

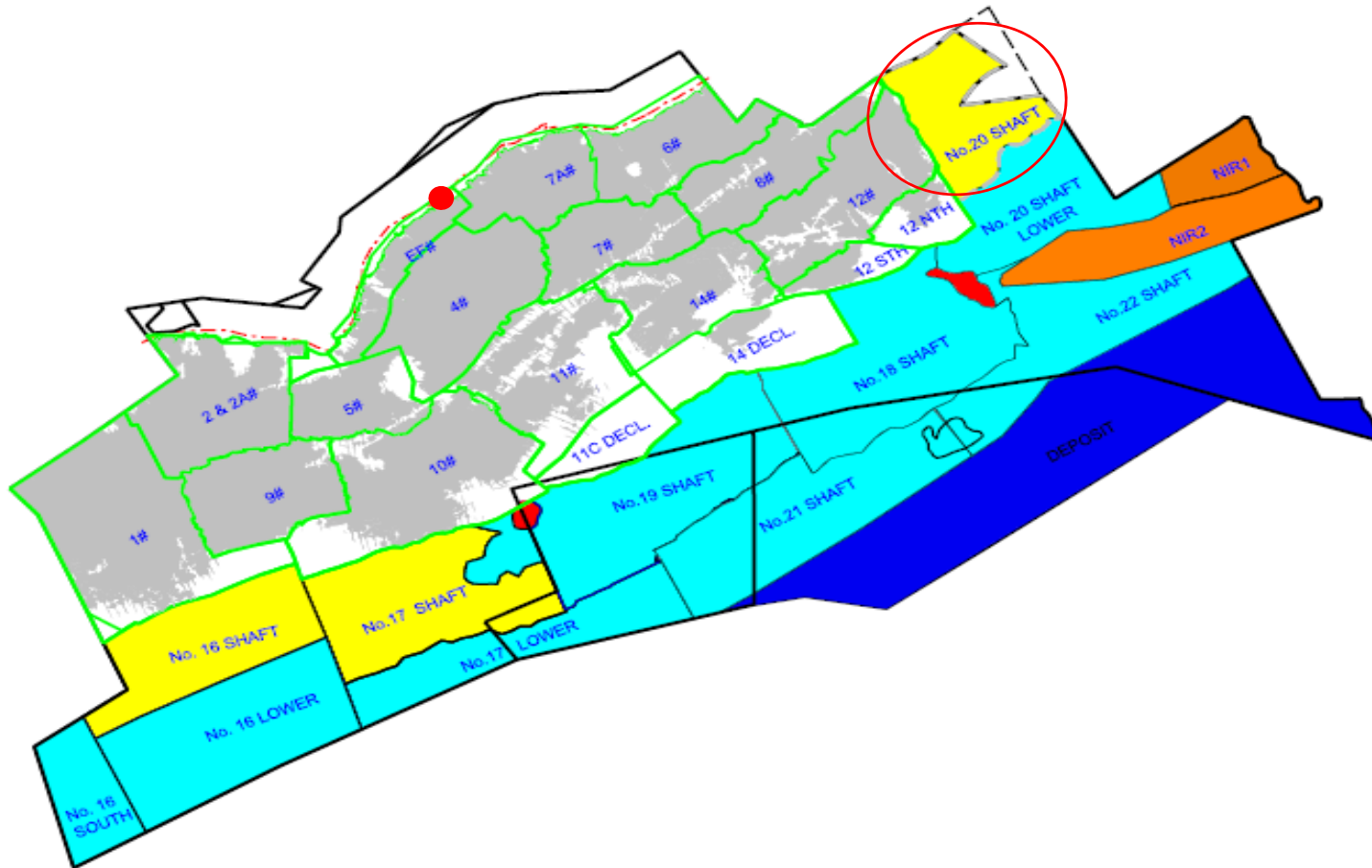


20 Shaft Rustenburg mine visit

8 November 2017



Impala lease area – Greenfields projects



