



Geologist Micheline Kyenge inspects a piece of high-grade chalcocite ore from the Kakula Mine northern access drive spiral. Gray-coloured chalcocite – Kakula's predominant type of ore – **is nearly 80% copper by weight**. In October, this northern access drive, as well as the two main access drives being advanced from Kakula's southern decline, entered the **+8% copper** zone near the centre of the deposit. **The northern and southern access drives soon will be connected– a major milestone in Kakula's development.**

Building what will be **3 of the world's best mines** and exploring for the **next copper giant** in Southern Africa's legendary mineral fields

**WESTERN FORELAND**

Copper exploration  
Democratic Republic of Congo's  
Central African Copperbelt

**KAMOA-KAKULA**

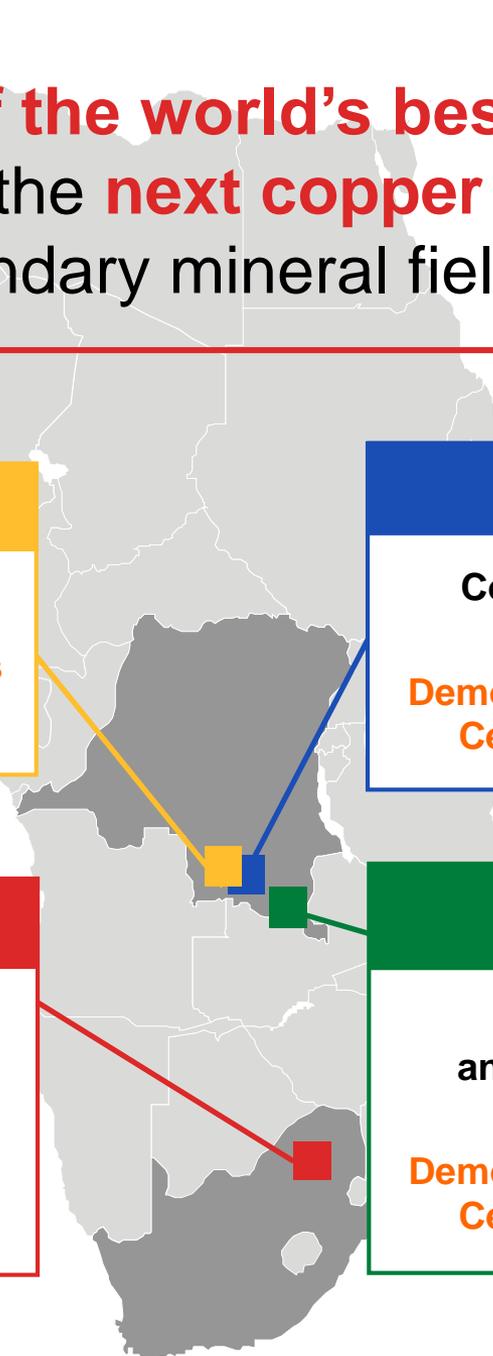
Copper mine development  
and exploration  
Democratic Republic of Congo's  
Central African Copperbelt

**PLATREEF**

Mine development at  
platinum-group elements, gold,  
nickel and copper discovery  
South Africa's  
Bushveld Complex

