

Lonmin Group

LONMIN

# PROCESS DIVISION- SMELTER

**Frans De Beer**  
**Senior Manager - Smelter**

---

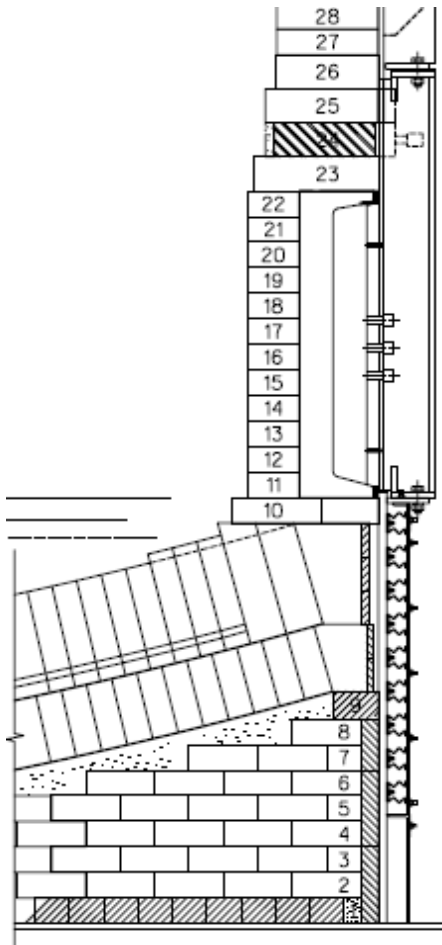
# KEY OBJECTIVES OF THE DESIGN CHANGES

---

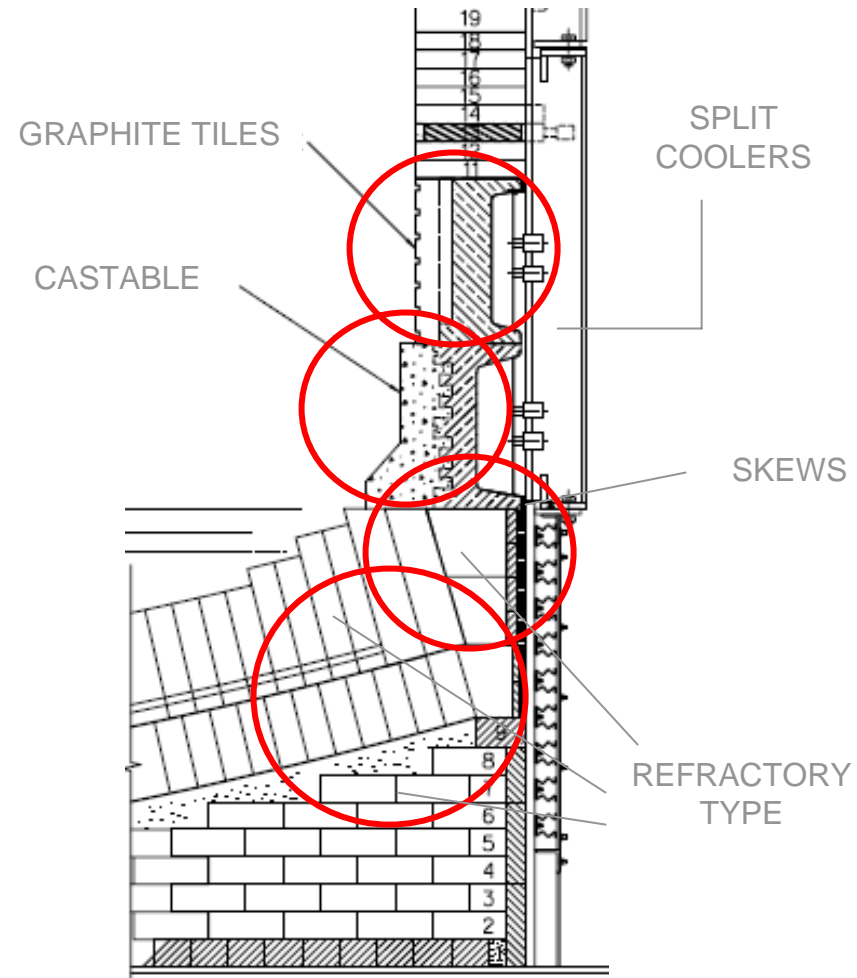
- Improve furnace availability:
  - Extended waffle cooler campaign life
  - Shorter time for maintenance and repairs
  - Less frequent matte tap block repairs
- Minimise the risk of premature waffle cooler failure caused by copper corrosion.
- Minimise the risk of hydration of the hearth refractories.
- Improved furnace monitoring (automatic water pressure testing)
- Improve overall furnace integrity:
  - Vertical wall movement resulting from skew rotation
  - Tightness of cooler/refractory interface

