

Source: S&P Capital IQ

	Price	Mkt Cap (C\$M)
Avante Mining	\$0.08	\$3.15
Canada One Mining	\$0.01	\$0.46
Centerra Gold	\$6.81	\$1,467.87
Collective Metals	\$0.24	\$8.77
EnGold Mines	\$0.05	\$1.86
Golden Sky Minerals	\$0.10	\$1.87
Hudbay Minerals	\$7.99	\$2,802.32
Imperial Metals	\$2.18	\$352.07
Kodiak Copper	\$0.45	\$28.45
New Gold	\$1.66	\$1,140.75
Newmont	US\$31.25	\$48,883.18
NorthWest Copper	\$0.14	\$33.92
Orestone Mining	\$0.03	\$1.42
Sego Resources	\$0.02	\$2.95
Taseko Mines	\$2.13	\$617.70
Teck Resources	\$52.15	\$27,000.21
Torr Metals	\$0.05	\$1.80
Tower Resources	\$0.07	\$9.44
Vizsla Copper	\$0.08	\$8.63

Source: S&P Capital IQ

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Note: All figures are in Canadian dollars unless otherwise noted.

Can British Columbia's Copper Projects Meet North America's Green Energy Dream

A Focus on the Copper Projects in the Quesnel Trough

Copper, a critical component in electronics, construction, and renewable energy, is essential for North America's green energy aspirations. British Columbia's Quesnel Trough, rich in copper projects, stands at the forefront of this transition. The region's geological formation, extending from Washington State to the Yukon border, is a key player in Canada's mining sector, particularly for copper, gold, and silver.

REPORT HIGHLIGHTS:

- **Copper's Role in Green Energy**
 - Copper, a critical component in electronics, construction, and renewable energy, is essential for North America's green energy aspirations.
 - The demand for copper is expected to grow steadily, fueled by the expansion of the electric vehicle (EV) market and renewable energy sectors.
- **British Columbia's Quesnel Trough**
 - British Columbia's Quesnel Trough, rich in copper projects, stands at the forefront of this transition.
 - The region's geological formation, extending from Washington State to the Yukon border, is a key player in Canada's mining sector, particularly for copper, gold, and silver.
 - British Columbia's copper projects within the Quesnel Trough, include the Copper Mountain Mine by **Hudbay Minerals** and the Gibraltar Mine by **Taseko Mines**, and highlight the region's potential to meet the increasing need for copper in green technologies.
- **Canada's Critical Mineral Strategy**
 - Canada's Critical Mineral Strategy underscores the importance of copper, aiming to position Canada as a leader in the supply of minerals crucial for the green and digital economy.
 - This strategy emphasizes responsible mining practices and the role of copper in economic security and the low-carbon transition.
- **Companies Operating in the Quesnel Trough**
 - This Industry Report highlights 19 companies exploring operating in the Quesnel Trough, including Canada One Mining, Hudbay Minerals, Imperial Metals, Kodiak Copper, Newmont, NorthWest Copper, Taseko Mines, and Teck Resources.

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1.0 Copper Overview

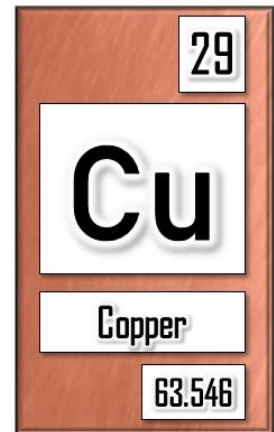
Copper is a critical component of various industries, including electronics, construction, and renewable energy. Various countries, including the US and Canada, have the metal on a critical or strategic mineral list.

As one of the earliest metals used by humans, copper has played a pivotal role in the advancement of civilization. Its unique combination of properties, including high ductility, malleability, excellent thermal and electrical conductivity, corrosion resistance, and antimicrobial has established copper as a key industrial metal. It ranks third in consumption among industrial metals, following iron and aluminum.

Copper is usually extracted through a process that begins with the mining and concentration of low-grade copper sulphide ore, followed by smelting and electrolytic refining to produce pure copper cathodes. Additionally, a growing proportion of copper production is derived from the acid leaching of oxidized ores.

Copper's primary application is in the electrical industry, encompassing power transmission and generation, building wiring, telecommunication, and various electrical and electronic products. These uses constitute approximately three-quarters of its total consumption.

The largest single market for copper is building construction, followed by the electronics sector, transportation, industrial machinery, and consumer and general products. Copper is widely used in plumbing, wiring, and roofing because of its durability and reliability.



1.1 Copper Supply

The global copper supply is a dynamic market influenced by a range of economic, technological, and geopolitical factors. While current production levels are stable, future supply dynamics will likely be shaped by increased demand from emerging and green technologies, decarbonization, and the need for sustainable mining practices.

Global Production:

- According to the **US Geological Survey (USGS)**, the total global mine production of copper was estimated to be 22 Mt in 2022. This figure represents a 4% increase from the previous year.
- The largest copper-producing countries include Chile, Peru, the Democratic Republic of Congo (DRC), China, and the US. Chile remains the world's leading producer, with almost 24% of mine production, contributing significantly to the global supply.
- However, China remains the largest producer of processed copper. It represents over 42% of the world's refinery production, pegged at 26.0 Mt in 2022, up from 25.3 Mt in 2021.

Supply Dynamics:

- The copper mining industry is characterized by large-scale operations, with major mining companies such as **Freeport-McMoRan** (NYSE: FCX), **Codelco** (the Chilean state-owned copper mining company), **BHP** (ASX: BHP | NYSE: BHP), **Grupo Mexico** (BMV: GMEXICOB) and its subsidiary **Southern Copper** (NYSE: SCCO), Glencore (LSE: GLEN), and **Zijin Mining Group** (SHA: 601899) being key players in the market.
- In addition to primary production from mines, recycled copper constitutes a significant portion of the total supply. The recycling of copper is driven by its high value and the efficiency of the recycling process.

