British Columbia Coal Industry Overview 2018

BRITISH COLUMBIA

Ministry of
Energy, Mines and
Petroleum Resources

BRITISH COLUMBIA GEOLOGICAL SURVEY

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British Columbia Geological Survey
Information Circular 2019-02

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Mines and Mineral Resources Division
British Columbia Geological Survey

Front Cover: Coal beds in the Alexander Creek syncline, Line Creek mine, Elk River coalfield. **Photo courtesy of Teck Coal Limited.**

Back Cover: Bituminous coal from the 2018 Elko exploration project, Crowsnest coalfield. **Photo courtesy of Pacific American Coal Limited.**

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Victoria
British Columbia
Canada

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British Columbia coal industry overview 2018

British Columbia Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Introduction

Coal prices remained stable and strong for the second consecutive year in 2018. Coal production volumes for the province are forecast to total more than 31 million tonnes. Coal remains British Columbia's most valuable mined commodity in terms of annual sales (Fig. 1). Coking coal and PCI (pulverized coal injection) products are currently produced from four mines in the Kootenay Mountains in the southeastern part of the province, and from three mines in the Peace coalfields in the northeastern part (Fig. 2). Thermal coal is produced from the Quinsam mine on Vancouver Island. Major markets for British Columbia coal include Asian countries, especially Japan, China, and South Korea, and India. Products are also sold to steel mills in eastern Canada, and to South America and Europe.

This pamphlet provides an annual summary of the provincial coal industry. It describes the geology of British Columbia's coal regions, industry trends, coal transportation infrastructure, and mining and exploration activities for the past year. It also describes the tenure system, and lists sources of information and contacts.

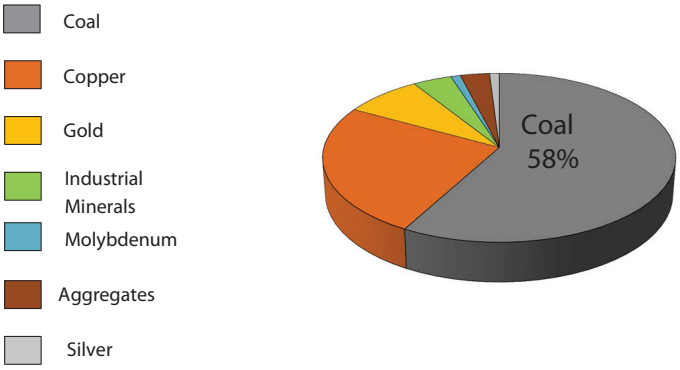

Fig. 1. Forecast production value by mined commodity for British Columbia in 2018. The value of coal production is forecast to be $6.31 billion this year, representing about 58% of all mineral revenue in the province.

British Columbia coal industry trends and news in 2018

Coal prices were stable and strong in 2018, with only minor volatility due to short-term supply problems. Hard coking coal prices averaged $186 for the year, and are forecast to improve in the fourth quarter. PCI prices averaged $149, up slightly from 2017. Thermal coal prices were volatile, starting near $100 early in the year, spiking in midsummer to more than $120, and then starting the fourth quarter at about $110 (all prices are per tonne, $US, West Coast port price).

The Coal Mountain mine in the Crowsnest coalfield reached the end of its mine life and stopped production in 2018. The four other Teck Resources Limited mines in the Southeast Region continued operating in 2018. Combined coal production for the year from the Southeast Region is forecast to be 26.2 million tonnes. Conuma Coal Resources Limited reopened the Willow Creek mine near Chetwynd, and continued production at Brule and Wolverine (Perry Creek) mines. The company forecasts its 2018 total production to reach about 4.8 million tonnes. The Quinsam thermal coal mine on Vancouver Island is forecast to produce 220,000 clean tonnes in 2018. The Murray River mining project (HD Mining International Limited) acquired its Mine Permit and was granted a lease. The value of coal production for the province is forecast at $6.31 billion for 2018, up slightly from $5.96 billion in 2017. The value of coal products constituted about 58% of all mineral sales in the province this year (Fig. 1).

As of November 15, 2018, new coal license applications numbered 64 in 2018, for a total of 67,600 hectares (Fig. 3). Six new coal licenses covering 6369 hectares were issued (Fig. 4). One new lease was issued, covering 5643 hectares at the Murray River proposed mine.

Coalfields of British Columbia

The distribution of Upper Jurassic to Tertiary coal coalfields follows the southeast-to-northwest tectonic and physiographic grain of the province (Fig. 2). Currently, most coal mining is in the Rocky Mountain belt of eastern British Columbia. Coalfields are also in the interior of the province and on Vancouver Island and Haida Gwaii (Fig. 2).

In **southeastern British Columbia**, deposits are in the Elk River, Crowsnest and Flathead coalfields, which extend from the Canada-USA border to the northwest for 175 km along the Rocky Mountains (Figs. 2, 5). Economic coal seams are hosted by the Mist Mountain Formation of the Kootenay Group (Jurassic to Lower Cretaceous; Fig. 6). Most of the known resource is metallurgical (coking and PCI) coal, ranging mainly from high-volatile bituminous to low-volatile bituminous, with some semi-anthracite in southern Crowsnest coalfield. Southeastern British Columbia coals are characterized by low total sulphur contents. Potentially mineable coal resources are estimated at 8.0 billion tonnes. Provincial legislation enacted in 2011 prohibits subsurface resource exploration and development in the Flathead River watershed (Fig. 5), so parts of the Flathead and Crowsnest coalfields are excluded from coal mining activity.

