

PolarX Limited (ASX: PXX)

November 2021



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Comprehensive Update - November 2021

Note: This report is based on information provided by the company as at November 19, 2021.

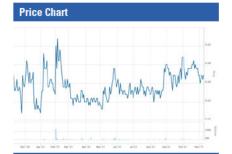
Investment Profile	
Share Price - November 19, 2021	A\$0.035
Issued Capital:	
Ordinary Shares	672.2 m
Options (Total)*	52.0 m
Fully Diluted	724.2 m
Market Capitalisation (Undiluted)	\$23.5 m
12 month L/H	A\$0.027/\$0.06
Cash and Liquid Investments	A\$1.77 m

*15 million of these options are subject to shareholder approval at the 2021 Company AGM.

Board and Management

Mr Mark Bojanjac: Executive Chairman
Dr Frazer Tabeart: Managing Director
Dr Jason Berton: Executive Director
Mr Bob Boaz: Non-Executive Director
Mr Ian Cunningham: CFO/Company Secretary
Mitchell River Group: Technical Services

Major Shareholders	
Ruffer LLP	13.87%
Lundin Mining	7.95%
US Global Investors	7.49%
Top 20	56.44%
Board and Management	3.84%



The investment opinion in this report is current as at the date of publication. Investors and advisers should be aware that over time the circumstances of the issuer and/or product may change which may affect our investment opinion.

HIGHLY PROSPECTIVE U.S. COPPER, GOLD AND SILVER

With the recent acquisition of the Humboldt Range Gold Project ("Humboldt Range") in Nevada, PolarX Limited ("PolarX" or "the Company") has diversified its North American portfolio, which also includes the highly prospective Alaska Range Copper Project ("Alaska Range"), on which the Company has been concentrating activities since 2015, and which hosts a 35 km strike length of almost continuous copper anomalism.

The work at Alaska Range (which has a current Inferred Mineral Resource Estimate ("MRE") of 3.4 Mt @ 1.2% Cu, 2 g/t Au and 14 g/t Ag at Zackly, and a Measured, Indicated and Inferred MRE of 2.8 Mt @ 3.1% Cu at Caribou Dome) has continued to return positive results, with the latest drilling discovering "Keweenaw-style" basalt-hosted native copper mineralisation, a hitherto un-recognised mineralisation style in the project area, and for which assay results are awaited. This is in addition to the Caribou VMS and Zackly skarn deposits which are both open along strike and at depth.

The copper potential and endowment has been further highlighted by the identification of porphyry Cu-Au-Mo style veining and alteration in the single hole drilled at the Mars prospect, which now requires further work. PolarX is currently looking for a JV partner to fund activities over some of the porphyry and IRGS targets, whilst excluding the Caribou Dome claims and Zackly area from any agreement.

Current activities at Alaska Range are concentrated on delivering a Scoping Study on a combined Caribou Dome-Zackly operation, with work including further metallurgical testwork amongst others. Further drilling will also be undertaken in the 2022 field season, with this currently being planned - drill siting will partly depend upon the yet to be received assay results of the 2021 programme, and results to come out of the ongoing Scoping Study.

Humboldt Range is in an area of proven epithermal gold production, and covers underexplored areas which surface geochemical sampling and mapping has shown to be highly prospective for gold and silver mineralisation - this is also supported by the presence of historical workings. The geochemical work completed to date has returned large coherent gold and silver soil anomalies, and high grade rock chips assays up to the 1000s of g/t for both gold and silver.

Importantly for investors, in addition to bringing in a highly prospective project and diversifying the targeted metals, Humboldt Range will expand the time frame over which field activities can be undertaken. Previously these were limited to the relatively short Alaskan field season, and thus led to a paucity of news flow and loss of momentum over the northern winter/southern summer, which can result in investor impatience and stagnating/dragging on the share price.

With active and ongoing work programmes planned, we expect to see steady and positive news flow over coming months, including, in the near term, assays from the recent Caribou Dome drilling programme.

.....

KEY POINTS

Highly prospective properties: Both Alaska Range and Humboldt Range are highly prospective for the relevant styles of mineralisation, with results of work to date demonstrating this.

Ready access to infrastructure: Both projects have ready access to infrastructure.

Attractive mining destinations: Both Nevada and Alaska are well recognised mining jurisdictions, respectively ranked 1st and 5th globally, and 1st and 3rd in the US in the 2020 Fraser Institute Survey of Mining Companies.

Strong management and technical team: The Company has management, technical personnel and partners with extensive experience in the junior resources sector and a proven history of technical success and delivering value to shareholders. In addition key personnel own ~4% of the Company, thus aligning their interests with those of other shareholders.

Active exploration programmes: Given the addition of Nevada, we can expect close to year round field activities (and hence news flow), rather than being limited to the Alaskan field season as in the past.

Leveraged to exploration success: With an EV of ~A\$22 million, the Company has a value towards the lower end of its peers, and is well leveraged to positive exploration news with the potential to return significant value to shareholders.

SWOT ANALYSIS

Strengths

- High quality projects: This is a key strength of PolarX, with both the Alaska Range and Humboldt Range Projects demonstrating high prospectivity for mineralisation styles that have a history of occurring in world class deposits, and delineated mineralisation that is still open at the drilled deposits.
- High grade mineralisation at Alaska Range: The MREs at both Caribou Dome and Zackly at Alaska Range are potentially of grades and tonnages that could support mining operations - the viability is being assessed in the current Scoping Study.
- Promising results to date at Humboldt Range: The results of the geochemical sampling and geological mapping, and the proximity at and over similar geology to current operations, highlights the prospectivity of the Humboldt Range claims.
- Experienced people with skin in the game: Company personnel have significant experience and success in the junior resources sector, and also have significant holdings in PolarX good management is essential to the success of a resources junior.
- Well regarded jurisdictions: Nevada and Alaska are both well regarded and mature mining jurisdictions, with long histories of successful mining operations. The states were respectively ranked 1st and 5th globally, and 1st and 3rd in the US in the 2020 Fraser Institute Survey of Mining Companies.
- ♦ Simple, state-based permitting at Alaska Range: Given that Alaska Range is located over state, and not federal mining claims, permitting of exploration activities requires the approval of only one state based agency, and the permitting of any future operation will again be state based (with an exception being if there is any impact on wetlands, in which case permitting will need to include the federal Army Corps of Engineers).
- ♦ Federal BLM claims in Nevada: These allow for relatively simple permitting, and guaranteed times (by statute) in getting work programmes approved if the disturbed ground is kept at less than 5 acres (2.02 ha) works, including drilling, only require a Notice of Intent, which must be approved by the BLM within 15 days.
- ♦ Close to infrastructure: Alaska Range is centred within 110 km of Cantwell and major transport infrastructure, and is readily accessible (outside of winter) by the Denali Highway; however the Project will be accessible all year round should the Company fund snow ploughing of the Denali Highway during winter. Humboldt Range is located within 15 km of Interstate I-80, and in a major mining region.

Weaknesses

- ♦ Location Alaska: Being located in a mountainous area of Alaska and being subject to relatively severe winters will mean that any future operation will be reasonably expensive; this also applies to exploration with this largely limited to six months of the year at the moment; however drilling activities can be carried out during winter but this will entail significant additional cost.
- ♦ **Funding:** As of September 30, 2021 PolarX had A\$1.77 million in cash; given the planned exploration programmes and past expenditure there will be the requirement to go to the market either in late 2021 or early 2022.
- Earn-in terms Caribou Dome: The Caribou Dome agreement is an all or nothing deal; there is no staged earn-in, and thus if the Company pulls out early it will retain no equity; however this does not affect the 100% owned Stellar claims.

Opportunities

- Resource expansion Alaska Range: This is the key opportunity at Zackly and Caribou Dome, with the VMS (Caribou Dome) and skarn (Zackly) mineralisation being open along strike and at depth.
- ♦ **Drilling success and new discoveries Alaska Range:** This applies to the other key, untested prospects. Given the mineralisation styles (including IRGS and porphyry) some of these have very large, Tier 1 size potential. The potential for new discoveries has been highlighted by the results of the single hole at Mars, as well as the native copper mineralisation (Keweenaw style) recently intersected within the Caribou Dome claims, which is a new style of mineralisation for Alaska Range.
- Exploration success and new discoveries Humboldt Range: The results to date at Humboldt Range, and the proximity to known deposits highlights the prospectivity of the project.

Threats/Risks

- ♦ **Lack of exploration success:** This is self explanatory, and is a key threat for any junior.
- Scoping not stacking up: This applies to the strategy of a potential operation at Zackly and Caribou Dome, with resources needing to be able to support a relatively expensive operation.
- ♦ Markets and metals prices: A key perennial threat facing juniors are falls in the stock and metals markets, particularly when it comes to having to raise funds in a bad market this will also impact with investors selling down the more risky juniors before other less risky.

