of US\$100 million, acceleration of indebtedness equal to or in excess of US\$100 million, bankruptcy or insolvency events of Teck or a material subsidiary, the rendering of a final judgment against Teck or any material subsidiary or a combination thereof in excess of US\$100 million, the rendering of a final judgment not involving the payment of money against Teck or any material subsidiary that could reasonably be expected to result in a material adverse effect (as defined in the applicable credit facility) and certain events under the United States *Employee Retirement Income Security Act of 1974*.

Borrowing under our primary committed credit facilities is subject to our compliance with the covenants in the relevant agreement and our ability to make certain representations and warranties at the time of the borrowing request.

Our reclamation obligations are included in the “Other Liabilities and Provisions” line item on our balance sheet. Associated letters of credit and surety bonds would not become a liability unless the letter of credit or surety bond is drawn by the beneficiary, which drawing would be triggered if we did not perform our obligations under the relevant contract or permit. In the event of a drawing, we would be required to reimburse the issuing bank or surety bond provider for the amount drawn on the letter of credit or surety bond, respectively. Issued letters of credit and outstanding surety bonds do not constitute debt for the purpose of the net debt-to-debt plus equity covenant in our bank credit agreements or limitations on indebtedness under our 2016 indenture (as defined below).

There are no restrictions on borrowing, or additional covenants, triggered under our credit facilities as a result of ratings downgrades, although the pricing under certain of our credit facilities varies with ratings. Teck’s indebtedness outstanding under each of the credit facilities ranks *pari passu* in right of payment with the indebtedness under each of the other credit facilities and with all of Teck’s other indebtedness for borrowed money, except that which is secured by liens permitted by the credit facilities and indentures.

## Public Indebtedness

As of December 31, 2018, our public indebtedness consisted of nine series of outstanding notes.

We have issued notes under an indenture dated September 12, 2002, an indenture dated August 17, 2010 (as supplemented from time to time in connection with an offering of notes) and an indenture dated June 7, 2016. The Bank of New York Mellon acts as trustee under each indenture. All of our notes are issued under the 2010 indenture, except for our (a) 6.125% notes due October 1, 2035, which were issued under the 2002 indenture, and (b) 8.500% notes due 2024, which were issued under the 2016 indenture. Our 8.500% notes due 2024 were issued in a private placement and are not registered under the securities laws of any jurisdiction.

The details of the outstanding principal amount, coupon and issuance date of each issuance of our outstanding series of notes as of December 31, 2018 follows:

- US\$116.896 million of 4.500% notes due 2021 issued on September 8, 2010;
- US\$201.856 million of 4.750% notes due 2022 issued on July 5, 2011;
- US\$219.943 million of 3.750% notes due 2023 issued on August 8, 2012;

- US\$600 million of 8.500% notes due 2024 issued on June 7, 2016 (callable on or after June 1, 2019);
- US\$609.355 million of 6.125% notes due 2035 issued on September 28, 2005;
- US\$490.670 million of 6.000% notes due 2040 issued on August 17, 2010 and September 8, 2010;
- US\$794.717 million of 6.250% notes due 2041 issued on July 5, 2011;
- US\$399.043 million of 5.200% notes due 2042 issued on February 28, 2012; and
- US\$376.908 million of 5.400% notes due 2043 issued on August 8, 2012.

In February 2018, our 2.500% notes due 2018 were retired at their maturity.

The indentures contain covenants requiring us to offer to purchase the notes in the event of a change in control (as defined in the indentures), and restrictive covenants regarding liens on certain assets of Teck and certain restricted subsidiaries (as defined in the indentures). The indentures also provide for customary events of default, which include non-payment of principal or interest, failure to comply with covenants, the bankruptcy or insolvency of Teck or a material subsidiary, final judgments against Teck or a material subsidiary in excess of US\$100 million, failure to pay other indebtedness in excess of US\$100 million, or an acceleration of other indebtedness in excess of US\$100 million.

In December 2018, subsidiary guarantees of the 8.500% notes due 2024 were terminated. None of our public indebtedness is currently supported with a subsidiary guarantee.

The above is a summary of the terms of our public notes and is qualified in its entirety by reference to the indentures under which the notes were issued. A copy of the indentures can be found under Teck's profile on SEDAR at [www.sedar.com](http://www.sedar.com).

## Ratings

The following table sets forth the current ratings that we have received from rating agencies in respect of our outstanding securities. The cost of funds under our credit facilities depend in part on our credit ratings from time to time. In addition, credit ratings affect our ability to obtain other short-term and long-term financing and the cost of such financing. The drawn and undrawn costs under some of our credit facilities are based upon our credit ratings, and could increase, or decrease, if Teck's credit ratings are downgraded, or upgraded, respectively.

Credit ratings are not recommendations to purchase, hold or sell securities and do not address the market price or suitability of a specific security for a particular investor. Credit ratings may not reflect the potential impact of all risks on the value of securities and may be revised or withdrawn at any time by the credit rating organization. In addition, real or anticipated changes in the ratings assigned to a security will generally affect the market value of that security. We cannot guarantee that a rating will remain in effect for any given period of time or that a rating will not be revised or withdrawn entirely by a rating agency in the future.

Our current credit ratings are as follows:

	Moody's	Standard & Poor's	Fitch
Senior Unsecured Notes <sup>(1)</sup>	Baa3	BB+	BBB-

<sup>(1)</sup> Our senior unsecured notes are issued under the 2002 Indenture, the 2010 Indenture, and the 2016 Indenture. The guarantees on the notes issued under our 2016 Indenture were released on December 14, 2018.

A description of the rating categories of each of the rating agencies is set out below.

### Moody's Investor Service (Moody's)

Moody's long-term credit ratings are on a rating scale that ranges from Aaa to C, which represents the range from highest to lowest quality of securities rated. Moody's "Baa" rating assigned to our senior unsecured notes is the fourth-highest rating of nine major rating categories. Obligations rated "Baa" are subject to moderate credit risk. They are considered medium-grade and as such may possess speculative characteristics. Moody's appends numerical modifiers from 1 to 3 to its long-term debt ratings, which indicates where the obligation ranks within its ranking category, with 1 being the highest.

### Standard & Poor's (S&P)

S&P's long-term issue credit ratings are on a rating scale that ranges from AAA to D, which represents the range from highest to lowest quality of securities rated. S&P's "BB" rating assigned to our senior unsecured notes is the fifth-highest rating of 10 major rating categories. A "BB" rating is among those S&P's ratings that indicate an obligation is regarded as having significant speculative characteristics; however, such obligation is considered less vulnerable to nonpayment than speculative issues with lower ratings. "BB" rated obligations face major ongoing uncertainties or exposure to adverse business, financial or economic conditions that could lead to the obligor's inadequate capacity to meet its financial commitments. S&P uses "+" or "-" designations to indicate the relative standing of securities within a particular rating category.

