P-06-145

Oskarshamn site investigation

Hydraulic interference tests, pumping borehole KLX07A

Subarea Laxemar

Cristian Enachescu, Jörg Böhner, Stephan Rohs
Golder Associates GmbH

December 2007

Svensk Kärnbränslehantering AB
Swedish Nuclear Fuel
and Waste Management Co
Box 250, SE-101 24 Stockholm
Tel +46 8 459 84 00

ISSN 1651-4416
SKB P-06-145

Oskarshamn site investigation

Hydraulic interference tests, pumping borehole KLX07A

Subarea Laxemar

Cristian Enachescu, Jörg Böhner, Stephan Rohs
Golder Associates GmbH

December 2007

Keywords: Site/project, Hydrogeology, Hydraulic tests, Pump tests, Interference tests, Hydraulic parameters, Transmissivity.

This report concerns a study which was conducted for SKB. The conclusions and viewpoints presented in the report are those of the authors and do not necessarily coincide with those of the client.

Data in SKB's database can be changed for different reasons. Minor changes in SKB's database will not necessarily result in a revised report. Data revisions may also be presented as supplements, available at www.skb.se.

A pdf version of this document can be downloaded from www.skb.se.

Abstract

Hydraulic interference tests have been performed at the Laxemar area in the active pumping borehole KLX07A in five different sections. During the pumping phase the pressure response in 22 observation boreholes was monitored in up to eight different intervals per borehole, which were separated with packers. A 5 L water sample was taken by SKB at the end of each pumping phase. Theses samples were analysed according to the class 3 level. The tests are part of the general program for site investigations and specifically for the Laxemar subarea. Prior the interference tests, hydraulic injection tests in 100 m and 20 m intervals had been performed /Rahm and Enachescu 2005/. The hydraulic testing programme has the aim to characterise the rock with respect to its hydraulic properties and the interference tests have the purpose to resolve hydraulic connectivity in the fracture network, especially to the selected lineament EW007. Data is subsequently delivered for the site descriptive model.

This report describes the results and primary data evaluation of the interference tests in borehole KLX07A performed between 24th October and 9th of December 2006. The data of the observation boreholes were delivered by SKB.

The main objective of the interference testing was to characterize the rock around the borehole with special respect to connectivity of lineaments. Transient evaluation of the flow and recovery period of the constant rate interference pump tests provided additional information such as transmissivities, flow regimes and hydraulic boundaries.

Sammanfattning

Hydrauliska interferenstester har utförts i Laxemarområdet med pumpning i borrhål KLX07A i fem sektioner. Under pumpningen har tryckresponsen uppmätts i 22 observationshål i upp till åtta sektioner per borrhål med dubbelmanschett. I slutet av varje pumpfas togs av SKB ett 5 liters vattenprov för klass 3 analys. Interferenstesterna är en del av platsundersökningarna och specifikt för Laxemar området. Före interferenstesterna utfördes hydrauliska injektionstester om 100 och 20 m sektioner /Rahm och Enachescu 2005/. Hydraultestprogrammet har som mål att karakterisera berget utifrån dess hydrauliska egenskaper och interferenstesterna har som syfte att undersöka konnektiviteten mellan sprickzoner, särskilt till lineament EW007. Erhållna data utgör sedan indata för den platsspecifika modellen.

Följande rapport redovisar resultaten och primärdata från utvärderingen av interferenstesterna i borrhål KLX07A utförda mellan den 24 oktober till den 9 december 2006. Data från observationshålen levererades av SKB.

Huvudsyftet med interferenstesterna var att karakterisera berget i anslutning till borrhålet med avseende på konnektivitet mellan olika lineament. Transient utvärdering av flödes- och återhämtningsfasen för pumptesterna utförda med konstant flöde vid interferenstesten har givit ytterligare information med avseende på transmissivitet, flödesregim och hydrauliska gränser.

Contents

Appendices attached on CD

1 Introduction

A general program for site investigations presenting survey methods has been prepared /SKB 2001/ as well as a site specific program for the investigations in the Laxemar area /SKB 2006/. The hydraulic interference tests form part of the site characterization program in the work breakdown structure of the execution program /SKB 2002/.

Hydraulic interference tests (pumping tests) have been performed in borehole KLX07A in five different sections with section lengths of 45 m, 90 m and 120 m. Monitoring of pressure response was carried out by SKB in 22 additional boreholes (see Figure 1-1), monitoring data were delivered by SKB for further analyses.

Measurements were carried out between 24th October and 9th of December 2005 following the methodologies described in SKB MD 321.003 (pump tests), SKB MD 330.003 (interference tests), the activity plan AP PS 400-05-045 (SKB internal controlling documents) and the Supplement belonging to this Activity Plan specifying in detail the interference tests campaign. Data and results were delivered to the SKB site characterization database SICADA.

The hydraulic testing programme has the aim to characterise the rock with respect to its hydraulic properties of the fractured zones and rock mass between them. This report describes the results and primary data evaluation of the interference tests in borehole KLX07A. The commission was conducted by Golder Associates AB and Golder Associates GmbH.

The work was carried out in accordance with activity plan AP PS 400-05-045 and its Supplement. In Table 1-1 SKB's internal controlling documents for performing this activity are listed. Both activity plan and method descriptions are SKB's internal controlling documents. Measurements were conducted utilising SKB´s custom made testing equipment PSS2.

Table 1-1. KB internal controlling documents for the performance of the activity.

Activity plan	Number	Version
Hydraulic pumping and injection tests in borehole KLX07A	AP PS 400-05-045	1.0
Interference tests in KLX07A	Supplement to Activityplan AP PS 400-05-045	2005-09-12
Method descriptions	**Number**	**Version**
Analysis of injection and single-hole pumping tests	SKB MD 320.004e	1.0
Hydraulic injection tests	SKB MD 323.001	1.0
Metodbeskrivning för interferenstester	SKB MD 330.003	1.0
Metodbeskrivning för hydrauliska enhålspumptester	SKB MD 321.003	1.0
Instruktion för rengöring av borrhålsutrustning och viss markbaserad utrustning	SKB MD 600.004	1.0
Instruktion för längdkalibrering vid undersökningar i kärnborrhål	SKB MD 620.010	1.0
Allmäna ordning-, skydds- och miljöregler för platsundersökningar Oskarshamn	SKB SDPO-003	1.0
Miljökontrollprogram Platsundersökningar	SKB SDP-301	1.0
Hantering av primärdata vid platsundersökningar	SKB SDP-508	1.0

The pumping borehole KLX07A is situated in the Laxemar area approximately 2 km north-west of the nuclear power plant of Simpevarp, Figure 1-1. The borehole was drilled from November 2004 to May 2005 at 844.73 m length with an inner diameter of 76 mm and an inclination of –60.04°. The upper 11.80 m is cased with large diameter telescopic casing ranging from diameter (outer diameter) 208 mm–323 mm.

Most of the observation boreholes are located along the lineament EW007, which is located appr. 300 m south of the pumping hole and runs from west to east.

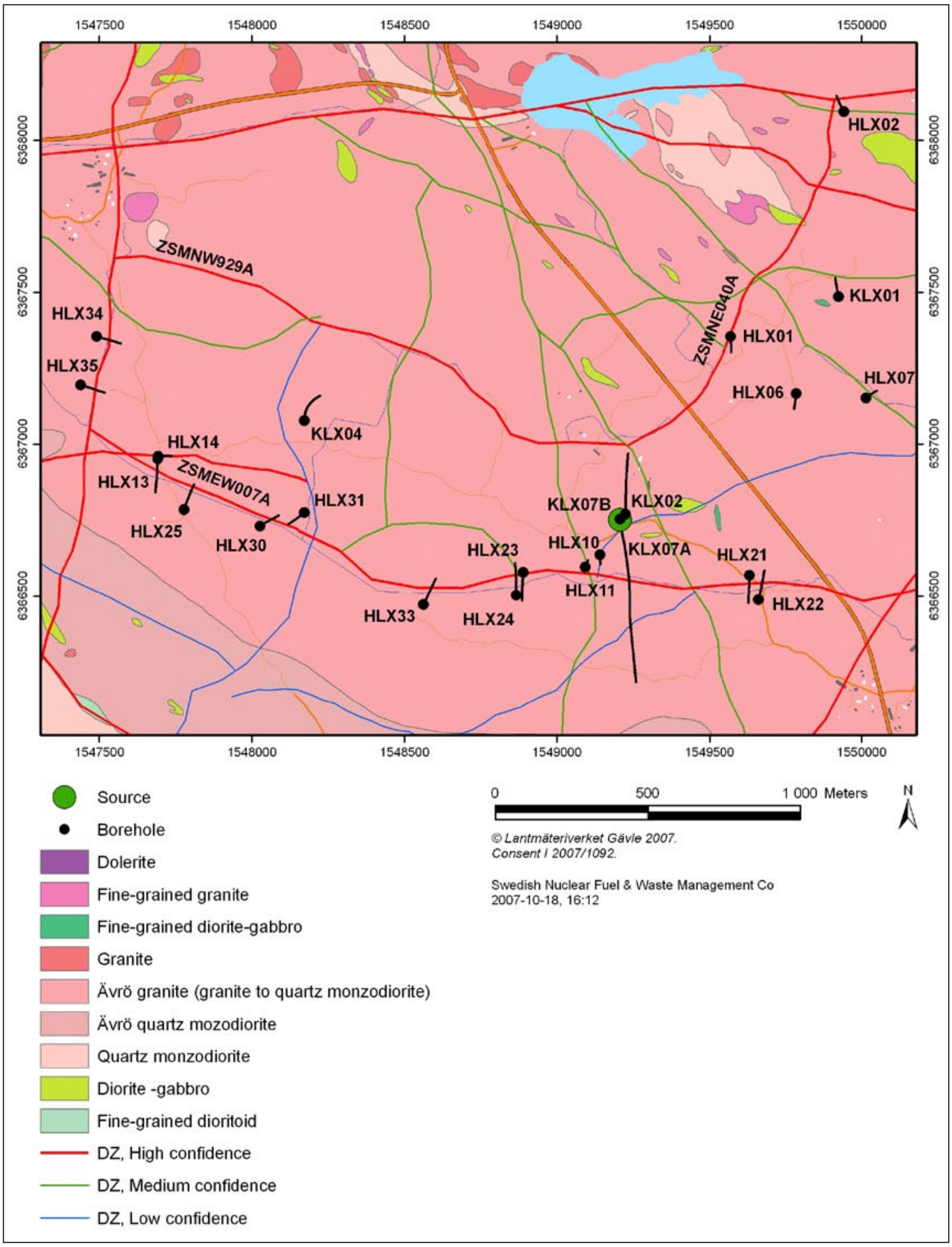


Figure 1-1. *The investigation area at Laxemar showing the location of the pumped borehole KLX07A (green circle) and all observation holes.*

2 Objective

The major objective of the performed testing program was the interference testing in order to resolve the hydraulic connectivity of the fracture network and to deliver data for the structural and hydrogeological modelling of the investigation area of Laxemar.

Further objective of the pumping interference tests was to take water samples after each test. The water samples were taken and delivered by SKB to the chemistry laboratory at Äspö for class 3 analysis. In addition, both phases of each pump test (perturbation and recovery) were analysed to provide more information to characterize the rock around the borehole and the hydraulic properties of the tested lineament EW007.

3 Scope of work

The scope of work consisted of preparation of the PSS2 tool which included cleaning of the pump and the pump basket, calibration and functional checks and pumping tests in five different sections (45 m, 90 m and 120 m section length). The cleaning of the down-hole tools was done during the foregoing hydraulic injection tests (20th August – 1st September). The analysis and reporting for this report contains the measurements in KLX07A, as well as the data of the observation boreholes, recorded, collected and delivered by SKB.

Preparation for testing mainly consists of functions checks of the equipment to be used, the PSS2 tool. Calibration checks and function checks were documented in the daily log and/or relevant documents.

The following pump tests were performed between 24th October and 9th of December 2005 (Table 3-1).

3.1 Conditions that possibly affect the observed responses besides responses due to the source intended to study

Besides the response due to the pumping in KLX07A (source) the observed responses were influenced by earth-tidal effects.

3.2 Pumped borehole

Technical data of the borehole KLX07A is shown in Table 3-2. The reference point in the borehole is the centre of top of casing (ToC), given as Elevation in the table below. The Swedish National coordinate system (RT90) is used in the x-y direction and RHB70 in the z-direction. Northing and Easting refer to the top of the boreholes at the ground surface. Information to the observed boreholes is not presented.

Table 3-1. Performed test programme.

Borehole	Priority	Secup [mbToC]	Seclow [mbToC]	Seclen [m]	Duration Pumping [h]	Duration Recovery [h]
KLX07A	1	747.0	792.0	45	65.7	91.0
KLX07A	2	610.0	655.0	45	72.5	116.9
KLX07A	1	335.0	455.0	120	80.4	97.6
KLX07A	1	193.0	313.0	120	67.8	124.9
KLX07A	1	103.2	193.2	90	72.8	92.5
Total:					359.2	522.9

Table 3-2. Information about KLX07A (from SICADA 2005-11-07 15:39:46).

Title	Value				
Old idcode name(s):	KLX07				
Comment:	No comment exists				
Borehole length (m):	844.73				
Reference level:	TOC				
Drilling Period(s):	From Date	To Date	Secup (m)	Seclow (m)	Drilling Type
	2004-11-23	2004-12-07	0.000	100.460	Percussion drilling
	2005-01-06	2005-05-04	100.460	844.730	Core drilling
Starting point coordinate:	Length (m)	Northing (m)	Easting (m)	Elevation (m.a.s.l.)	Coord System
(centerpoint of TOC)	0.000	6366752.094	1549206.855	18.470	RT90-RHB70 Measured
Angles:	Length (m)	Bearing	Inclination (– = down)		
	0.000	174.179	–60.038		RT90-RHB70 Measured
Borehole diameter:	Secup (m)	Seclow (m)	Hole Diam (m)		
	0.000	8.900	0.343		
	8.900	11.800	0.252		
	11.800	100.300	0.198		
	100.300	100.400	0.165		
	100.400	100.460	0.165		
	100.460	101.980	0.086		
	101.980	844.730	0.076		
Core diameter:	Secup (m)	Seclow (m)	Core Diam (m)		
	100.460	204.670	0.050		
	204.670	210.020	0.045		
	210.020	212.060	0.050		
	212.060	217.650	0.045		
	217.650	226.850	0.050		
	226.850	232.450	0.045		
	232.450	238.570	0.050		
	238.570	241.090	0.045		
	241.090	407.060	0.050		
	407.060	413.150	0.045		
	413.150	416.050	0.050		
	416.050	426.850	0.045		
	426.850	431.060	0.050		
	431.060	432.550	0.045		
	432.550	447.700	0.050		
	447.700	468.370	0.045		
	468.370	486.040	0.050		
	469.040	552.630	0.045		
	552.630	844.730	0.050		
Casing diameter:	Secup (m)	Seclow (m)	Case In (m)	Case Out (m)	
	0.000	11.800	0.200	0.208	
	0.000	8.900	0.310	0.323	
Grove milling:	Length (m)	Trace detectable			
	110.000	YES			
	150.000	YES			
	200.000	YES			
	250.000	YES			
	300.000	YES			
	349.000	YES			
	400.000	YES			
	450.000	YES			
	500.000	YES			
	550.000	YES			
	600.000	YES			
	650.000	YES			
	700.000	YES			
	750.000	YES			
	800.000	YES			

3.3 Tests

The tests performed in KLX07A are listed in Table 3-4. They were conducted according to the Activity Plan AP PS 400-05-045 (SKB internal document) and the Supplement. All tests were conducted as constant rate pump tests. Interference tests were carried out with additional installation of pressure transducers in selected monitoring boreholes. Groundwater data of further monitoring boreholes were provided by SKB.

At the end of each test, a 5 L water sample was taken by SKB and submitted to the SKB Äspö Laboratory for analysis.

Observations were made in the following boreholes:

Table 3-3. Observation boreholes.

Bh ID	No of Intervals monitored	Log time [s]	Bh ID	No of Intervals monitored	Log time [s]	Bh ID	No of Intervals monitored	Log time [s]
KLX01	4	60	HLX10	1	10	HLX25	2	60
KLX02	8	10	HLX11	2	60	HLX30	2	60
KLX04	8	60	HLX13	1	60	HLX31	1	60
KLX07B	3	10	HLX14	1	60	HLX33	2	60
HLX01	1	60	HLX21	2	60	HLX34	1	60
HLX02	1	60	HLX22	2	60	HLX35	2	60
HLX06	1	60	HLX23	2	60			
HLX07	1	60	HLX24	2	60			

Table 3-4. Tests performed.

Bh ID	Test section (mbToC)	Test type*	Test no	Test start Date, time (yyyy-mm-dd hh:mm:ss)	Test stop Date, time (yyyy-mm-dd hh:mm:ss)
KLX07A	103.2–193.2	1B	1	2005-10-28 09:51:38	2005-11-03 15:53:11
KLX07A	335.0–455.0	1B	1	2005-11-04 21:35:50	2005-11-12 08:36:30
KLX07A	193.0–313.0	1B	1	2005-11-12 18:54:39	2005-11-20 20:17:29
KLX07A	747.0–792.0	1B	1	2005-11-22 21:14:52	2005-11-29 10:56:05
KLX07A	610.0–655.0	1B	1	2005-11-30 10:14:30	2005-12-08 08:54:40

* 1B: pumping test-submersible pump.

3.4 Control of equipment

Control of equipment was performed. The basis for equipment handling is described in thethe SKB internal controlling document "Mätssystembeskrivning" SKB MD 345.101-123 which is composed of two parts 1) management description, 2) drawings and technical documents of the modified PSS2 tool.

Function checks were performed before and during the tests. Among these pressure sensors were checked at ground level and while running in the hole calculated to the static head. Temperature was checked at ground level and while running in.

Any malfunction was recorded, and measures were taken accordingly for proper operation. Approval was made according to SKB site manager, or Quality plan and the "Mätssystem-beskrivning".

4 Equipment

4.1 Description of equipment

The equipment called PSS2 (Pipe String System 2) is a highly integrated tool for testing boreholes at great depth (see conceptual drawing in the next figure). The system is built inside a container suitable for testing at any weather. Briefly, the components consists of a hydraulic rig, down-hole equipment including packers, pressure gauges, shut-in tool and level indicator, racks for pump, gauge carriers, breakpins, etc shelfs and drawers for tools and spare parts.

There are three spools for a multi-signal cable, a test valve hose and a packer inflation hose. There is a water tank for injection purposes, pressure vessels for injection of packers, to open test valve and for low flow injection. The PSS2 has been upgraded with a computerized flow regulation system. The office part of the container consists of a computer, regulation valves for the nitrogen system, a 24 V back-up system in case of power shut-offs and a flow regulation board.

PSS2 is documented in photographs 1–8.

