

Exploration and mining in the Southeast Region, British Columbia



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1. Introduction

Four metallurgical coal mines operate in the Elk Valley of the Southeast Region, accounting for most of Canada's coal production and exports, and mine expansion and exploration continued at these mines. Dating back to the mid-1800s, the region has a long history of metals mining, including lead, zinc, and silver from the past-producing Sullivan mine and gold and silver from the Rossland, Greenwood, Sheep Creek, and Slocan camps. Today, exploration in the region focuses on base and precious metals with some recent extensions into lithium and related metals on Canada's critical minerals list. The region hosts several industrial mineral mines and quarries, and placer mining continues. The Trail smelter (Teck Resources Ltd.) produces refined lead, and zinc (which is on Canada's critical minerals list), silver and cadmium along with other metals on Canada's critical minerals list (germanium, indium), and fertilizer products. Estimates for exploration expenditures, drilling programs, and other metrics were captured in the British Columbia Mineral and Coal Exploration Survey, a joint initiative of the Province of British Columbia Ministry of Energy, Mines and Low Carbon Innovation, the Association for Mineral Exploration in British Columbia, and EY LLP. For the Southeast Region, exploration expenditures are estimated at \$35.9 million. The estimate for exploration drilling is 98,210 m (Clarke et al., 2024; EY LLP, 2024). A slow-down in exploration activities reflects reduced financing (some companies suspended operations) and delays in permit approvals for drilling.

2. Geological overview

The mineral endowment of British Columbia, including the Southeast Region, is intimately tied to the tectonic evolution of the Canadian Cordillera, which records a protracted history of supercontinent breakup followed by accretion of allochthonous terranes to the western flank of Ancestral North America and post-accretion deformation and magmatism (e.g., Nelson et al., 2013). From east to west, the Southeast Region provides a cross-section through several components of the Canadian Cordillera (Fig. 1). On the east are Archean to Mesoproterozoic basement rocks of Ancestral North America, Proterozoic rift and intracratonic basin successions (Belt

Purcell and Windermere supergroups), Paleozoic to Jurassic passive margin and deep-water basin deposits, and Jurassic to Cretaceous foreland basin deposits. To the west are the Slide Mountain terrane, which records Devonian subduction beneath the western flank of Ancestral North America and back-arc extension that led to the creation of the 1000 km-wide Slide Mountain ocean, and the Quesnel volcanosedimentary arc terrane and its basement (Nelson and Colpron, 2007; Nelson et al., 2013). The Southeast Region contains two of the major physiographic belts commonly used to describe the Canadian Cordillera (Fig. 1). In the Rocky Mountain foreland belt, mainly unmetamorphosed sedimentary rocks are deformed by northeast-vergent, thin-skinned thrusts and folds. The Omineca belt contains greenschist- to amphibolite-grade siliciclastic and volcanic rocks and basement-cored gneiss domes (Monger, 1999).

3. Mines and quarries

3.1. Metal mines

No metal mines operated in the Southeast Region in 2023.

3.2. Coal mines

Coal remains British Columbia's most valuable mined commodity with sales forecasted at \$10.2 billion for 2023, which accounts for approximately 64.5% of the mining revenue for the province. In the Southeast Region, Teck Coal Limited mines coal from structurally thickened seams of the Kootenay Group (upper Jurassic to lower Cretaceous; Fig. 2; Table 1) at four open-pit operations along the Elk River valley: **Fording River, Greenhills, Line Creek, and Elkview**. More than 95% is metallurgical, high-quality hard coking coal. Coal is shipped via rail to three main shipping terminals on the west coast (Westshore, Neptune, and Ridley). Total annual production from the mines in the Southeast Region for 2023 is estimated to be 23-23.5 Mt of metallurgical coal. Q3 production was 5.5 Mt with nine-month sales (2023) of 17.3 Mt. Major news for the coal operations was the announced sale of Teck's steelmaking coal division to Glencore PLC with a minority stake by Nippon Steel Corporation and POSCO for an announced amount of US\$9.0 billion. Terms of the sale include assurances that Glencore PLC will continue operations and retain staff and

