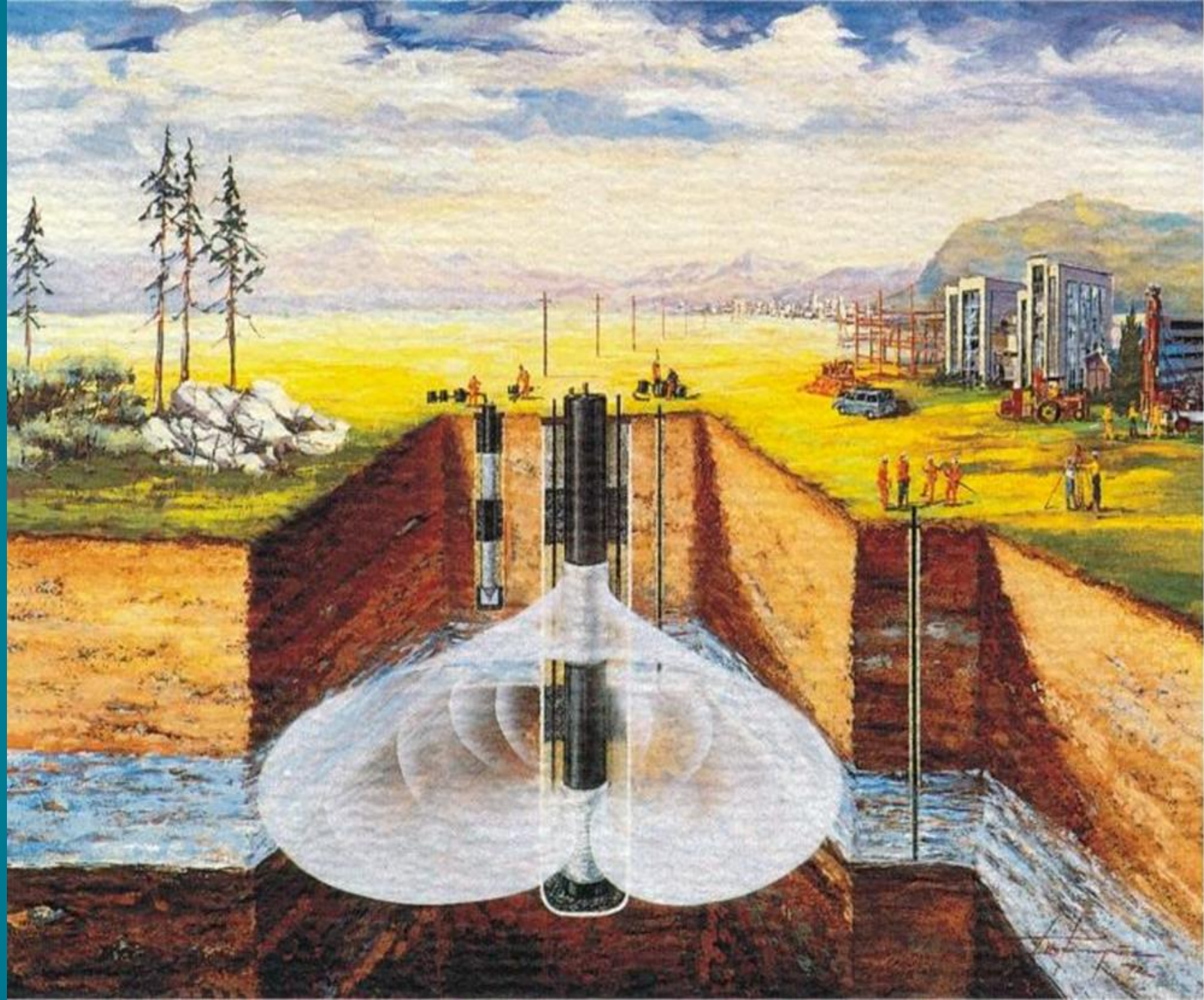
IEG

WE MOVE WATER

Soil & Groundwater Remediation

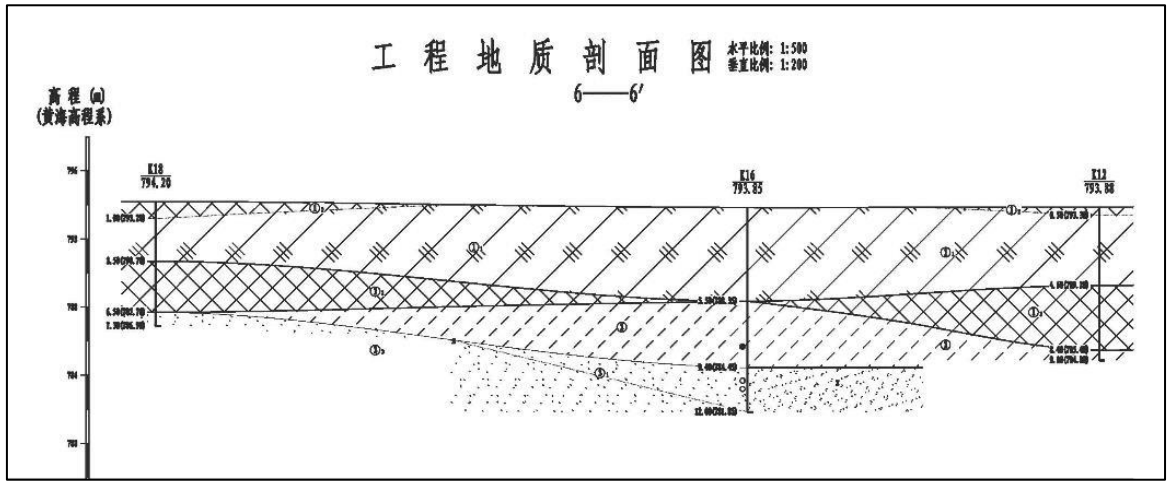


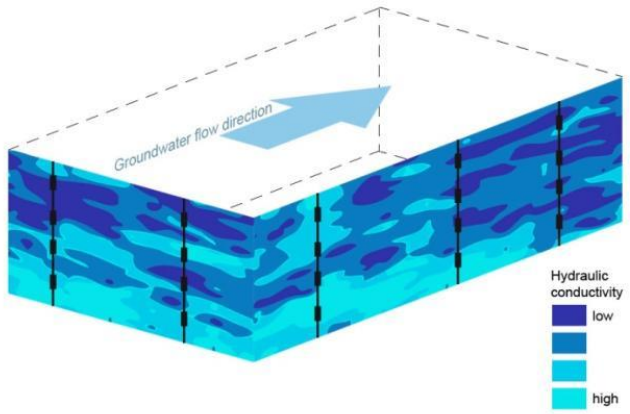