Shaft Surface Layout

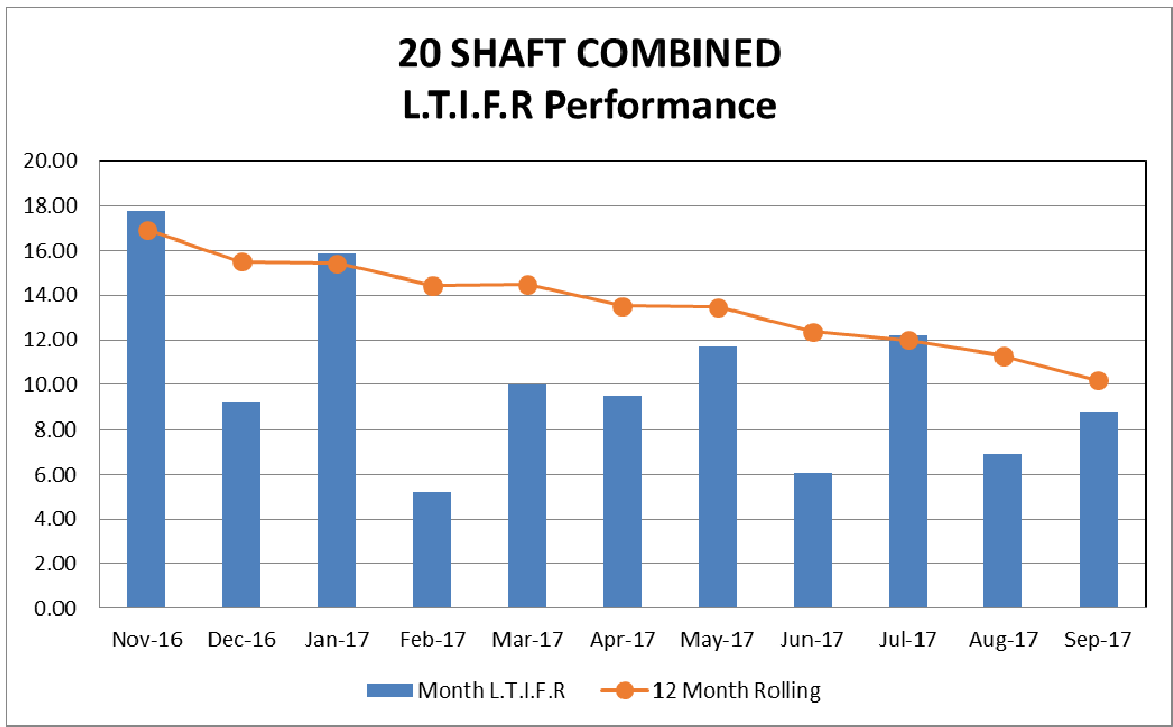




20 Shaft

Safety





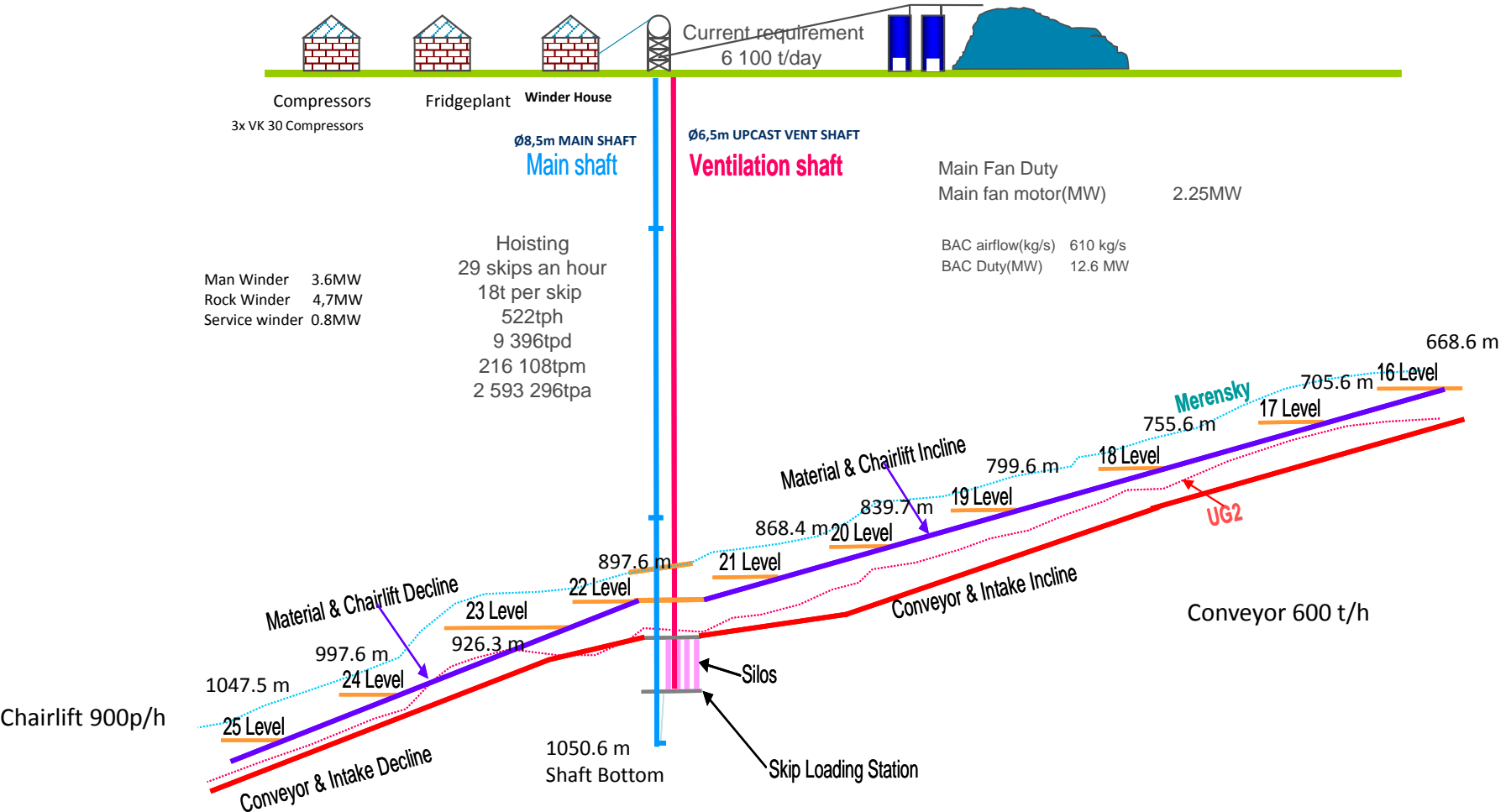


