

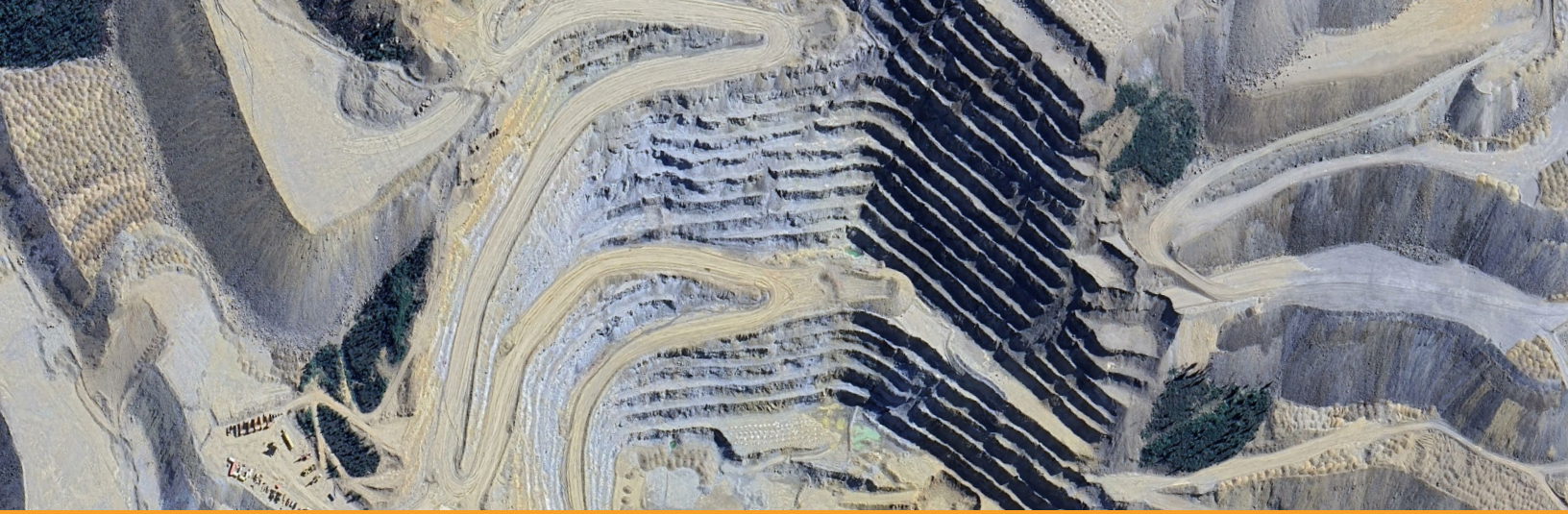
UNCERTAIN BENEFITS, KNOWN COSTS

An Audit of Yukon Major Mines

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EXECUTIVE SUMMARY

BACKGROUND

Mining is promoted by the Yukon government as a cornerstone of territorial economic development, particularly in the context of growing demand for critical minerals. Mine proponents and policymakers claim that mining delivers well-paid jobs, stable revenues, and long-term prosperity for the territory, while regulatory processes are cited as a barrier to timely project development. This working paper tests those claims by auditing the economic performance of major Yukon mines approved through the Yukon Environmental and Socio-economic Assessment Board (YESAB) process since 2005.

We set out to answer the following questions:

- *To what extent do regulatory processes play a role in delaying mine opening?*
- *How do the economic benefits of mining projects compare to the projections made during the mines' environmental assessments?*

The analysis focuses on six major mines: Minto, Wolverine, Keno Hill, Eagle Gold, Mactung, and Carmack Copper. We compare projected timelines and economic benefits presented during the YESAB process with actual outcomes. Specifically, the audit examines whether mines opened as projected, the causes of delays or non-operation, and how actual production, employment, and government revenue (corporate and mining taxes and royalties), compare with forecasts made in YESAB documents.

FINDINGS

The findings show a consistent pattern: mining costs to the public are relatively predictable, while economic benefits are less predictable, frequently overstated, and/or unrealized. Of the six mines, two started production as projected, two experienced multi-year delays, and two remain non-operational. Three of the mines were delayed or failed to open because proponents lacked sufficient financing, and one failed environmental review. This shows that regulation was rarely responsible for mine delays and closures.

Economic performance consistently fell short of projections. All four mines that reached production significantly overstated expected output. Average annual production across operational mines was 57 percent lower than forecast, and when non-operational mines are included, actual production averaged 72 percent below projections. Employment projections were similarly unreliable. Where data were available, average employment was 31 percent lower than projected at operational mines, and 59 percent lower when non-operational projects are included. Mining employment was also highly volatile, with abrupt closures and long shutdowns common, reflecting the sensitivity of these projects to market forces. Where employment data were disaggregated, the majority of jobs went to non-Yukon workers. These findings undermine claims that mining delivers stable, local employment benefits.

