



EiCLaR

DST Report

This DST report was prepared for Chateau9 on 16 Jun 2025 at 09:06:17 (UTC).
It applies to site Site A (site reference: Sitea) and is relevant to the entire site.
The parameters used are shown on the Input Data Summary.

Disclaimer

This EiCLaR DST report is automatically generated and contains site data entered into contaminatedland.info by Chateau9 and not the owners of the website. It should not be considered in isolation and is intended to support but not replace expert advice from qualified remediation professionals.

The data provided have been compared to a database of expert knowledge to offer a maximum of three potentially suitable remediation options, selected from and limited to the list of options available in Annex 1.

Further information, including full [Terms and Conditions](#) can be found at contaminatedland.info.

The EiCLaR project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No. 965945.

This project is also co-funded by the National Natural Science Foundation of China (NSFC) <https://contaminatedland.info/decision-support-tool>

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In situ stabilisation

In situ stabilization involves mixing stabilizing agents with contaminated soil to reduce the mobility and bioavailability of contaminants. This method doesn't remove contaminants but minimizes their environmental impact by immobilizing them.

Targeted problems

Useful for controlling:

- Heavy metals
- Radionuclides
- Organic contaminants

Performance gains

- Cost-effective compared to excavation
- Minimal site disruption
- Reduces leaching and contaminant migration
- Long-term containment with minimal maintenance
- Versatile in various soil types and conditions

In situ bioremediation

In situ bioremediation enhances the natural biological processes that break down contaminants by optimizing conditions for microbial growth, such as adjusting nutrient levels and oxygen availability.

Targeted problems

Source and pathway management for:

- Petroleum hydrocarbons
- Chlorinated solvents
- Heavy metals
- Nutrients
- Pesticides

Performance gains

- Environmentally friendly due to natural degradation
- Cost-effective for large scale sites
- Low maintenance once established
- Adaptable to diverse contaminants and conditions

Please note:

It is unknown, whether this technology is suitable when contaminant is "PFAS".

Pump and treat

Pump and treat involves extracting contaminated groundwater through wells and treating it at the surface before discharging it back into the environment. This method is commonly used for groundwater remediation.

Targeted problems

Effective for treating:

- Chlorinated solvents
- Petroleum hydrocarbons
- Heavy metals

Performance gains

- Proven technology with extensive use in groundwater remediation
- Adaptable to various contaminants and site conditions
- Can be combined with in situ methods for enhanced results
- Continuous treatment option with real-time monitoring

Sample
Not for publication

In situ flushing to change contaminant mobility

In situ flushing involves the injection of water or other suitable fluids to mobilize and remove contaminants from soil or groundwater. This method aims to enhance the mobility of contaminants, making it easier to extract and treat them.

Targeted problems

Source and pathway management for:

- Petroleum hydrocarbons
- Chlorinated solvents
- Heavy metals
- Pesticides
- Nutrients

Performance gains

- Effective for removing contaminants trapped in soil
- Improves extraction efficiency
- Minimal disturbance to site infrastructure
- Reduces long-term monitoring needs

These data were collected at the following site:

Site A

Sitea

These data are relevant to the entire site.

Table 1: Measurement parameters

Parameter	Descriptor	Value
Water/Soil pH	neutral	7
Water/Soil temperature	very warm	14.7 °C
Hydraulic Conductivity	slightly permeable	2.51e-9 m/s
Oxygen content	low	1.2 mg/l
Groundwater velocity	medium	0.13 m/d
Depth	shallow	10 m
Electrical Conductivity	medium	1000 µS/cm

Table 2: Site characteristics

Parameter	Value
Contaminant type	PAHs
Zone of interest	Capillary fringe
Contaminant phase	Plume
Accessibility	not accessible

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List of all sustainable remediation technologies that are included at contaminatedland.info and which were considered by the report algorithm.

EiCLaR technologies:

- [Bioelectrochemical Remediation](#)
- [Electro Nanobioremediation](#)
- [Enhanced Phytoremediation](#)
- [Monitored Bioaugmentation](#)

In situ treatment technologies:

- [Monitored Natural Attenuation \(MNA\)](#)
- [In situ flushing to change contaminant mobility](#)
- [In situ bioremediation](#)
- [Soil vapor extraction / venting and bioventing](#)
- [Air sparging and biosparging](#)
- [In situ chemical oxidation / reduction \(SCO/R\)](#)
- [Electro-remediation](#)
- [Phytoremediation](#)
- [In situ stabilisation](#)
- [In situ thermal](#)
- [Fracturing techniques for enabling in situ remediation](#)
- [Permeable reactive barriers](#)

Ex situ treatment technologies:

- [Ex situ bioremediation](#)
- [Soil washing and related ex situ treatments](#)
- [Solidification/stabilisation](#)
- [Ex situ thermal treatments](#)
- [Vitrification](#)
- [Excavation](#)

Passive and hydraulic containment:

- [Capping and cover systems](#)
- [Impermeable barriers](#)
- [Pump and treat](#)

CL:AIRE Technical Bulletins from EiCLaR

- [EiCLaR Technical Bulletin EiCLaR01 - Overview](#)
- [EiCLaR Technical Bulletin EiCLaR02 - Electro-nanobioremediation](#)
- [EiCLaR Technical Bulletin EiCLaR03 - Monitored bioaugmentation](#)
- [EiCLaR Technical Bulletin EiCLaR04 - Bioelectrochemical remediation](#)
- [EiCLaR Technical Bulletin EiCLaR05 - Enhanced phytoremediation](#)
- [EiCLaR Technical Bulletin EiCLaR06 - Decision support tool](#)

From the book "Sustainable and risk-based land management for contaminated sites in practice"

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