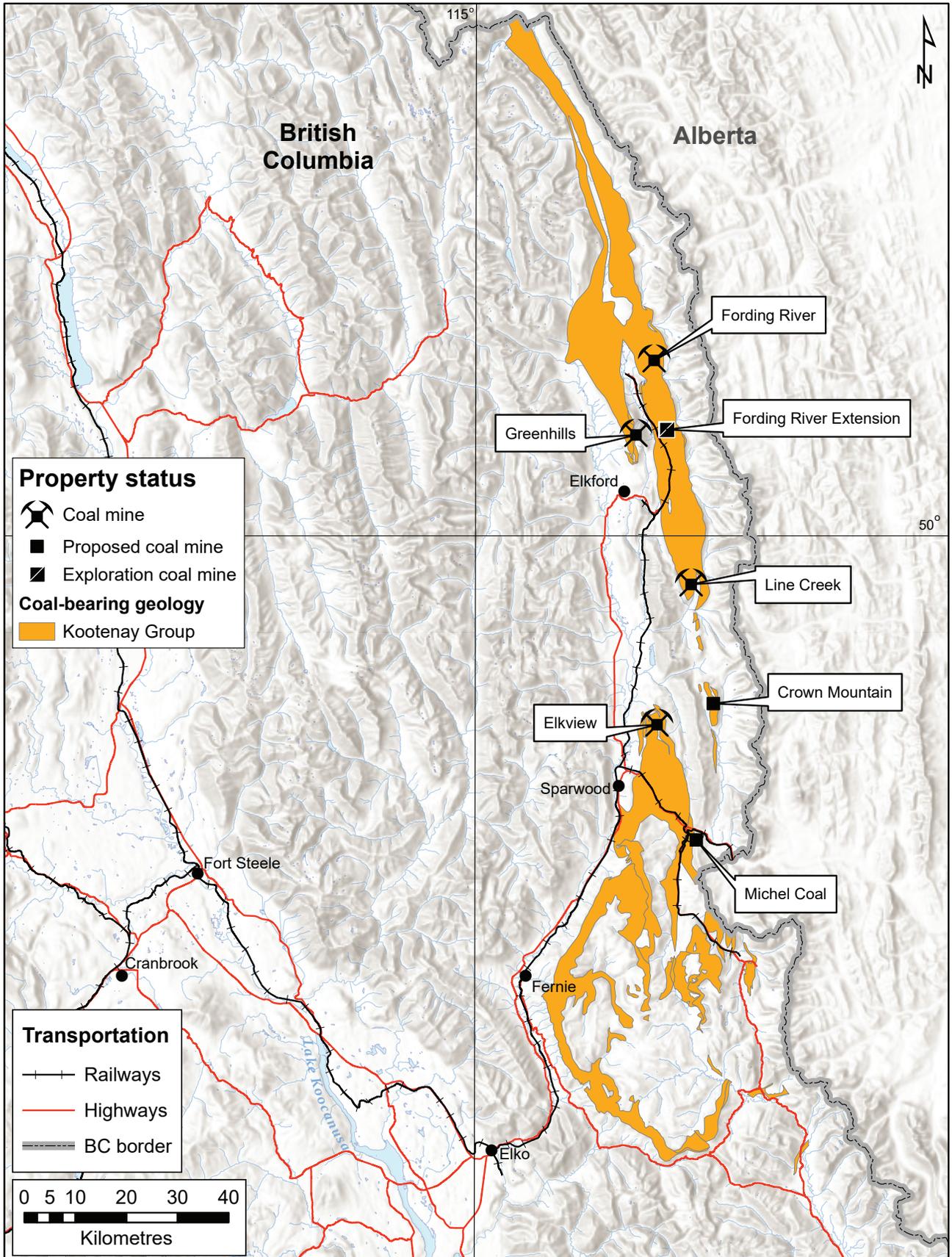


Fig. 2. Map of the Kootenay Group and East Kootenay coalfields, including the major coal mines and projects in southeastern British Columbia.

Table 1. Coal mines, Southeast Region.

Mine	Operator (partner)	Commodity; Deposit type; MINFILE	Forecast 2023 Production (based on Q1- Q3)	Reserves	Resource	Comments
Elkview	Teck Coal Limited 95% ; Nippon Steel & Sumitomo Metal Corporation 2.5%; POSCO 2.5%	HCC; Bituminous coal; 082GNE016, 17	na	na	na	Teck estimates a remaining reserve life of approximately 28 years at the current production rate.
Fording River	Teck Coal Limited	HCC; Bituminous coal; 082JSE012	na	na	na	Proven and Probable reserves sufficient for 27 years mine life; increase to 46 years including the Fording River Extension project.
Greenhills	Teck Coal Limited 80% ; POSCO Canada Limited ('POSCAN') 20%	HCC; Bituminous coal; 082JSE007, 10	na	na	na	Proven and Probable reserves are projected to support another 45 years of mining at planned production rates.
Line Creek	Teck Coal Limited	HCC, TC; Bituminous coal; 082GNE020	na	na	na	Proven and Probable reserves at Line Creek are projected to support planned production rates for a further 13 years.
All mines			23-23.5 Mt			

HCC = hard coking coal; PCI = pulverized coal injection; TC = thermal coal; ULV = ultra low volatile
P = Proven; Pr = Probable; M = Measured; I = Indicated; Inf = Inferred

subcontractors in southeast British Columbia. The deal is projected to be closed by the third quarter of 2024.

