

# Exploration and Mining in British Columbia, 2021: A summary



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## 1. Introduction

Reflecting its complex geological history, British Columbia is endowed with diverse minerals and deposit types (Fig. 1). British Columbia is Canada's largest exporter of coal, leading producer of copper, and only producer of molybdenum. Also produced are significant amounts of gold, silver, lead, and zinc, and more than 30 industrial minerals including gypsum, magnesite, limestone, and dimension stone. Numerous quarries produce sand and gravel or crushed aggregate. Flanked by the Pacific Ocean, British Columbia offers easy access to global markets. Mine operations benefit from tax incentives and a well-developed infrastructure, including low-cost electricity, an integrated road and rail network, and large deep-water ports. Exploration benefits from an extensive geoscience database and a web-based mineral tenure system.

The following report summarizes the chapters prepared by the British Columbia Geological Survey Regional Geologists that are presented elsewhere in this volume. The Regional Geologists (Fig. 2; Table 1) represent the provincial government on geological matters at a regional level. Within their communities, they provide information on exploration trends, possible investment opportunities, land use processes, First Nation capacity building, and public outreach.

In 2021, numerous acquisitions, earn ins, proposed mergers and permitting approvals were announced. The most significant was the offer by Newcrest Mining Limited to purchase Pretium Resources Inc. for approximately \$3.5 billion. Newmont Corporation purchased GT Gold Corp. for an estimated \$456 million. Assets included the **Tatogga** project's Saddle North deposit. Hochschild Mining PLC announced their intent to earn a 60% interest in the **Snip Gold** project from Skeena Resources Limited by spending approximately \$100 million during the option period. Scottie Resources Corp. and AUX Resources Corporation amalgamated, which consolidated their advanced projects in the Stewart mining camp. In early December, Ascot Resources Ltd. received a Mines Act permit for construction and operation of their **Premier Gold** mine

project. Ascot reported planning for the transition from early works to full-scale construction. The target date for initial gold production is Q1 2023. Artemis Gold Inc.'s **Blackwater Gold** project gained provincial approval for mine construction, allowing initial site preparation and land clearing to start. BW Gold Ltd. (a wholly owned subsidiary of Artemis) plans to commence construction in Q2 2022.

Forest fires in the summer and unusually intense rainstorms in November, which resulted in the temporary collapse of transport infrastructure due to floods and slope failures, interfered with programs in the South Central and Southeast regions. These disruptions caused temporary suspensions and curtailed some late fall programs. Because of staffing shortages and protocols related to the Covid pandemic, laboratories had difficulty keeping up with the high volume of samples submitted by exploration companies, causing delays in the release of analytical results. Despite these challenges, the value of provincial mining production reached an all-time high, and exploration expenditures improved for the second year in a row, reaching a near-record level.

## 2. Mine production

The Ministry of Energy, Mines and Low Carbon Innovation forecasts the total value of mine production for 2021 at \$12.6 billion including coal, copper, gold, industrial minerals, aggregate, zinc, silver, molybdenum, and lead (Fig. 3). This forecast is \$5.3 billion higher than the 2020 preliminary estimate of \$7.3 billion made by the Ministry using Natural Resources Canada values (Fig. 4) and is mostly due to increased commodity prices, in particular for coal and copper.

Metallurgical coal prices skyrocketed in 2021 with spot prices reaching a high of 408 US\$/t on September 23, 2021. As of January 2022, prices were 350 US\$/t, a significant increase relative to prices at the start of 2021 of around 140 US\$/t. Price increases have been attributed to strong global steel production and increased imports by China arising from limits to domestic production. Coking coal prices are forecasted to decrease in

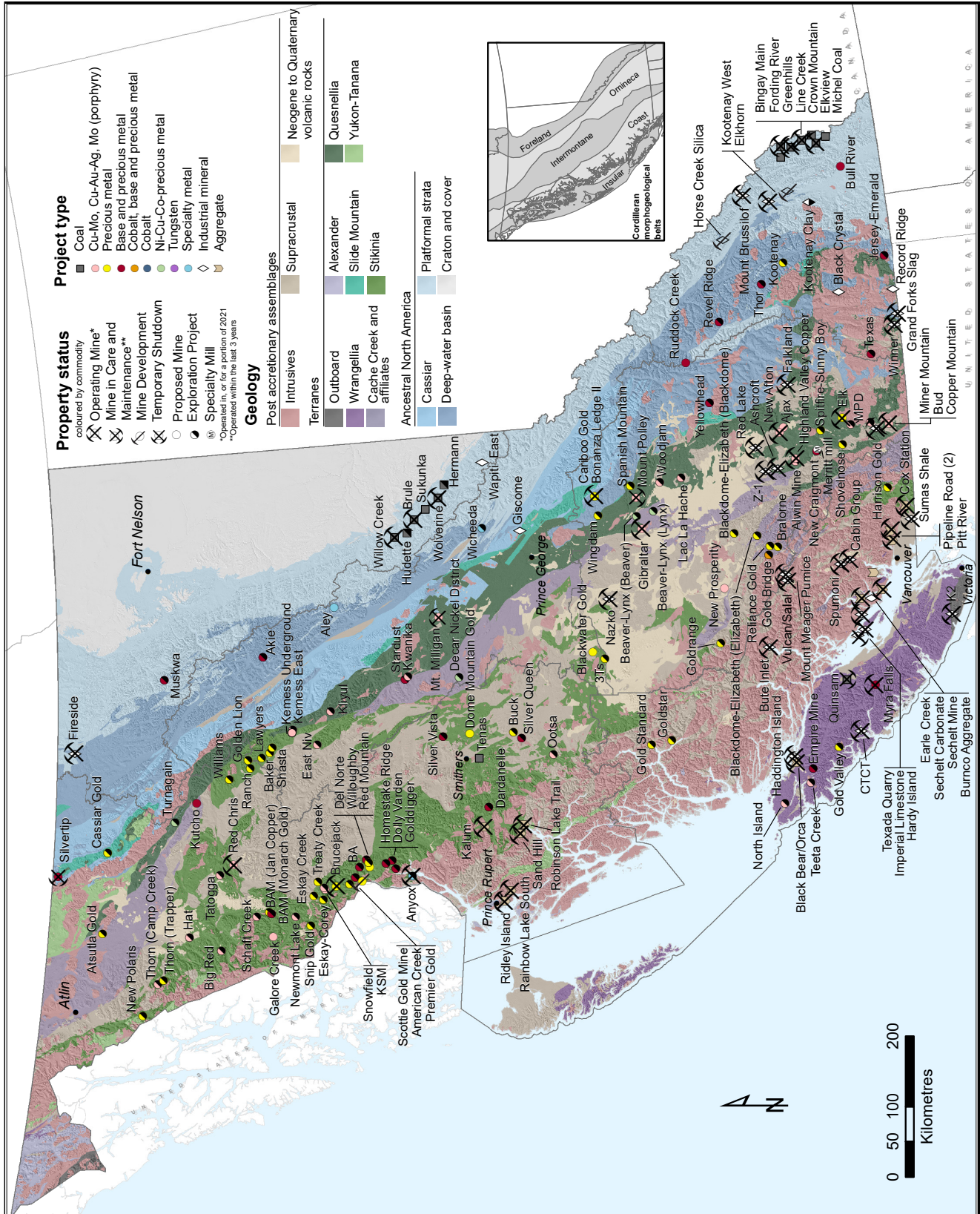


Fig. 1. Mines, mine development, selected proposed mines, and selected exploration projects in British Columbia, 2021. Based on Clarke et al., 2022, British Columbia Geological Survey Open File 2022-01.



Fig. 2. Geographic regions and Regional Geologist offices.

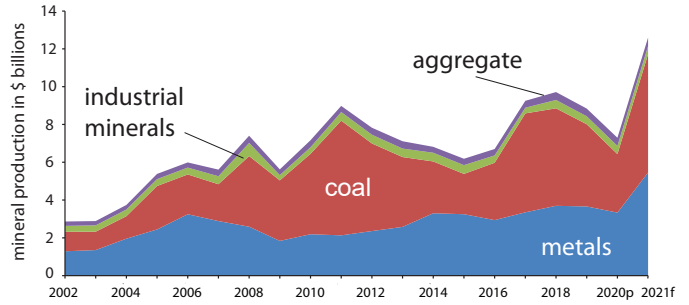


Fig. 4. Value of British Columbia mineral production by year 1999-2021; value for 2020 is preliminary estimate, value for 2021 is forecast.

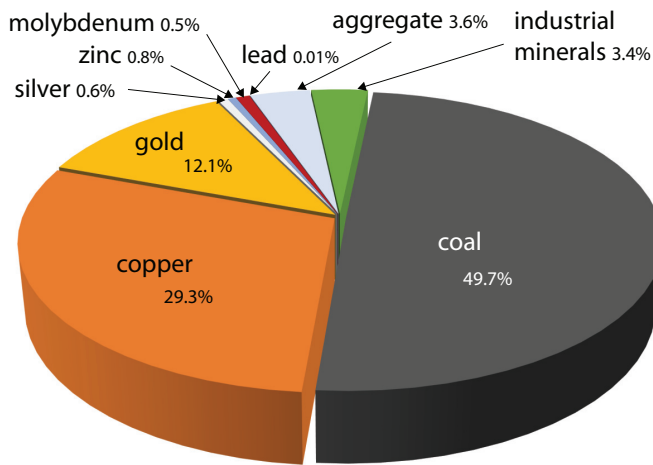


Fig. 3. 2021 forecast value of British Columbia mineral production by commodity; total is \$12.6 billion.

the next few years as the surge in steel production caused by the post-pandemic global recovery is expected to diminish. The reopening of the Mongolian border might also allow China to source coal from a relatively low-priced supplier. In the long term, metallurgical coal prices are expected to find support from expanding infrastructure in China and India. India has recently launched a \$1.35 trillion infrastructure plan, focussing on expanding transport infrastructure.

At the start of 2021, the price of copper was about US\$3.60/lb. The price rose to US\$4.70/lb by early May and finished the year at about US\$4.40/lb. Gold started 2021 at about US\$1940/oz, then fell to US\$1684/oz in late March, and closed out the year at US\$1806/oz.

As in previous years, coal was the highest value mine product (49.7%), followed by copper (29.27%). In 2021, ten metal mines operated during at least part of the year (Fig. 1; Table 2). Metallurgical coal was produced at four open-pit operations in the southeastern part of the province and three open-pit operations in the northeastern part (Fig. 1; Table 2). About 30 industrial mineral mines and more than 1000 aggregate mines and quarries were in operation.

### 3. Mining highlights

#### 3.1. Metal mines

Metal mines accounted for \$5.46 billion (forecast) of all mine production in 2021, representing about 43.3% of total

Table 1. Mineral Development Office and Regional Geologist contact information.

Region	Community	Regional Geologist	Phone	email
Northwest	Smithers	vacant	-	-
Northeast and North Central	Prince George	Nate Corcoran	250-645-9238	Nathan.Corcoran@gov.bc.ca
South Central	Kamloops	vacant	-	-
Southeast	Cranbrook	Fiona Katay	250-952-0372	Geological.Survey@gov.bc.ca
Southwest	Vancouver	Bruce Northcote	604-660-2713	Bruce.Northcote@gov.bc.ca
Mineral Development Office	Vancouver	Gordon Clarke	604-660-2094	Gordon.Clarke@gov.bc.ca

**Table 2.** Operating metal mines, 2021, forecast mine production, reserves, and resources.

Mine	Region	Operator (partner)	Commodity; deposit type; MINFILE	Forecast 2021 Production (based on Q1-Q3)	Reserves	Resources	Comments
<b>Brucejack</b>	Northwest	<b>Pretium Resources Inc.</b>	Au, Ag; IS- epithermal; 104B 193	346,000 oz Au 464,000 oz Ag	P+Pr: 14.4 Mt 8.3 g/t Au, 63.8 g/t Ag	M+I: 22.5 Mt 10.0 g/t Au, 67.5 g/t Ag  Inf: 9.4 Mt 10.3 g/t Au, 44.3 g/t Ag	Discovered new high-grade North Block and Marmot zones. Results for North Block included 12.0 m grading 80.7 g/t Au with 1.0 m grading 941.0 g/t Au. Results for Marmot zone included 53.5 m grading 72.5 g/t Au, including 6700 g/t Au along 0.5 m. Newcrest Mining Limited makes an offer to purchase Pretium for ca. \$3.5 billion.
<b>Red Chris</b>	Northwest	<b>Newcrest Mining Limited (70%), Imperial Metals Corporation (30%)</b>	Cu, Au, Ag; Hybrid calc-alkalic to alkalic porphyry; 104H 005	67.6 Mlbs Cu 62,100 oz Au	P+Pr: 301.5 Mt 0.36% Cu, 0.27 g/t Au	M+I: 980 Mt 0.38% Cu, 0.41 g/t Au  Inf: 190 Mt 0.30% Cu, 0.31 g/t Au	Infill drilling beneath East Zone continued to intersect high-grade mineralization. Results included 198 m grading 0.89 g/t Au and 0.83% Cu, and 254 m grading 1.0 g/t Au and 1.1% Cu. A Prefeasibility Study confirmed a low cost, long life for proposed block cave mining.
<b>Mt. Milligan</b>	North Central	<b>Centerra Gold Inc.</b>	Cu, Au, Ag; Alkalic porphyry Cu- Au; 093N 194, 191	75.0 Mlb Cu 182,545 oz Au	P+Pr: 170.6 Mt 0.22% Cu, 0.39 g/t Au	M+I: 125.2 Mt 0.19% Cu, 0.35 g/t Au (additional to reserves)	Concentrator design capacity 60,000 tpd. Estimated mine life 9 years. More than 350 employees.
<b>Bonanza Ledge II</b>	South Central	<b>Osisko Development Corp.</b>	Au; Au-quartz veins; 093H 140	na	na	Bonanza Ledge II M: 240,000 t 5.1 g/t Au  I: 1.671 Mt 4.3 g/t Au  Inf: 2.398 Mt 3.1 g/t Au	Production at Bonanza Ledge resumed in March 2021. Target rate of 650 tpd.

Table 2. Continued.

<b>Copper Mountain</b>	South Central	<b>Copper Mountain Mining Corporation</b> 75%, Mitsubishi Materials Corporation 25%	Cu, Au, Ag; Porphyry Cu-Au, Alkalic; 092HSE001	97.9 Mlb Cu 31,017 oz Au 591,258 oz Ag	P+Pr: 403.4 Mt 0.24% Cu, 0.11 g/t Au, 0.76 g/t Ag	M+I: 597.1 Mt 0.23% Cu, 0.10 g/t Au, 0.70 g/t Ag  Inf: 311.0 Mt 0.20% Cu, 0.10 g/t Au, 0.50 g/t Ag	Third ball mill commissioned for 45 ktpd throughput. Exploration drilling ongoing. Resources inclusive of reserves.
<b>Elk</b>	South Central	<b>Gold Mountain Mining Corp.</b>	Au, Ag; Au quartz veins; 092HNE009, 295, 41, 261	na	na	Combined Elk property M+I: 4.359 Mt 5.6 g/t Au, 11.0 g/t Ag  Inf.: 1.497 Mt 5.3 g/t Au, 14.4 g/t Ag	Began mining in November. Ore is to be trucked to New Afton. Exploration drilling and updated resource estimates.
<b>Gibraltar</b>	South Central	<b>Taseko Mines Limited</b> 75%, Cariboo Copper Corp. 25%	Cu, Mo; Porphyry Cu±Mo±Au; 093B 012	111.3 Mlb Cu 2.0 Mlb Mo	P+Pr: 538 M short tons 0.25% Cu, 0.008% Mo	M+I: 1048 M short tons 0.25% Cu, 0.007% Mo	Resources inclusive of reserves.
<b>Highland Valley</b>	South Central	<b>Teck Resources Limited</b>	Cu, Mo; Porphyry Cu±Mo±Au; 092ISW012, 45	130,400 t Cu 1.07 Mlb Mo	P+Pr: 401.6 Mt 0.31% Cu, 0.007% Mo	M: 724.1 Mt 0.28% Cu, 0.008% Mo  I: 999.7 Mt 0.24% Cu, 0.009% Mo  Inf: 406.0 Mt 0.23% Cu, 0.007% Mo	2040 extension plan under consideration which would yield 4.3 Blbs Cu and extend mine life.
<b>New Afton</b>	South Central	<b>New Gold Inc.</b>	Au, Ag, Cu; Porphyry Cu-Au, Alkalic; 092INE023	63.3 Mlb Cu 52,980 oz Au	P+Pr: 46.6 Mt 0.66 g/t Au, 1.8 g/t Ag, 0.74% Cu	M+I: 66.5 Mt 0.61 g/t Au, 2.1 g/t Ag, 0.74% Cu  Inf: 18.3 Mt 0.36 g/t Au, 1.1 g/t Ag, 0.36% Cu	M+I resources are exclusive of reserves. Exploration is ongoing at Cherry Creek 3 km west of mine and regionally.
<b>Myra Falls</b>	Southwest	<b>Trafigura Group Pte. Ltd. (Trafigura Mining Group)</b>	Zn, Cu, Pb, Au, Ag; Noranda/Kuroko massive sulphide; 092F 330, 71, 72, 73	Not reported	P+Pr: 4.7 Mt 7.11% Zn, 0.78% Pb, 0.92% Cu, 76.55 g/t Ag, 1.78 g/t Au	M+I: 7.64 Mt 6.59% Zn, 0.72% Pb, 0.99% Cu, 72.52 g/t Ag, 1.79 g/t Au	Resumed production in April 2019, continued to ramp up 2020-21. Continuing multi-year underground drilling.

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

output (Fig. 3). Ten mines produced in 2021 (Fig. 1; Table 2).

**Brucejack** (Pretium Resources Inc.) and **Red Chris** (Newcrest Mining Ltd. 70% and Imperial Metals Ltd. 30%) were the producing metal mines in the Northwest Region. At the **Brucejack** mine, production for the first three quarters totalled 259,551 oz of Au at a head grade of 8.4 g/t Au and 347,956 oz Ag. The mill throughput in the first nine months of the year totalled 3735 tpd for a total of 1,019,563 t milled. As of January 1, 2021, Pretium reported Indicated and Measured mineral resources totalling 22.5 Mt grading 10.0 g/t Au and 67.5 g/t Ag and Proven and Probable mineral reserves totalling 14.4 Mt grading 8.3 g/t Au and 63.8 g/t Ag. Resource expansion underground diamond drilling was carried out north of the Valley of the Kings deposit in a new area referred to as the North Block zone. Numerous high-grade intersections were reported including: 1 m grading 2,100.0 g/t Au; 12.0 m grading 80.7 g/t Au with a 1.0 m intersection grading 941.0 g/t Au; and 15.0 m grading 493.2 g/t Au, with a 1.0 m intersection grading 7,360 g/t Au. A new high-grade discovery was made in exploration drilling 3.5 km north of the mine, at the Marmot zone. Highlights included intersections of 53.5 m grading 72.5 g/t Au, including 6,700 g/t Au along 0.5 m, 5.8 m grading 46.1 g/t Au, and 38.0 m grading 22.8 g/t Au.

At the **Red Chris** mine, production to the end of the third quarter of 2021 totalled 46,550 oz Au and 50.7 Mlbs Cu. A new mineral resource estimate was released with 980 Mt of Measured and Indicated, grading 0.41 g/t Au, 0.38% Cu, and 190 Mt of Inferred, grading 0.31 g/t Au, 0.30% Cu. A Prefeasibility Study confirmed a low cost, long life for a proposed block cave mining operation. Diamond drilling near the ore body discovered new zones of high-grade mineralization. Results included 198 m grading 0.89 g/t Au, and 0.83% Cu, and 254 m grading 1.0 g/t Au and 1.1% Cu. Further studies were ongoing to assess opportunities close to the mine.

In the North Central Region, the **Mt. Milligan** open-pit copper-gold mine is in its eighth year. Production to the end of the 3rd quarter totalled 56.3 Mlb of Cu and 136,909 oz Au from 15.45 Mt of ore grading 0.22% Cu and 0.43 g/t Au. Metal recoveries averaged 79.4% for Cu and 65.8% for Au.

In the South Central Region, operating mines included **Bonanza Ledge II**, **Copper Mountain**, **Elk**, **Gibraltar**, **Highland Valley**, and **New Afton**. **Bonanza Ledge II** and **Elk** are both small precious metal mines.

Barkerville Gold Mines Ltd. (now under Osisko Development Corp.) restarted the Bonanza Ledge mine (Fig. 1; Table 2) in 2017 as an underground long-hole and cemented fill operation below the existing pit. Osisko Development Corp. began a second phase of underground mining at Bonanza Ledge in 2021. **Bonanza ledge II** will exploit the BC vein at a targeted rate of 650 tpd. Bonanza Ledge is part of the larger Cariboo Gold project, a proposal for a larger 15-year mining operation to the north. A permit amendment allows for production of up to 215,000 tpy of ore. The mine life of phase II is an anticipated 18 months.

At the **Copper Mountain** mine, production to the end of

the third quarter totalled 73.4 Mlbs Cu, 23,263 oz Au and 443,444 oz Ag, more than the same period in 2020. Guidance for 2021 is 90-100 million pounds Cu. Mill expansion to 65,000 tpd is to be commissioned in 2024. In 2022, the mine will conduct trial use of electric trolley assist haul trucks to reduce diesel use. Copper Mountain Mining Corporation reported exploration drilling at Copper Mountain. At the New Ingerbelle deposit, results extended mineralization below the current projected reserve pit shell to twice its previously known vertical extent. Drilling was also designed to expand resources and reserves at Copper Mountain North. Drilling continued into late 2021 at the Copper Mountain Main pit, North pit and New Ingerbelle deposit. Based on current reserves, the mine life is another 21 years; longer if resources are included.