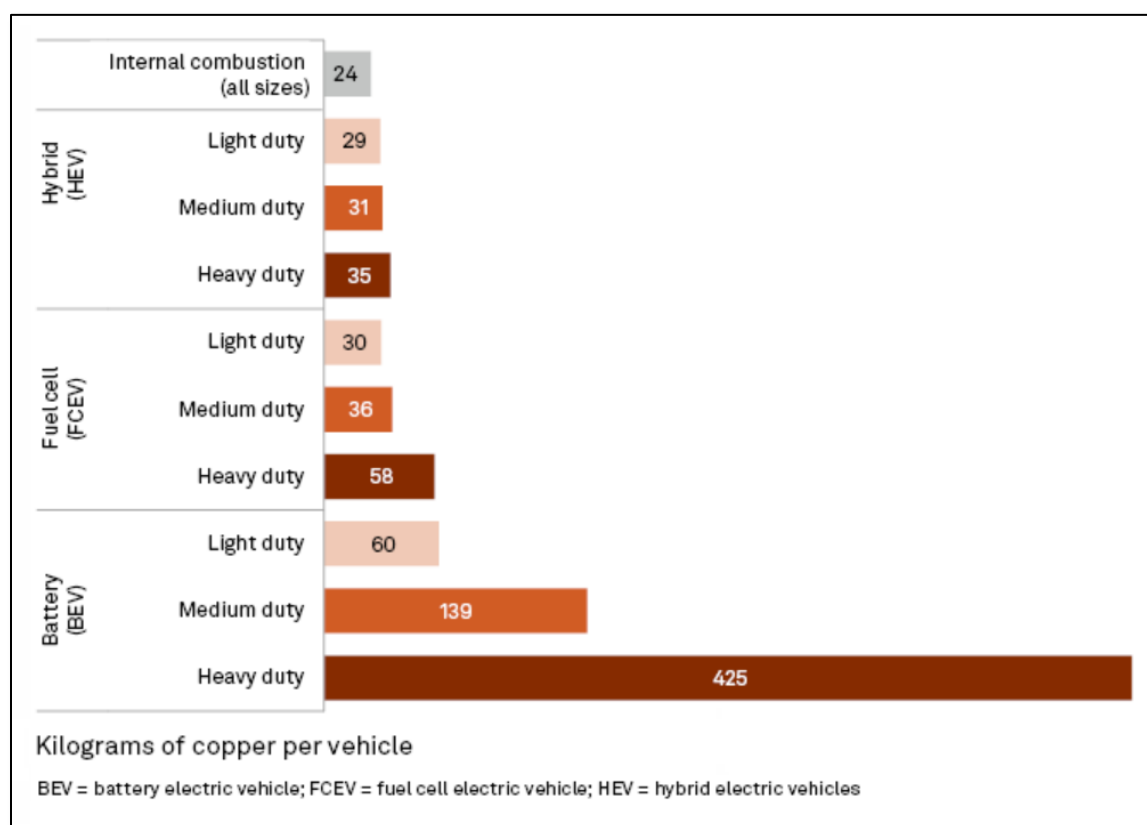
Market Influences:

- Supply disruptions, such as strikes in major mines or political instability in producing countries, can impact global copper supply and lead to price volatility.
- For example, **First Quantum Minerals** (TSX: FM), a diversified mining company, is known for its significant contributions to the global copper supply. However, in November 2023, it was forced to shut down operations at the Cobre Panama copper mine. This mine was a significant asset and accounted for about 40% of its revenue. The shutdown was a result of the Supreme Court of Panama ruling the concession contract of the mine unconstitutional. This decision came amid nationwide protests against the expansion of the mining sector in Panama.

Supply Outlook:

- The copper industry is expected to face challenges related to resource depletion in existing mines and increasing environmental concerns. These factors may necessitate more investments in exploration and the development of new mining projects.
- Innovations in mining technology and sustainable practices are likely to play a crucial role in meeting the growing global demand for copper, especially in the context of the green energy transition.

Figure 1: Current Copper Content by Vehicle



Source: S&P Global (2022)

1.2 Copper Demand

Global copper demand has been consistently strong, driven primarily by the electrical and construction industries. The demand for copper was estimated to be around 25 Mt in 2022, somewhat in balance with the current supply.

The largest consumers of copper include China, the United States, and European countries. As of 2022, China was the world's largest consumer of refined copper, accounting for approximately 55% of global consumption, and underscores its extensive industrial and manufacturing activities.

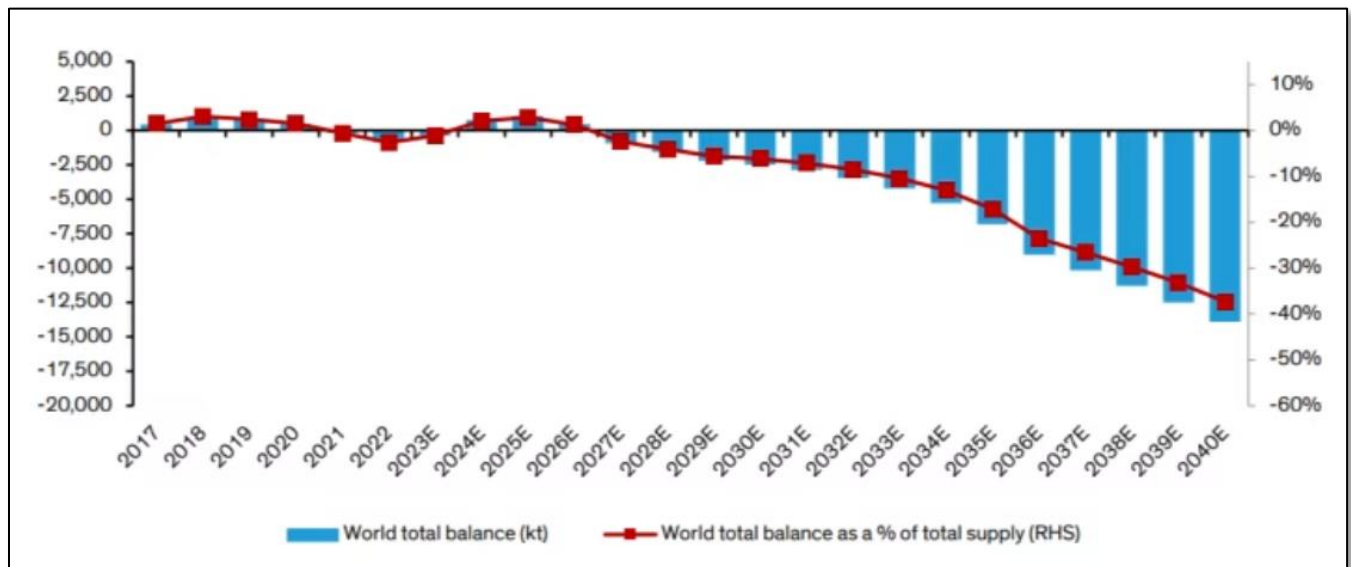
Copper's role as a crucial industrial metal is highlighted by its position as the third most consumed metal, behind iron and aluminum. Notably, copper consumption is closely tied to industrial output, with a 1% increase in manufacturing production typically resulting in a corresponding 1% rise in copper demand.

The demand for copper is poised for steady growth over the next decade, fueled by technological advancements, the global push for renewable energy, and the expansion of the electric vehicle (EV) market. This trend presents a significant opportunity for the copper industry, albeit with challenges in meeting the increasing demand.

Demand Drivers:

- The copper market is influenced by various factors, including economic growth, technological advancements, and geopolitical events.
- The electrical industry remains the largest consumer of copper, primarily for wiring and electrical components, due to copper's excellent conductivity. The construction industry also uses copper for plumbing, roofing, and other building materials.
- The ongoing transition to green energy is expected to further increase copper demand, particularly due to its critical applications in expanding electricity networks and clean energy technologies.
- For example, EVs require significantly more copper than traditional internal combustion engine (ICE) vehicles (see Figure 1).