Where we are

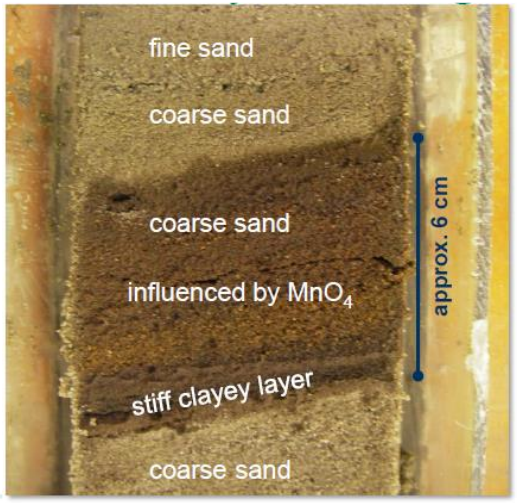
Headquater Location, Gruibingen, Baden Württemberg,Germany

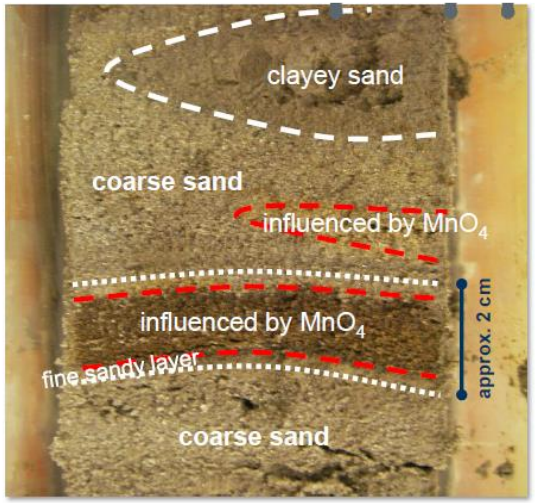
Why IEG-GCW® ?

