

# Interim 2017 - Exploration Update

## GREENFIELDS

Greenfields exploration activities were undertaken in Australia, Colombia, Brazil, Argentina, USA, and Tanzania during the first half of the year. Greenfields exploration completed 21,502m of drilling globally during the six months ended 30 June 2017, with total expenditure amounting to \$14m.

In **Australia**, exploration activity was focussed on the Butcher Well and Lake Carey farm-in (AGA earning 70%), within the Laverton district. The RC and diamond drilling at Butcher Well was completed in early June. In H1, 24 RC/diamond holes were completed for 9,962m. The steeply west-dipping Enigmatic zone extends down-dip to a vertical depth beyond 400 m. Intercepts of 5 m @ 4.15 g/t Au from 322 m in BWD022 and 17 m @ 7.79 g/t Au from 375 m in BWD023\* define a thicker and higher-grade shoot within the zone. These holes confirm the intersection of drill hole BWD013, which returned 20.7 m @ 6.06 g/t from 351 m. A new mineralised zone has been identified 200 m east of the southern part of the Enigmatic pit. Hole BWD018 intersected 14 m @ 6.15 g/t Au from 394 m, 10 m @ 5.05 g/t Au from 459 m and 12 m @ 4.08 g/t Au from 475 m, and hole BWD026 intersected 4 m @ 5.90 g/t Au from 300 m. Hole BWD020 drilled 300 m to the south intersected 8 m at 5.4 g/t Au from 342 m. This discovery is named the Old Camp zone, and these intersections are open both laterally and vertically.

The Mt Minnie aircore drilling programme started in early June. The Mt Minnie structure extends for 10km in a north-south orientation and forms the northern extension of the Butcher well system. A total of 107 holes were drilled in the second quarter for 6,433m. A ground gravity programme of approximately 15,000 stations at 100m spacing has been completed over the western part of the Butcher well district. At the Oak Dam project, within the Tropicana belt (Tropicana JV AGA - 70%), geochemical sampling, using vacuum drilling, started in early June. A total of 768 holes have been completed, the remaining 1400 holes should be completed by end of July. Assay results are pending.

In the **USA**, a reconnaissance rotosonic drill programme was completed at the Celina Project in Minnesota (100% AGA) with 29 holes drilled for 1,034m. During initial part of the first quarter, a regional magnetic airborne survey was also completed in Minnesota (17,687km in the first quarter, 50,697km total). An option to earn 100% of the Silicon Project in Nevada was signed with Renaissance Gold. AngloGold Ashanti will have a 3-year option to acquire 100% of the property for a total consideration of US\$3M cash in staged payments and a 2.5% NSR. Geological mapping and sampling were completed.

In **Colombia** at Nuevo Guintar (100% AGA) activities are focused at reaching a decision point. Soil sampling, ground magnetic and IP programmes were completed and a 1200m diamond drilling programme initiated in June with 553m completed. The principle target is a 500m by 300m gold and multi-element soil geochemistry anomaly with an epithermal signature.

In **Brazil**, work concentrated on the Tromai Project which covers a large ~2,000km<sup>2</sup> highly prospective tenement package (AGA earning 70% from Trek Mining). Diamond and RC drilling was initiated (1,573m DD and 2,207m RC in the second quarter) over known structures associated with artisanal mining and soil geochemistry. The aeromagnetic and radiometric data (38,000-line km) collected and processed in the fourth quarter of 2016 and final products delivered in the first quarter. Geochemistry results from the first batch of drill core were received with minor anomalous results so far. With significant areas of the land package covered by recent sediments, soil or laterite, the objective is to use the geophysics to delimit well defined high priority exploration corridors within the large land package for more detailed drill target definition and drill testing in the first half of the year.

In **Argentina**, early stage Greenfields generative exploration programmes progressed.

## BROWNFIELDS

During first half of the year, Brownfields exploration activities were undertaken across the globe. Brownfields Exploration completed 261,185m of drilling for a total expenditure for the first half of US\$23.0m (capital) and US\$36.9m (expensed).

**South Africa:** Mineral Resource conversion drilling from surface continued at Mponeng. Both UD 58A and UD 60 were completed and the drill sites have been rehabilitated and signed off. The contracts for the new holes UD 61 and UD 63 are pending signature.

