



Alaska Range Copper-Gold Project, USA

SCOPING STUDY

**2024**



# 2024 Alaska Range Scoping Study

## Improved copper flotation recovery boosts projected returns

Compelling Resource Extension Potential Remains



### Alaska Range Copper-Gold Project, USA

PolarX Limited (**ASX: PXX, “PolarX” or “the Company”**), is pleased to report positive results from an updated scoping study (“2024 Scoping Study”), following recent copper concentrate flotation test-work for the Alaska Range Copper Gold Project (“**Alaska Range Project” or “the Project”**). The 2024 Scoping Study evaluates sequential mining and processing options for the high-grade Caribou Dome VMS Copper deposit and the nearby Zackly Copper-Gold-Silver skarn deposit, and updates previously published studies (ASX releases dated 17 October 2022 and 28 August 2023) with flotation test-work results as reported within this document.

Key outcomes from the updated 2024 Scoping Study are presented in this document, together with the underlying material assumptions.



## Overview

The 2023 Scoping Study (refer ASX release 28 August 2023), was based on the updated mineral resource estimate for the Caribou Dome deposit (refer ASX release of 14 June 2023), the 2022 mineral resource estimate for Zackly deposit (refer ASX release of 17 October 2022) and metallurgical test work results as reported and as summarised in those publications.

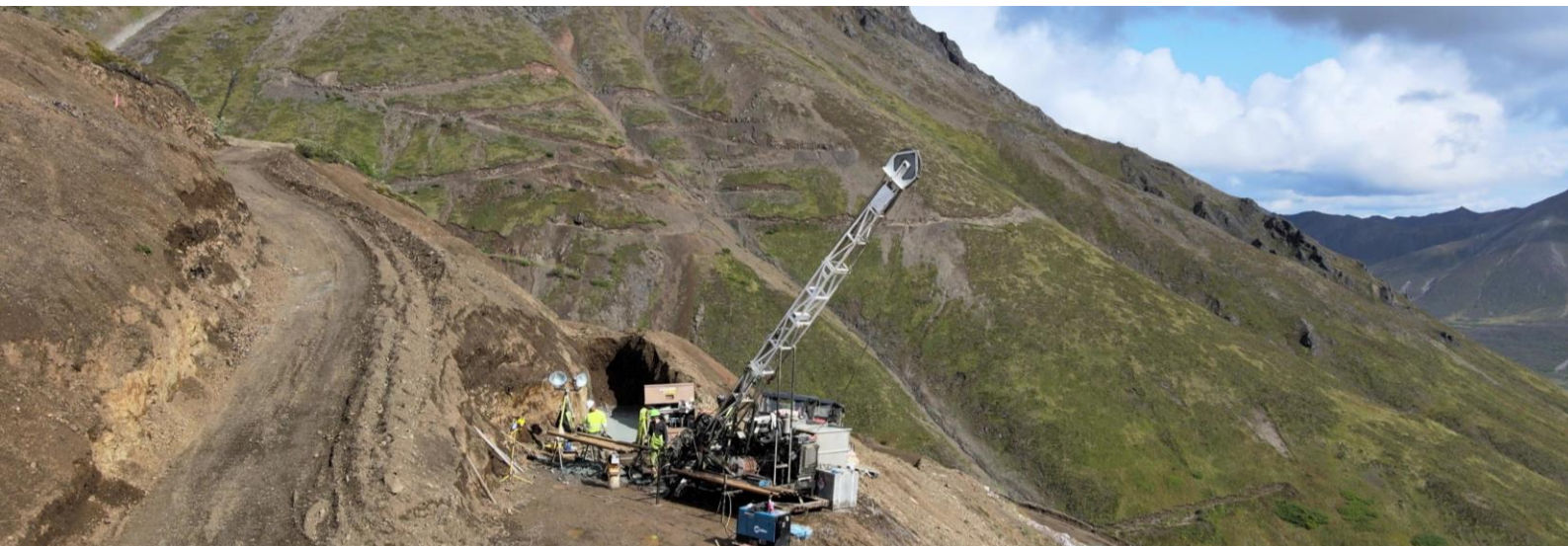
This 2024 Scoping Study update has delivered significantly boosts projected economic returns primarily from improvements in metals recovery and concentrate grades from recent test work:

- Conventional cleaner flotation test work has improved Caribou Dome results with **87.9% copper recovered to a marketable concentrate grading 21.7% copper**.
- These significant metallurgical improvements deliver boosted projected returns including:
  - Pre-Tax NPV<sub>7</sub> doubles from A\$310M to **A\$625M**
  - Pre-Tax IRR increases from 38.6% to **73.9%**
  - Mine Life EBITDA increases from A\$882M to **A\$1,269M**
  - Average annual free cashflow over **9.5 years mining increases from A\$82m to A\$120M**
  - Capital Payback reduces from 2.75 years to **1.6 years**
- Mining and processing are scheduled to commence at Caribou Dome with a high-grade open pit followed by underground mining at Zackly which will be trucked to the proposed plant at Caribou Dome.
- 83% of the material currently proposed to be mined falls in the Measured and Indicated resource categories.
- Comminution testing indicates that the mineralisation at Caribou Dome is moderately soft, and the flotation recoveries were achieved at a coarser primary grind sizes requiring less energy than in previous test-work.
- Ongoing metallurgical test-work is intended to further enhance copper recovery at Caribou Dome and gold recovery at Zackly.
- Ongoing oxidative leaching and solvent extraction test work also shows potential to further boost copper recovery, minimise freight costs and eliminate refinery charges.
- Modest increases in copper and gold recoveries and/or concentrate grades could deliver a further uplift to projected economics.
- Modest resource extensions at either deposit and in particular Caribou Dome, could also significantly further enhance projected economic returns.

- Mineralisation is known to continue 150m below the current resource at Caribou Dome and a future underground mine could again extend the modelled mine-life.
- Revenue from copper contributes more than gold or silver at currently prevailing commodity prices. Sensitivity analysis indicates potential Project economics are most responsive to the copper price, copper recovery and concentrate grades, and can be enhanced further by both infill and extension drilling, by minimising mining waste-dilution and by continuing to improve recoveries via further metallurgical test-work.

Significant resource expansion potential is evident at Caribou Dome where the most recent drilling (19m at 7% Copper, refer ASX release of 23 February 2022), remains open at depth and along strike, and at Zackly which remains open at depth and, immediately along strike to the east of the mineral resource.

The Mineral Resource Estimate at Caribou Dome is currently modelled from surface to 300m depth. **Existing exploration drilling has, however, revealed mineralisation exists down to 450m depth and further drilling may significantly increase the resource.**





## Cautionary Statement

The 2024 Scoping Study referred to in this ASX release has been undertaken for the purpose of initial evaluation of a potential development of the Alaska Range Copper Gold Project in Alaska USA ("Alaska Range Project"). It is a preliminary technical and economic study of the potential viability of the Alaska Range Project. The 2024 Scoping Study outcomes, production target and projected financial information referred to in the release are based on low level technical and economic assessments that are insufficient to support estimation of Ore Reserves. The 2024 Scoping Study was calculated and is presented in US dollars to an accuracy level of +/- 35%.

While each of the modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation and appropriate studies are required before PolarX will be able to estimate any Ore Reserves or to provide any assurance of any economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

The Company concludes it has reasonable grounds for disclosing a production target which includes an amount of Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. Over the planned 9.5 year life of the Project Measured and Indicated Resources account for 83% of the total tonnes mined. Inferred Mineral Resources comprise only 17% of the production schedule.

**In particular, during the first 3 years of planned mining in the 2024 Scoping Study production plan, approximately 99% of the material to be mined is classified as Measured and Indicated which recovers projected capital start-up costs.**

The viability of the development scenario envisaged in the 2024 Scoping Study does not depend on the inclusion of Inferred Mineral Resources.

The Mineral Resources underpinning the production target in the 2024 Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). For full details on the Mineral Resource estimate, please refer to the ASX announcements of 14 June 2023 (Caribou Dome) and 17 October 2022 (Zackly). Other than as presented in this announcement, PolarX confirms that it is not aware of any new information or data that materially affects the information included and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not been changed. The 2024 Scoping Study is based on the material assumptions outlined in this announcement and which are also detailed in the Appendices. These include assumptions about the availability of funding. While PolarX considers that all the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range of outcomes indicated in the 2024 Scoping Study, funding in the order of US\$147 million will likely be required. Investors should note that there is no certainty that PolarX will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of PolarX's existing shares. It is also possible that PolarX could pursue other value realisation strategies such as a sale or partial sale of its interest in the Alaska Range Project.

This announcement contains forward-looking statements. PolarX has concluded that it has a reasonable basis for providing these forward-looking statements and believes it has a reasonable basis to expect it will be able to fund development of the Alaska Range Project. However, several factors could cause actual results or expectations to differ materially from the results expressed or implied in the forward-looking statements. Given the uncertainties involved, investors should not make any investment decisions based solely of the results of this study.

## Summary

### Key Assumptions and results of this study include:

(Note – all references to \$ are in US Dollars unless otherwise stated)

- Caribou Dome mineral resource estimate of **7.2Mt @ 3.1% Cu and 6.5g/t Ag**.
- Zackly mineral resource estimate of **4.0Mt @ 1.1% Cu, 1.6g/t Au and 12.6g/t Ag**.
- Metallurgical recoveries of 90% copper, 79% gold and 80% silver from flotation at Zackly, and 87.9% copper and 70% silver recoveries from flotation at Caribou Dome
- Processing scheduled to occur at 750ktpa at Caribou Dome followed by 600ktpa at Zackly over 9.5 years, with mining commencing at Caribou Dome and then moving to Zackly, with mineralisation processed through a common conventional sulphide flotation plant located at Caribou Dome.
- Returns are most sensitive to copper price, metallurgical recoveries, concentrate grades and operating costs.

**Key economic outcomes on a 100% project basis and without finance leverage are:**  
(for ownership details see Section 2 of this release).

<p><b>Revenue</b></p> <p>US\$1,491 A\$2,294 (\$0.65)</p>	<p><b>Total EBITDA</b></p> <p>US\$825 M A\$1,269 M</p>
<p><b>C1 Cash Cost</b></p> <p>US\$1.36 / lb A\$2.10 / lb</p> <p>Cash costs with Au and Ag credits</p>	<p><b>Operating Margin</b></p> <p>55%</p> <p>EBITDA/Revenue</p>
<p><b>Average Annual Free Cash Flow</b></p> <p>US\$78 M A\$120 M</p> <p>Post construction</p>	<p><b>Initial Capital Required</b></p> <p>US\$147 M A\$226 M</p>
<p><b>NPV<sub>7</sub> Pre-tax</b></p> <p>US\$406 M A\$625 M</p>	<p><b>IRR Pre-tax</b></p> <p>73.9%</p>
<p><b>Payback</b></p> <p>1.6 Years</p> <p>Post construction</p>	<p><b>Mine Life</b></p> <p>9.5 Years</p>

Table 1. Key Scoping study Outputs

## NEXT STEPS:

Sensitivity analysis within this Scoping Study reveals and quantifies key areas for potential cashflow, NPV and IRR enhancement.

Other than copper and gold prices, the most immediate scope for uplift in value are found in resource extension and further improving concentrate copper grades and copper and gold recoveries.

### Further Increase Copper Concentrate Grade and Recovery

Analysis reveals and this study demonstrates, that successfully advancing metallurgical test work has the most immediate potential to deliver the greatest uplift in projected Project returns. It shows better economic returns could be realised with even modest improvements in both copper recovery and concentrate grades at Caribou Dome. Ongoing test-work on Caribou-Dome mineralisation using oxidative leaching and solvent extraction also show potential to further boost copper recovery and further minimise freight costs and eliminate refinery charges.

**ACTION: PolarX will continue to advance metallurgical test work to further enhance copper recoveries and optimise projected operating margins at Caribou Dome.**

Similarly, the metallurgical test work at Zackly is at an interim stage and is not yet optimised. It is more sensitive to the gold price than the copper price and the current gold recovery based on test work to date is assumed at only 79%.

**ACTION: Further metallurgical testing and the examination & trial of alternative recovery options also planned at both Caribou Dome and Zackly during this year.**

### Pre-Concentration of Mined Material

Reducing mined waste to increase the effective feed grade to a processing plant has several benefits in optimising both operating cost and the scale of the plant itself. Selective ore sorting technology is gaining commercial acceptance and the distinctly different properties of Caribou-Dome's massive sulphide mineralisation from its surrounding host material present an opportunity.