Heterogeneity

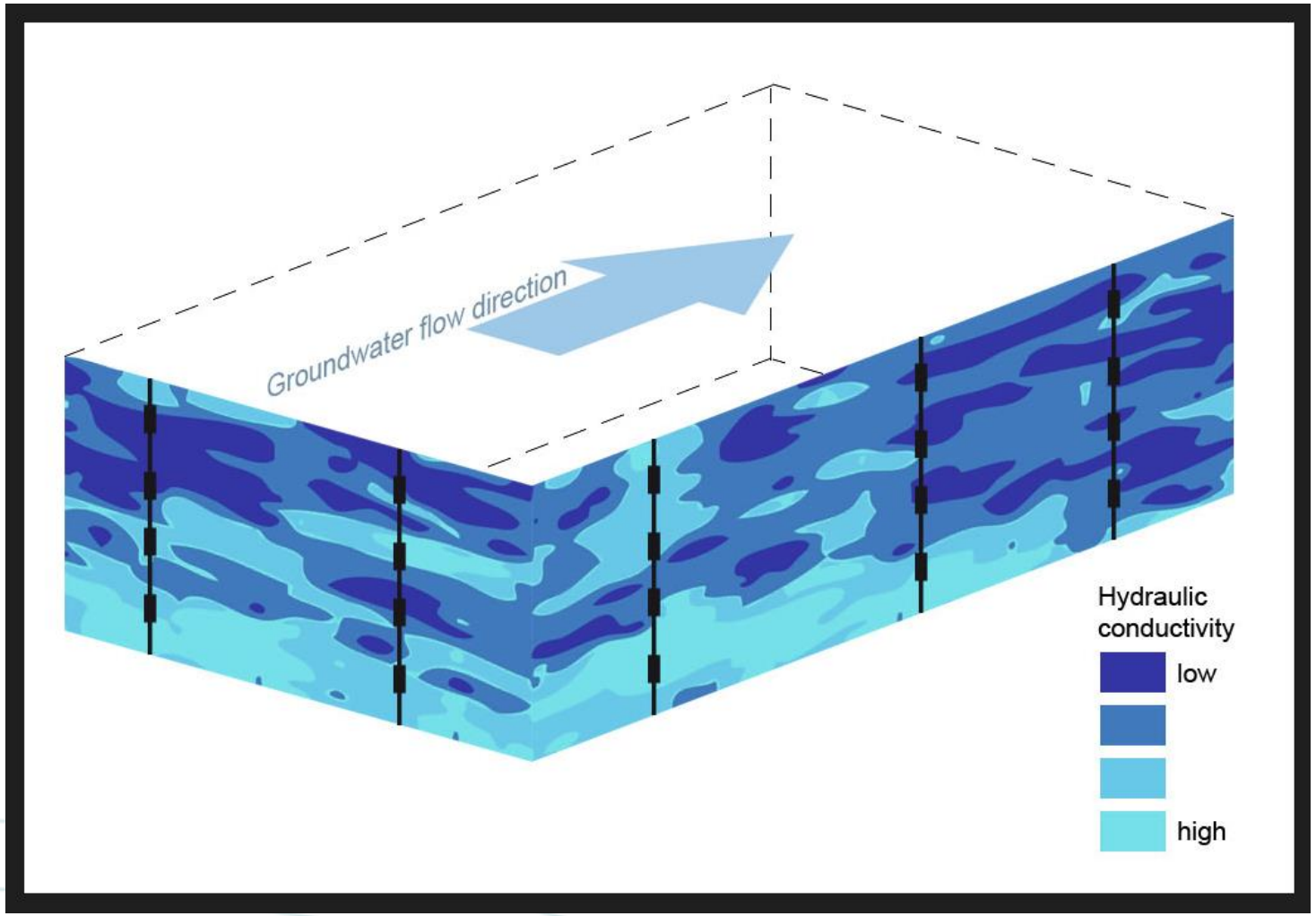


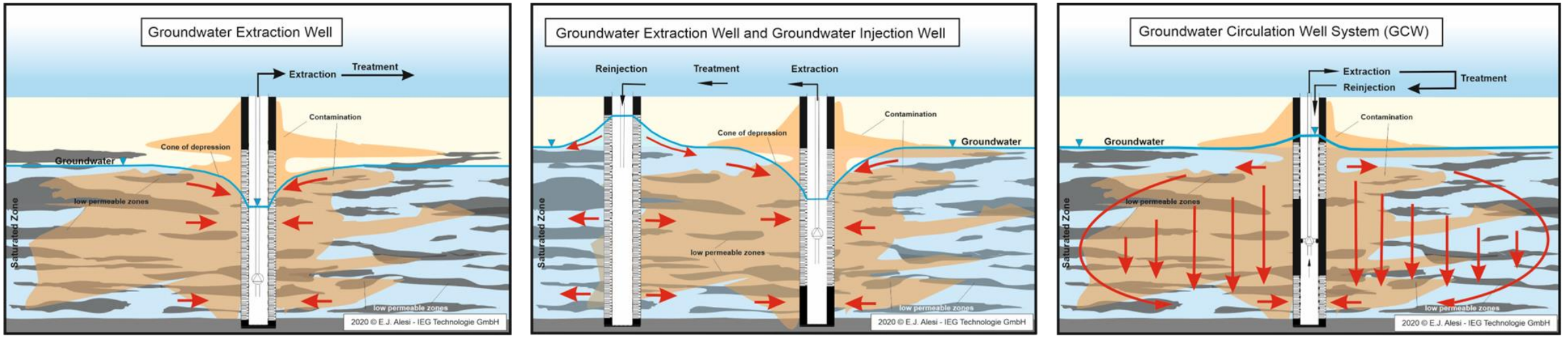






Hetrogeneity !