OVERVIEW

STRATEGY AND PROJECT OVERVIEW

- With the recent addition of the Humboldt Range Project in Nevada, PolarX has expanded its focus subsequent to our previous research reports (January 2018, November 2018 and July 2019) which are available on the Company's website.
- The Company is still very much active on the Alaska Range Project (for which a Scoping Study on a combined Caribou Dome/Zackly operation is underway), and which includes the 116 km² Caribou Dome and 150 km² Stellar claim blocks (Figure 1), located south of Fairbanks. However the addition of the 27.4 km² Humboldt Range will allow the Company to undertake field activities through most of the year, rather than just the relatively brief ~six month field season in Alaska.
- ♦ The combined Alaska Range Project includes 35 km of strike of geology that soil sampling shows to be almost continuously anomalous for copper, with gaps generally due to areas of cover, including braided streams (Figure 2).
- ♦ The identified prospects exhibit several styles of mineralisation:
 - Skarn copper-gold (Zackly),
 - Porphyry copper-gold-molybdenum (Mars, Jupiter, Gemini),
 - Intrusive-related gold ("IRGS", Moonwalk), and,
 - Sediment-hosted VMS, or "Kennecott" style copper (Caribou Dome, Senator).
- More recently the Company has intersected disseminated and vein hosted native copper mineralisation at the Caribou Dome prospect, consider similar to "Keweenaw" style mineralisation that has historically been mined on the Keweenaw Peninsular in Michigan, producing over 5 Mt of copper metal at an average grade of 1.85% copper from several deposits until the 1990s.
- The Company is currently looking for a farm-in partner to fund exploration over the porphyry and IRGS targets within the Stellar claims - such an agreement would exclude Zackly, Zackly East and any potential extensions of the skarn mineralisation.
- ♦ Humboldt Range is located in the Basin and Range Province of Central-West Nevada (Figure 13), near to the producing Florida Canyon (~50 kozpa Au, Argonaut Gold Inc) and Rochester (~3.2 Mozpa Ag, 30 kozpa Au, Couer Mining) mines, both epithermal deposits.
- ♦ Rochester, which is relatively silver rich, has an overall endowment (current Resources and past production) of ~400 Moz of silver and 3 Moz of gold, whereas Florida Canyon is gold rich, with an overall endowment of ~5 Moz of gold.
- ♦ Activities at Humboldt Range are early stage, with the Company recently completing soil and rock chip geochemical sampling, which have returned large coherent anomalies, coincident with areas of strong epithermal veining and alteration.

FINANCIAL POSITION

- ♦ As of September 30, 2021, PolarX had cash of A\$1.769 million.
- Over the twelve months to September 30, 2021, PolarX raised A\$5 million through the placement of 125 million shares at A\$0.04/share.
- Over the same period PolarX spent A\$3.604 million on exploration and A\$1.310 million on staff and administration costs - we consider that the proportion of costs going into the ground is very good.

CAPITAL STRUCTURE

- PolarX currently has 672.2 million fully paid ordinary shares on issue, and 52 million unlisted options with expiry dates ranging from December 20, 2021 to October 27, 2025. All options are currently out of the money, with exercise prices ranging between A\$0.05/ share and A\$0.125/share, with 15 million also subject to shareholder approval at the 2021 AGM.
- ♦ Two investment funds have significant holdings, including Ruffer LLP (13.87%) and US Global Investors (7.49%) other funds also have holdings.
- ♦ Lundin Mining holds 7.95% by virtue of a share subscription of 53.4 million shares at A\$0.08/share related to an option agreement to enter into a JV over selected porphyry targets the option was not executed, however Lundin still retains the initial shareholding.
- ♦ As of June 30, 2021, there were 1,257 shareholders, and the Company is tightly held, with the Top 20 currently holding 57% and Directors and Management holding 3.84%.

ALASKA RANGE PROJECT, ALASKA

LOCATION AND TENURE

♦ The Alaska Range Project is located in the Alaska Range of south-eastern Alaska, centred approximately 460 km by road from Anchorage and 350 km road from Fairbanks (Figures 1 and 2).

Stellar & Caribou Dome
Projects

OWNERSHIP/ROYALTY

100% Millrock Only
100% Altius and Millrock
90% Hatcher Claims

Figure 1: Alaska Range Project tenements and prospects

Source: PolarX, USGS, Google Earth

- ♦ Access is via State Highway 4 from either Anchorage or Fairbanks to Cantwell (the nearest town), then east via the Denali Highway, which runs to the south of the tenements (85-140 km).
- ♦ The Denali Highway is mainly good quality gravel, and is maintained during May-October, with access to the site being by up to 20 km of 4WD tracks from the Denali Highway.
- Power and rail are also available at Cantwell, with the rail being connected to the year-round port at Seward.
- ♦ The Project has a total area of 266.12 km², comprising a mixture of 40 acre and 160 acre State Mining Claims.
- ♦ The claims have been acquired at separate times and under various agreements these are summarised below and detailed in Appendix 1.
- Caribou Dome (28,800 acres, 11,655 ha) includes three groups of claims (Figure 1), in which PolarX will earn between 80% and 90% (as shown in Figure 1) through meeting the required expenditure commitments (by June 6, 2021) or completing a feasibility study to mine the Caribou Dome property:
 - The CD Development claims, of 10,240 acres, which are the subject of the initial November 2014 agreement, with Australian private company Aldveco Pty Ltd ("Aldveco") and Canadian Hatcher Resources Inc ("Hatcher"),
 - The SV Metals claims of 5,600 acres these were staked in January 2015, and due
 to "Area of Influence" clauses in the 2014 agreement fall under the terms of the
 agreement, however with no additional payments required; and,
 - The Hatcher claims totalling 12,960 acres these are claims that have been subsequently staked outside of the SV metals "Area of Influence", however for which Hatcher is entitled to a 10% interest on completion of the PolarX earn-in.
- Remaining minimum expenditure commitments as of the end of the recent drilling total ~US\$0.75 million, with annual cash payments totalling US\$1.46 million also due to be paid by June 6, 2024.

80% CD Dev Claims
80% SV Metals Claims
10km

- Once PolarX has earned the equity in Caribou Dome, the other parties will hold 10% or 20% on a contributory basis.
- A 5% NSR royalty will be retained by the underlying owner, C-D development Corporation, with this being able to be purchased for US\$1 million for each 1%.
- Stellar comprises 331 State Lode Claims for 36,960 acres (14,957 ha), including those initially acquired in 2017 and those subsequently staked - PolarX holds 100%, with the following royalties payable:
 - A 1% NSR to Millrock for all metals on all claim blocks within the Millrock AOI; and,
 - A 2% NSR for precious metals, a 2% gross value royalty for U₃O₈, and a 1% NSR for all other metals (including copper) payable to Altius Metals on the claims as shown in Figure 1.

WORK BY POLARX

- Since acquiring the project, PolarX has undertaken significant activities on several of the key prospects within the Stellar and Caribou Dome claims, with a brief summary presented in Table 1 - more detail of individual activities is provided in our previous reports.
- This does not list tenement-wide activities, which have included geochemical sampling and geological mapping (Figure 2), a high resolution airborne magnetics/radiometrics survey over the Stellar Project in 2018, as well as reprocessing of the regional dataset - this has resulted in the refining of the geology of the Project, as shown in Figure 3.
- The Company has also completed MREs for Zackly and Caribou Dome, with these presented in Table 2.

Table 2: Alaska Range summary of activities

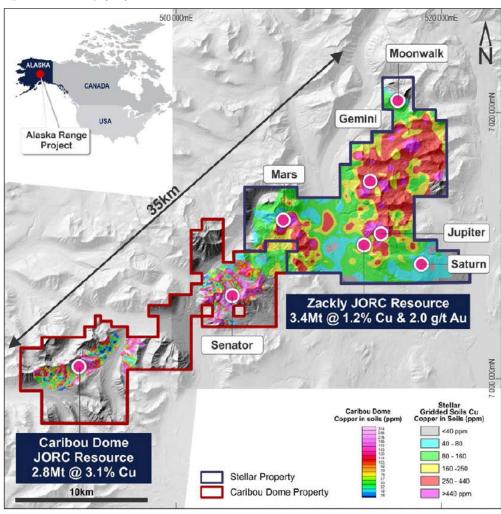
Alaska Range summary of activities									
Field Season	Caribou Dome/ Senator		Zackly/Zackly East		Saturn		Mars		
	Holes	Metres	Holes	Metres	Holes	Metres	Holes	Metres	
2015	28	4,300							
2016	22	6,520							
2017			14	1,889					
2018			18	3,754					
2019					5	2,642	1	417	
2020			23	3,130					
2021	8	1,295							
Total	58	12,115	55	8,773	5	2,624	1	417	
				Other signific	ant activitie	es			
2015	Geochemical sampling, IP, metallurgical testwork								
2016	Metallurgi	cal testwork							
2017	N	MRE		IP, mapping				sampling, IP, al mapping	
2018			MRE				Geochem sampling, IP, geological mapping		
2019						, geological oping			
2020									
2021			Metallurgio	cal testwork					

