

MINING SITE INSPECTION REPORT

Kolar Gold Fields Site A

Kolar, Karnataka

Report Generated: October 13, 2025
Mine ID: MN-KA-2023-001
Operator: ABC Mining Ltd
Status: Active
Compliance: Within Permitted Area

EXECUTIVE SUMMARY

QUERY: "Provide comprehensive assessment of Kolar Gold Fields Site A including expansion trends, environmental compliance, and operational status"

KEY FINDINGS:

- Site Status: Currently ACTIVE with high detection confidence
- Total Mining Area: 45.3 hectares (90.6% of permitted 50.0 ha)
- Excavation Depth: Average 28.5m, Maximum 42.0m
- Total Volume Extracted: 1.29 million cubic meters

COMPLIANCE STATUS: ☒ SATISFACTORY

- All operations within permitted lease boundary
- Water bodies: 2.3 km (Safe distance)
- Forest areas: 1.5 km (Within limits)
- Settlements: 3.8 km (Adequate buffer)

ENVIRONMENTAL IMPACT:

- Vegetation loss: ~80% in mining zone over 3 years
- Bare soil increase: ~73% indicating active excavation
- Land cover change accelerating in recent months

RECOMMENDATIONS:

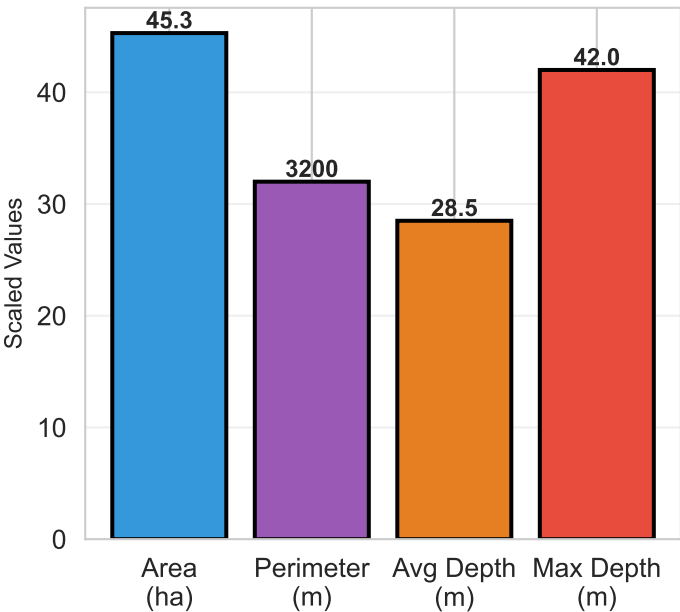
1. Continue quarterly monitoring given active status
2. Conduct ground verification (last survey: 45 days ago)
3. Monitor proximity to forest boundary (1.5 km buffer)
4. Track expansion rate vs district average (Currently: 8.5%/year)

SITE DETAILS & SPATIAL CHARACTERISTICS

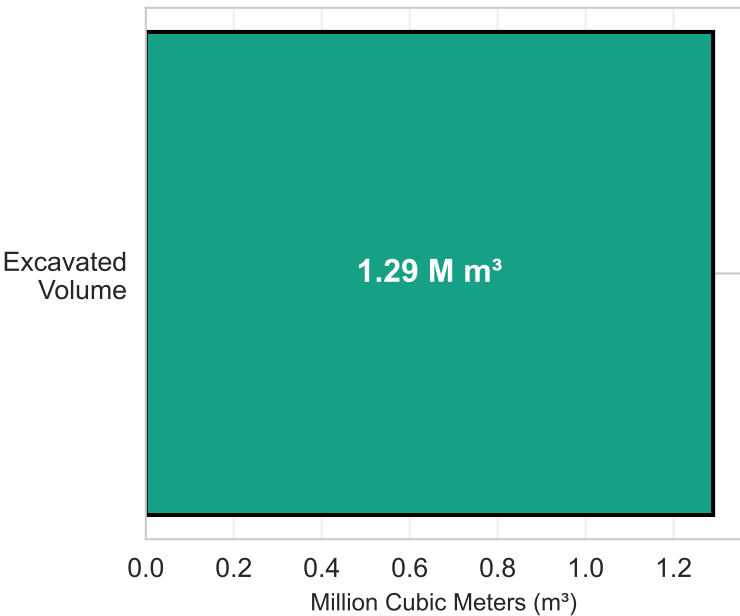
Entity Information

Mine ID	MN-KA-2023-001	Ownership	Private
Coordinates	13.1389°N, 78.2981°E	Operator	ABC Mining Ltd
District	Kolar	State	Karnataka
Status	Active	Last Detection	2025-09-15

