

# EVALUATION OF THE PROPOSED JOHNSON TRACT MINE, COOK INLET, ALASKA



**Report to the Center for Biological Diversity**

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## Executive Summary

The 2025 Initial Assessment (IA) of the Johnson Tract (JT) mineral deposit presents a profitable mine development scenario with pre-tax profits of \$510 million based on a future gold price of \$2,200 per ounce. While the initial assessment cost inputs are assumed to be only 50% accurate, they appear to be reasonable in the context of industry standards. This profit would be shared among Contango Ore (60% - \$335 million), Cook Inlet Region Inc. (CIRI) (10% - \$50 million), and state and federal governments (30% - \$175 million). Higher gold price scenarios would increase the profits for all parties, but the percentage breakdown would be similar.

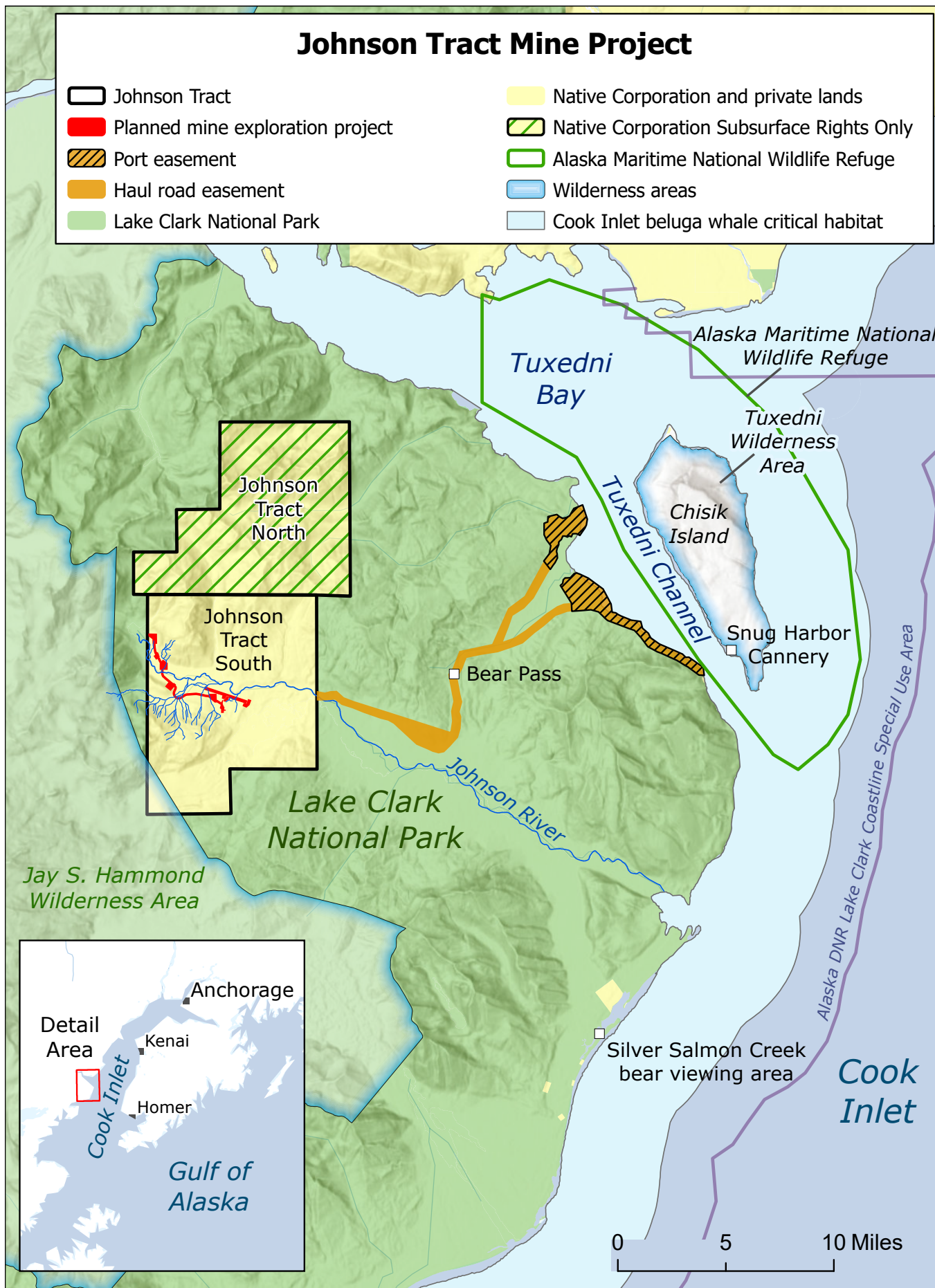
CIRI could increase its share of the profit by exercising its back-in right at the construction decision point to a maximum of 25%. This equity interest in the project would complement CIRI's guaranteed royalty (10% of profits), but if it exercised its back-in right, CIRI would be required to fund 25% of the project costs and assume any additional risks associated with cost overruns. As the decision to exercise this back-in right is required at the construction decision point after completion of a full feasibility study, CIRI will be in a better position to judge the risks and benefits of the back-in at that time.