The **northeastern British Columbia** deposits are in the Foothills and Plains coalfields, together known as the Peace

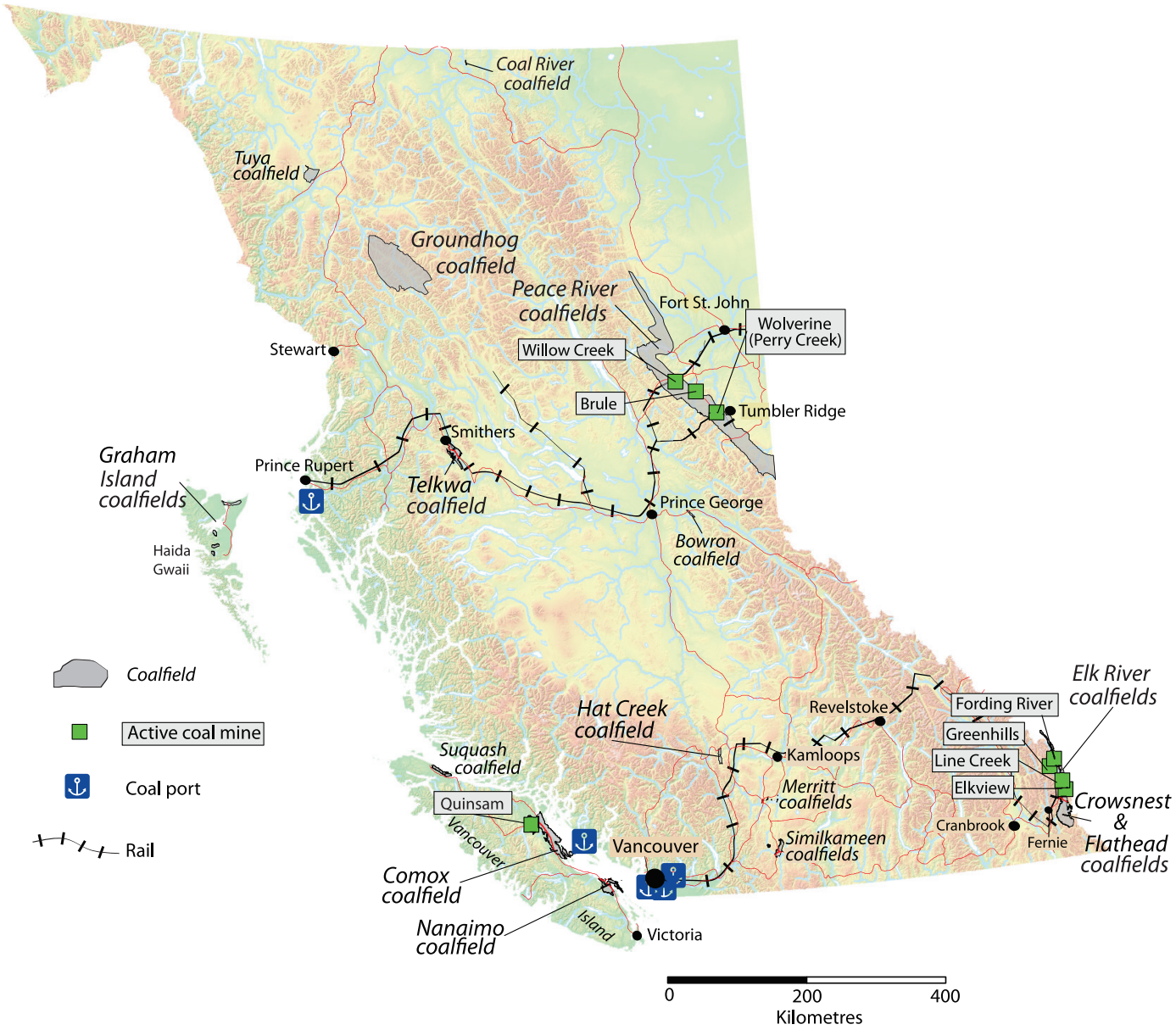

Fig. 2. Coal fields and operating coal mines in British Columbia.

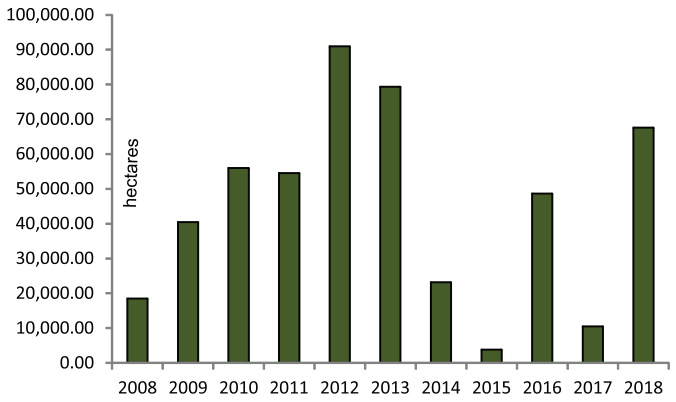

Fig. 3. New coal license applications, 2008 to 2018, in hectares, as of November 15, 2018. This chart includes applications made in 2018 that were converted to licenses before November 15.

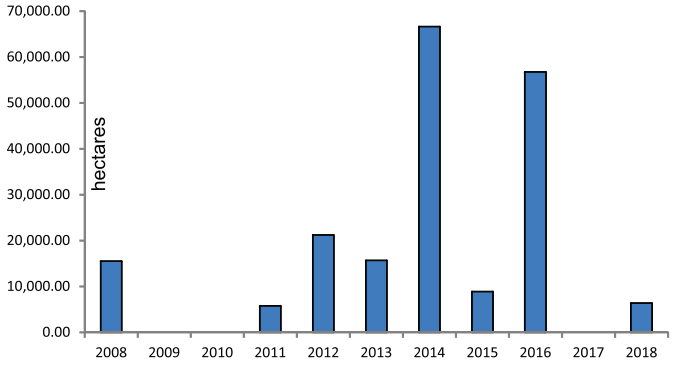

Fig. 4. Coal licenses issued, 2008 to 2018, in hectares, as of November 15, 2018.

