# Exploration and mining highlights, Northwest Region, 2022

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## Overview

The Northwest Region has a long history of mining and is prospective for a wide range of commodities including precious metals, base metals, and coal. Exploration in the region is concentrated in a loosely defined area in the northern part of the region popularly known as the 'Golden Triangle'; several other projects were underway to the southeast. Increased financing of many projects due to high metal prices in 2021 helped finance 2022 exploration.

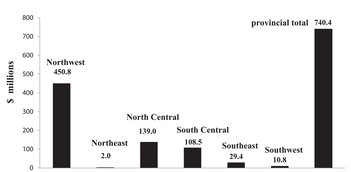
The Northwest Region contains two operating metal mines (**Brucejack** and **Red Chris**). The region also contains five proposed metal mines (**Dome Mountain, Galore Creek, KSM, Kutcho** and **Red Mountain**), and one proposed coal mine (Tenas). There is one mine development project (**Premier Gold**). In 2022, the region saw numerous active early- to advanced-stage projects that focussed mainly on precious, base metal, and porphyry deposits.

## Notable transactions

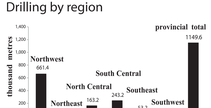
- Newcrest Mining Ltd. purchased Pretium Resources Inc. for $3.5 billion.
- Skeena Resources acquired Quest Ex Copper & Gold Ltd. for $48.6 million with a concurrent sale of several of the Quest Ex Properties (Heart Peaks, Castle, Moat, Coyote, and North ROK properties) to Newmont Corp. for $26 million.
- Dolly Varden Silver Corp acquired Fury Gold Mines Ltd.'s Homestake Ridge to consolidate with Dolly Varden's, Dolly Varden project and form the new Kitsault Valley project.

## Exploration and drilling estimates

### Exploration expenditures by region




### Drilling by region

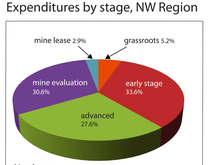


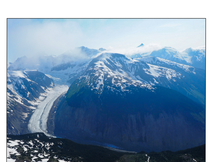

British Columbia exploration total:
- Exploration expenditures: $ **740.4 million**
- Drilling: **1,149,600 m**

Northwest Region:
- Exploration expenditures: **$450.8 million** (60%)
- Drilling: **661,400 m** (57.5%)

NW Region exploration expenditures a record high

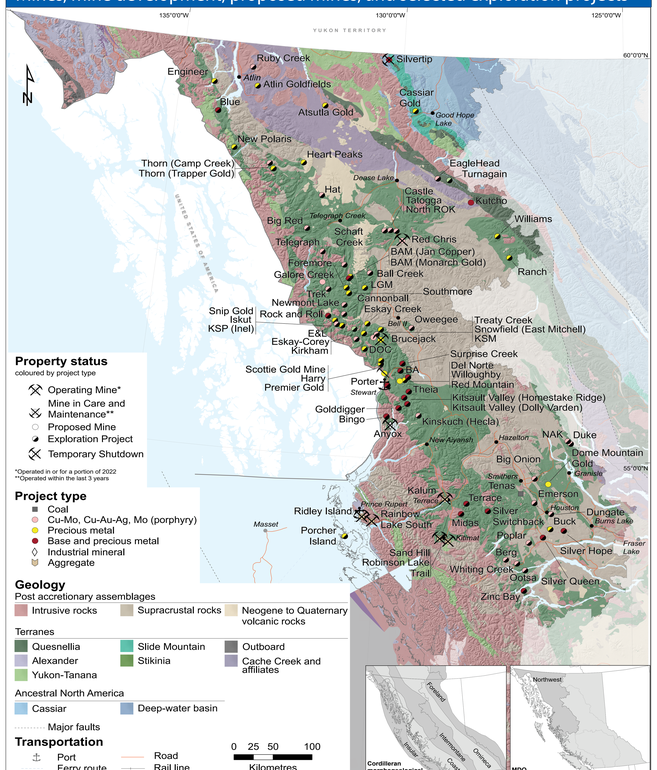
### Expenditures by stage, NW Region

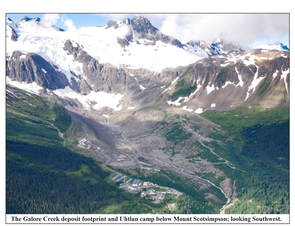


The Kerr deposit (right of glacier) of the KSM property.

