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GEothermie2020

**HYDRAULIC FRACTURING STRESS MEASUREMENTS
IN BOREHOLE GEo-02**

Activity Report incl. Overview-Plots of Test Records

Client: Service Industriels Genève (SIG), CH

Order No.: 45357913 dated 31.07.2020

Quotation No.: 13187/C dated 10.12.2019

Project No.: 2768

Reporter : G. Klee

Date : 05.08.2020

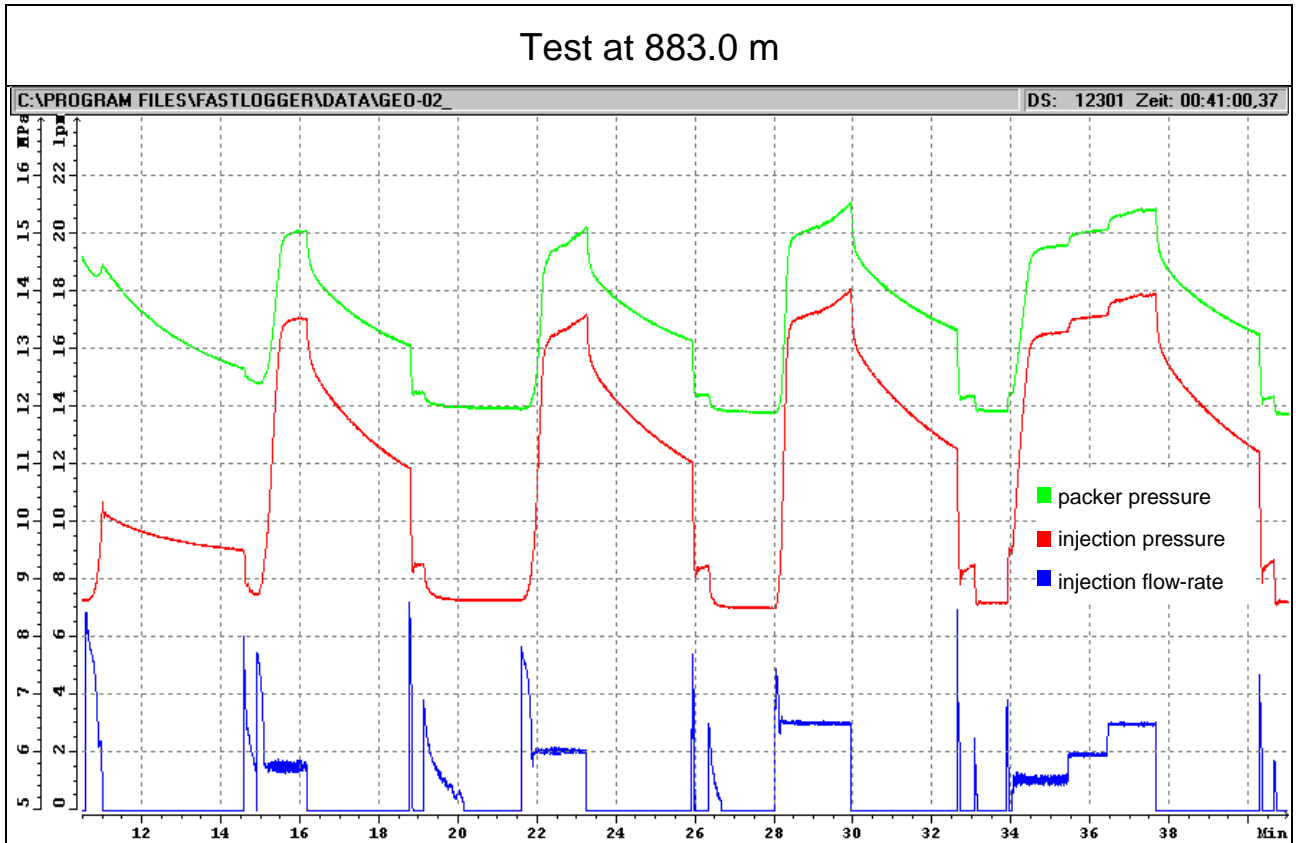
Project : GEothermie2020
Location: Chemin des Cornaches, 1233 Lully, Geneve, Switzerland (N 46°9'40", E 6°4'9")
Borehole No. : GEO-02
 total depth: 1455.5 m, inclination: vertical, casing: to 807 m (diameter: 7-5/8"), open-hole diameter: 6-1/2" / 165 mm
Purpose : Hydraulic Fracturing Stress Measurements
Participants : F. Seebald (Solexperts GmbH)
 G. Klee (Solexperts GmbH)
 D. Putarev (Solexperts AG)
 A. Costa (Solexperts AG)