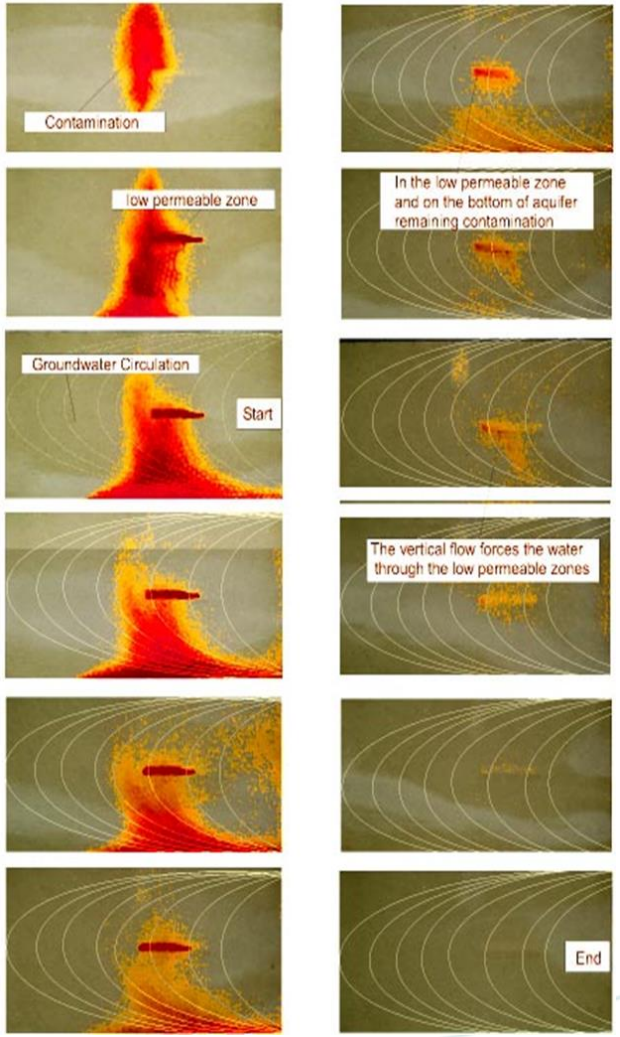




Comparison Extraction, Extraction & Injection with Groundwater Circulation

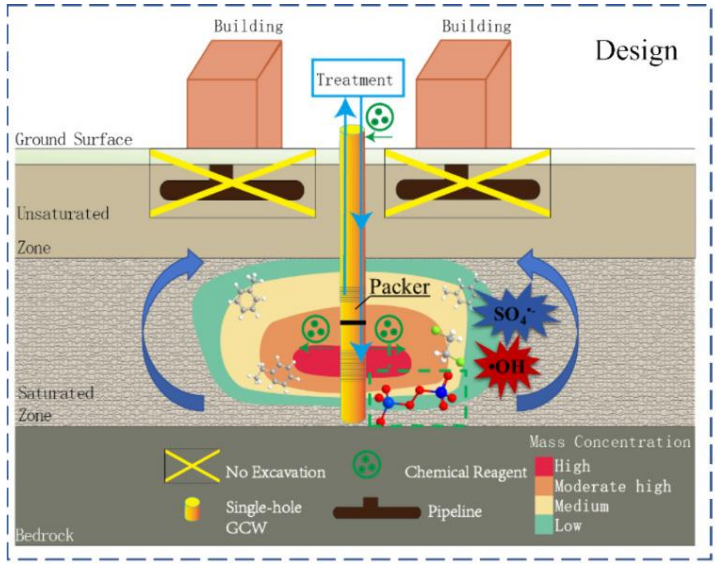
BENEFITS

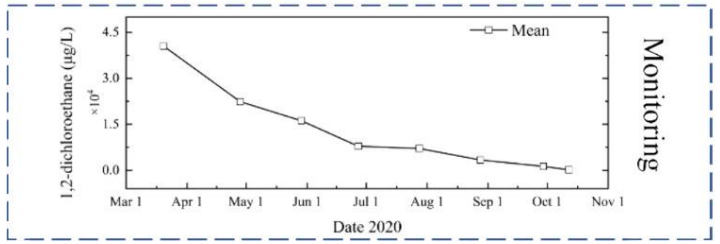
- Setup of diverse directed circular flow fields around GCWs for effective mobilization of contaminants, distribution of nutrients, liquid and coloidal supplements
- The hydraulic flushing system can be combined with physical - chemical, microbiological and reactive treatment processes
- Faster remediation time because vertical circulation forces groundwater perpendicular to low permeable zones