20 Shaft

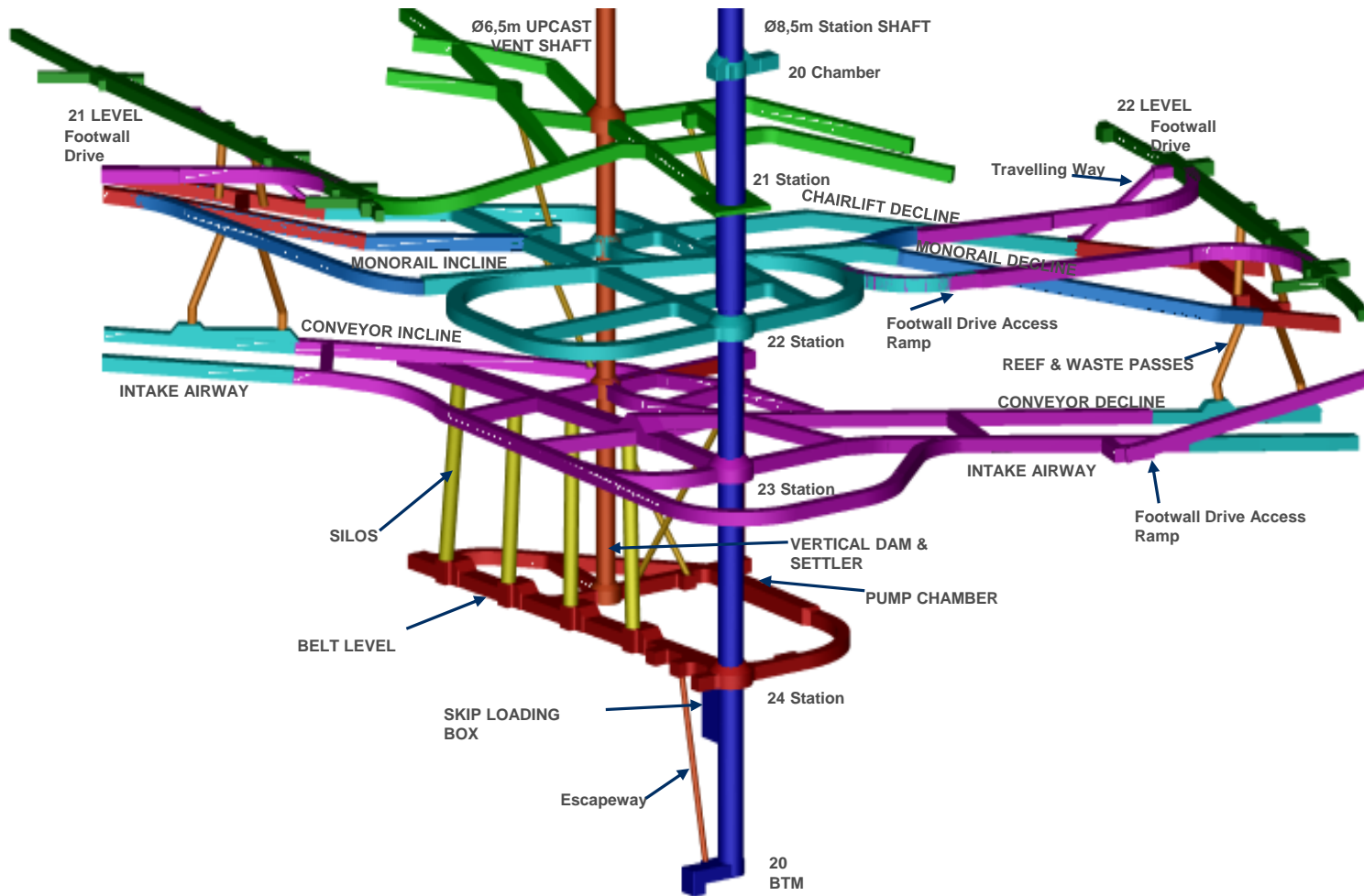
Infrastructure



Shaft Schematic Layout



Main Infrastructure



Sub-terrain Air Intake System







22 Level Main Material Station



Monorail material transport system (EMTS)



