MMG Kinsevere

February 2016

History of DRC and political landscape

1870s - Belgian King Leopold II sets about colonizing the area as his private holding.

1908 - Congo Free State placed under Belgian rule following outrage over treatment of Congolese.

1960 - Independence, followed by civil war and temporary fragmentation of country.

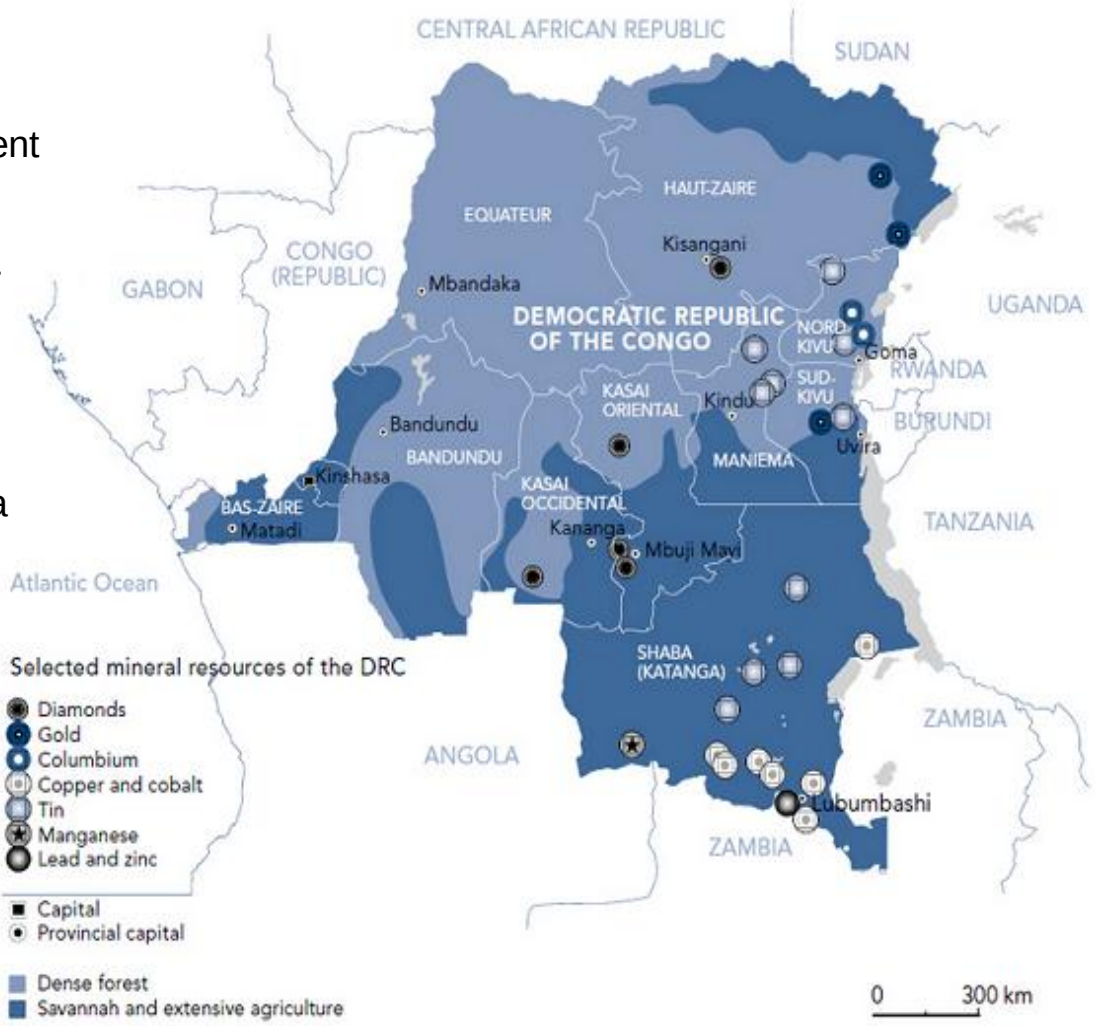
1965 - Mobutu Sese Seko seizes power.