## Mines, mine development, proposed mines, and selected exploration projects

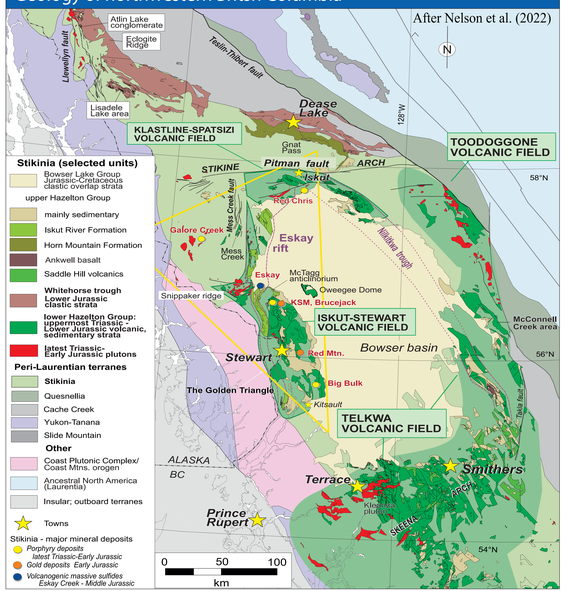


The Galore Creek deposit footprint and Uttlan camp below Mount Scotsimpson; looking Southwest.

Massive sulphide mineralization with chalcopyrite, arsenopyrite, pyrite, stibnite, realgar, 23 Zone, Eskay Creek

## Geology of northwestern Britsh Columbia




## Mining highlights

| Mine | Operator (partner) | Commodity; Deposit type; MINFILE | Forecast 2022 Production (based on Q1-Q3) | Reserves & Resources | 2022 Program | Results |
|---|---|---|---|---|---|---|
| **Brucejack** | **Newcrest Mining Limited.** | **Au, Ag; Epithermal; 104B 193** | **323,380 oz Au 482,049 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** | **Newcrest acquired Pretium for $3.5 billion. 31,000 m in 74 drill holes in brownfields exploration. Drilling at 1080 HBx Zone expanded the VOK deposit.** | **1.0 m - 3876 g/t Au within 22 m - 178 g/t Au. 1.0 m - 2310 g/t Au within 70.1 m - 35 g/t Au. Golden Marmot zone: 1.0 m - 488 g/t Au within 46.5 m - 16 g/t Au.** |
| **Red Chris** | **Newcrest Mining Limited. (70%) Imperial Metals Corp. (30%)** | **Cu, Au, Ag; Hybrid calc-alkalic to alkalic porphyry; 104H 005** | **72.66 Mlbs Cu 65,524 oz Au 215,705 oz Ag** | P+Pr: 75.5 Mt 0.40% Cu, 0.39 g/t Au; Underground P+Pr: 586 Mt 0.45% Cu, 0.55 g/t Au M+I: 142 Mt 0.36 % Cu, 0.3 g/t Au Inf: 16 Mt 0.27% Cu, 0.23 g/t Au Underground M+I: 957 Mt 0.47 % Cu, 0.66 g/t Au Inf: 75 Mt 0.28% Cu, 0.32 g/t Au (June 2022) | **110,000 m in > 110 holes. Drilling at East Ridge continued to intersect high-grade mineralization. Block cave mining development on track.** | **222 m - 0.44 g/t Au and 0.61% Cu, 334 m - 0.35 g/t Au, 0.50% Cu, 334 m - 0.35 g/t Au, 0.50% Cu, including 56 m - 0.83 g/t Au, 0.80% Cu, and 22 m - 1.1 g/t Au, 0.95% Cu.** |

