

## Exploration Update for the six months ended 30 June 2019

### GREENFIELDS EXPLORATION

Greenfields exploration activities during the first half of 2019 were undertaken in Australia, Brazil and the USA. Greenfields exploration completed 40,516m of drilling globally with a total expenditure of \$16.8m for the period.

In **Australia**, exploration took place in the Laverton District – AGA (100%) and Butcher Well and Lake Carey JV (51% earning to 70%). AC drilling at the Bismark prospect, located 10km south of Sunrise Dam, highlighted three new coherent gold anomalies while AC drilling at the Ahab prospect delineated a NNW-trending zone of anomalous gold extending for approximately 1km on strike. Broad AC drilling lines at the Cleveland prospect, a new regional target, intersected several anomalous gold intercepts associated with anomalous Ag, Pb and Zn. Infill AC and DD are planned at all three prospects for the third quarter of the year. A total of 26,284m of AC drilling was completed in the Laverton district during the first half of 2019.

Elsewhere in Australia, six DD holes for 1,278m were completed at the Glandore project located 40km east of Kalgoorlie. Assay results are pending. In North Queensland (100% AGA), two new intrusion-related gold prospects have been identified at the Lagoon Creek project. These are located along a well-defined NW-trending zone of Permian intrusions, 15km and 5km respectively from the more advanced Mt Clark prospect. A DD programme at Mt Clark should commence during Q3 when arrangements for the programme have been completed.

In the **USA**, at Silicon (Nevada) the RC and DD follow-up programme was completed during the first half of 2019 (20 RC and 8 DD holes drilled for a total of 8,009m and 3,327m respectively). The programme followed up and further developed the understanding of the alteration system intersected in earlier drilling as well as testing other favourable litho-structural targets within the Silicon-Thompson structural corridor.

An Induced Polarization (IP) survey was also completed with a total of 48-line km of data observed within a 2km by 2.5km area. The data is assisting in refining drill targets within the primary alteration area in addition to highlighting potential additional targets within the mapped structural corridor.

The Ground Magnetic (GMAG) survey continues over the Silicon claim block.

The second-year anniversary payment was made to Renaissance Gold during the period to maintain the Option Earn-in Agreement into the third and final year.

At Rhyolite (Nevada), stream sediment sampling and concurrent surface mapping (1:5,000) and rock chip sampling commenced in the first half of 2019. The work focused on favourable target areas delineated during earlier reconnaissance trips. A total of 76 stream and 116 rock chip samples have been collected to date.

At Transvaal (Nevada), surface gridded soil and stream sediment sampling commenced with a total of 191 and 47 samples collected, respectively. Additional mapping and sampling are scheduled to assist in delineating target areas for further work.

In Minnesota, winter roto-sonic drilling was completed over four target areas with 54 holes completed for a total of 1,619m. All results for the roto-sonic drilling have been received and interpretation of the data is ongoing.

In **Colombia**, the divestment of AGA's Greenfields Exploration assets to Royal Road Minerals Limited was completed in May 2019.

In **Brazil**, exploration focussed on target generation activities.

## **BROWNFIELDS EXPLORATION**

During the first half of 2019, Brownfields exploration activities were undertaken across the globe. Brownfields Exploration completed 416,980m of drilling for a total expenditure for the first half of Brownfields exploration completed a total 416,980m of drilling at a total expenditure for the first half of \$33.8m.

**South Africa:** The surface exploration activities have been stopped. Site de-establishment and rehabilitation have been completed.

**Tanzania:** Capitalised (Underground) and Expensed (Surface/ Underground) drilling programmes completed a total of 43,034m during the first half of 2019.

At Geita, Star & Comet Cut 2 and 3 exploratory drilling commenced towards the end of Q2. The intersections reported from Cut2 confirmed the mineralisation continuity as projected. At Star and Comet Cut 3 the results confirmed mineralisation outside the current stopes design.

Results from Nyankanga Cut8B confirm the interpreted mineralisation within the Block 1 mining stope. The bottom intersections also delineate parallel mineralisation below the main ore zone in Block 1. The zone is thin and rich. Meanwhile drilling results from Nyankanga Cut 8 defined up-dip continuity of the Nyankanga Block 2 mineralisation. Surface drilling at Nyankanga Cut 8 & 8b was suspended due to the lack of space due to ongoing mining operations. The significant intercepts returned indicate a potential up-dip weakening of the ore zones.