1997 - Rebels oust Mobutu. Laurent Kabila becomes president.

1997-**2003** - Civil war, drawing in several neighbouring countries (Africa's first world war).

2003 - **2012** - Conflict persists in the east.

2006 - Presidential elections Joseph Kabila declared winner.



Overview

Location:	Katanga province, Democratic Republic of the Congo
Ownership:	100% MMG
Mine:	Open pit (Tshifufia, Tshifufiamashi and Kinsevere Hill)
Throughput:	2.2 Mtpa, mine, crush, grind, float, solvent extraction, electrowinning.
Product:	Copper cathode.
Mine Life	2023

History of Kinsevere

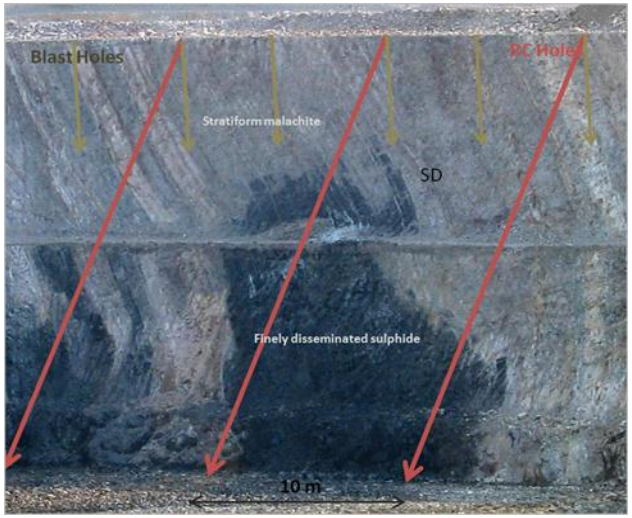
2004	Anvil enters into joint venture agreement with Mining Company Katanga to carry out feasibility study work on the Kinsevere-Nambulwa copper-cobalt deposits owned by Gecamines.
2006	Anvil annonces approval for the Phase 1 development of Kinsevere and feasibility study of the Phase 2 SxEw development.
2006	Anvil completes acquisition of a further 15% of the Anvil Mining Company Katanga (AMCK) taking 95% ownership of Kinsevere. Payment equivalent to US$45m in cash and shares.
2007	Board approves Phase 2 US$238m project to build 60ktpa SxEw plant – late revised to US$380m.
2007	Production from Phase 1 commences in July through HMS plant.
2010	Kinsevere HMS plant processes approximately 300kt or ore, producing approximately 67kt of copper concentrate.
2011	Construction of SxEw plant complete with first production in June, coinciding with closure of HMS plant.
2011	MMG announces friendly takeover of Anvil Mining for $C1.3b cash offer September 2011.
2012	MMG acquires remaining 5% minority stake from MCK.
2013	MMG divests Mutoshi project and acquires exploration and mining rights over eight tenements adjacent to the Kinsevere operation.
2015	Kinsevere produces over 80kt of copper cathode at C1 cost of US$1.48/lb.

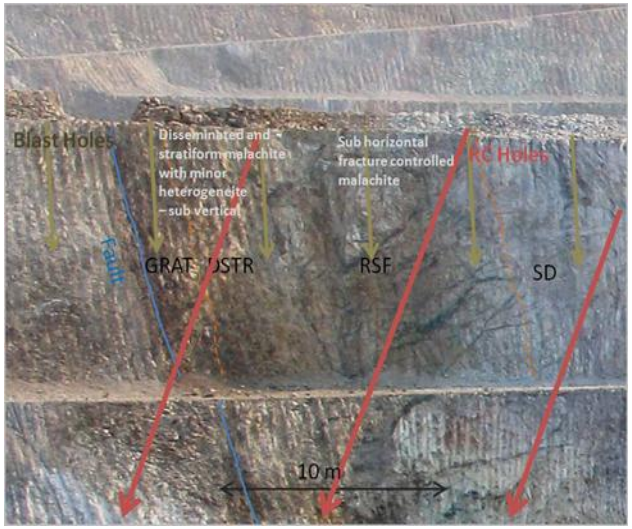
Site Layout

1 – Central Pit
2 – Mashi Pit
3 – ROM pad
4 – Milling & Leach cct
5 – SX Plant
6 – EW Plant
7 – Tailings Facility
8 – Operations Camp
9 - Old TSF