Open pit mine, Main zone, Red Chris mine

## Exploration highlights

| Project | Operator (partner) | Commodity; Deposit type; MINFILE | Reserves & Resources (NI 43-101 compliant) | 2022 Program | Results |
|---|---|---|---|---|---|
| **BAM (Monarch Gold)** | **P2 Gold Inc.** | Au; Epithermal Au-Ag-Cu | **na** | 95 holes drilled, 13,967 m. Airborne ZTEM survey. | 7.0 m - 5.63 g/t Au, 80.0 m - 1.38 g/t Au, including 12.2 m - 2.43 g/t Au. |
| **Cassiar Gold** | **Cassiar Gold Corp.** | Au; Precious metal veins; 104P 012, 19 | Inf: 21.83 Mt - 1.43 g/t Au (0.7 g/t Au cut-off) | 70 holes drilled, 23,088 m | Taurus :72.25 m -1.09 g/t Au, 22.2 m -1.50 g/t Au, including 0.75 m- 9.61 g/t Au, 10.5 m - 4.47 g/t Au, and 6.4 m - 11.1 g/t Au, 3.25 m - 11.1 g/t Au with 0.5 m - 45.30 g/t Au. |
| **Dome Mountain** | **Blue Lagoon Resources Inc.** | Au, Ag; Au-quartz veins; 093L 276 | M:136,000t 10.32 g/t Au, 57.3 g/t Ag I: 662,000t 8.15 g/t Au, 41.2 g/t Ag Inf: 85,000t 6.02 g/t Au, 26.1 g/t Ag (3.5 g/t Au cut-off) (2022) | 65 holes drilled, 19,500 m. | Chance structural zone: 0.41 m -126 g/t Au and 404 g/t Ag, within 1.73 m - 30.67 g/t Au, and 99.26 g/t Ag. 0.50 m 12.2 g/t Au,100 g/t Ag, within 7.42 m - 1.98 g/t Au and 15.02 g/t Ag. Boulder vein system: 1.09 m - 31.67 g/t Au and 473.0 g/t Ag including 0.39 m - 86.20 g/t Au and 1280 g/t Ag. |
| **Eskay Creek** | **Skeena Resources Ltd.** | Au, Ag, Cu, Pb, Zn; VMS and precious metal veins; 104B 008 | M+I: 46.5 Mt - 2.6 g/t Au, 63.2 g/t Ag (pit constrained) | 51,650 m drilling, 215 holes. Feasibility study released that highlighted economics with an after-tax internal rate of return of 50.2%. | 12.12 m - 47.50 g/t Au, 73.4 g/t Ag 96.02 m - - 1.13 g/t Au, 6.6 g/t Ag. |
| **Eskay-Corey** | **Eskay Mining Corp. (80%)** and Kirkland lake Gold Ltd. (20%) | Au, Ag, Cu, Zn; Noranda/Kuroko massive sulphide; 104B 385 | na | 29,500 m drilling Prospecting, geological mapping and rock sampling Reconnaissance work at six prospects. | 30.56 m - 1.14 g/t Au, 30.58 g/t Ag, including 2.0 m -3.36 g/t Au, 109.50 g/t Ag, 45.96 m - 1.06 g/t Au, 2.24 g/t Ag including 1.59 m -15.44 g/t Au, 28.20 g/t Ag. |
| **Galore Creek** | **Galore Creek Mining Corp (Teck Resources 50%, Newmount Corp. 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 | Prospecting, mapping, rock sampling; engineering and environmental studies for prefeasibility study. | None reported. |
| **Golddigger** | **Goliath Resources Limited** | Au, Cu, Pb, Zn; Polymetallic veins; 103P 341 | na | 86 holes drilled, 26,321 m. | 1.0 m - 115.0 g/t Au, 28.5 g/t Ag, within 5.0 m - 23.17 g/t Au, and6.32 g/t Ag along with base metal mineralization. |