3.2.1. Elkview (Teck Coal Limited 95%, Nippon Steel Corporation 2.5%, POSCO 2.5%)

The **Elkview** mine, which extends across 27,100 ha of coal lands, produces metallurgical coal. Upgraded in 2020, the annual production capacity of the mine and preparation plant is 9.0 Mt and Teck estimates a remaining mine life of 28 years.

3.2.2. Fording River (Teck Coal Limited)

The **Fording River** mine, which extends across 13,000 ha of coal lands, produces metallurgical coal and minor thermal coal. The current annual production capacity of the mine is 9 Mt; the preparation plant has a capacity of 9.5 Mt. In 2022, production continued from the Eagle Mountain and Swift pits. The focus for development and drilling in 2023 was the **Fording River Extension** project. Teck also did exploration drilling and large diameter core drilling, in their producing pits. Proven and Probable reserves at the mine are sufficient for a 27-year mine life and, if the Fording River Extension project is included, a 46-year life.

3.2.3. Greenhills (Teck Coal Limited 80%, POSCO Canada Limited ('POSCAN') 20%)

The **Greenhills** mine consists of 11,800 ha of coal lands.

Mainly metallurgical coal is produced although some thermal coal is mined. The current annual production capacity is 5.9 Mt from the mine and 5.4 Mt from the preparation plant. Some coal from Greenhills is processed at Fording River. Proven and Probable reserves are projected to support 45 years of mining.

3.2.4. Line Creek (Teck Coal Limited)

The **Line Creek** mine consists of 8200 ha of coal lands and produces mainly metallurgical coal and minor thermal coal. The annual production capacity of the mine and preparation plant is 4.0 Mt. Proven and Probable reserves are projected to support mining for a further 13 years.

3.3. Industrial minerals mines and quarries

The Southeast Region has several industrial mineral mines and quarries (Fig. 1; Table 2). The operators range from local companies through to large international corporations.

3.3.1. Elkhorn (CertainTeed Gypsum Canada Inc.)

The **Elkhorn** mine produced gypsum from Middle Devonian evaporites of the Burnais Formation. As the reserve life ended, the mine blended a product with anhydrite that was once left behind as waste. Production was transferred to the new Kootenay West quarry in 2023.

Table 2. Selected industrial mineral mines, Southeast Region.

Mine	Operator	Commodity; Deposit type; MINFILE	Forecast 2023 Production (based on Q1- Q3)	Reserves	Resource	Comments
Elkhorn	CertainTeed Gypsum Canada Inc.	Gypsum; Bedded gypsum; 082JSW021	Reduced to 0	Mined out	na	Active extraction operations ceased in 2023. Transferred to Kootenay West (see below).
Kootenay West	CertainTeed Gypsum Inc.	Gypsum; Bedded gypsum; 082JSW005, 20	na	North and South quarries: Total 17 Mt (blended quality of 83% gypsum)	na	Mining began in 2023; planned 400,000 tpy; 43-year mine life.
Grand Forks Slag	Pacific Abrasives and Supply Inc.	Slag; Tailings; 082ESE264	na	na	na	Seasonal operation.
Moberly Silica	Vitreo Minerals Ltd.	Silica; Industrial silica; 082N 001	~60 kt product on contract for sales through 2023	na	na	~140 kt of stockpiled material on site from 2019 mining operations. No mining in 2023.
Mount Brussilof	Baymag Inc.	Magnesite; Sparry magnesite; 082JNW001	~230 kt	na	na	Material is coarse crushed on site and trucked to processing facility in Exshaw, AB.
Winner	Rockwool Inc.	Gabbro/basalt; Crushed rock, for mineral wool; 082ESE265	na	na	na	Seasonal operation.

P = Proven; Pr = Probable; M = Measured; I = Indicated; Inf = Inferred

3.3.2. Grand Forks Slag (Pacific Abrasives and Supply Inc.)

The company supplies slag material from the former Granby Consolidated Mining, Smelting and Power Company smelter site for sand blasting abrasive material.