Per Alaska Native Claims Settlement Act section 7(i), CIRI must share 70% of its net revenue (profit) from the JT mine with all Alaska Native regional corporations. This mandatory redistribution of profits while CIRI remains solely responsible for the capital investment changes the risk-reward balance of the back-in right.

On the basis of its 30% component of "critical metals" such as copper and zinc, the project has qualified for FAST-41 priority permitting under the newly established National Energy Dominance Council. While the mine will produce small amounts of these metals, it is essentially a gold mine with 70% of the revenues derived from gold. Furthermore, the IA proposes that the mined ore and the concentrates be sold to third parties who will most likely be located outside of the USA with the final refining likely to take place in Asia. As such, the JT mine would not be a meaningful part of the solution to the domestic critical metals shortage.

Notwithstanding the fast track for JT, the project will require extensive permitting, with upwards of 60 studies and reports to be completed over a timeline of a minimum of ~5 years without accounting for delays related to legal disputes and court challenges. Even the existing advanced exploration permit is currently being challenged in court.

Port approval would require federal consultations with NOAA Fisheries under the Endangered Species Act and Marine Mammal Protection Act due to construction in a designated critical habitat for Cook Inlet beluga whales. This is likely to be the most challenging aspect of project development realization.



## **Introduction**

This review of the proposed Johnson Tract Mine is based on publicly available information including the 2025 SEC Technical Report Summary Initial Assessment of the Johnson Tract Polymetallic (Gold, Zinc, Copper, Silver, Lead) Project, Alaska. The estimates and background studies in the Initial Assessment (“IA”) are preliminary in nature. Significant further work will be required to advance the Johnson Tract Mine (“JT”) to a final development decision point.

The objective of this report is not to offer an opinion on the question of how/if the JT deposit should be developed. The focus is rather on presenting the results of the IA in a systematic way that examines and explains the financial costs and benefits of potential development for everyone involved in the project – Contango Ore, Inc. (“Contango”), Cook Inlet Region, Inc. (“CIRI”), various levels of government, and the local communities.

## **Project History and Status**

JT was discovered in 1982 and has been explored intermittently during the ensuing decades. In 2018, Constantine Metal Resources, a publicly traded company on the Toronto Venture Exchange, negotiated a lease agreement with CIRI to acquire the JT project. Constantine created a new company, HighGold Mining Inc. to hold JT and other North American gold properties. HighGold finalized the lease agreement with CIRI and carried out exploration until 2024 at which time it was acquired by Contango Ore for \$37 million. Contango is a publicly traded company on the New York Stock Exchange with a market value of approximately \$400 million at the date of this report. Major shareholders of Contango include large investment firms Blackrock, Vanguard Group, Barings LLC, and Van Eck Associates. Contango was an obvious suitor for HighGold as JT would complement its portfolio of mineral projects in Alaska.

Contango completed the IA upon which this report is based in May 2025. The proposed development envisions a 7-year productive mine life based on ore reserves of 2.685 million metric tonnes with average grades of 5.82 grams of gold (Au), 5.44 grams of silver (Ag), 0.54% copper (Cu), 4.72% zinc (Zn), and 0.71% lead (Pb) in each tonne. After the IA was released, Contango announced a proposed merger with another Toronto Venture Exchange company - Dolly Varden Silver – to become Contango Silver and Gold Inc.