Gold Mountain Mining Corp. began mining operations at the **Elk mine** in November. Ore is to be shipped to New Gold Inc.'s New Afton mill. A 2021 updated Preliminary Economic Assessment considers a 70,000 tpy open pit-only operation expanding to 324,000 tpy open pit and underground after three years, which they anticipate would require an environmental assessment. The total mine life would be 11 years. The open pit schedule plans for 2.5 Mt ore at an approximate grade of 7 g/t Au and 11 g/t Ag. Ore is trucked to New Afton for processing under an agreement with New Gold Inc.

At the **Gibraltar** mine, production to the end of the 3<sup>rd</sup> quarter totalled 83.5 Mlb Cu and 1.50 Mlb Mo. As of December, transport infrastructure disruptions resulting from unusually intense rainstorms had affected shipments but not production. Current Proven and Probable reserves can support mining until 2038.

At the **Highland Valley** mine, production to the end of the third quarter totalled 97,800 t Cu and 0.8 Mlb Mo at a copper grade of 0.36% and 88.3.0% recovery. Operations were suspended briefly due to a wildfire evacuation. Heavy November rains and resulting floods and landslides did not immediately affect production although Teck announced disruption of logistics between all its British Columbia operations and coastal terminals. Teck is proposing an extension to the mine's projected life from about 2028 to at least 2040. The project is in the pre-application stage of environmental assessment. Teck submitted an update to the project description as engineering and design advanced.

At the **New Afton** mine, production to the end of the third quarter produced 39,735 oz Au and 47.5 Mlb Cu from 3.678 Mt of ore grading 0.72% Cu and 0.42 g/t Au. Metal recoveries averaged 82% for Cu and 81% for Au. The company reported both underground exploration drilling at the mine site and surface drilling within the mine footprint and on the Cherry Creek trend 3 km to the west. Work in the Cherry Creek trend area included drilling for deep porphyry and shear-hosted gold mineralization.

The Southwest Region has one operating metal mine, **Myra Falls**. Trafigura Mining Group, part of Trafigura Group Pte. Ltd. acquired the Myra Falls underground Zn-Cu-Pb-Ag-Au mine in 2020 from Nyrstar N.V. Trafigura is a private

multinational commodity trading company and is not required to publish compliant production or reserves figures. However, they reported continuing to ramp up to a target throughput of 800,000 tpy of ore and estimate the operation has 10 years of reserves.

### 3.2. Coal mines

Seven coal mines (Fig. 1; Table 3) accounted for a forecast production of \$6.26 billion for 2021. This production represents about 49.7% of all total mineral output in the province. Coal was produced at four large open-pit operations of Teck Coal Limited in southeastern British Columbia and three open-pit operations of Conuma Coal Resources Limited in northeastern British Columbia.

### 3.3. Industrial minerals and aggregates

About 30 industrial mineral mines and more than 1000 aggregate operations are active in British Columbia (selected operations are listed in Table 4). With forecast production figures for industrial minerals of \$428 million (3.4% of total mineral production) and for aggregates of \$454 million (3.6% of total mineral production), these operations are important to the economy of the province.

In the Northeast Region, Fireside Minerals Ltd. mines veins of massive white barite. The barite is crushed and bagged on site and trucked to Fort St. John and Alberta for use in the drilling industry. In the South Central Region, industrial mineral commodities produced include roofing granules (from basalt), limestone, dimension stone, opal, railway ballast, diatomaceous earth, and zeolite. The Southeast Region hosts several industrial mineral mines, the largest of which are in the Rocky Mountain foreland belt. Commodities produced include magnesite, silica, gypsum, graphite, mineral wool, and abrasives. In the Southwest Region a number of operations remained in steady production and continue to be a major employer.

## 4. Mine development projects

As used herein, the term ‘mine development projects’ refers to those where the decision to produce has been made, necessary permits have been acquired, financing has been secured, and on-site construction has started. In 2021, Sinova Global’s **Horse Creek Silica** project, CertainTeed Gypsum Canada Inc.’s **Kootenay West** project and Ascot Resources Ltd.’s **Premier Gold** project (Fig. 1; Table 5) were considered under development. The **Horse Creek** and **Kootenay West** projects are in the Southeast Region and the **Premier Gold** project is in the Northwest Region.

### 4.1. Horse Creek Silica (Sinova Global)

At the **Horse Creek Silica** project, Sinova Global operates a seasonal quarry in Mount Wilson Formation orthoquartzites (Middle to Upper Ordovician). In 2021, 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% SiO<sub>2</sub> with an estimated resource of 1.4 Mt.

### 4.2. Kootenay West (CertainTeed Gypsum Canada Inc.)

CertainTeed Gypsum continued development work on its **Kootenay West** mine. Most work was on developing and improving road access to the mine site and environmental mitigation. The mine reported a resource of 17 Mt gypsum at a blended quality of 83%, with annual projected production of 400,000 tpy. The deposit is in evaporites of the Burnais Formation (Devonian) in a section 20-25 m thick grading 75-95% gypsum. With expected transition to active mining in 2022, the projected mine life is 43 years.

## 5. Selected proposed mine or quarry projects

Projects at the proposed mine or quarry (or mine evaluation) stage have a resource defined or largely defined and are preparing to submit a project description to initiate the environmental assessment process or are waiting on 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. Selected projects (Fig. 1; Table 6) discussed below are grouped by region and commodity types.

### 5.1. Northwest Region

Proposed metal mines include Blue Lagoon Resources Inc.’s **Dome Mountain** project, Galore Creek Mining Corporation’s **Galore Creek** project, Seabridge Gold Inc.’s **KSM** project, Kutcho Copper Corp.’s **Kutcho** project and Ascot Resources Ltd.’s **Red Mountain** project. Telkwa Coal Ltd., a subsidiary of Allegiance Coal Ltd., is proposing to develop the **Tenas** coal mine project.

#### 5.1.1. Proposed metal mines

The **Dome Mountain Gold** project contains an Indicated resource of 175,980 t grading 12.45 g/t Au, 60.41 g/t Ag and an Inferred resource of 408,105 t grading 8.32 g/t Au, 36.12 g/t Ag (with a cut and fill method at 3.42 g/t Au cut-off). The company entered into a milling agreement with Nicola Mining Inc. in which ore will be trucked for processing at a mill west of Merritt.

Blue Lagoon Resources Inc. carried out a 20,000 m diamond drilling program. The first phase tested deep targets and results included 3.0 m grading 24.07 g/t Au and 127.92 g/t Ag, and 4.13 m grading 11.08 g/t Au and 34.39 g/t Ag. The second phase targeted geophysical and geochemical anomalies. Results included 0.65 m grading 40 g/t Au, and 441 g/t Ag.

The **Galore Creek** Cu-Au project is operated by the Galore Creek Mining Corporation and is jointly owned by Teck Resources Limited and Newmont Corporation. The Galore Creek project contains a Proven and Probable Reserve of 528 Mt grading 0.59% Cu, 0.32 g/t Au, and 6.02 g/t Ag and a Measured plus Indicated resource of 1.103 Bt grading

**Table 3.** Operating coal mines, 2021, forecast mine production, reserves, and resources.

Mine	Region	Operator (partner)	Commodity; deposit type; MINFILE	Forecast 2021 Production (based on Q1-Q3)	Reserves	Resources	Comments
<b>Brule</b>	Northeast	<b>Conuma Coal Resources Limited</b>	PCI; Bituminous coal; 093P 007	1.6 Mt	P+Pr: 3.58 Mt	na	About 230 employees.
<b>Willow Creek</b>	Northeast	<b>Conuma Coal Resources Limited</b>	HCC, PCI; Bituminous coal; 093O 008	1.5 Mt	P+Pr: 11.07 Mt	na	About 220 employees (mine and plant).
<b>Wolverine</b>	Northeast	<b>Conuma Coal Resources Limited</b>	HCC; Bituminous coal; 093P 025	1.1 Mt	P+Pr: 4.68 Mt	na	About 300 employees (mine and plant).
<b>Elkview</b>	Southeast	<b>Teck Coal Limited (95%);</b> Nippon Steel & Sumitomo Metal Corp. (2.5%), POSCO (2.5%)	HCC; Bituminous coal; 082GNE017	9.0 Mt clean	na	na	Teck estimates a remaining reserve life of approximately 30 years at the current production rate.
<b>Fording River</b>	Southeast	<b>Teck Coal Limited</b>	HCC; Bituminous coal; 082JSE012	9.5 Mt clean	na	na	The focus for development drilling in 2021 was the Fording River Extension project. Proven and Probable reserves sufficient for 28 years mine life; increase to 48 years including the Fording River Extension project.
<b>Greenhills</b>	Southeast	<b>Teck Coal Limited (80%);</b> POSCAN (20%)	HCC Bituminous coal; 082JSE007	5.4 Mt clean	na	na	Proven and Probable reserves are projected to support another 47 years of mining at planned production rates.
<b>Line Creek</b>	Southeast	<b>Teck Coal Limited</b>	HCC, TC; Bituminous coal; 082GNE020	4.0 Mt clean	na	na	Proven and Probable reserves at Line Creek are projected to support planned production rates for a further 15 years.

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



**Table 4.** Selected operating industrial mineral mines and quarries, 2021, forecast mine production, reserves, and resources.

<b>Mine</b>	<b>Region</b>	<b>Operator (partner)</b>	<b>Commodity; deposit type; MINFILE</b>	<b>Forecast 2021 Production (based on Q1-Q3)</b>	<b>Reserves</b>	<b>Resources</b>	<b>Comments</b>
<b>Anyox</b>	Northwest	<b>True-Grit Abrasives</b>	Slag steel	80,000 t	na	na	Slag is mined, cleaned, and barged for roofing and sand for sand blasting.
<b>Kalum</b>	Northwest	<b>Kalum Quarry Ltd.</b>	Industrial rock; Crushed rock	unknown	na	na	Drilling, blasting, crushing, production for CN Railway and others.
<b>Rainbow Lake South</b>	Northwest	<b>Spring Creek Aggregates Ltd.</b>	Industrial rock; Crushed rock	unknown	na	na	Drilling, blasting, crushing, production for CN Railway and LNG projects.
<b>Ridley Island</b>	Northwest	<b>Terus Construction Ltd.</b>	Industrial rock; Crushed rock	unknown	na	na	Drilling, blasting, crushing, production for CN Railway and LNG projects.
<b>Robinson Lake Trail</b>	Northwest	<b>Haisla &amp; Progressive Ventures Construction Ltd.</b>	Industrial rock; Crushed rock	unknown	na	na	Drilling, blasting, crushing, production for CN Railway and LNG projects.
<b>Sand Hill</b>	Northwest	<b>Terus Construction Ltd.</b>	Industrial rock; Crushed rock	unknown	na	na	Crushing for CN Railway and LNG projects.
<b>Fireside</b>	Northeast	<b>Fireside Minerals Ltd.</b>	Barite; Vein barite; 094M 003, 19	na	na	na	Product is bagged and trucked to Fort St. John and to Alberta, where it is used to produce high-density drilling mud.
<b>Ashcroft</b>	South Central	<b>IG Machine and Fibers Ltd. (IKO Industries Ltd.)</b>	Basalt (roofing granules); 092INW104	300,000 t (approx. target)	na	Approx. 13.3 Mt in 2002	Typically mines 500,000 t with 60% processed into granule products.
<b>Bud</b>	South Central	<b>Absorbent Products Ltd.</b>	Bentonite; 092HSE162	na	na	na	
<b>Falkland</b>	South Central	<b>Lafarge Canada Inc.</b>	Gypsum; 082LNW001	na	na	na	Finding alternate uses since closure of Lafarge's Kamloops cement plant.
<b>Nazo</b>	South Central	<b>Can Lava Mining Corporation</b>	Lava Rock; Cinder cone; 093B 060	na	na	Historical: 45 Mt	
<b>Red Lake</b>	South Central	<b>Absorbent Products Ltd.</b>	Diatomaceous earth, lacustrine diatomite; 092INE081	na	na	na	

Table 4. Continued.

<b>Z-1</b>	South Central	<b>Progressive Planet Solutions Inc.</b>	Zeolite; Open system zeolites; 092INW095	na	na	Approx. 800,000 t	Historical resource.
<b>Elkhorn</b>	Southeast	<b>CertainTeed Gypsum Canada Inc.</b>	Gypsum, anhydrite; Bedded gypsum; 082JSW021	na	na	na	Elkhorn site nearing end of mine life.
<b>Grand Forks Slag</b>	Southeast	<b>Pacific Abrasives and Supply Inc.</b>	Slag; Tailings; 082ESE264	na	na	na	Seasonal.
<b>Mount Brussilof</b>	Southeast	<b>Baymag Inc.</b>	Magnesite; Hydrothermal sparry magnesite; 082JNW001	230,000 t	P: 50 Mt	na	Material is coarse crushed on site and trucked to processing facility in Exshaw, AB.
<b>Winner</b>	Southeast	<b>Rockwool Inc.</b>	Gabbro/basalt; Crushed rock for mineral wool; 082ESE265	na	na	na	Seasonal.
<b>Bute Inlet</b>	Southwest	<b>Ironwood Clay Company Inc.</b>	Clay; Sedimentary kaolin? (or illite)	na	na	na	Intermittent mining as needed.
<b>Cabin Group</b>	Southwest	<b>Northwest Landscape and Stone Supply Ltd.</b>	Landscaping stone	na	na	na	
<b>Cox Station</b>	Southwest	<b>Mainland Construction Materials</b>	Aggregate; Crushed rock; 092GSE103	Approx. 3-4 Mtpy	na	na	
<b>CTCT</b>	Southwest	<b>Vancouver Island Marble Quarries Ltd.</b>	Marble; Limestone; 092E 020	Typically, about 400 t annually	na	na	Supplies Matrix Marble and Stone Inc.
<b>Earle Creek</b>	Southwest	<b>Lafarge Canada Inc.</b>	Sand and Gravel	Typically >1 Mtpy	na	na	Supplies Matrix Marble and Stone Inc.
<b>Haddington Island</b>	Southwest	<b>Adera Natural Stone Supply Ltd.</b>	Dimension stone, building stone; 092L 146	na	na	na	Not active every year.
<b>Hardy Island</b>	Southwest	<b>Hardy Island Granite Quarries Ltd.</b>	Dimension stone, building stone; Dimension stone-granite; 092F 425	3000-5000 tpy	na	Approx. 100,000 t	

Table 4. Continued.

<b>Imperial Limestone</b>	Southwest	<b>Imperial Limestone Co. Ltd.</b>	Limestone; Limestone; 092F 394	Approx. 600,000 t	na	na	250,000 to 275,000 t high purity product + cement feedstock.
<b>K2</b>	Southwest	<b>K2 Stone Quarries Inc.</b>	Dimension stone, flagstone; 092C 159	15,000-20,000 t annually	na	na	Production number represents material extracted.
<b>Mount Meager Pumice</b>	Southwest	<b>Great Pacific Pumice Inc.</b>	Pumice; Volcanic ash; 092JW 039	na	na	na	
<b>Orca</b>	Southwest	<b>Polaris Minerals Corporation</b> (US Concrete Inc. and 'Namgis First Nation)	Sand and Gravel	Up to 6 Mtpy	na	na	Planning increased production, targeting up to 8.5 Mtpy.
<b>Pipeline Road (2)</b>	Southwest	<b>Lehigh Hanson Materials Ltd., Allard Contractors Ltd.</b>	Sand and Gravel	na	na	na	Two adjacent operating sites.
<b>Pitt River</b>	Southwest	<b>Lafarge Canada Inc.</b>	Aggregate; Crushed rock; 092GSE007	Typically >1 Mtpy	na	na	
<b>Sechelt</b>	Southwest	<b>Lehigh Hanson Materials Limited</b>	Sand and Gravel	Typically 5-6 tpy	na	Several decades	
<b>Spumoni</b>	Southwest	<b>Northwest Landscape and Stone Supply Ltd.</b>	Flagstone; Flagstone; 092GNW100	na	na	na	Seasonal quarry.
<b>Sumas Shale</b>	Southwest	<b>Sumas Shale Ltd.</b> (Lafarge Canada Inc., Clayburn Industrial Group)	Shale, clay, sandstone; Residual kaolin; 092GSE024	About 500,000 t annually	na	50+ years	Approximately 55% shale, 45% sandstone for cement production.
<b>Texada Quarry</b>	Southwest	<b>Texada Quarrying Ltd.</b> (Lafarge Canada Inc.)	Limestone, aggregate; Limestone; 092F 395	Typically, approx. 3.5 to 4.5 Mtpy	na	100+ years	Mostly produces limestone for cement manufacture.
<b>Vulcan/Salal</b>	Southwest	<b>Garibaldi Pumice Ltd.</b>	Pumice; Volcanic ash; 092JW 039	Typically 10,000-20,000 m <sup>3</sup>	na	11,396,000 m <sup>3</sup> pumice 4,990,000 m <sup>3</sup> pumicite (fines)	2014 resource. Additional exploration 2015, 2018, 2019.

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

**Table 5.** Mine development projects.

Mine	Region	Operator (partner)	Commodity; deposit type; MINFILE	Reserves	Resources	Comments
<b>Horse Creek Silica</b>	Southeast	<b>Sinova Global</b>	Silica; Silica sandstone; 082N 043	na	1.4 Mt est.	High purity silica >99.9% SiO <sub>2</sub> , permit updates, road and rail construction, mine site preparation. Drilling; 3 DDH (2272 m), 29 RC (2275 m). Planned production up to 400,000 tpy.
<b>Kootenay West</b>	Southeast	<b>CertainTeed Gypsum Canada Inc.</b>	Gypsum; Evaporitic bedded gypsum; 082JSW005, 20	na	North and South quarries: Total 16.9 Mt (at average quality of 83-85%)	Mine construction; granted a conditional EA certificate in January 2018; environmental baseline and geotechnical work, permitting, and modifications to mine design; construction began in 2019; 400,000 tpy; 43-year mine life.
<b>Premier Gold</b>	Northwest	<b>Ascot Resources Ltd.</b>	Au, Ag; Epithermal; 104B 054	P+Pr: 3.63 Mt 5.45 g/t Au, 19.11 g/t Ag	I: 4.14 Mt 8.01 g/t Au, 35.1 g/t Ag  Inf: 5.06 Mt 7.25 g/t Au, 28.7 g/t Ag	Received Mines Act permit for construction and operation in December. Planning full-scale construction. Initial gold production target is Q1 2023. Exploration drilling (18,074 m) near defined resources. The proposed mine is considered a precious metal project, but the company reported discovering new high-grade copper, gold, silver, lead, and zinc. Highlights included 4.0 m grading 0.17 g/t Au, 137.8 g/t Ag, 3.62% Cu, and 0.65% Zn, and 7.0 m grading 21.13 g/t Au, 110.61 g/t Ag, 2.76% Pb, and >17.14% Zn, and 7.1 m grading 36.2 g/t Au.

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

**Table 6.** Selected proposed mine projects.

Project	Region	Operator (partner)	Commodity; deposit type; MINFILE	Reserves	Resources	Comments
<b>Dome Mountain</b>	Northwest	<b>Blue Lagoon Resources Inc.</b>	Au, Ag; Au-quartz veins; 093L 276	na	I: 176,000 t 12.45 g/t Au, 60.41 g/t Ag  Inf: 408,000 t 8.32 g/t Au, 36.12 g/t Ag (resource based on cut and fill method at 3.42 g/t Au cut-off)	20,000 m of drilling. Highlights include 3.0 m grading 24.07 g/t Au and 127.92 g/t Ag, and 4.13 m grading 11.08 g/t Au and 34.39 g/t Ag.

Table 6. Continued.

<b>Galore Creek</b>	Northwest	<b>Galore Creek Mining Corporation</b> (Teck Resources Limited (50%), Newmont Goldcorp Corporation (50%))	Cu, Au, Ag; Alkaline porphyry; 104G 090	P+Pr: 528 Mt 0.59% Cu, 0.32 g/t Au, 6.02 g/t Ag	M+I: 1.103 Bt 0.47% Cu, 0.26 g/t Au, 4.2 g/t Ag  Inf: 198 Mt 0.27% Cu, 0.21 g/t Au, 2.7 g/t Ag	8000 m, 31-hole diamond drilling.
<b>KSM</b>	Northwest	<b>Seabridge Gold Inc.</b>	Cu, Au, Ag, Mo; Porphyry; 104B 191	P+Pr: 2.20 Bt 0.55 g/t Au, 0.21% Cu, 2.6 g/t Ag, 42.6 g/t Mo	M+I: 3.04 Bt 0.52 g/t Au, 0.21% Cu, 2.8 g/t Ag, 48 g/t Mo  Inf: 4.60 Bt 0.38 g/t Au, 0.32% Cu, 2.2 g/t Ag, 29 g/t Mo (Total for KSM deposits)	9450 m of drilling including 3484 m at Snowfield and Mitchell deposits. In late 2020, Snowfield acquired from Pretium Resources Inc. Results from Snowfield confirm prior drilling results; Snowfield might be incorporated in a new mining plan.
<b>Kutcho</b>	Northwest	<b>Kutcho Copper Corp.</b>	Cu, Pb, Zn; Noranda/Kuroko VMS; 104I 060	Pr: 17.3 Mt 1.58% Cu, 2.31% Zn, 27.9 g/t Ag, 0.39 g/t Au	M+I: 22.8 Mt 1.52% Cu, 2.18% Zn, 0.39 g/t Au, 28.1 g/t Ag  Inf: 12.9 Mt 1.10% Cu, 1.58% Zn, 0.25 g/t Au, 20.0 g/t Ag	Favourable feasibility study released. The project would have an eleven-year open-pit and underground mine life.
<b>Red Mountain</b>	Northwest	<b>Ascot Resources Ltd.</b>	Au, Ag; Subvolcanic and precious metal veins; 103P 086	P+Pr: 2.54 Mt 6.52 g/t Au, 20.60 g/t Ag	M+I: 3.19 Mt 7.63 g/t Au, 21.02 g/t Ag  Inf: 0.41 Mt 5.32 g/t Au, 7.33 g/t Ag	Environmental baseline monitoring.
<b>Tenas</b>	Northwest	<b>Allegiance Coal Ltd. (95%), Itochu Corp. (5%)</b>	PCI; Bituminous coal; 093L 156	P+Pr: 62.9 Mt coal	na	Geotechnical drilling, continued finalizing Environmental Assessment Certificate application. Proposed production 775-825 kt of steelmaking coal annually with a mine-life of 22 years.
<b>Sukunka</b>	Northeast	<b>Glencore Canada Corporation</b>	Coal; Bituminous; 093P 014	na	145.0 Mt coal in situ	Permitting in progress.
<b>Wapiti East</b>	Northeast	<b>Fertoz International Inc.</b>	P <sub>2</sub> O <sub>5</sub> ; Sedimentary phosphate deposits; 093I 008, 22, 15	na	I+Inf: 1.54 Mt 21.6% P <sub>2</sub> O <sub>5</sub>	Work continued in 2021 with geochemical sampling and road upgrades. Permitting is ongoing but has faced delays due to caribou issues.

