

901TG COAL BURST

25 NOVEMBER 2015

BRAD ELVY



APPIN COMPLEX

Area 9

Area 7

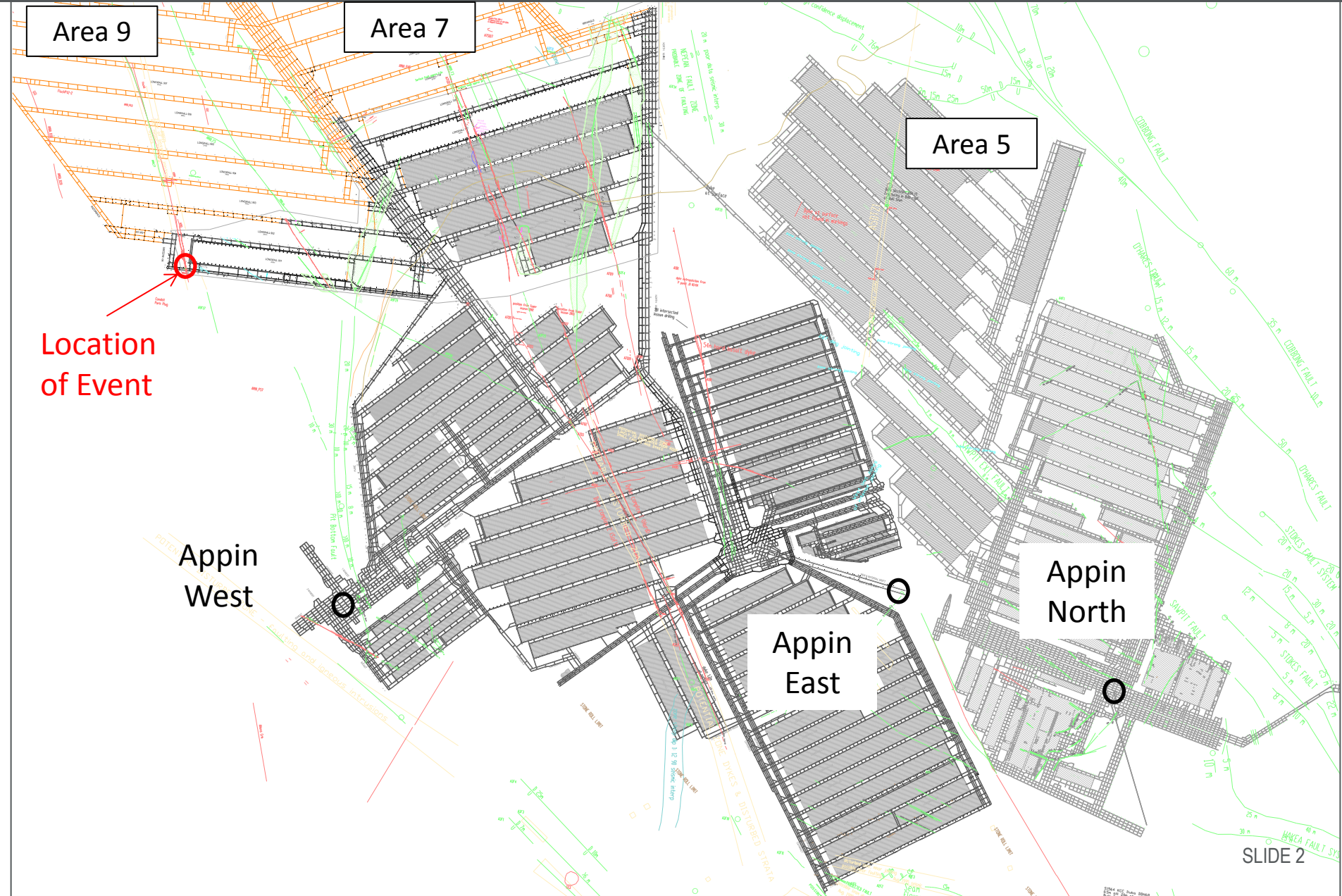
Area 5

Location
of Event

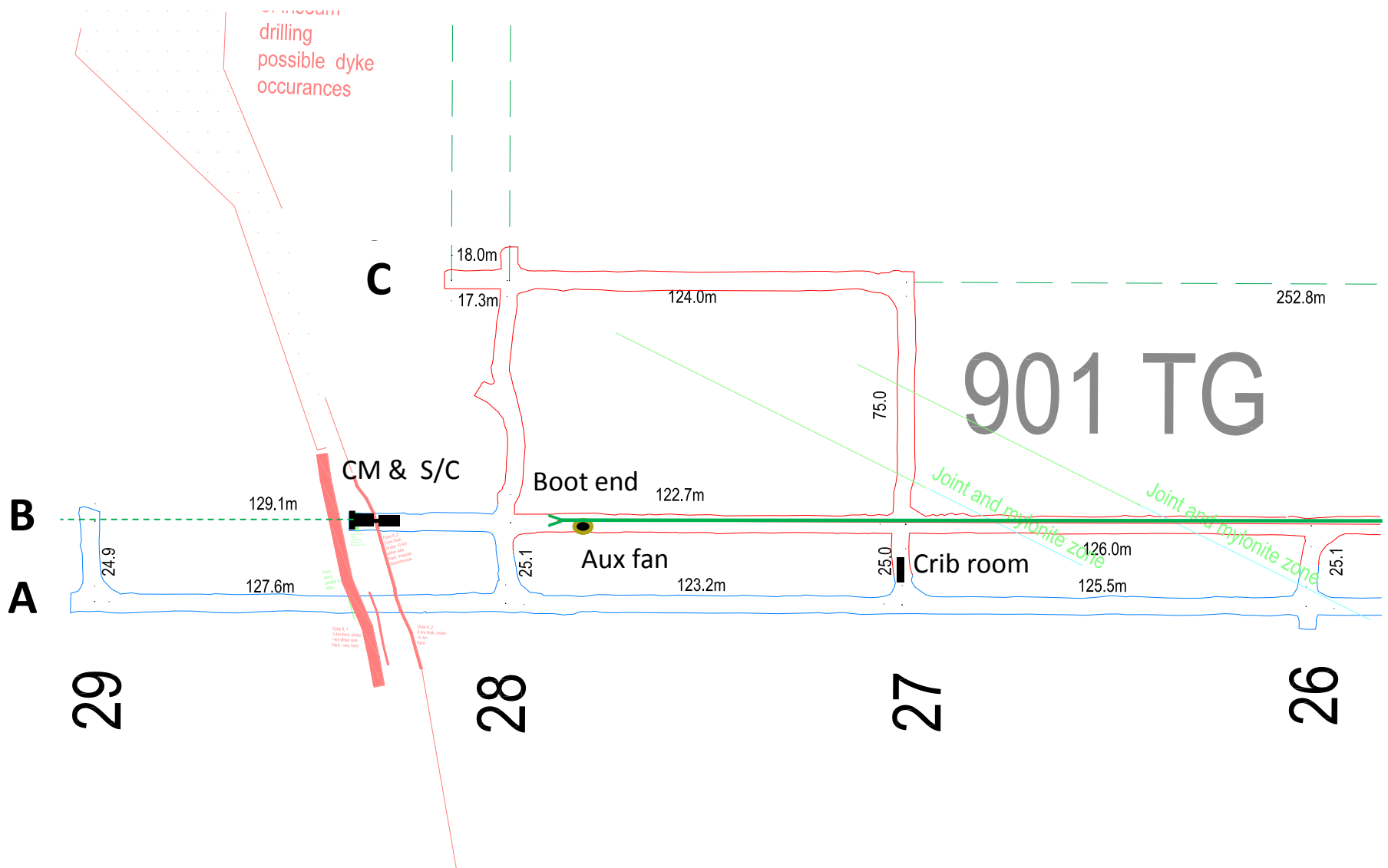
Appin
West

Appin
East

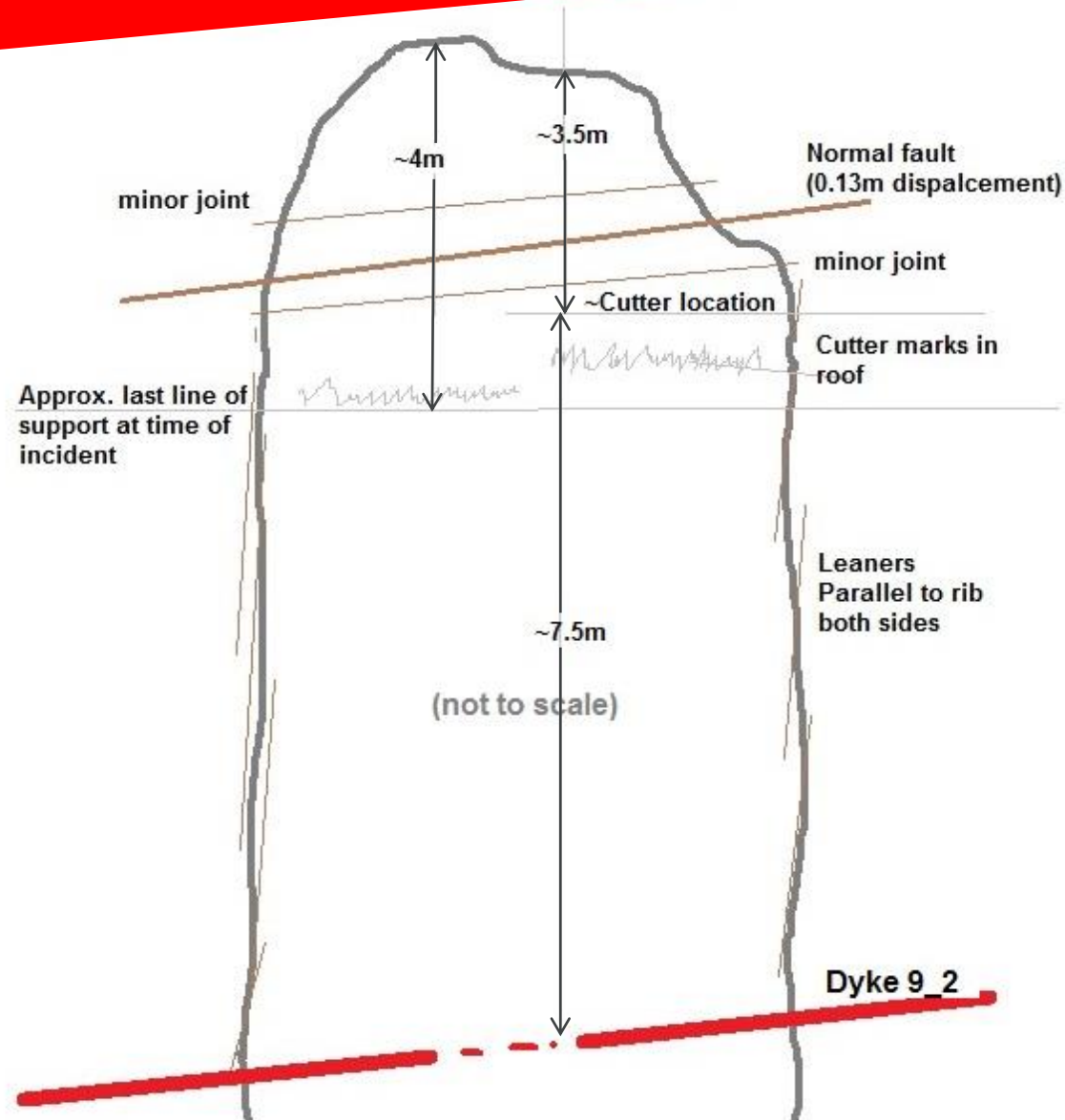
Appin
North



901TG PANEL FACE AREA



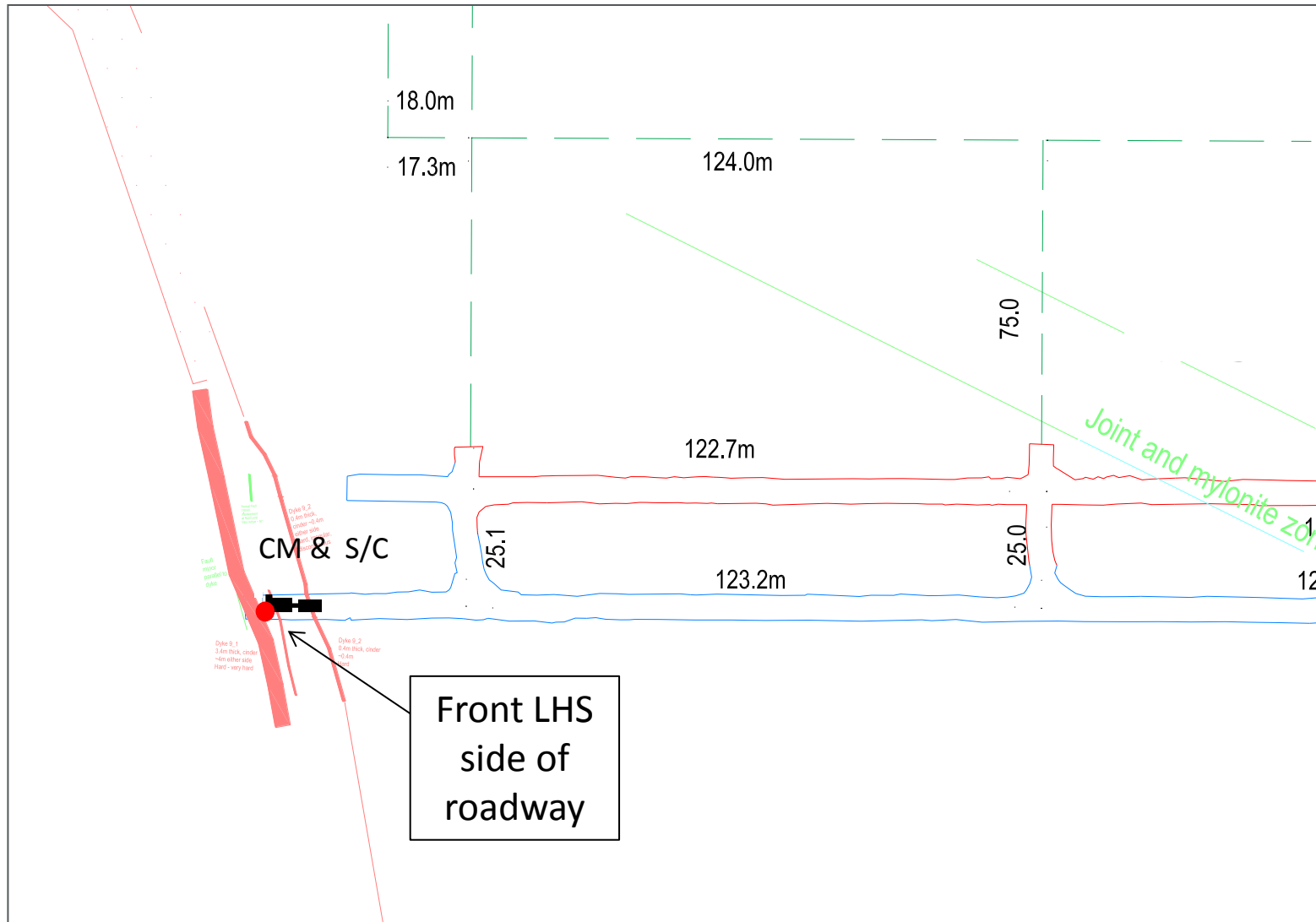
SHAPE / SIZE OF THE VOID – B HDG



