Exploration and mining in the North Central and Northeast regions, British Columbia

Hassan Heidarian[1, a]

[1] Regional Geologist, British Columbia Geological Survey, Ministry of Energy, Mines and Low Carbon Innovation, 350-1011 4th Avenue, Prince George, BC, V2L 3H9
[a] corresponding author: Hassan.Heidarian@gov.bc.ca

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1. Introduction

A northeast to southwest transect through the Northeast and the North Central regions provides a cross section from undeformed rocks deposited on Precambrian basement to allocthonous terranes accreted to Ancestral North America (Fig. 1). In the Northeast Region, platformal sedimentary rocks transition westward to deep-water basin strata at the eastern limit of Cordilleran deformation, close to the border of the North Central Region. The North Central Region displays a history of ocean opening and closing, island arc volcanism, and terrane accretion onto the western margin of Ancestral North America. Terrane emplacement was followed by continued orogeny, magmatism, and sedimentation. Both regions were extensively glaciated.

The Northeast Region is prospective for coal and industrial minerals and has three producing coal mines: Conuma Resources Limited's **Brule**, **Wolverine**, and **Willow Creek** operations. Conuma Resources Limited is also working towards reopening the **Quintette** mine, which was purchased from Teck Resources Limited in 2022. In the far north of the region, Fireside Minerals Ltd. produces barite from its **Fireside** mine to supply the oil and gas drilling industry. The North Central Region is prospective for copper, gold, silver, zinc, lead, niobium, and rare earth elements. These minerals occur mainly in porphyry, epithermal or vein and stockwork, SEDEX, and carbonatite settings. The North Central Region has one producing metal mine, the **Mount Milligan** copper-gold operation (Centerra Gold Inc.). Significant work and results included those reported for Centerra Gold Inc.'s **Mount Milligan (Brownfield)** and **Mount Milligan (Greenfield)** projects, Thesis Gold Inc.'s **Lawyers** project, Pacific Ridge Exploration Ltd.'s **Kliyul** and **RPD** projects, TDG Gold Corp.'s **Baker** and **Shasta** projects, Amarc Resources Ltd.'s **Joy** project, and Defense Metals Corp.'s **Wicheeda** project. Artemis Gold Inc. reported significant construction progress for their **Blackwater Gold** project.

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 North Central Region, exploration expenditures are estimated at $67.1 million. The estimate for exploration drilling is 69,590 m. For the Northeast Region, exploration expenditures are estimated at $2.6 million. The estimate for drilling exploration is 4710 m (Clarke et al., 2024; EY LLP, 2024).

2. Geological overview

The Canadian Cordillera records a history of supercontinent rifting followed by collisions between the westward-driven North American continental plate and a succession of island arc volcanosedimentary and intrusive assemblages (terranes) developed outboard of Ancestral North America and accreted to each other and to the continental margin (e.g., Nelson et al., 2013). Terrane evolution continues today as the Juan de Fuca plate slides beneath Vancouver Island. In the Northeast and Central regions, the most easterly rocks are platformal sedimentary units that thicken westward and transition to deep-water basin strata. These rocks are deformed mainly by eastward-vergent thrust faults and folds along northwest-southeast trends. The Rocky Mountain trench marks the site of about 800 km of post-accretion dextral strike slip along the Tintina fault system. Deformed deep-water basin sedimentary rocks immediately west of the Rocky Mountain trench are referred to as the Cassiar terrane (Fig. 1). Outboard of the Cassiar terrane is a group of volcanic assemblages referred to (roughly from east to west) as the Slide Mountain terrane, the Quesnel and Stikine terranes (Quesnellia and Stikinia), and the Cache Creek terrane. The Cache Creek terrane is separated from Quesnellia by the Pinchi fault, another major crustal break, which locally exposes areas of ultramafic rocks. These terranes are intruded by intermediate to felsic plutonic and volcanic rocks that are overlain by younger sedimentary and volcanic rocks. Mineral deposit types and distributions are intimately related to the geologic evolution of the terranes (e.g., Nelson et al., 2013). Thus, platformal rocks deposited above Ancestral North America host coal and potash deposits, and post-accretionary sedimentary rocks overlying the Stikine terrane host coal deposits. Deep-water basin strata host SEDEX

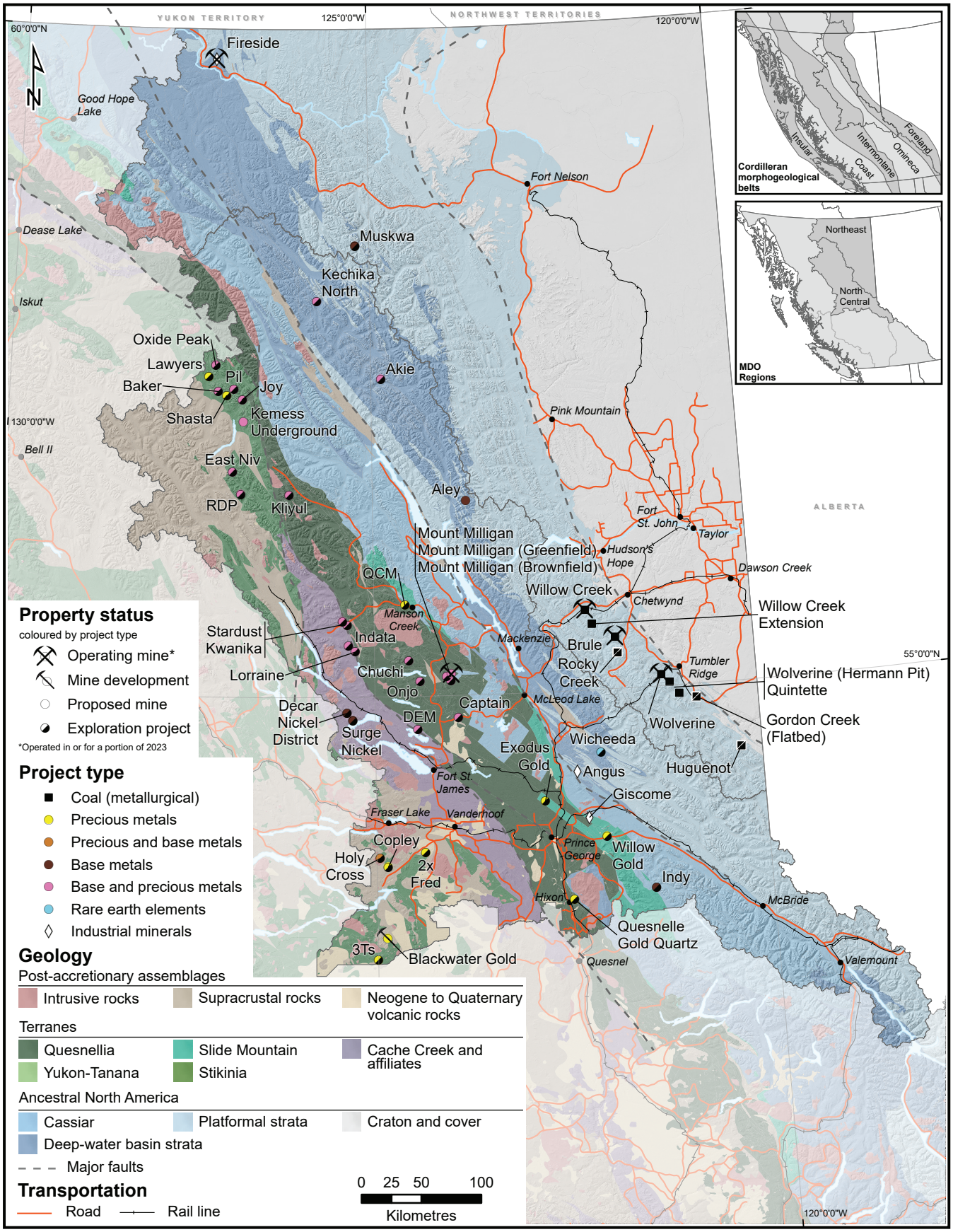

Fig. 1. Mines and selected projects, North Central and Northeast regions, 2023. Terranes after Nelson et al. (2013).

and Mississippi Valley-type lead-zinc deposits and are intruded by carbonatite bodies hosting niobium and rare earth elements (REE). The island arc assemblages of Quesnellia and Stikinia host large polymetallic porphyry, epithermal, and orogenic precious metal deposits.