Source: IIR Analysis

Table 2: Alaska Range JORC 2012-compliant MRE - 0.5% Cu lower cut

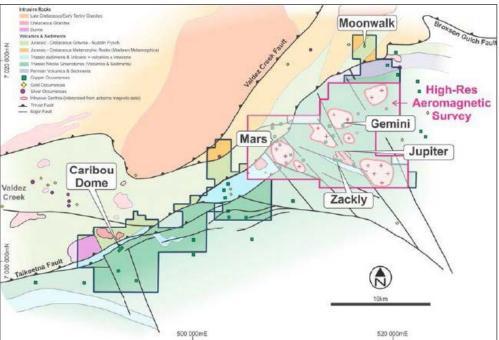
Alaska Range JORC 2012-compliant MRE - 0.5% Cu lower cut								
	Category	Million Tonnes	Cu %	Au g/t	Contained Cu (t)	Contained Au (oz)	Contained Ag (Moz)	
Zaakhu	Inferred	3.4	1.2	2	41,200	213,000	1.5	
Zackly	Total	3.4	1.2	2	41,200	213,000	1.5	
	Inferred	1.6	3.2		E2 200			
	IIIIeIIeu	1.0	3.2	-	52,300	-	-	
Caribou	Indicated	0.6	2.2	-	13,000	-	-	
Dome	Measured	0.6	3.6	-	20,500	-	-	
	Total	2.8	3.1		85,800			
Global	Total	6.2	2.0%		127,000	213,000	1.5	

Figure 2: Alaska Range prospects, soils and resources



Source: PolarX

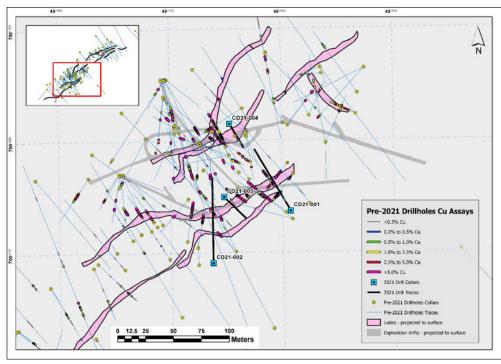
Figure 3: Project and regional geology



Caribou Dome

- ♦ The Caribou Dome VMS deposit comprises several lodes (nine recognised to date) of generally steeply dipping and folded VMS massive sulphide copper mineralisation, that has seen significant drilling, both historical and by PolarX the property also has ~1,000 m uf underground exploration development.
- ♦ Individual lenses have thicknesses of up to 10 m, have been intersected to ~250 m depth and have a combined strike length of ~800 m mineralisation is open along strike and at depth (Figure 4) further details are presented in our January 2018 report, as well as Company releases.

Figure 4: Caribou Dome geology and drilling - MRE area



Source: PolarX

♦ Drilling by previous operators had returned up to 18.1 m @ 9.34% Cu from 22.7 m in DH9, with drilling by PolarX supporting this - intersections include 51.1 m @ 5.3% Cu from surface in hole CD15-03 amongst others.

- ♦ The depth potential is confirmed by intersections of 3.4 m @ 4.8% Cu and 3.5 m @ 1.9% Cu at ~280 m downhole depth in hole DH93U.
- ♦ Activities in 2021 (which is the first intensive work since 2017) has included the drilling of eight diamond drill holes for 1,295 m this included four holes to collect metallurgical samples within the MRE, and four testing IP anomalies to the south and SE of the mineralisation (Figures 4, 5 and 6).
- Assays are yet to be received for the holes, however they have returned positive visual results:
 - Three of the metallurgical holes (CD21-001 to CD21-003) intersected multiple zones of fine grained copper bearing massive sulphide mineralisation, with down-hole thicknesses of up to 10.7 m; and,
 - Holes CD21-005 to CD21-008, drilled to test EM anomalies, intersected disseminated and vein controlled native copper mineralisation hosted in basalt flows - these were from IP and soil geochemical targets approximately 1,150 m apart (Figures 5 and 6).
- Given the fine-grained nature of the mineralisation the Company has not released visual estimates of the copper mineral contents from the latest drilling.
- Preliminary metallurgical testwork (using flotation), completed in 2015 and 2016 returned copper recoveries of between 95% and 99% to concentrates grading at between 24.5% and 27.4% further optimisation work will be undertaken as part of the scoping work.

N 3D isometric view looking towards ENE
3D-IP chargeability anomalies/3D bodies

CD21-005

CD21-005

Massive sulphide lenses from resource estimate

Figure 5: Caribou Dome 2021 drilling and IP anomalies

Figure 6: Caribou Dome - ENE oblique view along IP anomalies associated with fine-grained native copper

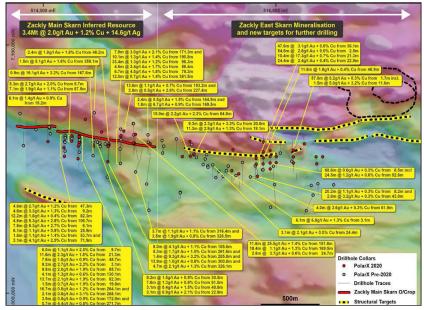


Source: PolarX

Zackly and Zackly East

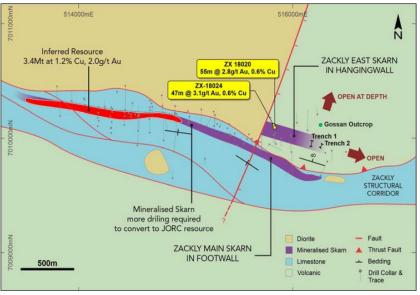
- ♦ The Company's focus in 2020 was at Zackly, where 23 holes for 3,130 m were drilled testing potential eastern extensions to the MRE as shown in Figures 7 and 8 Zackly is skarn mineralisation occurring within a WNW trending limestone between the Saturn and Mars intrusives, with an interpreted porphyry at depth at Saturn being a possible source for the mineralising fluids.
- A strike length of 2 km has been delineated to date, and is open along strike to the east and at depth - further infill drilling is required in some areas to allow conversion to a JORC compliant MRE.
- Intersections in 2020, when compared to previous drilling, were of generally lower grade, with a best of 1.53 m @ 5.01 g/t Au and 3.15% Cu from 11.58 m in hole ZX20056 this was within a broader interval of 57.04 m @ 0.19 g/t Au and 0.26% Cu from 1.70 m (Figure 7).
- ♦ The drilling however extended the strike of the Zackly East skarn by 200 m, and confirmed the prospectivity of the strongly magnetic features, showing that the system continues to the east, and highlighting the potential for further high grade mineralisation.
- ♦ A plan of the interpreted mineralisation is shown in Figure 8 and a cross section at the eastern end in Figure 9, highlighting the potential of the moderately north dipping Hanging Wall Zackly East Skarn, which now requires follow up drilling to follow up broad, high grade intersections, including 55 m @ 2.8 g/t Au and 0.6% Cu in hole ZK18020.

 $\label{thm:continuous} \textbf{Figure 7: Zackly - drilling and targets on magnetics image}.$



Source: PolarX

Figure 8: Zackly - geological interpretation.



Source: PolarX

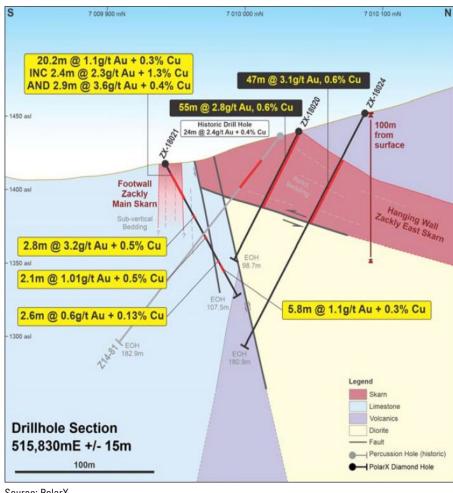


Figure 9: Zackly East - cross section.