**ACTION: The company will test the suitability of ore-sorting technology to pre-concentrate feed grades by eliminating distinctly different surrounding waste material**



## Resource Extension

Upside resource expansion potential is evident and may be achieved with further successful drilling at both Caribou Dome and Zackly.

Caribou Dome's mineralised lenses remain open in all directions. Existing drilling includes mineralised intercepts 150m below the currently calculated resource.

If further drilling extended the resource to that depth and an extra 2Mt was mined from underground this could yield a US\$130M/A\$200M increase in projected pre-tax NPV (+32%).

Analysis of drilling and the current Indicated mineral resource at Zackly also highlights several mineralised shoots that plunge at depth and along-strike which have yet to be evaluated by drilling.

Adding an extra year's material mined from Zackly along strike could yield a US\$21M/A\$32M increase in projected pre-tax NPV (+5%).

**ACTION: Further resource extension drilling programs will be focussed in these specific areas to enhance overall returns.**





## Scope & Changes

PolarX published an initial Scoping Study on 17 October 2022 based on the 2017 mineral resource estimate for Caribou Dome and 2022 mineral resource estimate for Zackly. On 14 June 2023, the Company announced a substantial increase in the mineral resource estimate at Caribou Dome along with an increased proportion of Measured and Inferred resource confidence classifications. This new mineral resource estimate also included silver for the first time. These enhancements underpinned the re-optimisation of the 2022 scoping study.

On 28 August 2023 the Company published an updated Scoping Study which addressed the enhanced resource at Caribou Dome along with the scale and scheduling of operations, capital and operating costs, current metal price trends and optimal mining methods. Given the relative scale of each deposit, the study examined a larger open pit mine at Caribou-Dome with no underground component for 5 years followed by underground mining at Zackly for 4.5 years.

Sensitivity analysis at that time revealed that the biggest economic enhancements, could be made with improved copper recoveries at Caribou Dome in particular. Accordingly, PolarX engaged Ausenco Engineering Canada Inc. (**Ausenco**) to conduct a series of metallurgical tests designed to improve copper recovered via conventional flotation of mineralised material from Caribou-Dome.

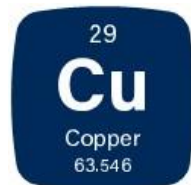
**Optimised test results show a substantial improvement in both recovered copper (to 87.9%) and the grade of concentrate produced (to 21.7%), across a 12-hole domain-weighted composite sample representative of the mineralisation within Caribou Dome. This 2024 Scoping Study addresses and quantifies the significance of those two key improvements without changing any other key inputs.**

## Mine Optimisation

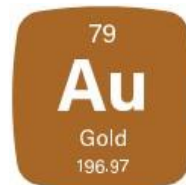
- The Caribou-Dome and Zackly resource, mine design and scale of operations have not been changed from the 2023 Scoping Study.

## Financial modelling

- As before, the proposed processing plant is to be located at Caribou Dome in recognition of its larger economic contribution and tonnes mined.
- Plant throughput capacity maintained at 750ktpa at Caribou Dome and 600ktpa at Zackly.
- Estimated mining costs unchanged.
- Increased concentrate grades effectively eliminate penalties and charges paid to smelters and substantially reduce freight costs due to the lower volume of higher-grade concentrate being transported. These factors comprised the most significant economic benefit arising from the recent metallurgical test-work.
- No changes to capex as the scale of operations remains unchanged.



**US\$8500/t**



**US\$1900/oz**



**US\$25/oz**

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## Location and Ownership

The Alaska Range Project (Figure 1) is located approximately 250km northeast of Anchorage in central Alaska, USA. It is readily accessible via the Denali Highway which passes within 20km of the Project and from there gravel roads provide direct access to the historic underground development at the Caribou Dome Cu deposit and the Zackly Cu-Au-Ag skarn deposit.

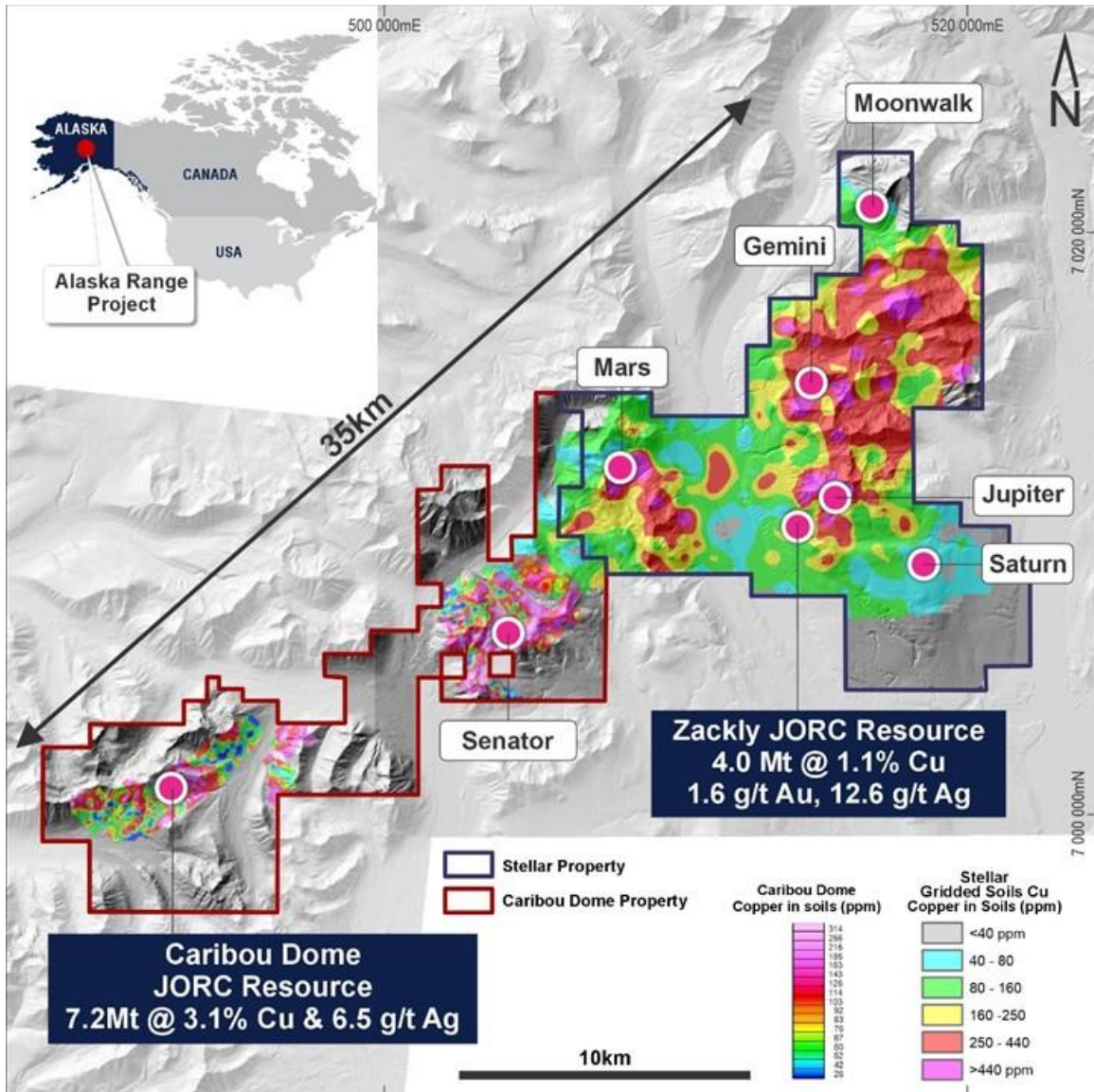


Figure 1. Map for the Alaska Range Project showing the Caribou Dome and Zackly deposits plotted on copper-in-soils geochemical anomalism.

The Caribou Dome Project comprises 216 State Mining Claims covering approximately 28,800 acres (11,655 hectares). The claims which host the Caribou Dome deposit are owned by CD Development Corp and are under option to Hatcher Resources Inc and SV Metals LP. PolarX's remaining commitments in relation to its right to earn an 80% interest in Caribou Dome are:

- by making further option payments totaling USD\$1.26M by 6 June 2024; and
- payment of a 5% net smelter return royalty in relation to the sale of ore from the property and the Company has the right to purchase the royalty for USD\$1,000,000 for each 1.0%. This is included in the Capital Estimate.

The Zackly deposit occurs within the Stellar Project which comprises 229 contiguous State Mining Claims. The claims cover a total area of 36,960 acres (14,957 hectares) and are registered to Vista Minerals (Alaska) Inc a wholly owned subsidiary of PolarX (100% PolarX ownership).

Royalty obligations in relation to the Zackly Deposit are:

- (i) 2% NSR on gold and silver and 1% NSR on copper, payable to Altius Minerals Corporation; and
- (ii) 1% NSR on all metals, payable to Millrock Resources Inc.

**For the purposes of the Scoping Study, 100% ownership of both deposits has been assumed for the economic evaluation (that is, the 2024 Scoping Study has been completed on a total project basis).**



## Geology

The Alaska Range Project occurs in south-central Alaska in a belt of rocks containing known large-scale porphyry Cu-Au deposits of Cretaceous age (eg. Pebble) and associated Cu-Au skarns (eg. Zackly) and epithermal gold deposits, along with older VMS deposits such as Caribou Dome hosted in the basaltic andesites and associated volcanoclastic sediments of the upper Triassic Nikolai Greenstones (Figure 2):

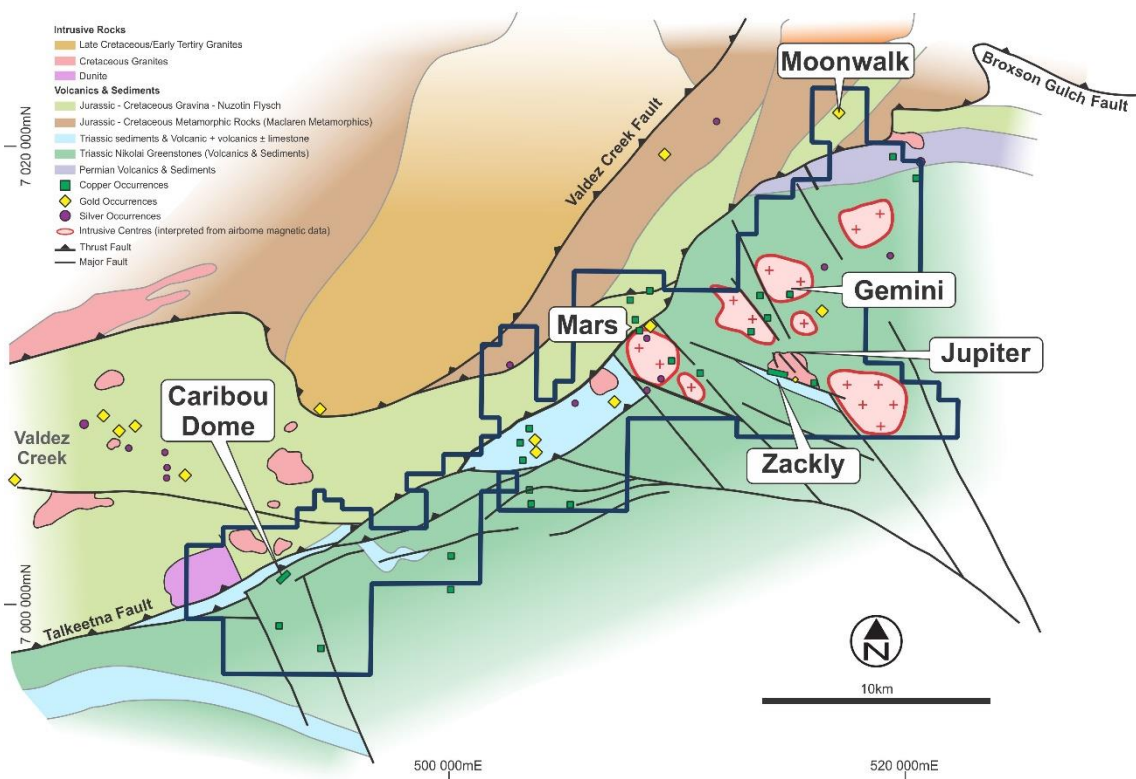


Figure 2. District-scale geological setting of the Caribou Dome VMS deposit and the younger Zackly skarn deposit.