Table 6. Continued.

<b>Aley</b>	North Central	<b>Taseko Mines Ltd.</b>	Nb; Carbonatite-hosted; 094B 027	P+Pr: 83.8 Mt 0.50% Nb <sub>2</sub> O <sub>5</sub> (at 0.30% Nb <sub>2</sub> O <sub>5</sub> cut-off)	M+I: 285.8 Mt 0.37% Nb <sub>2</sub> O <sub>5</sub> (at 0.20% Nb <sub>2</sub> O <sub>5</sub> cut-off)	Proposed open-pit mine with 10,000 tpd ore processing rate and average annual production of 9000 t Nb over a 24-year mine life.
<b>Blackwater Gold</b>	North Central	<b>Artemis Gold Inc.</b>	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	Provincial approval for mine construction, allowing initial site preparation and land clearing to start. Federal and Provincial Environmental Assessment certificates in place. Completed 25,840 m grade-control reverse circulation drilling.
<b>Giscome</b>	North Central	<b>Graymont Western Canada Inc.</b>	CaCO <sub>3</sub> ; 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 over a 50+ year mine life.
<b>Kemess Underground (KUG)</b>	North Central	<b>Centerra Gold Inc.</b>	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 mine life.
<b>Ajax</b>	South Central	<b>KGHM Ajax Mining Inc.</b> (KGHM Polska Miedz SA 80%, Abacus Mining and Exploration Corporation 20%)	Cu, Au; Alkalic porphyry; 092INE012, 13	P+Pr (NSR cut-off US\$7.10/t): 426 Mt 0.29% Cu, 0.19 g/t Au, 0.39 g/t Ag	M+I (NSR cut-off US\$7.10/t): 568 Mt 0.26% Cu, 0.18 g/t Au, 0.35 g/t Ag	Environmental certification denied by provincial (2017) and federal ministers (2018). Proponents are investigating a possible re-submission.
<b>Cariboo Gold</b>	South Central	<b>Osisko Development Corp.</b>	Au; Au-quartz veins; 093H 140, 139, 19, 6	na	M+I: 21.441 Mt 4.6 g/t Au  Inf: 21.649 Mt 3.9 g/t Au	Updated project description has average production of 4750 tpd and mine life up to 15 years. Ongoing exploration drilling.
<b>New Prosperity</b>	South Central	<b>Taseko Mines Limited</b>	Cu, Au; Porphyry; 092O 041	P+Pr (NSR cut-off \$5.50/t): 831 Mt 0.23% Cu, 0.41 g/t Au containing (recoverable) 3.6 Blb Cu, 7.7 Moz Au	M+I: 1010 Mt 0.24% Cu, 0.41 g/t Au (at 0.14% Cu cut-off)	Granted provincial Environmental Certificate and time extensions but denied federal approval. Taseko and T̓silhqot̓'in Nation in discussion.

Table 6. Continued.

<b>Ruddock Creek</b>	South Central	<b>Ruddock Creek Mining Corporation (Imperial Metals 100%)</b>	Pb, Zn, Ag; Broken Hill-type; 082M 082	na	M+I: 6.2 Mt 6.50% Zn, 1.33% Pb  Inf: 6.678 Mt 6.33% Zn, 1.20% Pb  (resources at a 4.0% Pb+Zn cut-off)	Project at environmental assessment pre-application stage. Feb. 2013 resource, prior to 2018-19 drilling. Imperial Metals now owns 100%.
<b>Bingay Main</b>	Southeast	<b>Centermount Coal Ltd.</b>	Coal; Bituminous coal; 082JSE011	na	na	Pre-application stages of EA; letter submitted in 2020 for project to remain in EA. Proposed 1Mt per year; 12 to 14 year mine life.
<b>Black Crystal</b>	Southeast	<b>Eagle Graphite Corp.</b>	Graphite; Crystalline flake graphite; 082FNW260, 283	na	Regolith + calcsilicate; M+I: 19.23 Mt at 1.35% fixed carbon  Inf: 23.92 Mt at 1.3% fixed carbon (2018)	Research and development; possible application for Li-ion batteries.
<b>Bull River</b>	Southeast	<b>Braveheart Resources Inc.</b>	Cu, Au, Ag; Cu±Ag quartz veins; 082GNW002	na	I: 2.26 Mt 2.13% Cu, 0.44 g/t Au  Inf: 1.36 Mt 1.60% Cu, 0.42 g/t Au	Six underground drill holes. Best intersection with 1.71% Cu, 17.6 g/t Au, and 11.6 g/t Ag along 4.9 m.
<b>Crown Mountain</b>	Southeast	<b>NWP Coal Canada Limited (Jameson Resources Limited (80%), Bathurst Resources Limited (20%))</b>	Coal (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)	Pre-Application EA stage, 2021 extended First Nations consultation to 2022. Proposed 2 Mt per year operation (86% HCC and 14% PCI) with 15-year mine life.
<b>Michel Coal</b>	Southeast	<b>North Coal Limited</b>	Coal (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; received AIR requirements in September 2020; geotechnical studies and updates to mine design; coal quality testing indicates coal has similar characteristics to Elk Valley hard coking coal; environmental baseline and mine design.

Table 6. Continued.

<b>Record Ridge</b>	Southeast	<b>West High Yield (W.H.Y.) Resources Ltd.</b>	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	Restarted Mines Act permit application, metallurgical testing.
<b>Black Bear and Orca</b>	Southwest	<b>Polaris Materials Corporation</b> (US Concrete, Inc. and 'Namgis First Nation)	Aggregate; na	na	20 years (proposed life)	Orca environmental certificate amendment application withdrawn. Proposed 250,000 tpy near the Orca quarry revised to 3-4 Mtpy. Indicate intention to re-apply under 2018 Act.
<b>BURNCO Aggregate</b>	Southwest	<b>BURNCO Rock Products Ltd.</b>	Aggregate; Sand and Gravel; na	na	Approx. 20 Mt	Has environmental certification, would require Mines Act and other permits.
<b>Sechelt Carbonate</b>	Southwest	<b>Ballinteer Management Inc.</b>	Limestone, dolostone, aggregate; Limestone, dolomite, crushed rock; 093GNW031	na	Carbonate Rock: 76.1 Mt  Gabbro: >700 Mt	Proponent requests project remain in environmental assessment preapplication stage.

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

0.47% Cu, 0.26 g/t Au, and 4.2 g/t Ag, with an additional Inferred resource of 198 Mt grading 0.27% Cu, 0.21 g/t Au, and 2.7 g/t Ag. An 8000 m, 31-hole diamond drilling program was carried out in 2021.

The **KSM** project consists of four porphyry Cu-Au deposits: Kerr, Sulphurets, Mitchell, and Iron Cap. It is the largest undeveloped gold project in the world by resources: Measured and Indicated resources 3.04 Bt grading 0.52 g/t Au, 0.21% Cu, 2.8 g/t Ag, and 0.0048% Mo and an Inferred resource of 4.59 Bt grading 0.38 g/t Au, 0.32% Cu, 2.4 g/t Ag, and 0.0029% Mo. The total KSM Proven and Probable reserves are 2.198 Bt grading 0.55 g/t Au, 0.21% Cu, 2.6 g/t Ag and 0.0043% Mo. A Preliminary Economic Assessment (April, 2020) proposed a mine life of 44 years producing 27.6 Moz Au and 17.0 Blbs Cu. The initial capital for mine construction and development is \$5.2 billion, with a four-year payback period. In late 2020, Seabridge acquired the **Snowfield** property from Pretium Resources Inc. Seabridge has announced plans to integrate Snowfield into the KSM project. In 2021 Seabridge carried out 9450 m of drilling, including 3484 m at Snowfield and Mitchell. Drilling results at Snowfield matched grades previously reported by Pretium, suggesting that blending Snowfield ore with Mitchell production could lead to extension of open pit mining before underground block-cave mining is

needed. A new KSM Preliminary Feasibility Study is scheduled for completion mid-2022.

The **Kutcho** project is accessible by a 100 km-long seasonal gravel road and an airstrip 10 km from the deposit. Kutcho Copper Corp. entered the environmental assessment process late in 2019 and has received a Section 11 Order that defines the scope of the assessment and the Indigenous Nations that the company will engage with. The project is not required to undertake a federal environmental assessment. A 2021 Feasibility Study announced favourable economics using US\$3.50/lb Cu and US\$1.15/lb Zn. The project would have an eleven-year open pit and underground mine life. Reported Proven and Probable mineral reserves are 17.3 Mt grading 1.58% Cu, 2.31% Zn, 27.9 g/t Ag, 0.39 g/t Au. Mineral resources Measured and Indicated (inclusive of reserves) are reported as 22.8 Mt grading 1.52% Cu, 2.18% Zn, 28.1 g/t Ag, 0.39 g/t Au.

**Red Mountain** is a proposed underground mine 18 km east-northeast of Stewart. A provincial and federal Environmental Assessment Certificate was received in 2018. The project was purchased by Ascot Resources from IDM Mining in 2019 for \$45 million. A Feasibility Study was completed in 2020. Red Mountain is estimated to contain Measured and Indicated resources of 3.19 Mt grading 7.63 g/t Au and 21.02 g/t Ag and



an additional Inferred resource of 405,000 t grading 5.32 g/t Au and 7.33 g/t Ag (reported at 3.0 g/t Au cut-off for long hole stoping). Environmental baseline monitoring continued this year, although no exploration work was done as Ascot concentrated on developing their Premier Gold project.

### 5.1.2. Proposed coal mines

Telkwa Coal Ltd., a subsidiary of Allegiance Coal Ltd., is proposing to develop the **Tenas** project, which is road accessible, approximately 17 km south of Smithers. Itochu Corp. has a 10% interest. The project entered the provincial environmental assessment process in 2018 and the project proposes to produce 775,000-825,000 t of steelmaking coal annually with a mine-life of 22 years. In 2017, Allegiance Coal Ltd. released a reserve estimate of Proven plus Probable reserves of 62.9 Mt of coal. Currently there are four conceptual pits (from south to north: Tenas, Goathorn West, Goathorn East, and Telkwa North) on approximately 1050 ha. The current environmental assessment application is only for production of metallurgical coal from the Tenas pit. Proven plus Probable reserves for Tenas are 29.1 Mt. In 2021, Telkwa carried out geotechnical drilling to support the planned management ponds and continued finalizing their environmental assessment certificate application.

## 5.2. Northeast Region

In the Northeast Region Glencore plc proposes to develop their **Sukunka** coal project. Fertoz International Inc. proposes the **Wapiti East** industrial mineral mine (phosphate).

### 5.2.1. Proposed coal mines

Glencore Canada Corporation and JX Nippon Oil and Energy Corporation's **Sukunka** project has been planned as both an open-pit and underground operation. The project continued through the Environmental Assessment process in 2021 and is listed on The British Columbia Environmental Assessment Office website as 'in progress'.

### 5.2.2. Proposed industrial mineral mines or quarries

Fertoz Ltd.'s **Wapiti East** project is a proposed phosphate mine. Combined Indicated and Inferred resources are 1.54 Mt grading 21.6% P<sub>2</sub>O<sub>5</sub> (at a 7% cut-off). Work continued in 2021 with geochemical sampling and road upgrades. Permitting is ongoing but has faced delays due to caribou issues.

## 5.3. North Central Region

There are four proposed mines in the North Central Region. Three are proposed metal mines: Taseko Mines Limited's **Aley** Niobium project; Artemis Gold Inc.'s **Blackwater** Au-Ag project and Centerra Gold Inc.'s Cu-Au-Ag **Kemess Underground** project. Graymont Western Canada Inc.'s **Giscome** project is a proposed industrial mineral mine (limestone).

### 5.3.1. Proposed metal mines

Taseko Mines Limited's wholly-owned **Aley** niobium-bearing carbonatite project is near the western extremity of platform strata. The carbonatite intrusion is oval in map view, measuring about 2.0 by 2.8 km. Within that body, reserves stand at 84 Mt grading 0.5% Nb<sub>2</sub>O<sub>5</sub>. An open-pit mine is proposed, processing 10,000 tpd and producing ferroniobium. The projected mine life is 24 years with an output of about 9 Mkg of niobium annually, making it among the largest niobium deposits in the world. Environmental assessment is ongoing. In 2021, Taseko continued with environmental monitoring, and product marketing initiatives. Technical analysis and testing of a pilot plant are ongoing.

BW Gold Ltd., a 100% owned subsidiary of Artemis Gold Inc., filed an updated NI 43-101 Feasibility Study for their **Blackwater Gold** project. The study reported a 29% increase for annual gold production for the first five-years compared to a 2020 Prefeasibility Study. Reserves were reported at 8 million oz Au and 60 million oz Ag, with a life-of-mine average annual gold production of 339,000 oz. Approximately 25,840 m of vertical RC drilling was completed for grade control, and technical and metallurgical studies continued. The project gained provincial approval for mine construction, allowing initial site preparation and land clearing to start.

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. The former Kemess South mine closed in 2011. However, infrastructure remains in place, and both the camp and ore processing plant will be used to service KUG, which is about 6.5 km north of the former processing plant. 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 a life of mine average production of 106,000 oz Au and 47 Mlbs Cu over 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 and use facilities developed for KUG. 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.

### 5.3.2. Proposed industrial mineral mines or quarries

At their **Giscome** limestone project, Graymont Western Canada Inc. plans to exploit a high-purity Paleozoic limestone deposit. Crushed stone would be transported about 5 km by conveyor 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.

#### 5.4. South Central Region

Proposed mine projects in the South Central Region include KGHM Ajax Mining Inc.'s **Ajax**, Osisko Development Corp.'s **Cariboo Gold**, Taseko Mines Limited's **New Prosperity** and, Ruddock Creek Mining Corporation's **Ruddock Creek** projects. All are metal mine projects.

##### 5.4.1. Proposed metal mines

The **Ajax** porphyry copper-gold project, owned by KGHM Ajax Mining Inc., is an 80:20 joint venture between KGHM Polska Miedz S.A. and Abacus Mining and Exploration Corporation. A revised feasibility study released in 2016 modelled Ajax as a 65,000 tpd open-pit mine with a projected 18-year life. In December 2017, the project was denied certification by the British Columbia Ministries of Environment and Climate Change Strategy and Energy, Mines and Petroleum Resources. In June 2018, Natural Resources Canada, Fisheries and Oceans Canada, and the Canadian Coast Guard denied federal certification. Although KGHM Ajax has not announced plans for the site, Abacus issued an update stating that the project remains a priority and that they have begun re-engaging those potentially affected by it and considering whether to reapply for environmental certification. With a Kamloops office that opened in 2020, KGHM is considering resubmitting an application.

Osisko Development Corp. acquired the **Cariboo Gold** project in 2019 through a purchase of Barkerville Gold Mines. The property consolidates several historic gold mines. The company initiated the British Columbia environmental assessment process in 2019, and the application is now in the development and review phase. The current project description is for a 4750 tpd underground mine with a 16-year life. Ore crushing, sorting, and a flotation circuit on site would produce flotation concentrate to be trucked to the Quesnel River mill. Tailings would be disposed of as paste backfill on site and at the QR with a filtered stack tailings storage facility. A feasibility study is to be completed in 2022. Measured and Indicated resources stood at approximately 3 Moz with a similar amount in the Inferred category before 2020-21 drilling. The company is permitted to begin underground development at Cow Mountain, separate from the **Bonanza Ledge II** mine which is on the property and produced in 2021 (see above). This underground development will serve as access for a bulk sample and underground drilling. The company completed 152,000 m of resource conversion and exploration drilling at Cariboo Gold in 2021.

Taseko Mines Limited's **New Prosperity** project received a 12 month extension of its provincial environmental certificate for a 70,000 tpd open pit copper-gold mine. New Prosperity received provincial certification in 2010 but in 2014 the Government of Canada refused to authorize the project. Taseko

has a standstill agreement with the T̓silhqot̓in Nation pending a dialogue between the parties to arrive at a long-term resolution of differences about the project.

Imperial Metals Corporation increased its ownership of the **Ruddock Creek** project to 100% by purchasing the interest held by Japanese partners in Ruddock Creek Mining Corporation. Although they reported no 2021 exploration, the project remains in the British Columbia Environmental Assessment process. A 2014 revised project description referred to a 3000 tpd underground lead-zinc mine with an 8-year life. A mineral resource estimate, released in February 2013, reported 6.246 Mt grading 6.5% Zn and 1.33% Pb (Indicated) and 6.678 Mt grading 6.33% Zn and 1.20% Pb (Inferred), using a 4.0% combined Pb+Zn cut-off.

#### 5.5. Southeast Region

The Southeast Region has two proposed metal mines (**Bull River, Record Ridge**), three proposed coal mines, (**Bingay Main, Crown Mountain, Michel Coal**), and one proposed industrial mineral mine **Black Crystal** (Fig. 1; Table 6).

##### 5.5.1. Proposed metal mines

Braveheart Resources Inc. is continuing development of its **Bull River** mine project. Work included full dewatering of all mine levels and assessment and refurbishment of all surface facilities. Underground drilling in six holes (1050 m), below known mineralization, identified extensions to the mineralization. In early December the company updated the mineral resource, reporting Indicated at 2,261,000 t with 2.13% Cu, and 0.44 g/t Au, and Inferred at 1,356,000 t with 1.60% Cu and 0.42 g/t Au.

West High Yield Resources Ltd.'s **Record Ridge** magnesium project is in a variably serpentinitized and locally carbonatized ultramafic cumulate body. The company restarted its application for a Mines Act permit and continued metallurgical studies to develop high-purity MgO and Mg(OH)<sub>2</sub> products and possible nickel chloride, nickel oxide, iron oxide and pure silica byproducts. Reported mineral resources as of 2013 include 28.4 Mt at 24.82% Mg Measured, 14.6 Mt at 24.21% Mg Indicated, and 1.07 Mt at 24.37% Mg Inferred.

##### 5.5.2. Proposed coal mines

The **Bingay Main** project, proposed by Centerpoint Resources Inc., remains in the Pre-Application process at the Environmental Review Office. The company has proposed a mine with a production capacity of 1 Mt per year and a mine life of 12 to 14 years.

The **Crown Mountain** mine proposed by NWP Coal Canada Ltd. (Jameson Resources Limited (80%), Bathurst Resources Limited (20%)) is in the Pre-Application process. The company was granted an extension to the expiry of the Application Information Requirements (AIR) for the project from October 26, 2021 to April 26, 2022 to accommodate First Nations concerns. The company has proposed a mine with production capacity for 3.7 Mt per year and a mine life of 16 years.

The **Michel Coal** project proposed by North Coal Ltd. a wholly owned subsidiary of CoalMont Pty Ltd., is in the Pre-Application process. The company has proposed a mine with production capacity of 2.3-4 Mt per year and a mine life of 30 years.

**5.5.3. Proposed industrial mineral mines or quarries**

Eagle Graphite Inc.’s **Black Crystal** project has an active mining lease. No work was reported for the site in 2021.

**5.6. Southwest Region**

The Southwest Region has no proposed major metal mine or coal mine projects. Proposed industrial mineral mines or quarries include the **BURNCO Aggregate** Project and the **Sechelt Carbonate** project, which has been inactive apart from a request by the owner to remain in the provincial environmental assessment process. The **Black Bear** aggregate project near Port McNeill was the subject of an application to amend the **Orca** Environmental Certificate. This was withdrawn with a request for review under new legislation.

**5.6.1. Proposed quarries**

Polaris Materials Corporation included the **Black Bear** project near its **Orca** sand and gravel quarry in an Environmental Certificate amendment for Orca. If the project proceeds, it will be a source of up to 3-4 Mtpy of crushed basalt, an increase over the 250,000 tpy proposed in a 2017 project description. Mine life would be extended from 10 to 20 years. This application was withdrawn with a request by the proponent to re-apply under the 2018 Environmental Assessment Act.

The **BURNCO Aggregate** project in the McNab Creek Valley received environmental certification in 2018 and may proceed with British Columbia Mines Act and other permitting. Certifications are valid for 5 years. Fisheries and Oceans Canada concluded that the project is unlikely to cause significant environmental harm. The proposed sand and gravel mine would ramp up to a 1.6 Mtpy operation, initially barging product to BURNCO Rock Products Ltd.’s ready-mix concrete plants in South Burnaby and Port Kells. BURNCO submitted revisions to the project in 2014, changing production rate, relocating some facilities, and specifying a mine life of 16 years.

