

# Yukon hard rock mining, development and exploration overview 2022

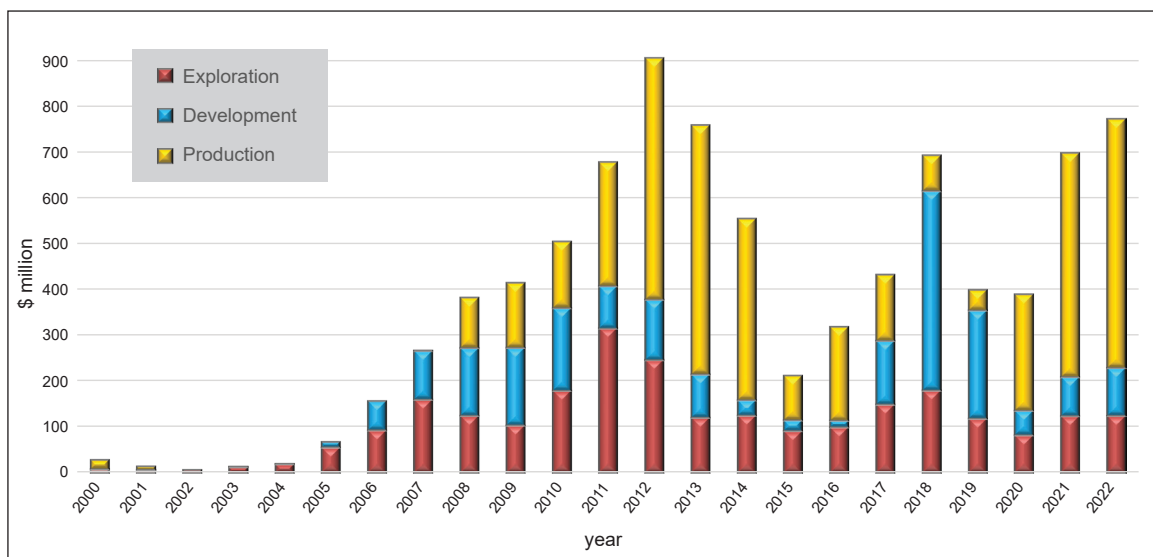
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## Introduction

Yukon mineral exploration activity in 2022 normalized, somewhat, as the restrictions related to the COVID-19 pandemic abated. However, headwinds remained for explorers in Yukon: continued worker shortages, rising labour costs, high fuel prices, supply chain issues, and difficult financial markets. A surprising number of companies were not able to raise the funds necessary to execute exploration programs in 2022.

The good news is that precious and base metal prices were generally strong, however, they did soften slightly towards the end of the summer. Expectations are that year-end exploration expenditures will be approximately \$124 million (\$123 million in 2021). Development expenditures for the year are expected to be \$105 million, up from \$86 million in 2021. These estimates are compiled by the Yukon Geological Survey from data posted on company websites and conversations with explorers. The expected value of year-end hard rock metal production for 2022 is approximately \$543 million (\$525 million in 2021; Fig. 1).



**Figure 1.** Estimated exploration and development expenditures on hard rock projects, and mine production values, 2000–2022.

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The number of active exploration projects in Yukon has been declining since 2017 (with a pandemic-affected low in 2020; Fig. 2). As of writing, there are 78 projects on the books for 2022 (Fig. 3, Appendix 1), compared to 91 projects at this time last season. Twenty-five of the 78 projects spent more than \$1 million, while 49 projects spent less than \$500 000. Fifty-eight percent of the smaller hard rock projects received Yukon Mineral Exploration Program (YMEP) funding. YMEP funds were distributed to 25 hard rock and 17 placer exploration projects (see Ellis and Casselman, this volume). In terms of exploration focus and expenditures (Fig. 4), gold continues to be the most sought-after commodity, and 61.5% of the projects targeted the precious metal.

The remainder of projects focused on exploring for copper (14.9%), lead-zinc (13.6%), silver (8.1%), nickel-PGEs (1.7%), and tungsten and rare earths (0.2%).

As of November 24, 2022, 6232 claims had been staked, almost double that of 2021. The majority of claim staking occurred within the Mayo district, (73%; Fig. 5). The number of claims in good standing at this time is 164 924, down from the all-time high of 252 902 in 2012 (Fig. 6).

Diamond drilling, reverse circulation and rotary air-blast drilling increased in 2022; 223 099 m of drilling (936 holes) on 32 projects in 2022, as compared to 200 955 m (863 holes) on 41 projects in 2021 (Fig. 7).

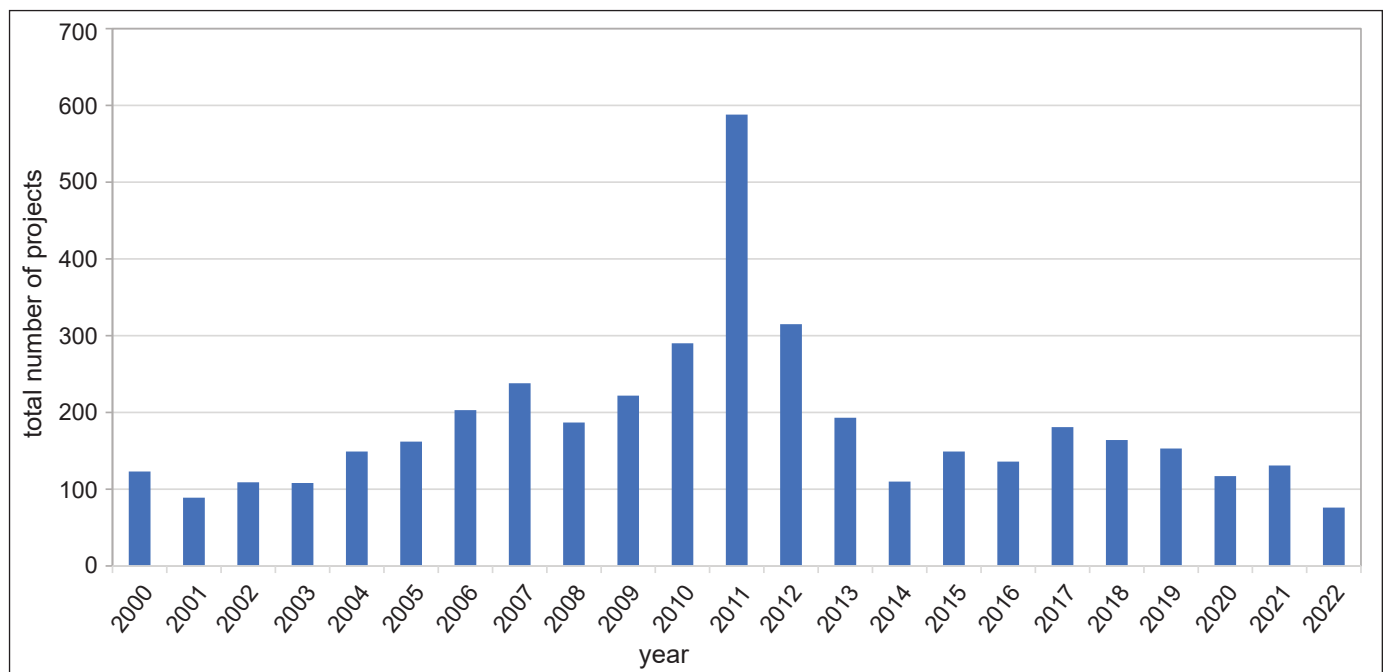


Figure 2. Annual number of active exploration projects.

