

# SILICON PROJECT USA

## Mark Doyle

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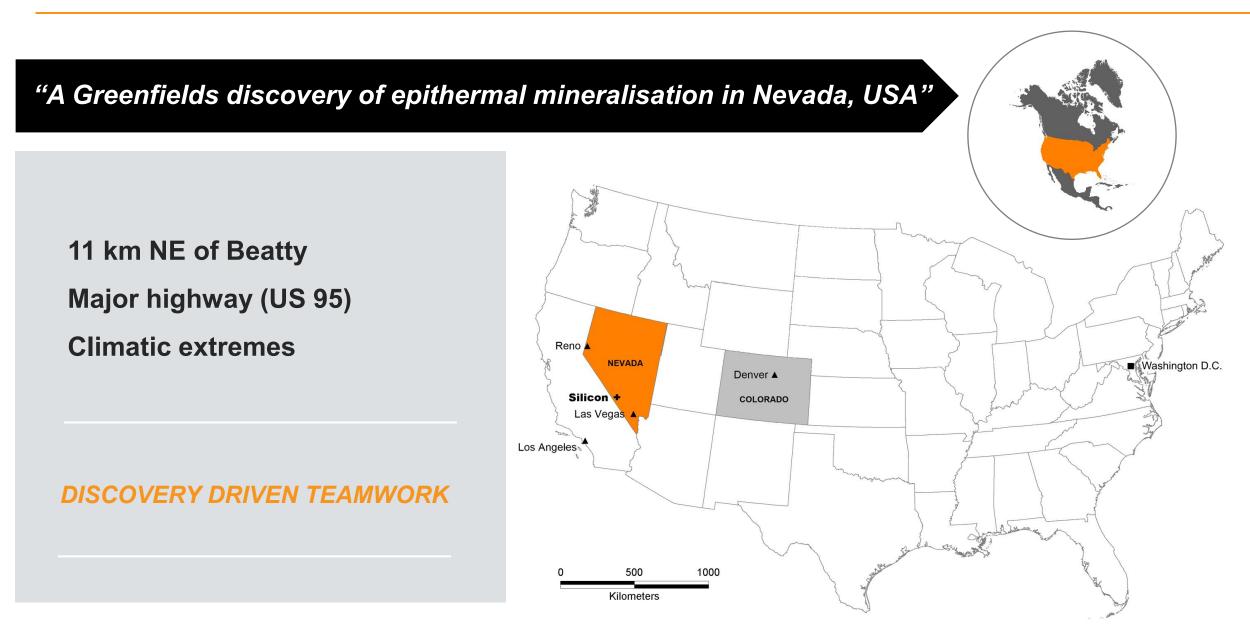
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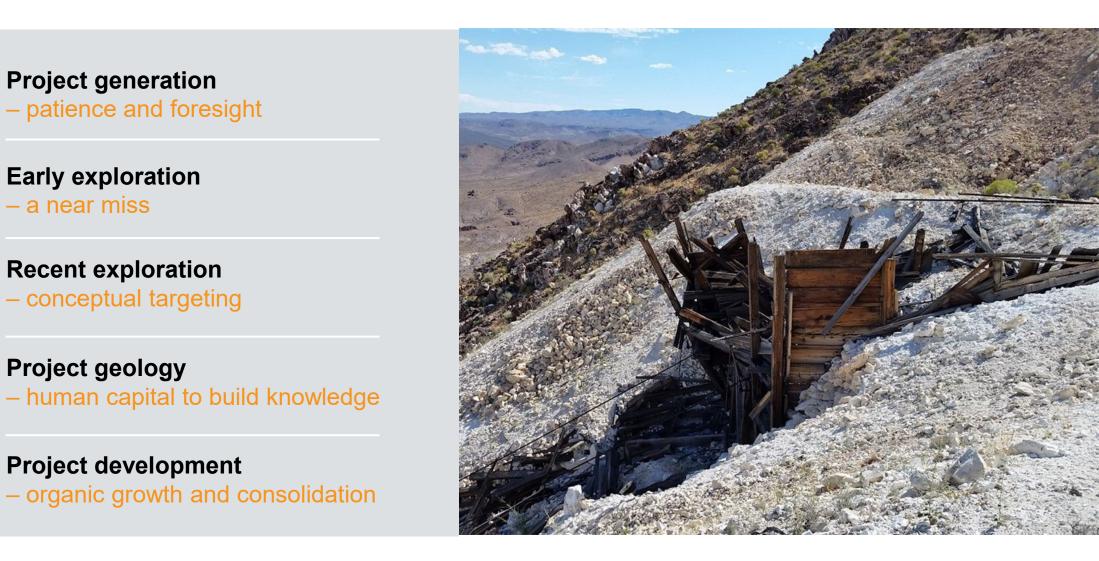
#### Website: www.anglogoldashanti.com





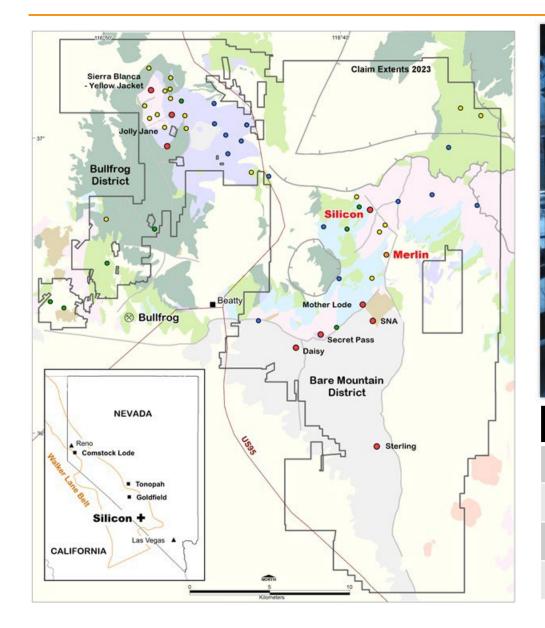
AGENDA

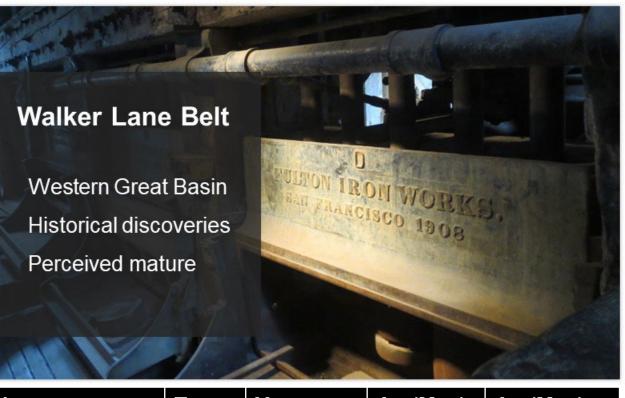




## **PROJECT GENERATION**





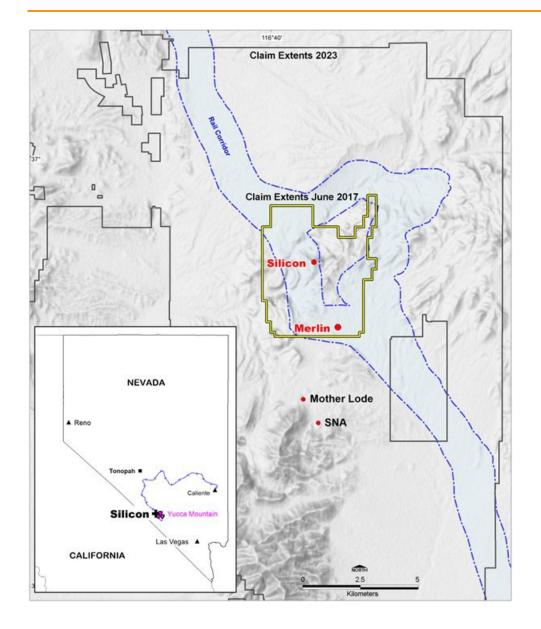


Name	Туре	Years	Au (Moz)	Ag (Moz)
Bullfrog	LSE	1905-1999	2.31	3.02
Comstock Lode	ISE	1859-1990	8.4	193
Goldfield	HSE	1903-1945	4.19	1.45
Tonopah	ISE	1900-1961	1.86	174.15

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## **PROJECT GENERATION**





## **Renaissance Gold Inc.**

- Multispectral remote sensing data
- Field reconnaissance
- February 2014 (40% target staked)

## **Exploration hiatus**

- Yucca Mt. nuclear repository rail corridor
- Withdrawal order December 2005
- Expired midnight December 27, 2015