Figure 2: World Total Copper Balance (Kt)



Source: Financial Times (September 15, 2023)

Demand Forecast:

- According to S&P Global, forecasts suggest that global copper demand is expected to grow steadily over the next decade. Analysts predict an annual growth rate of approximately 3% to 4%.
- By 2035, the demand for copper is projected to reach more than 30 Mt, driven by continued industrialization and the global shift towards renewable energy and EVs.
- The transition to green energy, including the expansion of wind and solar power infrastructure, is anticipated to be a major factor in potentially doubling demand to 53 Mt by 2050.

Challenges and Opportunities:

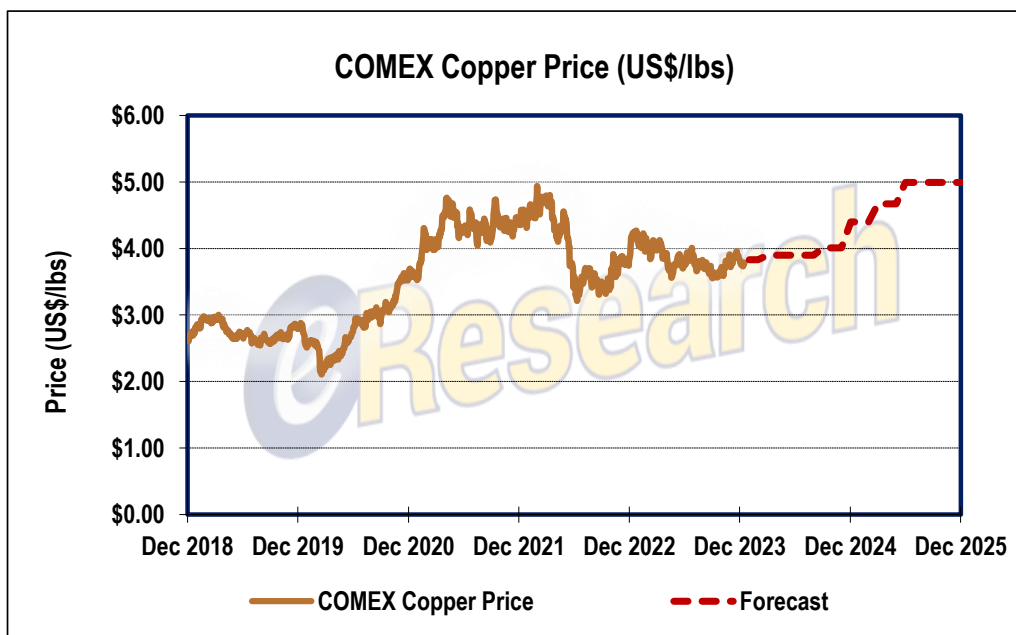
- One of the challenges facing the copper market is ensuring a steady supply to meet this growing demand, which may require new mining projects and innovations in recycling.
- The potential supply-demand gap presents both challenges and opportunities for mining companies and investors in the copper sector (see Figure 2).
- The market also faces some challenges, such as environmental regulations, supply disruptions, and price volatility.

1.3 Copper Pricing

The current copper price is approximately US\$3.87 per pound or US\$8.26 per kilogram or \$8,312 per tonne.

S&P Capital IQ consensus forecast for copper has it reaching US\$4.00 per pound by the end of 2024 and US\$5.00 per pound by the end of 2025 (see Figure 3).

Figure 3: COMEX Copper Price Chart - 5-Year Historical and 2-Year Forecast



Source: S&P Capital IQ (data); eResearch (chart)

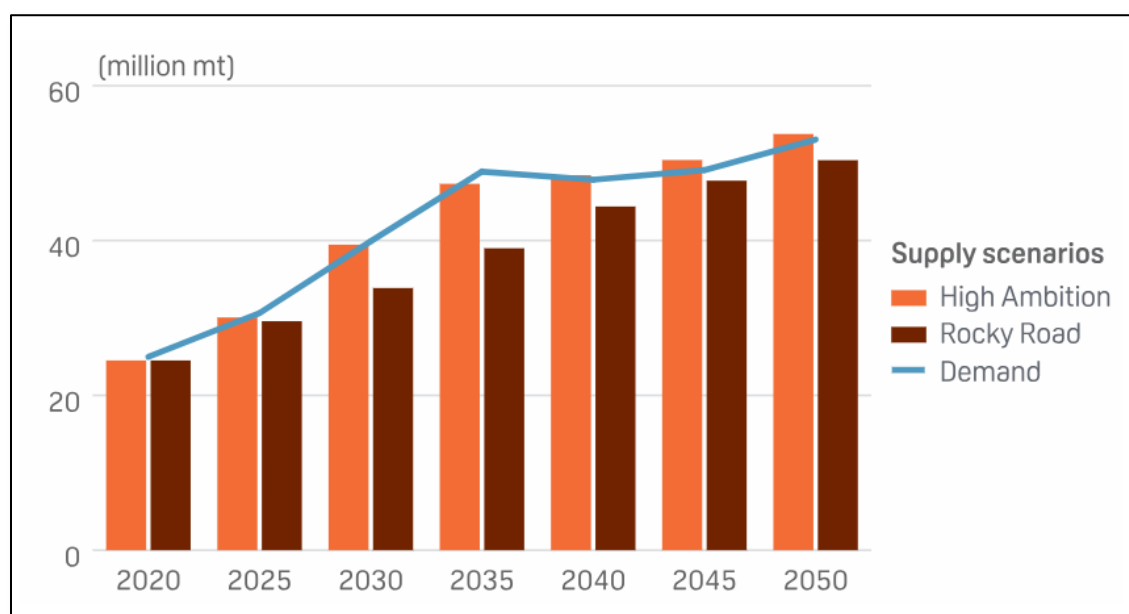
However, copper has an important role in facilitating decarbonization and the transition from oil to renewable energy sources. Various analysts forecast that copper could rise to US\$6.80 per pound (US\$15,000 per tonne) by 2025, driven by increased demand and probable supply constraints.

A price rise is essential to stimulate investment and expand output, ensuring a steady supply to meet the increasing demand to meet the global energy transition efforts.

The expansion of existing mines and the development of new copper projects are processes that take several years. This extended timeline is likely to result in copper shortages and price increases.

According to an S&P Global report, a best base “High Ambition” scenario, in which “everything goes right” with current copper production growth and new mines coming online, has a copper deficit of 1.5 Mt by 2025. In the worst-case (“Rocky Road”) scenario, copper deficits could reach 9.9 Mt by 2035 (see Figure 4). Either scenario could result in a historic copper deficit.