Date	Time	Activity
July 2020		Preparation of equipment
13.-14.07.2020		Mobilization of Solexperts GmbH personnel to Genève, unloading of equipment
15.07.2020	08.30-16.40 16.40 16.40-18.25 18.25-19.30 19.30-20.00	Preparation and set-up of test equipment End of hydro-testing Set-up of straddle packer tool Run in hole (RIH) to 120 m ¹ Installation of blow-out protection
16.07.2020	07.00 07.15-16.40 16.40-18.00 18.00-19.00 19.00-19.30	Arrival on site De-installation of blow-out protection, RIH to 1150 m Stand-by due to failure of drill-rig hydraulics RIH to 1300 m Installation of blow-out protection
17.07.2020	06.50 07.05-08.10 08.15-09.10 09.10-09.30 09.30-10.20 10.20-10.35 10.35-11.20	Arrival on site De-installation of blow-out protection, RIH to 1424 m Hydrofrac-Test 1 at 1424.0 m Deflation of packers and movement to 1409.0 m Hydrofrac-Test 2 at 1409.0 m Deflation of packers and movement to 1391.0 m Hydrofrac-Test 3 at 1391.0 m

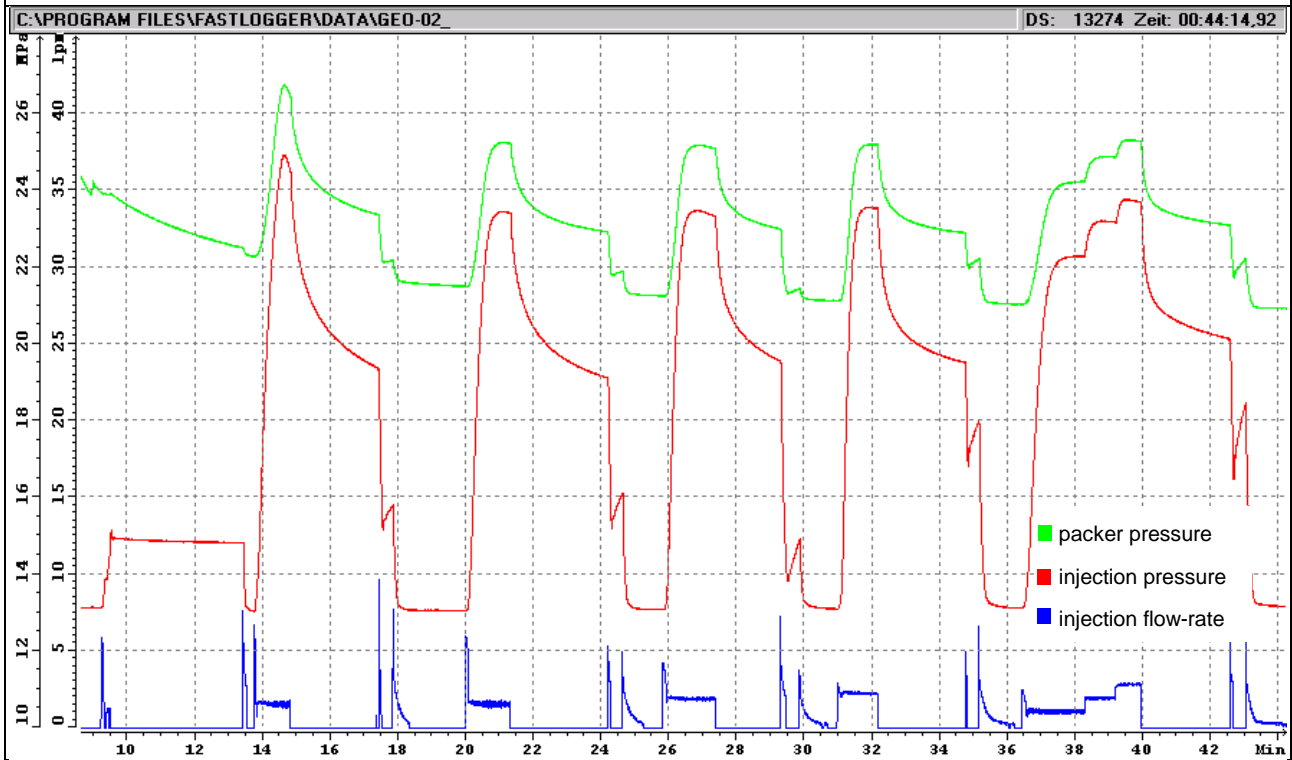
¹ depth is related to the center of the 1 m long test section