The intersections at Nyankanga Block 3 indicate continuity in mineralisation towards the northwest, extending beyond the current stope designs and the intersections at Nyankanga Block 4 shows a 70m extension of the mineralisation, beyond the designed stopes in an up-dip direction. The results at Block 5 confirm mineralisation continuity over 50m beyond the designed stopes towards the southwest. Intersections indicate a potential union of Nyankanga Block4 and Block3 Lower.

The preparation for the surface drilling at Ridge8 has been completed.

The overall assay results from Geita Hill Block 1 define low grade mineralised zones that are consistent and constrained within the Mineral Resource model as previously predicted.

The assay results reported at Selous identified a mix of low, medium and high-grade narrow ore zones defining the up-dip and down-dip continuities of the previously delineated and extrapolated mineralisation. 3D-geological and mineralisation wireframes were submitted for Mineral Resource review.

**Guinea:** Capitalised and Expensed drilling programmes completed a total of 44,529m during the first half of 2019.

At Kami, infill drilling extended mineralisation below the Mineral Resource shell into the fresh rock with significant intersections reported. At Tubani South, the mineralisation was extended in the oxide. While at Kozan, drilling confirmed that the mineralisation extends below the Mineral Resource shell into the fresh rock. Sterilisation drilling at Kozan PB3 continues with two drillholes completed.

At Silokoro, five programmes drilled during the first half of 2019. At Silokoro West drilling was completed. While one infill programme is almost complete, drilling continues on the other which shows the extension of the steep fault related mineralisation to the west of the pit. Drilling at Silakoro North is almost complete and the best intersection shows mineralisation in the laterite and mottled zone. Reconnaissance drilling at Silakoro North is ongoing with all assays results outstanding.

At Kossise, assays results confirm the extension of the mineralisation below Kossise pit into the fresh rock close to the main faults. Reconnaissance drilling at Balato North is nearing completion with all assays awaited.

Advance grade control at Foulata is half way complete. The best intersection received to date serves to confirm the Mineral Resource model. Saraya North, West & South drilling was completed in quarter 1 and the advance grade control in quarter 2.

At Seguelen, fresh rock drilling continues with no assays received yet. Observations confirm the extrapolated thick mineralised intervals in the Kintinian Formation fine grained shales. At Bidini drilling indicates that the mineralisation extends, in oxide, to the east of the pit.

At Setiguiya West, reconnaissance drilling is half complete with assays not yet received. Observations show high veining density in the central part of the target within fine grained carbonaceous sediments of the Balato Formation.

**Ghana:** At Iduapriem, the first half of 2019 drilling totalled 5,293m. The first phase of the Ajopa drilling project focussed on the south of Cut 2 whilst the second phase, currently ongoing, focusses on the north of Cut 3. Multiple significant intercepts have been drilled.

To the north west of Ajopa, random grab sampling from illegal mining operations yielded economic grades. An auger drilling campaign was undertaken, and assay results highlight two anomalous zones. The anomalous zones were interpreted to conform with the results of the previous soil geochemistry and further work is required.

Mineral Resource conversion drilling at Block 1 began in Q2. Due to overturned folding in the area, the full reef package, which is like that of Block 7&8 in geological characteristics, has been intercepted. Significant intercepts have been returned.

At Badukrom, two holes were drilled and results received indicate that the mineralisation is hosted within fault zones. Thin high-grade intercepts were returned from the first hole. Drilling also started at Efuanta.

Geological modelling at Nkyemea started in early 2019 and the designed drilling programme will focus on targeting the sub surface conglomerates in the areas where the reef was outcropping. The Block 5 & Block 5 Ext geological model was completed in Q1 and soon thereafter work started on the Ajopa model.

At Obuasi, drilling restarted late in the first half of 2019 with a total of 973m drilled in the underground exploration programme.

**Democratic Republic of the Congo:** Capitalised and Expensed drilling programmes completed a total of 10,359m during the first half of 2019.

In the Gorumbwa-Sessenge gap, drilling in Q1 highlighted the potential of mineralisation in the gap. In Q2 drilling in that area commenced. The first hole intersected the three main zones of expected mineralisation corresponding to the unknown 1008 and 9001 lodes thereby supporting the continuity of the mineralisation from Gorumbwa into the gap.

