

## 1. Methods

The video sequence shows the following methods:

- Enhanced incremental bankpush with auto sequence
- Saw tooth arrangement of the supports

The method offers the following advantages:

- automatic face straightening
- even hydraulic load
- even AFC and belt load
- lower load of the plow driving motors
- omitted double cut by increased cutting depth in face ends
- avoidance of plow blockades and chain breakage
- extraction of extremely hard coal
- manless longwall is possible

### 1.1 Initial situation

The plow moves into head gate. The method "Enhanced incremental + ASQ" is active.

In the end ranges automatic auto sequences and positive set automatics are prohibited. The supports at the head gate have completely advanced.

The plow face has already reached its typical shape (ahead in midface). At support 113 the local lockout button is pressed. That's why the conveyor is back in this area. The ram sensor of support 102 is defective.

The ram graphic shows the saw tooth arrangement of the supports as it is typical after a longer period of plowing because of manual interference by the operators.

During all cuts the method "enhanced incremental bankpush + ASQ" is active.

### 1.2 1st plow run to tail gate

After leaving the head gate the head end range is pushed automatically.

Bankpush is the 1st function behind the plow. If the "advance point" is overstepped after the bankpush function, the support performs an auto sequence. Due to the saw tooth arrangement of the supports, this an auto sequence happens only at a few supports.

### 1.3 Plow run to head gate

The actions here are similar to the 1st plow run to tail gate. Indeed at head gate a double cut is performed in order to keep the end range even with the face area (resp. to make up for being back).

### 1.4 The remaining plow runs

The remaining plow runs are similar to the previous. The tail end range is advanced manually.