| **Kitsault Valley (Dolly Varden & Homestake Ridge)** | **Dolly Varden Silver Corporation** | Au, Ag, Cu, Pb, Zn; Kuroko VMS / polymetallic veins; 103P 188 | Dolly Varden: I: 3.417 Mt 299.8 g/t Ag Inf: 1.285Mt 277.0 Ag Homestake Ridge: I: 0.736 Mt 1.02 g/t Au, 74.8 g/t Ag Inf: 5.545 Mt 4.58 g/t Au, 100 g/t Ag | 108 holes drilled, 37,061 m. Dolly Varden Silver Corp acquired the Homestake Ridge project from Fury Gold Mines Ltd. and combined it with Dolly Varden Silver project. | 1.6 m - 4326 g/t Ag, 4.2% Pb, 1.4% Zn, 1.0 g/t Au, 50.18 m - 414 g/t Ag, 12.51 m - 442 g/t Ag, 0.26% Pb, and 0.31% Zn including 1.50 m - 1367 g/t Ag, 0.22% Pb, and 0.17% Zn. Homestake Ridge: 3.08 m - 18.76 g/t Au, 193 g/t Ag, 0.28% Cu. |
| **KSM** | **Seabridge Gold Inc.** | Cu, Au, Ag, Porphyry Cu±Mo±Au; 104B 191 | P+Pr: 2.292 Bt - 0.64 g/t Au, 0.14% Cu, 2.2 g/t Ag, 76 g/t Mo M+I: 5.357 Bt - 0.51 g/t Au, 0.16% Cu, 2.4 g/t Ag, 63 g/t Mo Inf: 5.685 Bt - 0.36 g/t Au, 0.28% Cu, 2.2 g/t Ag, 33 g/t Mo | Early-stage construction continues for the KSM project (East Mitchell), including new access roads, new year-round camps, the Bell-Irving River bridge, a fish habitat offset program. 6200 m Geotechnical drilling. | PFS plan with an open pit only plan of a 33-year mine life limited the Mitchell, East Mitchell, and Sulphurets deposits. PEA with an underground block cave mining operation supplemented with a small open pit. Plan to operate for 39 years. |
| **Oosta** | **Surge Copper Corp.** | Cu, Au, Ag, Mo; Calc-alkaline porphyry; 093E 105 | M+I: 438.6 Mt - 0.18% Cu, 0.12g/t Au, 0.017% Mo, 2.1 g/t Ag Inf: 137.7 Mt - 0.15% Cu, 0.1 g/t Au, 0.015% Mo, 2.0 g/t Ag (2022) | Prospecting, soil and rock sampling. 10,518 m drilling, 28 holes. An updated mineral resource estimate had a 96% increase in Measured and Indicated resource and additional Inferred resources. | 64.6 m - 0.24% Cu, 0.17 g/t Au,22.7 g/t Ag, 0.67% Zn and 0.29% Pb, including 18.6 m - 0.75% Cu, 0.49 g/t Au, 61.2 g/t Ag, 1.17% Zn and 0.58% Pb. Blackjack target : 46 m - 99.4 g/t Ag, including 2.0 m - 1430.0 g/t Ag, and 2.0 m of 346 g/t Ag. |
| **Premier Gold** | **Ascot Resources Ltd.** | Au, Ag; Epithermal; 104B 054 | P+Pr:3.63Mt - 5.45 g/t Au, 19.1g/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 | 13,685 m of exploration drilling in 91 holes. Plant pre-commissioning to start in Q4 2023 and first gold pour expected in early 2024. | 7.9 m -62.76 g/t Au, 27.36 g/t Ag, including 1.0 m of 488.00 g/t Au, 181.00 g/t Ag. 10.7 m - 31.92 g/t Au, 22.21 g/t Ag including 1 m of 330.00 g/t Au, 192.00 g/t Ag. 12 m - 5.09 g/t Au, 6.60 g/t Ag, including 7.5 m of 7.17 g/t Au, 6.70 g/t Ag. |
