



Kowloon Southern Link – Contract KDB200
West Kowloon Station and Tunnels, Jordan Road to East Tsim Sha Tsui Station

Geotechnical Review of TBM Tunnelling in Urban Areas

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Date: 13 Jun 09

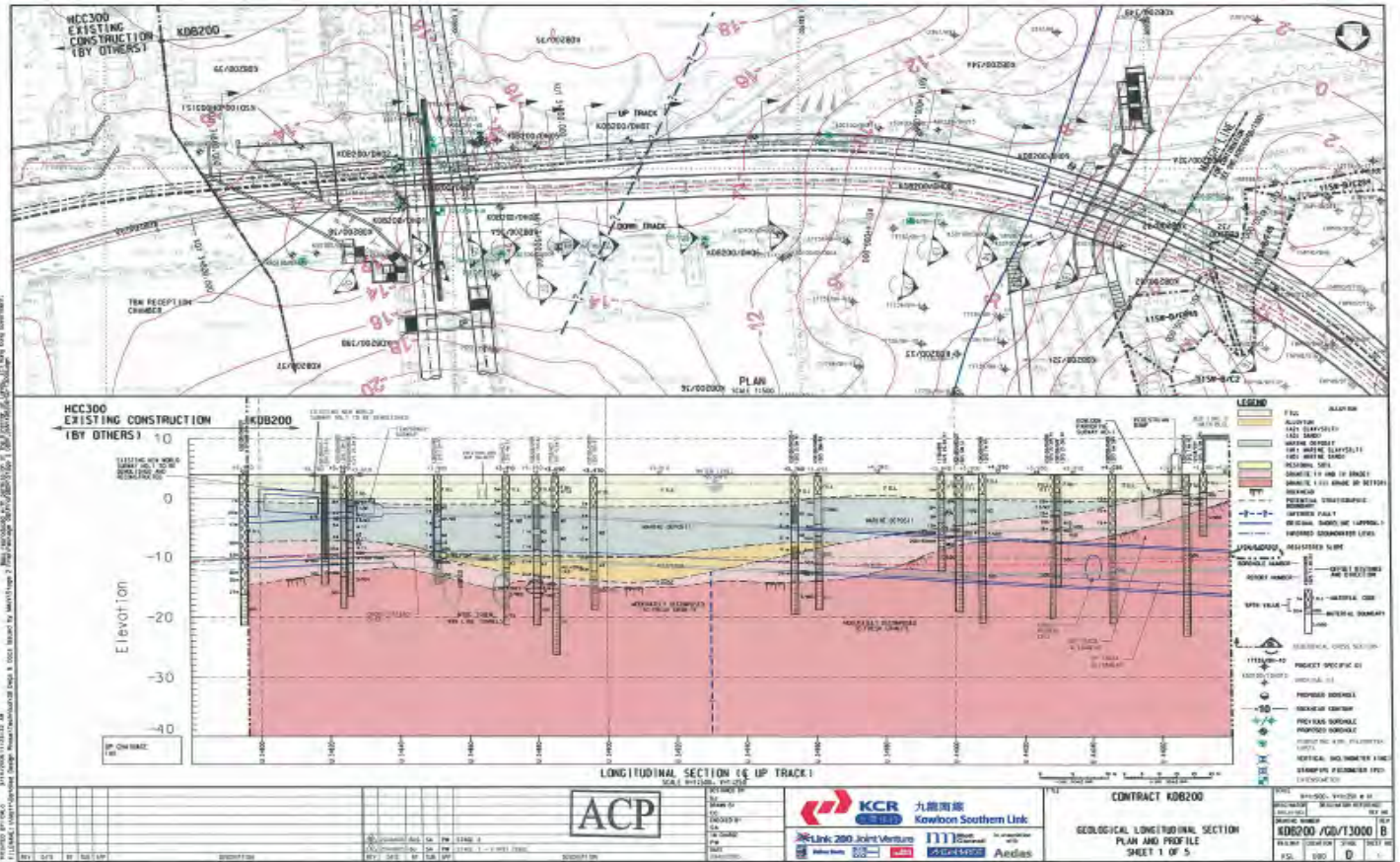
Project Background →

- Kowloon Southern Link – Contract KDB200
West Kowloon Station and Tunnels from Jordan Road to East Tsim Sha Tsui Station
- Owner: MTR Corporation
- Contractor: Link200 Joint Venture
- Designer: Mott-Meinhardt Joint Venture
- Design and Build Contract
- Contract Sum: HK\$ 2 Billion +