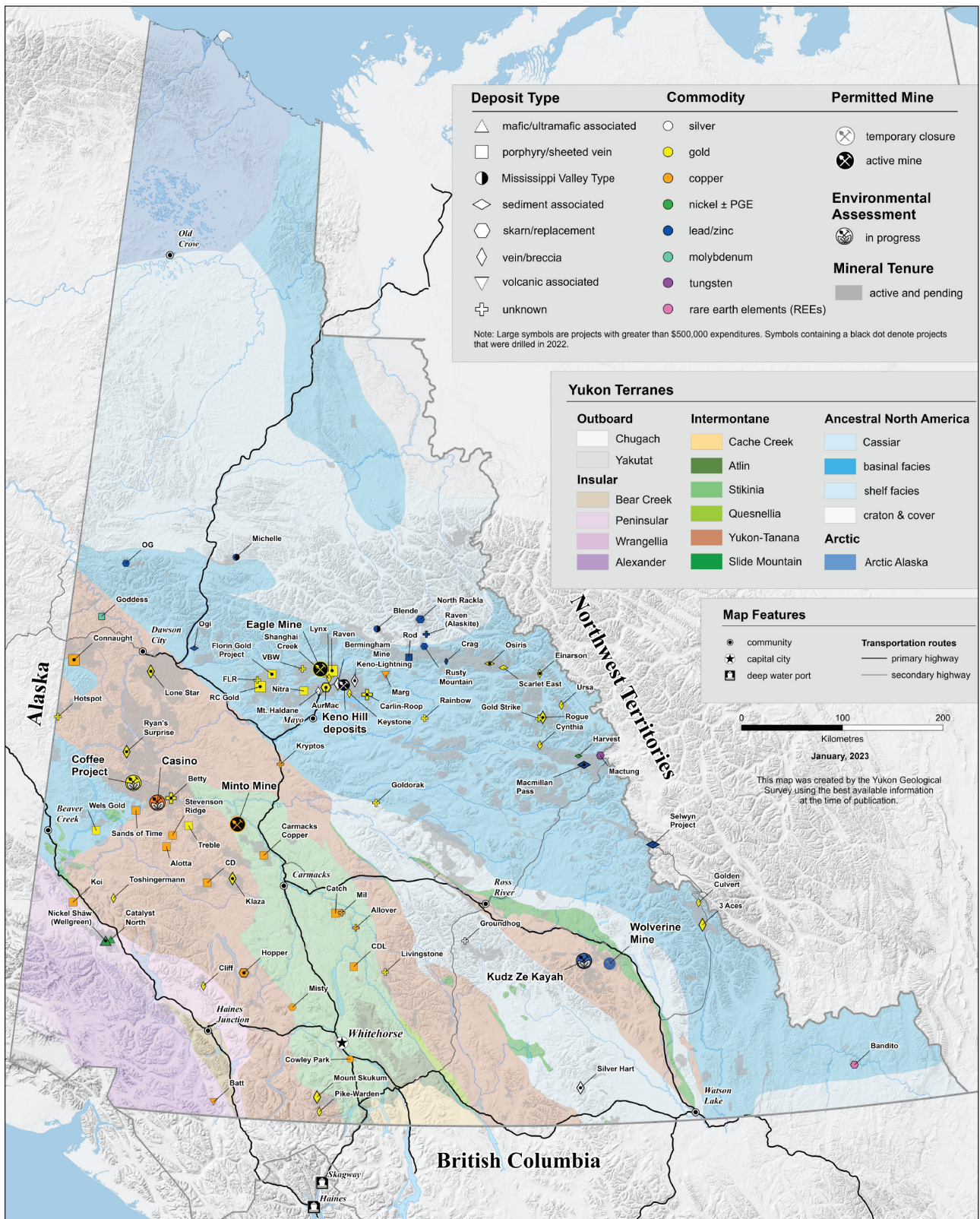


Figure 3. Exploration and mining projects active in Yukon during 2022.

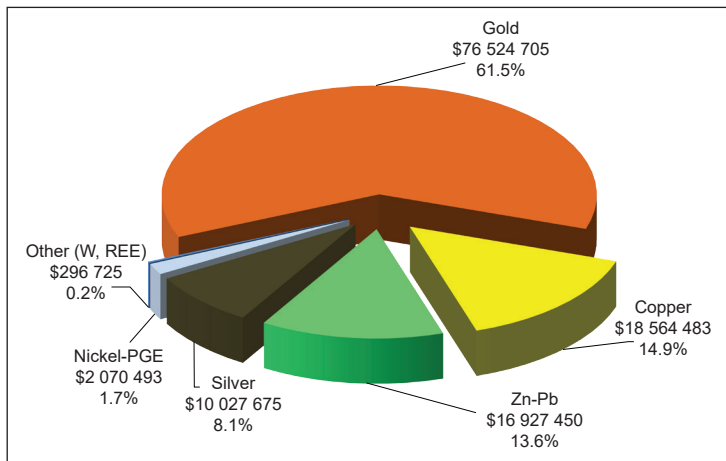


Figure 4. 2022 Distribution of exploration expenditures by primary commodity of interest.

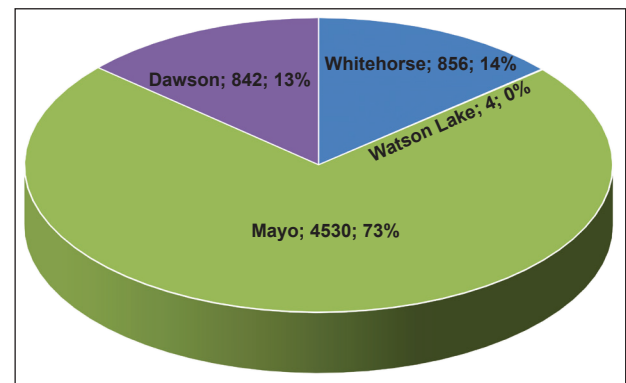


Figure 5. Distribution of claim staking by mining district.