## **Financial resources**

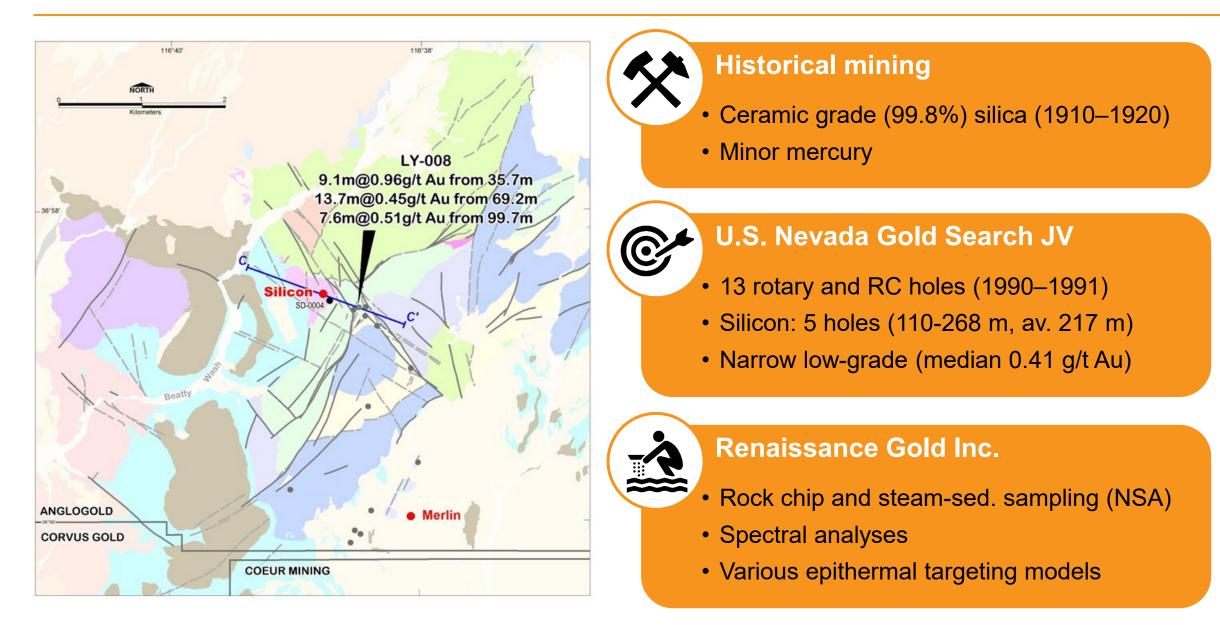
- Trough in expenditure cycle (2013 2017)
- Barren in Au, Ag, pathfinders (except Hg)





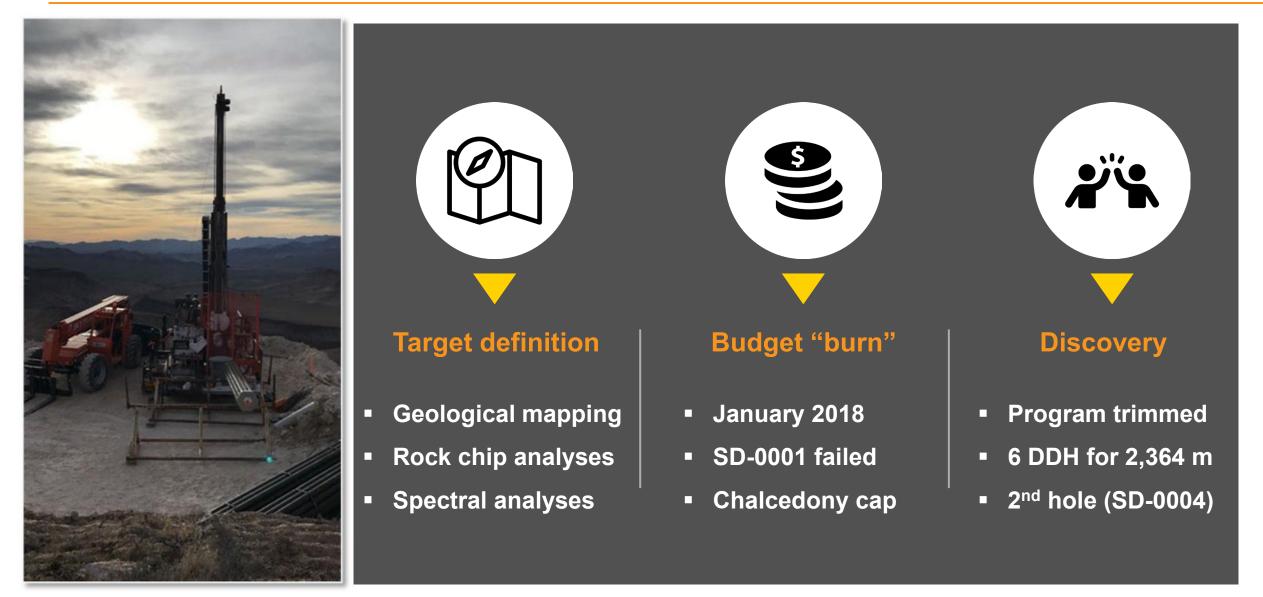
## EARLY EXPLORATION





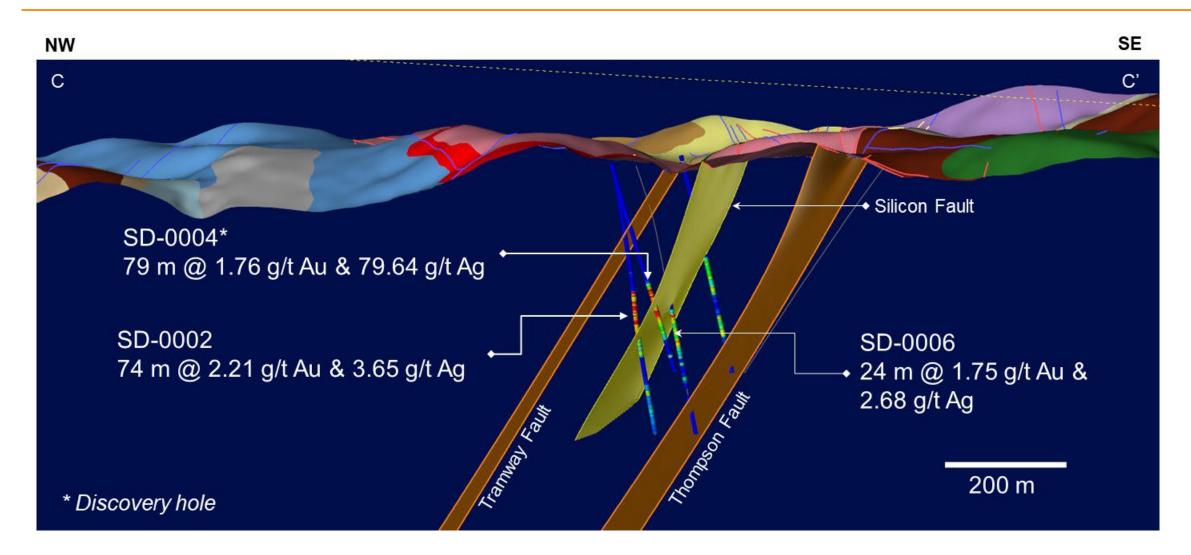
## **RECENT EXPLORATION – ANGLOGOLD ASHANTI**