Saturn and Mars

- Work undertaken at Saturn and Mars, largely including drilling, was undertaken by the Company, and funded from the Lundin placement on tenement areas included within the Lundin option agreement - as mentioned earlier Lundin did not exercise the agreement - the Zackly claims were excluded from the option area.
- Saturn-Zackly-Mars occur along a 12 km long ESE-trending zone, cut by NW trending structures (Figures 2 & 3).
- The detailed magnetics highlighted a poly-phase intrusive complex at Saturn (Figure 10), with IP highlighting a coincident chargeable zone, possibly indicating a sulphidic halo to a porphyry system.
- Earlier geochemical sampling and IP delineated coincident anomalies at Mars (Figure 11) the Cu-Au-Mo-As soil anomaly covers an area of some 1,500 m x 800 m.
- In 2020, five holes for 2,624 m were drilled at Saturn, with a single hole for 417 m being drilled at Mars.
- The Saturn drilling intersected no significant mineralisation, however intersected geology and alteration that may be consistent with a porphyry system at depth - that at Mars however intersected porphyry-style alteration and mineralisation, including chalcopyrite bearing veining from 7 m to the end of the hole at 417 m (Figure 12) - lithologies included andesite from surface to 158 m and diorite thereafter.
- This included an intersection of 102 m @ 0.22% Cu, 0.07 g/t Au and 20 ppm Mo from 308.02 m, including 7 m @ 0.32% Cu, 0.10 g/t Au and 6 ppm Mo from 322.02, and 28.24 m @ 0.28% Cu, 0.09 g/t Au and 52 ppm Mo from 355.85 m.
- Our view is that this is a significant result porphyry systems generally contain a higher grade core with a lower grade halo - it could well be that this intersection represents the halo to a higher grade system.
- Potassic alteration, containing biotite and gypsum (after anhydrite), and clay-chloritecarbonate-sericite alteration are present, however there is no felsic intrusive material, which would be expected at the higher grade core of the system.

- ♦ The presence of anhydrite (although replaced by gypsum) indicates an oxidised system, commonly associated with higher grade deposits.
- Despite the lack of positive results thus far at Saturn, the Company is of the view, following on from the detailed magnetics and drilling, that there may be porphyry mineralisation at depth

Figure 10: Saturn and Zackly - magnetics and drilling.

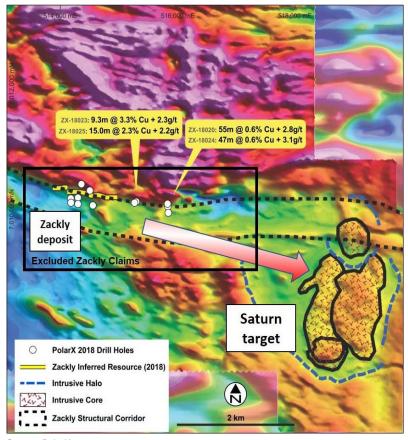
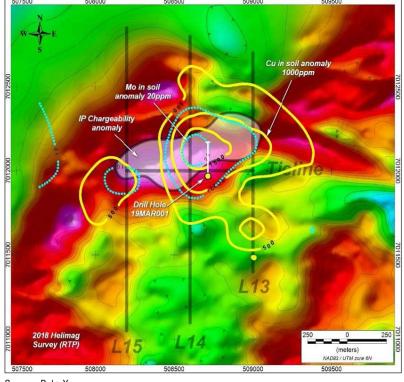


Figure 11: Mars geochemistry, IP and magnetics



Source: PolarX

SOUTH

1300 RL

19MAR001

1200 RL

1100 RL

1100 RL

1100 RL

1100 RL

1000 RL

Figure 12: Mars cross section with drilling on magnetics inversion - looking west

UPCOMING ACTIVITIES

- Activities at Alaska Range are currently concentrated on a Scoping Study for a combined Caribou Dome/Zackly operation.
- A key aspect of this is metallurgical testwork, which will include work on core from both Caribou Dome and Zackly - being able to economically treat material different styles of mineralisation through the same overall plant will be a vital factor in any future combined operation.
- For Zackly, this will include evaluating the potential for gravity separation of coarse gold (and possible minor native copper), followed by the amenability to recover hypogene copper minerals and fine gold through the flotation of the residual material.
- Should the Keweenaw mineralisation be potentially economic, there could be the potential to co-process it through a gravity plant with the Zackly material.
- Planning of drilling for the 2022 field season is underway this will depend partly on the results of the 2021 drilling, as well as that from the metallurgical testwork and Scoping Study outcomes.

HUMBOLDT RANGE PROJECT, NEVADA

LOCATION AND TENURE

- Humboldt Range comprises 333 Lode Claims for 2,737 ha (6,762 acres), split into two blocks - Black Canyon (151 claims) and Fourth of July (182 claims) - these are held either through a 100% owned subsidiary of PolarX or by a third party with which the Company has a Mine Lease Agreement (Figure 13).
- ♦ The claims are largely located over United States Department of the Interior's Bureau of Land Management ("BLM") controlled areas, making permitting relatively simple, and with permits to be approved within regulated times.
- For activities where the amount of disturbance is 5 acres or less (with rehabilitated areas excluded from this area), a simple Notice of Intent is required for operations (including drilling), which must be approved within 15 days.
- ◆ The claims are within 15 km of Interstate I-80, approximately 200 km NE of Reno, and also close to the operating Rochester (Couer Mining) and Florida Canyon (Argonaut Gold) Mines the Standard Gold Mine as shown in Figure 13 is currently being operated as part of the overall Florida Gold Mine operations.
- ♦ The initial 177 claims were acquired in early 2021 (for details refer to Appendix 2) through a Mine Lease Agreement with the claim holders this is a similar arrangement that previous explorers Victoria Gold (2006-2007) and Renaissance Gold (2014-2015) operated under.
- The Company has subsequently staked a further 156 Lode Claims.



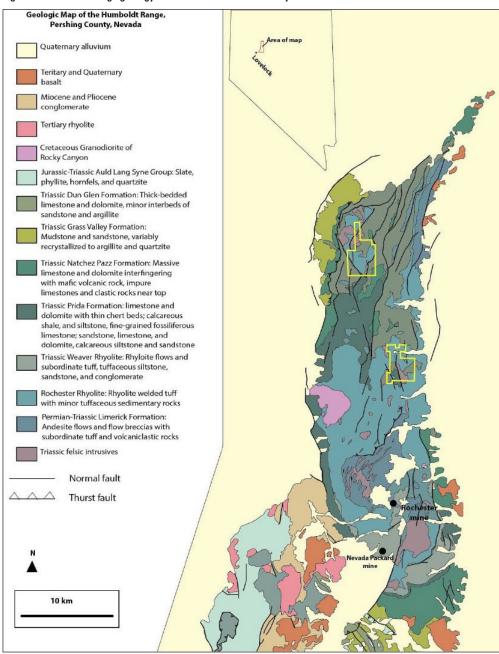
Figure 13: Humboldt Range location and tenements

REGIONAL GEOLOGY AND MINERALISATION

- Mineralisation at Humboldt Range (and the nearby deposits) varies in style from high level hot spring through to deeper epithermal, and almost mesothermal depth vein mineralisation. Controls include structure and lithology and combinations thereof - mineralisation in the operating mines is commonly complex in morphology, with it also being oxidised to up to 250 m depth - all operations are on oxide material.
- There are also variations in the relative gold and silver grades between the operations, with Rochester having current Reserves of 416 Mt @ 0.09 g/t Au and 13.87 g/t Ag (1.219 Moz Au and 185.5 Moz Ag) whereas Florida Canyon has Reserves of 70.8 Mt @ 0.42 g/t Au for 954 koz contained Au.
- Given the grades and oxidation, operations include large scale open cut mining, crushing and heap leaching.
- ♦ The host rocks include Permian to Mesozoic sediments (including carbonates) and volcanics, with younger Tertiary rhyolites also present; intrusives include Cretaceous granodiorites (Figure 14).
- The major structures in the region include the Black Range Fault System, which forms the western margin of the Humboldt Range - this is one of the key controls to mineralisation, with subsidiary mineralised structures including splays, hanging wall splits and cross faults.

- Lithological controls include the contact between the Rochester and Weaver rhyolites at the Rochester Mine - being brittle, rhyolites provide good host rocks for vein-controlled mineralisation.
- ♦ The region has seen two main compressional deformation events, including the Mid-Jurassic Luning-Fencemeker Thrust System, and then followed by compression related to the Black Range System, with this including N-S striking listric faulting.
- ♦ The next tectonic event was the formation of the Basin and Range system in the Tertiary, which included the extensional reactivation of some of the earlier compressional structures, including those of the Black Range System.
- This has produced the characteristic topography of parallel basins and ranges (grabens and horsts) as seen over extensive Basin and Range Province.
- The age of mineralisation at Rochester has been interpreted as being associated with the Cretaceous Rocky Canyon Intrusive event, and thus has been disrupted by younger tectonic events, whereas that at Florida Canyon has been dated at 2-5 Ma, demonstrating a long (over 100 million years) period of mineralisation in the humboldt Range.