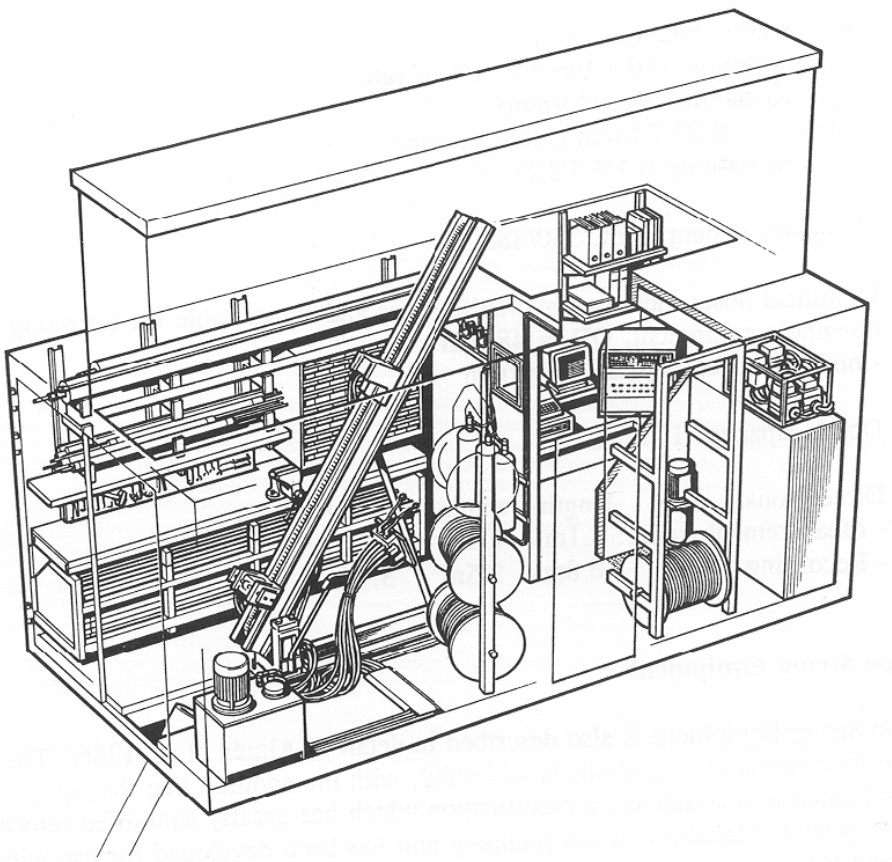


Figure 4-1. *A view of the layout and equipment of PSS2.*

Photo 1. *Hydraulic rig.*

Photo 2. *Rack for pump, down-hole equipment, workbench and drawers for tools.*

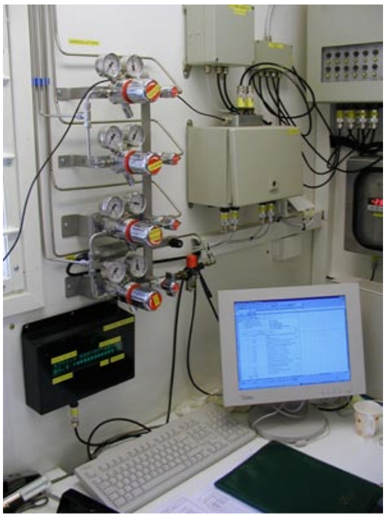


Photo 3. *Computer room, displays and gas regulators.*

Photo 4. *Pressure vessels for test valve, packers and injection.*

Photo 5. *Positioner, bottom end of down-in-hole string.*

Photo 6. *Packer and gauge carrier.*

Photo 7. *Top of test string with shunt valve and nylon line down to the pump basket.*

Photo 8. *Control board of the pump with remote control.*

The down-hole equipment consists from bottom to top of the following equipment:

- Level indicator – SS 630 mm pipe with OD 73 mm with 3 plastic wheels connected to a Hallswitch.
- Gauge carrier – SS 1.5 m carrying bottom section pressure transducer and connections from positioner.
- Lower packer – SS and PUR 1.5 m with OD 72 mm, stiff ends, tightening length 1.0 m, maximum pressure 6.5 MPa, working pressure 1.6 MPa.
- Gauge carrier with breakpin – SS 1.75 m carrying test section pressure transducer, temperature sensor and connections for sensors below. Breakpin with maximum load of 47.3 (± 1.0) kN. The gauge carrier is covered by split pipes and connected to a stone catcher on the top.
- Pop joint – SS 1.0 or 0.5 m with OD 33 mm and ID 21 mm, double O-ring fittings, trapezoid thread, friction loss of 3 kPa/m at 50 L/min.
- Pipe string – SS 3.0 m with OD 33 mm and ID 21 mm, double O-ring fittings, trapezoid thread, friction loss of 3 kPa/m at 50 L/min.
- Contact carrier – SS 1.0 m carrying connections for sensors below the test section.
- Upper packer – SS and PUR 1.5 m with OD 72 mm, fixed ends, seal length 1.0 m, maximum pressure 6.5 MPa, working pressure 1.6 MPa
- Breakpin – SS 250 mm with OD 33.7 mm. Maximum load of 47.3 (± 1.0) kN.
- Gauge carrier – SS 1.5 m carrying top section pressure transducer, connections from sensors below. Flow pipe is double bent at both ends to give room for sensor equipment. The pipe gauge carrier is covered by split pipes.
- Shut-in tool (test valve) – SS 1.0 m with a OD of 48 mm, Teflon coated valve piston, friction loss of 11 kPa at 10 L/min (260 kPa–50 L/min). Working pressure 2.8–4.0 MPa. Breakpipe with maximum load of 47.3 (± 1.0) kN. The shut-in tool is covered by split pipes and connected to a stone catcher on the top.

The 3"-pump is placed in a pump basket and connected to the test string at about 50–90 m below ToC. The pumping frequency of the pump is set with a remote control on surface. The flow can be regulated with a shunt-valve on top of the test string, a nylon line connects the valve with the pump basket, so that the water can circulate and the pump cannot run out of water (photo 7).

The tool scheme is presented in Figure 4-2.

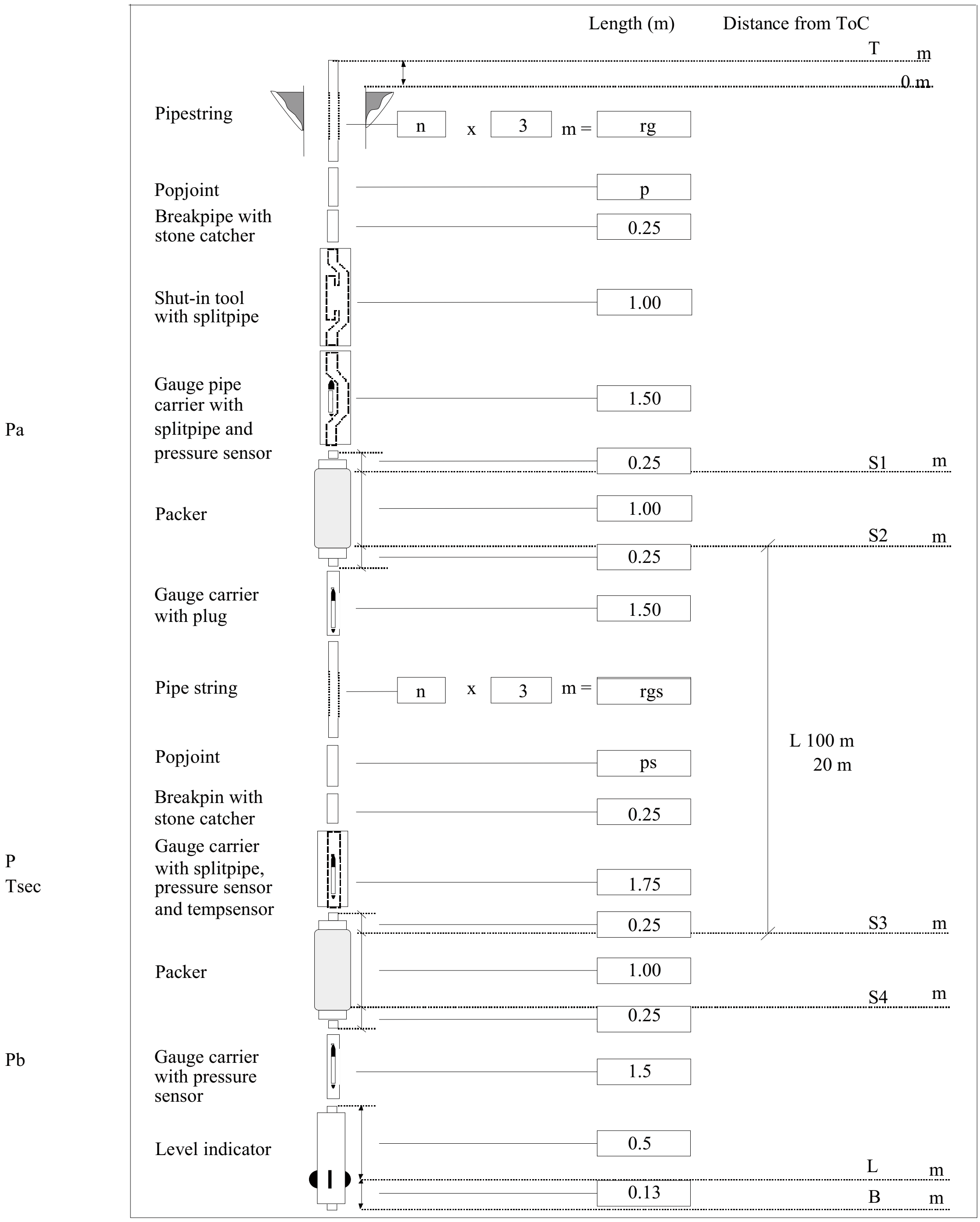


Figure 4-2. *Schematic drawing of the down-hole equipment in the PSS2 system.*

4.2 Sensors

Table 4-1. Technical specifications of sensors.

Keyword	Sensor	Name	Value/range	Unit	Comments
$P_{sec,a,b}$	Pressure	Druck PTX 162-1464abs	9–30 4–20 0–13.5 ± 0.1	VDC mA MPa % of FS	
$T_{sec,surf,air}$	Temperature	BGI	18–24 4–20 0–32 ± 0.1	VDC mA °C °C	
Q_{big}	Flow	Micro motion Elite sensor	0–100 ± 0.1	kg/min %	Massflow
Q_{small}	Flow	Micro motion Elite sensor	0–1.8 ± 0.1	kg/min %	Massflow
p_{air}	Pressure	Druck PTX 630	9–30 4–20 0–120 ± 0.1	VDC mA KPa % of FS	
p_{pack}	Pressure	Druck PTX 630	9–30 4–20 0–4 ± 0.1	VDC mA MPa % of FS	
$p_{in,out}$	Pressure	Druck PTX 1400	9–28 4–20 0–2.5 ± 0.15	VDC mA MPa % of FS	
L	Level Indicator				Length correction

Table 4-2. Sensor positions and wellbore storage (WBS) controlling factors.

Borehole information			Sensors		Equipment affecting WBS coefficient			
ID	Test section (m)	Test no	Type	Position (m b ToC)	Position	Function	Outer diameter (mm)	Net water volume in test section (m^3)
KLX07A	103.20–193.20	1	p_a p T p_b L	101.31 192.57 192.40 195.21 196.45	Test section	Signal cable Pump string Packer line	9.1 33 6	0.323
KLX07A	193.00–313.00	1	p_a p T p_b L	191.11 312.37 312.20 314.01 316.25	Test section	Signal cable Pump string Packer line	9.1 33 6	0.430
KLX07A	610.00–655.00	1	p_a p T p_b L	608.11 654.37 654.20 657.01 658.25	Test section	Signal cable Pump string Packer line	9.1 33 6	0.161

4.3 Data acquisition system

The data acquisition system in the PSS2 container contains a stationary PC with the software Orchestrator, pump- and injection test parameters such as pressure, temperature and flow are monitored and sensor data collected. A second laptop PC is connected to the stationary PC through a network containing evaluation software, Flowdim. While testing, data from previously tested section is converted with IPPlot and entered in Flowdim for evaluation.

The data acquisition system starts and stops the test automatically or can be disengaged for manual operation of magnetic and regulation valves within the injection/pumping system. The flow regulation board is used for differential pressure and valve settings prior testing and for monitoring valves during actual test. An outline of the data acquisition system is outlined in Figure 4-3.

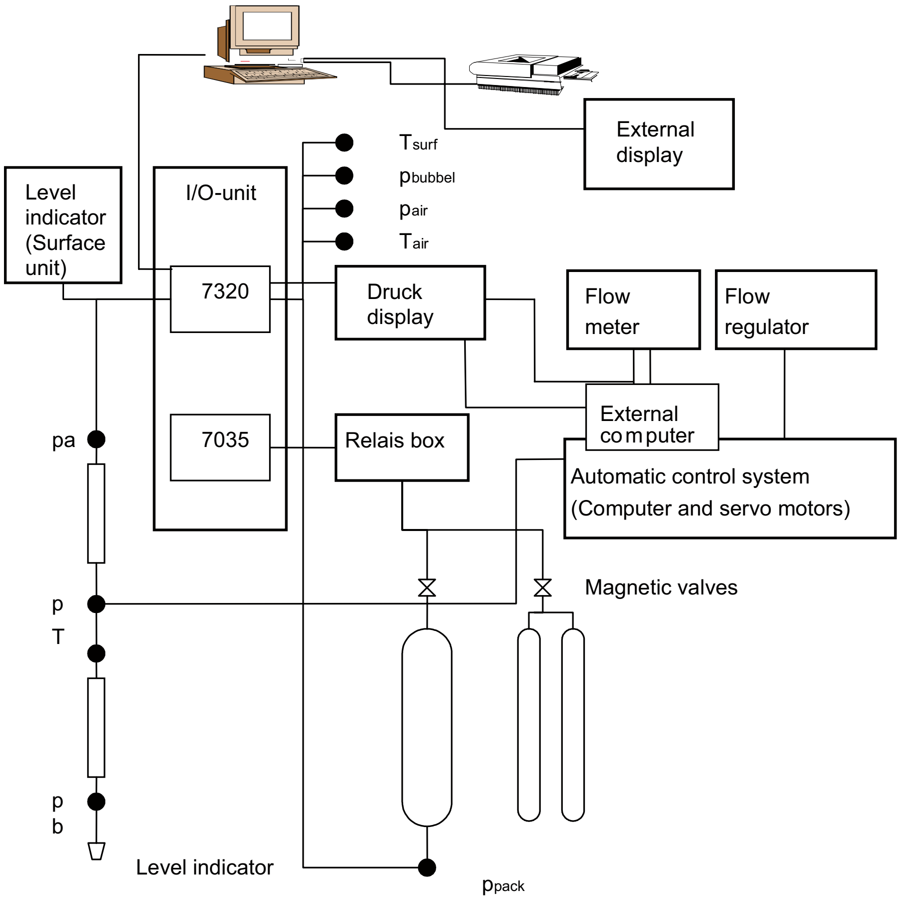


Figure 4-3. *Schematic drawing of the data acquisition system and the flow regulation control system in PSS2.*

5 Execution

5.1 Preparations

Due to the prior conducted hydraulic injection tests, the container was already placed. Cables, hoses and down-hole equipment (except pump and pump basket) have already been cleaned. Calibration constants were already entered and function checks were made. Before starting the interference tests, the pump and the pump basket were cleaned and disinfected with alcohol.

5.2 Length correction

By running in with the test tool, a level indicator is incorporated at the bottom of the tool. The level indicator is able to record groves milled into the borehole wall. The depths of this groves are given by SKB in the activity plan (see Table 3-2) and the measured depth is counter checked against the number/length of the tubes build in. The achieved correction value, based on linear interpolation between the reference marks, is used to adjust the location of the packers for the testsections to avoid wrong placements and minimize elongation effects of the test string.

5.3 Execution of tests/measurements

5.3.1 Test principle

Pump tests

The pump tests were conducted as constant flow rate tests (CRw phase) followed by a pressure recovery period (CRwr phase). The intention was to achieve a drawdown as high as possible, which is limited by several factors like flow capacity of the valves at the regulation unit, maximum flow rate and depth of the pump, head loss due to friction inside the tubing, etc. According to the Activity Plan, the pump phase should have lasted 3 days and the recovery phase 4 days. The actual durations of the phases are shown in Table 3-1.

Observation wells

For evaluation as interference tests, several boreholes were used to monitor the pressure change in different intervals. Recording and data collection was done by SKB. SKB delivered the data as ASCII files (mio-format). An overview of the monitored boreholes and their intervals is given in Table 3-3.

5.3.2 Test procedure

A test cycle includes the following phases: 1) Transfer of down-hole equipment to the next section. 2) Packer inflation. 3) Pressure stabilisation. 4) Constant rate withdrawal. 6) Pressure recovery. 7) Packer deflation. The pump tests in KLX07A have been carried out by applying a constant rate withdrawal with a drawdown as high as possible. The flow rates and resulting drawdowns are summarised in Table 5-1.

Table 5-1. Flow rate and drawdown of pumping tests.

Bh ID	Section [mbToC]	Flow rate [L/min]	Drawdown* [kPa]
KLX07A	747.0–792.0	20.9	160
KLX07A	610.0–655.0	17.6	309
KLX07A	335.0–455.0	18.1	114
KLX07A	193.0–313.0	36.4	60
KLX07A	103.2–193.2	40.8	46

* Difference between pressure just before start and immediately before stop of pumping.

Before start of the pumping tests, approximately stable pressure conditions prevailed in the test section. After the perturbation period, the pressure recovery in the section was measured. Tidal effects were observed as disturbances of the pressure responses, no major rainfall happened during performance of the pump tests which may have disturbed the measurements.

The extracted water was collected in tanks, which were removed by SKB and discharged into the sea.

5.4 Data handling

Pump tests

The data handling followed several stages. The data acquisition software (Orchestrator) produced an ASCII raw data file (*.ht2) which contains the data in voltage and milliampere format plus calibration coefficients. The *.ht2 files were processed to *.dat files using the SKB program called IPPlot. These files contain the time, pressure, flow rate and temperature data. The *.dat files were synthesised in Excel to a *.xls file for plotting purposes. Finally, the test data to be delivered to SKB were exported from Excel in *.csv format. These files were also used for the subsequent test analysis.

Observation wells

SKB was responsible for recording and collecting the data of the observation boreholes. The sample rate in those boreholes was 1 minute, except for KLX02, KLX07B and HLX10 where it was 10 seconds due to their position close to KLX07A. SKB delivered the ASCII data in mio-format. These files were imported and processed to Excel for further evaluation and analysis.

5.5 Analyses and interpretation of the pump tests

5.5.1 Analysis software

The pump tests were analysed using a type curve matching method. The analysis was performed using Golder's test analysis program FlowDim. FlowDim is an interactive analysis environment allowing the user to interpret constant pressure, constant rate and slug/pulse tests in source as well as observation boreholes. The program allows the calculation of type-curves for homogeneous, dual porosity and composite flow models in variable flow geometries from linear to spherical.

5.5.2 Analysis approach

Constant rate and pressure recovery tests are analysed using the method described by /Gringarten 1986/ and /Bourdet et al. 1989/ by using type curve derivatives calculated for different flow models.

5.5.3 Analysis methodology

Each of the relevant test phases is subsequently analyzed using the following steps:

- Identification of the flow model by evaluation of the derivative on the log-log diagnostic plot. Initial estimates of the model parameters are obtained by conventional straight-line analysis.
- Superposition type curve matching in log-log coordinates. A non-linear regression algorithm is used to provide optimized model parameters in the latter stages.
- Non-linear regression in semi-log coordinates (superposition HORNER plot; /Horner 1951/). In this stage of the analysis, the static formation pressure is selected for regression.

The test analysis methodology is best explained in /Horne 1990/.

5.5.4 Correlation between storativity and skin factor

For the analysis of the conducted hydraulic tests below 100 m depth a storativity of $1 \cdot 10^{-6}$ is assumed (SKB MD 320.004e). Based on this assumption the skin will be calculated. In the following the correlation between storativity and skin for the relevant test phases will be explained in greater detail.

Pump and recovery phase (CRw and CRwr)

The wellbore storage coefficient (C) is determined by matching the early time data with the corresponding type curve. The derived C-value is introduced in the equation of the type curve parameter:

$$(C_D e^{2\xi})_M = \frac{C \, \rho \, g}{2\pi \, r_w^2 \, S} e^{2\xi}$$

The equation above has two unknowns, the storativity (*S*) and the skin factor (ξ) which expresses the fact that for the case of constant rate and pressure recovery tests the storativity and the skin factor are 100% correlated. Therefore, the equation can only be either solved for skin by assuming that the storativity is known or solved for storativity by assuming the skin as known.

5.5.5 Steady state analysis

In addition to the type curve analysis, an interpretation based on the assumption of stationary conditions was performed as described by /Moye 1967/.

5.5.6 Flow models used for analysis

The flow models used in analysis were derived from the shape of the pressure derivative calculated with respect to log time and plotted in log-log coordinates.

In three cases a radial two shell composite flow model was used. The other test phases were analysed using an infinite acting radial flow model.

If there were different flow models matching the data in comparable quality, the simplest model was preferred.

The flow dimension displayed by the test can be diagnosed from the slope of the pressure derivative. A slope of 0.5 indicates linear flow, a slope of 0 (horizontal derivative) indicates radial flow and a slope of –0.5 indicates spherical flow. The flow dimension diagnosis was commented for each of the tests. All tests were analysed using a flow dimension of two (radial flow).

5.5.7 Calculation of the static formation pressure and equivalent freshwater head

The static formation pressure (p*) measured at transducer depth, was derived from the pressure recovery (CRwr) following the constant pressure injection phase by using:

(1) straight line extrapolation in cases infinite acting radial flow (IARF) occurred,

(2) type curve extrapolation in cases infinite acting radial flow (IARF) is unclear or was not reached.

The equivalent freshwater head (expressed in meters above sea level) was calculated from the extrapolated static formation pressure (p*), corrected for athmospheric pressure measured by the surface gauge and corrected for the vertical depth considering the inclination of the borehole, by assuming a water density of 1,000 kg/m^3 (freshwater). The equivalent freshwater head is the static water level an individual test interval would show if isolated and connected to the surface by tubing full of freshwater. Figure 5-1 shows the methodology schematically.