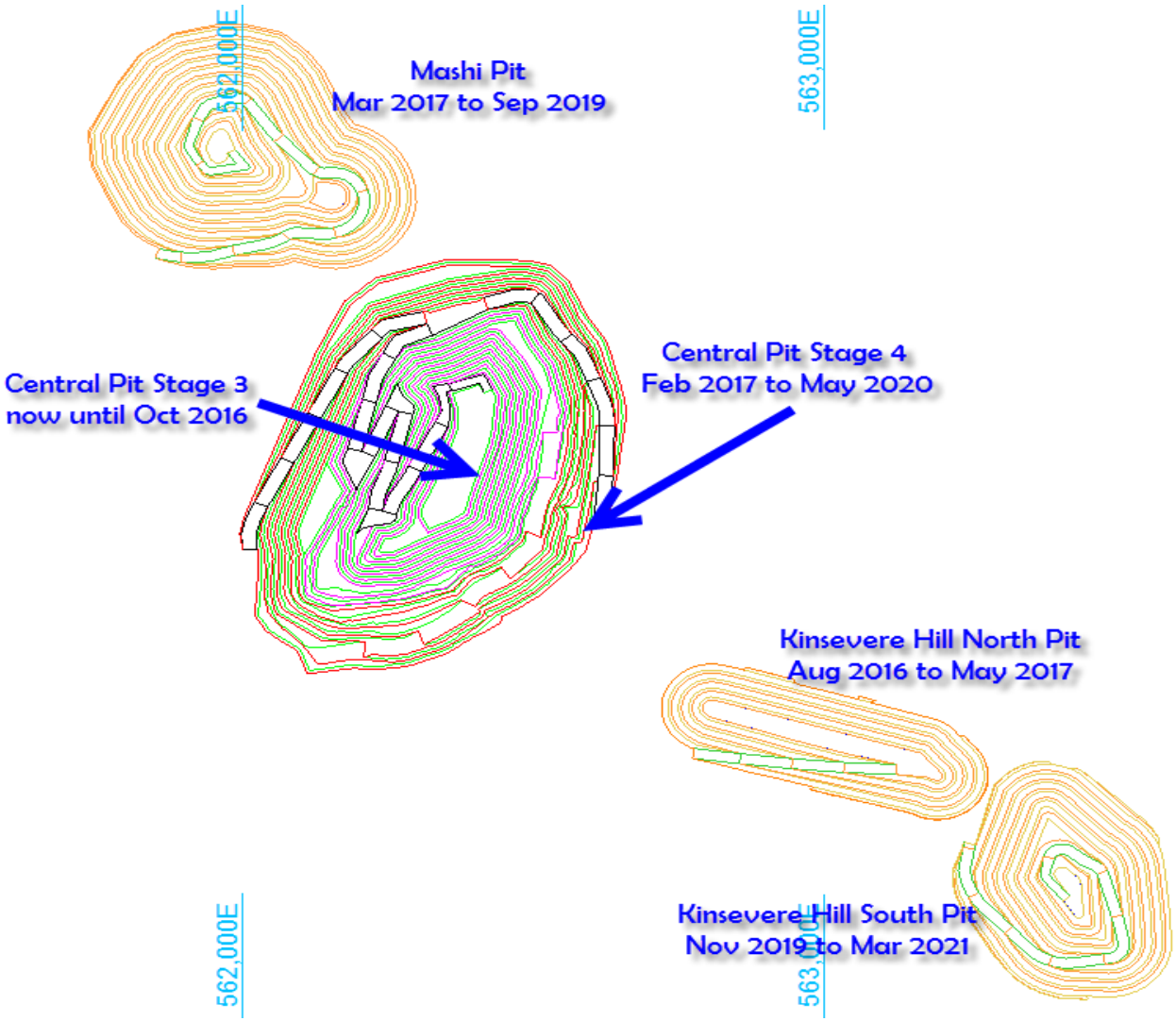
Geology

Formation	Unit	Lithology	Comments	Mineralisation	Thickness
Kambove Dolomite CMN	Upper R2.3.2.	Pale coloured dolostone; evaporitic breccia	Stromatolites		40
	R2.3.2.		Pink brown-white massive; mineralised	THIRD OREBODY (lenticular) Mineralised at Kinsevere	
	R2.3.1.	Grey or black dolostone & shales	Laminated, locally carbonaceous		70
R2.2 Dolomitic Shales SD	S.D.3b	Dark dolomitic, silty & carbonaceous shale	Simplest sub-division by Francois consists of 3 units pale grey dolomitic siltstone overlain by carbonaceous shale. BOMZ & SDB not defined or developed at Kinsevere		50-100
	S.D.3a	Grey dolomitic siltstone			
	S.D.2d	Carbonaceous silty shale			
	S.D.2b+c	Stromatolitic dolomite & dolomitic silty shale		UPPER OREBODY	
	S.D.2a	Carbonaceous siltstone & dolomite			
	BOMZ	Carbonaceous shale/dolomite			
	SDB	Grey dolomitic siltstone	Evaporitic texture		
R2.1	RSC	Silicified dolomite	Vuggy; stromatolitic	ABSENT AT KINSEVERE	
	RSF	Finely banded laminated argillaceous dolostone	Hardly silicified at Kinsevere	LOWER OREBODY	<2
	DSTRAT	Fine >coarsely banded, planar bedded shaley/silty dolomite	Distinct 1-5cm nodules replaced by silica/dolomite or sulphides		3
	Grey RAT	**Chloritic & dolomitic argillite siltstone**	**Massive, occasionally sandy. Reducing environment**		1-3