## **Agreement with CIRI**

CIRI is an Alaska Native regional corporation established under the Alaska Native Claims Settlement Act of 1971 and incorporated in June 1972. In 1976, as part of the Cook Inlet Land Exchange, CIRI agreed to forgo land selections on and around Lake Clark, which enabled the creation of Lake Clark National Park. In exchange for forgoing those entitlements, CIRI received the Johnson Tract, which became an inholding within the park. In addition, Congress directed the Secretary of Interior to convey transportation and port easements to CIRI for access to the Johnson Tract at a location to be mutually agreed upon in the future.<sup>1</sup>

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<sup>1</sup> <https://www.ciri.com/business-news/ciri-land-updates/>

The lease agreement negotiated between Constantine/HighGold (now Contango) and CIRI includes a 10-year Initial Term, a 5-year Development Term to reach a construction decision, and a Production Term lasting through operations. Summary details of the agreement are as follows:<sup>2</sup>

- Annual lease payments to CIRI of US\$75,000 for years one through five, escalating to US\$150,000 from year six onwards, until production is achieved;
- A requirement for US\$10.0 million in expenditures during the Initial Term with at least US\$7.5 million incurred within the first 6 years;
- Completion of a pre-feasibility study or feasibility study by the 10th anniversary;
- US\$2.0 million in expenditures per year during the Development Term until a mine construction decision is achieved;
- Certain accrual and carry-forward provisions for excess expenditures are included in both the Initial Term and Development Term;
- A CIRI back-in option providing CIRI the one-time right, upon a construction decision, to acquire a participating interest in the project to a maximum 25% interest, and;
- CIRI will also receive NSR royalties of 2% (pre-Payback) to 3% (post-Payback) on base metals and a gold price-adjusted NSR royalty of 2.5% to 4%.

Based on these terms, Contango must complete a pre-feasibility study by 2029 to maintain the lease rights. My interpretation of the Development Term is that Contango would have five years to achieve production once the development period begins. It is not clear from the summary terms available whether the Development Terms begins upon completion of a pre-feasibility study or only at the end of the 10-Year Initial Term. Once the construction or final investment decision is reached, CIRI will have an option to contribute up to 25% of ongoing costs to earn a corresponding interest in the project. This back-in right means that CIRI would not be responsible for any costs incurred to that point but would contribute proportionately to ongoing construction and operating costs and proportionately share any profits from production.

When production begins, CIRI would receive Net Smelter Revenue (NSR) royalties. NSR royalties are paid as a percentage of the money received for the sale of the mineral products. Money received, or net smelter revenue, is defined as the value of the mineral products at the time of their sale less the transport, smelting and refining charges to produce the final saleable product. For example, a copper concentrate containing \$2500 worth of copper metal might require \$500 to ship, smelt and refine the final copper metal. Thus, the net smelter revenue is \$2000. A 2% NSR royalty would be 2% of \$2000 or \$40.

## **Infrastructure Requirements**

Surface infrastructure for the project will be located at three primary areas: the port, the camp, and the mine portal. No dams, leach pads, tailings facilities, pipelines, or onsite mill are planned, although crushing and ore sorting on-site are being considered. A water treatment plant and associated settling ponds would form part of surface facilities. A port facility in Tuxedni Channel will handle

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<sup>2</sup> <https://bullmarketnews.info/constantine-finalizes-lease-agreement-on-johnson-tract-property-alaska-and-provides-details-for-spinout-of-gold-assets-into-highgold-mining/>

the transport of personnel, supplies, equipment, and direct shipment of ore. Roads will connect the camp to the mine portal and barge site, with additional access roads constructed as needed.

The current exploration camp is scheduled for expansion through the addition of a 100-room modular complex. At the portal, new modular structures and a designated fuel bay will be constructed. A lined pad measuring 90 meters by 90 meters will be utilized to stockpile several months' worth of ore during the annual six-week shipping shutdown. Furthermore, a temporary lined waste rock facility with a capacity of 500 kt is proposed, with all waste rock intended for use as backfill prior to mine closure. Backfill is material used to fill the stopes (holes) left when one section of the deposit has been mined. Waste rock is mixed with cement to produce cemented rock fill that is used to fill the void and provide an ongoing stable environment to continue mining. Dry cement would need to be transported to the site.

Power will be supplied by diesel generators.

## The Mine Plan

The mine is designed as an underground operation over a seven-year period, producing a total of 2,685 kt of ore (averaging 383 kt per year) and 767 kt of waste. Average grades over the operational life are reported as 5.82 g/t gold, 5.44 g/t silver, 0.54% copper, 4.72% zinc, and 0.71% lead.

Access to the mine will be via an inclined ramp which will serve as exploration access and later used for material movement and transportation of supplies, personnel, and equipment during production. Mine development will require only about 1.5 years due to the absence of significant on-site processing facilities and tailings storage. Peak production occurs during the first 3 years of mining during which the labor force is expected to total approximately 170 personnel, including mine operations, maintenance, supervision and management, technical services, and camp support roles.

### *Comment*

The proposed mine plan seems reasonable based on the mining methods, deposit geometry and depth. The report does not provide detail on the personnel assumptions with respect to the breakdown between contractors and employees, skilled vs unskilled labor, or training and business opportunities for local workers and businesses.