Copper mineralization was discovered at the Caribou Dome Project in 1963. From 1963-1970, approximately 95 diamond core holes were drilled to delineate nine lenses of volcanic sediment-hosted copper mineralization over approximately 800m of strike. Significant additional drilling has been undertaken by PolarX since 2015, with a maiden resource announced on 6 April 2017 which was substantially upgraded to encompass further drilling on 13/14 June 2023.

The Caribou Dome mineralisation occurs in deformed lenses of very fine-grained massive sulphides comprising chalcopyrite and pyrite associated with calcareous volcanic argillites of andesitic affinity. Mineralisation has been deformed by two-phases of folding and subsequently faulted. The mineralization extends from surface to depths of over 450m.

The **Zackly Cu-Au Skarn** deposit was discovered in 1979 with exploration between 1981 to 1994 including surface sampling, trenching, geophysics and both core and reverse circulation drilling totalling approximately 40,000 feet (12,200 metres) in approximately 85 holes. Resource delineation drilling at Zackly was completed in early October 2017 and led to a maiden Inferred Resource (JORC 2012) on 20 March 2018 for the Zackly Main Skarn. More drilling was undertaken in 2018 and 2020 and an upgraded resource was published on 17 October 2022.

Zackly occurs in limestone which is intruded by Cretaceous quartz-monzonites and diorites. Contact metamorphism and associated alteration has affected all the rocks near the intrusive contacts at Zackly. Cu-Au mineralisation in the form of bornite, chalcocite, minor chalcopyrite and native gold occurs in exoskarn in limestone/marble and endoskarn in intrusive rocks and volcanic rocks.

## Metallurgical Test Work Results and Conclusions

PolarX consultants conducted metallurgical test-work during 2022 as summarised and reported in the 2022 Scoping study (Refer ASX release 17 October 2022).

Sensitivity analysis highlighted the opportunity to generate significantly enhanced economic returns with improved copper flotation recoveries and higher concentrate grades. This focus led to the engagement of Ausenco to manage the current on-going metallurgical test-work program for Caribou-Dome. Test-work conducted in late 2023 and early 2024 focussed on conventional closed-circuit cleaner flotation on a 12-hole weighted domain composite sample and has returned improved results with **87.9% copper recovered to a marketable concentrate grading 21.7% copper**.

The test-work program examines several opportunities and is still on-going. Results to date support the following key observations and assumptions:

### Caribou Dome

- The massive sulphides at Caribou Dome are very fine-grained mixtures and complex composite grains comprising predominantly chalcopyrite and pyrite along with moderate silver sulphides.
- Composite samples were assembled from ½ and ¼ cut drill core intervals representing material within the potential open-pit mineable resource. A shipment of 146 intervals retrieved from the core boxes of twelve 2015/2016 drill holes in storage at the project site was assembled and transported to Base Metallurgical laboratories for testing. Selected intervals from the 312 kg shipment were used to assemble a master composite and 4 domain composites for the current metallurgical test program. **The master composite was assembled to reflect the wireframe weighting of unique domains across the deposit, capturing approximately 75% of the domain distribution.**

Sample	Assay % or g/t			
	Cu	Fe	S	Ag
Master Comp	5.4	13	12.6	7
Var 1	4.62	12.9	10.5	4
Var 2	5.05	16.9	12.9	5
Var 3	6.55	15.3	17.3	6
Var 4	5.45	17.2	17.7	7

Table 2. Head Assay Data – Samples in Current Test Program



- Comminution testing was also conducted on these composites, which indicated that the material was moderately soft with respect to impact breakage in a SAG mill and soft to average hardness with respect to ball mill grinding:

Sample	DWi kWh/m <sup>3</sup>	A*b Value	BMWi kWh/t
Master Comp	5.6	55.3	15.8
Var 1	4.9	60.9	11.9
Var 2	4.1	75.8	12.41
Var 3	6.9	44.9	-
Var 4	7.0	44.4	-

Table 3. Comminution results – Samples in Current Test Program

- Flotation testing was conducted on the composites at 70µm P<sub>80</sub> to evaluate primary grinding, collector dosage and regrinding requirements. These tests culminated in a closed circuit (locked cycle) cleaner-test on the master composite using a more selective collector and regrinding of the cleaner feed to 16µm P<sub>80</sub>. **In this testing, 87.9% of the copper and 69% of the silver was recovered to a concentrate grading 21.7% copper.**
- This is also a significant improvement over cleaner tests on Caribou Dome samples in previous test programs, in which finer primary grinding and regrinding was applied.

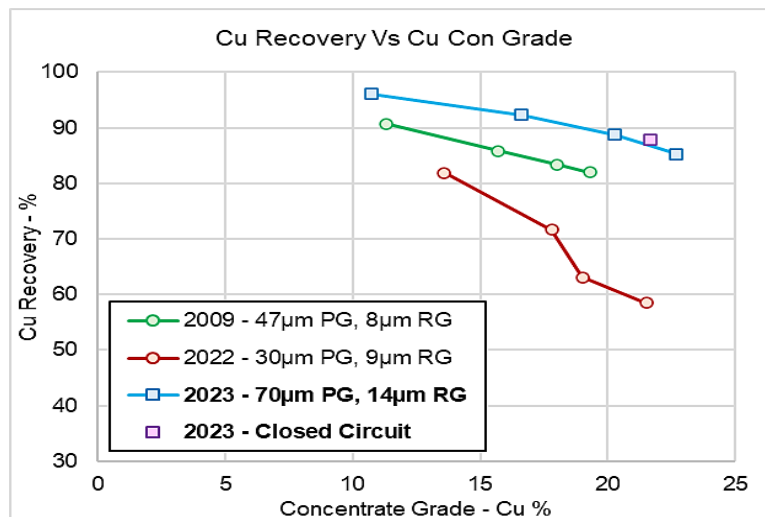


Figure 3. Comparison of Copper Recovery Vs. Concentrate Curves



- Based on most recent test-work conducted to date the following interim recoveries were therefore used for Caribou Dome:
  - **87.9% recovery for copper to a 21.7% copper concentrate; and**
  - **70% assumed recovery of Silver.**
- Upside remains from further evaluation of processing options for Caribou Dome's fine-grained massive sulphides.
- The Company is aware of and continues to further investigate alternative and downstream process routes which may yield better overall copper recovery and or economics.

## Zackly

- Based on the testwork conducted to date the following recoveries were used for Zackly:
  - **90% recovery for copper;**
  - **79% recovery for gold; and**
  - **80% assumed recovery for silver.**
- These results have not yet been optimised and represent rougher flotation results only, indicating there is room for significant improvement in the results with further study.
- In particular, gold recovery has significant room for improvement with more test-work.
- Mining of oxide mineralization at Zackly was excluded from this study.

## Alaska Range Mineral Resources

The current Mineral Resource estimates for the Alaska Range Project are:

	Resource Category	Mt	Cu %	Au g/t	Ag g/t	Contained Cu (t)	Contained Cu (M lb)	Contained Au (oz)	Contained Ag (oz)
<i>ZACKLY</i>	Inferred	1.5	0.9	1.2	10.4	14,300	32	58,000	513,000
	Indicated	2.5	1.2	1.9	13.9	30,700	68	155,000	1,120,000
	<b>TOTAL</b>	<b>4.0</b>	<b>1.1</b>	<b>1.6</b>	<b>12.6</b>	<b>45,000</b>	<b>100</b>	<b>213,000</b>	<b>1,633,000</b>
<i>CARIBOU DOME</i>	Measured	1.0	3.9	-	8.6	39,800	88	-	284,000
	Indicated	3.2	3.3	-	6.5	105,175	232	-	662,800
	Inferred	3.0	2.6	-	5.7	79,400	175	-	552,000
	<b>TOTAL</b>	<b>7.2</b>	<b>3.1</b>		<b>6.5</b>	<b>224,375</b>	<b>495</b>		<b>1,498,000</b>
<i>COMBINED</i>	<b>TOTAL</b>	<b>11.2</b>				<b>269,375</b>	<b>595</b>	<b>213,000</b>	<b>3,131,000</b>

Table 4. Alaska Range Project Resource Estimates (JORC 2012), 0.5% Cu cut-off

An initial Mineral Resource estimate for Caribou Dome was published on ASX on 6 April 2017 and was updated on 14 June 2023.

An initial Mineral Resource estimate for Zackly was published on 20 March 2018 and was updated on 17 October 2022.

There is no new information or data which materially affects either resource estimate.

## Mining Optimisation, Design and Inventory

Optimisations were completed for both deposits utilizing Whittle 4X software for Caribou Dome and Datamine's Mineable Shape Optimiser (MSO) for the underground at Zackly.

Mine designs were completed for each deposit based on these optimisations.

### Caribou Dome

Caribou Dome has been assessed as a staged open pit. The starter pit design was based on the revenue factor 0.58 pit shell in the South West zone, with the final pit design based on the revenue factor 0.9 pit shell (figure 4).

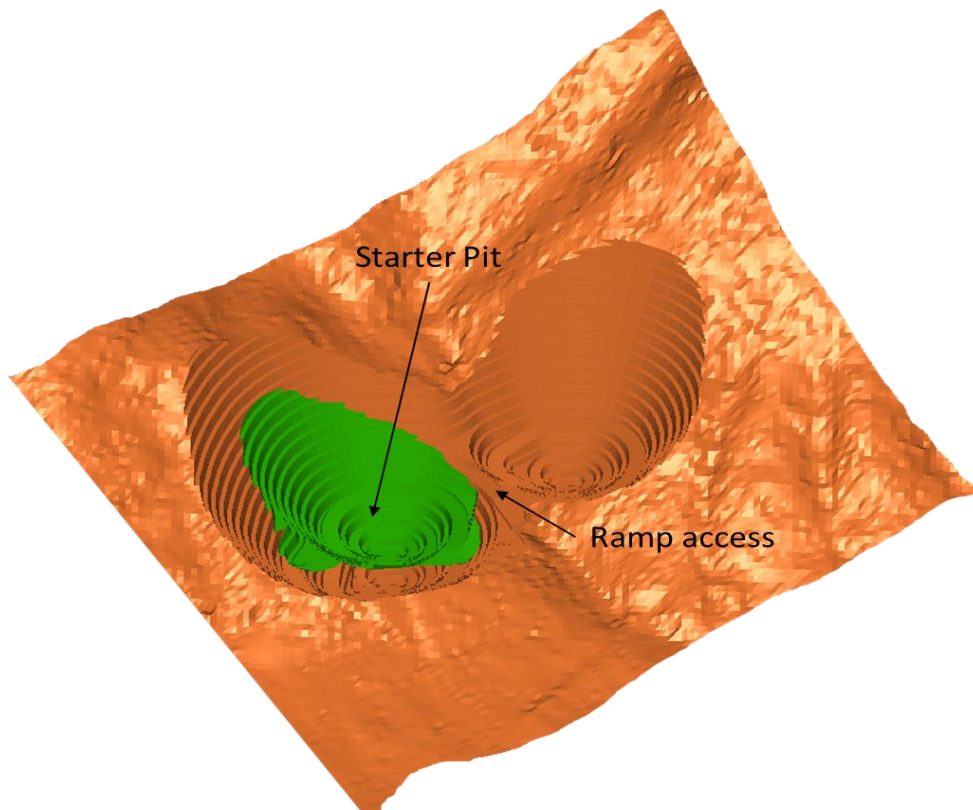


Figure 4. Pit design including staging. Isometric looking North

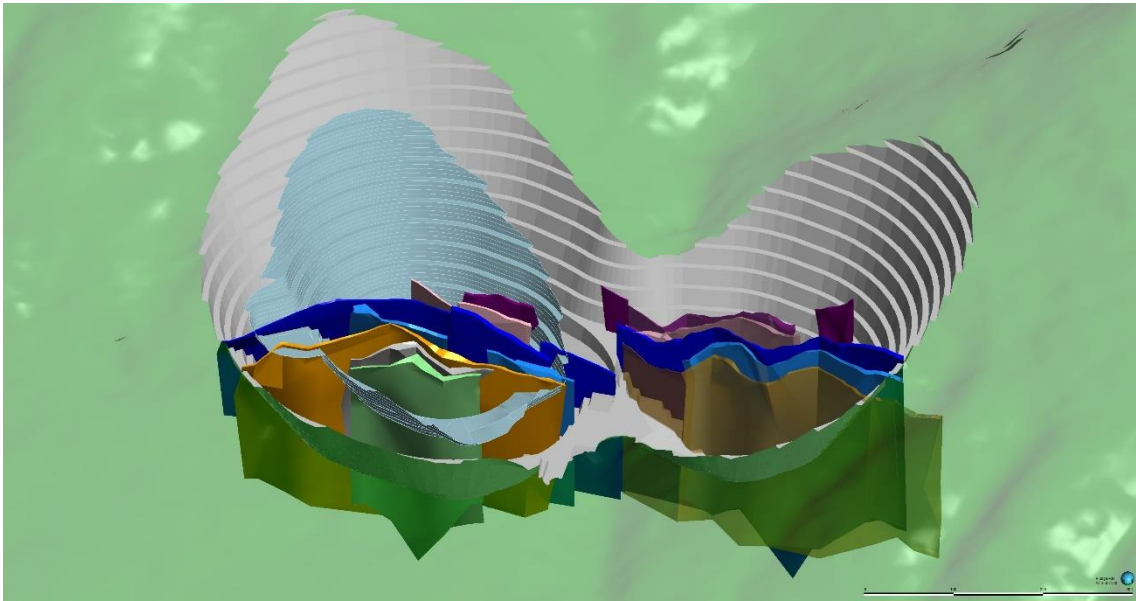


Figure 5. Caribou Dome open pit design showing topography and resource wireframes.