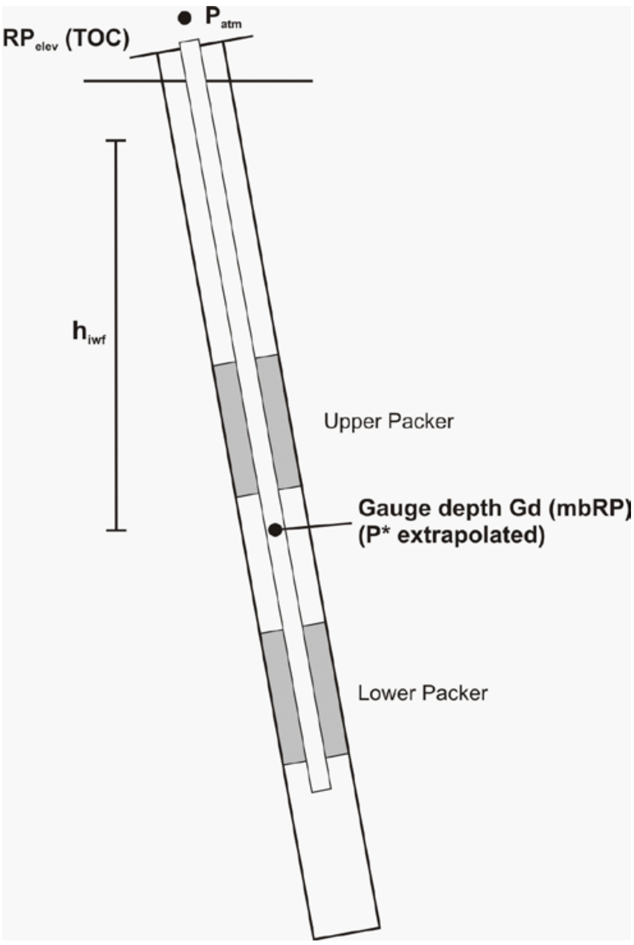


Figure 5-1. *Schematic methodologies for calculation of the freshwater head.*

The freshwater head in meters above sea level is calculated as following:

$$head = \frac{(p^* - p_{atm})}{\rho \cdot g}$$

which is the p* value expressed in a water column of freshwater.

With consideration of the elevation of the reference point (RP) and the gauge depth (Gd), the freshwater head h_{iwf} is:

$$h_{iwf} = RP_{elev} - Gd + \frac{(p^* - p_{atm})}{\rho \cdot g}$$

5.5.8 Derivation of the recommended transmissivity and the confidence range

In all cases both test phases were analysed (CRw and CRwr). The parameter sets (i.e. transmissivities) derived from the individual analyses of a specific test usually differ. In the case when the differences are small the recommended transmissivity value is chosen from the test phase that shows the best data and derivative quality, which is most of the cases at the CRwr phase. In cases when a composite flow model was deemed to be most representative for the hydraulic behaviour of the specific test section, than the most representative zone transmissivity was selected as recommended value.

The confidence range of the transmissivity was derived using expert judgement. Factors considered were the range of transmissivities derived from the individual analyses of the test as well as additional sources of uncertainty such as noise in the flow rate measurement, numeric effects in the calculation of the derivative or possible errors in the measurement of the wellbore storage coefficient. No statistical calculations were performed to derive the confidence range of transmissivity.

5.5.9 Calculation of the radius of the inner zone

The radius of influence was calculated as follows:

$$ri = 1.89 * \sqrt{\frac{T_{s1}}{S_T} * t_2} \quad \text{[m]}$$

T_{s1} recommended inner zone transmissivity of the recovery phase [m²/s]

t_2 time when hydraulic formation properties changes [s]

S_T for the calculation of the ri the storage coefficient (S) is estimated from the transmissivity /Rhen 2005/:
$S_T = 0.007 * T_T^{0.5}$ [–]

5.6 Analysis and interpretation of the reponse in the observation holes

In 22 boreholes with a total of 50 sections (Table 3-3) the responses were monitored during the pumping tests in KLX07A. Those data were analysed according to the methodology description (SKB MD 330.003) to derive hydraulic connectivity parameters and by additional instructions from SKB (October 2006). Furthermore the data of the observation holes were analysed using a type curve matching method with Golder's test analysis program FlowDim.

5.6.1 Hydraulic connectivity parameters

Calculation of the Indices

For the interference test analysis, the data of the pumping hole and the observation holes were compared. Therefore both data sets were plotted in one graph to decide if the observation borehole shows a response, which is related to the pumping. In case of a response in the observation sections due to pumping in KLX07A, the response time (dt_L) and the maximum drawdown (s_p) in these sections were calculated. The 3D distance between the point of application in the pumping borehole and the observation borehole (r_s) was provided by SKB. These parameters combined with the pumping flow rate (Q_p) are the variables used to calculate the indices, which characterize the hydraulic connectivity between the pumping and the observed section. The parameters and the calculated hydraulic connectivity parameters are shown in the tables in Chapter 7 and Appendix 6. The indices are calculated as follows:

Index 1:

r_s^2/dt_L = normalised distance r_s with respect to the response time [m²/s],

Index 2:

s_p/Q_p = normalised drawdown with respect to the pumping rate [s/m²].

Additionally, a third index was calculated including drawdown and distance. This index is calculated as follows:

Index 2 new:

$(s_p/Q_p)\cdot\ln(r_s/r_0)$ $r_0 = 1$ and for the pumped borehole $r_s=e^1$ (fictive borehole radius of 2.718).

The classification based on the indices is given as follows:

Index 1 (r_s^2/dt_L)		**Index 2 (s_p/Q_p)**		**Colour code**
$r_s^2/dt_L > 100$ m²/s	Excellent	$s_p/Q_p > 1\cdot10^5$ s/m²	Excellent	red
$10 < r_s^2/dt_L \le 100$ m²/s	High	$3\cdot10^4 < s_p/Q_p \le 1\cdot10^5$ s/m²	High	yellow
$1 < r_s^2/dt_L \le 10$ m²/s	Medium	$1\cdot10^4 < s_p/Q_p \le 3\cdot10^4$ s/m²	Medium	green
$0.1 < r_s^2/dt_L \le 1$ m²/s	Low	$s_p/Q_p \le 1\cdot10^4$ s/m²	Low	blue
		$s_p < 0.1$ m	No response	grey

Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$		**Colour code**
$(s_p/Q_p)\cdot\ln(r_s/r_0) > 5\cdot10^5$ s/m²	Excellent	red
$5\cdot10^4 < (s_p/Q_p)\cdot\ln(r_s/r_0) \le 5\cdot10^5$ s/m²	High	yellow
$5\cdot10^3 < (s_p/Q_p)\cdot\ln(r_s/r_0) \le 5\cdot10^4$ s/m²	Medium	green
$5\cdot10^2 < (s_p/Q_p)\cdot\ln(r_s/r_0) \le 5\cdot10^3$ s/m²	Low	blue
sp < 0.1 m	No response	grey

Calculated response indexes are given in Tables 7-2 to 7-4 and 8-3.

Derivation of the indices and limitations

To evaluate the hydraulic connectivity between the active and the observed section, the drawdown in the observation section (s_p) caused by pumping in the active section and the response time after start of pumping (dt_L) is needed.

To get these two values the data of both sections are plotted in one graph. The time, the observation hole needed to react to the pumping in KLX07A with a drawdown of at least 0.01 m and the amount of drawdown at the end of the pumping were taken out of the graph. Often it is not really clear if the section responds to the pumping or if the drawdown is based on natural processes exclusively. In unclear cases, the data sets were regarded in total to better differentiate between those effects. By looking at the pressure response of the days before and after the pumping phase, it is easier to distinguish between natural fluctuations and those induced by pumping. Furthermore it should be pointed out, that some of the responses could be caused by the drawdown in the section above or below of the same observation borehole.

All observation data are influenced by natural fluctuations of the groundwater level such as tidal effects. The pressure changes due to tidal effects are different for the observation boreholes and ranges between 0.03 m (e.g. HLX07) and 0.18 m (KLX02). The amplitudes of these tidal effects differ from borehole to borehole and between the different sections for each borehole. Regarding the deep boreholes KLX01, KLX02 and KLX04, a correlation between the depth of the section and the amplitude could be derived. The deeper sections show a larger pressure difference between high tide and low tide. In case of the performed pump tests in KLX07A, only tidal effects were observed as natural fluctuations.

The pressure changes in the observation sections generated by the pumping are often very marginal. In general, it is a combination of natural processes and the pumping in KLX07A producing the pressure changes in the monitored sections. If there is a reaction, it shows – in most of the cases – not a sharp but a smooth transition from undisturbed to disturbed (by pumping) behaviour, which makes it more difficult to determine the response time exactly. If neither start time nor stop time of pumping can provide reliable data for the response time Index 1 was not calculated. The second difficulty resulting out of the overlap of natural effects and those caused by the pumping is to determine the drawdown. In Figure 5-2, which shows the pressure in KLX07A, section 335.00–455.00 m, and the response in KLX02_6, the above mentioned uncertainties are shown.

The Figure 5-2 below explains the drawdown was calculated when the natural fluctuations preponderate the effects of pumping. In this example, the natural fluctuations are much larger than the influence of the pumping phase. Therefore, the pressure minima in the vicinity of start and stop of pumping were taken and the pressure difference was calculated (p2–p1), assuming that those pressure minima/maxima would have been the same value without pumping. This provides a value for the drawdown caused by pumping (s_p). The same calculation can be done with the maxima.

5.6.2 Approximate calculation of hydraulic diffusivity

The distance r_s between different borehole sections has been calculated as the spherical distance using co-ordinates for the mid-chainage of each section. The calculation of the hydraulic diffusivity is based on radial flow:

$$\eta = T / S = r_s^2 / [4 \cdot dt_L \cdot (1 + dt_L / tp) \cdot \ln(1 + tp / dt_L)]$$

The time lag dt_L is defined as the time when the pressure response in an observation section is greater than ca 0.01 metres (The time difference between a certain first observable response in the observation section and the stop of the pumping). The pumping time is included as tp. /Streltsova 1988/.

The estimates of the hydraulic diffusivity according to above should be seen as indicative values of the hydraulic diffusivity. Observation sections straddling a planar, major conductive feature that also intersects the pumping section should provide reliable estimates of the hydraulic diffusivity, but these cases have to be judged based on the geological model of the site.

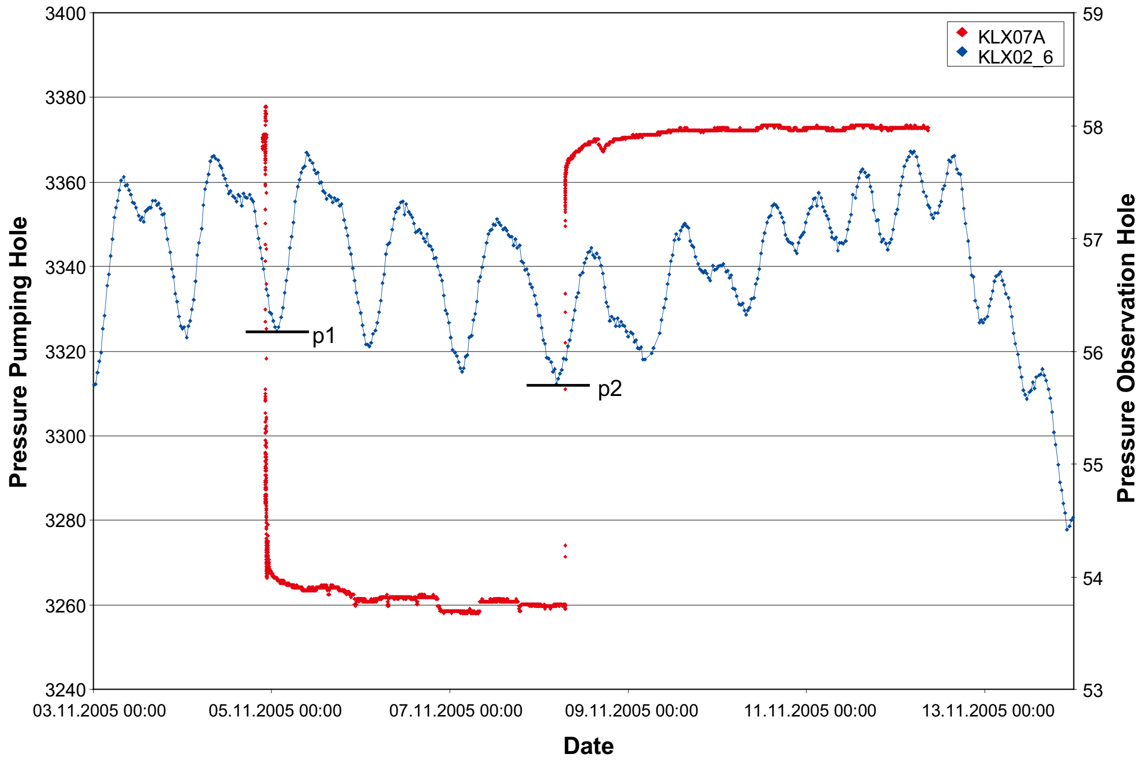


Figure 5-2. *Pumping section in KLX07A 335.00–455.00 m bToC and Observation section KLX02_6.*

For the calculation of the hydraulic diffusivity the recommended transmissivity T_T and Storativity S derived from the transient type curve analysis were used. No calculation based on dt_L was done, because of the often poor quality of dt_L and to ensure the consistency between the calculated diffusivity values.

Values of the hydraulic diffusivity are shown in Tables 7-2 to 7-4 and 8-3.

5.6.3 Response analysis

To derive transmissivities and storativities from the sections of the observation boreholes Golder's analysis software FlowDim was used.

Analysis approach

The interference tests are analysed using cylindrical source type curves calculated for different flow models as identified from the log-log derivative of the pressure response.

Assumptions

To understand the assumption used in the analysis of observation zone data it is useful to imagine in a first instance a source zone connected with the observation zones through fractures of equal transmissivity (T_1 to T_4). In Figure 5-3 the case of a source zone connected with 4 observation zones is presented.

If we note the flow rate at the source as q, each of the response in each of the observation zones will be influenced by a flow rate of q/4 because the transmissivities of the 4 fractures are equal, so the rate will be evenly distributed between the fractures as well.

We complicate now the system by adding a new fracture of much higher transmissivity (T_5) to the system (see Figure 5-4).

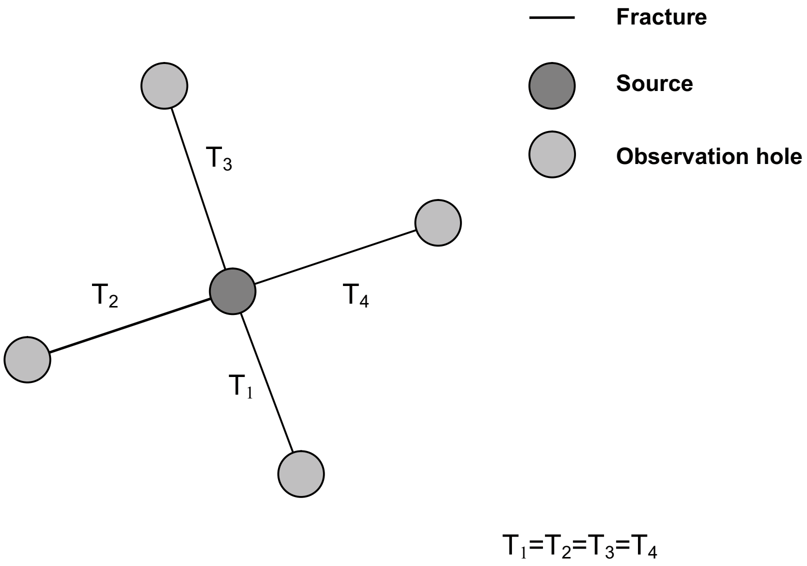


Figure 5-3. *Schematic sketch of a pumping hole (source) and observation holes.*

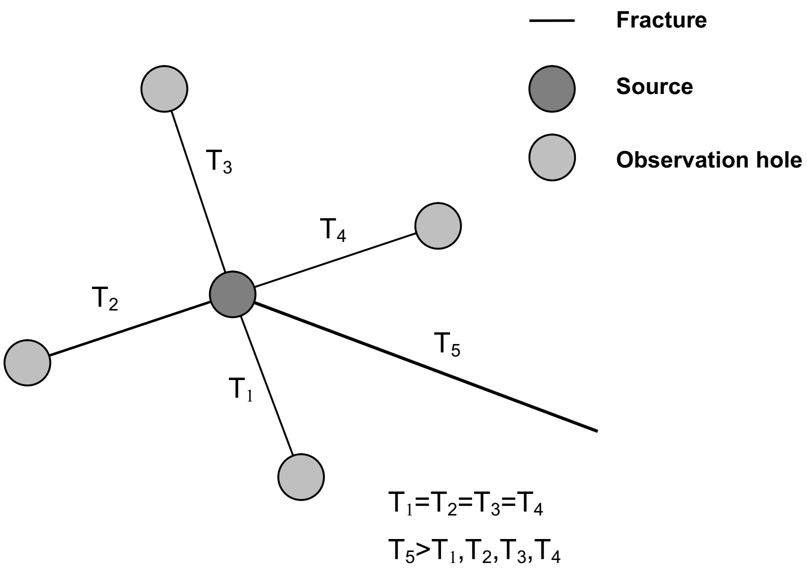


Figure 5-4. *Schematic sketch of a pumping hole (source) and observation holes with an added fracture.*

Because of the larger transmissivity, most of the flow rate of the source will be captured by this fracture, so the other 4 fractures will receive less flow. Because of this, the magnitude of the response at the 4 observation zones will be smaller than in the first case. The pathway transmissivity derived from the analysis of the observation zones will be in the second case much higher than in the first case. However, the pathway transmissivity between source and any of the observation zones did not change. The transmissivity derived in the second case is false because the analysis is conducted under the assumption that the flow rate of the source is evenly distributed in space. This assumption is clearly not valid in the second case. In reality, the flow rate around the source will be distributed inversely proportional to the transmissivity of the individual pathways:

$q = q_1 + q_2 + \ldots + q_n$

$$\frac{T_1}{q_1} = \frac{T_2}{q_2} = \ldots = \frac{T_n}{q_n}$$

The analysis of observation zones (i.e. interference test analysis) assumes that:

$q_1 = q_2 = \dots = q_n$

This assumption will typically result in similar transmissivities:

$T_1 = T_2 = \dots = T_n$

The distance used for the analysis is the shortest way between the source and the observation hole and no pathway tortuosity was considered. This assumption influences the storativity derived from the transient analysis.

Methodology

Each of the relevant test phases is subsequently analyzed using the following steps:

- Identification of the flow model by evaluation of the derivative on the log-log diagnostic plot. Initial estimates of the model parameters are obtained by conventional straight-line analysis.
- Superposition type curve matching in log-log coordinates. The type curves are based on /Theis 1935/ calculated for a cylindrical source (i.e. finite wellbore radius).

Flow models used for analysis

The flow models used in analysis were derived from the shape of the pressure derivative calculated with respect to log time and plotted in log-log coordinates.

In the most cases a homogenous flow model was used, otherwise a two shell composite flow model was chosen for the analysis.

If there were different flow models matching the data in comparable quality, the simplest model was preferred.

The flow dimension displayed by the test can be diagnosed from the slope of the pressure derivative. A slope of 0.5 indicates linear flow, a slope of 0 (horizontal derivative) indicates radial flow and a slope of –0.5 indicates spherical flow. The flow dimension diagnosis was commented for each of the tests. All tests were analysed using a flow dimension of two (radial flow).

6 Results pump tests

In the following, results of the pump tests conducted in KLX07A are presented and analysed. The results are given as general comments to test performance, the identified flow regimes and calculated parameters and finally the parameters which are considered as most representative are chosen and justification is given. All results are also summarized in the Tables 8-1, 8-2 of the synthesis chapter and in the summary sheets (Appendix 3). No disturbing activities like heavy rainfall were observed during the pump tests in borehole KLX07A. The only disturbing effects observed were caused by tidal influence. As at all performed pump tests the derivative is flat at late times, all pump tests were evaluated using a flow dimension of 2. In some cases, there was a flat derivative at middle times at a different level. In these cases, a composite model was chosen with a change of transmissivity in some distance from the borehole to match the different flat parts of the derivative and the connecting slope.

6.1 Section 103.20–193.20 m, test no. 1, pumping

Comments to test

The test was conducted as a constant rate pump phase (CRw) followed by a pressure recovery phase (CRwr). The flow rate during the pumping phase was at about 40.8 L/min at a drawdown of ca 46 kPa at the end of the perturbation phase. A connection to the lower and upper section was observed. After approx. 73 hours of pumping, the water sample was taken by SKB. The CRwr phase took 92.5 hours. Both phases are noisy but still adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. In case of the present test, the CRw and the CRwr phase show a flat derivative at late times, indicating a flow dimension of 2. For the analysis of both phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 2-1.

Selected representative parameters

The recommended transmissivity of $2.8 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be $9.0 \cdot 10^{-5}$ to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 1,481.2 kPa.

The analysis of the CRw and CRwr phases shows good consistency. No further analysis is recommended.