## **DISCOVERY DRILL PROGRAM**



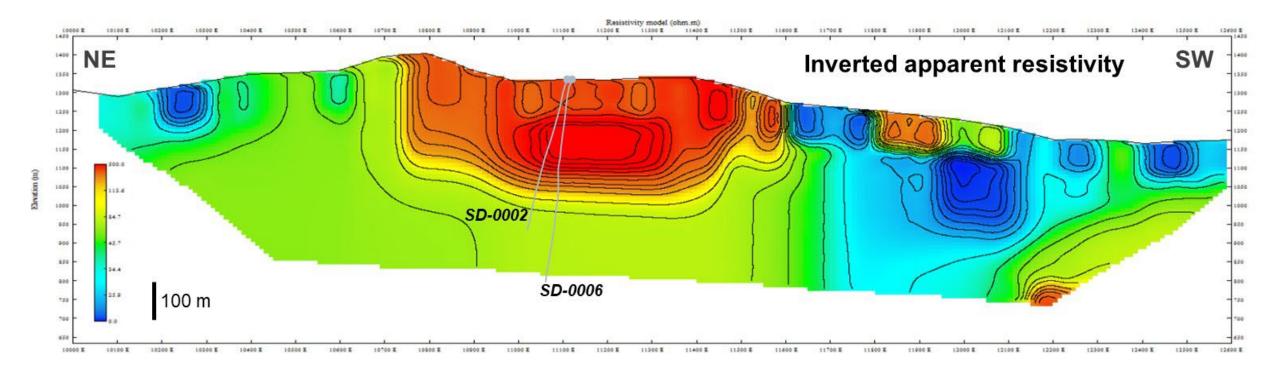


July 2018 geological model



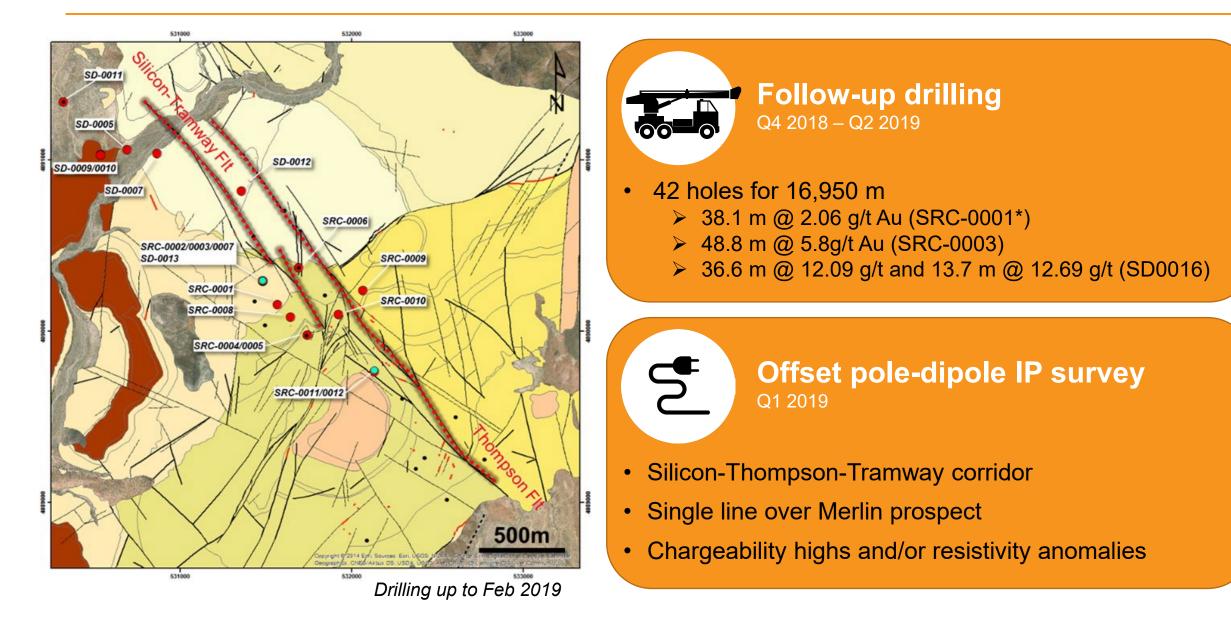
- Drill core IP (pyrite, quartz vein)
- Orientation IP survey (September 2018)
- Modelled resistor & chargeability anomaly

- Soil geochemistry
- 400 m x 200 m (2.6 km x 2.3 km area)
- Au, Ag and pathfinders ± detection (Hg)



## **ASSESSING SCALE POTENTIAL**





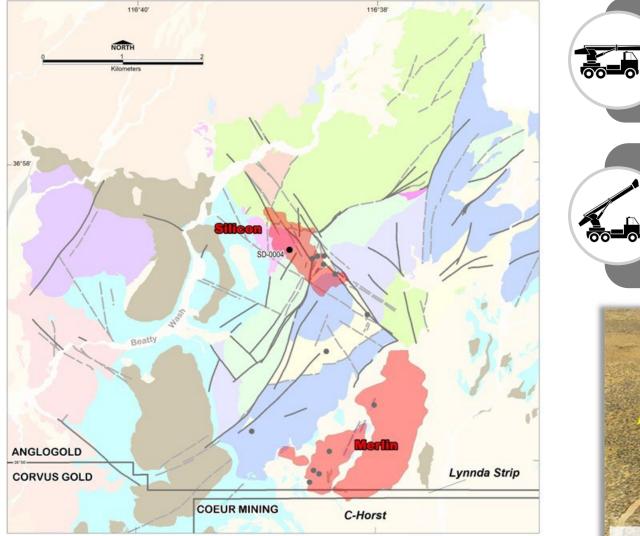
## **REALISING SCALE POTENTIAL**





## **MERLIN DISCOVERY**





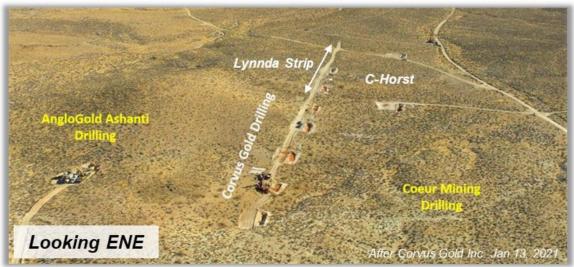
Vertical projection of mineralised zones

## Initial intercepts

- 214 m @ 1.19 g/t Au (MD-0001)
- 176.8 m @ 0.65 g/t Au (MD-0005)

## **Delineation drilling**

- 285 m @ 3.27 g/t Au (MER-23-0147-RD)
- 115.8 m @ 2.42 g/t Au (MRC-0014)
- 214.8 m @ 2.46 g/t Au (MDT-0021)

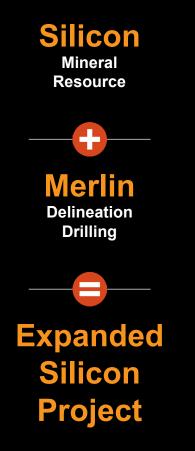




Silicon Deposit					
		Tonnes	Grade	Contained gold	
As at 31 December 2022	Category	million	g/t	Tonnes	Moz
Open pit	Measured		_		—
	Indicated	121.56	0.87	105.9	3.4
	Inferred	36.03	0.7	25.23	0.81
Silicon	Total	157.59	0.83	131.13	4.22

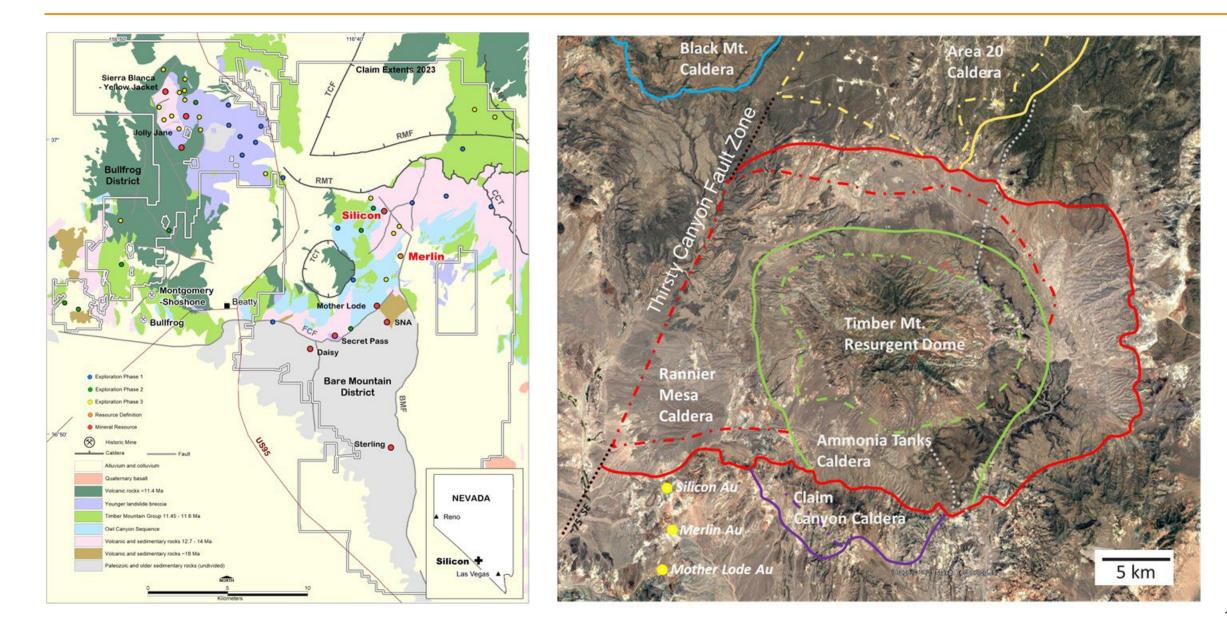
### **Merlin Deposit**

- Significant progress made in the delineation drilling
- Disclosure of Exploration Target: c. 6.0 8.0 Moz Au (230- 250 Mt @ 0.8 1.0 g/t)
- Note: The ranges of tonnage and grade of the exploration target are conceptual in nature and could change as the proposed exploration activities are completed\*.

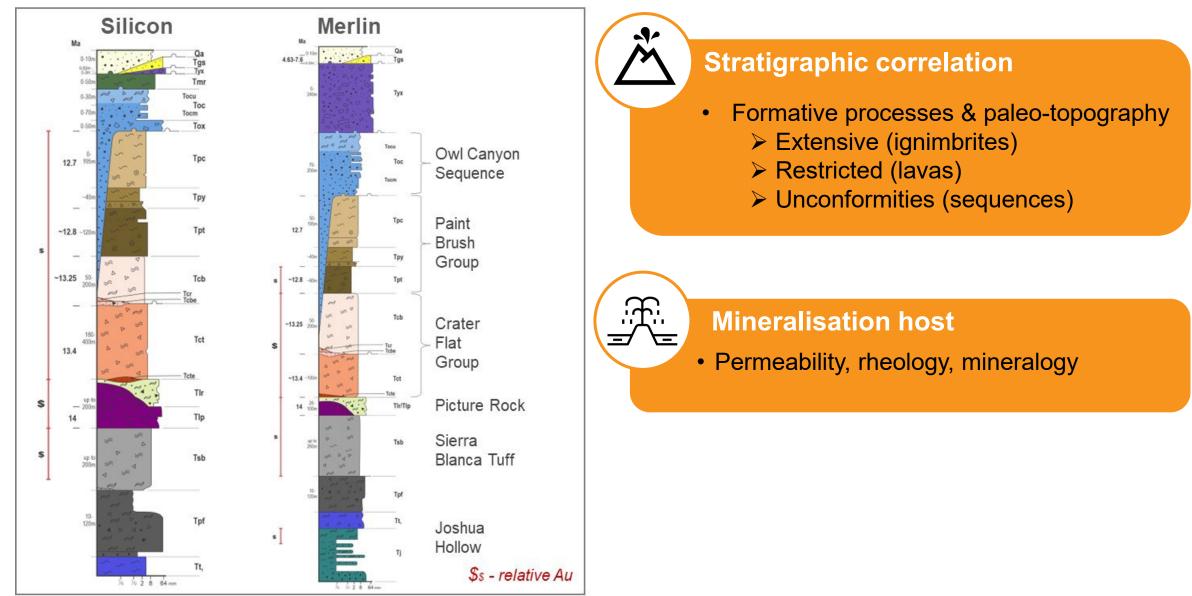


\* Further detail on the exploration target reported is available in the Merlin Exploration target H1 2023 report on AngloGold Ashanti's website at www.anglogoldashanti.com.