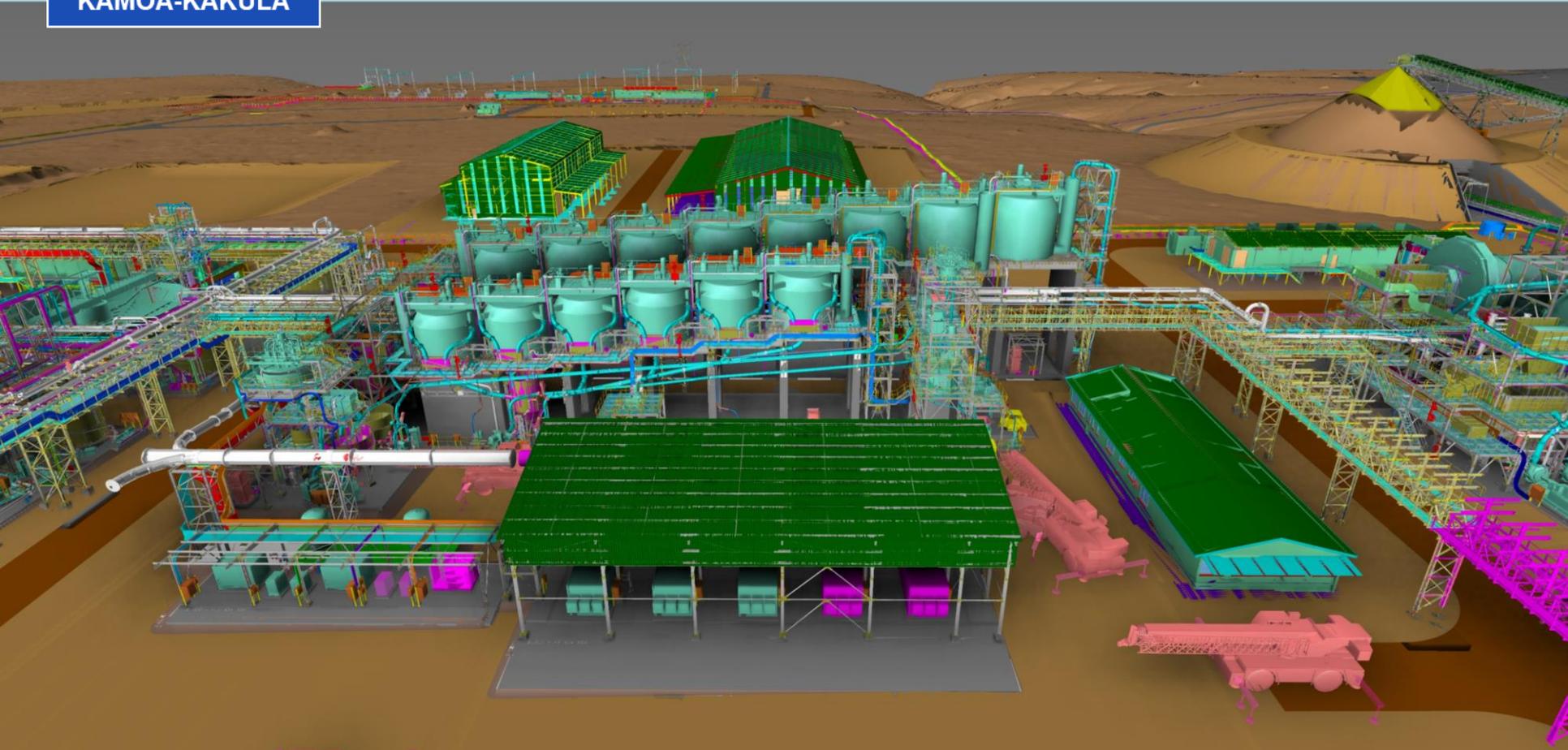
**KIPUSHI**

Zinc, copper, silver  
and germanium at historic,  
high-grade mine  
Democratic Republic of Congo's  
Central African Copperbelt