Date	Time	Activity
17.07.2020	10.20-11.35 11.35-12.15 12.15-12.30 12.30-13.20 13.20-13.30 13.30-14.20 14.20-14.35 14.35-15.20 15.20-17.50 17.50-18.20	Deflation of packers and movement to 1374.0 m Hydrofrac-Test 4 at 1374.0 m Deflation of packers and movement to 1366.0 m Hydrofrac-Test 5 at 1366.0 m Deflation of packers and movement to 1353.0 m Hydrofrac-Test 6 at 1353.0 m Deflation of packers and movement to 1335.0 m Hydrofrac-Test 7 at 1335.0 m Deflation of packers and movement to 1000 m Installation of blow-out protection
18.07.2020	07.00 07.05-09.25 09.25-10.10 10.10-10.45	Arrival on site De-installation of blow-out protection, movement to 883.0 m Hydrofrac-Test 8 at 883.0 m Installation of blow-out protection
20.07.2020	07.00-15.00 15.00-17.00	De-installation of blow-out protection, pull out of hole Disassembly and loading of equipment
21.07.2020		Demobilization of equipment to Bochum / Germany

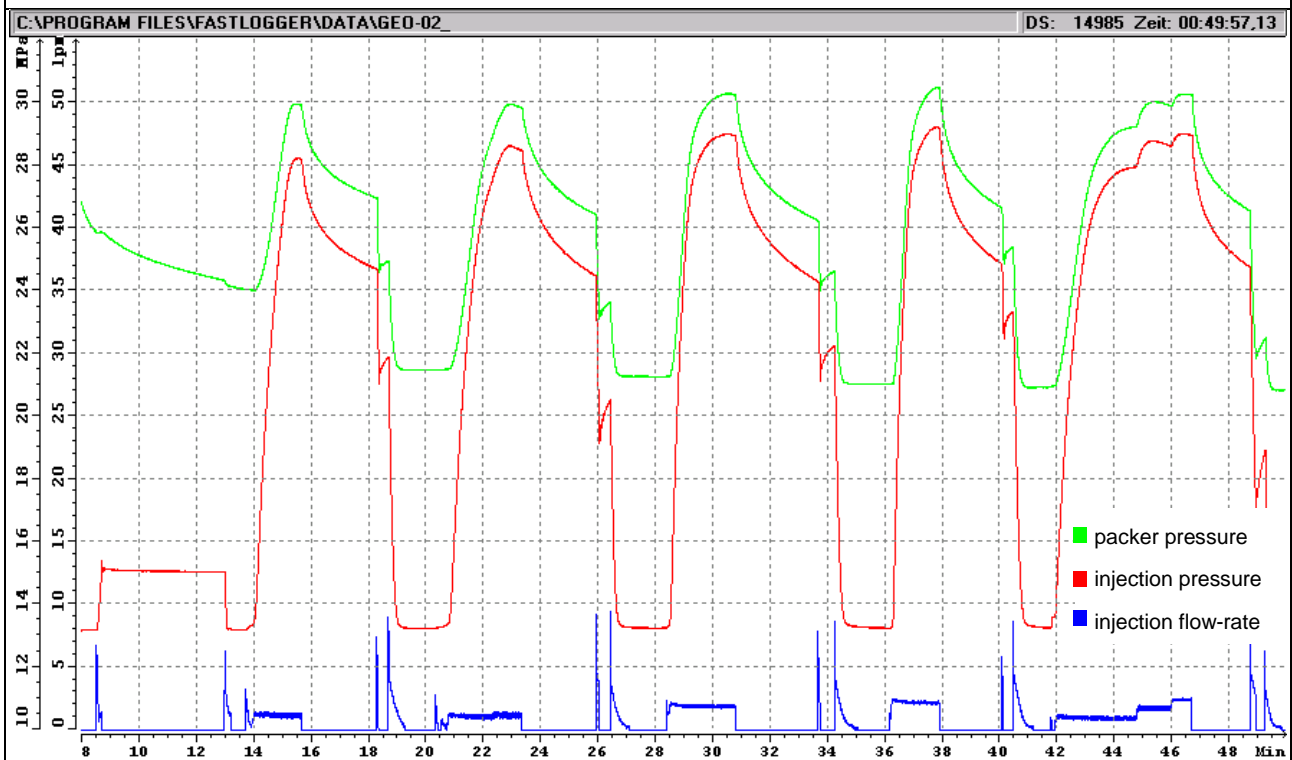
Overview-Plots of the Hydraulic Fracturing Tests in Borehole GEO-02



