

BC tracks third highest expenditure in mineral exploration in a decade

Insights from the BC Mineral and Coal Exploration Survey 2023



Ministry of
Energy, Mines and
Low Carbon Innovation





Foreword

The *British Columbia Mineral and Coal Exploration Survey* is a joint initiative between the Government of British Columbia's Ministry of Energy, Mines and Low Carbon Innovation (EMLI), the Association for Mineral Exploration (AME) and EY. The survey was conducted to provide a view of the current state of the mineral and coal exploration industry in British Columbia (BC).

Data and analysis presented in this report are for the period January 1 through December 31, 2023 and are based on survey responses and information collected from financial reports and press releases from 175 companies operating in BC, which collectively represent 244 projects across the province.

Due to rounding, figures presented throughout the report may not add up precisely to 100%.

For ease of completion, the survey is designed to be similar to, though broader than, the Natural Resources of Canada's (NRCAN) *Survey of Mineral Exploration and Deposit Appraisal Expenditures*.

Thank you to our survey participants who spent their time and shared their information.

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DISCLAIMER

EY teams have relied upon unaudited financial information provided by mineral and coal exploration companies in BC, third party research, and information provided by other data sources and relevant associations and bodies. EY teams have not audited, reviewed or otherwise attempted to verify the accuracy or completeness of such information.

Financial information referred to in this report was prepared based on figures provided by entities, estimates and assumptions. As such, readers are cautioned that variations between estimations and actuals could be material.

Unless otherwise stated, all monetary amounts contained herein are expressed in Canadian dollars.

EMLI staff assisted in the collection of survey data and information. Specifically, where a response had incomplete or inconsistent information, key points of data were solicited directly from the companies by Regional Geologists at the Mineral Development Office of the British Columbia Geological Survey and assessed using professional opinion and experience. Financial statement data and press release information were used in selected instances where no response was received from companies.

Executive summary

“

For the eighth year, we are pleased to present the findings of the *British Columbia Mineral and Coal Exploration Survey*. Data and analysis presented in the survey are based on information collected from 175 mineral and coal exploration companies operating in BC. Collectively, they represent 244 exploration projects across the province.

Coming off the back of record interest rate hikes by the United States Federal Reserve and significant geopolitical tensions in 2022, significant economic turbulence was expected in 2023. As the year progressed and the effects of measures taken by central banks across the world set in, as well as increasing geopolitical strife and uncertain economic conditions in the world's largest economies, commodity prices experienced wide-ranging effects.

While the price of gold recorded historic gains throughout the year, posting a rise in price that rivalled the one seen at the outbreak of the COVID-19 pandemic, 2023 left a lackluster mark on base metals. Copper prices closed the year at roughly the same level as it opened, while lead and zinc fell by around 10%. With this global context in mind, the local mineral exploration industry in British Columbia saw its first year-over-year decline in nearly 10 years, as did exploration budgets globally.

04 Despite experiencing its first year-over-year decrease in nearly 10 years, the BC mineral exploration industry still managed to record its third-highest expenditure in a decade.

Exploration spend across the province for the year was recorded at \$643m, representing a 13% decrease compared to the record year of \$740m seen in 2022. This is the first year-over-year decrease in exploration spend seen in the province since 2015-16, when exploration spend decreased by 25% year over year. This decrease follows the trend seen in global exploration spend in 2023, when global budgets were reported to be down 3% year over year from 2022.¹ Nevertheless, BC recorded its third-highest expenditure in the last decade, proving the mineral exploration industry in BC is robust.

Total metres drilled decreased by 35% from 2022, falling from 1,150,000 metres in 2022 to 748,000 metres in 2023. This continues the trend of declining drilling activity in the province that was seen from 2021 to 2022, a 20% decrease year over year, and is in line with global trends which, at the time of reporting, indicate six quarters of consecutive declines in the number of projects drilled globally.²

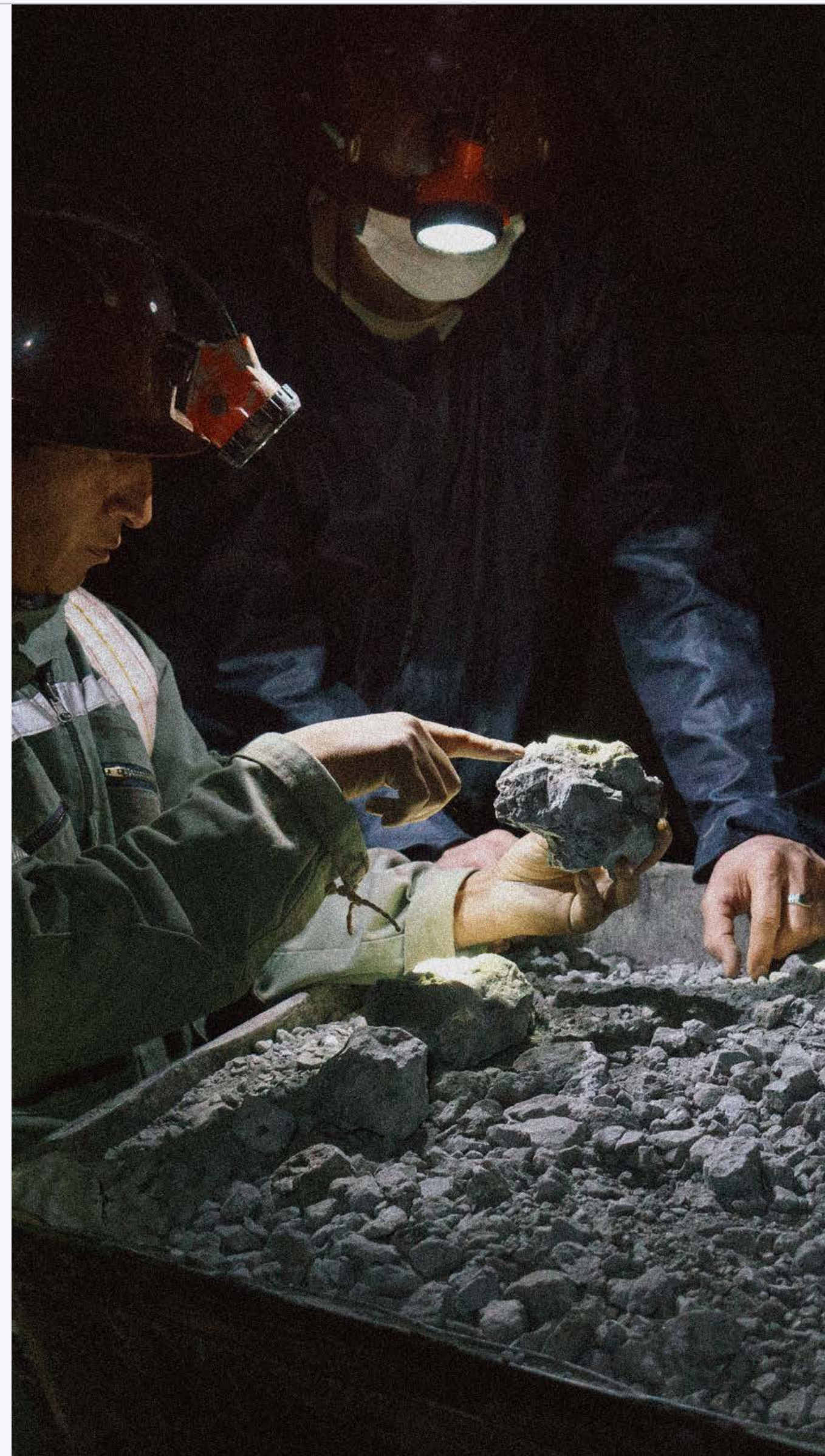
Regionally, the Northwest region – with its proliferation of porphyry and precious metal deposits – continued to serve as the most prominent region for exploration activity in British Columbia, representing 69% of all exploration spend in the province. This continues the trend of increasing focus in the region as it accounted for 61% and 56% of provincial exploration spend in 2022 and 2021, respectively.

Continuing interest in copper softens the blow from reduced interest in precious metals

Although the price of copper did not enjoy the same highs throughout 2023 that the price of gold did, exploration interest in copper in the province significantly outpaced that in gold. Spending in the gold sector, which has previously driven record high levels of exploration expenditure in the province over the past two years, fell by 23%, from \$422m in 2022 to \$326m in 2023. This follows three years of consecutive increases in provincial exploration spend in the sector. This decline in gold exploration spend is in line with global trends, as gold exploration budgets were reported as being down 16% year over year despite rising prices.³

The impact of this decreased overall exploration spend was softened by the continued interest in copper exploration, which saw a 4% increase in spending from \$234m in 2022 to \$244m in 2023. This increase in spending was largely concentrated on known deposits rather than grassroots opportunities, as 71% of copper exploration spend focused on projects in the later stages of the exploration lifecycle. By comparison, the proportion of overall copper exploration spend focused on the later stages of project was 56% in 2021 compared to 64% in 2022.

¹ [CIQ Pro: Metals and Mining Research: CES 2023 - Monetary tightening weighs down exploration activity \(spglobal.com\)](#)
² [News/file | Application \(spglobal.com\)](#)
³ [CIQ Pro: Metals and Mining Research: CES 2023 - Gold budgets down 16% YOY despite rising price \(spglobal.com\)](#)



\$643m

in exploration spending across the province for the year

13% ↓

decrease in provincial exploration spending from 2022 to 2023

35% ↓

decrease in total metres drilled, from 1,150,000 metres in 2022 to 748,000 metres in 2023

05 Moving towards established later-stage exploration projects as financing conditions become challenging

2023 marked a global shift away from grassroots exploration, as global exploration budgets for grassroots fell 10% and hit a record-low share of global budgets at 23%.⁴ This risk-averse behaviour displayed globally by explorers was also seen in BC, where 35% of overall exploration spend was for projects in the earlier stages of the exploration lifecycle, grassroots and early stage, which represents a 4% decrease from the share held in 2022 (39% in 2022).

This movement may be explained by the more challenging financing conditions faced by junior exploration companies as a result of tightening monetary controls, while juniors with advanced, established projects and majors seek to extend existing deposits and work on permitting, environmental requirements and consultation.

Looking forward

While various headwinds, such as continuing monetary tightness, difficult financing conditions and geopolitical turbulence may slow down the global economy in 2024, the demand for the critical metals required to support the country and corporate-level decarbonization commitments will persist. These opposing forces may cause exploration budgets to hover around similar levels next year; however, the eventual need for new resources with the appropriate pathways to production will result in the need for continued exploration.

Table 1 highlights key statistics and figures for 2023 across all regions in BC and shows changes relative to 2022 survey findings.

Table 1: Exploration in BC summary statistics

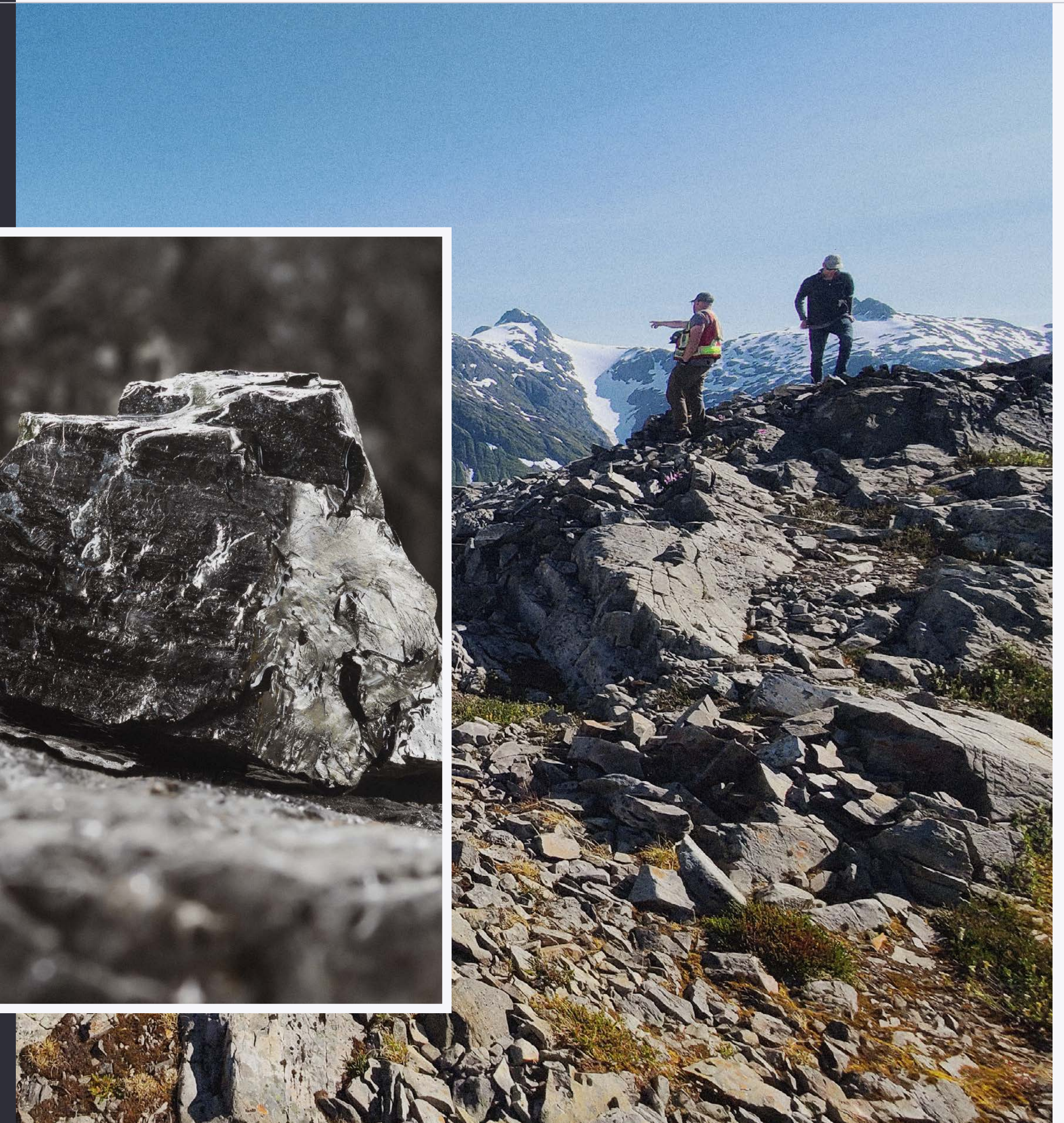
		BC	Northwest	Northeast	North Central	Southwest	South Central	Southeast
REGIONAL CENTRE			Smithers	Prince George	Prince George	Vancouver	Kamloops	Cranbrook
Projects								
2023 projects	#	244	88	6	39	22	52	37
2022 projects	#	230	90	3	40	15	47	35
% Year-on-year change		6%	-2%	100%	-3%	47%	11%	6%
Share of 2023	%	100%	36%	2%	16%	9%	21%	15%
Expenditure								
2023 expenditure	\$m	643	444	3	67	10	84	36
2022 expenditure	\$m	740	451	2	139	11	108	29
% Year-on-year change	%	-13%	-2%	32%	-52%	-6%	-23%	22%
Share of 2023	%	100%	69%	0%	10%	2%	13%	6%
Drilling								
2023 total drilling	m	747,579	439,663	4,705	69,590	24,702	110,712	98,207
2022 total drilling	m	1,149,552	661,411	0	163,219	28,574	243,178	53,170
% Year-on-year change	%	-35%	-34%	N/A	-57%	-14%	-54%	85%
Share of 2023	%		59%	1%	9%	3%	15%	13%

⁴ CIQ Pro: Metals and Mining Research: CES 2023: Grassroots exploration falls 10% in 2023 (spglobal.com).

Provincial spending on exploration decreases, in line with global trends

The mining and metals industry plays a key role in the BC economy. Survey respondents reported \$643m invested into the exploration and evaluation of mineral deposits, of which \$28m was spent on First Nations community consultation and exploration agreements. As noted, while this represents the first year-over-year decline in exploration spend since 2015-16, the overall expenditure amount is the third-highest annual exploration spend recorded in the province over the past 10 years. This decline is also in line with global trends in exploration budgets, which have been negatively impacted by worsening financing conditions seen in 2023.

The companies surveyed range from grassroots, junior exploration companies to large-scale, publicly traded mineral-producing companies operating across the world. A robust exploration industry is foundational to future investment, creation of new jobs and community development. It is also fundamental for maintaining a flow of new projects and the source of new mine development opportunities.



Despite decreases,
British Columbia continues to
play key role in the national
mineral exploration industry

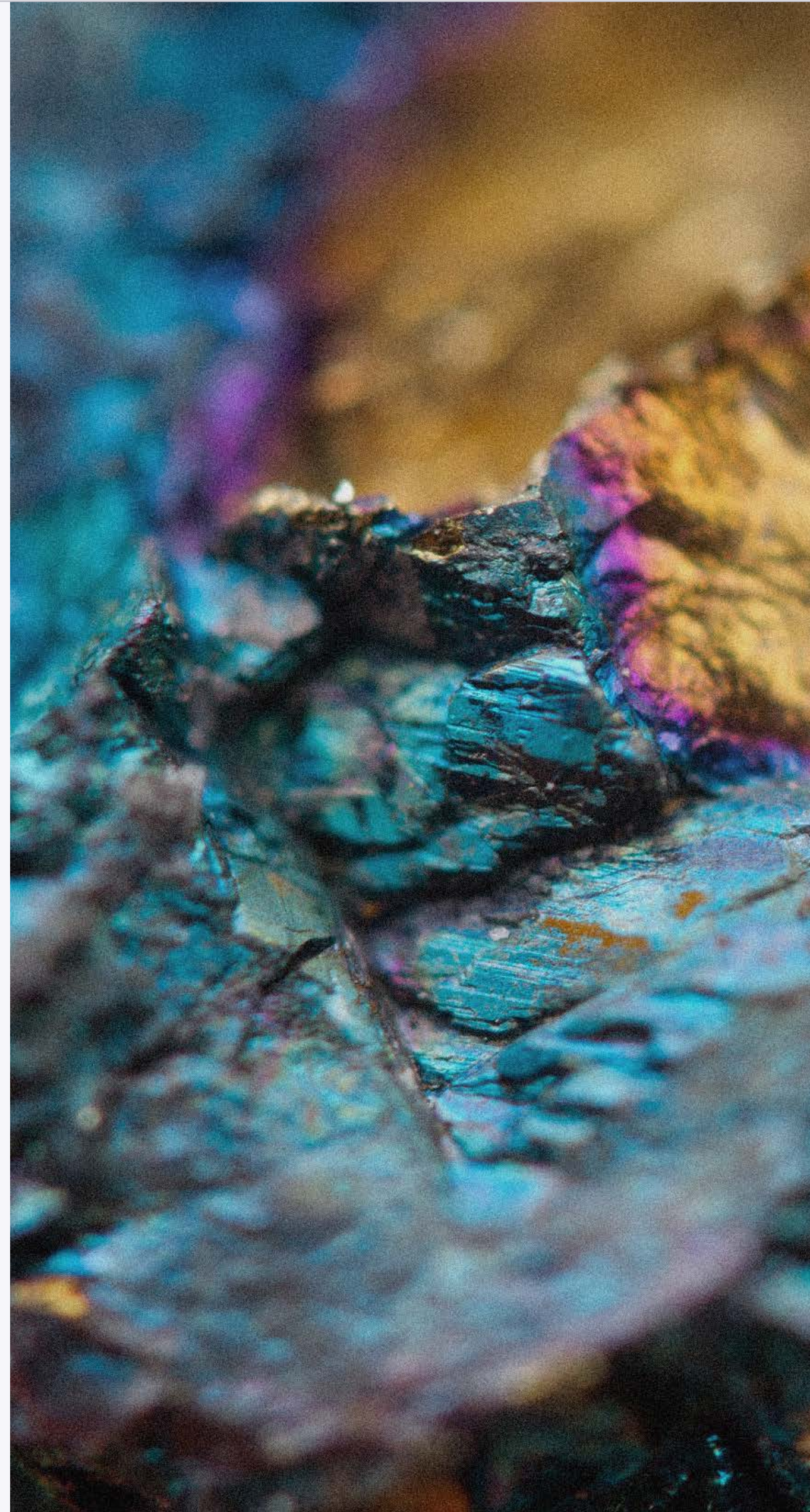
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Using data published by Natural Resources Canada (NRCan), British Columbia's contribution to national mineral exploration and deposit appraisal expenditure based on spending intentions was forecast to decrease significantly in 2023. The decrease was anticipated to be 32% year over year, from \$997m in 2022 to \$680m in 2023. While the results from the NRCan survey with respect to spending intentions for 2023 are in line with the reported spend in the survey used in this study – survey results used in this study indicate \$643m spent in 2023 – the magnitude of decreased spend year over year is significantly lower in the survey used in this study.

Our survey shows a decrease of 13% from 2023 to 2022, compared to the 32% decrease forecasted by NRCan. NRCan data stated \$997m in exploration expenditure in BC in 2022, while respondents to the survey used for this report stated \$740m in exploration expenditure for 2022. The differences between the survey findings referenced in this report and the data released by NRCan are primarily due to survey size, timing of survey and total number of respondents, as well as estimates relating to spending intentions, rather than actual spending figures.

Note that we expect a change in NRCan exploration expenditure for all jurisdictions once finalized spending values are considered. For the purposes of this report, \$643m will be considered as BC exploration expenditure for 2023, except in instances where comparisons are being made to other provinces and territories.