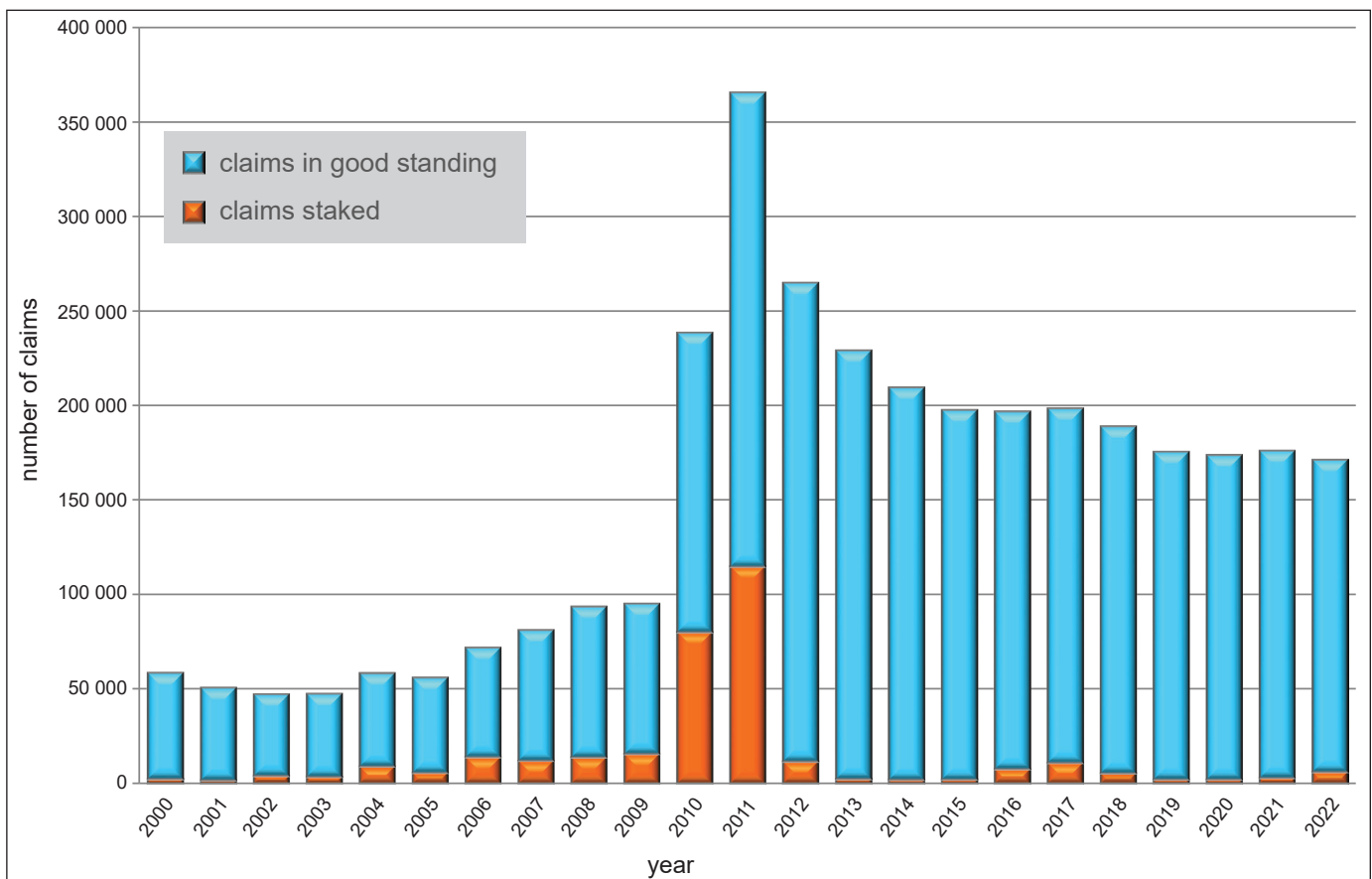


Figure 6. Quartz claims staked and in good standing, 2000–2022.

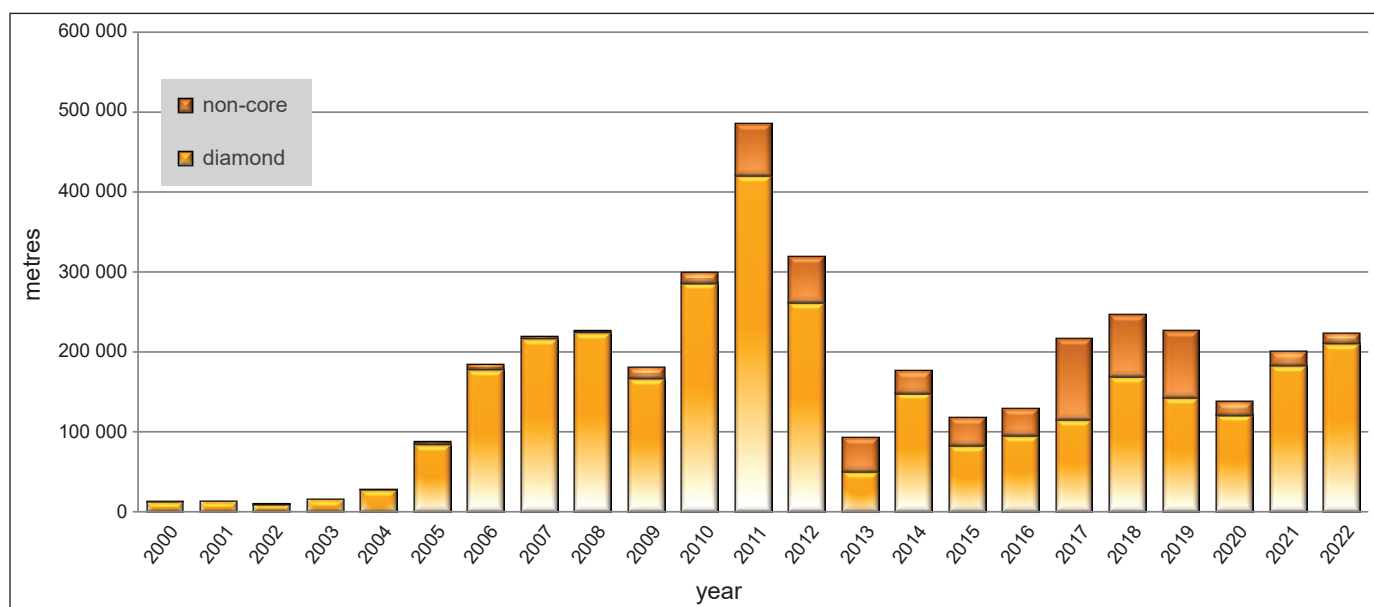


Figure 7. Diamond drilling and reverse circulation or rotary air blast drilling, 2000–2022.