3.3.3. Kootenay West (CertainTeed Gypsum Canada Inc.)

The company transferred production from its Elkhorn quarry to its new **Kootenay West** quarry. Mining began in 2023 with a planned 400,000 tpy production and a 43-year mine life. The deposit is in evaporites of the Burnais Formation (Devonian) in a section 20-25 m thick grading 75-95% gypsum.

3.3.4. Moberly Silica (Vitreo Minerals Ltd.)

The last production at the **Moberly Silica** mine, owned by Vitreo Minerals Ltd., was in 2019 and 200,000 t of material was stockpiled. The company began contract sales of 60,000 t in the summer of 2021. The silica deposit (99% SiO₂) is in regionally extensive orthoquartzites, 300 m thick at the mine site, of the Mount Wilson Formation (Middle to Upper Ordovician).

3.3.5. Mount Brussilof (Baymag Inc.)

In production since 1981, Baymag Inc. produces magnesite at

the **Mount Brussilof** mine from Cambrian limestones in which magnesium has replaced calcium. Quarried ore is crushed then trucked to the company's processing facilities in Exshaw, Alberta. Annual magnesite production is approximately 230 kt.

3.3.6. Winner (Rockwool Inc.)

Rockwool Inc. extracts gabbro and basalt from its seasonal **Winner** quarry.

4. Placer operations

Placer mines have operated in southeastern British Columbia since the gold rush of the 1860s. Although activities were not tracked in 2023, several placer areas have operations under Mines Act permits. Active locations include, Goldstream River, Quartz Creek, Lardeau Creek, Perry Creek, Moyie River, Wild Horse River, and the Nelson-Salmo-Trail region. The placer creeks are generally linked to areas with known bedrock gold mineralization.

5. Mine or quarry development

Mine development projects are those for which a decision to produce has been made, key government approvals are in

place, and on-site construction has begun. **Horse Creek Silica** (Table 3) is the only industrial mineral project in the Southeast Region at the mine development stage.

5.1. Horse Creek Silica (Sinova Global)

At the **Horse Creek Silica** mine, Sinova Global is redeveloping a seasonal quarry in Mount Wilson orthoquartzites. In 2023, the company continued with permit updates, road construction, rail siding development, and mine site preparation. The mine is expected to produce up to 400,000 tpy of >99% SiO₂ with an estimated resource of 1.4 Mt.

6. Proposed mines and quarries

Proposed mines are feasibility-stage projects for which proponents have begun the environmental certification process (in the case of large projects) or have submitted applications for Mines Act permits (in the case of projects below British Columbia Environmental Assessment Act thresholds) or are waiting on existing permit amendments. Projects that have permits in place but have yet to obtain financing to begin site construction are also considered to be at the proposed stage. The Southeast Region has two proposed metal mines (**Bull River**, **Record Ridge**), and two proposed coal mines, (**Crown Mountain**, **Michel Coal**; Fig. 2; Table 4).

6.1. Proposed metal mines

6.1.1. Bull River (Canadian Critical Minerals Inc.)

Canadian Critical Minerals Inc. is continuing development of its **Bull River** mine project. The company completed the mine pre-application process, which was accepted by the Ministry of Energy, Mines and Low Carbon Innovation and the Ministry of Environment and Climate Change Strategy. The company has signed an ore concentrate processing agreement with New Gold Inc. The final mine permit and environmental permit processes are ongoing.

6.1.2. Record Ridge (West High Yield Resources Ltd.)

The **Record Ridge** magnesium project is in a variably serpentinized and locally carbonatized ultramafic cumulate body. The body is cut by Coryell intrusion syenites, quartz-poor monzonites, and granodiorite to the west and faulted against andesite and basalt of the Elise Formation to the east. Following feedback from public meetings early in the year, the company revised its application for a Mines Act permit to the British Columbia Mines Development Review Committee. Additionally, the company signed a Cooperation Agreement with the Osoyoos First Nations Band.

Table 3. Selected mine development projects, Southeast Region.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Reserves	Resource	Comments
Horse Creek Silica	Sinova Global	Silica; Silica sandstone; 082N 043	na	1.4 Mt est.	High purity silica (>99.9% SiO ₂) permit updates, road and rail construction, mine site preparation. Planned up to 400,000 tpy.

6.2. Proposed coal mines

Two coal mine proposals are currently in the Environmental Review process.