Spending intention data contributions break down into Ontario (26%), Québec (24%) and British Columbia (16%). These provinces continue to represent a significant portion of national exploration spend intentions at a combined 66% of the national total. This is a slightly smaller market share compared to the 68% of the national total represented by these three provinces in 2022.



Exploration expenditure intentions state forecasted increases nationally across 7 of the 13 provinces and territories, with the largest increase expected in Nova Scotia, where exploration expenditure is expected to double from \$29m in 2022 to \$58m in 2023, targeting mostly precious metals.

Québec is forecasted to increase its exploration expenditure by 11%, from \$914m in 2022 to \$1,014m in 2023. Similarly, Saskatchewan is expected to see a 33% surge, targeting uranium.

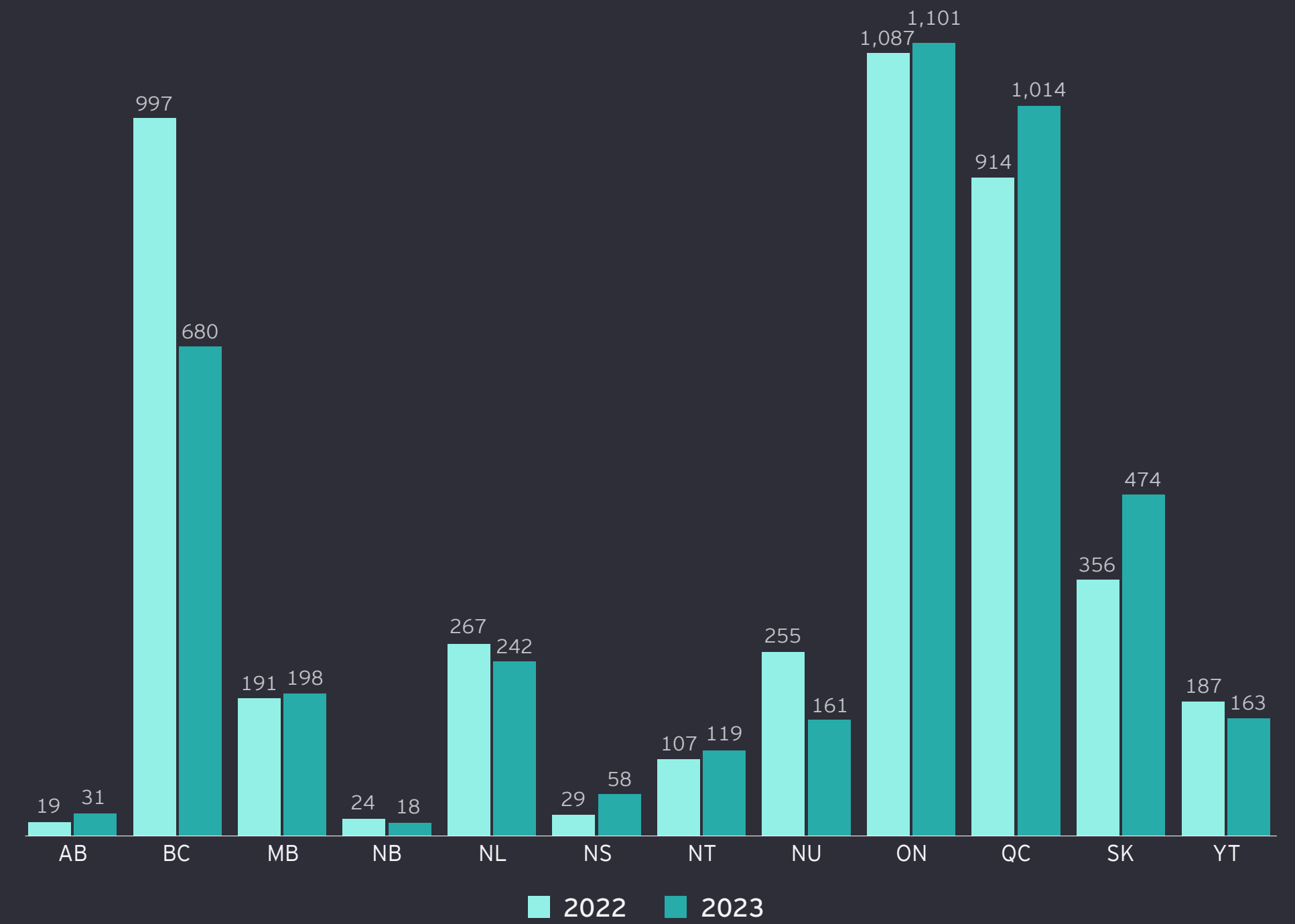
Exploration expenditure in Ontario is expected to remain stable, with a slight increase from \$1,087m in 2022 to \$1,101m in 2023. BC is expected to see a 32% decrease from \$997m in 2022 to \$680m in 2023.

A potential explanation for these forecasted changes – with BC expected to drop while Ontario and Québec expected to increase spending levels – may be attributed to the boom in critical mineral exploration in Ontario and Québec. Both provinces have significant critical mineral exploration potential, which created a rush for commodities such as lithium, nickel and cobalt, which are critical in the development of clean technology and are on the Canadian list of critical metals. These provinces also have more advanced critical mineral strategies, which may have also incentivized exploration spending.

BC's exploration potential for lithium is limited and, while it has nickel potential, it has not seen a large uptick in nickel exploration. The global trend of falling exploration spend was probably offset in Ontario and Québec by exploration expenditures for lithium projects over the course of the previous year.



Figure 1: Exploration and deposit appraisal expenditures (2022) and revised spending intentions (2023) by province and territory (C\$m)*



* Figures shown for 2023 are representative of spending intentions as surveyed by NRCan as of February 2023 and may not represent true spending value.

Source: Natural Resources Canada, from the federal-provincial/territorial Survey of Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.



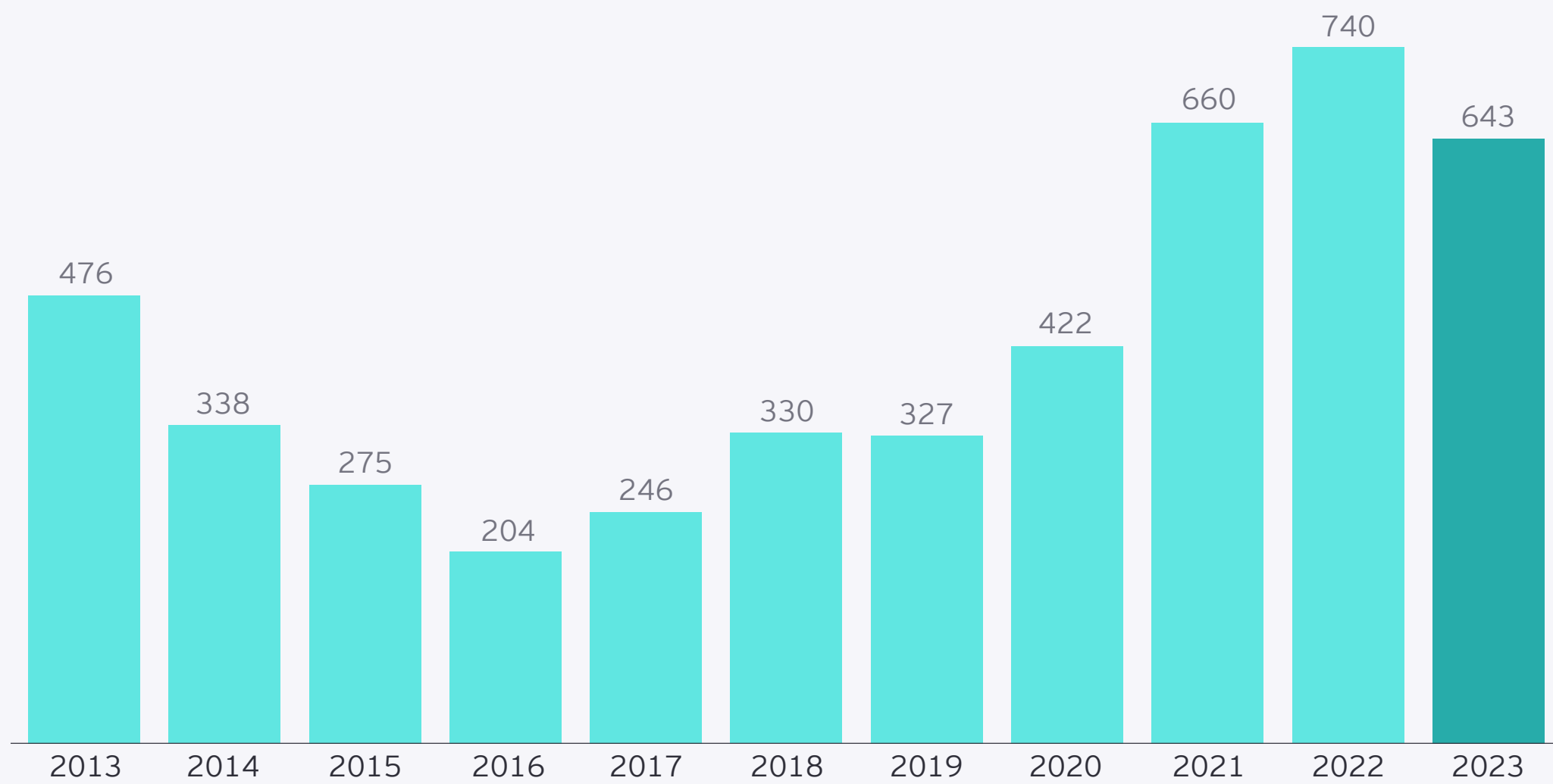
Exploration expenditure in BC slows down amid economic uncertainty and tightening financial conditions in 2023

12

Our 2023 survey results show a 13% decrease in exploration spending this year, down to \$643m in 2023 from a record-setting \$740m in 2022. While this level of spending maintains the elevated exploration spend seen in the province since the start of the COVID-19 pandemic and is the third-highest annual expenditure in the past 10 years, it is the first year-over-year decrease since 2015-16.

The decrease seen in provincial exploration follows the global trend in falling exploration budgets. Global surveys indicate that the global aggregate, nonferrous exploration budget fell 3% from 2022.⁵ Although commodity prices have remained at support levels higher than those prior to the COVID-19 pandemic, prices for commodities such as copper, that are of economic significance to BC's mineral exploration industry, have fallen from 2022's historic highs.

Figure 2: Annual exploration expenditure in BC, 2013-23 (C\$m)



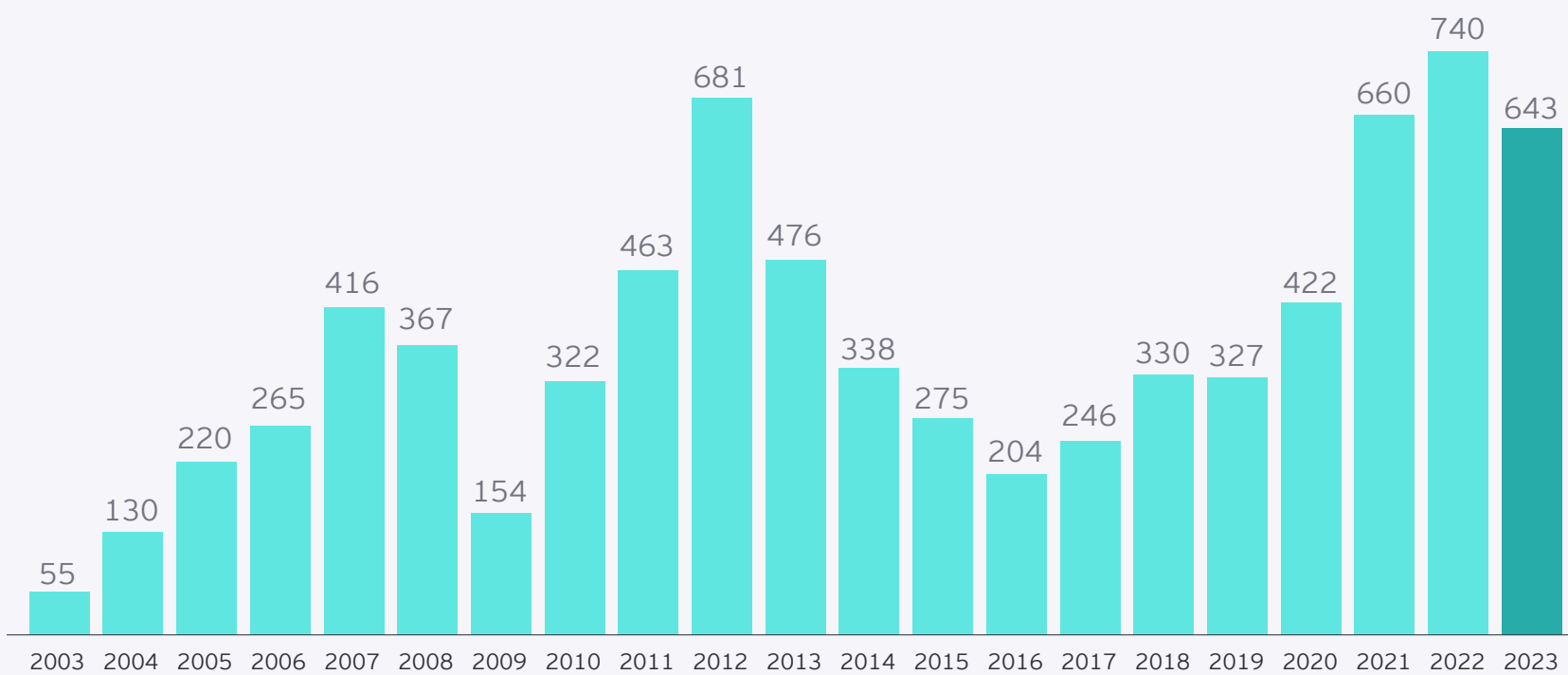
⁵ CIQ Pro: Metals and Mining Research: CES 2023 - Monetary tightening weighs down exploration activity (spglobal.com)



13 Additionally, some large projects that received significant funding in 2022 did not report exploration spend in the 2023 survey. These large projects account for \$83m of the total \$97m decrease in spending year over year, roughly 85%. This may be related to changing company focus, an evolution of work required for the project, companies' ability to raise money, a missed report or other factors.

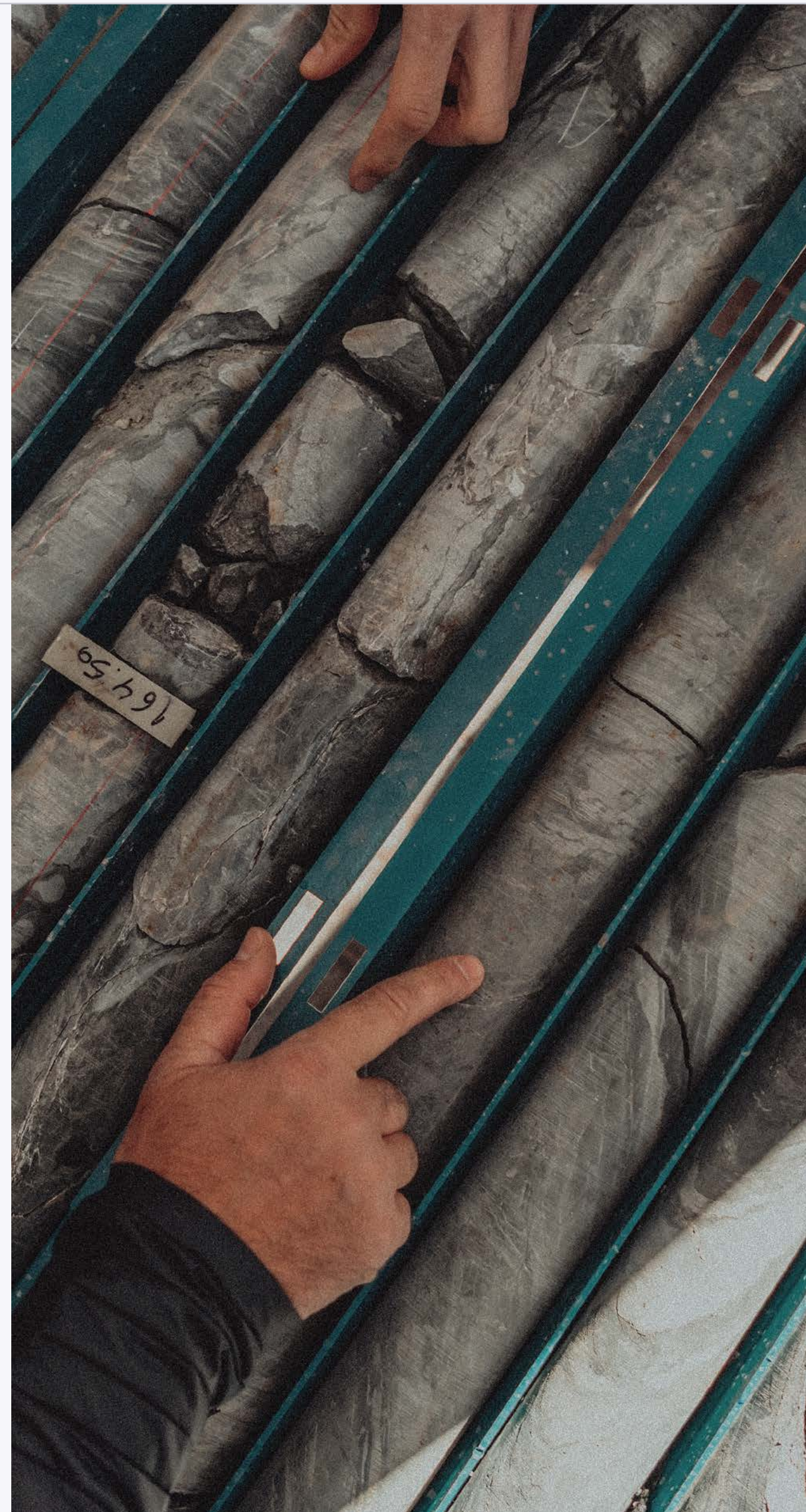
Further on a company's ability to raise funding, tightening financial conditions spurred by central bank rate hikes, geopolitical tensions and macroeconomic headwinds have significantly impacted exploration activity, both globally and in the province. While this decrease in exploration is the first year-over-year decline seen in the province since 2015-16, analyzing longer-term trends demonstrates the cyclicity of exploration spending.

Figure 3: Annual exploration expenditure in BC, 2003-23 (C\$m)



85%

of the total \$97m decrease in exploration spend attributed to select large projects that didn't receive funding in 2023



In contrast to spending, the total number of exploration projects in 2023 increased by 6% year over year. The average expenditure per project showed a 13% decrease from \$3.2m per project in 2022 to \$2.63m per project in 2023.