3. Mines and quarries

In 2023, one metal mine operated in the North Central Region; three coal mines, and one industrial mineral mine operated in the Northeast Region (Fig. 1; Tables 1-3).

3.1. Metal mines

Mount Milligan is the only producing metal mine (copper-gold) in the North Central Region (Fig. 1; Table 1).

3.1.1. Mount Milligan (Centerra Gold Inc.)

The **Mount Milligan** mine is hosted by mafic to intermediate volcanic and pyroclastic rocks of the Takla Group (Triassic to Lower Jurassic) that are intruded by Lower Jurassic monzonite porphyry stocks. The ore body is a silica-saturated alkalic porphyry deposit in which copper and gold (with accessory silver) mineralization is in sulphides across an area of 2500 m by 1500 m. The deposit has two principal zones. At the Main zone, mineralization is mostly in volcanic rocks; at the Southern Star zone, mineralization is in a monzonite stock and in volcanic rocks.

As of December 31, 2022, the mine has Proven and Probable reserves of 224.0 Mt grading 0.18% Cu and 0.37 g/t Au with a combined Measured and Indicated resource of 182.7 Mt at 0.17% Cu and 0.30 g/t Au containing 695 million pounds (Mlbs) of copper and 1.74 million ounces (Moz) of gold and an Inferred Mineral resource of 5.69 Mt at 0.07% Cu and 0.47 g/t Au. The pit has been planned as a series of seven discrete pushbacks. The planned mine life is just over 11 years (2022-2033).

Mount Milligan produced 114,000 ounces of gold and 42 million pounds of copper in the first three quarters of 2023. The company completed mining in an ore-waste transition zone and began mining higher-grade copper and gold zones

Table 1. Metal mines, North Central Region.

Mine	Operator (partner)	Commodity; Deposit type; MINFILE	Forecast 2023 Production (based on Q1-Q3)	Reserves	Resource	Comments
Mount Milligan	**Centerra Gold Inc.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 093N 194, 191	42 Mlbs Cu 114 koz Au	P+Pr: 224.0 Mt 0.18% Cu, 0.37 g/t Au	M+I: 182.7 Mt 0.17% Cu, 0.30 g/t Au (additional to reserves) Inf: 5.69 Mt 0.07% Cu, 0.47 g/t Au	7318 m of diamond drilling in 17 holes completed in 2023. More than 350 employees.

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

Table 2. Coal mines, Northeast Region.

Mine	Operator (partner)	Commodity; Deposit type; MINFILE	Forecast 2023 Production (based on Q1-Q3)	Reserves	Resource	Comments
Brule	**Conuma Resources Limited**	PCI; Bituminous coal; 093P 007	1.6 Mt	P+Pr: 1.5 Mt	na	Drilling, 2 DDH (264.57 m). About 300 employees.
Willow Creek	**Conuma Resources Limited**	HCC, PCI; Bituminous coal; 093O 008	1.3 Mt	P+Pr: 7.8 Mt	na	About 300 employees, mine and plant.
Wolverine	**Conuma Resources Limited**	HCC; Bituminous coal; 093P 025	2.2 Mt	P+Pr: 1.2 Mt	na	About 300 employees, mine and plant.

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

Table 3. Selected industrial mineral mines and quarries, Northeast Region.

Mine	Operator (partner)	Commodity; Deposit type; MINFILE	Forecast 2023 Production (based on Q1-Q3)	Reserves	Resource	Comments
Fireside	**Fireside Minerals Ltd.**	Barite; Vein barite; 094M 003, 19	na	na	na	Fireside Minerals produces 4.1 API spec barite for sale to western Canadian oil and gas markets. In-pit mapping carried out. Geotechnical drilling for a new pit design. Remote sensing survey of a 20 km^2 area.

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

in the second half of 2023. Within the mine lease, 7318 m of drilling in 17 holes was completed (Fig. 2). The drilling was split between better defining known resources and expanding resources.

Fig. 2. Logging core at the Mount Milligan mine (Centerra Gold Inc.).

3.2. Coal mines

Conuma Resources Limited is currently producing from the **Brule**, **Willow Creek**, and **Wolverine** mines (Fig. 3; Table 2). All coal is shipped by rail to the Trigon Terminal, Prince Rupert. Coal from the three mines can be blended at port to create different quality mixtures for customer needs.

3.2.1. Brule Mine (Conuma Resources Limited)

Forecast production for the **Brule** mine was 1.6 Mt of pulverized coal injection (PCI) coal. The coal is in folded and thrust-faulted rocks of the Gething Formation. The direct-ship coal product is transported by truck to the **Willow Creek** mine site then sent by rail to the Trigon Terminal. The company drilled two holes (264.57 m) to extend the deposit.

3.2.2. Willow Creek Mine (Conuma Resources Limited)

The **Willow Creek** mine forecasted production was 1.3 Mt of hard coking coal (HCC) and pulverized coal injection (PCI) product. Coal is mined from several seams in the Gething Formation (Fig. 4). The coal is processed on site then transported by rail to the Trigon Terminal.

3.2.3. Wolverine Mine (Conuma Resources Limited)

Forecast production for the **Wolverine** mine was 2.2 Mt of hard coking coal (HCC). Coal from the mine is processed on site and loaded for rail transport to the Trigon Terminal. Coal is mined from the Gates Formation at the Perry Creek pit, which is nearing the end of its resources. Conuma has an environmental assessment in progress for an amendment that would allow mining from the Hermann pit and use the existing Wolverine processing plant and loadout facilities. The proposed Hermann pit is approximately 16 km from the Wolverine mine Perry Creek pit and coal processing plant.

3.3. Industrial mineral mines and quarries

In 2023, the **Fireside** barite mine was in operation in the Northeast Region (Fig. 1; Table 3). No industrial mineral mines or quarries operations were reported for the North Central Region.

