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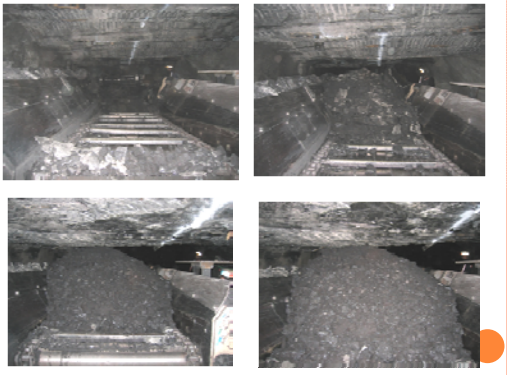

SHUTTLE CAR

- A shuttle car is self propelled rubber-tired haulage vehicle designed specifically for underground mining primarily in coal mines.
- The drive mechanism is located on the side of the vehicle and load is carried in centre.
- A chain and flight conveyor distributes the load when the car is being loaded by a loading machine or continuous miner and also discharges the load onto a conveyor belt or into a mine car.
- The shuttle car shuttles back and forth between the working face and the unloading point.
- It does not required to turn around.

- The first shuttle car was manufactured by Joy Global in 1939.
- Battery operated
- DC operated by cable
- Diesel operated
- Electric operated
- Electric by cable and DC on board convertor
- OPTIDRIVE AC VFD system

- Shuttle cars are heavy-duty, rubber wheeled, low profile vehicles used to haul in underground mining operations.
- Shuttle car can operate in limited ventilation underground environments

- Length of haulage should not exceed 91 m.
- Cable-reel cars are manufactured is standard hand and opposite standard hand models.
- four wheel drive system

IMPORTANT FEATURES OF SHUTTLE CAR

- Elevated discharge
- Hydraulic power system
- Breaks
- Models

- In general cycle time of shuttle car
  - Loading time 60 sec
  - Hauling time to feeder 75 sec
  - Unloading time 30 sec
  - Tramming to face 75 sec

- Tractive factors
  - Rolling resistance: 50 kg/t may be used
  - Grade resistance: 10 kg/t for each percent of grade

- Optidrive: AV variable frequency drive system
- Increase tram speed
- regenerative breaking
- better speed control
- less maintenance

ADVANTAGES

- Fast transportation
- Low height
- Efficient with mechanical extraction system
- Higher production

DISADVANTAGES / LIMITATIONS

- Cable length
- Gradient
- Gallery size during turning