- Herrenknecht Mixshield TBM
- 8m in Shield Diameter
- Twin Railway Tunnels of ~1.1km each
- Tunnel Alignment
 - Launching Shaft at Austin Road
 - Under Canton Road
 - Retrieval Shaft at Salisbury Road
- Excavation from Soft Marine Sediments to Hard Rocks
- October 2006 ~ March 2008



- Review on Design assumptions
- Method – Simple and Quick
- Findings – Useful
- Geotechnical Engineering Practice
 - Ground Profile
 - Modeling
 - Behavior
 - *Observations*
 - *Measurements*

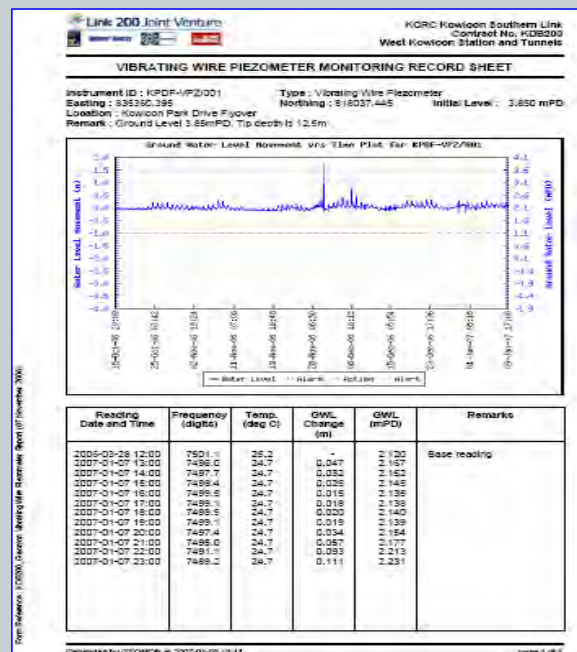


Have you reported the difference?



Have you reported the difference?

Ground Water Condition



Have you reported the difference?