Corporate taxes and royalties were rarely reported in comparable ways, making auditing challenging. But available evidence shows significant underperformance.

SUMMARY OF AUDIT FINDINGS

The audit compared economic benefits forecasted in mine applications approved by the Yukon Environmental and Socio-economic Assessment Board (YESAB) since 2005 to actuals as of 2024. Economic benefits include the production of the mined material, the workforce employed, and corporate and mining taxes. Note that Mactung and Carmack Copper mines did not open.

Mine (operational and non-operational)	Production Audit	Employment Audit	Tax Audit
Minto	-15%	Not enough data	Not enough data
Wolverine	-69%	-4%	Not enough data
Keno Hill	-61%	-14%	Not enough data
Eagle Gold	-85%	-76%	-99.5%
Mactung	-100%	-100%	-100%
Carmack Copper	-100%	-100%	-100%
Average	-72%	-59%	-100%

At Eagle Gold, actual tax payments were 99.5% percent below projections, and royalty payments across projects were modest to nonexistent, particularly when placed next to remediation costs.

CONCLUSIONS

While mining's economic benefits are volatile, its monetary costs are consistent and often fall to governments and taxpayers.¹ The territorial government now bears primary responsibility for remediation of abandoned and failed mines, with liabilities nearing \$190 million as of 2024, excluding the rapidly escalating costs associated with the Eagle Gold heap leach failure, likely to at least double that amount. These numbers do not include federal liabilities incurred before devolution (e.g. for substantial costs related to Faro mine). These findings highlight the need to weigh uncertain economic benefits against the known and escalating costs that governments and the public ultimately bear.

LIMITATIONS

Our findings are constrained by systemic gaps in economic data. Mine proponents do not always provide complete or comparable projections for employment, taxes, and royalties in YESAB assessments, and the Yukon government, like other jurisdictions, does not systematically track whether projected benefits materialize after approval. As a result, regulatory decisions and public oversight rely on partial and inconsistent information, obscuring the true economic performance and risks of mining projects.

¹ There are also environmental impacts, which fall largely on the communities living near the mines. These impacts are outside the scope of this audit, except the extent that the impacts become monetary costs - for example, for cleanup.



Based on our findings, we offer the following recommendations to the Yukon government to ensure that future mining decisions serve the public interest:

1. Strengthen economic information requirements during the YESAB process,
2. Improve transparency and post-approval accountability, and
3. Ground decision-making in the actual track record of Yukon mines



1 | INTRODUCTION

With growing interest in critical minerals at the territorial level, the Yukon government (YG) positions mining projects as a way to provide “many well-paying jobs to Yukoners,” while promising that it will be “done responsibly to protect our environment and benefit Yukoners” (Government of Yukon, 2025b; Government of Yukon, 2024). This is a common narrative not only in the Yukon, but also in the rest of Canada (e.g. NRCAN, 2022). The assumption is that mines’ costs are outweighed by the benefits.

The costs of mining in the Yukon are relatively well known, particularly from a series of poorly managed mines that were ultimately abandoned, leaving governments to assume the costs of remediation. This longstanding pattern extends back to the Faro mine, which began operating in 1969 (see Box 1). It remains an issue with mines assessed by the Yukon Environmental and Socio-economic Assessment Board (YESAB), and approved by YG after 2005. Just in care and maintenance alone, YG spent around \$42 million on Wolverine mine in 2024, with only \$10.5 million covered by Yukon Zinc’s financial security (Pilkington, 2024). In its most recent budget (2025-26), YG allocated \$5.5 million for year one of a two-year water treatment plan at the Wolverine Mine (Government of Yukon, 2025a). This reflects a wider problem in mining, where water treatment is often required in perpetuity, funded by governments.¹ None of these costs cover remediation, which has not yet begun (Pilkington, 2024). Total expenses are therefore expected to rise significantly.

In the Yukon, the responsibility of remediating abandoned or failed mines now largely rests with the territorial government. Following the Yukon Northern

Affairs Program Devolution Transfer Agreement (DTA) coming into effect in 2003, the YG assumed full responsibility for environmental liabilities and remediation for all mines permitted after devolution, with the exception of Type II mines, for which the Government of Canada still shares responsibility. This illustrates the fiscal exposure YG and, in some cases, the federal government faces if proponents of currently operational mines were to abandon operations. These abandoned mines often leave the territory responsible for the remaining remediation cost despite limited revenue from these mines. These deficits ultimately have to be covered through public funds, diverting resources from other priorities.