At Ikamva, overall observations support the Ikamva model. Although the BIF hinge was not intersected, the model suggests it is up plunge. Results were received and support the opening of the system towards the southeast, which needs to be tested further. The drilling programme at Ikamva-East was completed, and all results were returned. They support the consistency of the two lenses. Further sterilisation drilling will be conducted over the area ahead of planned mining.

Along the Kalimva-Ikamva hinge two holes were drilled, and the results returned support the model of the potential link between the two structures. Results also suggest the presence of other shoots within the Kalimva system.

Eight trenches were excavated on the Mandungu-Memekazi-Renzi trend. The overall results support the exploration model. While at Memekazi south, two trenches supported a potential link to the contact between the mafic unit and meta-sediment with weak (anomalous) results. The trenching programme is ongoing and is expected to be completed in Q3.

At Oere, drilling was completed in Q2 and results show an improvement in mineralisation down dip with some higher-grade intercepts located below the current conceptual pit. The results support the continuity and extension of the mineralisation towards the north and indicate a slight decrease in grade.

A trenching programme was conducted in the Mofu-Oere gap. The sub-surface (trenches and pits) data of Oere, show weak results from surface that increases down dip and plunge. Mineralisation is supported within this gap with a potential high-grade shoot that needs to be tested.

In the Oere-Kalimva Gap the drilling programme was completed, and results received indicate that there probably isn't any mineralisation in the gap. In the Aindi area, a data review was conducted including auger, trenches, DD holes and grab results leading to identification of four zones of interest with multiple lenses interpreted. While on the Zakitoko-Birindi trend, the orientation drilling programme was completed. Results indicated an extension down dip and along strike.

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

In **Argentina**, no expensed drilling took place in the first half of the year. Channel sampling continued with 11 channels cut across the Molino vein. The surface reconnaissance and mapping programme in the northern part of the CVSA lease continued. Ground magnetic lines (950km) were captured over the Laguna del Mineral and Aguila-Trinidad-Colo veins.

Infill drilling continued on the Concepcion and the Laguna del Mineral veins.

In **Brazil**, at Cuiabá, an aggressive drilling strategy is being pursued to achieve the Mineral Resource conversion goals for 2019.

The drilling campaign on the Galinheiro Footwall secondary target was completed and showed positive results. Economic gold grades were intersected from Level 11 on the quartz vein targets. While drilling on Level 13 targeting the Viana orebody returned good results with grades around 5g/t and thicknesses close to 1m. The gold grades for the Canta Galo and Balancão targets on levels 15 and 16 demonstrate high grades and continuity. The Fonte Grande target below level 19 is still showing positive results with the continuity & thicknesses well defined.

The LIB drilling programme continues but was curtailed as safety concerns resulted in poor results at the end of Q2.

In the regional programmes, at Matarelli, channel samples returned very positive results. At the Descoberto Target the logging and structural surveys have been concluded. The field work including mapping, channel sampling, checking of collars and the archaeological survey was completed.

The assay results for the channel samples from Cuiaba SW target were received with some interesting gold result reported and confirmation of a hydrothermal alteration zone. The remapping of old stockpiles near Cuiaba mine commenced. Two potential targets have been identified for further sampling and analysis.

The first field reconnaissance programme was started at the Gaia Target (eastern extension of Lamego Mine).

At Lamego, the Cabeça de Pedra target drilling campaign continued to report good results and the geological model has been updated. Results from Carruagem SW target UG drilling campaign shows high grades and good potential for continuity towards the SW. The narrowing distance between the two fold limbs has been confirmed.

Work on the Arco da Velha Oxide target started in February but has been on stopped and is on standby due to land owner issues.

At Córrego Do Sítio, capitalised and expensed drilling programmes completed a total of 54,168m during the first half of 2019. Underground conversion and addition drilling were carried out in Laranjeiras and Carvoaria.

Significant intercepts returned confirm the presence of the mineralised orebodies in both mines with thickness and grades as expected. In Carvoaria, there were several intercepts with free gold in an area that will be targeted in the second half of the year. The development of exploration drives is ongoing, in Cachorro Bravo the development has been completed. In Laranjeiras the development is ahead of schedule and at Carvoaria it has been delayed.

The surface drilling campaign in the region of the Rosalino target ended and returned excellent results. At Rosalino Sul the confidence in the Mineral Resource model was increased to Indicated.

At Mutuca, the extension drilling targeting the down plunge direction was successful. High-grade intersections were frequent, and it was possible to extend the model down plunge by at least 150m. The orebody is still open and further drilling is planned.