Figure 4: Global Copper Supply Scenarios and Demand



Source: S&P Commodity Insights (2022)

1.4 Copper is a Critical Mineral in Canada

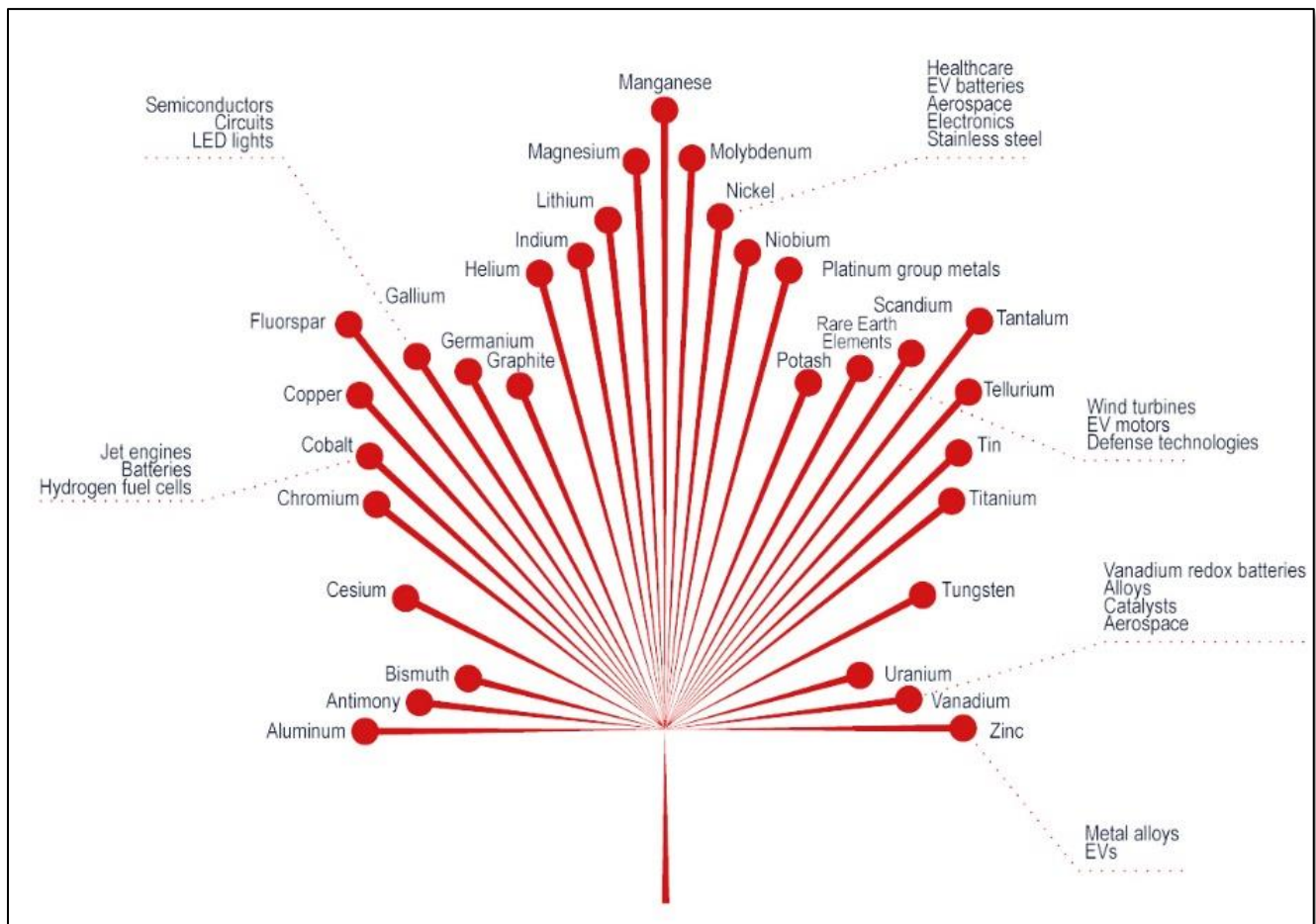
Canada's [Critical Mineral Strategy](#) is a comprehensive plan aimed at positioning Canada as a global leader in the supply of critical minerals, which are essential for the green and digital economy.

- Canada maintains a list of 31 minerals deemed "critical". The list was developed in consultation with provincial, territorial, and industry sector experts.
- A mineral is deemed to be a "critical mineral" due to its role in economic development, industry, and/or national security. For each "critical mineral", there must be a clear supply chain strategy to ensure that there are not any supply chain disruptions.
- It aims to strengthen supply chains and international cooperation, particularly with allies like the US and the EU.
- Emphasis is placed on responsible mining practices and minimizing environmental footprints.
- The strategy also involves active participation and benefits-sharing with Indigenous peoples.

- The strategy recognizes the critical role of minerals like copper in Canada's economic security and the transition to a low-carbon economy.
- Copper is one of the six minerals initially prioritized in the strategy due to its potential to spur Canadian economic growth and its necessity in priority supply chains. In addition, copper is crucial for various technologies and sectors, including clean technologies, the digital economy, and advanced manufacturing.

This Critical Minerals List serves as a strategic guide, offering enhanced certainty and predictability to a diverse array of stakeholders, including investors, developers, local communities, and international trading partners, about Canada's national priorities in the mineral sector.

Figure 5: Canada’s Critical Minerals List



Source: The Canadian Critical Minerals Strategy (2022)

2.0 Regional Copper Company Comparatives in the Quesnel Terrane

The Quesnel Terrane or Trough is a geological formation extending approximately 1,000 km from the Washington State border to the Yukon border in central British Columbia. Mineralized geological structures are predominantly enriched with copper, gold, and silver, and in certain instances, also contain molybdenum.

Major mines in the Quesnel Terrane include the Highland Valley Copper Mine and the Mount Polley Mine.

The Quesnel Trough Porphyry Belt is a specific zone or belt within the Quesnel Terrane where conditions were particularly conducive to the formation of copper-gold porphyry deposits.

From a geological and economic perspective, the Quesnel Trough Porphyry Belt is considered one of Canada's most critical mineral belts. Its ongoing potential for new mineral discoveries continues to make it a focal point for exploration and development activities in the Canadian mining sector.

Within this belt, there are several significant copper-gold porphyry deposits. Notable examples include Copper Mountain, New Afton, Mount Milligan, Woodjam, Kwanika, and Kemess. Each of these deposits contributes to the belt's reputation as a rich source of copper and gold.

2.1 Producing Mines

2.1.1 Copper Mountain Mine – Hudbay Minerals (TSX: HBM)

Hudbay Minerals is a Canadian mining company that operates in Canada, the US, and Peru. It produces copper, molybdenum, and zinc.

The Copper Mountain Mine is currently controlled by **Copper Mountain Mine (BC) Ltd.**, a joint venture owned 75% by **Hudbay Minerals** and 25% by **Mitsubishi Materials**.

The Copper Mountain Mine is located 15 km south of the town of Princeton and 188 km east of Vancouver, off Highway 3 (Crowsnest Highway).

