

Gas Drainage Methodologies at North Goonyella

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Ventilation Superintendent
North Goonyella Coal

North Goonyella

- Goonyella Middle Seam 6 – 6.5m
- Depth 300 - 450m
- Virgin gas 10 - 14 m³/tonne
- Seam gas is methane
- Seam is liable to spontaneous combustion

North Goonyella

Longwall

- 250m wide x 3000m long
- JOY shearer, chocks
- DBT AFC & BSL

Gateroad development unit

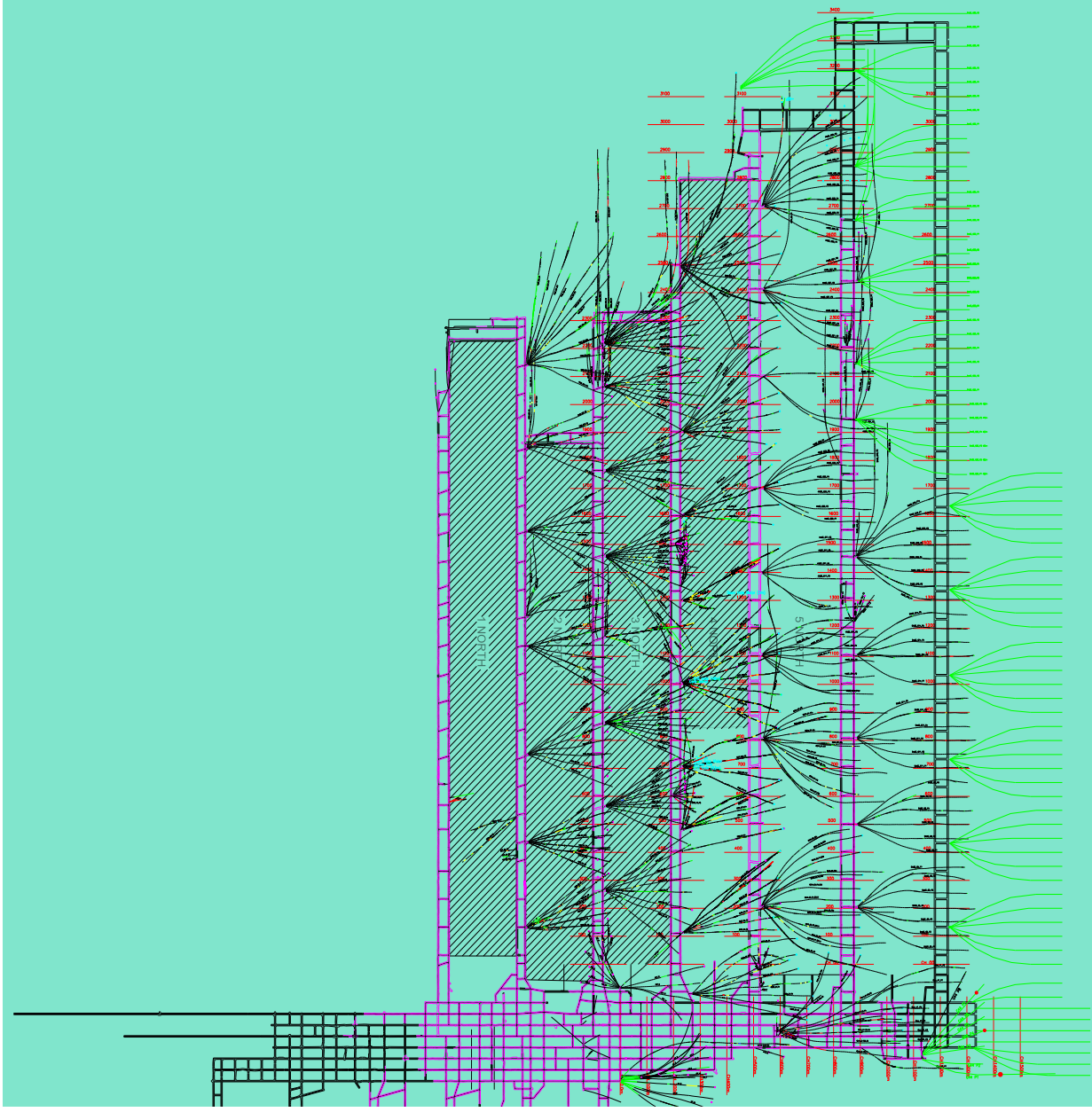
- 2 x ABM25

Inbye LW development unit

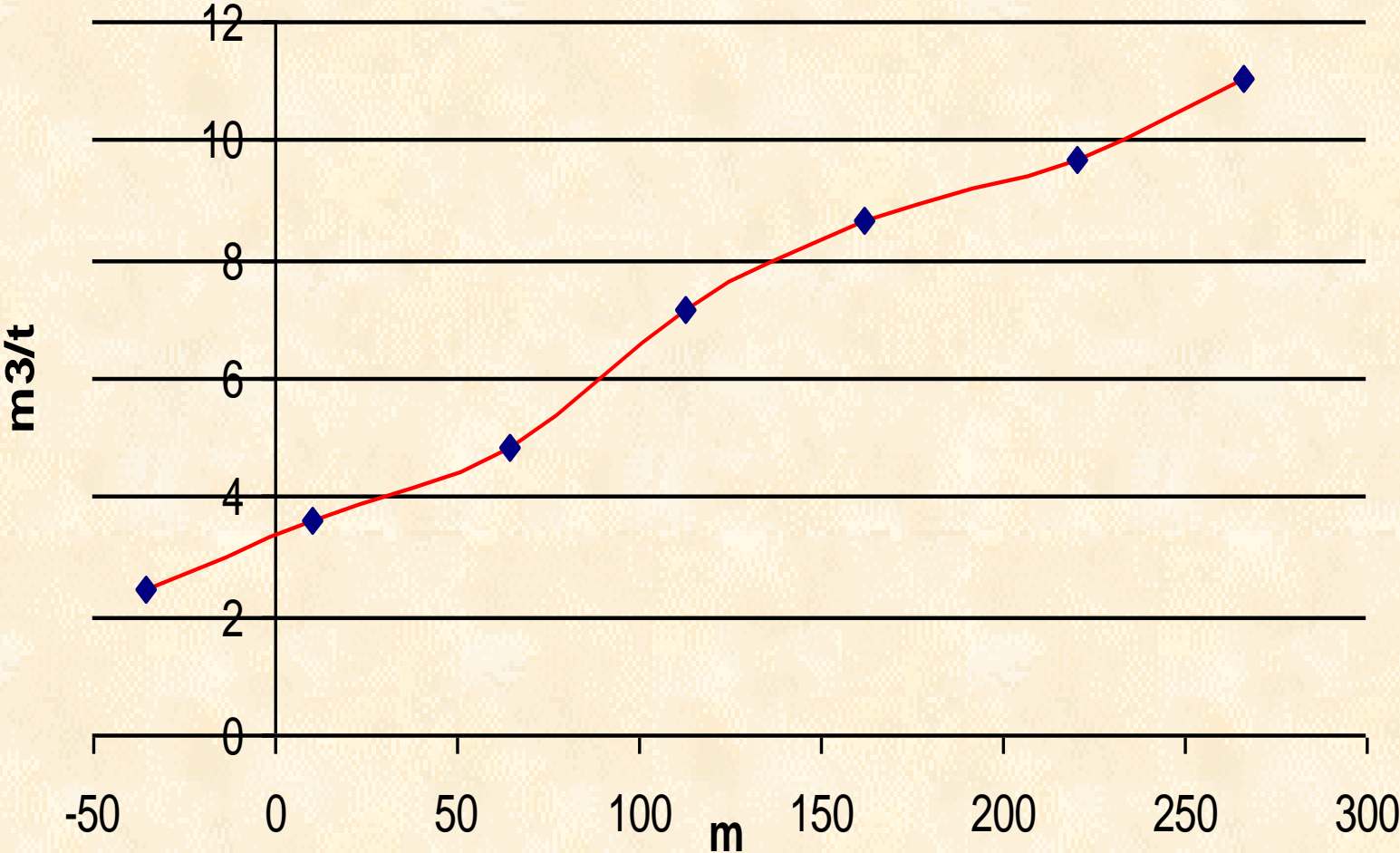
- JOY 4CM
- Vacuum plant to extract coal to surface

Gas Drainage

- Inseam drilling
 - Candelabra drilling pattern across LW panel
 - 50m hole centres
 - Gas riser / stub 300m intervals
 - Permeability 2 – 35 mD