Figure 14: Humboldt Range geology with PolarX claim outlines in yellow

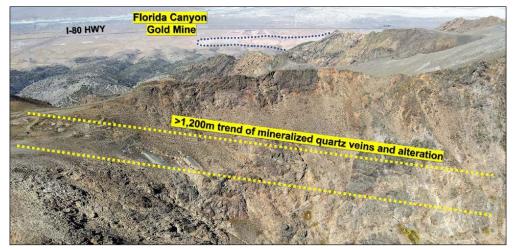


Source: Couer Mining Rochester 2020 NI43-101

LOCAL GEOLOGY AND MINERALISATION

- Previous work within the PolarX area of interest has demonstrated the presence of lava flows of the Koipato Formation, which are hosts at Rochester and Florida Canyon limestones are structurally emplaced above and below the volcanics.
- As stated by the Company, epithermal veins in the volcanics occur in wide structural zones, with these varying from 30 m to 275 m in width there are various vein orientations within the corridors, including N60E, N45W, N-S and N25-30E, with these correlated with various widths of the shear zones (Figure 15).
- Quartz-sulphide veins, including with visible gold, range in width from 5 cm to over 1.5 m (and more commonly around 20 30 cm), with these within strongly silicified host rocks the silicification is over widths of up to and over 5 times the vein width.
- Previous work has identified the presence of gold in the silicified selvedge at up to 2 m away from the veins this highlights the potential for both bulk, and smaller scale high grade vein and selvage targeted mining.

Figure 15: Black Canyon claims structural trend with Florida Mine in the background



Source: PolarX

HISTORIC WORK

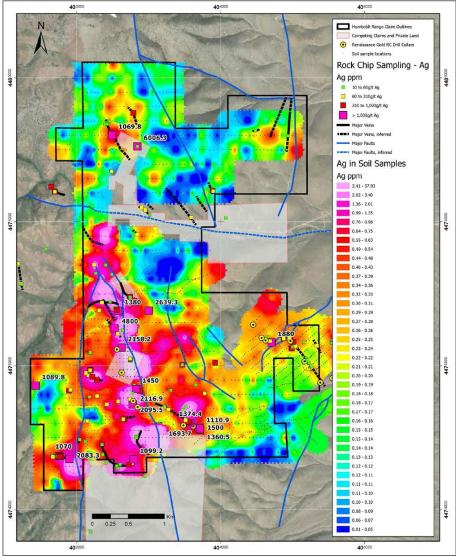
- ♦ The Humboldt Range region has seen silver and gold mining since the late 1850s/early 1860s, with gold being dominant in the north, and silver in the south this includes workings over high grade veins within the Company's claims, where the miners would stop if grades dropped below ~1 oz/tonne.
- Mining has largely been continuous over various areas since, and has culminated in the current Florida Canyon/Standard and Rochester operations.
- Operations commenced at Florida Canyon in 1986 and have largely continued since then, albeit with several owners - there have been some relatively short periods where mining ceased - past production is in the order of 2.5 Moz of gold.
- Operations commenced at Rochester and associated deposits in 1986, and have continued to this day, albeit with a hiatus between 2007 and 2011.
- ♦ The mine has produced some 164.5 Moz of silver and 1.8 Moz of gold from 267.4 million short tons (242.6 million tonnes) in that time, with an average recovered grade of 21.1 g/tonne Ag and 0.23 g/tonne Au.
- Records of historical work within the PolarX claims are scarce, however that work that has been completed and documented (largely by Victoria Mines Inc from 2006 to 2007 and by Renaissance Exploration Inc in 2014/2015) highlighted the prospectivity.
- Due diligence work by PolarX included verification of selected areas of historical sampling.
- ♦ The limited modern exploration has been due to the ground being held by the same family of prospectors since the 1950s, thus effectively tying up the ground.
- ♦ This work included the collection (or collation of data) of 277 rock chips, including from historic mine dumps, included 44 that returned assays of over 1 g/t Au and 19 that returned over 10 g/t Au some high silver and lead assays were also returned.
- ♦ The highest gold assay was 3,384 g/t, with that for silver being 2,835 g/t further details of the historic sampling are presented the Company's January 11, 2021 release, which includes a list of the samples.

- Renaissance also carried out detailed soil sampling, and the drilling of seven RC holes over a large silver anomaly in the Fourth of July area.
- Despite the presence of extensive limestone units, the area has not been explored for Carlin-style mineralisation, which is the major producer of gold in Nevada - the Carlin areas are within 200 km of Humboldt Range, and have produced the bulk of Nevada's historical gold production of some 150 Moz, and inventory of over 200 Moz.
- ♦ Carlin-style mineralisation has been interpreted as being ~40 Ma in age, younger than the epithermal mineralisation, however volcanics of this younger age are present in the region, indicating the potential for the presence of intrusives to drive the mineralising systems.

WORK BY POLARX

- Work to date has included rock chip and soil geochemical sampling and geological mapping at both the Fourth of July and Black Canyon claims.
- ♦ The sampling over both areas has identified broad areas of gold (and silver at Fourth of July) anomalism (Figures 16 and 17), with several areas now requiring infill sampling.
- Soils were collected over a 200 m x 50 m E-W grid, with rock chips taken where necessary, with soil sampling complementary to that undertaken by Renaissance over parts of the area in 2014/2015.
- ♦ At Fourth of July, the soils have outlined a 3.5 km long by up to 2 km wide NNW trending silver and gold anomaly coincident with the Arizona Graben in the south west of the block silver soil values of up to 186 g/t and several rock chips of over 1,000 g/t were collected; gold values of over 10 g/t were returned from vein outcrops (Figure 16).

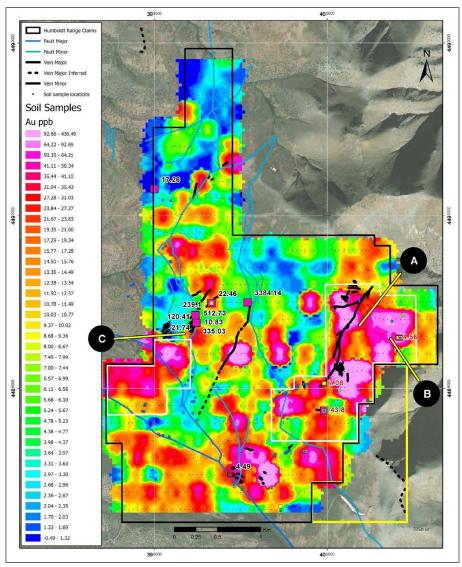
Figure 16: Fourth of July soil and rock chip sampling silver results, claims and targets



Source: PolarX

- Multiple other gold (+-silver) anomalies were also identified, many associated with known veins, however with one in the extreme SE of the claims associated with a newly identified target.
- Several gold in soil anomalies were identified at Black Canyon (Figure 17), with the largest being in the east, and measuring 2.3 km long (NNE) and 800 m across strike - this is marked as areas A and B in Figure 17.
- ♦ This returned gold values of up to 793.1 ppb, and is associated with outcropping quartz veins which have never been previously sampled rock chips taken by the Company returned up to 43.8 g/t Au.
- These results have resulted in the staking of an addition 15 lode claims along strike to the SE (yellow outline in Figure 17).

Figure 17: Black Canyon soil and rock chip sampling gold results, claims and targets



UPCOMING ACTIVITIES

- In view of the successful work completed to date, PolarX has active follow up work programmes planned for Humboldt Range:
 - Infill soil sampling (100 m x 25 m grid) over selected anomalies,
 - Initial 200 m x 50 m soil sampling over newly staked claims,
 - Detailed geological and alteration mapping,,
 - Structural mapping of quartz vein arrays,
 - Channel sampling of areas of veining and alteration; and,
 - Possible IP geophysical surveying to identify and delineate areas of silicification.
- ♦ The results of this work will be used to plan drilling programmes, which could be feasibly undertaken within the next six months, prior to drilling at Alaska Range.

PEERS

- PolarX is one of a number of explorers and developers looking at poly-metallic and gold resources, with a selection shown in Table 3.
- This has been sorted on undiluted enterprise value, highlighting the upside potential of the Company.
- We have calculated the copper equivalent ("CuEq") grade of global resources using current metal prices and exchange rates - this does not take into account expected or actual metallurgical recoveries.
- This metric is somewhat convoluted by some companies have separate gold and copper projects with resources, however it does reflect the value of metal in the ground that the companies hold.
- We have generally included Resources from all projects where the Company owns them (or has a majority interest), however those that the relevant company is farming out (or holds a minority interest) are not included.