## Capital Cost Estimate

The JT capital cost estimate has  $\pm 50\%$  accuracy and is highly preliminary. Preproduction capital totals \$213.6 million, including \$36.0 million contingency, for underground development, surface infrastructure construction, and mobile equipment purchase. Sustaining capital is \$61.3 million total, with \$12.3 million contingency, covering equipment replacement, upgrades, and closure. Total life-of-mine capital is \$274.9 million. No capital is allocated for mill construction as ore will be shipped to an offsite plant. Recommendations are included in the IA to assess the costs and benefits of ore sorting and related material handling activities, possibly including crushing. None of these costs or benefits are included in the current financial model.

### *Comment*

Although extensive detail is not provided on these capital estimates, the values seem reasonable and typical for a project of this scale and at this stage of advancement. It is common for final capital estimates to increase as the project reaches feasibility and the final development decision. This is partly

due to the passage of time and the general escalation of costs. It is also common for actual preproduction costs for mining projects to exceed estimates<sup>3</sup>.

## Operating Cost Estimate

The operating cost estimate covers all expenses up to and including off-site processing, such as supplies, equipment, mining labour, ore stockpiling, road and water transportation, processing operations, and general site administration (G&A) costs. Operation of the surface water management facilities including collection ponds, settling ponds, and an effluent treatment plant would be included in onsite mining and services. Operating cost estimates have an accuracy margin of  $\pm 50\%$ , plus a 10% contingency. The total operating cost throughout the mine’s lifespan is projected at \$484.8 million. The breakdown of costs by type and location is shown below in Table 1. As is the case for capital costs, a recommended ore sorting facility would add on-site operating costs but lower shipping costs.

### *Comment*

The trade-off of having limited on-site processing is a large transport cost to move the ore from the mine to an off-site facility via roads and ships. As a result, the cost of fuel will have a big impact on the overall costs of production. More generally, these cost estimates are for activities that will happen several years in the future so will be adjusted several times as new information becomes available and studies are updated. Nothing stands out as being unusual in terms of the magnitude of cost assumptions used in the IA.

**Table 1. Operating Cost Estimates at the JT Mine**

| <b>Operating Cost</b>         | <b>\$/tonne of ore</b> | <b>Life-of-Mine Cost (\$ million)</b> |
|-------------------------------|------------------------|---------------------------------------|
| On-site mining and services   | \$82                   | \$214                                 |
| Truck from mine to dock       | \$4                    | \$12                                  |
| Ocean shipping                | \$33                   | \$85                                  |
| Truck to mill at milling site | \$7                    | \$19                                  |
| Custom milling charge         | \$40                   | \$102                                 |
| G&A                           | \$20                   | \$53                                  |
| <b>Total</b>                  | <b>\$186</b>           | <b>\$485</b>                          |

## Net Smelter Revenues

Generating revenues from mines is akin to running a waste management business. First, the ore is separated from bulk “waste” rock at the mine. This step is part of the mining process and for underground mines only the ore is removed from the mine. The ore is itself comprised mostly of additional “waste”, or material that has no value (barren or very-low-grade rock). At JT the ore would contain about 6% payable metals by weight, or 94% non-payable materials. The second waste management step is to remove the non-payable materials from the payable metals. This happens at the milling and concentration stage where the ore minerals become “concentrates”, and the waste minerals become “tailings”. While milling and concentration is proposed for an off-site location, an intermediate step on the JT site could occur where mined ore is crushed and sorted to remove further

<sup>3</sup> Predicting cost and schedule overruns in mining | McKinsey, <https://www.mckinsey.com/industries/metals-and-mining/our-insights/the-capex-crystal-ball-beating-the-odds-in-mining-project-delivery>

waste prior to being milled. While ore sorting is not currently in the mine plan in the IA, it is being considered and may form part of the next technical and financial study.

This separation of concentrates from tailings is meant to literally concentrate the grade of the product so that it can be economically shipped to a smelter and refinery for final processing. It should be noted the separation of the ore minerals and the non-payable minerals is not perfect: small amounts of metals usually end up in the tailings which can create potential environmental liabilities. At JT, metallurgical test work suggests that 15% of the copper, 8% of the zinc, and 28% of the lead will not be recovered and will thus end up as part of the tailings. These tailings will be deposited at the site of the processing plant which is yet to be determined but will most likely be outside of Alaska.