### Fitch Ratings (Fitch)

Fitch's long-term credit ratings are on a scale ranging from AAA to D, representing the range from highest to lowest quality of securities rated. Fitch has assigned a rating of "BBB-" to our senior unsecured notes representing the fourth highest of Fitch's nine major rating categories for long-term debt. Debt securities rated "BBB" are considered good credit quality. Such rating indicates that expectations of default risk are currently low. The capacity for payment of financial commitments is considered adequate, but adverse business or economic conditions are more likely to impair this capacity. Fitch's may append the modifier "+" or "-" to a rating to denote the relative status of a security within a major rating category.

### Payments to Agencies

We have made payments in respect of certain services provided to us by each of Moody's, S&P and Fitch during the last two years.

## Market for Securities

### Trading Price and Volume

Our Class A common shares are listed on the Toronto Stock Exchange under the ticker symbol TECK.A. Our Class B subordinate voting shares are listed on the Toronto Stock Exchange under the ticker symbol TECK.B and on the New York Stock Exchange under the symbol TECK. The following tables set out the monthly price ranges and volumes traded on The Toronto Stock Exchange during 2018 for the Class A common shares and Class B subordinate voting shares.

<u>Teck Resources A</u>				<u>Teck Resources B</u>		
<u>Month</u>	<u>High (\$)</u>	<u>Low (\$)</u>	<u>Volume</u>	<u>High (\$)</u>	<u>Low (\$)</u>	<u>Volume</u>
January	\$ 38.88	\$ 32.86	170716	\$ 38.89	\$ 32.89	46427248
February	\$ 38.90	\$ 33.26	103512	\$ 38.66	\$ 33.28	43297957
March	\$ 37.10	\$ 31.80	61368	\$ 37.17	\$ 31.65	35023464
April	\$ 34.52	\$ 31.42	46129	\$ 34.88	\$ 31.33	33114938
May	\$ 37.10	\$ 31.90	39944	\$ 37.07	\$ 31.77	39070536
June	\$ 39.00	\$ 32.23	80399	\$ 39.08	\$ 31.95	35499605
July	\$ 34.99	\$ 31.26	45271	\$ 34.49	\$ 31.61	28497978
August	\$ 33.16	\$ 28.95	48783	\$ 33.26	\$ 28.49	28265221
September	\$ 33.34	\$ 27.93	43131	\$ 33.34	\$ 27.94	25962369
October	\$ 32.03	\$ 23.89	39438	\$ 32.49	\$ 23.90	46553045
November	\$ 29.98	\$ 25.12	31392	\$ 29.48	\$ 24.95	36238377
December	\$ 30.31	\$ 27.79	58089	\$ 30.44	\$ 27.36	37729314

Source: TSX

## Directors and Officers

### Directors

As of February 25, 2019, the Directors of Teck are as follows:

Name, City, Province/State and Country of Residence	Principal Occupations within Previous Five Years	Director Since
Mayank M. Ashar <sup>(3)(5)(6)</sup> Calgary, Alberta, Canada	Currently an advisor for Reliance Industries Limited. Managing Director and Chief Executive Officer of Cairn India Limited from November 2014 to June 2016; previously, President and Chief Executive Officer of Irving Oil Limited.	November 2007
Dominic S. Barton <sup>(4)</sup> Singapore, Singapore	Chair of the Board of the Company; previously Global Managing Partner of McKinsey & Company from 2009 to 2018.	September 2018
Quan Chong Beijing, China	Chair of the China Society for World Trade Organization Studies; previously, Deputy China International Trade Representative (Vice-Ministerial level) from 2010 to 2018.	April 2016
Laura L. Dottori-Attanasio <sup>(2)(4)(5)(6)</sup> Toronto, Ontario, Canada	Senior Executive Vice President and Chief Risk Officer for the Canadian Imperial Bank of Commerce	November 2014
Edward C. Dowling <sup>(1)(3)(4)(6)</sup> Greenwood Village, Colorado, United States	Chairman, Alacer Gold Corp. and Polyus Open Joint Stock Company.	September 2012
Eiichi Fukuda <sup>(6)</sup> Vancouver, British Columbia, Canada	President of Sumitomo Metal Mining Canada Inc. and SMM Gold Cote Inc.; previously Executive Vice President of Sumitomo Metal Mining America, Incorporated and held various other roles within the Sumitomo Metal Mining group.	April 2016
Norman B. Keevil III <sup>(1)(5)(6)</sup> Victoria, British Columbia, Canada	Vice Chair of Teck. President of Boydell Wastewater Technologies Inc.; previously Chief Operating Officer of Sunpump Solar Inc. 2015 to 2016 and President of Poncho Wilcox Engineering from 2009 to 2015.	April 1997
Takeshi Kubota <sup>(5)(6)</sup> Tokyo, Japan	Advisor to Sumitomo Metal Mining Co., Ltd.; previously, Director & Senior Managing Officer of Sumitomo Metal Mining Co., Ltd.	April 2012
Donald R. Lindsay <sup>(1)</sup> Vancouver, British Columbia, Canada	President and Chief Executive Officer of the Company.	February 2005
Tracey L. McVicar <sup>(2)(3)(7)</sup> Vancouver, British Columbia, Canada	Managing Partner of CAI Capital Management Co. since 2014; previously, Managing Director of CAI Capital Management Co.	November 2014
Sheila A. Murray <sup>(4)(5)</sup> Toronto, Ontario, Canada	President of CI Financial Corp. since 2016; previously, Executive Vice-President, General Counsel and Secretary of CI Financial Corp.	April 2018

Name, City, Province/State and Country of Residence	Principal Occupations within Previous Five Years	Director Since
Kenneth W. Pickering <sup>(3)(5)(6)</sup> Chemainus, British Columbia, Canada	Corporate Director and private international mining operations and project development consultant; previously, VP Major Products, Closed Mines & North American Assets, BHP Billiton Base Metals.	April 2015
Una M. Power <sup>(2)(6)</sup> Vancouver, British Columbia, Canada	Corporate Director; previously, Chief Financial Officer of Nexen Energy ULC.	April 2017
Timothy R. Snider <sup>(1)(2)(3)(4)</sup> Tucson, Arizona, United States	Chairman of Cupric Canyon Capital, LLC; previously, President & COO, Freeport-McMoRan Copper and Gold, Inc.	April 2015

- (1) Member of the Executive Committee  
(2) Member of the Audit Committee  
(3) Member of the Compensation Committee  
(4) Member of the Corporate Governance and Nominating Committee  
(5) Member of the Safety & Sustainability Committee  
(6) Member of the Reserves Committee  
(7) Ms. McVicar was a director of G.L.M. Industries LP (GLM), a portfolio company of CAI Capital Management Co. In July 2015, at the time Ms. McVicar was a director of GLM, a court order granted by the Court of Queen's Bench of Alberta placed GLM into receivership and appointed a receiver of GLM. Ms. McVicar was a director of Tervita Corporation until December 2016. In December 2016, Tervita completed a recapitalization by way of a court-approved plan of arrangement reducing Tervita's total debt.

Each of the Directors is elected to hold office until the next annual meeting of the Company or until a successor is duly elected or appointed. The next annual meeting of the Company is scheduled to be held on April 24, 2019.