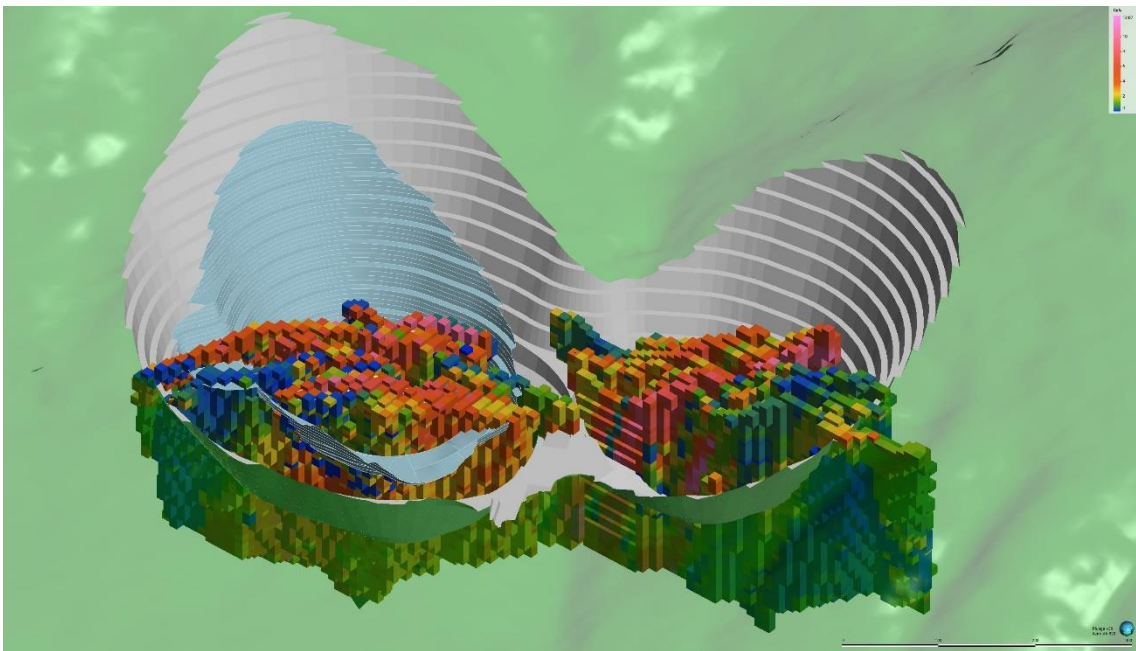


Figure 6. Caribou Dome open pit design showing topography and resource block model coloured by copper grade.  
View looking West

Overall tonnages mined from Caribou Dome are as shown in Table 5 below:

Caribou Dome	Ore	Copper	Gold	Silver
Source	t	%	t	g/t
Open Pit	4,363,877	3.34	145,902	6.7

Table 5. Mining summary for Caribou Dome

## Zackly

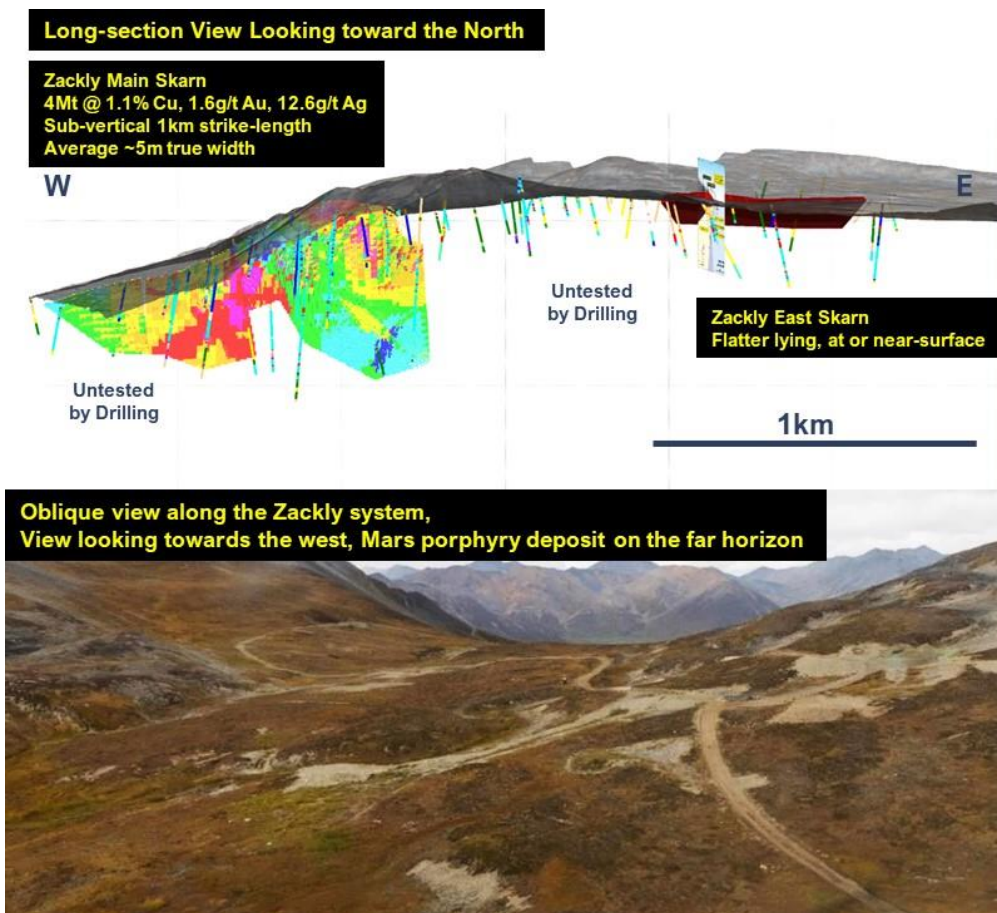


Figure 7. Zackly long section showing resource calculated over 800m of strike with mineralisation intercepts over 2km further strike length.

- Zackly has been designed as long-hole open stoping operation with cemented rock fill.
- A twin decline system was designed enabling multiple stoping accesses to be opened at once as shown in Figure 4 below.
- The twin declines will be accessed via a single portal designed on the slope at the approximate halfway point of the strike length.
- Level spacing of 20m has been assumed, with twin exhaust ventilation rises supplying exhaust to each level.
- Development has been designed to accommodate 17t loaders and 60t trucks and will be developed via twin boom electric/hydraulic jumbos.

Stoping blocks at Zackly have been designed to enable multiple concurrent stoping fronts.

- The Eastern decline approaches the orebody at a level enabling stoping fronts to commence both up dip and down dip.
- The Western decline access the top of the orebody, so the stoping blocks are separated with a sill pillar to enable concurrent top-down stoping fronts. The stoping sequence is shown in Figure 8.
- A 30m ‘crown’ has been designed to prevent breakthrough to surface and to avoid mining non-sulphide copper minerals.
- Stopes will be filled with reticulated paste fill, containing thickened tails.
- The Zackly mining inventory is shown in table 6 below, with the whole project shown in Table 7.

Table 6. Zackly Mining Inventory

Zackly	Mined Tonnes	Gold		Silver		Copper	
Source	t	g/t	oz	g/t	oz	%	t
<b>Underground</b>	2,165,812	1.86	129,844	12.80	888,231	1.01%	21,908

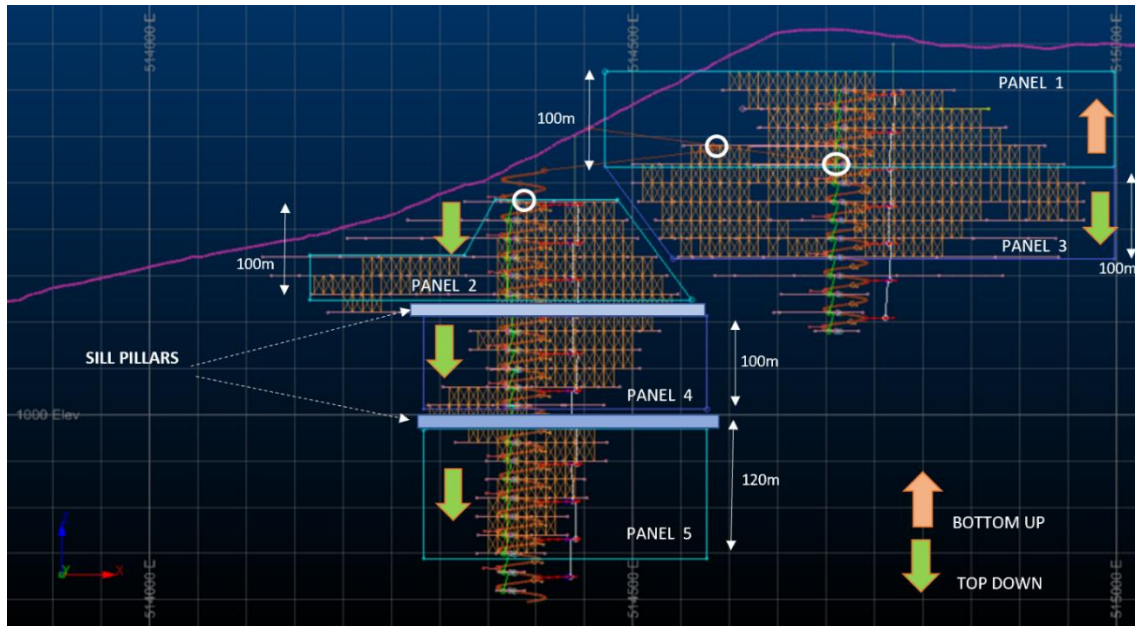


Figure 8. Stopping Sequence at Zackly showing temporary sill pillars and locations of twin declines

Alaska Range	Ore		Copper		Gold		Silver	
	Source	t	%	t	g/t	oz	g/t	oz
Caribou Dome		4,363,877	3.34	145,902			6.7	932,696
Zackly		2,165,812	1.01	21,908	1.86	129,844	12.8	888,231
<b>Total</b>		<b>6,529,689</b>	<b>2.57</b>	<b>167,810</b>	<b>0.62</b>	<b>129,844</b>	<b>8.7</b>	<b>1,820,927</b>

Table 7. Consolidated Alaska Range Mining Inventory. (may incl. rounding errors).



## Production schedules

Metallurgical differences indicate that the same comminution and processing plant will be able to be utilised although will require ‘batch processing’ of the different mineralisation types as Caribou Dome will require concentrate regrind and additional flotation and thickener/concentrate handling capacity.

For the purposes of this study, and based on the recent resource upgrades, a decision was made to locate the processing plant at Caribou Dome:

- Mining scheduled to commence at Caribou Dome.
- Zackly mined tonnes are lower than Caribou Dome (ie. reduced haul cost).

It was determined to mine and treat Caribou Dome before commencing Zackly to:

- Improve NPV as Caribou Dome has a greater and longer contribution.
- Prioritise higher confidence Mineral Resource classification feed (Caribou Dome has Measured and Indicated for the first three years).
- Reduce initial trucking requirement.
- Develop only one site at commencement.

Typical production/productivity constraints were applied to develop production schedules. These are described in Table 8.

