

1. Methods

The video sequence shows the following methods:

- Step back method
- Partial web cut
- Auto sequence
- Bidirectional cut

This method is mainly used with fast shearer travel and with good roof conditions if the hydraulic supply is dimensioned big enough. It has the following advantages:

- even load of conveyor and belts
- low load of the shearer motors
- no double cut at face ends

1.1 Initial Situation

The shearer is located in tail end. The longwall is equipped with ca. 170 supports. The end ranges are defined as follows (ca.):

Head end range: support 1 - support 15

Tail end range: support 155 - support 170

The functional distances and ranges behind the shearer are:

ASQ Distance: 8 supports

Bp Distance: 18 supports

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

to tail end: ca. 30 cm

to head end: ca. 70 cm

This is shown in the dialog before the video sequence starts.

The "Ram" graphic shows that the full stroke was only reached in some ranges during shearer run to tail end (blue ram color). In other ranges the full stroke wasn't reached (green ram color). This can be caused by manual interference of the operators e. g. because of geological conditions or because the conveyor wasn't pushed completely when the method has been started (step back method).

Automatic auto sequences and bankpush are not allowed in the end ranges. The supports of the tail end range were partly advanced, the supports of head end range weren't.

In end ranges always push the full stroke of the conveyor cylinder. All supports run the auto sequence (if allowed).

1.2 1. Shearer run to head end

The conveyor is pushed manually when the shearer leaves the tail end range. Probably the "local bankpush" function was used.

In the face range automatic auto sequences are done in a distance of 8 supports behind the shearer. The bankpush to ca. 70 cm stroke is done 18 supports behind the shearer.

The method "Enhanced incremental + auto sequence" was active during the whole cut to head end.

1.3 Shearer stop at head end range

The auto sequences and the bankpush follow the shearer up to the specified distance when the shearer stops in head end range. The last auto sequence was at support no. 9, the last bankpush at no. 18.

1.4 Shearer run to tail end

The method "Enhanced incremental bankpush" is active when the shearer starts.

When the shearer leaves the head end range, the operators advance the supports and run the bankpush.

In face range the conveyor is pushed to the final stroke behind the shearer. Some supports which are not able to push to the final stroke (green ram color) are located too far ahead. Those supports are held back by the conveyor break protection. Those supports are no. 46, 67, 92, 102, 113 and the range no. 32 - 40.

The range 72 - 81 was manually advanced in which the supports 72 - 77 remain unset. Also the range 147 -154 was advanced by the operators.

When the shearer reached the support 156 the mode "enhanced incremental bankpush" was deactivated.

1.5 2nd Shearer run to head end

Here the same can be said as in the 1st run to head end but the range 128 -148 was not completely pushed to the partial stroke of 70 cm. This points to manual interference of the operators. Also in other ranges supports were moved manually. This is a direct consequence of the frequently changing mode between "enhanced incremental + auto sequence", "enhanced incremental" and "no mode".