The Copper Mountain Mine has a rich history of copper mining with gold and silver credits. From 1925 to 1930 and 1937 to 1957, **Granby Consolidated Mining, Smelting, and Power Company** operated underground until mining was suspended, partially due to low copper prices and higher transportation charges. Head grade during this period averaged 1.08% Cu.

From 1972 to 1988, **Newmont Mining** operated open-pit mining from the Ingerbelle deposit and three adjacent open-pits. In June 1988, the Copper Mountain Property was sold to **Cassiar Mining Corporation**, subsequently renamed **Princeton Mining Corporation**, which operated the mine until 1996, when low copper prices and rising operating and capital expenses resulted in the mine closing. During this period, the average head grade was 0.43% Cu.

Copper Mountain Mining Corporation acquired the property in 2007, with **Mitsubishi Materials** investing in the project in 2009, and open-pit copper production resumed in 2011.

In June 2023, **Hudbay Minerals** acquired the Copper Mountain Mine when it acquired **Copper Mountain Mining** for a Transaction Value of US\$663 million (Equity Value of US\$439 million).

Figure 6: Copper Mountain Mine Mineral Reserve and Resource Estimates

	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	CuEq (%)
Reserves					
Proven	195.04	0.27	0.12	0.78	0.35
Probable	171.94	0.22	0.11	0.59	0.30
Total Proven & Probable	366.98	0.25	0.12	0.69	0.33
Resources					
Measured	41.20	0.21	0.09	0.73	0.27
Indicated	96.62	0.21	0.11	0.68	0.29
Total Measured & Indicated	137.81	0.21	0.10	0.69	0.28
Inferred	371.32	0.25	0.13	0.61	0.34

Source: Hudbay News Release (December 5, 2023)

Currently, ore is mined at Copper Mountain Mine from open-pits using conventional shovel and truck methods. The mine’s mill, with a capacity of 45,000 tonnes per day (tpd), features conventional crushing, grinding, and flotation circuits to produce copper concentrates, which also yields gold and silver credits. The mine currently employs over 500 people.

The Copper Mountain Mine is expected to produce approximately 45,000 tonnes of copper and 49,500 ounces of gold annually over the next 10 years, with a 21-year mine life and total production of 783,000 tonnes of copper, 0.9 million gold ounces, and 5.6 million silver ounces.

As of December 1, 2023, the Total Proven and Probable Reserves at the Copper Mountain Mine were 367.0 million tonnes (Mt) at 0.25% Cu, 0.12 g/t Au, and 0.69 g/t Ag, with a CuEq grade of 0.33% (see Figure 6). The current Reserves give the project a mine life of more than 20 years.

Total Measured and Indicated Resources, exclusive of Minerals Reserves, were 137.8 Mt at 0.21% Cu, 0.10 g/t Au, and 0.69 g/t Ag and Inferred Resources were 371.3 Mt at 0.25% Cu, 0.13 g/t Au, and 0.61 g/t Ag.

2.1.2 Gibraltar Mine – Taseko Mines (TSX: TKO)

- **Taseko Mines** is a Vancouver-based mining company that owns and operates the Gibraltar mine, an open-pit copper/molybdenum mine located 65 km north of Williams Lake in central BC.
- The Gibraltar mine has been in operation since 1972 and is the second-largest open-pit copper mine in Canada and the fourth-largest in North America. Production is forecasted to last until 2044.
- In 2023, the mine produced 123 Mlbs pounds of Cu and 1.2 Mlbs of molybdenum (Mo).
- As of December 31, 2022, the Total Proven and Probable Reserves at Gibraltar were 693 Mt at 0.25% Cu and 0.008% Mo.

2.1.3 Highland Valley Copper Mine – Teck Resources (TSX: TECK.B)

- **Teck Resources** is one of Canada's largest diversified mining companies, with major business units focused on copper, zinc, gold, metallurgical coal, and energy.
- It operates the Highland Valley Copper (HVC) open-pit mine, located about 50 km southwest of Kamloops, in south-central BC.
- HVC is the largest copper mine in Canada, producing both copper and molybdenum concentrates, and accounts for 1% of the world's copper concentrate and 1.5% of the world's molybdenum.

- It was expected to produce between 110,000 and 118,000 tonnes of Cu in 2023 and 120,000 to 165,000 tonnes of Cu in 2024. The current mine life extends to 2028 with exploration plans to prolong the mine life to 2040.
- As of December 31, 2022, the copper-molybdenum deposit has proven and probable reserves of 307.4 Mt grading 0.30% Cu (790 Kt) and 0.008% molybdenum (10 Kt).

2.1.4 Mount Milligan Mine – Centerra Gold (TSX: CG)

- **Centerra Gold** is a Canadian-based gold mining company that operates, develops, explores, and acquires gold and copper properties in various markets worldwide.
- One of its key operations is the Mount Milligan Mine which achieved commercial production in February 2014. The open-pit mine is located about 156 km northwest of Prince George and has a 60,000 tpd copper processing plant.
- Annual production in 2023 was forecasted to be 27,000 tonnes to 32,000 tonnes (60 to 70 Mlbs) of Cu and 150,000 to 160,000 ounces of Au.
- As of December 31, 2022, the Total Proven and Probable Reserves at Mount Milligan were 223.96 Mt at 0.18% Cu (900 Mlbs) and 0.37 g/t Au (2.6 Moz).

2.1.5 Mount Polley Mine – Imperial Metals Corporation (TSX: III)

- **Imperial Metals** is a Vancouver-based mining company that owns and operates the Mount Polley mine, an open-pit copper/gold mine located 56 km northeast of Williams Lake in south-central BC.
- The Mount Polley mine resumed operations in July 2022 after a three-year suspension due to a tailings dam breach in 2014.
- The 2023 production target for the Mount Polley mine was 30 to 33 Mlbs of copper and 35,000 to 40,000 ounces of Au.
- As of December 31, 2022, the Total Proven and Probable Reserves at Mount Polley were 54.0 Mt at 0.34% Cu (403 Mlbs), 0.32 g/t Au (0.55 Moz), and 0.90 g/t Ag (1.54 Moz).