At the territorial level, the burden of remediation has grown exponentially in recent years. As of March 31, 2024, the Yukon government has recorded \$189.9 million as a liability for the estimated costs related to the remediation of environmental contamination for which YG is responsible (Department of Finance, 2024, p. 22). Of the liabilities, \$70.9 million (37.3%) is related to the Minto mine site, and \$44.6 million (23.4%) is for the Wolverine site (Ibid.). This does not include the remediation cost of Eagle Gold Mine. In June 2024, the heap leach pad at the Eagle Gold Mine failed, resulting in the spill of approximately two million tonnes of cyanide-soaked ore. This marked one of the two “most catastrophic failures” in the history of the heap-leaching mining process, according to a member of the independent review board (Brenna, 2025). The remediation cost associated with Eagle Gold Mine has gone up steadily since August 2024, from \$100 million to \$220 million (Plonka, 2025). YG’s Budget 2025-26 includes “up to \$118 million in advances to the court appointed receiver for Victoria Gold Corp., in addition to funding contributions to the First Nation of

¹ According to the SME (Society for Mining, Metallurgy and Exploration) *Tailings Management Handbook*, “The mining industry has a significant challenge in that these TSFs [Tailings Storage Facilities] will last for perpetuity. Unfortunately, humans have no experience in designing facilities to last forever, so responsible tailings management is required for as long as the TSF exists” (Morrison and Lammers, 2022). See also article December 2025 issue of *Mining Engineering* reporting on a study by the US Forest Service which concluded “that the natural processes that drove risk would always be present and would slowly degrade the reclaimed facilities over time. The only solution to maintaining system performance was a commitment to site care and maintenance – well, forever ... There is no expiration date on reclamation integrity, and mining companies should recognize their post-closure care and maintenance obligations may last far longer than they have currently planned for and, in some instances, may be a forever proposition” (Werner, 2025, p 23).

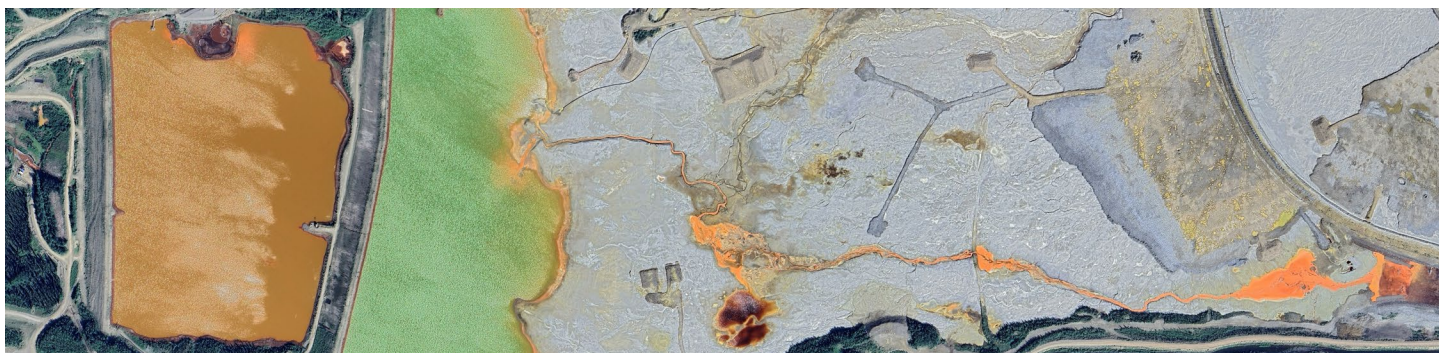
Nacho Nyak Dun for their response, as well as the costs for an independent review board to investigate underlying causes of the failure” (Government of Canada, 2025a).

As the above examples show, mining in the Yukon has generated costs to the public purse. Despite these known costs, YG continues to promote mining as a key economic development strategy, banking on mine’s economic benefits. What does the track record of mines’ economic performance tell us about how reliable and stable these benefits are?

Under the Yukon Environmental and Socio-economic Assessment Act (YESAA), project proponents are required to include socio-economic effects assess-

ments. These assessments should account for the full lifecycle of the project, from operation through closure and post-closure, as well as address potential economic impacts, such as jobs and tax revenue (YESAB, 2006). Through the YESAB process, then, mine proponents forecast economic benefits like jobs and tax revenue, as well as mine opening and closure timelines (that are relevant for economic benefit delivery and for ecosystem protections). These forecasts are influential for government decision-making. But YG, like other jurisdictions, does not track whether these benefits materialize.