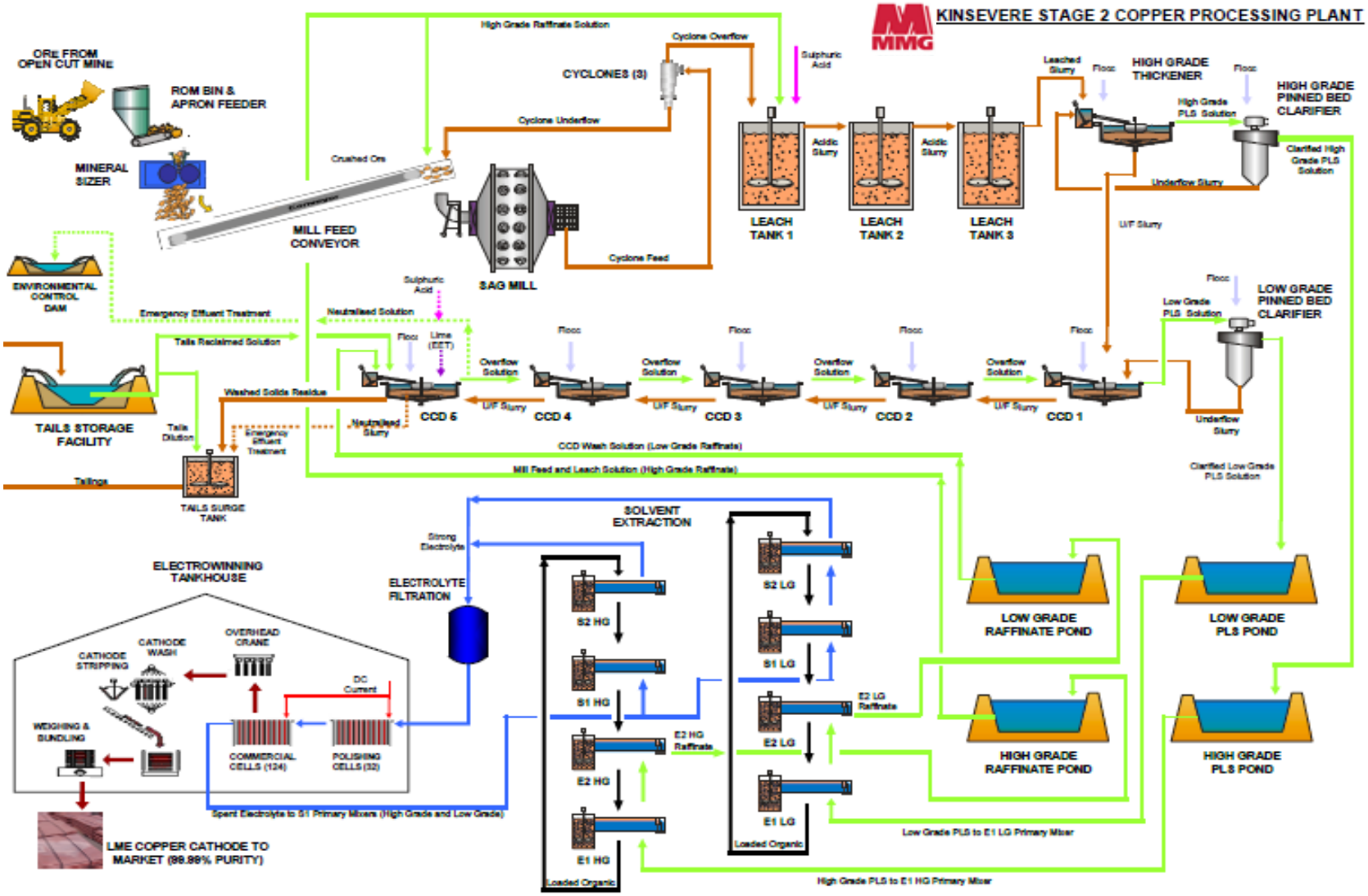




Mine Overview



Metallurgy flow sheet (M,L,SXEW process)



Crushing and Grinding

- MMD mineral sizer as primary size reduction asset
- Stage 1 jaw crusher as redundancy asset
- Up to 300 tph feed into SAG
- Mild steel mill shell with epoxy coating
- Milling occurs in acid liquor

