



NORTHAM
ELAND

ELAND PLATINUM MINE

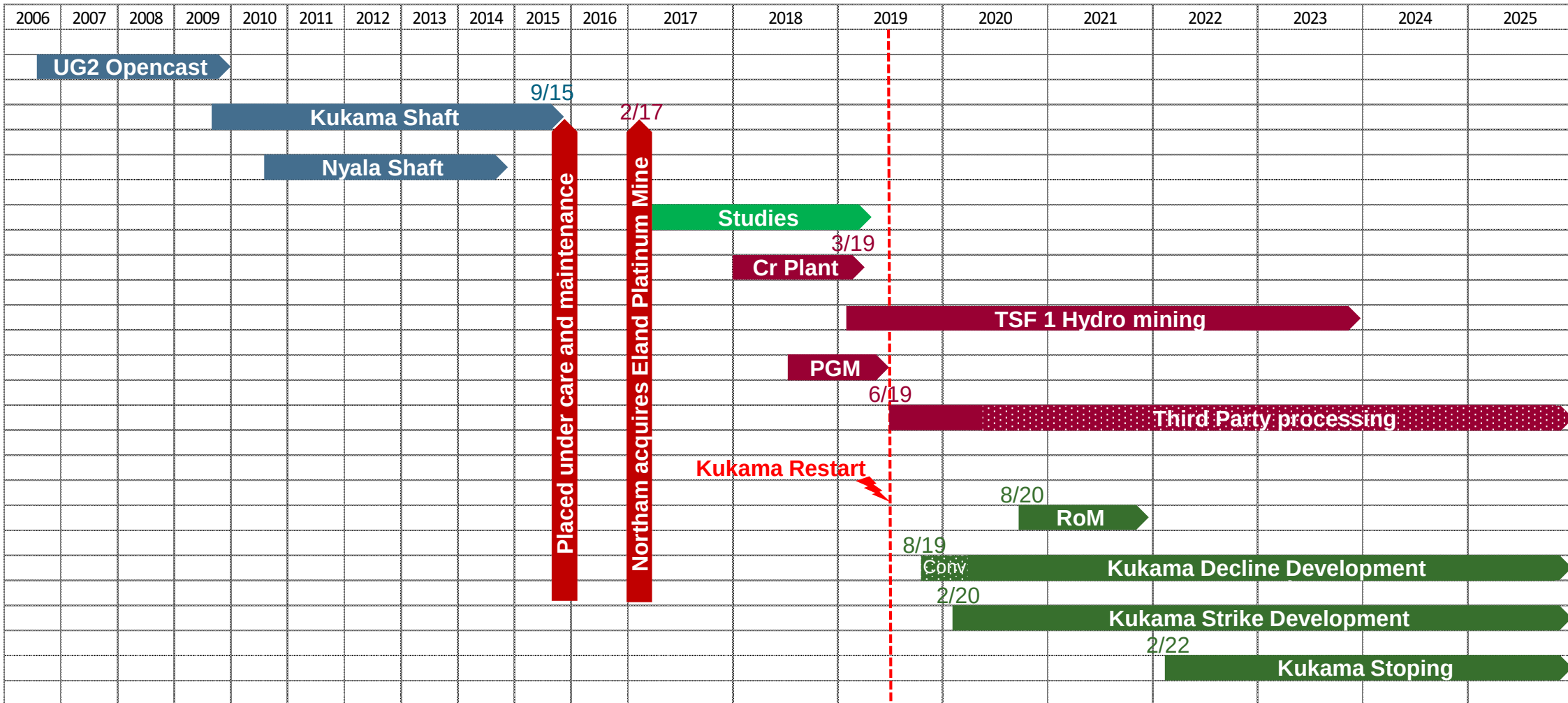
INVESTORS DAY
27 June 2019



To grow the business into a long-life, major producer of PGMs,
and doing this safely and efficiently while continuously moving
down the cost curve.