Figure 4: Average expenditure per exploration project across BC, 2020-23 (C\$m per project)

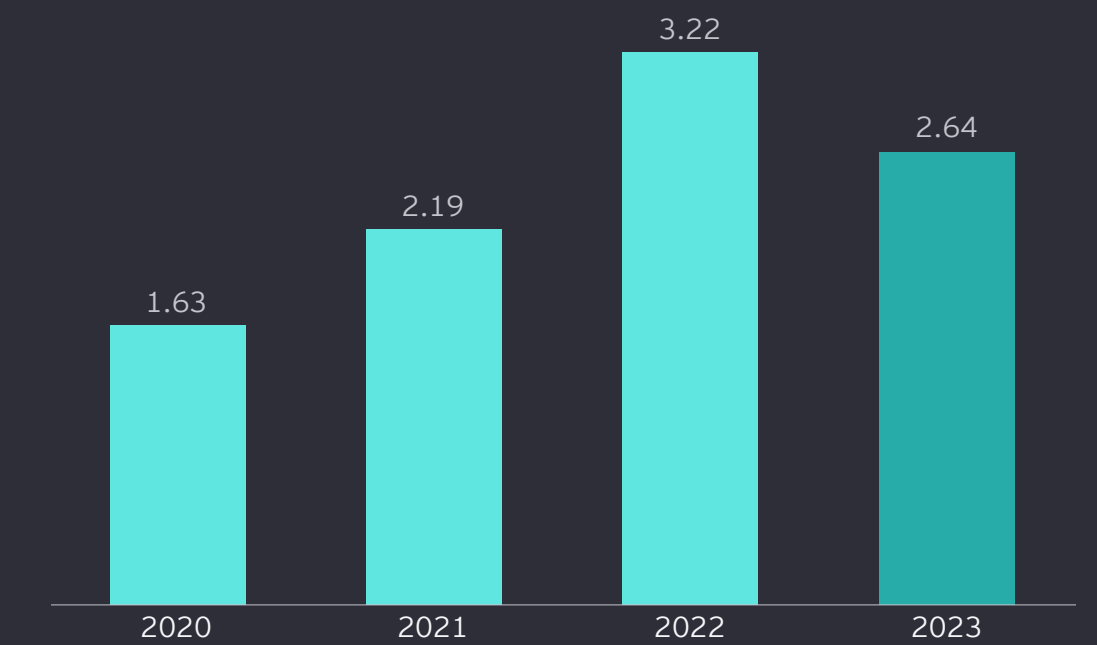
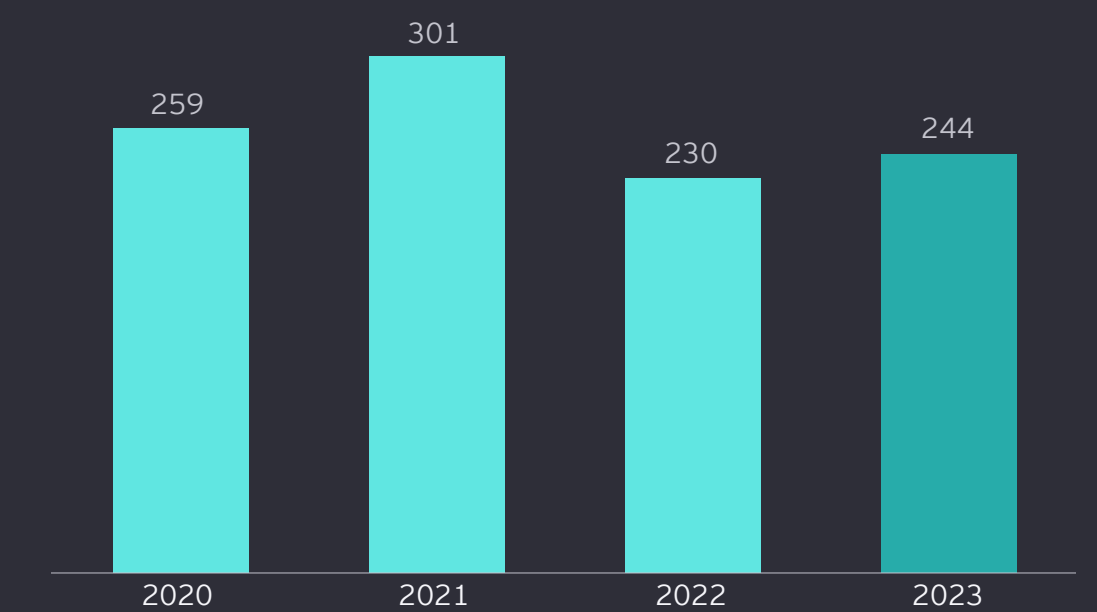


Figure 5: Number of annual exploration projects across BC, 2020-23





Continued investment into copper exploration softens blow from reduced interest in precious metals

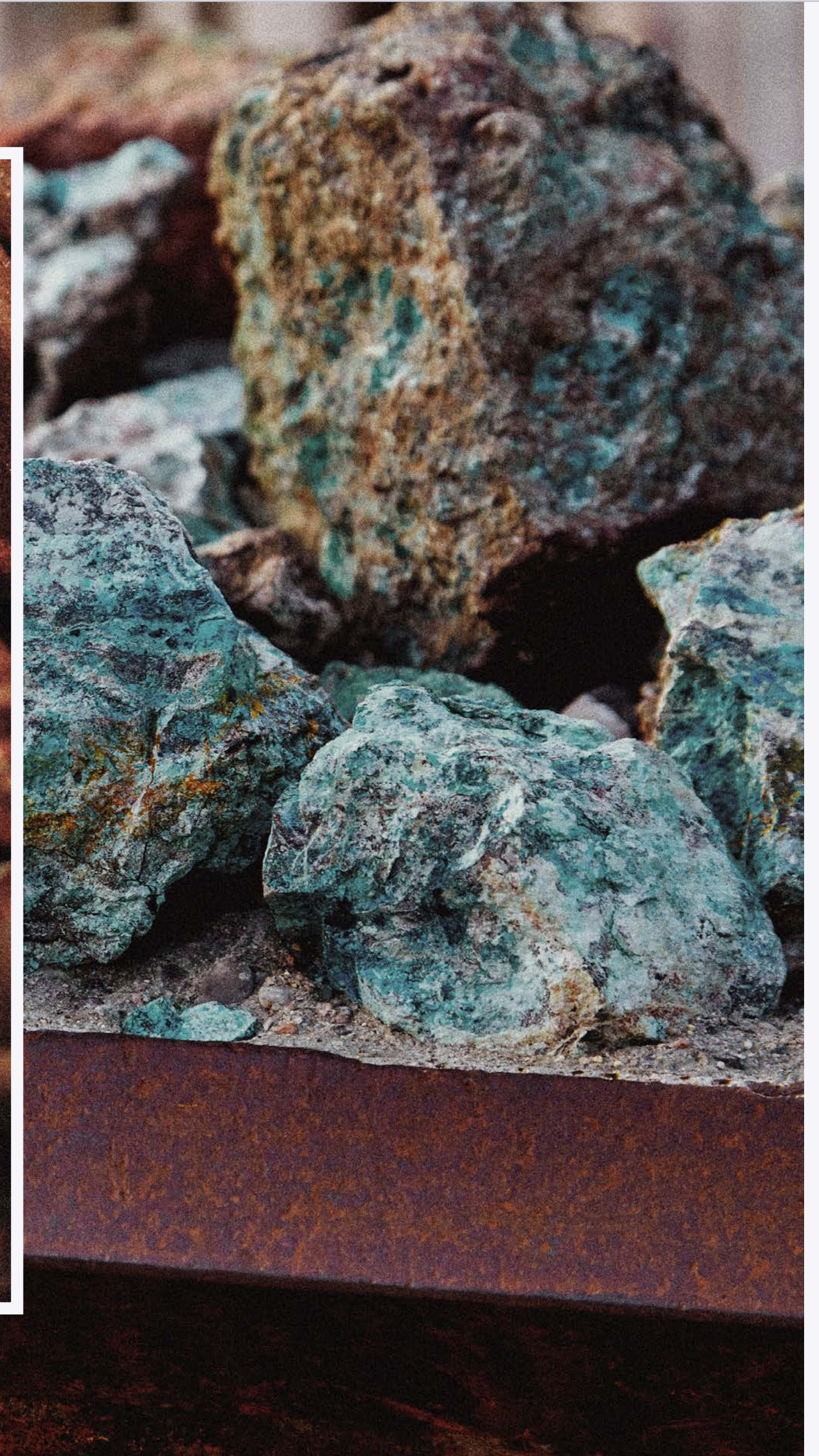


While there was an observed downturn in spending across most sectors in the exploration industry, the copper sector in BC continued to prosper. Spending in the copper exploration sector rose 4% year over year, increasing from \$235m in 2022 to \$244m in 2023.

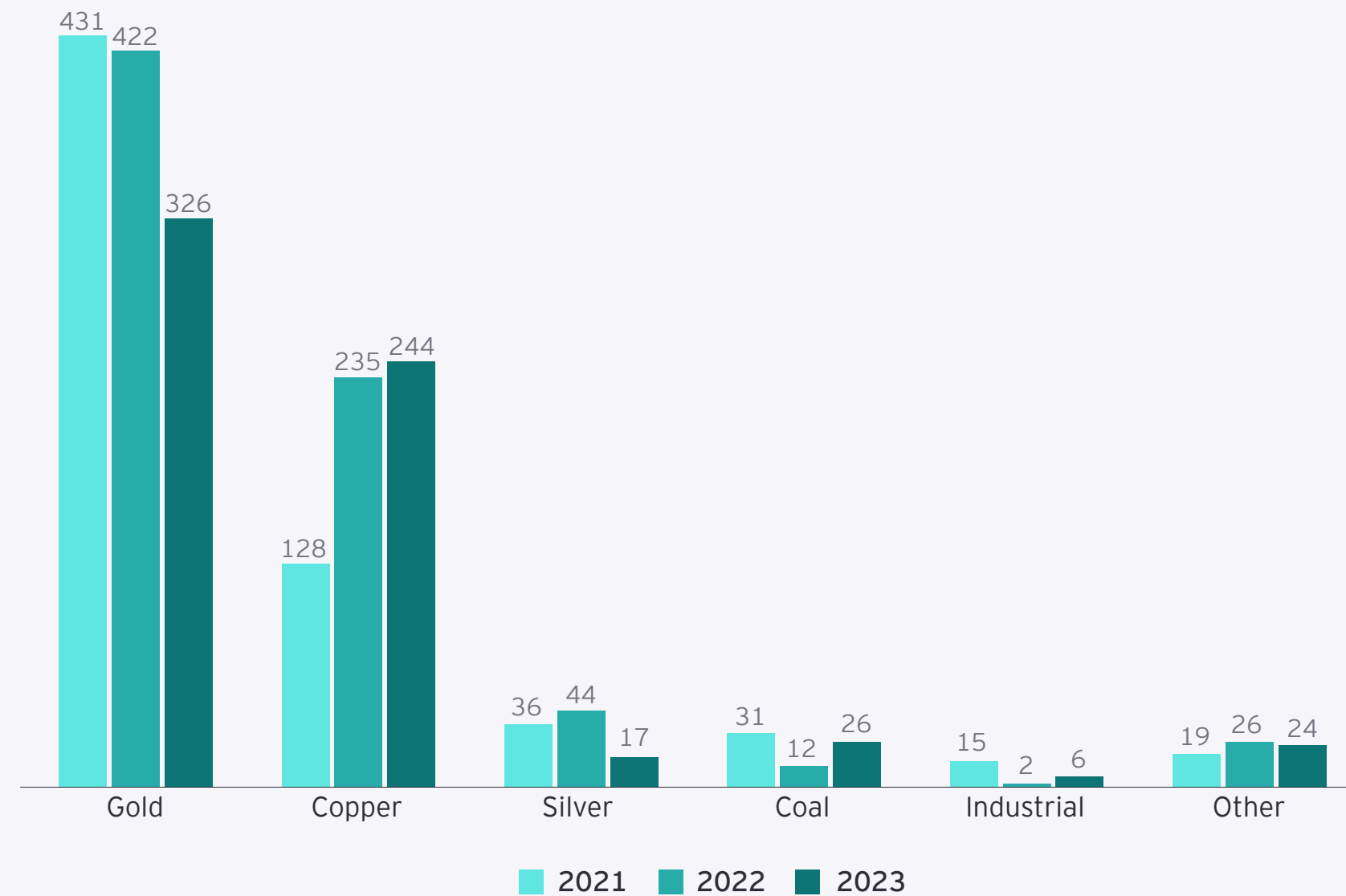
The coal sector also saw an uptick in annual spending, with expenditures more than doubling year over year. The sector saw a 109% increase in spending from \$12m in 2022 to \$26m in 2023.

Industrial minerals (namely limestone and silica) saw renewed interest in 2023, increasing from \$2m in 2022 to \$6m in 2023.

The precious metals sector saw a significant reduction in annual exploration expenditure in 2023. The gold sector, which has been the driving force behind record-setting levels of exploration expenditure in the past two years, saw a 23% decrease in spending. Gold exploration spend dropped nearly \$100m from \$422m in 2022 to \$326m in 2023. The silver sector experienced a sharper downturn, showing a 60% decrease from \$44m in 2022 to \$17m in 2023.



16 Figure 6: Annual exploration expenditure by commodity, 2021-23 (C\$m)

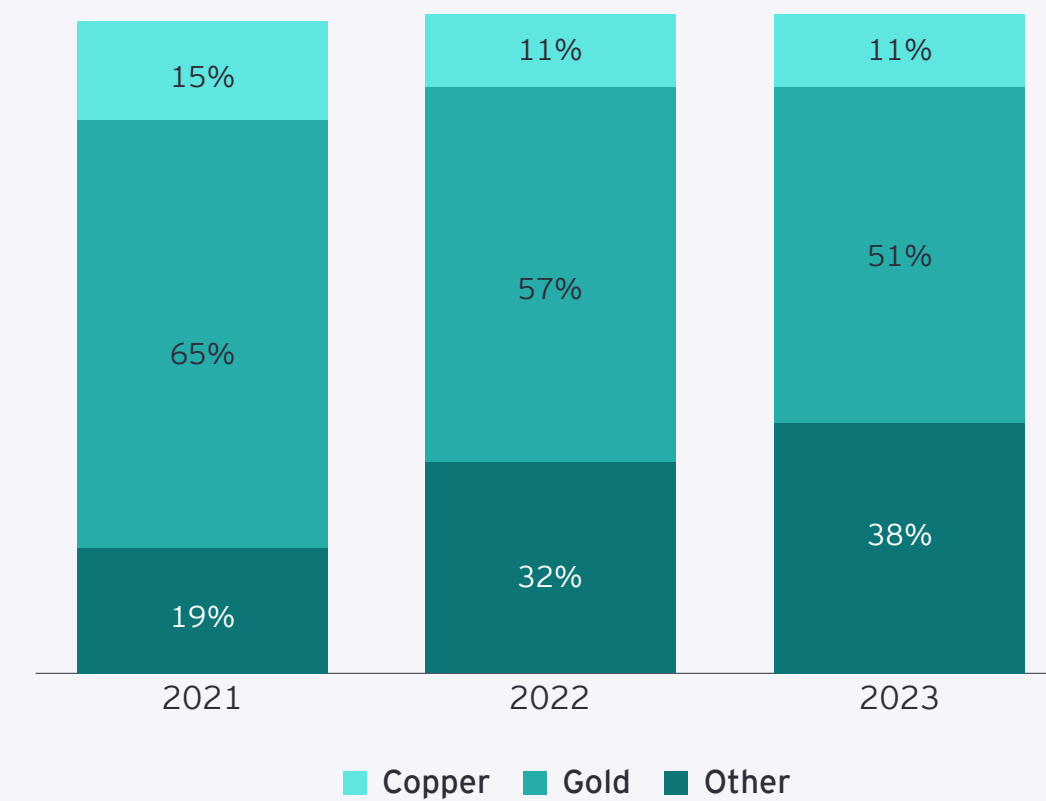


Continued interest in copper over the past year can likely be attributed to the price of the commodity rallying in Q4 of 2022, when softer US inflation and easing of COVID-19 restrictions in China helped steady copper prices after a significant decline following the US Federal Reserve’s announcement of the steepest interest rate hike since 1994.

Over the course of 2023, the price remained largely stagnant, opening the year at USD\$3.75/lb and closing at USD\$3.79/lb. This continuing interest in copper may point towards an increase in momentum in the province towards critical metals, which is examined in detail in a later section of this report.

Copper exploration spend accounted for 38% of all exploration spend in 2023, representing a 6% year-over-year increase in its share of the provincial exploration market and continuing the trend of increasing market share observed over the past two years.

Figure 7: Share of total annual exploration spend by year, 2021-23



It is worth noting that exploration for copper is also influenced by the geological makeup of BC, which is prospective for porphyry deposits that are typically dominated by copper mineralization, but can also contain significant gold, silver and molybdenum.

The primary commodity reported from BC porphyry deposits can vary between gold and copper depending on the grade and commodity price due to its specific geological characteristics, resulting in reporting discrepancies year over year. Further analysis by deposit type is explored later in this report in the section titled “The Northwest continues to serve as the provincial hub for exploration activity”.

Another relevant point to note regarding the gold and copper sectors is that 2023 was the first full year for the federal Critical Mineral Exploration Tax Credit of 30%. This equivalent tax credit for non-critical minerals is 15%. As gold is not on the list of critical minerals, this tax credit may have influenced financings between the sectors.

4% ↗

increase in copper exploration sector spending, from \$235m in 2022 to \$244m in 2023

109% ↗

increase in coal exploration sector spending, from \$12m in 2022 to \$26m in 2023

23% ↘

decrease in gold exploration sector spending, from \$422m in 2022 to \$326m in 2023

38%

of all exploration spend in 2023 was accounted for by copper exploration

Exploration for critical metals in British Columbia





4% 

increase in critical metal exploration spend, from \$258m in 2022 to \$268m in 2023

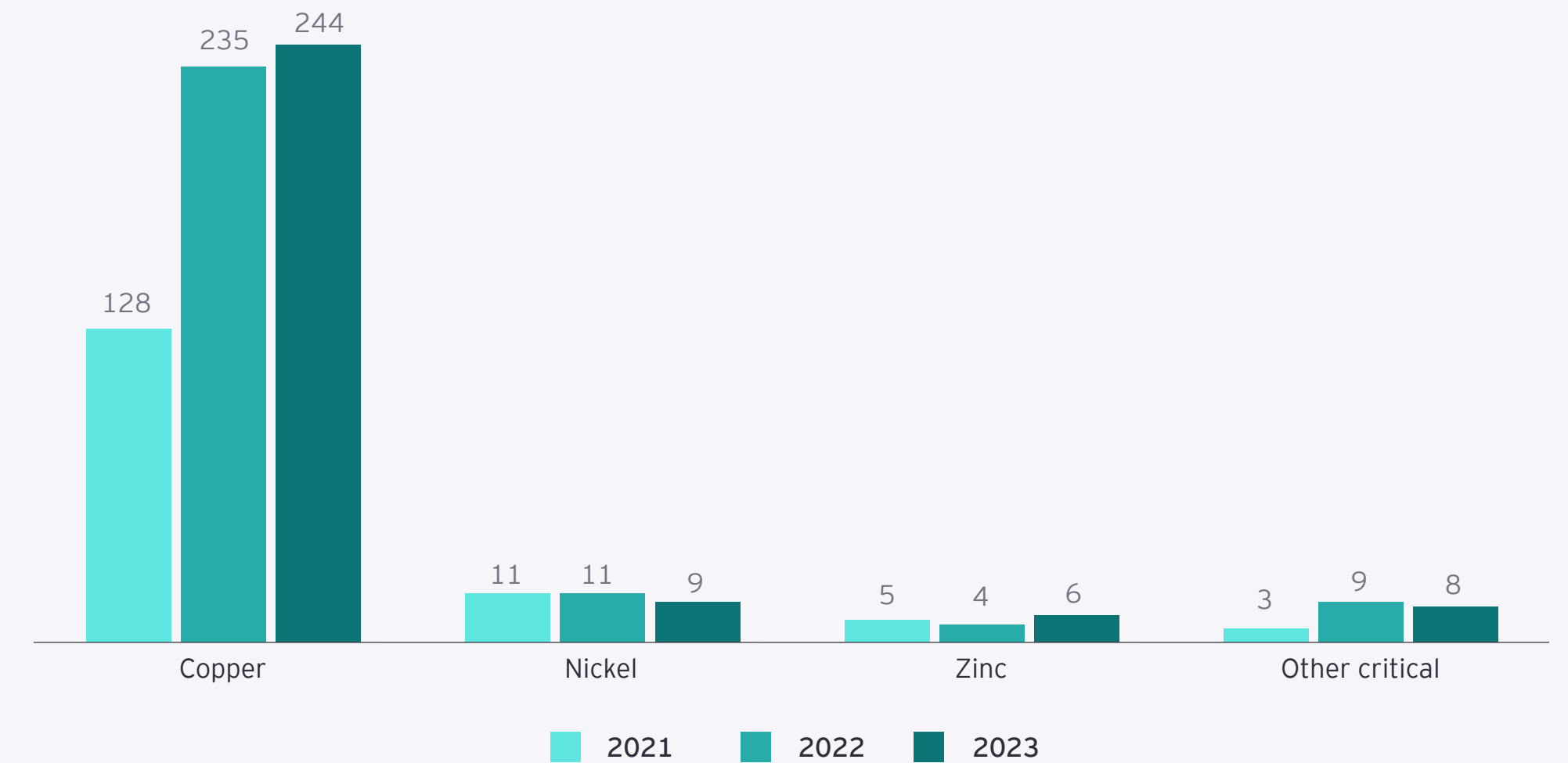
83% 

increase from \$146m in 2021 to \$268m today

Beginning with our 2021 BC Exploration Report, we have dedicated a section to highlighting metals that have been identified as critical minerals by the Canadian and US governments as part of a Joint Action Plan on Minerals Collaboration.⁶ This plan, established in mid-2020 as an effort to develop a more robust North American supply of critical minerals in the wake of ongoing geopolitical turbulence, identified a list of select minerals that will play an integral role in the transition to a cleaner, more sustainable economy. This list includes metals that show exploration potential in BC – such as copper, molybdenum, zinc, nickel, rare earth elements and magnesium – creating an opportunity for British Columbia to be a key player in the global green transition.

Critical metals exploration in BC maintained similar levels of spending in 2023 as those seen in 2022. Sector spending increased by 3.7%, from \$258m in 2022 to \$268m in 2023. Compared to 2021, when we first started highlighting critical minerals, this level of spending reflects an 83% increase from the \$146m seen in 2021 to the \$268m we see today.