## Officers

As of February 25, 2019, the officers of Teck are as follows:

Name, City, Province/State and Country of Residence	Office Held with Teck and Principal Occupations within Previous Five Years
Dominic S. Barton Singapore, Singapore	Chair of the Board; previously, Global Managing Partner of McKinsey & Company from 2009 to 2018
Donald R. Lindsay Vancouver, British Columbia, Canada	President and Chief Executive Officer of the Company
Dale E. Andres Vancouver, British Columbia, Canada	Senior Vice President, Base Metals since May 2016; previously, Senior Vice President, Copper
Alex N. Christopher Vancouver, British Columbia, Canada	Senior Vice President, Exploration, Projects & Technical Services since July 2016; previously, Vice President, Exploration
Andrew J. Golding West Vancouver, British Columbia, Canada	Senior Vice President, Corporate Development

Name, City, Province/State and Country of Residence	Office Held with Teck and Principal Occupations within Previous Five Years
Ronald A. Millos Vancouver, British Columbia, Canada	Senior Vice President, Finance and Chief Financial Officer
Kieron McFadyen Calgary, Alberta	Senior Vice President, Energy since March 2018; previously, Executive Vice President and President, Upstream Oil and Gas, Cenovus Energy Inc. from 2016 to 2018 and prior to that Vice President, Non-Operated Joint Ventures, Royal Dutch Shell plc
Andrew K. Milner Vancouver, British Columbia	Senior Vice President, Technology and Innovation since November 2018; previously, Vice President, Production Systems, BHP Billiton Limited.
H. Fraser Phillips Vancouver, British Columbia, Canada	Senior Vice President, Investor Relations and Strategic Analysis since March 2017; previously, Managing Director, RBC Capital Markets
Peter C. Rozee West Vancouver, British Columbia, Canada	Senior Vice President, Commercial and Legal Affairs
Robin B. Sheremeta Sparwood, British Columbia, Canada	Senior Vice President, Coal since May 2016; previously, Vice President, Operations, Coal
Marcia M. Smith Vancouver, British Columbia, Canada	Senior Vice President, Sustainability and External Affairs
Andrew A. Stonkus North Vancouver, British Columbia, Canada	Senior Vice President, Marketing and Logistics since March 2015; previously, Vice President, Base Metals Marketing
Dean C. Winsor West Vancouver, British Columbia, Canada	Senior Vice President and Chief Human Resources Officer since November 2018; previously, Vice President, Human Resources
Shehzad Bharmal Vancouver, British Columbia, Canada	Vice President, North American Operations, Base Metals since February 2018; previously, Vice President, Planning & Development, Base Metals and Vice President, Strategy & Development, Copper
Greg J. Brouwer Kamloops, British Columbia	Vice President, Technology and Innovation since November 2018; previously General Manager, Technology and Innovation and General Manager, Teck Highland Valley Copper
Anne J. Chalmers Vancouver, British Columbia, Canada	Vice President, Risk and Security and Chair, Materials Stewardship Committee
Amparo Cornejo Santiago, Chile	Vice President, Chile Sustainability and Corporate Affairs since November 2018; previously, Director, Social Responsibility and Corporate Affairs since 2014; previously, Manager, Corporate Affairs, Methanex Chile
Larry M. Davey Coleman, Alberta, Canada	Vice President, Planning & Development, Coal since May 2016; previously Vice President, Development, Coal and General Manager Elkview Coal Mine

Name, City, Province/State and Country of Residence	Office Held with Teck and Principal Occupations within Previous Five Years
Christopher J. Dechert Santiago, Chile	Vice President, South America, since November 2018; previously, Vice President, Copper, Chile Operations and General Manager, Teck Highland Valley Copper
Sepanta Dorri Toronto, Ontario, Canada	Vice President, Corporate Development since December 2018; previously, Vice President, Corporate and Stakeholder Development, Teranga Gold Corporation
Mark Edwards Port Moody, British Columbia, Canada	Vice President, Community and Government Relations
Réal Foley Calgary, Alberta, Canada	Vice President, Marketing, Coal and Base Metals since April 2018; previously, Vice President, Coal Marketing
John F. Gingell Tsawwassen, British Columbia, Canada	Vice President, Financial Systems since December 2018; previously, Vice President and Corporate Controller
C. Jeffrey Hanman Vancouver, British Columbia, Canada	Vice President, Corporate Affairs since March 2017; previously, Head of Corporate Affairs and Director of Communications
M. Colin Joudrie North Vancouver, British Columbia, Canada	Vice President, Business Development
Ralph J. Lutes Beijing, China	Vice President, Asia
Scott E. Maloney Vancouver, British Columbia, Canada	Vice President, Environment since September 2017; previously, Lead HSE Assurance and Review and Manager Health Safety Environment Community at BHP
Karla L. Mills Coquitlam, British Columbia, Canada	Vice President, Project Development since November 2018; previously, Director, Project Development and Engineering
Douglas J. Powrie Vancouver, British Columbia, Canada	Vice President, Tax
Crystal J. Prystai North Vancouver, British Columbia, Canada	Vice President and Corporate Controller since December 2018; previously, Director, Finance, Reporting and Compliance
Amanda R. Robinson Vancouver, British Columbia, Canada	Corporate Secretary since February 2018; previously Partner and Associate at Fasken Martineau DuMoulin LLP
Kalev Ruberg West Vancouver, British Columbia, Canada	Vice President, Teck Digital Systems and Chief Information Officer since November 2017; previously, Chief Information Officer
Keith G. Stein Anmore, British Columbia, Canada	Vice President, Major Projects since November 2018; previously, Vice President, Project Development and Vice President Projects

Name, City, Province/State and Country of Residence	Office Held with Teck and Principal Occupations within Previous Five Years
Lawrence A. Watkins Abbotsford, British Columbia, Canada	Vice President, Health and Safety since September 2015; previously, Director, Health and Safety; previously Principal, HSE Consulting
Scott R. Wilson Vancouver, British Columbia, Canada	Vice President and Treasurer

## Audit Committee Information

### Mandate of Audit Committee

The full text of our Audit Committee's mandate is included as Schedule A to this Annual Information Form.

### Composition of the Audit Committee

Our Audit Committee consists of four members. All of the members of the Committee are independent and financially literate. The names, relevant education and experience of each Audit Committee member are outlined below:

#### Laura L. Dottori-Attanasio

Ms. Dottori-Attanasio is a graduate of the University of Western Ontario (Bachelor of Administrative and Commercial Studies (Finance and Economics)). She has over 20 years of experience in the finance sector, and is currently the Senior Executive Vice President and Chief Risk Officer at the Canadian Imperial Bank of Commerce.

#### Tracey L. McVicar (Chair)

Ms. McVicar is a graduate of the Sauder School of Business (B.Comm, Finance). She has over 20 years of experience in finance and investment banking. She is a Chartered Financial Analyst (CFA Institute) and Institute Certified Director (Institute of Corporate Directors). She served as the audit committee chair of BC Hydro Corporation from 2009 to 2014.