Another issue is whether or not proposed mines are even built, and when. Mining companies and associations have drawn attention to YESAB for its delays in all



BOX 1

A detailed study of the Faro mine, at one time world’s largest operational open-pit lead-zinc mine, operating from 1969-1999, finds that the mine generated a government deficit of approximately \$747.5 million (in 2024 dollars) when comparing total revenues (including corporate income tax and Yukon royalties) with total expenditures (covering infrastructure, subsidies, and remediation) (Beckett, 2025).¹

Following bankruptcy, Faro was abandoned in 1998, leaving behind enough acid-generating waste to cover more than 26,000 football fields (Office of the Auditor General of Canada, 2024). Remediation costs for the Faro mine continue to grow: in 2017, the costs were anticipated at \$500 million for 10-15 years (Jacques, 2017), and in 2022-23, the estimated remediation cost increased to an additional \$5 billion (Office of the Auditor General of Canada, 2024). As of 2024, nearly \$800 million has already been spent on care, maintenance, and remediation planning (Office of the Auditor General of Canada, 2024) - see Table 1.

Table 1. Government revenue from and expenditures on Faro Mine (Beckett, 2025; Hodge et. al, 2021)

Government revenue + expenses for Faro mine	Amount (2024 dollars)
Corporate income tax	+ \$480,546,005
Yukon royalties	+ \$99,913,751
Total revenue	+ \$580,459,756
Infrastructure, subsidies	- \$528,000,000
Remediation to date (expected to rise)	- \$800,000,000
Total Expenses	- \$1,328,000,000
Revenue - expenses	- \$747,540,235

Note | Data taken from Beckett’s thesis (2025): p 124, 401 and Appendix 1. Dollar amounts converted to 2024 dollars using <https://inflationcalculator.ca/>

¹ Note: The Faro Mine is a federal liability, as it was approved and licensed by the federal government. As a part of the Devolution Transfer Agreement (where the Yukon took over more province-like jurisdiction), in 2004, the Yukon Government took the lead of daily maintenance and remediation design, while Canada foot the bill. In 2018, the Government of Canada assumed full responsibility for the management of the site.

stages of environmental assessment, citing concerns around hiring and investment (Plonka, 2024). This has led YESAB to reorganize and allocate more resources for assessments (Elliot, 2025). Regulation is not the only source of delay for mines in Canada. In British Columbia, economic factors like commodity prices and financing are the most commonly reported sources of delay for mines (Collard et al. 2024). This led us to ask the question, is regulation alone to blame for slow project timelines in the Yukon?

With an eye to better understanding mines' actual economic benefits and timelines and determining the accuracy of YESAB forecasts, our research audits projections made in YESAB documents. Specifically, we asked: Are mines opening when projected? And if there are delays, what is the cause of those delays? How do the actual economic benefits of mining projects - jobs, production, and taxes, compare to the projections made during environmental assessments?

These are timely questions as YG contemplates future mining projects, such as BMC's contentious proposal for

the Kudz Ze Kayah mine, an open-pit and underground zinc, silver, copper, gold and lead mine to be built in southeast Yukon. BMC and YG claim the project will generate direct tax and royalty payments to Yukon and Canada of \$761 million over its ten-year lifespan and employ 400 people during operations (Government of Yukon, 2022; BMC, 2023). YG approved the mine in 2022, despite opposition from the two Kaska Nations - Liard First Nation (LFN) and Ross River Dena Council (RRDC) - on whose territory the mine is proposed. LFN and RRDC successfully challenged the mine's approval in court, citing inadequate consultation (Hong, 2024; Liard Aboriginal Women's Society, n.d.; RRDC v Yukon, 2024). In late 2024, the Yukon Court of Appeals ordered YG to engage in additional consultation, particularly on the economic feasibility of the mine, which is ongoing. YG's initial approval of the project, despite LFN and RRDC's explicit denial of consent and long-record of opposition, rests on the promise of significant economic benefit. Auditing past mines' economic performance provides valuable data with which to assess the likelihood of that promise.

2 | METHODS

Six major mines in the Yukon were included in our audit. From the list of major mines derived from the YG (Government of Yukon, 2026), we included mines that went through the full YESAB process after 2005 and were approved and projected to go into production at the time of the study (June 2025). 2005 was selected as the cutoff because it marks when socio-economic assessments began following a consistent and standardized process under YESAA (Crown-Indigenous Relations and Northern Affairs Canada, 2013). Out of nine major mines listed on the YG website, six went through YESAB review after 2005 and so were included in this audit: Wolverine, Carmacks Copper Project, Minto, Mactung, Keno Hill,¹ and Eagle Gold (Table 2).