# RE-DESIGN OVERVIEW: COOLERS AND SKEWS

Old



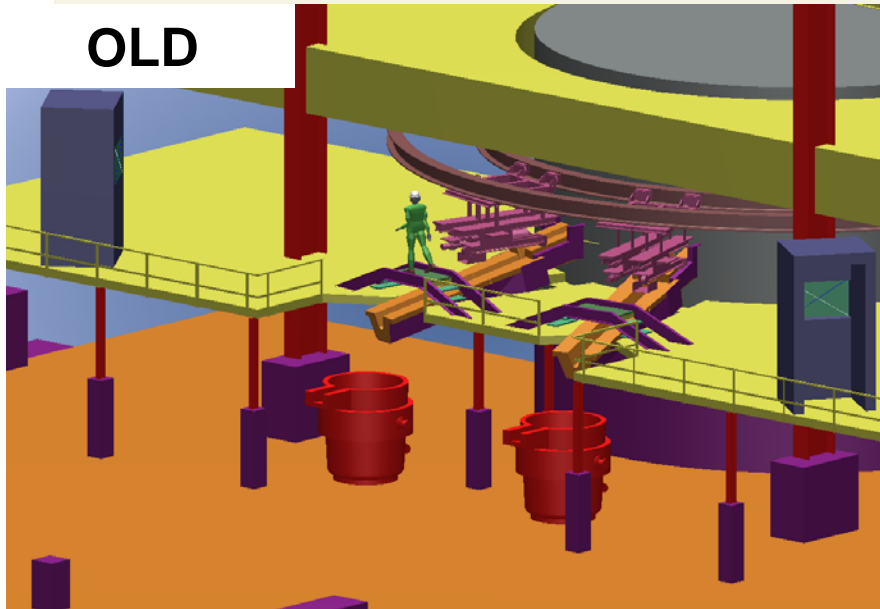
New



# MATTE TAP-HOLE AREA

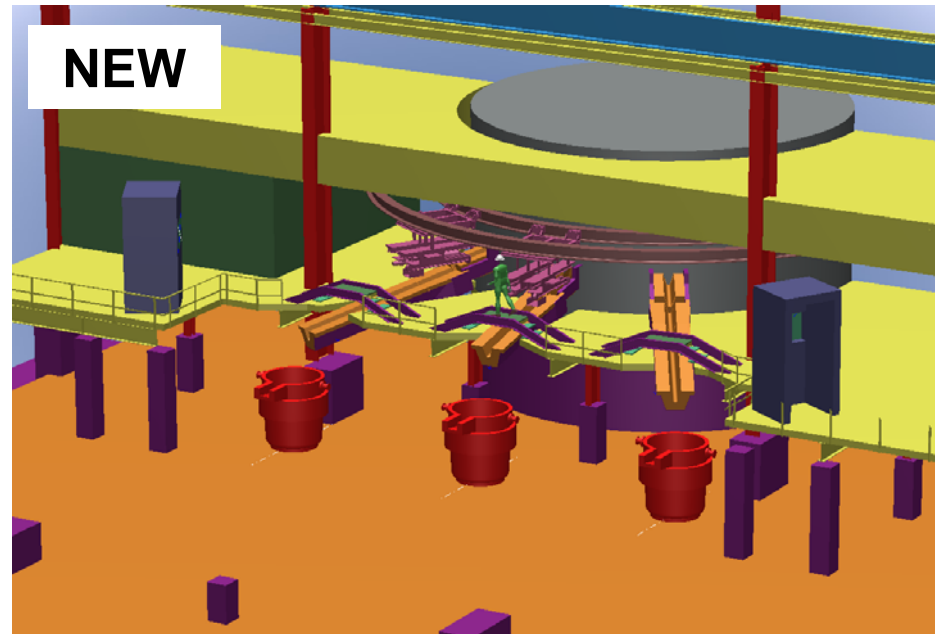
LONMIN

**OLD**



Additional tap-hole extends campaign life between deep matte tap-hole repairs by 50%

**NEW**



# Questions

LONMIN



13 January 2009 – 1<sup>st</sup> matte tap