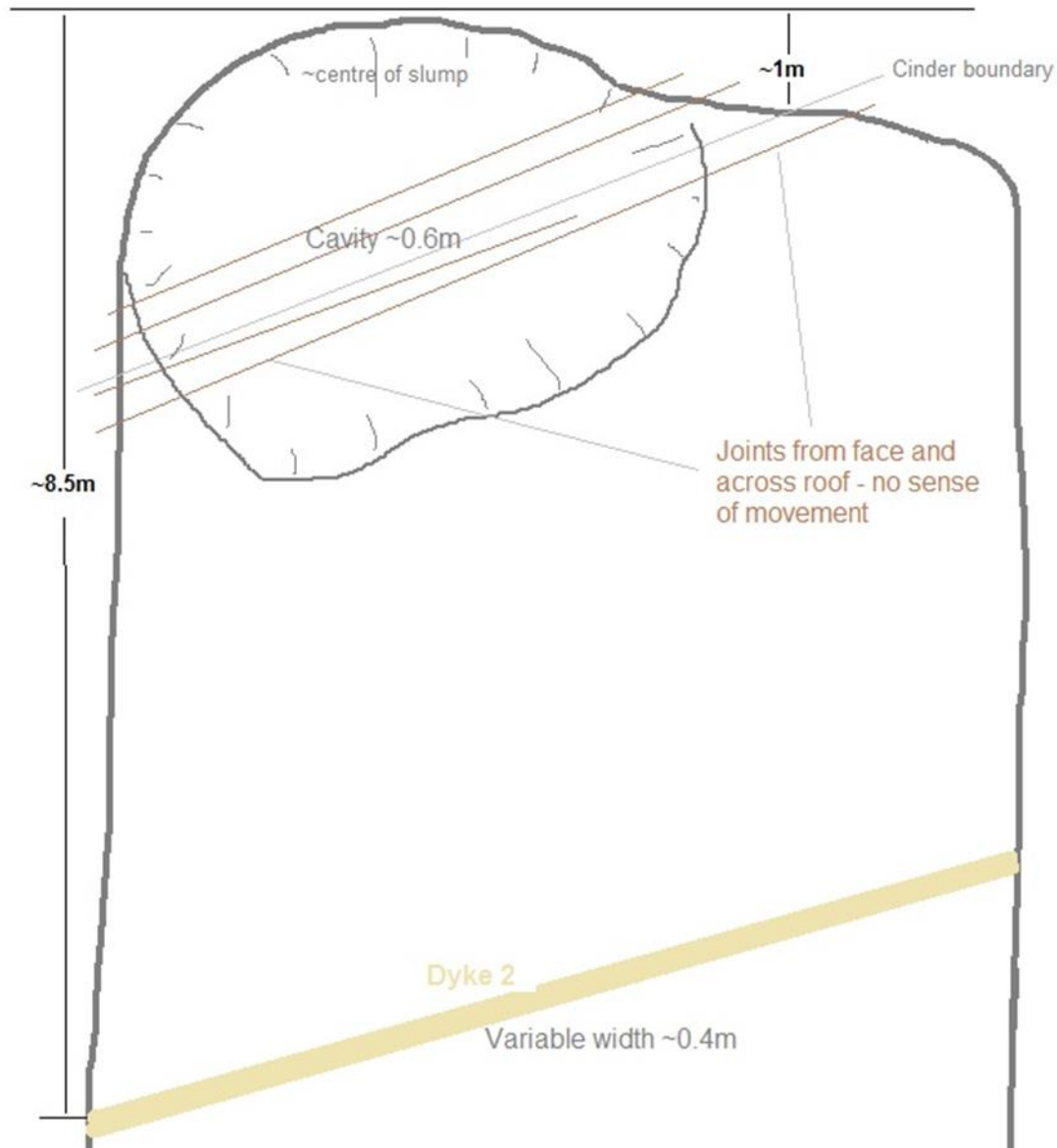
LHS OF MINER



901TG A HDG - EVENT 1



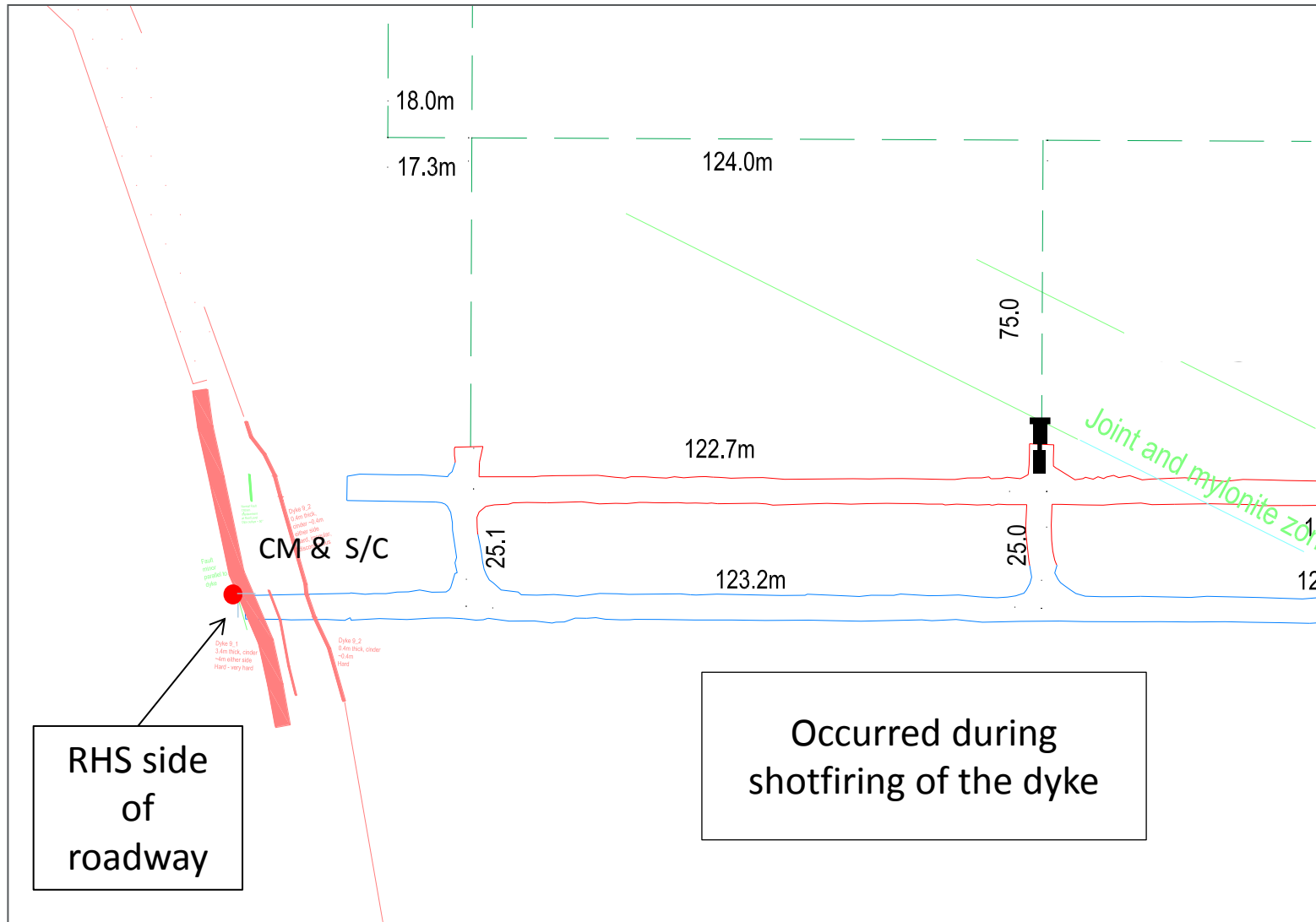
SHAPE / SIZE OF THE VOID – A HDG



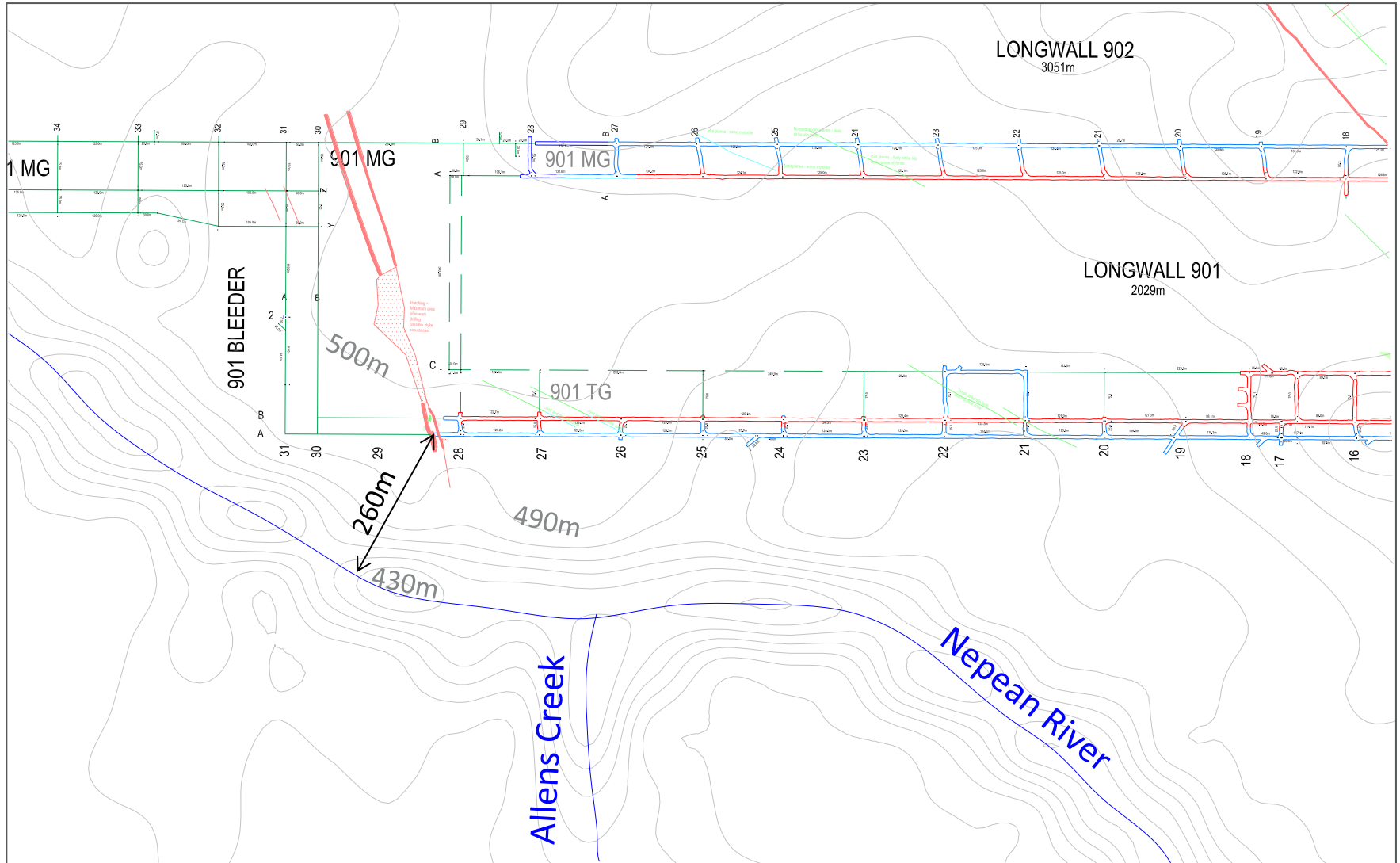
A HDG – 1ST EVENT



901TG A HDG - EVENT 2



LOCAL VIEW



A HDG OUTBYE ROOF CONDITIONS



B HDG FACE ROOF & RIB CONDITIONS



