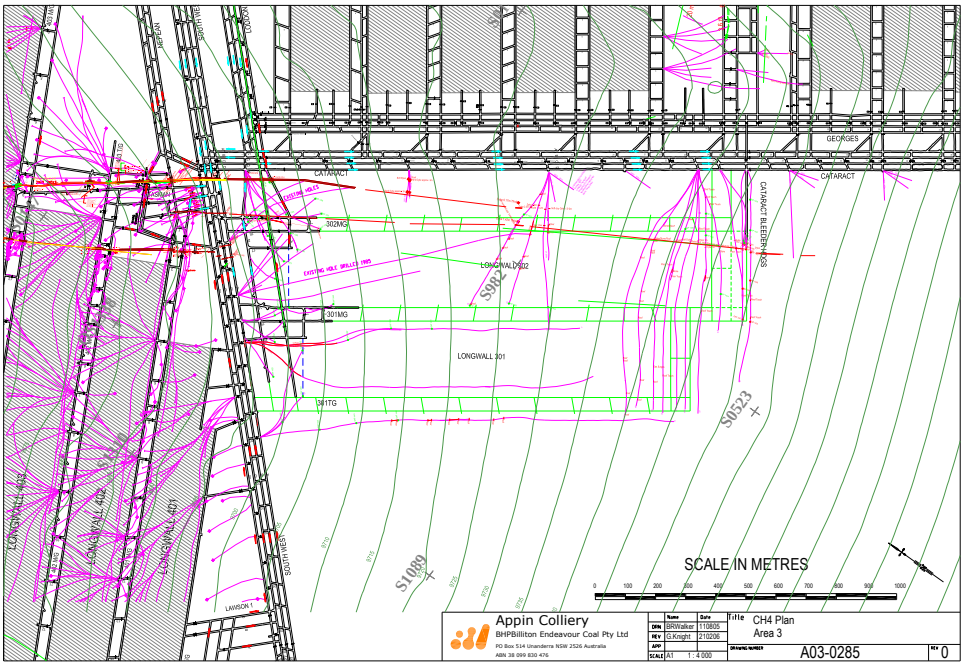
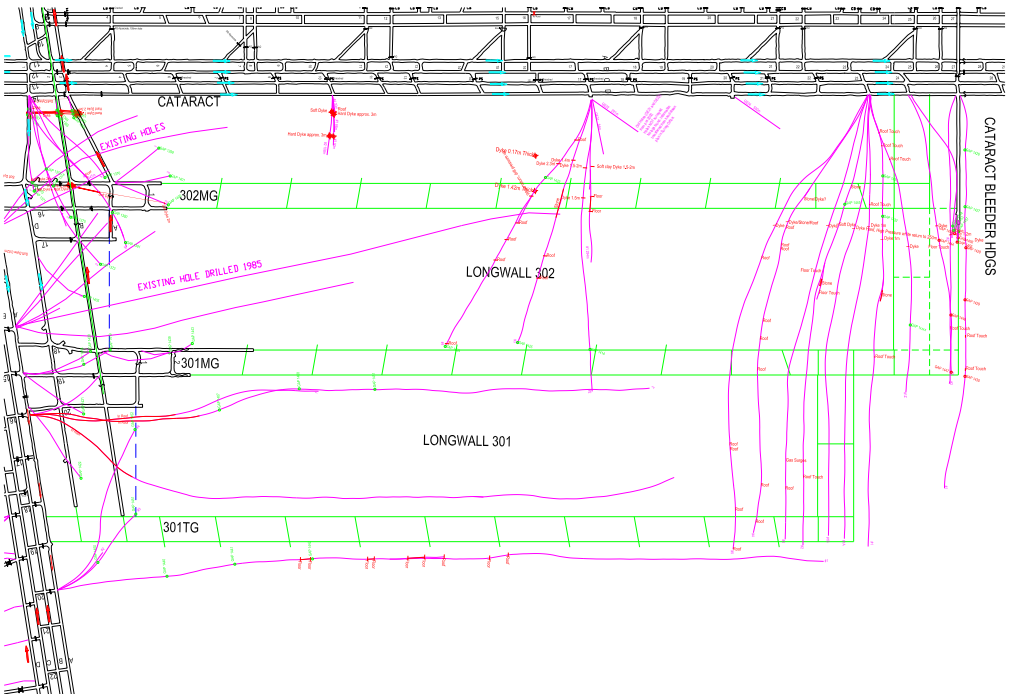
Appin Colliery – Ron Peace.

Currently we are extracting the Appin 3 area. When this is finished we will move to the new area to the east (south of the previous Appin longwalls which were extracted south of the old West Cliff workings) where we will have two longwall blocks. There is not a lot of lead time for drainage of this area. The first block will be drained by drainage holes drilled in fan patterns south from the old headings to the north and the second block will be drained by long holes drilled from the headings to the west. The blocks are 250 m wide.





