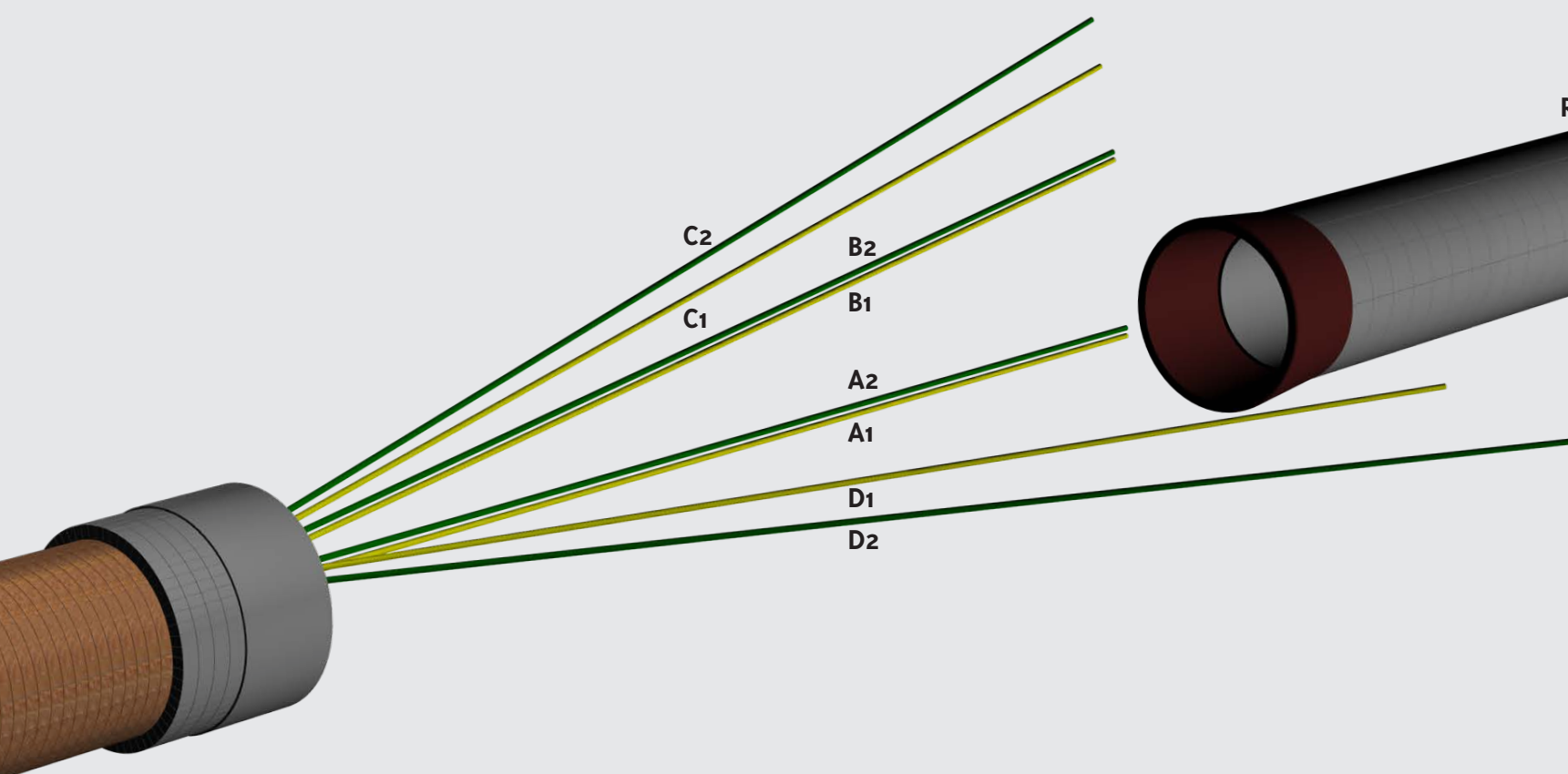
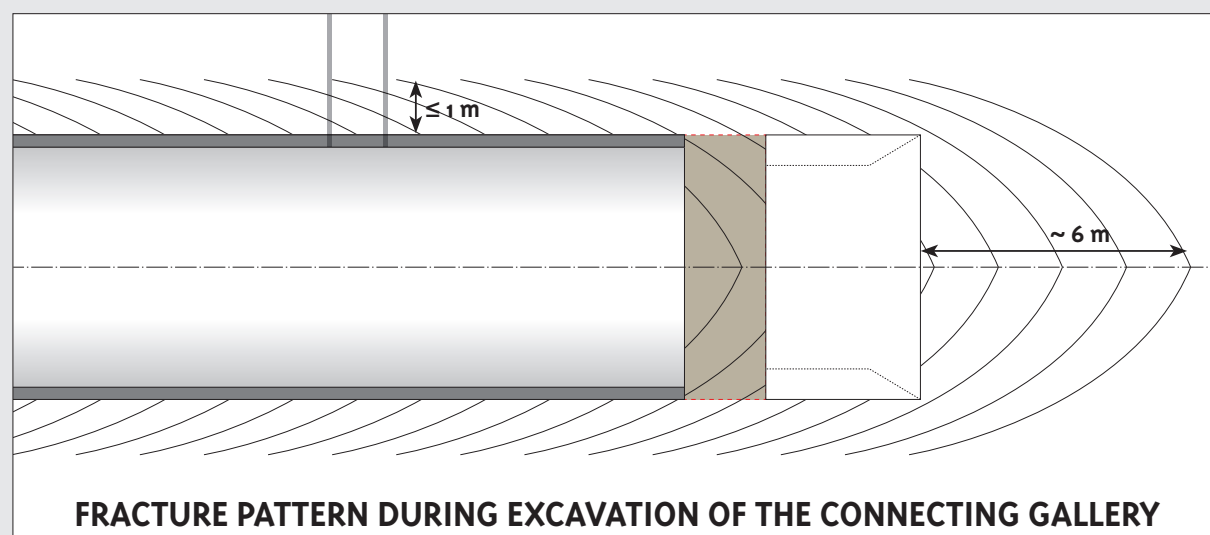