Based on the ore composition, four separate concentrates (gold/pyrite, copper, lead, and zinc) will be produced at the off-site millsite and then shipped to smelters. To clarify the process, consider the case of copper. The grade of copper in the ore is 0.54%. At the mill, the minerals that contain the copper are separated to produce a copper concentrate. This product will contain about 25% copper, with 15% of the copper lost to the tailings. So, the concentration process has increased the grade of copper from 0.54% in the ore to 25% in the concentrate - an increase of 46 times. The copper minerals in the concentrate also contain iron and sulphur which must be separated to liberate the copper as the only payable metal. Again, this is a waste management exercise, as only 25% of the concentrate is payable copper and 75% is still effectively waste.

Once the final metals are separated at the smelter/refinery, they are sold and payment is made to the mine operator. This payment becomes the net smelter revenue representing the money received by the mine owner for the final metals produced and sold. This value is an essential component in understanding the economics of projects as it represents the total inflow of money and forms the base for many private and government royalties and taxes. These are known as “net” payments because the costs of shipping, smelting and refining are deducted from the payment. In other words, the sale of metals is one transaction rather than two. Rather than the smelter company paying for the full value of the metals and then sending an invoice for their costs, the costs are deducted from the metal value, and a payment is made net of the smelter and transportation costs. The net smelter revenues received by the mining company represent all the cash inflows for the project. All capital expenditures, operating costs, financing costs, taxes and royalties are covered by these revenues. For JT, the net smelter revenue over the mine life is estimated at \$1,320 million, with approximately 70% of the total generated by gold payments assuming a gold price of \$2,200 per ounce.

### *Comment*

Actual financial terms for smelting and refining would be negotiated close to the time of first production. The assumed charges, deductions, and payment terms shown in the IA are representative of current values used in the mining industry. The only input that stands out as highly variable is the gold price estimate used in the revenue calculations. Currently, the spot gold price per ounce is around \$4,500 as compared with the IA assumption of \$2,200, but it is impossible to predict the price at the time the mine would be in production. It is common (and in many cases prudent and required by banks) for economic studies to use conservative metal prices particularly for the metals that contribute the most to overall net smelter revenues. The study does include sensitivity tables with a range of gold prices to measure the impact of changes to the base case estimate of \$2,200 per ounce.

## Profits and Economic Metrics

The profit from the mine operation is determined by subtracting all the costs - capital, operating, royalties, taxes, and financing from the net smelter revenue. The summary results are presented in Table 2. Focusing on the pre-tax cash flow, the expected corporate profit generated over the 7-year mine life is approximately \$510 million. From a who-gets-what perspective, CIRI receives about \$50 million in royalty payments (about 10% of profits), various levels of government receive approximately \$175 million (about 30% of profits), and Contango Ore as the mine operator would receive \$335 million (about 60% of profits). This amount represents a 30% return on investment for Contango. Insufficient information is provided to allow a detailed breakdown of taxes into federal and state components. Based on typical rates, my best estimate is that federal corporate income tax would account for about 60% of total taxes while Alaska corporate tax and the Alaska Mining Licence Tax would account for the remaining 40%.

**Table 2. Life-of-Mine Economic Metrics**

| <b>Metric</b>                            | <b>Pre-tax (\$ million)</b> | <b>Post-tax (\$ million)</b> |
|--|-----------------------------|------------------------------|
| Net Smelter Revenue                      | \$1320                      | \$1320                       |
| CIRI Royalties                           | \$50                        | \$50                         |
| Operating Costs                          | \$485                       | \$485                        |
| Capital Costs                            | \$275                       | \$275                        |
| Federal and State Taxes                  |                             | \$175*                       |
| Cash Flow                                | \$510                       | \$335**                      |
| Discounted Cash Flow (NPV <sub>5</sub> ) | \$359                       | \$225                        |
| Internal Rate of Return (%)              | 38%                         | 30%                          |

\*The taxes paid are not explicitly shown in the Initial Assessment but can be determined approximately based on related information.

\*\*The post-tax cash flow is not explicitly provided in the Initial Assessment but can be determined approximately based on related information.

### Comment

The IA values are based on ±50% accuracy for project inputs. As a result, the final values for cash flow and profit will be somewhat different as both costs and revenues are modified over time. As noted above, industry experience is for costs to increase as projects advance toward production. Countering the impact of potential cost overruns is the conservative gold price used in the economic analysis. The gold price as of the date of this report is about \$4,500 per ounce as compared to \$2,200 per ounce used in the IA. Even at the conservative prices, gold accounts for about 70% of the revenues for the project so cash flows and royalties are clearly linked to changes in gold price. Sensitivity analysis in the IA considers the impact of a wide range of gold prices.