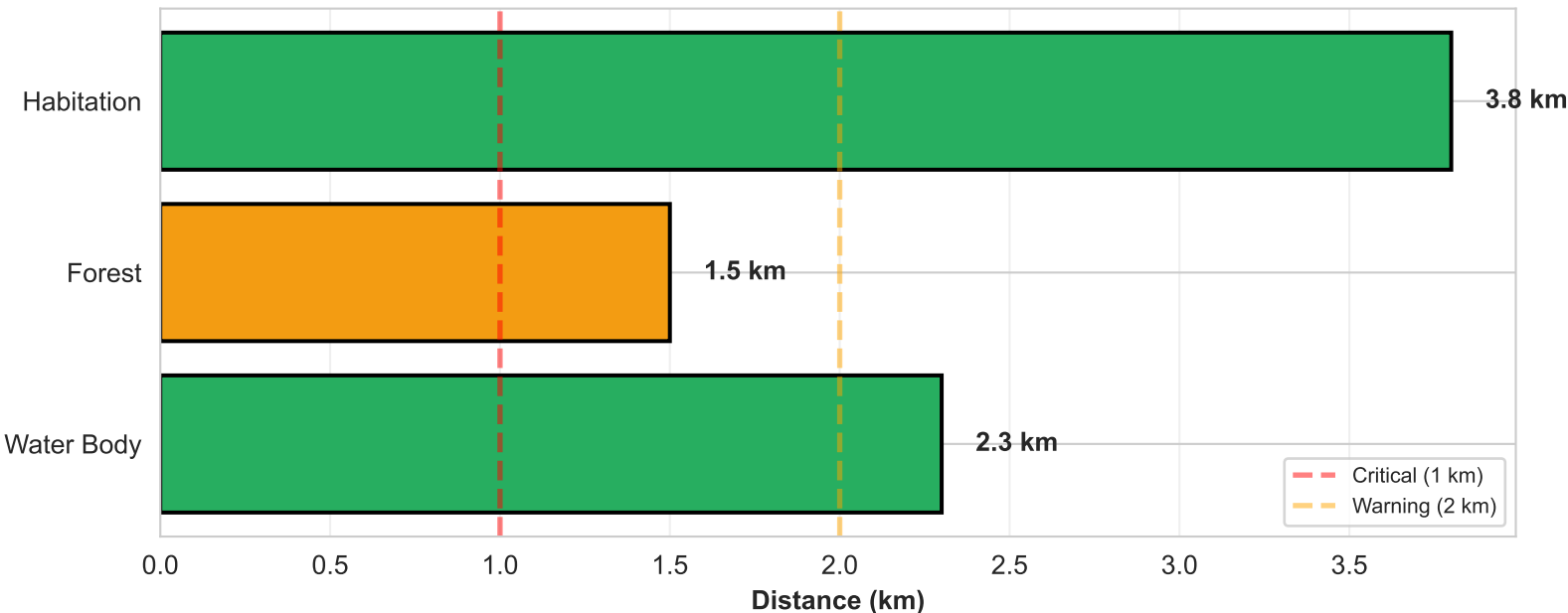
Spatial Characteristics



Total Excavated Volume



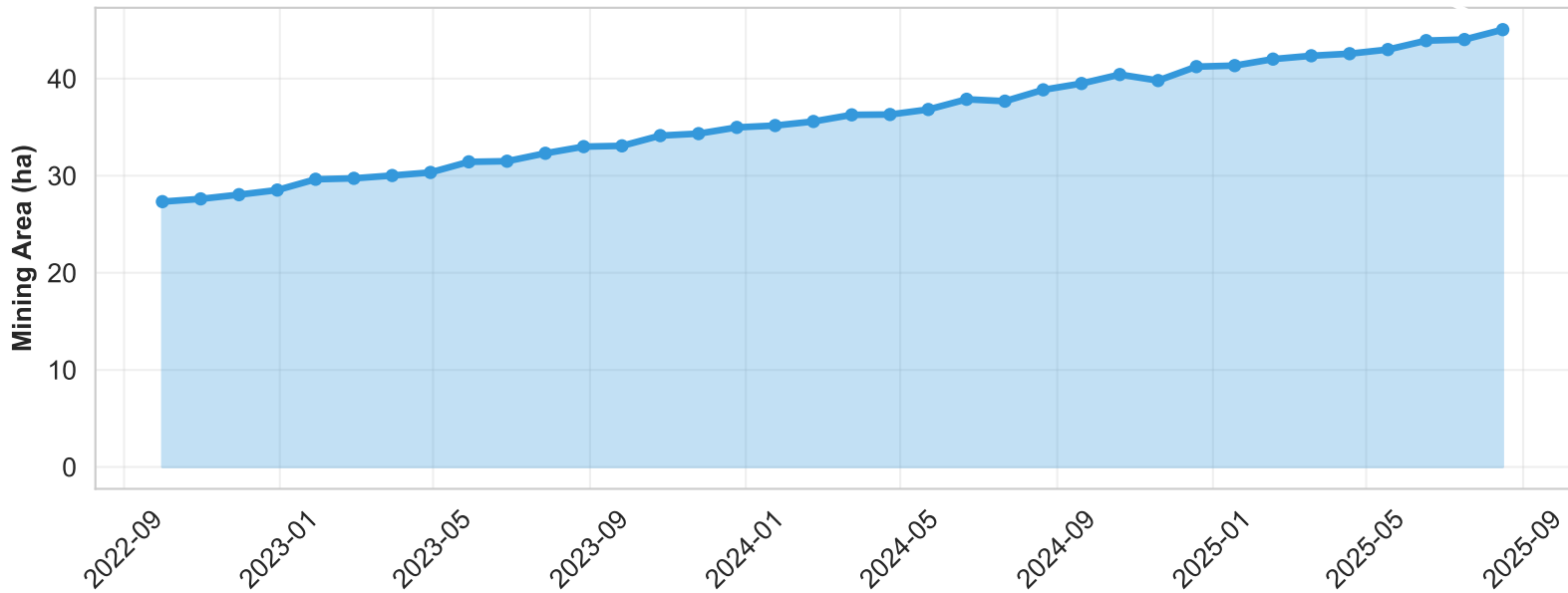
Proximity to Sensitive Zones - Compliance Status