Ballinteer Management Inc. now holds the property comprising the **Sechelt Carbonate** project. They filed engineering, archeological, and baseline environmental studies for assessment in 2016; activity was not reported for 2017-2021. The property contains resources of calcite- and dolomite-bearing carbonate rock and gabbroic rock for potential use as aggregate. The original proposal was for a 4-6 tpy carbonate quarry producing both limestone and dolostone. Product was to be shipped from a barge load out on Sechelt Inlet.

**6. Exploration expenditures**

In 2021, exploration expenditures, drilling estimates, and other metrics for British Columbia were captured in the British

Columbia Mineral and Coal Exploration Survey. The survey is a joint initiative between the Province of British Columbia Ministry of Energy, Mines and Low Carbon Innovation, the Association for Mineral Exploration, and EY LLP. A full report will be available in March. The new survey does not capture exploration expenditures for aggregates.

Total metal, industrial mineral, and coal exploration expenditures are estimated at \$659.8 million for 2021, up \$237.1 million from the 2020 survey total of \$422.7 million. Of this, \$30.6 million was from coal projects and \$629.2 million was from metal and industrial mineral projects (Fig. 5). This is the largest recorded expenditure for metal and industrial mineral projects; the previous high in 2012 was \$544.9 million. Coal exploration expenditures in 2012 were \$136.1 million.

Exploration expenditures by region (Fig. 6) can be further divided into five categories: grassroots, early stage, advanced stage, mine evaluation, and mine lease (Figs. 7, 8). The provincial combined total for grassroots and early-stage

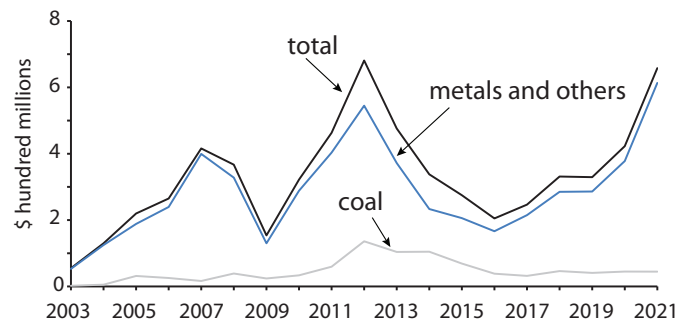


Fig. 5. Exploration expenditures per year, by type.

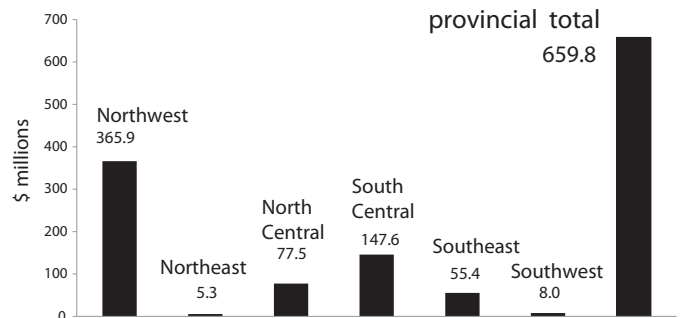


Fig. 6. 2021 exploration expenditures by region.

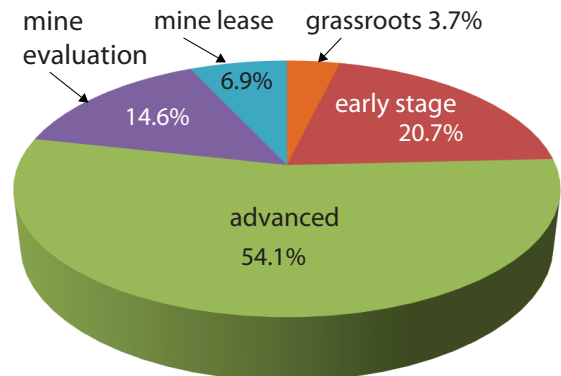
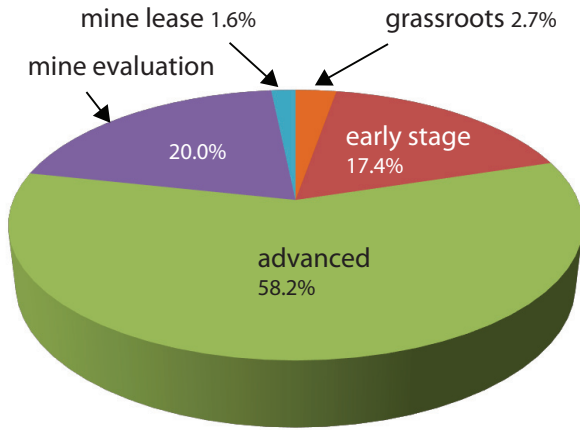
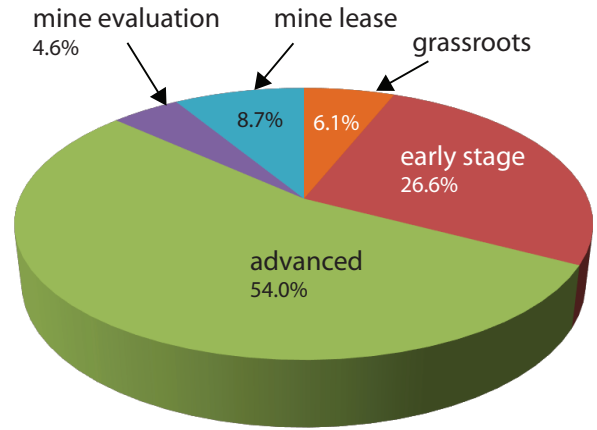


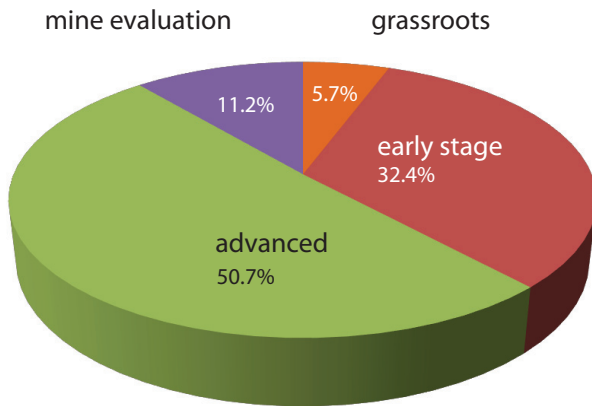
Fig. 7. 2021 exploration expenditures by category.



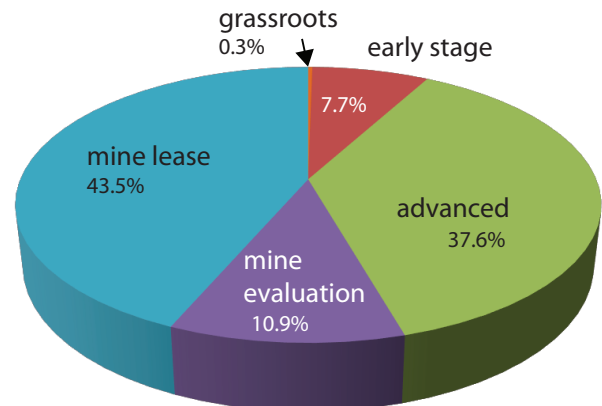
Northwest



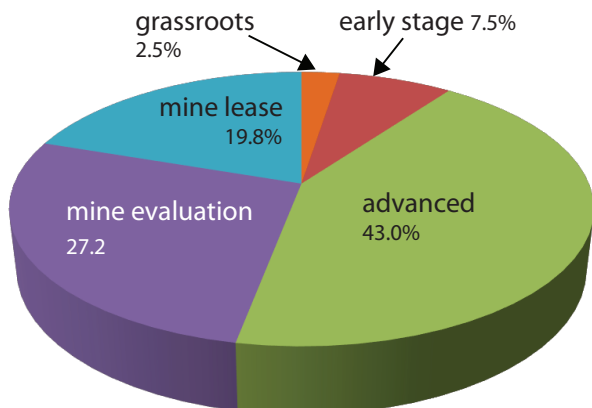
South Central



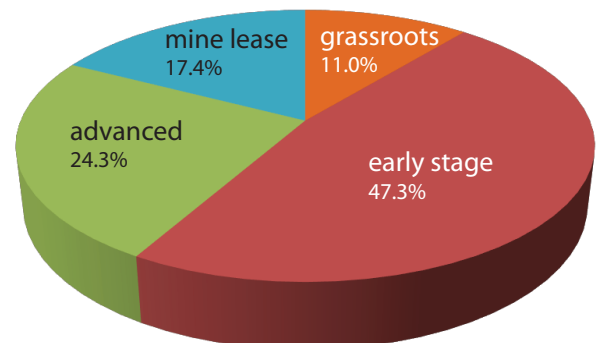
North Central



Southeast



Northeast



Southwest

Fig. 8. 2021 exploration expenditures by category for regions.

exploration in the 2021 survey is 24.4%, down from the 2020 total of 33.4%.

The total reported drilling for the province was 1,442,300 m, up 450,950 m from the 2020 total of 991,350 (see Fig. 9 for regional breakdown).

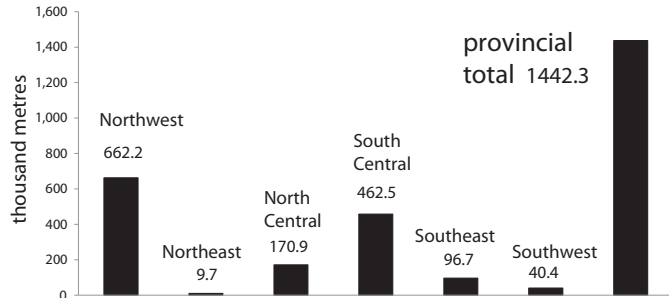


Fig. 9. 2021 exploration drilling by region.

### 7. Exploration land tenure

Acquisition of new mineral claims in 2021 was up significantly compared to 2020 (Fig. 10). The total for 2021 was 3,888,552 hectares vs. 1,895,560 hectares for the previous year. New coal licenses issued in 2021 totalled 3462 hectares, up from the 2020 total of 811 hectares (Fig. 11).

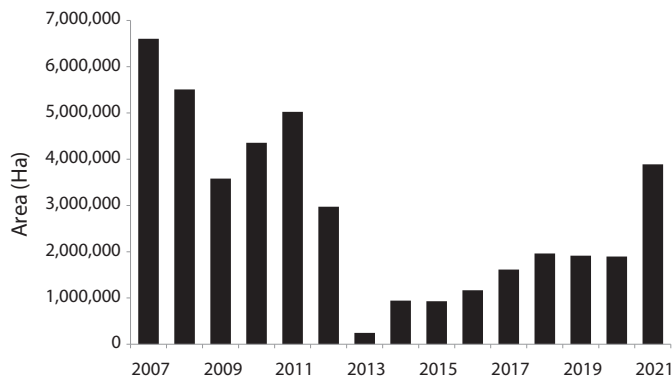


Fig. 10. New mineral claims by year.

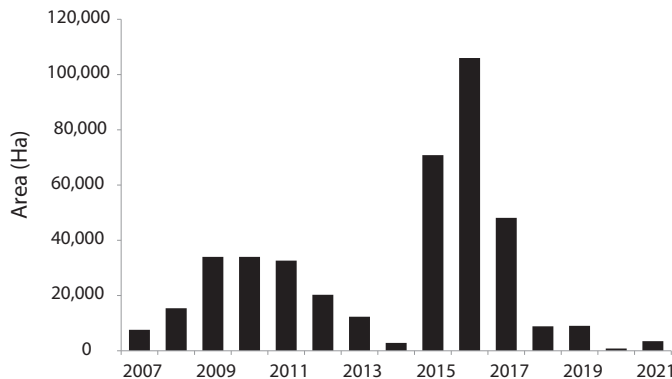


Fig. 11. New coal license issuances by year.

### 8. Selected exploration project highlights

There was a significant increase of \$237.1 million in expenditures in 2021 compared to 2020. Explorationists had adapted to Covid-19 protocols in 2020 and continued to discover, define, and expand porphyry and porphyry-related copper-gold and copper-molybdenum deposits, gold deposits of various types, and stratiform base-metal, specialty metals, industrial minerals, and coal deposits. Expenditures benefitted from availability of venture capital spurred by increases in the price of gold, copper, and other commodities. Data from the British Columbia Mineral and Coal Exploration Survey show a decrease in grassroots and early-stage projects (combined). Below, selected exploration projects (Fig. 1; Table 7) are grouped by project type and region; the individual regional sections of this volume provide further details.

#### 8.1. Selected precious metal projects

##### 8.1.1. Northwest Region

At Trailbreaker Resources Ltd.’s **Atsutla Gold** project, sampling identified multiple high-grade gold zones. Highlight results include 222.05 g/t Au and 165.4 g/t Au with 1894 g/t Ag.

P2 Gold Inc. drilled six holes totalling 835.9 m at their **BAM** project. Four of the six holes were drilled at the **Monarch Gold** zone. Results included 45.85 m grading 2.63 g/t gold, including 9.2 m grading 7.3 g/t Au. A 2022 exploration program is financed, and planned work includes a ZTEM airborne survey and 8000 to 10,000 m of diamond drilling.

Sun Summit Minerals Corp. is exploring the 15,000 ha **Buck** property. Sulphides are in veinlets, disseminations, or coarse fracture fillings, mainly in rhyolitic breccias. Sun Summit carried out more than 10,000 m of drilling in 50 holes targeting high-grade and bulk tonnage gold mineralization across an area of more than 500 by 500 m. The drilling was to follow up on a 2020 discovery hole that intersected 17 m grading 5.86 g/t Au. Initial assay results indicated both high-grade and bulk tonnage mineralization. Results included 4.0 m grading 31.6 g/t Au and 109 m grading 1.07 g/t Au.

Cassiar Gold Corp. expected to complete up to 14,000 m of diamond drilling at their **Cassiar Gold** project. At the Taurus deposit 4000 m of drilling was completed; at the Cassiar South target drilling was ongoing. Results from the Taurus deposit included 23.2 m grading 3.56 g/t Au, 13.1 m grading 3.53 g/t Au, and 37.8 m grading 1.8 g/t Au. Results from Cassiar South included 4.8 m grading 35.1 g/t Au and 6.4 m grading 12.6 g/t Au.

Since 1932, **Eskay Creek** has been the focus of considerable exploration. An underground mine operated from 1994 to 2008 and produced 3.3 Moz of Au and 160 Moz of Ag (average grades of 45 g/t Au and 2224 g/t Ag). In the spring, Skeena Resources Ltd. carried out 4375 m of drilling and results included an 8.20 m intersection grading 3.99 g/t Au and 71 g/t Ag. In late summer, a planned 35,000 m of regional and near-mine drilling began. Soil sampling included 116 line-km on 100 m line spacing and 25 m sample intervals. In parallel with the soil sampling, regional mapping and lithochemical sampling

Table 7. Selected exploration projects.

Project	Region	Operator (partner)	Commodity; Deposit type MINFILE	Resources (NI 43- 101 compliant unless indicated otherwise)	Comments
<b>American Creek</b>	Northwest	<b>Mountain Boy Minerals Ltd.</b>	Ag, Pb, Zn, Au; Polymetallic veins; 104A 011	na	866 m of drilling at High-Grade zone. Results included 3.9 m grading 24.61 g/t Ag, 0.020 g/t Au, 0.085% Cu, 2.15% Pb, and 2.19% Zn.
<b>Atsutla Gold</b>	Northwest	<b>Trailbreaker Resources Ltd.</b>	Au, Ag; Polymetallic veins; 104O 007	na	Sampling identified high-grade zones. Rock sample results include 222.05 g/t Au and 165.4 g/t Au with 1894 g/t Ag.
<b>BA</b>	Northwest	<b>Mountain Boy Minerals Ltd.</b>	Ag, Cu, Pb, Zn; Subaqueous hot spring Ag-Au; 104A 180	na	650 m of drilling tested northern extension of Barbara zone. Results included 7.67 m grading 38.06 g/t Ag, 0.013% Cu, 0.86% Pb, 2.67% Zn, and 1.09 m grading 84.66 g/t Ag, 0.017% Cu, 3.76% Pb, 6.30% Zn.
<b>BAM (Jan Copper)</b>	Northwest	<b>P2 Gold Inc.</b>	Cu, Au; Epithermal Au-Ag- Cu	na	Two holes drilled. Results included 39.25 m grading 0.01 g/t Au, 1.10% Cu including 9.15 m grading 0.04 g/t Au, and 3.23% Cu.
<b>BAM (Monarch Gold)</b>	Northwest	<b>P2 Gold Inc.</b>	Au; Epithermal Au-Ag- Cu	na	Four holes drilled. Results included 45.85 m grading 2.63 g/t Au, including 9.2 m grading 7.3 g/t Au.
<b>Big Red</b>	Northwest	<b>Libero Copper &amp; Gold Corp.</b>	Cu, Au; Alkalic porphyry; 104G 208	na	4571 m of drilling at Terry porphyry target. Results included 118.7 m grading 0.26% Cu, 0.06 g/t Au, and 1.83 g/t Ag within 510.0 m grading 0.18% Cu, 0.04 g/t Au, and 1.23 g/t Ag.
<b>Buck</b>	Northwest	<b>Sun Summit Minerals Corp.</b>	Au, Ag, Zn, Pb, Cu; Polymetallic veins; 093L 009	na	17,464 m of drilling. Results included 4.0 m grading 31.6 g/t Au and 109 m grading 1.07 g/t Au.
<b>Cassiar Gold</b>	Northwest	<b>Cassiar Gold Corp.</b>	Au; Precious metal veins; 104P 012	Inf: 21.83 Mt 1.43 g/t Au (0.7 g/t Au cut-off)	14,000 m of drilling. Results from Taurus included 23.2 m grading 3.56 g/t Au, 13.1 m grading 3.53 g/t Au, and 37.8 m grading 1.8 g/t Au. Results from Cassiar South included 4.8 m grading 35.1 g/t Au and 6.4 m grading 12.6 g/t Au.
<b>Dardanelle</b>	Northwest	<b>Decade Resources Ltd.</b>	Au, Ag, Pb; Polymetallic veins; 103I 107	na	Grab samples returned high-grade results including 695.6 g/t Au, 206 g/t Ag, 2.3% Pb and 102.9 g/t Au, 112.0 g/t Ag, 3.42% Pb.

Table 7. Continued.

<b>Del Norte</b>	Northwest	<b>Decade Resources Ltd.</b>	Au, Ag; Polymetallic veins; 103P 301	na	4147 m of drilling. Partial assay highlight results included 3.05 m grading 13.77 g/t Au, and 2661 g/t Ag within 9.91 m grading 4.28 g/t Au, and 1091.6 g/t Ag.
<b>Dolly Varden</b>	Northwest	<b>Dolly Varden Silver Corporation</b>	Cu, Pb, Zn, Ag, Au; Kuroko VMS with polymetallic veins; 103P 188	I: 3.42 Mt 299.8 g/t Ag  Inf: 1.29 Mt 277.0 g/t Ag	10,506 m of drilling. Early results included 1532 g/t Ag, 0.44 g/t Au, 2.11% Pb, and 1.07% Zn along 1.22 m core length in a brecciated sulphide-rich quartz vein hosted in a broader pyrite stockwork breccia zone of 17.50 m grading 214 g/t Ag, and 0.47% Pb.
<b>Eskay Creek</b>	Northwest	<b>Skeena Resources Limited</b>	Au, Ag, Cu, Pb, Zn; VMS and precious metal veins; 104B 008	I: 12.7 Mt 4.3 g/t Au, 110 g/t Ag (pit constrained)  Inf: 14.4 Mt 2.3 g/t Au, 47 g/t Ag (pit constrained)  I: 819 kt 6.4 g/t Au, 139 g/t Ag (underground)  Inf: 295 kt 7.1 g/t Au, 82 g/t Ag (underground)	4375 m of drilling in the spring. Results included 8.20 m grading 3.99 g/t Au and 71 g/t Ag. 35,000 m drill program started in late summer. 116 km of soil sampling. Positive Prefeasibility Study released. Drilling of historic waste pile returned results including 22.80 m grading 4.16 g/t Au, and 204 g/t Ag and 16.77 m grading 5.90 g/t Au and 317 g/t Ag.
<b>Eskay-Corey</b>	Northwest	<b>Eskay Mining Corp. (80%) and Kirkland Lake Gold Ltd. (20%)</b>	Au, Ag, Cu, Zn; Noranda/Kuroko massive sulphide; 104B 385	na	Property wide SkyTEM helicopter-borne electromagnetic survey and completed 23,500 m of diamond drilling. Highlight intersections included 92.29 m grading 1.1 g/t Au, and 124.0 g/t Ag including 24.09 m grading 2.2 g/t Au, and 374.0 g/t Ag, and 35.5 m grading 2.2 g/t Au, and 28.2 g/t Ag including 3.39 m grading 12.6 g/t Au, 50.8 g/t Ag.
<b>Golddigger</b>	Northwest	<b>Goliath Resources Limited</b>	Au, Cu, Pb, Zn; Polymetallic veins	na	6000 m of diamond drilling planned at Surebet target. Reported results included 35.7 m grading 4.46 g/t Au, and 122.13 g/t Ag, along with base metal mineralization.
<b>Hat</b>	Northwest	<b>Doubleview Gold Corp.</b>	Cu, Au; Alkalic porphyry; 104J 021	na	2476 m of diamond drilling. Drilling results included 907.8 m grading 0.31 g/t Ag, 0.12 g/t Au, 4.74 g/t Co, 0.15% Cu, 0.3 g/t Pd, and 28.64 g/t Sc.