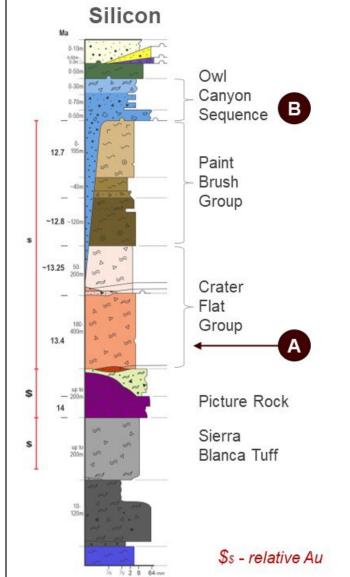












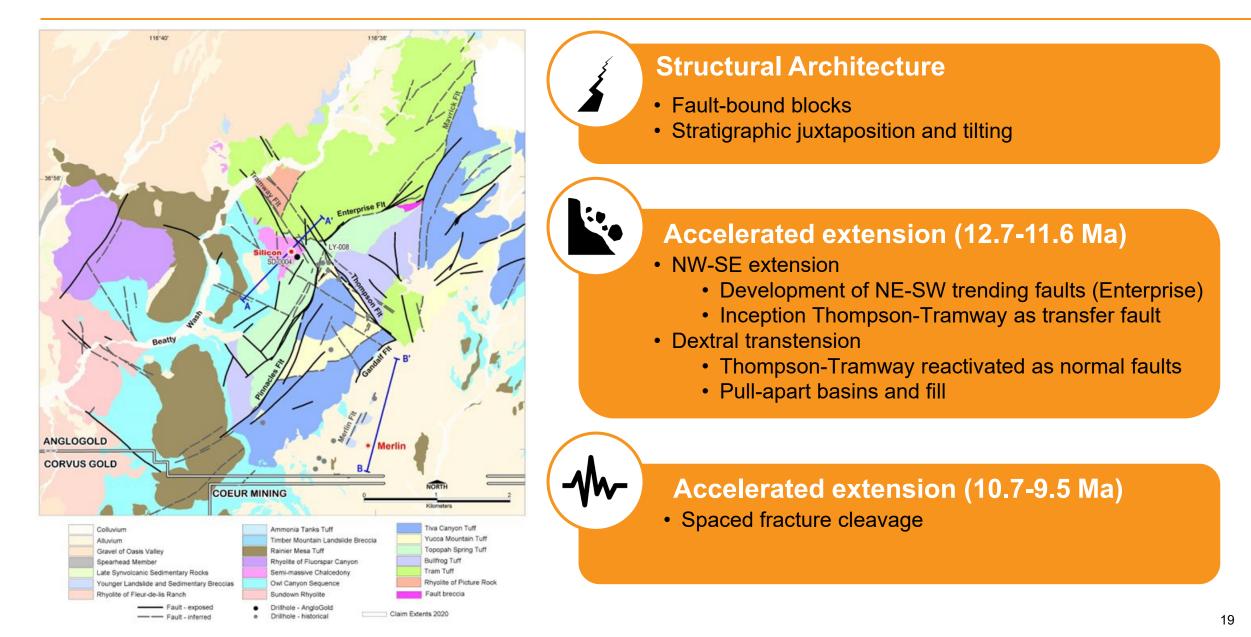




### **Volcano-tectonic elements**

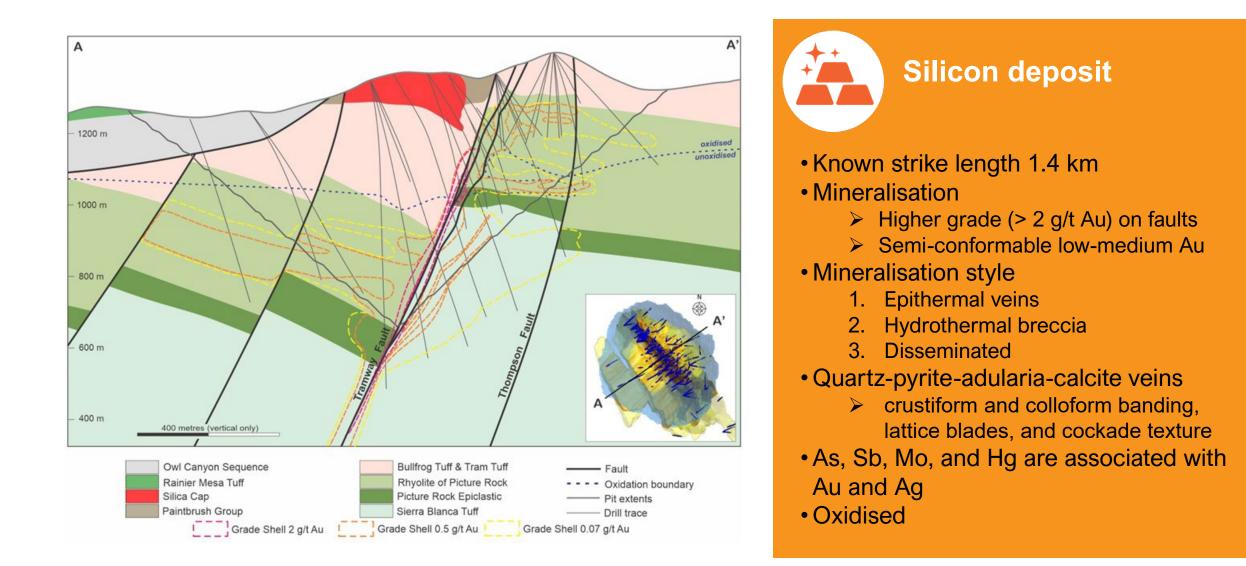
- Spatial association
- Temporal disconnect
- Crustal extension
  - > Detachment faulting
  - > Regional unconformities
  - > Time transgressive
  - Pull-apart basins