While some of these mines have a history of prior mining activity, our audit focuses on their projected performance following completion of the full YESAB process. The Minto mine differs from the others in our dataset because the YESAB process in this case applies specifically to an increase in existing mining and milling rates. Nevertheless, Minto is included because the data they included in their proposal consist of aggregated production figures for the mine as a whole.

Similarly, some of these mines have subsequently applied to expand their mining activities. Because these later applications often do not provide the same level of detail as the original

submissions, this audit focuses on the initial application reviewed through YESAB. In the case of Keno Hill, this means our audit is limited to the Bellekeno Mine (for employment and production), one of four sites that went through YESAB in 2009.

Our audit compares predicted and actual timelines and economic outcomes for these six mines, focusing on each mine's operation and closure schedule, and three economic indicators: production levels, employment, and corporate and mining tax revenues and royalties. We collected data on predicted timelines and economic indicators from project proposals submitted to YESAB, accessed through the YESAB Registry website. For data on actual timelines and economic indicators, we gathered data from news reporting, corporate reporting [e.g., annual reports and financial statements, accessed from company's websites and through System for Electronic Document Analysis and Retrieval (SEDAR) for the public mining companies, and the Extractive Sector Transparency Measures Act (ESTMA) data portal, for private international mining companies], and press releases. We searched media and corporate reporting to determine the publicly stated reasons, if declared, for any mine delays and closures.

To compare predicted and actual production, employment, and tax revenues, we compiled spreadsheets for each mine covering its lifetime.² Only comparable data (between predicted and actual)

¹ Note: Keno Hill is both a Type II under the DTA (federal responsibility) and an operating mine under YG's purview

² Data available at https://drive.google.com/file/d/1_vr_MuANC7K9vTdnk5BJuOASm3uGDR-/view?usp=sharing

were included. For example, we included both tax projections and actual tax figures only when they referred to the same tax categories. This means we considered only cases where corporate and mining taxes are reported separately from individual income taxes and royalties. For mines with multiple assessments due to project expansions, we reviewed each assessment and aggregated the projections. For some years we were unable to access data on actual employment and tax data; these cells are marked with "N/D", for "no data." This is also the case for the predicted tax data. In some cases, proponents did not predict tax revenue or royalties, or only provided such data in the aggregate, including,

for example, personal income taxes, which makes comparison with actuals impossible. In those cases, we also marked N/D in our database. Because of these significant data limitations, our ability to calculate the annual average varied for each indicator and each mine. For mines with less than 80% of annual data coverage, we did not calculate averages, marking "not enough data" in place of an average. For mines above that threshold, we calculated averages, excluding the missing year(s) data from the average. We then calculated the percentage difference between the average projected and average actual.

Table 2. Major mines in the study dataset, including original proponent and current owner (if different) and ownership type.

Project Name	Proponent Name	Current Owner	Ownership Type
Wolverine	Yukon Zinc Corporation	N/A	Private (bankrupt in 2019)
Carmacks Copper Project	Western Copper Corporation	Granite Creek Copper	Public (Copper North acquired the Carmack property in 2011 which was later acquired by Granite Creek Copper Ltd. in 2020)
Minto	Minto Explorations Ltd.	Selkirk Copper Mines	Private to Public to Indigenous Owned (sold to Selkirk Copper Mines after the mine was abandoned by previous owners - see Pilkington 2025)
Mactung	North American Tungsten Corp. Ltd.	Fireweed Metals Corp.	Public to Private (Fireweed Metals Corp. took over in June 2022 after North American Tungsten Corp. Ltd. declared bankruptcy in October 2015 - see GNWT 2022)
Keno Hill	Alexco Keno Hill Mining Corp.	Hecla Mining Company	Private to Public (acquired by Hecla Mining Company, a publicly-traded US company, in September 2022)
Eagle Gold	Victoria Gold Corp.	N/A	Public (delisted from the TSX on September 23, 2024 and currently for sale through a court-supervised receivership process, see Plonka, 2025)

3 | FINDINGS

Our audit shows that mines experienced delays and consistently overestimated their economic benefits. Inadequate financing was cited as the primary reason for these delays. In terms of our audit of economic predictions, underperformance and lack of data are the headline finding. All four mines that reached production significantly overstated their average annual output; on average, actual production fell 57%

short of projected levels. Where enough data were available to audit employment, actuals also fell short of forecasts, the majority of jobs went to non-Yukon workers,¹ and at three of the four operational mines, employment was not steady over time. Tax and royalty contributions were far below projections, where data were available.