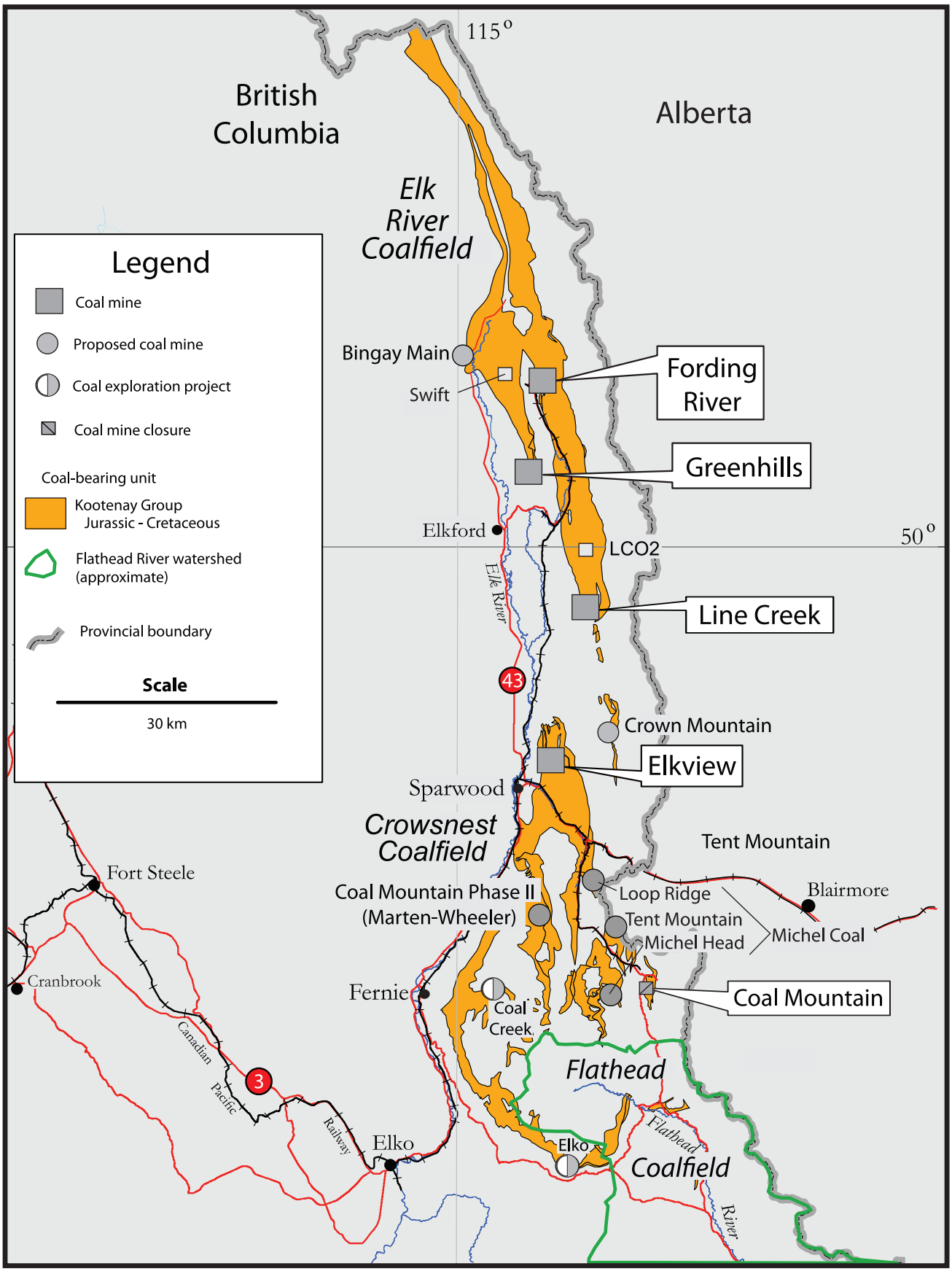

Fig. 5. Coal mines and selected exploration projects, southeastern British Columbia.

