

## Exploration Update for the quarter ended 30 September 2019

### GREENFIELDS EXPLORATION

Greenfields exploration and target generation for the third quarter of 2019 was completed in Australia, Brazil, the United States of America and West Africa with 27,248m of drilling and total expenditure of \$7.4m.

In Australia, exploration took place in the Laverton District on both AngloGold Ashanti (100%) tenements and on the Butcher Well and Lake Carey JV tenements (AGA 70%). At the Bismark prospect near Sunrise Dam (70% AGA), five diamond holes were completed as an initial test of the Central and Eastern Zones. A significant intercept was returned from diamond hole BID011 within the Central Zone. Gold mineralisation is associated with a steeply-dipping zone of quartz stockwork veins. Aircore drilling continued in the Northern, Central and Eastern zones to provide better definition of these targets.

At the Cleveland prospect (100% AGA), diamond hole CLD002 returned a number of economic intercepts within a broad zone of anomalous gold grades. In addition, aircore hole CLA105 returned a 22m zone of mineralisation. A total of 22,527m of aircore drilling and 3,743m of diamond drilling was completed in the Laverton district during this third quarter.

Elsewhere in Western Australia the results, from the six diamond holes drilled at the Glandore project in this third quarter, returned no significant assays.

In NE Queensland, drilling commenced at the Mt Clark prospect. Three diamond holes were completed for 978m and these intercepted wide zones of complex breccias with variable sulphide content and cut by quartz veins. Assay results are pending.

In the United States, at Silicon in Nevada (option to earn-in to 100%), a ground gravity survey was completed to assist with drill hole targeting and an Exploration Plan of Operations was submitted to the Bureau of Land Management. At Rhyolite, detailed surface mapping and rock chip sampling continued over potential target areas. Surface gridded soil, stream sediment and rock chip sampling continued at the Transvaal prospect.

In Minnesota, data from the relinquished Celina mineral leases were submitted to the Department of Natural Resources. A comprehensive technical peer review of the Minnesota projects was also completed.

In Brazil and West Africa, exploration focussed on target generation activities.

### BROWNFIELDS EXPLORATION

During the third quarter of 2019, brownfields exploration activities were undertaken across the globe. Brownfields exploration completed 234,388m of drilling for a total expenditure for the quarter of \$13.9m (capital) and \$14.2m (expensed). Brownfield exploration work was conducted in the following areas:

**South Africa:** The surface drilling at Mponeng has been stopped.

**Tanzania:** Capitalised (underground) and expensed (surface and underground) drilling programmes completed a total of 28,231m during this third quarter.

At Nyankanga Underground Blocks 3 & 4, drilling results from the 918 drill-drive confirmed the continuity of the mineralisation for over 250m beyond the current limits of the stope designs. Further testing of the continuity along strike and down-dip is in progress to continue delineating the ore zones towards the Iyoda Fault

Assay results from 852mRL identified sub economic intersections which appear to define the end of the Block 2 mineralisation, confirming no further drilling is required in the gap between Blocks 2 and 3.

Results from the Mineral Resource development drilling at Star & Comet Cut 3 confirmed continuity of mineralisation between level 1000mRL and 947mRL as projected in the Mineral Resource model.

The ongoing exploratory drilling in the Cut 2-Cut 3 gap has successfully intersecting the targeted structures and strong intersections confirm the presence of an open-ended high-grade mineralisation within the gap.

Many holes at Selous continue to provide narrow, but medium to high grade intersections which firm-up the dip continuity of the ore zones and the upside interpretation. The current drilling appears to have widened the ore zones and is likely to improve the previous Mineral Resource model.

Assay results from Mabe show the intersection of localised narrow zones of medium to high grade ore dominantly related to the NW-SE trending shear zones and axial planes. Geological modelling and interpretation are ongoing to constrain the geometry and controls of the mineralisation and assist with the targeting of further drilling.

The infill and extension drilling programme at Roberts, was initiated close to the end of the quarter. The aim of the programme is to define the geometry, limits and controls of the Mineral Resource within and outside the current optimised pit.

**Guinea:** Exploration drilling programmes completed a total of 12,357m during this third quarter.

Assays with significant intersections were received from Kami infill drilling and show that mineralisation extends within the Mineral Resource shell below the pit into the fresh rock.

All assay results from Silakoro North are significant. The best intersection received is related to quartz-carbonates veining in NE trending fault.

Tubani South infill returned significant intersections and further drilling is necessary to prove extension of mineralisation at depth in oxide and to convert Mineral Resource to Indicated. Multiple significant intersections were received with the most significant coming from the upper saprolite.

At Seguelen, the fresh rock programme intersections confirm the extension of the mineralisation in the fresh rock and is in line with projections.

Intersections from the Foulata advance grade control drilling confirm the Mineral Resource model as do intersections from the Saraya advanced grade control drilling.