6.2 Section 193.00–313.00 m, test no. 1, pumping

Comments to test

The test was conducted as a constant rate pump phase (CRw) followed by a pressure recovery phase (CRwr). The flow rate during the pumping phase was at about 36.4 L/min at a drawdown of ca 60 kPa at the end of the perturbation phase. A hydraulic connection to the section above was observed (drawdown of approx. 15 kPa), while the effect to the lower section was much smaller (5 kPa). After 67.8 hours of pumping, a water sample was taken by SKB. The CRwr phase lasted 124.9 hours. Both phases are noisy due to tidal effects and gauge resolution limits. However, they are both adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. In case of the present test, the CRw phase shows a noisy but horizontal derivative at middle and late times, indicating a flow dimension of 2. The CRwr phase is flat at middle times, too. At late times, it shows an upward trend. This upward trend is interpreted as a result of the data quality and was ignored for the analysis. For the analysis of both phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 2-2.

Selected representative parameters

The recommended transmissivity of $2.5 \cdot 10^{-4}$ m^2/s was derived from the analysis of the CRwr phase, which shows the better data and derivative quality. The confidence range for the transmissivity is estimated to be $1.0 \cdot 10^{-4}$ to $4.0 \cdot 10^{-4}$ m^2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 2,365.3 kPa.

The analyses of the CRw and CRwr phases show good consistency. No further analysis is recommended.

6.3 Section 335.00–455.00 m, test no. 1, pumping

Comments to test

The test was conducted as a constant rate pump phase (CRw) followed by a pressure recovery phase (CRwr). The flow rate during the pumping phase was at about 18.1 L/min at a drawdown of ca 114 kPa at the end of the perturbation phase. A slight connection to the section below was observed. The flow rate is a little noisy and between 47 and 59 hours after start of pumping, the flow rate rose by approx. 0.5 L/min. The reason for this is unknown. After 80.4 hours of pumping a water sample was taken by SKB. The CRwr phase took 97.6 hours. Both phases are noisy and effected by tidal effects but still adequate for quantitative analysis. For The analysis of the CRw phase only the second part of the data can be used.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. In case of the present test, the CRw and the CRwr phase show a very noisy but horizontal derivative at late times, indicating a flow dimension of 2. For the analysis of both phases an infinite acting homogeneous radial flow model was chosen. The analysis is presented in Appendix 2-3.

Selected representative parameters

The recommended transmissivity of $1.2 \cdot 10^{-4}$ m^2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be $8.0 \cdot 10^{-5}$ to $2.0 \cdot 10^{-4}$ m^2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 3,374.6 kPa.

The analysis of the CRw and CRwr phases shows good consistency. No further analysis is recommended.

6.4 Section 610.00–655.00 m, test no. 1, pumping

Comments to test

The test was conducted as a constant rate pump phase (CRw) followed by a pressure recovery phase (CRwr). The flow rate during the pumping phase was very noisy in the range between 15 and 19 L/min with an average of at about 17.6 L/min at a drawdown of ca 309 kPa at the end of the perturbation phase. A hydraulic connection to the section below was observed. After 72.5 hours of pumping, a water sample was taken by SKB. The CRwr phase took 116.9 hours. Both phases are of good quality and adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. In case of the present test, the CRw and the CRwr phase show a flat derivative at middle times, indicating a flow dimension of 2. This part is followed by a downward trend of the derivative and a second stabilisation at a lower level. This is interpreted as a transition to a zone of higher transmissivity at some distance from the borehole. For the analysis of both phases a radial two shell composite flow model was chosen. The analysis is presented in Appendix 2-4.

Selected representative parameters

The recommended transmissivity of $9.0 \cdot 10^{-6}$ m^2/s was derived from the analysis of the CRwr phase (inner zone), which shows the better data and derivative quality. The confidence range for the transmissivity is estimated to be $8.0 \cdot 10^{-6}$ to $2.0 \cdot 10^{-5}$ m^2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 4,875.9 kPa.

The analyses of the CRw and CRwr phases show good consistency. No further analysis is recommended.

6.5 Section 747.00–792.00 m, test no. 1, pumping

Comments to test

The test was conducted as a constant rate pump phase (CRw) followed by a pressure recovery phase (CRwr). The flow rate during the pumping phase was at about 20.9 L/min at a drawdown of ca 160 kPa at the end of the perturbation phase. A hydraulic connection to the section below was observed. After 65.7 hours of pumping, a water sample was taken by SKB. The CRwr phase took 91.0 hours. Both phases are a little noisy but still adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. In case of the present test, the derivative of the CRw phase shows a downward trend at middle times followed by a stabilisation at late times indicating radial flow. A composite two shell flow model with increasing transmissivity away from the borehole was chosen for the analysis of the CRw phase. The CRwr phase shows a horizontal derivative at middle and late times, indicating a flow dimension of 2. For the analysis of CRwr phase an infinite acting homogeneous radial flow model was chosen. The derivatives are noisier at late times due to the fact that tidal and other effects dominate more and more over small pressure recovery steps. The analysis is presented in Appendix 2-5.

Selected representative parameters

The recommended transmissivity of $3.4 \cdot 10^{-5}$ m^2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be $2.0 \cdot 10^{-5}$ to $5.0 \cdot 10^{-5}$ m^2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 5,957.7 kPa.

Apart from the different flow models, the analysis of the CRw and CRwr show good consistency. No further analysis is recommended.

6.6 Water sampling

Just prior to pumpstop water samples were collected from each section which which submitted to SKB Äspölaboratoriet for class 3 analysis. Sample information and some of the analysis results are shown in Table 6-1.

Table 6-1. Water samples taken during pumping of the source section in KLX07A.

Stop Date	Secup (m)	Seclow (m)	Sample No	pH (pH unit)	El. Cond (mS/m)	Drill Water (%)	Charge Balance (%)
2005-10-31	103.00	193.00	10580	8.21	65.6	0.90	–0.18
2005-11-15	193.00	313.00	10610	8.26	92.0	2.71	0.75
2005-11-25	747.00	792.00	10651	7.82	435.0	7.13	–0.16
2005-12-03	610.00	655.00	10661	7.84	446.0	10.10	1.04
2006-12-05	753.00	780.00	11462	7.69	287.0	4.01	

7 Results response analysis

In the following, the data of the observation zones which responded to pumping is represented and analysed. The results of the analysis are also summarized in the Table 8-3 of the synthesis chapter and the summary sheets (Appendix 6 and 8).

Table 7-1 summarises all the tests and the observed boreholes. Furthermore it shows the response matrix based on the calculated indices 1 (r_s^2/dt_L), 2 (s_p/Q_p) and 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (see Chapter 5.6.1).

Table 7-1. Response matrix with Index 1, Index 2 and Index 2 new.

		Pumping Hole	KLX07A			KLX07A			KLX07A			KLX07A			KLX07A		
		Section (m b TOC)	103.20–193.20			193.00–313.00			335.00–455.00			610.00–655.00			747.00–792.00		
		Flow rate (l/min)	40.8			36.4			18.1			17.6			20.9		
		Drawdown (kPa)	46			60			114			309			160		
Observation borehole	**Sec No**	**Section (m)**	**Response indices**														
			1	2	2n	1	2	2n	1	2	2n	1	2	2n	1	2	2n
KLX07A	Pa	11.80–102.20	M			na	na	na	na	na	na	na	na	na	na	na	na
	Pb	194.20–844.73	E			na	na	na	na	na	na	na	na	na	na	na	na
KLX07A	Pa	11.80–192.00	na	na	na	E			na	na	na	na	na	na	na	na	na
	Pb	314.00–844.73	na	na	na	H			na	na	na	na	na	na	na	na	na
KLX07A	Pa	11.80–334.00	na	na	na	na	na	na				na	na	na	na	na	na
	Pb	456.00–844.73	na	na	na	na	na	na				na	na	na	na	na	na
KLX07A	Pa	11.80–609.00	na	na	na	na	na	na	na	na	na				na	na	na
	Pb	656.00–844.73	na	na	na	na	na	na	na	na	na	H			na	na	na
KLX07A	Pa	11.80–746.00	na	na	na	na	na	na	na	na	na	na	na	na			
	Pb	793.00–844.73	na	na	na	na	na	na	na	na	na	na	na	na	H		
HLX01	1	16.00–100.63															
HLX02	1	0.60–132.00															
HLX06	1	1.00–100.00															
HLX07	1	16.00–100.00															
HLX10	1	3.00–85.00	H			E											
HLX11	1	17.00–70.00	H			H			H								
	2	6.00–16.00	M			H			H								
HLX13	1	11.87–200.02															
HLX14	1	11.00–115.90															
HLX21	1	81.00–150.00	H			nc			nc								
	2	9.10–80.00	H			nc			nc								
HLX22	1	86.00–163.20	H			nc			nc								
	2	9.19–85.00	H			nc			nc								
HLX23	1	61.00–160.20															
	2	6.10–60.00															
HLX24	1	41.00–175.20															
	2	9.10–40.00															
HLX25	1	61.00–202.50															
	2	6.12–60.00															
HLX30	1	101.00–163.40															
	2	9.10–100.00															

		Pumping Hole	KLX07A			KLX07A			KLX07A			KLX07A			KLX07A		
		Section (m b TOC)	103.20–193.20			193.00–313.00			335.00–455.00			610.00–655.00			747.00–792.00		
		Flow rate (l/min)	40.8			36.4			18.1			17.6			20.9		
		Drawdown (kPa)	46			60			114			309			160		
Observation borehole	**Sec No**	**Section (m)**	**Response indices**														
			1	2	2n	1	2	2n	1	2	2n	1	2	2n	1	2	2n
HLX31	1	9.10–133.20															
HLX33	1	31.00–202.10															
	2	9.10–30.00															
HLX34	1	9.00–151.80															
HLX35	1	65.00–151.50															
	2	6.00–64.00															
KLX01	1	705.00–1,077.99															
	2	191.00–704.00															
	3	171.00–190.00															
	4	1.00–170.00															
KLX02	1	1,165.00–1,700.00															
	2	1,145.00–1,164.00															
	3	718.00–1,144.00															
	4	495.00–717.00															
	5	452.00–494.00															
	6	348.00–451.00	H			nc											
	7	209.00–347.00	H			H			nc								
	8	202.95–208.00	M			H			nc								
KLX04	1	898.00–1,000.00															
	2	870.00–897.00															
	3	686.00–869.00															
	4	531.00–685.00															
	5	507.00–530.00															
	6	231.00–506.00															
	7	163.00–230.00															
	8	12.24–162.00															
KLX07B	1	112.00–200.00	H			H			H								
	2	49.00–111.00	H			E			H								
	3	0.00–48.00	M			E			E								

Index 1 (r^2/t_L)

$r_s^2/dt_L > 100$ m²/s	Excellent	E
$10 < r_s^2/dt_L \leq 100$ m²/s	High	H
$1 < r_s^2/dt_L \leq 10$ m²/s	Medium	M
$0.1 < r_s^2/dt_L \leq 1$ m²/s	Low	L
Not calculated due to strong natural fluctuations		nc

Index 2 (s_p/Q_p)

$s_p/Q_p > 1\cdot10^5$ s/m²	Excellent
$3\cdot10^4 < s_p/Q_p \leq 1\cdot10^5$ s/m²	High
$1\cdot10^4 < s_p/Q_p \leq 3\cdot10^4$ s/m²	Medium
$s_p/Q_p \leq 1\cdot10^4$ s/m²	Low
$s_p < 0.1$ m	No response indices but analysed

Index 2 new ($(s_p/Q_p)\cdot\ln(r_s/r_0)$)

$(s_p/Q_p)\cdot\ln(r_s/r_0) > 5\cdot10^5$ s/m²	Excellent
$5\cdot10^4 < (s_p/Q_p)\cdot\ln(r_s/r_0) \leq 5\cdot10^5$ s/m²	High
$5\cdot10^3 < (s_p/Q_p)\cdot\ln(r_s/r_0) \leq 5\cdot10^4$ s/m²	Medium
$5\cdot10^2 < (s_p/Q_p)\cdot\ln(r_s/r_0) \leq 5\cdot10^3$ s/m²	Low
$s_p < 0.1$ m	No response indices but analysed

blank = observed but no response at all
na = not applicable

7.1 KLX07A Test section 103.20–193.20 m pumped

This interference test was conducted as constant rate pump test phase followed by a recovery pressure phase in the source section. The mean flow rate was 40.8 l/min with a drawdown of 46 kPa. In sum 15 observation sections responded due to the pumping. In addition, the zone above and below the pumped section reacted. Table 7-2 summarizes the responding test sections and selected parameters. Figure 7-1 shows the drawdown of the observed sections related to the distance and Figure 7-2 the borehole response map. The pumped borehole KLX07A is shown with consideration of the effective borehole radius r_{wf}, calculation based on the skin factor (ξ).

$$r_{wf} = r_w \cdot e^{-\xi}$$

In the following chapters the response analysis of each responded section is presented.

Table 7-2. Observed test sections and selected parameters (Section 103.20–193.20 m pumped).

Source borehole	Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)
KLX07A	103.20–193.20	40.8	4.69	3.8E–03

Observation borehole	Sec No	Section (m)	Distance r_s (m)	Draw-down s_p (m)	dt_L (s)	Index 1 r_s^2/dt_L (m²/s)	Index 2 s_p/Q_p (s/m²)	Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m²)	Diffusivity η (m²/s)
KLX07A	Pa	11.80–102.20	94.00	1.02	4,630	1.91 **M**	1,499.07	6,810.72	–
	Pb	194.00–844.73	368.37	1.53	26	5,235.06 **E**	2,248.61	13,287.18	–
HLX01	1	16.00–100.63	751.43	n.r.	–	–	–	–	–
HLX02	1	0.60–132.00	1,619.95	n.r.	–	–	–	–	–
HLX06	1	1.00–100.00	739.57	n.r.	–	–	–	–	–
HLX07	1	16.00–100.00	958.88	n.r.	–	–	–	–	–
HLX10	1	3.00–85.00	105.46	1.17	209	53.21 **H**	1,723.93	8,030.64	1.49E00
HLX11	1	14.00–70.00	160.20	0.83	1,521	16.87 **H**	1,214.25	6,164.05	4.00E–01
	2	6.00–13.00	175.11	0.80	6,321	4.85 **M**	1,169.28	6,039.78	9.15E–01
HLX13	1	11.87–200.02	1,552.42	n.r.	–	–	–	–	–
HLX14	1	11.00–155.90	1,516.45	n.r.	–	–	–	–	–
HLX21	1	81.00–150.00	435.74	0.27	10,924	17.38 **H**	389.76	2,368.58	2.92E00
	2	9.10–80.00	434.21	0.24	9,379	20.10 **H**	359.78	2,185.12	3.12E00
HLX22	1	86.00–163.20	467.00	0.29	10,756	20.28 **H**	419.74	2,579.86	2.55E00
	2	9.19–85.00	477.00	0.15	13,961	16.30 **H**	224.86	1,386.83	3.29E00
HLX23	1	61.00–160.20	362.14	0.05)*	n.c.	n.c.	n.c.	n.c.	8.36E00
	2	6.10–60.00	361.12	0.09)*	n.c.	n.c.	n.c.	n.c.	4.11E00
HLX24	1	41.00–175.20	368.70	0.05)*	n.c.	n.c.	n.c.	n.c.	3.46E00
	2	9.10–40.00	402.48	n.r.	–	–	–	–	–
HLX25	1	61.00–202.50	1,434.55	n.r.	–	–	–	–	–
	2	6.12–60.00	1,439.90	n.r.	–	–	–	–	–
HLX30	1	101.00–163.40	1,163.08	n.r.	–	–	–	–	–
	2	9.10–100.00	1,143.48	n.r.	–	–	–	–	–
HLX31	1	9.10–133.20	1,099.48	n.r.	–	–	–	–	–
HLX33	1	31.00–202.10	633.76	n.r.	–	–	–	–	–
	2	9.10–30.00	685.95	n.r.	–	–	–	–	–
HLX34	1	9.00–151.80	1,790.10	n.r.	–	–	–	–	–
HLX35	1	65.00–151.50	1,788.07	n.r.	–	–	–	–	–
	2	6.00–64.00	1,846.24	n.r.	–	–	–	–	–
KLX01	1	705.00–1,077.99	1,353.48	n.r.	–	–	–	–	–
	2	191.00–704.00	1,145.12	n.r.	–	–	–	–	–
	3	171.00–190.00	1,089.38	n.r.	–	–	–	–	–
	4	1.00–170.00	1,084.58	n.r.	–	–	–	–	–

Source borehole		Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)				
KLX07A		103.20–193.20	40.8	4.69	3.8E–03				
Observa-tion borehole	**Sec No**	**Section (m)**	**Distance r_s (m)**	**Draw-down s_p (m)**	**dt_L (s)**	**Index 1 r_s^2/dt_L (m²/s)**	**Index 2 s_p/Q_p (s/m²)**	**Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m²)**	**Diffusivity η (m²/s)**
KLX02	1	1,165.00–1,700.00	1,328.68	n.r.	–	–	–	–	–
	2	1,145.00–1,164.00	1,051.43	n.r.	–	–	–	–	–
	3	718.00–1,144.00	829.28	n.r.	–	–	–	–	–
	4	495.00–717.00	508.63	n.r.	–	–	–	–	–
	5	452.00–494.00	379.74	n.r.	–	–	–	–	–
	6	348.00–451.00	310.17	0.17	7,891	12.19 **H**	254.84	1,462.06	3.65E–01
	7	209.00–347.00	202.22	0.85	1,731	23.62 **H**	1,244.23	6,606.06	3.22E00
	8	202.95–208.00	148.53	0.43	8,571	2.57 **M**	629.61	3,148.54	3.07E00
KLX04	1	898.00–1,000.00	1,383.65	n.r.	–	–	–	–	–
	2	870.00–897.00	1,349.96	n.r.	–	–	–	–	–
	3	686.00–869.00	1,299.40	n.r.	–	–	–	–	–
	4	531.00–685.00	1,229.53	n.r.	–	–	–	–	–
	5	507.00–530.00	1,199.37	n.r.	–	–	–	–	–
	6	231.00–506.00	1,160.65	n.r.	–	–	–	–	–
	7	163.00–230.00	1,135.17	n.r.	–	–	–	–	–
	8	12.24–162.00	1,130.90	n.r.	–	–	–	–	–
KLX07B	1	112.00–200.00	83.50	1.03	328	21.26 **H**	1,514.06	6,699.49	1.11E00
	2	49.00–111.00	92.93	0.93	623	13.86 **H**	1,364.15	6,182.14	7.58E–01
	3	0.00–48.00	131.35	0.82	2,050	8.42 **M**	1,199.26	5,849.81	5.87E–01

)* no response according to SKB 330.003 (Bilagor B); see Chapter 4.6.1 for greater detail.
n.c. not calculated due to strong natural fluctuations (tidal effects).
n.r. no response due to pumping in source.
Key for index 1, 2 and 2 new see Table 7-1.