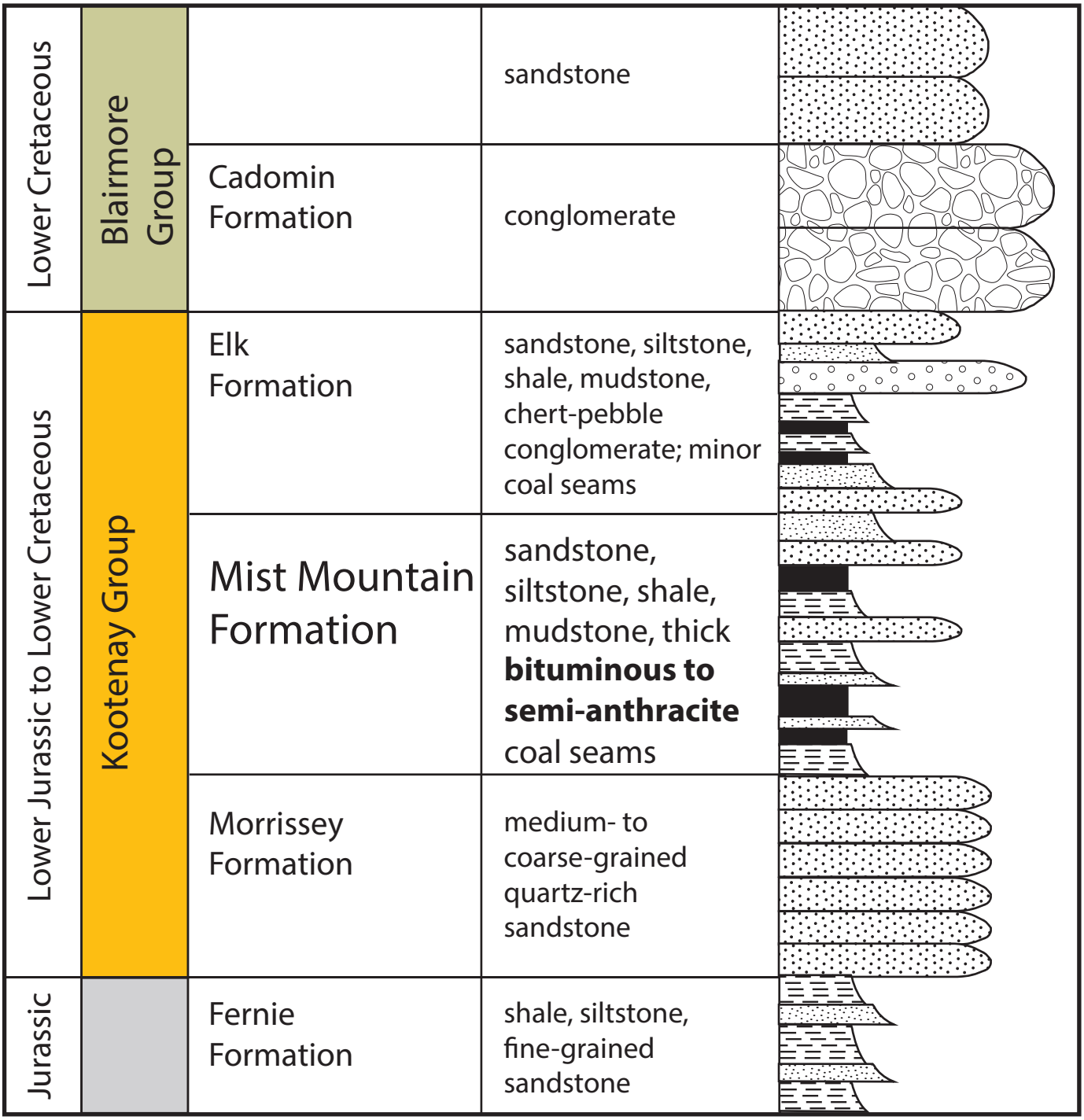

Fig. 6. Coal stratigraphy of southeastern British Columbia.

River coalfields. The Foothills coalfield extends for 400 km along the eastern flank of the Rocky Mountains (Figs. 2, 7). The coals are distributed through a stratigraphic interval of more than 3000 m, and are hosted by five Lower Cretaceous units, the most important of which are the Gates Formation (Fort St. John Group) and the Gething Formation (Bullhead Group; Fig. 8). Coal in the Gething and Gates formations are bituminous in rank, ranging from high to low volatile. Metallurgical (coking and PCI) coals are predominant, and total sulphur contents are typically low.

The Minnes Group (Lower Cretaceous) hosts coal. However, mineable thicknesses and continuity have not been documented, and the Minnes Group coals are not current exploration targets. Deposits of weak coking coal, recognized in the Boulder Creek Formation (Upper Cretaceous), are lower in rank and have potential as thermal coal resources. Potentially mineable coal

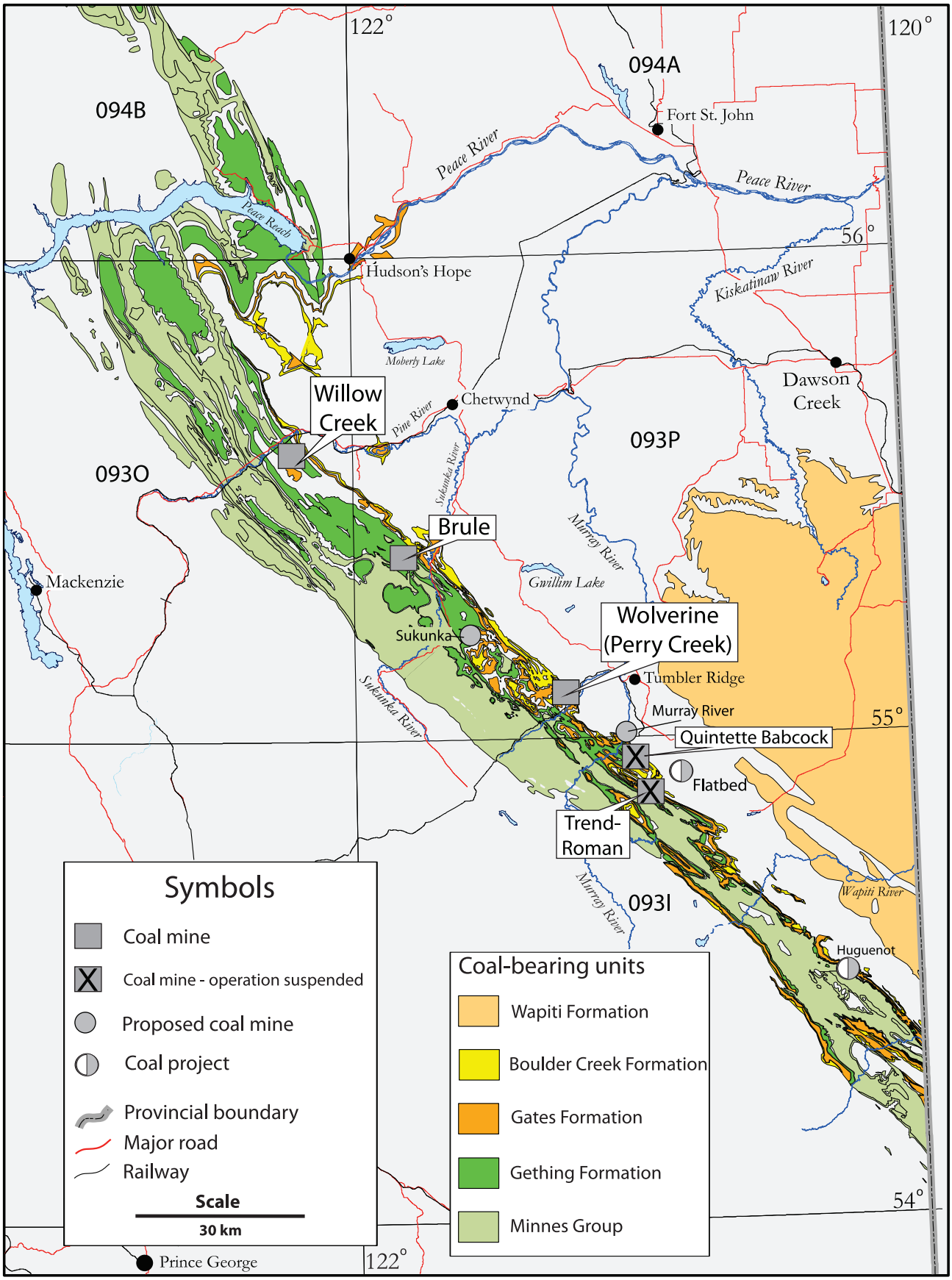

Fig. 7. Coal mines and selected exploration projects, northeastern British Columbia.