- B Hdg had a significant change in roof conditions
- Rib conditions changed – hard upright ribs
- Mining in structured area (Faults and Dykes)
- Depth of cover over 400m
- Bumping
- Previous low level events in A Hdg

Most likely

- Stress conditions in panel
- Depth of cover
- Small pillar between A and B Hdg
- Confinement of roadway front abutments with dyke structure
- Ability of cinder to build up strain / hold load until ultimate failure

Possible

- Proximity to Nepean River and gorge (Stress magnitude + changing DOC)
- Inseam gas pressure

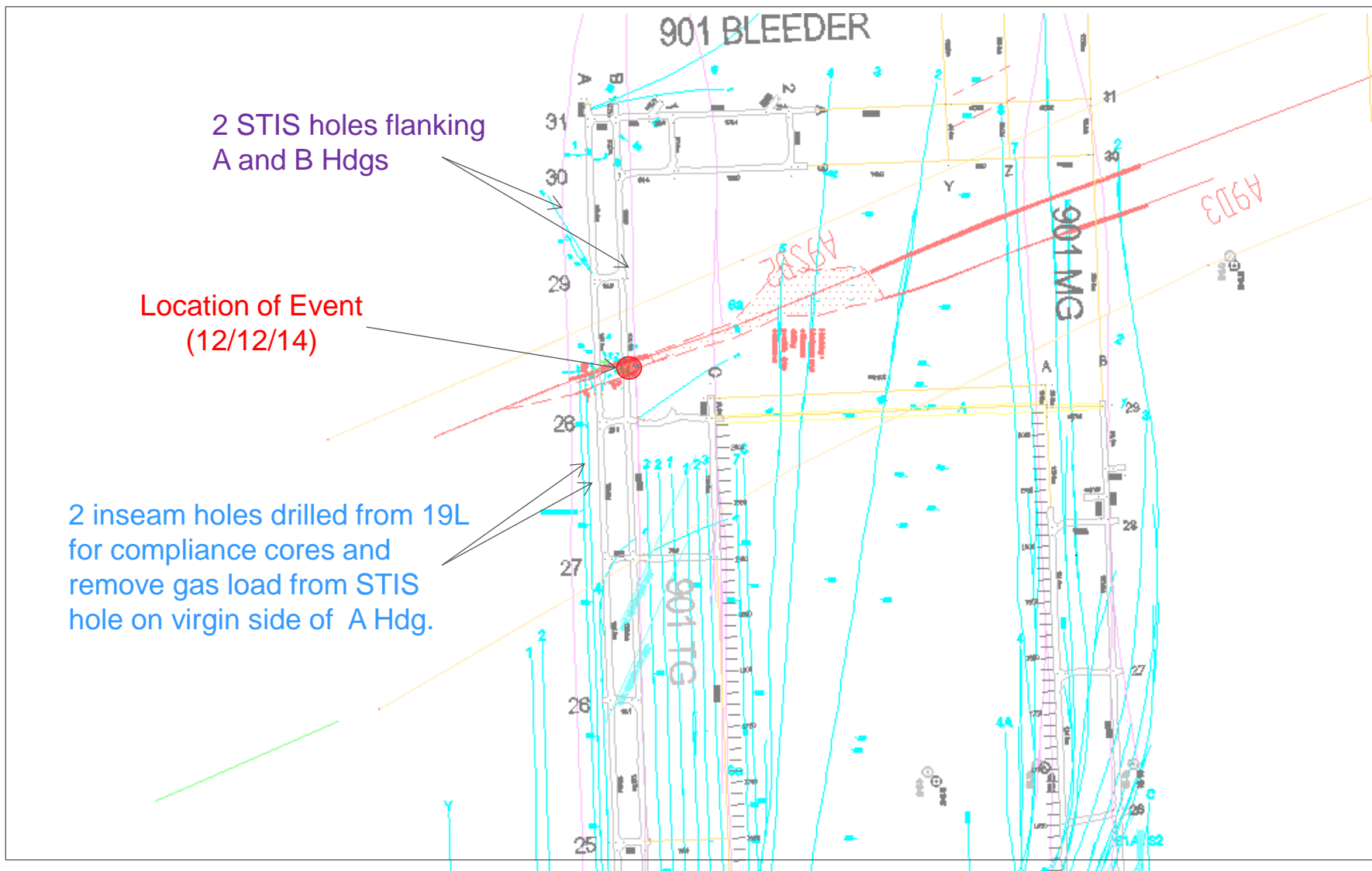
LARGE CINDER PIECE ON CM THROAT



LARGE CINDER PIECE ON CM THROAT

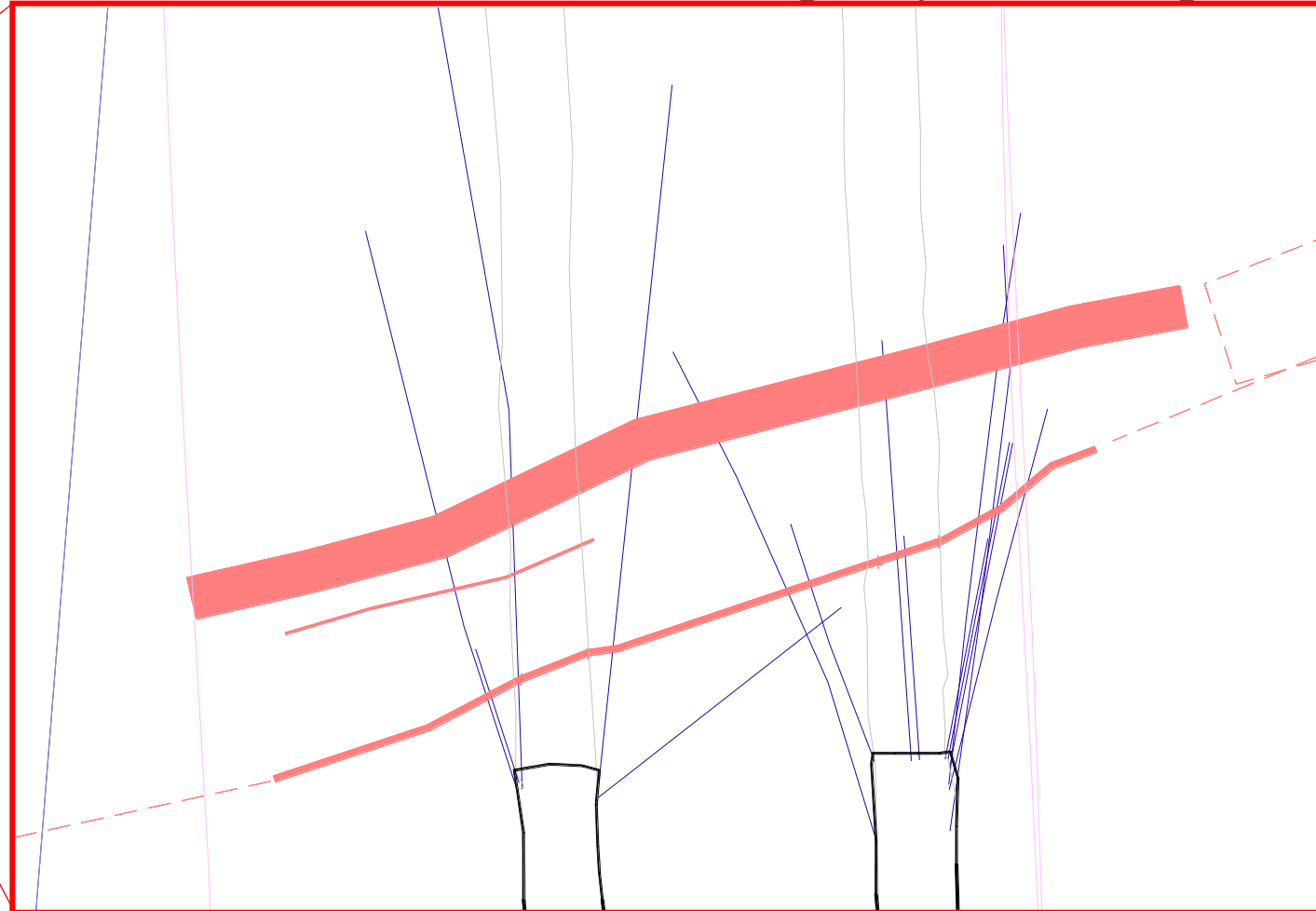
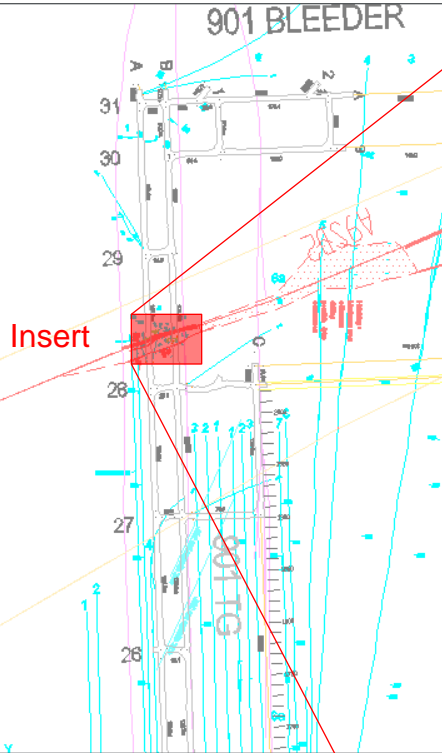