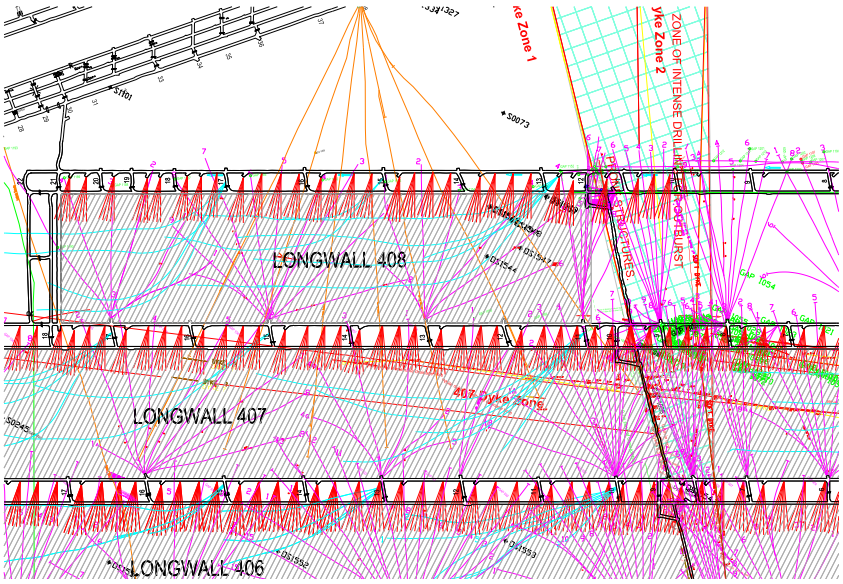
In the second block, two long holes, 1200 and 1390 m long, were drilled in October to December 2005. They were drilled in the roof to cross the old headings then in-seam to total depth.

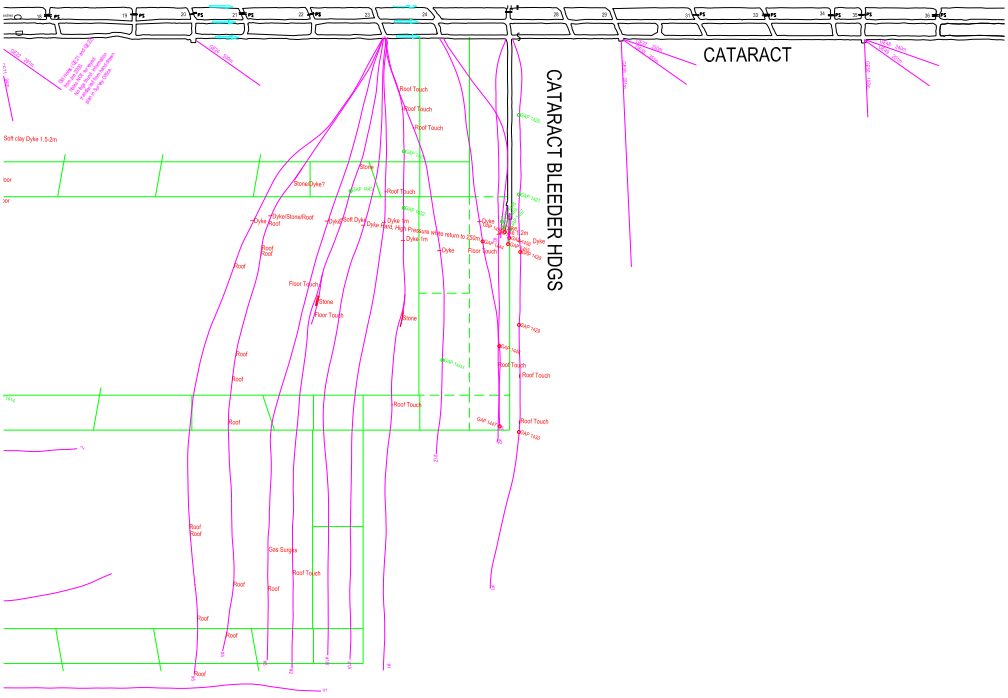
The fan holes drilled to cover the first (northern) block were initially drilled at 80 m centres then infilled to 40 m centres. These holes are 830 metres long and are producing a lot of gas. The holes had to cross a soft dyke just south of the old eastern headings. They have to be cleared on a weekly basis as the holes tend to partly collapse around the dyke. We considered casing the holes through the dyke, but decided that could increase the problems and prevent the later clearing of the holes prior to mining.