Figure 8: Exploration spend by critical metal, 2021-23 (C\$m)



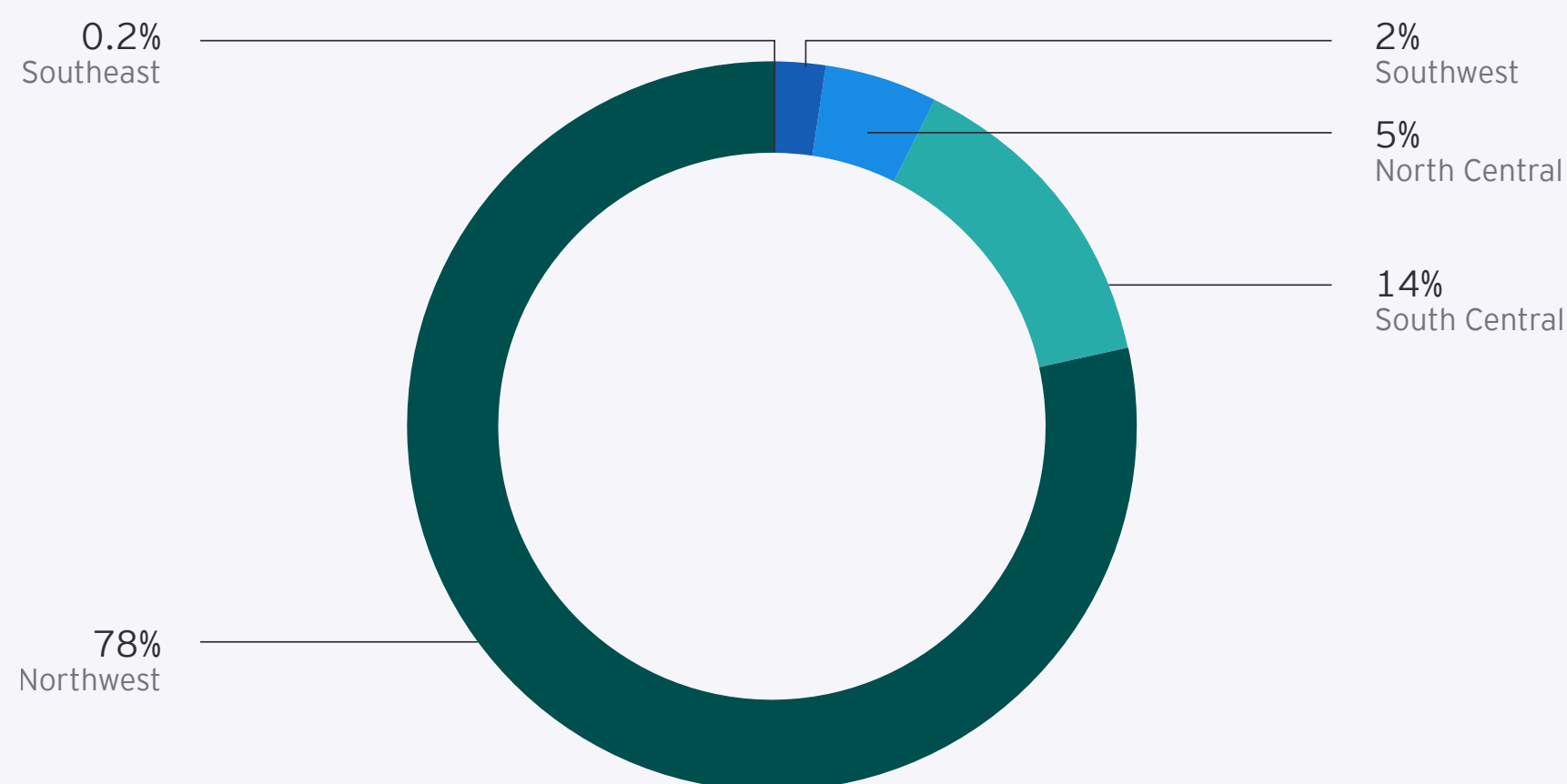
⁶ Canada and U.S. Finalize Joint Action Plan on Critical Minerals Collaboration - Canada.ca

19 Most of this increased spend can be attributed to the copper sector, which is seen as integral to the green transition as copper is a key component of many large-scale electrification efforts such as electric vehicles and power grids. With a lack of copper projects in the global pipeline, supply is expected to largely lag demand in the long term.

Copper prices trended lower in 2023 compared to the previous two years, owing to various macroeconomic headwinds such as interest rate hikes, rising inflation and geopolitical conflicts worldwide. However, global copper exploration hit a decade high in 2023, increasing 12% year over year to USD\$3.12b (compared to the 4% increase seen in BC).⁷ This may be in response to the anticipated decline in copper supply due to waning ore grades and expected mine closures in South America, Australia and Canada, and the understood importance of copper towards securing a greener future of the global economy.

As mentioned in the previous section, copper in British Columbia occurs predominantly in porphyry deposits, which typically contain a combination of copper and either gold, silver or molybdenum. These polymetallic deposits and other copper primary deposit types will be key to securing the province's place in the push to a greener economy. It is worth noting that the geological characteristics of BC porphyry deposits mean that the primary commodity reported can change between gold and copper depending on grade and commodity price, and can create variability in what is reported year over year.

Figure 9: Regional contribution to copper exploration expenditure, 2023



⁷ CIQ Pro: Metals and Mining Research: CES 2023 - Majors, juniors push copper budgets to 10-year high, up 12% (spglobal.com)

In addition to copper, BC is host to a number of other critical metals. The table below lists notable critical metals projects in the province.

Notable critical metals projects



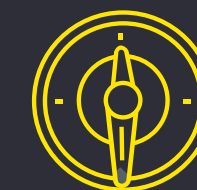
Northwest

- Galore Creek - Galore Creek Mining Corp. (Copper)
- Kitsault - New Moly LLC (Molybdenum)
- KSM - Seabridge Gold Inc. (Copper)
- Kutcho - Kutcho Copper Corp. (Copper, Zinc)
- Red Chris (East Ridge) - Newmont Corporation (Copper)
- Schaft Creek - Teck Resources Limited (Copper)
- Turnagain - Giga Metals Corporation (Nickel)



North Central

- Akie - ZincX Resources Corp. (Zinc)
- Aley - Taseko Mines Limited (Niobium)
- Decar Nickel District/Baptiste - FPX Nickel Corp. (Nickel)
- Kemess Underground - Centerra Gold Inc. (Copper)
- Kwanika/Stardust - NorthWest Copper corp. (Copper)
- Wicheeda - Defense Metals Corp. (REE)



South Central

- Ajax - KGHM Ajax Mining Inc. (Copper)
- New Prosperity - Taseko Mines Limited (Copper)
- Ruddock Creek - Ruddock Creek Mining Corporation (Zinc)
- Yellowhead - Taseko Mines Limited (Copper)



Southeast

- Bull River - Canadian Critical Minerals Inc. (Copper)



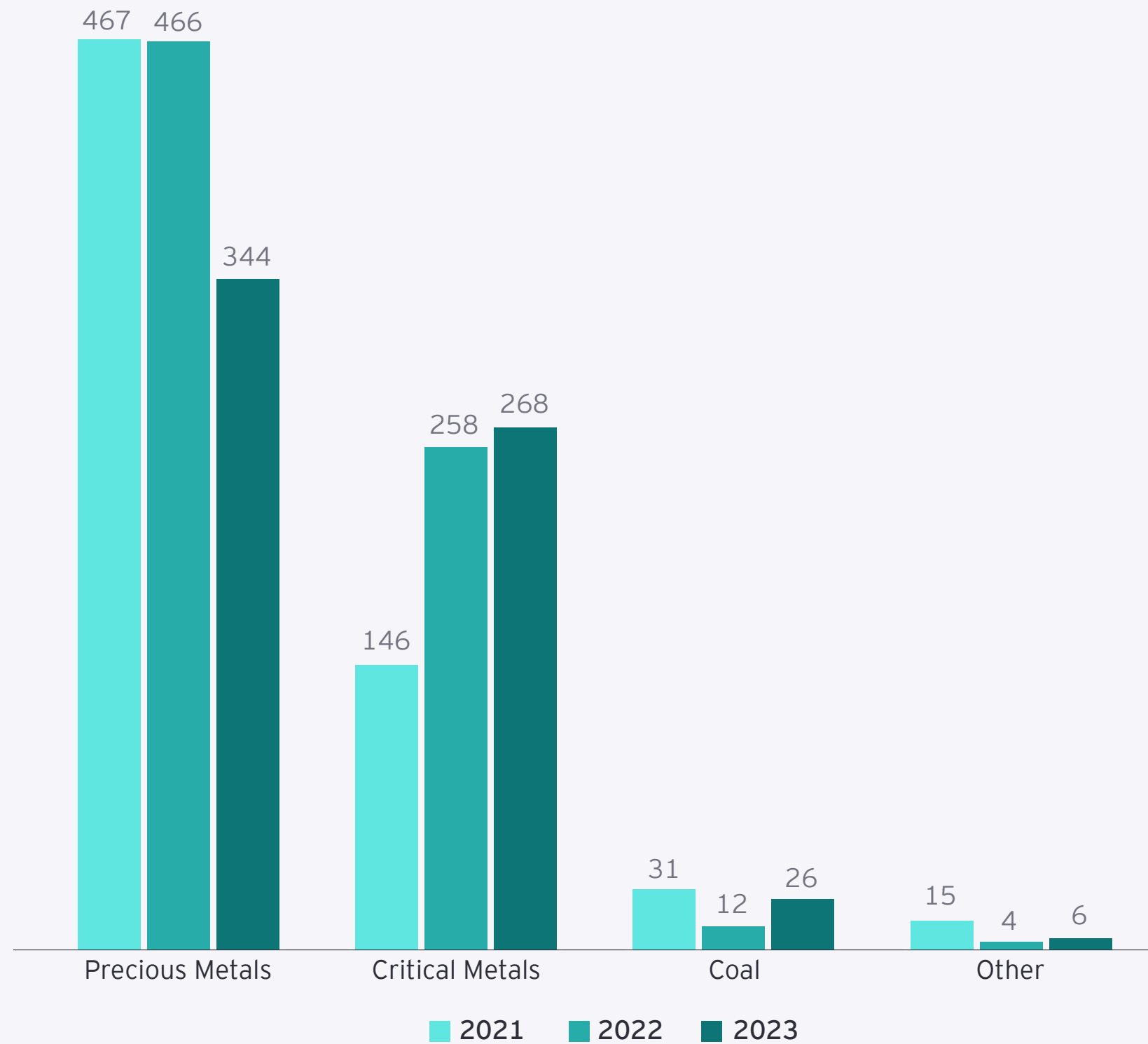
Southwest

- North Island - Northisle Copper and Gold Inc. (Copper)

Precious metals sector sees significant downturn despite strong commodity prices

21 The precious metals (gold and silver) sector showed a significant decrease in spending year over year, decreasing 26% from \$466m in 2022 to \$344m in 2023. Gold exploration, which continues to be the largest single driver of exploration spend in the province, decreased 23% from \$422m in 2022 to \$326m in 2023. Silver spending saw a sharper downturn, with the sector seeing a 60% decrease from \$44m in 2022 to \$17m in 2023.

Figure 10: Spending by mineral type, 2021-23 (C\$m)

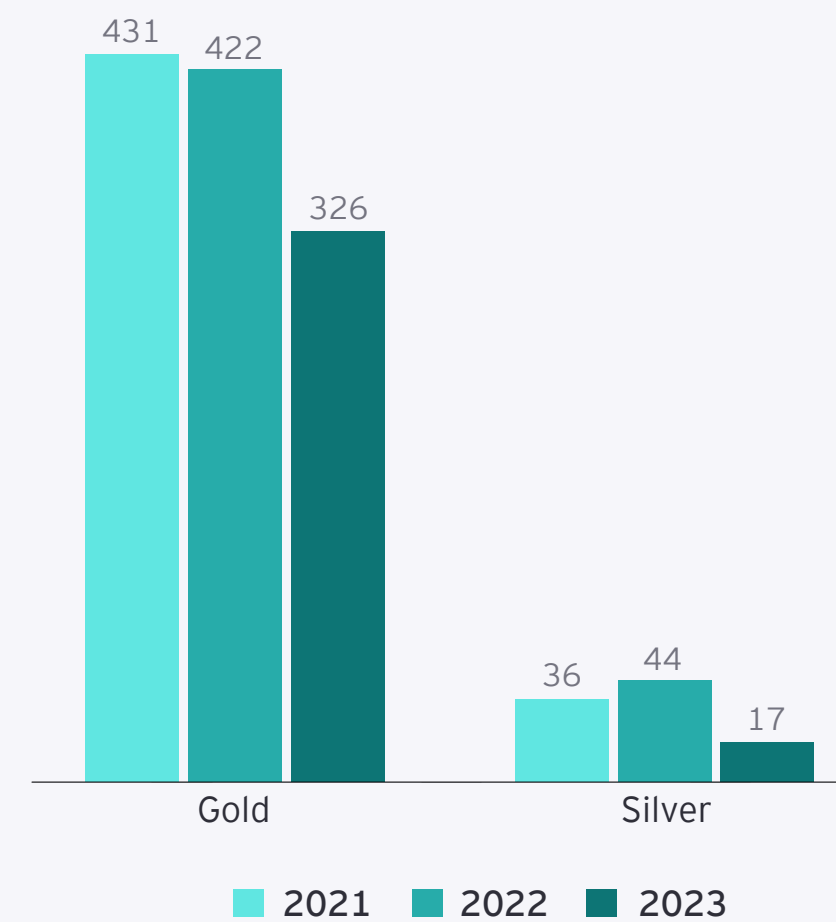


Global geopolitical concerns kept the price of gold elevated in 2023, starting the year at USD\$1,865/oz and ending at USD\$2,062/oz.

Exploration spending in the province followed global gold exploration trends. Gold exploration budgets fell 16% (USD\$1.09b) year over year,⁸ with the number of global gold exploration companies falling from 1,443 in 2022 to 1,341 in 2023.

Regional control over gold spending in BC was retained by the Northwest Region, home to the informal Golden Triangle. The Northwest Region increased its share of the provincial market by 4% from the 66% share in 2022 to 70% in 2023. However, total spend in the region decreased by 18% from \$280m to \$230m.

Figure 11: Gold and silver exploration expenditure, 2021-23 (C\$m)



⁸ CIQ Pro: Metals and Mining Research: CES 2023 - Gold budgets down 16% YOY despite rising price (spglobal.com)

26% ↓

decrease in precious metals (gold and silver) sector spending, from \$466m in 2022 to \$344m in 2023

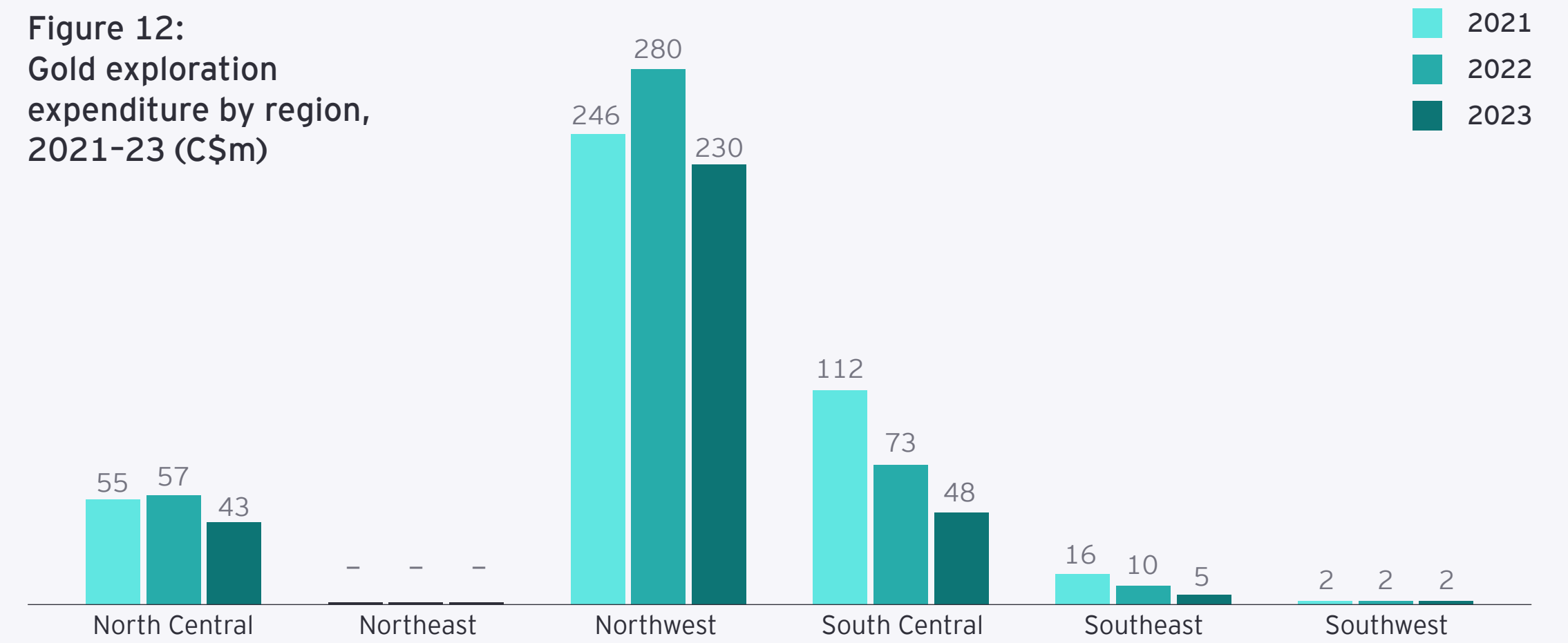
16% ↓

fall in gold exploration budgets year over year to USD\$1.09b





Figure 12:
Gold exploration
expenditure by region,
2021-23 (C\$m)



Notable precious metals projects within the province



Northwest

- Dome Mountain Gold - Blue Lagoon Resources Inc. (Gold)
- Eskay Creek - Skeena Resources Ltd. (Gold)
- Red Mountain - Ascot Resources Ltd. (Gold)
- Silvertip - Coeur Silvertip Holding Ltd. (Silver)
- Treaty Creek - Tudor Gold Corp. 60%, Teuton Resources Corp. 20%, American Creek Resources Ltd. 20% (Gold)



North Central

- Lawyers - Thesis Gold (Gold)



South Central

- Bralorne - Talisker Resources Ltd. (Gold)
- Cariboo Gold - Osisko Development Corp. (Gold)
- Shovelnose - Westhaven Gold Corp. (Gold)
- Spanish Mountain - Spanish Mountain Gold Ltd. (Gold)



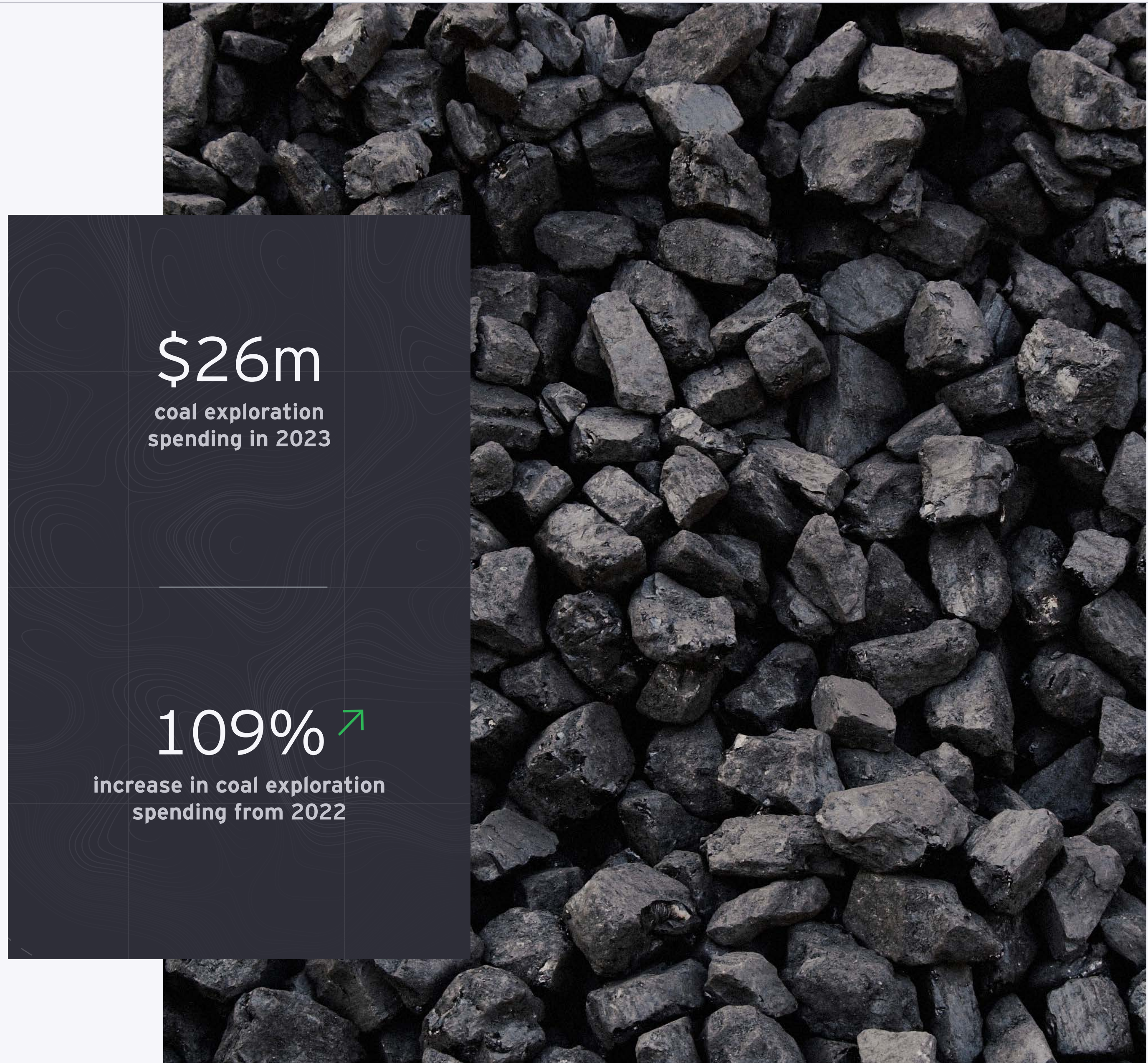
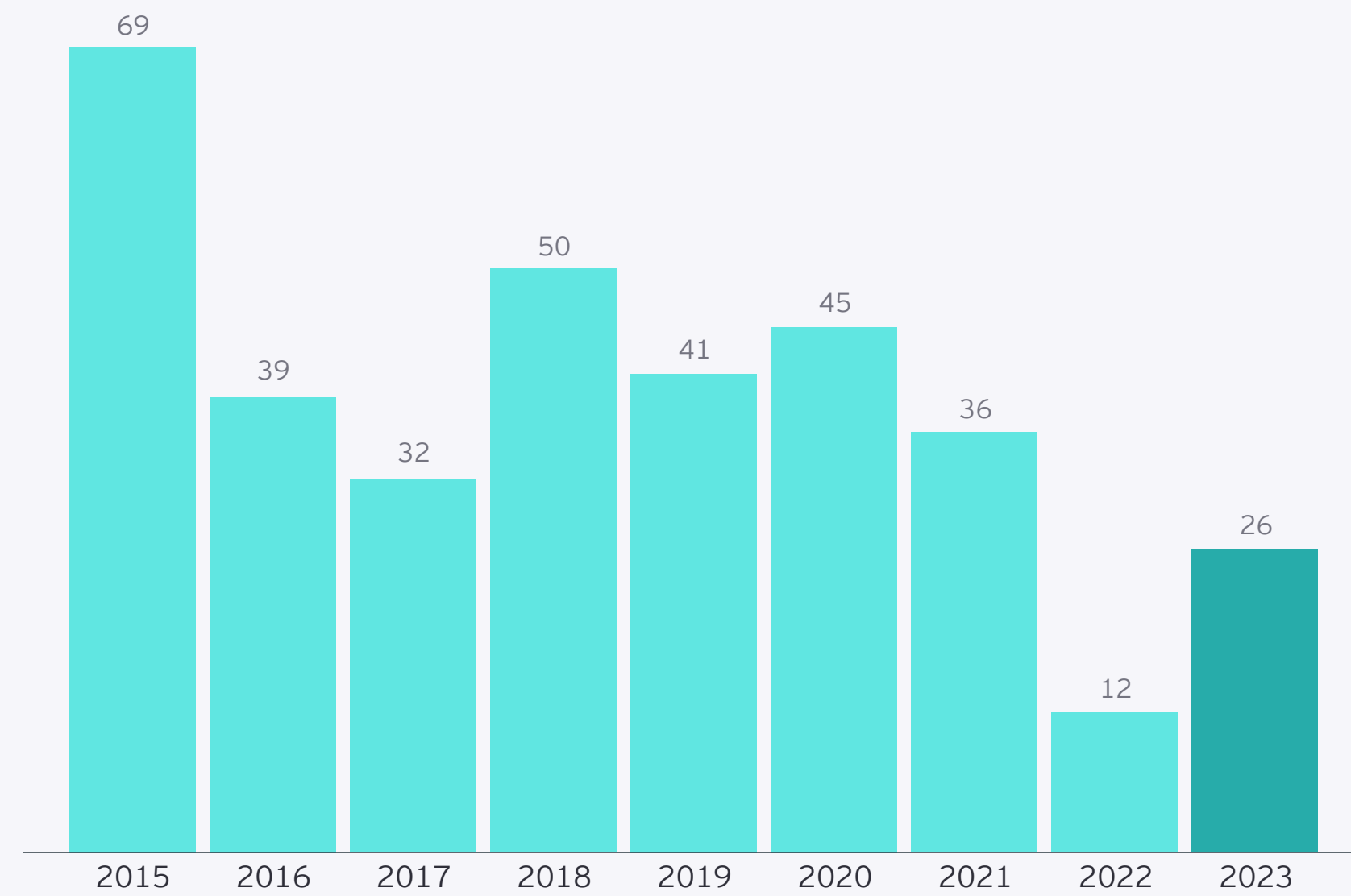
Coal exploration makes a resurgence