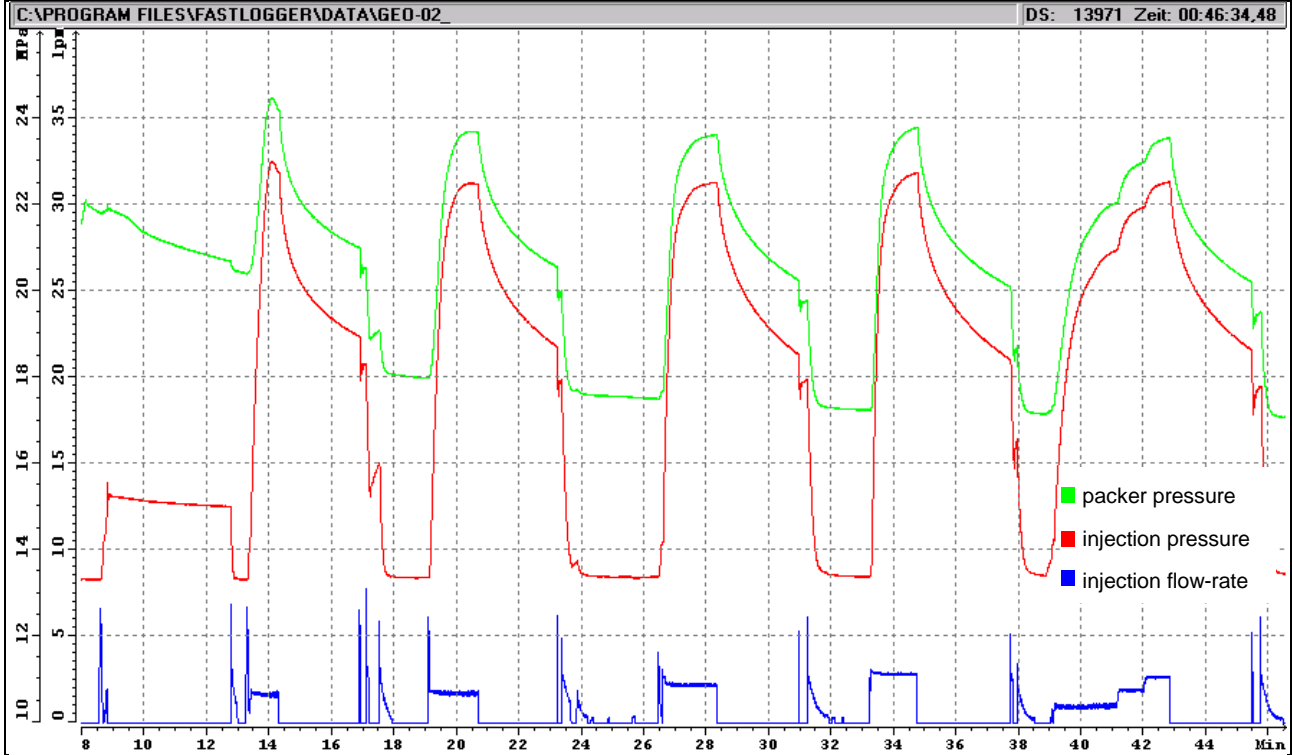
Test at 1335.0 m



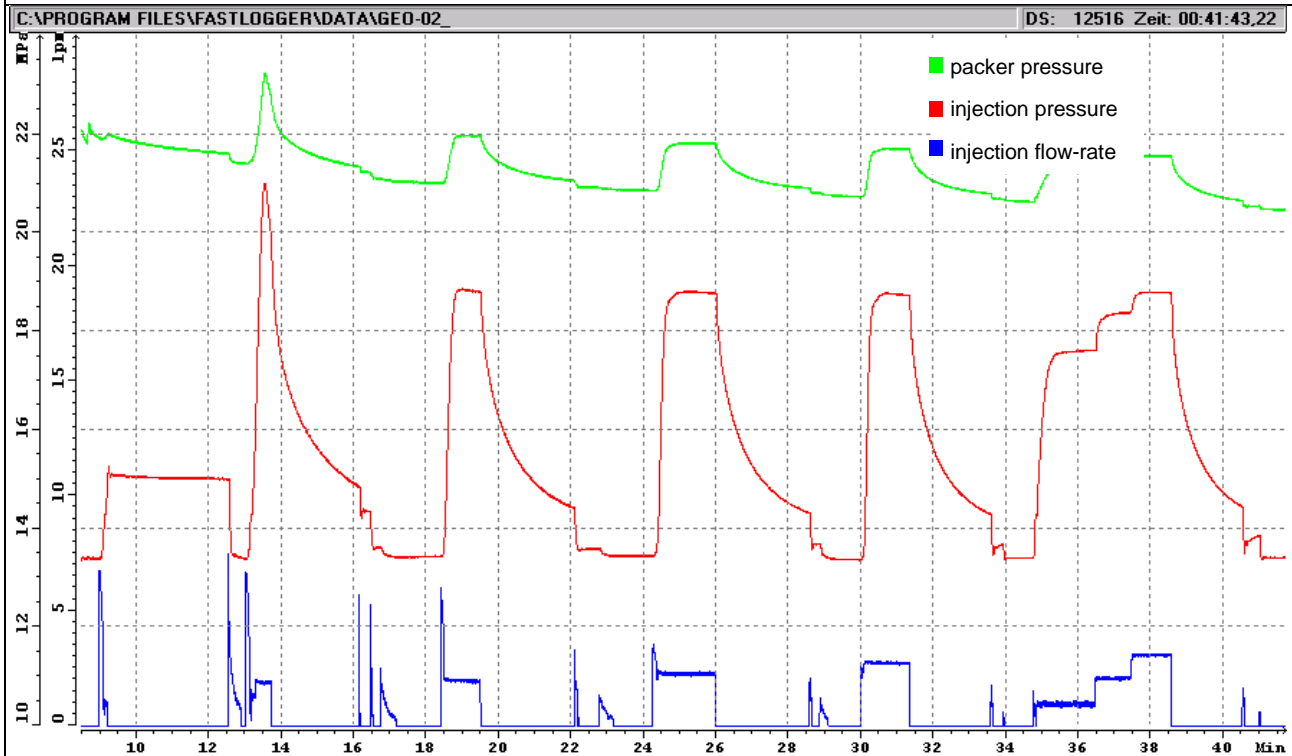