Table 7. Continued.

<b>Homestake Ridge</b>	Northwest	<b>Dolly Varden Silver Corporation</b>	Au, Ag, Cu, Pb, Zn; Epithermal; 103P 216	I: 0.736 Mt 7.02 g/t Au, 74.8 g/t Ag, 0.18% Cu, 0.077% Pb  Inf: 5.55 Mt 4.58 g/t Au, 100 g/t Ag, 0.13% Cu, 0.142% Pb	Definitive agreement announced, Dolly Varden Silver Corporation would acquire the project from Fury Gold Mines Ltd.
<b>New Polaris</b>	Northwest	<b>Canagold Resources Ltd.</b>	Au; Au-quartz ; 104K 003	I: 1.69 Mt 10.8 g/t Au  Inf: 1.48 Mt 10.2 g/t Au	28,000 m of diamond drilling started. Results included 6.6 m grading 24.2 g/t Au, 3.9 m grading 30.8 g/t Au, 17.8 m grading 11.1 g/t Au, and 8.4 m grading 17.1 g/t Au.
<b>Newmont Lake</b>	Northwest	<b>Enduro Metals Corporation</b>	Au, Cu, Ag; Intrusion-related Au pyrrhotite veins; 104B 126	na	10,000 m of diamond drilling planned. IP and MT surveys. Drill results from Burgundy ridge target included 331.43 m grading 0.35 g/t Au, 5.5 g/t Ag, 0.29% Cu, and 0.49% Zn.
<b>Ootsa</b>	Northwest	<b>Surge Copper Corp.</b>	Cu, Au, Ag, Mo; Calc-alkaline porphyry; 093E 105	M+I: 224 Mt 0.22% Cu, 0.15 g/t Au, 0.021% Mo, 2.8 g/t Ag  Inf: 5.2 Mt 0.18% Cu, 0.09 g/t Au, 0.019% Mo, 2.6 g/t Ag  (2016 Prefeasibility Study)	26,556 m of diamond drilling. Highlight results from the West Seel deposit included 495 m grading 0.25% Cu, 0.21 g/t Au, 3.4 g/t Ag, and 0.021% Mo.
<b>Ranch</b>	Northwest	<b>Thesis Gold Inc.</b>	Au, Ag; Epithermal; 094E 267	na	16,139 m of diamond drilling. Initial results: 34 m grading 19.56 g/t Au (including 7 m grading 82.48 g/t Au) and 25 m grading 9.53 g/t Au.
<b>Schaft Creek</b>	Northwest	<b>Teck Resources Ltd. (75%), Copper Fox Minerals Inc. (25%)</b>	Cu, Mo, Au, Ag; Porphyry Cu±Mo±Au; 104G 015	M+I: 1.346 Bt 0.26% Cu, 0.16 g/t Au, 0.017% Mo, 1.25 g/t Ag  Inf: 343.6 Mt 0.17% Cu, 0.11 g/t Au, 0.013% Mo, 0.84 g/t Ag	Updated Mineral Resource estimate released. Favourable Preliminary Economic Assessment released. Drilling of 835 m completed to collect samples for metallurgical testing. Environmental baseline studies carried out.
<b>Scottie Gold Mine</b>	Northwest	<b>Scottie Resources Corp.</b>	Au, Ag, Cu; Intrusion-related and polymetallic veins; 104B 034	na	Diamond drilling at the Blueberry zone. Results included 10.0 m grading 16.5 g/t Au, 4.94 m grading 28.8 g/t Au, and 6.05 m grading 12.0 g/t Au. Drilling increased the zone's known strike length by 650 m.
<b>Silvertip</b>	Northwest	<b>Coeur Mining Inc.</b>	Ag, Pb, Zn; Manto carbonate-replacement; 104O 038	M+I: 1.18 Mt at 222.73 g/t Ag, 4.09% Pb, 8.58% Zn  Inf: 0.53 Mt at 271.04 g/t Ag, 5.02% Pb, 9.31% Zn	100,000 m of drilling. Discovered manto mineralization at the Southern Silver zone. Highlight results included 20.0 m grading 92.5 g/t Ag, 16.9% Zn, and 0.5% Pb, and 10.8 m grading 445.7 g/t Ag, 19.4% Zn, and 7.5% Pb.



Table 7. Continued.

<b>Silver Queen</b>	Northwest	<b>Equity Metals Corporation</b>	Ag, Pb, Zn, Au; Transitional porphyry-epithermal; 093L 002	I: 815,000 t 6.4% Zn, 3.2 g/t Au, 201.4 g/t Ag, 0.26% Cu, 1.0% Pb  Inf: 801,000 t 5.2% Zn, 2.5 g/t Au, 184 g/t Ag, 0.31% Cu, 0.9% Pb (resources at NSR cut-off of C\$100/t)	4991 m of diamond drilling. Highlight results included 0.3 m grading 14,035 g/t Ag, 0.1 g/t Au, 0.5% Cu, 1.3% Pb, and 3.3% Zn within a 7.7 m interval grading 919 g/t Ag, 0.1 g/t Au, 0.1% Cu, 1.3% Pb, and 1.8% Zn. Drilling resumed in the fall with 4500 m planned. Initial results included 1.4 m grading 1097 g/t Ag, 0.1 g/t Au, 0.2% Cu, 0.5% Pb, 2.2% Zn, and 3.7 m grading 1143g/t Ag, 0.1% Zn.
<b>Silver Vista</b>	Northwest	<b>Norseman Silver Inc.</b>	Cu, Ag; Cu±Ag quartz veins; 093M 195	na	1507 m of diamond drilling. Results included 47.82 m grading 37 g/t Ag and 0.21% Cu and 46 m grading 48 g/t Ag and 0.62% Cu.
<b>Snip Gold</b>	Northwest	<b>Hochschild Mining PLC</b>	Au, Ag; Intrusion-related, mesothermal; 104B 250	I: 539,000 t 14.0 g/t Au  Inf: 942,000 t 13.3 g/t Au	High-grade intersections from drilling included 3.22 m grading 155.76 g/t Au, 4.41 m grading 110.22 g/t Au, and 12.5 m grading 27.04 g/t Au. In October, it was announced that Hochschild Mining PLC intended to take over as operator, earning a 60% interest from Skeena Resources Limited by spending approximately \$100 million during the option period.
<b>Snowfield</b>	Northwest	<b>Seabridge Gold Inc.</b>	Cu, Au, Ag, Mo, Re; Porphyry Cu±Mo±Au; 104B 179	M+I: 1.37 Bt 0.59 g/t Au, 1.72 g/t Ag, 0.10% Cu, 85.5 ppm Mo, 0.57 ppm Re  Inf: 833 Mt 0.34 g/t Au, 1.90 g/t Ag, 0.06% Cu, 69.5 ppm Mo, 0.43 ppm Re (2011 Pretium Technical Report)	Diamond drilling. Results matched grades previously reported by Pretium Resources Inc. suggesting that blending Snowfield ore with Mitchell production could lead to extension of open-pit mining before underground block-cave mining is needed.
<b>Tatogga (Saddle North)</b>	Northwest	<b>Newmont Corporation</b>	Cu, Au, Ag; Porphyry; 104G 432	I: 298 Mt 0.28% Cu, 0.36 g/t Au, 0.8 g/t Ag  Inf: 543 Mt 0.25% Cu, 0.31 g/t Au, 0.7 g/t Ag	Asset included in purchase of GT Gold Corp. for estimated \$456 million. Newmont worked with the Tahltan Heritage Resources Environmental Assessment Team on a Tahltan land use study and with Tahltan Environmental Management to begin environmental studies.
<b>Thorn (Camp Creek)</b>	Northwest	<b>Brixton Metals Corporation</b>	Cu, Ag, Au; Porphyry Cu±Mo±Au	na	Diamond drilling. Results included 821.25 m grading 0.24% Cu, 0.10 g/t Au, 2.44 g/t Ag, and 174 ppm Mo, with a 318.25 m interval grading 0.42% Cu, 0.17 g/t Au, 3.87 g/t Ag, and 294 ppm Mo.

Table 7. Continued.

<b>Thorn (Trapper)</b>	Northwest	<b>Brixton Metals Corporation</b>	Au; Epithermal	na	3107 m diamond drilling. Initial results: one hole 139 m grading 2.14 g/t Au, with 11.0 m interval grading 19.25 g/t Au; second hole 146 m grading 0.74 g/t Au with 31 m interval grading 2.0 g/t Au.
<b>Treaty Creek</b>	Northwest	<b>Tudor Gold Corp. (60%),</b> (Teuton Resources Corp. (20%), American Creek Resources Ltd. (20%))	Cu, Au; Porphyry; 104A 004	na	30,108 m of diamond drilling. Results included 556.5 grading 0.73 g/t Au, 6.27 g/t Ag, and 0.489% Cu and 1320 m grading 0.67 g/t Au, 3.70 g/t Ag, and 0.216% Cu.
<b>Turnagain</b>	Northwest	<b>Giga Metals Corp.</b>	Ni, Co, Pt, Cu, Mo; Alaskan-type, magmatic; 104I 014	M+I: 1.073 Bt 0.220% Ni, 0.013% Co  Inf: 1.142 Bt 0.217% Ni, 0.013% Co	Archaeological surveys, wildlife surveys, resource infill drilling (6295 m), geotechnical drilling, seismic refraction surveys, test pits excavated. Work was to collect exploration, geotechnical, and other data to advance project engineering to the Pre-Feasibility level.
<b>Williams</b>	Northwest	<b>CopAur Minerals Inc.</b>	Au; Epithermal; 094E 028	na	3150 m of diamond drilling. Property-wide VTEM airborne survey. Soil sampling and rock sampling. Soil samples typically assayed up to 320 ppb Au; with one sample assaying up to 6.88 g/t Au. Rock samples assayed up to 79.7 g/t Au. Drilling results included 41.57 m grading 1.38 g/t Au and 0.70 m grading 22.00 g/t Au.
<b>Willoughby</b>	Northwest	<b>Strikepoint Gold Inc.</b>	Au, Ag, Zn, Pb; Precious and polymetallic veins; 103P 006	na	4050 m of diamond drilling. Surface chip sampling, mapping. Drill results included 6.16 m grading 7.34 g/t Au, 202.84 g/t Ag.
<b>3Ts</b>	North Central	<b>Independence Gold Corp.</b>	Au, Ag; Epithermal Au-Ag; low sulphidation; 093F 055	Tommy and Ted-Mint veins Inf: 5.45 Mt 2.52 g/t Au, 71.5 g/t Ag (at a cut-off grade of 1 g/t Au)	Drilling, DDH, 4783 m. Results included 14.1 m grading 2.22 g/t Au, and 22.78 g/t Ag and 11.65 m grading 1.75 g/t Au and 198.0 g/t Ag.
<b>Akie</b>	North Central	<b>ZincX Resources Corp.</b>	Zn, Pb, Ag; Sedimentary exhalative Zn-Pb- Ag; 094F 031	I: 22.7 Mt of 8.32% Zn, 1.81% Pb, 14.1 g/t Ag  Inf: 7.5 Mt of 7.04% Zn, 1.24% Pb, 12.0 g/t Ag (at 5% Zn cut-off)	Drilling, DDH, 2669 m. Highlight results: 6.20% Zn+Pb and 9.6 g/t Ag across 32.76 m, which included 10.77% Zn+Pb and 14.5 g/t Ag along 5.99 m. Ground-based gravity survey.

Table 7. Continued.

<b>Baker-Shasta</b>	North Central	<b>TDG Gold Corp.</b>	Au, Ag; Epithermal Au-Ag; low sulphidation; 094E 050, 26	na	Drilling, 55 DDH, 8048 m. Highlights: 33.5 m of 1.03 g/t Au and 41 g/t Ag; 29.0 m of 1.78 g/t Au and 89 g/t Ag, which includes 4.0 m of 8.18 g/t Au and 396 g/t Ag. 95 km ground magnetic survey, prospecting, relogging core, and channel sampling.
<b>Decar Nickel District</b>	North Central	<b>FPX Nickel Corp.</b>	Ni, Fe; Podiform chromite; 093K 116	Baptiste deposit I: 1996 Mt 0.122% Ni, DTR (Davis Tube Recoverable)  Inf: 593 Mt 0.114% Ni, DTR Ni (0.06% Ni cut-off)	Drilling, 10 DDH, 2710 m. The mine plan in the Baptiste Preliminary Economic Assessment has total of approx. 1.5 Bt of material for processing during 35-year mine life. Drilling (2600 m) at new Van target, results included total nickel of 0.21% along 287 m, 0.197% along 270 m, 0.207% along 11 m, and 0.215% along 103 m.
<b>East Niv</b>	North Central	<b>NorthWest Copper Corp.</b>	Cu, Au; Alkalic porphyry Cu-Au; na	na	Drilling, 11 DDH, 2915 m. Results included 81.6 m grading 0.41% Cu, 0.2 g/t Au, 0.9 g/t Ag and 72.3 m with grades of 0.10% Cu, 0.21 g/t Au, and 0.3 g/t Ag. 16 new claims added.
<b>Golden Lion</b>	North Central	<b>Evergold Corp.</b>	Au, Ag; Epithermal Au-Ag; low sulphidation; 094E 077	na	Drilling, 9 DDH, 1813 m and IP surveying. Drill results included 40.3 m grading 2.0 g/t Au, 24 g/t Ag and 66.0 m grading 1.36 g/t Au, 11 g/t Ag.
<b>Kliyul</b>	North Central	<b>Pacific Ridge Exploration Ltd.</b>	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	Drilling, DDH, 1542 m. Highlights: 437 m of 0.22% Cu, and 0.6 g/t Au including 141 m of 0.36% Cu and 1.11 g/t Au. Geological mapping discovered a previously unmapped copper skarn prospect.
<b>Kwanika</b>	North Central	<b>Kwanika Copper Company</b> (NorthWest Copper Corp. 69%, Posco International Corporation 31%)	Cu, Au, Ag; Porphyry Cu±Mo±Au; 093N 073	Central zone pit M+I: 104.6 Mt 0.23% Cu, 0.21 g/t Au, 0.78 g/t Ag (at a cut-off grade of 0.13% CuEq)  Central zone underground M+I: 118.9 Mt 0.30% Cu, 0.29 g/t Au, 0.96 g/t Ag (at a confining shape basis of 0.27% CuEq)  South zone pit Inf: 33.3 Mt 0.26% Cu, 0.08 g/t Au, 1.64 g/t Ag, 0.01% Mo	Drilling, 25 DDH, 10,972 m. Results included 230 m grading 0.70% Cu, 0.84 g/t Au, 2.3 g/t Ag, and 235.45 m with grades of 2.0% Cu, 1.21 g/t Au, and 5.3 g/t Ag, which includes 153.25 m at 2.84% Cu, 1.69 g/t Au, 7.5 g/t Ag.

Table 7. Continued.

<b>Lawyers</b>	North Central	<b>Benchmark Metals Inc.</b>	Au, Ag; Epithermal Au-Ag; low sulphidation; 094E 066	Inf: Cliff Creek N zone 550 Kt 4.51 g/t Au, 209.15 g/t Ag  Duke's Ridge zone 58 Kt 4.30 g/t Au, 139.13 g/t Ag	Highlight drilling results included 41.15 m of 1.31 g/t Au and 30.77 g/t Ag; 10.67 m of 3.45 g/t Au, 181.81 g/t Ag; 68.58 m of 3.07 g/t Au, 11.72 g/t Ag; and 25.91 m of 2.40 g/t Au, 47.99 g/t Ag. An initial Mineral Resource Estimate reported total I of 1.546 Moz Au and 50.2 Moz Ag and a total Inf of 620,000 oz Au and 18.1 Moz Ag.
<b>Stardust</b>	North Central	<b>NorthWest Copper Corp.</b>	Cu, Au, Ag, Zn; Cu skarn; 093N 009	Canyon Creek I: 1.96 Mt 1.31% Cu, 1.44 g/t Au, 27.1 g/t Ag  Inf: 5.84 Mt 0.86% Cu, 1.17 g/t Au, 20.0 g/t Ag	Updated Mineral Resource Estimate filed.
<b>Wicheeda</b>	North Central	<b>Defense Metals Corp.</b>	Nb, REE; Carbonatite-hosted deposits; 093J 014	I: 5.0 Mt 2.95% TREO  Inf: 29.5 Mt 1.83% TREO  Resources at a cut-off grade 0.5% TREO Total metal % = sum of Ce+La+Nd+Pr+Sm+Nb percentages	Filed a Preliminary Economic Assessment which reported a 36% increase on a contained metal basis in comparison to the previous 2020 Mineral Resource Estimate.
<b>Herman</b>	Northeast	<b>Conuma Coal Resources Limited</b>	Coal; Bituminous coal; 093I 031	P & Prob: 24.36 Mt	Environmental Assessment in progress. Drilling, 5 RC holes, 592 m.
<b>Hudette</b>	Northeast	<b>Conuma Coal Resources Limited</b>	Coal; Bituminous coal; 093O 060	P: 24.6Mt Prob: 465,000 t	Drilling, 16 RC holes, 272 m. Working towards a PEA.
<b>Muskwa</b>	Northeast	<b>Fabled Copper Corp.</b>	Cu, Ag, Pb, Co; Cu ±Ag quartz; 094K 012, 50	na	Rock sampling, mapping, drone surveys, and site reclamation.
<b>Alwin Mine</b>	South Central	<b>GSP Resource Corp.</b>	Cu, Ag; Cu±Ag quartz veins, Porphyry Cu±Mo±Au; 092ISW010, 21	Historical: 390,000 t 2.5% Cu, 11.7 g/t Ag, 0.69 g/t Au	Drilling, 8 holes, 2334.5 m; highlight 164.6 m grading 0.61% CuEq (0.5% Cu).
<b>Beaver-Lynx</b>	South Central	<b>Inomin Mines Inc.</b>	Ni, Co; Ultramafic; 093B 073, 285	na	Ground magnetic survey. Drilling 5 holes, 715 m.
<b>Blackdome-Elizabeth (Blackdome)</b>	South Central	<b>Tempus Resources Ltd.</b>	Au, Ag; Epithermal Au-Ag-Cu low sulphidation; 092O 053	I: 144,500 t 11.29 g/t Au, 50.01 g/t Ag  Inf: 90,600 t 8.79 g/t Au, 18.61 g/t Ag	Alteration study.

Table 7. Continued.

<b>Blackdome-Elizabeth (Elizabeth)</b>	South Central	<b>Tempus Resources Ltd.</b>	Au, Ag; Au quartz veins; 092O 012	Inf: 522,843 t 12.26 g/t Au	7740 m drilled in 28 holes.
<b>Bralorne</b>	South Central	<b>Talisker Resources Ltd.</b>	Au; Au-quartz veins; 092JNE001	M+I: 260,000 tons 0.351 oz/ton Au  Inf: 317,000 tons 0.231 oz/ton Au	Drilling, 100,000 m planned by year end. Objectives include new surface and underground resource estimates.
<b>Gold Bridge</b>	South Central	<b>Blackstone Minerals Ltd.</b>	Cu, Ni, Co, Au; Five-element veins?; 092JNE068, 108	na	Drilling commenced at the Jewel target in December. First hole encountered visible Cu-Ni-Co mineralization.
<b>Gold Range</b>	South Central	<b>Kingfisher Metals Corp.</b>	Au, Ag; Au and Cu±Ag quartz veins; 092N 058, 59, 47, 57, 48	na	14 holes, 4925.3 m drill program. Highlight 9 m of 6.88 g/t Au 13.6 g/t Ag, 0.28% Cu.
<b>Lac La Hache</b>	South Central	<b>Engold Mines Ltd.</b>	Cu, Au, Ag, Fe; Alkalic porphyry Cu-Au, Cu skarn; 092P 120, 108, 2, 153	Aurizon Inf: 1.99 Mt 2.32 g/t Au, 0.6% Cu, 5.37 g/t Ag  Spout zone open pit I: 6.5 Mt 0.33% Cu, 1.34 g/t Ag, 0.05 g/t Au, 11.62% magnetite  Spout zone open pit Inf: 7.66 Mt 0.27% Cu, 0.99 g/t Ag, 0.04 g/t Au, 9.5% magnetite  Spout zone underground Inf: 0.39 Mt 1.0% Cu, 2.58 g/t Ag, 0.13 g/t Ag, 0.33% magnetite  G1 underground Inf: 1.71 Mt 1.25% Cu, 6.45 g/t Ag, 0.19 g/t Au, 30.94% magnetite	Drilling (5277.4 m) at Ann North, G1, G1 south and Road Gold zone. Updated resource estimates, maiden resource for G1.
<b>Miner Mountain</b>	South Central	<b>Sego Resources Inc.</b>	Cu, Au; Alkalic porphyry Cu-Au; 092HSE203, 78	na	Drilling, 2200 m in 11 holes. Highlights include 59 m 1.03 g/t Au, 88 m 1.08 g/t Au, and 94.2 m of 0.86 g/t Au.
<b>MPD</b>	South Central	<b>Kodiak Copper Corp.</b>	Cu, Au; Alkalic porphyry Cu-Au; 092HNE243, 55, 191, 244	na	Drilled 21,675 m of a planned 30,000 m before weather-related suspension. Highlights included 504 m 0.37% Cu, 0.15 g/t Au, 1.11 g/t Ag at Gate zone.
<b>New Craigmont</b>	South Central	<b>Nicola Mining Inc.</b>	Cu, Au; Cu skarns; 092ISE035	Inf: 18.669 Mt 0.13% Cu	1460 m drilling in 5 holes. Highlights 11.5 m 2.19% Cu and 71.35 m 0.29 % Cu.

