



## Exploration Update for H2 2019

### GREENFIELDS

During the second half of 2019, Generative Exploration activities were undertaken in Australia, Brazil and the United States of America (USA). Generative Exploration completed 30,732m of drilling globally with a total expenditure of \$13.66m for the period.

**Australia:** Laverton District – AGA (100%) and Butcher Well and Lake Carey JV (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. 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 Cleveland (100% AGA), a program of eight diamond drill holes was completed. There is good potential for shallow gold mineralisation at the Cleveland prospect within the North Zone. A RC program in the first quarter of 2020 will focus on assessing the open pit potential of this zone.

Glandore (100% AGA): The results from the six diamond holes drilled at the Glandore project returned no significant assays.

North Queensland (100% AGA): A total of nine diamond drill holes have been completed at the Mt Clark project. All assay results have been received and no significant intersection was returned.

**USA:** Nevada - Silicon (Option Earn-in Agreement for 100%). An Exploration Plan of Operations (PoO) was submitted to the Bureau of Land Management and the environmental assessment phase has commenced. Technical work at Silicon involved a ground gravity survey, drill hole planning and 3D geological modelling.

Nevada - Rhyolite – AGA (100% AGA). At Rhyolite, detailed surface mapping and rock chip sampling continued over potential target areas. A Notice of Intent (NoI) to drill was submitted in anticipation of drill testing in 2020

Nevada - Transvaal – AGA (100% AGA). At Transvaal, detailed geological mapping and surface rock chip geochemical sampling continued as part of drill target delineation for 2020 drilling.

Minnesota – AGA (100% AGA). In Minnesota, project closure was completed with all AGA mineral leases (382 km<sup>2</sup>) returned to the State.

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

### BROWNFIELDS

Brownfields exploration activities during the second half of 2019 were undertaken across the globe. Brownfields exploration completed 455.4km of drilling for a total expenditure for the second half of 20.6\$m (capital) and 36.6\$m (expensed).

**Tanzania:** Capitalised (underground) and expensed (Surface/underground) drilling programmes completed a total of 53,373m during the second half of 2019.

At Geita, Mineral Resource development drilling was conducted at Star & Comet Cut 2 and 3. Drilling for Cut 2 returned significant economic intersections that warranted an upgrade of the Mineral Resource model and more understanding of the ore zone limits within and outside the stope designs. While the results for Cut 3 confirmed the down-dip continuity of the mineralisation at depth as projected in the Mineral Resource model.

Star & Comet Cut 3 exploratory drilling continued and successfully intersected significant mineralised intervals, confirming the presence of open-ended high-grade mineralisation along the hanging wall and footwall sides of the intrusive, suggesting that Cut 2 and Cut 3 orebodies might join and become one. Mineral Resource development drilling was carried out in the Nyankanga underground projects. At block 3 and 4, drilling confirmed the continuity of mineralisation beyond the limits of the current stope designs and identified potential strike extensions of the mineralisation towards Lyoda fault. Drilling in block 2 and 3 at Nyankanga identified sub-economic intersections defining the end of the Block 2 mineralisation. While exploratory drilling at Nyankanga Block 4 showed low grade ore zones with limited width.

Surface drilling was carried out and completed at Selous, where results confirmed orebody extensions inside and outside the pit margins. Exploratory surface drilling at Mabe delineated localised ore zones of medium to high grade. At Star & Comet North Extension drilling returned sub-economic intersections with lower grades compared to the previous intersections. Further geological interpretation and data compilation is underway.

The assay results from Geita Hill West had no significant gold intersections and this is suspected to be due to the absence of favourable host rocks. Drilling at Geita Hill East was put on hold to speed up the Mineral Resource drilling at Roberts.

Drilling was initiated at the Roberts deposit and is in progress. It has confirmed the presence of economic ore zones within and outside the optimised pit with potential extensions both to the NW and SE of the current deposit.