#### Una M. Power

Ms. Power is a graduate of Memorial University B.Comm (Honours), and also holds CPA, CA and CFA designations. Ms. Power is the former Chief Financial Officer of Nexen Energy ULC, and held various other executive positions covering financial reporting, financial management, investor relations, business development, strategic planning and investment at Nexen. She is also a director of the Bank of Nova Scotia and Kinross Gold Corporation.

#### Timothy R. Snider

Mr. Snider is a graduate of Northern Arizona University (B.Sc) and is currently Chairman of Cupric Canyon Capital, LLC. Previously, he was President and Chief Operating Officer of Freeport McMoRan and Phelps Dodge Corporation, where he participated in the review and publication of financial statements.

## Pre-Approval Policies and Procedures

The Audit Committee has adopted policies and procedures with respect to the pre-approval of audit and permitted non-audit services to be provided by PricewaterhouseCoopers LLP. All non-audit services are pre-approved by the Committee prior to commencement. In addition, the Committee has prohibited the use of the external auditors for the following non-audit services:

- bookkeeping or other services related to the accounting records or financial statements;
- financial information systems design and implementation;
- appraisal or valuation services, fairness opinions or contribution-in-kind reports;
- actuarial services;
- internal audit outsourcing services;
- management functions or human resources functions;
- broker or dealer, investment advisor, or investment banking services;
- legal services;
- expert services unrelated to the audit; and
- all other non-audit services unless there is a strong financial or other reason for external auditors to provide those services.

## Auditor's Fees

For the years ended December 31, 2018 and 2017, the Company paid the external auditors \$6,607,566 and \$5,752,593, respectively, as detailed below:

	Year Ended 2018 (\$000)	Year Ended 2017 (\$000)
Audit Services <sup>(1)</sup>	4,950	4,892
Audit-Related Services <sup>(2)</sup>	340	269
Tax Fees <sup>(3)</sup>	306	124
All Other Fees <sup>(4)</sup>	1,011	468

### Notes:

- (1) Includes services that are provided by the Corporation's external auditors in connection with the audit of the financial statements and internal controls over financial reporting.
- (2) Includes assurance and related services that are related to the performance of the audit, pension plan and special purpose audits.
- (3) Fees are for corporate and international expatriate tax services.
- (4) Amounts relate to a number of projects, including ISO 14001/9001 audits, greenhouse gas verification and sustainability assurance, as well as subscriptions to online accounting guidance and publications.

## Ownership by Directors and Officers and Interests in Material Transactions

As of February 25, 2019, the Directors and executive officers as a group beneficially own or exercise control or direction, directly or indirectly, over the following shares issued by Teck:

	Shares beneficially owned or over which control or direction is exercised	As a % of the total outstanding of the class
Class A common shares	2,800	0.04%
Class B subordinate voting shares	503,298	0.09%

In addition, Keevil Holding Corporation owns 51% of the outstanding shares of Temagami Mining Company Limited (Temagami) that, as of February 25, 2019, beneficially owned or exercised direction or control, directly or indirectly, over 4,300,000 Class A common shares, representing 55.35% of the Class A common shares outstanding and 725,000 Class B subordinate voting shares, representing 0.13% of the Class B subordinate voting shares outstanding. Norman Keevil, III is a director of Keevil Holding Corporation and 98% of the votes attached to the outstanding shares of Keevil Holding Corporation are held by a trust for the benefit of certain members of the Keevil family. The other 49% of the outstanding Temagami shares are owned by Sumitomo Metal Mining Co. Ltd. (SMM). One of our directors, Takeshi Kubota, is an advisor to and a former director and officer of SMM and another director, Eiichi Fukuda, is a director and officer of certain entities that are affiliated with SMM. Messrs. Keevil III, Kubota and Fukuda are also directors of Temagami.

We have recently entered into an agreement whereby SMM and Sumitomo Corporation will acquire a 30% indirect interest in our Quebrada Blanca Phase 2 project. See “*Description of the Business – Individual Operations - Copper – Quebrada Blanca Mine, Chile*” for further details. SMM is a significant shareholder of our company and has a material interest in transaction. Dr. Keevil (who was on the Board at the time) and Messrs. Keevil III, Kubota and Fukuda each declared their potential conflict of interest and recused themselves from all Board discussions related to this transaction.

## Legal Proceedings and Regulatory Actions

### Upper Columbia River Basin (Lake Roosevelt)

Prior to our acquisition in 2000 of a majority interest in Cominco Ltd. (now Teck Metals Ltd.), the Trail smelter discharged smelter slag into the Columbia River. These discharges commenced prior to Teck Metals’ acquisition of the Trail smelter in 1906 and continued until 1996. Slag was discharged pursuant to permits issued in British Columbia subsequent to the enactment of relevant environmental legislation in 1967.

Slag is a glass-like compound consisting primarily of silica, calcium and iron that also contains small amounts of base metals including zinc, lead, copper and cadmium. It is sufficiently inert that

it is not characterized as a hazardous waste under applicable Canadian or U.S. regulations and is sold to the cement industry.

While slag has been deposited into the river, further study is required to assess what effect the presence of metals in the river has had and whether it poses an unacceptable risk to human health or the environment.

A large number of studies regarding slag deposition and its effects have been conducted by various governmental agencies on both sides of the border. The historical studies of which we are aware have not identified unacceptable risks resulting from the presence of slag in the river. In June 2006, Teck Metals and its affiliate, Teck American Incorporated (TAI), entered into a Settlement Agreement with the U.S. Environmental Protection Agency (the EPA) and the United States under which TAI is paying for and conducting a remedial investigation and feasibility study (RI/FS) of contamination in the Upper Columbia River under the oversight of the EPA.

The RI/FS is being prepared by independent consultants approved by the EPA and retained by TAI. TAI is paying the EPA's oversight costs and providing funding for the participation of other governmental parties: the Department of Interior, the State of Washington, and two native tribes, the Confederated Tribes of the Colville Nation (the Colville Tribe) and the Spokane Tribe. Teck Metals has guaranteed TAI's performance of the Settlement Agreement. TAI has also placed US\$20 million in escrow as financial assurance of its intention to discharge its obligations under the Settlement Agreement. We have accrued our estimate of the costs of the RI/FS.

Two citizens of Washington State and members of the Colville Tribe commenced an enforcement proceeding under the *Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA) to enforce an EPA administrative order against Teck and to seek fines and penalties against Teck Metals for non-compliance. Subsequently, an amended complaint was filed in District Court adding the Colville Tribe as a plaintiff and seeking natural resource damages and costs. Teck Metals sought to have the claims dismissed on the basis that the court lacked jurisdiction because the CERCLA statute, in Teck Metals' view, was not intended to govern the discharges of a facility in another country. That case proceeded through U.S. Federal District Court and the Federal Court of Appeals for the 9th Circuit. The 9th Circuit found that CERCLA could be applied to Teck Metals' disposal practices in British Columbia because they may have resulted in a release of toxic materials from a facility in Washington State.