## **MINERALISATION**



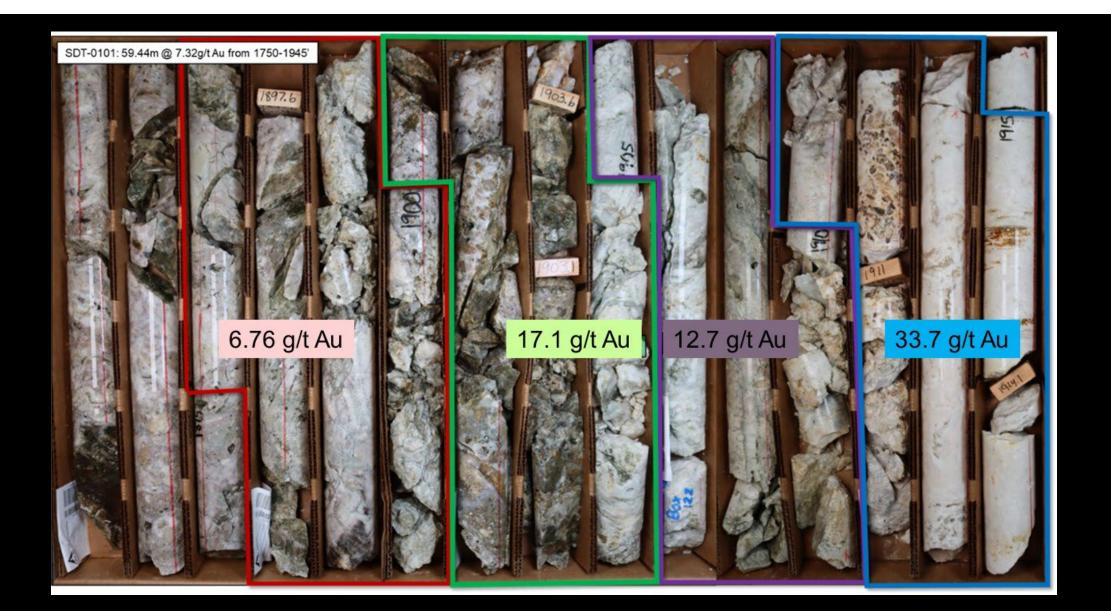


## **MINERALISATION**



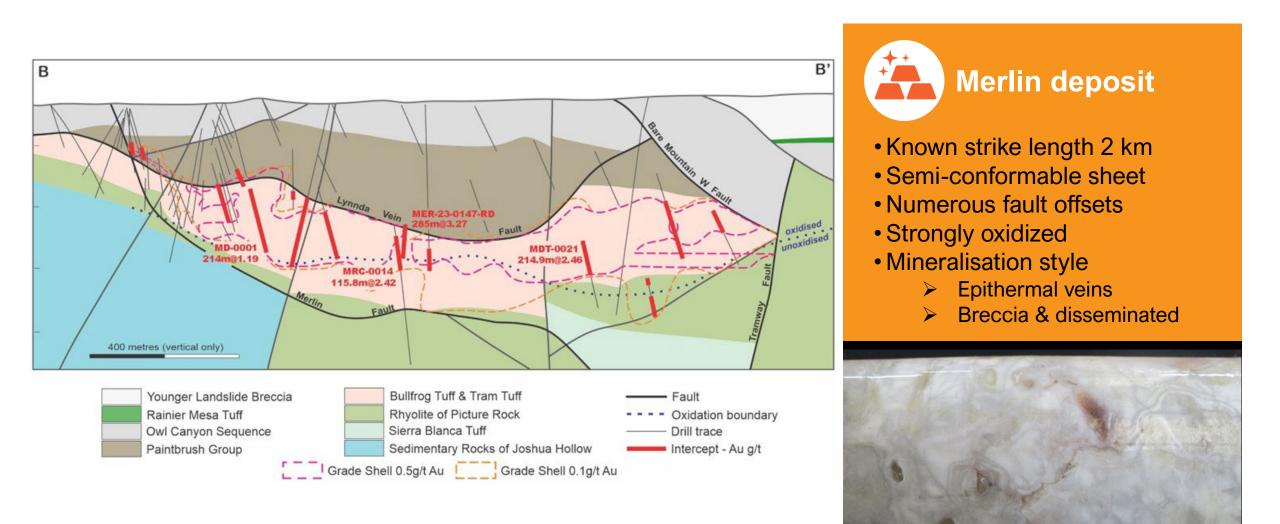






## **MINERALISATION**

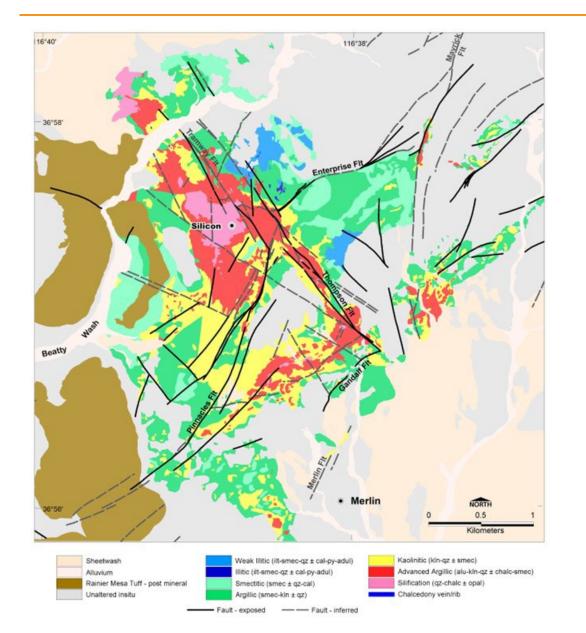




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## **ALTERATION**





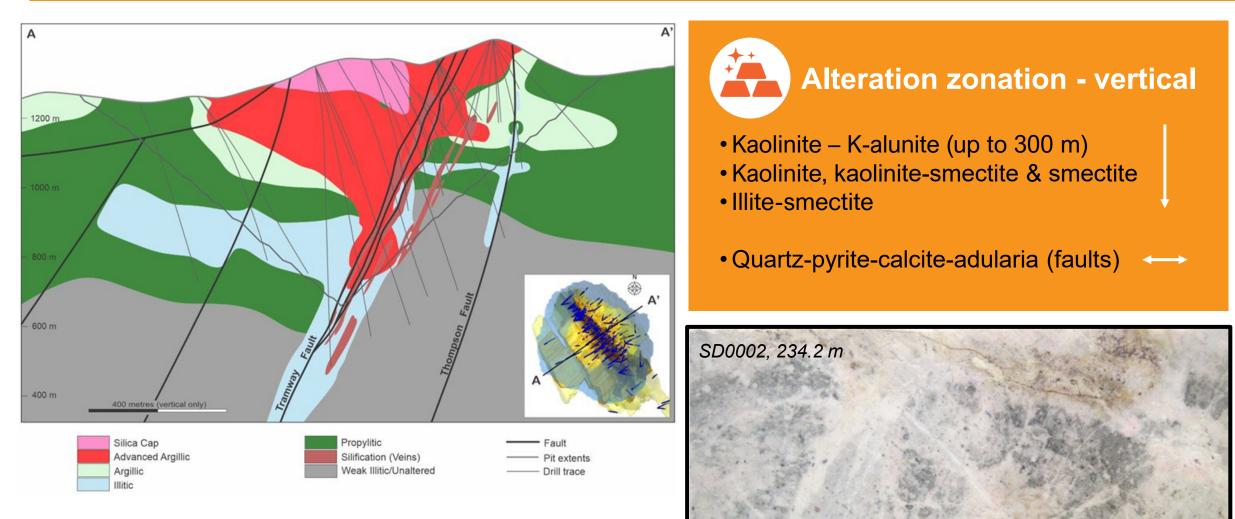
# Alteration zonation - surface

- Asymmetric (west of Thompson fault)
- Chalcedony cap
- Advanced argillic, argillic, propylitic zones



## SILICON ALTERATION ZONATION

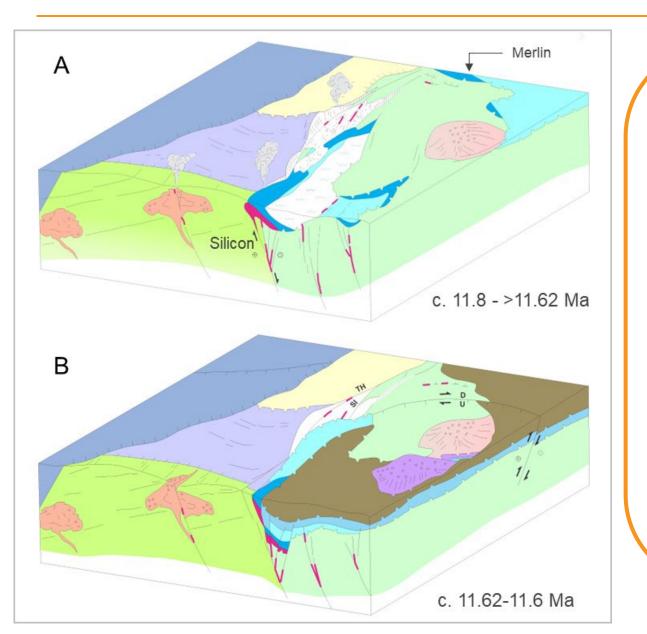




"Applying an integrated approach to resolve the alteration signature and paragenesis"

## **MINERALISATION MODEL**

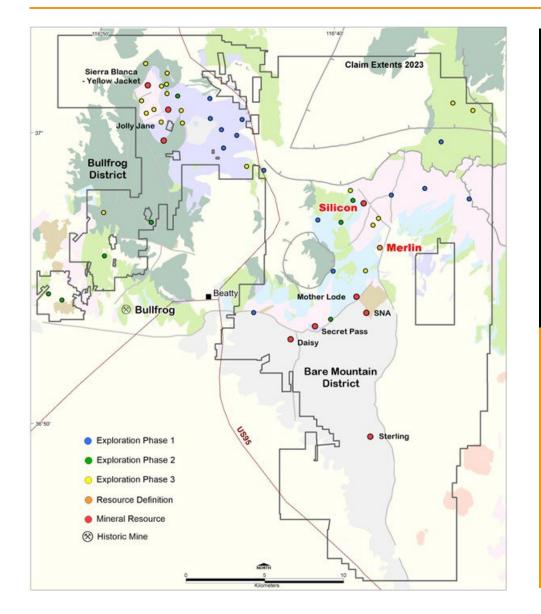




- Pull-apart basins (accelerated regional extension)
- Faults loci for hydrothermal fluid flow
- Silica deposition at paleo-groundwater table
- Qtz-pyrite-adularia-calcite-vein textures (boiling)
- Illite-smectite alteration at depth (higher T °C)
- Advanced argillic overprint through downward propagation of low-temperature (<130-150 °C) acidic fluids typical of the vadose steam-heated acid-sulfate environment.
- Depression of the paleo-groundwater table (faulting, tumescence, climatic regime)
- Well-preserved low-sulphidation epithermal