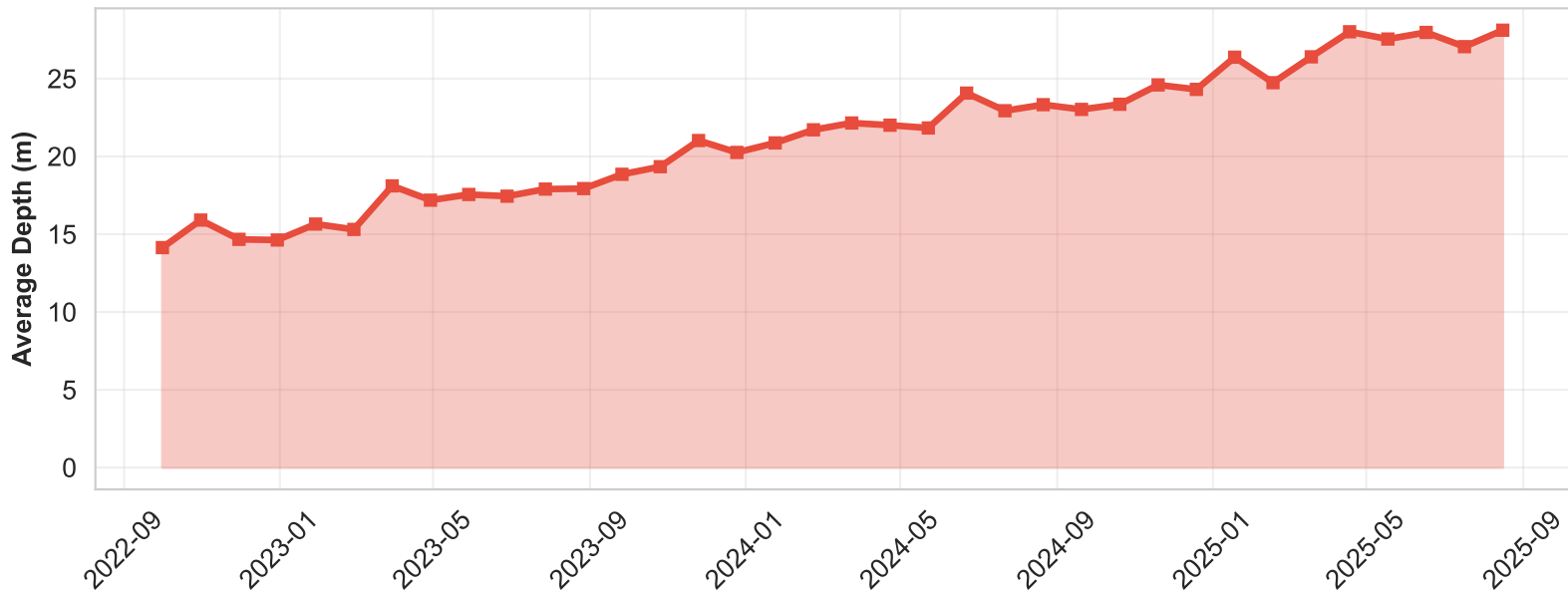
TEMPORAL MONITORING & EXPANSION TRENDS

Area Expansion Over Time (Oct 2022 - Sep 2025)