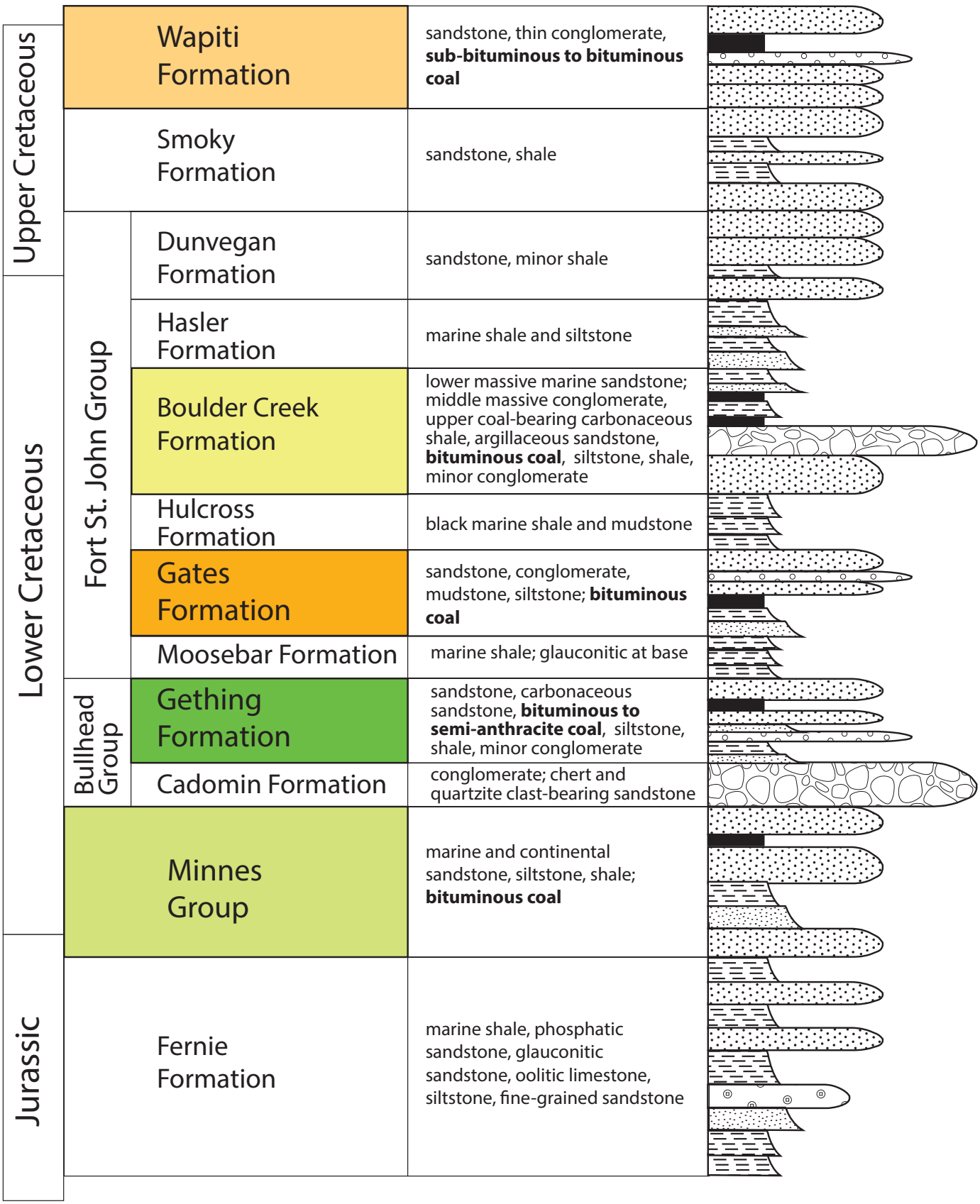

Fig. 8. Coal stratigraphy of northeastern British Columbia.

resources in northeastern British Columbia coalfields have been estimated at 4.9 billion tonnes.

In **northwestern British Columbia**, the Groundhog-Klappan Coalfield (Fig. 2) extends across an area of approximately 2300 km^2 and hosts Canada's only significant anthracite deposits. The estimated potential of the greater Groundhog region is more than 9 billion tonnes of semi-anthracite to meta-anthracite coal. The coal is hosted by Jurassic to Cretaceous deltaic deposits in the Bowser Lake Group. Coal is found in several other smaller Mesozoic basins in the northwestern part of the province, including the Telkwa Coalfield south of Smithers and the Tuya River deposit (Fig. 2).

In the **southern interior**, numerous small Tertiary basins contain coal. Tertiary basin coals in the Similkameen, Merritt, and Hat Creek coalfields range from lignite to high-volatile bituminous, and are generally low in sulphur content.

On **Vancouver Island**, coal in the Nanaimo and Comox coalfields is hosted by several units in the Nanaimo Group (Upper Cretaceous). Coal ranks are generally high-volatile bituminous in rank; ash and sulphur contents vary.

Coal mining and exploration in 2018

Coal production in 2018 is forecast to reach 31 million tonnes. Production from Teck Resources Limited's four mines in the southeast part of the province is forecast to be about 26 million tonnes. Conuma Coal Resources Limited produced about 4.8 million tonnes from the Perry Creek, Brule, and Willow Creek mines in the Peace River coalfields (Table 1). The Quinsam mine is forecasting a production total of 220,000 clean tonnes. Please refer to the Provincial Overview of Exploration and Mining in British Columbia (British Columbia Geological Survey Information Circular 2019-1) for coal exploration expenditure numbers.