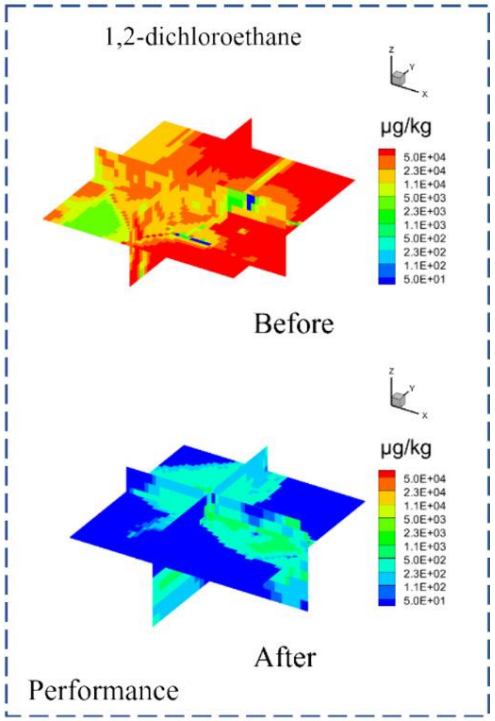


BENEFITS

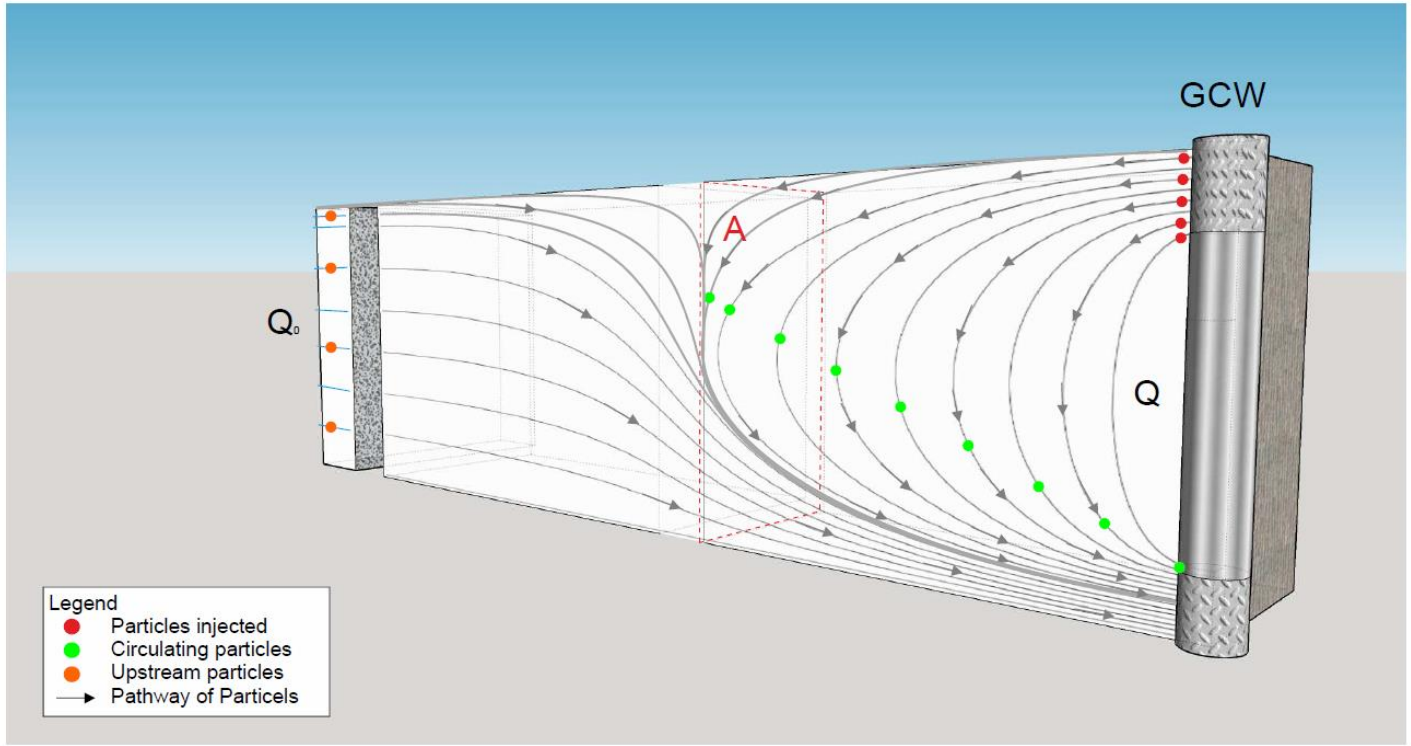
- Effective *in situ* treatment without groundwater removal from the subsurface
- Minimally invasive and non-disruptive to site conditions
- Accelerated mass removal to reduce treatment time and accelerate site closure
- Simultaneous treatment of unsaturated zone and capillary fringe