24 Coal exploration spending in 2023 bucked the decreasing trend seen in the sector over the past three years. The sector received \$26m in exploration spend in 2023, representing a 109% increase compared to 2022. While this overall spend ranks as the second lowest over the past nine years, it is the largest year-over-year increase in the same time frame.

All surveyed projects in this report are metallurgical coal projects, to be differentiated from thermal coal which is used for energy generation. Metallurgical coal - also known as coking coal - is a critical input for making steel.

Figure 13: Annual coal exploration expenditure, 2015-23 (C\$m)



\$26m
coal exploration
spending in 2023

109% ↗
increase in coal exploration
spending from 2022



The Southeast region of the province is home to the projects that received the largest coal exploration funding in 2023. The Southeast received 77% of total coal exploration spend in 2023, with four notable projects in the region receiving 74% of all provincial coal exploration spend.

The Northeast and Northwest regions received the remaining 23% of total coal exploration spend, at 10% and 13%, respectively.

Figure 14:
Regional contribution to coal exploration expenditure, 2023

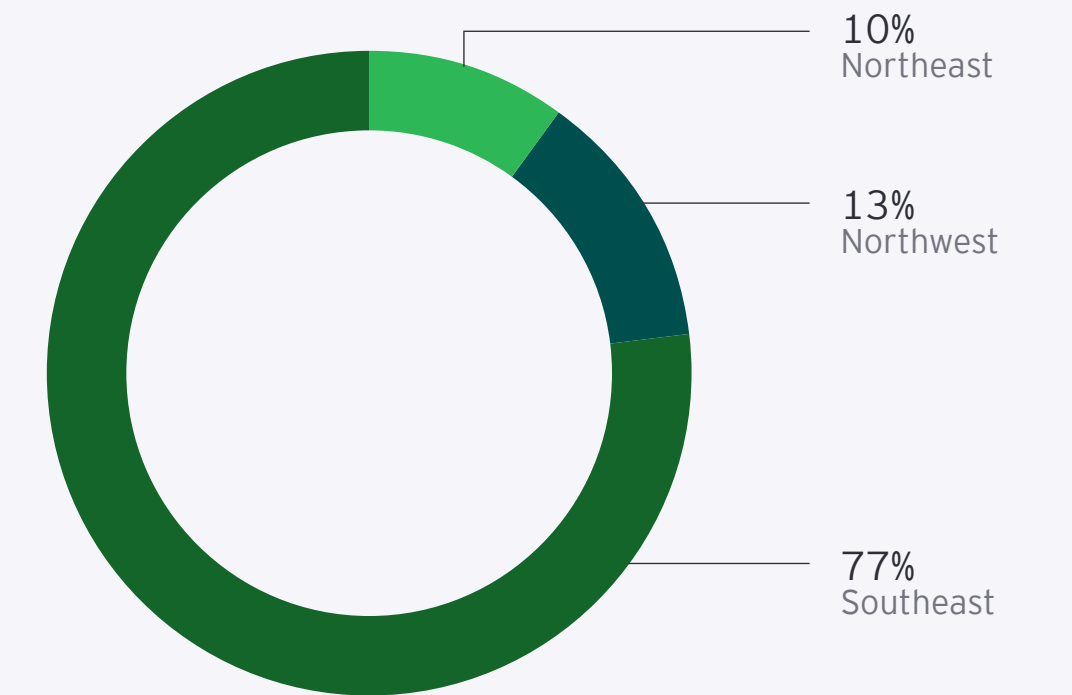
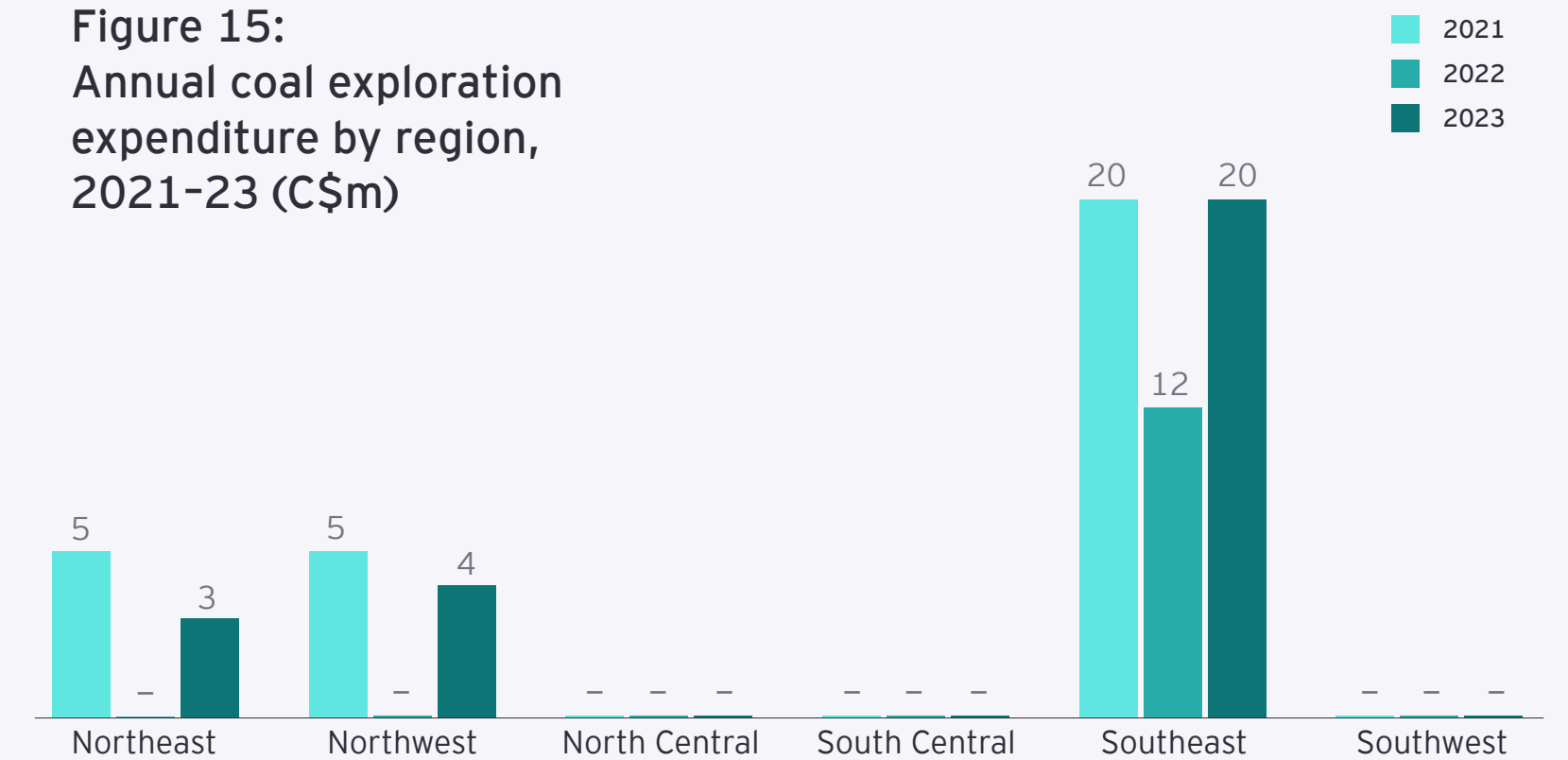


Figure 15:
Annual coal exploration expenditure by region, 2021-23 (C\$m)





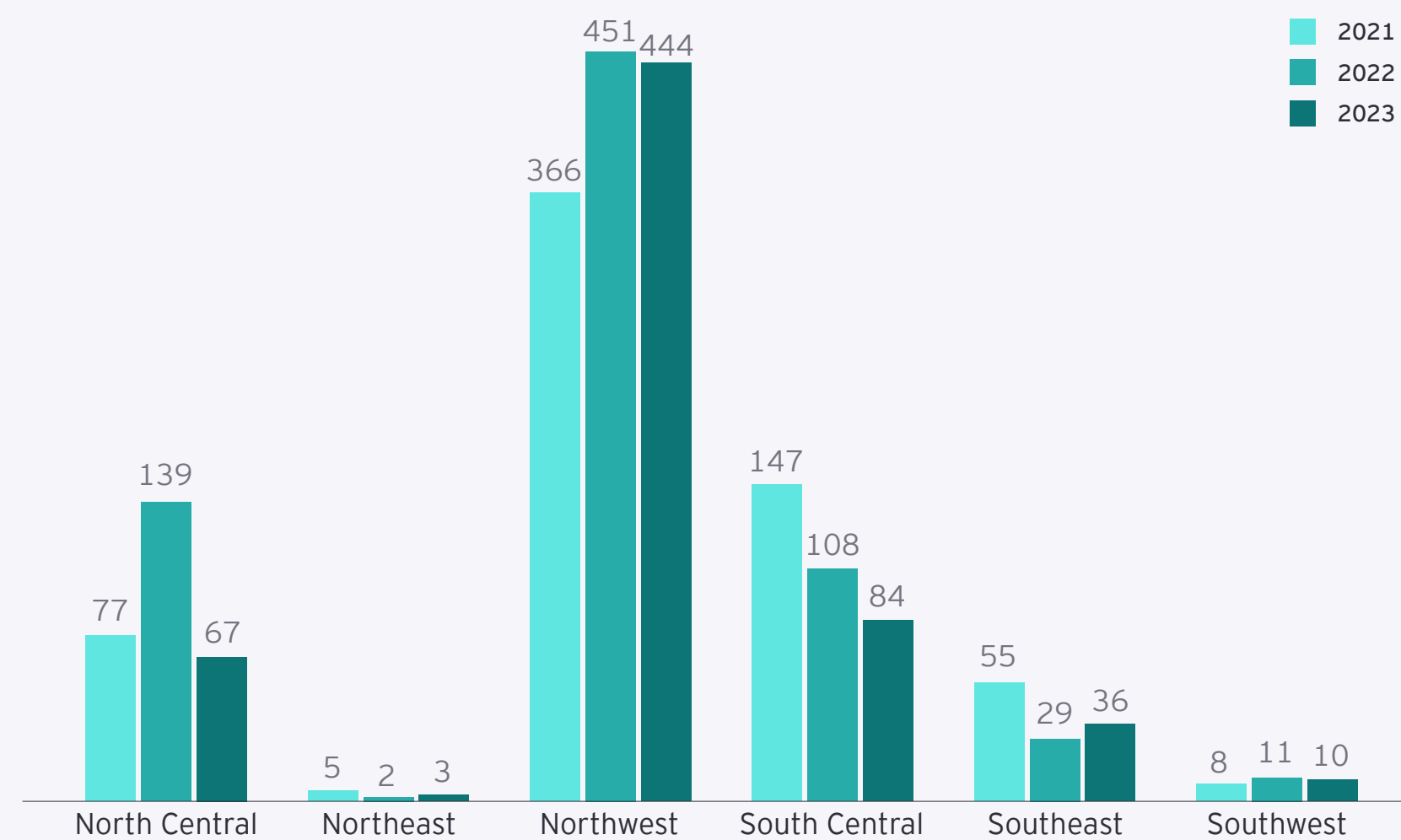
The Northwest continues to serve as the provincial hub for exploration activity

27 The trend of provincial exploration spending being increasingly concentrated in the Northwest region persisted in 2023. The Northwest region accounted for 69% of all exploration spending in 2023, compared to 61% of all exploration spend in 2022 and 53% in 2021. This increased market share came despite an overall decrease in spending in the region, where spending decreased by 1% from \$451m in 2022 to \$444m in 2023.

Other major regions in the province, such as the North Central and South Central regions, also saw decreases in overall exploration spend, with spending in these regions decreasing by 52% and 23%, respectively.

The Southeast region saw a significant increase in spend, driven primarily by increased interest in coal projects in the region. Spending in the Southeast increased by 22% from \$29m in 2022 to \$36m.

Figure 16: Annual expenditure by region, 2021-23 (C\$m)

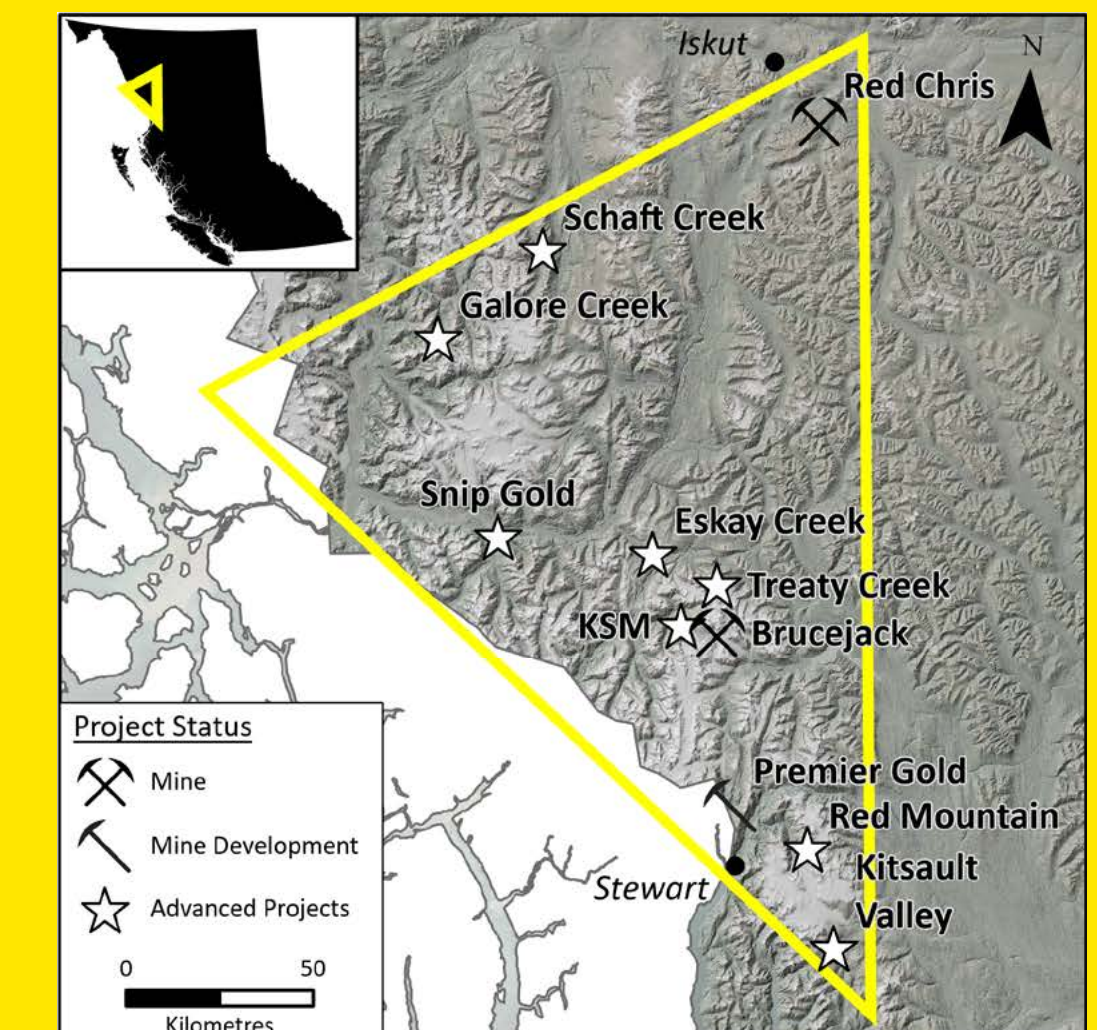


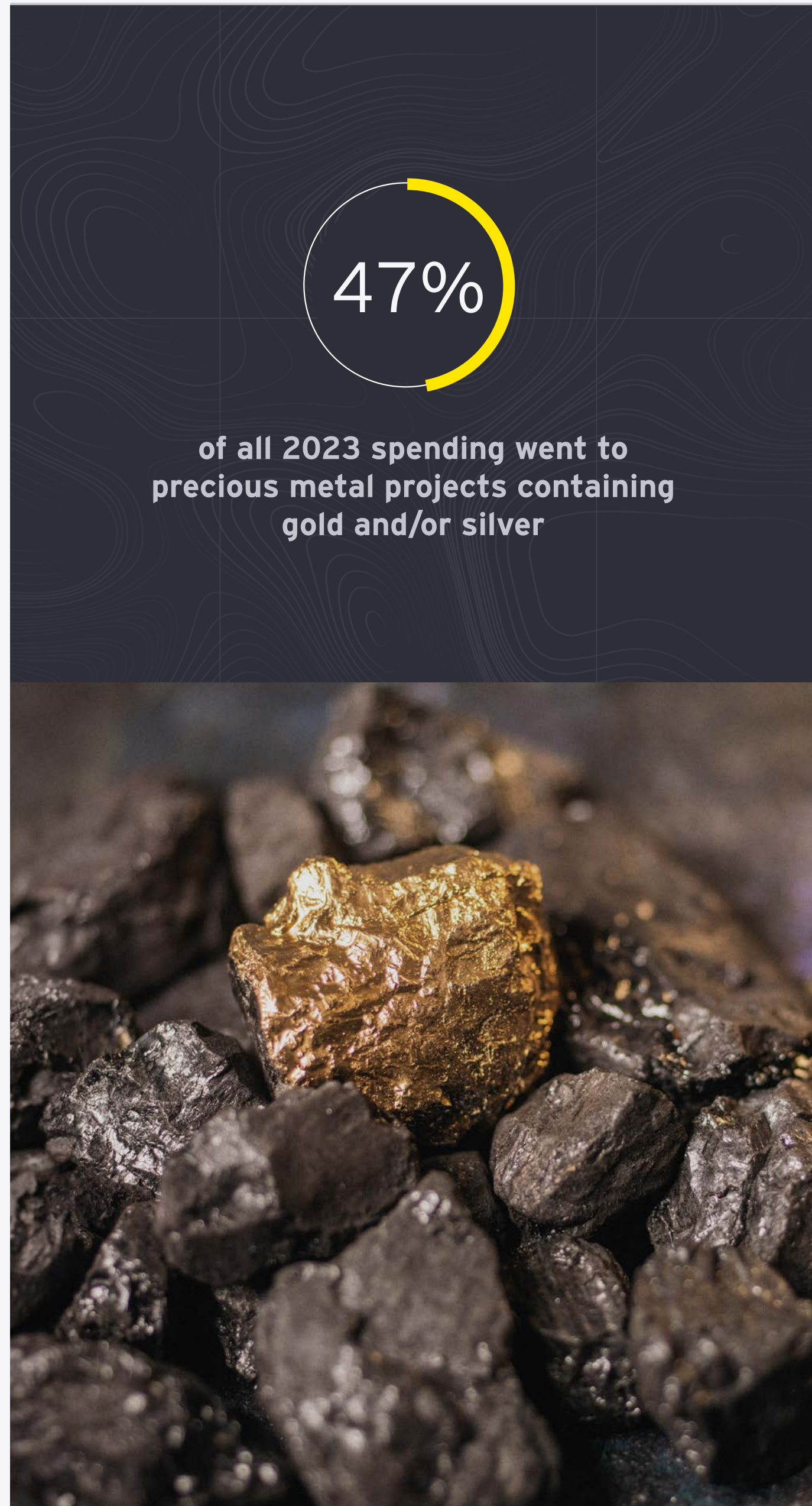
The Northwest region, home to the informal Golden Triangle, saw continued interest from both local companies and major international producers. It serves as the home of the projects with the largest exploration spend in the region, namely the Galore Creek Project operated by Galore Creek Mining Corporation and Eskay Creek operated by Skeena Resources Limited.

