



PERMANENT WORKFACE AREAL MESH

“OUR BLAST-ON MESH JOURNEY”

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28 March 2025, Emperors Palace

Presentation Overview

Location of Amandelbult Mine Operations- Dishaba Mine

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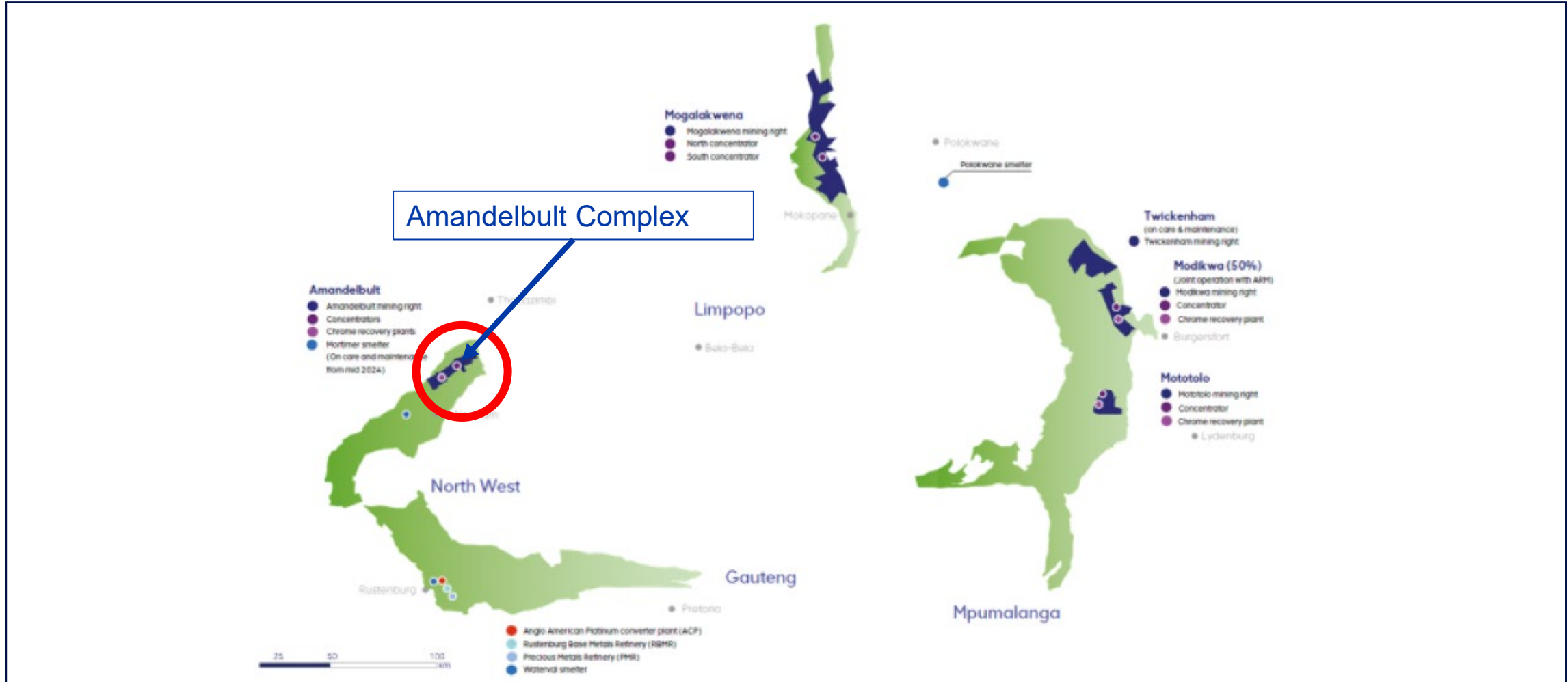
Compliance Monitoring

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Areas for Further Development

Locality

Amandelbult Operations: Dishaba Mine



In-stope Lighting Solutions- Strip Lights

Implemented mine wide since 2019

LED Strip Lights



Improved Visibility



Key Benefits

- Brighter stopes improve visibility.
- Enhanced identification of hazards.
- Improved barring efficiency.
- Fewer slips, trips, and falls.
- Supports higher-quality inspections.