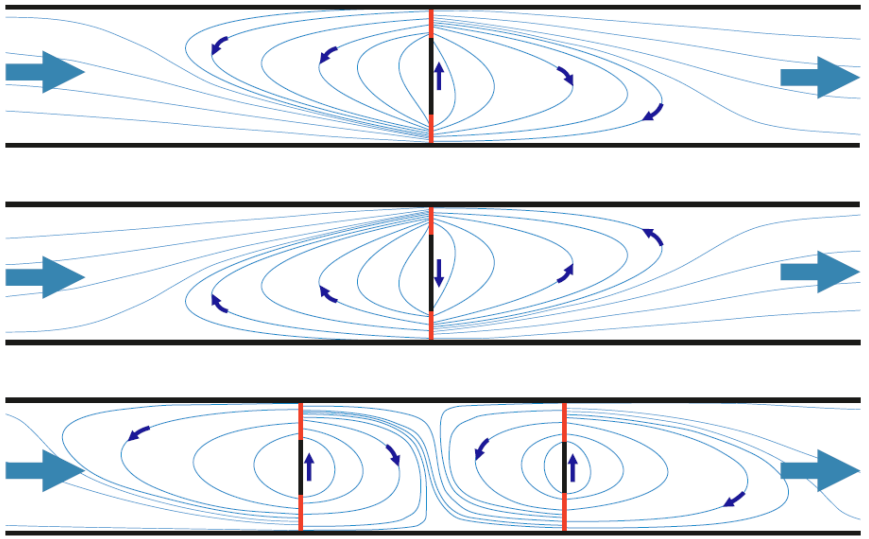


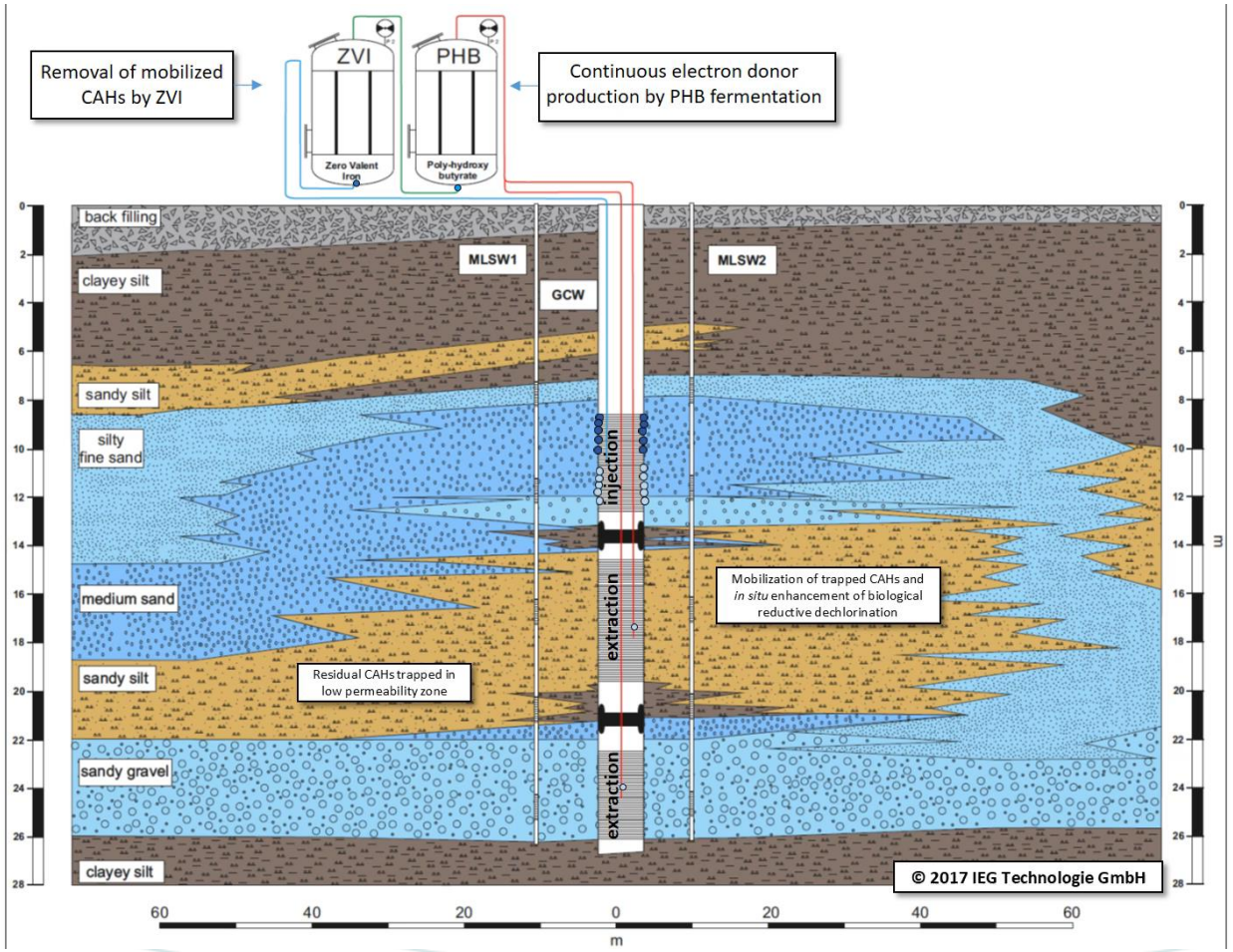




GCW Principle



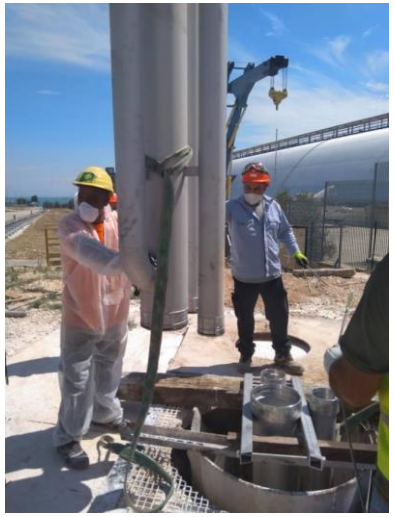


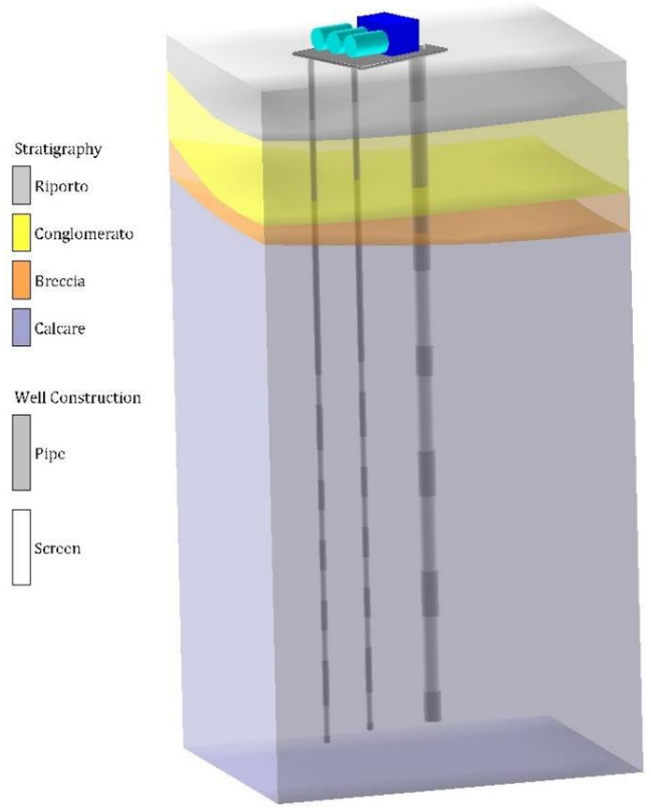

Removal of mobilized CAHs by ZVI
ZVI
PHB
Continuous electron donor production by PHB fermentation
Zero Valent Iron
Poly-hydroxy butyrate
back filling
clayey silt
sandy silt
silty fine sand
medium sand
sandy silt
sandy gravel
clayey silt
MLSW1
GCW
MLSW2
injection
extraction
extraction
Residual CAHs trapped in low permeability zone
Mobilization of trapped CAHs and *in situ* enhancement of biological reductive dechlorination