Table 7. Continued.

<b>Reliance Gold</b>	South Central	<b>Endurance Gold Corporation</b>	Au, Sb, Ag; Au quartz veins, stibnite veins and disseminations; 092JNE033, 136, 191	na	Reverse circulation drilling (35 holes, highlight 15.24 m 14.08 g/t Au), IP and 4329 m (22 holes) diamond drilling. Initial results 5.4 m 11 g/t Au, 9 m 7.5 g/t Au.
<b>Shovelnose</b>	South Central	<b>Westhaven Gold Corp.</b>	Au, Ag; Epithermal Au-Ag-Cu low sulphidation; 092HNE309, 308	na	Drilling (41,000 m) before suspended due to floods. Metallurgical testing.
<b>Spanish Mountain</b>	South Central	<b>Spanish Mountain Gold Ltd.</b>	Au, Ag; Au-quartz veins; 093A 043	M+I: 294 Mt 0.50 g/t Au, 0.72 g/t Ag  Inf: 18 Mt 0.63 g/t Au, 0.76 g/t Ag	Prefeasibility study, sonic drilling (1226 m, 21 holes). P+Pr: 95.9 Mt 0.76 g/t Au, 0.71 g/t Ag.
<b>Spitfire-Sunny Boy</b>	South Central	<b>Falcon Gold Corp.</b>	Au, Ag, Cu; Polymetallic veins, epithermal; 092ISE049, 48, 118, 119	na	Packsack drilling highlights 0.86 m of 29.7 g/t Au, 0.47 m 68.7 g/t Au. Grab samples up to 168 g/t Au.
<b>Wingdam</b>	South Central	<b>Omineca Mining and Metals Ltd.</b>	Au; Au-quartz veins; 093H 012	na	Drilling, targeting 8000 m, 27 holes (continuation of 2020 program).
<b>Woodjam</b>	South Central	<b>Consolidated Woodjam Copper Corp.</b>	Cu, Au; Alkalic porphyry Cu-Au; 093A 269, 78	Inf: 227.5 Mt 0.31% Cu (Woodjam South)  Inf: 32.8 Mt 0.22% Cu, 0.49 g/t Au (Deerhorn)  Inf: 8.3 Mt 0.22% Cu, 0.26 g/t Au (Takom)	Drilling 4000 m (planned) at Deerhorn. Early released highlight 142.4 m 0.56% Cu, 0.23 g/t Au.
<b>Yellowhead</b>	South Central	<b>Taseko Mines Limited</b>	Cu, Au, Ag; Noranda/Kuroko; 082M 008, 9	M+I: 1292 Mt 0.25% Cu, 0.028 g/t Au, 1.2 g/t Ag  Inf: 109 Mt 0.21% Cu, 0.024 g/t Au, 1.2 g/t Ag	Engineering and baseline environmental work. Community engagement. Proven+Probable reserves are 817 Mt grading 0.28% Cu.
<b>Jersey-Emerald</b>	Southeast	<b>Apex Resources Inc.</b>	W; Irish-type carbonate-hosted Zn-Pb; 082FSW009	I: 1.4 Mt 0.173% WO <sub>3</sub> , 0.021% Mo, 0.05 g/t Au  Inf: 5.1 Mt 0.227% WO <sub>3</sub> , 0.026% Mo, 0.08 g/t Au	New resource estimate released in September. Combined best case open pit and underground.
<b>Kootenay</b>	Southeast	<b>Wealth Minerals Ltd.</b>	Au; Polymetallic veins Ag-Pb-Zn±Au; 082KSW088	na	Helicopter-borne VTEM and magnetic geophysical survey, 12,014 line-km.
<b>Kootenay Clay</b>	Southeast	<b>Hi Ho Silver Resources Inc.</b>	Clay; Sedimentary kaolin	na	A 7000 kg bulk sample was shipped to China for evaluation.

Table 7. Continued.

<b>Revel Ridge</b>	Southeast	<b>Rokmaster Resources Corp.</b>	Pb, Zn, Ag; Irish-type carbonate-hosted Zn-Pb; 082M 003	All zones M+I: 6.74 Mt 50.0 g/t Ag, 3.7 g/t Au, 1.93% Pb, 3.68% Zn  Inf: 6.00 Mt 37.0 g/t Ag, 4.7 g/t Au, 1.19% Pb, 2.20% Zn  (at a \$110 NSR cut-off)	Drilling, (28,000 m); 44 holes underground, 39 surface. Rock and soil sampling; new resource calculation in progress.
<b>Texas</b>	Southeast	<b>Troubadour Resources Inc.</b>	Au, Ag; Polymetallic veins Ag-Pb-Zn±Au; 082ESW235	na	2093 m DD in 25 holes; new vein found, best assay: 0.8 m with 8.79 g/t Au.
<b>Thor</b>	Southeast	<b>Taranis Resources Inc.</b>	Ag-Pb-Zn±Au; Polymetallic veins and breccia, stratiform volcanogenic massive sulphide; 082KNW030, 31, 60, 61	I: 640,000 t 0.88 g/t Au, 187 g/t Ag, 0.14% Cu, 2.51% Pb, 3.51% Zn  Inf: 424,000 t 0.98 g/t Au, 176 g/t Ag, 0.14% Cu, 2.26% Pb, 3.2% Zn (2013)	10 DDH, 1500 m, line cutting, VLF and resistivity; permit for 10,000 t bulk sample in 2022.
<b>Empire Mine</b>	Southwest	<b>Coast Copper Corp.</b>	Au, Ag, Cu, Fe, Co; Fe skarn, Cu skarn; 092L 044, 45, 46	M+I: 960,000 t 2 g/t Au, 5.6 g/t Ag, 0.34% Cu, 0.013% Co  Inf: 120,000 t 1.2 g/t Au, 2.8 g/t Ag, 0.13% Cu, 0.008% Co	Rock, soil and silt geochemistry, IP surveys, drilling (2346 m, 19 holes).
<b>Gold Standard</b>	Southwest	<b>Juggernaut Exploration Ltd.</b>	Au, Ag; Au quartz veins	na	Drilling 11 holes, 1203 m. Grab sample 34.6 g/t Au, 149 g/t Ag.
<b>Gold Valley</b>	Southwest	<b>Privateer Gold Ltd.</b>	Au, Ag; Au-quartz veins; 092L 008, 311, 155	na	Drilling 4474 m in 14 holes.
<b>Goldstar</b>	Southwest	<b>Juggernaut Exploration Ltd.</b>	Au, Ag; Au quartz veins	na	Drilling 5 holes, 285 m. Highlight 5.5 m grading 10.8 g/t Au, 260.8 g/t Ag.
<b>Harrison Gold</b>	Southwest	<b>Bear Mountain Gold Mines Ltd.</b>	Au, Ag; Au quartz veins; 092HSW092	Historical I: 1.845 Mt 2.79 g/t Au  Inf: 0.6 Mt 2.8 g/t Au	Geology, surveying, access, drilling 8 holes, 460 m.
<b>North Island</b>	Southwest	<b>Northisle Copper and Gold Inc.</b>	Cu, Au, Mo, Re; Porphyry Cu±Mo±Au; 092L 185, 240, 200	I: 527,344,000 t 0.20% Cu, 0.24 g/t Au, 0.008% Mo, 0.31 ppm Re  Inf: 417,272,000 t 0.15% Cu, 0.18 g/t Au, 0.06% Mo, 0.29 ppm Re	Drilling at 4 sites (18 holes, 9293 m as of mid December.), IP and ground magnetic surveys, geological and clay analysis mapping, soil surveys.

M = Measured; I = Indicated; Inf = Inferred

was also completed. Skeena released a positive Prefeasibility Study for the project. Air rotary drilling was used to sample the historic “Albino Waste Facility”. Former operators deposited mineralized footwall rocks (estimated 2 Mt) considered uneconomic due to high cut-off grades required at the time. Highlight results included 22.80 m grading 4.16 g/t Au, and 204 g/t Ag and 16.77 m grading 5.90 g/t Au and 317 g/t Ag.

At their **Eskay-Corey** property, Eskay Mining Corp. carried out a property wide SkyTEM helicopter-borne electromagnetic survey and completed 23,500 m of diamond drilling. Drilling was reported to have intersected massive sulphide mineralization at the TV and Jeff deposits. The deposits are interpreted as precious metal-rich VMS systems. Highlight intersections included 92.29 m grading 1.1 g/t Au, and 124.0 g/t Ag including 24.09 m grading 2.2 g/t Au, and 374.0 g/t Ag, and 35.5 m grading 2.2 g/t Au, and 28.2 g/t Ag including 3.39 m grading 12.6 g/t Au, 50.8 g/t Ag.

Canagold Resources Ltd. began 28,000 m of diamond drilling at their **New Polaris** gold project. Drilling was designed to upgrade Inferred resources to Indicated and target gold mineralization down plunge. Results included 6.6 m grading 24.2 g/t Au, 3.9 m grading 30.8 g/t Au, 17.8 m grading 11.1 g/t Au, and 8.4 m grading 17.1 g/t Au.

Thesis Gold Inc. completed 16,139 m of diamond drilling in 106 holes, geochemical sampling, mapping, airborne VTEM, and ground magnetic and IP surveys at their **Ranch** project. Initial drilling results of 34 m grading 19.56 g/t Au, including 7 m grading 82.48 g/t Au, and 25 m grading 9.53 g/t Au.

Scottie Resources Corp.’s **Scottie Gold** Mine project, is centred on the past-producing Scottie Gold mine, which operated from 1981 to 1985, producing 95,426 oz of Au at 16.2 g/t Au. Gold is in steeply dipping pyrrhotite-pyrite-quartz-calcite veins. Scottie Resources carried out drilling at the Blueberry zone. Results included 10.0 m grading 16.5 g/t Au, 4.94 m grading 28.8 g/t Au, and 6.05 m grading 12.0 g/t Au. Drilling increased the zone’s known strike length by 650 m.

The Snip deposit is another past-producing mine with renewed interest. Skeena Resources Ltd. carried out a diamond drilling program at the **Snip Gold** project. High-grade intersections from drilling included 3.22 m grading 155.76 g/t Au, 4.41 m grading 110.22 g/t Au, and 12.5 m grading 27.04 g/t Au. In October, it was announced that Hochschild Mining PLC intended to take over as operator, earning a 60% interest from Skeena Resources Limited by spending approximately \$100 million during the option period.

Brixton Metals Corporation completed 3107 m of diamond drilling in 12 holes at the Trapper gold target of their **Thorn** project. Initial results from one hole included 139 m grading 2.14 g/t Au, with a 11.0 m interval grading 19.25 g/t Au that included 0.50 m of 160 g/t Au. Results from a second hole included 146 m grading 0.74 g/t Au within which a 31 m intersection graded 2.0 g/t Au.

The **Treaty Creek** project is owned by Tudor Gold Corp. (60%), Teuton Resources Corp. (20%) and American Creek Resources Ltd. (20%). An initial mineral resource estimate

was released at 815.7 Mt Measured and Indicated, grading 0.66 g/t Au, 3.6 g/t Ag, and 0.06% Cu, and 311.7 Mt Inferred, grading 0.72 g/t Au, 4.0 g/t Ag, and 0.05% Cu. The project is in Jurassic volcanic and intrusive rocks that also host the KSM deposits 5 km to the southwest. The project is defined by its bulk tonnage resource. In 2021, 30,108 m of resource expansion and definition drilling was carried out. Results included 556.5 m grading 0.73 g/t Au, 6.27 g/t Ag, and 0.489% Cu and 1320 m grading 0.67 g/t Au, 3.70 g/t Ag, and 0.216% Cu.

Previous exploration at CopAur Minerals Inc.’s **Williams** copper-gold project identified the T-Bill Gold zone and the GIC copper gold zone. This year a property-wide VTEM airborne geophysical survey was completed. Soil sampling was done over the T-Bill Gold zone and reconnaissance soil and rock sampling was done in surrounding prospective areas. The reconnaissance sampling discovered a new north-trending zone of surface mineralization, 1.1 km west of historic gold-in-soil anomalies, that extends 1000 m along strike. Soil samples typically assayed up to 320 ppb Au; with one sample assaying up to 6.88 g/t gold. Rock samples southeast of the T-Bill Gold zone assayed up to 79.7 g/t Au. Diamond drilling totalled 3150 m in 7 holes and results included 41.57 m grading 1.38 g/t Au and 0.70 m grading 22.00 g/t Au.

At the **Willoughby** project, Strikepoint Gold Inc. completed 4050 m of drilling in 17 holes, surface chip-channel sampling, and mapping of well-exposed, gold-silver mineralization. Results included 6.16 m grading 7.34 g/t Au, 202.84 g/t Ag.

### 8.1.2. North Central Region

Independence Gold Corp. carried out 4783 m of drilling at its **3Ts** project in winter-spring 2021 and announced 3000 m of drilling for the fall and into the winter of 2022. The drilling focussed on previously untested targets and gaps in historical drilling of the Tommy and Ted-Mint vein systems. Highlight intersections include: 11.65 m of 1.75 g/t Au and 127.26 g/t Ag; and 14.1 m of 2.22 g/t Au and 22.78 g/t Ag, which includes 1.0 m of 20.66 g/t Au and 198.0 g/t Ag. Additional work included soil sampling, 3D-IP resistivity and MT ground geophysical surveys across an 8 km<sup>2</sup> area, and a lidar survey of the entire property.

TDG Gold Corp. was active at its **Baker-Shasta** property, acquired from Talisker Resources in 2020. Approximately 8050 m was drilled in 55 holes at the Shasta project for resource infill and definition to support a mineral resource estimate. Highlight intersections included: 33.5 m of 1.03 g/t Au and 41 g/t Ag; 29.0 m of 1.78 g/t Au and 89 g/t Ag, which includes 4.0 m of 8.18 g/t Au and 396 g/t Ag. Exploration included a 95 km ground magnetic survey, prospecting, relogging of historical drill core, and channel sampling at the Shasta (JM pit, Creek pit) and Baker (Baker B’ pit) mine pits, which was accompanied by bench mapping.

At their **Golden Lion** project, Evergold Corp. drilled 1813 m in nine holes. Drilling focussed on the shallow, GL1 Main gold-silver zone containing base metal sulphide-bearing quartz-carbonate veins, veinlets, stockworks and breccias, and short



intervals of semi-massive to massive sulphides. Exploration also included mapping, soil and rock sampling, and an IP survey. Highlight intersections from one hole included 40.3 m of 2.0 g/t Au, 24 g/t Ag, 1.2% Zn, and 0.5% Pb. Within this interval was 11.3 m of 5.4 g/t Au, 62 g/t Ag, 3.2% Zn, and 1.3% Pb, including 1.0 m of 26.1 g/t Au, 619 g/t Ag, 10.0% Zn, 3.5% Pb. Another hole intersected 66.0 m of 1.36 g/t Au, 11 g/t Ag, 0.3% Zn, and 0.2% Pb. This interval intersected 3.3 m of 11.30 g/t Au, 12 g/t Ag, 1.9% Zn, and 2.3% Pb, including 1.0 m of 29.10 g/t Au, 19 g/t Ag, 2.7% Zn, and 1.6% Pb within which was 0.5 m of 44.70 g/t Au, 24 g/t Ag, 4.3% Zn, and 2.8% Pb.

Benchmark Metals Inc. continued resource definition and expansion drilling with 70,000 m of diamond drilling and 10,000 m of reverse circulation drilling at their **Lawyers** project. In May, an initial Mineral Resource Estimate reported a total Indicated resource of 1.546 Moz Au and 50.2 Moz Ag and a total Inferred resource of 620,000 oz Au and 18.1 Moz Ag. The project has regional-scale northwest-trending linear magnetic and radiometric anomalies with multiple gold-silver showings along a strike length of 20 km. The project has four discrete zones (Cliff Creek, Duke's Ridge, Phoenix and AGB) targeted for their bulk tonnage potential. Environmental and engineering work continued for environmental assessment and a feasibility-level mine design for the Cliffs Creek and AGB deposits. Benchmark signed an Exploration Cooperation and Benefit Agreement with the Tsay Keh Dene, Kwadacha, and Takla First Nations. Drill results delineated along-strike, near-surface continuation of gold and silver mineralization for 300 m between the Cliff Creek and Dukes Ridge deposits. Highlight results included intersections from three holes: 68.58 m of 3.07 g/t Au and 11.72 g/t Ag; 41.15 m of 1.31 g/t Au and 30.77 g/t Ag; and 25.91 m of 2.40 g/t Au and 47.99 g/t Ag.

### 8.1.3. South Central Region

Tempus Resources Ltd.'s linked **Blackdome** and **Elizabeth** properties were the subject of a 2010 Preliminary Economic Assessment in which mining would occur at both sites, with processing at an existing mill at Blackdome. Tempus is focussed on verifying and expanding the existing resource. Tempus drilled at their **Elizabeth** property (7740 m, 28 holes) and reported early highlights of 3.4 m (true thickness) grading 34.4 g/t Au and 1.28 m grading 68.30 g/t Au. A newly discovered vein, which returned 1.0 m grading 33.7 g/t Au and 0.5 m grading 26.4 g/t Au, has been traced along a 380 m strike length. At their **Blackdome** property Tempus conducted an alteration study and identified new target areas. Blackdome is a low-sulphidation epithermal deposit in Cenozoic intermediate to felsic volcanic rocks. Elizabeth, 30 km south, is a series of veins in a Paleocene quartz diorite intrusion in the Shulaps ultramafic complex. Historically they have been compared to the Bralorne-Pioneer orogenic deposits.

Talisker Resources Ltd. is targeting 100,000 m of drilling at the **Bralorne** mine to help prepare a resource estimate in 2022. Drilling for an underground resource is from surface to a

depth of about 700 m. They are also developing a near-surface (<350 m deep) bulk-tonnage resource. The company reported numerous narrow high-grade vein intersections, but also notable were longer, lower grade near-surface intersections to be incorporated in a surface resource. They also reported intersections of 2.25 m grading 90.71 g/t Au at the BRX target, 5.5 km north of the Bralorne mine and 1.25 m grading 81.09 g/t Au between the Bralorne and Pioneer mines. Talisker acquired the Bralorne project in 2019 and subsequently assembled a larger contiguous land position in the Bridge River Camp which comprises the Congress and Royale properties. The camp produced more than 4 Moz of gold between 1900 and 1971 at average grades of about 15 g/t Au. Veins have characteristics typical of orogenic gold deposits.

Kingfisher Metals Corp. drilled 4925 m in 14 holes at the **Goldrange** project, which had hitherto seen little modern exploration. Highlight results include a 9 m intersection grading 6.88 g/t Au, 13.6 g/t Ag, and 0.28% Cu in a hydrothermal breccia. One vein returned 1 m of 14.8 g/t Au. Work also included geochemical and IP surveys.

Endurance Gold Corporation conducted an IP geophysical survey, reverse circulation drilling, and RC and diamond drilling at the **Reliance** project, focussing on the Eagle zone, where 2020 and 2021 returned several high-grade intersections, including 15.24 m grading 14.08 g/t Au. Endurance Gold Corporation reported 4329 m diamond drilling (22 holes) in addition to reverse circulation drilling (35 holes), and surface exploration. Initial diamond drilling results included 5.4 m grading 10.94 g/t Au and 9.0 m grading 7.49 g/t Au at the Eagle zone. A highlight of RC drilling was 15.24 m grading 14.08 g/t Au. The Reliance targets are orogenic gold veins in shear zones in volcanic rocks and cherts of the Bridge River complex. The property has an historical resource of 410,916 t grading 5.96 g/t Au.

Westhaven Gold Corp. focussed on its **Shovelnose** project in the Spences Bridge gold belt with 41,000 m of drilling completed. The planned drilling was substantially completed before being suspended in November due to flooding in Merritt. In addition to step out and infill drilling at the South zone, they tested more recently discovered zones along the mineralized trend. One objective is an initial resource estimate for the South zone early in 2022. Preliminary metallurgical testing demonstrated 95% recovery of gold and 96% recovery of silver in South zone quartz veins. Drilling highlights at the South zone include: 85.45 m grading 1.09 g/t Au and 2.43 g/t Ag including 3.14 m grading 10.8 g/t Au, and 24.8 g/t Ag; 76.33 m grading 2.93 g/t Au and 11.3 g/t Ag including 2 m grading 26.6 g/t Au and 98.37 g/t Ag; 41.55 m grading 8.17 g/t Au and 34.64 g/t Ag including 0.45 m grading 614 g/t Au and 2070 g/t Ag.

Spanish Mountain Gold Ltd. completed a Prefeasibility study on its **Spanish Mountain** sediment-hosted vein gold project and continued with project optimization, environmental assessment, and sonic drilling (1226 m in 21 holes). The company withdrew the project from the environmental assessment process in 2019. The study, with an effective date

of May 10, estimated Proven and Probable reserves of 95.9 Mt grading 0.76 g/t Au and 0.71 g/t Ag for 2.34 Moz Au. The main zone reserves would supply a 20,000 tpd open-pit operation with a 14-year life. The deposit consists of disseminated gold in graphitic argillite and gold-bearing quartz veins in siltstone, greywacke, and tuff.

Falcon Gold Corp. following up 2020 sampling at the **Spitfire-Sunny Boy** project with packsack drilling. Highlights included 0.47 m grading 68.7 g/t Au, and 11.8 g/t Ag, and 0.86 m grading 29.7 g/t Au and 2.1 g/t Ag. A grab sample returned 168 g/t Au, 17.5 g/t Ag, and 0.7% Cu. Falcon Gold also acquired the Gaspard gold project and reported reconnaissance mapping and geochemical sampling.