*Table 8. Key Production Constraints*

Operation	Scheduling Constraints
Caribou Dome Open Pit	<p>Two 200t excavators            300kBCM/month per excavator            Maximum vertical advance of 100m/yr</p>
Zackly Underground	<p>Jumbo advance 200m/mth single heading            Jumbo advance 250m/mth multiple headings            Two Jumbos maximum            Stopping max 15,000kt/mth per stope</p>

- The mining schedule commences at Caribou Dome in Year 0, whilst the plant is being constructed.
- Zackly commences in Year 5 with capital development and orebody access.
- The key mining and processing physicals are shown in Table 9 below.
- The mining schedule supports a processing capacity of 750ktpa for five years with a further four years between 600 and 700ktpa.

Table 9. Key mining physicals by deposit and processing physicals by year

Area	Type	Units	Total	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Open Pit</b>		t	4,363,877	13,263	974,525	981,732	696,516	379,662	1,318,178					
Gold		g/t	-	-	-	-	-	-	-					
		oz	-	-	-	-	-	-	-					
Silver		g/t	6.65	9.04	7.74	6.08	6.09	6.03	6.71					
		oz	932,696	3,856	242,477	192,053	136,435	73,565	284,310					
Copper		%	3.3%	3.7%	3.6%	3.5%	3.5%	2.7%	3.1%					
		t	145,902	496	35,082	34,353	24,130	10,384	41,456					
Total Waste		tonnes	80,991,512	4,964,914	12,840,257	19,451,827	19,771,701	13,827,389	10,135,424					
Stripping Ratio		Wst/Ore t	18.6	374.1	13.2	19.8	28.4	36.4	7.7					
<b>Underground</b>		t	2,165,812						23,145	207,220	479,993	601,931	600,000	253,523
Gold		g/t	1.86						3.15	2.12	2.51	2.26	1.13	1.13
		oz	129,844						2,344	14,151	38,691	43,649	21,798	9,211
Silver		g/t	12.8						22.2	15.4	17.2	11.8	10.0	10.0
		oz	888,231						16,530	102,749	265,741	228,797	192,904	81,509
Copper		%	1.01%						1.79%	1.35%	1.47%	0.97%	0.68%	0.68%
		t	21,908						414	2,789	7,069	5,832	4,080	1,724
<b>Processing</b>		t	6,529,689		750,000	750,000	750,000	750,000	750,000	675,000	625,000	600,000	600,000	279,689
Au		g/t	0.62							0.26	2.37	2.26	1.18	1.14
		oz	129,844							5,642	47,623	43,596	22,763	10,219
Ag		g/t	8.67		7.76	6.41	6.22	6.13	6.69	8.05	16.40	11.99	10.09	10.00
		oz	1,820,926		187,117	154,565	149,983	147,813	161,316	174,699	329,545	231,292	194,640	89,955
Cu%		t	2.57%		3.60%	3.52%	3.49%	3.13%	3.14%	3.10%	1.33%	0.99%	0.69%	0.68%
		t	167,810		27,000	26,400	26,175	23,475	23,550	20,925	8,313	5,940	4,140	1,892
<b>Recovered Metal</b>														
Gold		oz	79.0%	102,577						4,458	37,622	34,441	17,983	8,073
Silver		t	74.3%	1,376,661	130,982	108,195	104,988	103,469	112,921	139,759	263,636	185,034	155,712	71,964
Copper		t	88.7%	148,155	23,733	23,206	23,008	20,635	20,705	18,613	7,481	5,346	3,726	1,703

**Over the currently planned 9.5 year life of the project, Measured and Indicated Resources account for 83% of the total tonnes mined.** The resource category of tonnes mined over time are shown in Figure 9.

**During the first three years of mining (which more than covers the payback period), 99% of the mineralisation mined falls under either Measured Resources or Indicated Resources.**

The Inferred material in year 5 is in the base of the pit. There is a lower level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will necessarily result in the determination of Indicated Resources or that the production target itself will be realised (refer further cautionary statement on page 4).

### Production Profile by Resource Category

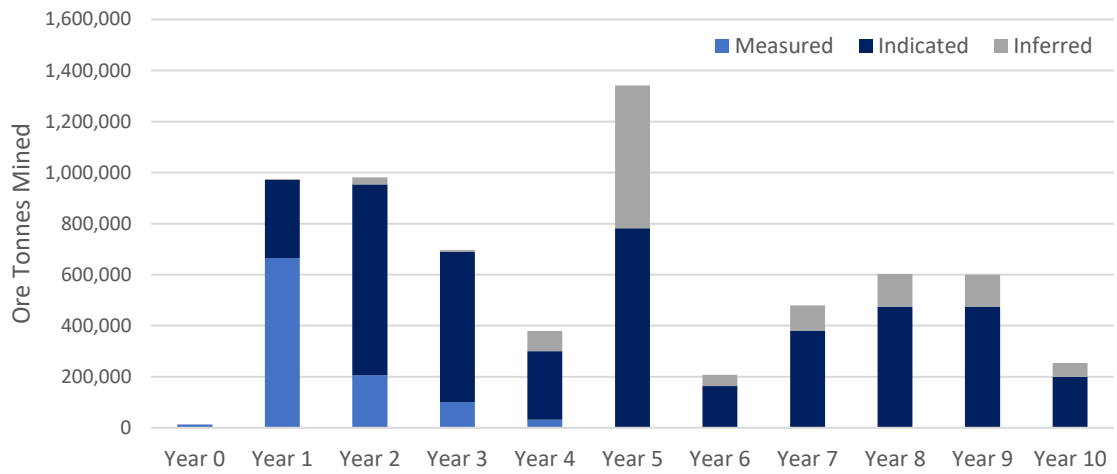


Figure 9. Tonnes mined by resource category Bar Chart



## Capital Cost Estimates

Capital cost estimates for the Project have been determined via multiple sources, and in accordance with Scoping Study standards, project capital has been factored from other studies.

- Capital development (pre-strip and declines/infrastructure development) has been built up from unit rates.
- The unit rates have been built from benchmarks/prior estimates in the case of open pit pre-strip, and from first principles cost models for underground capital development.
- Estimated capital development costs, by deposit are shown in Table 10.

Capital Costs	Area	Cost \$'M	Unit Cost \$/ore tonne	Basis
Mining	Zackly UG	29.9	13.8	1 <sup>st</sup> principles build up
	Caribou Dome OP	60.1	14.3	Benchmark mining costs

Table 10. Mining capital cost summary

- The primary source for project capital cost estimates is a comparison to selected other projects. The project capital cost includes the processing plant, camp and office/workshops and associated infrastructure. The power stations have been assumed to be supplied via a build/own operate (BOO) model through an independent power provider and will take no project capital. Underground mining related capital items have been modelled as supplied by the contractor, with modest upfront cost to the project for surface infrastructure.
- Reported project costs for infrastructure (excluding mining) has been indexed to 2023 costs and scaled to the size of Alaska Range (0.75 Mtpa) utilising the 'six tenth rule'. These are considered appropriate measures for this level of study given the +/-35% confidence level.
- The results of this comparison with select projects is shown in Table 11. The average estimated cost of \$126.6M was utilised for this study.

Project	Published Year	Capital <sup>1</sup> US\$M	Throughput Mtpa	Years since estimate	2023 cost US\$M	Scaled using 6/10 rule
T3 Motheo	2020	182	3.0	3	210.3	91.6
Kutcho	2021	237.5	1.4	2	267.8	184.1
Jervois	2021	150.75	1.6	2	170.0	107.9
Antler	2022	130.2	1.0	0	143.2	120.5
					<b>Average</b>	126.6

<sup>1</sup> Costs exclude mining capital and associated portion of contingency

Table 11. Select comparable capital projects

- Study capital costs have been factored from the project capital cost at a rate of 1.0% of capital for the pre-feasibility study and 3.0% of capital for the feasibility study.
- \$5M has been added to the estimated \$126.6M project capital cost to purchase 3<sup>rd</sup> party royalties at Caribou Dome at contracted prices.
- Sustaining capital has been modelled at 2% of Project capex per annum, with mining sustaining capital captured in the mining rates.
- \$4M has been allocated to set up surface infrastructure at Zackly has been assumed (access, offices, workshop, etc.).
- No exploration capital has been applied as no ‘blue-sky’ has been included in the evaluation.
- All capital items used in the evaluation are shown in Table 12.

Capital Item	\$'M
Project Capex (incl royalty purchase)	131.6
Studies	4.4
Pre-commencement pre-strip	11.3
<b>Initial Capital Required</b>	<b>147.3</b>
Setup Zackly	4.0
Sustaining Capital	23.7
Ongoing Mine Develop	78.8
<b>Total LOM Capital</b>	<b>253.8</b>

Table 12. Initial and sustaining capital cost summary

## Operating Cost Estimates

### Key Assumptions

The operating cost estimate has been developed using a range of methods, from a build-up of rates from first principals to benchmark numbers.

**Underground mining costs** have been derived from first principals utilising:

- equipment ownership cost (including depreciation, interest and insurance);
- equipment operating costs based on hours utilised;
- personnel costs, based on Australian labour costs converted to USD at \$0.65 exchange rate with 35% on-costs;
- benchmark mining consumables costs either \$/t or \$/m; and
- fuel consumption based on hours and OEM burn rates.

**Underground mining costs** have been split between operating and capital based on activity (direct charge or allocation).

**Open Pit mining costs** have been factored from previous studies and a staff cost build-up. The overall unit costs are shown in Table 13.

- Contractor open pit mining costs have been factored from other comparable studies and benchmarks.
- Ore and waste rates are differentiated to allow for grade control costs. Costs are incremented by \$0.01/t/m vertical to account for additional haulage costs.
- Management and technical roles have been estimated from first principals based on an organisation chart, Australian mining labour costs (at a 0.7 FX rate) and 35% oncosts.  
(Owners Cost).

Cost Breakdown	\$/t	\$/BCM
Contractor – Waste	2.41	6.56
Contractor – Ore	2.98	9.58
Owner’s cost	0.20	0.58
<b>Overall cost</b>	<b>2.55</b>	<b>7.28</b>

Table 13. Open pit unit cost



Open pit mining costs have been split between operating and capital based on capitalisation of all costs until ore production is achieved. Each stage has a capitalisation phase.

**Processing costs** have been calculated using a fixed and variable build-up.

- Fixed costs have been estimated at \$5Mpa, made up of primarily labour – approximately 33 persons
- Operating unit costs have been estimated to be \$11.30/t for Zackly and \$15.30/t for Caribou Dome. Costs are inclusive of power, consumables and maintenance.

**Surface ore transport costs** have been based on benchmarks. Road maintenance is included in G&A costs.

**Realisation costs** have been developed based on estimates of concentrate handling and benchmark TC/RC costs

**G&A costs** have been developed based on benchmarks

The summary of operating cost build-up and output is shown in Table 4.

Operating Costs	Area	Unit	Value	Basis
Mining	Zackly UG	\$/t ore mined	\$65.98	1st principles build up
	Caribou Dome OP	\$/t ore mined	\$32.07	Benchmark studies
	Surface ore transport	\$/tkm trucked	\$0.12	Benchmark figures including fuel
Processing	Fixed	\$/yr	\$5,000,000	Labour for approx. 33 people
	Variable	\$/t processed	\$13.59	Benchmark figures
	Overall	\$/t processed	\$20.86	
Concentrate Sales	Includes Transport, payability, TC and	\$/t processed	\$25.63	Market data and benchmarks
G&A	Variable	\$/t processed	\$5.00	Benchmark figures

Table 14. Operating Cost Basis

## Financial Analysis

- This 2024 Scoping Study considers sequential mining of Caribou Dome followed by Zackly Dome and has been prepared on the basis of 100% ownership (that is the financial evaluation is on a full project basis).
- 6.5Mt of mineralised material is mined over the life of the operation:
  - Open-cut mining at Caribou Dome commences during construction; and
  - Underground extraction at Zackly follows Caribou Dome.
- Processing rate of approximately 0.75Mtpa for the first 5 years with 600-700ktpa over the remaining 3.5 years of a 9.5 year operating life.
- Metal recovery based on the updated metallurgical test work for Caribou Dome, and preliminary test work at Zackly.
- Revenue, driven by metal recoveries, metal prices and metal volumes into concentrate for sales as shown below in Table 15.
- The basis for the selected metal prices is a combination of recent history as shown in Figure 10 and market based medium term views on commodity prices.