¹ Note: Minto is the only major mine that reports employment by different groups. Based on data from Minto's annual socio-economic reports (from 2014 onwards), workers who are First Nations and other Yukon make up, on average, 43.9% of the total workforce

One third of mines were delayed and one third remain non-operational

Of the six mines approved by YESAB since 2005 and projected to open by 2024, two opened in the same year they projected in their project proposals submitted to YESAB. Two of the six mines remain non-operational, and the other two were delayed (Eagle Gold by six years and Wolverine by four) (Table 3).

Out of the four mines where production was delayed or never started, three (Wolverine, Mactung Mine, and Eagle Gold Mine) were due to inadequate financing, according to media coverage. For example, in the case of the Eagle Gold Mine, in the same year the project was projected to begin production, the proponent reported having only \$35 million in place - \$395 million short of the financing needed for construction and start-up (CBC News, 2013). The one outlier was the Carmacks Copper Project, which did not proceed to production due to environmental concerns that ultimately led to the rejection of a water certificate by the Yukon Water Board (Oke, 2010).

Despite industry and government narratives of regulatory delay to mining projects (e.g. Stephenson, 2025), our research points to insufficient financing as the primary source of mines' delay. Half of the mines in our dataset were either delayed or have failed to open due to a lack of financing. YESAB recommends projects for government approval (which YG then approves) without evidence that proponents can finance their projects to opening or to closure - as demonstrated by the public costs of mine clean up.

¹ The connection between production volatility and economic forces is explicitly acknowledged in the additional information accompanying the Minto mining and milling rate increase application. As noted, "the determination of the mining life of a given mineral deposit...is subject to the economic viability and volatility associated with mineral prices and the global economy in general. The duration of mining and milling activities is therefore affected not only by changes to processing capacity, but also by economic forces that frequently lead to changes in economic recoveries, resource tonnages, and ultimately the projected mine life of projects" (Weston, 2008, p. 1).

² In the case of Minto, the proponent did not provide projected employment figures, making it impossible to compare them with the actual data. For Keno Hill, the reported employment numbers include labour for reclamation activities, so it is not possible to isolate employment related to operations alone.

Table 3. Projected production start vs. actual start

Project Name	Projected production start	Actual production start	Reason (s) for delay
Eagle Gold Mine	2013	2019	Inadequate financing (CBC News, 2013)
Wolverine	2007	2011	Inadequate financing (PwC, 2019)
Mactung Mine	2013	Not started	Inadequate financing (Williams, 2022)
Carmacks Copper Project	2010	Not started	Environmental concerns (Thompson, 2011)

Underperforming economic benefits

Our economic benefit audit reports data from the Yukon mines that operated (Minto, Wolverine, Keno Hill, and Eagle Gold), as well reporting averages from all six mines, where the non-operational mines have actual performance values of zero.

Production

Production data are the most complete, and the finding is the most consistent. All four mines that went into production significantly overestimated their average annual output, with actual figures falling short by 15% to 85% (calculated using average annual production based on the projected life of mine). Year by year, with the exception of Minto (which in two out of eight years has exceeded the projected production), all mines within the projected life of mine underperform every year. Accounting for non-operational mines further widens the gap. Across all six mines (operational and not), the actual average annual production is 72% less than the projections. In general, production levels are influenced by economic factors, especially mineral prices.¹

Employment

The employment data are more limited because there are no consistent standards for predicting or reporting socio-economic indicators, resulting in incomplete data.² But we are able to see three key patterns through the data, despite these limitations.

The first pattern is mines' underperformance in employment. We were able to audit the employment projections of three of the operational mines in our

Table 4. Summary of Audit Findings

Mine (operational and non-operational)	Production Audit	Employment Audit	Tax Audit
Minto	-15%	<i>Not enough data</i>	<i>Not enough data</i>
Wolverine	-69%	-4%	<i>Not enough data</i>
Keno Hill	-61%	-14%	<i>Not enough data</i>
Eagle Gold	-85%	-76%	-99.5%
Mactung	-100%	-100%	-100%
Carmack Copper	-100%	-100%	-100%
Average	-72%	-59%	-100%

dataset: Eagle Gold, Wolverine and Keno Hill. Our audit of Eagle Gold Mine shows that the proponent overestimated the annual average employment by 76% during the projected production years. Wolverine employed significantly more workers than projected when it was operating, but it only operated for five years, instead of the twelve predicted (Yukon Zinc Corporation and AXYS Environmental Consulting Ltd 2005, p iv). Over Wolverine’s projected Life of Mine (LoM), then, it employed 4 percent fewer people than forecasted. The Keno Hill Bellekeno project employed 14% fewer than projected. Employment overall averaged 31% percent less than projected at the three operational mines with adequate data, and 59% average across the five mines with enough data (including non-operational mines).