Notable transactions in the area this year include Newmont's acquisition of Newcrest Mining Limited, adding both the Red Chris and Brucejack mine to their portfolio of assets.

Government funding and commitment to the BC Regional Mining Alliance (BCRMA) have further contributed to the interest in the Northwest region, alongside rich deposits and favourable precious metal and copper prices.

Figure 17: Golden Triangle, British Columbia





47%

of all 2023 spending went to precious metal projects containing gold and/or silver

To further understand these trends in spending, project types were analyzed. Precious metal projects – containing only one or both of gold and silver – received 47% of all spending in 2023.

In a year when interest in gold and silver was tepid compared to the past two years, this represented a 13% decrease of market share compared to 2022 (60% of total exploration spend in 2022) and an overall 32% decrease in spending year over year.

Porphyry deposits (Cu-Mo, Cu-Au-Ag) received 43% of exploration spend, which represented a 10% increase in market share compared to 2022, and a 14% increase in overall spend year over year.

Precious metal and porphyry deposit projects represent 90% of total exploration spend in BC. These project types are predominantly explored for in the aforementioned Northwest region, which accounts for 77% and 71% of total spend for porphyry and precious metal projects, respectively.

Figure 18: Regional contribution to total exploration spend, 2023

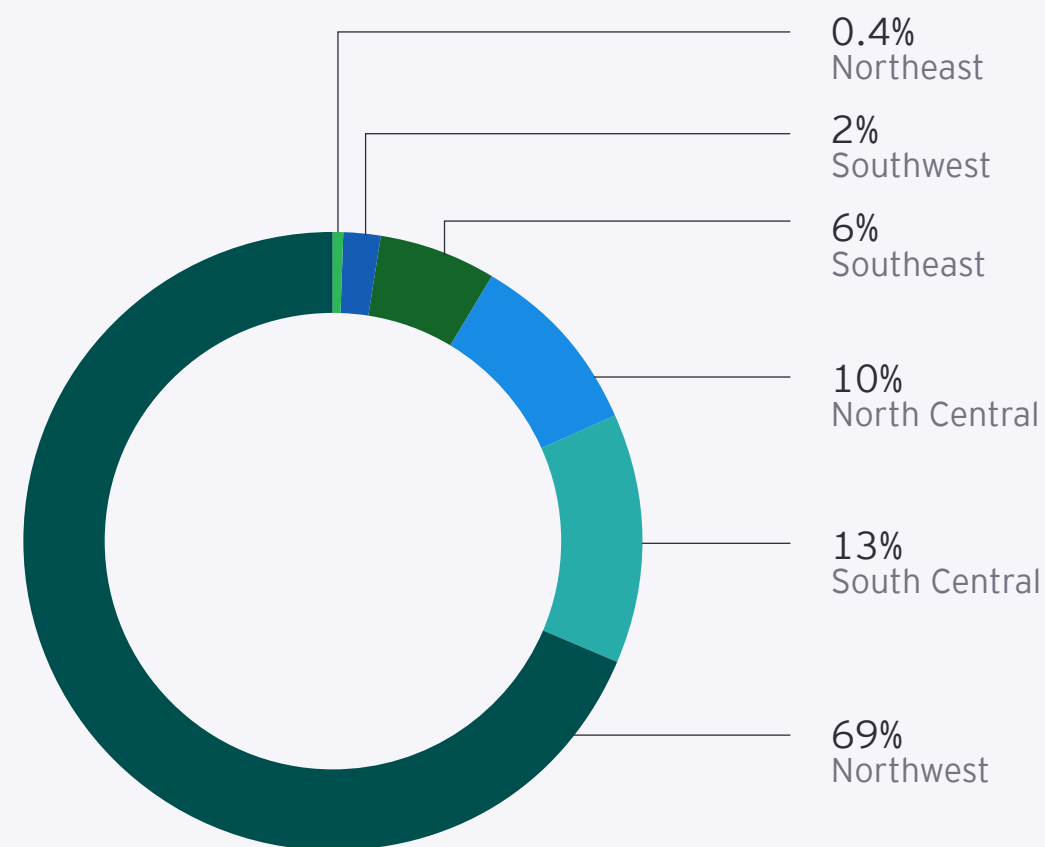


Figure 19: Total expenditure by project type, 2021-23 (C\$m)

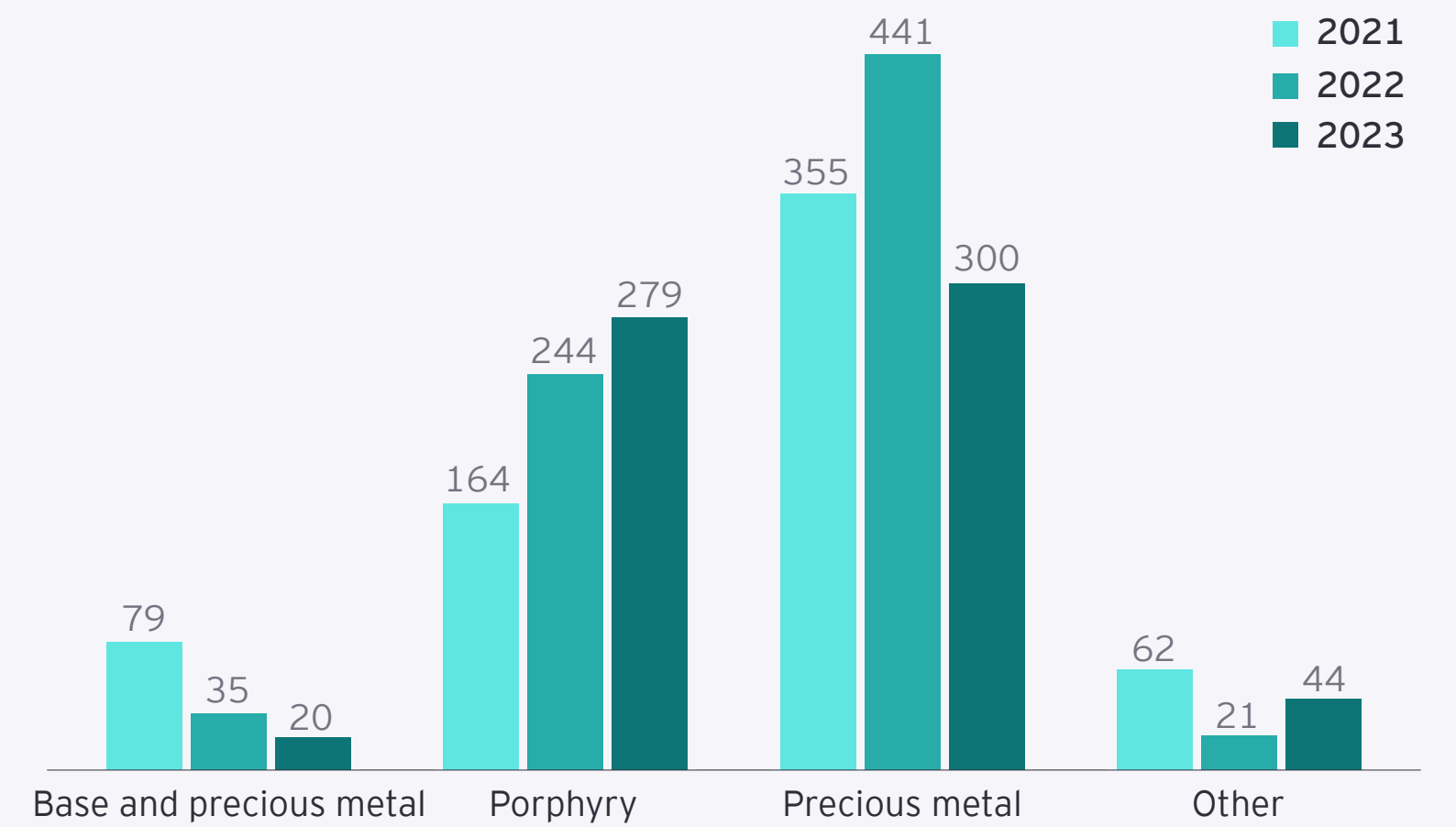
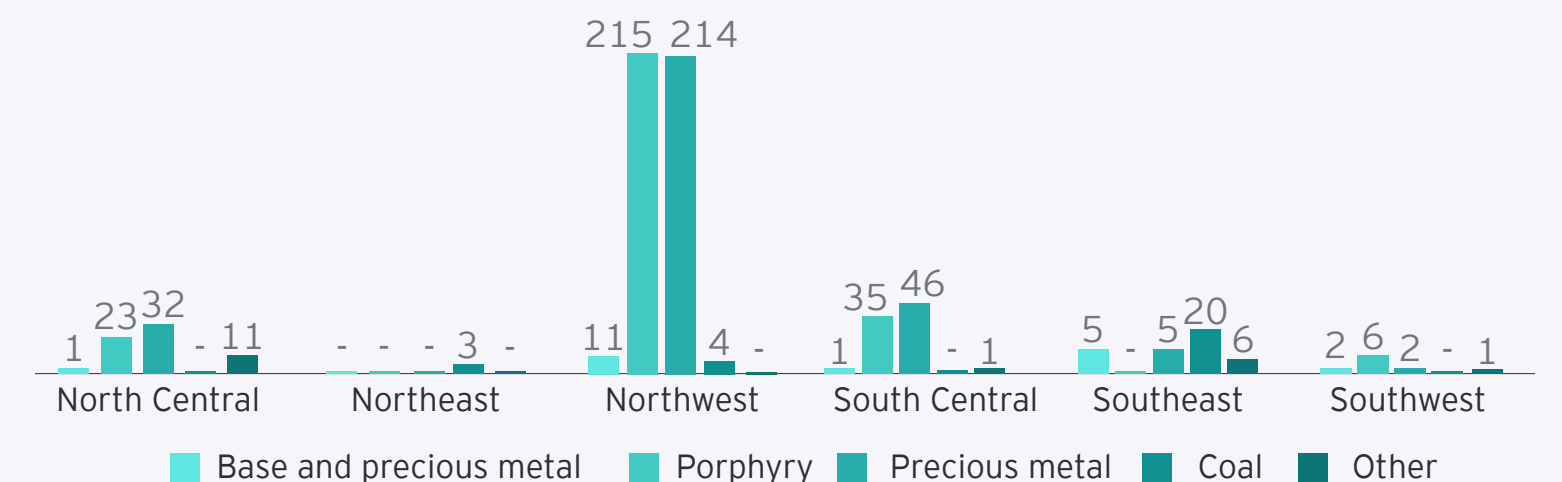


Figure 20: Distribution of expenditure by project type by area, 2023 (C\$m)



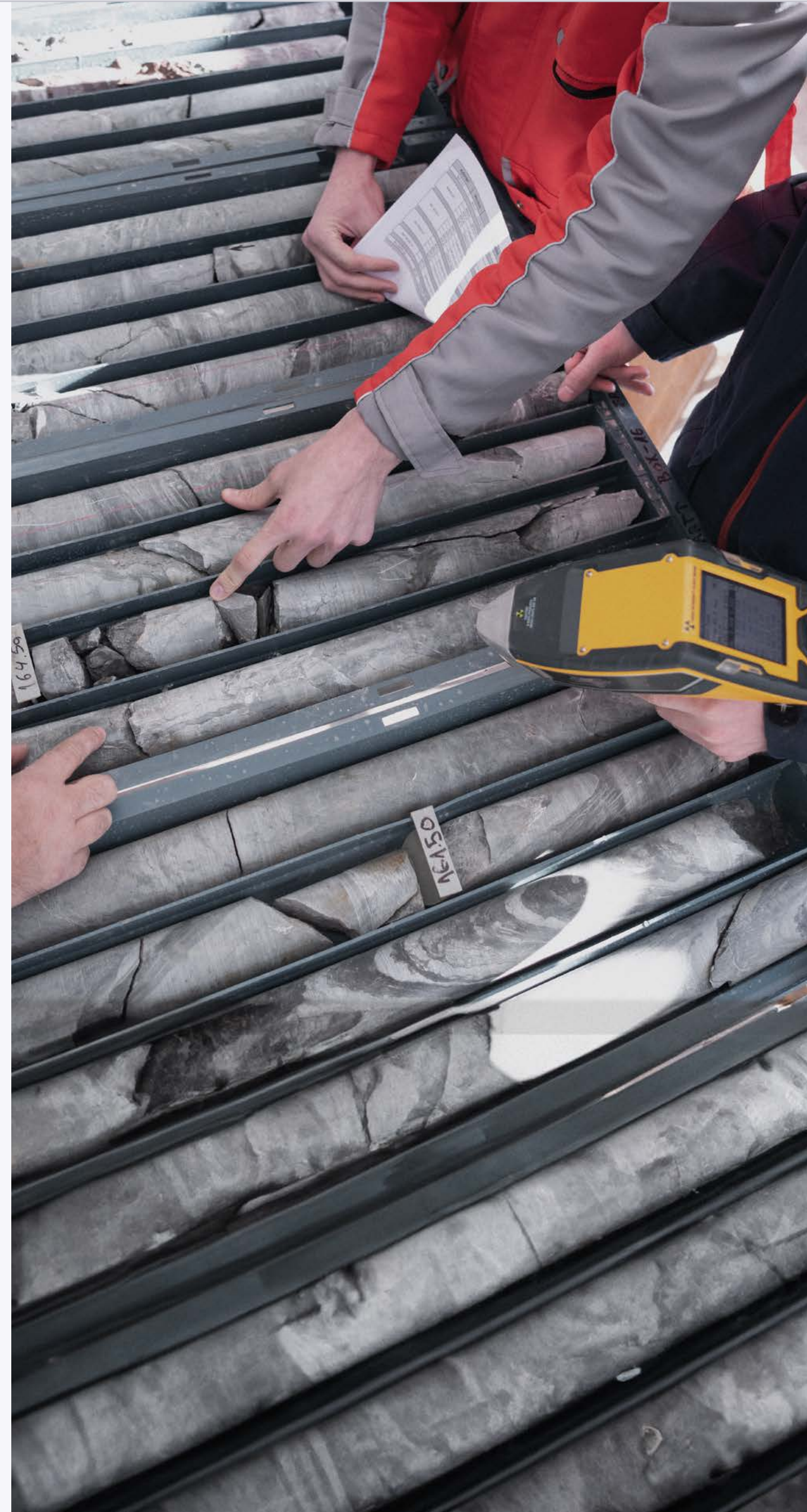
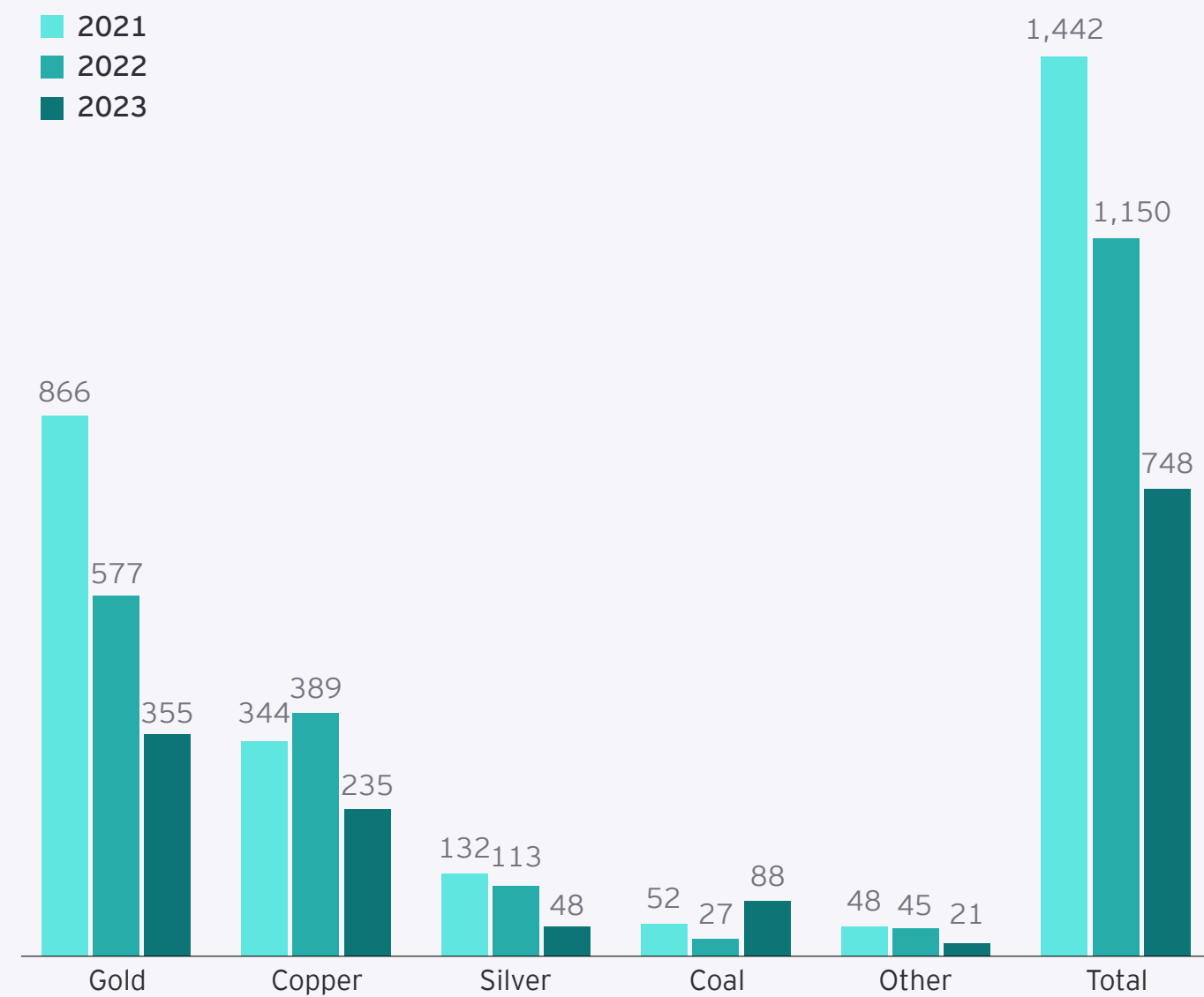
Drilling activity across BC continues to decline for the second year in a row

30 Total metres drilled in the province decreased 35%, from 1,149,552 in 2022 to 747,579 in 2023.

Unlike the trends seen in spending, all major exploration sectors with the exception of coal saw significant reductions in drilling activity over the past year, with gold and copper seeing a reduction of 38% and 39%, respectively.

Coal drilling saw a major increase year over year, jumping 228% from 26,828 metres drilled in 2022 to 88,104 in 2023. This can potentially be explained by more accurate reporting from BC's largest coal producers. A possible explanation for the overall drilling decrease may be that projects in other sectors have progressively reached a higher level of maturity along the development lifecycle.