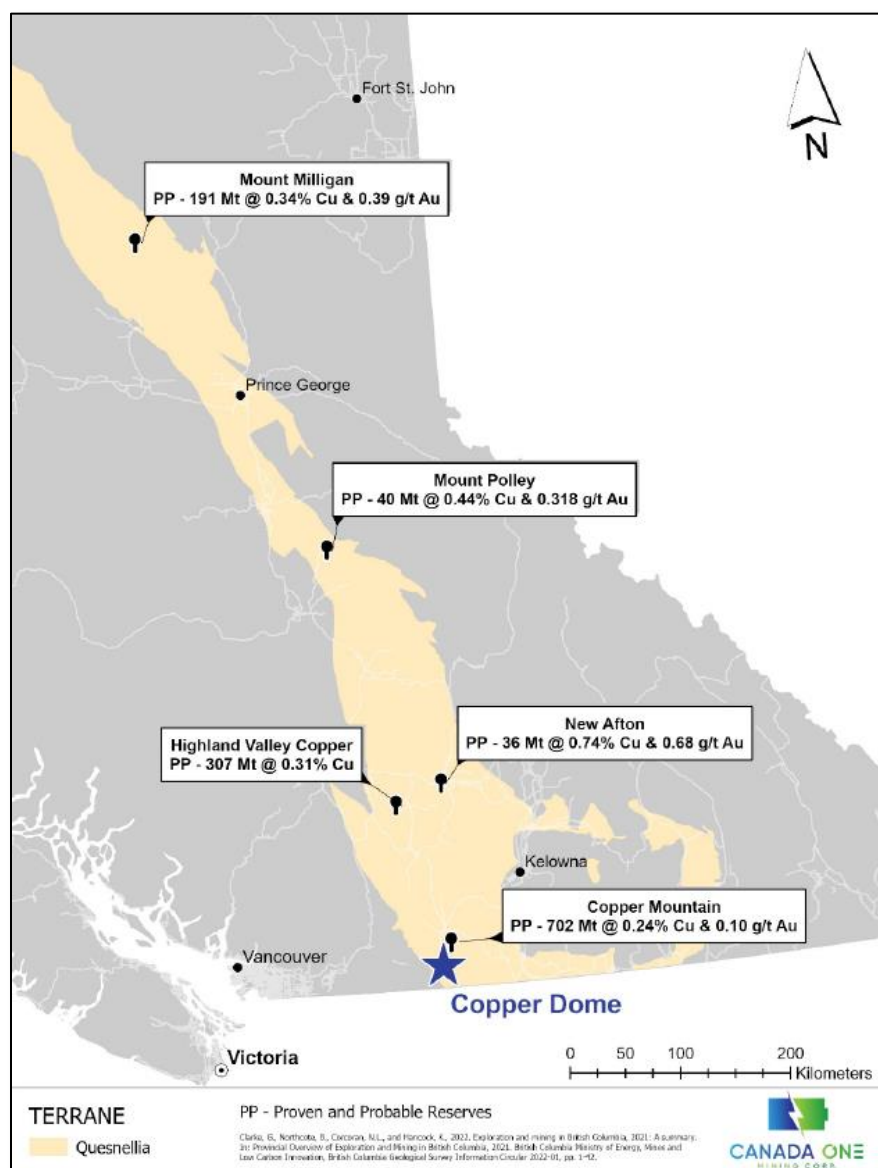
2.1.6 New Afton Mine – New Gold (TSX: NGD)

- **New Gold** is a Canadian mining company that owns and operates the New Afton mine, an underground copper/gold mine located 10 km west of Kamloops in south-central BC.
- The New Afton mine is the only operating block cave mine in Canada and produces copper and gold in copper concentrates.
- The 2022 production from the New Afton mine was 31.1 Mlbs of Cu and 41,500 ounces of Au. The current mine life extends to 2030 with the potential to extend the mine life from current exploration.
- As of December 31, 2022, the Total Proven and Probable Reserves at New Afton were 36.99 Mt at 0.74% Cu (607 Mlbs), 0.68 g/t Au (0.80 Moz), and 1.7 g/t Ag (2.0 Moz).
- **New Gold** announced the completion of a new life of mine plan in March 2020 that incorporated the C-Zone development that extended the mine life to 2030, with the potential to extend the mine life beyond 2030 as exploration programs advance.

2.1.7 Red Chris – Newcrest/Newmont (NYSE: NEM) (70%); Imperial Metals (30%)

- **Newmont** owns 70% of the Red Chris Mine, following the acquisition of **Newcrest** in November 2023. In August 2019, **Newcrest** acquired 70% of the mine and now owns it in a joint venture with **Imperial Metals** who retained a 30% interest.
- The Red Chris mine is a copper-gold mine located in northwest BC, 80 km south of Dease Lake and 1,700 km from Vancouver. The mine produced 18,000 t of Cu and 39,000 oz of Au in Fiscal 2023, which ended June 30, 2023.
- As of June 30, 2023, the Total Proven and Probable Reserves at Red Chris were 410 Mt at 0.45% Cu (2.02 Mt) and 0.55 g/t Au (7.78 Moz).

Figure 7: Operating Mines in the Quesnel Trough



Source: Canada One Presentation (November 2023)

Figure 8: Project Size and Copper Grade Comparison

Company/Project	Reserves		Resources		Highlight Exploration Result(s)
	Tonnes (Mt)	Cu (%)	Tonnes (Mt)	Cu (%)	
Operating Mines					
Centerra / Mount Milligan	223.96	0.18			
Hudbay / Copper Mountain	366.98	0.25			
Imperial Metals / Mt. Polley	54.0	0.34			
New Gold / New Afton	36.99	0.74			
Newcrest-Newmont (70%) & Imperial Metals (30%) / Red Chris	410	0.45			
Taseko / Gibraltar Mine	693	0.25			
Teck / Highland Valley	307.4	0.30			
Resource Stage					
Avante / LMSL Project	74*	0.23 ⁺			
Centerra / Kemess Project	107.38	0.27			
EnGold / Lac La Hache Project			16.3	0.41	
NorthWest / Kwanika-Stardust			197.2	0.39	
Vizsla / Woodjam Project			262.8*	0.30	
Early Stage Exploration					
Canada One / Copper Dome					20m of 0.71% Cu 103m of 0.14% Cu
Collective Metals / Princeton					<i>Drill permit pending</i>
Kodiak / MPD Project					535m of 0.49% Cu 254m of 0.49% Cu
Golden Sky / Rayfield Project					164 m of 0.13% Cu 66.7m of 0.14% Cu
Orestone / Captain Project					6.1m of 0.51% Cu 9.1m of 0.27% Cu
Sego / Miner Mountain Project					100.4m of 0.95% Cu 128.0m of 0.34% Cu
Torr Metals / Kolos Project					<i>Drill permit pending</i>
Tower Resources / Rabbit North					247m of 0.51% Cu 200m of 0.30% Cu
* Historical					
† Copper Equivalent (CuEq)					

Source: Various Company Websites

2.2 Resource Stage Exploration Projects

2.2.1 Kemess Project – Centerra Gold

- In addition to the Mount Milligan Mine, **Centerra Gold** also owns and operates the Kemess Project, a gold-copper mine development project located 430 km northwest of Prince George in north-central BC.
- The Kemess Project consists of two deposits: the Kemess Underground (KUG) deposit and the Kemess East open-pit deposit, both located near the former Kemess South mine, which ceased operations in 2011.
- The KUG deposit has a Feasibility Study that outlines a panel caving operation over a 12-year mine life, with an average annual production of 106,000 oz of Au and 82 Mlb of Cu. The facilities and equipment to support an underground mining operation at the Kemess Project are currently under care and maintenance.
- As of December 31, 2022, the Total Proven and Probable reserves at KUG were 107.38 Mt at 0.27% Cu (603 Mlbs), 0.50 g/t Au (1.87 Moz), and 1.99 g/t Ag (6.88 Moz).