Even though actual economic values will be different than projected in the IA, the small size of JT provides a limit to the variability of cash flows. Furthermore, the breakdown of economic returns to the various stakeholders is probably representative with respect to sharing of revenues and profits. The share of profits kept by Contango and the share of tax revenue collected by various governments will probably remain reasonably consistent even if the magnitude of profits increases or decreases. The share of value capture by CIRI royalties is more dependent on gold prices than project costs or profits.

## **Sensitivity Analysis**

Any discussion of the economics of the JT project must be tempered with the fact that these numbers are based on an IA assumed to have  $\pm 50\%$  accuracy. In my experience and from a risk management perspective, the first sensitivity focus should be on the potential increases in the cost estimates – particularly the capital cost estimates. If this project had a 50% overrun on capital expenditures (which is not uncommon in the mining industry) and all other inputs remained unchanged, the anticipated profit would decrease by about 60% to less than \$200 million.

Contrasting the capital cost increase would be an increase in the price of gold. What would be the impact on project economics if the gold price input increased to \$4,000 per ounce while all other inputs remained constant? Revenues would increase by approximately \$700 million resulting in an increased CIRC royalty of about \$30 million for a total over the mine life of about \$80 million. It should be noted that the royalty payment would not be impacted by any cost overruns for development whereas the profits and taxes paid would be. The exact values for taxes and profits are not provided for the higher gold price scenario but can be approximated at about \$260 million in taxes and \$900 million in post-tax profit for Contango. These values would be correspondingly lower if capital and operating costs increased above the IA estimates.

Another factor to consider is the addition of resources and reserves at other properties in the area. Drilling in 2021 discovered the Ellis Zone, a high-grade, near-surface area on the DC Prospect located four kilometres northeast of JT. At least nine early-stage prospects spanning 12 kilometres support the regional exploration potential. While these properties are early-stage, they could potentially add to the production profile (and environmental footprint) through sequential development as JT is depleted. Access to some of these properties for development is complicated by the division of the surface and subsurface rights. Unlike the south tract which contains the JT deposit and where CIRC has fee-simple rights to both subsurface and surface rights, CIRC owns the subsurface rights in the north tract while surface rights are owned by the National Park Service.

Finally, economics of the project could be impacted by the CIRC back-in right of a 25% interest in the project. Based on the economics of the project shown in the Initial Assessment, the 25% interest held by CIRC would earn them 25% of expected profits assuming prorated costs and revenues. Thus, their 25% investment could result in an additional profit of USD \$84 million. To earn this interest, CIRC would need to finance 25% of the anticipated capital expenditure to build the mine – currently estimated at about \$60 million. To be clear, the profit of \$84 million would be over and above the investment. If capital costs increase, CIRC would be responsible for their share of the increase. As discussed, capital expenditures going over budget is common for mine projects. CIRC creates new risk exposure to these overruns if it exercises this option that it otherwise would not be exposed to with just receiving royalty payments. CIRC will be in a better position to understand the risks and benefits of the back-in right when the final feasibility study is completed. No discussion is provided in the IA as to how the NSR royalty payment would be impacted by the back-in right but presumably CIRC would not pay itself a royalty from its share of the project profits. Thus, the profit from the back-in right would be partially offset by a decrease in NSR royalties.

## **Next Steps**

Next steps in the project advancement are focused on technical and processing reviews and permitting. Environmental baseline studies are being advanced along the permitted Road and Port Easements granted to CIRI. The project recently became covered under FAST-41 priority permitting under the newly established National Energy Dominance Council, created by executive order in March 2025.<sup>4</sup>

More generally, the permitting process will be extensive and costly from both a time and money perspective. The project is currently permitted for exploration activities and associated infrastructure at the Johnson Camp although an active lawsuit by the Center for Biological Diversity, Cook Inletkeeper, Chickaloon Village Traditional Council, and a local fisherman is challenging the Advanced Exploration permit.<sup>5</sup> Special Use Permits (SUPs) have been granted annually to support baseline data collection within waterways and on NPS-administered public lands linked to easement areas.

According to recent company promotional materials, permitting for the underground tunnel site is ongoing with the State of Alaska DNR Office of Project Management and Planning (OPMP). CIRI has received right-of-way easements for access road and port facilities and a Programmatic Agreement with the National Park Service has been completed, enabling permitting for road and barge landing construction.