www.northam.co.za

History & The Way Forward

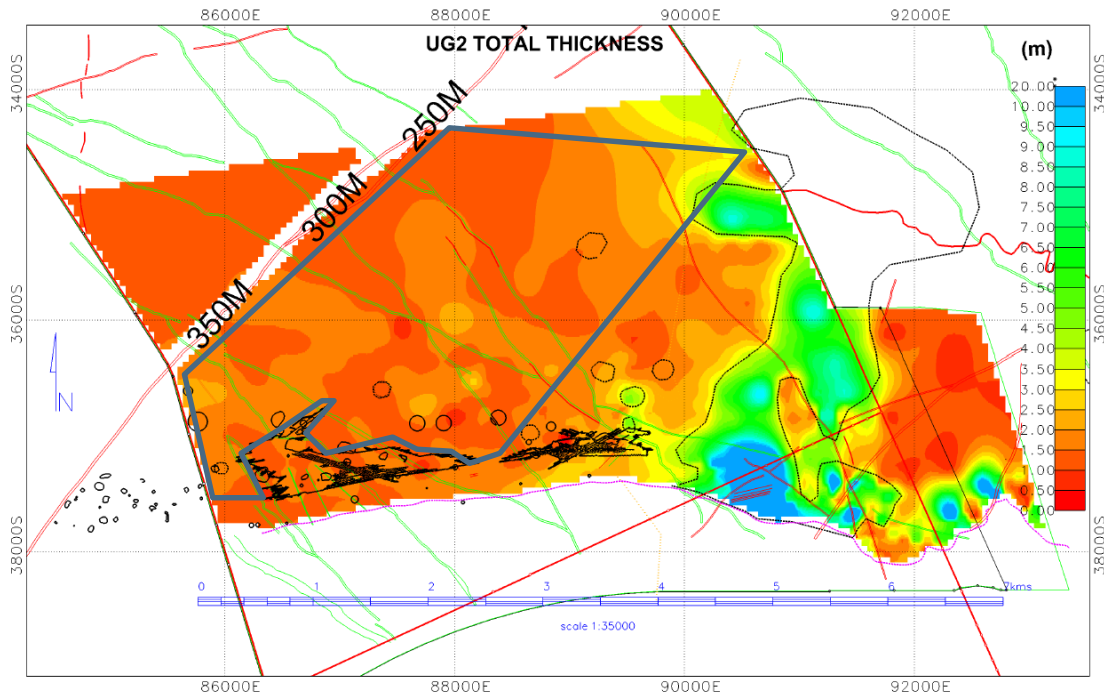


Surface infrastructure



Channel width and content

- Normal facies = 1.53m

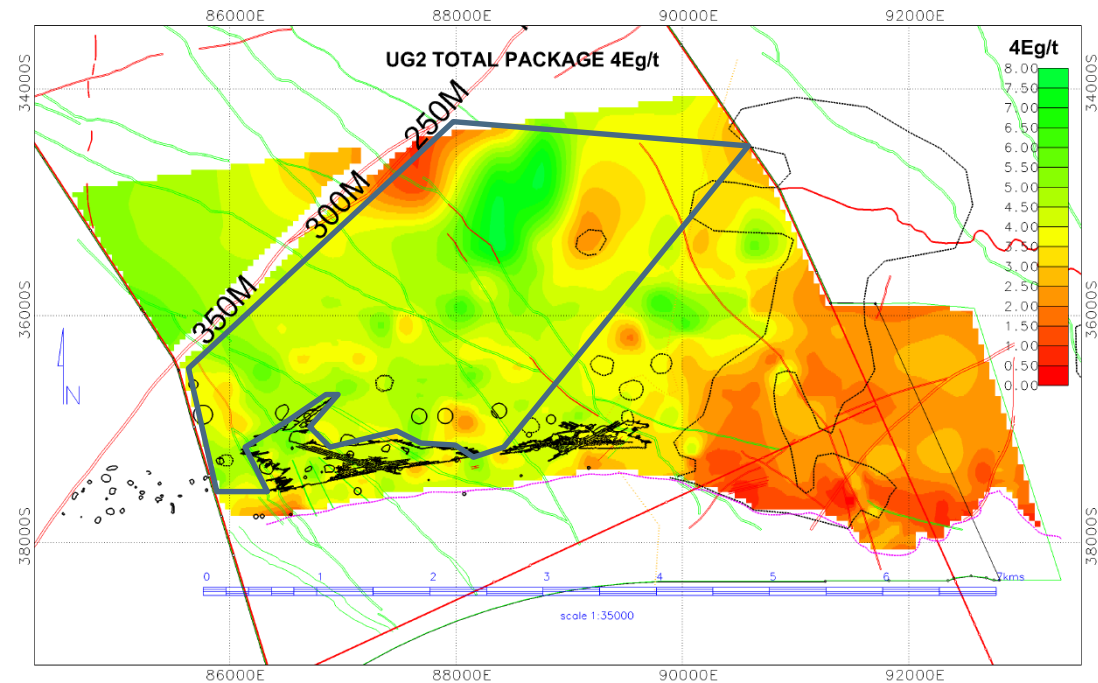


- UG2 Orebody dips at 19°