The intersection of the two structural trends shown in the conventional surface soil sampling programme conducted at Xanadu gives more weight to its prospectivity and supports further investigation.

**Guinea:** Capitalised and Expensed drilling programmes completed a total of 30.410m during H2.

At Kami, infill drilling indicates that the mineralisation extends beyond the \$1,400 Mineral Resource shell into the fresh rock. The programme is nearing completion and all the holes intersected quartz veins within the greywackes and siltstones of the Fatoya formation.

Tubani South is seen as a potential source of oxide to be mined and an economic assessment will be completed early 2020. The drill programme is completed and assaying continues.

Reconnaissance drilling at Silakoro is in progress and all completed holes show potential mineralisations associated with quartz veins and disseminated sulfides in brecciated conglomerate layers at the contact with dolomitic marbles.

At Foulata, advance grade control drilling intersections indicate a lack of continuity and the vein nature of the mineralisation, with the bulk of significant intersections confined to the laterite zone. The drill programme is complete. RC drilling planned to sterilise the two proposed waste dump areas is now half way with no major intersections reported. Reconnaissance drilling planned to test the potential extension of the mineralisation into the fresh rock below the deposit has started. The infill RC programme confirmed the dip of the mineralised zones to the south of the deposit. The drilling is completed and confirms the interpretation build into the Mineral Resource model.

Saraya reconnaissance drilling intersected the shales of the Doubaya Formation shallower than expected and initial assay results don't show the expected mineralisation but instead intersected thick intervals of intrusives with thin layers of volcano-sediments. Meanwhile the advance grade control drilling was completed, and results confirm the Mineral Resource model even though internal waste zones are thicker than expected.

At Seguelen, the intersections confirm the projected extension of the mineralisation into the fresh rock.

Reconnaissance drilling at Niono was aimed at testing the NE-SW quartz veining resulting from D2 deformation. Results shows that the area is poorly mineralised. Only two holes returned significant intersections suggesting that the mineralisation may extend to the NE.

At Sanu Tinti, an infill programme targeted the Mineral Resource below mined out pit. The drill program almost complete. Holes intersected the expected mineralisation in the Sanu-Tinti breccio-conglomerate layers.

Geometallurgical data collection focused on Kami, Bidini, Setiguiya, Tubani, Silakoro, Doko, Foulata and Saraya. The samples were selected according to the weathering and clay content. XRF results show the gold mineralisation is associated with arsenic, copper, mercury, nickel, tungsten and zinc.

For Target generation purposes, field visits and reviews confirmed the potential at the Carbonate Hills (East and Central) targets.

**Ghana:** At Iduapriem, drilling for the second half of 2019 totalled 13,080m. The Ajopa drilling was completed in two phases and 3,596m of drilling was completed in the second half of 2019.

At Block 1, the first phase of Mineral Resource conversion drilling was completed during the second half of 2019 with 1,446m drilled. While at Efuanta, phase 1 drilling was completed and drilled 5,599m. At Block 4S, 1534.1m was drilled.

Regional reconnaissance mapping for hydrothermal target areas commenced at Mile 8 and 5. Grab samples from the priority 1 area returned very low gold tenors. Auger drilling at the Mile 8 target commenced and the samples will be submitted in 2020.

At Obuasi, drilling continued to ramp up in the second half of 2019 with a total of 34,469m drilled in the underground exploration programme.

Capitalised drilling focused on 41 level and grade control drilling of scheduled stopes in Sansu 17 and 22n1 levels. While the expensed drilling targeted the GCS top area to convert projected mineralisation to Inferred Mineral Resource.

The 41-level drilling programme was aimed at converting Block 10 Mineral Resource from Inferred to Indicated and then ultimately preparing it for mining by doing the final phase of grade control drilling. 7,921m were drilled in the second half of 2019 with RC accounting for 29% of the total meters. The 41-level trolley drive is being used as the main drilling platform to target the area below 41 level.