6.2.1. Crown Mountain (NWP Coal Canada Ltd.)

The **Crown Mountain** mine proposed by NWP Coal Canada Ltd. received an Order to proceed to the Application Development and Review phase under the British Columbia Environmental Assessment Act from the Environmental Review Office in May. The proposed mine has a production capacity of 3.7 Mt per year for a life of 16 years.

6.2.2. Michel Coal (North Coal Limited)

The **Michel Coal** project proposed by North Coal Limited is in the Pre-Application process at the Environmental Review Office. The company has proposed a mine with production capacity of 2.3-4 Mt per year and a mine life of 30 years. Public engagement and the application process are ongoing.

7. Selected exploration activities and highlights

In 2023, numerous precious metal, polymetallic base and precious metal, and industrial mineral projects were active in the Southeast Region (Table 5).

7.1. Selected precious metal projects

7.1.1. Kenville Gold Mine (Ximen Mining Corp.)

The company received its permit for major work onsite and will open a new portal with a plan for 1200 m of underground development followed by 20,250 m of underground drilling. The permit allows related surface works and addresses environmental matters, most of which were completed by the end of the summer. The company also completed lidar, airborne photogrammetry, and airborne magnetic surveys across the mine area.

7.1.2. Meridian (New Gold Inc.)

The company completed geological mapping over 4 km, underground mapping over 1 km, chip sampling, lidar surveys, drone-mounted aeromagnetic surveys, and digitization of historical underground workings at their **Meridian** project. Targets are gold-bearing quartz veins that strike northwest in metasedimentary rocks of the Broadview Formation (lower Paleozoic, Lardeau Group).

7.1.3. Punch Bowl (Pegasus Resources Inc.)

The company prospected and sampled at the **Punch Bowl** property, which is part of their Golden project. They collected

Table 4. Selected proposed mines, Southeast Region.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Reserves	Resource	Comments
Bull River	Canadian Critical Minerals Inc.	Cu, Au, Ag; Cu ±Ag quartz veins; 082GNW002	na	I: 2.26 Mt 1.80% Cu, 0.42 g/t Au, 15.3 g/t Ag Inf: 1.36 Mt 1.60% Cu, 0.42 g/t Au, 13.6 g/t Ag	Mine pre-application complete and accepted. Beginning final mine permit process. Concentrate processing agreement with New Gold Inc.
Crown Mountain	NWP Coal Canada Limited (Jameson Resources Limited 80%, Bathurst Resources Limited 20%)	HCC and PCI; Bituminous coal; 082GNE018	HCC: P: 42.60 Mt Pr: 4.91 Mt PCI: P: 7.13 Mt Pr: 1.19 Mt (2014)	HCC + PCI: M: 68.9 Mt I: 6.0 Mt (2014)	Proceeding to Application Development and Review phase, continued public engagement and permit process with federal and provincial regulators. Proposed 2 Mtpa operation (86% HCC and 14% PCI) with 15-year mine life.
Michel Coal	North Coal Ltd.	HCC and PCI; Bituminous coal; 082GSE050	na	HCC: M: 44.6 Mt I: 42.5 Mt; open-pit and underground (2015)	Entered pre-application of EA in 2015; continuing public engagement, in EAO process, projected mine production of 1.8 Mtpa for 23 years.
Record Ridge	West High Yield (W.H.Y.) Resources Ltd.	Mg; Alaskan-type Pt +/-Os+/-Rh+/-Ir; 082FSW398	na	M: 28.4 Mt 24.82% Mg I: 14.6 Mt 24.12% Mg Inf: 1.07 Mt 24.37% Mg	Public engagement, amended Mines Act permit application provided to BC Mines Development Review Committee.

HCC = hard coking coal; PCI = pulverized coal injection; TC = thermal coal
P = Proven; Pr = Probable; M = Measured; I = Indicated; Inf = Inferred

25 rock samples from both known and newly discovered quartz veins. They are examining quartz-gold veins in quartzites and pelites of the McNaughton Formation (lower Cambrian).

7.1.4. Wildhorse (Ximen Mining Corp.)

Ximen Mining Corp. completed drilling one hole (528.7 m) at its **Wildhorse** project in an area where gold was panned from surface sediments. The hole intersected multiple carbonate-quartz veins and an altered and veined zone associated with a porphyry dike.

7.2. Selected precious and base metal projects

7.2.1. Gold Drop (GGX Gold Corp.)

The company is working on epithermal gold veins in the historic Greenwood camp and reviewed existing data with a focus on tellurium results and any association with known veins or lineaments.