Metal	Production	Recoveries		Metal Prices
		Zackly	Caribou Dome	
Copper	148,827t	0.90	0.88	\$8,500/t
Gold	102.6kOz	0.79	-	\$1,900/oz
Silver	1,377 kOz	0.80	0.70	\$25/oz

Table 15. Revenue drivers

- Estimated pre-production capital expenditure of approximately US\$135M (including agreed royalty buy-back of US\$5M and further studies of US\$4.4M).
- One year construction timeframe to initial production from Caribou Dome.
- Annual sustaining capital (including mining capital development) and subsequent cessation/rehabilitation costs totaling approximately US\$129M over the 9.5-year operating life.



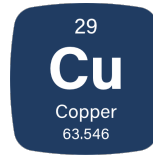
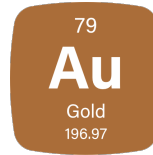


Figure 10. Showing 3 years of metal prices (source: <https://markets.businessinsider.com/commodities>)



## Key Study Outcomes

PolarX management identified an opportunity to generate significantly enhanced economic returns with improved copper flotation recoveries and higher concentrate grades. In particular, this led to the engagement of Ausenco to conduct the current metallurgical test-work program for Caribou-Dome.

Current test-work has demonstrated improved results at Caribou-Dome with **87.9% copper recovered to a marketable concentrate grading 21.7% copper**.

**These two improvements alone**, with no other changes to the last published Mining Scoping Study (refer ASX release 28 August 2023), deliver boosted projected returns with revised key metrics shown in Table 16 below.

<p><b>Revenue</b></p> <p><b>US\$1,491</b> <b>A\$2,294 (\$0.65)</b></p>	<p><b>Total EBITDA</b></p> <p><b>US\$825 M</b> <b>A\$1,269 M</b></p>
<p><b>C1 Cash Cost</b></p> <p><b>US\$1.36 / lb</b> <b>A\$2.10 / lb</b></p> <p>Cash costs with Au and Ag credits</p>	<p><b>Operating Margin</b></p> <p><b>55%</b></p> <p>EBITDA/Revenue</p>
<p><b>Average Annual Free Cash Flow</b></p> <p><b>US\$78 M</b> <b>A\$120 M</b></p> <p>Post construction</p>	<p><b>Initial Capital Required</b></p> <p><b>US\$147 M</b> <b>A\$223 M</b></p>
<p><b>NPV<sub>7</sub> Pre-tax</b></p> <p><b>US\$406 M</b> <b>A\$625 M</b></p>	<p><b>IRR Pre-tax</b></p> <p><b>73.9%</b></p>
<p><b>Payback</b></p> <p><b>1.6 Years</b></p> <p>Post construction</p>	<p><b>Project Life</b></p> <p><b>9.5 Years</b></p>

Table 16. Key Financial Metrics

## Sensitivities

In order, the NPV and IRR of the Project are most sensitive to the commodity prices, concentrate grades and realisation costs of copper as well as project operating costs. Project returns are more sensitive to the price and recovery of copper than they are to gold or silver (Figure 11 below). In particular, concentrate grades have a high degree of sensitivity to being over 20% copper in order to minimise freight costs and refinery charges.

### Metal prices and recovery

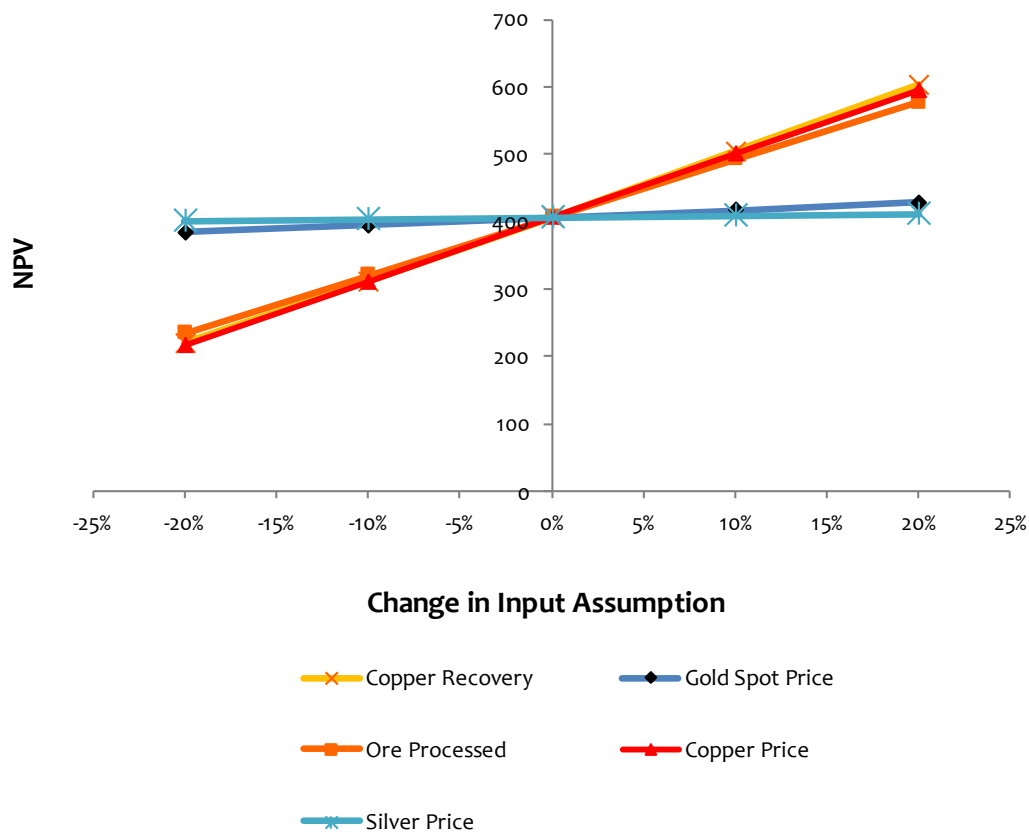


Figure 11. NPV sensitivity (pre-tax basis) for copper and gold price, copper recovery and tonnes processed

### Not Capital Cost Sensitive

The Project is less sensitive to capital costs than it is to life-of-mine operating costs and copper realisation costs (Figure 12):

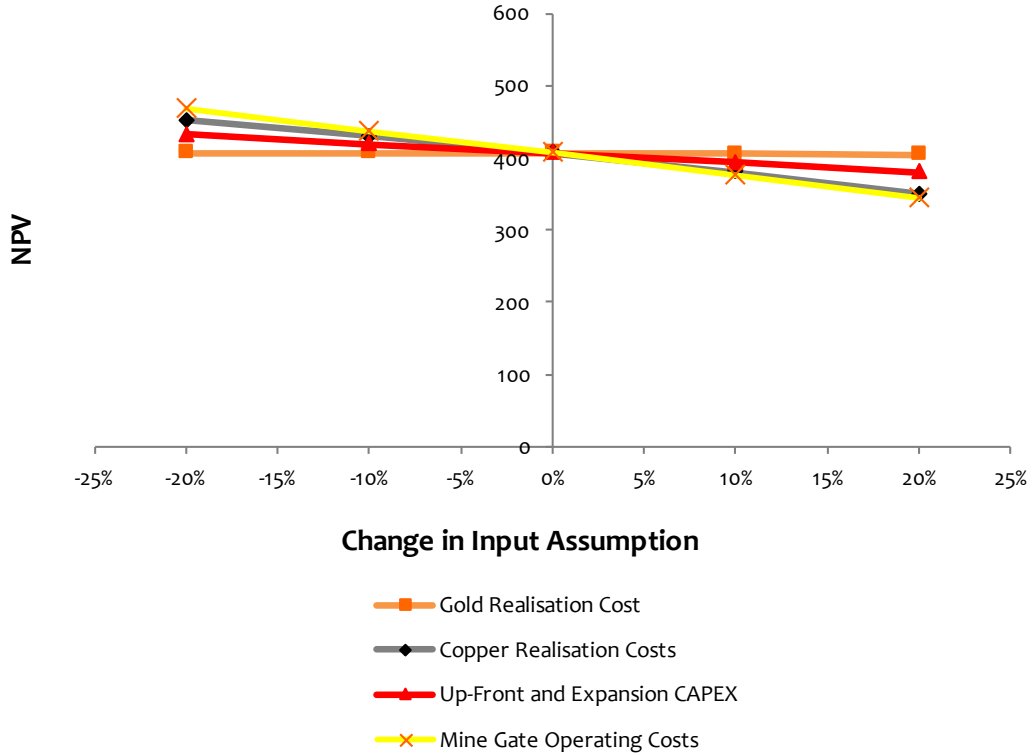


Figure 12. NPV sensitivity (pre-tax basis) to capital costs and operating costs

**This Scoping study reveals key areas for further Cashflow and NPV enhancement.**

**Other than copper and gold prices, further resource extension at Caribou-Dome has the most potential to uplift value whilst the Company continues to further enhance Copper and Gold Recovery and Concentrate Grades.**

Similarly, advancing test-work to deliver better gold recovery at Zackly could also yield future benefit.

## Resource Extension

Upside resource expansion potential is evident and may be achieved with further successful resource extension drilling at Caribou Dome and Zackly. (Figures 13 and 14).

**Caribou Dome drilling to date has mineralised intercepts a further 150m below the current resource. If further drilling extended the resource to that depth and an estimated 2Mt was mined from underground this could yield a \$130M increase in projected pre-tax NPV (+32%).**

Analysis of drilling and the current Indicated mineral resource at Zackly also highlights several mineralised shoots which plunge at depth and along-strike and have yet to be fully evaluated by drilling. Zackly has less impact on NPV as mining there is planned after Caribou Dome is mined.

**Adding an extra year's material mined from Zackly could yield a \$22M increase in projected pre-tax NPV (+5%).**

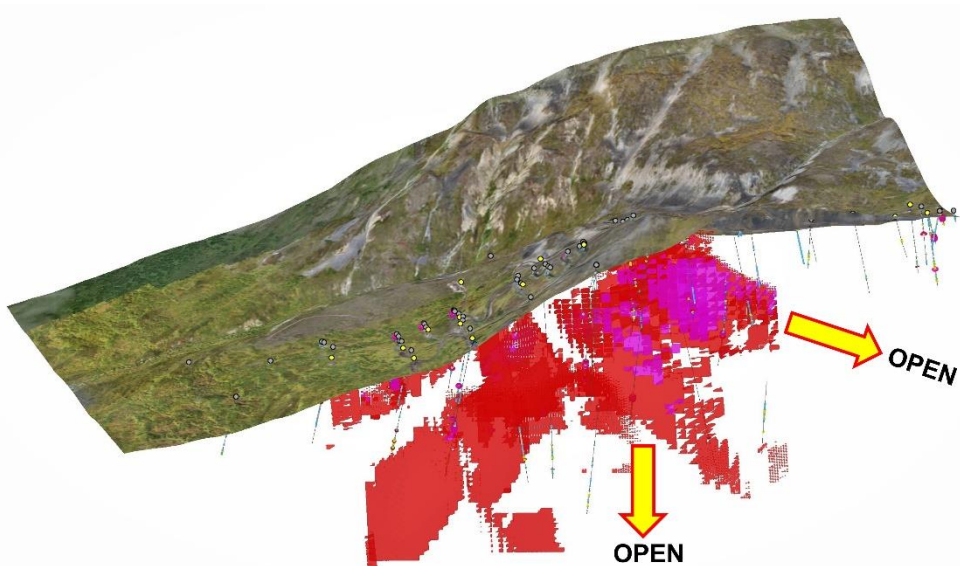


Figure 13. 3D oblique view of the Zackly deposit looking towards the NE and showing resource blocks >1% Cu and >2.5g/t Au, with mineralisation open towards the east and at depth