**Tanzania:** Exploration drilling activities included Mineral Resource conversion drilling at Nyankanga Block 5, Star & Comet Cuts 2 & 3 Underground and Geita Hill East, Mineral Resource delineation drilling at Matandani, Nyankanga Block 5 underground, 3D Seismic Target 5 and Star & Comet Cut 2 NW, and infill and underground drilling at Star & Comet (Cut 2 and 3). During the half, 143 drillholes totalling 23,299m were completed for the combined surface and underground exploration drilling programmes.

At Nyankanga Block 5 a total of 2,456m of diamond drilling was completed. Development of the access drives, ore mining and infill and GC drilling continued. Several significant drill intercepts were reported and are associated with strong silica alteration and numerous irregular quartz veins. Modelling and interpretation has shown that the Cut 9 orebody sits at the intersection between the Ioda fault and Nyankanga fault zones, where both structures cut through a folded package of BIF.

The Mineral Resource delineation drilling programme continued at Matandani from outside the pit to test the down-dip and strike extensions of the mineralised zones as well as testing the possible plunges of the ore shoots. Drilling along the western zone of the Matandani orebody continues. At least three ore shoot plunges have been identified at the Matandani Eastern zone, which are open-ended to the southeast and may link to the Kukuluma pit. One of the drillholes completed to date returned a wide high grade intercept from the eastern orezone.

Underground development exploration activities at Star & Comet focused on advancing the ore drives and their associated cross cuts, with results continuing to be positive. At Star & Comet Cut 2 NW, the Mineral Resource delineation drilling programme was concluded with one DD hole (454m) completed from surface to test the down-plunge extension of the Cut 2 orebody. A total of 5,113m of exploration diamond drilling were completed as infill and Mineral Resource delineation programmes from Cuts 2. The mineralisation at Cut 2 is controlled by a brecciated zone along the BIF-tonalite contact. At Cut 3, two ore drives were advanced at 1226mRL (north and south drives), with cross-cuts being developed at 1201mRL and 1201mRL. A total of 1,333m of Mineral Resource delineation DD drilling was completed from Cut 3. Gold mineralisation is controlled by a series of narrow fault breccias, mostly overprinted by pyrite-silica-carbonate alteration.

Twenty five RC holes were completed (1,895m) at Geita Hill East, aimed at converting Inferred Mineral Resource to Indicated in the eastern part of the design pit.

The second workshop for the interpretation of the Nyankanga-Geita Hill 3D Seismic data took place at Geita. Twelve potential targets were identified and a review of priority targets in the Nyankanga area has been finished. Drilling from the Nyankanga WD1 area started to test the first of the 3D Seismic targets, T5. A total of 369m was completed, comprising 223m RC and 146m of DD with drilling ongoing. Initial observations suggest a reasonable correlation between BIF intervals and reflectors. Detailed interpretation of the 3D seismic cube continued.

Surface geological mapping programmes were carried out around Kalondwa Hill and the NW extension of Star & Comet Cut 2, where a target for drill-testing was identified.

**Guinea:** A total of 21,811m was drilled. Infill drilling took place at Seguelen PB2, Kami, Tubani, and Silakoro, and reconnaissance drilling at Silakoro NE, Kolenda South (Ellis Park) and John Deer.

At Seguelen (480m) RC drilling was completed to improve confidence in the Mineral Resource model. The drill programme is complete and assays generally returned thin intersections confirming the model and that grades decrease away from the main NE structure associated with mineralisation.

642m of RC drilling was completed at Kami in the south eastern area of the pit, with multiple significant intersections returned that support the Mineral Resource model but also indicate a potential extension of the planned pit shell.

At Tubani, RC infill drilling (680m) was completed and no further drilling is planned due to access issues. Drilling results show that mineralised intersections are thinner and of lower grade than the Mineral Resource model initially suggested.

Infill drilling to increase confidence in the Silakoro geological and Mineral Resource models continued, in addition to reconnaissance drilling to test potential northeast extensions of the mineralisation. In total 11,571m RC and 746m DD were drilled, completing the current programme. Mineralisation occurs where a NE-SW orientated structure intersects a conglomeratic unit and multiple significant intersections were received, confirming the mineralisation in the main deposit but with relatively low grades reported from the northeast extension area. A geometallurgical study is also underway.

Reconnaissance drilling at the Kolenda South (Ellis Park) target in the southeast of the Block 1 lease was undertaken, with 2,666m RC drilling completed. Only 2 minor intersections were reported; any further work will be centred south of the drilled area. At the John Deer target south of the plant and east of the TSF, 3,296m of RC reconnaissance drilling was completed. All assay results were received with no significant intersects reported and no further work is planned.