| **Ranch** | **Thesis Gold Inc.** | Au, Ag; Epithermal; 094E 267 | **na** | 36,491 m drilling , >125 holes. Soil (4088) and rock (480) sampling; geological mapping. | 39.0 m- 2.56 g/t Au, 11.99 g/t Ag including 32 m - 2.97 g/t Au, 13.75 g/t Ag. 25.0 m - 3.22 g/t Au, 28.78 g/t Ag. 91.00 m - 1.81 g/t Au,8.41 g/t Ag, including 35 m - 2.93 g/t Au, 10.36 g/t Ag. |
| **Scottie Gold Mine** | **Scottie Resources Corp.** | Au, Ag, Cu; Intrusion-related and polymetallic veins; 104B 034 | **na** | 17,176 m drilling | 16.15 m - 9.12 g/t Au, 44 g/t Ag. 8.6 m - 11.3 g/t Au, and 12.5 m 13.3 g/t Au. |
| **Snip Gold** | **Hochschild Mining PLC.** | Au, Ag; Intrusion-related Au pyrrhotite veins; 104B 250 | I: 2.50 M t - 10.4 g/t Au Inf: 2.184 M t - 10.3 g/t Au | Updated mineral resource estimate in March. Drilled 10,377 m, 69 holes. Work included metallurgical work, processing plant designs and resource model updates in coordination with the ongoing Pre-feasibility study. | 4.6 m - 35 g/t Au and 11 g/t Ag. 8.0 m - 20.2 g/t Au and 10 g/t Ag. |
| **Thorn** | **Brixton Metals Corporation** | Au; Epithermal; 104K 175 | **na** | 58 holes drilled, 18,090 m. | 64 m - 5.74 g/t Au, 9.11 g/t Ag with a 52.0 m interval - 6.97 g/t Au 10.83 g/t Ag, and 28.95 m within - 10.36 g/t Au, 16.21 g/t Ag with 7 m interval - 19.0 g/t Au, 23.11 g/t Ag. |
| **Treaty Creek** | **Tudor Gold Corp. (60%)** | Cu, Au; Porphyry; 104A 004 | M+I: 815.7 Mt 0.66 g/t Au, 3.6 g/t Ag, 0.06% Cu, Inf: 311.7 Mt 0.72 g/t Au, 4.0 g/t Ag, 0.05% Cu. (2021) | 55 holes drilled, 43,318 m. | 1497.5 m - 0.76 g/t Au, 3.70 g/t Ag, and 0.27% Cu, 180 m - 1.97 g/t Au, 3.72 g/t Ag, and 0.01% Cu including 57 m - 4.30 g/t Au, 5.91 g/t Ag and 15 m of 7.76 g/t Au, 6.48 g/t Ag. |
| **Turnagain** | **Giga Metals Corporation** | Ni, Cu, Pt, Cu, Mo; Alaskan-type, magmatic; 104I 014 | M+I: 1.519 Bt 0.21% Ni, 0.013% Co Inf: 1.222 Bt 0.206% Ni, 0.012% Co | 415 m of geotechnical drilling. Geotechnical data collection; engineering and metallurgical studies. Giga Metals completed a joint venture transaction with Mitsubishi Corporation to earn 15% equity interest in Turnagain project and form a new company, Hard Creek Nickel Corp. | Released an updated, increased mineral resource assessment. |

## Further information

EY LLP, 2023 British Columbia Mineral and Coal Exploration Survey 2022 Report.

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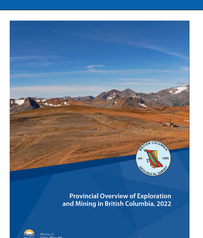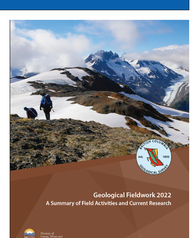
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