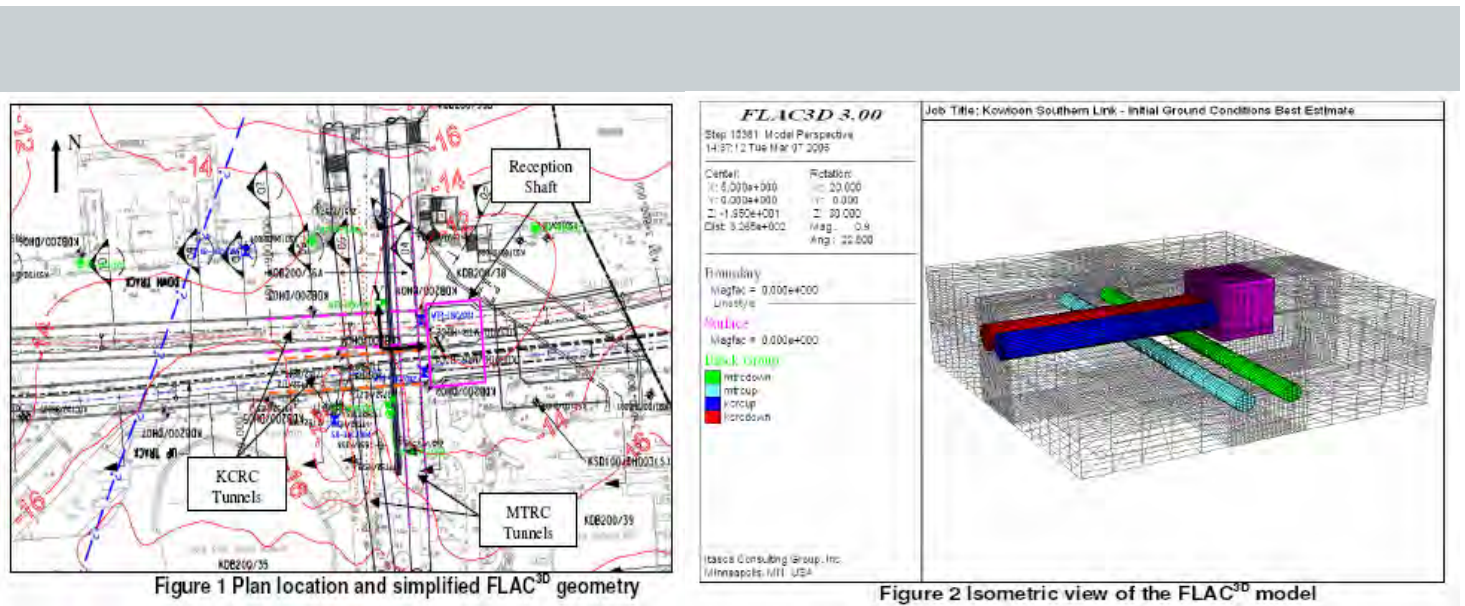
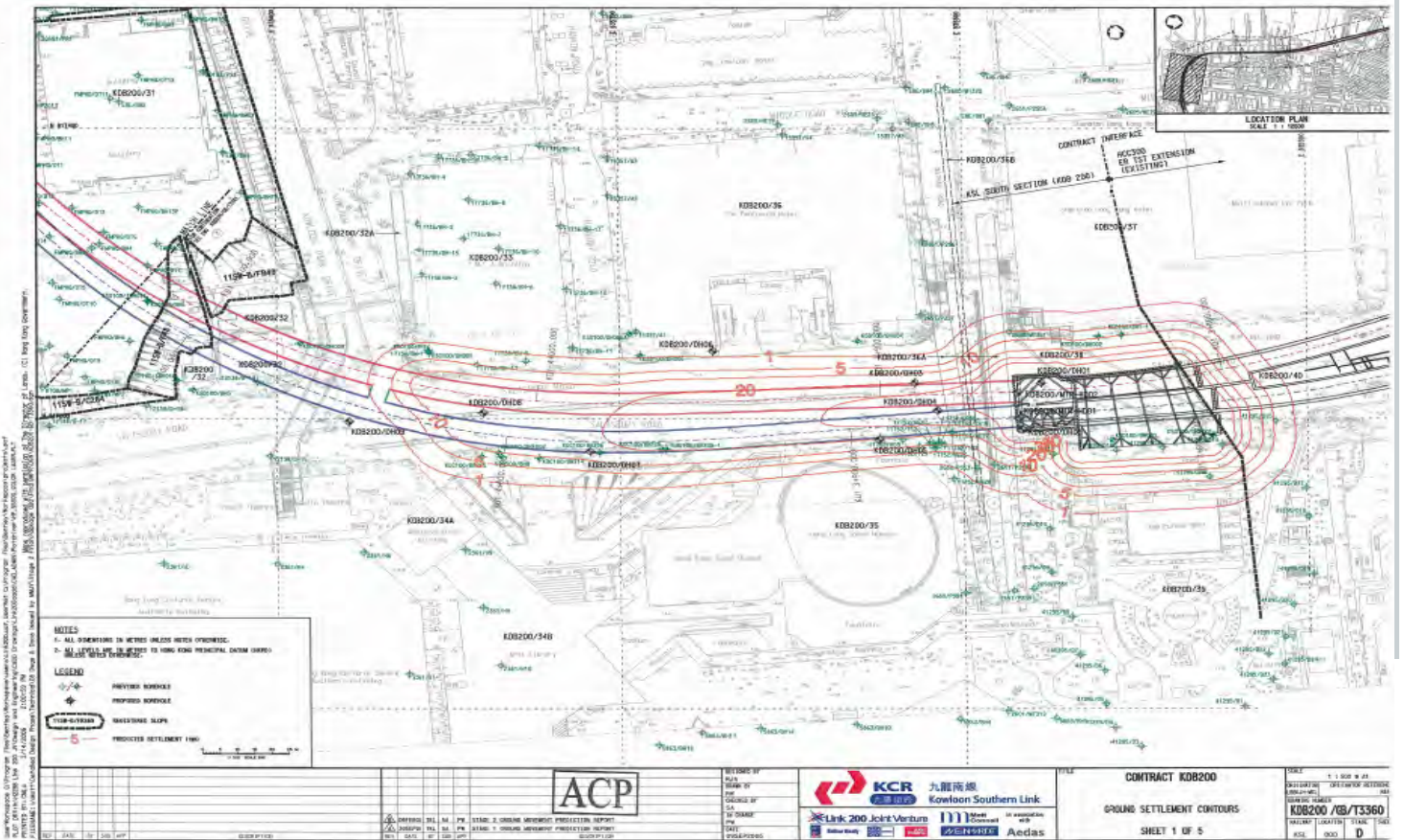