Table 3: PolarX peers

Table 6: Polar)	(peers						
Company	Project	EV Undiluted (A\$m)	Equity Resource (Kt)	CuEq Grade (%)	Deposit/ Target Style	Project stage	Metals (all resources)
Develop Global	Sulphur Springs, Whim Creek	\$390.7	19,250	2.70%	VMS	Looking to Development	Cu, Pb, Zn, Ag, Au
KGL Resources	Jervois	\$234.9	20,981	2.47%	VMS	Resource Drilling	Cu, Ag, Au
Hot Chili	Productora, Costa Fuego	\$179.3	1,450,000	0.47%	Porphyry	DFS	Cu, Au, Mo
Caravel	Caravel Copper	\$128.7	372,000	0.35%	Porphyry	Drilling, Resource Expansion	Cu, Mo
Eagle Mountain	Oracle Ridge	\$112.6	11,760	1.85%	Skarn	Drilling, Resource Expansion	Cu, Au
Peel Mining	Mallee Bull, Wagga Tank	\$99.6	11,710	2.84%	Cobar	Drilling, Resource Expansion	Cu, Pb, Zn, Ag, Au
Rex Minerals	Hillside SA, Hog Ranch Nevada	\$99.5	502,800	0.53%	IOCG Australia, Epithermal Nevada	Permitting, development studies	Cu, Au, Fe, A
Orion Minerals	PCM, O'Kiep	\$98.9	28,823	2.09%	VMS	Approvals, Funding - PCM Scoping - O'Kiep	Cu, Zn, Ni
Cyprium	Nifty and others	\$70.1	134,217	1.76%	Various, exploration	Restart	Cu, Pb, Zn, Ag, Au
White Rock	Mt Carrington Red Mountain - Alaska Morning Star	\$33.8	16,700	3.14%	VMS - Red Mountain	Drilling at Red Mt, Studies at Mt Carrington - Thomson earning in	Cu, Pb, Zn, Ag, Au
Anax Metals	Whim Creek	\$27.6	7,601	1.75%	VMS	Redevelopment studies	Cu, Pb, Zn, Ag, Au
Xanadu Mines	Kharmatgai	\$27.6	457,623	0.46%	Porphyry	Drilling	Cu, Au
PNX Metals	Hayes Creek	\$23.3	9,116	2.24%	VMS	Development Studies	Cu, Pb, Zn, Ag, Au
PolarX	Alaska Range	\$21.4	5,640	2.76%	Sedex, Skarn, Porphyry	Exploration, Drilling	Cu, Au, Ag
Helix Resources	Canbelego, Collerina	\$16.4	3,070	1.78%	Cobar, VMS	Exploration	Cu, Au,
Southern Hemisphere	Llahuin	\$9.2	169,000	0.36%	Porphyry	Drilling, exploration	Cu, Au, Mn

Source: IRESS, Company Reports, IIR analysis

- ♦ We note that a few of the companies have projects in the USA:
 - Rex Minerals, with the Hog Ranch project located within 200 km of Humboldt Range like Humboldt Range this is an epithermal system, with an MRE of 163 Mt @ 0.43 g/t Au for 2.260 Moz contained gold,
 - White Rock Minerals, which owns the Red Mountain Project (16.7 Mt @ 8.9% ZnEq), located in the Bonnifield Mining District on the north side of the Alaska Range, 100 km north as the crow flies from PolarX's project; and,

- Eagle Mountain Mining, which has the Oracle Ridge copper project (12.2 Mt @ 1.77% CuEq) in Arizona.
- We would expect uplift in value with increasing resources and exploration/drilling success
 the Company has an EV at the lower end of its peers.

BOARD AND MANAGEMENT

- Mr Mark Bojanjac Executive Chairman: Mark is a Chartered Accountant with more than 25 years' direct experience in developing resource companies. He was a founding director of a public company which discovered one of Australia's highest grade gold mines at East-Kundana near Kalgoorlie in WA and managing director of an unlisted public company which successfully developed a 2.4 Moz gold resource in Mongolia. He was previously CEO of Adamus Resources Limited, where he oversaw its advancement from an early stage exploration project through definitive feasibility studies and managed the debt and equity financing to build its successful Ghanaian gold mine. He is currently also a Non-Executive Director of QLD silica sand developer, Metallica Minerals Limited and of WA resources explorer, Kula Gold Limited.
- ◆ Dr Frazer Tabeart Managing Director: Frazer is a geologist with 30 years international experience in exploration and project development, with a strong technical background in porphyry copper-gold systems in SE Asia, SW Pacific, the American Cordillera and central and northern Asia. After spending 16 years with WMC Resources and managing exploration portfolios in the Philippines, Mongolia and Africa, he left to join the Mitchell River Group. He has served on ASX-listed Company Boards at Executive level over the past 10 years. He is a Director and Principal at Mitchell River Group (see below), and current Managing Director of African Energy Resources Limited and Non-Executive Chairman of Arrow Minerals Limited.
- ◆ Dr Jason Berton Executive Director: Jason is a geologist with more than 16 years' mining and exploration experience including working for Homestake, Barrick and BHP Billiton and SRK Consulting. Jason has also previously spent two years in private equity investment and four years as Managing Director of ASX-listed Estrella Resources. Jason holds two Degrees, a Bachelor of Economics and a Bachelor of Science (Hons) plus a PhD in Structural Geology, all from Macquarie University.
- ♠ Mr Bob Boaz Non-Executive Director: Bob graduated with honours from McMaster University of Hamilton, Ontario with a Bachelor of Arts in Economics and has a Masters Degree in Economics from York University in Toronto. He is a highly respected financial and economic strategist in Canadian bond and equity markets with experience related to equity research, portfolio management, institutional sales and investment banking. Mr Boaz has more than 20 years' experience in the finance industry, most recently as Managing Director, Investment Banking with Raymond James Ltd and Vice-President, Head of Research and in-house portfolio strategist for Dundee Securities Corporation. He is currently President & CEO of Aura Silver Resources Inc.
- Mr Ian Cunningham CFO/Company Secretary: Ian is a Chartered Accountant and Chartered Secretary with a Bachelor of Commerce degree and Bachelor of Laws degree from the University of Western Australia. He also holds a Graduate Diploma in Applied Corporate Governance from the Governance Institute of Australia and a Graduate Diploma of Applied Finance and Investment from the Securities Institute of Australia. Mr. Cunningham has 15 years' experience in the resources industry in executive and senior management roles, including with Adamus Resources Ltd, during which time Adamus developed the Nzema Gold Mine (Ghana) before merging with Endeavour Mining Corporation.
- Mitchell River Group Technical Services: Mitchell River Group is a privately owned project generation and resource management and development group providing technical, commercial and management services to multiple ASX-listed companies. Current clients include ASX-listed African Energy Resources, Caravel Minerals, Exterra Resources and EVE Investments. MRG has been engaged to provide commercial and technical management of its Alaskan projects, including data management, resource modelling and estimation, management of feasibility studies and management of US permitting.

APPENDIX 1 - EARN-IN AND ACQUISITION AGREEMENTS

ALASKA RANGE AGREEMENTS

Caribou Dome Earn-in

- ♦ As announced to the market on November 5, 2014, PolarX is earning up to 80% of 10,240 acres of the Caribou Dome Project through the now completed acquisition of 100% of the issued shares of unlisted Australian company Aldevco Pty Ltd ("Aldevco") this agreement now also covers the "SV Metals Claims" as shown in Figure 3.
- The consideration for the acquisition was 60 million shares (pre-1 for 5 consolidation).
- ♦ At the time of the acquisition, Aldevco had an agreement with Hatcher Resources Inc. ("Hatcher") to earn 80% of Caribou Dome under the following terms:
 - (i) Payment to Hatcher of US\$75,000, being part reimbursement of expenses incurred by Hatcher in relation to its evaluation and exploration activities on the Project during 2014,
 - (ii) Maintaining the claims at the Project in good standing, including making annual claim rental payments and ensuring minimum expenditure commitments are met,
 - (iii) Whichever comes first of either expending a total of US\$9,000,000 on the Project (with required expenditure detailed in (iv) and (v) below) or completing a feasibility study on the Project by 6 June 2023 (unless the Earn-in deadline of 6 June 2023 is extended) completion of a feasibility study prior to the US\$9,000,000 expenditure commitment being reached terminates the expenditure commitment,
 - (iv) Expending a minimum of US\$100,000 on the Project for each of the 12 month periods ending 1 September 2015, 2016 and 2017,
 - (v) Expending a minimum of US\$2,000,000 (inclusive of payments in (iv) above) in each of the periods (a) 2 September 2014 to 1 September 2017; (b) 2 September 2017 to 1 September 2020; and (c) 2 September 2020 to 6 June 2023 (unless the Earn-in deadline of 6 June 2023 is extended), and,
 - (vi) Making annual payments (due on June 6 of each year, and totalling US\$1.96 million over 9 payments) to the underlying vendors of the Project, who are not related parties of Hatcher or Aldevco, being US\$20,000 in 2015, US\$30,000 in 2016, US\$50,000 in 2017, \$100,000 in each of 2018 to 2022, and US\$1,360,000 on the earn in deadline of June 6, 2023.
- The earn-in deadline has been subsequently extended to June 6, 2024, and thus there has been a variation in some of the payments and expenditure commitments - those now remaining include:
 - Annual payments to the underlying vendors of US\$100,000 on June 6, 2022 and June 6, 2023, and US\$1.26 million on June 6, 2024; and,
 - Expenditure commitments of US\$400,000 pa for each of the periods ending June 6, 2022, 2023 and 2024.
- ♦ The revised expenditure commitments totally replace those previously stated as of the end of the recent drilling, remaining commitments were in the order of US\$750,000.
- Also amended from the original agreement is that Zackly, although being on the Stellar claims, can now be included within a combined feasibility study under the "expenditure or complete a feasibility" provisions.
- ♦ Subject to the earn-in being complete, Hatcher will retain 10% with 10% being held by SV Metals LP on the "CD Dev" and "SV Metals" claims as shown in Figure 3; with Hatcher also retaining 10% of the "Hatcher" claims these are all contributing positions.
- ♦ A 5% NSR royalty will be retained by the underlying owner, C-D Development Corporation, with this being able to be purchased for US\$1 million for each 1%.