LED Strip Lights Challenges:

- Installation only starts after entry exams.
- Requires engineering involvement (e.g., transformer installation/ connection).
- Regular removal and re-installation often lead to light damage.

Enabling Environment



In-stope Lighting Solutions- Portable LED Lights

- Battery-operated; bulk trials have been completed.
- Offers a flexible alternative to fixed strip lighting.

Battery Operated LED Light



Charging cabinet is installed in central waiting place



Units are charged at the waiting place



Lights installed along entire panel face = Full panel lights



Challenges

- Must be supplied with constant voltage when charging
- Technology relatively expensive (Large CAPEX)

Benefits

- Used during Entry Examination and Barring Process
- Longer life span
- Reduced face preparation time

Background: Blast-on Mesh

- Conventional breast stoping is used to mine the UG2 reef.
- The support strategy involves cement grout packs and cable anchors with Blast-on Mesh for local areal coverage support in stopes.



- Approved by the **Risk Owner** with full support from unions, SHE, and technical departments.

- Full rollout was achieved in **December 2023**.

- **Continuous Improvement**
- Informed by **underground operational learnings**
- Enhanced through **benchmarking with other mines**

Critical Factors to our Success Story



Geotechnical Environment

- Understanding rockmass environment and behavior
- Analysis of FOG and Rock Mass Rating databases

Leadership Commitment

- Safety-driven decisions were prioritized over immediate cost implications.

Multi-Stakeholder Engagement

- Alignment and seeking support from all stakeholders
- Multi-disciplinary risk assessments

Project Resourcing & Change Management

- Led by qualified, experienced RE personnel.
- Comprehensive mesh testing and trials.
- Six underground trainers delivered hands-on site training.
- A simple training video was also developed.