7.2.2. Greenwood (Grizzly Discoveries Inc.)

The company sampled numerous sites of known polymetallic skarn and vein mineralization at their **Greenwood** project. These include Sappho, Midway, Motherlode North, Copper Mountain, Imperial, Crown Point, Ket 28 and Dayton. Selected results from the Imperial area yielded six samples with greater than 1 g/t Au up to 12.1 g/t Au and eight samples yielded greater than 40 g/t Ag up to 469 g/t Ag. The company is awaiting drilling permits for its **Robocop** project.

7.2.3. Kaslo Silver (Spey Resources Corp.)

The company collected a total of 207 soil samples were collected along lines at 25 m spacing and 62 rock samples. Mineralization is present in both bedding-parallel manto carbonate-replacement bodies and structurally controlled fracture fill veins.

Table 5. Selected exploration projects, Southeast Region.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Resource (NI 43-101 compliant unless indicated otherwise)	Comments
A-J	Belmont Resources Inc.	Au; Polymetallic veins Ag-Pb-Zn ±Au; 082ESE047	na	Drilling: nine holes, 2000 m. Disseminated sulphides in talc-serpentinite alteration zones.
Amelia	Ximen Mining Corp.	Au; Polymetallic veins Ag-Pb-Zn ±Au; 082ESW020	na	Drilling, eight holes (2064 m), lidar, airborne photogrammetry, airborne magnetic survey.
Copper Creek	DLP Resources Inc.	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag; New	na	Diamond drilling; three holes, 868 m.
Dewdney Trail	PJX Resources Inc.	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag; 082GNW094	na	Prospecting, float sampling, soil, mapping.
Findlay	Eagle Plains Resources Ltd.	Pb, Zn, Ag; Polymetallic veins Ag-Pb-Zn ±Au; 082KSE060	na	Geological mapping, prospecting, soil sampling.
GC Lithium	MGX Minerals Inc.	Li; REE-pegmatite; 082M 024	na	Geological mapping, 14 geochemical samples.
Gold Drop	GGX Gold Corp.	Au, Cu, Ag, Pb, Zn; Epithermal Au- Ag-Cu, low sulphidation; 082ESE153	na	Review of existing data.
Greenwood	Grizzly Discoveries Inc.	Cu; Cu skarn; 082ESE034	na	Mapping and sampling across numerous mineral occurrences in the Greenwood camp.
Hungry Creek	DLP Resources Inc.	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag; 082FSE110	na	Prospecting and sampling. 2022 drilling reported chalcopyrite and copper oxides in Creston Formation sedimentary rocks.
Kaslo Silver	Spey Resources Corp.	Ag, Au, Pb, Zn; Polymetallic veins Ag-Pb-Zn ±Au; 082FNW096	na	207 soil samples, 62 rock grab samples.
Kenville Gold Mine	Ximen Mining Corp.	Au; Au-quartz veins; 082FSW086	na	Mines permit received, surface works and environmental matters addressed for planned new adit, 1200 m underground development and more than 20,000 m underground drilling. Lidar airborne photogrammetry, airborne magnetic survey.
Meridian	New Gold Inc.	Ag; Polymetallic veins Ag-Pb-Zn ±Au; 082KNW064	na	Surface and underground mapping, lidar, drone EM, compilation of historical information.

Table 5. Continued.

NZOU	DLP Resources Inc.	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag	na	Diamond drilling; one hole, 1333 m completed.
Punch Bowl	Pegasus Resources Inc.	Au; Carbonate-hosted disseminated Au- Ag; 083D 038	na	Prospecting, 25 samples.
Revel Ridge	Rokmaster Resources Corp.	Pb, Zn, Ag; Irish-type carbonate-hosted Zn-Pb; 082M 003	M and I: 7.156 Mt 4.14 g/t Au, 51.2 g/t Ag, 1.96% Pb, 4.19% Zn I: 7.563 Mt 4.42 g/t Au, 46.9 g/t Ag, 1.48% Pb, 2.62% Zn (2023)	Nine holes (1969 m); updated mineral resource estimate.
Silvana Mine	Klondike Silver Corp.	Ag, Pb, Zn; Polymetallic veins Ag-Pb-Zn ±Au; 082FNW050	na	Four underground holes completed.
Tatooine Silica	Homerun Resources Inc.	Silica; Silica sandstone; 082KNE012	na	28 samples taken, 27 averaged 98.8% SiO ₂ , two new zones were identified.
Thor	Taranis Resources Inc.	Base metals; Polymetallic manto Ag-Pb-Zn; 082KNW030	na	Electromagnetic survey, rock and float sampling, best float sample: 14.55 g/t Au, 1045 g/t Ag, 3.23% Cu, 0.05% Pb, 0.43% Zn.
Vulcan	Eagle Plains Resources Ltd.	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag; 082FNE093	na	Drilling 6 holes 4256 m, bore hole EM, petrography.
Wildhorse	Ximen Mining Corp.	Au; Au-quartz veins	na	Drilling, one hole, 528 m.