## Mining activity

Victoria Gold Corp. began commercial production at the Eagle Gold mine on its Dublin Gulch property on July 1, 2020. The deposit is a reduced intrusion-related gold system (RIRGS). Gold production for the first three quarters of 2022 was 106,441 oz and guidance for year-end 2022 was that the mine will produce approximately 165,000 oz of gold, comparable to 2021 production. A third quarter drop in production occurred due to a conveyor splice failure; repairs to the conveyor took approximately two weeks. The company also carried out an exploration program at Eagle, drilling 23 deep diamond drill holes totalling 10 342 m. Each hole averaged 450 m in depth; the program added approximately 500 m of mineralized strike length to the deposit.

Victoria Gold also drilled at their Raven and Lynx occurrences. In September, the company announced a maiden resource estimate for Raven: 20 Mtonnes at a grade of 1.67 g/t gold for a total gold content of 1,070,239 oz.

The Minto copper-gold-silver mine north of Carmacks is operated by Minto Metals Corp. The company continued to ramp up production in 2022, producing

22.4 Mlbs copper (30% more than in 2021), 8972 oz gold (26% more than in 2021) and 103,116 oz silver (18% more than in 2021). The company conducted a significant drill program at the site, drilling 63 holes (totalling 28 438 m). They targeted four sites: Minto North, Ridgetop, Copper Keel South and a new discovery east of the mine complex. Highlights from the program include 2.2% Cu over 20 m at Minto North, 1.30% Cu over 4.41 m at Ridgetop, and 2.11% Cu over 12.16 m at Copper Keel South.

At the Keno mine site, Alexco Resource Corp. depleted the resource at the Bellekeno mine and switched to producing from the Birmingham mine in early 2022. However, in June the company announced the temporary suspension of production and milling to allow them to get a sufficient number of development headings to supply the mill at 400 tonnes per day. Prior to suspending production the operation had produced 190,930 oz of silver, 312,778 lbs of lead and 532,200 lbs of zinc.

In July, Hecla Mining Corporation announced it had reached an agreement with Alexco to acquire the company. The acquisition was completed on September 7. Hecla intends to restart production some time in 2023.

## Permitting and mine development

The Yukon and Canadian governments issued a positive decision on June 20, 2022, accepting the recommendation of the Yukon Environmental and Socio-economic Assessment Board (YESAB) for development of the Kudz Ze Kayah mine. However, the Kaska Nation has applied for a judicial review of the decision. The project is owned by BMC Minerals Ltd. and has a Measured, Indicated and Inferred mineral resource (M, I & I) of 19.1 million tonnes grading 6.35% zinc, 1.9% lead, 0.93% copper, 148 g/t silver, 1.39 g/t gold (CSA Global, 2017). The company did minor work on the site in 2022.

Newmont Corporation’s Coffee gold mine project received signoff from the Yukon and Canadian governments on the YESAB recommendation for the project to proceed. Newmont has not yet announced a timeline for development. The resource at Coffee (M, I & I) is 58.1 Mt grading 1.43 g/t gold for a total of 2.67 Moz of gold (Newmont, 2021). Newmont conducted exploration on its extensive land package focusing predominantly on targets outside the known resource area. The company completed 3456 m of diamond drilling and 6820 m of reverse circulation drilling (RC).

Western Copper and Gold Corp. continues to advance its Casino porphyry copper-gold-molybdenum project in western Yukon. The company filed an updated Feasibility Study in August and they have engaged with YESAB to restart the Panel Review process for the project. YESAB is revising the Environmental and Socio-Economic Statement Guidelines for the project in preparation for the Panel Review. In 2022, the company continued geotechnical and environmental studies for the project.

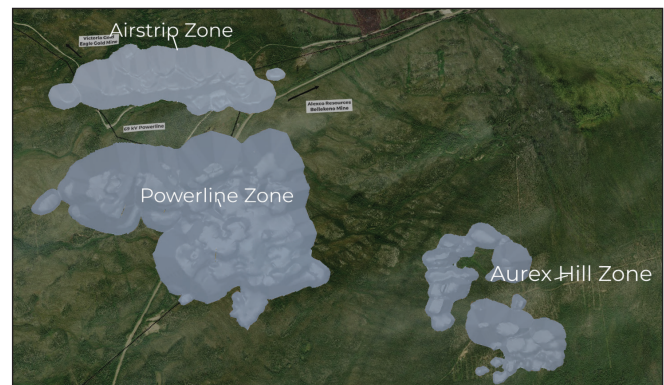
## 2022 exploration activities

The swath of land between Mayo–Keno–Clear Creek–Rackla to North Canol was the most active area for exploration and mining in 2022. Forty percent of the active projects and 73% of the exploration and

development spending occurred in this area. The Eagle Gold mine and the Keno silver mines are in this region, hence gold and silver are the focus, but there are also projects exploring for copper, lead, zinc and tungsten.

Banyan Gold Corp. conducted one of the larger exploration programs in Yukon in 2022 at the AurMac property west of Keno. AurMac is an intrusion-related gold occurrence located at the junction of the Eagle Mine access road and North Klondike Highway. The company completed 221 diamond drill holes (more than 50 000 m) on the Powerline and Aurex Hill targets. Highlights of drilling include 1.80 g/t gold over 31.8 m in hole AX-22-258 at Powerline and 1.13 g/t gold over 84.4 m in hole AX22-320 at Aurex Hill. In May, the company released an updated NI 43-101 resource estimate for the project that included an inferred resource for each of the three zones (Fig. 8; Table 1).

Banyan also conducted a program of soil sampling, lidar and airborne geophysics on its Nitra project, 20 km west of AurMac. Results from this program are pending.



**Figure 8.** AurMac project resource zones (Banyan Gold, 2022).

**Table 1.** Inferred resource for AurMac property (Banyan Gold Corp., 2022).

Zone	Tonnes	Gold Grade (g/t)	contained oz
Airstrip	42 500 000	0.64	874,000
Powerline	152 000 000	0.59	2,898,000
Aurex Hill	12 000 000	0.53	215,000
<b>Total oz =</b>			<b>3,990,000</b>

The maiden drill program (2021) on Snowline Gold Corp.'s Rogue property was very successful. In 2022, Snowline did follow-up work and completed 32 drill holes (15 500 m) at the Valley (Fig. 9) and Gracie targets. The company is encouraged by the discovery at Valley, which has potential to be a significant RIRGS (Fig. 10). Highlights from the drilling at Valley include 1.89 g/t gold over 410.0 m in hole V-22-007, 2.55 g/t gold over 318.8 m in hole V-22-010, and 1.45 g/t gold over 285.2 m in hole V-22-014. The company expects more results in the winter months.

Snowline was also active at their Einarson, Ursa, Cynthia, Cliff, Tosh and Rainbow properties conducting a variety of surveys, including drone imagery, IP, ground-base gravity, airborne magnetics and radiometrics, ground VLF-EM, as well as mapping and prospecting. Results from this work are pending.