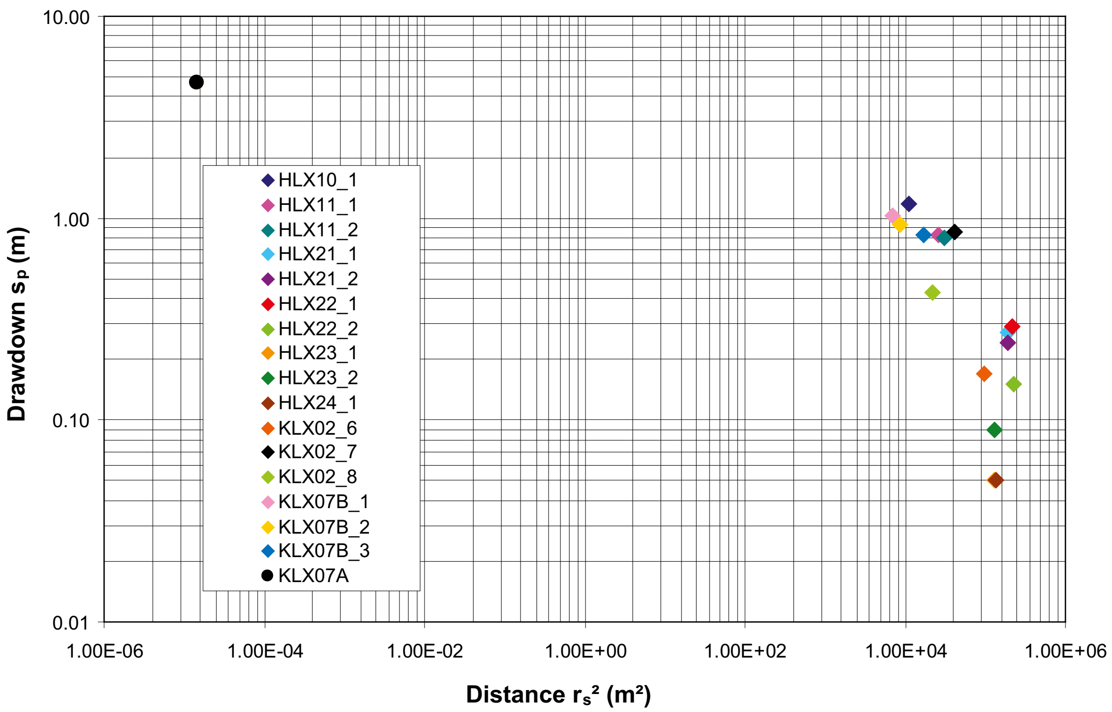


Figure 7-1. *Distance vs. Drawdown for the responded test sections; KLX07A Section 103.20–193.20 m pumped.*

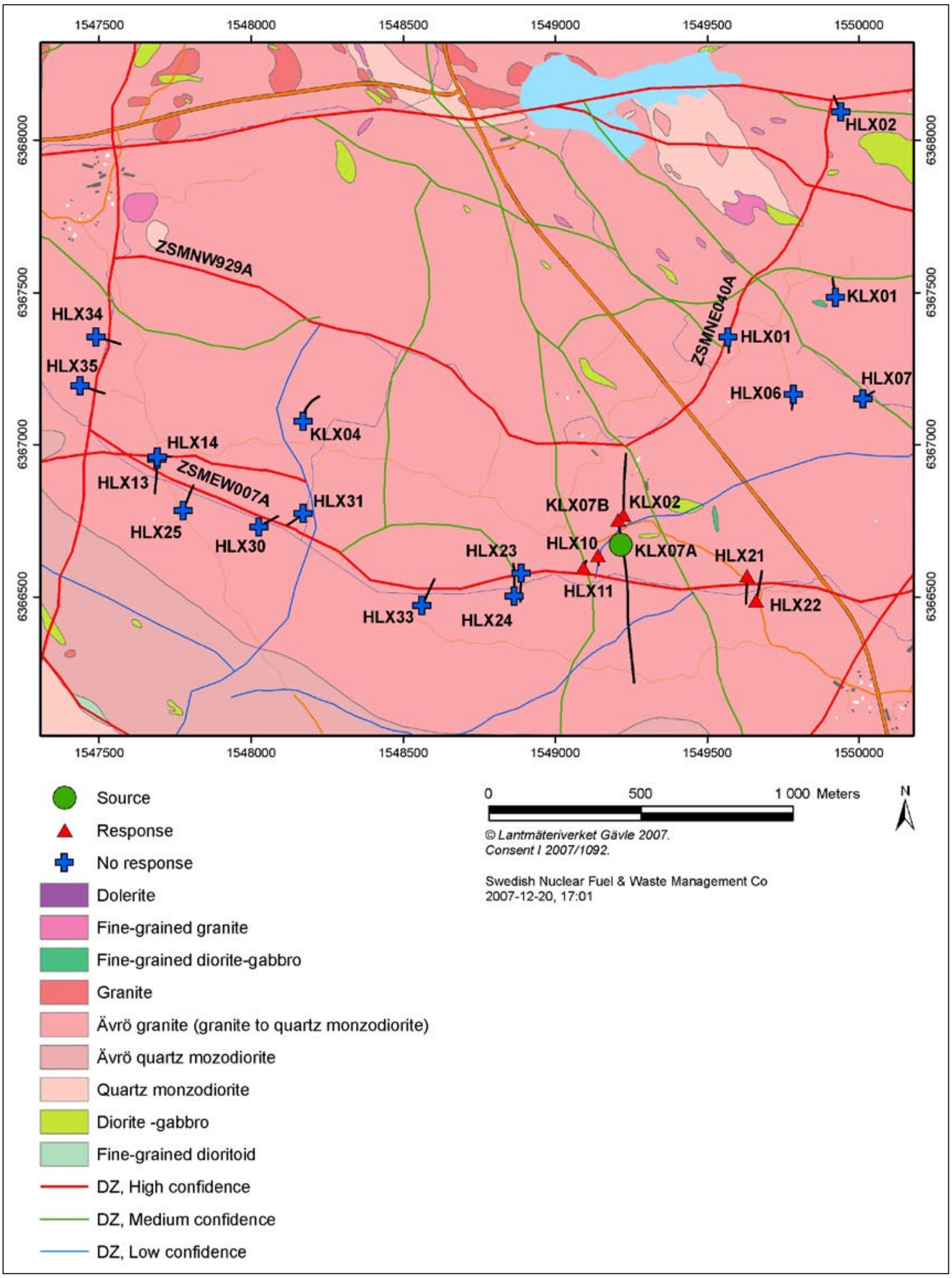


Figure 7-2. *Borehole response map when pumping KLX07A 103.20–193.20 m.*

7.1.1 Response HLX10, Section 1 (3.00–85.00 m)

Comments to test

A total drawdown during the flow period of 11.3 kPa (1.17 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 3.5 min (209 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “medium response”.

Due to the tidal effects the recorded Crw and Crwr phases are noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-1.

Selected representative parameters

The recommended transmissivity of $1.4 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $6.0 \cdot 10^{-5}$ m²/s to $5.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.2 Response HLX11, Section 1 (17.00–70.00 m)

Comments to test

A total drawdown during the flow period of 8.1 kPa (0.83 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 25.4 min (1,521 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “medium response”.

The CRw and CRwr phases show no problems and are adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-2.

Selected representative parameters

The recommended transmissivity of $2.1 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.91 m asl.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.1.3 Response HLX11, Section 2 (6.00–16.00 m)

Comments to test

A total drawdown during the flow period of 7.8 kPa (0.80 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 1.76 h (6,321 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "medium response time", index 2 (s_p/Q_p) as "low response" and the new index 2 $(s_p/Q_p)\cdot\ln(r_s/r_0)$ as "medium response".

The CRw and CRwr phases show no problems and are adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-3.

Selected representative parameters

The recommended transmissivity of $1.4\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0\cdot10^{-5}$ m²/s to $3.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.83 m asl.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.1.4 Response HLX21, Section 1 (81.00–150.00 m)

Comments to test

A total drawdown during the flow period of 2.6 kPa (0.27 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 3.03 h (10,924 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 $(s_p/Q_p)\cdot\ln(r_s/r_0)$ as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-4.

Selected representative parameters

The recommended transmissivity of $4.0\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0\cdot10^{-4}$ m²/s to $8.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.5 Response HLX21, Section 2 (9.10–80.00 m)

Comments to test

A total drawdown during the flow period of 2.4 kPa (0.24 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 2.61 h (9,379 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-5.

Selected representative parameters

The recommended transmissivity of $3.9 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-4}$ m²/s to $8.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.6 Response HLX22, Section 1 (86.00–163.20 m)

Comments to test

A total drawdown during the flow period of 2.8 kPa (0.29 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 2.99 h (10,756 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-6.

Selected representative parameters

The recommended transmissivity of $3.8 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-4}$ m²/s to $8.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.7 Response HLX22, Section 2 (9.19–85.00 m)

Comments to test

A total drawdown during the flow period of 1.5 kPa (0.15 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 3.88 h (13,961 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-7.

Selected representative parameters

The recommended transmissivity of $6.8 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $4.0 \cdot 10^{-4}$ m²/s to $9.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.8 Response HLX23, Section 1 (61.00–160.20 m)

Comments to test

A total drawdown during the flow period of 0.5 kPa (0.05 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (103.20–193.20) and a transient analysis was performed.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-8.

Selected representative parameters

The recommended transmissivity of $2.6 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-3}$ m²/s to $5.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.9 Response HLX23, Section 2 (6.10–60.00 m)

Comments to test

A total drawdown during the flow period of 0.9 kPa (0.09 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (103.20–193.20) and a transient analysis was performed.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-9.

Selected representative parameters

The recommended transmissivity of $1.6 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-4}$ m²/s to $4.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.10 Response HLX24, Section 1 (41.00–175.20 m)

Comments to test

A total drawdown during the flow period of 0.5 kPa (0.05 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (103.20–193.20) and a transient analysis was performed.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-10.

Selected representative parameters

The recommended transmissivity of $2.2 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-3}$ m²/s to $5.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.11 Response KLX02, Section 6 (348.00–451.00 m)

Comments to test

A total drawdown during the flow period of 1.7 kPa (0.17 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 2.19 h (7,891 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “low response”.

Due to the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-11.

Selected representative parameters

The recommended transmissivity of $6.9 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $2.0 \cdot 10^{-4}$ m²/s to $1.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.12 Response KLX02, Section 7 (209.00–347.00 m)

Comments to test

A total drawdown during the flow period of 8.3 kPa (0.85 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 28.9 min (1,731 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “medium response”.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-1-12.

Selected representative parameters

The recommended transmissivity of $2.3 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $5.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.13 Response KLX02, Section 8 (202.95–208.00 m)

Comments to test

A total drawdown during the flow period of 1.7 kPa (0.43 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 2.38 h (8,571 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "medium response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "low response".

Due to the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. However, both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-13.

Selected representative parameters

The recommended transmissivity of $2.4 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-4}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.14 Response KLX07B, Section 1 (112.00–200.00 m)

Comments to test

A total drawdown during the flow period of 10.1 kPa (1.09 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 5.5 min (328 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a two shell composite radial flow model was chosen. The analysis is presented in Appendix 7-1-14.

Selected representative parameters

The recommended transmissivity of $1.4 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-5}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.1.15 Response KLX07B, Section 2 (49.00–111.00 m)

Comments to test

A total drawdown during the flow period of 9.1 kPa (0.93 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 10.4 min (623 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “medium response”.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw phase a two shell composite and for the CRwr phase a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-15.

Selected representative parameters

The recommended transmissivity of $1.7 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-5}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show some inconsistency concerning the chosen flow model. But the general results are very similar and no further analysis is recommended.

7.1.16 Response KLX07B, Section 3 (0.00–48.00 m)

Comments to test

A total drawdown during the flow period of 8.0 kPa (0.82 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 36.2 min (2,050 s) after pump start in KLX07A (103.20–193.20). The calculated index 1 (r_s^2/dt_L) is rated as “medium response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as “medium response”.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-1-16.

Selected representative parameters

The recommended transmissivity of $1.4 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $1.0 \cdot 10^{-4}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.2 KLX07A Test section 193.00–313.00 m pumped

This interference test was conducted as constant rate pump test phase followed by a recovery pressure phase in the source section. The mean flow rate was 36.4 l/min with a drawdown of 60 kPa. In sum 15 observation sections responded due to the pumping. In addition, the zone above and below the pumped section reacted. Table 7-3 summarizes the responding test sections and selected parameters. Figure 7-3 shows the drawdown of the observed sections related to the distance and Figure 7-4 the borehole response map. The pumped borehole KLX07A is shown with consideration of the effective borehole radius r_{wf}. In the following chapters the response analysis of each responded section is presented.

Table 7-3. Observed test sections and selected parameters (Section 193.00–313.00 m pumped).

Source borehole		Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)				
KLX07A		193.00–313.00	36.4	6.12	9.9E–04				
Observation borehole	**Sec No**	**Section (m)**	**Distance r_s (m)**	**Draw-down s_p (m)**	**dt_L (s)**	**Index 1 r_s^2/dt_L (m²/s)**	**Index 2 s_p/Q_p (s/m²)**	**Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m²)**	**Diffusivity η (m²/s)**
KLX07A	Pa	11.80–192.00	151.10	1.53	23	990.9 **E**	2,520.42	12,647.30	–
	Pb	314.00–844.73	326.37	0.53	3,321	32.07 **H**	840.14	4,862.74	–
HLX01	1	16.00–100.63	815.97	n.r.	–	–	–	–	–
HLX02	1	0.60–132.00	1,680.05	n.r.	–	–	–	–	–
HLX06	1	1.00–100.00	788.33	n.r.	–	–	–	–	–
HLX07	1	16.00–100.00	995.41	n.r.	–	–	–	–	–
HLX10	1	3.00–85.00	144.23	1.38	186	111.8 **E**	1,276.31	6,345.06	1.45E01
HLX11	1	17.00–70.00	209.12	0.84	931	46.97 **H**	1,377.07	7,357.54	7.05E–01
	2	6.00–16.00	225.27	0.88	3,332	15.23 **H**	1,444.24	7,823.89	1.47E00
HLX13	1	11.87–200.02	1,576.00	n.r.	–	–	–	–	–
HLX14	1	11.00–155.90	1,580.94	n.r.	–	–	–	–	–
HLX21	1	81.00–150.00	423.78	0.20	n.c	n.c.	335.87	2,031.75	2.55E00
	2	9.10–80.00	427.20	0.20	n.c.	n.c.	335.87	2,034.46	2.05E00
HLX22	1	86.00–163.20	456.00	0.22	n.c.	n.c.	369.46	2,262.00	7.19E00
	2	9.19–85.00	468.00	0.10	n.c.	n.c.	167.94	1,032.90	5.88E00
HLX23	1	61.00–160.20	375.47	0.04)*	n.c.	n.c.	n.c.	n.c.	2.14E01
	2	6.10–60.00	379.29	0.08)*	n.c.	n.c.	n.c.	n.c.	1.76E01
HLX24	1	41.00–175.20	378.97	0.05)*	n.c.	n.c.	n.c.	n.c.	2.94E00
	2	9.10–40.00	418.25	n.r.	–	–	–	–	–
HLX25	1	61.00–202.50	1,456.14	n.r.	–	–	–	–	–
	2	6.12–60.00	1,462.60	n.r.	–	–	–	–	–
HLX30	1	101.00–163.40	1,162.90	n.r.	–	–	–	–	–
	2	9.10–100.00	1,184.40	n.r.	–	–	–	–	–
HLX31	1	9.10–133.20	1,118.02	n.r.	–	–	–	–	–
HLX33	1	31.00–202.10	635.59	n.r.	–	–	–	–	–
	2	9.10–30.00	695.59	n.r.	–	–	–	–	–
HLX34	1	9.00–151.80	1,825.88	n.r.	–	–	–	–	–
HLX35	1	65.00–151.50	1,818.48	n.r.	–	–	–	–	–
	2	6.00–64.00	1,880.36	n.r.	–	–	–	–	–
KLX01	1	705.00–1,077.99	1,351.68	n.r.	–	–	–	–	–
	2	191.00–704.00	1,171.07	n.r.	–	–	–	–	–
	3	171.00–190.00	1,133.85	n.r.	–	–	–	–	–
	4	1.00–170.00	1,135.29	n.r.	–	–	–	–	–

Source borehole		Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)				
KLX07A		193.00–313.00	36.4	6.12	9.9E–04				
Observa-tion borehole	**Sec No**	**Section (m)**	**Distance r_s (m)**	**Draw-down s_p (m)**	**dt_L (s)**	**Index 1 r_s^2/dt_L (m²/s)**	**Index 2 s_p/Q_p (s/m²)**	**Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m²)**	**Diffusivity η (m²/s)**
KLX02	1	1,165.00–1,700.00	1,269.39	n.r.	–	–	–	–	–
	2	1,145.00–1,164.00	994.36	n.r.	–	–	–	–	–
	3	718.00–1,144.00	775.50	n.r.	–	–	–	–	–
	4	495.00–717.00	465.70	n.r.	–	–	–	–	–
	5	452.00–494.00	347.39	n.r.	–	–	–	–	–
	6	348.00–451.00	287.87	0.17	n.c.	n.c.	285.49	1,616.59	2.00E00
	7	209.00–347.00	211.19	0.70	557	80.07 **H**	1,158.75	6,202.52	3.13E00
	8	202.95–208.00	189.75	0.64	1,717	20.97 **H**	1,057.99	5,549.95	1.16E01
KLX04	1	898.00–1,000.00	1,372.41	n.r.	–	–	–	–	–
	2	870.00–897.00	1,342.02	n.r.	–	–	–	–	–
	3	686.00–869.00	1,297.10	n.r.	–	–	–	–	–
	4	531.00–685.00	1,236.99	n.r.	–	–	–	–	–
	5	507.00–530.00	1,212.35	n.r.	–	–	–	–	–
	6	231.00–506.00	1,183.15	n.r.	–	–	–	–	–
	7	163.00–230.00	1,168.63	n.r.	–	–	–	–	–
	8	12.24–162.00	1,170.96	n.r.	–	–	–	–	–
KLX07B	1	112.00–200.00	149.70	0.79	978	22.91 **H**	1,293.10	6,476.68	1.02E01
	2	49.00–111.00	191.30	0.81	212	172.62 **H**	1,326.69	6,970.22	6.16E00
	3	0.00–48.00	233.32	0.80	52	1,046.89 **E**	1,309.90	7,142.09	1.89E00

)* no response according to SKB 330.003 (Bilagor B); see Chapter 4.6.1 for greater detail.
n.c. not calculated due to strong natural fluctuations (tidal effects).
n.r. no response due to pumping in source.
Key for index 1, 2 and 2 new see Table 7-1.

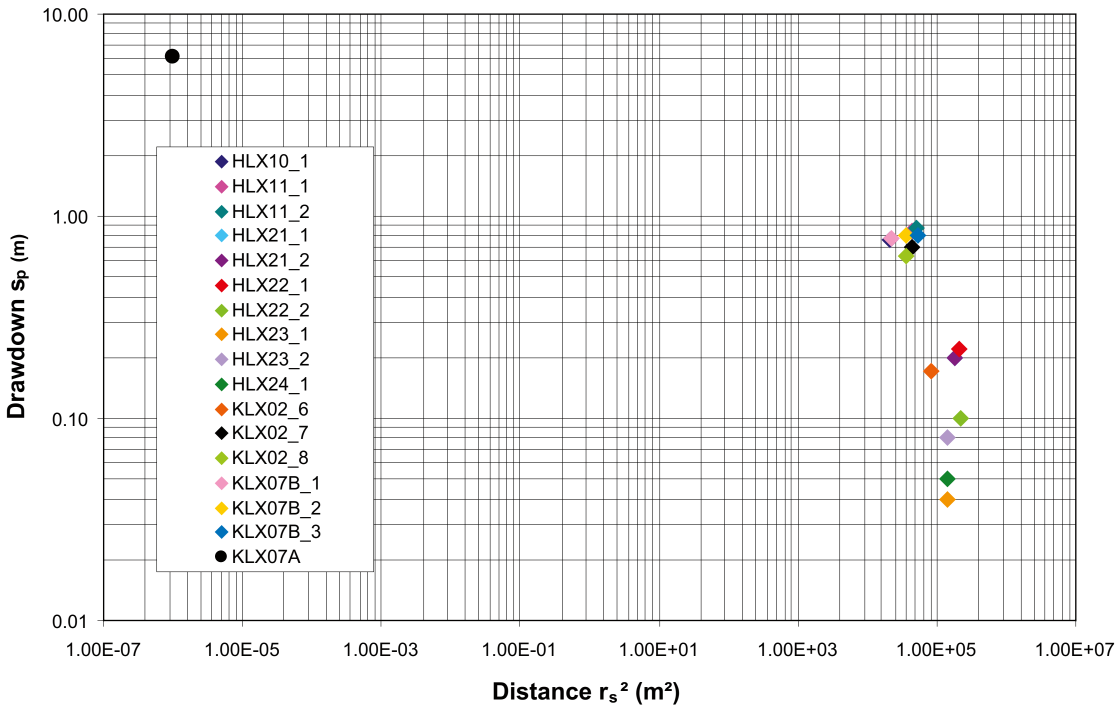


Figure 7-3. *Distance vs. Drawdown for the responded test sections; KLX07A Section 193.00–313.00 m pumped.*

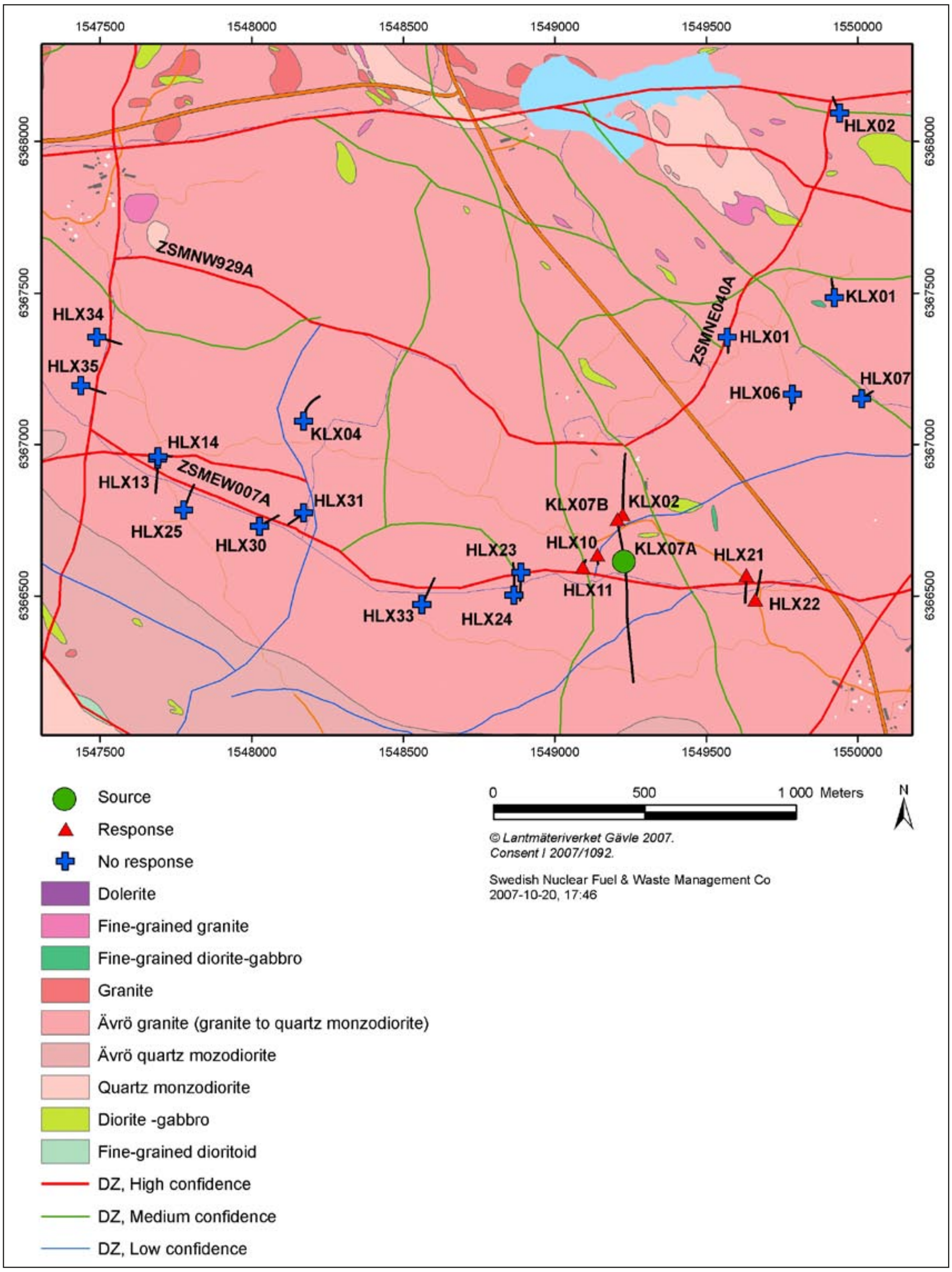


Figure 7-4. *Borehole response map when pumping KLX07A 193.00–313.00 m.*

7.2.1 Response HLX10, Section 1 (3.00–85.00 m)

Comments to test

A total drawdown during the flow period of 7.6 kPa (0.77 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 3.1 min (186 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as “excellent response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 ($(s_p/Q_p)\cdot\ln(r_s/r_0)$) as “medium response”.