2.2.2 Kwanika/Stardust Project – NorthWest Copper Corp. (TSXV: NWST)

- The Kwanika-Stardust Project is the combination of the Kwanika and Stardust deposits after the merger of **Serengeti Resources** and **Sun Metals** that created **NorthWest Copper** in 2021.
- The project is located 240 km northwest of Prince George.
- A Preliminary Economic Assessment (PEA) covering the Kwanika and Stardust deposits was released in 2023 that outlined a 22,000 tpd operation, initial capital of \$567.9 million (US\$438.5 million), and average annual production of 26,450 lbs of Cu, 67,430 ounces of Au, and 269,120 ounces of Ag over an 11.9-year mine life.
- Including the Kwanika, Stardust, and Lorraine deposits, Total Measured and Indicated Resources, including Open-pit and Underground resources, were 118.1 Mt at 0.39% Cu, 0.37 g/t Au, and 1.64 g/t Ag and Inferred Resources were 79.1 Mt at 0.40% Cu, 0.16 g/t Au, and 4.12 g/t Ag.

2.2.3 Lac La Hache Project – EnGold Mines (TSXV: EGM)

- **EnGold Mines** is a Vancouver-based copper-gold exploration company that owns the Lac La Hache Project, a large alkalic porphyry system located 14 km from the town of Lac La Hache in the Cariboo region of BC.
- The Lac La Hache Project hosts multiple mineral deposits and prospects, including the recently discovered G1 Copper Zone and the Spout Magnetite-Copper Deposit.
- As of March 2021, the Total Inferred Resource at G1 Copper Zone was 1.71 Mt at 1.25% Cu (21.4 Kt), 0.19 g/t Au (10,200 oz), 6.45 g/t Ag (354,400 oz), and 30.94% magnetite (0.53 Mt). At the Spout Deposit, the Total Inferred Resource, including both open-pit and underground resources was 14.55 Mt at 1.19% Cu (45.3 Kt), 0.05 g/t Au (22,200 oz), 1.19 g/t Ag (552,200 oz), and 10.47% magnetite (1.52 Mt).

2.2.4 Lucky Mike Silver Lode (LMSL) Project – Avante Mining (TSXV: AVA)

- **Avante Mining** is a Vancouver-based mining company that owns the Lucky Mike Silver Lode (LMSL) Project, a copper-gold-silver-molybdenum porphyry project located 20 km north of Merritt in south-central BC.
- The LMSL Project covers over 11,840 Ha and includes the Rey Lake area, which has a historic estimate of 74 million tonnes @ 0.23% CuEq. The project also hosts high-grade silver skarn zones with samples running more than 2,000 g/t Ag.
- The LMSL Project has three other zones: the Sunshine Area, the Lucky Mike Area, and the Corona Area, each with different styles of mineralization and alteration.

2.2.5 Woodjam Project – Vizsla Copper Corp. (TSXV: VCU)

- **Vizsla Copper** is a Vancouver-based mining company that owns the Woodjam project, a copper-gold porphyry project located 55 kilometers east of Williams Lake in south-central BC.
- The Woodjam project has six zones of porphyry mineralization with historical mineral resource estimates of 262.8 Mt at 0.30% Cu (1.7B lbs) and 0.11 g/t Au (0.97 Moz).

2.3 Early Stage Exploration Projects

2.3.1 Captain Project – Orestone Mining Corp. (TSXV: ORS)

- **Orestone Mining** is a Vancouver-based mining company that owns the Captain Gold-Copper Porphyry Project, a 105 km² land package located 150 km north of Prince George in central BC.
- The Captain Project hosts porphyry targets advanced through geophysics and drilling. A geophysical survey conducted in 2021 outlined an anomaly over 800 m in width starting at a depth of 500 m and extending to a depth of over 900 m.
- Drill hole highlights are 164.6m of 0.41 g/t Au and 0.07% Cu (including a section of 6.1m of 4.45 g/t Au and 0.51% Cu) and 118.8 m of 0.65 g/t Au and 0.06% Cu (including a section of 9.1m of 6.46 g/t Au and 0.27% Cu).

2.3.2 Copper Dome – Canada One Mining Corp. (TSXV: CONE)

- **Canada One Mining** is a Vancouver-based resource exploration company, focusing on the discovery and development of critical metal (copper, palladium, platinum, and gold) projects in Canada.
- The Copper Dome Project is an exploration project situated within the well-established Quesnel Trough porphyry belt and located 18 km south of Princeton, BC. The northern border of the project is approximately 1.5 km from the producing Copper Mountain open-pits.
- The Copper Dome Project now covers over 6,000 Ha and historical drilling at several zones on the project returned long widths of copper mineralization, with grades similar to those found in the Copper Mountain Mine Reserves and Resources (see Figure 6).
- Multiple Mobile Metal Ion (MMI) surveys were performed in 2023 with a focus on the Boundary Road Zone (spanning over 1 km by 1 km). This zone is situated directly above the newly interpreted mineralized trend line and the company is anticipating assay results from the surveys.
- **Canada One Mining's** 2024 exploration work program plans to include infill MMI, geophysics, and a diamond drill program.

2.3.3 Kolos Project – Torr Metals Inc. (TSXV: TMET)

- **Torr Metals** is a Vancouver-based mining company that owns the Kolos Copper-Gold Project, a 140 km² land package located 23 km north-northeast of Merritt in south-central BC.
- The Kolos Project lies within the Quesnel Terrane and contains six copper and gold occurrences (Ace, Kirby, Lodi, Rea, Helmer, and Clapperton) that have never been drill tested and occur across a 3 km trend.
- Soil sampling in 2023 confirmed copper-gold mineralization aligning with mineralized outcrops, where historical rock grab samples returned up to 4.42 g/t Au and 0.52% Cu. **Torr** is currently obtaining a drilling permit for the Kolos Project.

2.3.4 Miner Mountain Project – Sego Resources Inc. (TSXV: SGZ)

- **Sego Resources** is a Vancouver-based mineral exploration company that owns the Miner Mountain Copper-Gold Property, a 2056-Ha land package located 15 km north of the Copper Mountain Mine near Princeton, BC.
- The Miner Mountain Property hosts highly prospective copper-gold porphyry exploration targets, including the Southern Gold Zone, the Cuba Zone, and the Granby Zone.
- Highlight holes from the Cuba Zone include 100.4m of 0.95% Cu and 0.55 g/t Au and 128.0m of 0.34% Cu and 0.29 g/t Au, and the Southern Gold Zone include 88.1m of 1.08 g/t Au and 80.0m of 0.95 g/t Au.