**Figure 9.** Snowline Gold's Valley target.



**Figure 10.** Sheeted gold-bearing quartz veins at in drill core from Snowline Gold's Valley target.

ATAC Resources Ltd. conducted a small drill program at their Carlin-type Osiris gold deposit on the Rackla Gold property. They drilled 5 holes (1551 m): 3 holes on the Osiris zone and one at each of the Sunrise and Conrad zones. Highlights from drilling the Osiris zone include 5.07 g/t gold over 4.0 m in hole OS-22-282, 2.63 g/t gold over 33.20 m in hole OS-22-283, and 3.69 g/t gold over 10.80 m in hole OS-22-285. In July, ATAC released an updated NI 43-101 resource estimate for the Osiris deposit (Table 2).

**Table 2.** Osiris deposit resource estimate (ATAC Resources, 2022).

Category	Tonnes	Gold Grade (g/t)	Contained oz
Indicated	5 528 400	4.12	732,000
Inferred	9 360 000	3.47	1,044,000
<b>Total oz =</b>			<b>1,776,000</b>

Sitka Gold Corp. conducted 6493 m of diamond drilling (20 holes) at its RC Gold project in the Clear Creek area (Fig. 11), 88 km west of Keno. The RC Gold property is an RIRGS. Highlights from the program include 0.90 g/t gold over 146.6 m in hole DDRCCC 22-030, 0.65 g/t gold over 116.0 m in hole DDRCCC-22-029, and 0.51 g/t gold over 69.0 m in hole DDRCCC-22-031.



**Figure 11.** Drill platforms at Sitka Gold Corp.'s Blackjack zone, RC Gold property.

In the Dawson area, Klondike Gold Corp. continued to explore its Klondike District Gold property a short distance south of Dawson. Diamond drilling in 2022 focused on the Stander Zone, Gay Gulch showing and regional targets (47 holes, 6000 m). Results from the 2022 drilling have not been released. In November, the company released a maiden NI43-101 resource estimate for the project that does not include the 2022 drilling (Table 3).

**Table 3.** Resource estimate for the Klondike District property (www.klondike Goldcorp.com).

Category	Deposit	Tonnes	Gold Grade (g/t)	Contained oz
Indicated	Lonestar	19 535 528	0.643	403,857
Indicated	Stander	2 049 741	0.987	65,004
Inferred	Lonestar	6 156 522	0.503	99,562
Inferred	Stander	304 821	1.265	12,397
<b>Total (I &amp; I) =</b>				<b>580,860</b>

White Gold Corp. was active again this year on their extensive claim holdings south of Dawson, working several targets from their Thistle Creek camp. The company completed 9 diamond drill holes (2685 m) and 12 RC holes (919 m) at their Ulli's Ridge and Ryan's Surprise targets. The company also completed 15 diamond drill holes (2182 m) and 18 RC holes (1595 m) on the Betty property (Fig. 12).

Results released to date include 1.14 g/t gold over 27.43 m in hole BETMAS22RC005 and 4.13 g/t gold over 7.62 m in hole BETMAS22RC004 both of which are from the Mascot Target on the Betty property.



**Figure 12.** Gold-bearing breccia in drill core from White Gold Corp.'s Betty property.

Rockhaven Resources Ltd. completed an extensive diamond drilling program at its epithermal gold-silver Klaza property west of Carmacks (69 holes, 12 042 m). Fifty-three holes were drilled to further define the resource, eight holes were drilled to test for expanding the resource potential, two holes tested outside targets and 16 holes were drilled for geotechnical studies in the propose pit area and infrastructure sites. Results are pending.

In Wheaton River area near Carcross, Whitehorse Gold Corp. announce an update NI 43-101 resource estimate for their Skukum Gold project (Table 4). They did not conduct any fieldwork in 2022.

**Table 4.** Updated resource estimate for the Skukum Gold project using a 2.0 g/t AuEq cut-off grade (Whitehorse Gold Corp. news release Nov. 2, 2022).

Deposit	Category	kTonnes	Gold (g/t)	Silver (g/t)	Contained koz	
					Gold	Silver
Skukum Creek	Indicated	1048	5.79	170.5	195	5742
	Inferred	1680	4.49	101.3	242	5471
Goddell	Indicated	273	7.52	2.7	66	24
	Inferred	1134	4.61	3.1	168	112
Mt. Skukum	Indicated	273	9.88	11.6	87	102
	Inferred	201	6.05	7.3	39	47
<b>Total</b>					<b>797</b>	<b>11,498</b>

Seabridge Gold Inc. received a Class 4 exploration permit in September for their 3 Aces project in southeastern Yukon and embarked on an 1800 m drill program in the fall. The project is an orogenic gold occurrence with high-grade gold in quartz veins. The results from this work are pending.

### Base metal exploration programs

Thirty-two exploration projects targeted copper, lead, zinc, nickel and cobalt in the Yukon in 2022. The copper projects are predominantly in the Dawson Range area, northwest of Carmacks, but there are a few scattered projects in the northern Kluane Ranges and the Whitehorse area. Lead and zinc projects are spread throughout the Selwyn basin, from north of Dawson City arcing north and eastward to the Howards Pass area. Nickel and cobalt projects occur in the Kluane ultramafic belt in southwestern Yukon (see Fig. 3).

Granite Creek Copper Ltd. announced an updated resource estimate (Table 5) on its Carmacks Copper project in the spring of 2022 and conducted a small exploration program. The program consisted of a high-resolution, deep penetrating IP survey. The goal of the program was to look for chargeability anomalies in the gaps between known copper-bearing zones, in the hopes that it might represent additional, deeper copper sulphide mineralization. The survey targeted an

extension of Zone 1 northwards, the gap between Zone 4 and Zone 2000S, and the southern extension of zones 12 and 13. A number of chargeability anomalies were identified and the company plans to drill test them in the future to determine the cause.

West of Dawson, near the Yukon–Alaska border, ATAC Resources Ltd. conducted an RC drill program on the Connaught property. A small-scale open-pit mine operated on the Connaught property in the late 1960s, producing 22.7 tonnes of gold-silver-lead-zinc ore from galena-sphalerite veins. ATAC has re-envisioned the project as a porphyry copper-gold-molybdenum target based on extensive soil copper-molybdenum anomalies and trenching that has encountered abundant copper-oxide mineralization. In 2022, the company drilled eight RC holes (2164 m). Results from the drill program are pending.

ATAC also worked their newly acquired Catch property located 51 km east of Carmacks. Catch is an early-stage project that has interesting gold and copper values from surface sampling. The initial small program consisted of soil sampling, prospecting and an IP survey. The program identified a copper-in-soil anomaly that measures 5 km × 500 m. Grab samples returned up to 1.57% copper, 1.01% copper with 1.03 g/t gold, and 0.70% copper with 2.82 g/t gold.