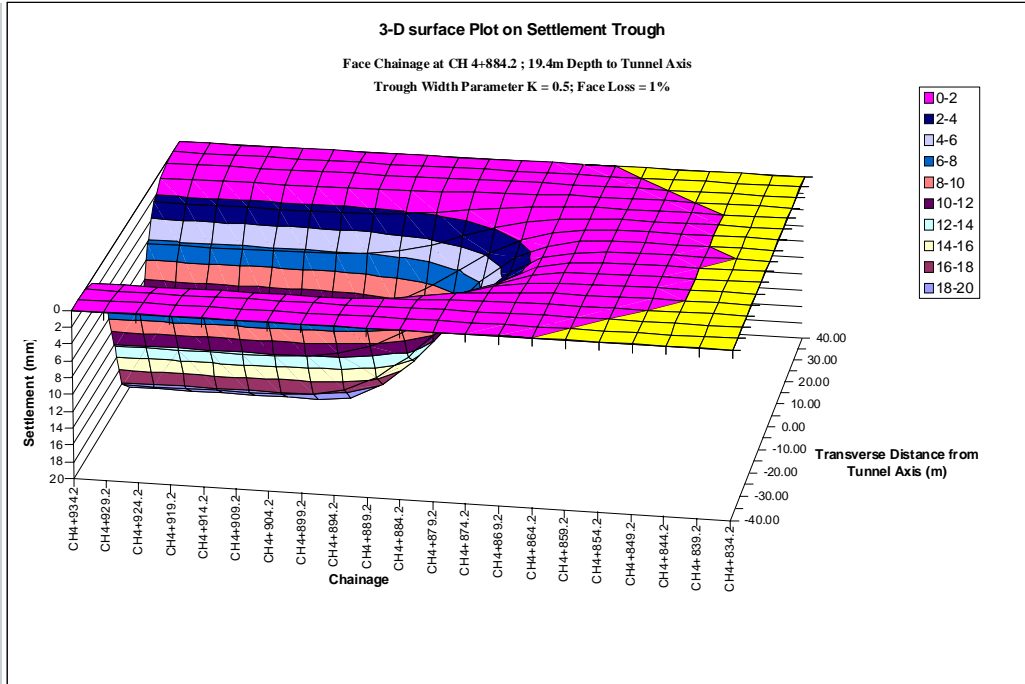