Preliminary interpretation of the airborne magnetic and radiometric geophysical survey over portions of Block 1 and Block 2 and the Saraya West license was completed. Seven targets were identified across the Seguelen West area, as well as an area NE of the Foulata deposit and potential extensions of the Saraya mineralisation within the Saraya West licence. These targets will be validated by field mapping, focussing on outcropping and artisanal mining activity. At the Saraya West PL, a second phase of soil sampling was initiated, expanding the coverage of the 2016 programme. To date, 46% of the Saraya West programme has been completed.

Target generation and evaluation of Block 1, the Corridor Blocks and TSF Exploration Licences was carried out and will be followed up by reconnaissance work to investigate priority targets. A soil sampling programme to cover an untested area in the northwest of Block1 was initiated and is nearing completion.

**Ghana:** Exploration at Iduapriem was focused on drilling at Block 1W/ Nueng, Block 4S and Mile 5. A total of 6,039m drilling was completed (4,840m DD and 1,199m RC).

Drilling at Block 1W/Nueng continued with reconnaissance drilling concluding towards the end of the quarter while Mineral Resource delineation drilling commenced at Block 1W. Drilling in the area totaled 4,089m (624m RC and 3,465m DD). Drilling mainly targeted delineation of the conglomerate reef package along strike, with significant intersections reported. Recent drilling is focused towards the near-surface reef definition where a truncated sequence has been intersected towards the central-western area.

To upgrade Block 4S to Indicated Mineral Resource, infill drilling continued with a total of 1,708m drilled (333m RC and 1,375m DD). Drilling focused on increasing confidence in the structural model and reef displacement along the main fault.

Drilling at the Mile 5 target area continued on a southwest azimuth, drilling a total of 240m to a planned depth of 48m. Assays returned indicate continuity of mineralisation, although grades remain disappointingly low.

The results of the lease-scale geochemical soil sampling programme continue to be assessed.

**Democratic Republic of the Congo:** During the half, exploration drilling and trenching took place at Kombokolo-Rhino-Agbarabo, Sessenge-Sessenge Southwest, Aerodrome-Pamao-Megi, KCD-Kombokolo and Ikamva. A soil sampling programme is underway at Belengo.

At Kombokolo drilling to test the down-plunge potential started based on positive results from the previous half. Two holes were drilled and results are pending.

Three trenches have been completed at Rhino NE in an area located 100 m northeast of the current Rhino pit following positive results from the auger programme. This was followed up by five RC holes. The two mineralised lenses projected by the model were confirmed, albeit with a decrease in grade for one lens and an increase in thickness/drop in grade for the second lens. At Rhino Main, a drillhole

tested the northwest extension of the Rhino NE mineralisation and the down-plunge projection of the Rhino main lens. Extension of the all three lenses is confirmed but narrow relative to the conceptual model.

Geological observation of the greater Agbarabo main, Rhino and Kombokolo areas, suggest a possible link of this mineralisation with an east-northeast structure associated with the old Agbarabo pit high grade ore shoot. At Agbarabo East, drilling supports the continuity at a lower grade of the Agbarabo East lens and the down-plunge continuity of Agbarabo footwall lens identified from the Belgium pit wall. Results from three holes at Agbarabo Main support the potential of the target and a follow up programme is planned.

At Sessenge Southwest, assay results were received for the remaining four trenches completed in the northwest of the western limb of the Sessenge SW fold. Overall the results support the mineralisation model. Interpretation and modelling of the Sessenge SW data indicate mineralisation to be at the contact of the BIF with meta-conglomerate and associated with complex poly-phase folding. Three DD holes were drilled to further test the mineralisation model. Results from these holes identified four main mineralised lenses, open down-plunge and supporting the continuity of the mineralisation projected from trenching.

A drilling programme of 17 RC holes and 20 DD holes was initiated at the Aerodrome deposit, with the aim of firming up on the geological model, in particular discrepancies between the lithological interpretation and assay results in the northern and southern areas. In the southern zone, nine RC hole (814m) were completed, and eight RC holes (693m) in the northern zone. The results generally support the modelled lenses in both zones and provide additional information in lithological variation across the area. The DD programme completed 20 holes in the southern zone.

At Pamao, which is planned for mining in 2018, results of the remaining diamond hole and first phase trench were received. The diamond hole is part of six diamond holes completed last quarter, infilling the historical holes in the high grade zones. The overall results indicate an increase in grade and a decrease in thickness relative to the previous model. A second phase of 100m infill trenching was completed, with a third phase of 50m infill trenching completed to delineate the surface expression of the mineralisation.