Stellar Acquisition

- ♦ PolarX acquired 100% of 111 claim blocks through the merger with Vista Minerals Pty Ltd ("Vista"), an unlisted Australian Company, with PolarX being the remaining entity.
- ♦ Vista had acquired the claims from TSX-V listed Millrock Resources Inc. ("Millrock"), with Millrock being issued ~28% of Vista, as consideration for the acquisition.
- ♦ The merger consideration for the shares of Vista was ~92 million PolarX shares (post consolidation basis), with 25.6 million of these shares going to Millrock.

- ♦ The merger was carried out in conjunction with an A\$5.5 million placement, following which Millrock retained a 10.74% stake in PolarX.
- ♦ Terms of Vista's acquisition of Stellar also included:
 - Vista will pay USD \$1 m cash to Millrock if a JORC Indicated Resource of 1 Moz contained Au or more is delineated,
 - Vista will pay USD \$2 m cash if a JORC Indicated resource of 1 Mt or more of contained copper (or copper equivalent) metal is delineated,
 - 45 claim blocks covering the Zackly, Moonwalk, Mars and Gemini prospects, are subject to a royalty payable to Altius Minerals:
 - a) 2% gross value royalty on all uranium produced,
 - b) 2% net smelter return royalty on gold, silver, platinum, palladium and rhodium,
 - c) 1% net smelter return royalty on all other metals,
 - All Stellar claim blocks are subject to a royalty payable to Millrock:
 - a) 1% gross value royalty on all uranium produced,
 - b) 1% net smelter royalty on all other metals,
 - Advanced royalty payments to Millrock must commence on the second anniversary
 of executing the Sale and Purchase Agreement, and every anniversary thereafter up
 to the fifth anniversary of production commencing. The initial payment will be USD
 \$20,000 in April 2019 escalating by \$5,000 per year. Payments are deductible from
 future royalty payments.

HUMBOLDT RANGE ACQUISITION AGREEMENT

- ♦ The following terms were as released by the Company on January 11, 2021, and related to 177 Lode Claims, including 136 contiguous claims at Black Canyon and 41 scattered claims at the Fourth of July the option has subsequently been executed, with PolarX also subsequently staking 15 claims at Black Canyon and 141 at the Fourth of July.
- PolarX has entered into an option agreement ("the Option Agreement") with Armada Mining Inc. ("the Vendor"), an unrelated party, which holds the rights to explore and develop the Humboldt Range Project, pursuant to a mining lease agreement ("the Mining Lease Agreement") with the registered owner ("the Owner"). The initial term of the Mining Lease Agreement expires on 13 August 2030 but can be extended for two further periods of up to 10 years each.
- Pursuant to the Option Agreement, PolarX has paid an initial fee of US\$35,000 to secure an exclusive option ("the Option") over the Mining Lease Agreement for up to 120-days whilst the Company conducts due-diligence investigations to further verify previous exploration results and confirm ownership of the underlying lode claims. Due diligence is expected to be complete by 30 April 2021. On satisfactory completion of due diligence, the Company can exercise the Option by issuing to the Vendor 5m fully paid ordinary shares (escrowed for 2-years) and making the following cash payments:
 - US\$35,000 to exercise the option
 - US\$70,000 on the first anniversary of the execution date
 - US\$70,000 on the second anniversary of the execution date.
- In the event of exercising the Option, the Company will also assume the obligations under the Mining Lease Agreement to the Owner, comprising:
 - Payment of the following advance royalty payments, which shall be credited against any future production royalties in (2) below:
 - (i) 2022 claims fees payable before 1 September 2021.
 - (ii) Commencing September 2022, monthly payments of US\$10,000.
 - Upon commencement of production, payment of an NSR royalty on gold recovered at the following rates:
 - (i) Less than 15.6 g/t
 (ii) More than 15.6g/t to 31.1g/t
 3.75%

APPENDIX 2 - BACKGROUND - ALASKA

General

- Alaska, which is the largest state in the US ranks 48th in terms of population (~750,000) and last in terms of population density.
- ♦ The capital city is Juneau, with the largest city being Anchorage, with a population of ~300,000; Fairbanks (with a population of ~100,000) is Alaska's second largest city and 190 km as the crow flies north of the Project.
- ♦ Alaska has a strong mining background and well-developed mining industry, and in 2016 was ranked 14th globally and 5th in the US in the Fraser Institute survey.
- This is supported by well-developed transport infrastructure including road and rail.
- Given the size of the state and population density there is no state wide power grid, however the populated areas from Fairbanks south to Anchorage are served by the interconnected "railbelt" grid, which services a large part of the Alaskan population.
- ♦ Natural gas supplies ~50% of Alaska's electricity generation, hydro ~25% and petroleum liquids and coal the majority of the rest petroleum liquids generation is prevalent in regional communities which have no grid access.
- The nearest power station to the Alaska Range Project is a 30MW coal fired facility at Healy, some 60km north of Cantwell and located on the "railbelt" grid this is also on the main George Parks highway and railroad, connecting Seward and Anchorage in the south to Fairbanks in the north.

Mining

Alaska has a long history of mining, with Russian explorers mining placer gold in the early 1800's, with both placer and hard rock mining continuing and growing after the US purchase of the territory in 1867 - a map showing current major projects is shown in Figure A1

Legend ■ City/Town Road Rail Gas Pipeline Project Status ★ Operating Mine Major Project Fort Knox Past Mine Prospect Project Type Precious Metal Pogo Base Metal Caribou Dome Kennecott Historic Mine & Stellar Projects **Donlin Gold Project** Kensington Mt @ 8.2 g/t Au for 1.6M ozs Anchorage 400 Km

Figure A1: Major Alaskan mineral deposits

Source: PolarX

◆ Large placer discoveries and operations included Nome (discovered in 1899, and with over 5 Moz produced) and Fairbanks (discovered in 1902, and with over 6Moz produced).

- Closer to the Project is the Valdez Creek Mine, with alluvial gold first being discovered in 1903 - Valdez Creek was operated by Cambior from 1984 to 1995, producing some 459,162 oz of gold at up to 75,000 oz annually, making it North America's largest placer operation in 1992.
- Modern hard rock gold operations include Fort Knox (7 Moz Au, operated by Kinross) and Pogo (3 Moz Au, operated by Northern Star) - these large mines are both within 200 km of Alaska Range.
- Other major discoveries and operations include Teck's Red Dog zinc deposit, one of the largest zinc mines in the world and located above the Arctic Circle in NW Alaska, and the Pebble Cu-Au-Mo porphyry deposit, located 320 km SW of Anchorage, which is currently being permitted.
- ♦ Pebble, which is owned by Northern Dynasty Minerals, contains some 107 Moz Au, 81 Blbs Cu, 5.6 Blbs Mo and 514 Moz of Ag in a resource of 10 Bt at a 0.3% CuEq cut-off.
- Another significant project is the permitting stage Donlin Gold Project, 50:50 owned by Novagold Resources and Barrick Gold Corporation - with resources of over 39 Moz and plans to produce over 1.1 Mozpa over a 27 year mine life, this is one of the largest advanced gold projects globally.
- Alaska has a well-developed coal industry, with coal first being mined in the state in 1855, and has a large oil producing industry, being one of the top crude producing states in the US.

Mining Tenements

- Alaska's mining and exploration permitting regime is transparent, however rigorous permitting and approval of work programmes can involve up to twelve federal and state agencies, depending upon the complexity of the activities, however in the case of PolarX requires approvals from one state agency only.
- Claims are based on 160 acre (and sometimes 40 acre) parcels for hard rock "lode" mineralisation, and 20 acre placer claims.
- Claims are unpatented, meaning that ownership still resides with the Federal or State governments (all of the Project claims are with the state authorities, and not the Federal Bureau of Land Management "BLM", thus making permitting of any operation potentially simpler than otherwise).
- ♦ As long as the annual rental and expenditure requirements are kept up claims can be held in perpetuity rentals range from US\$140 per 160 acre claim for years 1 to 5, US\$280 for years 6 to 10, and US\$680 thereafter.
- The minimum expenditure (referred to as "annual labour") is US\$100/claim.
- ♦ As for most jurisdictions globally, approval of mining operations can include a number of federal and state agencies, an environmental impact assessment ("EIA") and stakeholder engagement; in the case of PolarX, given that the Project is on state claims, only state approvals may be necessary the only federal input would be from the Army Corps of Engineers should the Project impact wetlands.