**Table 5.** Updated resource estimate for Granite Creek Copper’s Carmacks Copper project using a 0.30% Cu cut-off grade (Granite Creek Copper Ltd., 2022).

Category	Tonnes	Grade			Contained Metal		
		Cu (%)	Au (g/t)	Ag (g/t)	Cu (Mlbs)	Au (oz)	Ag (oz)
<b>In Pit Oxide</b>							
Measured	11 361 000	0.96	0.40	4.11	239.32	145,000	1,501,000
Indicated	4 330 000	0.91	0.28	3.37	86.85	39,000	469,000
Inferred	216 000	0.52	0.09	2.44	2.47	1000	17,000
<b>In Pit Sulphide</b>							
Measured	5 705 000	0.68	0.16	2.54	86.05	28,000	467,000
Indicated	13 486 000	0.72	0.19	2.83	214.32	82,000	1,226,000
Inferred	1 675 000	0.51	0.13	2.24	18.92	7000	120,895

The IP surveys identified a 1000 × 600 × 400 m chargeability and resistivity high coincident with high-grade surface samples. Results were encouraging and prompted the company to include a follow-up 6-hole (474 m) RC drill program. The results from the drill program are pending.

Early in the summer, CAVU Energy Metals Corp. conducted a diamond drill program on the Hopper property located near the southeastern shore of Aishihik Lake. The 8-hole (2555 m) program targeted the Copper Castle Skarn zone and the Porphyry zone. At Copper Castle, they encountered 2.8% copper over 15.27 m in hole HOP22-DDH-03. At the Porphyry zone they encountered 0.106% copper over 306.75 m in hole HOP22-DDH-04. Later in the summer, CAVU announced a definitive agreement with Alpha Copper Corp., whereby Alpha Copper will acquire all of the shares of CAVU, merging the two company's assets. The acquisition is to be completed before the end of 2022.

Strategic Metals worked four copper projects, three lead-zinc projects, and one nickel project in 2022. The copper projects included the Batt copper-cobalt VMS project south of Haines Junction, and the CD and the Alotta porphyry copper projects in the Dawson Range copper belt. Results have been released from the work at the Batt property: surface sampling of a hand trench through oxidized and deformed volcanic and intrusive rocks returned 0.71% copper, 0.21% cobalt and 1.18 g/t gold over 5.7 m; and a sample from a large, angular, massive chalcopyrite boulder returned 19.7% copper and 41 g/t silver. The lead-zinc projects were the Rusty Mountain, Crag and Rod projects; all are located north of Keno in the Beaver River watershed area. The sediment-hosted nickel project was the Harvest project, located near Macmillan Pass. Results from work on the lead-zinc and nickel projects are pending.

Fireweed Metals Ltd. (formerly Fireweed Zinc Ltd.) continued to advance its Macmillan Pass sediment-hosted lead-zinc project, which includes the Tom and Jason deposits and the Boundary zone. The 2022 diamond drill program included 23 holes at the

Boundary zone and 9 at the Tom deposit, totalling 7000 m. Observations at Boundary zone extended known mineralization, and identified new discoveries of massive sulphide and laminated stratiform zinc mineralization with abundant sphalerite veins and vein breccias in multiple holes. At Boundary West, hole NB22-002 intersected high-grade massive sulphides and veins and ran 12.3% zinc, 1.3% lead, and 45.9 g/t silver over 124 m. The company also scanned 11 000 m of drill core using the GeologicAI core scanning system with state-of-the-art XRF and hyperspectral sensors.

Fireweed Metals also announced in early summer that it had acquired 100% interest in the Mactung tungsten project, located immediately adjacent to their Macmillan Pass project. Mactung is one of the largest and highest-grade tungsten deposits in the world. It is an advanced stage project with extensive drilling, engineering, metallurgy, geotechnical, and environmental baseline data collected by previous owners that supported a feasibility study in 2009. There is an historic resource calculation for the property from 2007: an indicated resource of 33.0 million tonnes grading 0.88% WO<sub>3</sub> (tungsten trioxide), and an inferred resource of 11.8 million tonnes grading 0.78% WO<sub>3</sub>. Fireweed conducted a lidar survey, resampled historic core, and did bulk density tests at the site in 2022.

Cantex Mine Development Corp. conducted diamond drilling (63 holes, 13 000 m) at their lead-zinc-silver North Rackla property located 85 km northeast of Keno. The program targeted the Main and GZ zones. Drill hole YKDD22-245 in the Main Zone intersected 12.1% combined lead-zinc and 37.5 g/t silver over 7.0 m. Hole YKDD22-226 intersected 39.0% combined lead-zinc, and 116.0 g/t silver over 5.0 m in the GZ zone.

Metallic Minerals Corp. has a number of mineral claims in the historic Keno silver district that fall within and around Hecla Mining's claim package. Metallic Minerals drilled 23 holes (3265 m) in 2022. The program focused on resource definition drilling on the Formo and Caribou deposits and the recently discovered Fox target, as well as step-out drilling at several new discoveries. Results from the program are pending.

Alianza Minerals Ltd. explored its Mt. Haldane property, a high-grade silver vein target 27 km west of Keno, with trenching, prospecting and rock sampling. Results from the program are pending.

In southern Yukon, near Rancheria, CMC Metals Ltd. drilled 22 holes (4400 m) and mapped trenches at the Silver Hart property. Silver Hart has historically been recognized as a polymetallic vein occurrence with an historic resource of 69 500 tonnes containing 1.2 Moz of silver. However, the program this year came up with a new interpretation of the geological setting and identified significant manto-style alteration and mineralization a short distance from the veins (Figs. 13 and 14). Results from the drill program are pending.



In southwestern Yukon, in the Kluane ultramafic belt, there are two exploration projects targeting nickel-copper-cobalt-PGE occurrences. At the Catalyst project, Stillwater Critical Minerals Corp. conducted a program of airborne geophysical surveying, soil sampling and prospecting. Results from this work are pending.

At the Nickel Shaw property, Nickel Creek Platinum Corp. completed an 18-hole (3300 m) diamond drilling program: 8 holes were located to upgrade the resource estimate on the deposit, and 10 holes were to explore at the Arch target (Fig. 15). The company also undertook the collection of additional geotechnical and hydrogeological data including the characterization of the proposed waste dump and tailings sites. The property is located 26 km northwest of Burwash Landing. Results from this work are pending.

**Figure 13.** Oxidized manto-style alteration and mineralization in drill core from the Silver Hart property.



**Figure 14.** Surface exposure of a manto-style chimney at the Silver Hart property.



Figure 15. Drill site at Nickel Shāw project.

## Summary

The Yukon mining and exploration industry returned to a more normalized level of activity in 2022, despite having to deal with some lingering headwinds following the COVID-19 pandemic. This year saw a slight increase in the amount of exploration and development expenditures. The YGS is expecting year-end hard rock metal production values to be 11% higher in 2022 as compared to 2021.

