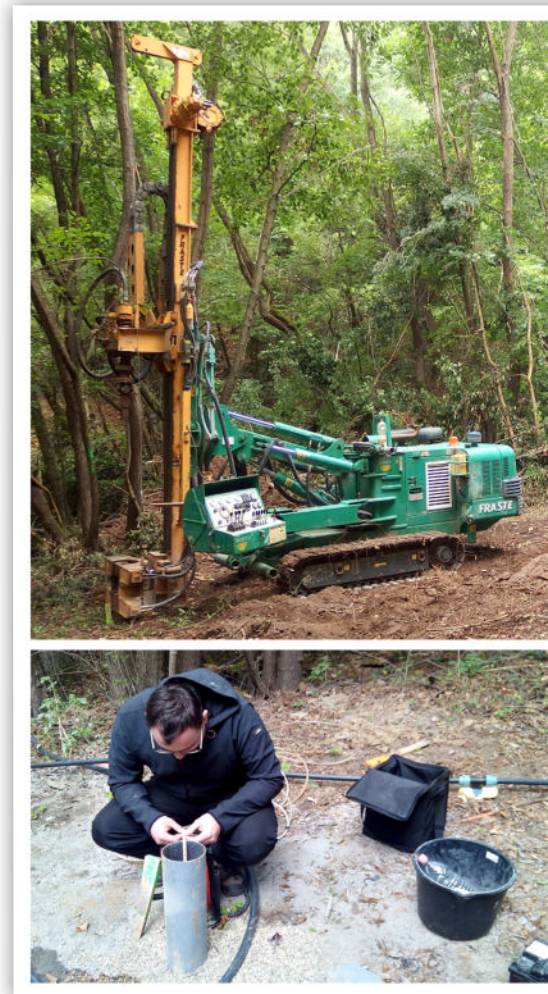




Remediation of groundwater contaminated with aliphatic chlorinated hydrocarbons, aimed at reducing contamination to a level of acceptable risk, were carried out by a combination of remediation methods - in-situ chemical oxidation (ISCO), supported natural attenuation (in-situ bioremediation), venting, remediation pumping and groundwater treatment and building a permeable reactive barrier with active nulavalent Fe element. The work included:

### Verification of the conclusions of the risk analysis of the contaminated area:

- elaboration of the project of remediation of environmental burden, solution of conflicts of interest, land entrances, laying out of engineering networks, geophysical measurements, atmogeochemical measurements, drilling and probing works, hydrodynamic tests, sampling of groundwater, surface water and soil, soil air, laboratory work, evaluation of laboratory analyzes, localization update of remediation facilities.



**Customer:**



Ministry of Defense of the Slovak Republic  
Kutuzovova 8  
832 47 Bratislava

**Contractor of geological works:**



EBA, Ltd.  
Rusovská cesta 1  
851 01 Bratislava



ENVIGEO, Inc.  
Kynceľovská cesta 2/8  
974 11 Banská Bystrica



### Preliminary work:

- setting up a construction site - installation of temporary operational buildings, connection to utility networks, etc., transport of lockable warehouses and mixing equipment and vessels, pumps, compressor, ...
- installation of remediation technology - transport of drilling and sampling sets, installation of remediation facilities for groundwater treatment, construction of remediation facilities, etc.
- trial operation of remediation technology (testing the in-situ remediation method)

### Implementation of remediation:

- operation of remediation (groundwater remediation)
- monitoring of the development of groundwater quality during remediation work, monitoring of the development of surface water quality of the target stream flowing through the rehabilitated area
- ultimate landscaping (disposal of boreholes, landscaping, waste disposal)



Budget of the geological task: **840 331 €** (excluding VAT)

Period of service: **2014 - 2015**



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