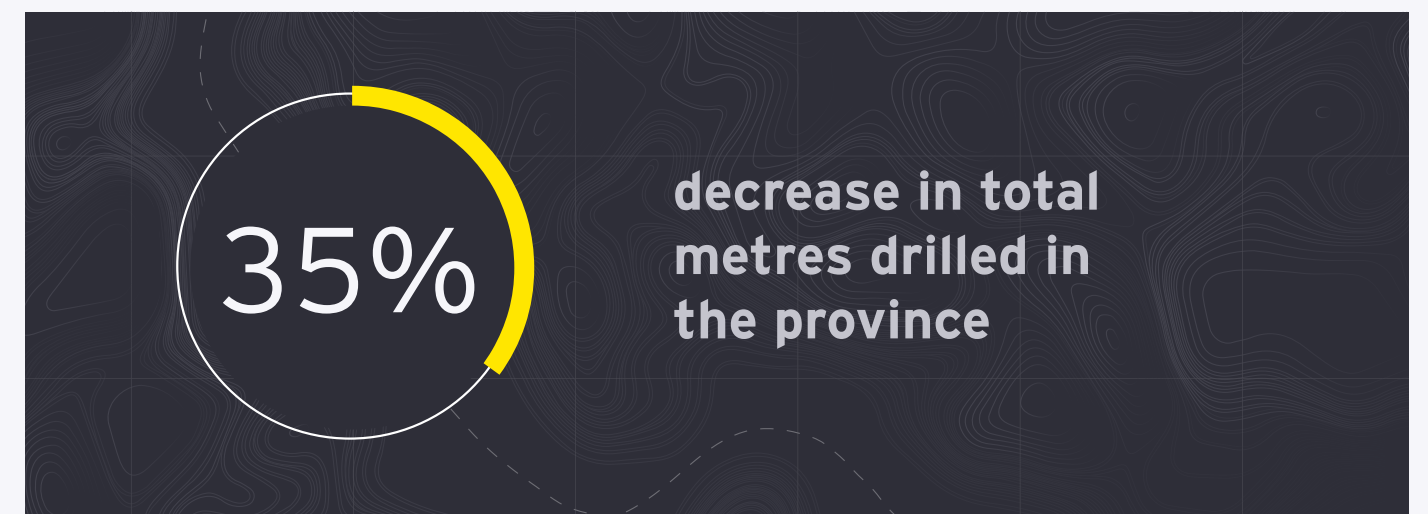
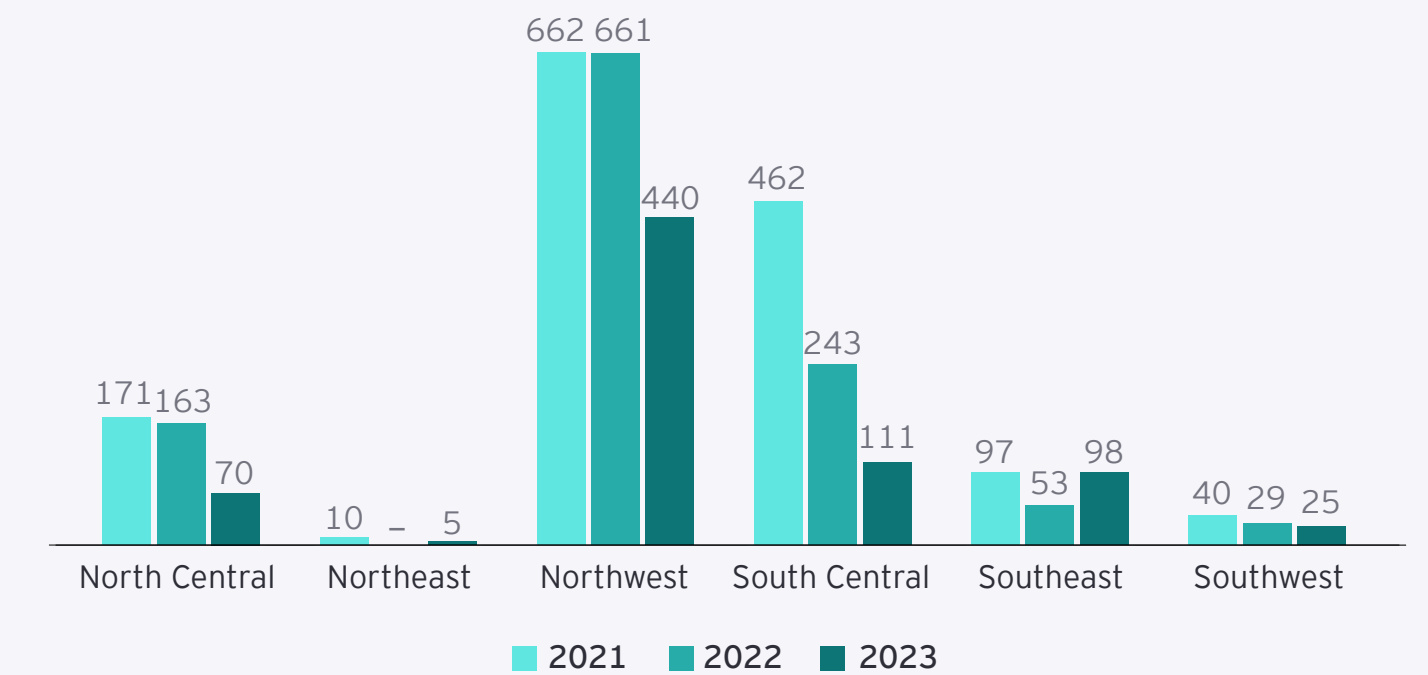
Figure 21: Total metres drilled by commodity, 2021-23
(,000 metres)



Regionally, drilling activity was dominated once again by the Northwest region, much like spending. Drilling in the Northwest represented 59% of all drilling activity in the province, similar to the 58% market share held by the region in 2022. While over the past two years drilling in the region remained steady at around 662,000 metres drilled, 2023 saw a significant decrease in activity, dropping 34% year over year to 439,662 metres drilled.

The North Central and South Central regions, which have historically been hotspots for drilling activity, also saw similar decreases. These regional trends in declining drilling activity are in line with global trends and point towards an increasing focus towards later-stage economic studies, permitting expenses and baseline environmental work.

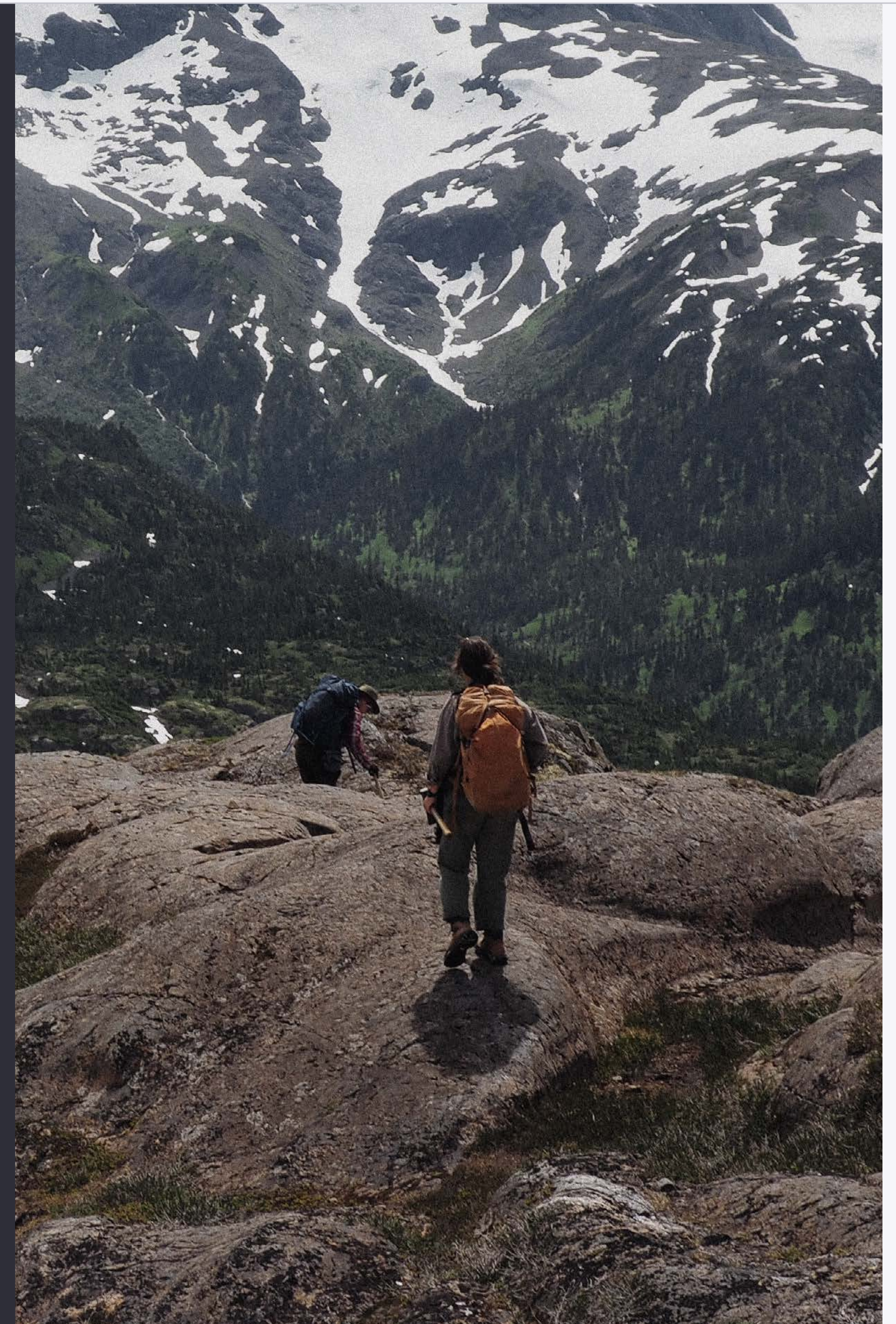
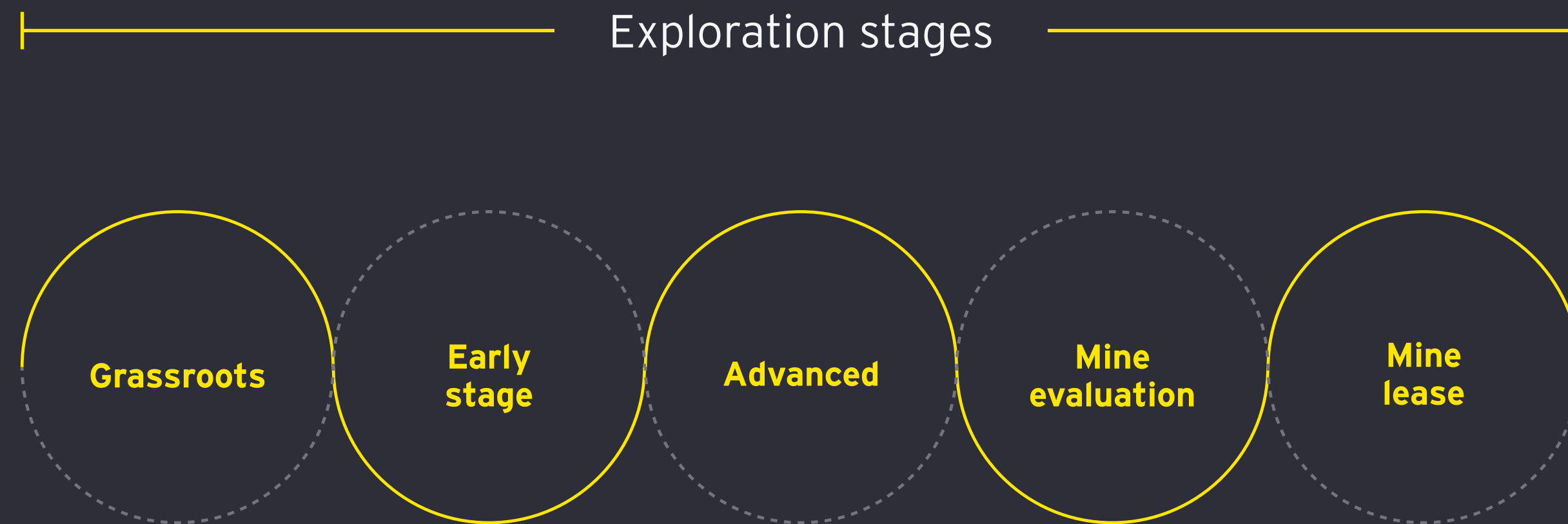
Figure 22: Total metres drilled by region, 2021-23
(,000 metres)



Lifecycle trends remain consistent over the past five years

The stage in the exploration lifecycle that receives investment can lend conclusions to companies' risk appetite. During periods of volatility and relative uncertainty, junior exploration companies have tended to focus capital on proven assets, as opposed to riskier, early-stage projects, while larger companies opt to maximize the value of their existing operations.

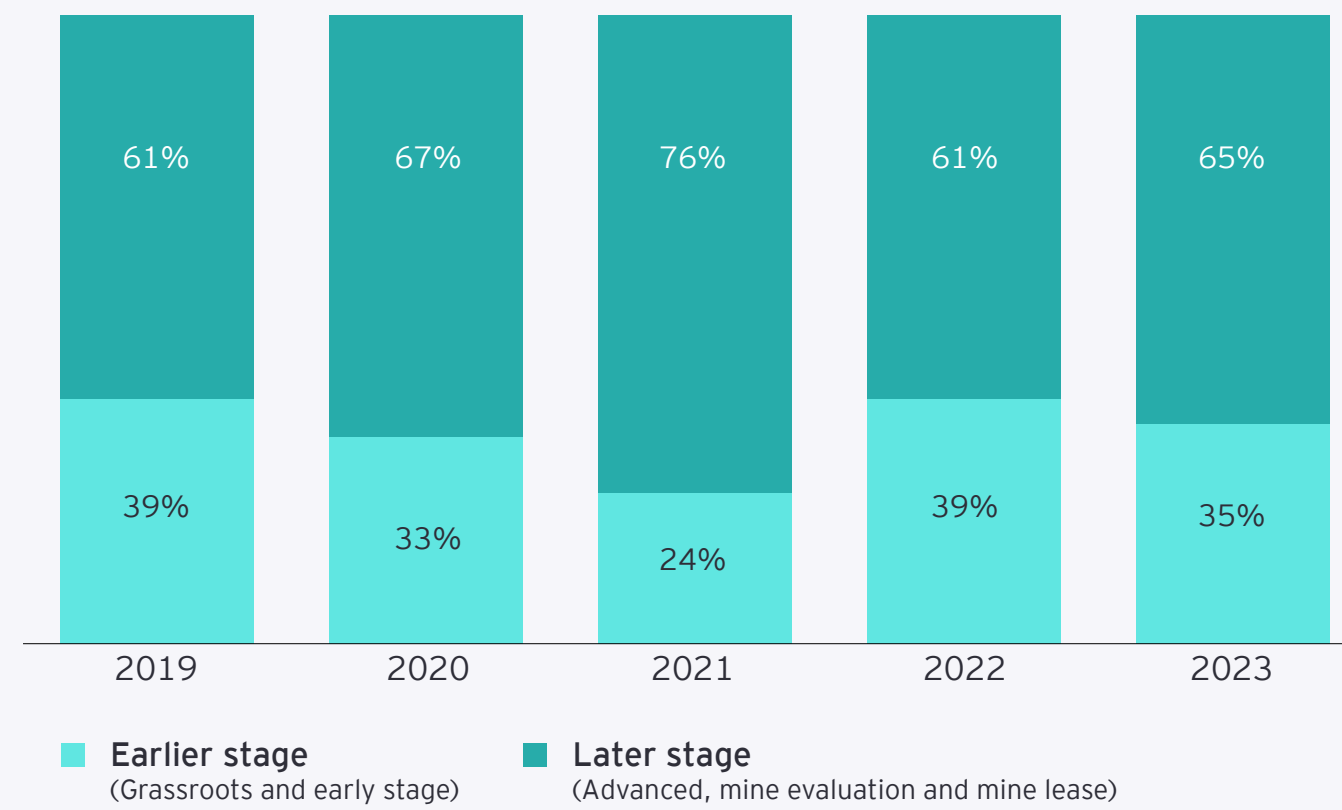
The exploration lifecycle consists of five core stages as demonstrated.





In 2023, 35% of exploration in the province could be characterized as grassroots – prospecting, sampling, airborne geophysics – or early stage – geophysics, geochemistry, trenching and drilling. This is compared to 65% late-stage – advanced stage, mine evaluation – and/or mine lease exploration. This ratio of spending between the identified stages has been relatively consistent over the past five years, with the exception of 2021.

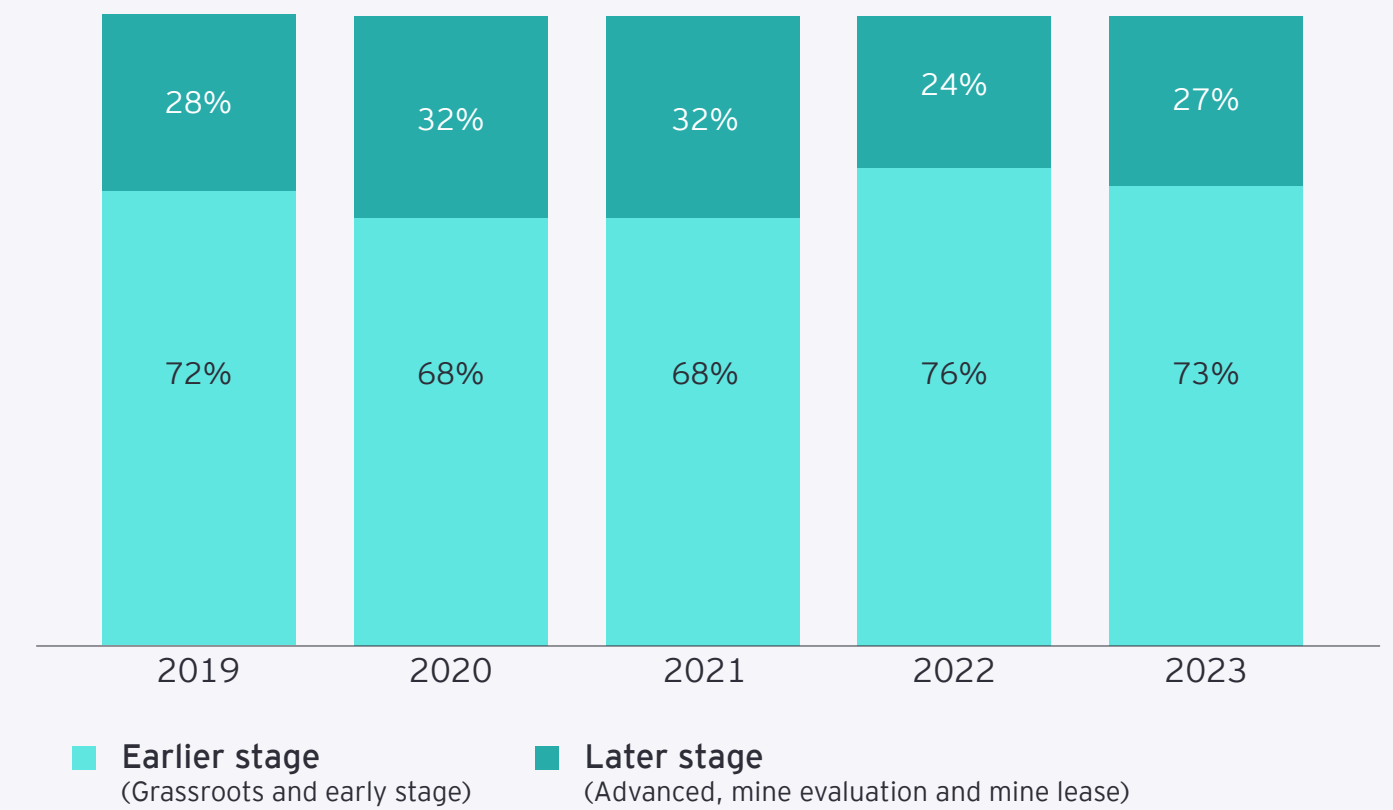
Figure 23: Distribution of annual exploration expenditure by stage, 2019-23



This trend in the proportion of exploration spending between the stages is inverted when viewing it through the lens of the number of projects between the stages. Earlier-stage exploration projects have represented, on average, 70% of annual total exploration projects in the province over the past five years. This proportion has also remained relatively constant over this time frame. A potential explanation for these trends is that later-stage projects, which are more stable, continue to receive funding over a longer period of time.

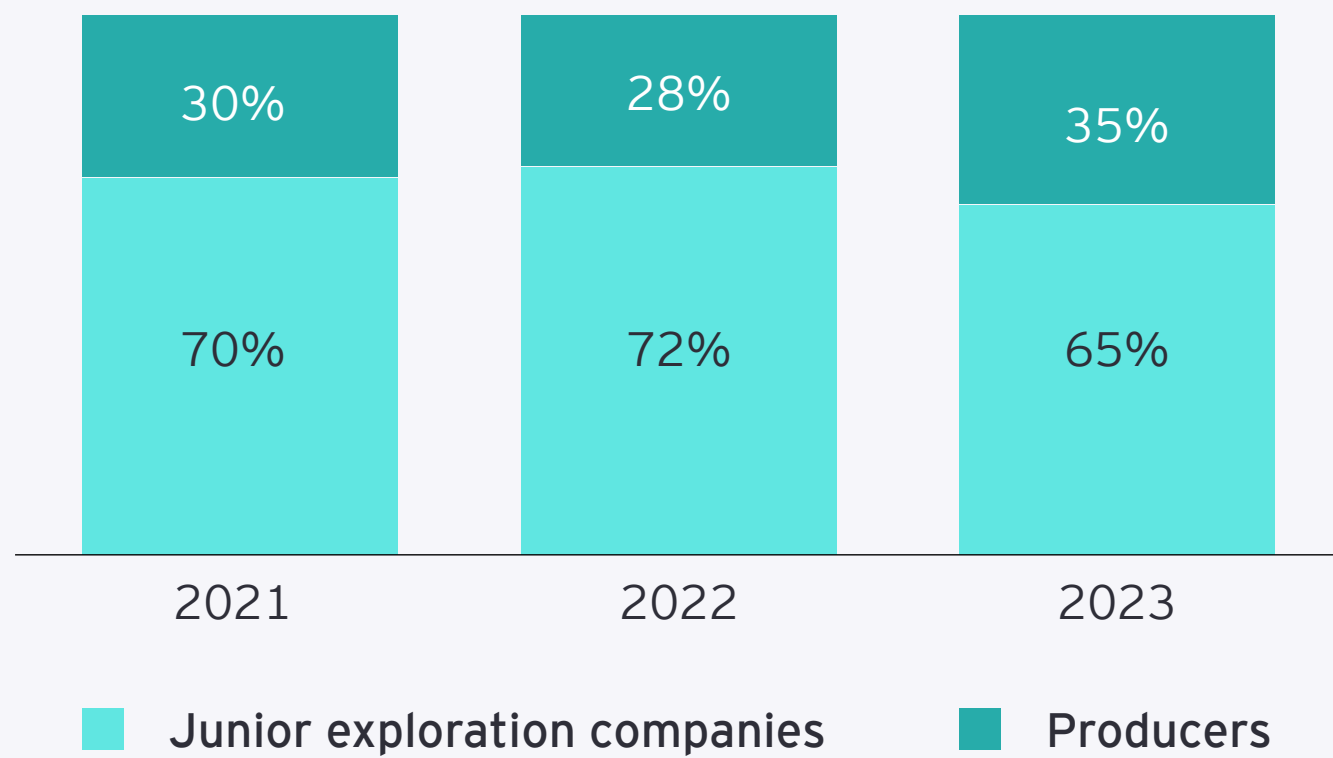
The largest exploration projects in the province by gross annual exploration spend are in advanced stages of development, and these projects have remained mostly the same over the years. In contrast, early-stage projects experience a different landscape; poor results or shifting commodity interests may cause exploration companies to discontinue interest in one project for another, causing the number of projects to remain relatively flat over the years.