- 6.4 km Strike length

- Mineral resource

- 152 million tons
- 19.3 million 4E oz's
- Merensky opencast incl

- Normal facies = 4.3 g/t 4E





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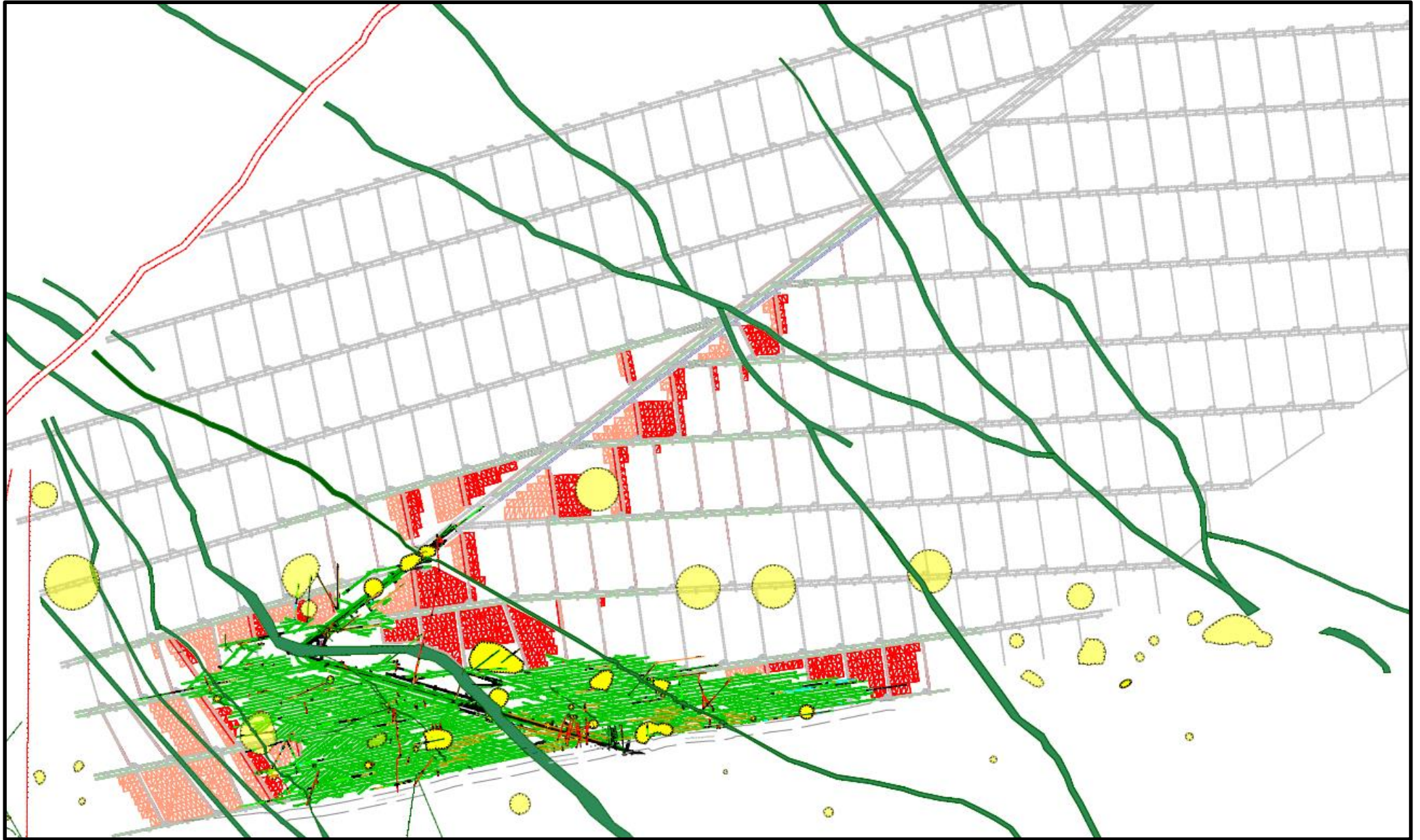
KUKAMA MINING