The litigation continues. In September 2012, Teck Metals entered into an agreement with the plaintiffs, agreeing that certain facts were established for purposes of the litigation. The agreement stipulates that some portion of the slag discharged from our Trail Operations into the Columbia River between 1896 and 1995, and some portion of the effluent discharged from Trail Operations, has been transported to and is present in the Upper Columbia River in the United States, and that some hazardous substances from the slag and effluent have been released into the environment within the United States. In December 2012, the District Court found in favour of the plaintiffs in phase one of the case, issuing a declaratory judgment that Teck Metals is liable under CERCLA for response costs, the amount of which will be determined in a subsequent phase of the case.

In October 2013, the Colville Tribe filed an omnibus motion with the District Court seeking an order stating that it is permitted to seek recovery from Teck Metals for environmental response

costs and, in a subsequent proceeding, natural resource damages and assessment costs arising from the alleged deposition of hazardous substances in the United States from aerial emissions from Teck Metals' Trail Operations. Prior allegations by the Tribes related solely to solid and liquid materials discharged to the Columbia River. The motion does not state the amount of response costs allegedly attributable to aerial emissions, nor did it attempt to define the extent of natural resource damages, if any, attributable to past smelter operations. In December 2013, the District Court ruled in favour of plaintiffs. The plaintiffs subsequently filed amended pleadings in relation to air emissions. The Court dismissed a motion to strike the air claims on the basis that CERCLA does not apply to air emissions in the manner proposed by the plaintiffs, and a subsequent Teck Metals motion seeking reconsideration of the dismissal. Teck Metals sought leave to appeal both of these decisions in the Ninth Circuit on an interlocutory basis, and in July 2016 the Ninth Circuit unanimously ruled in favour of Teck Metals on its appeal of the District Court decision. Plaintiffs sought an *en banc* review of the decision in the Ninth Circuit, which was denied in October 2016. As a result, alleged damages associated with air emissions are no longer part of the case.

A hearing with respect to past response costs took place in December 2015. In August 2016, the trial court judge ruled in favour of the plaintiffs. Teck Metals appealed that decision, along with certain other findings in the first phase of this case, in the Ninth Circuit Court of Appeals, which upheld the trial court ruling in September 2018. Teck Metals applied for rehearing of the Ninth Circuit ruling, which application was denied. Teck Metals intends to seek leave to appeal certain findings in the U.S. Supreme Court.

A hearing with respect to claims for natural resource damages and assessment costs is expected to occur when the remedial investigation and feasibility study being undertaken by TAI are completed.

Natural resource damages are assessed for injury to, destruction of, or loss of natural resources including the reasonable cost of a damage assessment. TAI commissioned a study by recognized experts in damage assessment in 2008. Based on the assessment performed, Teck Metals estimates that the compensable value of such damage will not be material.

TAI intends to fulfill its obligations under the Settlement Agreement reached with the United States and the EPA in June 2006 and to complete the RI/FS mentioned above. The Settlement Agreement is not affected by the litigation.

There can be no assurance that we will ultimately be successful in our defence of the litigation or that we or our affiliates will not be faced with further liability in relation to this matter. Until the studies contemplated by the Settlement Agreement and additional damage assessments are completed, it is not possible to estimate the extent and cost, if any, of any additional remediation or restoration that may be required or to assess our potential liability for damages. The studies may conclude, on the basis of risk, cost, technical feasibility or other grounds, that no remediation other than some residential soil removal should be undertaken. If other remediation is required and damage to resources found, the cost of that remediation may be material.

## Fisheries Act

During the third quarter of 2018, we received notice from Canadian federal prosecutors of potential charges under the *Fisheries Act* in connection with discharges of selenium and calcite from coal mines in the Elk Valley. Since 2014, compliance limits and site performance objectives for selenium and other constituents, as well as requirements to address calcite, in surface water throughout the Elk Valley and in the Koochanusa Reservoir have been established under a regional permit issued by the Provincial government, which references the Elk Valley Water Quality Plan. If Canadian Federal charges are laid, potential penalties may include fines as well as orders with respect to operational matters. We expect that discussions with respect to the draft charges will continue at least into the third quarter of 2019. It is not possible at this time to fully assess the viability of our potential defences to any charges, or to estimate the potential financial impact on us of any conviction. Nonetheless, that impact may be material.

## Transfer Agents and Registrars

AST Trust Company (Canada) is the transfer agent and registrar for the Class A common and Class B subordinate voting shares and maintains registers in Vancouver, British Columbia and Toronto, Ontario.

## Material Contracts

The following are the only contracts entered into by Teck that are material, still in effect and not entered into in the ordinary course of business:

- Waneta Transmission Agreement, dated as of July 26, 2018, between Teck Metals Ltd. and British Columbia Hydro and Power Authority
- Indenture, dated as of August 17, 2010, between Teck and The Bank of New York Mellon, as trustee, and the first, second, third, fourth and fifth supplemental indentures thereto
- Indenture, dated as of June 7, 2016, between Teck and The Bank of New York Mellon, as trustee

## Interests of Experts

PricewaterhouseCoopers LLP, Chartered Professional Accountants, are the Company's auditors and have prepared an opinion with respect to the Company's consolidated financial statements as at and for the year ended December 31, 2018. PricewaterhouseCoopers LLP report that they are independent of the Company in accordance with the Chartered Professional Accountants of British Columbia Code of Professional Conduct and the rules of the Public Company Accounting Oversight Board.

Rodrigo Marinho, P.Geo., Don Mills, P.Geo., Robin Gold, P.Eng., Luis Mamani, SME Registered Member, and Lucio Canchis, SME Registered Member have acted as qualified persons in connection with the estimates of mineral reserves and resources presented in this Annual Information Form. Mr. Marinho is an employee of the Company. Messrs. Mills and Gold are employees of Teck Coal Limited, which is directly and indirectly wholly owned by Teck.

Messrs. Mamani and Canchis are employees of Compañía Minera Antamina S.A., in which the Company holds a 22.5% share interest.

GLJ Petroleum Consultants Ltd. has acted as an independent qualified reserves evaluator in connection with our interest in Fort Hills. Sproule Associates Limited has acted as an independent reserves evaluator in connection with our interest in the Frontier oil sands project.

Messrs. Marinho, Mills, Gold, Mamani, Canchis and the designated professionals of GLJ Petroleum Consultants Ltd. and Sproule Associates Limited, each respectively, hold beneficially, directly or indirectly, less than 1% of any class of the Company's securities.

## Disclosure Pursuant to the Requirements of the New York Stock Exchange

The Board and management are committed to leadership in corporate governance. As a Canadian reporting issuer with securities listed on the Toronto Stock Exchange, we have in place a system of corporate governance practices that meets or exceeds all applicable Canadian requirements.

Notwithstanding that Teck is a “foreign private issuer” for purposes of its New York Stock Exchange (NYSE) listing and, as such, the NYSE director independence requirements that are applicable to U.S. domestic issuers do not apply to Teck, the Board has established a policy that at least a majority of its directors must satisfy the director independence requirements under Section 303A.02 of the NYSE corporate governance rules. The Board annually reviews and makes such determination as to the independence of each director for both Canadian and NYSE purposes.

