

Treatment Plant for cleanup operations of radionuclide dump waste water

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Objective: Separation of uranium and arsenic by application of biosorption in the dynamic sand filter

Location: Hartenstein Ore Mountains

Client: WISMUT GmbH **Beneficiary:** WISMUT GmbH

Initial Situation:

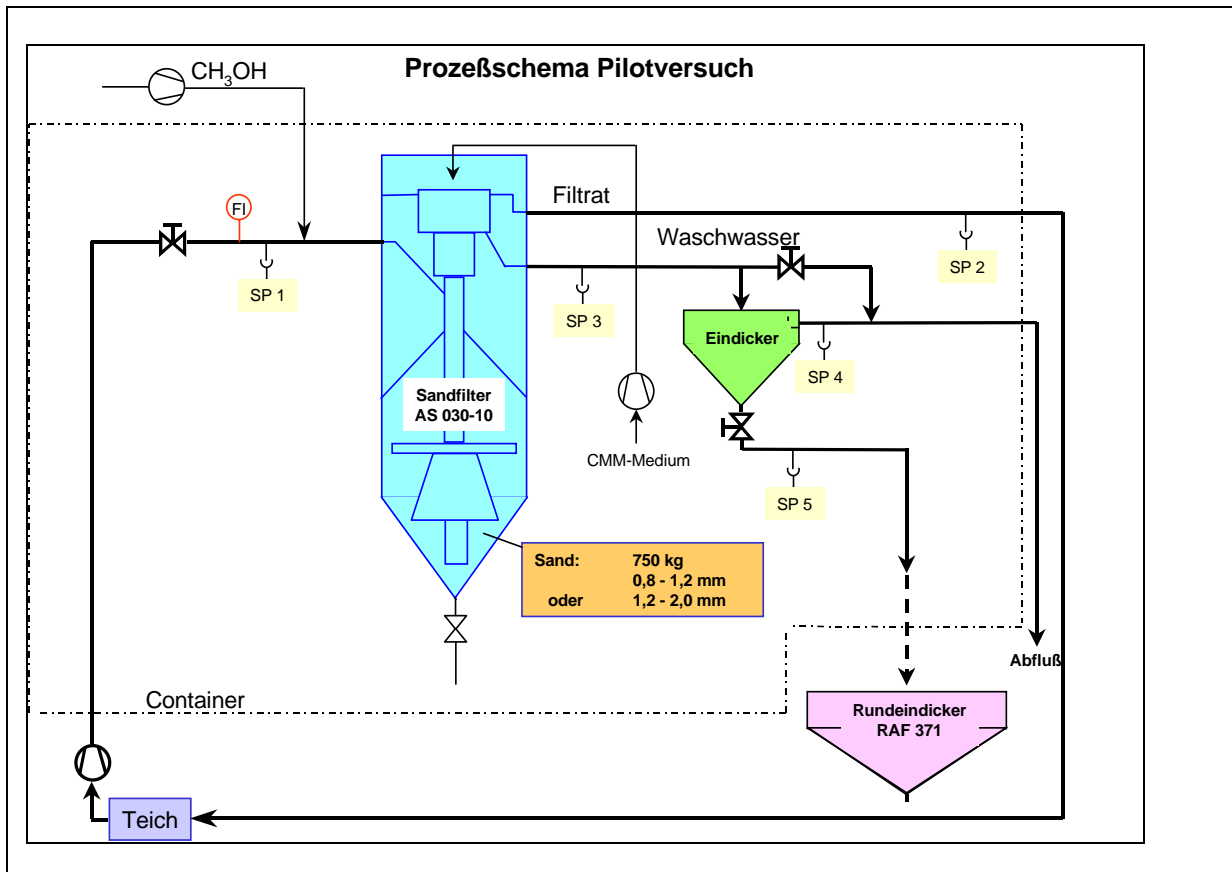
The leakage of water, which is polluted with low concentrated arsenic and uranium elements, occurs in the dump area of the Wismut GmbH. The experimental study should show how these elements can be separated from the water with little effort. Water purification with such low concentrated elements needs not only the normal water purification method but also the high-level technical expertise and high-qualified personnel. The solution should be applicable with the least possible maintenance effort. Therefore the dynamic sand filter has been selected as a reactor. The dynamic sand filters require very little maintenance effort and they are very robust. The continued working process can be achieved by continued sludge separation.

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Services provided:

- Selection and cultivation of appropriate microorganisms
- Analysis of selected microorganisms on its ability for sorption and uranium
- Determination of required retention time for sorption
- Fermentation of microorganisms strain
- Determination of the sorption
- Construction of pilot plant
- Pilot tests, evaluation of the results