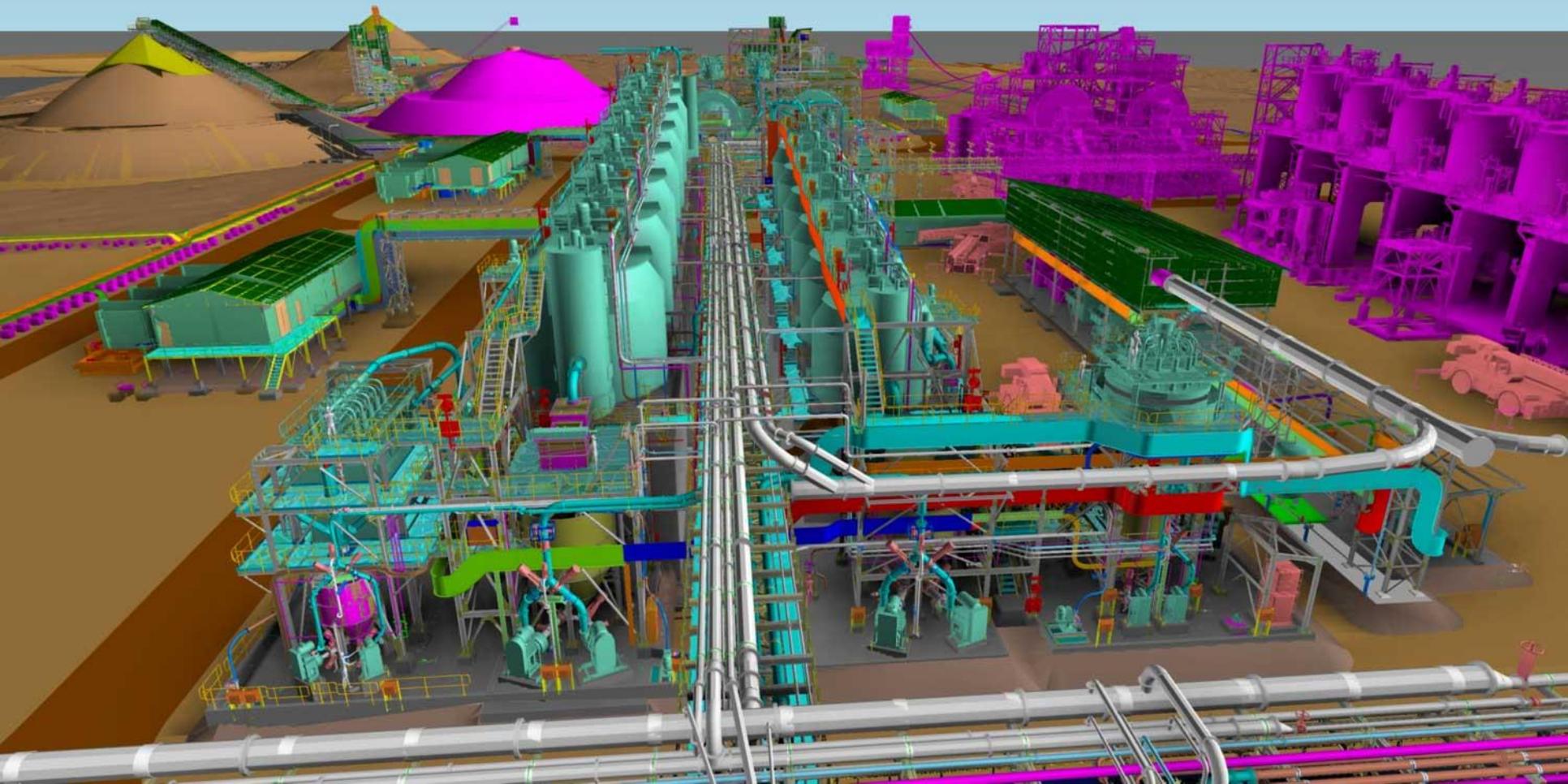




Technician Nicolas Numbi in the Kamoa-Kakula laboratory where ore samples are prepared and analyzed. Overall first phase project completion is more than **58% complete**, with the start of initial production ramping up to 3.8 million tonnes per annum (Mtpa) on track for July 2021. The second phase of the project's development to 7.6 Mtpa also is underway.



3D illustration of the completed Kamoia-Kakula first-phase flotation area of the 3.8 Mtpa concentrator plant. Based on extensive testwork, the concentrator is expected to achieve an **overall recovery of 85%**; producing an extremely high-grade concentrate containing **more than 55% copper**, with essentially zero arsenic.



An alternate view of the 3D illustration of the first 3.8-Mtpa concentrator plant flotation area, with the recently-initiated second 3.8-Mtpa concentrator plant shown in magenta.