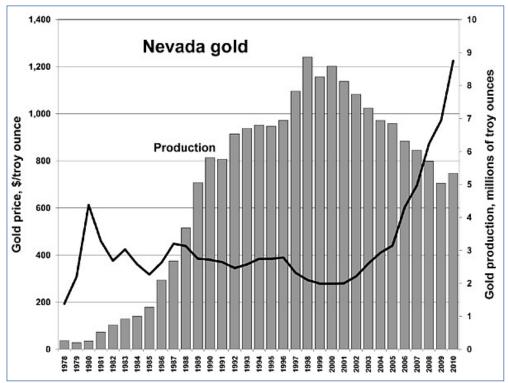
APPENDIX 3 - BACKGROUND - NEVADA

History

- Nevada is the US's largest gold producer, producing approximately 5.6 million ounces, or 83% of all gold produced in the US in 2018, and around 5% of estimated global production in that year.
- In the 2020 Fraser Institute Survey of Mining Companies, Nevada was ranked 1st globally on the "Investment Attractiveness Index" and fifth globally (and 3rd in the US) on the "Policy Perception Index", ahead of all Australian jurisdictions.
- The state is a significant producer of silver and copper in addition to the gold.
- ♦ Mineralisation styles include Carlin gold, epithermal gold/silver, porphyry Cu-Mo-Au and poly-metallic vein and replacement (including skarn) deposits.
- ♦ The state has a long mining history, with the first "modern" mining in 1849 by '49ers on their way to the Californian gold fields this early mining was however largely from small scale placer operations. The mid 1800's also saw the discovery of the Comstock Lode, the first major silver discovery in the US, but also a significant producer of gold.

- This was predated by American Indian mining for materials such as turquoise. There have also been myths (possibly true) of Spanish mining activities in what is now Nevada.
- Initial gold discoveries in the Carlin area were first made in the 1870's, however early deposits were generally small placer operations. The initial "Carlin" style mineralisation was found at Carlin by Newmont in 1961, and commenced operations in 1965, pioneering the method of large scale open pits treating low grade ore using heap leach cyanide processing.
- ♦ It was not until the rise in gold price in the 1970's that interest in the relatively lowgrade Carlin-style mineralisation took off, and the coincident increase in gold production. Production has been concentrated along the Carlin and Battle Mountain/Eureka Trends.

Figure A2: Nevada gold production - 1978 to 2010



Source: Nevada-outback-gems.com – extracted 28/09/14

Royalties

Nevada has no government royalties for gold production.

Permitting

- ♦ The main federal law governing minerals is the Mining Law of 1872, which declared all mineral deposits in lands belonging to the United States to be free and open to exploration and purchase this excludes federal lands, such as National Parks, that are not subject to access for prospecting. Claims come under the jurisdiction of the Civil Courts there is no mining court, and land management agencies, such as the BLM or USFS amongst others have no jurisdiction over the claims.
- What the land management agencies do have however control over activities that may be carried out over claims is. Hence PolarX is dealing with the BLM in getting permits and approvals.
- ♦ Federal agencies have clear timeframes in which they must respond to permitting applications this gives more certainty on overall timeframes.
- In the case of BLM land timeframes include 15 days for approval of a Notice of Intent to carry out exploration, including drilling.
- ♦ The caveat here is that the area to be disturbed is under 5 acres, however disturbed areas can be progressively rehabilitated so as to keep the disturbed area under the limit.
- ♦ In Nevada, mining tenements include both "Lode Claims" and "Placer Claims", with "Mill Sites" and "Tunnel Claims" being for support operations. As in Australia, claims do not give the holder surface rights. Lode claims are generally ~20 acres in size.

Claims can be transferred, and run in perpetuity as long as the annual maintenance fee (currently \$155) is paid by August 31 each year – failure to pay will automatically lead to lapse of the claim. Once lapsed they cannot be revived, except by act of Congress. PolarX has no expenditure (other than the annual maintenance fee) or work requirements over their claims.

APPENDIX 4 - ALASKA RANGE REGIONAL GEOLOGY

• Figure A3 presents the regional geology, tenements, key prospects and structural framework of the Alaska Range Project - this has partly been developed from the interpretation of the detailed magnetics as flown by the Company in 2018.

Heralize Bods
Left Challescus (Carlo Tarrier)
Left Challescus (Carlo Tarrier)
Left Challescus (Carlo Tarrier)
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Figure A3: Alaska Range Project geology, tenements and prospects

Source: PolarX

- ♦ The Project lies along and largely to the south of the north-dipping thrust faulted boundary between the Wrangellia and McLaren Terranes, two of a number of accretionary blocks that comprise the bulk of the geology of southern Alaska units include Upper Paleozoic (Permian) to Cretaceous sediments and volcanics, intruded by Cretaceous calc-alkaline to alkalic intrusives.
- ♦ The geological interpretation highlights the position of most of the project immediately to the south of the thrust separating the Tintina Gold Belt to the north, and the prolific Cretaceous porphyry belt to the south (which includes the super-giant Pebble deposit); it also highlights the position of Moonwalk, an orogenic gold target, in the Tintina Gold Belt.
- ♦ The interpretation also shows the association between a number of parallel NW trending structures and the porphyry intrusions at Stellar; these could possibly reflect dilational splays off the southern WNW trending structure, and be the controlling structures for the high level intrusive placement.
- The different terranes represent island arc complexes that accreted to the North American continent during the Cretaceous, with the Denali-Farewell Fault (to the north) representing the current day suture between the continental Intermontane Superterrane to the north, and the Peninsula-Wrangellia-Alexander ("PAW") Superterrane, which comprises the accreted arc complexes, to the south (Figure A4).
- ♦ This also shows the identified porphyry deposits in the PAW Superterrane (discussed later), and highlights the prospective location of the Project within the belt.

Alaska Range Project

Figure A4: Accreted terranes and known porphyry deposits

Source: Goldfarb et al, Economic Geology V108, pp405-419

- Within the Wrangellia Terrane, the dominant block is the Tangle Subterrane, however a small sliver of the Slana River Subterrane is present in the north-east of the Project to the south of the Moonwalk prospect.
- Key units in the Tangle Subterrane include the basal Triassic Nikolai/Goon Group Greenstones, which are largely composed of basaltic lava flows, with these being overlain by Triassic sediments and volcanics, including limestones, siltstones (argillites), tuffaceous sediments and some andesitic lavas (Figure 3).
- The "Zackly" limestone, which is interpreted as being an equivalent to the Chitistone Limestone (which hosts the Kennecott deposit), hosts the Zackly skarn mineralisation, and occurs within the Nikolai Greenstone.
- Regionally the Slana River Subterrane includes the older arc-related Permian Slana Spur and Station Creek Formations and the Tetelna Volcanics.
- ♦ The Mclaran Terrane to the north is dominated by Cretaceous and undifferentated Mesozoic metasediments and metavolcanics, which are interpreted as largely flysch in origin.
- Units have been metamorphosed to greenschist facies, and also strongly folded, with the strike of the sediments and sub-parallel thrusts being ENE within the Project area.
- Outcropping intrusives include Cretaceous calc-alkaline rocks of the St Elias Suite these
 may represent the interpreted intrusive source for earlier Zackly skarn mineralisation,
 which is also interpreted as being overprinted by a later event caused by younger, buried
 intrusives.

Mineralisation

- The Project is prospective for, and has demonstrated occurrences of a number of styles of mineralisation, including:
 - Cu-Au Skarn this is present at the Zackly prospect, where historical and current work
 has been targeted at the skarn mineralisation, hosted at the top of a limestone, shown
 in Figure 3 as the Chitistone Limestone,
 - Porphyry Cu-Au-Mo-As demonstrated by a single hole drilled in 2019 by Lundin at Mars, a number of prospects, including Mars, Zackly, Gemini and Jupiter are prospective porphyry targets, with the drilling at Mars and early stage exploration highlighting signatures and features typically associated with this style of mineralisation,
 - Tintina-style Au IRGS IRGSs are a recently recognised/differentiated style of mineralisation associated with post-orgenic intrusives - a number of major deposits are located within the Tintina belt of Alaska and British Columbia, with the Moonwalk prospect being considered one.
 - Kennecott/Sedex VMS Cu mineralisation at Caribou Dome is of this style, with Senator also being interpreted as similar - this is hosted within the sediments immediately overlying the Nikolai Greenstone, and is also referred to as "Basaltic Copper" style mineralisation by the USGS; it has also been considered as VMS in style.
 - Keweenaw-style native copper mineralisation this style was initially recognised from the 2021 drilling at Caribou Dome

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