Our data point to a second key pattern: employment at Yukon mines is characteristically volatile (see Saxinger and Gartler, 2015; First Nation of Nacho Nyäk Dun Elders et al., 2019; CBC News 2017b for more work on this issue). Keno Hill closed for an extended period between 2013 and 2020, due to low commodity prices (CBC News, 2017a). Wolverine mine’s initially temporary closure in 2015 turned into permanent closure. It operated for only five years instead of the twelve years predicted (2007–2018) (Yukon Zinc Corporation and AXYS Environmental Consulting Ltd 2005, p iv). Eagle Gold catastrophic heap failure in 2024 brought an abrupt end to operations (and employment) at that mine.

The third and final pattern the employment audit

suggests is that many mining jobs in the Yukon go to non-Yukoners. Only two operational mines - Minto and Wolverine - reported their actual employment by disaggregating Yukoners and non-Yukoners - but at both, the majority of jobs were held by non-Yukoners. At Minto, across the seven years for which we have data (2014–2021, except 2019), an average of 64 percent of employees were non-Yukoners. At Wolverine, during the five years the mine operated fully (2010–2014), an average of 71 percent of workers were non-Yukoners. Mine proponents are aware of this: in their socio-economic assessments, mine proponents consistently cite high employment and labour force participation rates in the territory, noting the need to recruit specialized workers from outside Yukon. Out of the six mines we audited, five mentioned shortage of skilled labour in their YESAB application, stating they expect to fill positions with workers outside of the region, or even the Yukon.¹ Volatile employment and a reliance on non-local workers ultimately means that economic benefits of employment for Yukoners are uncertain.

Government Revenues

The final indicator we sought to audit pertains to government revenues from mines, namely corporate and mining tax payments and royalties. While a lack of data and transparency constrained full assessment, available evidence shows consistent underperformance. For taxes, Eagle Gold is the only mine with enough data

¹ For example: Eagle Gold IA 0 “VIT may require workers to come from outside of Yukon to meet the operational needs of the mine—particularly some of the more specialized positions” (Stantec, 2011, p. 6–385); Mactung: “...in 2007, mining exploration projects had difficulty finding local residents to work” (EBA, 2008, p. 632). “It is estimated that out of 273 estimated employment during operation phase, 171 of them would be from outside of Yukon (62.6% of the workforce)” (Ibid., p. 662). Carmacks Copper: Contractors “will almost certainly be from outside the Yukon” (Vector Research p. 54). Minto: “...construction and operating labour may be difficult to find even at higher wage rates...” (Cavery et al., pp. 42–43). Wolverine: “A longer duration of stay at site [...] would attract an experienced workforce from outside of the Yukon willing to commute long distances at personal cost ...of the 191 direct jobs created, many will flow outside the Yukon initially” (Yukon Zinc Corporation, 2005, pp. 7–453, 7–455).

to audit. The difference between projected and actual annual tax is -99.5% over the projected life of the mine. Eagle Gold did generate tax payments after the mine was predicted to close, but the total of these payments (before the heap leach failure), is 10 million, as opposed to the 85 million forecasted.

Royalties have also been inconsistent. As illustrated

in Table 5, across projects, many proponents do not include royalty projections in their YESAB materials, and actual royalty payments are modest to nil. The sums collected through royalties are particularly small in contrast to the significant costs associated with mine closure and environmental remediation.

Table 5. Royalty audit

Project Name	Projected royalty	Total royalty paid as of 2023 ¹	Difference
Wolverine	\$12 million	\$0	-100%
Carmacks Copper Project	No data ²	\$0 (non-operational)	Lacking projection
Minto	No data	\$35 million ³	Lacking projection
Mactung Mine	No data ⁴	\$0 (non-operational)	Lacking projection
Keno Hill (filed under Bellekeno Mine)	\$3.8 million ⁵	\$0.7 million	-82%
Eagle Gold Mine	No data	\$8.8 million	Lacking projection

¹ Data collected from the Government of Yukon's Website (n.d.-b)

² Western Copper has estimated that annual corporate tax and royalty payments from the operation will average about \$7 million per year.

³ Paid to the Selkirk First Nation due to Minto being on Category A Land

⁴ Citing difficulties in projecting the royalty given the modest numbers in royalty collected under the Quartz Act in the Yukon historically (Project Proposal, p.667).