There were some significant new discoveries in 2022. The ongoing work at Banyan Gold's AurMac project has resulted in a significant resource update. The new discoveries of reduced intrusion-related gold systems at Sitka Gold's RC project and Snowline Gold's Rogue project are encouraging. On the base metal front, the significant drill results at the Boundary Zone of Fireweed Metals show there is opportunity for more discovery potential at this project. Finally, the new interpretation of manto-style mineralization at the Silver Hart project goes to show how a new spin on an old target can spark new life into a district. The reader is encouraged to monitor the websites of Yukon exploration companies for more releases of information as results come out through the winter months.

## References

- ATAC Resources Ltd., 2022. Technical Report and Estimate of Mineral Resource for the Osiris Project. Prepared by Mine Development Associates for ATAC Resources Ltd., June 7, 2022, p. 115–117.
- Banyan Gold Corp., 2022. Technical Report, AurMac Property. Prepared by JDS Energy & Mining Inc. for Banyan Gold Corp. May 13, 2022, p. 1–3.
- BMC Minerals (No. 1) Ltd., 2017. NI 43-101 Technical Report, Kudz Ze Kayah Property. Prepared by CSA Global for BMC Minerals (No. 1) Ltd., May 31, 2017, p. 146.
- Ellis, S. and Casselman, S.G., 2023 (this volume). Yukon Mineral Exploration Program 2022 update. In: Yukon Exploration and Geology Overview 2022, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 33–40.
- Granite Creek Copper Ltd., 2022. Updated Mineral Resource Estimates for the Carmacks Cu-Au-Ag Project. Prepared by SGS Geological Services for Granite Creek Copper Ltd., February 25, 2022, p. 141.
- Newmont Corporation, 2022. Newmont Reports 2021 Mineral Reserves of 93 million Gold Ounces and 65 million Gold Equivalent Ounces. Newmont Corporation, press release, February 24, 2022, <https://newmont.com/>.

## Appendix 1. Exploration projects 2022.

Project	Company/Owner	Commodity	Deposit type	Work type
Gold Strike	1079170 BC Ltd.	gold	unknown	SGC, RGC, P, G
Birmingham Mine	Alexco Resource Corp./Hecla Mining	silver, lead, zinc	vein/breccia	DD
Mt. Haldane	Alianza Minerals Ltd.	silver, lead, zinc	vein/breccia	P, G, T
Stevenson Ridge	Arsenault, Chris	copper	porphyry/sheeted vein	P
Connaught	ATAC Resources Ltd.	copper, gold	porphyry/sheeted vein	SGC, RGC, T
Rackla Gold	ATAC Resources Ltd.	gold	sediment associated	DD, ES
Catch	ATAC Resources Ltd.	copper, gold	porphyry/sheeted vein	SGC, RGC, P, GGP, RC
Marg	Azarga Metals Corp.	copper, gold, lead, zinc, silver	volcanic associated	GGP
Nitra	Banyan Gold Corp.	gold	porphyry/sheeted vein	P, SGC, RGC
AurMac	Banyan Gold Corp.	gold	skarn/replacement	RGC, DD, AGP
Blende	Blende Silver Corp.	zinc, lead	Mississippi Valley-type	RGC
Kudz Ze Kayah	BMC Minerals Ltd.	zinc, lead, copper, silver, gold	volcanic associated	ES
Allover	Burke, Mike	copper	unknown	P
Mil	Burke, Ryan	copper	unknown	P
North Rackla	Cantex Mine Development Corp.	zinc, lead, copper, silver, gold	skarn/replacement	P, G, RGC, DD
Hopper	CAVU Energy Metals Corp.	copper, gold	skarn/replacement	DD
Selwyn Project	Chihong Canada Mining Corp.	zinc, lead	sediment associated	ES
Silver Hart	CMC Metals Ltd.	silver, lead, zinc, copper	manto, vein	G, RGC, T, DD
Misty	Coates, Jim	copper	skarn/replacement	GGP
Bandito	Endurance Gold Corp.	rare earth elements	skarn/replacement	AGP
Mactung	Fireweed Metals	tungsten	skarn/replacement	AGP, RGC, ES
Macmillan Pass	Fireweed Metals	zinc, lead, silver, copper	sediment associated	DD, ES
FLR	Florin Resources Inc.	gold	unknown	SGC, RGC, P, G
Livingstone	Golden Ram Inc.	gold	unknown	GGP, SGC

### Abbreviations

CS – claim staking	RGC – rock geochemistry	AGP – airborne geophysics
P – prospecting	SGC – soil/silt geochemistry	GGP – ground geophysics
G – geology	DD – diamond drilling	ES - economic studies
T – trenching	RC – reverse circulation drilling	

## Appendix 1 (continued). Exploration projects 2022.

Project	Company/Owner	Commodity	Deposit type	Work type
Hotspot	Golden Sky Minerals Corp.	gold	unknown	AGP, SGC
Carmacks Copper	Granite Creek Copper Ltd.	copper, gold, silver	porphyry/sheeted vein	GGP, SGC, T, ES
Cowley Park	H. Coyne & Sons Ltd.	copper, gold	skarn/replacement	DD
Groundhog	Honey Badger Silver Inc.	silver, lead, zinc	unknown	P, G, SGC, RGC
Goldorak	Hulstein, Roger	gold	unknown	P, SGC, RGC
Wels Gold	K2 Gold Corp.	gold	porphyry/sheeted vein	P, GGP, RGC
Lone Star	Klondike Gold Corporation	gold	vein/breccia	RGC, DD, ES
CDL	Mann, Bill	copper, gold	porphyry/sheeted vein	P, SGC, RGC
Carlin-Roop	Mayo Lake Minerals Inc.	gold, silver	unknown	SGC, RGC, T, DD
Keno-Lightning	Metallic Minerals Corp.	silver, lead, zinc	vein/breccia	DD
Sands of Time	Milton, Jack	copper, gold, molybdenum	porphyry/sheeted vein	SGC, P, Staking
Minto Mine	Minto Metals Corp.	copper, gold, silver	porphyry/sheeted vein	RGC, DD
Coffee Project	Newmont Corporation	gold	vein/breccia	G, RGC, DD, RC
Nickel Shāw (Wellgreen)	Nickel Creek Platinum Corp.	nickel, copper, cobalt, PGEs, gold	mafic/ultramafic associated	DD, ES
Kryptos	Richards, Gord	copper	unknown	RC
Klaza	Rockhaven Resources Ltd.	gold, silver, lead, zinc	vein/breccia	RGC, DD, ES
Raven (Alaskite)	Ryan, Shawn	zinc, lead	unknown	SGC
Keystone	Ryan, Shawn	gold	vein/breccia	SGC
Goddess	Ryan, Shawn	molybdenum	porphyry/sheeted vein	GGP
OG	Ryan, Shawn	zinc, lead	skarn/replacement	GGP
3 Aces	Seabridge Gold Inc.	gold	vein/breccia	G, GGP, T, DD
Michelle	Silver47 Exploration Corp.	zinc, lead, silver	Mississippi Valley-type	RGC, DD
Ogi	Sitka Gold Corp.	zinc, lead	sediment associated	SGC, RGC, T
RC Gold	Sitka Gold Corp.	gold	porphyry/sheeted vein	AGP, RGC, DD