INITIAL GAS DRAINAGE

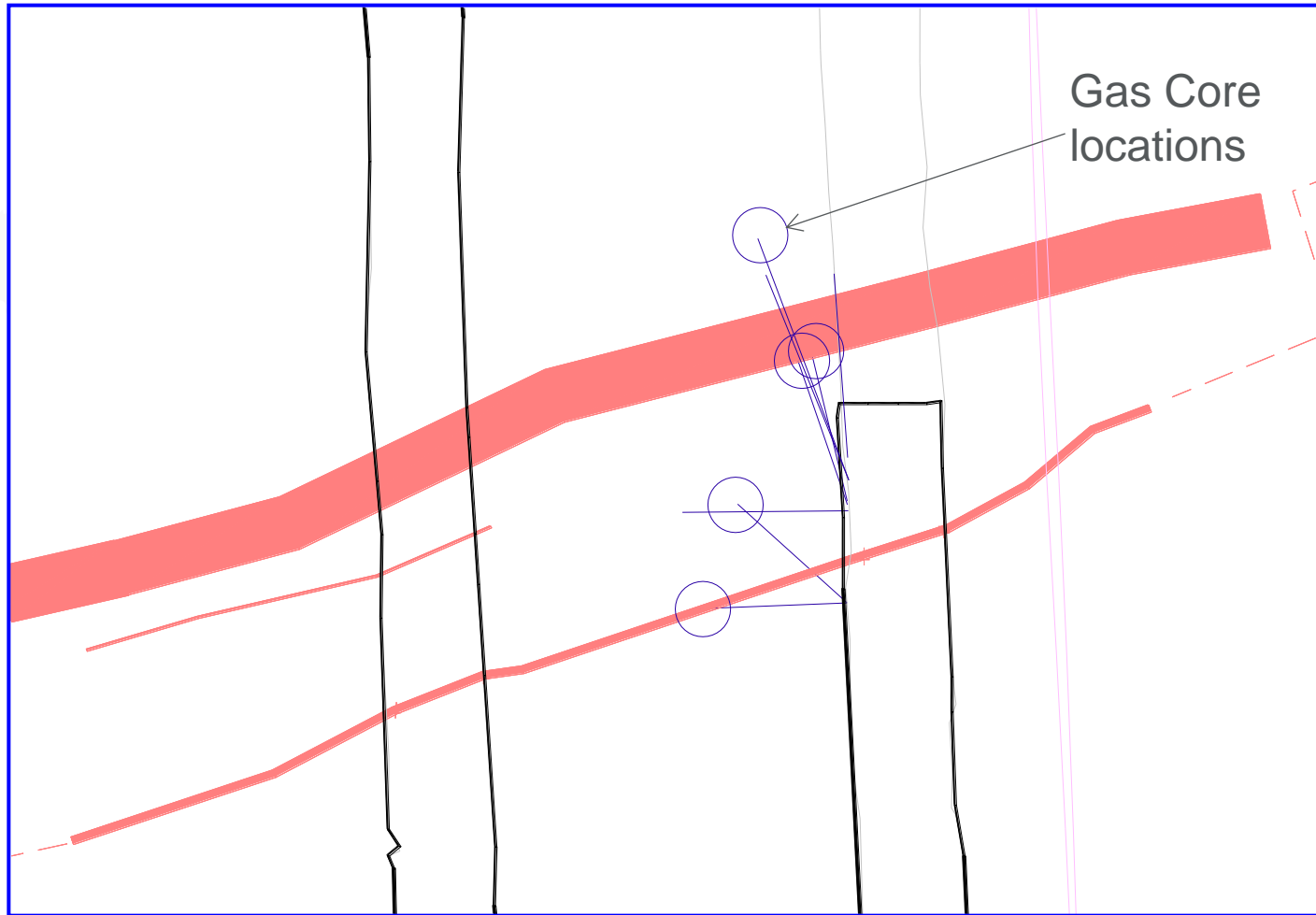


INITIAL COMPLIANCE DRILLING PRIOR TO DEVELOPMENT THROUGH STRUCTURE

Zoomed in view of A and B Hdg compliance drilling

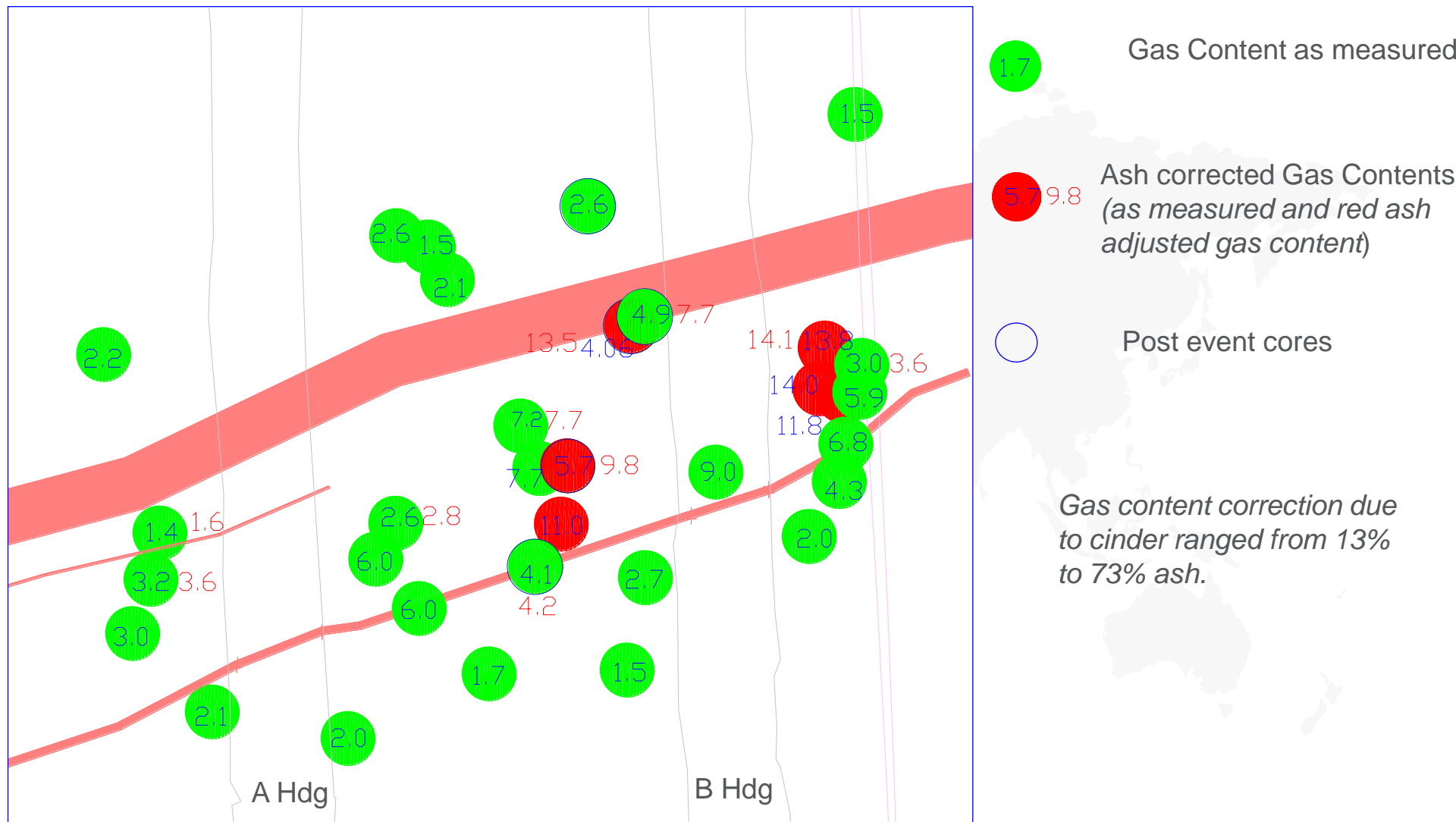


DRILLING POST EVENT

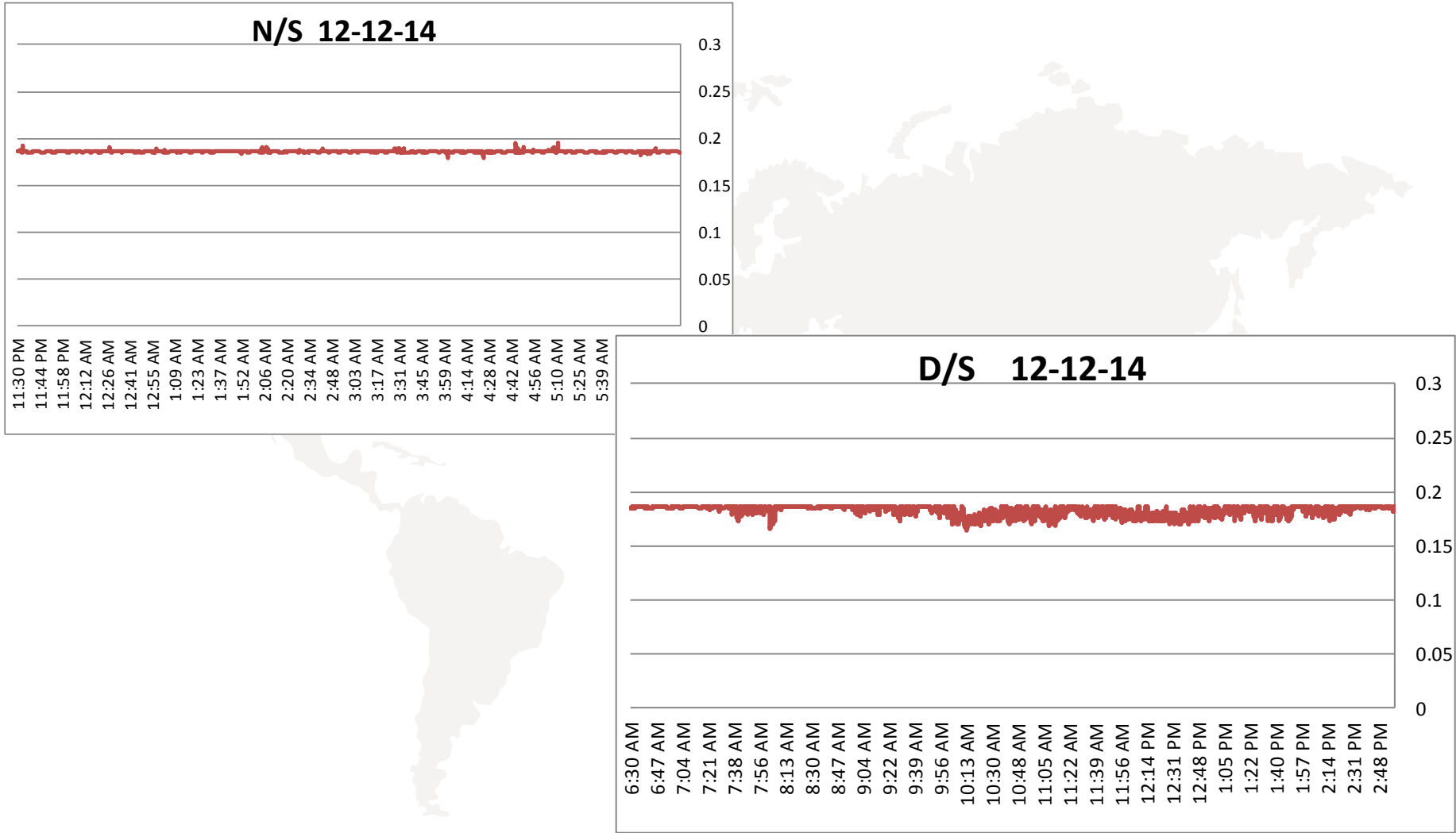


Zoomed in view of A and B Hdg

GAS CONTENTS – AS MEASURED

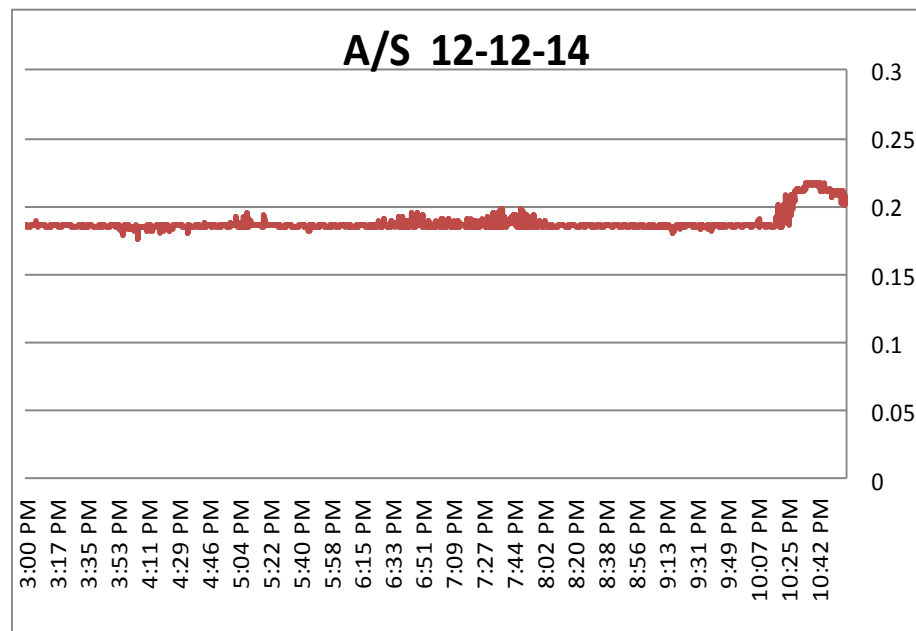