© 2017 IEG Technologie GmbH
60
40
20
0
20
40
60
m

Drilling

GCW Well Drilling

Constructing a GCW Remediation Well



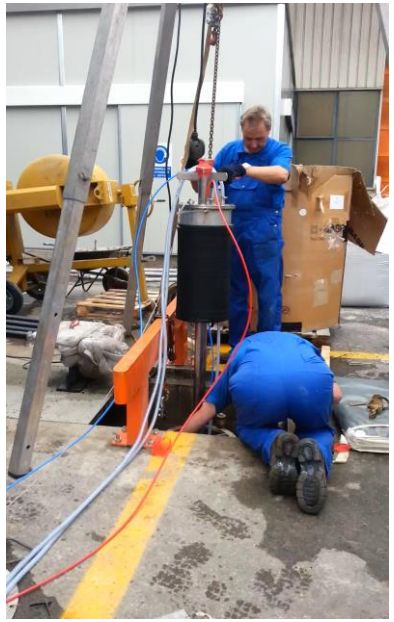


Well Equipment construction

Construction and Manufacturing

Installation

GCW Well Drilling



Above Ground Treatment Systems

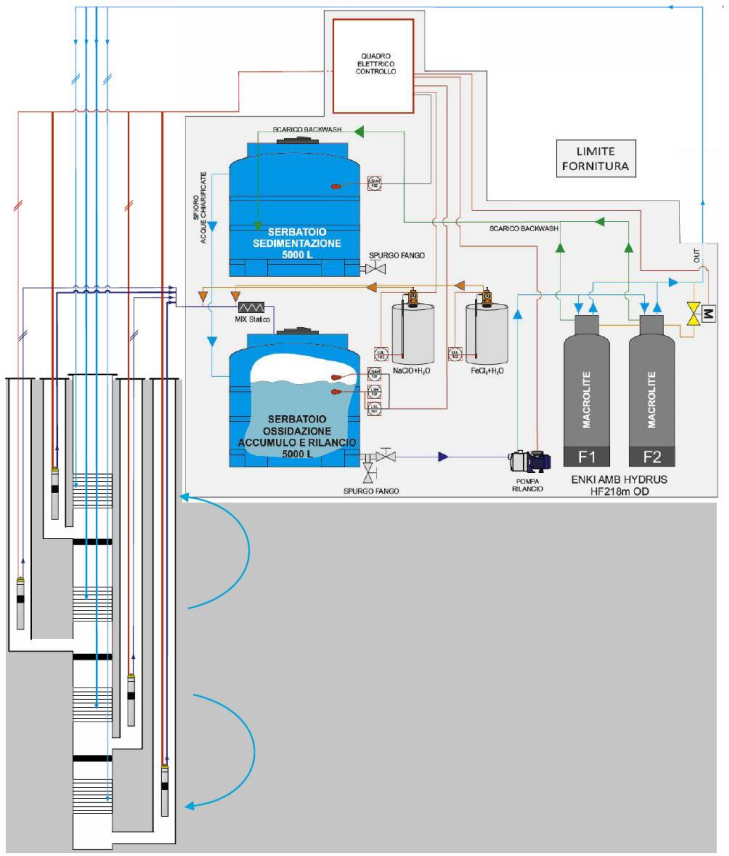
Groundwater treatment

All kinds of purification techniques (strippers, activated carbon, biofilters, ion exchangers, membrane technique etc.) can be integrated into the groundwater circuit.