M = Measured; I = Indicated; Inf = Inferred

7.2.4. Silvana Mine (Klondike Silver Corp.)

Projected down from surface workings of the historic Jennie Lind-Read and Evening Lode mines, four drill holes intersected Main Vein structures. Further drilling targeted the downward projection of the Carnation hanging wall and foot wall lodes. Silver-lead-zinc mineralization is in a structurally bound carbonate-quartz breccia in interbedded black argillite and quartzite of the Slocan Group.

7.2.5. Thor (Taranis Resources Inc.)

The company undertook boulder tracing and sampling over a geophysical anomaly coincident with a north-northwest fault and reported epithermal gold mineralization in the structure. Eight float boulder sample results were released with the

best sample grading: 14.55 g/t Au, 1045 g/t Ag, 3.23% Cu, 0.05% Pb, and 0.43% Zn from a massive pyrite and tetrahedrite block. The company completed 888 m of drilling to better understand the newly discovered Thunder zone.

7.2.6. Revel Ridge (Rokmaster Resources Corp.)

The company completed drilling nine holes (1969 m total) that were designed to test extensions of both the Yellowjacket and Main zones. All holes intersected mineralization. Selected intersections include: 2.64% Pb, 6.67% Zn, 0.11 g/t Au, and 60.54 g/t Ag over 28.5 m in the Yellowjacket zone, and 0.52% Pb, 1.15% Zn, 3.88 g/t Au, and 28.0 g/t Ag in the Main zone. In June of 2023, the company released an updated mineral resource estimate for both the Yellowjacket and Main

zones with Measured and Indicated at 7.156 Mt at 1.96% Pb, 4.19% Zn, 4.14 g/t Au, and 51.2 g/t Ag, and Inferred at 7.563 Mt at 1.48% Pb, 2.62% Zn, 4.42 g/t Au, and 46.9 g/t Ag.

7.3. Selected base metal projects

7.3.1. Copper Creek (DLP Resources Inc.)

The company completed drilling 868 m in three holes. The **Copper Creek** targets are sediment hosted-stratiform copper-silver-cobalt mineralization in the middle to upper parts of the Creston Formation (Belt-Purcell basin).

7.3.2. Findlay (Eagle Plains Resources Ltd.)

The company completed surface mapping, prospecting, and soil sampling in the Midfork and Tourmalinite ridge areas of the **Findlay** project. The property is underlain by Aldridge Formation quartz wacke, quartz arenite, siltstone and argillite intruded by Moyie gabbroic sills. Mineralization comprises disseminations and streaks of galena, chalcopyrite, sphalerite, pyrite, and ankerite spatially related to northwest-trending quartz veins.

7.3.3. Hungry Creek (DLP Resources Inc.)

The company started prospecting and sampling in July, 2023. Chalcopyrite, intense sericite alteration, and carbonate alteration were observed in upper Creston Formation quartzites.

7.3.4. NZOU (DLP Resources Inc.)

The company drilled one 1333 m drill hole, but drilling was suspended because water was unavailable. The company plans to complete the hole in 2024. Most of the property is underlain Aldridge Formation greywackes (Mesoproterozoic Belt-Purcell Supergroup) that are cut by gabbroic Moyie sills.

7.3.5. Vulcan (Eagle Plains Resources Ltd.)

The company completed drilling six holes (4256 m total). The holes targeted the historic Hilo horizon, which similar to the historic Sullivan mine, is near the Lower-Middle Aldridge Formation (Mesoproterozoic Belt-Purcell Supergroup) contact. The company refers to mineralization below the Hilo horizon discovered in 2022 and intersected again in 2023 as the Vulcan horizon. The Vulcan horizon is a thick package of variably mineralized and altered fragmental rocks up to 140 m true thickness with bedding-parallel laminations containing sphalerite, galena, pyrrhotite, arsenopyrite and chalcopyrite. Drilling was followed by borehole EM in three holes.