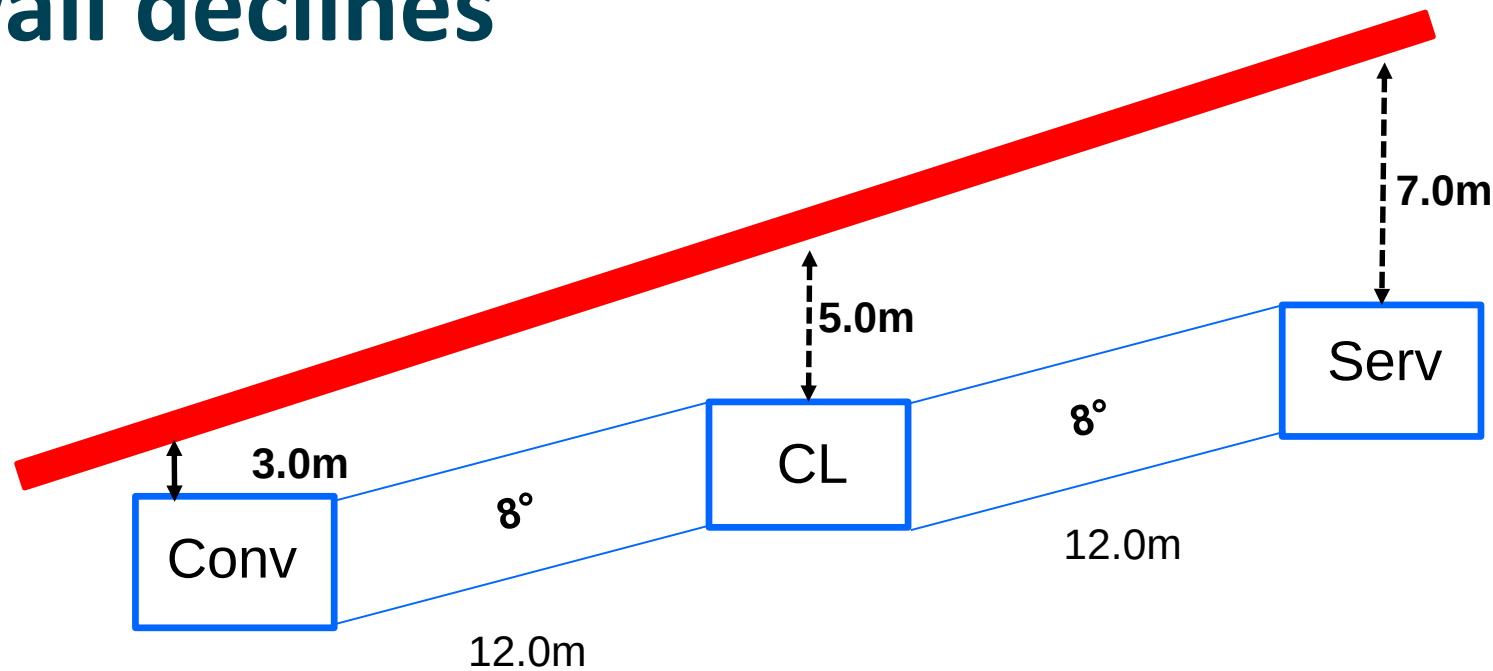
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Kukama layouts



Footwall declines



FOOTWALL DECLINES

- ✓ No shotcrete in competent norites
- ✓ Full trackless development – proven and safe
- ✓ Emulsion explosives
- ✓ 44m system advance
- ✓ Simulations and time studies confirm