Southeastern British Columbia

Mining

Teck Coal Limited, the world's second-largest exporter of metallurgical coal, operates four open-pit coal mines in the Elk River valley area (Fig. 5). The mines at **Fording River, Greenhills, Line Creek and Elkview** produced more than 90% of Canada's total annual metallurgical coal exports. The main product is coking coal, but pulverized coal injection (PCI) coal and thermal coal are also produced. All four are open-pit, truck and shovel mines. Teck Coal Limited's Q3 2018 report predicts that volumes of clean coal production from southeastern British Columbia will be more than 26 million tonnes. The Elk River coalfield includes the Fording River, Greenhills and Line Creek operations. Coal beds are preserved in the Alexander Creek and Greenhills synclines. At **Fording River**, production came from the Eagle Mountain and Swift areas. The Cougar Pit is currently being mined at the **Greenhills** mine. Production at **Line Creek** in 2018 was from the Burnt Ridge Extension (BRX), North Line Creek Extension (NLX) (Fig. 8), and Mine Services Extension (MSX) pits. Operations at the **Coal Mountain** mine were suspended in the third quarter of 2018 as it reached the end of its mine life. The Coal Mountain wash plant and load-out facilities continue to operate, processing coal from other mines.

Exploration

All four active Teck Coal Limited operations had expansion projects in the exploration, permitting, or development stage (Table 2), and several other companies continued with early- and advanced-stage exploration projects. At **Fording River**, large-diameter core drilling for coal quality testing was conducted in the **Swift** project expansion area and at Mount Turnbull. At the **Greenhills** Mine, exploration continued at the **Cougar Pit Extension (CPE)**, including in-pit drilling to update structural and seam thickness models, and extensive drilling in expansion areas. More than 1430 metres of large-diameter (9-inch) core was also drilled for bulk sample coal quality and coke strength testing. At **Line Creek**, exploration and development work continued on **Line Creek Phase II expansion (LCO2)** area north of the active mining. More than 8700 metres of exploration drilling was completed to further define mine planning and pit design north of the active Burnt Ridge Extension pit. At Mount Michael, coal quality testing was done in 2018 to prepare for highwall push-back and the next phases of mining. In addition, design changes were completed to improve the treatment process and meet water quality targets at the West Line Creek water treatment facility. At the **Elkview** mine, drilling continued in active pits in 2018, as well as in their expansion areas, including large-diameter core holes for coal quality testing.

Jameson Resources Limited drilled for coal quality samples and geotechnical data, installed water monitoring wells, and conducted environmental and archaeological surveys at the C**rown Mountain** project.

North Coal Limited submitted a revised project description to the Provincial and Federal Environment Assessment offices for the **Michel Coal** project, which includes the **Loop Ridge**, **Tent Mountain** and **Michel Head** areas. Exploration in 2018 concentrated on drilling in the Tent Mountain area. In March 2018, the company acquired adjacent coal licenses at the South Hazell exploration project from Pacific American Coal Limited, extending the Michel Coal project holdings to the south.

Pacific American Coal Limited conducted their first drilling program at the **Elko** project, completing a total of 1050 m in nine holes (Fig. 9).The **Bingay Main** project (Centermount Coal Limited) is in the pre-application stage of Environmental Assessment. The company conducted public engagement for a proposed open pit that would produce approximately 1 Mt/year during an estimated 15-year lifespan. Notices of Work have been filed for further exploration.

Crows Nest Pass Coal Mining Limited continued environmental baseline studies at their **Coal Creek** property south of Fernie.

Table 1. Coal mines in British Columbia; production for 2018 and reserve numbers.

Mine	Operator	Commodity	Forecast 2018 Production	Reserves as of December 31, 2017 (Proven + Probable)
Brule	Conuma Coal Resources Limited	ULV PCI coal	2.47 Mt ROM	14.8 Mt Proven + Probable
Coal Mountain	Teck Coal Limited	PCI	615,000 t clean	1.0 Mt Proven + Probable
Elkview	Teck Coal Limited	HCC	6.7 Mt clean	293.5 Mt HCC Proven + Probable
Fording River	Teck Coal Limited	HCC	9.0 Mt clean	382.5 Mt HCC Proven + Probable
Greenhills	Teck Coal Limited	HCC	6.1 Mt clean	165.2 Mt HCC Proven + Probable
Line Creek	Teck Coal Limited	HCC and thermal coal	3.8 Mt clean	63.6 Mt HCC Proven + 9.9 Mt thermal Probable
Quinsam & 7 South	Quinsam Coal Corporation	Thermal coal	220,000 t clean	not available
Willow Creek	Conuma Coal Resources Limited	HCC	482,000 t ROM	16.1 Mt saleable, Proven
Wolverine (Perry Creek)	Conuma Coal Resources Limited	HCC	1.89 Mt ROM	6.9 Mt saleable, Proven
HCC = hard coking coal; PCI = pulverized coal injection; ULV = ultra-low volatile; ROM = Run of mine				

Fig. 9. Core from 2018 drilling at the Elko project, Pacific American Coal Limited. Photo courtesy of Pacific American Coal Limited.

Northeastern British Columbia

Mining

Conuma Coal Resources Limited continued production at the **Brule** and **Wolverine (Perry Creek)** mines, and re-opened the **Willow Creek** mine (Fig. 10) after a closure of four years. Surface reserves at the Wolverine mine are approaching depletion, and plans to transition to an underground operation are in progress.

The **Murray River** mining project (HD Mining International Limited) converted its exploration licenses to a lease and received a Mines Act permit in 2018. The company plans to produce coking coal from an underground operation and projects a 25-year mine life. The Sukunka project (Glencore

Fig. 10. The 7N2 highwall, Willow Creek mine, northeastern British Columbia. Photo courtesy of Conuma Coal Resources Limited.

Table 2. Selected coal exploration and development projects in British Columbia 2018.

