

Ground water purification/ remediation

Groundwater remediation



The detection of residual contamination accumulated in groundwaters, the exploration of the extent of contamination, the mitigation and elimination of residual environmental damages are all part of the tasks of environmental remediation activities.

Not only the professional design and construction of the water delivery systems can protect our irreplaceable resources, the **drinking water sources and groundwaters**, but we also have to take care of the **protection and purification** of said **water resources**.

We have exceptional references in the field of ground water remediation, in which projects highly concentrated toxic compounds were removed from the excavated ground water flow. Via these remediation projects, Pureco has contributed to the sustainability of water resources with the design and implementation of these unique water management systems.

Pureco provides a comprehensive set of services for the elimination of soil and groundwater contamination, encompassing engineering, consultancy and construction works. Our aim is to return a "clean" environment to our clients after the contamination assessment, demarcation and reclamation.

Remediation procedures

- Exploration of soil and groundwater contamination
- Exploratory drilling
- Development of sampling and monitoring wells
- Exsitu and insitu soil and groundwater treatment
- Extraction and disposal of waste
- Contaminated soil treatment
- Reclamation works
- Operation & maintenance



Ground Water Remediation usually means of the elimination of dissolved salts after a properly selected pretreatment of the excavated ground water flow. The pretreatment phase might consist of the following treatment steps:

- Settling
- Coagulation
- Flocculation
- Flotation
- Oxidation
- Filtration

All these technological steps are considered based on the level and characteristics of pollutants.

During the desalination phase the dissolved salts are removed, due to the applied membranes and the relatively high pressure, providing a clean permeate and a salt enriched concentrate flow.

The main technological elements of a desalination process:

- Nano filtration (NF)
- Reverse Ozmosis (RO)

The NF is able to retain the two and multivalent metal ions under relatively low pressure, thus the strength of the RO influent drops significantly, ensuring less-frequent chemical cleanings on the RO modules.

The usually applied two staged RO unit is aimed to remove further the dissolved ion concentration. The configuration of the multi staged RO can differ, based on the required effluent quality and the efficiency.

In case the required effluent quality would be strict, further elimination of anions or cations might be needed. For that Pureco offers anionic and cationic ion exchangers, which are even self-generable on site as soon as the raisins are saturated.

We offer tailor made technological, engineering design and installation of the complete system, which can cope with the above mentioned challenges originates from the field of ground water remediation.