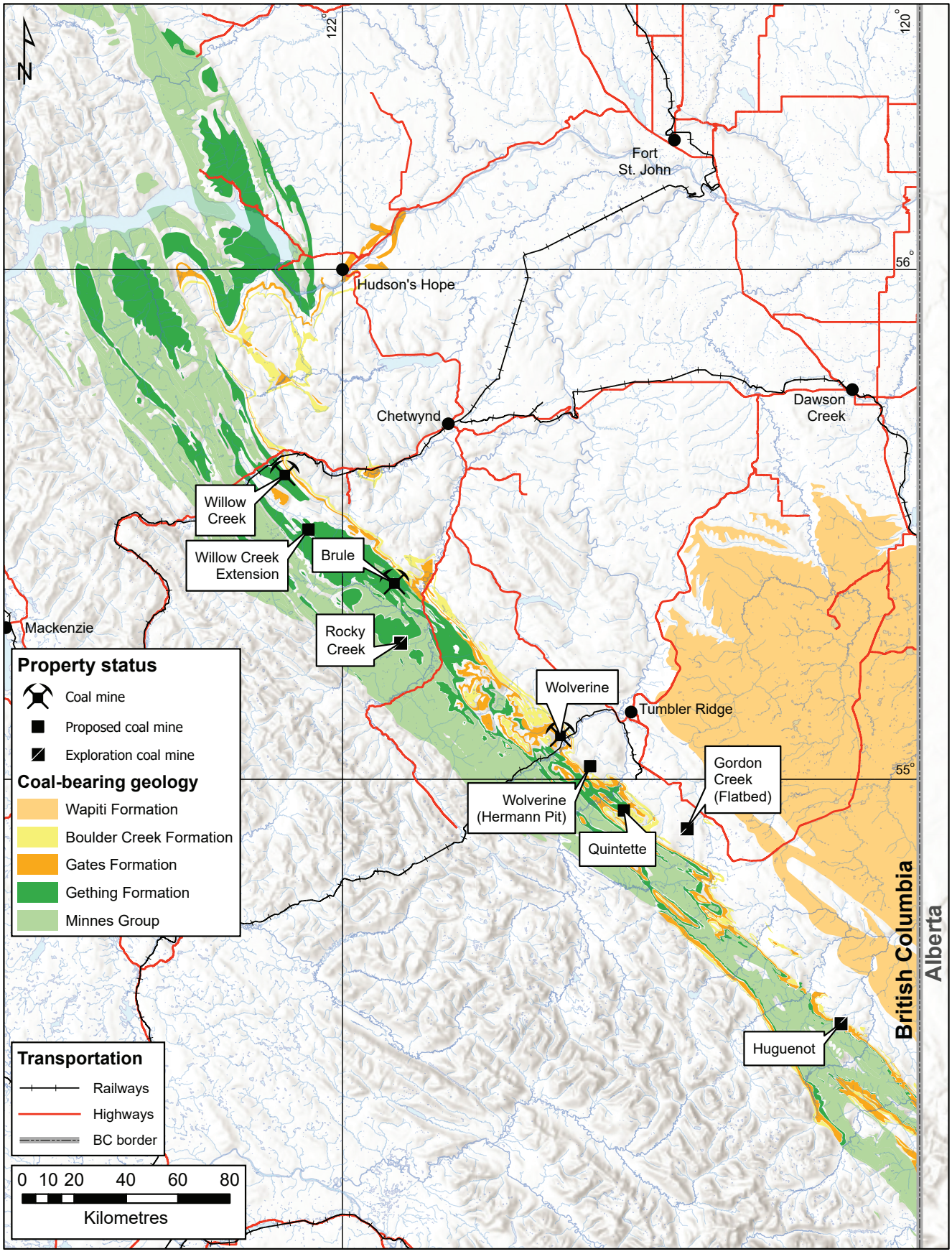

Fig. 3. Coal mines, proposed coal mines, and coal exploration projects, northeastern British Columbia, 2023.

Fig. 4. Gently dipping coal-bearing Gething Formation strata, Willow Creek mine (Conuma Resources Ltd.).

3.3.1. Fireside (Fireside Minerals Ltd.)

At the **Fireside** mine, Fireside Minerals Ltd. quarries massive white barite from veins cutting Paleozoic sedimentary rocks of the Kechika Group near the Yukon border. The barite veins are steeply dipping, trend north to northeast, and have a combined true thickness of 6.5 m. Barite concentrations in the veins range from 96.0 to 99.4% $BaSO_4$ Geotechnical drilling was carried out for a new proposed pit design. In-pit mapping was carried out and a remote sensing survey was completed over a 20 km^2 area by Auracle Geospatial Science Inc.

4. Placer operations

Placer exploration is a widespread activity in parts of British Columbia, and permits are required only when surface disturbance is proposed. In the North Central Region, operations are distributed primarily in the Manson Creek, Fort St. James to Mackenzie, and Hixon areas. Larger scale operations are generally sited on abandoned stream channels and benches, and use backhoes and hydraulic excavators to extract gravel, which is then processed through a wash plant, either on site or at a remote location. Due to the number of operations and because production is not reported, these operations are not tracked. In the Northeast Region, current placer interest is minimal.

5. Mine or quarry development

Artemis Gold Inc.'s **Blackwater Gold** gold-silver project in the North Central Region is at the mine development stage (Table 4).

5.1. Blackwater Gold (Artemis Gold Inc.)

Artemis Gold Inc. is focused on developing the **Blackwater Gold** project in the North Central Region (Fig. 5). Artemis received Environmental Assessment approval in 2019 and a Mines Act permit in early 2023. By the end of September, construction was 45% complete, and approximately $280 million of the initial capital expenditure of $730 to $750 million had been spent. The company did 790 m of sonic drilling for geotechnical data and groundwater tracking and monitoring. The deposit is hosted by intermediate to felsic volcanic rocks in the Kasalka Group (Upper Cretaceous; Stikine terrane). In this intermediate sulphidation epithermal system, the host rocks are pervasively fractured and sericitized. Sulphides include pyrite, sphalerite, marcasite, and pyrrhotite as disseminations and pore fillings that are strongly controlled by a set of northeast- and northwest-trending faults. Reserves are reported at 8 Moz Au and 62.2 Moz Ag, with a life-of-mine average annual gold production of 339,000 oz (August 2020).

Fig. 5. Construction activities at the Blackwater Gold project site (Artemis Gold Inc.).

6. Selected proposed mines or 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 two proposed metal mines in the North Central Region are Taseko Mines Limited's **Aley** project, and Centerra Gold Inc.'s **Kemess Underground** project. There are also two proposed industrial mineral mines in the region: Greymont Western Canada Inc.'s **Giscome** project and Vitreo Minerals Ltd.'s **Angus** project (Table 5). There are three proposed coal mines in the Northeast Region (Fig. 3; Table 5): Conuma Resources Limited's **Herman**, **Willow Creek Extension**, and **Quintette** projects.

Table 4. Mine development projects, North Central Region.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Reserves	Resource	Comments
Blackwater Gold	**Artemis Gold Inc.**	Au, Ag; Epithermal Au-Ag-Cu (intermediate sulphidation); 093F 037	P+Pr: 334.4 Mt 0.75 g/t Au, 5.8 g/t Ag at a 0.20 g/t AuEq cut off containing 8.0 Moz Au, 62.3 Moz Ag	M+I: 597 Mt (including reserves) 0.61 g/t Au, 6.4 g/t Ag at a 0.20 g/t AuEq cut off containing 11.7 Moz Au, 122.4 Moz Ag	Geotechnical drilling (sonic, 790 m). About 660 employed during construction. $280 million spent on project construction. Reserves (August 2020) are reported at 8 Moz Au and 62.2 Moz Ag, with a life-of-mine average annual gold production of 339,000 oz.

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

6.1. Proposed metal mines

The two proposed metal mines in the North Central Region are Taseko Mines Limited's **Aley** project, and Centerra Gold Inc.'s **Kemess Underground** project.

6.1.1. Aley (Taseko Mines Limited)

Taseko Mines Limited's **Aley** niobium-bearing carbonatite project is near the western extremity of platformal strata that were deposited on the flank of Ancestral North America. The carbonatite intrusion is oval in map view, measuring about 2.0 km by 2.8 km. Reserves are calculated at 84 Mt grading 0.5% Nb_2O_5. The proposed processing plant would have a nominal capacity of 10,000 tpd. Single-stage crushing followed by three stages of grinding and a multi-stage flotation process would produce a Nb_2O_5 concentrate. The concentrate would then be processed in an on-site converter to produce FeNb as a saleable product. Expected process recovery is 63% with annual production averaging 9 million kg of niobium over the mine life. Environmental monitoring and product marketing initiatives continue.

6.1.2. Kemess Underground (Centerra Gold Inc.)

Centerra Gold Inc.'s **Kemess Underground** (KUG) project is estimated to contain an Indicated resource of 173.7 Mt grading 0.182% Cu, 0.3 g/t Au, and 1.55 g/t Ag. Within this resource are Probable reserves of 107.4 Mt grading 0.27% Cu, 0.54 g/t Au, and 1.99 g/t Ag. Although the former Kemess South mine closed in 2011, infrastructure remains in place and both the camp and ore processing plant will be used to service KUG. KUG is considered a stand-alone operation, to be mined by panel caving, with crushed ore conveyed underground to the processing plant. Processing rate would be 24,600 tpd with an average production of 106,000 oz gold and 47 Mlbs copper during a 12-year mine life. Kemess East (KE), about 1 km east of KUG, is an underground operation that could be integrated into the KUG project. KE has an Indicated resource of 177.5 Mt grading 0.36% Cu, 0.4 g/t Au, and 1.97 g/t Ag, and an Inferred resource of 29.3 Mt grading 0.314% Cu, 0.3 g/t Au, and 2.00 g/t Ag. The KUG project has approval for development, but Centerra has not declared a timeline.