Mining Method & Support

HYBRID MINING

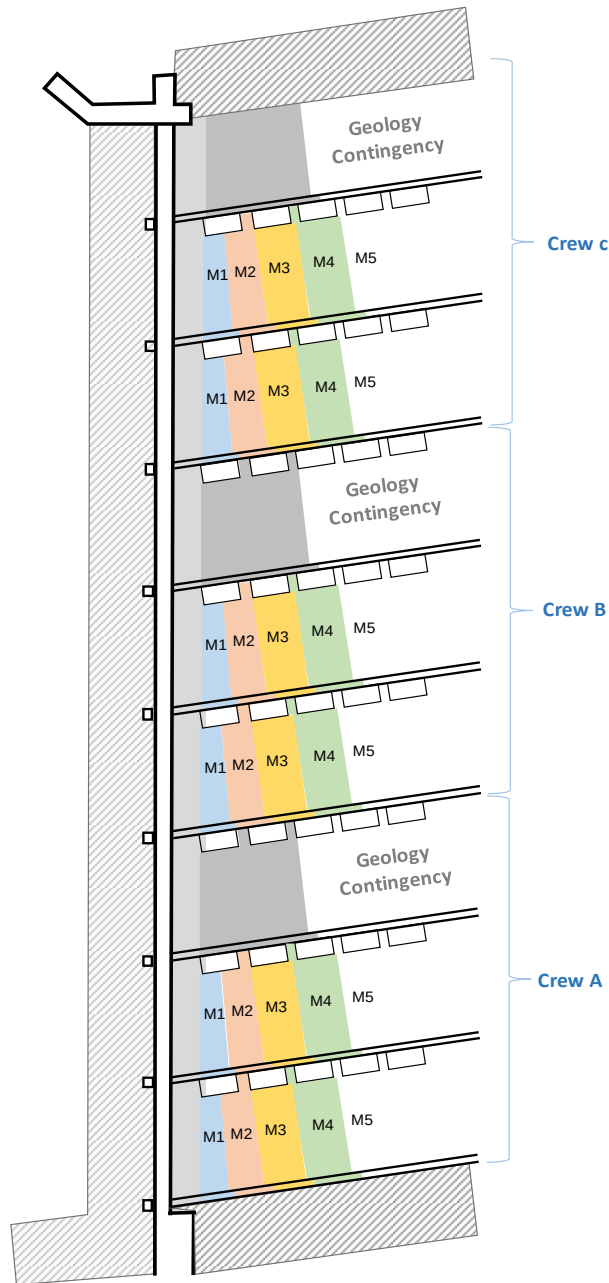
- ✓ On reef strike development
- ✓ Conventional stoping
- ✓ Less waste – better recoveries

BLASTING & SUPPORT SYSTEM

- ✓ Specialised support teams
- ✓ In line shotcrete on strike development
- ✓ Specialised bolting systems
- ✓ Hydro powered drilling – shorter rounds
- ✓ Cartridge explosives
- ✓ Grid pillars and grout packs in-stope
- ✓ Camera holes in the hanging wall
- ✓ Ground penetrating radar systems
- ✓ Trigger Action Response Plan (TARP)
- ✓ In-Stope lighting