Test at 1353.0 m



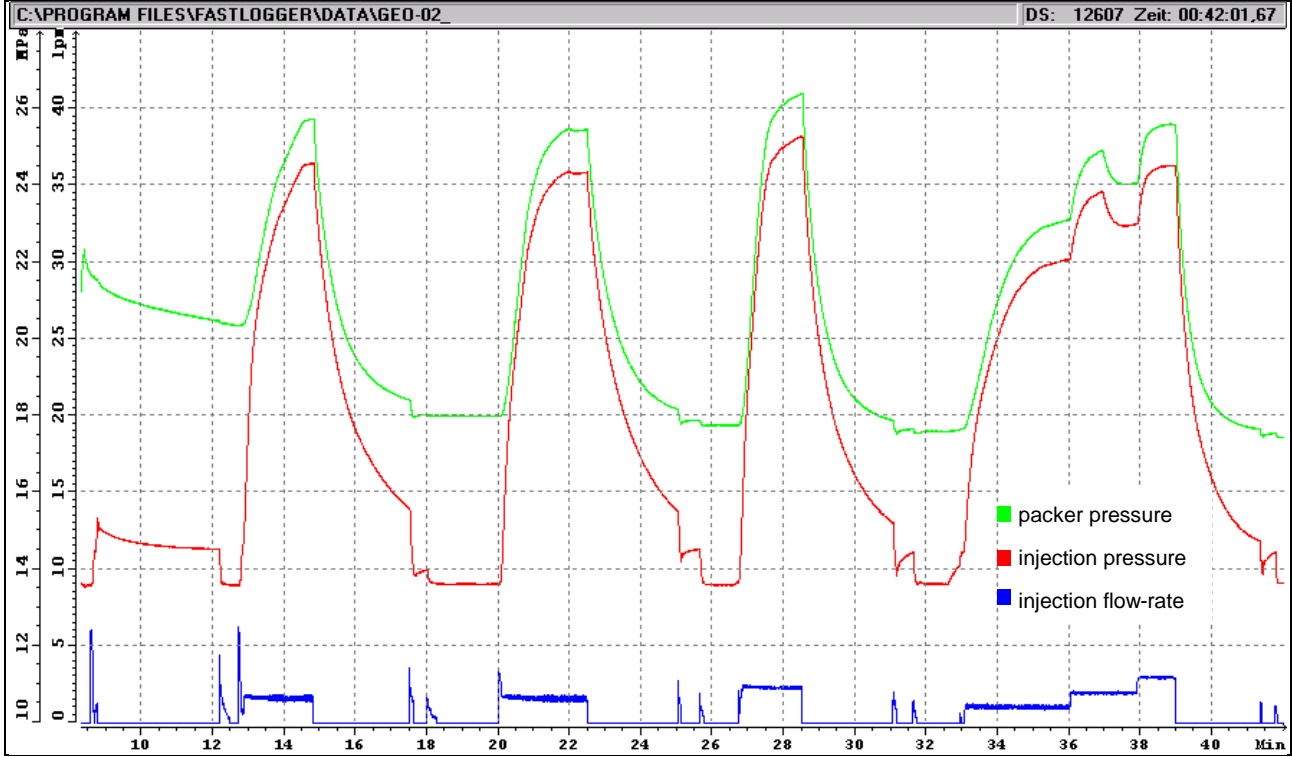
Test at 1366.0 m