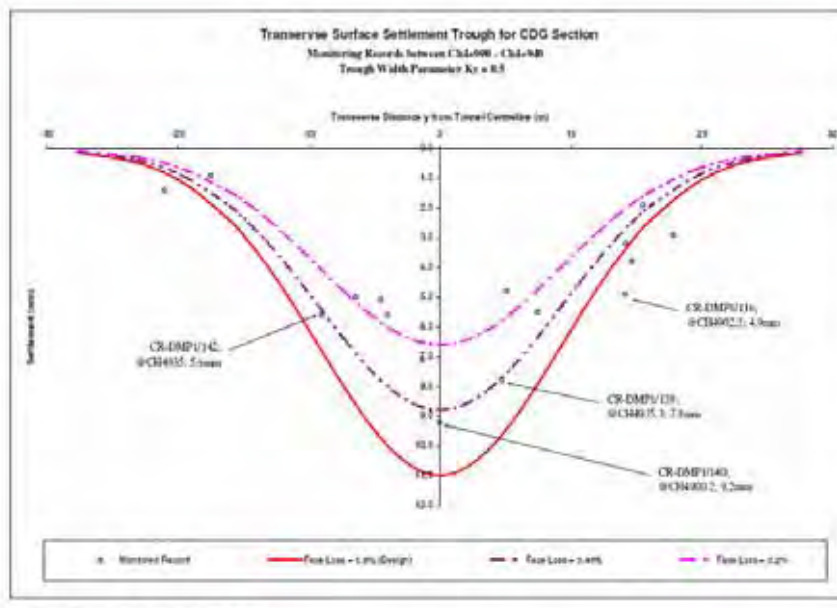
Figure 1 Plan location and simplified FLAC^{3D} geometry