The NYSE requires that, as a foreign private issuer that is not required to comply with all of the NYSE’s corporate governance rules applicable to U.S. domestic issuers, Teck disclose any significant ways in which its corporate governance practices differ from those followed by NYSE listed U.S. domestic issuers. The differences between our practices and the NYSE rules are not material and are more of a matter of form than substance.

## Non-GAAP Measures

Our financial results are prepared in accordance with International Financial Reporting Standards (IFRS). This document refers to Operating Netback and Bitumen Price Realized which are non-GAAP financial measures not recognized under IFRS in Canada. These measures do not have standardized meanings prescribed by IFRS or Generally Accepted Accounting Principles (GAAP) in the United States. As a result they may not be comparable to similar measures reported by other companies.

Operating Netbacks per barrel in our energy business unit are calculated as blended bitumen sales revenue net of diluent expenses (also referred to as bitumen price realized), less royalties, transportation and operating expenses divided by barrels of bitumen sold. We include this information as investors and analysts use it to measure our profitability on a per barrel basis.

Bitumen price realized is revenue from the sale of our blended bitumen excluding non-proprietary product revenue with crown royalties added back in divided by blended bitumen barrels sold in the period.

Operating Netback and Bitumen price realized are each reconciled to Revenue under the heading “*Use of Non-GAAP Measures – Energy Business Unit – Operating Netback, Bitumen and Blended Bitumen Price Realized Reconciliations*” of our Management’s Discussion and Analysis for the year ended December 31, 2018, which can be found under our profile on SEDAR at [www.sedar.com](http://www.sedar.com).

## Additional Information

1. Additional information relating to the Company may be found under our profile on SEDAR at [www.sedar.com](http://www.sedar.com).
2. Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the Company's securities, securities authorized for issuance under equity compensation plans, options to purchase securities and interests of insiders in material transactions, is contained in the Management Proxy Circular to be issued for our Annual Meeting of Shareholders to be held on April 24, 2019. Additional financial information is also provided in our comparative financial statements and in the Management's Discussion and Analysis for the year ended December 31, 2018. Copies of these documents are available upon request from our Corporate Secretary.
3. Unless otherwise stated, information contained herein is as at December 31, 2018.

# Schedule A – Audit Committee Charter

## Teck Resources Limited AUDIT COMMITTEE CHARTER

### A. GENERAL

#### 1. Purpose

The purpose of the Audit Committee (the “Committee”) of the Board of Directors (the “Board”) of Teck Resources Limited (the “Corporation”) is to provide an open avenue of communication between management, the external auditor, the internal auditors and the Board and to assist the Board in its oversight of the:

- integrity, adequacy and timeliness of the Corporation’s financial reporting and disclosure practices;
- processes for identifying the principal financial risks of the Corporation and reviewing the Corporation’s internal control systems to ensure that they are adequate to ensure fair, complete and accurate financial reporting;
- Corporation’s compliance with legal and regulatory requirements related to financial reporting;
- accounting principles, policies and procedures used by management in determining significant estimates;
- antifraud programs and controls, including management’s identification of fraud risks and implementation of antifraud measures;
- mechanisms for employees to report concerns about accounting policies and financial reporting;
- engagement, independence and performance of the Corporation’s external auditor; and
- internal audit mandate, internal audit plans, internal audit and Sarbanes Oxley (SOX) audit programs and results of internal audits and SOX compliance audits performed by the Corporation’s internal audit department.

Another purpose of the Committee is to assist the Board in fulfilling its responsibilities to oversee and monitor the management and overall governance of the Corporation’s various pension plans (“Pension Matters”).

The Committee shall also perform any other activities consistent with this Charter, the Corporation’s by-laws and governing laws as the Committee or Board deems necessary or appropriate.

#### 2. Responsibilities

The Committee’s role is one of oversight. Management is responsible for preparing the Corporation’s financial statements and other financial information, for the fair presentation of the information set forth in the financial statements in accordance with GAAP, for establishing, documenting, maintaining and reviewing systems of internal control and for maintaining the appropriate accounting and financial reporting principles and policies designed to assure compliance with accounting standards and all applicable laws and regulations. Management has also been delegated responsibility for day-to-day administrative and sponsorship responsibilities with respect to Pension Matters.

The external auditors’ responsibility is to audit the Corporation’s financial statements and provide an opinion, based on their audit conducted in accordance with Canadian generally accepted auditing

standards, that the financial statements present fairly, in all material respects, the financial position, results of operations and cash flows of the Corporation in accordance with GAAP.

In accordance with the Sarbanes Oxley Act of 2002, Section 404, the external auditors are also responsible for providing an opinion on the effectiveness of the Corporation's internal controls over financial reporting.

The Committee is responsible for recommending to the Board for recommendation to the shareholders of the Corporation the appointment of the external auditor. The Committee is responsible for the evaluation and oversight of the work of the external auditor and oversees the resolution of any disagreements between management and the external auditor regarding financial reporting and SOX assessment. The external auditor shall report directly to the Committee, as the external auditor is accountable to the Board as representatives of the Corporation's shareholders. It is not the duty or responsibility of the Committee or any of its members to plan or conduct any type of audit or accounting review or procedure.

The Committee shall be responsible for approving the external auditor's remuneration.

## **B. AUTHORITY AND RESPONSIBILITIES WITH RESPECT TO FINANCIAL REPORTING AND RELATED MATTERS**

In performing its oversight responsibilities, the Committee shall:

1. Meet at least five times per year. The Committee may ask members of management or others to attend meetings to provide information as necessary.
2. Meet separately with the Chief Executive Officer and the Chief Financial Officer, senior financial management, the external auditor and the Corporation's chief audit executive at least four times per year, or more frequently as required, to discuss matters that the Committee or these individuals or groups believe should be discussed privately with the Committee.
3. Review and assess the adequacy of this Charter and recommend any proposed changes to the Board for approval at least once per year.
4. Review the appointments of the Corporation's Chief Financial Officer and any other key financial executives involved in the financial reporting process.
5. Review with management, the external auditor and the Corporation's chief audit executive the adequacy and effectiveness of the Corporation's systems of internal control, the status of management's implementation of internal audit recommendations and the remediation status of any reported control deficiencies. Particular emphasis will be placed on those deficiencies evaluated as either a significant deficiency or a material weakness, which have been identified as a result of audits and/or during annual controls compliance testing as required under SOX legislation.
6. Review the Corporation's process for the CEO and CFO certifications required by securities regulations to which the Corporation is subject with respect to the Corporation's financial statements, disclosures and internal controls, including any significant changes or deficiencies in such controls.
7. Review with management and the external auditor the annual audited financial statements and management's discussion and analysis and recommend their approval by the full Board prior to their release and/or filing with the applicable regulatory agencies.
8. Review with management and the external auditor the unaudited quarterly financial statements, associated management's discussion and analysis and interim earnings news releases and approve

them on behalf of the Board, prior to their release and/or filing with the applicable regulatory agencies.