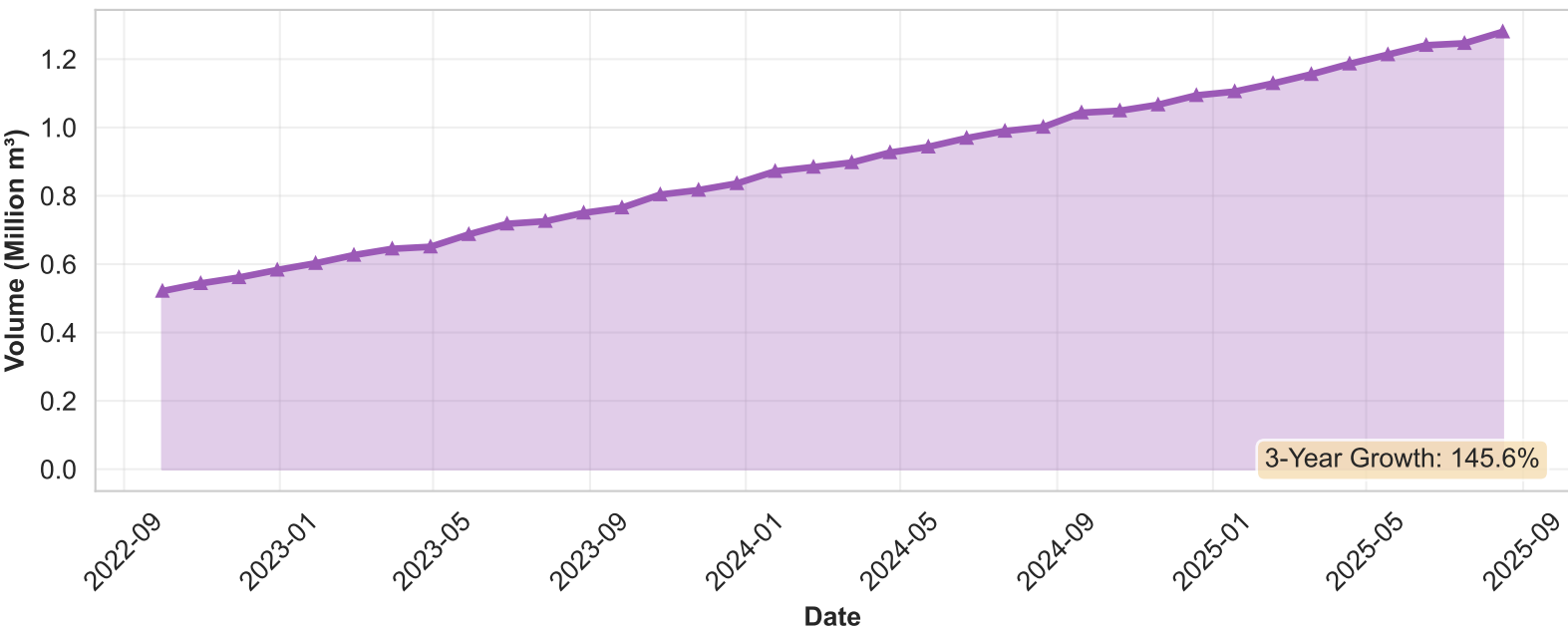
Current: 45.0 ha



Excavation Depth Progression

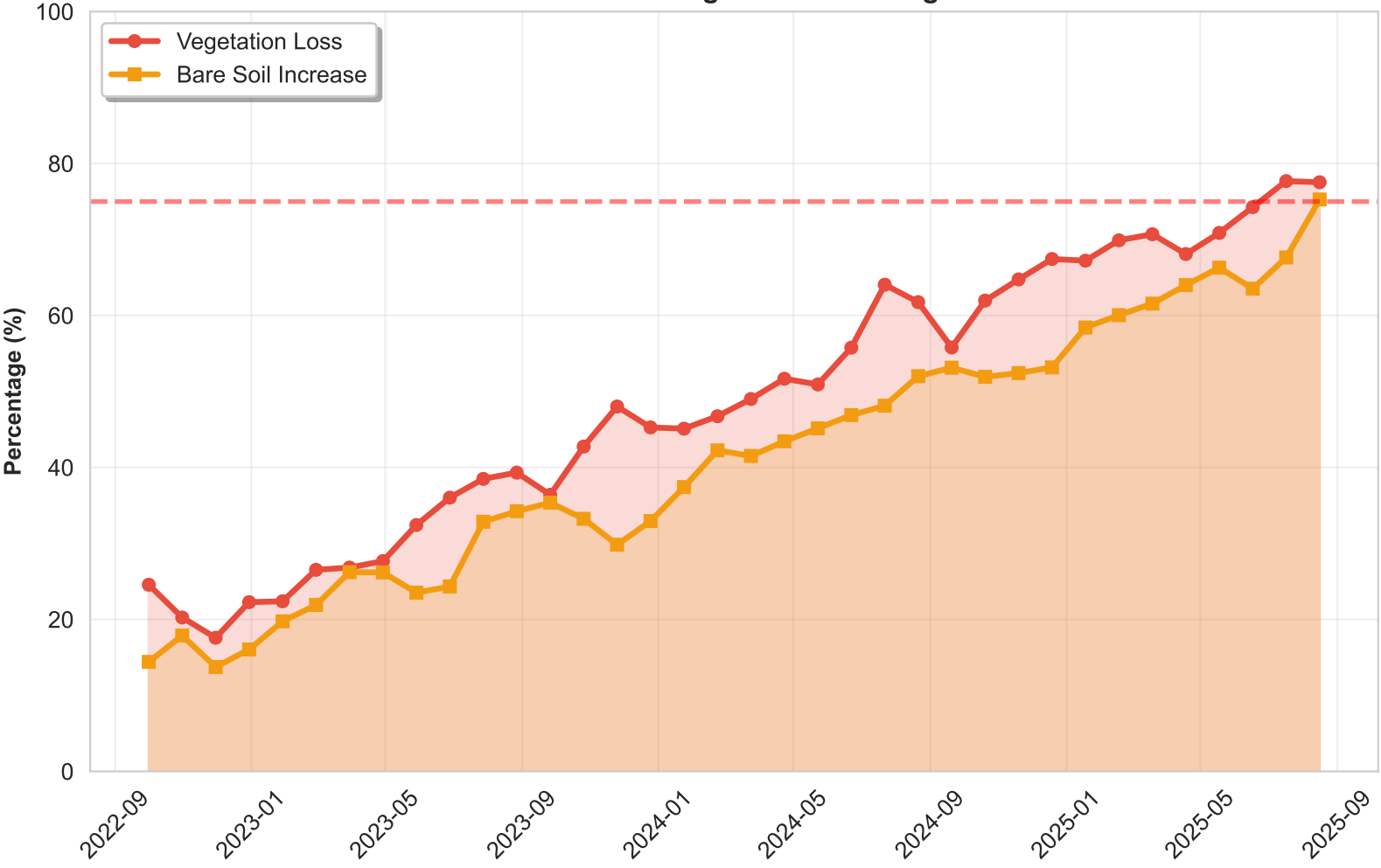


Cumulative Excavated Volume



ENVIRONMENTAL IMPACT ASSESSMENT

Land Cover Change Around Mining Site



Environmental Impact Summary

Metric	Current Status	Assessment
Vegetation Loss	77.5%	High Impact
Bare Soil Increase	75.3%	High Impact
Water Body Distance	2.3 km	Safe
Forest Distance	1.5 km	Monitoring
Air Quality Impact	Not Measured	Requires Survey