TEAM PHILOSOPHY

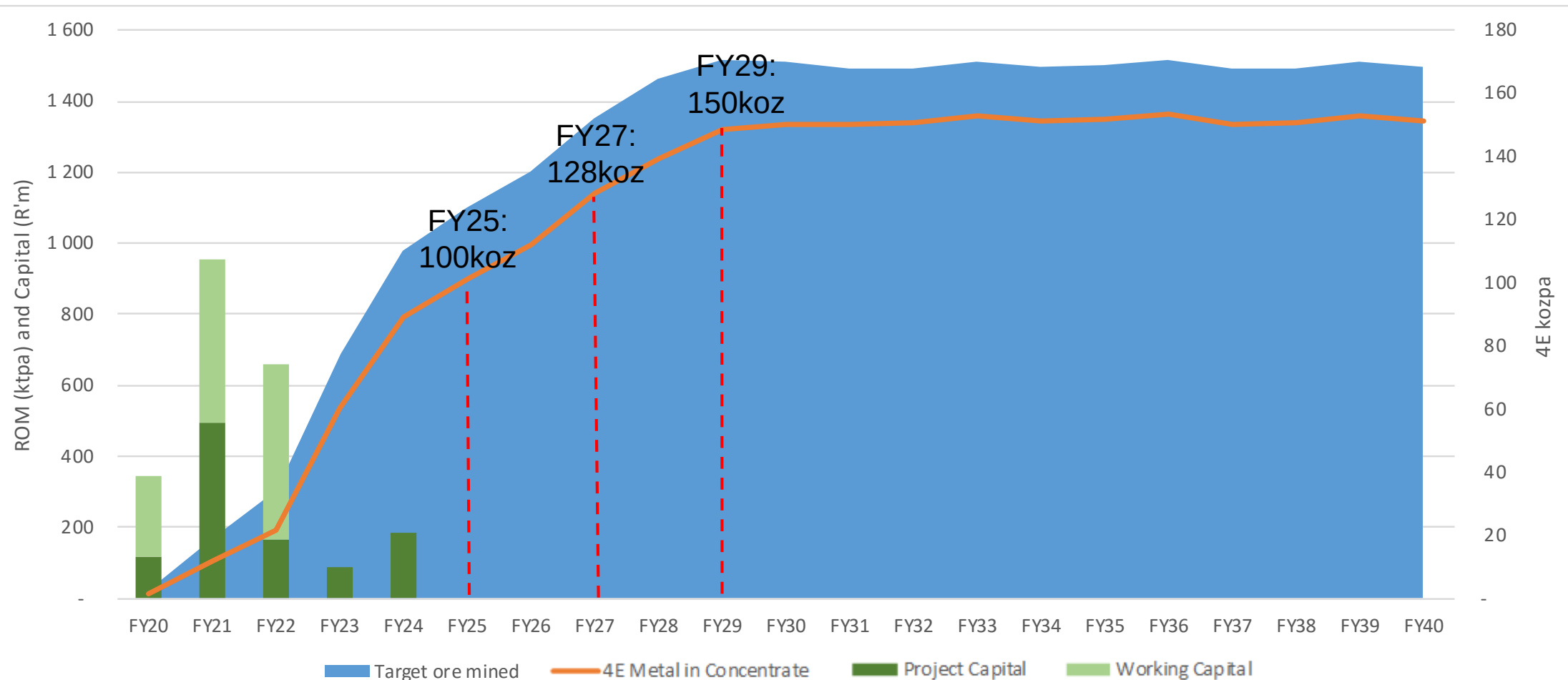
Team philosophy



TEAM PHILOSOPHY

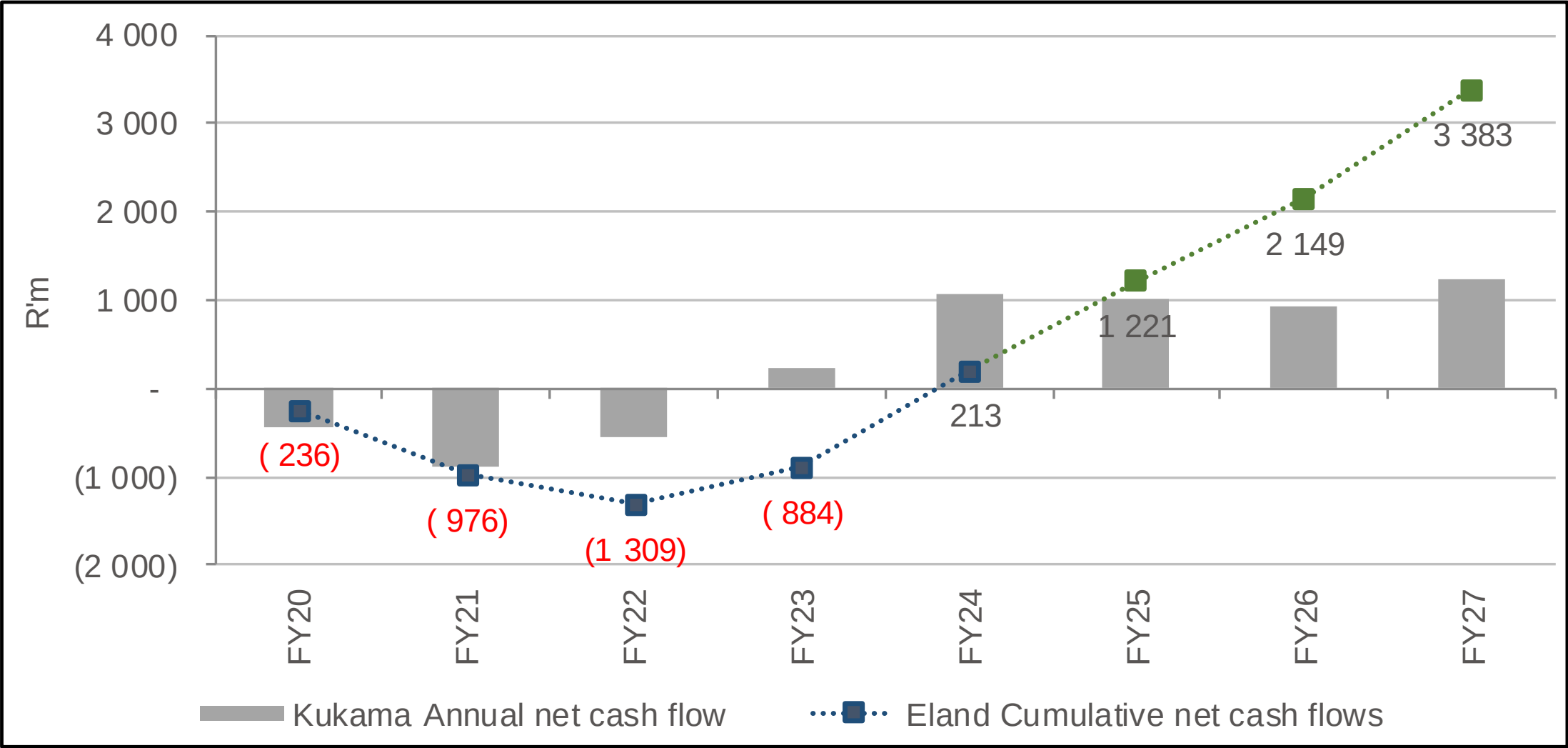
- Teams together all the time , annual statutory leave over Christmas break
- No leave provision or short term absenteeism provision in labour planning
- Team based training once per year , one week allowed per cycle.
- Mining and Development teams responsible for the whole mining cycle on their shift
- Blast at the end of each shift to spread ROM tonnages , 2 blasts daily

Kukama Production and Capex



R'm	FY20	FY21	FY22	FY23	FY24	TOTAL
Project capital	118	496	167	89	182	1 052
Overhead costs	227	460	490	0	0	1 177
Total	345	956	657	89	182	2 229

Cumulative Net Cash Flow – F2020 onwards



Kukama Restart Business Case

RESOURCE

- ✓ 19.3 Moz at 26 gr/m² in situ
- ✓ 1.53 m thick reef
- ✓ 6.4 km strike length
- ✓ Shallow mining
- ✓ >10% Rh

MINING PLAN

- ✓ 2 year development
- ✓ 5 year conventional stoping build-up
- ✓ 137 ktpm at steady state
- ✓ 3.7 g/t 4E producing 150 kozpa

FINANCIAL

- ✓ Capital R 2.2 bn (project & overhead)
- ✓ Unit cost R 20k / Pt oz at steady state
- ✓ Positive valuation
- ✓ 2 800 employees

EXCL. OPTIMISATION

- ✓ *Mobile Tunnel Borer*
- ✓ *Nyala Shaft*
- ✓ *UG2 Opencast*
- ✓ *Merensky and UG1 reefs*
- ✓ *Third party processing*



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Mobile Tunnel Borer



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Mobile Tunnel Borer Project

- Master Drilling performance validation project initiated
- 300m of drilling to start, testing rates and turning radius
- MTB placed in footwall conveyor decline (5.5m dia)
- Three months of drilling planned (50m, 100m, 150m)



MTB Performance Validation