Property name	Operator name	Status	2018 activity	Region
Bingay Main	Centermount	Pre-application EA*	Public engagement	Southeast
Brule	Conuma Coal Resources Limited	Producing mine	Exploration drilling on-lease	Northeast
Coal Creek	Crows Nest Pass Coal Mining Limited	Exploration	Environmental Baseline Prefeasibility	Southeast
Crown Mountain	Jameson Resources Limited	Pre-application EA	Drilling Bulk sample Engineering Environmental Geotechnical drilling Monitoring wells	Southeast
Elko	Pacific American Coal	Exploration	Drilling Environmental Surface mapping	Southeast
Elkview-Baldy Ridge Extension	Teck Coal Limited	Approved EA	Drilling Coal quality	Southeast
Flatbed	Colonial Coal International Corporation	Exploration	Resource assessment PEA¥	Northeast
Fording-Swift	Teck Coal Limited	Approved EA	Drilling Coal quality	Southeast
Greenhills-Cougar Pit Extension	Teck Coal Limited	Approved EA	Drilling Coal quality	Southeast
Huguenot	Colonial Coal International Corporation	Exploration	PEA update	Northeast
Line Creek Phase II	Teck Coal Limited	Approved EA	Drilling Coal quality	Southeast
Michel Coal	North Coal Limited	Pre-application EA	Drilling Coal quality Monitoring wells	Southeast
Murray River	HD Mining International Limited	Mining permit in place	Pending investment decision	Northeast
Panorama	Atrum Coal Panorama Incorporated	Exploration	Drilling	Northwest
Sukunka	Glencore Canada Corporation	EA suspended	Inactive	Northeast
Telkwa	Allegiance Coal	Exploration	Drilling Bulk sample Geotechnical	Northwest
Willow Creek South	Conuma Coal Resources Limited	Producing mine	Exploration drilling on-lease	Northeast
Wolverine (Perry Creek)	Conuma Coal Resources Limited	Producing mine	Exploration drilling on-lease	Northeast

*EA Environmental Assessment. ¥PEA Preliminary Economic Assessment

Canada Corporation) has been planned as both an open pit and underground operation. The environmental assessment process was suspended in January 2016, and remains so pending further study on the effects upon caribou and water quality.

Anglo American plc's **Trend** coal mining operations, suspended in 2014, remained idle throughout 2018. The planned reopening of the Teck Resources Limited's **Quintette** mine at Mount Babcock remains on hold, as does the opening of Anglo American plc's **Roman Mountain** expansion area for the Trend mine.

Exploration

On-lease exploration to extend the resource base was completed at the **Willow Creek** mine in 2018. Exploration got underway late in the year on-lease at the **Brule** and **Wolverine** mines.

Colonial Coal filed its first NI 43-101 resource estimate for the **Flatbed** property in January 2018, announcing an inferred underground resource of 298 million tonnes. A Preliminary Economic Assessment (PEA) for the Gordon Creek area of the property was released in November. In addition, the company released an updated PEA on its **Huguenot** property in July.

Northwestern and north-central British Columbia

Exploration

At Atrum's **Panorama** project, an eight-hole drilling program was completed. The company's nearby **Groundhog North** project was quiet; environmental baseline studies continued. Allegiance Coal Limited completed 34 drill holes at the Tenas area of the **Telkwa** coal deposit in the spring of 2018 (Fig. 11). The holes were drilled for geotechnical and water monitoring work, geochemical sampling, and bulk sampling for washing and coking tests.

Fig. 11. Sonic drill in operation during the 2018 drilling program at Allegiance Coal's Telkwa project. Photo courtesy of Allegiance Coal Limited.

Vancouver Island

Mining and exploration

The **Quinsam** thermal coal mine near Campbell River operated continuously in 2018, producing about 220,000 t. Owned by ERP Compliant Fuels LLC, the mine continues to be operated by Quinsam Coal Corporation. Exploration drilling was done at Quinsam North in 2018.

Transportation infrastructure

Most coal produced in the Elk River and Crowsnest coalfields in southeastern British Columbia is transported by rail to Westshore Terminals in Delta and Neptune Bulk Terminals in North Vancouver for export (Fig. 2). Lesser volumes are transported by rail to steel mills in eastern Canada. The coalfields of northeastern British Columbia are connected by rail to Ridley Island Terminals near Prince Rupert.

The Westshore facility continued a five-year expansion program that began in 2014. This year the third of three new stacker reclaimers (Fig. 12) was brought onsite and is now being fully assembled and commissioned. The Neptune facility continues to make improvements to its coal handling equipment, dust suppression systems, and access upgrades. In 2014, Fraser Surrey Docks obtained a permit from Port Metro Vancouver to add a coal shipping facility to its existing terminal on the Fraser River. In January 2018, a challenge to the permit was dismissed by a judicial review. Construction of the coal facility has not yet begun.

Fig. 12. Westshore coal terminal Delta; in 2018, the third of three new stacker reclaimers was brought onsite is now being fully assembled and commissioned. Photo courtesy of Westshore Terminals.

Coal tenure

The Mineral Titles Branch of the British Columbia Ministry of Energy, Mines and Petroleum Resources maintains a website that provides information about Coal Titles regulations and resources for researching and acquiring coal tenures in the province (Table 3). Coal tenure in British Columbia is held in two forms: **coal licence** or **coal lease**. The **coal licence** is the initial stage of coal tenure, and is appropriate for exploration. It is analogous to a mineral claim. Acquisition is initiated by a **coal license application**; a Free Miner Certificate is not required to acquire a coal licence. Coal licence holders have the exclusive right to explore and develop Crown-owned coal resources as defined in the Coal Act. Production is limited to

Table 3. Websites to access coal tenure information.

Coal Association of Canada	www.coal.ca
Teck Coal Limited	www.teck.com
Conuma Coal Resources Limited	www.conumacoal.com
Atrum Coal NL	http://atrumcoal.com/
Quinsam Coal Corporation	250-286-3224
Anglo American Canada plc	www.angloamerican.ca
Canadian Dehua International Mines Group Incorporated	http://www.dehua.ca/
Centermount Coal Limited	http://www.centerpointcanada.com/
Colonial Coal International Corporation	http://ccoal.ca
Crowsnest Pass Coal Mining Limited	http://www.crowsnestpasscoal.com
Glencore Canada Corporation	www.sukunkaproject.ca
HD Mining International Limited	http://www.hdminingintl.com/
Jameson Resources Limited	http://www.jamesonresources.com.au/
North Coal Limited	www.northcoal.ca
Pacific American Coal Limited	http://www.pamcoal.com/

a 100,000-tonne sample for testing purposes. A **coal lease** is the appropriate tenure to hold when a mineable resource has been proven and the project is ready to switch from exploration to production of coal. Coal licenses and leases will not be issued on **coal land reserves**, which are closed to exploration, development, and production of coal. Spatial data and maps showing active coal tenure, applications, and coal reserves are available online at the Mineral Titles Online site (Table 3) and on MapPlace 2 (Table 4).