6.2. Proposed coal mines

Conuma Resources Limited is continuing baseline environmental monitoring for their **Wolverine (Hermann Pit)** and **Willow Creek Extension** projects and the company is trying to reopen the **Quintette** mine.

6.2.1. Quintette (Conuma Resources Limited)

Conuma Resources Limited is preparing to restart the former **Quintette** mine. The Windy pit will be re-opened, where the coal seams of the Gates Formation (Lower Cretaceous, Fort St. John Group) generally have shallow (<15°) dips (Fig. 6). The Gates Formation, which consists of sandstone, shale, siltstone, conglomerate, and coal, is cut by northwest-trending low-angle thrust faults and exposed in a series of related open folds. Conuma carried out exploration drilling to better define known resources.

Fig. 6. Gates Formation coal seams in the Little Windy pit, Quintette mine (Conuma Resources Ltd.).

6.2.2. Willow Creek Extension (Conuma Resources Limited)

Conuma Resources Limited completed a prefeasibility study

Table 5. Selected proposed mines and quarries, North Central and Northeast regions.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Reserves	Resource	Comments
Aley (North Central Region)	**Taseko Mines Limited**	Nb; Carbonatite-hosted; 094B 027	P+Pr: 83.8 Mt 0.50% Nb_2O_5 (at 0.30% Nb_2O_5 cut off)	M+I: 285.8 Mt 0.37% Nb_2O_5 (at 0.20% Nb_2O_5 cut off)	Proposed open-pit mine with 10,000 tpd ore processing rate and average annual production of 9000 t Nb. Environmental monitoring and product marketing.
Angus (North Central Region)	**Vitreo Minerals Ltd.**	Silica; Sand, Quartzite; 093J 042	na	na	Proposed mine production is 2.9 Mt of quartz arenite per year over a 20-year mine life.
Giscome (North Central Region)	**Graymont Western Canada Inc.**	$CaCO_3$; Limestone; 093J 041, 25	na	I: >100 Mt of limestone (>95% calcium carbonate, <5% magnesium carbonate) in situ	Environmental assessment in place. Proposed 600,000 tpy limestone quarry to feed a vertical lime kiln producing 198,000 t of lime annually during a 50+ year mine life.
Kemess Underground (KUG) (North Central Region)	**Centerra Gold Inc.**	Cu, Au, Ag; Porphyry Cu±Mo±Au; 094E 021	Pr: 107.38 Mt 0.27% Cu, 0.54 g/t Au, 1.99 g/t Ag containing 629.6 Mlbs Cu, 1.87 Moz Au, 6.88 Moz Ag	I: 173.7 Mt (including reserves) 0.182% Cu, 0.3 g/t Au, 1.55 g/t Ag containing 1195 Mlbs Cu, 3.33 Moz Au, 13.87 Moz Ag	Permitted, proposed underground panel cave mine with 24,600 tpd ore processing rate and life-of-mine average annual production of 106,000 oz Au and 47 Mlbs Cu over a 12-year life of mine.
Quintette (Northeast Region)	**Conuma Resources Limited**	Coal; Bituminous coal; 093P 020	P+Pr: 36.0 Mt	na	Permitting underway for a potential restart.
Willow Creek Extension (Northeast Region)	**Conuma Resources Limited**	Coal; Bituminous coal; 093O 060	P+Pr: 15.6 Mt	na	Prefeasibility study completed in September 2022. Continued baseline monitoring.
Wolverine (Hermann pit) (Northeast Region)	**Conuma Resources Limited**	Coal; Bituminous coal; 093I 031	P+Pr: 3.9 Mt	na	Continued baseline monitoring.

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

in September 2022, and continued baseline monitoring for their **Willow Creek Extension** project. The project contains 15.6 Mt Proven and Probable reserves.

6.2.3. Wolverine (Hermann Pit) (Conuma Resources Limited)

Conuma Resources Limited continued baseline environmental monitoring for its **Wolverine (Hermann Pit) project**, which contains 13.9 Mt Proven and Probable reserves of coal in the Gates Formation. Coal seams are mostly in folds with moderate to steep (40-70°) dips of the Gates Formation (Fort St. John Group; Lower Cretaceous).

6.3. Selected proposed industrial mineral mines or quarries

Proposed industrial mineral mines or quarries include Graymont Western Canada Inc.'s **Giscome** project and Vitreo Minerals Ltd.'s **Angus** project in the North Central Region.

6.3.1. Giscome (Graymont Western Canada Inc.)

At the **Giscome** project, Graymont Western Canada proposes to mine high-purity limestone rocks of the Antler Formation (Triassic; Slide Mountain Group). Crushed stone would be transported about 5 km by truck to lime kilns at a former stone quarry, owned and operated by CN Rail, in the community of Giscome. An existing CN Rail line would be used for

transporting the product. The project has Environmental Assessment approval. Due to weak markets for lime in the region, Graymont has not yet decided to initiate construction.

6.3.2. Angus (Vitreo Minerals Ltd.)

Vitreo Minerals Ltd.'s wholly owned **Angus** frac sand project would extract quartz arenite from the Monkman East pit and transport it via a newly constructed haul road to a sand plant 2 km northwest of the pit where it will be processed. Proposed mine production is 2.9 Mt of quartz arenite per year over a 20-year mine life. The mining rate is required to meet an annual sales target of 2 Mt of processed silica sand. The company's most recent exploration activities were conducted on the Monkman deposit. A 500 t trench sample was processed for evaluation.

7. Selected exploration activities and highlights

Exploration continued in the North Central and Northeast regions (Fig. 1; Tables 6, 7). Large programs were carried out in the North Central Region including drilling at the **Mount Milligan (Brownfield)** and **Mount Milligan (Greenfield)** (Centerra Gold Inc.), **Lawyers** (Thesis Gold Inc.), and **Kliyul** and **RDP** (Pacific Ridge Exploration Ltd.) projects.

7.1. Selected precious metal projects

In 2023, exploration activities were carried out at several precious metal projects in the North Central Region (Fig. 1; Table 6).

7.1.1. 2X Fred (Centerra Gold Inc.)

Centerra Gold Inc. reclaimed roads and drill pads at their **2X Fred** project.

7.1.2. 3Ts (Independence Gold Corp.)

Independence Gold Corp. completed 44 diamond drill holes totalling 6300 m at their **3Ts** project. The drilling resulted in the discovery of the Ian and Johnny veins and an extension of the Tommy vein system. Highlight results included 11.50 m grading 8.82 g/t Au and 78.26 g/t Ag, and 0.75 m grading 26.75 g/t Au and 295 g/t Ag. A new copper-silver target (Ootsa) was discovered during surface exploration. Sample highlights from selected grab samples included 0.4% Cu and 78.0 g/t Ag.

7.1.3. Copley (Centerra Gold Inc.)

Centerra Gold Inc. completed 513 m of drilling in nine holes at its **Copley** project. The company also did 74 line-km of drone magnetics.

7.1.4. Exodus Gold (Exodus Mineral Exploration Ltd.)

At the **Exodus Gold** project, Exodus Mineral Exploration Ltd. conducted surface sampling. Rock samples of mineralized veins returned values up to 24.4 g/t Au. The company received a drilling permit.