Due to tidal effects the recorded CRw and CRwr phases are noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-1.

Selected representative parameters

The recommended transmissivity of $1.8\cdot10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $6.0\cdot10^{-5}$ m²/s to $5.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.2.2 Response HLX11, Section 1 (17.00–70.00 m)

Comments to test

A total drawdown during the flow period of 8.2 kPa (0.84 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 15.5 min (931 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as “high response time”, index 2 (s_p/Q_p) as “low response” and the new index 2 ($(s_p/Q_p)\cdot\ln(r_s/r_0)$) as “medium response”.

The CRw and CRwr phases show no problems and are adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-2.

Selected representative parameters

The recommended transmissivity of $1.6\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0\cdot10^{-5}$ m²/s to $4.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.75 m asl.

The analyses of the CRw and CRwr phases show relatively good consistency. No further analysis recommended.

7.2.3 Response HLX11, Section 2 (6.00–16.00 m)

Comments to test

A total drawdown during the flow period of 8.6 kPa (0.88 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 55.5 min (3,332 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

The CRw and CRwr phases show no problems and are adequate for quantitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-3.

Selected representative parameters

The recommended transmissivity of $1.1 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-5}$ m²/s to $3.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.66 m asl.

The analyses of the CRw and CRwr phases show discrepancies as far as the transmissivity is concerned. No further analysis recommended.

7.2.4 Response HLX21, Section 1 (81.00–150.00 m)

Comments to test

A total drawdown during the flow period of 2.0 kPa (0.20 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response"

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are very noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-4.

Selected representative parameters

The recommended transmissivity of $3.5 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $8.0 \cdot 10^{-4}$ m²/s (this range encompasses the transmissivity derived from the CRwr phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.5 Response HLX21, Section 2 (9.10–80.00 m)

Comments to test

A total drawdown during the flow period of 2.0 kPa (0.20 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response"

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are very noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-5.

Selected representative parameters

The recommended transmissivity of $3.9\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0\cdot10^{-5}$ m²/s to $8.0\cdot10^{-4}$ m²/s (this range encompasses the transmissivity derived from the CRwr phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.6 Response HLX22, Section 1 (86.00–163.20 m)

Comments to test

A total drawdown during the flow period of 2.2 kPa (0.22 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response"

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are very noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-6.

Selected representative parameters

The recommended transmissivity of $9.1\cdot10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $3.0\cdot10^{-4}$ m²/s to $2.0\cdot10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.7 Response HLX22, Section 2 (9.19–85.00 m)

Comments to test

A total drawdown during the flow period of 1.0 kPa (0.10 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response"

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are very noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-7.

Selected representative parameters

The recommended transmissivity of $1.2 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-4}$ m²/s to $4.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.8 Response HLX23, Section 1 (61.00–160.20 m)

Comments to test

A total drawdown during the flow period of 0.4 kPa (0.04 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (193.00–313.00) and a transient analysis was performed.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-8.

Selected representative parameters

The recommended transmissivity of $2.8 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-4}$ m²/s to $5.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.9 Response HLX23, Section 2 (6.10–60.00 m)

Comments to test

A total drawdown during the flow period of 0.8 kPa (0.08 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (193.00–313.00) and a transient analysis was performed.

The CRw and CRwr phases are influenced tidal effects and the recorded data is noisy. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a composite radial flow model with decreasing transmissivity away from the borehole was chosen. The analysis is presented in Appendix 7-2-9.

Selected representative parameters

The recommended transmissivity of $2.9 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-4}$ m²/s to $5.0 \cdot 10^{-3}$ m²/s (this range encompasses the outer zone transmissivity derived from the CRw phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.10 Response HLX24, Section 1 (41.00–175.20 m)

Comments to test

A total drawdown during the flow period of 0.5 kPa (0.05 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response". Although the response is very low it is clearly caused by the pumping in KLX07A (193.00–313.00) and a transient analysis was performed.

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-10.

Selected representative parameters

The recommended transmissivity of $1.6 \cdot 10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-4}$ m²/s to $7.0 \cdot 10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.11 Response KLX02, Section 6 (348.00–451.00 m)

A total drawdown during the flow period of 1.7 kPa (0.17 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response"

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are very noisy. However, both phases were analysed but the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-2-11.

Selected representative parameters

The recommended transmissivity of $1.0·10^{-3}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $6.0·10^{-4}$ m²/s to $6.0·10^{-3}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.12 Response KLX02, Section 7 (209.00–347.00 m)

Comments to test

A total drawdown during the flow period of 6.9 kPa (0.70 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 9.3 min (557 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification for the CRw phase and this phase was conducted using the simplest model available, homogeneous radial flow. For the analysis of the CRwr phase a two shell composite radial flow model was chosen. The analysis is presented in Appendix 7-2-12.

Selected representative parameters

The recommended transmissivity of $2.4·10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0·10^{-5}$ m²/s to $4.0·10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show some inconsistency concerning the chosen flow model. But the general results are very similar and no further analysis is recommended.

7.2.13 Response KLX02, Section 8 (202.95–208.00 m)

Comments to test

A total drawdown during the flow period of 6.3 kPa (0.64 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 28.6 min (1,717 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases were amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-13.

Selected representative parameters

The recommended transmissivity of $1.7 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-5}$ m²/s to $3.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.14 Response KLX07B, Section 1 (112.00–200.00 m)

Comments to test

A total drawdown during the flow period of 7.7 kPa (0.79 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 16.3 min (978 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw phase a two shell composite and for the CRwr phase a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-14.

Selected representative parameters

The recommended transmissivity of $1.2 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0 \cdot 10^{-5}$ m²/s to $3.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show some inconsistency concerning the chosen flow model. But the general results are very similar and no further analysis is recommended.

7.2.15 Response KLX07B, Section 2 (49.00–111.00 m)

Comments to test

A total drawdown during the flow period of 7.9 kPa (0.81 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 3.5 min (212 s) after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "excellent response time", index 2 (s_p/Q_p) as "low response" and the new index 2 ($s_p/Q_p)\cdot\ln(r_s/r_0)$ as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-15.

Selected representative parameters

The recommended transmissivity of $1.5\cdot10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0\cdot10^{-5}$ m²/s to $3.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.2.16 Response KLX07B, Section 3 (0.00–48.00 m)

Comments to test

A total drawdown during the flow period of 7.8 kPa (0.80 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 52 s after pump start in KLX07A (193.00–313.00). The calculated index 1 (r_s^2/dt_L) is rated as "excellent response time", index 2 (s_p/Q_p) as "low response" and the new index 2 ($s_p/Q_p)\cdot\ln(r_s/r_0)$ as "medium response".

The CRw and CRwr phases are influenced by tidal effects and the recorded data is noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw and CRwr phases a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-2-16.

Selected representative parameters

The recommended transmissivity of $2.2\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $9.0\cdot10^{-5}$ m²/s to $4.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3 KLX07A Test section 335.00–455.00 m pumped

This interference test was conducted as constant rate pump test phase followed by a recovery pressure phase in the source section. The mean flow rate was 18.1 l/min with a draw down of 114 kPa. In sum 11 observation sections responded due to the pumping. Table 7-4 summarizes the responding test sections and selected parameters. Figure 7-5 shows the drawdown of the observed sections related to the distance and Figure 7-6 the borehole response map. The pumped borehole KLX07A is shown with consideration of the effective borehole radius r_{wf}. In the following chapters the response analysis of each responded section is presented.

Table 7-4. Observed test sections and selected parameters (Section 335.00–455.00 m pumped).

Source borehole	Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)
KLX07A	335.00–455.00	18.1	11.62	1.6E–02

Observa-tion borehole	Sec No	Section (m)	Distance r_s (m)	Draw-down s_p (m)	dt_L (s)	Index 1 r_s^2/dt_L (m^2/s)	Index 2 s_p/Q_p (s/m^2)	Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m^2)	Diffusivity η (m^2/s)
KLX07A	Pa	11.80–334.00	222.10	n.r.	–	–	–	–	–
	Pb	456.00–844.73	255.37	n.r.	–	–	–	–	–
HLX01	1	16.00–100.63	921.51	n.r.	–	–	–	–	–
HLX02	1	0.60–132.00	1,775.52	n.r.	–	–	–	–	–
HLX06	1	1.00–100.00	877.25	n.r.	–	–	–	–	–
HLX07	1	16.00–100.00	1,066.39	n.r.	–	–	–	–	–
HLX10	1	3.00–85.00	259.56	n.r.	–	–	–	–	–
HLX11	1	17.00–70.00	318.19	0.2	2,203	45.96 **H**	675.08	3,890.24	6.22E–01
	2	6.00–16.00	333.03	0.2	7,020	15.80 **H**	675.08	3,921.01	6.31E–01
HLX13	1	11.87–200.02	1,613.78	n.r.	–	–	–	–	–
HLX14	1	11.00–155.90	1,627.01	n.r.	–	–	–	–	–
HLX21	1	81.00–150.00	451.13	0.36	n.c.	n.c.	1,181.39	7,220.36	7.03E00
	2	9.10–80.00	460.82	0.35	n.c.	n.c.	1,147.63	7,038.45	2.77E00
HLX22	1	86.00–163.20	483.00	0.37	n.c.	n.c.	1,215.14	7,509.59	2.32E00
	2	9.19–85.00	500.00	0.20	n.c.	n.c.	675.08	4,195.35	3.80E00
HLX23	1	61.00–160.20	429.24	0.01)*	n.c.	n.c.	n.c.	n.c.	n.c.
	2	6.10–60.00	438.38	0.02)*	n.c.	n.c.	n.c.	n.c.	n.c.
HLX24	1	41.00–175.20	428.99	0.02)*	n.c.	n.c.	n.c.	n.c.	n.c.
	2	9.10–40.00	471.05	n.r.	–	–	–	–	–
HLX25	1	61.00–202.50	1,492.02	n.r.	–	–	–	–	–
	2	6.12–60.00	1,499.84	n.r.	–	–	–	–	–
HLX30	1	101.00–163.40	1,198.56	n.r.	–	–	–	–	–
	2	9.10–100.00	1,222.22	n.r.	–	–	–	–	–
HLX31	1	9.10–133.20	1,154.65	n.r.	–	–	–	–	–
HLX33	1	31.00–202.10	658.22	n.r.	–	–	–	–	–
	2	9.10–30.00	726.43	n.r.	–	–	–	–	–
HLX34	1	9.00–151.80	1,879.72	n.r.	–	–	–	–	–
HLX35	1	65.00–151.50	1,864.73	n.r.	–	–	–	–	–
	2	6.00–64.00	1,931.18	n.r.	–	–	–	–	–
KLX01	1	705.00–1,077.99	1,368.18	n.r.	–	–	–	–	–
	2	191.00–704.00	1,226.61	n.r.	–	–	–	–	–
	3	171.00–190.00	1,213.05	n.r.	–	–	–	–	–
	4	1.00–170.00	1,222.04	n.r.	–	–	–	–	–

Source borehole	Section (m)	Flow rate Qm (l/min)	Draw-down (m)	r_{wf} (m)
KLX07A	335.00–455.00	18.1	11.62	1.6E–02

Observa-tion borehole	Sec No	Section (m)	Distance r_s (m)	Draw-down s_p (m)	dt_L (s)	Index 1 r_s^2/dt_L (m²/s)	Index 2 s_p/Q_p (s/m²)	Index 2 New $(s_p/Q_p)\cdot\ln(r_s/r_0)$ (s/m²)	Diffusivity η (m²/s)
KLX02	1	1,165.00–1,700.00	1,199.67	n.r.	–	–	–	–	–
	2	1,145.00–1,164.00	931.10	n.r.	–	–	–	–	–
	3	718.00–1,144.00	721.66	n.r.	–	–	–	–	–
	4	495.00–717.00	443.26	n.r.	–	–	–	–	–
	5	452.00–494.00	353.61	n.r.	–	–	–	–	–
	6	348.00–451.00	317.84	0.06)*	n.c.	n.c.	n.c.	n.c.	3.37E00
	7	209.00–347.00	293.03	0.20	n.c.	n.c.	506.31	2,875.97	7.31E00
	8	202.95–208.00	301.92	0.16	n.c.	n.c.	371.29	2,120.14	n.c.
KLX04	1	898.00–1,000.00	1,367.48	n.r.	–	–	–	–	–
	2	870.00–897.00	1,341.80	n.r.	–	–	–	–	–
	3	686.00–869.00	1,304.87	n.r.	–	–	–	–	–
	4	531.00–685.00	1,258.31	n.r.	–	–	–	–	–
	5	507.00–530.00	1,241.13	n.r.	–	–	–	–	–
	6	231.00–506.00	1,224.52	n.r.	–	–	–	–	–
	7	163.00–230.00	1,224.05	n.r.	–	–	–	–	–
	8	12.24–162.00	1,234.59	n.r.	–	–	–	–	–
KLX07B	1	112.00–200.00	280.96	0.16	2,238	35.27 **H**	540.06	3,044.99	1.65E01
	2	49.00–111.00	332.03	0.17	1,852	59.53 **H**	573.82	3,331.13	9.63E00
	3	0.00–48.00	375.09	0.16	1,165	120.77 **E**	540.06	3,201.04	5.18E00

)* no response according to SKB 330.003 (Bilagor B); see Chapter 4.6.1 for greater detail.
n.c. not calculated due to strong natural fluctuations (tidal effects).
n.r. no response due to pumping in source.
Key for index 1, 2 and 2 new see Table 7-1.

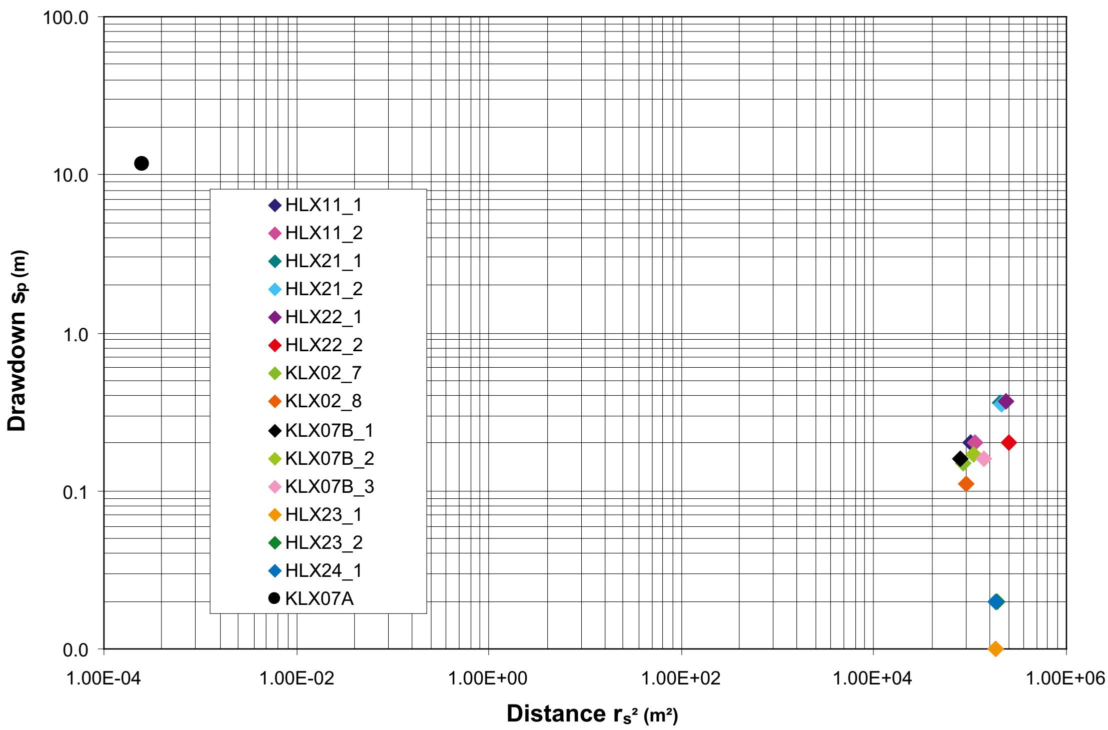


Figure 7-5. *Distance vs. Drawdown for the responded test sections; KLX07A Section 335.00–455.00 m pumped.*

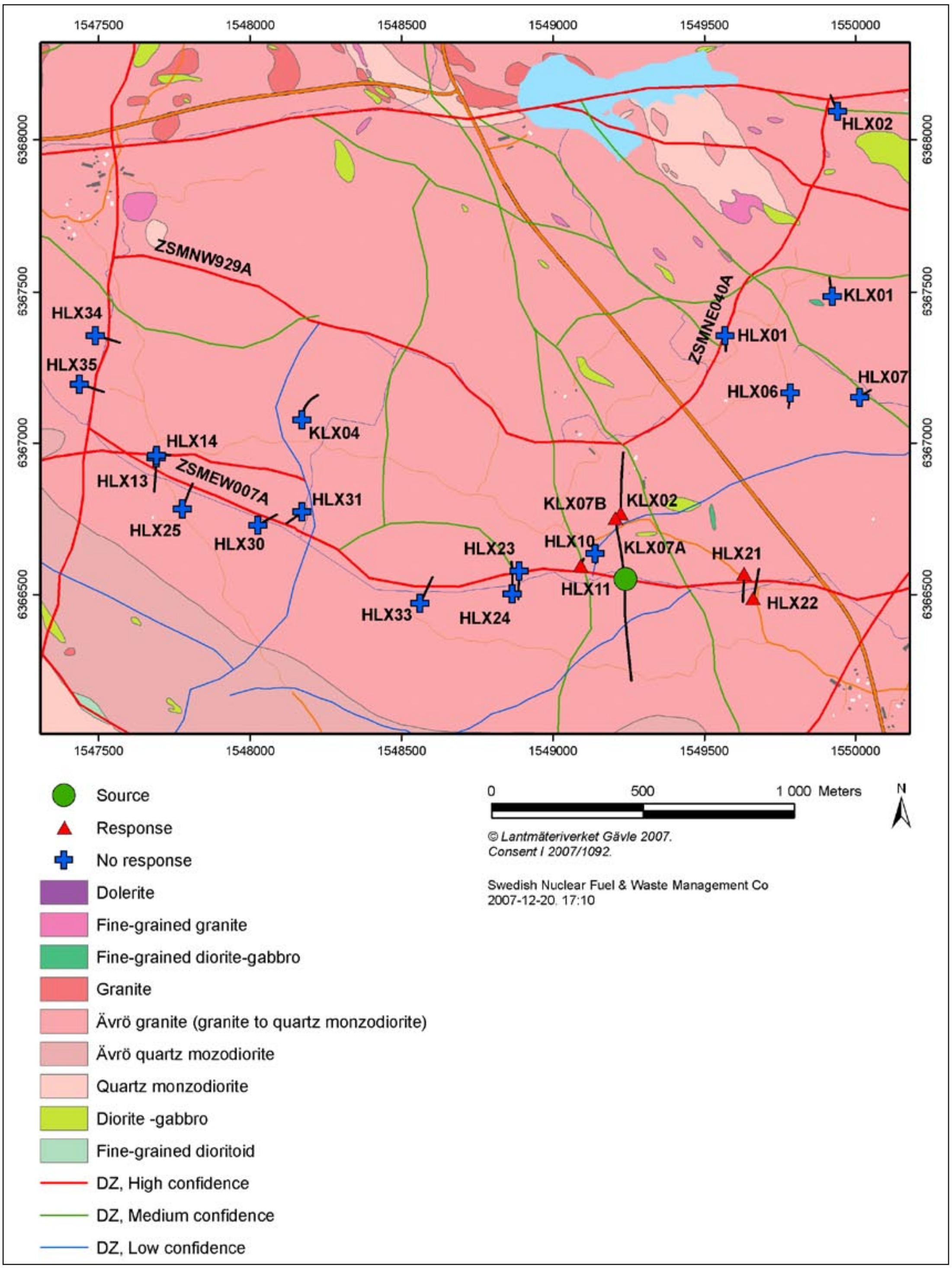


Figure 7-6. *Borehole response map when pumping KLX07A 335.00–455.00 m.*

7.3.1 Response HLX11, Section 1 (17.00–70.00 m)

Comments to test

A total drawdown during the flow period of 2.0 kPa (0.20 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 36.7 min (2,203 s) after pump start in KLX07A (335.00–455.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)$\cdot$ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw phase is noisy, but is amenable for qualitative analysis. The CRwr phase is influenced by the changing flow rate in borehole HLX10 and the results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-1.