Gap analysis between Megi and Aerodrome over a 4.1 km strike length through Pamao and Pakaka deposits identified two targets: the Makoke area between Megi and Pamao, and the Pamao-Aerodrome gap. Three trenches recently completed over the Makoke target support the concept, intersecting three mineralised lenses. Infill trenching is planned.

Four fences of RC holes (2,431m in 23 holes) were completed at Kalimva-Ikamva targeting the down-plunge and down-dip continuity of mineralised lenses identified in the Belgian pits and intersected in recent DD holes. Preliminary projection based on the positive results from these fences and incorporating historic pits and previous drilling indicates that Kalimva, modelled as steep planar mineralisation developed along a shear, has significant economic potential, with mineralisation open at depth. Follow up drilling is planned.

Geological investigations continued in the Aindi-Watsa Dilolo Zambula area and were focused on the Aindi Watsa-Dilolo gap, characterised by a thick package of meta-siltstone and chloritic metamorphics with numerous artisanal workings. Two trenches were completed to test the mineralised east-northeast striking shear corridor. Results support that the association of mineralisation with the shear-hosted quartz veining but the low tenor and vein frequency does not support further work at this time.

The Belengo area is a regional target 30km east of KCD, with geological similarities to the KZ trend. A pitting orientation survey was completed prior to a planned soil survey programme to better understand the regolith profile. The soil sampling programme is ongoing, focused along an interpreted N-S trending structure. 2,458 samples have been collected from the first of the priority target areas.

**Republic of Mali** – RC drilling (2,460 m) was completed at Tambali West and Dogofile and DD (761 m) was completed at Tambali North, SSP North and FN bc. In addition, a total of 1,195m of DD was conducted at FE3 and FE4 as part of the SSP to investigate the potential of the main shear below the

pits that are earmarked for in-pit tailings disposal. In addition, a total of 1,351m of sterilisation drilling was conducted at FE4 to assess the suitability for in-pit tailings deposition for SSP.

At FNbc, 221 m DD was completed to test for the shallow sulphide mineralisation along the NNE trend. Visually, there was no significant mineralisation observed and results are pending. Results from the DD completed in late 2016 below the FNa pit confirmed the sulphide mineralisation but with slightly lower gold grades than expected.

One DD hole (250m) was drilled on the western part of the Sadiola North pit to investigate the SW plunge of the mineralisation at the intersection of the NNE trend and the main N-S Sadiola trend. A weakly mineralised 10m-wide breccia zone was intersected.

The DD hole at Tambali North confirmed the RC hole results with elevated gold grades and mineralisation considered to be controlled by a shallow east-dipping structure. A second diamond drill hole (120m) was drilled this quarter to follow up on the shallow sulphide mineralisation was entirely within the QFP dyke that has minor mineralised dark inclusions with metagreywacke. There is a shift of the mineralisation towards the east as it extends below the small waste dump between Tambali North and Sadiola.

DD in the FE4 pit was completed. The northern hole intersected a twenty-metre wide zone with discrete narrow massive pyrite veins and indications that the mineralisation could plunge northerly. The major structures intersected to date have been well-sealed, lowering the potential hydrogeological risk presented by the main shear. The drilling at FE3 commenced late in the half and will test for shallow sulphide mineralisation below the pit, especially where the pit bottomed in high grade intersections and following up work done by CET in 2013/4

RC drilling focused on oxide targets at Dogofile and Tambali West. Eight holes (1,028m) were drilled at Tambali West on the western extension of a broad arsenic anomaly associated with N-S to NNE trending geophysical lineaments. The area is characterised by deep weathering along lithological contacts. Results received to date were very poor but confirmed the down-dip continuation of the carbonate-hosted low grade mineralisation on the western edge of the Tambali south pit.

Ten holes (1,432m) were drilled on two lines 500m apart at Dogofile to test a lithological contact on the western part of the FE trend arsenic anomaly. Most assay results have been received with no significant mineralisation reported. An additional target to the south, associated with a major strike change, will be tested later in the year.

A total of 1,831 samples were analysed by XRF, including RC samples from the Dogofile arsenic anomaly and Tambali West, and core samples from FE4, Sadiola North and Tambali. Analysis of the Sadiola North and Tambali results indicate that arsenic, antimony, molybdenum and sometimes copper form a broad alteration envelope with low gold grades.