Five holes were completed in the northern portion of the São Bento mine and one significant intercept with free gold was received. A project to reintegrate old maps, transverse sections and orebodies interpreted over the years started. The database was reorganised, inconsistencies were removed, orebodies were divided into sectors and the oxide and transitional surfaces were reviewed based on new drilling information.

A drilling campaign was designed between levels 21 to 23. This will require 350m of rehabilitation on level 21 and the development of an exploration drift.

The first results of a spectral study for the CDS III targets were processed by corporate team.

At Serra Grande, capitalised and expensed drilling programmes completed a total of 64,148m during the first half of 2019.

At Inga, results confirmed the continuity of orebodies 9i4 and 9i2a. A significant intersection was returned from the corridor between Inga Mine and the down plunge of Mina Nova.

At Pequizão, positive results confirmed the continuity of orebody G down plunge. While positive results to the south of the Mangaba orebody confirmed the continuity and possible extension of mineralisation. Drilling at orebody 4 confirmed the continuity of the down plunge extensions.

Significant intercepts at Palmeiras South confirm the high-grade zone, whilst the intercepts returned from Mino Nova confirmed continuation and an increased volume of the main ore body.

The intercepts from Limoeiro indicate down plunge continuity as well as the presence of a short-term opportunity near the Expressa ramp.

In **Colombia**, at Gramalote an infill plan for Gramalote Central, Trinidad and Monjas West was defined and field inspections completed. The drilling procurement process has been completed and is being internally reviewed prior to the final approval.

At La Colosa, no exploration occurred.

At the Quebradona, the Feasibility drilling as well as the geotechnical testing programme have been completed. This includes the pre-work drilling campaign for the TSF, the test pits for plant infrastructure, the plant infrastructure drilling, the EIA drilling and the on mountain geotechnical programme for the subsidence area. One hole is pending for the crusher chamber.

The conceptual hydrogeological model was completed.

In **Australia**, at Sunrise Dam capitalised and expensed drilling programmes completed a total of 70,112m during the first half of 2019.

A total of 90 significant intercepts were reported in the first half of 2019; 53 from Vogue, 11 from Cosmo East, 18 from Midway Shear and Midway Shear Steeps, 1 from Carey Shear Zone, 1 from MLE3, 5 from Regional EIS drilling and 1 from Sunrise south.

Assay results returned during the first half of 2019 show:

- An extension of Vogue mineralisation south of the current Indicated Mineral Resource, over an approximate 200m strike length;
- Southern extensions to Midway Shear Steep ore domains, approximately 135m south of current Indicated Mineral Resource;
- Southern extensions to Cosmo East, approximately 140m south of the current ore domains and locally improved definition of mineralisation down-dip;
- Continuity of mineralisation along a low angle structure between the Vogue domain and Carey Shear Zone;
- Mineralisation 600m to the south of the mine, suggesting the continuation of the Vogue orebody.

Drilling also completed:

- Exploration Incentive Scheme (EIS) holes testing the southern extensions of the Sunrise Dam deposit, ~1km south of the Vogue orebody. A final interpretation report of this drilling was submitted to the DMIRS during the first half of 2019, as per EIS requirements.
- Service holes from surface into the underground workings for new electrical cables.
- New water monitoring bores outside of the expanded Sunrise Dam Centrally Thickened Discharge (CTD) Tailings Storage facility.

A regional gravity survey, covering all tenements within the Sunrise Dam Combined Reporting Group, was completed and processed.

At Tropicana, drilling was concentrated on extensions, specifically testing the potential at Boston Shaker, Tropicana, Havana North and South, Havana, Havana South, Sanpan, Madras, Angel Eyes and the Southern Traverses.

All of the Boston Shaker High Grade Extension project area drilling has been completed with significant intercepts extending the known high-grade mineralisation ~160 metres down dip with mineralisation remaining open. Sanpan returned significant intercepts.

The budgeted Mineral Resource drilling at the Madras deposit has been postponed whilst Native Title negotiations continue towards the grant of Madras mining lease. Drilling started at Angel Eyes and is ongoing. At the Southern Traverses an AC drilling programme was completed in June. Interpretation of the end-of-hole geology suggests that the graphite schist is folded or offset by faulting. This may be a prospective target if anomalous assays are returned.

The Multi-Element Geochemical study is ongoing and is expected to be completed early in the second half of the year.