7.1.5. Lawyers (Thesis Gold Inc.)

Thesis Gold Inc. and Benchmark Metals Inc. merged and now operate as Thesis Gold Inc. Thesis was active at its **Lawyers** project (Fig. 7) with 23,691 m of drilling, focusing on the Dukes Ridge and Cliff Creek deposits. Highlight results included 45.00 m grading 1.03 g/t Au and 51.53 g/t Ag, 53.00 m grading 2.12 g/t Au and 104.95 g/t Ag, and 45.00 m grading 2.29 g/t Au and 132.10 g/t Ag.

Fig. 7. Lawyers project, core logging and storage facility (Thesis Gold Inc.).

7.1.6. QCM (Kestrel Gold Inc.)

Kestrel Gold Inc. continued exploration on their **QCM** project with prospecting. Highlight results from channel sampling included 1.2 m grading 2.085 g/t Au.

7.1.7. Quesnelle Gold Quartz (Golden Cariboo Resources Ltd.)

Golden Cariboo Resources Ltd. continued to explore at their **QCM** project. A total of 279.8 m of diamond drilling was completed in one hole.

7.1.8. Shasta Mine (TDG Gold Corp.)

TDG Gold Corp. reported 2022 drilling results and highlights included 9.5 m grading 7.76 g/t Au and 271 g/t Ag, 8.0 m grading 8.59 g/t Au and 67 g/t Ag, and 1.5 m grading 14.05 g/t Au and 634 g/t Ag.

Table 6. Selected exploration projects, North Central Region.

Project	Operator (partner)	Commodity; Deposit type; MINFILE	Resource	Comments
2X Fred	**Centerra Gold Inc.**	Au, Ag; Epithermal Au-Ag (low sulphidation); 093F 089	na	Reclamation carried out on all roads and drill pads in 2023.
3Ts	**Independence Gold Corp.**	Au, Ag; Epithermal Au-Ag (low sulphidation); 093F 055	Tommy and Ted-Mint veins Inf: 4.47 Mt 3.64 g/t Au, 96.26 g/t Ag (at a cut off grade of 0.4 g/t AuEq in-pit, 2.01 g/t AuEq underground)	Drilling, 44 DDH (6300 m). Highlight results included 11.50 m grading 8.82 g/t Au and 78.26 g/t Ag, and 0.75 m grading 26.75 g/t Au and 295 g/t Ag.
Akie	**ZincX Resources Corp.**	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb-Ag; 094F 031	I: 22.7 Mt 8.32% Zn, 1.81% Pb, 14.1 g/t Ag Inf: 7.5 Mt 7.04% Zn, 1.24% Pb, 12.0 g/t Ag (at 5% Zn cut off)	Carried out general infrastructure maintenance and work to maintain compliance with environmental permits.
Baker	**TDG Gold Corp.**	Au, Ag; Epithermal Au-Ag (low sulphidation); 094E 050, 26	na	Relogging, resampling, and assaying historical drilling to examine the potential porphyry targets for drill testing. Highlight results included 126.8 m grading 0.12 g/t Au, 2 g/t Ag, and 0.04% Cu, and 105.8 m grading 0.14 g/t Au, 4 g/t Ag, and 0.05% Cu.
Captain	**Orestone Mining Corp.**	Cu, Au; Alkalic porphyry Cu-Au; 093J 026, 094C 180	na	Reported 2022 drilling results, which included 14 m grading 1.8 g/t Au and 0.22% Cu.
Chuchi	**Pacific Ridge Exploration Ltd.**	Cu, Au; Alkalic porphyry Cu-Au	na	27.5 line-km of ground IP.
Copley	**Centerra Gold Inc.**	Au, Cu, Zn; Epithermal Au-Ag (low sulphidation); 093F 070	na	Drilling, 9 DDH (513 m). 774 line-km of drone magnetics.
Decar Nickel District	**FPX Nickel Corp.**	Ni, Fe; Podiform chromite; 093K 116	Baptiste deposit I: 1815 Mt 0.129% DTR Ni, 0.211% Total Ni, 0.0035% DTR Co, 2.40% DTR Fe Inf: 339 Mt 0.131% DTR Ni, 0.212% Total Ni, 0.0037% DTR Co, 2.55% DTR Fe	Filed a NI 43-101 technical report, Prefeasibility study completed, 33-year mine life.
DEM	**Evergold Corp.**	As, Au, Ag, Cu; Au skarn; 093K 077	na	Filed a NI 43-101 report.

Table 6. Continued.

East Niv	**NorthWest Copper Corp.**	Cu, Au; Alkalic porphyry Cu-Au	na	Reported 2022 drilling results, which included 100.80 m grading 0.24 g/t Au, 0.10% Cu, and 0.40 g/t Ag, and 124.86 m grading 0.22 g/t Au, 0.07% Cu, and 0.70 g/t Ag.
Exodus Gold	**Exodus Mineral Exploration Ltd.**	Au; Au-quartz veins, Epithermal Au, Ag, Cu, Pb, Zn; 093J 043	na	Rock sampling of high-grade gold veins returned values including 24.4 g/t Au.
Holy Cross	**Evergold Corp.**	Au, Ag, Cu; Rhyolite breccia and quartz stockwork veining; 093F 029	na	Reported 2022 drilling results, which included 2 m grading 1.14 g/t Au, 4 m grading 16.8 g/t Ag and 0.81% Cu, and 0.5 m grading 170 g/t Ag and 1.6% Cu.
Indata	**Alpha Copper Corp.**	Cu, Au, Ag; Alkalic porphyry Cu-Au	na	Released 2022 drilling results with a highlight of 170.7 m grading 0.23% Cu and 26.0 m grading 0.47% Cu. Reported results from a 405 line-km airborne magnetic survey.
Indy	**InZinc Mining Ltd.**	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb-Ag; 093H 072	na	Drilling, 9 RC (1064 m). Reported 2022 drilling results, which included 27.1 m of red clay grading 0.67% Zn, 0.13% Ni, 0.0163% Co, and 0.036% TREO; within this, 7.7 m graded 0.11% Cu.
Joy	**Amarc Resources Ltd.**	Cu, Au; Porphyry Cu±Mo±Au; 094E 016, 57	Pine deposit I: historic non NI 43-101 compliant: 40 Mt 0.15% Cu, 0.57 g/t Au (Stealth Mining Corporation 1997)	638 line-km of airborne magnetotelluric geophysics, 30 km^2 of ground-based MT geophysics, and 72.5 line-km of IP ground geophysics, and undertook geologic mapping. Soil (1788) and rock (769) sampling was also carried out.
Kechika North	**ZincX Resources Corp.**	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb-Ag; 094F 015	na	Optioned to an arm's length third party.
Kliyul	**Pacific Ridge Exploration Ltd.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 094D 023	I: historic non NI 43-101 compliant: 2.3 Mt 1.30 g/t Au, 0.45% Cu, 6.9 g/t Ag	19 DDH (10,284 m). Highlight results included: 305.5 m grading 0.23% Cu, 0.51 g/t Au, and 1.22 g/t Ag, and 540.3 m grading 0.19% Cu, 0.36 g/t Au, and 1.09 g/t Ag.

Table 6. Continued.