Kamoakakula's initial 3.8-Mtpa concentrator plant under construction, showing the two rows of green flotation cells (rougher cells on the left; scavenger cells on the right), and the two ball mills (yellow). View a short, fly-over video filmed on October 31<sup>st</sup> showing construction progress to date on the plant:

<https://vimeo.com/474179724>

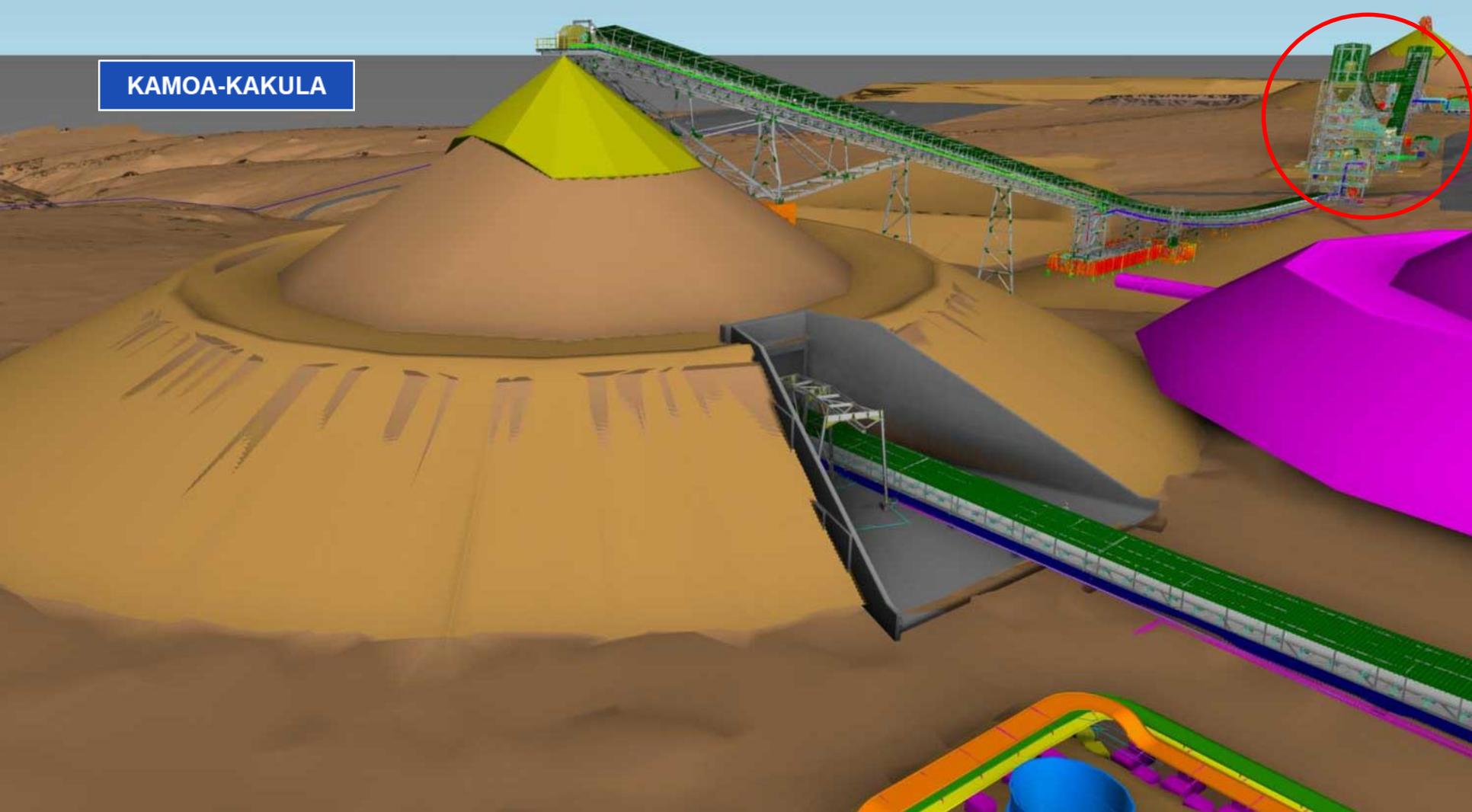


A 3D illustration of the finished ball mills (in light green), with the next two ball mills for the recently-initiated second concentrator plant shown in magenta. The first-phase (dark green) and second-phase (magenta) high-pressure grinding rolls buildings are shown in the red circle.