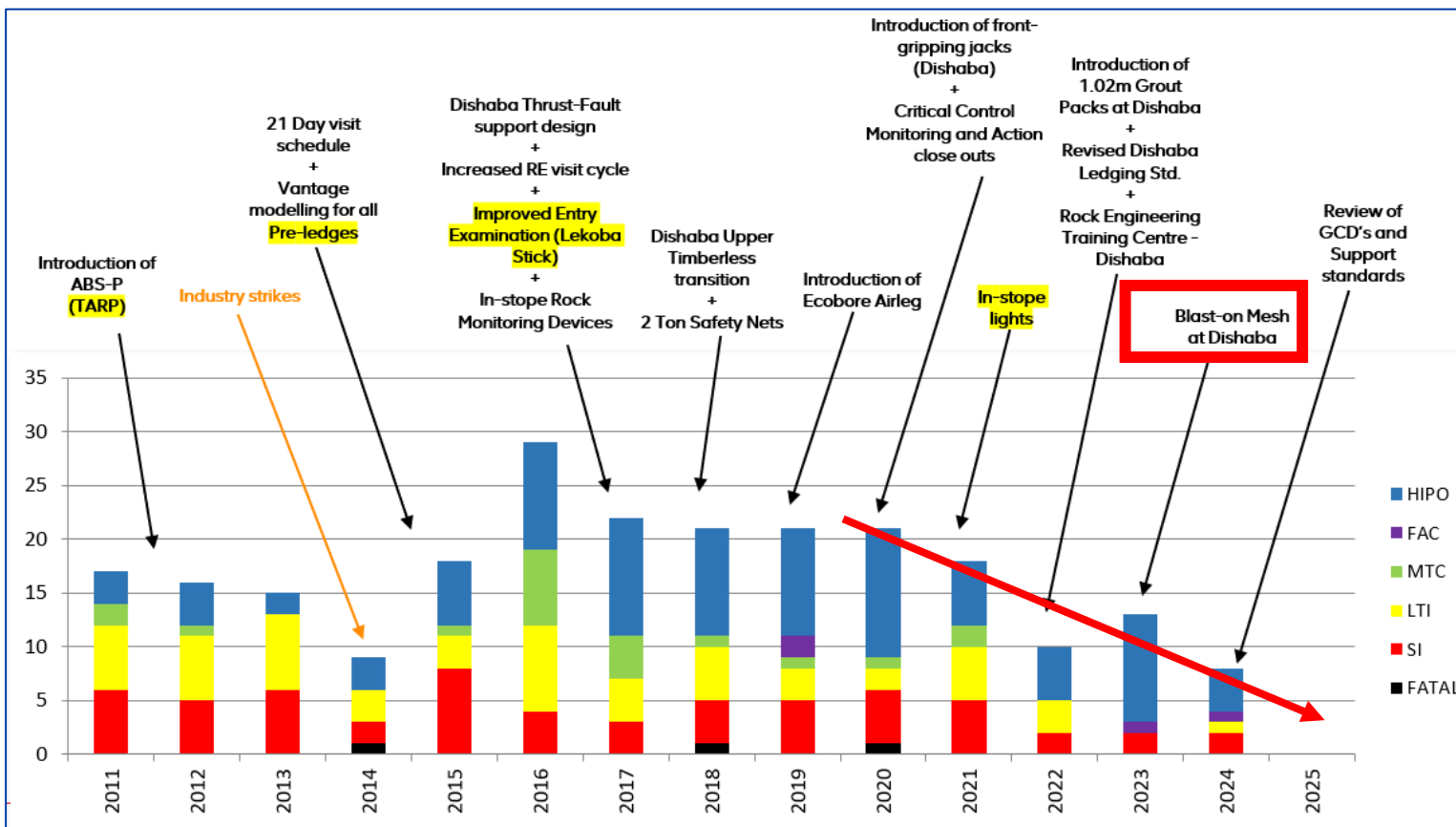
Execution/ Roll-out Phase

- Structured rollout with scheduled training.
- Feedback from crews integrated into plans.
- Weekly reviews by senior management.
- Progress tracked via OM/BI teams.