Kwanika	**NorthWest Copper Corp.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 093N 073	Kwanika Central zone Open pit M+I: 66.6 Mt 0.26% Cu, 0.25 g/t Au, 0.92 g/t Ag Underground M+I: 36.8 Mt 0.51% Cu, 0.62 g/t Au, 1.60 g/t Ag South zone pit Inf: 25.4 Mt 0.28% Cu, 0.06 g/t Au, 1.68 g/t Ag	Preliminary Economic Assessment and updated mineral resource assessment. PEA is for the combined Kwanika and Stardust deposits and the company refers to the project as Kwanika-Stardust.
Lawyers	**Thesis Gold Inc.**	Au, Ag; Epithermal Au-Ag (low sulphidation); 094E 066	Open pit M: 20.3 Mt 1.21 g/t Au, 30.5 g/t Ag I: 45.5 Mt 1.09 g/t Au, 18.2 g/t Ag Inf: 2.3 Mt 0.91 g/t Au, 12.8 g/t Ag Out of Pit I: 1.6 Mt 2.74 g/t Au, 60.6 g/t Ag Inf: 2.6 Mt 3.32 g/t Au, 56.3 g/t Ag	Drilling, 51 DDH (23,691 m). Highlight results included 45.00 m grading 1.03 g/t Au and 51.53 g/t Ag, 53.00 m grading 2.12 g/t Au and 104.95 g/t Ag, and 45.00 m grading 2.29 g/t Au and 132.10 g/t Ag.
Lorraine	**NorthWest Copper Corp.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 093N 002, 094C 069, 174	I: 12.95 Mt 0.55% Cu, 0.16 g/t Au Inf: 45.45 Mt 0.43% Cu, 0.1 g/t Au	Reported 2022 drilling results, which included 45.85 m grading 0.49% Cu, 0.19 g/t Au, and 3.6 g/t Ag, 46.90 m grading 0.59% Cu, 0.25 g/t Au, and 4.2 g/t Ag, and 102.80 m grading 0.28% Cu, 0. 05 g/t Au, and 1.3 g/t Ag.
Mount Milligan (Brownfield)	**Centerra Gold Inc.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 093N 194	na	Drilling, 26 DDH (14,537 m).
Mount Milligan (Greenfield)	**Centerra Gold Inc.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 093N 194	na	Drilling, 16 DDH (6289.5 m).
Onjo	**Pacific Ridge Exploration Ltd.**	Cu, Au, Ag; Alkalic porphyry Cu-Au	na	27.5 line-km of ground IP over Chica and Gingla zones.

Table 6. Continued.

Oxide Peak	**TDG Gold Corp.**	Cu, Au, Ag; Porphyry Cu±Mo±Au, Epithermal Au-Ag-Cu (low sulphidation); 094E 181	na	Reported 2022 drilling results, which included 13.0 m grading 0.23% Cu and 0.33 g/t Au, and 9.1 m grading 0.16% Cu and 0.035 g/t Au.
Pil	**Cascadia Minerals Ltd.**	Cu, Au, Ag; Porphyry Cu±Mo±Au, Alkalic porphyry Cu-Au; 094E 310, 377	na	Carried out prospecting, soil sampling and a TITAN geophysical survey.
QCM	**Kestrel Gold Inc.**	Au, Cu; Au-quartz veins; 093N 200	na	Channel sampling with 1.2 m grading 2.085 g/t Au.
Quesnelle Gold Quartz	**Golden Cariboo Resources Ltd.**	Au, Ag; Quartz ±carbonate veins in greenstone and sedimentary rocks; 093G 015	na	Drilling, 1 DDH (279.8 m). Filed a NI 43-101 technical report.
RDP	**Pacific Ridge Exploration Ltd.**	Cu, Au, Ag; Alkalic porphyry Cu-Au; 094D 065	na	Drilling, 3 DDH (1428 m). Highlight results included 62 m grading 0.16% Cu, 0.06 g/t Au, and 0.84 g/t Ag at Day, and 110 m grading 0.09% Cu, 0.20 g/t Au, and 0.31 g/t Ag at Bird.
Shasta	**TDG Gold Corp.**	Au, Ag; Epithermal Au-Ag (low sulphidation); 094E 050, 26	I: 12.6 Mt 0.99 g/t Au, 35.0 g/t Ag (at a cut off grade of 0.4 g/t AuEq) Inf: 15.43 Mt 0.77 g/t Au, 28.7 g/t Ag (at a cut off grade of 0.4 g/t AuEq)	Filed a NI 43-101 Mineral Resource. Reported 2022 drilling results, which included 9.5 m grading 7.76 g/t Au and 271 g/t Ag, 8.0 m grading 8.59 g/t Au and 67 g/t Ag, and 1.5 m grading 14.05 g/t Au and 634 g/t Ag.
Stardust	**NorthWest Copper Corp.**	Cu, Au, Ag, Zn; Cu skarn; 093N 009	Canyon Creek I:1.6 Mt 1.49% Cu, 1.63 g/t Au, 30.1 g/t Ag Inf: 4.1 Mt 1.00% Cu, 1.38 g/t Au, 22.8 g/t Ag	Preliminary Economic Assessment and updated mineral resource assessment. PEA is for the combined Kwanika and Stardust deposits and the company refers to the project as Kwanika-Stardust.
Surge Nickel	**Surge Battery Metals Inc.**	Ni, Fe; Podiform chromite; 093N 035	na	Filed a NI 43-101 technical report. Reported 2022 drilling results, which included 94 m grading 0.058% DTR Ni and 15 m grading 0.119% DTR Ni.

Table 6. Continued.

Wicheeda	**Defense Metals Corp.**	Nb, REE; Carbonatite-hosted deposits; 093J 014	M: 6.37 Mt 2.086% TREO I: 27.80 Mt 1.84% TREO Inf: 11.05 Mt 1.02% TREO (at a cut off grade 0.5% TREO) Total metal % = sum of Ce+La+Nd+Pr+Sm+Nb percentages	Geotechnical drilling. Filed an updated NI 43-101 mineral resource estimate. Filed an updated NI 43-101 mineral resource estimate. Geotechnical drilling (16 sonic holes totalling 225.5 m), overburden test pits (20 totalling 76.8 m), diamond drilling (six holes 1182 m), metallurgical testing, environmental testing on anticipated waste rock, shipment of mixed rare earth oxide and mixed rare earth carbonate to interested parties allowing the recipients to independently verify the quality of REE products.
Willow Gold	**Exodus Mineral Exploration Ltd.**	Au, Ag; Au- and Ag-bearing quartz veins	na	Conducted further rock sampling and prospecting.

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

Table 7. Selected exploration projects, Northeast Region.

Project	Operator (partner)	Commodity Deposit type; MINFILE	Resource (NI 43-101 compliant unless indicated otherwise)	Comments
Gordon Creek (Flatbed)	**Colonial Coal International Corporation**	Coal; Bituminous coal; 093I 049	Inf: 298 Mt	Project maintenance work.
Huguenot	**Colonial Coal International Corporation**	Coal; Bituminous coal; 093I 036	M+I: 132 Mt Inf: 0.5 Mt	Project maintenance work.
Muskwa	**Fabled Copper Corp.**	Cu, Ag, Pb, Co; Cu ±Ag quartz veins; 094K 012, 50	na	Surface samples at Eagle Creek copper occurrence (Neil property) assayed 23.40%, 15.55%, 19.85%, and 21.90% Cu.
Rocky Creek	**CTI Plus Resources Ltd.**	Coal; Bituminous coal; 093P 004	na	Large diameter core drilling for bulk sample. Nine holes, 240 m.

M = Measured; I = Indicated; Inf = Inferred

Drilling results from 2022 were incorporated in an updated NI 43-101 mineral resource estimate. At a 0.40 g/t AuEq cut off they reported Indicated 12.578 Mt grading 0.99 g/t Au and 35 g/t Ag, and Inferred 15.432 Mt grading 0.77 g/t Au and 28.7 g/t Ag.

7.1.9. Willow Gold (Exodus Mineral Exploration Ltd.)

At the **Willow Gold** project, Exodus Mineral Exploration Ltd. conducted further rock sampling and prospecting work following up on 2022 sampling.

7.2. Selected precious and base metal projects

Projects include Evergold Corp.'s **Holy Cross** project in the North Central Region (Fig. 1; Table 6).

7.2.1. Holy Cross (Evergold Corp.)

Evergold Corp. reported 2022 drilling results for their **Holy Cross** project. Highlight results included 2 m grading 1.14 g/t Au, 4 m grading 16.8 g/t Ag and 0.81% Cu, and 0.5 m grading 170 g/t Ag and 1.6% Cu.