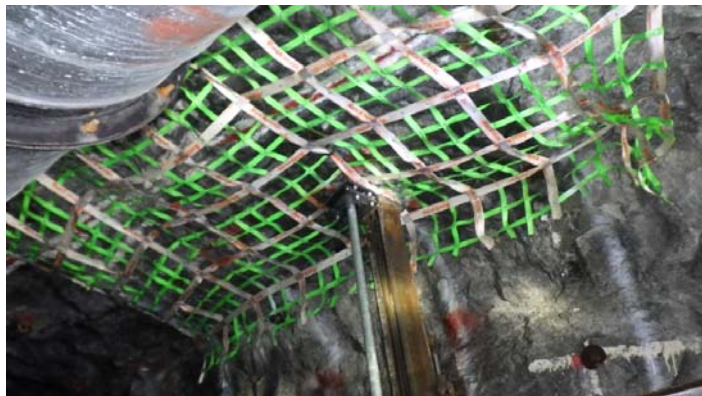
Monorail material transport system



Conveyor Infrastructure



Shaft Support systems



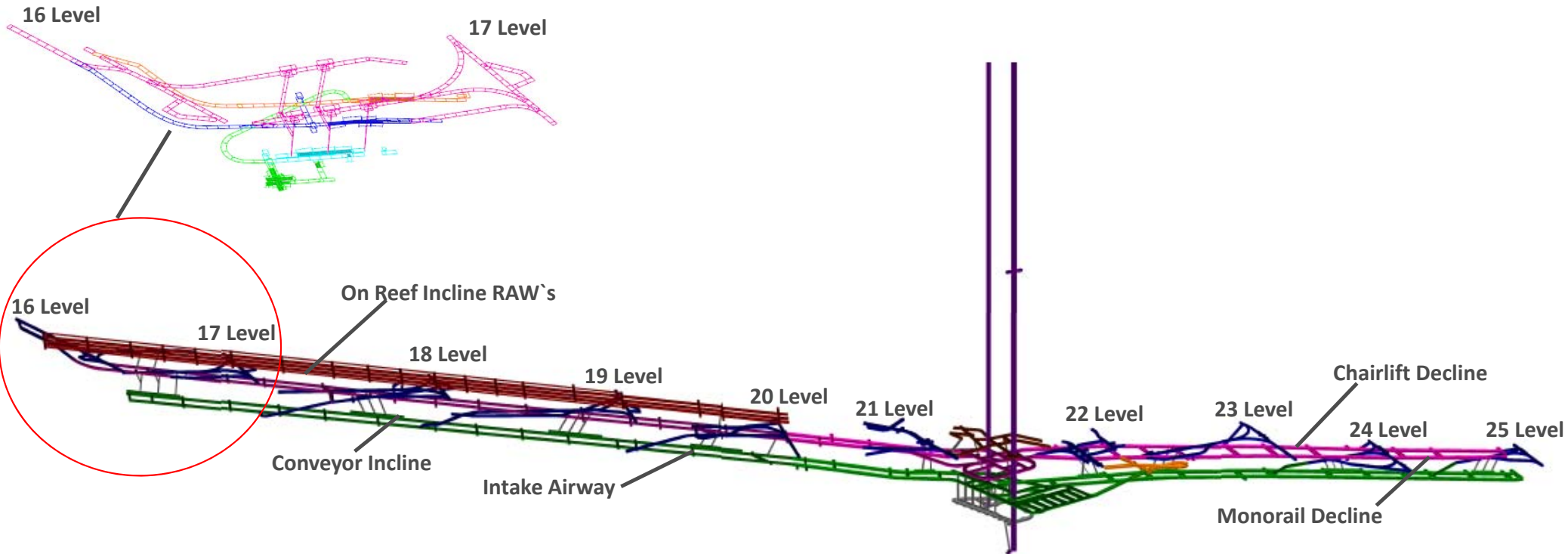


20 Shaft

Project



Project - Decline and Incline



Project deliverables till completion

Excavation	Remaining meters
Monorail Incline	303m
Chairlift Incline	296m
Conveyor Incline	81m
Station Development	1 393m
Total remaining meters	2 073m
Station Ore Passes (Raisebore)	5 Ore Passes

Project discipline	Completion date
Development	Nov 2019
Infrastructure	Jun 2022



20 Shaft

TMM Fleet





TMM Fleet Size

Machine Type	Number
Drill Rigs	8
LHD`s	18
Dump Trucks	8
Manitou`s	13
UV`s	12
LDV`s	12
Total	71