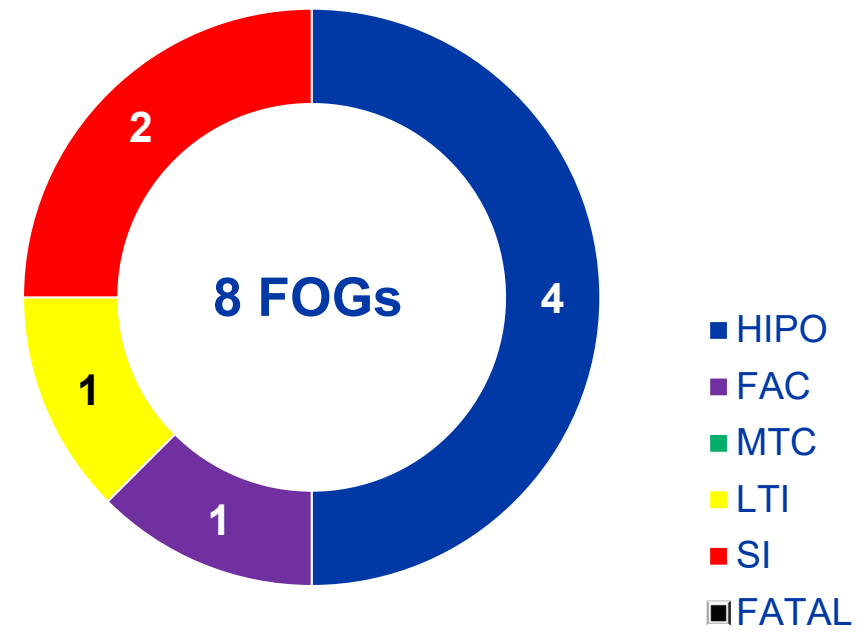


Fall of Ground Management Journey

Dishaba Mine



FY 2024 FOGs Analysis



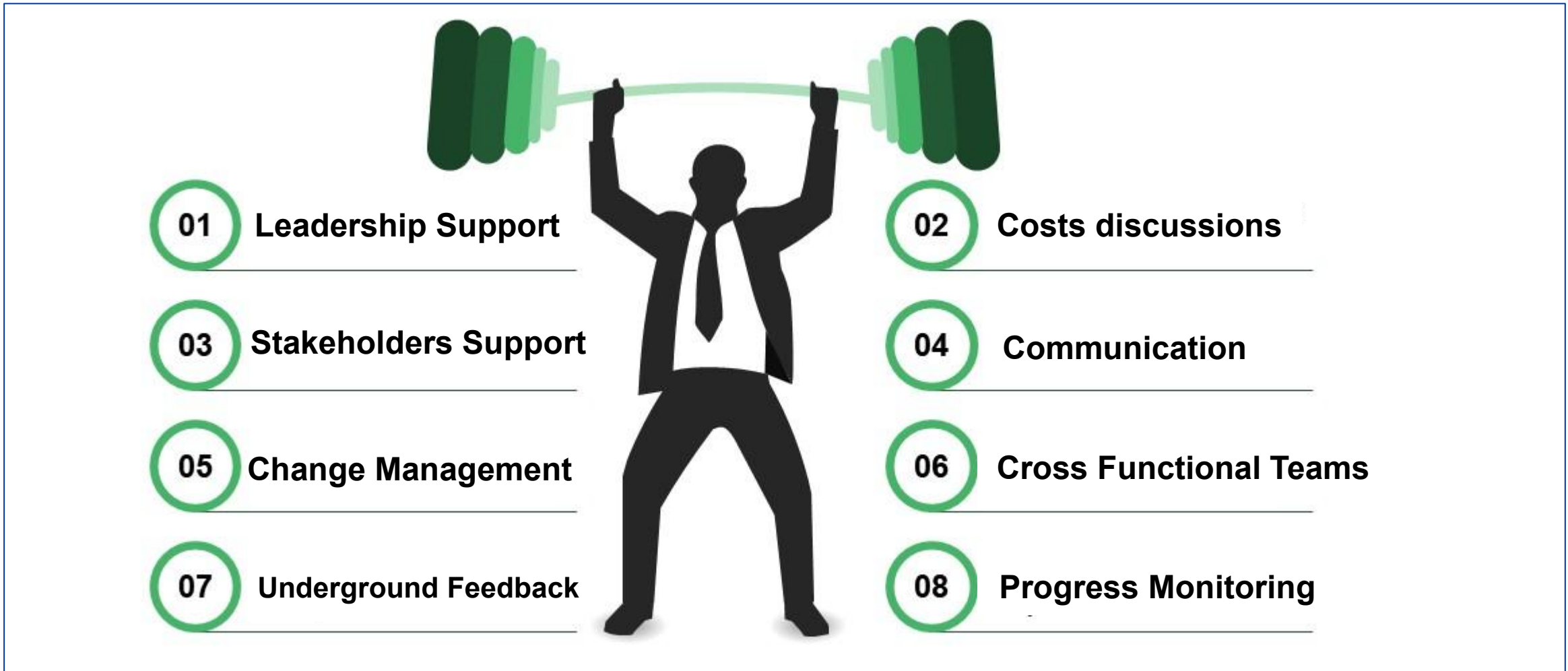
FY2024: 8 FOG incidents

- 4 x HIPOs- back area collapses
- 2 x SI from sidewall
- 1 x LTI from hangingwall

FY2025: Zero FOG Incident so far...



