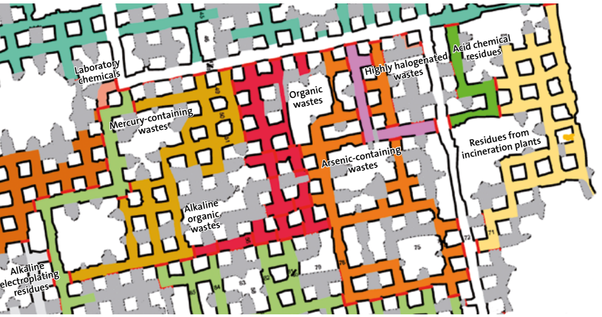
MINING ENGINEERING

The potash deposits at the Zielitz and Herfa-Neurode locations were extracted using the "Room and Pillar"-system. A tessellated grid of pillars supports the rock overburden. The mining chambers remain open and accessible, while at the same time the mine workings' structural safety and stability are maintained. Nevertheless, the deposit of wastes does require preparatory work: Gallery roofs are inspected and repaired wherever necessary; rock salt rubble is compacted to form level roads and utility space.



Approval
The underground waste disposal plants have been issued all of the required approvals. They have been certified as Qualified Waste Management Facilities in compliance with Efb-standards.

Quality Management
Certified Quality Management Systems in accordance with DIN EN ISO 9001 have been established.

Packaging

All wastes need to be packed in tightly sealed containers, which have been approved for underground waste disposal. These packing units need to be able to withstand mechanical strain, comply with ADR- regulations and withstand waste-induced corrosion.

Based on the particular characteristics of the waste packaging is chosen individually. Selection criteria are toxicity, ph-values, residual moisture and the waste's fine dust proportion.

Types of packaging
- Big-bags
- Steel drums
- Steel containers

At the Herfa-Neurode underground waste disposal plant, pneumatically conveyable waste in powder form can also be delivered in bulk by silo-trucks; packaging in big-bags will be done on site.

Examples of types of waste

- Lab chemicals
- Mercury-containing waste
- Organic waste
- Highly halogenated waste
- Acidic chemical residues
- Capacitors
- Arsenic-containing waste
- Alkaline waste
- Galvanic residues

Conditions for the disposal of wastes

- Wastes may not be radioactive, explosive, highly flammable, liquid, contagious, malodorous, biodegradable or under deposit conditions easily flammable.
- Under deposit conditions, reactions of the wastes with each other or the surrounding rock bed may not cause volume expansions, the generation of self-ignitable, toxic or explosive gases or substances, or any other dangerous reactions.

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UNDERGROUND WASTE DISPOSAL

Technical Information

THE K+S UNDERGROUND DISPOSAL PLANTS

Underground waste disposal plants in rock salt are considered to be the safest solution for the disposal of hazardous wastes. In underground disposal plants, wastes are removed from the biosphere, permanently and maintenance-free.

The K+S Group operates two Underground waste disposal plants.

NATURAL BARRIERS | GEOLOGICAL SITUATION

The geological situation is decisive for the safety of the underground disposal plants. The geological conditions within the gastight rock salt have been stable for millions of years. The stored waste remains securely enclosed in the solid salt beds and will be reliably withdrawn from the biosphere, for good. The underground waste disposal plants are located in exhausted mines where excavation finished a number of years ago, in depths of up to 800 metres.

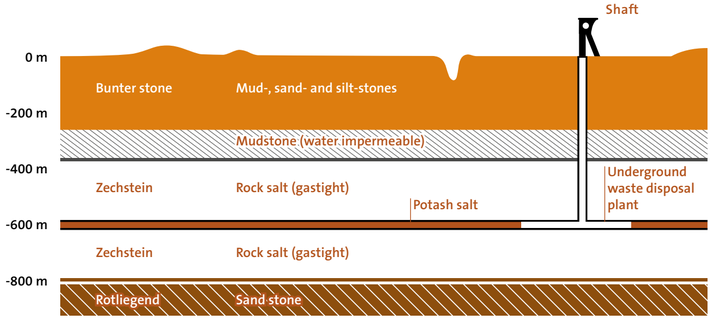
ARTIFICIAL BARRIERS | TECHNICAL MEASURES

Additional Safety Measures:

Packaging All wastes are packed in big-bags, steel drums or steel containers.
Stonewalls As soon as depositing in a chamber is complete, it is walled off against the other deposits either by a stonewall or a salt bank.
Damming up of deposit fields After a deposit field has been filled, all accesses are barred by massive dams.
Shaft backfilling After mining or deposit activities have ended, all shafts – representing the only connections to the environment – are backfilled, long-term-safe

No other post-closure maintenance is necessary, as the wastes are irrevocably removed from the biosphere.

SCHEMATIC DIAGRAM OF GEOLOGICAL CONDITIONS



The deposit sites are embedded in potash- i.e. rock salt layers.

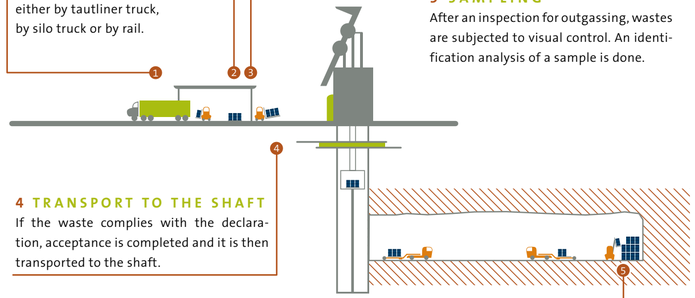
Properties of the rock salt:
- Formation 250 m years ago, by evaporating seawater
- Thickness up to 500 metres
- Gastight
- Plastic reaction to forces moving the earth crust; formation of open
- crevices not possible.

DISPOSAL PROCEDURES

1 DELIVERY
Delivery may be effected either by tautliner truck, by silo truck or by rail.

2 CONTROL
Acceptance control includes an inspection of waste volume, packaging as well as the mandatory documents.

3 SAMPLING
After an inspection for outgassing, wastes are subjected to visual control. An identification analysis of a sample is done.



4 TRANSPORT TO THE SHAFT
If the waste complies with the declaration, acceptance is completed and it is then transported to the shaft.

5 DEPOSIT
Wastes are transported below ground through the shaft and are deposited at the intended storage sites, at the exhausted and decommissioned mine sections. There the waste is stacked in several tiers.

6 DOCUMENTATION
All wastes are code-labelled. A retain sample is taken from each delivery and is stored in a separate room below ground. Storage location and time are recorded in detail, and are entered into site maps and databases. The deposit is actually comparable to a large storage site.