The two identical ball mills that will be used to grind copper ore at Kakula's initial 3.8-Mtpa concentrator plant. View a short, time-lapse video showing the installation of a girth gear on one of the two ball mills: <https://vimeo.com/467851443>

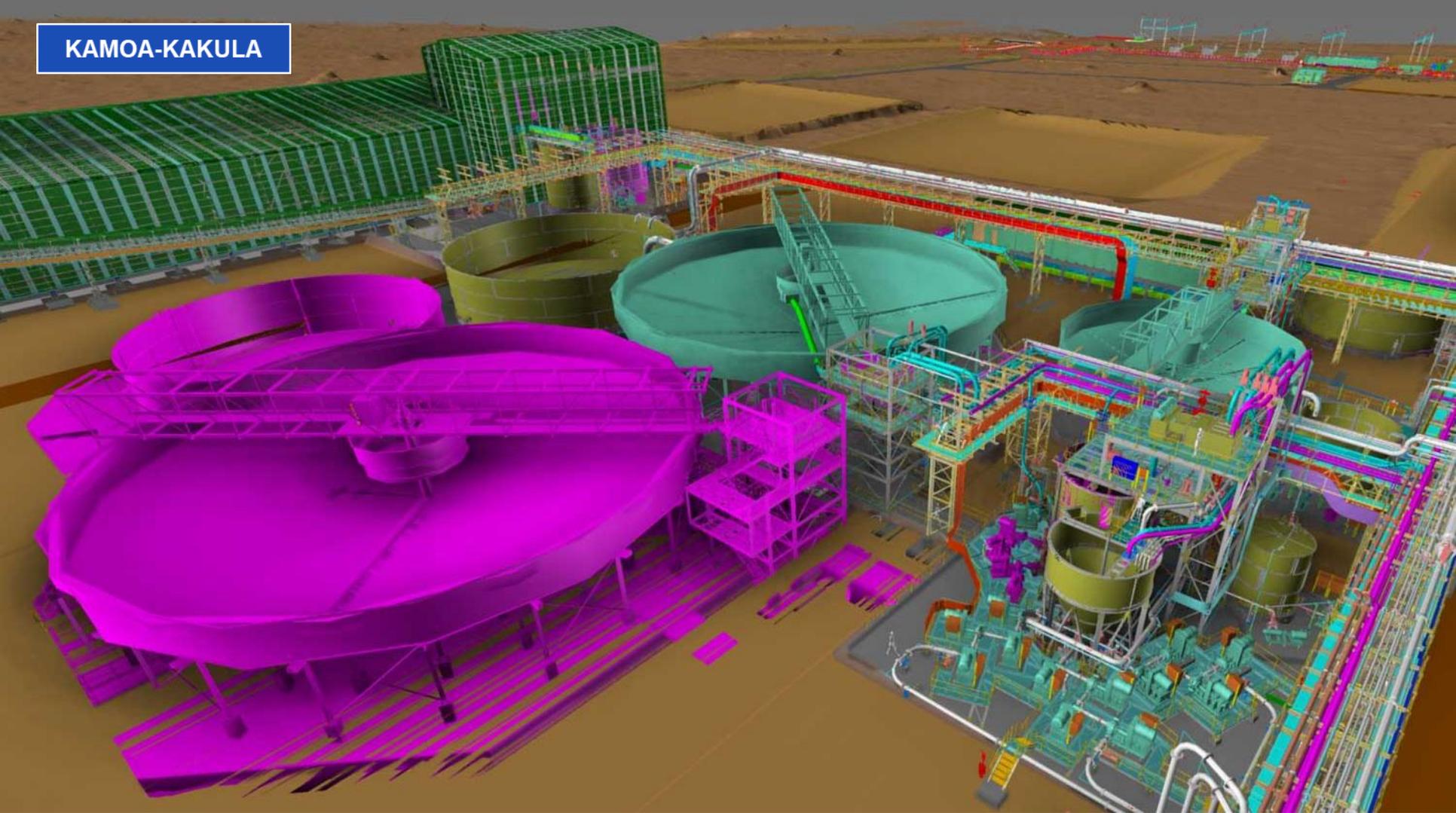
## KAMOA-KAKULA



3D illustration of Kakula's high-pressure grinding rolls stockpile, as well as the conveyor system that will transport ore from the screening building (in red circle on the right) to the stockpile. Ore from the stockpile will be fed to the high-pressure grinding rolls.