20 Shaft

Production



Underground mining layout - plan view



Production parameters

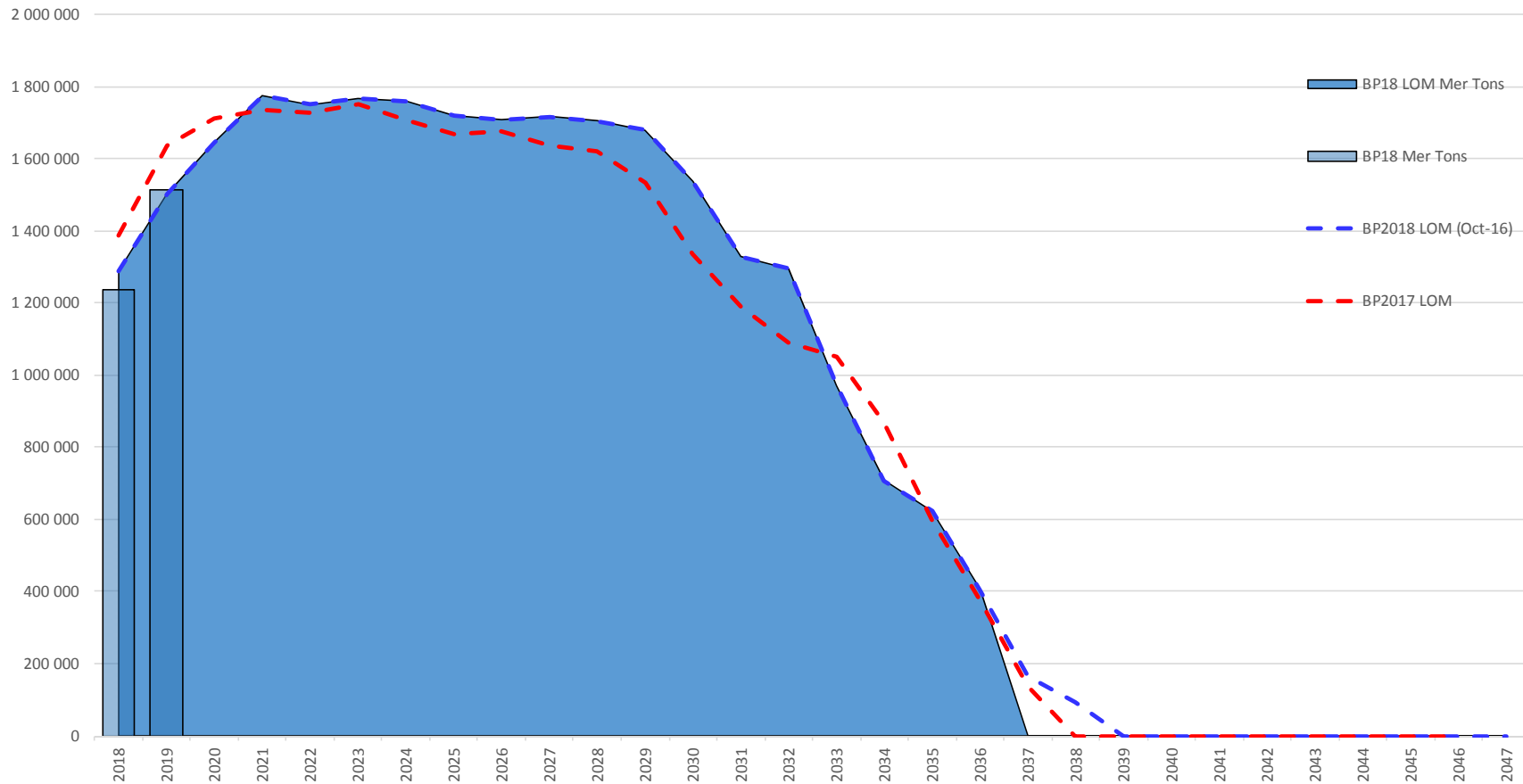
Area	Quantity
No. of shifts per day	2
No. of blasts per day	1
Stoping Teams (Incl Contractors)	62
Square metres per month	19 056 Ca`s/mth
Development metres per month	1 200 m/mth
Tonnes per month	100 000 t/mth
Kilograms per month	378 kg/mth
Pt ounces per month	7 337 oz`s/mth

Labour and Cost parameters

Area	Quantity
Own Employees (incl Capital)	2 591
Contractor Employees	1 173
Tonnes TEC	29
On mine cost (R`m)	R106
Cost per tonne	R1 062/t
Cost per kilogram	R 280 960/kg

Tonnage Profile

BP2018: 30 Years - Tonnage Profile - No. 20 Shaft





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