Figure 24: Distribution of exploration projects by stage, 2019-23



34 Keeping in line with tightening financial conditions and difficulty raising funds, junior exploration companies relinquished some share of the exploration market to producers in 2023. Private and publicly traded junior exploration companies accounted for 65% of total exploration spend in the province, down 7% from the 72% market share held by juniors in 2021.

Figure 25: Percentage of total exploration expenditure by company size, 2021-23



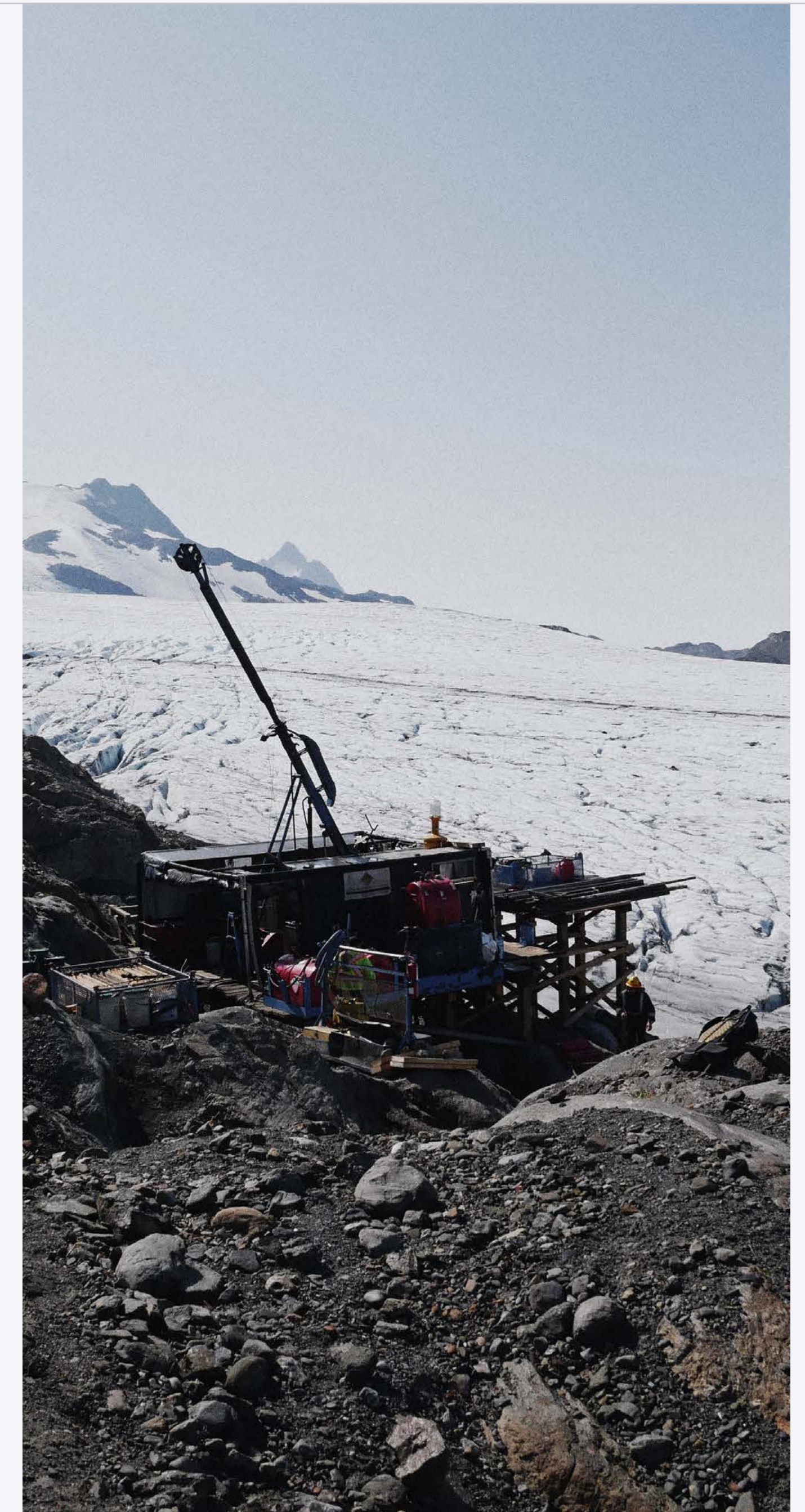
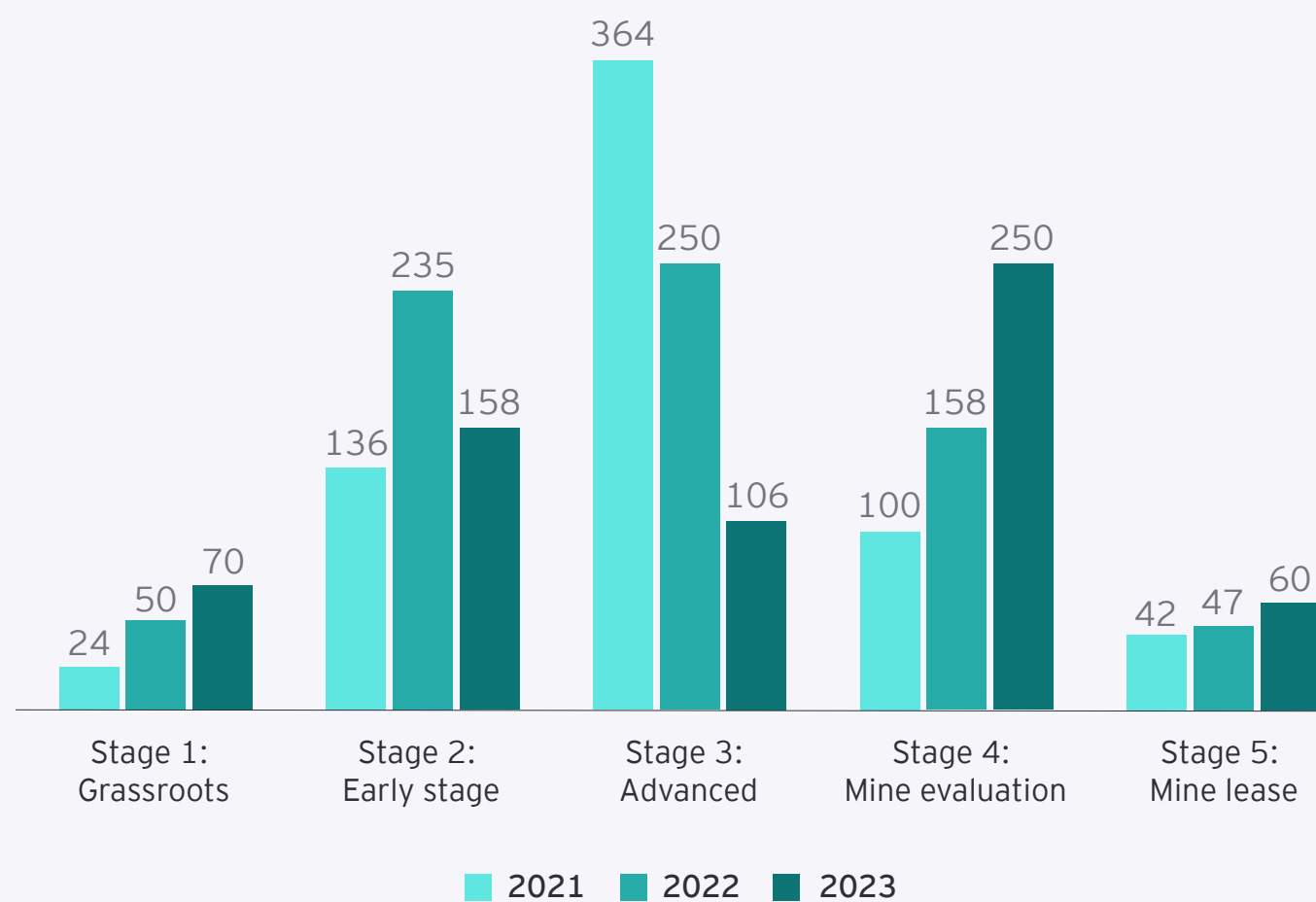
66% increase in grassroots-stage project spending by large junior exploration companies

Earlier-stage funding (stage 1 and stage 2) decreased 20% in 2023 from 2022, from \$285m to \$228m. Grassroots spending (stage 1) increased 41% from \$50m in 2022 to \$70m in 2023, driven largely by large junior exploration companies. These publicly traded, large, junior exploration companies increased their spending on grassroots-stage projects by 66%, increasing from \$29m in 2022 to \$46m in 2023.

Early-stage (stage 2) and advanced-stage (stage 3) spending, which were the two largest areas of spend in 2022, saw significant decreases in 2023. Early-stage spending dropped by 33% from \$235m in 2022 to \$158m in 2023, while advanced-stage spending dropped 58% from \$250m in 2022 to \$106m in 2023.

Over the course of the year, later stages of the exploration cycle received significantly more investment. Projects in the mine evaluation stage (stage 4) and mine lease stage (stage 5) received more funding in 2023 than in the previous two years, increasing by 58% and 29%, respectively.

Figure 26: Distribution of exploration expenditure by stage, 2020-22 (C\$m)

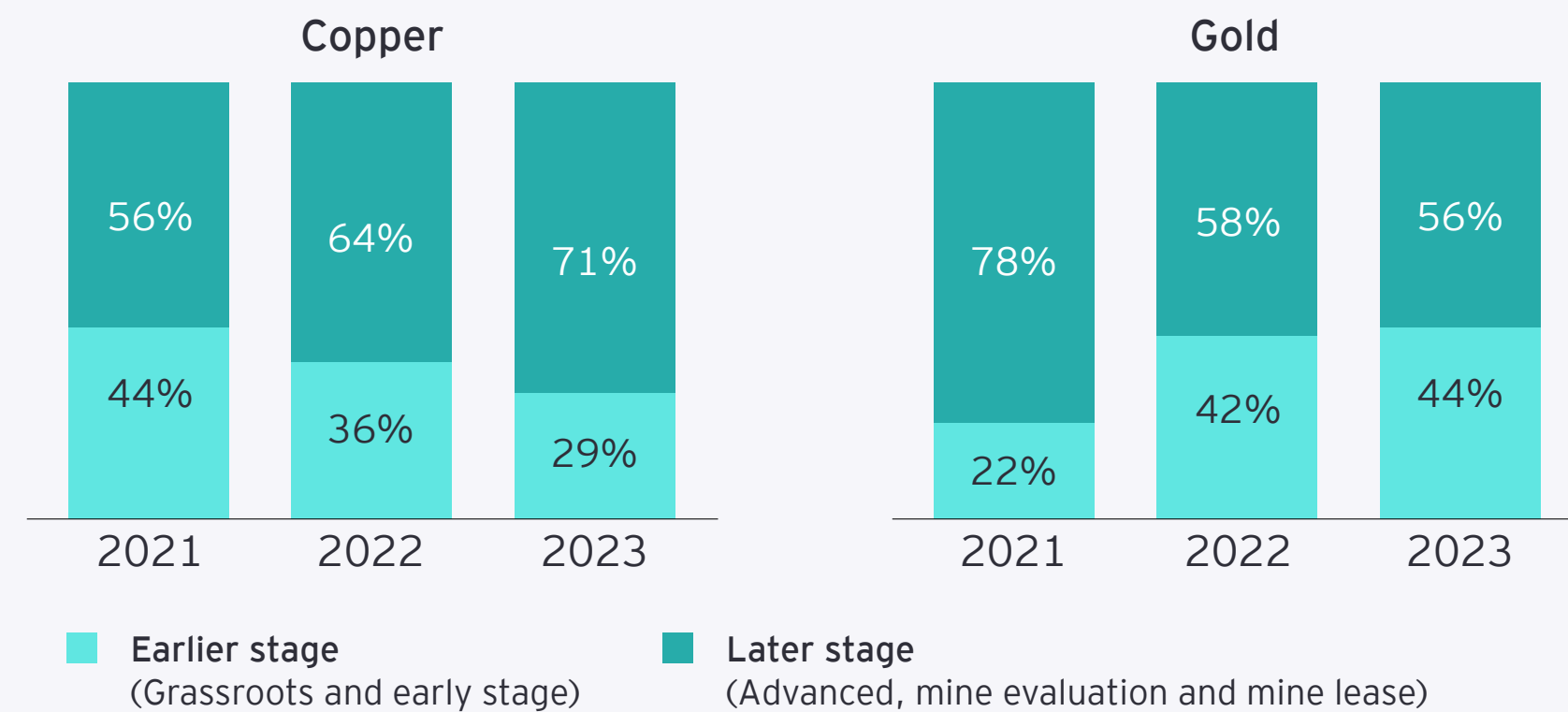


35

Lifecycle analysis at the commodity level shows a divergence in exploration stage trends between precious metals and base metals, which helps further explain the trends examined above.

The demand for copper is driven by usage in the green transition, and forecasted supply is not expected to meet this demand. In turn, this is expected to support a competitive market price for the commodity in the medium term. It can be inferred that companies in the sector are therefore choosing to direct funding towards advancing existing projects, with 71% of provincial copper exploration funding in 2023 going towards late-stage exploration. This marks a 7% (\$24m) increase in spending on later-stage exploration projects compared with 2022.

Figure 27: Project lifecycle analysis, copper and gold, 2021-23

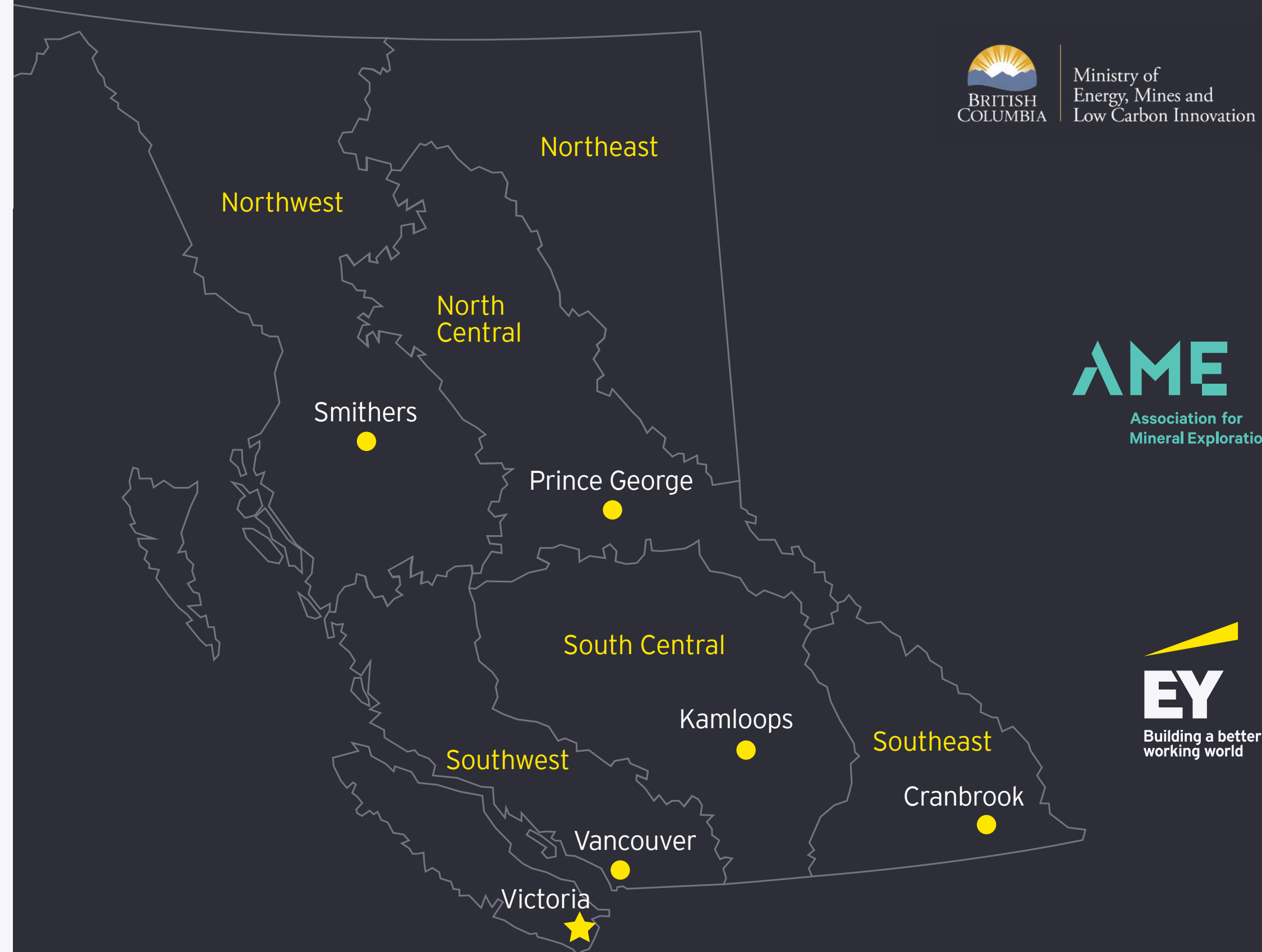


Upon examining the gold sector, where total exploration spend was down despite an increasing commodity price year over year, we observed a continuing trend away from later-stage projects and towards earlier, riskier projects. This may be the outcome of several years of growing gold exploration budgets prior to 2023, leading to some discoveries being fully developed, freeing up resources that can be directed towards earlier-stage projects.

It is worth noting that neither earlier-stage nor later-stage projects received increased spend in 2023 compared to 2022 as gold exploration spend faltered over the past year. However, the proportion of spending that was put towards earlier-stage projects increased by 2%.



About the collaborators



Government of British Columbia's Ministry of Energy, Mines and Low Carbon Innovation (EMLI)

EMLI is the provincial government Ministry responsible for overseeing mineral and coal exploration activity in BC. Ministry staff helped in the design of the survey and facilitated response generation. These expenditure data were either solicited directly from the companies or estimated by British Columbia Geological Survey (BCGS) Regional Geologists under the direction of its Mineral Development Office.

Association for Mineral Exploration (AME)

AME is the lead association for the mineral exploration and development industry based in BC. Established in 1912, AME represents, advocates, protects, and promotes the interests of thousands of members who are engaged in mineral exploration and development in BC and throughout the world. AME encourages a safe, economically strong and environmentally responsible industry by providing clear initiatives, policies, events and tools to support its membership in delivering responsible projects that advance reconciliation and provide benefit to all British Columbians.

EY

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Contacts

Should you require information about this report, please contact the relevant organization through the following representatives.

BC GOVERNMENT



GORDON CLARKE
Director, British Columbia Mineral Development Office

gordon.clarke@gov.bc.ca

AME



JONATHAN BUCHANAN
Vice President, Policy and Advocacy Association for Mineral Exploration

jbuchanan@amebc.ca

EY



IAIN THOMPSON
Partner, Advisory Services EY Canada

iain.thompson@ca.ey.com



KYLE WOLHUTER
Senior Manager, Advisory Services EY Canada

kyle.wolhuter@ca.ey.com



SAFWAAN HASSAN
Senior Consultant, Advisory Services EY Canada

safwaan.hassan@ca.ey.com



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EY has relied upon unaudited financial information provided by mineral and coal exploration companies and prospectors in BC, third party research, and information provided by other data sources and relevant associations and bodies. EY has not audited, reviewed or otherwise attempted to verify the accuracy or completeness of such information.

Financial information referred to in this report was prepared based on figures provided by entities, estimates and assumptions. As such, readers are cautioned that variations between estimations and actuals could be material.

Unless otherwise stated all monetary amounts contained herein are expressed in Canadian dollars.

EMLI staff assisted in the collection of survey data and information. Specifically, where a response had incomplete or inconsistent information, key points of data were solicited directly from the companies and prospectors themselves by Regional Geologists at the Mineral Development Office of the British Columbia Geological Survey and assessed using professional opinion and experience. Financial statement data and press release information were used in selected instances where no response was received from companies.