2.3.5 MPD Project – Kodiak Copper (TSXV: KDK)

- **Kodiak Copper** is a Vancouver-based mining company that owns the MPD copper-gold porphyry project, located 40 km south of Merritt and 25 km north of Princeton in south-central BC.
- The MPD project covers 226 km² of land that was consolidated from four properties (Man, Prime, Dillard, and Axe) in 2018.
- **Kodiak Copper** discovered a high-grade copper-gold zone within a wider mineralized envelope at the Gate Zone in 2020, with the best intercept of 0.49% copper and 0.29 g/t gold over 535m.
- In September 2023, **Teck Resources** invested \$10.5 million into **Kodiak Copper**.

2.3.6 Princeton Project – Collective Metals Inc. (CSE: COMT)

- **Collective Metals** is a Toronto-based mineral exploration company specializing in copper-gold and lithium exploration in North America. The company's flagship property is the Princeton Project, a 28,560-hectare land package located 10 km west of the Copper Mountain Mine in south-central BC.
- The Princeton Project lies within a copper-gold porphyry belt and is easily accessible by road. The project hosts several multi-element (Copper, Silver, Gold, and Tellurium) anomalies along the Trojan-Condor Corridor, a 10 km long by 2 km wide structural zone.
- **Collective Metals** has applied for a drilling permit for diamond drilling and is planning for an exploration program which includes targeting the Trojan-Condor Corridor. The company has also initiated an extensive data compilation project to guide future work during its 2024 exploration program.

2.3.7 Rabbit North Project – Tower Resources Ltd. (TSXV: TWR)

- **Tower Resources** is a Vancouver-based mineral exploration company focused on advancing the Rabbit North, Nechako Gold, and More Creek projects in BC.

- The Rabbit North Project covers 16,400 Ha in the Quesnel Terrane. It is located 14 km southwest of the New Afton mine and 27 km northeast of the Highland Valley mine.
- In 2016 and 2017, **Tower** completed a drilling program that tested several targets on the property and intersected copper-gold mineralization in several holes, including 0.51% Cu and 0.34 g/t Au over 247m and 0.30% Cu and 0.15g/t Au over 200m at the Western Magnetite Zone, and 255.8m of 0.12% Cu and 0.24 g/t Au at the Chrysocolla Zone.
- Last year, **Tower** released results from the New Rainbow Zone that returned 72.4m of 0.27% Cu, 0.40 g/t Au, and 0.010% Mo.

2.3.8 Rayfield Project – Golden Sky Minerals (TSXV: AUEN)

- **Golden Sky Minerals** is a Vancouver-based mining company that owns the Rayfield Copper-Gold Property, a 35,000-hectare land package located 20 km east of 70 Mile House in south-central BC.
- The Rayfield Property hosts a 3 km x 1.5 km copper-in-soil geochemical anomaly and also features mineralization in several historic drill holes that extend to approximately 150-250 m in depth, which suggests that the system could remain open at depth.
- Drill hole highlights include 164m of 0.13% Cu and 35 ppb Au, 33.9 m of 0.18% Cu and 71 ppb Au, and 66.7 m of 0.14% Cu and 30 ppb Au.

2.4 Copper Comp Table

Figure 9: Copper Comp Table

COMPANY NAME	TICKER	PRICE 2024-02-29	Shares (M)	MKT CAP (M)	CASH (M)	DEBT (M)	EV (M)	REVENUE (M)	EBITDA (M)	EV/ EBITDA
Multi-Commodity Producer										
Centerra Gold Inc.	TSX: CG	\$6.81	216	\$1,467.9	\$615.8	\$24.2	\$686.6	\$1,094.9	\$181.6	3.8
Hudbay Minerals Inc.	TSX: HBM	\$7.99	351	\$2,802.3	\$250.5	\$1,388.7	\$4,450.7	\$1,690.0	\$710.0	6.3
Imperial Metals Corporat	TSX: IIM	\$2.18	162	\$352.1	\$37.6	\$295.7	\$610.1	\$318.5	\$1.3	465.8
New Gold Inc.	TSX: NGD	\$1.66	687	\$1,140.8	\$192.6	\$401.2	\$1,416.2	\$786.5	\$289.6	4.9
Newmont Corporation	NYSE: NEM	US\$31.25	1,153	US\$36,017.1	US\$3,025.0	US\$6,087.0	US\$42,606.1	US\$11,812.0	US\$3,038.0	14.0
Taseko Mines Limited	TSX: TKO	\$2.13	290	\$617.7	\$83.5	\$638.8	\$1,173.1	\$471.9	\$110.8	10.6
Teck Resources Limited	TSX: TECK.B	\$52.15	518	\$27,000.2	\$744.0	\$11,092.0	\$38,255.2	\$15,011.0	\$5,910.0	6.5
Average (If EV/EBITDA < 100)										7.7
Median										6.5
Resource Stage (NI 43-101 / JORC)										
EnGold Mines Ltd.	TSXV: EGM	\$0.05	37.2	\$1.9	\$0.0	\$0.2	\$2.0			-\$0.5
NorthWest Copper Corp.	TSXV: NWST	\$0.14	251.3	\$33.9	\$0.2	\$0.0	\$33.7			-\$8.7
Average										\$17.9
Median										\$17.9
Resource Stage (Historical)										
Avante Mining Corp.	TSXV: AVA	\$0.08	42.0	\$3.2	\$0.8	\$0.0	\$2.3		\$0.5	4.8
Vizsla Copper Corp.	TSXV: VCU	\$0.08	107.9	\$8.6	\$1.6	\$0.3	\$7.4		\$0.0	
Average										\$4.9
Median										\$4.9
Resource Definition Stage										
Canada One Mining Corp.	TSXV: CONE	\$0.01	45.6	\$0.5	\$0.0	\$0.3	\$0.8		\$0.0	
Collective Metals Inc.	CSE: OMT	\$0.24	37.3	\$8.8	\$0.0	\$0.0	\$8.8		\$0.0	
Golden Sky Minerals Corp	TSXV: AUEN	\$0.10	19.7	\$1.9	\$1.1	\$0.0	\$0.8		-\$0.8	
Kodiak Copper Corp.	TSXV: KDK	\$0.45	63.9	\$28.4	\$6.8	\$0.0	\$21.7		-\$3.2	
Orestone Mining Corp.	TSXV: ORS	\$0.03	56.7	\$1.4	\$0.0	\$0.0	\$1.4		\$0.0	
Sego Resources Inc.	TSXV: SGZ	\$0.02	147.7	\$3.0	\$0.0	\$0.0	\$2.9		-\$0.2	
Torr Metals Inc.	TSXV: TMET	\$0.05	35.9	\$1.8	\$1.2	\$0.0	\$0.6		\$0.0	
Tower Resources Ltd.	TSXV: TWR	\$0.07	145.2	\$9.4	\$0.7	\$0.0	\$8.7		\$0.0	
Average										\$5.7
Median										\$2.2

Source: S&P Capital IQ (data); eResearch (formatting)

Appendix A: eResearch Disclosure

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