An application for a coal licence is made to the Minister and must be accompanied by: the prescribed application fee; the prescribed rent in respect of location; and a plan and description of the location under Section 11 of the Coal Act. The application fee is $25 per hectare plus $7 per hectare first year rental. Coal licenses must be renewed annually by the anniversary date of the tenure acquisition. Annual renewal requirements include remitting annual rental fees and submitting a technical report on all exploration work during the previous year. Before carrying out exploration that involves mechanized ground disturbance, the licence holder must possess a permit under the Mines Act. The application for approval of exploration activities is termed a Notice of Work (NOW). A Notice of Work can be submitted at the same time as the coal license application but work cannot begin until tenure is granted. A coal lease gives the holder the exclusive right to explore for, develop, and produce a coal resource on the lease location. The tenure holder must first have held a coal licence over the same location. The initial term for a coal lease is 30 years, followed by 15 years upon renewal. All appropriate approvals and authorizations must be in place before commencing work on a coal lease.

An environmental assessment is required for proposed major mine construction and expansion projects; please visit the website of the British Columbia Environmental Assessment Office (EAO), an independent agency of the Government of British Columbia (Table 3).

British Columbia Geological Survey information sources

Founded in 1895, the British Columbia Geological Survey integrates historical data with active research programs and, drawing on continuously advancing concepts and technologies in the Earth sciences, supports the coal and mineral industries. The British Columbia Geological Survey preserves, archives, and provides free web-based access to more than a century's worth of geoscience information. Each year in January, the British Columbia Geological Survey releases its Geological

Table 4. Websites to access British Columbia Geological Survey publications and databases.

To access	Click
British Columbia Geological Survey publication catalogue	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/publications
British Columbia Geological Survey geological fieldwork	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/publications/fieldwork
British Columbia Geological Survey coal geology page	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/geology/coal-overview
Provincial overview of exploration and mining in British Columbia	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/mineral-development-office
British Columbia coal assessment reports and COALFILE	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/assessmentreports/coalfile
MINFILE	https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/british-columbia-geological-survey/mineralinventory
MapPlace	www.mapplace.ca

Fieldwork volume (a summary of field activities and current research), summaries of exploration and mining at the provincial and regional levels, and the present coal industry overview.

MapPlace2 is the British Columbia Geological Survey database-driven geospatial web service that allows users to

mine information in the: industry and government document archive (Property File); online mineral inventory (MINFILE); mineral assessment report database (ARIS); coal assessment report database (COALFILE); regional geochemistry survey (RGS); Mineral Titles Online (MTO) tenure database; digital geology of British Columbia database; the British Columbia Geological Survey publication catalogue; and extensive collections of bedrock and surficial geology maps.

MINFILE is a mineral inventory database that contains geological, location, and economic information on more than 14,600 metallic, industrial mineral, and coal occurrences. COALFILE is the database of coal reports. It contains a collection of almost 1000 assessment reports dating from 1900, many of which were submitted by exploration companies in compliance with the Coal Act. COALFILE contains details of coal exploration reports including data for about 15,700 boreholes, 550 bulk samples, 5600 maps, 3650 trenches, and 500 coal ash analyses. A search engine leads clients to a summary page for each coal assessment report.

Industry contacts

The corporate websites of coal exploration and mining groups active in British Columbia are listed in Table 5.

Contacts at the Ministry of Energy, Mines and Petroleum Resources and the British Columbia Geological Survey

Personnel from the Ministry of Energy, Mines and Petroleum Resources and British Columbia Geological Survey are available for consultation (Table 6). Should you wish to receive notification of British Columbia Geological Survey publications released throughout the year, please subscribe to our newsletter by emailing Geological.survey@gov.bc.ca

Table 5. Industry contacts.

Coal Association of Canada	www.coal.ca
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Quinsam Coal Corporation	250-286-3224
Anglo American Canada plc	www.angloamerican.ca
Canadian Dehua International Mines Group Incorporated	http://www.dehua.ca/
Centermount Coal Limited	http://www.centerpointcanada.com/
Colonial Coal International Corporation	http://ccoal.ca
Crowsnest Pass Coal Mining Limited	http://www.crowsnestpasscoal.com
Glencore Limited	www.sukunkaproject.ca
HD Mining International Limited	http://www.hdminingintl.com/
Jameson Resources Limited	http://www.jamesonresources.com.au/
North Coal Limited	www.northcoal.ca
Pacific American Coal Limited	http://www.pamcoal.com/

Table 6. British Columbia Ministry of Energy, Mines and Petroleum Resources contacts.

Gordon Clarke Director, Mineral Development Office British Columbia Geological Survey, Vancouver	604-660-2094 gordon.clarke@gov.bc.ca
Janet Riddell Coal Geologist British Columbia Geological Survey, Victoria	778-698-8064 janet.riddell@gov.bc.ca
Jessica Norris Coal Assessment Report Geologist British Columbia Geological Survey, Victoria	778-698-7223 jessica.norris@gov.bc.ca
Fiona Katay Regional Geologist, Southeast Cranbrook	250-416-6010 fiona.katay@gov.bc.ca
John DeGrace Regional Geologist, Northeast and North Central Prince George	250-565-4316 john.degrace@gov.bc.ca
Bruce Northcote Regional Geologist, Southwest Vancouver	604-660-2713 bruce.northcote@gov.bc.ca
Chris Smith Director, Coal Titles Mineral Titles Branch, Victoria	778-698-7150 chris.smith@gov.bc.ca
Vacant Regional Geologist, South Central Kamloops	
Vacant Regional Geologist, Northwest Smithers	

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