Gas vs Distance from end hole



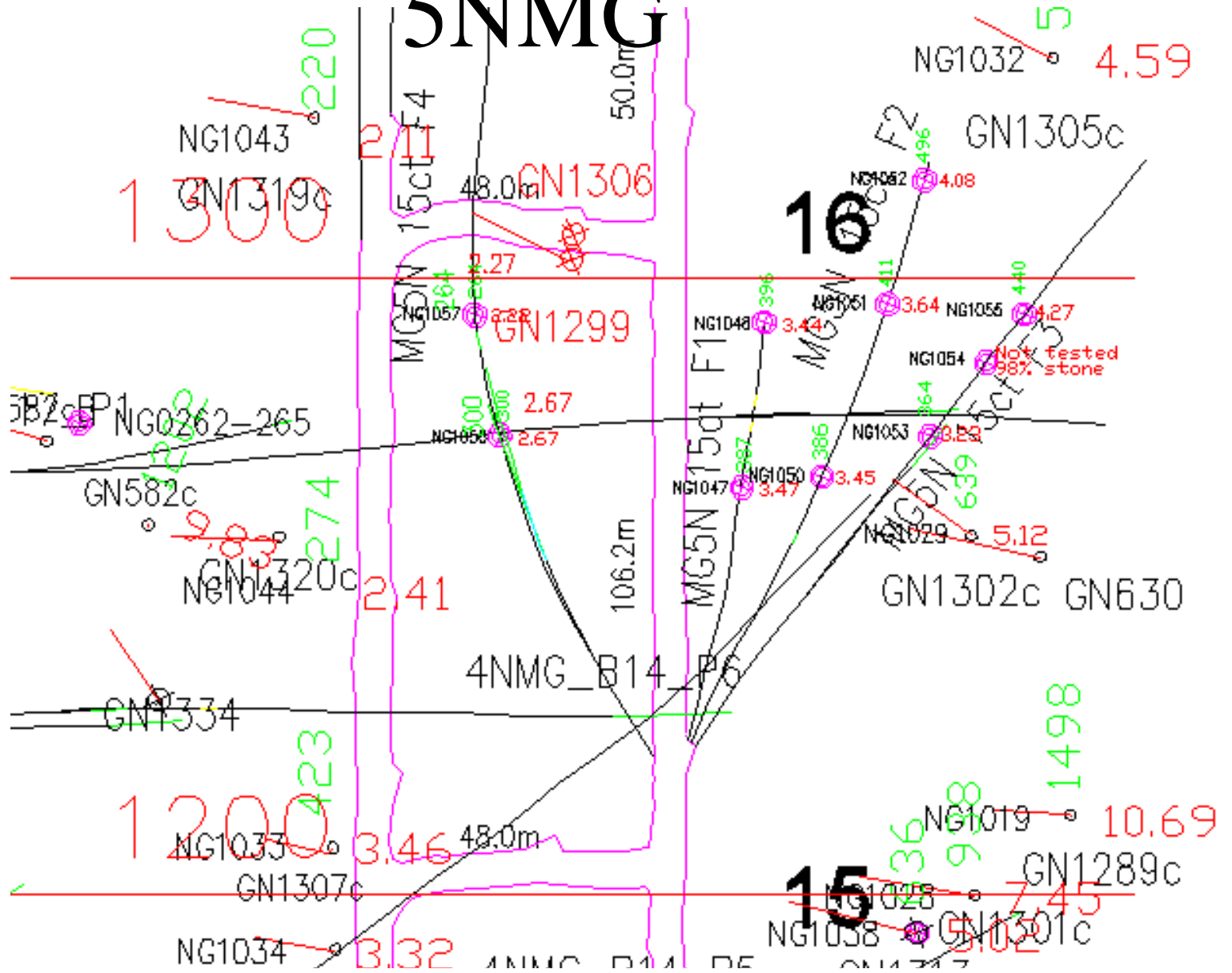
Gas Drainage Issues

- Drilling inbye of LW – 1000m
- Single entry
- Controlled GB CH₄ emissions from drill stubs by:
 - PUR'd rib (27c/t), grouted rib (30c/t)
 - Shotcrete stub
 - 12m standpipe
 - Drilled to 24m & grouted
- No delays due to gas in 4N

Gas Drainage Issues

- Mining to areas with limited time drainage
- Gas content reduced $< 7 \text{ m}^3/\text{t}$
- Increased emissions from stubs – ventilating stub direct to return
- Drilling flanking holes to stop recharge
- High flowing holes / structures
- Management of Hole intersections

5NMG



Goaf Drainage

- Compressed air venturi drainage plant
- Gas powered drainage plant

Future

- Surface to Seam
- Inseam gas into goaf