Selected representative parameters

The recommended transmissivity of $1.9\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0\cdot10^{-5}$ m²/s to $4.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.2 Response HLX11, Section 2 (6.00–16.00 m)

Comments to test

A total drawdown during the flow period of 2.0 kPa (0.20 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 1.95 h (7,020 s) after pump start in KLX07A (335.00–455.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)$\cdot$ln(r_s/r_0) as "low response".

Because to the low response and overlaying tidal effects the recorded CRw phase is noisy, but is amenable for qualitative analysis. The CRwr phase is strongly influenced by the changing flow rate in borehole HLX10 and overlaying background effects and was not analysed.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw phase a homogeneous radial flow model was chosen. The analysis is presented in Appendix 7-3-2.

Selected representative parameters

The recommended transmissivity of $1.8\cdot10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0\cdot10^{-5}$ m²/s to $4.0\cdot10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

No further analysis recommended.

7.3.3 Response HLX21, Section 1 (81.00–150.00 m)

Comments to test

A total drawdown during the flow period of 3.5 kPa (0.36 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) is rated as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

Because of the low response and overlaying background effects the recorded CRw and CRwr phases are noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-3.

Selected representative parameters

The recommended transmissivity of $1.5 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show good consistency. No further analysis recommended.

7.3.4 Response HLX21, Section 2 (9.10–80.00 m)

Comments to test

A total drawdown during the flow period of 3.4 kPa (0.35 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) is rated as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. For the analysis of the CRw phase a composite radial flow model was chosen. The poor quality of data did not allow for specific model identification for the analysis of the CRwr phases and the simplest model was chosen for the analysis, homogeneous radial flow. The analysis is presented in Appendix 7-3-4.

Selected representative parameters

The recommended transmissivity of $2.2 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase (outer zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-5}$ m²/s to $4.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show some inconsistency concerning the chosen flow model. But the general results are very similar and no further analysis is recommended.

7.3.5 Response HLX22, Section 1 (86.00–163.20 m)

Comments to test

A total drawdown during the flow period of 3.6 kPa (0.37 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) is rated as "low response" and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "medium response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-5.

Selected representative parameters

The recommended transmissivity of $1.7 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-5}$ m²/s to $5.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.6 Response HLX22, Section 2 (9.19–85.00 m)

Comments to test

A total drawdown during the flow period of 2.0 kPa (0.20 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Both phases are amenable for qualitative analysis.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-6.

Selected representative parameters

The recommended transmissivity of $2.2 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-5}$ m²/s to $5.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.7 Response HLX23, Section 1 (61.00–160.20 m)

Comments to test

A total drawdown during the flow period of 0.1 kPa (0.01 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response".

Although the response is very low it is clearly caused by the pumping in KLX07A (335.00–455.00). Due to the poor data quality a transmissivity range was estimated by plotting the pressure derivatives of both phases in log-log coordinates.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-7.

Selected representative parameters

The range for the borehole transmissivity is estimated to be $5.0 \cdot 10^{-4}$ m²/s to $7.0 \cdot 10^{-3}$ m²/s. Due to the poor data quality no better estimation is possible.

Because of the poor data quality no further analysis is recommended.

7.3.8 Response HLX23, Section 2 (6.10–60.00 m)

Comments to test

A total drawdown during the flow period of 0.2 kPa (0.02 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response".

Although the response is very low it is clearly caused by the pumping in KLX07A (335.00–455.00). Due to the poor data quality a transmissivity range was estimated by plotting the pressure derivatives of both phases in log-log coordinates.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-8.

Selected representative parameters

The range for the borehole transmissivity is estimated to be $6.0 \cdot 10^{-4}$ m²/s to $6.0 \cdot 10^{-3}$ m²/s. Due to the poor data quality no better estimation is possible.

Because of the poor data quality no further analysis is recommended.

7.3.9 Response HLX24, Section 1 (41.00–175.20 m)

Comments to test

A total drawdown during the flow period of 0.2 kPa (0.02 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response".

Although the response is very low it is clearly caused by the pumping in KLX07A (335.00–455.00). Due to the poor data quality a transmissivity range was estimated by plotting the pressure derivatives of both phases in log-log coordinates.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-9.

Selected representative parameters

The range for the borehole transmissivity is estimated to be $6.0 \cdot 10^{-4}$ m²/s to $8.0 \cdot 10^{-3}$ m²/s. Due to the poor data quality no better estimation is possible.

Because of the poor data quality no further analysis is recommended.

7.3.10 Response KLX02, Section 6 (348.00–451.00 m)

Comments to test

A total drawdown during the flow period of 0.6 kPa (0.06 m) was observed in this section. Because of the low drawdown s_p<0.1 m the indices are rated as "no response".

Although the response is very low it is clearly caused by the pumping in KLX07A (335.00–455.00). Due to the poor data quality a transmissivity range was estimated by plotting the pressure derivatives of both phases in log-log coordinates.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-10.

Selected representative parameters

The range for the borehole transmissivity is estimated to be $2.0 \cdot 10^{-4}$ m²/s to $5.0 \cdot 10^{-3}$ m²/s. Due to the poor data quality no better estimation is possible.

Because of the poor data quality no further analysis is recommended.

7.3.11 Response KLX02, Section 7 (209.00–347.00 m)

Comments to test

A total drawdown during the flow period of 1.5 kPa (0.15 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy and the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-11.

Selected representative parameters

The recommended transmissivity of $2.7 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $7.0 \cdot 10^{-5}$ m²/s to $6.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.12 Response KLX02, Section 8 (202.95–208.00 m)

Comments to test

A total drawdown during the flow period of 1.1 kPa (0.11 m) was observed in this section. Due to the strong natural fluctuations no response time was determined. The calculated index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) are rated as "low response".

Because to the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy and the results should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-12.

Selected representative parameters

The recommended transmissivity of $3.5 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $7.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.13 Respnse KLX07B, Section 1 (112.00–200.00 m)

Comments to test

A total drawdown during the flow period of 1.6 kPa (0.16 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 37.3 min (2,238 s) after pump start in KLX07A (335.00–455.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)·ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Additionally, the CRwr phase is influenced by the changing flow rate in borehole HLX10 and only the early time data was used to derive the transmissivity. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-13.

Selected representative parameters

The recommended transmissivity of $2.3 \cdot 10^{-4}$ m^2/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m^2/s to $6.0 \cdot 10^{-4}$ m^2/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.14 Response KLX07B, Section 2 (49.00–111.00 m)

Comments to test

A total drawdown during the flow period of 1.7 kPa (0.17 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 30.9 min (1,852 s) after pump start in KLX07A (335.00–455.00). The calculated index 1 (r_s^2/dt_L) is rated as "high response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)$\cdot$ln(r_s/r_0) as "low response".

Because of to the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Additionally, the CRwr phase is influenced by the changing flow rate in borehole HLX10 and only the early time data was used to derive the transmissivity. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-14.

Selected representative parameters

The recommended transmissivity of $2.6 \cdot 10^{-4}$ m^2/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m^2/s to $6.0 \cdot 10^{-4}$ m^2/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.3.15 Response KLX07B, Section 3 (0.00–48.00 m)

Comments to test

A total drawdown during the flow period of 1.6 kPa (0.16 m) was observed in this section. A drawdown of 0.01 m was reached after appr. 19.4 min (1,165 s) after pump start in KLX07A (335.00–455.00). The calculated index 1 (r_s^2/dt_L) is rated as "excellent response time", index 2 (s_p/Q_p) and the new index 2 (s_p/Q_p)$\cdot$ln(r_s/r_0) as "low response".

Because of the low response and overlaying tidal effects the recorded CRw and CRwr phases are noisy. Additionally, the CRwr phase is influenced by the changing flow rate in borehole HLX10 and only the early time data was used to derive the transmissivity. The results of the analysis should be regarded as order of magnitude only.

Flow regime and calculated parameters

The flow dimension is interpreted from the slope of the semi-log derivative plotted in log-log coordinates. The poor quality of data did not allow for specific model identification. The analysis of the CRw and CRwr phases was conducted using the simplest model available, homogeneous radial flow. The analysis is presented in Appendix 7-3-15.

Selected representative parameters

The recommended transmissivity of $2.9 \cdot 10^{-4}$ m²/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be $8.0 \cdot 10^{-5}$ m²/s to $6.0 \cdot 10^{-4}$ m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

The analyses of the CRw and CRwr phases show consistency. No further analysis recommended.

7.4 KLX07A Test section 610.00–655.00 m pumped

This interference test was conducted as constant rate pump test phase followed by a recovery pressure phase in the source section. The mean flow rate was 17.6 l/min with a drawdown of 309 kPa. Only the section below the pumped section reacted due to pumping. No observation sections in the other boreholes responded. The calculated indices for the KLX07A bottom section (656.00–844.73 m) are “high response time” for index 1 (58.8 m²/s), “medium response” for index 2 (18,765.6 s/m²) and “high response” for index 2 new (88,269.7 s/m²).

7.5 KLX07A Test section 747.00–792.00 m pumped

This interference test was conducted as constant rate pump test phase followed by a recovery pressure phase in the source section. The mean flow rate was 20.9 l/min with a drawdown of 160 kPa. Only the section below the pumped section reacted due to pumping. No observation sections in the other boreholes responded. The calculated indices for the KLX07A bottom section (793.00–844.73 m) are “medium response time” for index 1 (8.8 m²/s), “medium response” for index 2 (15,510.0 s/m²) and “high response” for index 2 new (61,830.3 s/m²).

8 Synthesis

The synthesis chapter summarizes the basic test parameters and analysis results.

8.1 Summary of results

Table 8-1. General test data from constant rate pump tests.

Borehole ID	Borehole secup (m)	Borehole Seclow (m)	Date and time Test start YYYYMMDD hh:mm	Date and time Test stop YYYYMMDD hh:mm	Q_p (m³/s)	Q_m (m³/s)	tp (s)	t_F (s)	p_0 (kPa)	p_i (kPa)	p_p (kPa)	p_F (kPa)	Te_w (°C)	Test phases measured *Analysed test phases marked **bold***
KLX07A	103.20	193.20	20051028 09:51	20051103 15:53	6.59E–04	6.80E–04	261,960	333,120	1,478	1,478	1,432	1,480	9.3	**CRw CRwr**
KLX07A	335.00	455.00	20051104 21:35	20051112 08:36	2.97E–04	3.02E–04	289,535	351,420	3,371	3,374	3,260	3,372	12.0	**CRw CRwr**
KLX07A	193.00	313.00	20051112 18:54	20051120 20:17	6.07E–04	6.07E–04	244,010	449,640	2,361	2,361	2,301	2,368	10.7	**CRw CRwr**
KLX07A	747.00	792.00	20051122 21:14	20051129 10:52	3.43E–04	3.48E–04	236,460	327,420	5,963	5,957	5,797	5,952	16.1	**CRw CRwr**
KLX07A	610.00	655.00	20051130 10:14	20051208 08:54	2.83E–04	2.93E–04	261,120	420,780	4,896	4,880	4,571	4,873	14.3	**CRw CRwr**

Nomenclature

Q_p Flow in test section immediately before stop of flow [m³/s].
Q_m Arithmetical mean flow during perturbation phase [m³/s].
t_p Duration of perturbation phase [s].
t_f Duration of recovery phase [s].
p_0 Pressure in borehole before packer inflation [kPa].
p_i Pressure in test section before start of flowing [kPa].
p_p Pressure in test section before stop of flowing [kPa].
p_F Pressure in test section at the end of the recovery [kPa].
Te_w Temperature in test section.
Test phases CRw: constant rate pump (withdrawal) phase.
CRwr: recovery phase following the constant rate pump (withdrawal) phase.

Table 8-2. Results from analysis of constant rate pump tests.

Interval position			Stationary flow parameters		Transient analysis															
					Flow regime		Formation parameters												Static conditions	
Borehole ID	up m btoc	low m btoc	Q/s m^2/s	T_M m^2/s	Perturb. Phase	Recovery Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	C m^3/Pa	ξ –	dt_1 min	dt_2 min	r_{inner} m	p* kPa	h_{wif} masl
KLX07A	103.20	193.20	1.4E–04	1.8E–04	WBS2	WBS2	3.3E–04	#NV	2.8E–04	#NV	2.8E–04	9.0E–05	4.0E–04	4.1E–07	0.4	4	1,111	5,338.1	1,481.2	6.26
KLX07A	335.00	455.00	2.6E–05	3.4E–05	WBS2	WBS2	8.5E–05	#NV	1.2E–04	#NV	1.2E–04	8.0E–05	2.0E–04	1.6E–08	18.2	2	1,040	4,448.8	3,374.6	7.49
KLX07A	193.00	313.00	9.9E–05	1.3E–04	WBS2	WBS2	2.4E–04	#NV	2.5E–04	#NV	2.5E–04	1.0E–04	4.0E–04	5.7E–08	4.0	2	1,450	6,015.0	2,365.3	6.02
KLX07A	747.00	792.00	2.1E–05	2.5E–05	WBS22	WBS2	9.6E–06	4.1E–05	3.4E–05	#NV	3.4E–05	2.0E–05	5.0E–05	5.9E–08	–2.1	3	3,710	3,127.0	5,957.7	10.05
KLX07A	610.00	655.00	9.0E–06	1.1E–05	WBS22	WBS22	1.2E–05	2.2E–05	9.0E–06	2.2E–05	9.0E–06	8.0E–06	2.0E–05	3.6E–08	–4.1	5	60	234.3	4,875.9	6.45

Nomenclature

Q/s	Specific capacity.
T_M	Transmissivity according to /Moye 1967/.
Flow regime	The flow regime description refers to the recommended model used in the transient analysis. WBS denotes wellbore storage and skin and is followed by a set of numbers describing the flow dimension used in the analysis (1 = linear flow, 2 = radial flow, 3 = spherical flow). If only one number is used (e.g. WBS2 or 2) a homogeneous flow model (1 composite zone) was used in the analysis, if two numbers are given (WBS22 or 22) a 2 zones composite model was used.
T_f	Transmissivity derived from the analysis of the perturbation phase (CRw). In case a homogeneous flow model was used only one T_f value is reported, in case a two zone composite flow model was used both T_{f1} (inner zone) and T_{f2} (outer zone) are given.
T_s	Transmissivity derived from the analysis of the recovery phase (CRwr). In case a homogeneous flow model was used only one T_s value is reported, in case a two zone composite flow model was used both T_{s1} (inner zone) and T_{s2} (outer zone) are given.
T_T	Recommended transmissivity.
T_{TMIN} / T_{TMAX}	Confidence range lower/upper limit.
C	Wellbore storage coefficient.
ξ	Skin factor (calculated based on a Storativity of $1 \cdot 10^{-6}$).
dt_1 / dt_2	Estimated start/stop time of evaluation for the recommended transmissivity (T_T).
r_{inner}	Radius of the inner zone (see Chapter 5.5.9).
p*	The parameter p* denoted the static formation pressure (measured at transducer depth) and was derived from the HORNER plot of the CHir phase using straight line or type-curve extrapolation.
h_{wif}	Fresh-water head (based on transducer depth and p*).
#NV	Not analysed/no values.

Table 8-3. Results from analysis of the interference tests.

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	103.20–193.20	KLX07A_Pa	11.80–102.20	–	–	–	–	–	–	–	–	–	–	–	–	1.91	1,499.07	6,810.72	–
		KLX07A_Pb	194.20–844.73	–	–	–	–	–	–	–	–	–	–	–	–	5,235.1	2,248.61	13,287.2	–
		HLX01_1	16.00–100.63	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX02_1	0.60–132.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX06_1	1.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX07_1	16.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX10_1	3.00–85.00	2	2	2.1E–04	–	1.4E–04	–	1.4E–04	6.0E–05	5.0E–04	9.3E–05	1,074	4,020	53.21	1,723.93	8,030.64	1.5E00
		HLX11_1	17.00–70.00	2	2	2.1E–04	–	7.8E–05	–	2.1E–04	8.0E–05	4.0E–04	2.2E–04	858	2,952	16.87	1,214.25	6,164.05	4.0E–01
		HLX11_2	6.00–16.00	2	2	1.4E–04	–	5.8E–05	–	1.4E–04	8.0E–05	3.0E–04	3.5E–04	1,788	2,718	4.85	1,169.28	6,039.78	9.2E–01
		HLX13_1	11.87–200.02	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX14_1	11.00–115.90	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_1	81.00–150.00	2	2	4.0E–04	–	3.6E–04	–	4.0E–04	1.0E–04	8.0E–04	1.3E–04	2,238	3,984	17.38	389.76	2,368.58	2.9E00
		HLX21_2	9.10–80.00	2	2	3.9E–04	–	3.7E–04	–	3.9E–04	1.0E–04	8.0E–04	1.3E–04	1,548	4,122	20.10	359.78	2,185.12	3.1E00
		HLX22_1	86.00–163.20	2	2	3.8E–04	–	3.3E–04	–	3.8E–04	1.0E–04	8.0E–04	1.2E–04	1,536	3,996	20.28	419.74	2,579.86	2.6E00
		HLX22_2	9.19–85.00	2	2	6.8E–04	–	5.3E–04	–	6.8E–04	4.0E–04	9.0E–04	2.7E–04	2,352	3,996	16.30	224.86	1,386.83	3.3E00
		HLX23_1	61.00–160.20	2	2	2.6E–03	–	2.2E–03	–	2.6E–03	1.0E–03	5.0E–03	6.4E–04	1,548	3,984	n.a.	n.a.	n.a.	8.4E00
		HLX23_2	6.10–60.00	2	2	1.6E–03	–	1.3E–03	–	1.6E–03	9.0E–04	4.0E–03	2.0E–04	894	3,708	n.a.	n.a.	n.a.	4.1E00
		HLX24_1	41.00–175.20	2	2	2.2E–03	–	2.1E–03	–	2.2E–03	1.0E–03	5.0E–03	6.3E–04	1,872	3,912	n.a.	n.a.	n.a.	3.5E00
		HLX24_2	9.10–40.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_1	61.00–202.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_2	6.12–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	103.20–193.20	HLX30_1	101.00–163.40	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_2	9.10–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX31_1	9.10–133.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_1	31.00–202.10	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_2	9.10–30.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX34_1	9.00–151.80	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_1	65.00–151.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_2	6.00–64.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_1	705.00–1,077.99	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_2	191.00–704.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_3	171.00–190.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_4	1.00–170.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_1	1,165.00–1,700.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_2	1,145.00–1,164.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_3	718.00–1,144.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_4	495.00–717.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_5	452.00–494.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_6	348.00–451.00	2	2	6.9E–04	–	6.3E–04	–	6.9E–04	2.0E–04	1.0E–05	2.3E–04	1,506	4,002	12.19	254.84	1,462.06	3.7E–01
		KLX02_7	209.00–347.00	2	2	2.3E–04	–	1.8E–04	–	2.3E–04	8.0E–05	5.0E–04	7.3E–05	1,242	4,038	23.62	1,244.23	6,606.06	3.2E00
		KLX02_8	202.95–208.00	2	2	2.4E–04	–	2.0E–04	–	2.4E–04	1.0E–04	4.0E–04	6.7E–04	1,008	2,340	2.57	629.61	3,148.54	3.1E00
		KLX04_1	898.00–1,000.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_2	870.00–897.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_3	686.00–869.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	103.20–193.20	KLX04_4	531.00–685.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_5	507.00–530.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_6	231.00–506.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_7	163.00–230.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_8	12.24–162.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_1	112.00–200.00	22	22	1.4E–04	2.8E–04	1.3E–04	2.6E–04	1.4E–04	9.0E–05	4.0E–04	2.4E–04	144	366	21.26	1,514.06	6,699.49	1.1E00
		KLX07B_2	49.00–111.00	22	2	1.7E–04	3.8E–04	1.5E–04	–	1.7E–04	9.0E–05	4.0E–04	2.2E–04	–	–	13.86	1,364.15	6,182.14	7.6E–01
		KLX07B_3	0.00–48.00	2	2	2.6E–04	–	1.4E–04	–	1.4E–04	1.0E–04	4.0E–04	1.3E–04	1,038	3,810	8.42	1,199.26	5,849.81	5.9E–01
KLX07A	193.00–313.00	KLX07A_Pa	11.80–192.00	–	–	–	–	–	–	–	–	–	–	–	–	990.94	2,520.42	12,647.3	–
		KLX07A_Pb	314.00–844.73	–	–	–	–	–	–	–	–	–	–	–	–	32.07	840.14	4,862.74	–
		HLX01_1	16.00–100.63	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX02_1	0.60–132.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX06_1	1.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX07_1	16.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX10_1	3.00–85.00	2	2	2.3E–04	–	1.8E–04	–	1.8E–04	6.0E–05	5.0E–04	1.3E–05	162	3,384	111.84	1,276.31	6,345.06	1.5E01
		HLX11_1	17.00–70.00	2	2	1.6E–04	–	7.9E–05	–	1.6E–04	9.0E–05	4.0E–04	1.1E–04	1,212	4,020	46.97	1,377.07	7,357.54	7.1E–01
		HLX11_2	6.00–16.00	2	2	1.1E–04	–	5.6E–05	–	1.1E–04	9.0E–05	3.0E–04	1.6E–04	1,182	1,920	15.23	1,444.24	7,823.89	1.5E00
		HLX13_1	11.87–200.02	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX14_1	11.00–115.90	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_1	81.00–150.00	2	2	3.5E–04	–	7.0E–04	–	3.5E–04	8.0E–05	8.0E–04	1.7E–04	–	–	n.a.	335.87	2,031.75	2.6E00
		HLX21_2	9.10–80.00	2	2	3.9E–04	–	8.9E–04	–	3.9E–04	8.0E–05	8.0E–04	1.5E–04	–	–	n.a.	335.87	2,034.46	2.1E00
		HLX22_1	86.00–163.20	2	2	7.0E–04	–	9.1E–04	–	9.1E–04	3.0E–04	2.0E–03	1.6E–04	–	–	n.a.	369.46	2,262.00	7.2E00
		HLX22_2	9.19–85.00	2	2	1.2E–03	–	3.7E–03	–	1.2E–03	7.0E–04	4.0E–03	1.7E–04	–	–	n.a.	167.94	1,032.90	5.9E00