Close up of the two ball mills; with one of the 7-megawatt, variable-speed-drive motors (blue), manufactured by WEG Industries in Brazil, and the high-pressure grinding rolls stockpile under construction in the background.



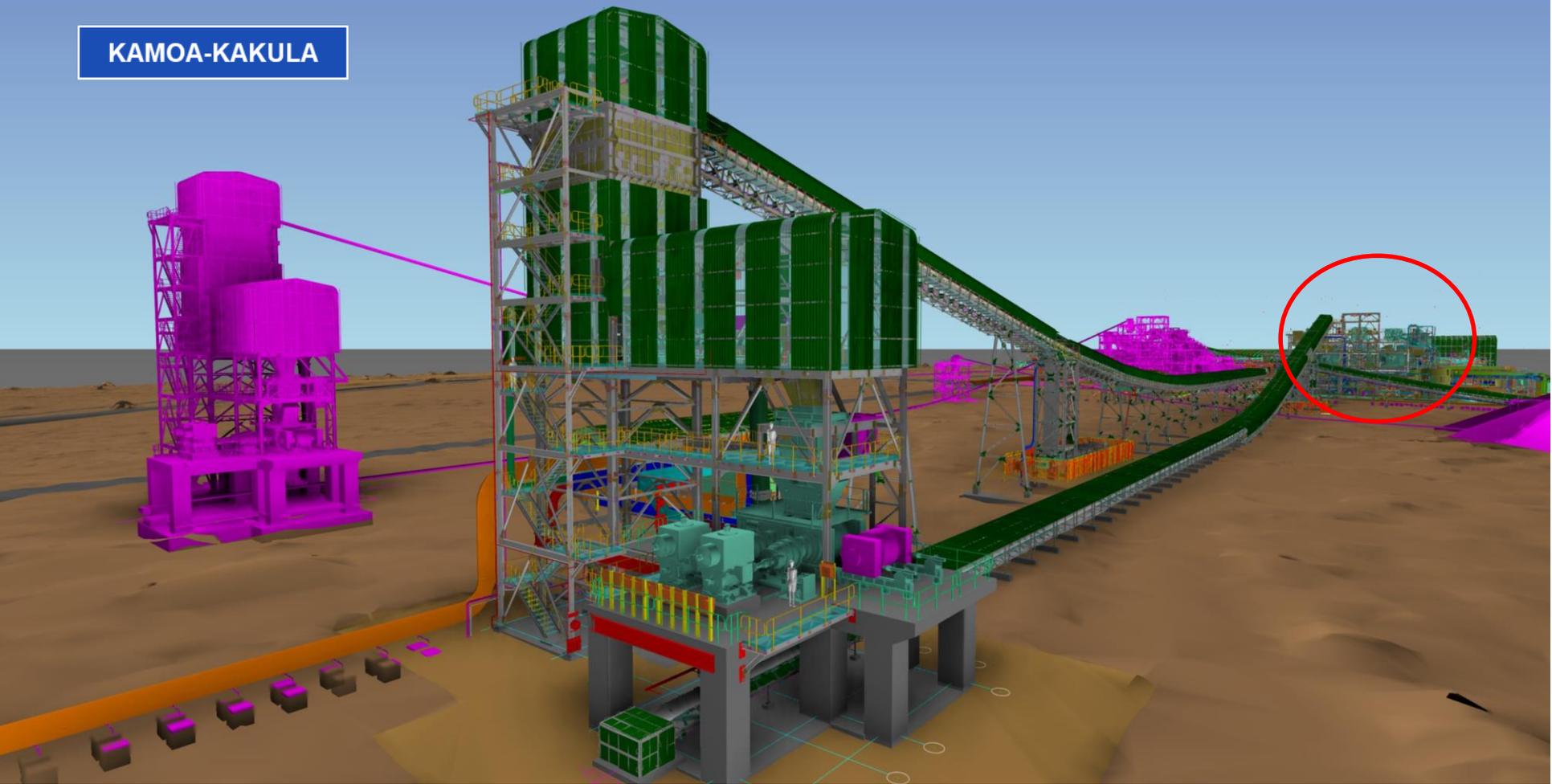
3D illustration of Kakula's concentrator tailings thickener (larger one) and concentrate thickener (smaller one), with the concentrate filtration, bagging and storage building in green and the recently-initiated second phase shown in magenta.