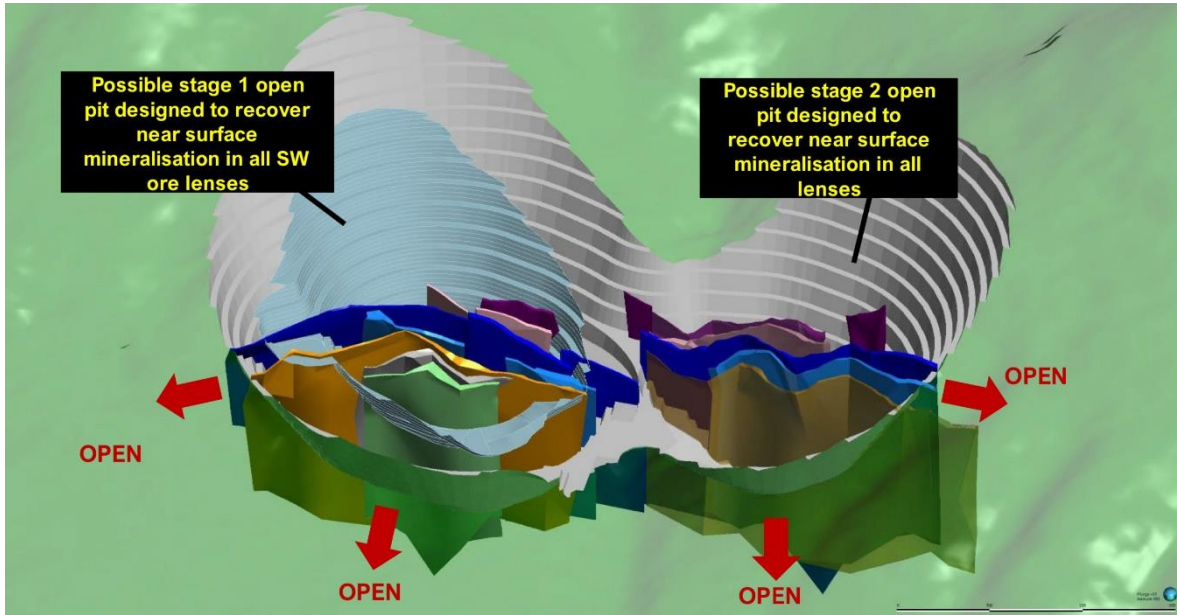


Figure 14. Along-strike and down-dip resource expansion potential for Caribou Dome

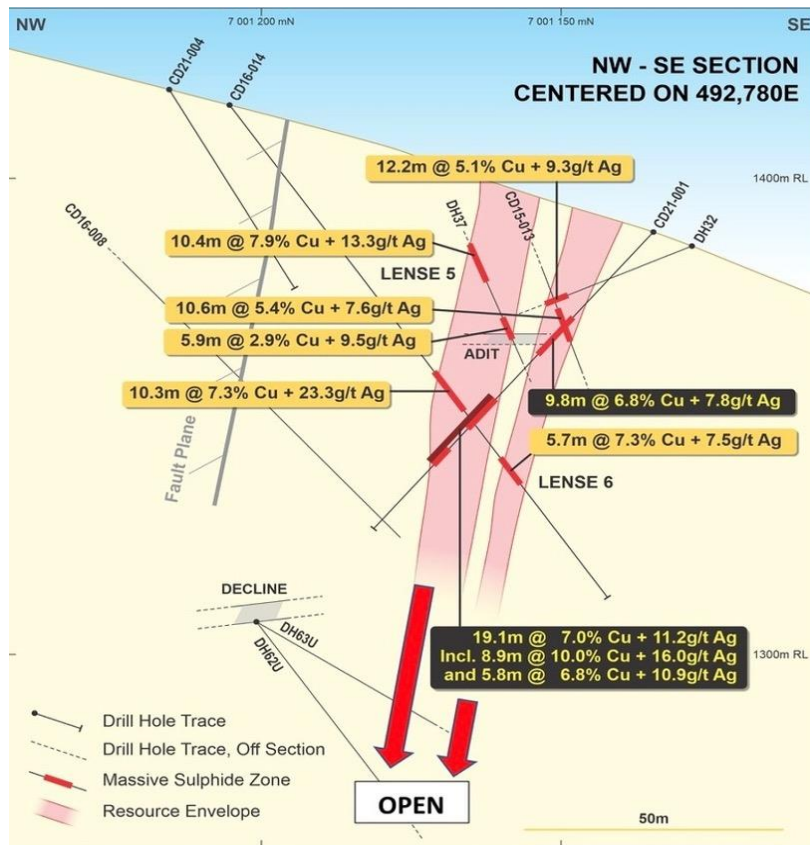


Figure 15. Cross Section showing down-dip resource expansion potential for Caribou Dome



## Funding

To achieve the range of outcomes indicated in the 2024 Scoping Study, it is estimated that pre-production funding of approximately US\$147 million before working capital may be required. It is anticipated that the finance will be sourced through a combination of equity and debt instruments from existing shareholders, new equity investors and debt providers from Australia and overseas and/or potential streaming of the metals produced.

PolarX has formed the view that there is a reasonable basis to believe that requisite funding for development of the Alaska Range Project would be available when required, having considered factors including the following:

- The quality of the Alaska Range Project, in terms of the high grade of the deposit and relatively low level of projected pre-production capital expenditure. The release of this updated Scoping Study will provide a platform for PolarX to commence discussions with potential financiers.
- Global debt and equity finance availability for high-grade mining projects like the Alaska Range Project is expected to remain robust, particularly given the long-term price forecasts for copper.
- The project is in Alaska USA, which was the 11<sup>th</sup> ranked global jurisdiction for mining investment (per the Frazer Institute's 2023 Investment Attractiveness Index).
- The Company has no existing debt.
- The Company's Board and management team has extensive experience in financing development and production in the resources industry.
- The Company has a record of raising equity funds and its shareholders include several large institutional resource investors.



## Forward Plans

The 2024 Scoping Study indicates that the project economics could be very significantly enhanced through the delineation of and mining of extensions of the known mineral resources.

This is particularly the case if additional tonnes were delineated for Caribou Dome and Zackly along strike of existing mineral resources.

The following high priority outcomes have been derived from the scoping study results:

1. Further metallurgical testing and evaluation to increase copper recovery and concentrate grade for Caribou Dome, and gold recovery for Zackly.
2. More drilling to define extensions of the mineralisation at Caribou Dome particularly in the top 200-300m (Figures 14 and 15).
3. More drilling to increase the mineral resources at Zackly, particularly the down-plunge extensions of known higher-grade shoots within the overall resource envelope (Figure 13).
4. More drilling to improve the confidence in the mineral resource category in the deeper zones of the Caribou Dome resource.





## Conclusion

**This updated 2024 Scoping Study has clearly confirmed potential for a combined mining operation at the Alaska Range Project to yield even more substantial economic returns.**

**Recent test-work to improve metallurgical recoveries and concentrate grades at Caribou Dome has significantly enhanced projected returns. It has also revealed additional processing opportunities to be tested.**

**The increased operating margins from the work done to date places even more value on a further expanded mineral resource.**

**Successful drilling, near surface along-strike and deeper at both deposits could further uplift projected returns.**

**PolarX is focussed on delivering both outcomes  
as it advances Alaska Range towards mining.**

Authorised for release by the Board.

For further information contact the Executive Chairman, Mark Bojanjac +61 8 9226 1356

## Additional Disclosure

### **COMPETENT PERSONS STATEMENT – Exploration Results, Mineral Resources and Ore Reserves**

*The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The information contained in this announcement has been presented in accordance with the JORC Code.*

*There is information in this announcement relating to:*

- (i) the Mineral Resource Estimate for the Caribou Dome Deposit, which was previously announced on 14 June 2023;*
- (ii) the Mineral Resource Estimate for the Zackly Deposit, which was previously announced on 17 October 2022; and*
- (iii) exploration results which were previously announced on 11 January 2021, 4 February 2021, 3 March 2021, 27 May 2021, 19 August 2021, 23 February 2022 and 15 March 2022.*

*Other than as disclosed in those announcements, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company also confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*

### **COMPETENT PERSONS STATEMENT – Metallurgy**

*The information in this report relating to metallurgical test work results at Caribou-Dome is based on and fairly reflects information reviewed by Mr Peter Mehrfert, Process Engineer of Ausenco Engineering Canada Inc. Mr Mehrfert is a member of the Engineers & Geoscientists of British Columbia. Mr Mehrfert is a qualified process engineer and has sufficient experience which is relevant to the management and interpretation of test work activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Mehrfert consents to the inclusion in the ASX release of the matters based on their information in the form and context in which it appears.*

*The information in this report relating to metallurgical test work results at Zackly is based on and fairly reflects information as reported and published in ASX Announcement – Positive Scoping Study - dated 17 October 2022.*

### **COMPETENT PERSONS STATEMENT – Mining studies**

*The information in this report relating to mining design, scheduling and cost estimation is based on and fairly reflects information reviewed by Mr Andrew Doe (consultant to PolarX Limited). Mr Doe is a Member of the Australian Institute of Mining and Metallurgy. Mr Doe is a qualified Mining Engineer and has sufficient experience which is relevant to the mining studies and cost estimation undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Doe consents to the inclusion in the ASX release of the matters based on their information in the form and context in which it appears.*



**Forward Looking Statements:**

*Information included in this announcement constitutes forward-looking statements. When used in this announcement, forward-looking statements can be identified by words such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “future”, “intend”, “may”, “opportunity”, “plan”, “potential”, “project”, “seek”, “will” and other similar words that involve risks and uncertainties.*

*Forward-looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources and reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation as well as other uncertainties and risks set out in the announcements made by the Company from time to time with the Australian Securities Exchange.*

*Forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, its directors and management of the Company that could cause the Company’s actual results to differ materially from the results expressed or anticipated in these statements.*

*The Company cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. The Company does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements.*

# POLARX

LIMITED

Scoping Study 2024

## APPENDICES



## Appendix 1 – Caribou Dome Metallurgical Testwork JORC Table Disclosure

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Composites for metallurgical test work were assembled from ½ and ¼ cut drill core obtained from 14 holes drilled across the deposit and selected from depths that would be in the proposed open pit resource.</li> <li>The first composite represented near surface material from the core of the deposit, obtained from 2 drill holes. The 2<sup>nd</sup> composite was assembled from 12 drill holes and represents approximately 75% of the domains in the wireframe. Additional domain composites were assembled but not yet tested.</li> <li>The metallurgical composites were prepared by: <ul style="list-style-type: none"> <li>Recovery of drill core from the core boxes, packaging and shipment to Base Metallurgical Laboratories in Kamloops.</li> <li>Selection of appropriate intervals using individual drill core assays to obtain suitable head grades.</li> <li>Stage crushing to -6 mesh and homogenizing followed by rotary splitting to obtain metallurgical test charges.</li> <li>Sealing the charges under nitrogen for storage prior to testing.</li> </ul> </li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</p> <ul style="list-style-type: none"> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	
<p><b>Sub-sampling techniques and sample preparation</b></p>	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in-s material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>• Assays of the flotation metallurgical test work were undertaken by Base Metallurgical Laboratories in Kamloops.</li> <li>• Leach solution analyses were completed by the Department of Metals and Materials at the University of British Columbia in Vancouver.</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>Resource estimation.</p> <ul style="list-style-type: none"> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Drill core intervals were collected under the supervision of the Exploration Manager.</li> <li>• Intervals were placed in labelled cloth bags, packaged in plastic bags and sealed in a crate. The crate was transported to Base Metallurgical Laboratories by commercial carrier.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer PXX ASX release 14 June 2023</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>



Criteria	JORC Code Explanation	Commentary
	<p>incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <ul style="list-style-type: none"> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
<p><b>Relationship between mineralisation widths and intercept lengths</b></p>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<p><b>Diagrams</b></p>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<p><i>Discoveries not reported in this ASX announcement.</i></p>
<p><b>Balanced reporting</b></p>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Refer PXX ASX release 14 June 2023</li> </ul>
<p><b>Other substantive exploration data</b></p>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential</li> </ul>	<ul style="list-style-type: none"> <li>Benchtop flotation tests to evaluate copper recoveries were undertaken by Base Metallurgy in Kamloops using the following parameters: <ul style="list-style-type: none"> <li>Each sample was control-crushed to - 3.35mm and homogenised in a rotary sample splitter.</li> <li>Representative 1kg charges were split out and ground to 75µm prior to rougher flotation</li> <li>Kamloops tap water was used for the</li> </ul> </li> </ul>

Criteria	JORC Code Explanation	Commentary																					
	deleterious or contaminating substances.	<p>duration of the tests</p> <ul style="list-style-type: none"> <li>- PAX was added as a bulk sulphide collector, IPECT was added as a selective chalcopyrite collector.</li> <li>- Stirred mill regrinding of rougher concentrate prior to cleaner flotation</li> <li>- Lime was added to the cleaner circuit to suppress pyrite flotation</li> <li>• Initial metallurgical test results:</li> </ul> <table border="1"> <thead> <tr> <th rowspan="2">Composite</th> <th rowspan="2">Product</th> <th rowspan="2">mass dist. %</th> <th colspan="2">Copper</th> </tr> <tr> <th>Grade Cu %</th> <th>Rec. %</th> </tr> </thead> <tbody> <tr> <td>CD21 (BL1004)</td> <td>Rougher Con</td> <td>61.3</td> <td>10.7</td> <td>94.2</td> </tr> <tr> <td rowspan="2">Master (BL1404)</td> <td>Rougher Con</td> <td>37.5</td> <td>13.1</td> <td>90.4</td> </tr> <tr> <td>Cleaner Con</td> <td>22.7</td> <td>20.0</td> <td>83.7</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Concentrates generated at Base Metallurgical were shipped by courier to UBC in Vancouver, where temperature and ORP controlled sulphuric acid leach tests were conducted. Analysis of the leach solutions indicate that near complete copper extraction was achieved in 28 hours, residue analysis to confirm % extraction is pending.</li> </ul>	Composite	Product	mass dist. %	Copper		Grade Cu %	Rec. %	CD21 (BL1004)	Rougher Con	61.3	10.7	94.2	Master (BL1404)	Rougher Con	37.5	13.1	90.4	Cleaner Con	22.7	20.0	83.7
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<b>Further work</b>	<ul style="list-style-type: none"> <li>• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>• Metallurgical test work in this program is ongoing and further updates will be provided when results are received.</li> </ul>																					

## Appendix 2: Reasonable Basis for Forward Looking Statements

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study production target and projected financial information are based have been included in this announcement and are disclosed in the table below.

