

Modelling and Experiment on GAS migration in repository host rocks



GOAL

Providing experimental data for the validation of gas migration models and in-situ research of the long term gas migration.

1992

Installation of the experimental set-up

1993

Hydraulic tests

1994

First gas (Helium) injection test in borehole TD-20W

1997

Second gas injection test in borehole TD-20W'

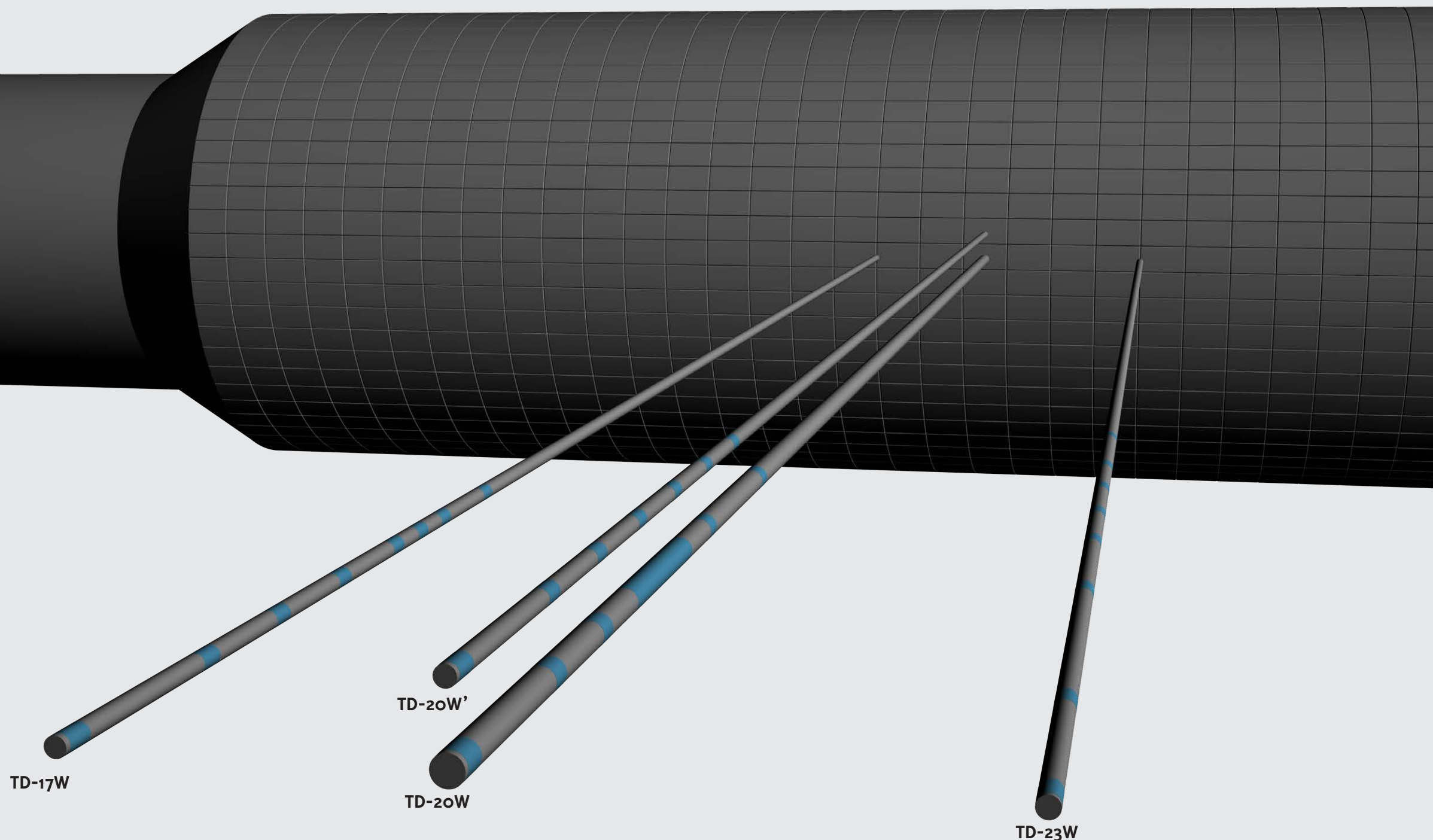
1998

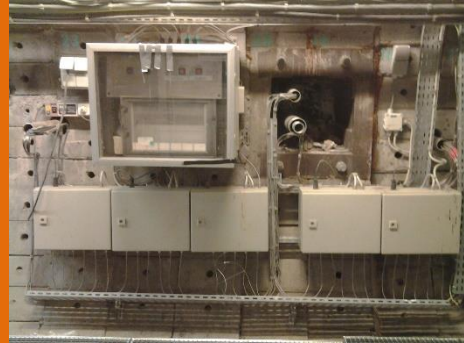
HTO injection in borehole TD-20W'