The devices for purifying the polluted groundwater can be installed in the well shaft itself, in a below ground vault or in an above ground placed container. If the circulation flow is used to supply gaseous, liquid or colloidal substances to the water-saturated zone, the aquifer itself becomes the reactor.

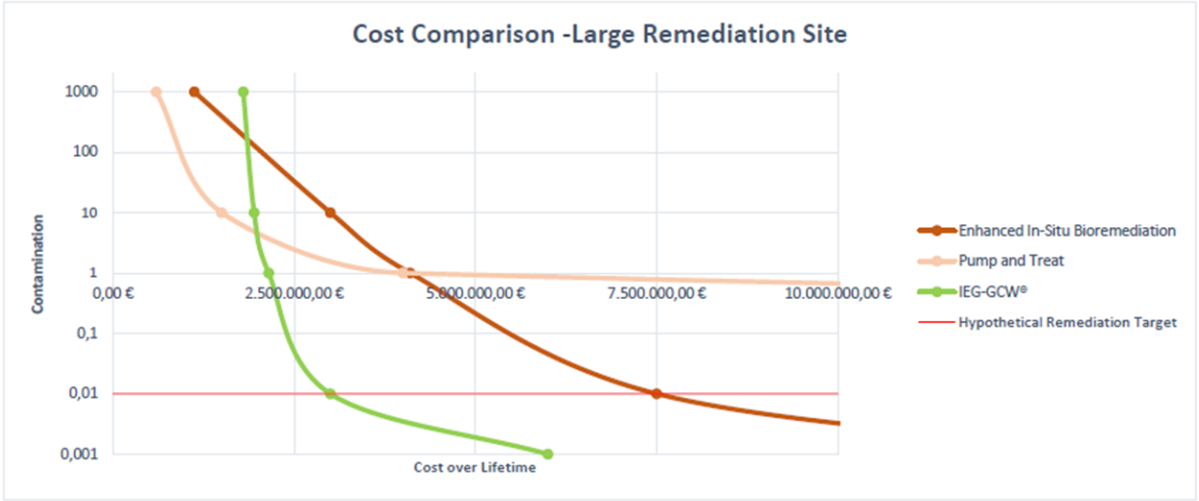
Physical Remediation

Heavy metal treatment

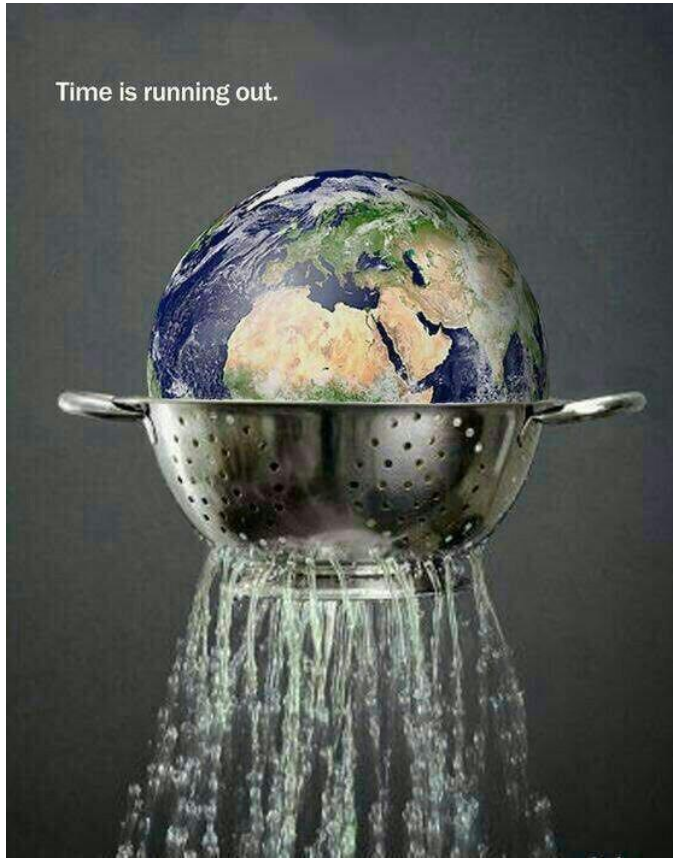


Costs

Small Site: 2500m² Groundwater level 10m bgl; Aquifer 10m; Contaminants CVOC; Total volume to be treated 25.000m³



Large Site: 50000m² Groundwater level 10m bgl; Aquifer 10m; Contaminants CVOC; Total volume to be treated 500.000m³


Time is running out.