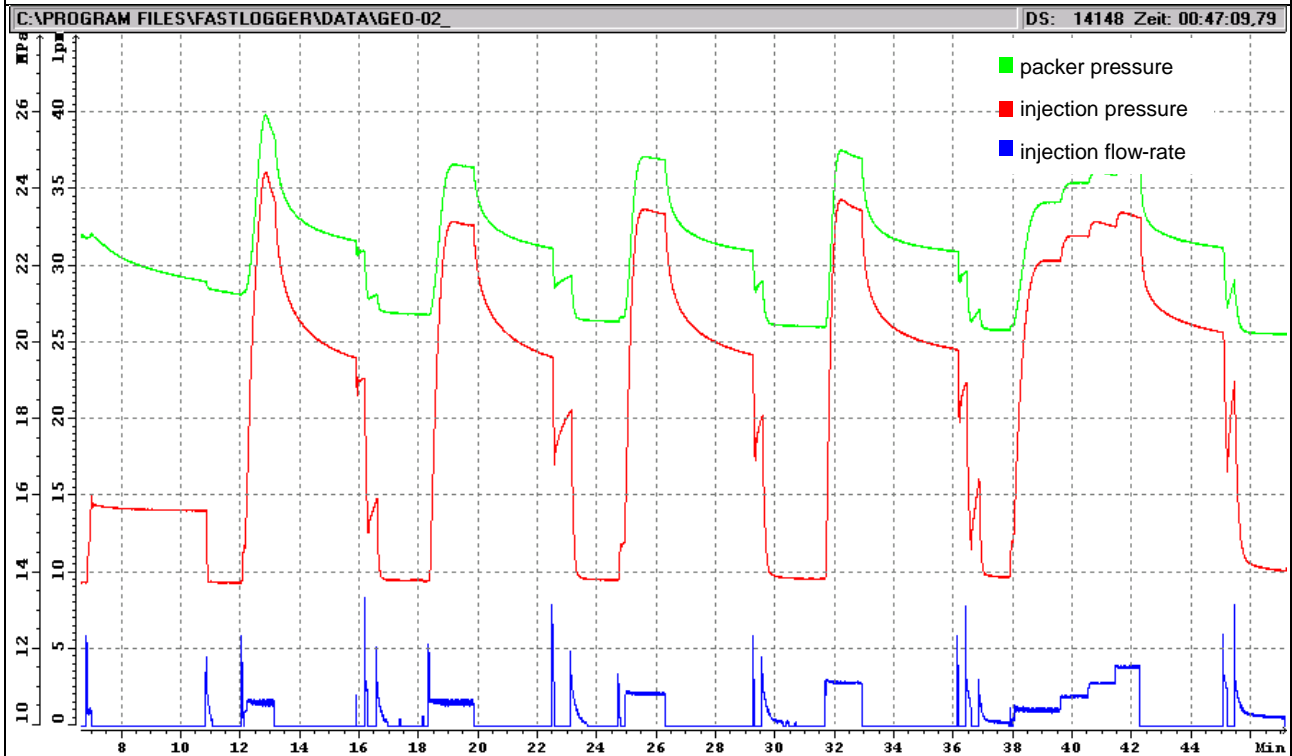
Test at 1374.0 m



Test at 1391.0 m



Test at 1409.0 m



Test at 1424.0 m