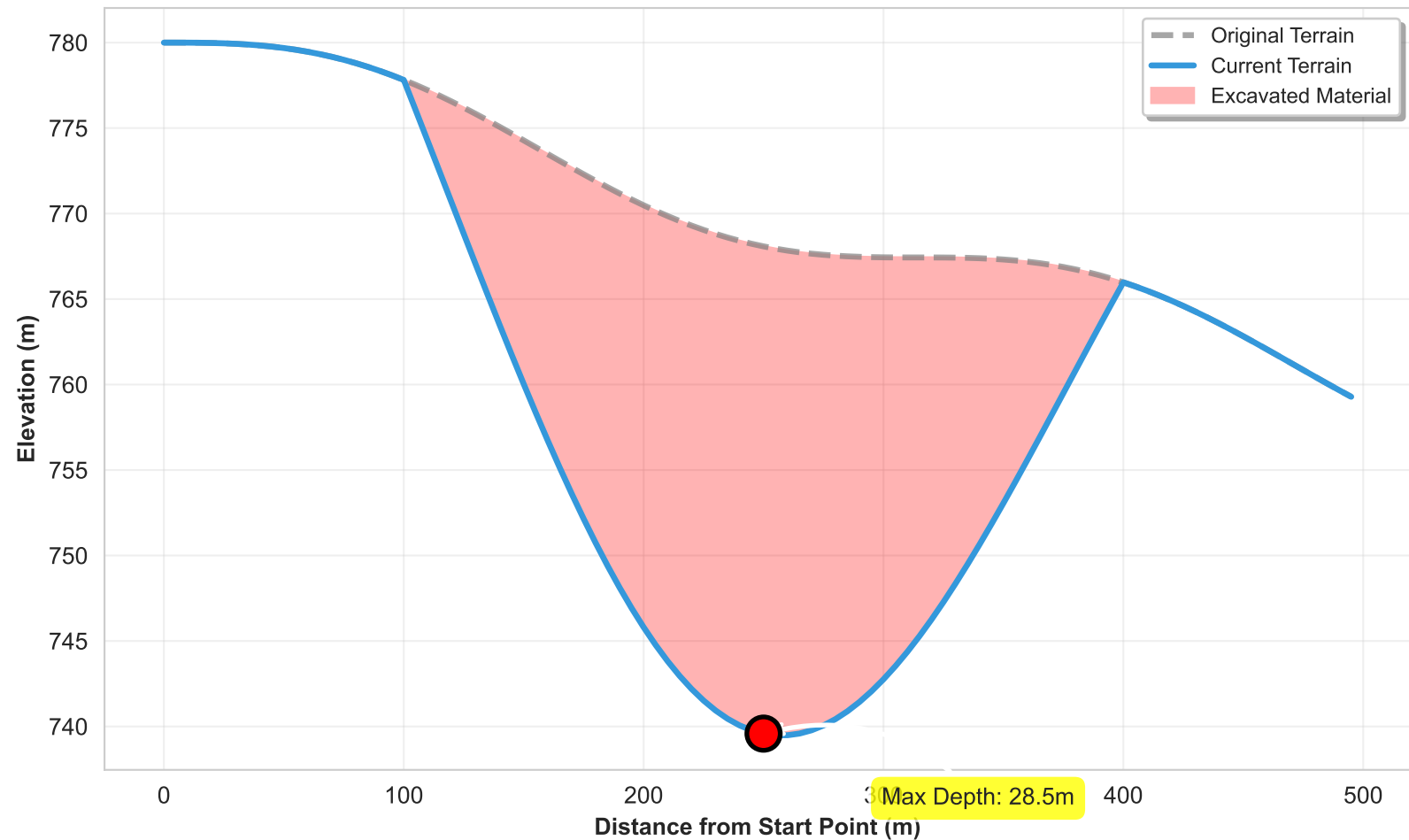
Mitigation Recommendations

RECOMMENDED ACTIONS:

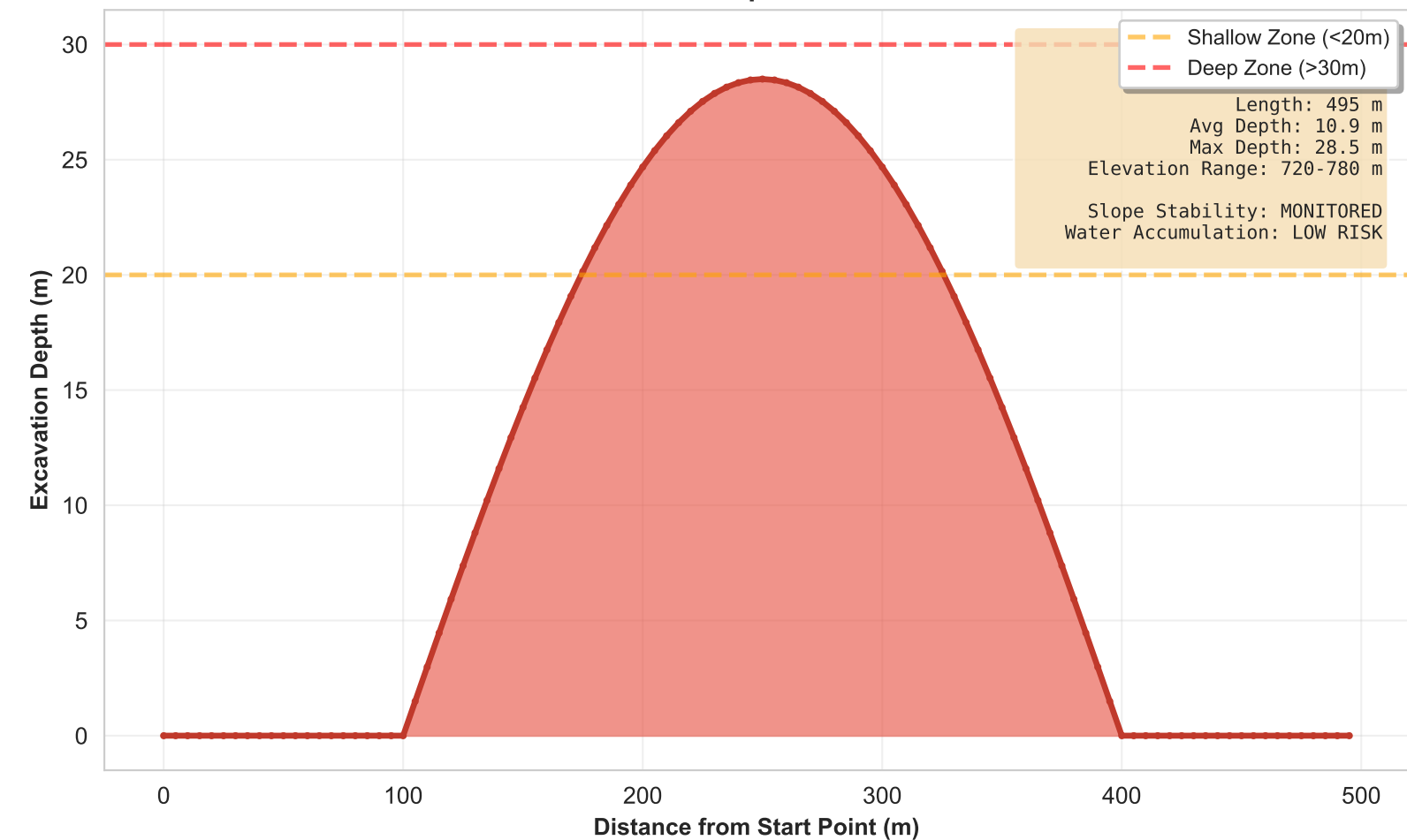
- ✓ IMMEDIATE:
 - Monitor vegetation buffer zones
 - Implement dust suppression
 - Check water body quality
- △ SHORT-TERM (1-3 months):
 - Conduct biodiversity survey
 - Assess soil erosion risk
 - Review drainage systems
- LONG-TERM (6-12 months):
 - Plan reclamation strategy
 - Establish green belt
 - Monitor groundwater levels