REVIEW OF RETURN GAS DATA ON PREVIOUS SHIFTS



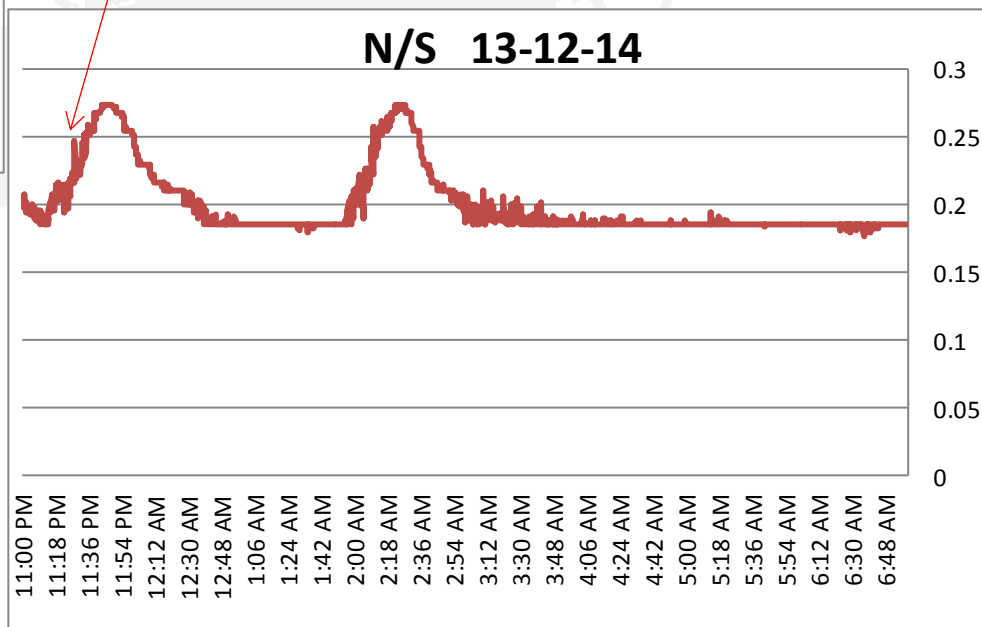
REVIEW OF RETURN GAS DATA

A/S 12-12-14

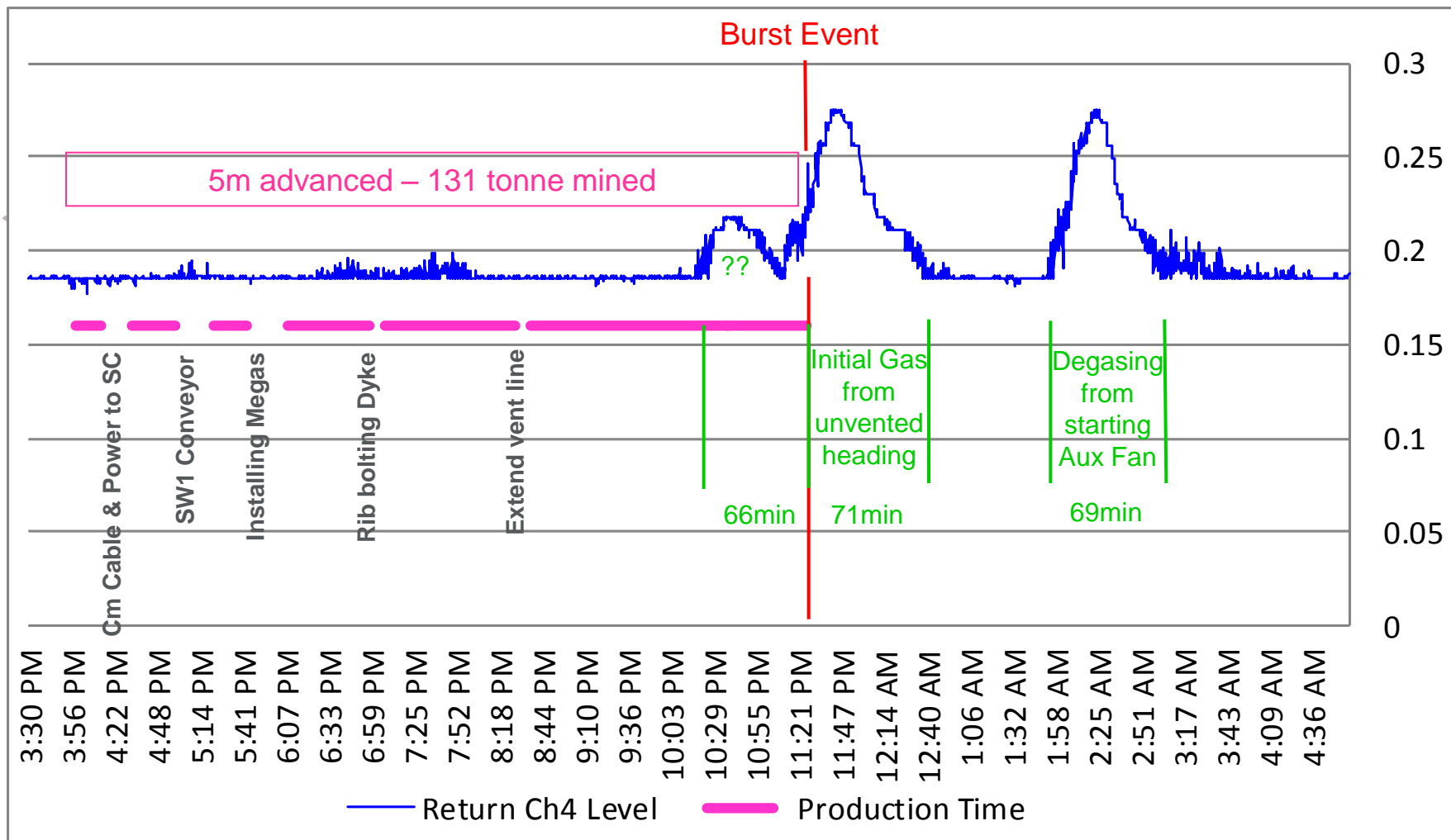


Event

N/S 13-12-14

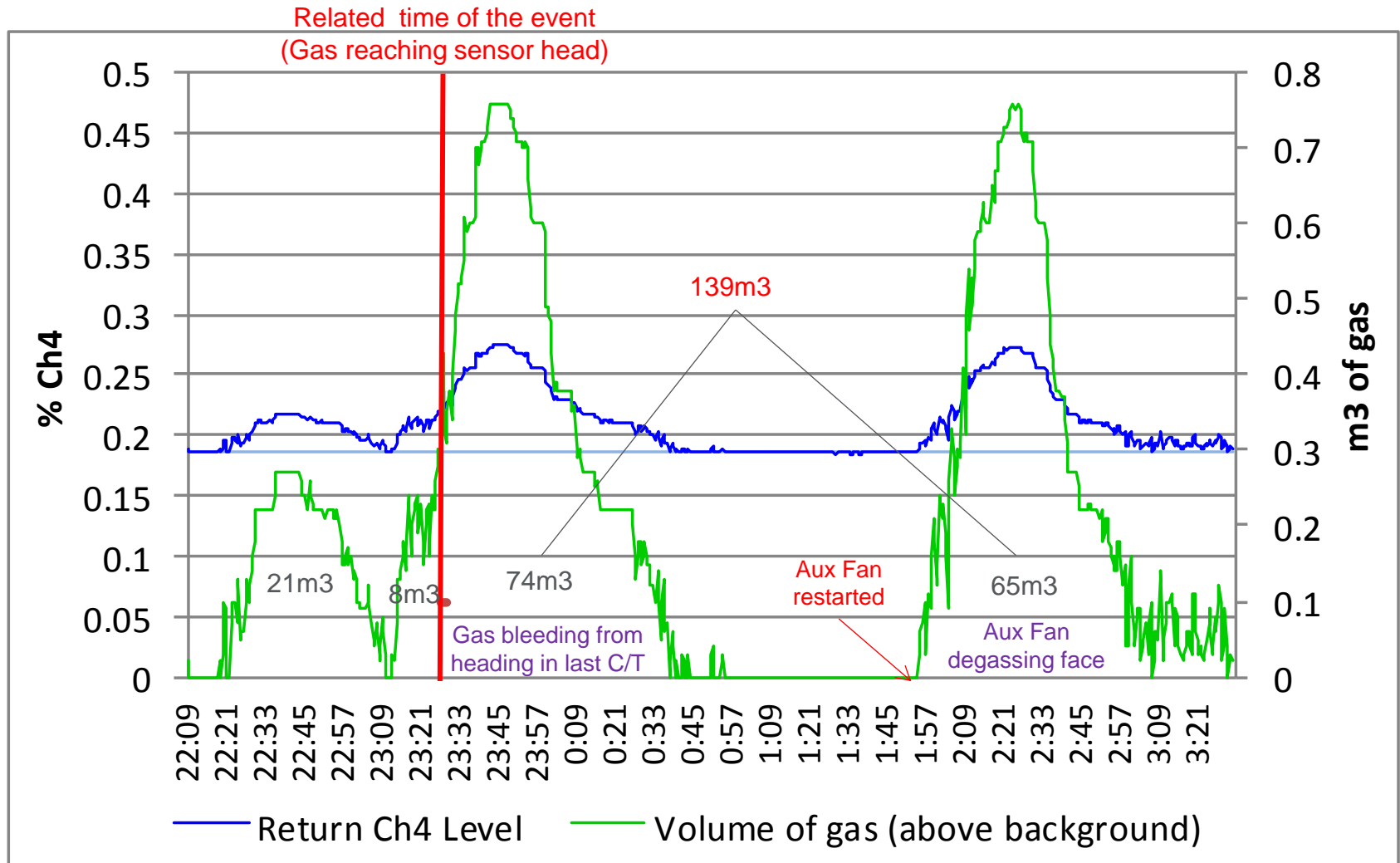


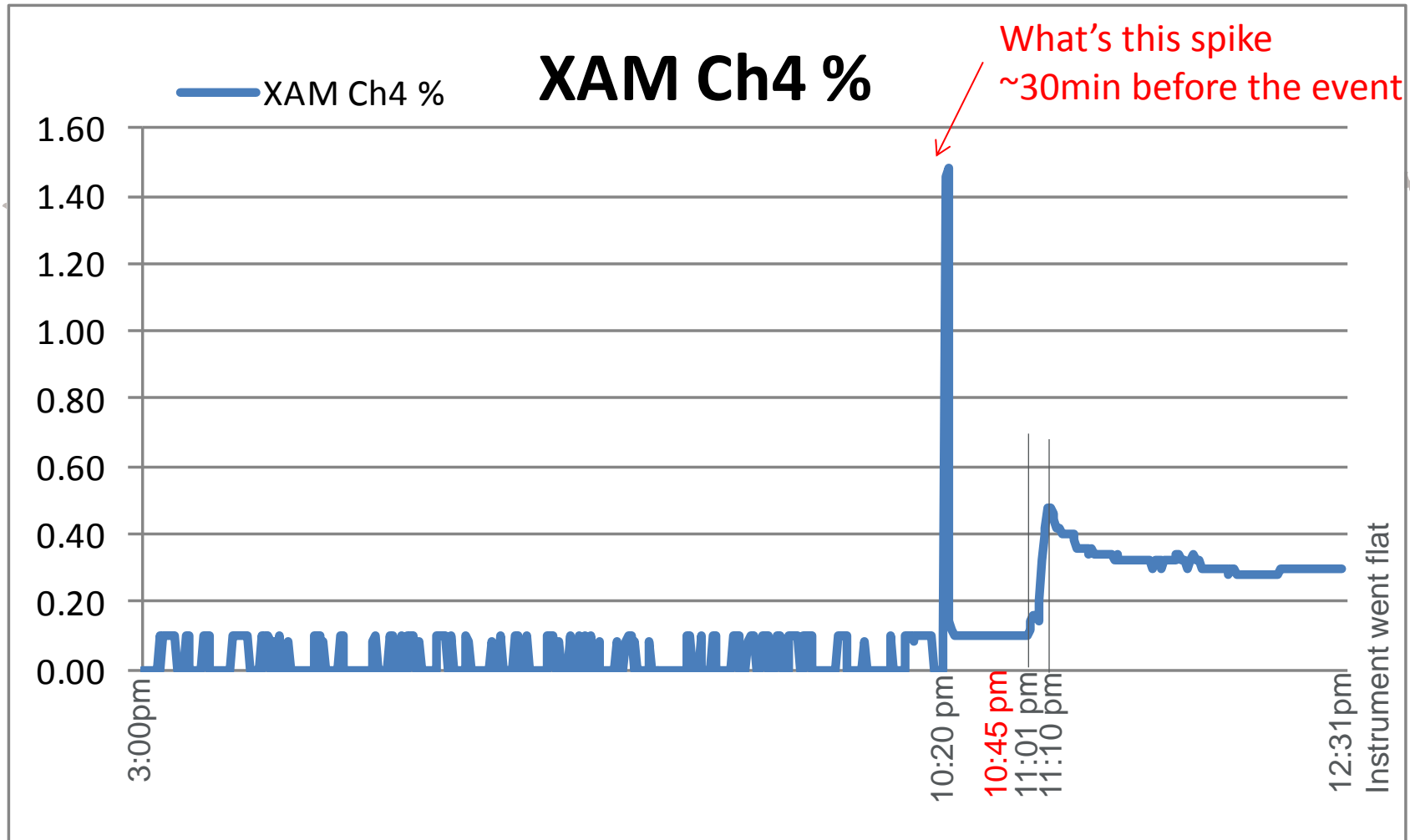
TIMELINE OF DATA FROM 3:25PM TO 5:00AM