CLay Instrumentation Programme for the EXtension of an underground research laboratory



A1 - E1:
Boreholes for displacement measurements

A2 - E2:
Boreholes for porewater & total stress measurements

R15 and R30:
Instrumented lining rings with embedded vibrating wire strain gauges

GOAL

Monitoring the hydro-mechanical response of the Boom Clay to the excavation of the Connecting gallery.

March 1997
Characterization program

April - May 1998
Installation of sensors from Test drift front (A-D)

2000
Installation of sensors from second shaft (E1, E2)

2002
Construction of the Connecting gallery
Installation of the instrumental lining segments (R15, R30, R50 and R75)

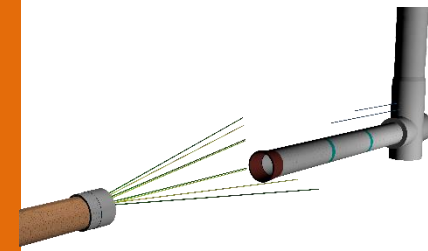
8 INSTRUMENTED BOREHOLES (A - D)
DRILLED FROM TEST DRIFT AND TWO (E1 & E2) FROM THE 2ND SHAFT TO MONITOR THE VARIATION IN TOTAL STRESS, POREWATER PRESSURE AND DISPLACEMENTS IN BOOM CLAY

FOUR INSTRUMENTED LINING RINGS TO MEASURE THE STRAIN EVOLUTION IN THE GALLERY SEGMENT LINING AS A RESULT OF THE INSTALLATION PROCEDURE AND THE PRESSURE EXERTED BY THE CLAY HOST ROCK

CHARACTERIZATION OF THE FRACTURE PATTERN DURING AND AFTER EXCAVATION BY VISUAL OBSERVATIONS OF THE EXCAVATED WALL AND FRONT AND BY ANALYSIS OF CLAY CORES



Clay Instrumentation Programme for the EXtension of an underground research laboratory



GOAL

MONITORING THE HYDRO-MECHANICAL RESPONSE OF THE BOOM CLAY TO THE EXCAVATION OF THE CONNECTING GALLERY

March 1997

Characterization program

April -May 1998

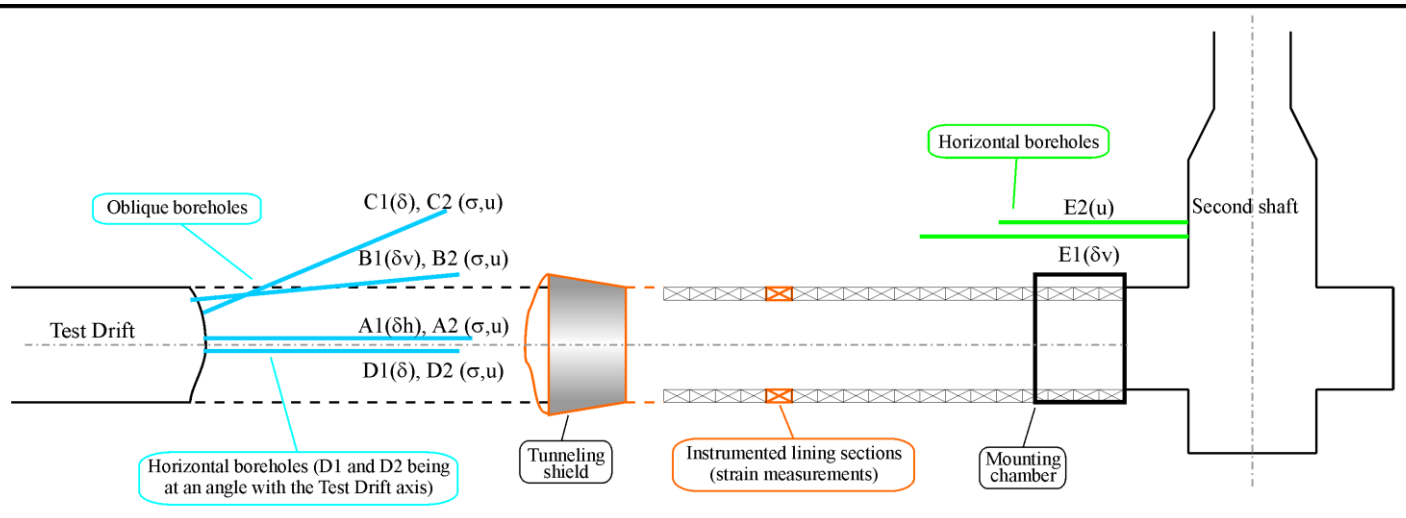
Installation of sensors from test drift front

2000

Installation of sensors from second shaft

2002

Excavation of the connecting gallery



Experimental set-up:

8 instrumented boreholes drilled from Test drift and 2nd shaft

to monitor the variation in total stress, porewater pressure and displacements in Boom Clay