CENTRAL PIEZOMETER TUBE TD-20W (Ø 90mm) FOR FIRST GAS (HELIUM) INJECTION

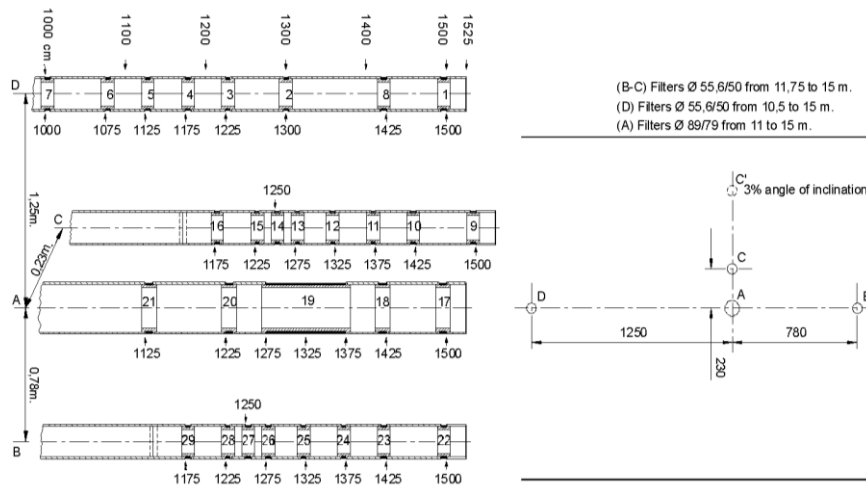
TWO DETECTION PIEZOMETER TUBES TD-17W & TD-23W (Ø 60mm) FOR MEASUREMENTS IN HORIZONTAL DIRECTION

ONE DETECTION/INJECTION PIEZOMETER TUBE TD-20W' (Ø 60mm) FOR MEASUREMENTS IN VERTICAL DIRECTION DURING THE FIRST GAS INJECTION AND FOR INJECTION OF GAS DURING THE SECOND GAS INJECTION AND HTO INJECTION CAMPAIGN



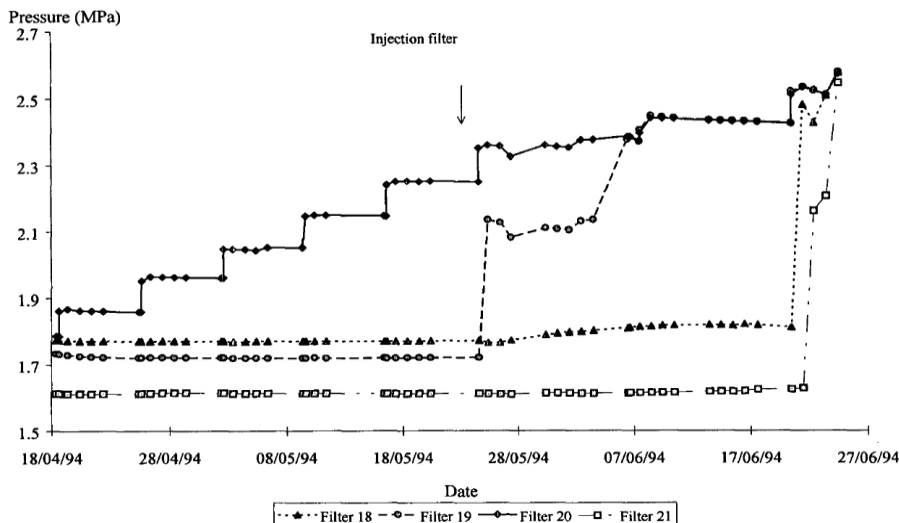


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Experimental set-up

- **1992** Installation
- **1993** Hydraulic tests
- **1994** First gas (Helium) injection test in borehole A
- **1997** Second gas injection test in borehole C
- **1998** HTO injection in borehole C



Pressure evolution of filters 18, 19, 20 and 21 during first gas injection test through filter 20

GOAL: Provide experimental data for the validation of the gas migration models and in-situ research of the long term gas migration

ACHIEVEMENTS:
The measured results fit the modelled curve. The self sealing of the Boom Clay after the creation of a gas breakthrough can be considered as effective