7.4. Selected base and precious metal projects

7.4.1. A-J (Belmont Resources)

Nine holes (totalling 2000 m) were drilled on targets in the North zone between the Golden Crown and Athlestan-Jackpot mines and targets defined in a geophysical survey done in 2020. The targets are strong coincident resistivity-chargeability anomalies consisting mainly of variably altered mafic volcanic rocks. Intersections include fine-grained disseminated sulphides in zones of talc-serpentinite alteration.

7.4.2. Amelia (Ximen Mining Corp.)

The company completed lidar, airborne photogrammetry, and airborne magnetic surveys. Interpretation of the results identified two sets of lineaments. The predominant north-northwest trend parallels major faults in the area including the Mt. Verde fault and the Silver King shear zone, both associated with gold mineralization. A secondary east-northeast trend was inferred to represent cross faults or smaller quartz veins. The company received a drilling permit and eight holes (2064 m total) were completed. The holes are targeting veins below the existing mine. Disseminated pyrite, sphalerite, garnet, and chalcopyrite have been identified in core.

7.4.3. Dewdney Trail (PJX Resources Inc.)

The company found numerous talus boulders with sedimentary-exhalative type mineralization, comprising sphalerite, galena, pyrite, and pyrrhotite. Assay results included 9.33% Zn, 2.48% Pb, and 14.62 g/t Ag, 6.71% Zn, 2.23% Pb, 16.05 g/t Ag, and 0.12% Cu. Soil samples up-slope from the boulders returned elevated zinc, silver, lead, and gold values. The property is adjacent to the old Estella mine site near Fort Steele.

7.5. Selected other projects

7.5.1. GC Lithium (MGX Minerals Corp.)

The company completed a small geological mapping program and took 14 rock samples. Granitic pegmatite bodies in the area contain variable lepidolite and pink (or green) tourmaline mineralization and contain lithium-cesium-tantalum mineralization. The company is waiting for a drill permit to further test pegmatite zones.

7.6. Selected industrial mineral projects

7.6.1. Tatooine (Homerun Resources Inc.)

The company mapped and sampled the property. Twenty-eight samples were taken with 27 averaging 98.8% SiO₂. Two new silica zones were identified in structural blocks, one of which is 170 m thick and extends along strike for at least 300 m. The new zones are east of the old Brisco quarry on the property.

8. Geological research

Using multi-element stream-sediment geochemical data collected as part of Regional Geochemical Survey (RGS) programs since 1976, Rukhlov et al. (2024) defined a multivariant ‘critical mineral index’ to assess prospectivity for carbonatite-hosted critical metals in the British Columbia alkaline province. Detailed data from carbonatites in the Blue River area, which contains at least 18 carbonatite bodies, including at the Upper Fir deposit, one of the largest and best studied Nb-Ta occurrences in the Canadian Cordillera, served to develop this critical mineral index.

Hanneson and Unsworth (2023) presented a regional 3-D resistivity model of the southern Canadian Cordillera, providing new insights into the lithospheric structure and the distribution

of fluids at depth. Abdale et al. (2023) examined sapphire from the Monashee complex, presenting petrographic, geochemical, and $^{206}\text{Pb}/^{238}\text{U}$ ages of garnet-equilibrated zircon to establish the time of peak metamorphism and ensuing partial melting, and Damant et al. (2023) used apatite fission-track and (U-Th)/He thermochronology to document Miocene reactivation along the Columbia River fault at the eastern margin of the Monashee complex. Paradis et al. (2023) examined three carbonate hosted lead-zinc deposits in the Kootenay Arc to evaluate the effects of deformation and metamorphism on sphalerite by analyzing for trace elements and sulphur isotopes, Kontak et al. (2023) reviewed mineral and chemical characteristics of Mississippi Valley-type deposits, and Knaack et al. (2023) used thallium isotopes to examine the origin of a sediment-hosted Zn-rich massive sulphide deposit. Burgess et al. (2023) provided a high-precision perovskite (CaTiO_3) date from the Ice River complex. Caron et al. (2023) reported on the Cranbrook Lagerstätte biota, providing new information about depositional environments, and taphonomic conditions. Belley (2023) examined gem quality iolite from high-grade metamorphic rocks of the Thor-Odin dome. Petryshen (2023) assessed the extent and spatial distribution of selenium and other potentially toxic elements from near the town of Sparwood in the Elk River Valley.

9. Summary

Exploration has been varied across a spectrum of commodities, including precious and base metals, critical minerals, industrial minerals, and coal. Industrial minerals production has remained steady. Coal prices were high during the year and demand for metallurgical coal remains strong.

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