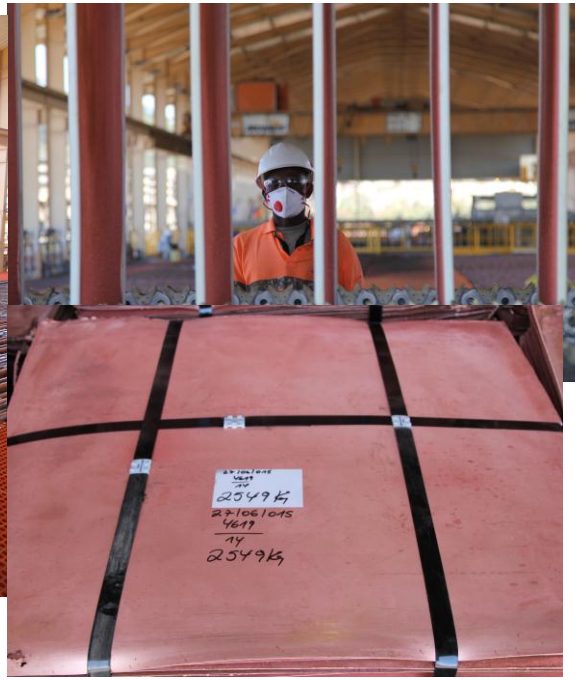
Leaching and CCD circuit

- Milled material starts leaching early in SAG mill
- Material leaches further in leach tanks
- CCD circuit to separate high, medium and low grade Cu pregnant liquors
- Buffer pregnant solution ponds before SX
- Tails pumped directly to tailings impound