9. As appropriate, review other news releases and reporting documents that include material non-public financial information prior to their public disclosure by filing or distribution of these documents. Such review includes financial matters required to be reported under applicable legal or regulatory requirements, but does not necessarily include news releases that contain financial information incidental to the announcement of acquisitions, financings or other transactions.
10. Ensure that adequate procedures are in place for the review of the Corporation's public disclosure of financial information extracted or derived from the Corporation's financial statements, other than the disclosure documents referred to above, and periodically assess the adequacy of these procedures.
11. Review the Corporation's financial reporting and accounting standards and principles and significant changes in such standards or principles or in their application, including key accounting decisions affecting the financial statements, alternatives thereto and the rationale for decisions made.
12. Review the quality and appropriateness, not just the acceptability, of the accounting policies and the clarity of financial information and disclosure practices adopted by the Corporation, including consideration of the external auditors' judgments about the quality and appropriateness of the Corporation's accounting policies. This review shall include discussions with the external auditor without the presence of management.
13. Review with management, the external auditor and the Corporation's chief audit executive significant related party transactions and potential conflicts of interest.
14. Review with management the tax policy adopted by the Corporation and material developments in the Corporation's tax affairs.
15. To assist the Board with its recommendations to shareholders, recommend (a) the external auditor to be nominated to examine the Corporation's accounts and financial statements and prepare and issue an auditor's report on them or perform other audit, review or attest services for the Corporation and (b) the compensation of the external auditor.
16. Approve all audit engagement terms and fees.
17. Review with management and the external auditor and approve the annual external audit plan and results of and any problems or difficulties encountered during any external audits and management's responses thereto.
18. Receive the reports of the external auditor on completion of the quarterly reviews and the annual audit.
19. Monitor the independence of the external auditors by reviewing all relationships between the external auditor and the Corporation and all audit, non-audit and assurance work performed for the Corporation by the external auditor on at least a quarterly basis. The Committee will receive an annual written confirmation of independence from the external auditor.
20. Pre-approve all audit, non-audit and assurance services provided by the independent auditor prior to the commencement of any such engagement. The Committee may delegate the responsibility for approving non-audit services to the Chair or another member of the Committee appointed by the Chair where the fee does not exceed \$50,000. The Committee will review a summary of all audit, non-audit and assurance work performed for the Corporation at least twice per year.

21. Review and approve the Corporation's hiring policies regarding partners, employees or former partners and employees of the present or former external auditor of the Corporation, including:
  - the appointment of any employee or former employee of the Corporation's present and former external auditor to a senior financial management position with the Corporation, and
  - management's reports of the profiles of all individuals hired during the past year who were employed by the present and former external auditor at any time during the two years prior to being hired by the Corporation.
22. Review and approve the functions of the Corporation's Audit and Operational Review Department, including:
  - its mandate, authority and organizational reporting lines;
  - its annual and longer term internal audit plans, budgets and staffing;
  - its performance; and
  - the appointment, reassignment or replacement of the Corporation's chief audit executive.

This review will include discussions with the Corporation's chief audit executive without the presence of management or the external auditor.
23. Review the Corporation's procedures and establish procedures for the Committee for the:
  - receipt, retention and resolution of complaints regarding accounting, internal accounting controls, financial disclosure or auditing matters; and
  - confidential, anonymous submission by employees regarding questionable accounting, auditing or financial reporting and disclosure matters or violations of the Corporation's Code of Ethics or associated policies.
24. Review the adequacy of the Corporation's bank lines of credit and guidelines for the investment of cash.
25. Review with senior financial management, the external auditor, the Corporation's chief audit executive, and such others as the Committee deems appropriate, the results of operational reviews, audits, SOX controls compliance audits and any problems or difficulties encountered during the audits.

### **C. AUTHORITY AND RESPONSIBILITIES WITH RESPECT TO PENSION MATTERS**

In assisting the Board in fulfilling its responsibilities with respect to the management and governance of the Corporation's pension plans, the Committee shall:

1. With respect to the Corporation's role as plan sponsor,
  - Review and oversee the implementation of the design of the Corporation's pension plans, the coverage afforded by the plans and changes to the plans.
  - Review the funding policies for the Corporation's defined benefit plans and where appropriate, recommend the Board's approval of these policies.
  - Review the level of the Corporation's contributions to the Corporation's defined contribution plans and any proposed changes thereto and where appropriate recommend approval of such changes to the Board.

- Review proposals for the wind-up or partial wind-up of any of the Corporation pension plans, having regard to any collective bargaining and regulatory requirements and making appropriate recommendations in respect thereof to the Board.
2. With respect to the Corporation's role as plan administrator
    - Oversee and monitor the authority delegated to management's Executive Pension Committee to administer each of the pension plans in accordance with relevant pension legislation, the terms of the plans and all other requirements of law.
    - Review compliance with minimum funding requirements (if any) prescribed by applicable pension legislation and the policies and procedures in place in respect thereof, including requisitioning and reviewing actuarial reports.
    - Review and monitor the investment of pension fund assets (in the case of a defined benefit plan), including the policies and procedures in place in respect thereof.
    - Review and monitor the sufficiency and appropriateness of the investment choices available to plan members of the defined contribution plans and the Corporation communication and educational materials provided to plan members.
    - Review and monitor the performance of the investment managers chosen by management for the Corporation's pension plans, including the process established for the selection, retention or replacement of any investment manager or advisors.
  3. Advise the Board, either orally or in writing, of any pension-related matters that the Committee believes have or could have a material effect on the financial condition or affairs of the Corporation and/or any of its pension plans and make appropriate recommendations to the Board in respect of matters requiring Board approval.

#### **D. COMMITTEE COMPOSITION**

##### **1. Member Qualifications**

The Committee shall consist of at least three directors, a quorum of which shall be a majority of the members. All members of the Committee shall be independent directors and shall be sufficiently financially literate to enable them to discharge their responsibilities in accordance with applicable laws and/or requirements of the stock exchanges on which the Corporation's securities trade and in accordance with Multilateral Investment Instrument 52-110. Financial literacy means the ability to read and understand a balance sheet, income statement, cash flow statement and associated notes which represent a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected to be raised by the consolidated financial statements of the Corporation. At least one member of the Committee shall have accounting or related financial management expertise that allows that member to read and understand financial statements and the related notes attached thereto in accordance with Canadian generally accepted accounting principles ("GAAP"), which for the Corporation is International Financial Reporting Standards.

##### **2. Member Appointment and Removal**

The members of the Committee shall be appointed annually at the time of each annual meeting of shareholders and shall hold office until the next annual meeting or until they cease to be directors of the Corporation.

### 3. **QUORUM**

A quorum for the Committee shall be a majority of the members.

## **E. PROCEDURES AND OTHER MATTERS**

### 1. **Litigation and Ethics Matters**

At each Audit Committee meeting the General Counsel and the Corporation's chief audit executive shall report any litigation, claim or other contingency that could have a significant effect on the Corporation's financial results or disclosures and any real or suspected incidents of fraud, theft or violations of the Corporation's Code of Ethics or associated policies that have been reported to management or to the internal audit department. The Committee shall review any such reports or similar reports submitted by other employees or members of management and if deemed necessary, report such matters related to auditing, accounting and financial reporting and/or disclosure to the full Board.

### 2. Evaluations

The Committee shall establish and annually implement an evaluation process for the Committee and its individual members and the results of that evaluation shall be reported to the Committee and the Board.