Figure 2 Isometric view of the FLAC^{3D} model

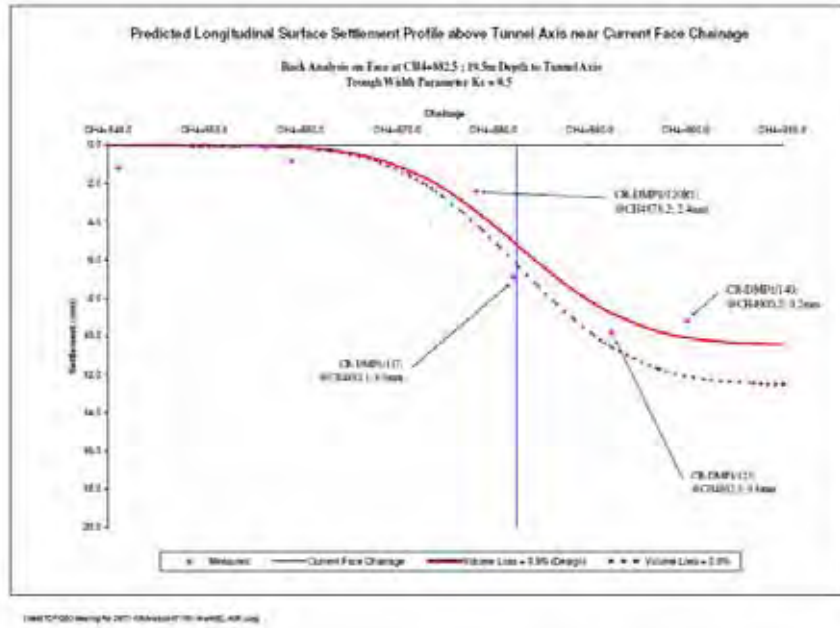
FLAC3D Modeling – Interactions with MTRC TWL during Drive (2m Clearance)



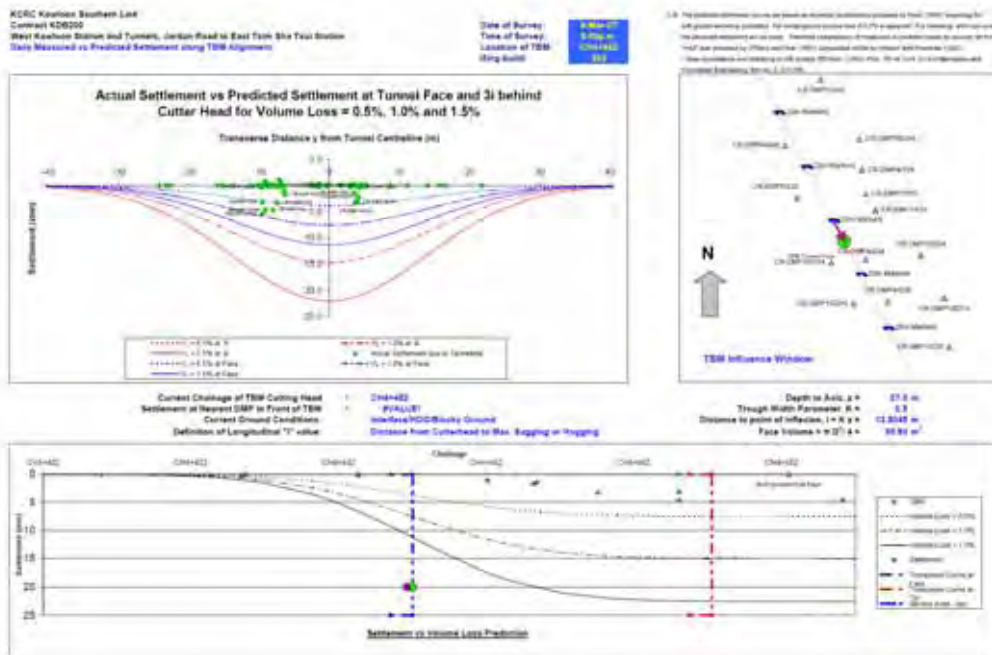
Simple Enough ?