## **PROJECT DEVELOPMENT**







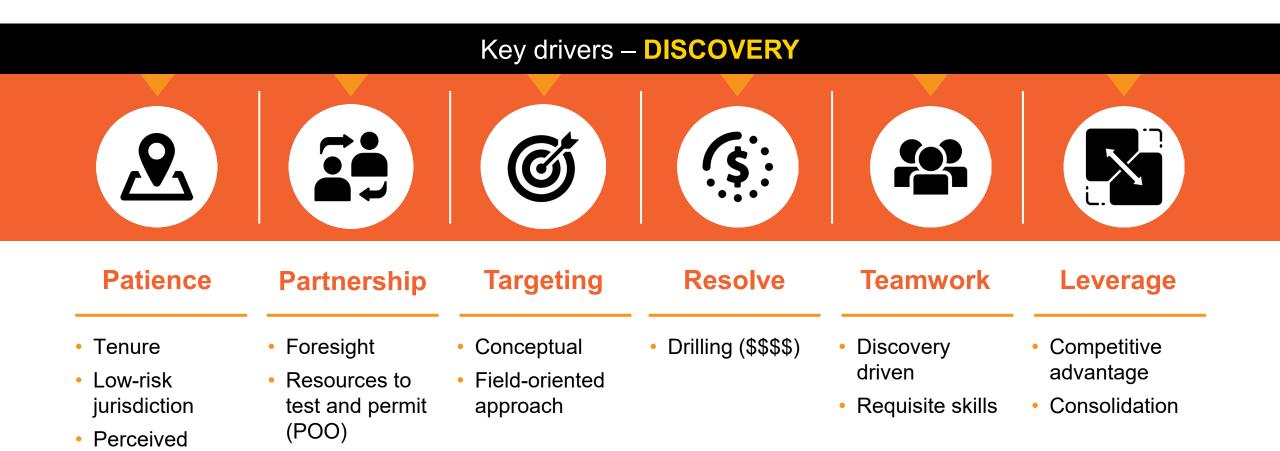
### **Expected and Realised Benefits**

- Optimise Inferred Mineral Resource drilling at Merlin
- Potential district-scale infrastructure and mining synergies
- Balanced portfolio of exploration targets
- Corporate and operational synergies

CONCLUSION

mature





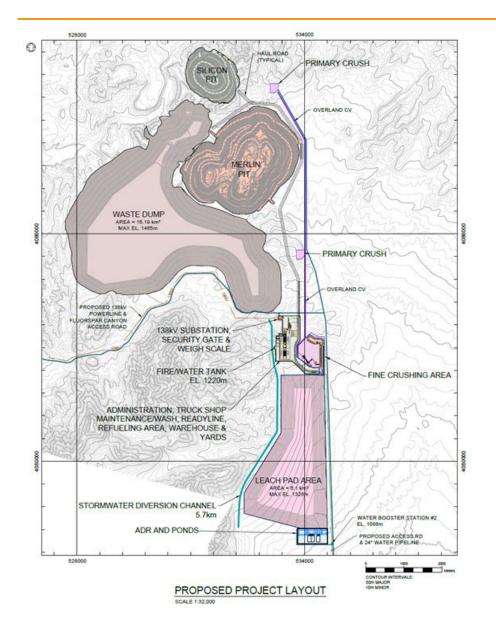






## SUPPLEMENT





### **Conceptual Mining**

• 2 pits, 2 overburden storage areas

### **Conceptual Processing**

- 3-stage crushed leach facility
- ROM leach extension
- Combined adsorption recovery (carbon plant; ADR)

### **Conceptual Support Infrastructure**

- Pit dewatering system
- Fresh water supply system (incl. pipeline & pump stations)
- Electrical energy supply system
- Access, and Haul Roads and Road upgrades
- Mine and Process maintenance facilities
- Administration and Technical Services Building



Thank you for your introduction, Keith. It's a pleasure to be able to present AngloGold Ashanti's discovery of the Silicon Project at the NewGenGold 2023 conference.

### Slide 2

I need to draw your attention to this disclaimer - it will be on our website if you need to read it in detail.

### Slide 3

Silicon Project is a Greenfields discovery of low-sulphidation epithermal mineralisation in Nye County, Nevada. The project is located 11 km northeast of the town of Beatty, a small town with a long history of mining. A major highway (US 95) passes directly through Beatty and provides connections to the cities of Las Vegas (190 km) and Reno (~520 km). The district is characterised by climatic extremes, with snow in winter and average summer temperatures around 40 degrees Celsius.

Silicon, like many other discoveries, is a product of teamwork. I'd like to acknowledge the significant contribution of our entire Greenfields exploration team in the discovery and the work of a dedicated project team who are advancing Silicon through the resource delineation and various study phases. Paul Bartos is acknowledged separately for bringing the opportunity to the attention of AngloGold. Andrew Tyrrell and Rex Brommecker are also acknowledged for their contributions during the discovery phase.

### Slide 4

Over the course of this presentation, I'll touch on five key topics, each of which provides insights into the key drivers in the discovery of the Silicon Project.

- Firstly, we'll examine the project generation process in an area that has no gold mining but contains spoils from minor historical silica production (photograph). The patience of our partner Renaissance Gold in securing tenure over the property and foresight to enlist AngloGold as a partner with the necessary resources and discovery track record to advance the project formed a foundation for exploration success.
- > Secondly, we will review the early exploration history which includes a 1990's era drill program which almost delivered a discovery.
- > A summary of AngloGold's recent exploration highlights the role of conceptual targeting in exploring low-risk jurisdictions that are perceived as mature.
- > We will explore the project geology and importance of applying human capital with the requisite skills to build knowledge of the mineral deposit and larger district to inform exploration decision making and assessments of embedded value.
- > Lastly, we will touch on project development. Silicon Project provided an organic growth opportunity for the Company and stimulated consolidation of the district.

## TRANSCRIPT



### Slide 5

The project is within the Walker Lane belt of the western Great Basin. The Walker Lane belt has delivered significant historical epithermal gold-silver discoveries, but more recently has been perceived as relatively mature.

The closest deposit is Bullfrog which is located to the west of Beatty in the Bullfrog District with past production in the period 1905–1999 delivering 2.3 Moz Au and ~3 Moz Ag. The Comstock Lode is located close to Reno and produced 8.4 Moz Au, 193 Moz Ag in the period 1859 to 1990. Closer to Silicon Project, the Goldfield and Tonopah Districts have also delivered significant past production of gold and silver from high-sulphidation and intermediate-sulphidation systems, respectively.

Reinvigoration in exploration interest following discovery of the Silicon and Merlin deposits, which together form the larger Expanded Silicon Project, has seen a significant uptake in staking of claims and representation spanning the junior and major sectors of the industry.

### Slide 6

The Silicon area was identified by Renaissance Gold through analysis of multi-spectral satellite remote sensing data, including Landsat and ASTER imagery. Follow-up field reconnaissance confirmed the presence of an extensive (4 km long x 2 km wide) area of alteration hosted by late Miocene volcanic rocks and coincident with silicified fault zones, some with visible mercury minerals.

The Silicon property was partially staked by Renaissance in February 2014. The tenements covered ~40% of the area of interest identified during field reconnaissance by Renaissance geoscientists. High potential areas, including the historical Silicon mine, were subject to a land withdrawal for the proposed Yucca Mountain nuclear repository rail corridor. The withdraw order for mineral entry had been in place since December 2005, contributing to a 10-year hiatus in exploration. On expiration of the withdraw order at midnight, December 27, 2015, Renaissance staked new claims covering the remainder of the initial area of interest.

Acquisition of the Silicon property coincided with a significant trough in the mineral exploration expenditure cycle around 2013–2017. Combined, the industry downturn and lack of surface gold and pathfinder element geochemical anomalies (excluding mercury) impacted Renaissance's efforts to secure a partner to advance the project.



AngloGold entered discussions with Renaissance during 2016 and conducted field reconnaissance of the Silicon property as part its target generation activities. AngloGold's Greenfields culture supports discussion and debate of portfolio fit and is informed by a systematic assessment process. Important determining factors in demonstrating Silicon's fit within AngloGold's Greenfields portfolio of exploration projects included: (a) confirmation of alteration mineral signatures and zonation consistent with the upper levels of a low-sulphidation epithermal system; (b) low exploration maturity; (c) recognition of near drill-ready targets that would balance a USA portfolio dominated by early-phase exploration projects; (d) conceptual economic modelling suggesting potential to meet the internal hurdle rate; and (e) corporate synergies.

In March 2017, Renaissance signed a four-stage \$US3 million option agreement with AngloGold, through which AngloGold could acquire 100% legal and beneficial rights in the Silicon claims.

On execution of the agreement additional claims were staked by the parties to include the last known mercury prospect (now Merlin prospect) south of the historical Silicon mine. Additional tenements were secured during mid-2018 and early-2019 over extra targets and to provide optionality for operational layout assuming continued exploration success. By the close of 2019 competitor companies had pegged the remaining open ground in the district.

AngloGold elected to acquire a 100% interest of the Silicon project on June 1, 2020, upon satisfaction of the option requirement.

### Slide 8

Historical mining activity at the Silicon property is restricted to minor production of silica and mercury from small underground workings and shallow pits. Ceramic-grade (99.7–99.8%) silica was extracted in the period 1910–1920 from a small open pit at Silicon mine.

Although multiple exploration companies were active prior to the withdraw order, little public domain data are available. The exception is exploration activities, including drilling, completed by the U.S. Nevada Gold Search Joint Venture in 1990 and 1991. This joint venture completed 13 rotary and reverse circulation holes within the larger project area. These are shown as grey dots on the accompanying image. Six reverse circulation drill holes targeted a corridor stretching SE from near Thompson Mine over 1 km. Drill hole depths ranged from 110–268 m and averaged 217 m. The four northwestern most holes returned narrow low-grade gold intersections (median 0.41 g/t Au), with peak results of 9.1 m @ 0.96 g/t from 35.7 m, 13.7 m @ 0.45 g/t from 69.2 m and 7.6 m @ 0.51 g/t from 99.7 m returned in drill hole LY008. It's worth noting this hole was lost at a depth of 110 m. At Merlin, five holes were completed within the barren hanging wall to the deposit.