Ultimately, the project will require extensive permitting, with upwards of 60 studies and reports to be completed. Construction of mine facilities on CIRI land and road and port corridors on NPS land will require terrain modification and placement of clean fill, including in wetlands. Since avoiding all impacts to Waters of the U.S. is not feasible, the US Army Corps of Engineers (USACE) will likely determine the Least Environmentally Damaging Practicable Alternative. As project engineering progresses, comprehensive environmental baseline studies will be needed to support NEPA review and stakeholder consultation. A mine plan that minimizes impacts and outlines effective mitigation will be essential for NEPA approval. In addition to NEPA, major state and federal permits and consultations are required prior to authorization of the mine, road, and port. Port approval would require federal consultations with NOAA Fisheries under the Endangered Species Act and Marine Mammal Protection Act due to construction in a designated critical habitat for Cook Inlet beluga whales.

NEPA and state reviews proceed in parallel, with an Environmental Assessment (EA) typically taking 1–3 years and an Environmental Impact Statement (EIS) taking 3–7 years, subject to delays deriving from staffing, regulatory changes, public notice, or project design updates. Additionally, legal challenges to any of the permitting steps could delay the process for an indeterminate amount of time.

## **Sunk Costs**

A key misunderstood aspect of proposed mining project economics is the role of sunk costs. Sunk costs refer to money spent to advance a project to the development decision point which is not considered relevant to the project economics. For example, if a company spent \$100 million to advance a project to a feasibility study, that cost is not included in the decision to invest. (There

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<sup>4</sup> <https://www.contangoore.com/press-release/contango-announces-acceptance-of-the-johnson-tract-critical-metals-project-to-the-covered-projects-fast-41-program>

<sup>5</sup> <https://biologicaldiversity.org/w/news/press-releases/lawsuit-aims-to-protect-cook-inlet-belugas-from-water-pollution-noise-2025-05-20/>

may be some tax implications if some of these costs are allowable deductions against future taxes.) In the case of the JT Mine, the projected post-tax profit does not consider ongoing costs and time of ongoing exploration, technical studies and permitting to advance this project to the development decision point. It is implied by the back-in rights of CIRI that they would not be responsible for their share of these costs but that is not explicitly stated in the IA.

## **Critical Minerals**

Although JT has qualified as a FAST-41 project on the basis of production of critical metals, the economics of the project are dependent on the value of gold produced. In the base case presented in the IA, gold accounts for approximately 70% of total revenues. As the gold price used in the economic model increases toward the current gold price (\$4500/oz), gold would account for nearly 85% of project revenues. While critical metals such as copper and zinc are contained in the deposit, the amounts are insignificant in terms of U.S. requirements. Furthermore, neither the ore nor the concentrates of all metals are likely to be processed in the USA. Physical metals will most probably be produced at smelters and refineries in Asia.

## **Summary Findings – Benefits and Costs**

The proposed JT Mine is small. With a reserve tonnage of less than 3 million tonnes, the big copper mines of the industry would deplete the ore in about a week. Another development stage project in Alaska - Donlin Creek - has a reserve of 500 million tonnes.

The small size has both pros and cons. On the positive side, a small mine has a small footprint with respect to land disturbance, water use, etc. The underground mining method also decreases the footprint with the development waste being used as backfill in the mine production. Finally, the direct shipping ore (DSO) approach negates the need for tailings stored at site.

On the negative side, the small project results in relatively small royalty payments and overall profit levels. In combination with the DSO, the small size means relatively fewer and shorter employment opportunities especially for non-mining professionals. While the other regional deposit opportunities could extend the production life, the current 7-year window is not particularly conducive to long-term training and career development opportunities. Environmental risks and hazards are not the focus of this report, but as with all mining projects, must be weighed against potential returns. That is especially true for project such as JT with relatively small financial and short-term employment benefits.

While the project is small, it is higher quality compared to other projects, as measured by the grades of payable metals. The mix of base (copper, zinc, lead) and precious (gold, silver) metals should provide sufficient revenues to cover anticipated costs for development and operation.

The economic projections in the IA are very preliminary, and the costs will most likely increase if/when the mine gets to a real development decision point. Countering this impact is the conservative gold price estimate used in the model. The benefits to CIRI, Contango, and tax agencies hinge on the price of gold, as most of the revenues generated are from that metal. JT would not be significant as part of the solution to the critical minerals shortage as it is very small and most of its value is from gold rather than base metals such as copper and zinc.

## **Appendix 1 – Doggett C.V.**

### **Overview**

Michael Doggett has more than 40 years of experience in the mineral industry as an academic, consultant, project evaluator, entrepreneur, advisor, and board member. This unique combination of experience has allowed him to gain an understanding of the mineral industry that crosses disciplines, commodities, and the pipeline of projects from early-stage exploration through to production and closure. He has carried out assignments and provided strategic advice to a broad spectrum of companies from start-up juniors to large multinational miners as well as government agencies, legal firms, and First Nations.