Kakula's concentrator tailings thickener (larger one) and concentrate thickener (smaller one), with the concentrate filtration, bagging and storage area (in the red circle), and the process water dam (in the background) under construction.



Kakula's concentrator reagents plant and storage buildings being erected, with recently delivered equipment in the background.



3D illustration of Kakula's high-pressure grinding rolls that will receive crushed ore from the dedicated stockpile and perform a second stage of size reduction before being screened and fed into the ball mills (in red circle) for further grinding and subsequent processing. The second-phase high-pressure grinding rolls, ball mills and concentrator are shown in magenta.



3D illustration of the finished paste backfill plant (with first-phase concentrator plant in the background). The backfill plant will blend tailings from the processing plant with cement to produce paste backfill to be pumped back into the mine and used to help support mined-out areas. Approximately one half of the mine's tailings will be sent back underground, significantly reducing the surface tailings storage.



Kakula's first phase, paste backfill plant under construction in the foreground, with the initial 3.8-Mtpa concentrator plant in the background.



A Sandvik ore haulage truck tipping high-grade ore into the Kakula north tip bin, for transportation via the conveyor system to surface.



High-grade copper ore being delivered to surface by the underground conveyor system in front of the gabion wall for the bulk reclaim tip system, which will be used to feed ore from Kakula's surface stockpiles (and ore from the Kansoko Mine when second-phase operations begin) to the processing plant. The project mined and delivered to surface **194,000 tonnes of development ore grading 4.01% copper** in October.



A Sandvik 51-tonne truck delivering ore to the high-grade pre-production stockpile at the Kakula southern decline. At the end of October, this high-grade stockpile contained an estimated **67,000 tonnes grading 5.05% copper.**



A crane lifts a section of metal ducting into place at Kakula's ventilation shaft #2. View a short, time-lapse video showing the installation of ducting at Kakula's ventilation shaft #2: <https://vimeo.com/473146788>



Kakula's underground Structural Mechanical Piping & Platework (SMPP) crew at the ventilation shaft #2 central transfer dam.



Tresor Kalenga Musoya (top), Liang Yang (middle) and Chanzhong Yang (bottom) installing the high-tension conductors for the new 35-kilometre powerline that will carry high-voltage (220 kV) hydro-electricity from the national grid to Kamoa-Kakula.



Kakula's 220-kilovolt (kV) substation under construction. In December 2020, Kamoakakula is expected to tie in the 35-kilometre, 220-kV power line connecting the Western Dispatch substation in Kolwezi to Kamoakakula; supplying the project with reliable and clean hydro-generated electricity from the national grid.



Jinha Numbi Kabange, Surveyor, measuring underground development progress. At the end of October, Kakula's main access drives between the northern and southern declines had less than 100 metres remaining before they will connect in the high-grade centre of the deposit.