In **Argentina**, drilling started at Cerro Vanguardia for the year. Most of the drilling meters were focused on extensions of ore zones and new targets. During H1, 4,370m were drilled in total within the Cerro Vanguardia tenements. The Claudia JV earn-in was concluded ahead of the one year anniversary. Other work was completed to support target generation included trenching and channel sampling programmes to refine drill targeting.

In **Brazil**, exploration continued at the Cuiaba, Lamego and CdS production centers for AGABM with 47,115m drilled during H1 from the combined surface and underground drilling programmes. Targets included ore body extension at Cuiaba and CdS. Follow up infill drilling to support mine planning and Mineral Resource conversion was also completed.

At Serra Grande, 23,943m were drilled as part of the exploration and Mineral Resource conversion programs. Drilling target generation activities included mapping and soil sampling programs.

In **Colombia**, the Gramalote JV completed 3,816m of drilling in total. Part of the programme was designed to support site and infrastructure investigations. The saprolite infill drilling programme was completed to better define the thickness and gold mineralisation in the horizon. Work to update and

refine the geological model progressed in H1 to support the pre-feasibility study. Drilling continued on targets within the JV regional tenements outside the main resource area.

At La Colosa, 946m were drilled as the site investigation geotechnical and hydrology drilling programmes continued.

The Quebradona JV programme continued a drilling programme to support pre-feasibility study site investigation geotechnical and hydrology data collection. 2,132m were drilled.

In **Australia**, at Sunrise Dam drilling targeted Vogue Deeps, north extensions to Cosmo and Cosmo East, Hammerhead and down dip extensions to Cosmo, Cosmo East and Dolly. Some of the holes drilled to target Vogue Deeps and Cosmo East down dip are within close proximity to Carey Shear zone, therefore some of these holes have been designed to pass through the shear and into the footwall. A total of 43,002m were drilled.

Drilling of Vogue Deeps continued with the 80m x 80m spaced drill pattern completed. 40m x 40m (Inferred) and 20m x 40m (Indicated) drill phases have now commenced to target between 1600mRL and 1400mRL in order to bring a prospective volume into Indicated to allow for conversion to Ore Reserve. Results continue to be encouraging.

Mineral Resource delineation drilling to test northern extensions to Cosmo and Cosmo East have been completed, with assays for the last fan still outstanding. The results have shown a thin mineralised domain continuing north of Cosmo East. Cosmo North is largely barren and appears to have been closed off. It is expected there will be a small addition to the Ore Reserve in this panel.

Mineral Resource definition drilling targeting Cosmo East, Cosmo and Dolly down dip extensions was initiated after a successful delineation drilling programme which intersected consistent mineralised intercepts containing visible gold. Drilling commenced late in first quarter, from stockpiles off of the Cosmo East Decline. All assay results are outstanding

Mineral Resource delineation drilling of Hammerhead began, targeting eastern extensions to the orebody. Holes drilled to date showed mineralised zones but no significant intercepts were obtained.

The final assays were returned for Elle, with a further three intercepts reported. Additional development to the south has been authorised to continue exploration. This extensional drilling is scheduled for first quarter 2018.

67 significant intercepts were returned during the half; 33 from Vogue Deeps, 6 from Cosmo East northern extensions, 16 from Cosmo East down dip, 4 from Cosmo down dip, 3 from Elle and 3 from west of Cosmo and 2 isolated intercepts from Hammerhead.

At Tropicana, during the period exploration drilling consisted of reverse circulation (RC), diamond core (DDH) and aircore (AC) drilling, for a total of 41,412m drilled. RC (19,807m) and DDH drilling (2,872m) programmes targeted Sanpan, Zebra, New Zebra, Hat-Trick, Springbok and Southern Mining Lease (ML) in the first quarter and Angel Eyes, Beetlejuice, Crouching Tiger, Kamikaze, Little Wing, Springbok and Zebra in the second quarter.

A number of minor, mineralised results were intercepted at Sanpan and New Zebra during first quarter. Mineralisation was intercepted at Angel Eyes, Crouching Tiger and Springbok in the second quarter. All results have been returned from Zebra and Southern ML Targets with no significant results.

Aircore drilling was completed at New Zebra, Kamikaze and Little Wing between March and May, totalling 18,733m. A number of significant aircore intercepts were returned from New Zebra. No significant intercepts were recorded from Little Wing or Kamikaze.

Also refer to the Press Release issued on 13 July 2017 on:

[http://www.anglogoldashanti.com/en/Media/news/Pages/20170711\\_AGAA\\_ButcherWells.aspx](http://www.anglogoldashanti.com/en/Media/news/Pages/20170711_AGAA_ButcherWells.aspx).