VEGAS – Research and Development for the Protection of Soil and Groundwater

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The “Versuchseinrichtung zur Grundwasser- und Altlastensanierung – VEGAS” (Research Facility for Subsurface Remediation) at the Universität Stuttgart, Stuttgart, Germany, offers a unique experimental environment to conduct fundamental and applied research in the fields of groundwater and aquifer remediation. The ultimate goal of the facility is to bridge the gap from the laboratory to the field scale. Hence, indoor experiments on flow, transport and reactions in the subsurface range from the bench scale to “large” artificial aquifers (max 18.5 x 9 x 4.5 m).

VEGAS is supplying experimental data to the department “Hydromechanics and Modeling of Hydrosystems”, Institute of Hydraulic Engineering, so numerical models to design field applications can be developed and validated. These models then are used to further facilitate the transfer of technologies to actual field sites.

The physical and numerical work is flanked by the development of advanced site evaluation techniques to enhance the a-priori knowledge of the contaminant distribution and to monitor the fate of contaminants. Hence, the potential threat to the environment or the potential loss of real estate value can be determined.

The technologies developed are used to design new management and recycling strategies for contaminated land and brownfields.

The researchers of VEGAS offer a wide range of seminars and continuous education pertaining to the remediation and management of (contaminated) brownfields to ensure that the state of the art is being transferred to regulating agencies and consulting companies. Additionally, various classes are offered to the German and international students of the Universität Stuttgart.