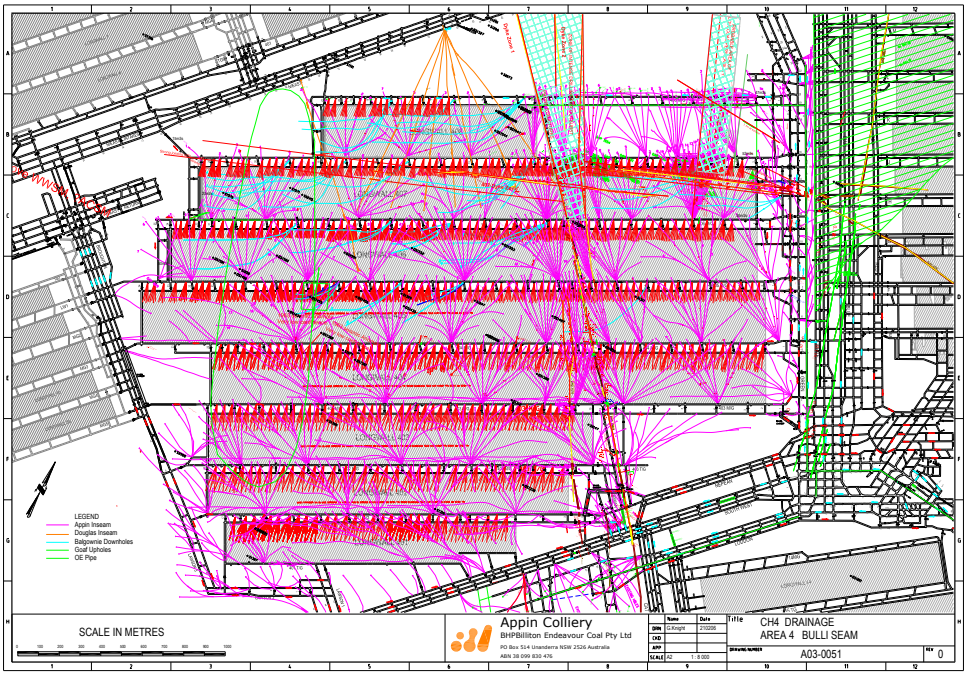
The holes have been connected to suction and will be cleaned out prior to mining to assure even drainage. The holes will still be actively draining when the time comes to mine through them.

Cross measure drainage consists of 6 holes per drill site with 36 m between sites. The holes go to the base of the Wongawilli seam and are around 120 m long. They are fully cased with perforated steel casing. The Balgownie seam holes were drilled from the cutthroughs under the pillar and fanned out to 50 m apart. The Balgownie seam is 5 to 15 m below the Bulli seam. A survey tool was lost in the Balgownie seam.

Four 850 mm diameter holes has been drilled at an angle to get to 35 m above the Bulli seam, (hole is 120 m long) into the roof at the start end of each longwall as a goaf hole. Gas flows of 600 to 800 lts/sec (pure flow) were achieved in the early stages and dropped off gradually as the L/W face advances. We tried a goaf drainage hole from the surface, but it was drilled when the longwall had already passed the site by 150 m. There was no benefit from the hole and no more surface goaf holes will be drilled in the near future.




CATARACT
CATARACT BLEEDER HDGS


LEGEND
Appin Inseam
Douglas Inseam
Balgownie Downholes
Goaf Upholes
OE Pipe
SCALE IN METRES
Appin Colliery
BHPBilliton Endeavour Coal Pty Ltd
PO Box 514 Unanderra NSW 2526 Australia
ABN 38 099 830 476
Title
CH4 DRAINAGE
AREA 4 BULLI SEAM
A03-0051
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Questions
Dave McKinnon, VLD – What were the drilling rates for these holes?
Ron – The 800 m fan holes (from Cataract) drilled very well. Two holes were completed per 5 day week with one rig.
We usually get 180 to 200 m per 9 hour shift.

The long holes from South West Panel had difficult drilling through the initial 200 m in roof stone, but they advanced well in coal with an average 20 to 30 m per shift over the 1200 to 1390 metre lengths. On these long holes we used our new Boart Longyear LMC75 Drill Rig and the DGS tool.
We had some minor problems with the survey signal and got good support from AMT and completed the longest hole to 1390 metres.

John Hanes – What are the main challenges you see to successful in-seam drilling and drainage? What, if any, research and development should be considered to help you overcome those challenges?
Ron -
Challenges
Having sufficient lead time to the drain gas prior to mining, and this should be driven from the mine planning and scheduling.
Having pit room to design a drill pattern where long drainage holes do not have to mined through.
Identifying and drilling of boggy ground.
Dealing with Low perm areas.
Identifying of structures that may effect gas drainage as early as possible