The grade control drilling programme is aimed at fully covering the scheduled stopes. The drilling targeted stopes in the Sansu and 3,480m was drilled in the second half of 2019. Results from the drilling showed continuity with the Obuasi fissure in terms of grade and structure. Footwall splays from the Obuasi fissure was also intersected in the drilling.

The focus of the expensed exploration drilling programme was to confirm and convert the projected mineralisation in GCS top to Inferred Mineral Resource. A total of 5,474m were drilled. Results generally showed that the Obuasi fissure, the main target of the drilling, was not promising. However, footwall splays of the Obuasi fissure showed good grades.

**Democratic Republic of the Congo:** Capitalised and expensed drilling programmes completed a total of 14,851m during the second half of 2019.

The focus of exploration was on Mineral Resource replacement and addition of the Gorumbwa-Sessenge gap, Ikamva, Pakaka, Memekazi-Renzi, KCD area, Oere, and Sayi targets.

At Ikamva results still support the continuity of the 2101 lode which needs to be further investigated down plunge. While at Sayi, overall results support the model and the continuity of the interpreted mineralisation and it is still open down dip. In the Sayi-Mengu gap, drilling returned narrow intercepts which support the preliminary conclusion that the opportunity within this gap is reduced by the average grade not being economic.

At Pakaka results returned from a hole further southeast supports consistently thin high-grade mineralisation along the sheared contact projected from the pit.

The Renzi trenching programme returned results which support the interpretation and potential of the area though with relatively low grade. Follow up is drilling required.

Oere DD and RC drilling results supports the presence of high-grade domains within the mineralisation envelope varying with a remarkable increase in grade down dip.

At KCD, observations from the new hole and previous exploration sections up plunge, highlight relatively lower grade mineralisation with no big system associated with the 12000 lode. Review of holes drilled beyond the 9000 lode show that the mineralisation also occurs within the BIF and at the lower contact.

The Memekazi South trenching program results (6 trenches) were poor with one anomalous zone associated with the contact. While the trenching programme at Memekazi Northeast returned results that support the potential of the area and the occurrence in the flexure zone of the inferred mineralised lens whose shape needs to be resolved.

The soil sampling programme in the KZ South area returned results supporting the potential for a mineralised system to exist. Follow up work will be conducted.

**Republic of Mali:** No exploration.

In **Argentina**, no drilling took place in the second half of the year. Mapping in the northern lease continued with chip samples collected for Au, Ag and ICP analyses. A new trenching programme was started with associated channel sampling conducted in selected areas.

Ground magnetic surveys continued until the middle of September and covered 34 Km<sup>2</sup> in the northwest and northern parts of the lease.

In **Brazil**, at Cuiabá, the underground drilling programme focussed on Fonte Grande and Serrotonho (upright limb), Balancão and Galinheiro (overturned limb).

The second test of the LIB programme was completed with eight wedges and successfully intersected the Galinheiro target. The LIB drilling experience was carried over to the AGA-operated directional drilling programme that is underway and is targeting the Fonte Grande Sul orebody below levels 21/22.

The drilling of satellite targets returned significant intersections for the Vianas and the Vein quartz targets.

On the regional surface targets, drilling at Descoberto is ongoing with the fifth hole in progress. Observations are encouraging and indicate an extensive package of altered rock with smoky-quartz veining and visible gold noted. Results from the first hole have been returned with a significant intercept. Land access was granted in October to allow the Matarelli target drill program to commence and three holes have been completed.

A trial UAV magnetic survey was successfully completed at Matarelli and a more comprehensive survey covering the Matarelli and Tinguá targets is planned. A detailed geological map and associated cross sections were produced as result from extensive fieldwork completed over the Tinguá target area ahead of a geochemical soil programme planned for 2020.

At Lamego, drilling continued with positive results returned for the Carruagem SW target on levels 1 and 4, supporting the potential with the best results near to the hinge zone.