Challenges



Benefits

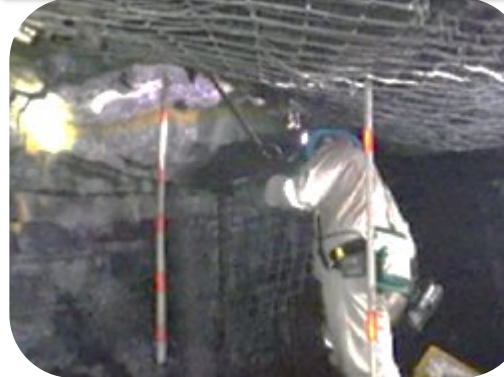
FOG Injury Prevention



Safer Night Shift Cleaning



Impact on Early Entry Exam



Easy to handle and install



Review of TARP Triggers



Improved Mining Discipline



Re-visiting Abandoned Areas

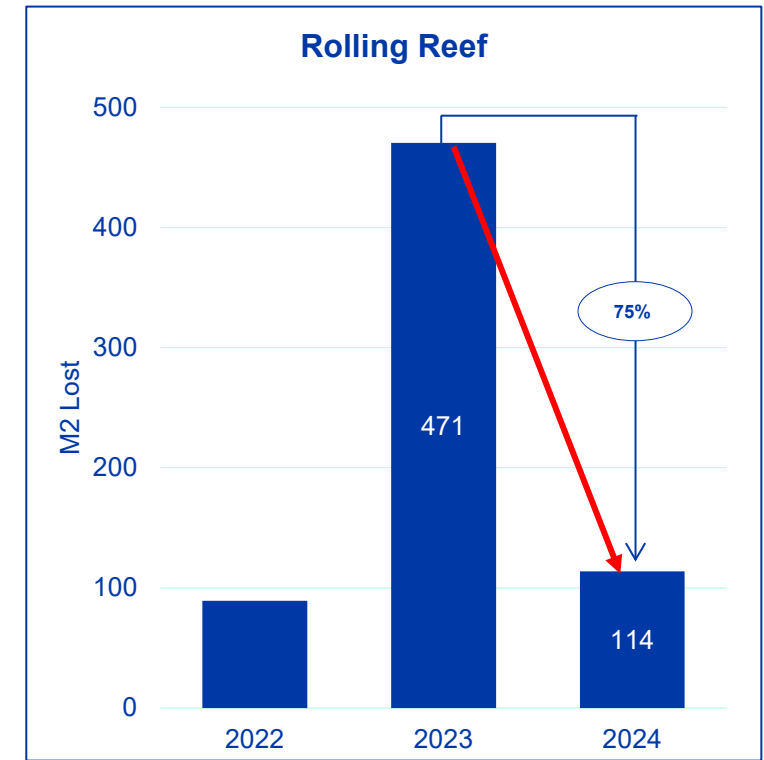
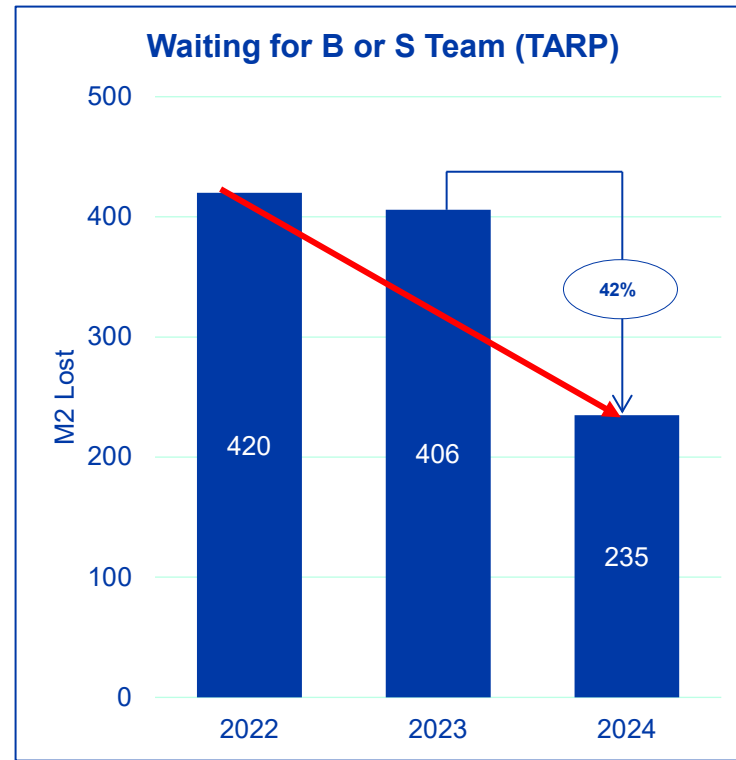
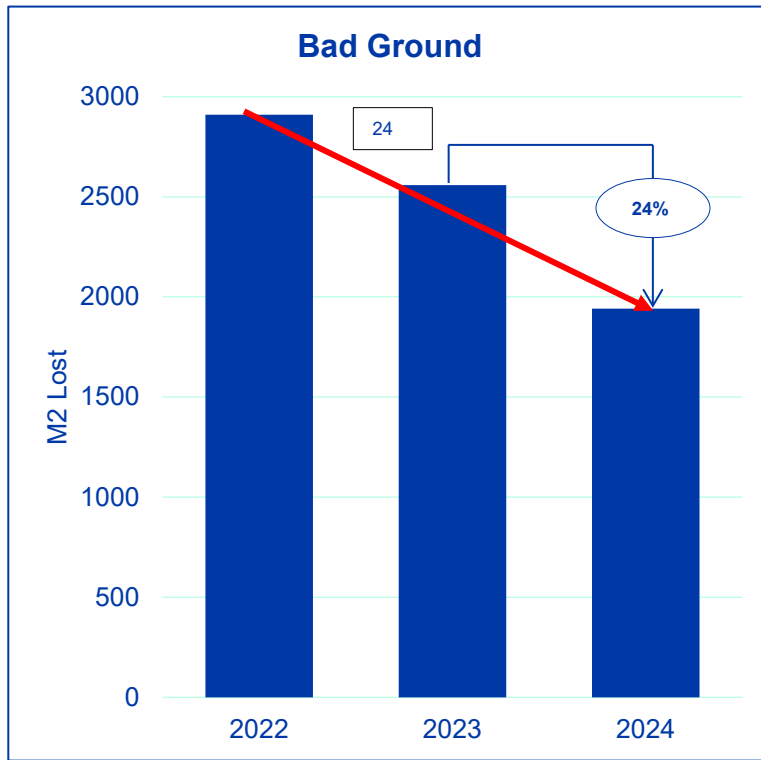