⁵ Calculation based on Bellekeno Preliminary Economic Assessment Technical Report

4 | CONCLUSION: Uncertain Benefits, Known Costs

This working paper identifies a persistent imbalance in Yukon mining development: project costs are relatively certain, while the projected benefits are uncertain and unpredictable. Tax revenues and job creation are routinely overstated. Moreover, our employment audit indicates that employment is volatile and, where data are available, the majority of jobs are held by non-Yukoners. Our audit also shows that Yukon mines are commonly delayed or remain non-operational well past their planned opening date, but that delays and non-operation stem largely from lack of financing more than regulation.

These fluctuations in mining projects' contributions to the economy are part of a broader pattern of volatility inherent to the mining industry. Yet this is rarely acknowledged or adequately accounted for in environmental and socio-economic assessments. These assessments often present economic benefits

as stable and predictable, overlooking market dynamics like in commodity price fluctuations, global market shifts, and financing constraints. As a result, economic projections appear to function more as justifications for YG approval than realistic assessments of economic benefits and risk.

Despite the poor economic record, the framing of mining as both economically indispensable and constrained by regulation continues to shape public policy. In 2025, the Yukon government amended the Placer Mining Land Use Regulation and the Quartz Mining Land Use Regulation and the Waters Regulation to temporarily extend approvals, allowing eligible operators to continue work while waiting for licence renewals, "in recognition of the important role the mineral exploration and mining industries play in the territory's economy and the economic benefits that the industry provides to local communities" (Government of Yukon, 2025c). These amendments were enacted

without consultation with Indigenous governments, prompting Yukon First Nations to call for their repeal (Meilleur, 2025). Notably, the policy changes are not supported by evidence demonstrating that regulatory delay, rather than market conditions or project viability, constitutes the primary obstacle to mine development.

In a time of geopolitical uncertainty and growing emphasis on energy transition minerals, mining is being repositioned as a central development strategy for the territory. But the track record of previous Yukon mines raise significant doubt about this strategy. As documented in this brief, past projects, including Wolverine and Faro, have cost the territorial and federal governments far more than they delivered in economic returns, while imposing substantial burdens on communities and ecosystems. BMC's proposed Kudz Ze Kayah mine, located just 25 km from Wolverine and 150 km from Faro, has certain costs: significant impacts to caribou, long-term water impacts, and disruptions to Kaska traditional land use (Decision Bodies for the Kudz Ze Kayah Decision Document, 2024). What remains deeply uncertain are the benefits - the hundreds of millions in projected tax and royalty revenues and hundreds of steady jobs over a decade - that are used to justify approval.

At the same time, public investment to support further mining exploration and development is accelerating. The Yukon Resource Gateway Program alone commits \$398.4 million to roads serving mineral-rich areas (Government of Yukon, n.d.-a). In 2024, Natural Resources Canada added \$60 million for infrastructure in the Golden Triangle of northwestern British Columbia and the Yukon, including a new access road for the Galore Creek mine and a pre-feasibility study for a transmission line linking Yukon to the continental grid (Bennett, 2024). An additional \$12.9 million has been allocated to Fireweed Metals for road and power planning from the Government of Canada (Fireweed Metals, 2024).¹ If the future is anything like the past, our research suggests that these known costs, especially when added with costs of remediation and clean up, will overwhelm the uncertain economic benefits.

¹ Note: This is in addition to the US\$15.8 million (~C\$22.5 million) awarded by the U.S. Department of Defense under Title III of the Defense Production Act of 1950 ("DPA Title III").

TOWARDS RECOMMENDATIONS

1 | Strengthen economic information requirements in YESAB assessments

- Require and standardize economic benefit forecasting units and methodologies across projects to ensure public legibility and comparability.
- Use the track record of economic benefits from comparable Yukon and northern mining projects, rather than relying exclusively on modelled projections.
- Develop and publish territorial guidance on economic forecasting practices, informed by economic, Indigenous, and public interest expertise.
- Incorporate Indigenous governments and independent economic expertise into the development and review of economic information requirements.

2 | Embed economic benefit reporting and public transparency in YG mine regulations and permitting

- Require decision bodies to include enforceable conditions obligating approved mining projects to submit annual socio-economic performance reports. These reports should compare actual employment, wages, production, and government revenues against the forecasts presented during assessment.
- Create a centralized, publicly accessible registry where this information is housed, standardized, and searchable by project.
- Use registry data to support cumulative effects assessments, regional land-use planning, and future YESAB reviews and YG mine decisions.

3 | Ensure government oversight and accountability mechanisms

- Establish an independent oversight body (e.g., an Impact Review Board) or delegate the Auditor General of Canada to:
 - » Audit socio-economic performance,
 - » Flag underperformance relative to socio-economic forecasts,
 - » Recommend enforcement actions (e.g., permit revisions, financial penalties).
- Link post-approval performance to future project approvals and public investment decisions.

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