In the period 2014–2016, Renaissance completed reconnaissance mapping, geochemical analysis of rock-chip and stream-sediment samples, and infrared spectrometry analysis. This work validated the initial assessment of prospectivity, and results were synthesised into exploration targeting models spanning the spectrum of epithermal deposit styles.



AngloGold commenced drilling in January 2018 after completing geological mapping, spectral, and surface rock-chip geochemical programs tailored to delineate drill targets and guide the submission of required permits. A 7-hole diamond drill program was designed to test the exploration concept, with the principal target of interest being deeper portions of chalcedony ribs localised on the Silicon fault within zones of intense silica and alunite alteration. Low drill production attributable to poor ground conditions and equipment failures culminated in termination of the first hole (SD-0001) within the chalcedonic ledge that blanketed the system, appreciably short of the target depth and considerably over budget. The planned drill program was reduced, and supplementary funds allocated, resulting in a total of 6 holes for 2,346 m. The second hole (SD-0004) delivered a discovery.

#### Slide 10

This cross-section dates from July 2018 and shows the discovery drill holes and modelled surface geology. Discovery hole SD-0004 returned 79 m @ 1.76 g/t Au & 79.64 g/t Ag. Additional interceptions included 74 m @ 2.21 g/t Au in hole SD-0002 and 24 m @ 1.75 g/t Au in hole SD-0006. Mineralisation was localised on the Silicon fault, validating the targeting concept.

#### Slide 11

Attention now turned to assessing the scale potential of the system. Drill core measurements indicated that apparent resistivity and chargeability increased through the higher-goldgrade zones marked by elevated pyrite and quartz vein abundance. In September 2018, an orientation induced polarisation (IP) survey commenced and a modelled resistor and coincident chargeability anomaly extended beyond the limit of drilling. Concurrent with the survey, systematic (400 m x 200 m) collection of soil samples over an area of 2.6 km x 2.3 km returned gold and pathfinder elemental concentrations at or near background levels. The exception was mercury which is anomalous in both soil and rock-chip datasets.

### Slide 12

Follow-up reverse circulation and diamond drilling commenced in Q4 2018 with 42 holes completed through to May 2019 for a total of 16,950 m. The program tested favourable lithological, structural, and IP targets within the Thompson-Tramway structural corridor and returned multiple significant and economic gold intersections, including 38.1 m @ 2.06 g/t (SRC-0001), 48.77 m @ 5.8g/t (SRC-0003), and 36.58 m @ 12.09 g/t and <u>13.72 m @ 12.69 g/t</u> in hole SD0016. Drill hole SRC-0001 was collared on the same pad as abandoned diamond hole SD-0001.

The successful IP orientation line prompted acquisition of offset pole-dipole IP survey data during Q1 2019 over the larger Silicon-Thompson alteration footprint and included a single, spatially disparate, line over Merlin prospect. Induced polarisation inversion products delineated chargeability highs and/or resistivity anomalies associated with steep structures, including at the Merlin prospect.



Concurrent with drilling, baseline cultural, heritage and environmental surveys were conducted in preparation for lodgment of a Plan of Operations submission necessary to conduct ground disturbance activity exceeding the 5 acres allowed under a Notice of Intent permit. The Plan of Operations was lodged on September 12, 2019, and an ~11-month hiatus in drilling and earthworks ensued during the formal assessment process and site closure due to Covid 19. During this time initial geological, metallurgical, and grade models were prepared to increase confidence in the project and optimise drill design plans.

Approval of the Plan of Operations in August 2020 enabled an acceleration in resource delineation drilling within the concept-study resource pit shell and completion of drill programs to define size potential through targeting favorable faults and interpreted extensions along strike. This included commencement of drilling at Merlin prospect, ~3 km SSE of the Silicon discovery hole. The Merlin drilling targeted IP resistivity anomalies located immediately north of gold intersections initially reported by Corvus Gold, Inc. in July 2020 and by Coeur Mining, Inc. in August 2020. Corvus Gold held a narrow (~104 m) E-W tenement, (referred to as Lynnda Strip) which separated the Silicon property and Coeur Mining's C-Horst target.

Drilling completed by AngloGold between December 2020 and March 2021 confirmed the extension of mineralisation into Merlin and suggested the deposit had significant scale potential.

### Slide 14

This graphic shows the vertical projection of the Silicon and Merlin deposits and mapped surface geology. The claim extents of AngloGold's property (at 2020) is shown along with the position of the Corvus's Lynnda Strip target and Coeur Mining's C-Horst target. The race to discovery was heating up!

Several significant intersections were returned in AngloGold maiden drill program, including 214 m @ 1.19 g/t Au in MD-0001, and 176.8 m @ 0.64 g/t in MD-0005. Follow-up drilling of the broad oxide and vein intersections aimed to delineate the deposit northwards under widespread cover. At Merlin, significant progress has been made in the delineation drilling, which includes results such as 285 m @ 3.27 g/t in MER-23-0147-RD, 115.8 m @ 2.42 g/t in MRC-0014, and 214.8 m @ 2.46 g/t in MDT-0021.



In March 2022, AngloGold announced a maiden Mineral Resource at Silicon project and advancement of the project to a Pre-Feasibility stage. The current Inclusive Mineral Resource estimate is 4.22 Moz of gold at 0.83 g/t and 17.77 Moz of silver at 3.51 g/t contained within 157.59 million tonnes.

At Merlin, significant progress has been made in the delineation drilling, leading to the disclosure of an Exploration Target summary for the gold deposit. As of June 30, 2023, the ranges of tonnage (230–250 Mt), grade (0.8–1 g/t Au) and contained gold (6.0–8.0 Moz) of the exploration target have been disclosed.

Because of the considerable potential evident at Merlin, the Silicon Pre-Feasibility Study has been rolled back to incorporate Merlin in a conceptual study for the Expanded Silicon project. This conceptual study is expected to capture synergies from the increased economy of scale and integrated infrastructure, with potential for large scale mining. Completion of the concept study and Mineral Resource declaration is anticipated during the second half of 2023.

### Slide 16

The Silicon and Merlin deposits are hosted in late Miocene volcanic rocks erupted from large silicic calderas of the southwestern Nevada volcanic field. That Silicon is preserved is something of a miracle. The post-mineral Rannier Mesa caldera is more than 25 km across, and more than 1 km deep based on gravity modelling. The topographic margin and structural margin (ring fracture) of the Rainier Mesa caldera are inferred to occur 0.35 km and 2 km, respectively, north of the Silicon deposit .

The oldest exposed rocks in the district comprise late Proterozoic and Paleozoic metamorphic and sedimentary rocks that host Carlin-like gold deposits, including Sterling. Drill holes at Mother Lode indicate that the Paleozoic sedimentary rocks are overlain unconformably by the Miocene volcanic succession which hosts.

The main extensional structure in the region is the Bullfrog detachment fault, which crops out west of Beatty in the Bullfrog Hills. Extensional faulting created fault-bound basins, which filled with sedimentary and volcanic deposits and are temporally related to onset of hydrothermal activity.



Stratigraphic correlation within volcanic successions is dependent on understanding formative processes and influence of paleo-topography on emplacement of units. There is good correlation between host units at Silicon and Merlin reflecting the extensive nature of ignimbrites. Lavas ascribed to the Rhyolie of Picture Rock (purple) are more prevalent at Silicon reflecting proximity to an effusive volcanic centre.

A thick sequence of volcanogenic sedimentary and tuffaceous sandstone facies (Owl Canyon sequence) was deposited above an angular erosional unconformity that cut down into the tilted Crater Flat Group and Paint Brush Group between 12.7 Ma and 11.62 Ma. The lower portion of the pull-apart basin fill consists of polymictic, pebble–boulder conglomerates interbedded with granular sandstones deposited from debris flows, rock fall, and lower-flow regime traction currents. The conglomerates are thickest in the vicinity of the Silicon deposit and thin or absent along other segments of the unconformity. They are interpreted to define significant paleo-topographic fault scarps related to regional extension.

The relative importance of different stratigraphic units as a host to mineralisation reflects variation in their permeability, porosity, rheology and mineralogy. At Silicon, gold mineralisation is most abundant within lavas (purple) with subordinate mineralisation in ignimbrites of the Sierra Blanca Tuff, Crater Flat Group and Paint Brush Group. At Merlin, ignimbrites of the Crater Flat Group host a higher proportion of mineralisation and there is lesser gold within lavas (Picture Rock) and ignimbrites ascribed to the Sierra Blanca Tuff and Paint Brush Group.

#### Slide 18

Despite the close spatial and temporal association between mineralisation and Miocene magmatism all known gold deposits are located on regional extensional faults and are unrelated to volcano-tectonic elements, including ring fractures and resurgent domes.

Mineralisation occurred during a period of accelerated regional extension that was accompanied by detachment faulting in the Bullfrog District and development of normal faults and regional angular unconformities in the Bare Mountain District. Extension resulted in the formation of pull-apart basins that filled with volcanic-sedimentary deposits (photo B) and bounded by faults that became the loci for hydrothermal fluid flow.