Reduced Secondary Support



Impact on Production

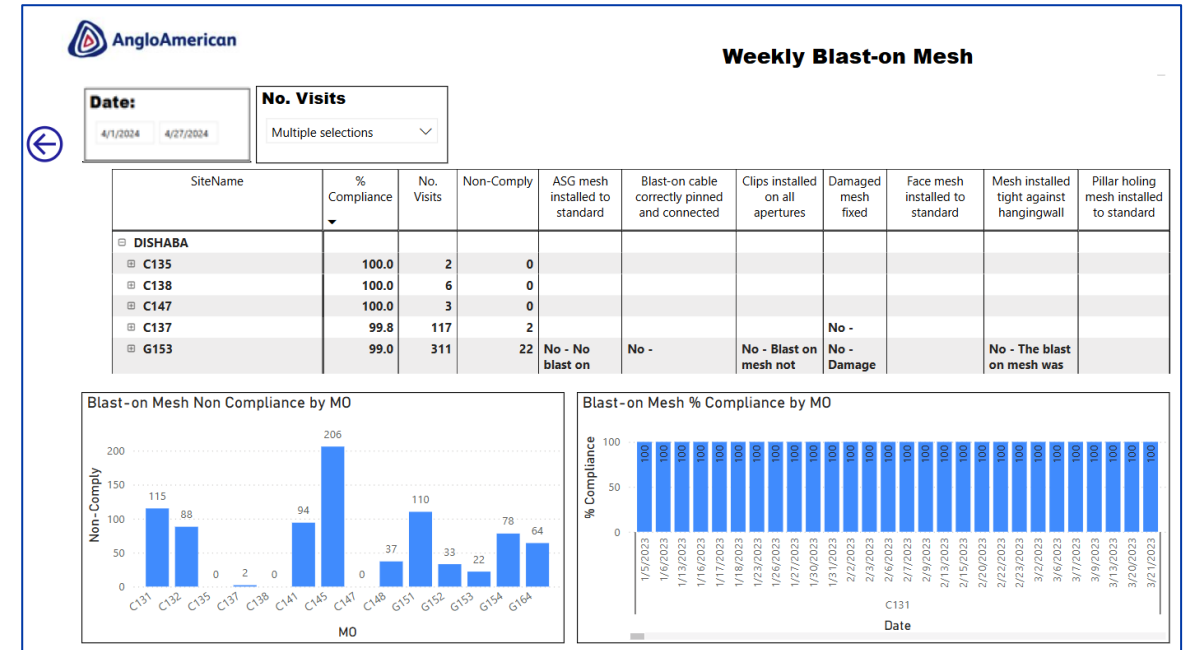
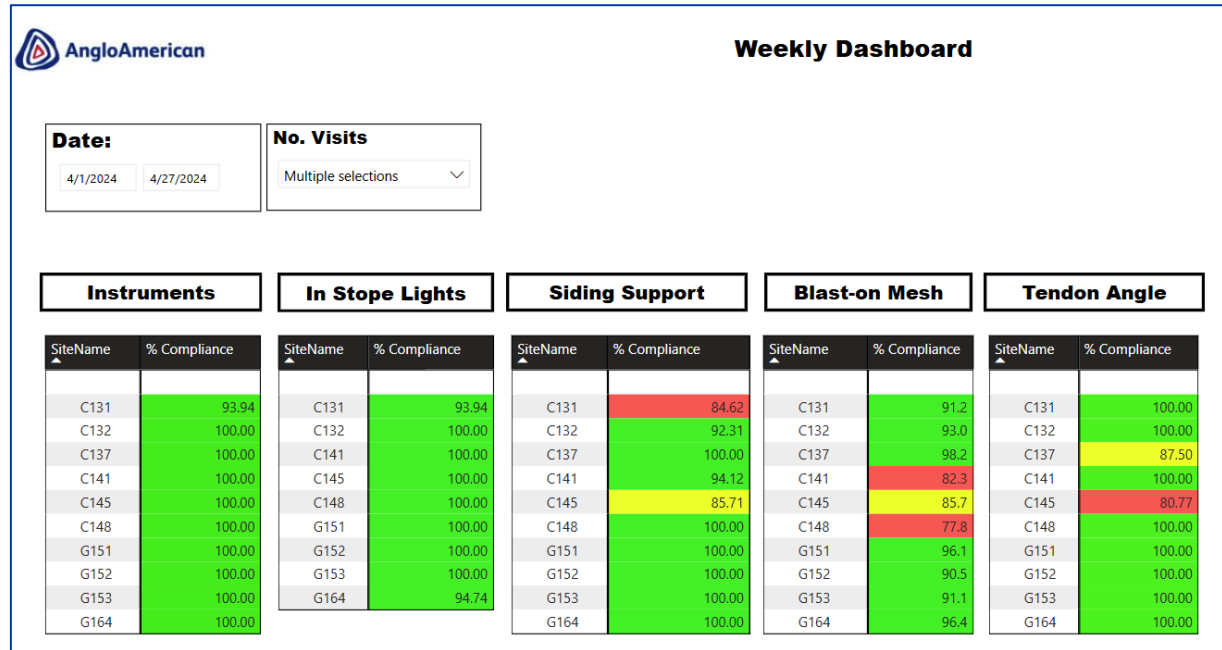
Lost Blast Analysis 2022- 2024, Data Normalised



- TARP (ABS-P) Procedure was revised in July 2023: for blast-on mesh optimisation
- ~30 % reduction in lost blast due to bad ground since blast-on mesh introduction

Date of change	Revised Item (Paragraph number)	Changes Made	Reason Code	Name of reviewer
2023-07-04	ALL IN BLUE	Amendments to inclusion of Blast-on Mesh	E	Franz Bruwer
2023-10-19	ALL IN BLUE	Specification of angles and measurements to include "smaller than and equal to". Stoppage of workplace outside of over-inspection frequency.	A, K	Franz Bruwer

Compliance Monitoring



- Blast-on Mesh is now included in the Mine’s Standard procedures.
- SHE Department checklists updated to assist monitor adherence.
- Crews not complying receive coaching from onsite trainers.
- New hires to Dishaba must undergo mandatory blast-on mesh training.

Areas for Further Development

- Refine clipping method (clipping every aperture causes issues).
- Address repeated blast damage near panel toes-short splitsets/stubbies?
- Mesh scrapper damaged in ore locked ASGs?



Before blast-on mesh



18/10/2018

blast-on mesh



Thank you, Questions?

#MiningMatters

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