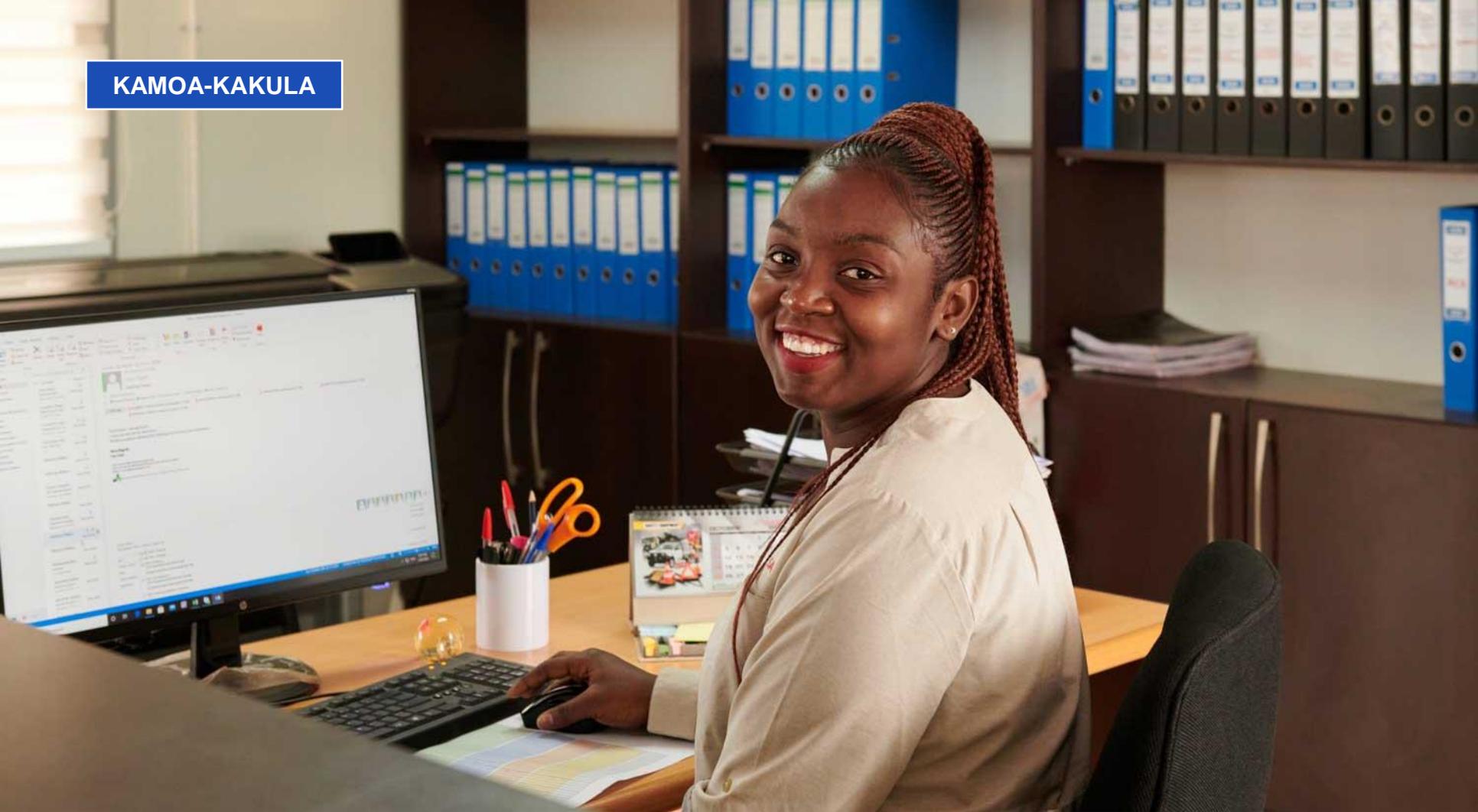
Dodo Mukunda, a contractor with DRC-based Orezone Drilling, assists with cover drilling operations at the Kansoko Mine. In October, mine development work intersected the first exposure of siltstone, marking the transition to higher copper grades at Kansoko.



Chamec Kasatuka Mpungwe operating a piece of semi-autonomous mining equipment at the Kansoko Mine.



Charles Nzavu, technician, collecting magnetic susceptibility data for a Kamoia exploration drill hole. This data is useful for regional stratigraphic studies, which helps to identify new exploration targets.



Melissa Makeba, receptionist at the state-of-the-art Kamoia Copper Training Centre. Kamoia-Kakula is training a new generation of young Congolese women and men to safely operate modern, semi-autonomous equipment in the highly-mechanized, world-scale underground copper mines being built at Kamoia-Kakula.

## KAMOA-KAKULA



Sandra Kasukulu (upper left), Nathan Banze (upper right), and Serge Lumbala (left), prepare locally grown food in the new Kakula Village kitchen.



Irene Kipapa, a member of the Kamoia Copper SA landscaping team, pruning pineapple borders at Kakula Mine office.



A community fish farm near the Kamoia-Kakula Project, a Kamoia-Kakula Sustainable Livelihoods program designed to enhance food security and the living standards of the people who reside within the project's footprint.



Agronomists Benoit Mujinga (left), Alain Mukoj (front) and Fabrice Mazeze (right) showcase a new crop of bananas at the Kamoa-Kakula Sustainable Livelihoods banana plantation.