### **Employment History**

#### ***Exploration and Mining Advisory and Consulting - 1990 to present***

During the past 35 years, Doggett has carried out a range of consulting and advisory services in the exploration and mining sector related to project evaluation, acquisitions, taxation and mining codes, streaming and royalties, and strategic planning. This work has been carried out under the auspices of Michael Doggett & Associates and Beach Meadows Resources Inc. His clients have been many of the world's leading mining companies.

Doggett has consulted with various levels of government within Canada and internationally on mining policy and tax and royalty considerations. Most recently, he has completed studies with the Government of the Northwest Territories related to mining royalties and competitive tax position and with the Federal Government of Canada assessing mineral exploration tax credits. He also works with First Nations on mining related issues most recently acting as the financial advisor to the Ulkatcho First Nation in British Columbia who are partners with Artemis Gold in the development of the Blackwater Gold Mine.

In addition, Doggett has worked with engineering consulting groups (SRK Canada) and legal firms (Bennett Jones, McCarthy Tétrault, Miller Titerle, Davies Ward Phillips & Vineberg, Ratcliff, DLA Piper, and the Department of Justice, Government of Canada) providing expert advice and court appearances related to project valuations, mining royalty and metal streaming agreements, and impact benefit agreements.

#### ***Professorships and Professional Development – 1995 to present***

Doggett served as Associate Professor and Director of the Mineral Exploration Program at Queen's University in Kingston, Canada from 1997 to 2007. He was appointed Stollery Professor in Mining Engineering in 2005. His teaching and research focused on the evaluation of mining projects and corporate strategic planning in the exploration sector. He has published more than 30 articles and books related to evaluating mineral properties and companies.

Doggett has delivered Professional Development training in mineral project evaluation to more than 4000 people in a dozen countries over the past 30 years. These include in-house training for mining companies as well as industry associations and open courses.

#### ***Corporate Affiliations and Boards – 2004 to present***

Doggett is a qualified member of the Institute for Corporate Directors in Canada and has served on the board of ten companies during the past two decades. He has served on various board committees including Chair of the Audit Committee, Chair of the Governance Committee, and Chair of the

Compensation Committee. He currently sits on the Board of Directors of one Canadian public company, as well as 2 private Canadian companies and acts as an advisor to two international mining groups.

He also served on the board of the Mineral Deposits Research Unit at the University of British Columbia for 5 years, has completed a 6-year term on the Board of Directors for the non-profit Prospectors and Developers Association of Canada as well as a 3-year term on the Committee for Earth Resources at the United States Academy of Sciences.

### ***El Olivar Imperial – Director and Founder – 2018 to present***

During the past several years, Doggett has helped to set up and build a tailings reprocessing and custom milling company based in Nazca, Peru. The first development project is under construction with anticipated production in Q1 2026.

### **Awards and Distinctions**

Society of Mining, Metallurgy and Exploration (SME), Mineral Economics Award, 2019

Barlow Memorial Medal for “Assessing the Returns to Copper Exploration” paper written by Doggett and Leveille, 2011

Canadian Institute of Mining, Metallurgy and Petroleum, Distinguished Lecturer 2010 - 2011

Stollery Professor in Mining Engineering and Geological Sciences and Geological Engineering, 2005

Society of Economic Geology International Exchange Lecturer, 2005

N.M. Rothschild Professor, Curtin University of Technology, 2004

Robert Elver Mineral Economics Award of the CND Institute of Mining, Metallurgy and Petroleum, 2002

### **Recent Presentations at Mining Conferences and Mineral Association Meetings**

1. *Critical Minerals: Supply, Scarcity, and Politics*, Mongolia Mineral Exploration Roundup, Ulaanbaatar, 28 March 2025.
2. *The Green Supercycle is just a Cycle: Don't Oversell it*, UBC SEG Student Chapter, 11 April 2023.
3. *Mineral Resources for a Sustainable Future: Lessons from the first 20 Years of the New Millennium*, ProExplo 2021, Lima, Peru, 25 March 2021.
4. *The Business of B.C. Copper*, presentation at AME Round Up, Vancouver, Canada, 29 January 2019.
5. *Copper Supply, Exploration and Porphyries*, presentation at Simexmin 2018, Ouro Preto, Brazil, 22 May 2018.
6. *Exploration Renovation: the Good, the Bad, and the Ugly*, presentation at Chile Explore Congress, Santiago, Chile, 27 September 2017.