Disappointing results received from the Setiguiya West reconnaissance AC programme. While geological observations from the Saraya reconnaissance RC drilling show the completed holes crossed shallower than the expected shales of the Doubaya Formation.

The reconnaissance holes from Foulata show that the Albitite covers a wider area at Foulata North, which explains the poor gold results in the geochemistry and the historical drilling.

Metallurgical drilling was completed for both Foulata and Saraya. Terraspec and X-ray fluorescence (XRF) data was collected on all assayed samples. Geometallurgical data collection focused on Kami, Bidini, Setiguiya, Tubani, Silakoro, Doko, Foulata and Saraya Geomet holes. XRF results show the gold mineralisation is associated with arsenic, copper, mercury, nickel, tungsten and zinc with variations of the combinations and concentration levels across the deposits.

**Ghana:** Drilling for the quarter totalled 9,892m at Iduapiem.

Significant intersections were reported from Ajopa. While at Block 1, the reef packages is overturned with less than 1.0m quartzite and/or pebbly quartzite intercalations within the reef. The reef package shares similar sedimentological properties to that of Block 7&8.

Drilling at both Block 4 South and Efunta returned significant intersections.

At Obuasi a total of 6,529m were drilled. These were a combination of grade control and exploration in Block 10 and Sansu. In general, the drilling confirmed previous interpretations except for the Sansu 17 level drilling which showed an increase in grade at similar widths.

**Democratic Republic of the Congo:** Exploration drilling programmes completed a total of 7,912m during the quarter.

DD to test the down plunge continuity of the mineralisation at Pakaka confirmed the geology, and the results returned relatively narrower and lower grade mineralisation compared to the projection. Another system with multiple lenses related to BIF, has been identified in the footwall. The up-plunge projection of this footwall system highlights an opportunity of more than 1,200m below the Pakaka pit.

The Gorumbwa-Sessenge gap was drilled to test for shallow opportunity to be taken into the super pit project. Intercepts returned relate to the lodes 9001 and 1008. Results overall confirm the down plunge/dip of lodes 9001 and 1008 but downgrade shallow opportunities due to the lack of shallower mineralisation. The potential below the lower dolerite for another system has been identified.

At Ikamva, a third hole confirmed the lithology as in previous holes with an additional thick (41.42m) carbonaceous shale, which overlies the upper BIF which controls the high grade. Results bring the current potential to depth to around 200,000oz. Mineralisation is still open towards the southeast and the results overall still support continuity of the 2101 lode which needs to be further investigated down plunge/dip.

At Oere, observation from DD holes confirmed the footwall brittle structure intersected at the bottom of the mineralisation system as well as on the hanging wall, supporting the shearing system, which was also mapped at Kalimva. These structures delineate a mineralised corridor associated with a strong brecciation, silicification and massive chlorite veins with no clear control of the high grade.

At Sayi, a RC programme is ongoing to better define the mineralisation and model over 200m of strike next to Marakeke. Encouraging results have been returned. These support an increase down dip, and continuity of up to 180m with consistent high grade included. They also reveal pinching to the northwest and southeast and thickening again at Marekeke.

Two trenches at Renzi returned encouraging results within the brecciated BIF, which support the model and potential of the area though with relatively low grade. A follow up on a target of 200m with two trenches did not return significant intercepts.

At Memekazi South, trenches support the contact zone. Results received show anomalous values but no significant intercepts. Results overall support a continuous low-grade system along the 5km contact zone, with break in the mineralisation especially in the eastern part. A zone of more than 400m around the trench MATR0005 has been interpreted requiring follow up.

At Ikamva Northwest, results of the remaining two diamond holes and the two follow up trenches returned weak results. However, observations and model update integrating data from trenches, drill holes, mapping from drill pads and road exposures highlight two main mineralised zones respectively associated with the upper and the lower BIF. Model consolidation especially for the upper mineralisation combined with a drilling motivation for both (upper and lower) is ongoing to properly evaluate the Ikamva northwest potential.

Generation of targets continued this quarter with receipt of assays results from the soil survey conducted over the BLEG anomaly east of Zakitoko.

**Republic of Mali:** No exploration was done.

**Argentina:** exploration included mapping, chip sampling, trenching, channel sampling and ground magnetics. The exploration of the Northern Cerro Vanguardia district continued.

Trenching and channel sampling is ongoing. Channels were cut mainly in the northern part of the district (Chela, Colo, Inés, María Virginia, Trinidad veins). The ground magnetics were completed.

**Brazil:** a total of 35,027m was drilled at Cuiabá and Lamego.

At Cuiabá, the accelerated drilling plan continued through the quarter. The drilling programmes for Fonte Grande and Serrotinho (upright limb) and Balancão and Galinheiro (overturned limb) are in progress. Directional drilling using learnings from the LIB programme has been employed at Fonte Grande Sul to alleviate technical problems in testing the L19 FGS target.