Solvent Extraction

- Twin Solvent Extraction cct's
- (High and Low Grade)
- Fire gap design between cct's
- Pregnant liquor ponds are strategic buffer

Electrowinning



2 Tankhouses – Outotec Technology
2 stripping machines (redundancy and flexibility)
Bundle size : ~ 2,5 Tonnes per strapped Bundle
Cu Stripped/day : Max 280

Thermal cameras to be used for improved CE
Quick Safe hot spot detection

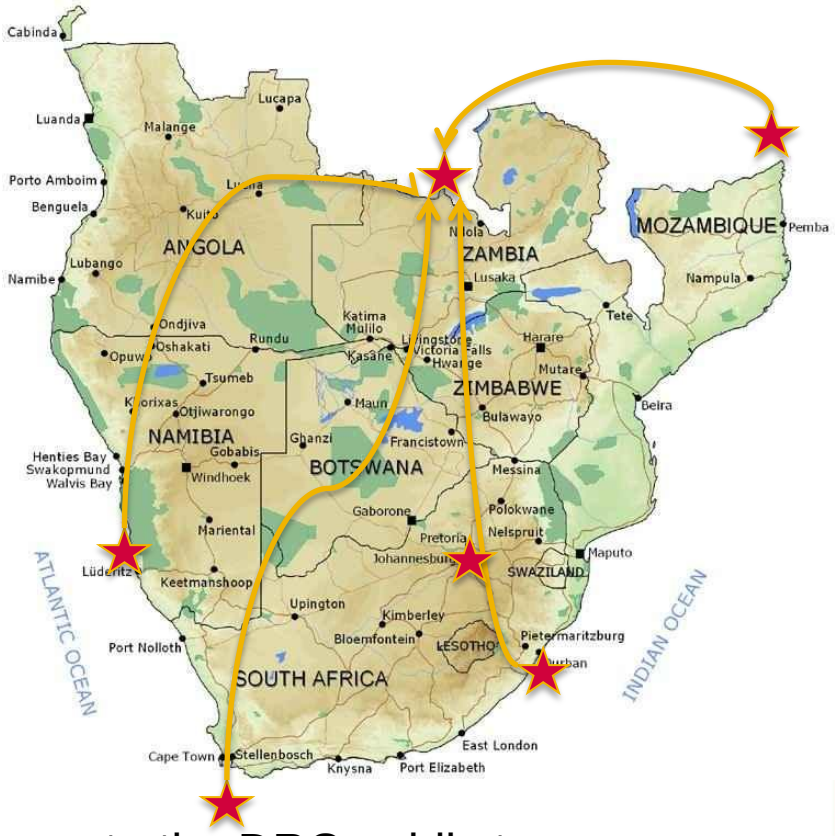
Tailings – Dams

- Downstream contruction – Benefit of increased buttress walls
- Annual Lifts
- Fully lined Tailings compound
- Life of Mine Facility

Transport and Logistics

Outbound Logistics
Cathodes are trucked to Dar-es-Salam, but freight responsibility shifts to Trafigura who is Kinsevere only customer from mine gate.

Inbound Logistics:
2400 Km logistics pathway
All consumables and spares are trucked into DRC
Up to 4 border crossings from South Africa



Royalties
As holder of a mining exploitation licence we pay to the DRC public treasury mining royalties on the proceeds of the sale of its production (less transportation, analysis, insurance and sale costs) at a rate of 2 per cent for non-ferrous metals. Such royalties are due upon sale of the product. The mining royalties paid by the holder are deductible from the taxable basis of the tax on profits.

Marketing

Products: Copper cathode

Production: **2016 guidance**
Copper: 75 - 80 kt contained zinc
US$1.40-US$1.55/lb

Product sales: **Life of Mine offtake agreement Contract with Trafigura.**

Product sold into international markets by Trafigura.

WE MINE FOR PROGRESS