7.3. Selected base metal projects

Base metal projects include FPX Nickel Corp's **Decar Nickel** District project and Nickel Rock Resources **Surge Nickel** project (Fig. 1; Table 6) in the North Central Region and Fabled Copper Corp.'s **Muskwa** project in the Northeast Region (Fig. 1; Table 7).

7.3.1. Decar Nickel District (FPX Nickel Corp.)

FPX Nickel Corp. filed a NI 43-101 Preliminary Feasibility Study for their **Decar Nickel District** project (Fig. 8). The study proposes a 29-year mine life with two phases. Phase 1 involves mining and processing 108,000 tpd during its first nine years of operation. At the start of year 10, Phase 2 would begin with expansion of the plant increasing the total processing rates to 162,000 tpd of ore. The operation will result in two nickel coproducts. About 93% of the contained nickel will be in a high-grade awaruite concentrate (60% nickel), while the rest will be in a mixed hydroxide precipitate (MHP) product. Average nickel production will be 59,100 tpy.

Fig. 8. Serpentine alteration in peridotite, Decar Nickel District project (FPX Nickel Corp.).

7.3.2. Indy (InZinc Mining Ltd.)

At its **Indy** project, Indy InZinc Mining Ltd. completed 1064 m of reverse circulation drilling in 9 holes at the Keel Red and Echo North targets. The company reported 2022 drilling results for the Keel Red target. One hole intersected 27.1 m of red clay grading 0.67% Zn, 0.13% Ni, 0.0163% Co, and 0.036% TREO; within this, 7.7 m graded 0.11% Cu.

7.3.3. Muskwa (Fabled Copper Corp.)

Fabled Copper Corp. released the results of the sampling in 2022 at their **Muskwa** project, which consists of the Neil, Toro, and Bronson properties. Surface samples at the Eagle Creek copper occurrence (Neil property) assayed 23.40, 15.55, 19.85, and 21.90% Cu.

7.3.4. Surge Nickel (Surge Battery Metals Inc.)

Surge Battery Metals Inc. acquired the remaining 20% interest in the **Surge Nickel** project bringing their interest to 100%. The company filed a NI 43-101 technical report for the HN4 and Ni100 claim groups, which included results from 993 m of drilling in three holes carried out at HN4 in late 2022. Highlight results included 94 m grading 0.058% DTR Ni and 15 m grading 0.119% DTR Ni.

7.4. Selected base and precious metal projects

Base and precious metal projects continued to be an important focus of exploration in the Quesnel and Stikine terranes of the North Central Region (Fig. 1; Table 6).

7.4.1. Akie and Kechika North (ZincX Resources Corp.)

For their **Akie** project, ZincX Resources Corp. carried out general infrastructure maintenance and, to maintain compliance of environmental permits, stream and water well sampling. They also announced that they had optioned their **Kechika North** project to an arm's-length third party. The project includes the Kwad, Weiss, Bear/Spa, Driftpile South, Saint, and Thro properties.

7.4.2. Baker (TDG Gold Corp.)

TDG Gold Corp. was active on their **Baker** project. Historical drill core was relogged, resampled, and reassayed to evaluate potential porphyry targets for drill testing. Highlight results included 126.8 m grading 0.12 g/t Au, 2 g/t Ag, and 0.04% Cu, and 105.8 m grading 0.14 g/t Au, 4 g/t Ag, and 0.05% Cu. TDG Gold Corp. considers that the porphyry-style mineralization was later overprinted by a high-grade epithermal gold-silver system. Historical drilling at the Baker B vein (Fig. 9) targeted high-grade Au-Ag mineralization and, as a result, drill holes were historically only selectively sampled based on the epithermal Au-Ag model, neglecting broader mineralized zones, and were not assayed for base metals. The company also completed stream-sediment sampling across the deposit footprint focused on the potential for a porphyry target.

7.4.3. Captain (Orestone Mining Corp.)

Orestone Mining Corp. has reevaluated gold-copper mineralized altered volcanic rocks found in three previous drill holes on the **Captain** project. The company reported a 14 m interval in quartz monzonite porphyry dikes graded 1.8 g/t Au and 0.22% Cu.

7.4.4. Chuchi (Pacific Ridge Exploration Ltd.)

Pacific Ridge Exploration Ltd. completed a 12.5 line-km IP

Fig. 9. Baker project, B vein (TDG Gold Corp.).

survey on its **Chuchi** project to extend historical coverage over the BP and Klaw zones. Three other IP lines (15 line-km) were completed over the Coho and Coho West zones.

7.4.5. DEM (Evergold Corp.)

Evergold Corp. filed a NI 43-101 technical report.

7.4.6. East Niv (NorthWest Copper Corp.)

NorthWest Copper Corp. reported results from 2022 drilling for their **East Niv** project. Highlights included 100.80 m grading 0.24 g/t Au, 0.10% Cu, and 0.40 g/t Ag, and 124.86 m grading 0.22 g/t Au, 0.07% Cu, and 0.70 g/t Ag. The company identified four porphyry exploration targets.

7.4.7. Indata (Alpha Copper Corp.)

Alpha Copper Corp. released 2022 drilling results. Highlights included 170.7 m grading 0.23% Cu and 26.0 m grading 0.47% Cu. The company also released the results of a 405 line-km airborne magnetic survey flown over an area of 44.1 km^2.

7.4.8. Joy (Amarc Resources Ltd.)

Amarc Resources Ltd. completed airborne and surface exploration on its **Joy** project to further define targets for planned 2024 drilling. Amarc is the operator, but the project is funded by Freeport-McMoRan Mineral Properties Canada Inc. who is earning into a potential 70% of the project. The company did 638 line-km of airborne magnetotelluric geophysics, 30 km^2 of ground-based MT geophysics, and 72.5 line-km of IP ground geophysics, and undertook geologic mapping. Soil (1788) and rock (769) sampling was also carried out.

7.4.9. Kliyul (Pacific Ridge Exploration Ltd.)

Pacific Ridge Exploration Ltd. completed 19 diamond drill holes totalling 10,284 m at their **Kliyul** project (Fig. 10). Highlight results included 305.5 m grading 0.23% Cu, 0.51 g/t Au, and 1.22 g/t Ag within 540.3 m grading 0.19% Cu, 0.36 g/t Au, and 1.09 g/t Ag. The company increased the size of the project area from approximately 52 km^2 to approximately 92 km^2. The new mineral claims are contiguous and adjoin the western and southern sides of the previous claims.

Fig. 10. Kliyul project camp (Pacific Ridge Exploration Ltd.).

7.4.10. Kwanika-Stardust (NorthWest Copper Corp.)

NorthWest Copper Corp. announced the results for a positive Preliminary Economic Assessment of the **Kwanika-Stardust** project. The project involves the development of three copper-gold deposits known as Kwanika Central, Kwanika South, and Stardust. A 22,000 tpd operation is proposed, producing a high-quality copper concentrate with significant gold and silver byproduct credits.

For the Kwanika Central open pit with a cut off US$ 8.21/t, the company reported a Measured and Indicated resource of

66.6 Mt grading 0.26% Cu, 0.25 g/t Au, and 0.92 g/t Ag and an Inferred resource of 4.1 Mt grading 0.15% Cu, 0.15 g/t Au, and 0.58 g/t Ag. For Kwanika Central underground with a cut off US$ 16.41/t, the company reported a Measured and Indicated resource of 36.8 Mt grading 0.51% Cu, 0.62 g/t Au, and 1.60 g/t Ag. The Inferred resource for an open pit at Kwanika South at a cut off US$ 8.21/t is 25.4 Mt grading 0.28% Cu, 0.06 g/t Au, and 1.68 g/t Ag. For an underground operation at Stardust at a cut off US$ 88.00/t the company reported an Indicated resource of 1.6 Mt grading 1.49% Cu, 1.63 g/t Au, and 30.1 g/t Ag. The Inferred resource is 4.1 Mt grading 1.00% Cu, 1.38 g/t Au, and 22.8 g/t Ag.