### 3. Disclosure Controls

The Committee shall be provided with copies of the minutes of meetings of management's Disclosure Committee and the Chair of the Committee or an appointee shall meet at least once per year with management's Disclosure Committee to review the Corporation's disclosure controls and procedures.

### 4. Pension Minutes

The Committee shall be provided with copies of the minutes of meetings of the Executive Pension Committee.

### 5. Investigations and Advisors

The Committee shall conduct or authorize investigations into any matter that the Committee believes is within the scope of its responsibilities. The Committee has the authority to (a) retain independent counsel, accountants or other advisors to assist it in the conduct of any investigation or otherwise to assist it in the discharge of its duties, at the expense of the Corporation, (b) set and pay the compensation of any advisors retained by it and (c) communicate directly with the internal and external auditors.

### 6. Reporting

The Chair of the Committee shall report to the Board with respect to the activities and recommendations of the Committee when he or she may deem appropriate, but not later than the next meeting of the Board. The minutes of Committee meetings will be made available to the Board.

7. Audit Committee Report

The Chair of the Committee shall prepare or cause to be prepared an audit committee report to be included in the Corporation's annual management proxy circular, which report shall be approved by the Committee.

## Schedule B – Report of Management and Directors on Reserves Data and Other Information

Management of Teck Resources Limited (the “Company”) is responsible for the preparation and disclosure of information with respect to the Company’s oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data.

Independent qualified reserves evaluators have evaluated the Company’s reserves data. The reports of the independent qualified reserves evaluators will be filed with securities regulatory authorities concurrently with this report.

The Reserves Committee of the Board of Directors of the Company composed of a majority of independent directors has:

- (a) reviewed the Company’s procedures for providing information to the independent qualified reserves evaluators;
- (b) met with the independent qualified reserves evaluators to determine whether any restrictions affected the ability of the independent qualified reserves evaluators to report without reservation; and
- (c) reviewed the reserves data with management and the independent qualified reserves evaluators.

The Reserves Committee of the Board of Directors has reviewed the Company’s procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The Board of Directors has, on the recommendation of the Reserves Committee, approved:

- (a) the content and filing with securities regulatory authorities of Form 51-101F1 containing reserves data and other oil and gas information;
- (b) the filing of Form 51-101F2 which is the report of the independent qualified reserves evaluators on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgments regarding future events, actual results will vary and the variations may be material.

*Donald R. Lindsay*

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(Signed) Donald R. Lindsay  
President and Chief Executive Officer

*Ronald A. Millos*

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(Signed) Ronald A. Millos  
Senior Vice President, Finance and Chief  
Financial Officer

Date: February 25, 2019

*Norman B. Keevil III*

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(Signed) Norman B. Keevil III  
Director

*Kenneth W. Pickering*

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(Signed) Kenneth W. Pickering  
Director

## Schedule C – Report on Reserves Data by Independent Qualified Reserves Evaluator or Auditor

To the Board of Directors of Teck Resources Limited (the "**Company**"):

1. We have evaluated the Company's reserves data as at December 31, 2018. The reserves data are estimates of proved reserves and probable reserves and related future net revenue as at December 31, 2018, estimated using forecast prices and costs.
2. The reserves data are the responsibility of the Company's management. Our responsibility is to express an opinion on the reserves data based on our evaluation.
3. We carried out our evaluation in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook as amended from time to time (the "**COGE Handbook**") maintained by the Society of Petroleum Evaluation Engineers (Calgary Chapter).
4. Those standards require that we plan and perform an evaluation to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An evaluation also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
5. The following table shows the net present value of future net revenue (before deduction of income taxes) attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10%, included in the reserves data of the Company evaluated for the year ended December 31, 2018, and identifies the respective portions thereof that we have evaluated and reported on to the Company's Board of Directors:

Independent Qualified Reserves Evaluator or Auditor	Effective Date of Evaluation Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (before income taxes, 10% discount rate – MM\$)			
			Audited	Evaluated	Reviewed	Total
GLJ Petroleum Consultants	12/31/2018	Canada	1,662	-		1,662

6. In our opinion, the reserves data evaluated by us have, in all material respects, been determined and are in accordance with the COGE Handbook, consistently applied. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
7. We have no responsibility to update our reports referred to in paragraph 5 for events and circumstances occurring after the effective date of our reports.
8. Because the reserves data are based on judgments regarding future events, actual results will vary and the variations may be material.

Executed as to our report referred to above:

GLJ Petroleum Consultants Ltd., Calgary, Alberta, Canada, February 11, 2019

"Originally Signed By"

Tim R. Freeborn, P. Eng.  
Vice President

## Schedule D – List of Technical Reports

As required by Form 51-102F2 under National Instrument 51-102, the following table sets out the title, date and author(s) of the current National Instrument 43-101 technical report for each of Teck’s material properties. Notwithstanding the authorship of the reports noted below, the scientific and technical information included in this Annual Information Form regarding Teck’s mining properties is approved by, and prepared under the supervision of, Rodrigo Marinho, P.Geol., who is an employee of Teck Resources Limited, except for (a) the Antamina property, for which the reserve and resource estimates included in this Annual Information Form is approved by, and prepared under the supervision of Luis Mamani and Lucio Canchis, each SME Registered Members and employees of Compañía Minera Antamina S.A., and (b) the Fording River, Elkview and Greenhills properties, for which the scientific and technical information included in this Annual Information Form is approved by, and prepared under the supervision of Don Mills, P.Geol., and Robin Gold, P.Eng., who are employees of Teck Coal Limited. Other than Messrs. Mills and Marinho, the authors of the reports below have not prepared or approved the disclosure in this Annual Information Form, and the inclusion of their names below is not intended to imply that they have prepared or approved any such disclosure.

<u>Property</u>	<u>Title, Date and Author of Report</u>
Highland Valley Copper Mine	NI 43-101 Technical Report Teck Highland Valley Copper; March 6, 2013; Ronald Graden
Antamina	Technical Report, Mineral Reserves and Resources, Antamina Deposit, Peru; January 31, 2011; Luis Lozada and Jhon Espinoza
Fording	NI 43-101 Technical Report on Coal Resources and Reserves of the Fording River Operations; December 31, 2011; Eric Jensen, Andrew Knight, Don Mills and Barry Musil
Elkview	Technical Report on Coal Resources and Reserves of the Elkview Property; February 28, 2008; Marston Canada Ltd.
Greenhills	NI 43-101 Technical Report on the Mineral Resource and Mineral Reserve Estimates for the Greenhills Operation; February 26, 2016; Andrew J. Knight, Don Mills and Alison J. Seward
Red Dog	NI 43-101 Technical Report, Red Dog Mine, Alaska, USA; February 21, 2017; Thomas Krolak, Kevin Palmer, Brigitte Lacouture and Norman Paley
Quebrada Blanca	NI 43-101 Technical Report on Quebrada Blanca Phase 2, Región de Tarapacá, Chile; February 25, 2019; Rodrigo Marinho, Paul Kolisnyk, Bryan Rairdan and Eldwin Huls