ELEVATION PROFILE & TERRAIN ANALYSIS

Terrain Cross-Section: North-South Profile

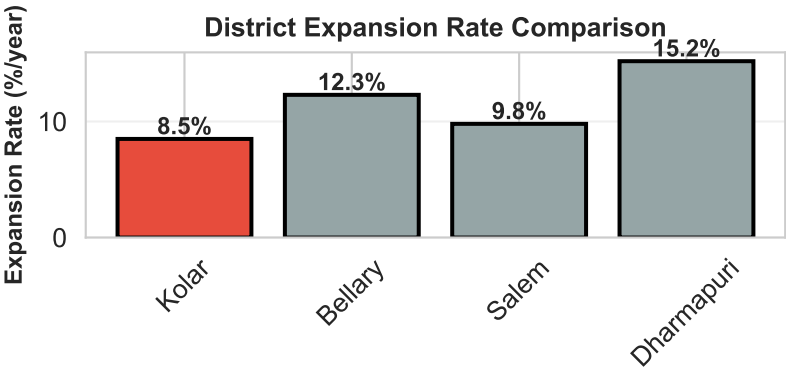


Excavation Depth Distribution

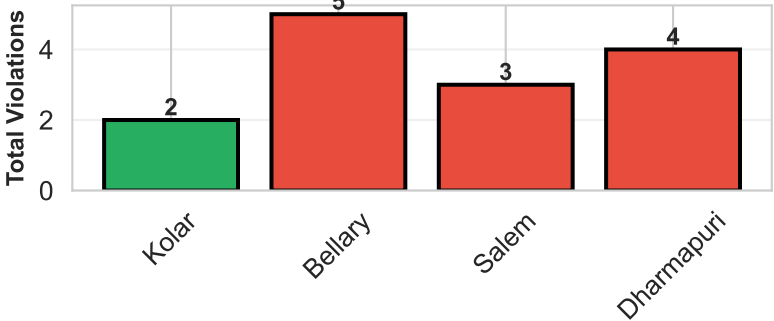


COMPARATIVE ANALYSIS & FINAL RECOMMENDATIONS

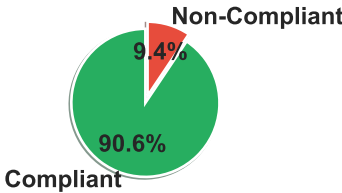
District Expansion Rate Comparison



Compliance Violations by District



Area Utilization Status



Risk Assessment Matrix

Risk Factor	Level	Priority
Lease Boundary	LOW	Monitor
Water Contamination	LOW	Monitor
Forest Impact	MEDIUM	Review
Vegetation Loss	HIGH	Action
Slope Stability	LOW	Monitor

FINAL RECOMMENDATIONS & ACTION ITEMS

✓ COMPLIANCE STATUS: SATISFACTORY - Site operations within permitted boundaries

⚠ PRIORITY ACTIONS (Next 30 Days):

1. ENVIRONMENTAL MONITORING

- Conduct ground verification survey (45 days since last inspection)
- Install air quality monitoring stations around perimeter
- Assess vegetation buffer zone integrity
- Test water quality in nearby water bodies

2. OPERATIONAL REVIEW

- Verify excavation depth against permit limits (currently at 42m of 50m allowed)
- Update mine closure and reclamation plan
- Review dust suppression measures effectiveness
- Inspect slope stability in deep excavation zones

3. DOCUMENTATION & REPORTING

- Submit quarterly expansion report to district authorities
- Update environmental impact assessment for next 12 months
- Document restoration activities in disturbed zones
- Prepare contingency plans for monsoon season

● LONG-TERM MONITORING (6-12 Months):

- Continue satellite-based monitoring (monthly intervals)
- Track expansion rate vs district average (currently aligned at 8.5%/year)
- Monitor forest boundary buffer (currently 1.5km, recommend maintain >2km)
- Plan progressive reclamation for inactive zones

REPORT PREPARED BY: Automated Mining Monitoring System v2.3.1

DATA SOURCES: Sentinel-2 Imagery (2025-09-10), Copernicus 30m DEM

NEXT REVIEW: December 2025 (Quarterly Schedule)

APPROVAL STATUS: Pending Field Verification