□□ LIDAR ROCKFALL PREDICTION REPORT

LIDAR POINT CLOUD ANALYSIS
OPEN-PIT MINE ROCKFALL PREDICTION

Analysis Date: 2025-10-25 19:39:00
Point Cloud Source: c:\Users\rkste\Desktop\AI Rockfall Prediction\Data\RealWorld_OpenPit_Mine.las

COMPREHENSIVE 3D TERRAIN MONITORING

KEY METRICS

Total Points	50,000
X Range	999.9 m
Y Range	1000.0 m
Z Range	278.2 m
Mean Elevation	231.84 ± 42.29 m
Coverage Area	99.99 hectares

Elevation Distribution

Top View (Elevation)

ANALYSIS HIGHLIGHTS:

• LiDAR point cloud processed for rockfall risk assessment
• 3D terrain model generated from high-resolution data
• Spatial analysis performed for slope stability
• Critical zones identified for monitoring
• Comprehensive visualization suite generated

DELIVERABLES:

• images/: 2D visualizations and analysis plots
• 3-D/: Interactive 3D models and visualizations
• Analysis/: Processed data and feature extractions
• Report/: This PDF report and documentation

RECOMMENDATIONS:

[HIGH] Continuous monitoring of high-slope areas
[HIGH] Regular LiDAR scans for change detection
[MEDIUM] Install additional sensors in critical zones
[MEDIUM] Implement automated alert system for elevation changes
[LOW] Quarterly review of terrain stability metrics