**Consideration of Modifying Factors (in the form of Section 4 of the JORC Code (2012) Table 1)**

Criteria	JORC Code Explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<p>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</p> <p>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</p>	<p>No Ore Reserve has been declared as part of the scoping study</p> <p>The Caribou Dome Mineral Resource estimate on which the Caribou Dome portion of the scoping study is based was separately and previously announced on 14 June 2023.</p> <p>The Zackly Mineral Resource estimate on which the Zackly portion of the scoping study was separately and previously announced on 17 October 2022.</p>
<b>Site visits</b>	<p>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</p> <p>If no site visits have been undertaken indicate why this is the case.</p>	<p>No site visit has been undertaken for the purpose of this scoping study by the Competent Person for Mining. This is predominantly due to COVID19 travel restrictions in the data acquisition phase of the project.</p> <p>Multiple site visits have been undertaken by the Competent persons named for the resource estimations.</p>
<b>Study status</b>	<p>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</p> <p>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</p>	<p>The study presented is a scoping study and accordingly no Ore Reserve has been declared.</p>
<b>Cut-off parameters</b>	<p>The basis of the cut-off grade(s) or quality parameters applied.</p>	<p>Cut-off grade parameters have been determined utilizing scoping study level cost inputs in line with the AusIMM Cost Estimation Handbook.</p> <p>For Caribou Dome, cut-off grades were based on copper grades only, whilst for Zackly, they were based on copper equivalent grades, calculates as shown in Table 2 of this release</p>
<b>Mining factors or assumptions</b>	<p>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (ie. either by application of appropriate factors by optimisation or by preliminary or detailed design).</p> <p>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</p>	<p>No Ore Reserve has been declared</p> <p><b>CARIBOU DOME</b></p> <p>The copper mineralisation at Caribou Dome is contained in subvertical lenses, which are shallow.</p> <p>Open pit mining is considered appropriate.</p> <p>Conventional truck and shovel open pit operations have been designed</p>

Criteria	JORC Code Explanation	Commentary
	<p>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre- production drilling.</p> <p>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</p> <p>The mining dilution factors used.</p> <p>The mining recovery factors used.</p> <p>Any minimum mining widths used.</p> <p>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</p> <p>The infrastructure requirements of the selected mining methods.</p>	<p>Overall wall angles of 55° have been assumed for the pit with batter angles of 65°, batter heights of 20m and 9m wide berms. A dual lane ramp system flattens the overall pit angle below the optimisation angle.</p> <p>Minimum mining width of 30m for open pit mining has been applied.</p> <p>Open pit dilution of 20% and ore loss of 5% has been applied using a 5m bench height</p> <p>Inferred Mineral Resources are used in the evaluation as described in the body of this release and account for ~45% of the total mining inventory for Caribou Dome.</p> <p>Limited infrastructure (offices, ablutions and workshop) will be required.</p> <p><b>ZACKLY</b></p> <p>The mineralization consists of steeply dipping continuous lenses which allows for conventional mining.</p> <p>No open pit has been considered due to the oxidized ore zone near surface having poor flotation recoveries.</p> <p>Underground mining has been assumed to be conventional longhole open stoping with cemented backfill (cemented rock fill). Interlevel spacing of 20m and maximum stope lengths of have been applied. Minimum mining width of 2m, with 1m of dilution has been assumed for stoping. Mining recovery of 95% is applied.</p> <p>Inferred Mineral Resources are used in the evaluation as described in the main body of this release. Only 12% of the mined material at Zackly is in the inferred resource category, with 88% in Indicated.</p> <p>A small power station, offices, ablutions and workshop will be required at Zackly</p>
<p><b>Metallurgical factors or assumptions</b></p>	<p>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</p> <p>Whether the metallurgical process is well tested technology or novel in nature.</p>	<p>A conventional crushing, grinding and flotation circuit has been assumed, with copper and copper/gold/silver concentrates dried and shipped in bags.</p> <ul style="list-style-type: none"> <li>• Benchtop flotation tests to evaluate copper recoveries were undertaken by Base Metallurgy in Kamloops using the following parameters: <ul style="list-style-type: none"> <li>- Each sample was control-crushed to - 3.35mm and homogenised in a rotary sample splitter.</li> <li>- Representative 1kg charges were split out and ground to 70µm prior to rougher flotation</li> </ul> </li> </ul>

Criteria	JORC Code Explanation	Commentary
	<p>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</p> <p>Any assumptions or allowances made for deleterious elements.</p> <p>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</p> <p>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</p>	<ul style="list-style-type: none"> <li>- Kamloops tap water was used for the duration of the tests</li> <li>- IPECT was added as a selective chalcopyrite collector.</li> <li>- Stirred mill regrinding of rougher concentrate prior to cleaner flotation</li> <li>- Lime was added to the cleaner circuit to suppress pyrite flotation</li> </ul> <p>Caribou Dome test work suggests a finer grind and larger volumetric capacity flotation circuit than will be required for Zackly ores. As such, the evaluation has considered campaign treatment of ores.</p> <p>Composites for metallurgical test work were assembled from ½ and ¼ cut drill core obtained from 14 holes drilled across the deposit and selected from depths that would be in the proposed open pit resource. The first composite represented near surface material from the core of the deposit, obtained from 2 drill holes. The 2nd composite was assembled from 12 drill holes and represents approximately 75% of the domains in the wireframe.</p> <p>Caribou Dome concentrate grade of 21.7% has been assumed.</p> <p>Zackly concentrate grades of 22% for Cu and 35g/t for Au have been assumed.</p> <p>Zackly oxide ores will be difficult to float, so these ore zones (near surface) have been excluded from the evaluation.</p> <p>Sampling and test work to date have not shown any deleterious element that would have a material detrimental effect on the selling price or project viability.</p> <p>The metallurgical test-work is summarized in Section 4 of the main body of this release. Recoveries assumed are;</p> <p>Zackly – Cu 90%, Au 79% and Ag 80%. The recovery of Ag has been assumed and is not supported by test work.</p> <p>Caribou Dome - Cu 87.9%</p> <p>No bulk or pilot test work has been performed</p>
<b>Environmental</b>	<p>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</p>	<p>No work has been performed on environmental impacts. Potential for AMD and tails classifications will occur at PFS level. No approvals have been applied for.</p>
<b>Infrastructure</b>	<p>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk</p>	<p>Processing is assumed in this scoping study to occur at Caribou Dome. Caribou Dome is</p>

Criteria	JORC Code Explanation	Commentary
	<p>commodities), labor, accommodation; or the ease with which the infrastructure can be provided, or accessed.</p>	<p>currently larger than Zackly (so lower haulage cost).</p> <p>The project is accessed via the Denali highway, with rail access at Cantwell, approximately 100km to the west of Caribou Dome.</p> <p>An accommodation camp and a diesel fired power station are assumed for the project. Whilst in a mountainous area, it is considered that small scale infrastructure will be able to be built.</p>
<p><b>Costs</b></p>	<p>The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs.</p> <p>Allowances made for the content of deleterious elements.</p> <p>The source of exchange rates used in the study. Derivation of transportation charges.</p> <p>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</p> <p>The allowances made for royalties payable, both Government and private.</p>	<p>The capital cost estimates were based on benchmarking with similar operations and factoring appropriate for a Scoping Study with a target accuracy of +/- 35%</p> <p>Process plant and other infrastructure was scaled from similar projects using the 'six-tenth rule'. No attempt has been made to allocate costs to separate subsections of the plant as no preliminary engineering has been completed. Capital development costs were built up from benchmark rate (open pit) and first principals (underground)</p> <p>Preliminary operating costs were built up from first principals for underground mining and benchmarks for open pit mining and processing</p> <p>Transportation costs were escalated from previous quotes and checked with benchmarks</p> <p>A metals trader provided benchmark TC/RC, payabilities and penalties.</p> <p>All costs are in USD other than labour costs where AUD rates at 0.70 FX rate was used.</p> <p>An allowance of USD5M has been made to buy out a 3<sup>rd</sup> party royalty</p> <p>Alaskan royalties of 3% on net metal revenues has been applied</p> <p>No contingencies have been applied</p>
<p><b>Revenue factors</b></p>	<p>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</p> <p>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co- products.</p>	<p>Key revenue assumptions in this assessment are based on an average of the previous 4 month's price;</p> <ul style="list-style-type: none"> <li>• Cu price -US \$8500/t</li> <li>• Au price -US \$1900/oz</li> <li>• Ag price - US\$25/oz</li> </ul> <p>A metals trader provided benchmark TC/RC, payabilities and penalties.</p> <p>Transportation costs include road, rail and sea transport.</p> <p>No sales contracts have been negotiated</p>
<p><b>Market assessment</b></p>	<p>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</p>	<p>No assessment of the market has been completed given the lead time to construction with respect to the life of the project. Market sentiment is strong for copper in particular in the medium to long term with decarbonization and</p>

Criteria	JORC Code Explanation	Commentary
	<p>A customer and competitor analysis along with the identification of likely market windows for the product.</p> <p>Price and volume forecasts and the basis for these forecasts.</p> <p>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</p>	<p>electrification. In August of 2022, the US Government added Copper to its Critical Raw Materials list.</p>
<b>Economic</b>	<p>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.</p>	<p>The evaluation is at a project level (100% ownership).</p> <p>The NPV was determined using the Discounted Cash Flow method of valuation using a discount rate of 7%.</p> <p>The financial model is in real terms based on yearly increments.</p> <p>No escalation was applied</p> <p>US Federal corporate tax and Alaskan State Mining Licence tax rate less exploration credits are applied.</p> <p>Sensitivity to 7 different variables has been modelled;</p> <ol style="list-style-type: none"> <li>1. Gold Spot Price</li> <li>2. Gold Recovery</li> <li>3. Up-Front CAPEX</li> <li>4. Mine Gate Operating Costs</li> <li>5. Copper Price</li> <li>6. Copper Recovery</li> <li>7. Copper Realisation Costs incl transport, TC/RC, payability and penalties</li> </ol> <p>The project is most sensitive to copper price, followed by operating costs.</p>
<b>Social</b>	<p>The status of agreements with key stakeholders and matters leading to social licence to operate.</p>	<p>Both Caribou Dome and Zackly deposits occur in a large block of Alaska State Mining Claims which are entirely owned by the State of Alaska and administered by the Department of Natural Resources (DNR).</p> <p>There is no Native Corporation ownership of land in which these deposits are located.</p> <p>There are no other formal stakeholders in these projects.</p>
<b>Other (incl Legal and Governmental)</b>	<p>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements.</p> <p>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-</p>	<p>No ore reserve has been declared</p> <p>No material naturally occurring risks have been identified.</p> <p>The Zackly project is owned 100% by PolarX and there are no marketing agreements in place.</p> <p>The Caribou Dome project is owned by third parties with whom PolarX has an earn-in and joint venture agreement under which PolarX can earn an 80% stake in the project. There are no marketing agreements in place for Caribou Dome</p>







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