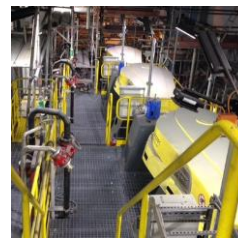
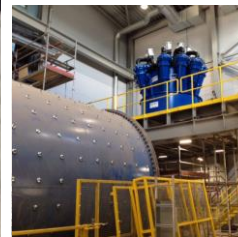




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# MANAGEMENT OF WATER BALANCE IN MINING AREAS

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## The need for water balance management in mines

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# The need for water balance management in mines

## Why to manage water balance?

→ It is important because of

- Environmental performance vs. permit limits
- Awareness of all waters/water fractions = quality, quantity
- Recognising deviations in water quantity and quality
- Tailings management: pond volumes, dam construction plan and schedule
- Mapping the needs for treatment of different water fractions
- Water related risk assessments → preventive actions

Water management/balance studies to be started early enough, as planning the mining operations!



# The need for water balance management in mines

## Challenges in water balance management:

Mine waters many times contain more or less harmful substances...

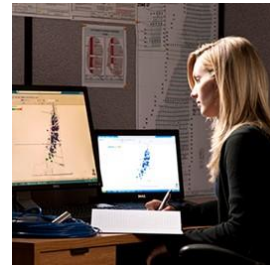
- Accumulation of harmful substances in process, infiltration fields; effects on ground water and surface water
- Water treatment – suitable treatment methods
- Unexpected situations
  - Spills spoiling large volumes of water to be discharged, recycled,,,
  - Changes in process chemistry → unacceptable change in water quality
  - UG mining: changes in bedrock → changes in drainage water (quality, amount, flow directions)
  - Climate change!
  - Post closure: e.g. drainage water still to be pumped, long term effects,,,







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