Significant intercepts have been returned for the Viana secondary target and positive intercepts returned for drilling of the VQZ (quartz vein) target.

The second test hole in the LIB programme was completed with 8 directional interventions and intersected the Galinheiro Blue Sky target on Level 23. The third LIB test hole is planned to intercept the Galinheiro projected target and is also testing a deviation prediction matrix developed for the programme that is showing positive performance enhancements to date.

Geotechnical holes were completed to evaluate the SER main decline. All the holes have intercepted quartz veins and a proximal hydrothermal alteration zone on L20, close to the planned L20 SER main decline, which reinforces the need to consider these results in mine design below L20.

On the regional targets:

- The geochemical soil campaign at the Cuiabá North target was completed and the samples submitted to the lab.
- Drilling started at the Descoberto target in August and the second hole is now in progress.
- The agreement with the landowner was signed in September, enabling drilling access for the Matarelli programme.
- A pilot UAV drone magnetic survey was completed over a test area of the Matarelli target and returned encouraging data and a full survey of the area is planned to commence in mid-October.

At Lamego, drilling continued and achieved higher than planned meters. Positive results were returned at the Carruagem SW target, supporting the target potential, with best results in the region near to the hinge zone.

At Córrego Do Sítio, a total of 43,257m were drilled. At CDS I, the following targets were drilled within the "gold quadrangle" area during the quarter - Pneu, Mutuca, Candeias-Cristina and Donana. At Pneu results confirmed the continuity of the mineralised orebody, with high grade and narrow intersections reported. The first results from Candeias-Cristina confirm the expected grades and thickness and support the interpretation that the two targets are connected, increasing the exploration potential.

CDS I underground exploration focused on the Carvoaria and Laranjeiras targets. Several Mineral Resource extension holes returned positive results.

At Rosalino, results from the Mutuca target confirm the continuity of the model at depth. Spectral studies were initiated, aiming to define the spectral signature of mineralisation and hydrothermal alteration of the main targets. The Intrusion Interpolator modeling tool for the Rosalino Open Pit ore model was tested in Leapfrog, with the resulting model being closer to the geological reality. Refinement of the modelling is underway.

At Serra Grande, a total of 34,700m was drilled. Surface drilling occurred at Palmeiras South, Mina Nova Down Plunge (Pitanga), Mangaba Orebody and Orebody IV whilst underground drilling took place at Cajá, Limoeiro, Pequizão G and Orebody IV. Significant intercepts were reported at all sites.

Mineral Resource conversion drilling was focused on Ingá down-plunge, Orebody 25 (Mina Nova), Orebody C and Orebody IV down-plunge and once again significant intercepts were returned from all the targets.

**Colombia:** at Gramalote, the drilling contractor was confirmed, and drill pad construction commenced at Trinidad. Meanwhile, the exploration programme outside the Project footprint is in progress.

At La Colosa, no exploration occurred.

At the Quebradona, a total of 3,163m were drilled. The on-mountain geotechnical programme advanced with the crusher chamber drilling. Drilling continues from two locations for the tunnel trace options, although one of the two holes was on standby for a period due to the municipality prevention note and the crusher chamber drilling.

**Australia:** at Sunrise Dam 35,599m were drilled. Underground drill testing was completed in MWS Steeps and Elle to test the southern strike extensions, at Vogue south of the current Indicated Mineral Resource, Below SSZ Steeps for feeder structures below the Sunrise Shear, and at Stella to target steep mineralisation below Lower MWS and the GQ mining area.

Surface drilling targeted southern extensions of the deposit up to 520m south of the current Ore Reserve.

Assay results and ore domains of mineralisation in this third quarter show:

- An extension of Vogue mineralisation south of the current Indicated Mineral Resource, over an approximate 180m strike length
- Southern extensions to Midway Shear Steep ore domains, approximately 190m south of current Indicated Mineral Resource
- Mineralisation 500m to the south down plunge of the current SDGM Mineral Resource, suggesting the continuation of the Vogue orebody

At Tropicana, 16,965m were drilled. Drilling at Havana focused on the HA04/06 cutbacks area to de-risk the Mineral Resource and assess suitability to underground mining. Positive mine extension results were received from HA04/06 infill drilling and Havana South, which show that the mineralised system at Havana South persists down-dip of previous drilling

Regional drilling consisted of deep diamond drilling at Iceberg (part-funded by the WA government's Exploration Incentive Scheme), RC/DDH drilling at Tumbleweed, and RC drilling at Angel Eyes SW, Monsoon and Mojito targets.

Regional aircore results continue to illustrate the prospectivity of the Southern Traverses. Re-assaying of SPA248 at Sanpan was very encouraging and shows a strong anomaly to the south-east of the prospect.

Mineralised samples but no significant results were received from RC drilling at Angel Eyes SW and Tumbleweed.

A target ranking workshop was held to enable prioritisation of 2020 exploration targets through expert assessment.