The Silicon project area comprises fault bounded structural blocks, typically 1.5–8 km<sup>2</sup> in area, delineated by stratigraphic juxtaposition and differential tilting relative to contiguous areas. The major exposed structural element in the immediate Silicon project area is the Thompson-Tramway fault corridor. This family of NW-SE striking faults has moderate to steep dips dominantly to the SW. The Enterprise fault trends NE-SW and has an apparent dextral offset where displaced on the Thompson and Tramway faults, and related unnamed faults. The NE-SW trending Gandalf fault dips steeply southeast and records a similar dip-slip normal displacement.

The structural architecture reflects a polyphase deformation history. An early phase of NW-SE extension corresponded with development of NE-SW trending faults and inception of the Thompson-Tramway corridor as a transfer fault. During a change to dextral transtension the faults in the Thompson-Tramway corridor were reactivated as steep normal faults. Pull-apart basins which developed during the first phase of accelerated extension (12.7–11.6 Ma) filled with volcaniclastic deposits that provide a mappable proxy for buried synsedimentary/ syn-tectonic faults. A second phase of accelerated extension (10.7–9.5 Ma) is reflected in widespread development of a steeply dipping spaced fracture cleavage that is most intensely developed within rheologically brittle units, including pervasively silica-alunite-altered tuff.

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The Silicon mineralisation is steeply dipping and extends 1.4 km NE-SW along the plane of the Tramway fault. There is a strong structural control to the higher-grade ( $\geq 2 g/t$ ) mineralisation, with it being localised on the Tramway fault. Semi-conformable zones of low (0.07–0.5 g/t) to intermediate (0.5–2 g/t) gold grade extend laterally for up to 400 m from the Tramway fault, principally within lavas ascribed to the Rhyolite of Picture Rock, but also within the Sierra Blanca Tuff. The lavas are mineralized in both the footwall and hanging wall of the fault, reflecting a permeability and rheological control on this mineralisation style.

Three principal styles of mineralisation are recognised: (i) disseminated; (ii) hydrothermal breccia hosted; and (iii) epithermal vein type. Pyrite with gold preferentially replaces biotite and amphibole in disseminated volumes associated with low to intermediate gold grades. Higher gold grades are associated with areas of hydrothermal brecciation (centimeters to meters wide) and abundant veining around faults and along contacts between lavas and tuff.

At depth, wide zones of silicification are associated with quartz-pyrite veins exhibiting crustiform and colloform banding, lattice blades, and cockade texture. Bladed calcite occurs on its own and in associated with quartz where it is variably replaced forming bladed quartz. Intergrowth of quartz and adularia is widespread.

Elevated values of As, Sb, Mo, and Hg are associated with gold and silver mineralisation.

The upper portion of the deposit is oxidised.



A significant portion of the known higher grade gold mineralisation is associated with banded epithermal veins (LHS top).

Ilsemannite (Mo<sub>3</sub>O<sub>8</sub> · nH<sub>2</sub>O) is locally present and identifiable visually by patchy blue discoloration in drill core upon exposure (LHS bottom).

Hydrothermal breccias are either matrix-rich with rounded to sub-angular clasts supported in a black quartz-pyrite matrix (RHS bottom) or are matrix poor, comprised of angular jigsaw fit clasts separated by quartz-pyrite fracture fills, and grade outward into incipiently fractured wall rock (RHS top). These characteristics are consistent with fracturing in response to periodic fluid overpressure and an association between matrix-rich domains with faults reflects their importance as the principal fluid pathway.

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Higher grade gold mineralisation is associated with wide intervals of epithermal veins and hydrothermal breccia.

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At Merlin, the modelled gold envelope is semi-conformable and principally hosted within the Crater Flat Group (pink). Known mineralisation extends southwest from the Thompson Fault over ~2 km and remains open to the southwest, west, and north. The deposit contains numerous fault offsets, which require detailed geological modelling to define the extent and continuity of the mineralisation. The deposit is strongly oxidised and mineralisation includes epithermal veins, breccia and disseminated styles.

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At surface, Silicon is associated with a large alteration system centered on a 20 m thick chalcedony blanket, which in turn is haloed by advanced argillic, argillic, and propylitic alteration. The alteration halo is asymmetric and most extensive and intensely developed to the west of the Thompson fault corridor, which is interpreted to have undergone relatively minor post-mineral movement.

The chalcedony cap is banded and is interpreted to have formed through water-table replacement of the lower portion of the Owl Canyon sequence (photo) and underlying ignimbrite.



There is a vertical zonation in the wall rock clay alteration mineral assemblage with kaolinite-potassium alunite at surface, passing downwards through kaolinite, kaolinite-smectite, and smectite zones into an illite-smectite assemblage. The transition from smectite to illite-smectite marks a sharp change in the precious metal and pathfinder element signature.

Quartz-pyrite-calcite-adularia alteration is localised around the mineralised faults. Zoning laterally beyond the faults, and present throughout the lower-grade disseminated-style mineralisation, the assemblage consists of quartz-illite-smectite-calcite-pyrite+/-chlorite-adularia. Illite-smectite-chlorite occurs as replacements of felspar phenocrysts and crystal fragments. In the subsurface, the alteration assemblage(s) at the margins of the system is poorly defined due to the focus of drilling along the mineralised corridor. Evidence suggests weakening of wall rock alteration, transitioning into an assemblage of smectite-chlorite.

In addition to forming a prominent component of the surface alteration, the kaolinite-potassium alunite-silica alteration (photo) can extend to considerable (>300 m) depths down major faults, including the main structures hosting gold mineralisation.

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Graphic (A) shows the interpreted architecture at the time of mineralisation which occurred between 11.8 Ma and 11.62 Ma. The hydrothermal system had terminated by prior to emplacement of the Rainier Messa Tuff at 11.6 Ma which is shown as the brown unit in frame (B).

Mineralisation occurred during a period of accelerated regional extension that was accompanied by the formation of pull-apart basins bounded by faults that became the loci for hydrothermal fluid flow. At Silicon, water-table silica formed in the shallow subsurface by replacement at an angular unconformity that records a hiatus in volcanism and development of significant paleo-topographic relief. Hydrothermal fluids are interpreted to have migrated laterally under the influence of a hydrological gradient that contributed to development of an asymmetric alteration halo that broadens upward. High-grade gold was deposited in hydrothermal breccia zones that developed through hydraulic fracturing and fluid streaming that was localised along faults. Epithermal veins with quartz-adularia±calcite gangue and colloform, crustiform and bladed textures provided evidence for boiling of the hydrothermal fluid.

The advanced argillic assemblage can be in contact with either the argillic or illitic alteration, which is interpreted to reflect superposition. The depth extent of the advanced argillic overprint is within the range of modern geothermal systems and ancient deposits (e.g., 200 m at Hycroft). At Silicon, depression of the paleo-groundwater table, possibly in association with significant fault displacement, pre-Rainier Mesa volcanic tumescence, and/or changing regional climatic regime, is implied by the overprint.

Combined, the mineralogy, textures, and elemental association (Au-Ag-As-Sb-Mo-Hg) are consistent with classification as a weakly-eroded low-sulphidation epithermal system.



Discovery of the Silicon and Merlin deposits validated the targeting approach and prompted an assessment of the greater Bullfrog and Bare Mountain Districts, including potential infrastructure and mining synergies. AngloGold acquired Corvus Gold in January 2022 and the Company also acquired the Crown and Sterling claims from Coeur Mining through the acquisition of Coeur Sterling, Inc. in November of 2022. The acquisition of the assets of Corvus Gold and Coeur Sterling, Inc. has allowed optimisation of an Inferred Mineral Resource drilling program targeting the Merlin deposit. Other expected and realized benefits include potential district-scale infrastructure and mining synergies, a balanced portfolio of exploration targets, and corporate and operational synergies.

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The Silicon project highlights the potential to deliver large gold-silver discoveries in perceived mature regions by applying new targeting concepts in low-risk jurisdictions. There were six key drivers in the discovery.

- The patience of the Renaissance team in securing tenure over the property in the period 2014–2015 and foresight to enlist AngloGold as a partner with the necessary resources and discovery track record to advance the project formed a foundation for exploration success.
- The Silicon and Merlin discoveries were made by applying a conceptual exploration model targeting the prospective precious metal interval of veins and ribs localised along faults that projected below the areas of most intense steam-heated alteration. Geological mapping, spectral analysis and geophysical programs (particularly IP) guided drill targeting.
- Persistence to ensure the Silicon target was adequately tested, through application of supplementary funds upon failure of the first drill hole and despite significant budgetary pressures, was a pivotal point in the discovery timeline.
- > Dedication and hard work of the team and application of human capital with requisite skills to advance knowledge of the deposit style and build a robust geological and refined targeting model were paramount, not only at the deposit scale but in evaluating the district-scale potential.
- > The discovery of the Silicon and Merlin deposits instilled confidence to invest in consolidation of the Bullfrog-Bare Mountain Districts, providing optionality for potential integrated mining of known resources and to realise embedded option value through exploration of the assembled portfolio of early phase targets.

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Thank you for your attendance. I'm happy to take questions.