Omineca Mining and Metals Ltd.'s **Wingdam** project saw 8000 m of surface drilling in 2020-21, exploring for bedrock sources from which placer gold was derived. In addition to drilling, work included rock, soil and stream-sediment sampling and magnetic surveys. The underground placer bulk sampling program also proceeded with dewatering and rehabilitation ahead of underground development.

#### 8.1.4. Southeast Region

Wealth Minerals Ltd. planned a helicopter-borne VTEM and magnetic geophysical survey covering 5456 hectares (12,014 line-km) over its **Kootenay** project that comprises the Goldsmith, Lardeau and Legend claim blocks. The targets are known gold mineralization in listwanite-altered ultramafic rocks at Goldsmith and possible nickel-cobalt mineralization associated with ultramafic bodies.

#### 8.1.5. Southwest Region

Juggernaut Exploration Ltd. drilled 1203 m in 11 shallow holes to test the Goldzilla Hinge zone at the **Gold Standard** project, a section of the Goldzilla vein. Drilling highlights included 6.5 m grading 2.1 g/t Au and 7.6 g/t Ag. Surface grab samples ranged up to 34.6 g/t Au and 149 g/t Ag.

Privateer Gold Inc. continued to drill its Zeballos area project, formerly the New Privateer project, now called **Gold Valley**. As a private company operating on Crown granted claims, they have no obligation to make public details of their work or results, but the company maintains a web page with contact information. The target is vein mineralization like that mined historically. Privateer Gold holds a land position including Crown grants covering the Privateer mine and other past producers in the historic Zeballos gold camp.

Juggernaut Exploration Ltd. drilled 285 m in 5 shallow holes testing the Goldilocks zone at the **Goldstar** project. All five holes intersected gold mineralization; a highlight included 5.5 m grading 10.8 g/t Au and 260.8 g/t Ag.

Bear Mountain Gold Mines Ltd. reported geological work, surface and underground surveying, and drilling (460 m, 8 holes) at **Harrison Gold**. An historical (1989) resource estimate has 1.845 Mt grading 2.79 g/t Au in the indicated category and 0.6 Mt grading 2.8 g/t Au in the inferred category.

## 8.2. Selected porphyry (Cu-Au, Cu-Mo, Mo) projects

### 8.2.1. Northwest Region

At Libero Copper & Gold Corporation's **Big Red** project, porphyry Cu-Au-Mo, epithermal Au-Ag, and VMS-style mineralization have been recognized. Libero carried out a 4571 m, 10-hole drill program. The primary target was the Terry porphyry, which was discovered in 2020. Results included 118.7 m grading 0.26% Cu, 0.06 g/t Au, and 1.83 g/t Ag within 510.0 m grading 0.18% Cu, 0.04 g/t Au, and 1.23 g/t Ag. Doubleview Gold Corp. describes their **Hat** project as a gold-rich copper porphyry with additional critical metals including cobalt, silver, palladium, and scandium. This year, 2476 m total was drilled in four holes. Drilling results included 907.8 m grading 0.31 g/t Ag, 0.12 g/t Au, 4.74 g/t Co, 0.15% Cu, 0.03 g/t Pd, and 28.64 g/t Sc.

Enduro Metals Corporation discovered new mineralization at their **Newmont Lake** project. Results from the Burgundy ridge target area included 331.43 m grading 0.35 g/t Au, 5.5 g/t Ag, 0.29% Cu, and 0.49% Zn. A total of 10,000 m of diamond drilling was planned, along with deep penetrating IP and MT geophysical surveys.

Surge Copper Corp.'s **Ootsa** project is at the southeast end of a southeast-trending belt of porphyry Cu-Au deposits and prospects including (from northwest-southeast) the Lucky Ship, Berg, Whiting Creek, Huckleberry, Ox, and Seel deposits. Similar to other deposits in the region, mineralization at Ootsa is temporally associated with the Bulkley suite intrusive rocks (Cretaceous). Calc-alkaline mineralization is reported as mineral resources for three separate deposits: Ox, East Seel, and West Seel. This year, Surge completed 41,088 m of diamond drilling. Results have the potential to expand the deposit and to improve grade within existing volumes. Drilling consistently intersected broad, continuous zones of mineralization within and outside of a 2016 resource-constraining pit. Highlights for West Seel included 495 m grading 0.25% Cu, 0.21 g/t Au, 3.4 g/t Ag, and 0.021% Mo.

**Schaft Creek** is an advanced-stage exploration project owned by Teck Resources Limited (75%) and Copper Fox Metals Inc. (25%). In March, an updated Mineral Resource estimate was released. Measured and Indicated resources are 1.346 Bt grading 0.26% Cu, 0.16 g/t Au, 0.017% Mo, and 1.25 g/t Ag. Inferred resources are 343.6 Mt grading 0.17% Cu, 0.11 g/t Au, 0.013% Mo, and 0.84 g/t Ag. In September a favourable Preliminary Economic Assessment was released. A drilling program of 835 m was completed to collect samples for metallurgical testing, and environmental baseline studies were carried out.

Newmont Corporation purchased GT Gold Corp. for an estimated \$456 million. Assets included the **Tatogga** project's Saddle North deposit. The deposit has an Indicated resource of 298 Mt grading 0.28% Cu, 0.36 g/t Au, and 0.8 g/t Ag and an Inferred Resource of 543 Mt grading 0.25% Cu, 0.31 g/t Au, and 0.7 g/t Ag. Newmont worked with the Tahltan Heritage Resources Environmental Assessment Team on a Tahltan land use study and with Tahltan Environmental Management to

begin environmental studies.

Brixton Metals Corporation continued to drill the Camp Creek target of their **Thorn Project**. Results included 821.25 m grading 0.24% Cu, 0.10 g/t Au, 2.44 g/t Ag, and 174.27 ppm Mo, with a 318.25 m interval grading 0.42% Cu, 0.17 g/t Au, 3.87 g/t Ag, and 294.12 ppm Mo.

### 8.2.2. North Central Region

NorthWest Copper Corp. carried out 2915 m of drilling in 11 holes, geological mapping, and rock sampling at their **East Niv** project. The company added 16 new claims to include ground underlain by faults and targets from geophysical and geochemical anomalies. Highlight drill results included 81.6 m of 0.41% Cu, 0.20 g/t Au, and 0.9 g/t Ag within which was 14.8 m of 0.75% Cu, 0.35 g/t Au, and 2.5 g/t Ag.

At their **Kliyul** project, Pacific Ridge Exploration Ltd. completed 1542 m of drilling in the early fall. All holes intersected porphyry-style sulphide-bearing mineralization. Drill results discovered a new copper skarn prospect to the southeast and extended mineralization at the Kliyul Main zone to the west and at depth. Highlight results includes: 437 m of 0.22% Cu, and 0.6 g/t Au including 141 m of 0.36% Cu and 1.11 g/t Au.

NorthWest Copper Corp. combined the **Kwanika** and **Stardust** deposits into a single advanced-stage project and drilled about 1100 m at **Kwanika**. The drilling was designed to expand the resource and better define high grade Cu-Au mineralization. One highlight result included: a 235.45 m interval with grades of 2.0% Cu, 1.21 g/t Au, and 5.3 g/t Ag, which included 153.25 m at 2.84% Cu, 1.69 g/t Au, 7.5 g/t Ag; and 9.40 m of 29.85% Cu, 4.34 g/t Au, and 70.5 g/t Ag. A second highlight was a 230.95 m interval with grades of 0.56% Cu, 0.58 g/t Au, and 1.9 g/t Ag, with 94.6 m at 0.8% Cu, 1.1 g/t Au, and 2.6 g/t Ag.

### 8.2.3. South Central Region

GSP Resource Corp. drilled at the **Alwin Mine** project. Highlights of the first phase of 2021 drilling (1439 m) included 164.6 m grading 0.61% CuEq (0.5% Cu, +Ag, Au, Mo, Re). They remobilized in the fall for an additional 896 m. Between 1916 and 1981, exploration targeted high-grade mineralization described as replacement type and of limited extent. However, the 2021 program encountered potentially larger zones of lower grade material.

Engold Mines Ltd. drilled deep holes at the Ann North and G-1 south porphyry targets on their **Lac La Hache** project, encountering visible mineralization and alteration, including potassic alteration. Two holes had been completed at Ann North as of December. While G-1 is a skarn target, drilling encountered disseminated mineralization to the southeast, which they continue to explore.

Sego Resources Inc.'s **Miner Mountain project** has several alkalic porphyry Cu-Au and Au targets in a roughly 2 by 3 km area, much of which is buried by drift. The Southern gold zone is a gold-rich target at the southern end of the property. Sego

drilled the Southern gold zone, with highlights including 59 m grading 1.03 g/t, 88 m grading 1.08 g/t and 94.2 m grading 0.86 g/t Au. Drilling (approximately 2200 m) was interrupted by weather but continued in late November.

Kodiak Copper Corp. undertook a 30,000 m (planned) drill program at its **MPD** project. They completed 21,675 m before suspending work in response to flooding in nearby Merritt. Results included 504 m grading 0.37% Cu, 0.15 g/t Au, 1.11 g/t Ag at the Gate zone and a step out (242 m grading 0.38% Cu, 0.22 g/t Au, 0.63 g/t Ag), which extended the zone by several 100 m. Drilling was scheduled to move to the Dillard target before the interruption. MPD is a consolidation of the Man, Prime, and Dillard alkalic porphyry Cu-Au targets, which had historically been explored to about 200 m depth.

Consolidated Woodjam Copper Corp.'s **Woodjam project** comprises six zones in a cluster approximately 5 km in diameter. Early results from a planned 4000 m of drilling included 142.4 m grading 0.56% Cu and 0.23 g/t Au at the Southeast zone. Consolidated Woodjam Copper Corp. also drilled at the Deerhorn zone and an IP target at the Megaton. The Deerhorn zone has an Inferred resource of 32.8 Mt at 0.49 g/t Au and 0.22% Cu.

### 8.2.4. Southwest Region

NorthIsle Copper and Gold Inc.'s **North Island** property includes an approximately 50 by 8 km block extending west-northwest from the past-producing Island Copper porphyry deposit. Within this area are several porphyry Cu-Au-Mo targets, four of which were drilled in 2021. The most developed targets are the Hushamu and Red Dog deposits, for which there are resource estimates and a Preliminary Economic Assessment. The North West Expo and Pemberton Hills areas were also drilled. In addition, the company reported work at Goodspeed and South Mackintosh targets. Surface work included geologic mapping, mapping of clays using TerraSpec infrared spectroscopy, soil geochemistry, and IP and ground magnetic surveys. Work was continuing as of mid-December 2021. An update to the PEA prepared before the 2021 exploration considers a 75,000 tpd, 22-year, two open-pit operation with life of mine average yearly production of 95.9 million lbs Cu and 99.9 koz Au.

Teck Resources drilled two holes for a total of 1116 m at the **Teeta Creek** project, a Neogene porphyry occurrence. Highlights included 2.4 m grading 1.27 g/t Au, 3.35 m grading 47.2 g/t Ag, and 1.09 m grading 1.05% Cu. The holes intersected quartz-sericite-pyrite alteration. Teck also carried out reconnaissance mapping and sampling on the adjacent NVI project. Teck relinquished its option and its interest returned to ArcWest Exploration Inc.

## 8.3. Selected polymetallic base and precious metal projects

### 8.3.1. Northwest Region

The **American Creek** project is immediately adjacent to the past-producing Premier mine. Mountain Boy Minerals Ltd. completed surface sampling and began diamond drilling

in July to follow up on surface samples from an interpreted extension of the High-Grade zone. Surface sample results included 949 g/t Ag, 0.3% Cu, and 2.7% Pb. Drilling consisted of 866 m total in eight holes. Highlight results included 3.9 m grading 24.61 g/t Ag, 0.020 g/t Au, 0.085% Cu, 2.15% Pb, and 2.19% Zn.

At Mountain Boy Mineral Ltd.'s **BA** project, six diamond-drill holes totalling 650 m were completed. Holes tested the northern extension of the Barbara zone. Results included 7.67 m grading 38.06 g/t Ag, 0.013% Cu, 0.86% Pb, 2.67% Zn, and 1.09 m grading 84.66 g/t Ag, 0.017% Cu, 3.76% Pb, 6.30% Zn.

The **Dardanelle** project is part of Decade Resources Ltd.'s Terrace properties. The Dardanelle showing consists of two quartz veins 0.3 to 2.0 m wide that occur intermittently along both contacts of a rhyolite dike for 700 m and to a depth of 180 m. Sulphides in the veins include pyrite, sphalerite, chalcopyrite, argentite, galena, arsenopyrite, bornite, covellite, and gold. Grab samples returned high-grade results including 695.6 g/t Au, 206 g/t Ag, 2.3% Pb and 102.9 g/t Au, 112.0 g/t Ag, 3.42% Pb.

Decade Resources Ltd. has an option to earn up to a 55% interest in the **Del Norte** property and can earn an additional 20% interest by carrying the property to commercial production. Decade carried out 4147 m of diamond drilling and reported visible gold, silver minerals, and strong base metal mineralization. Partial assay highlight results included 3.05 m grading 13.77 g/t Au, and 2661 g/t Ag within 9.91 m grading 4.28 g/t Au, and 1091.6 g/t Ag. Base metal assays were not reported.

The immediate area of Dolly Varden Silver Corporation's **Dolly Varden** property has a long history of mining. The Dolly Varden mine produced more than 20 Moz of silver between 1910 and 1959. The property is underlain by Hazelton Group volcanic and volcanoclastic rocks and historic and recent exploration suggest the potential for epithermal precious metal and volcanogenic massive sulphide deposits. This year Dolly Varden completed 10,506 m of diamond drilling in 31 holes. Drilling is the start of a two-year goal to expand and upgrade the Torbrit Silver deposit and multiple silver-rich satellite zones and deposits including the Wolf. Early results included a hole testing 94 m down plunge from known resources at the Wolf deposit. The hole returned 1532 g/t Ag, 0.44 g/t Au, 2.11% Pb, and 1.07% Zn along 1.22 m in a brecciated sulphide-rich quartz vein hosted within a broader pyrite stockwork breccia zone of 17.50 m averaging 214 g/t Ag, and 0.47% Pb.

Goliath Resources Ltd.'s **Golddigger** property is 7 km west of the Dolly Varden mine access road. At the Sure Bet and Main zone, stratabound massive sulphide mineralization (galena-sphalerite-pyrite) and silica alteration are in highly folded Hazelton Group sedimentary rocks along northwest-trending faults. Goliath planned 6000 m of diamond drilling at the Surebet target. Reported results included 35.7 m grading 4.46 g/t Au, and 122.13 g/t Ag, along with base metal mineralization.

Dolly Varden Silver Corporation's **Homestake Ridge** project

has a total Indicated resource of 0.736 Mt grading 7.02 g/t Au, 74.8 g/t Ag, 0.18% Cu and 0.077% Pb and a total Inferred resource of 5.55 Mt grading 4.58 g/t Au, 100 g/t Ag, 0.13% Cu and 0.142% Pb. The project is adjacent to Dolly Varden Silver Corporation's Dolly Varden project. In December, Fury Gold Mines Ltd. announced that it had entered into a definitive agreement with Dolly Varden whereby Dolly Varden would acquire a 100% interest in the project from Fury's wholly owned subsidiary, Homestake Resource Corporation. Terms include a \$5 million cash payment and the issuance of 76,504,590 common shares of Dolly Varden.

At the **Silver Queen** project Equity Metals Corp. completed winter-spring diamond drilling of 4991 m. Highlight results included 0.3 m grading 14,035 g/t Ag, 0.1 g/t Au, 0.5% Cu, 1.3% Pb, and 3.3% Zn within a 7.7 m interval grading 919 g/t Ag, 0.1 g/t Au, 0.1% Cu, 1.3% Pb, and 1.8% Zn. Drilling renewed in the fall with 4500 m planned. Initial results included 1.4 m grading 1097 g/t Ag, 0.1 g/t Au, 0.2% Cu, 0.5% Pb, 2.2% Zn, and 3.7 m grading 1143 g/t Ag, 0.1% Zn.

At their **Silver Vista** property, Norseman Silver Inc. completed 1507 m of diamond drilling to define the strike length and down-dip extensions of previously identified silver-copper mineralization. Results included 47.82 m grading 37 g/t Ag and 0.21% Cu and 46 m grading 48 g/t Ag and 0.62% Cu.

Coeur Mining Inc. announced that exploration diamond drilling (100,000 m) on their **Silvertip** mine property discovered manto mineralization at the Southern Silver zone. Highlight results included 20.0 m grading 92.5 g/t Ag, 16.9% Zn, and 0.5% Pb, and 10.8 m grading 445.7 g/t Ag, 19.4% Zn, and 7.5% Pb.

### 8.3.2. North Central Region

ZincX Resources Corp. continued exploration on its **Akie** SEDEX project, which includes the Cardiac Creek deposit. This deposit is hosted by siliceous, carbonaceous, fine-grained siliciclastic rocks of the Gunsteel Formation (Middle to Late Devonian). At a base case 5% zinc cut-off, the deposit has an Indicated resource of 22.7 Mt grading 8.32% Zn, 1.61% Pb, and 14.1 g/t Ag and an Inferred resource of 7.5 Mt grading 7.04% Zn, 1.24% Pb and 12.0 g/t Ag. In 2021, ZincX drilled 5 holes totalling 2669 m at the Cardiac Creek deposit. A ground-based gravity survey was conducted on both Akie and the Mt. Alcock property to enhance and infill existing airborne gravity data over the area from Akie north to Mt. Alcock. Highlight drill results included 22.61 m of 4.83% Zn+Pb, 7.7 g/t Ag, and 32.76 m of 20% Zn+Pb and 9.6 g/t Ag, which included 10.77% Zn+Pb and 14.5 g/t Ag along 5.99 m.

Northwest Copper Corp.'s **Stardust** property has historically been regarded as a skarn deposit. Historic work included more than 80,000 m of drilling, 5800 soil samples, airborne magnetic surveys, mapping, and prospecting. Mineralization is hosted by the Sowchea, Pope and Copely successions west of the Pinchi fault, in the Cache Creek terrane. Stardust has an Indicated resource of 1.963 Mt grading 1.31% Cu, 1.44 g/t Au, 27.1 g/t Ag and an Inferred resource grading 0.86% Cu,

1.17 g/t Au, 20 g/t Ag. Metallurgical test work completed in early 2021 reported copper recoveries from 94.2% to 98.6% and gold recoveries of 93 to 93.9%.

### 8.3.3. Northeast Region

Fabled Copper Corp. conducted aerial drone surveys, geological mapping, prospecting, rock sampling, and site reclamation at its **Muskwa** project. The project contains vein-hosted copper, silver, lead, and cobalt mineralization.

### 8.3.4. South Central Region

Nicola Mining Inc. reported results from 1460 m of drilling (5 holes) at their **New Craigmont** project. Highlights included 11.5 m grading 2.19% Cu and 71.35 m grading 0.29% Cu, both within longer mineralized intervals. The company is conducting surface work while awaiting a permit for further drilling.

In an effort to restart environmental assessment for **Yellowhead**, a feasibility-stage bulk-tonnage copper project, Taseko Mines Limited is focussing on advancing into the environmental assessment process through engineering work and engagement with local communities including First Nations. The company is also collecting baseline data and developing models that will be used to support environmental assessment and permitting. Taseko announced results of an updated Feasibility Study in 2020, including a new development plan and resource estimate (Table 7). Proven and Probable reserves now stand at 817 Mt grading 0.28% Cu at a 0.17% cut-off. Although porphyry-like in tonnage and grade, Yellowhead is generally considered a marine volcanogenic and syngenetic deposit. It is hosted by metavolcanic and metasedimentary rocks of the Eagle Bay assemblage (Lower Cambrian to Mississippian).

### 8.3.5. Southeast Region

Apex Resources Inc.'s **Jersey-Emerald** mine is a sedimentary exhalative carbonate hosted lead-zinc deposit. The former mine is in lower Cambrian limestones of the Laib Formation. Skarn-hosted tungsten mineralization is also present. In September, the company released a resource estimate for its Jersey Emerald tungsten project that includes open pit and underground operations, with an Indicated resource of 1.4 Mt with 0.173% WO<sub>3</sub>, 0.021% Mo, and 0.05 g/t Au and an Inferred resource of 5.1 Mt with 0.227% WO<sub>3</sub>, 0.026% Mo, and 0.08 g/t Au.

Rokmaster Resources Corp. completed underground drilling at its **Revel Ridge** project. Results from the Main zone indicated continuity of zinc-silver mineralization along a 1200 m length and a vertical extent of the same amount. Drilling highlights included RR21- 28 with 26.2 m grading 1.73 g/t Au, 14.38 g/t Ag, 0.75% Pb, and 4.95% Zn, and RR21-23 with 1.0 m grading 7.22 g/t Au, 4.00 g/t Ag, 0.32% Pb, and 0.41% Zn. Surface drilling of 10,747 m was completed in the fall and results extended the limits of known mineralization. Highlights included 3.60 m grading 0.19 g/t Au, 244.28 g/t Ag,

6.25% Pb, and 18.09% Zn at the Main zone, and 2.70 m grading 0.03 g/t Au, 83.69 g/t Ag, 4.20% Pb, and 8.64% Zn at the Yellowjacket zone. Underground drilling resumed in November. A resource update is in progress using information from 39 NQ surface holes completed this summer. Rock and soil sampling identified mineralized float and outcrops well beyond the known mineralized zones.