7.4.11. Lorraine (NorthWest Copper Corp.)

Northwest Copper Corp. released results from their 2022 **Lorraine** project drilling, which encountered multiple intersections of copper, gold, and silver mineralization outside of the resource shell. Highlight assays include 45.85 m grading 0.49% Cu, 0.19 g/t Au, and 3.6 g/t Ag, 46.90 m grading 0.59% Cu, 0. 25 g/t Au, and 4.2 g/t Ag, and 102.80 m grading 0.28% Cu, 0. 05 g/t Au, and 1.3 g/t Ag.

7.4.12. Mount Milligan (Brownfield) (Centerra Gold Inc.)

Centerra Gold Inc. was active on their **Mount Milligan (Brownfield)** project with 14,537 m of diamond drilling in 26 holes.

7.4.13. Mount Milligan (Greenfield) (Centerra Gold Inc.)

Centerra Gold Inc. completed 16 diamond drill holes totalling 6289.5 m at their **Mount Milligan (Greenfield)** project**.** Exploration for new porphyry copper-gold deposits and low sulphidation epithermal gold-silver deposits in the Mount Milligan tenure package continued and included the collection of 203 soil samples.

7.4.14. Onjo (Pacific Ridge Exploration Ltd.)

Pacific Ridge Exploration Ltd. was active on its **Onjo** project carrying out 27.5 line-km of ground IP surveying over the Chica and Gingla zones. The property hosts skarn and alkalic porphyry copper-gold mineralization associated with monzonitic phases of the Witch Lake intrusions that cut Takla Group volcanic rocks.

7.4.15. Oxide Peak (TDG Gold Corp.)

TDG Gold Corp. reported the results of 2022 drilling at its **Oxide Peak** project. Highlight results included 13.0 m grading 0.23% Cu and 0.33 g/t Au, and 9.1 m grading 0.16% Cu and 0.035 g/t Au.

7.4.16. Pil (Cascadia Minerals Ltd.)

Cascadia Minerals Ltd. reported that they carried out prospecting, soil sampling and a TITAN geophysical survey at their **Pil** project. The property is transected by the regional-scale NNW-trending Pillar fault, which juxtaposes west-dipping volcaniclastic and epiclastic rocks in the upper part of the Toodoggone Formation to the east against volcanic rocks in the lower part of the Toodoggone Formation Takla Group volcanic rocks, and Black Lake suite intrusions to the west.

7.4.17. RDP (Pacific Ridge Exploration Ltd.)

Pacific Ridge Exploration Ltd. was active on the **RDP** project with 1428 m of diamond drilling in three holes. Two holes were completed on the Day target and one hole on the Bird target. Pacific Ridge was the operator, but the program was funded by Antofagasta Minerals S.A. Highlight results included 62 m grading 0.16% Cu, 0.06 g/t Au, and 0.84 g/t Ag at Day and 110 m grading 0.09% Cu, 0.20 g/t Au, and 0.31 g/t Ag at Bird. Bird is a new discovery of porphyry copper-gold mineralization.

7.5. Selected rare earth element projects

Defense Metals Corporation's **Wicheeda** rare earth element project is in the North Central Region. (Fig. 1; Table 6).

7.5.1. Wicheeda (Defense Metals Corp.)

The **Wicheeda** carbonatite is a deformed intrusion that hosts light rare earth elements (LREE) in the Kechika Group. The core of the intrusion is a dolomite carbonatite, which transitions outward to a calcite carbonatite. Hydrothermal veins and plugs in the dolomite carbonatite are mineralized with REE fluorocarbonates, ancylite (cerium, lanthanum) and monazite (cerium, lanthanum, neodymium). Minor concentrations of niobium are also present. Defense Metals Corp. filed an updated NI 43-101 mineral resource estimate on the project. At a cut off grade of 0.5% Total Rare Earth Oxide (TREO), they reported a Measured resource of 6.4 Mt averaging 2.86% TREO, a 27.8 Mt Indicated resource averaging 1.84% TREO, and a 11.1 Mt Inferred resource averaging 1.02% TREO. The company commenced phase 2 of its planned infrastructure and open pit geotechnical drilling required to complete a Preliminary Feasibility Study. Work included 16 sonic geotechnical overburden drill holes totalling 225.5 m, 20 overburden geotechnical test pits totalling 76.8 m, six diamond drill holes totalling 1182 m, shipment of a 2700 kg sample for further metallurgical testing, and environmental test work on anticipated mine waste rock. They also shipped samples of mixed rare earth oxide and mixed rare earth carbonate to interested parties allowing the recipients to independently verify the high-quality of REE products from the Wicheeda deposit. The samples were generated during 2023 hydrometallurgical piloting test work performed on concentrate produced by earlier flotation pilot plant testing of a 26-tonne bulk sample.

7.6. Selected coal projects

Conuma carried out exploration at their **Brule** mine property. Colonial Coal International Corporation carried out work at their **Gordon Creek (Flatbed)** and **Huguenot** projects. CTI Plus Resources Ltd. did work at their **Rocky Creek** project.

7.6.1. Gordon Creek (Flatbed) (Colonial Coal International Corporation)

Colonial Coal continued to work on their **Gordon Creek (Flatbed)** project. The project has 298 Mt of Inferred metallurgical coal considered as underground mineable.

7.6.2. Huguenot (Colonial Coal International Corporation)

Colonial Coal continued to work on their **Huguenot** project. Measured and Indicated surface mineable coal resources total 132.0 Mt, with an additional Inferred resource of 0.5 Mt.

7.6.3. Rocky Creek (CTI Plus Resources Ltd.)

CTI Plus carried out a large diameter core drilling program to obtain a bulk sample at their **Rocky Creek** project. The project is located approximately 50 km south of Chetwynd. A total of fourteen 9-inch core holes were drilled, totalling 240 m. Sampling is to provide information on coal washability and coal quality.

7.7. Selected industrial mineral projects

Apart from the proposed Giscome limestone quarry (see section 6.3.1.), no significant industrial mineral exploration projects were tracked.

8. Geological research

Jones et al. (2003) presented new igneous zircon Hf-O data from Hogem batholith that indicate predominantly juvenile magmatic sources with minimal contribution by Ancestral North America crust. Milidragovic et al. (2023a) presented detrital zircon U-Pb, Lu-Hf, and trace element data to document that the Cunningham formation in north-central British Columbia is a latest Triassic overlap succession linking Cache Creek terrane to Stikinia. Milidragovic et al. (2023b) examined the S isotopic composition of primary sulphides at Polaris Alaskan-type ultramafic-mafic intrusion, concluding that the sub-arc mantle contributed subducted sulphate. 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 and examined the dispersion of metals downstream from the Aley carbonatite complex. Seiler et al. (2023) evaluated magnetic separation for recovering nickel from awaruite at the Baptiste deposit and reported recoveries of up to 96%. To support current land-use decisions and to aid in the search for the critical minerals needed for a low-carbon future, the British Columbia Geological Survey has revitalized its mineral potential mapping work of the 1990s. This new work takes advantage of about 30 years of new data, knowledge, advances in GIS applications, and computer power to enable statistical analysis of spatial data using weights of evidence modelling. A comparison of results between work done in the 1990s and the current work for an area that includes part of the North Central Region indicates that the new work largely corroborates the old and that both are of value for assisting land-use decisions and mineral exploration (Wearmouth et al., 2024).

9. Summary

The North Central Region has three proposed metal mine projects and two proposed industrial mineral mine projects. The Northeast Region has several proposed coal mine projects and one proposed industrial mineral mine project. The North Central Region has several active mineral exploration projects whereas in the Northeast Region the predominant commodity explored for is coal.

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