## Abbreviations

CS – claim staking

RGC – rock geochemistry

AGP – airborne geophysics

P – prospecting

SGC – soil/silt geochemistry

GGP – ground geophysics

G – geology

DD – diamond drilling

ES - economic studies

T – trenching

RC – reverse circulation drilling

**Appendix 1 (continued). Exploration projects 2022.**

Project	Company/Owner	Commodity	Deposit type	Work type
Rogue	Snowline Gold Corp.	gold	vein/breccia	P, G, AGP, SGC, RGC, DD
Einarson	Snowline Gold Corp.	gold	vein/breccia	P, G, GGP, RGC
Ursa	Snowline Gold Corp.	gold	vein/breccia	P, G, GGP, RGC
Cynthia	Snowline Gold Corp.	gold	vein/breccia	P, G, RGC
Cliff	Snowline Gold Corp.	gold	vein/breccia	P, G, RGC
Tosh	Snowline Gold Corp.	gold	vein/breccia	P, G, AGP, GGP, SGC, RGC
Rainbow	Snowline Gold Corp.	gold	unknown	P, G, AGP, SGC, RGC, T
Florin Gold Project	St James Gold Corp.	gold	porphyry/sheeted vein	DD
Catalyst North	Stillwater Critical Minerals Corp.	nickel, copper, cobalt, PGEs, gold	mafic/ultramafic associated	P, AGP, SGC, RGC
Golden Culvert	Stratabound Minerals Corp.	gold	vein/breccia	P, G, SGC, RGC
Harvest	Strategic Metals Ltd.	nickel	sediment associated	P
Rusty Mountain	Strategic Metals Ltd.	zinc, lead, silver	skarn/replacement	P
Scarlet East	Strategic Metals Ltd.	gold	sediment associated	P
Crag	Strategic Metals Ltd.	zinc, lead, silver	vein/breccia	P
Batt	Strategic Metals Ltd.	copper, cobalt, gold, silver	volcanic associated	P, G, SGC, RGC
CD	Strategic Metals Ltd.	copper, gold	porphyry/sheeted vein	AGP
Rod	Strategic Metals Ltd.	zinc, lead, silver	porphyry/sheeted vein	GGP
Alotta	Strategic Metals Ltd.	copper, gold, molybdenum	porphyry/sheeted vein	AGP, SGC
Koi	Strategic Metals Ltd.	copper, gold	porphyry/sheeted vein	CS, P, G, GGP, SGC, RGC, T
Shanghai Creek	Targa Exploration Corp.	gold	vein/breccia	SGC
Pike-Warden	Transition Metals Corp.	gold, silver, copper	vein/breccia	RGC, P, G, RC
Treble	Trifecta Gold Ltd.	gold, copper	porphyry/sheeted vein	CS, P, G, SGC, RGC, T
VBW	Victoria Gold Corp.	gold	unknown	AGP
Dublin Gulch (Eagle)	Victoria Gold Corp.	gold	porphyry/sheeted vein	RGC, DD

**Abbreviations**

CS – claim staking	RGC – rock geochemistry	AGP – airborne geophysics
P – prospecting	SGC – soil/silt geochemistry	GGP – ground geophysics
G – geology	DD – diamond drilling	ES - economic studies
T – trenching	RC – reverse circulation drilling	

## Appendix 1 (continued). Exploration projects 2022.

Project	Company/Owner	Commodity	Deposit type	Work type
Lynx	Victoria Gold Corp.	gold	porphyry/sheeted vein	RGC, DD
Raven	Victoria Gold Corp.	gold	porphyry/sheeted vein	P, G, SGC, RGC, T, DD, ES
Casino	Western Copper and Gold Corp.	copper, gold, molybdenum, silver	porphyry/sheeted vein	RGC, DD, ES
Ryan's Surprise	White Gold Corp.	gold	vein/breccia	P, RGC, DD
Betty	White Gold Corp.	gold	unknown	RGC, DD
Mount Skukum	Whitehorse Gold Corp.	gold, silver	vein/breccia	ES

### Abbreviations

CS – claim staking

RGC – rock geochemistry

AGP – airborne geophysics

P – prospecting

SGC – soil/silt geochemistry

GGP – ground geophysics

G – geology

DD – diamond drilling

ES - economic studies

T – trenching

RC – reverse circulation drilling

## Appendix 2. Drilling statistics by project, 2022.

Project Name	Company Name	DDH		RC/RAB	
		# of holes	metres	# of holes	metres
Birmingham Mine	Alexco Resource Corp./ Hecla Mining	34	13 577		
Nadaleen Trend	ATAC Resources Ltd.	5	1551		
Connaught	ATAC Resources Ltd.			8	2164
Catch	ATAC Resources Ltd.			6	474
AurMac	Banyan Gold Corp.	221	50 000		
North Rackla	Cantex Mine Development Corp.	63	13 000		
Hopper	CAVU Energy Metals Corp.	8	2555		
Silver Hart	CMC Metals Ltd.	22	4400		
Boundary Zone	Fireweed Metals	32	7000		
Lone Star	Klondike Gold Corporation	47	6000		
Carlin-Roop	Mayo Lake Minerals Inc.	8	1070		
Keno-Lightning	Metallic Minerals Corp.	23	3265		
Minto Mine	Minto Metals Corp.	63	28 438		
Coffee Project	Newmont Corporation	16	3456	39	6820
Nickel Shāw (Wellgreen)	Nickel Creek Platinum Corp.	18	3300		
Klaza	Rockhaven Resources Ltd.	69	12 042	16	280
3 Aces	Seabridge Gold Inc.	?	1800		
Michelle	Silver47 Exploration Corp.	5	429		
RC Gold	Sitka Gold Corp.	20	6493		
Rogue	Snowline Gold Corp.	32	13 320		
Ward (Sin)	Transition Metals Corp.			3	204
Raven (Erin)	Victoria Gold Corp.	91	25 117		
Lynx	Victoria Gold Corp.	6	1971		
Dublin Gulch (Eagle)	Victoria Gold Corp.	23	10 342		
Casino	Western Copper and Gold Corp.	24	1862	9	364
Betty	White Gold Corp.	15	2182	18	1595
Ryan's Surprise	White Gold Corp.	9	2685	12	919
		854	215 855	111	12 820