NB the Production timeline and burst event line have been moved forward 38min to counter for gas travel time to monitor – actual time of event was 10:45pm

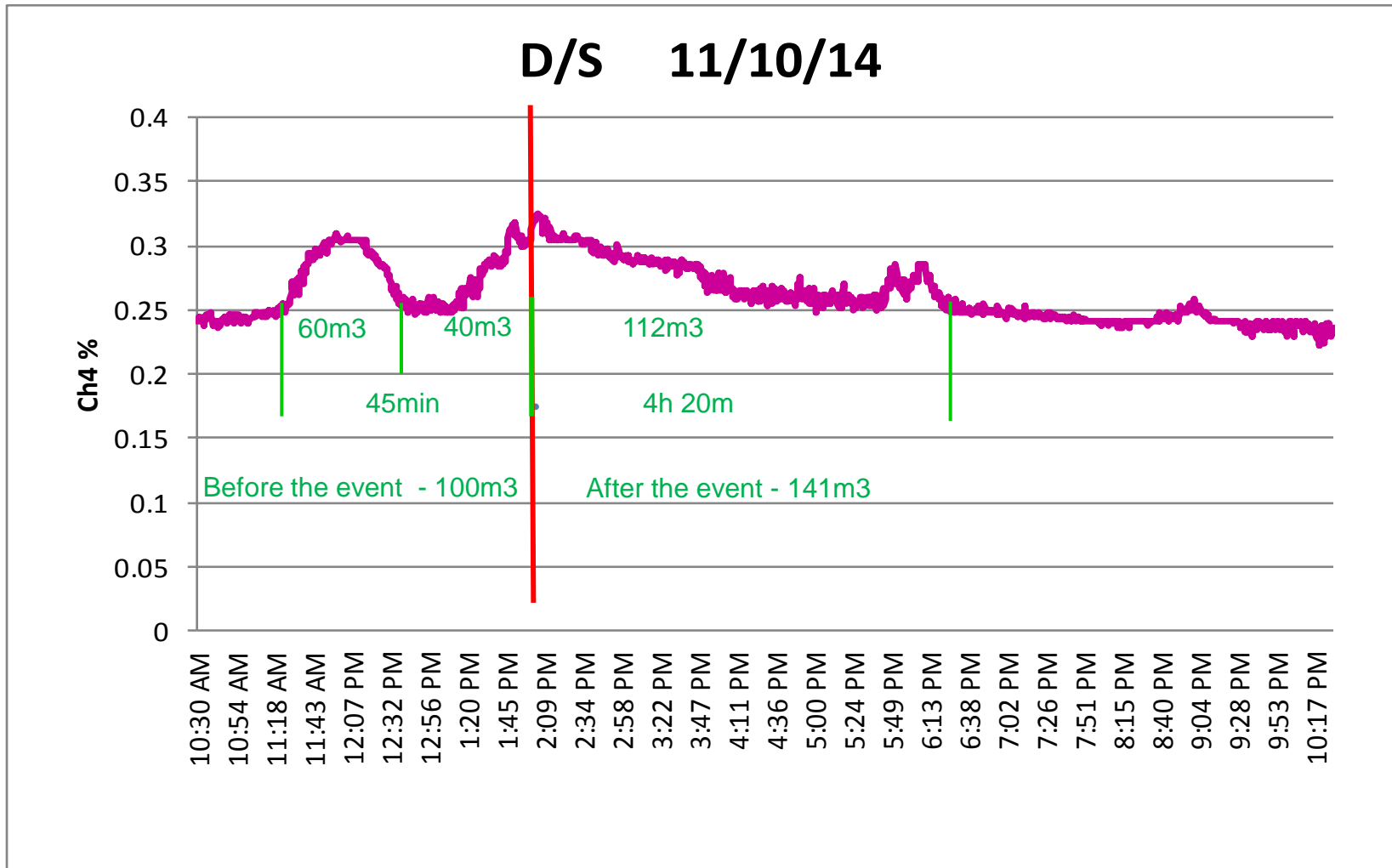
GAS VOLUMES





Actual event time 10:45 pm

901TG A HDG GAS DATA



Started production at 10:10am cut 4m with 45min of delays until event at 1:25pm
After incident at 6:30p flitted out to C Hdg

PHOTOS OF ROCK AND GAS BURSTS

Rock Burst



Large big “Chunks” of coal

Gas Outburst



Fine pulverised pieces of coal

PHOTOS OF ROCK AND GAS BURSTS

Rock Burst



Large big "Chunks" of coal

Gas Outburst



Fine pieces of coal

PHOTOS OF COAL BURSTS AND OUTBURSTS

Coal Burst



Large
big
Chunks
of coal

Gas Outburst

Fine pulverised at face



Fine pulverised
coal long way
back past S/Car

