1. Methods

The video sequence shows the following methods:

- Enhanced incremental bankpush + auto sequence
- Step back mode
- Full web cut
- Bidirectional cut

Provided that the AFC, conveyor belts and hydraulic are designed sufficiently, the method offers the following advantages:

- automatic face straightening
- maximum load of the AFC and conveyor belts
- maximum coal extraction

1.1 Initial situation

The end ranges are defines as follows:

Head end range: support 1 - support 40

Tail end range: support 160 - support 200

The size of the end ranges is the result of the undersized input of the shearer range (20 - 180). If a shearer range of "5 - 195" were given, this would downsize the end ranges (head gate: 1 - 25, tail gate: 175 - 200).

The function ranges behind the shearer are:

ASQ-Distance: approx. 8 supports

BP-Distance: approx. 16 supports

The advance rate of the base line for each direction is:

to tail gate: approx. 90 cm

to head gate: approx. 90 cm

The shearer starts at support 72 in direction to tail gate using the method above.

Automatic auto sequences and positive set automatic are forbidden in the end ranges. The gearboxes or pushing devices as well as the neighboring supports were already advanced by the operators.

In consideration of the method "enhanced incremental bankpush" the base line is too far ahead. That’s why automatic face straightening cannot be provided. The face graph shows areas in which the conveyor is ahead or back for several meters.

In the range 124 - 132 the supports were advanced manually. In the range 168 - 177 the AFC wasn’t pushed completely.

The ram sensors of support 23 and 32 are defective.

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1.2 Shearer run to tail end

The method starts at support 72. The shearer moves in direction to tail end. Behind the shearer the supports perform 1st the auto sequence and 2nd the bankpush. The being back between support 50 and 67 arose from the snake (AFC not completely pushed), in which the farthest supports were not initialized when starting the method.

1.3 Shearer stop in head end range

The operators run the auto sequences behind the shearer manually. The bankpush is done automatically up to the specified distance. The AFC is completely pushed up to support 180.

1.4 Double Cut in tail end range

The shearer reverses to support 175. The operators start the auto sequence and the bankpush of the supports behind the shearer. After the shearer has reentered the teil end range anew, the operators advance the supports 174 - 188 manually.

1.5 Shearer run to head gate

The operators advance the supports 188 - 192 behind the shearer and start the bankpush. Within the face range the auto sequences as well as the bankpush starts automatically.

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