Troubadour Resources Inc. completed 2093 m of drilling in a total of 25 holes at its **Texas** project. Drilling intersected several polymetallic veins near the Cabin target. Results included 5.9 m grading 1.78 g/t Au. A newly discovered vein yielded a highlight of 0.8 m with 8.79 g/t Au. The property is underlain by a Nelson suite granodiorite pluton (Middle Jurassic) that is cut by quartz and lesser carbonate veins with strong chlorite-carbonate-clay-silica alteration envelopes.

Taranis Resources Inc. planned a 1200 m drill program on its **Thor** property. A total of ten holes were drilled on the Ridge target, now named the Thunder zone. Drilling intersected Jowett Formation volcanic rocks containing abundant quartz veins with tetrahedrite, sphalerite, galena, and pyrite mineralization. The best assays reported from the first three holes drilled include 10.30 m with 0.07% Cu, 1.07% Pb, 2.13% Zn, 103.42 g/t Ag, and 0.35 g/t Au. Within the interval was a 3.96 m with 0.15% Cu, 2.63% Pb, 3.63% Zn, 253.8 g/t Ag and 0.61 g/t Au. The company received permits for a 10,000 t bulk sample. The property is underlain mostly by Cambrian to Devonian carbonate and fine-grained sedimentary rocks of the Lardeau Group.

### 8.3.6. Southwest Region

Coast Copper Corp. completed rock, soil, and silt geochemistry, and extended IP surveys at the **Empire Mine** Cu-Au-Fe skarn property. Drilling (2346 m, 19 holes) late in the year tested targets at the Merry Widow pit, Copper Knob, Raven pit, North Notch and the Benson Lake Mine-Old Sport horizon. The property hosts iron-copper-gold-cobalt skarn mineralization where mafic Island Plutonic suite rocks intrude Vancouver Group Quatsino Formation limestone. Several of these skarns were mined for iron, copper, silver, and gold from the late 1950s to early 1970s.

## 8.4. Selected Ni-Cu-Co-precious metal projects

### 8.4.1. Northwest Region

Giga Metals Corp.'s **Turnagain** nickel-cobalt deposit is in an Alaskan-type Pt-(Os-Rh-Ir) ultramafic. The deposit has maximum dimensions of 3 by 8.2 km and displays a dunite core surrounded by peripheral peridotites, pyroxene-rich peridotite, wehrlite, and olivine pyroxene. Sulphide mineralization includes pyrrhotite, pentlandite, chalcopyrite, and trace bornite. Giga Metals carried out archaeological surveys, wildlife surveys, resource infill drilling (6295 m), geotechnical drilling, and seismic refraction surveys, and excavated test pits. Work was to collect exploration, geotechnical, and other data to advance project engineering to the Pre-Feasibility level.

### 8.4.2. North Central Region

FPX Nickel Corp. announced a new nickel discovery at their **Decar Nickel District** project with initial drilling of 2688 m at its Van target. Results included 0.21% total nickel along 287 m, 0.197% total nickel along 270 m, 0.207% total nickel along 101 m, and 0.215% total nickel along 103 m. The Van target displays disseminated nickel-iron alloy mineralization, like the Baptiste deposit, and in similar peridotites. Drilling at the Baptiste deposit included 2710 m in 10 drill holes for resource definition and expansion. The Baptiste deposit is reported to have 1.996 Bt of Indicated resources with an average grade of 0.122% Davis Tube Recovery (DTR) nickel, 593 Mt of Inferred resources with an average grade of 0.114% DTR nickel, at a cut-off grade of 0.06% DTR nickel. Tailings produced by the proposed mining and milling process at Decar have potential to sequester CO<sub>2</sub>.

### 8.4.3. South Central Region

Inomin Mines Inc. carried out a ground magnetic survey and drilled 715 m in five holes at their **Beaver-Lynx** nickel-cobalt project. The target is disseminated sulphide nickel and cobalt mineralization. They reported visible mineralization.

## 8.5. Selected cobalt, base, and precious metal projects

### 8.5.1. South Central Region

Blackstone Minerals Limited announced the start of drilling at the Jewel prospect on their **Gold Bridge** project at the end of November. The first hole intersected visible Cu-Ni-Co sulpharsenide mineralization.

## 8.6. Selected specialty metal projects

### 8.6.1. North Central Region

Defense Metals Corp. continued to work at their **Wicheeda** project. The Wicheeda carbonatite is a deformed intrusion that hosts light rare earth elements (LREE). 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 present as well. In 2021, Defense Metals drilled 5349 m in 29 holes for resource expansion and definition. A Preliminary Economic Assessment was filed with an Indicated mineral resource of 5.0 Mt averaging 2.95% Total Rare Earth Oxide (TREO), and an Inferred mineral resource of 29.5 Mt averaging 1.83% TREO, reported at a cut-off grade of 0.5% TREO. This estimate represents a 36% increase on a contained metal basis in comparison to an estimate made in 2020. The assessment included a detailed data review, pit optimization plans, and evaluations of hydrometallurgy, mineral processing, and separation costs. The average annual REO production is estimated at 25,423 t for a 16-year mine life.

## 8.7. Selected coal projects

### 8.7.1. Northeast Region

Conuma Coal Resources Ltd. completed geotechnical drilling and large-diameter core drilling on its **Hermann** project early in 2021. The program included a total of 592 m in 5 reverse circulation drill holes. The project contains 24.36 Mt Proven and Probable reserves of coal in the Gates Formation. Coal seams are mostly found in folds with moderate to steep (40-70°) dips of the Gates Formation (Fort St. John Group; Lower Cretaceous).

Conuma Coal Resources Ltd.'s **Hudette** project has an ongoing exploration program that included a total of 2742 m in 16 reverse circulation drill holes. Historical Reports from 2014 include Hudette containing a Proven reserve of 24.6 Mt and a Probable reserve of 465,000 tonnes of coal. The coal-bearing units are in the Gething Formation (Bullhead Group; Lower Cretaceous).

## 8.8. Selected industrial mineral projects

### 8.8.1. Southeast Region

Hi Ho Silver Resources Inc.'s **Kootenay Clay** project consists of an outcrop of illite-rich lacustrine clay exposed on a road cut of the Skookumchuk Creek forest service road, near Buhl Creek. The clay extends for at least 110 m along the road cut and about 28 m back from it. Grab samples yielded about 78 wt.% illite. Hi Ho Silver shipped a 7000 kg bulk sample to China to be evaluated for use in cosmetics.

## 9. Summary of assessment work, 2020

Results of mineral exploration programs are submitted by industry in assessment reports to the government in compliance with the Mineral Tenure Act. After a one-year confidentiality period, the reports become an open resource for mineral exploration, investment, research, land use, and resource management. The British Columbia Geological Survey maintains these reports in the Assessment Report Indexing System (ARIS) database. This database provides information about the location, mineral occurrences, commodities, claims, work types, and expenditures as presented in the assessment reports. ARIS contains more than 38,000 reports dating from 1947; all are available online as PDF documents through the British Columbia Geological Survey website.

The present summary includes assessment work registered with a Statement of Work affidavit dated to the end of 2020 and does not include work that may have been conducted in 2020 but registered in 2021. The expenditures recorded in assessment reports are registered to maintain claims beyond their expiry date and thus reported costs may represent only part of the total amount spent.

The number of approved assessment reports with an affidavit date of 2020 totalled 332 (Fig. 12), with declared costs of \$163 million (Fig. 13), a 10% decrease in expenditures from 2019 (Table 8). The Northwest Region accounted for 59% of the province-wide exploration costs in 2020 (Fig. 14). Drilling

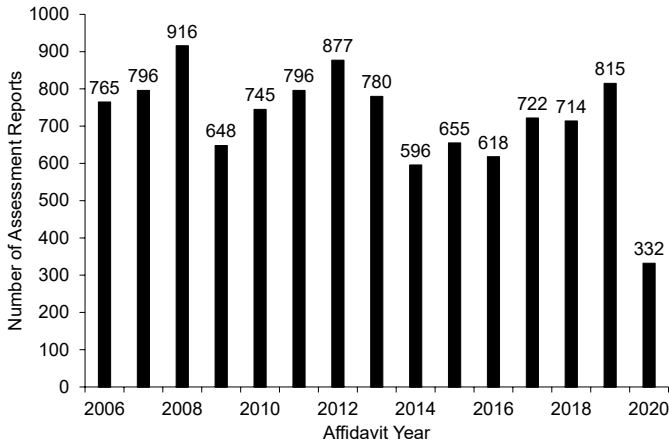


Fig. 12. Assessment reports approved between 2006 and 2020 by work affidavit year.

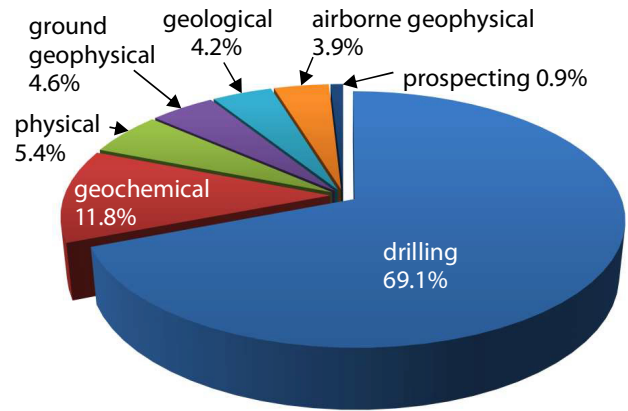


Fig. 15. Proportion of value of exploration work type in the work affidavit year 2020.

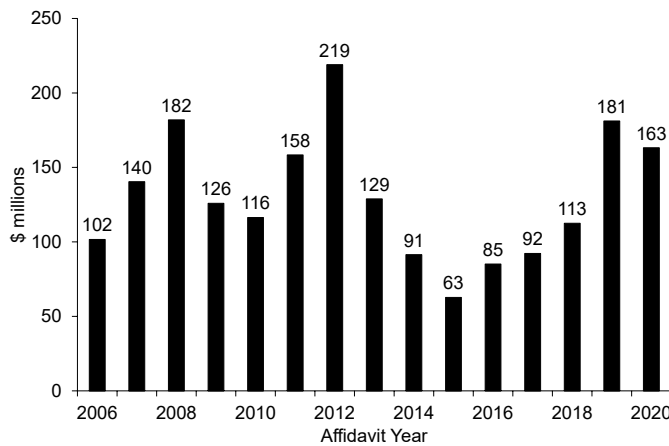


Fig. 13. Expenditures approved for assessment credit between 2006 and 2020 by work affidavit year.

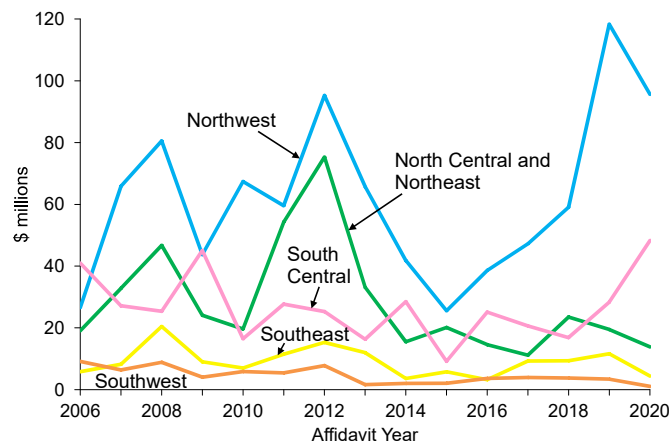


Fig. 14. Expenditures approved for assessment credit between 2006 and 2020 by work affidavit year and region.

accounted for 69% of the expenditures (Fig. 15); the remainder was spent on geochemical sampling (12%), geophysical surveys (9%), physical work (5%), geological mapping (4%), and prospecting (1%). Physical work expenditures only

include work submitted as part of a technical work report, not expenditures reported in a physical work report. Average exploration costs by work type (Table 9) are from report statements for labour, consulting, food, accommodation, transport, camp equipment rentals and supplies, laboratory analyses, report preparation, direct administration, and project management.

Traditionally, data in assessment reports have been embedded in paper or scanned .PDF files, making them difficult to extract and use. To resolve this problem, the British Columbia Geological Survey has embarked on a program to encourage submission of digital data files such as spreadsheets, databases, GIS maps, and grids, which can be easily retrieved, integrated, recalculated, and recast for specific needs. These files can be uploaded through the ARIS Data Submission page (<http://ardata.bcgeologicalsurvey.ca>), submitted by CD/ DVD/ USB when an assessment report is filed, or e-mailed to ARIS. [digital@gov.bc.ca](mailto:digital@gov.bc.ca).

### 10. The British Columbia Geological Survey

Part of the Ministry of Energy, Mines and Low Carbon Innovation, the British Columbia Geological Survey (BCGS) is the steward of provincial geoscience and mineral resource information. The Survey creates and disseminates public geoscience information that supports effective mineral exploration, sound land use management, and responsible governance. Applied research by Survey geoscientists uses established and emerging technologies to assess the geological evolution and mineral resources of the province. To deliver its programs, the Survey collaborates extensively with federal, provincial, and territorial geoscience agencies, including the Geological Survey of Canada and Geoscience BC, and other national and international organizations. The results of these programs are freely accessible from the BCGS website and via MapPlace, the Survey's geospatial web service. The array of information, services, and products provided by the Survey informs decisions that balance the economy, the environment, and community interests. By connecting government with the

**Table 8.** Summary of assessment work, 2020.

	Reports		Value \$	Core drilling		Non-core drilling		Soil samples	Stream sediment samples	Rock samples
				Holes	m	Holes	m			
Northwest	2020	101	\$95,615,837	759	202,050	9	1048	11,736	215	7015
North Central and Northeast	2020	37	\$13,838,837	87	27,418	13	206	663	95	403
South Central	2020	96	\$48,291,364	782	139,995	15	359	24,794	540	2833
Southeast	2020	56	\$4,418,677	87	8779	0	0	3562	59	896
Southwest	2020	42	\$1,048,674	10	125	0	0	341	262	757
Provincial total	2017	722	\$92,215,514	1199	205,434	173	3458	30,188	1450	14,648
Provincial total	2018	714	\$112,528,518	869	246,484	112	3665	49,736	1993	19,762
Provincial total	2019	815	\$181,186,301	1379	314,962	389	9654	44,926	3489	22,266
Provincial total	2020	332	\$163,213,389	1725	378,368	37	1613	41,096	1171	11,904

**Table 9.** Average exploration project costs, 2017-2020.

	Cost	2017	2018	2019	2020
Core drilling	\$ per m	252	297	425	342
Non-core drilling	\$ per m	284	361	387	334
Stream sediments	\$ per sample	355	348	502	488
Soil samples	\$ per sample	152	152	139	159
Rock samples	\$ per sample	371	371	332	429
Trenching	\$ per m	163	78	168	35
Ground EM	\$ per km	3700	2187	4101	1900
Ground magnetics	\$ per km	906	807	858	428
Induced polarization	\$ per km	4879	8362	8233	8379
Airborne magnetics	\$ per km	40	91	72	107
Airborne EM	\$ per km	126	83	191	214
Geological mapping	\$ per ha	59	16	21	49
Prospecting	\$ per ha	19		39	6

minerals industry and local communities, the Survey supports the growth of British Columbia as a competitive jurisdiction for mineral exploration.

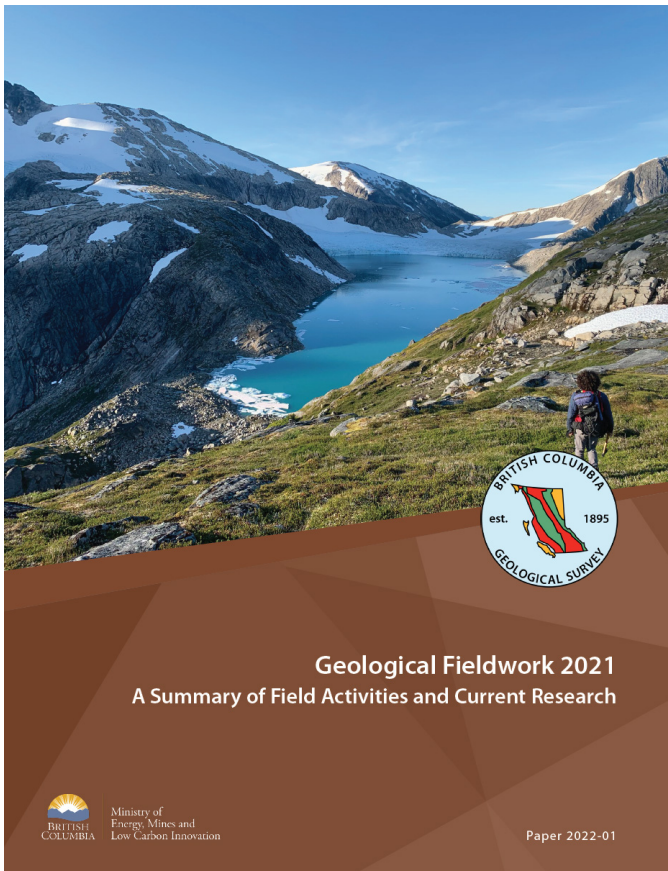
Planning for field projects in 2021 was again affected by the pandemic, mainly due to uncertainties about evolving public health orders and associated safe working practices, and wildfires forced modifications to field programs. Nonetheless, Survey geologists successfully executed several projects (Fig. 16). Continuing a multi-year project in the northwest, the Survey extended bedrock mapping in the Kitsault area focussing on units of particular importance for copper, gold, and silver in this region of remarkable mineral endowment. In the southeast near Kaslo, mapping focussed on rocks of the Lardeau Group and their potential for copper-molybdenum-

nickel mineralization. As part of the BCGS commitment to support emerging technologies and assist mineral exploration, the Survey tested unmanned aerial vehicles in areas of central British Columbia where bedrock is buried by thick surficial cover. The surveys took advantage of recent sensor miniaturization that permit ‘drones’ to gather photogrammetric, lidar, radiometric, and aeromagnetic data. In addition, work continued to test technologies that measure atmospheric mercury to detect buried mineralized bedrock.

The Survey continues to engage with First Nations, facilitated through government colleagues, mining councils, and resource stewardship forums, and seeks to expand engagement opportunities for future field seasons.

In the office, ongoing map compilations continue to





**Fig. 16.** Geological Fieldwork contains peer-reviewed papers that summarize field activities and current research by the British Columbia Geological Survey.

consolidate knowledge from recent field mapping and historic published maps for the digital provincial database. BCGS is also initiating a multi-year project to incorporate all published surficial geology maps into the provincial database. An extensive program of laboratory analysis, using recently collected and archived samples, continues to build geoscience knowledge across a range of initiatives.

Mineral potential assessment is now a renewed focus for the Survey, with an emphasis on supporting government, First Nations, and stakeholders in land use planning and policy development. The Survey pioneered mineral potential assessment in Canada during the early 1990s, but the more recent development of analytical techniques and machine learning technology offers the opportunity to update methods and greatly improve results. A pilot study focussed on method development using three mineral systems: porphyry copper-gold; volcanic massive sulphide copper-lead-zinc; and magmatic nickel. A weights-of-evidence method was adopted, which produced data-driven mineral potential maps for each mineral system. This method allowed for a comprehensive review of outputs at every stage of the modelling process to ensure that the maps were geologically sensible and statistically valid.

As the steward of mineral and coal resources in the province, the Survey has an important role in stimulating activity, attracting investment, and providing continuous research based on a corporate memory that extends back more than 125 years. Custodian of all provincial public geoscience data, the BCGS preserves, archives, and provides free web-based access to information. The BCGS houses, maintains, and regularly updates numerous databases, including MINFILE, COALFILE, Property File, the Assessment Reports Indexing System (ARIS), digital bedrock geology, regional geochemical surveys, geochronologic data, and a publications catalogue. MapPlace, the BCGS geospatial web service, provides open geoscience data and custom map-making tools to help decisionmakers from diverse disciplines reduce the costs of accessing and analyzing information. The BCGS is modernizing core information systems to increase efficiency in operating and updating geoscience databases, applications, and geospatial web services. The modernization is part of transformation efforts to improve digital capabilities by completing a geoscience ‘SDI’ or Spatial Data Infrastructure. This infrastructure follows the ‘FAIR’ principles: Findable, Accessible, Interoperable, and Reusable.

With public attention increasing on how low-carbon technologies can help mitigate climate change, the topic of ‘critical minerals’ has gained much attention, and in March, Natural Resources Canada released a national list of critical minerals. In late November, and in collaboration with the Geological Survey of Canada, the United States Geological Survey, Geoscience Australia, and the Pacific Section of the Geological Association of Canada, BCGS hosted an international online workshop about critical minerals, which attracted more than 700 attendees. The Survey continues to maintain an active critical minerals research program and inventory opportunities in the province.

## 11. Foreign investment initiatives

Opportunities exist for companies to attract foreign investment using government services and staff. The province participates in international investment missions showcasing mineral and coal opportunities. If you are interested in profiling your projects or investment opportunities in upcoming events, connect with the Mineral Development Office in Vancouver for more information.

## 12. Concluding remarks

Despite forest fires, heat waves, floods, and resultant transport infrastructure damage, and the continuing Covid 19 pandemic, the forecasted value of total provincial mining production reached an all-time high of \$12.6 billion, and total exploration expenditures reached a near record of \$659.8 million.

New discoveries, excellent exploration results, acquisitions and earn ins, confirmed British Columbia’s reputation as a premier jurisdiction for mineral exploration and mine development opportunities. Most significant was the offer by Newcrest Mining Limited to purchase Pretium Resources

Inc. for approximately \$3.5 billion. Newmont Corporation purchased GT Gold Corp. for an estimated \$456 million. Assets included the Tatogga project's **Saddle North** deposit. Hochschild Mining PLC announced their intent to earn a 60% interest in the **Snip Gold** project from Skeena Resources Limited by spending approximately \$100 million during the option period.

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