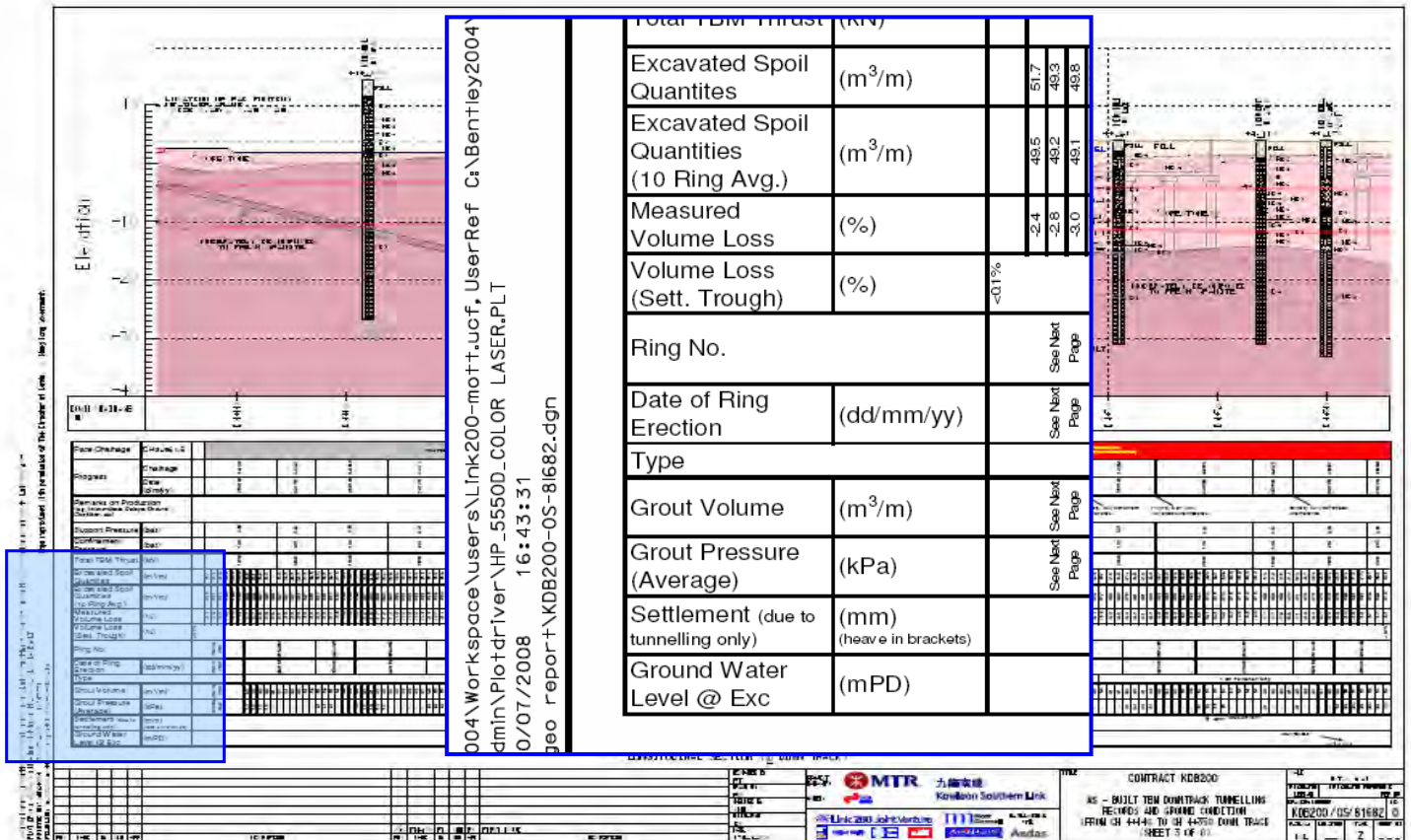
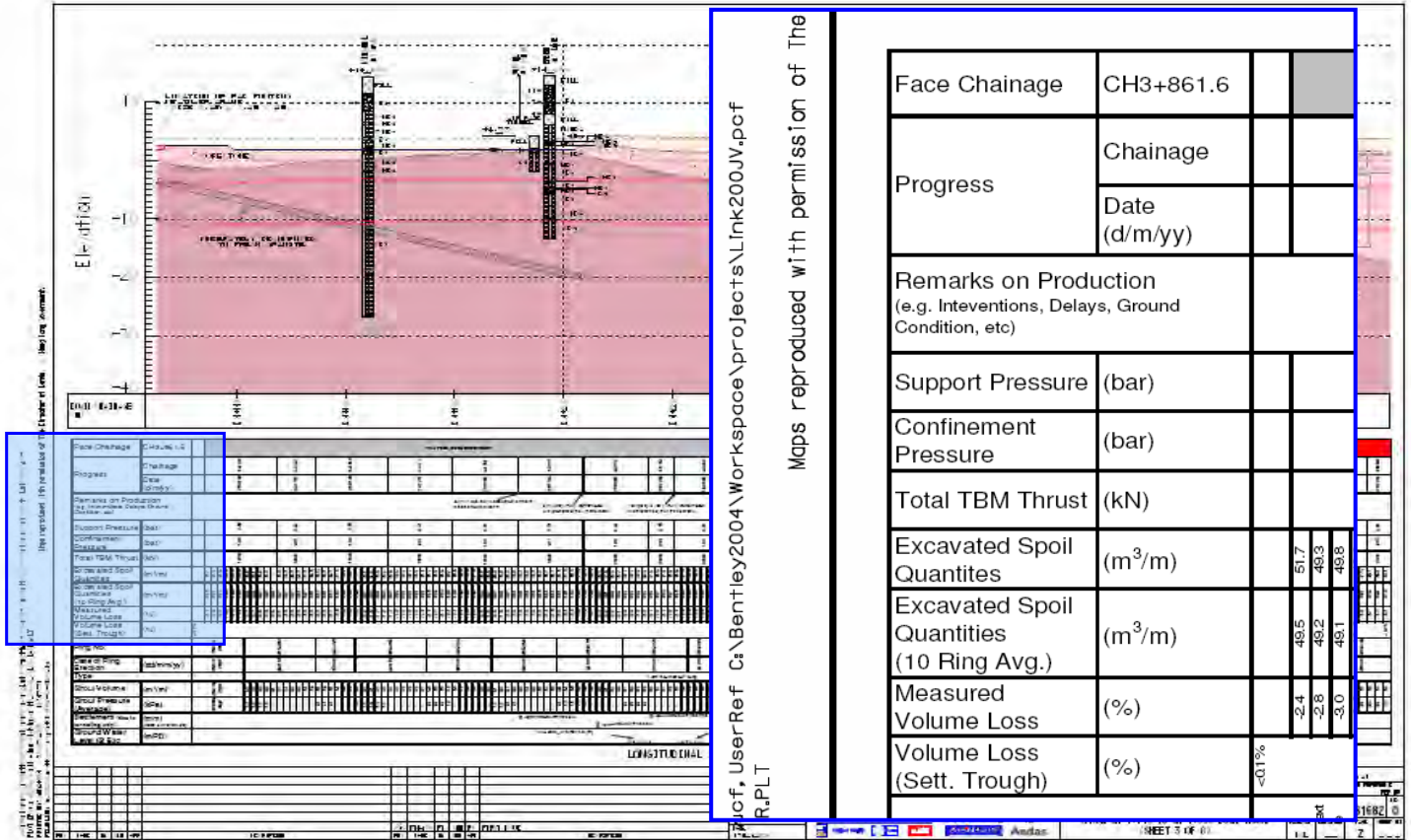
Transverse Section



Longitudinal Section



Daily Monitoring Summary



- Uniqueness of Project
- Planning and Updating
- Risk Allocation and Management
- Importance of Judgment and Experience



- Link 200 Joint Venture



- MTR Corporation



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