At Córrego Do Sítio, capitalised and expensed drilling programmes completed a total of 78,181m during H2. At CDS I, four targets were drilled in the 'Gold Quadrangle' area with positive results which resulted some areas (Pneu, Candeias and Cristina) being incorporated into the mine's production plan. The drilling campaign in Laranjeiras and Carvoaria focused on deeper areas and returned significant intersections including extensions of the known model.

At CDS II, drilling results confirmed continued mineralization, in São Bento, to NE towards the Capitão Taylor target. While at CDSIII, the sterilisation drilling campaign was completed with all results negative except for one positive sample at the intersection of the Anomalia and Jamboeiro trends.

At Serra Grande, capitalised and expensed drilling programmes completed a total of 67,115m during the second half of 2019.

Surface exploration drilling occurred at Palmeiras South, Mangaba, and Mine III near-surface targets. Significant intercepts were reported at all sites. At Palmeiras South drilling focused on increasing the area of the new discovery along Structure 3.5. While at Mangaba drilling tested the up-plunge continuity

Underground exploration drilling was predominantly at Pequizão G and Orebody IV, testing both orebodies down-plunge.

In **Colombia**, at Gramalote the drilling contractor was confirmed, and RC drilling started at Trinidad in October and diamond drilling at Gramalote Central in November with no results reported to date.

At La Colosa, no exploration occurred.

At the Quebradona, drilling focused on geotechnical programmes for site infrastructure, the tunnel trace, the mine subsidence area and the crusher chamber.

Geotechnical lab tests were completed for the infrastructure campaign, three over-coring tests were undertaken, and the geotechnical domain model was updated. The geotechnical photo logging programme continued. The geological model was updated for the infrastructure sites, the tunnel and the mine area. The structural model was also updated.

A grade control assessment heterogeneity test was completed, and a site visit completed to the Ernest Henry mine. A revision of the preliminary feasibility study grade control proposal was completed.

A greenfield target revision was completed, and field activities will commence in 2020 at the Margarita, La Selva and Chaquiro Norte targets. Hydrogeological test work continued.

In **Australia**, at Sunrise Dam capitalised and expensed drilling programmes completed a total of 61,827m during the second half of 2019.

Six underground rigs were utilised during the period, with most drilling taking place at Vogue, Midway Shear (MWS) Steeps and Elle, as well as at Stella (Target 18) and Steeps below Sunrise Shear Zone (Target 01). Commissioning of a 7th underground rig took place during November and an 8th rig was commissioned in December.

One surface rig, drilling from the Cleo waste dump, targeted southern extensions of the deposit at a depth of 520m and 360m south of current Ore Reserve.

A total of 118 significant intercepts were reported in the second half of 2019: 77 from Vogue, 26 from MWS and MWS Steeps, 12 from Target 01, one from Target 18 and two from surface drilling into Sunrise South. The results show:

- Southern extensions of Vogue mineralisation approximately 100m below the current Indicated Mineral Resource;
- Mineralisation 500m to the south, down plunge of the current Mineral Resource, suggesting the continuation of the Vogue orebody.
- Southern extensions to Midway Shear Steep ore domains, approximately 190m south of current Indicated Mineral Resource;
- Contact mineralisation along a large porphyry unit, 50m below the T18 target area.

No drilling was conducted for regional surface exploration.

At Tropicana, drilling consisted of infill drilling at Havana to support Mineral Resource confidence and mining option studies. Significant results from the infill drilling at Havana were returned, as well as encouraging results returned from the first half of the year drilling at Havana South down-dip.

Regional drilling was concentrated at Iceberg, Tumbleweed, New Zebra, Angel Eyes Voodoo Child, Wild Thing, Electra, Mojito and Monsoon. This drilling delivered an important result from RC drilling at Voodoo Child that shows mineralisation is present ~500m along strike from the defined prospect. While at New Zebra, a significant intersection was reported that confirmed the presence of mineralisation in the NW corner of the prospect area.

Significant aircore results from drilling in the first half of the year were returned in the second half of from Sanpan and the Southern Traverses area.