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	193.00–313.00	HLX23_1	61.00–160.20	2	2	2.8E–03	–	3.1E–03	–	2.8E–03	8.0E–04	5.0E–03	1.6E–04	n.a.	n.a.	n.a.	n.a.	n.a	2.1E01
		HLX23_2	6.10–60.00	22	22	2.9E–03	9.9E–04	2.7E–03	7.7E–04	2.9E–03	7.0E–04	5.0E–03	1.3E–04	n.a.	n.a.	n.a.	n.a.	n.a.	1.8E01
		HLX24_1	41.00–175.20	2	2	1.6E–03	–	2.1E–03	–	1.6E–03	7.0E–04	7.0E–03	5.4E–04	n.a.	n.a.	n.a.	n.a.	n.a.	2.9E00
		HLX24_2	9.10–40.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_1	61.00–202.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_2	6.12–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_1	101.00–163.40	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_2	9.10–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX31_1	9.10–133.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_1	31.00–202.10	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_2	9.10–30.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX34_1	9.00–151.80	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_1	65.00–151.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_2	6.00–64.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_1	705.00–1,077.99	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_2	191.00–704.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_3	171.00–190.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_4	1.00–170.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_1	1,165.00–1,700.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_2	1,145.00–1,164.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_3	718.00–1,144.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_4	495.00–717.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_5	452.00–494.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	193.00–313.00	KLX02_6	348.00–451.00	2	2	1.0E–03	–	1.3E–03	–	1.0E–03	6.0E–04	6.0E–03	8.7E–05	n.a.	n.a.	n.a.	285.49	1,616.59	2.0E00
		KLX02_7	209.00–347.00	2	22	2.4E–04	–	3.0E–04	1.5E–04	2.4E–04	9.0E–05	4.0E–04	7.7E–05	990	2,400	80.07	1,158.75	6,202.52	3.1E00
		KLX02_8	202.95–208.00	2	2	2.0E–04	–	1.7E–04	–	1.7E–04	9.0E–05	3.0E–04	8.6E–05	2,064	3,708	20.97	1,057.99	5,549.95	1.2E01
		KLX04_1	898.00–1,000.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_2	870.00–897.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_3	686.00–869.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_4	531.00–685.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_5	507.00–530.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_6	231.00–506.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_7	163.00–230.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_8	12.24–162.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_1	112.00–200.00	22	2	1.4E–04	2.5E–04	1.2E–04	–	1.2E–04	9.0E–05	3.0E–04	6.1E–05	510	3,378	22.91	1,293.10	6,476.68	1.0E01
		KLX07B_2	49.00–111.00	2	2	1.8E–04	–	1.5E–04	–	1.5E–04	9.0E–05	3.0E–04	2.4E–05	192	3,372	172.62	1,326.69	6,970.22	6.2E00
		KLX07B_3	0.00–48.00	2	2	2.2E–04	–	1.6E–04	–	2.2E–04	9.0E–05	4.0E–04	2.1E–05	246	2,964	1,046.8	1,309.90	7,142.09	1.9E00
KLX07A	335.00–455.00	KLX07A_Pa	11.80–334.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07A_Pb	456.00–844.73	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX01_1	16.00–100.63	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX02_1	0.60–132.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX06_1	1.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX07_1	16.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX10_1	3.00–85.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX11_1	17.00–70.00	2	2	1.9E–04	–	4.2E–04	–	1.9E–04	8.0E–05	4.0E–04	2.9E–04	n.a.	n.a.	45.96	675.08	3,890.24	6.2E–1
		HLX11_2	6.00–16.00	2	2	1.8E–04	–	–	–	1.8E–04	8.0E–05	4.0E–04	2.8E–04	3,228	4,110	15.80	675.08	3,921.01	6.3E–1

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	335.00–455.00	HLX13_1	11.87–200.02	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX14_1	11.00–115.90	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_1	81.00–150.00	2	2	1.5E–04	–	1.9E–04	–	1.5E–04	8.0E–05	4.0E–04	5.3E–05	2,016	4,050	n.a.	1,181.39	7,220.36	7.0E00
		HLX21_2	9.10–80.00	22	2	8.2E–04	2.2E–04	2.1E–04	–	2.2E–04	7.0E–05	4.0E–04	2.8E–05	3,072	4,020	n.a.	1,147.63	7,038.45	2.8E00
		HLX22–1	86.00–163.20	2	2	1.7E–04	–	1.8E–04	–	1.7E–04	7.0E–05	5.0E–04	4.6E–05	2,466	4,590	n.a.	1,215.14	7,509.59	2.3E00
		HLX22_2	9.19–85.00	2	2	2.2E–04	–	4.2E–04	–	2.2E–04	7.0E–05	5.0E–04	9.5E–05	3,114	4,050	n.a.	675.08	4,195.35	3.8E00
		HLX23_1	61.00–160.20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5.0E–04	7.0E–03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		HLX23_2	6.10–60.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.0E–04	6.0E–03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		HLX24_1	41.00–175.20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.0E–04	8.0E–03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		HLX24_2	9.10–40.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_1	61.00–202.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_2	6.12–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_1	101.00–163.40	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_2	9.10–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX31_1	9.10–133.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_1	31.00–202.10	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_2	9.10–30.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX34_1	9.00–151.80	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_1	65.00–151.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_2	6.00–64.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_1	705.00–1,077.99	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_2	191.00–704.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_3	171.00–190.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	**Section m btoc**	**Borehole ID_Sec.**	**Section m btoc**	**Pertub. Phase**	**Rec. Phase**	**T_{f1} m^2/s**	**T_{f2} m^2/s**	**T_{s1} m^2/s**	**T_{s2} m^2/s**	**T_T m^2/s**	**T_{TMIN} m^2/s**	**T_{TMAX} m^2/s**	**S**	**dt_1 min**	**dt_2 min**	**Index 1 r_s^2/dt_L**	**Index 2 s_p/Q_p**	**Index 2 new $(s_p/Q_p)\cdot \ln(r_s/r_0)$**	**Diffusivity η (T/S)**
KLX07A	335.00–455.00	KLX01_4	1.00–170.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_1	1,165.00–1,700.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_2	1,145.00–1,164.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_3	718.00–1,144.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_4	495.00–717.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_5	452.00–494.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_6	348.00–451.00	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.0E–04	5.0E–03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.4E00
		KLX02_7	209.00–347.00	2	2	4.7E–04	–	2.7E–04	–	2.7E–04	7.0E–05	6.0E–04	3.7E–05	2,550	3,918	n.a.	506.31	2,875.97	7.3E00
		KLX02_8	202.95–208.00	2	2	5.8E–04	–	3.5E–04	–	3.5E–04	8.0E–05	7.0E–04	1.0E–04	2,418	3,804	n.a.	371.29	2,120.14	n.a.
		KLX04_1	898.00–1,000.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_2	870.00–897.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_3	686.00–869.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_4	531.00–685.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_5	507.00–530.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_6	231.00–506.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_7	163.00–230.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_8	12.24–162.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_1	112.00–200.00	2	2	3.6E–04	–	2.3E–04	–	2.3E–04	8.0E–05	6.0E–04	4.5E–05	252	354	35.27	540.06	3,044.99	1.7E01
		KLX07B_2	49.00–111.00	2	2	4.2E–04	–	2.6E–04	–	2.6E–04	8.0E–05	6.0E–04	2.7E–05	169	296	59.53	573.82	3,331.13	9.6E00
		KLX07B_3	0.00–48.00	2	2	4.3E–04	–	2.9E–04	–	2.9E–04	8.0E–05	6.0E–04	1.8E–05	156	306	120.77	540.06	3,201.04	5.2E00
KLX07A	610.00–655.00	KLX07A_Pa	11.80–334.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07A_Pb	456.00–844.73	–	–	–	–	–	–	–	–	–	–	–	–	58.84	18,765.64	88,269.7	–
		HLX01_1	16.00–100.63	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	610.00–655.00	HLX02_1	0.60–132.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX06_1	1.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX07_1	16.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX10_1	3.00–85.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX11_1	17.00–70.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX11_2	6.00–16.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX13_1	11.87–200.02	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX14_1	11.00–115.90	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_1	81.00–150.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_2	9.10–80.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX22–1	86.00–163.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX22_2	9.19–85.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX23_1	61.00–160.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX23_2	6.10–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX24_1	41.00–175.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX24_2	9.10–40.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_1	61.00–202.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_2	6.12–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_1	101.00–163.40	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_2	9.10–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX31_1	9.10–133.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_1	31.00–202.10	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_2	9.10–30.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	610.00–655.00	HLX34_1	9.00–151.80	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_1	65.00–151.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_2	6.00–64.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_1	705.00–1,077.99	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_2	191.00–704.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_3	171.00–190.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_4	1.00–170.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_1	1,165.00–1,700.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_2	1,145.00–1,164.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_3	718.00–1,144.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_4	495.00–717.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_5	452.00–494.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_6	348.00–451.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_7	209.00–347.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_8	202.95–208.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_1	898.00–1,000.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_2	870.00–897.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_3	686.00–869.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_4	531.00–685.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_5	507.00–530.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_6	231.00–506.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_7	163.00–230.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_8	12.24–162.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
KLX07A	610.00–655.00	KLX07B_1	112.00–200.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_2	49.00–111.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_3	0.00–48.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot \ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	747.00–792.00	KLX07A_Pa	11.80–334.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07A_Pb	456.00–844.73	–	–	–	–	–	–	–	–	–	–	–	–	5.84	5,510.0	61,830.3	–
		HLX01_1	16.00–100.63	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX02_1	0.60–132.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX06_1	1.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX07_1	16.00–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX10_1	3.00–85.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX11_1	17.00–70.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX11_2	6.00–16.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX13_1	11.87–200.02	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX14_1	11.00–115.90	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_1	81.00–150.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX21_2	9.10–80.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX22–1	86.00–163.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX22_2	9.19–85.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX23_1	61.00–160.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX23_2	6.10–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX24_1	41.00–175.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX24_2	9.10–40.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX25_1	61.00–202.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m²/s	T_{f2} m²/s	T_{s1} m²/s	T_{s2} m²/s	T_T m²/s	T_{TMIN} m²/s	T_{TMAX} m²/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	747.00–792.00	HLX25_2	6.12–60.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_1	101.00–163.40	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX30_2	9.10–100.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX31_1	9.10–133.20	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_1	31.00–202.10	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX33_2	9.10–30.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX34_1	9.00–151.80	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_1	65.00–151.50	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		HLX35_2	6.00–64.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_1	705.00–1,077.99	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_2	191.00–704.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_3	171.00–190.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX01_4	1.00–170.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_1	1,165.00–1,700.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_2	1,145.00–1,164.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_3	718.00–1,144.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_4	495.00–717.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_5	452.00–494.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_6	348.00–451.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_7	209.00–347.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX02_8	202.95–208.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_1	898.00–1,000.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_2	870.00–897.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Pumped section		Observation borehole		Transient analysis												Index calculation			
				Flow regime		Formation Parameter													
Borehole ID	Section m btoc	Borehole ID_Sec.	Section m btoc	Pertub. Phase	Rec. Phase	T_{f1} m^2/s	T_{f2} m^2/s	T_{s1} m^2/s	T_{s2} m^2/s	T_T m^2/s	T_{TMIN} m^2/s	T_{TMAX} m^2/s	S	dt_1 min	dt_2 min	Index 1 r_s^2/dt_L	Index 2 s_p/Q_p	Index 2 new $(s_p/Q_p)\cdot\ln(r_s/r_0)$	Diffusivity η (T/S)
KLX07A	747.00–792.00	KLX04_3	686.00–869.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_4	531.00–685.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_5	507.00–530.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_6	231.00–506.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_7	163.00–230.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX04_8	12.24–162.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_1	112.00–200.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_2	49.00–111.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–
		KLX07B_3	0.00–48.00	–	–	–	–	–	–	–	–	–	–	–	–	No response due to pumping			–

Nomenclature

Flow regime	The flow regime description refers to the recommended model used in the transient analysis. WBS denotes wellbore storage and skin and is followed by a set of numbers describing the flow dimension used in the analysis (1 = linear flow, 2 = radial flow, 3 = spherical flow). If only one number is used (e.g. WBS2 or 2) a homogeneous flow model (1 composite zone) was used in the analysis, if two numbers are given (WBS22 or 22) a 2 zones composite model was used.
T_f	Transmissivity derived from the analysis of the perturbation phase (CRw). In case a homogeneous flow model was used only one T_f value is reported, in case a two zone composite flow model was used both T_{f1} (inner zone) and T_{f2} (outer zone) are given.
T_s	Transmissivity derived from the analysis of the recovery phase (CRwr). In case a homogeneous flow model was used only one T_s value is reported, in case a two zone composite flow model was used both T_{s1} (inner zone) and T_{s2} (outer zone) are given.
T_T	Recommended transmissivity.
T_{TMIN} / T_{TMAX}	Confidence range lower/upper limit.
S	Storativity.
dt_1 / dt_2	Estimated start/stop time of evaluation for the recommended transmissivity (T_T).
Index 1	r_s^2/dt_L (m^2/s) normalised distance r_s with respect to the response time.
Index 2	sp/Qp (s/m^2) normalised drawdown with respect to the pumping rate.
Index 2 new	(sp/Qp)·ln(r_s/r_0) (s/m^2) normalised drawdown with respect to the pumping rate and distance.
Diffusivity η	T/S (m^2/s).
n.a.	Not analysed due to strong natural fluctuations (tidal effects).

The Figures 8-1 to 8-3 present the transmissivity, conductivity and hydraulic freshwater head profiles.

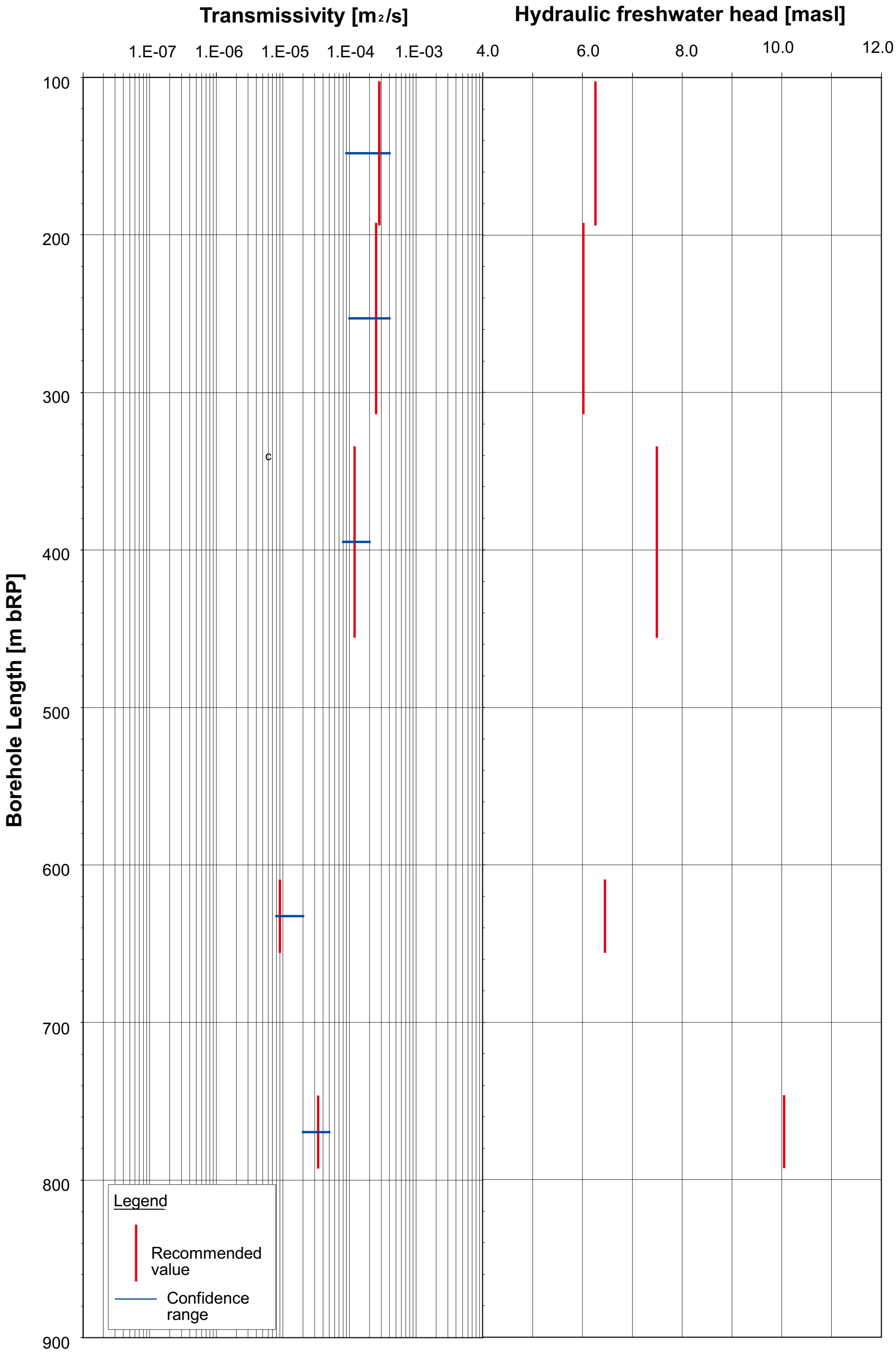


Figure 8-1. *Results summary of KLX07A – profiles of transmissivity and equivalent freshwater head, transmissivities derived from the pump tests, freshwater head extrapolated.*

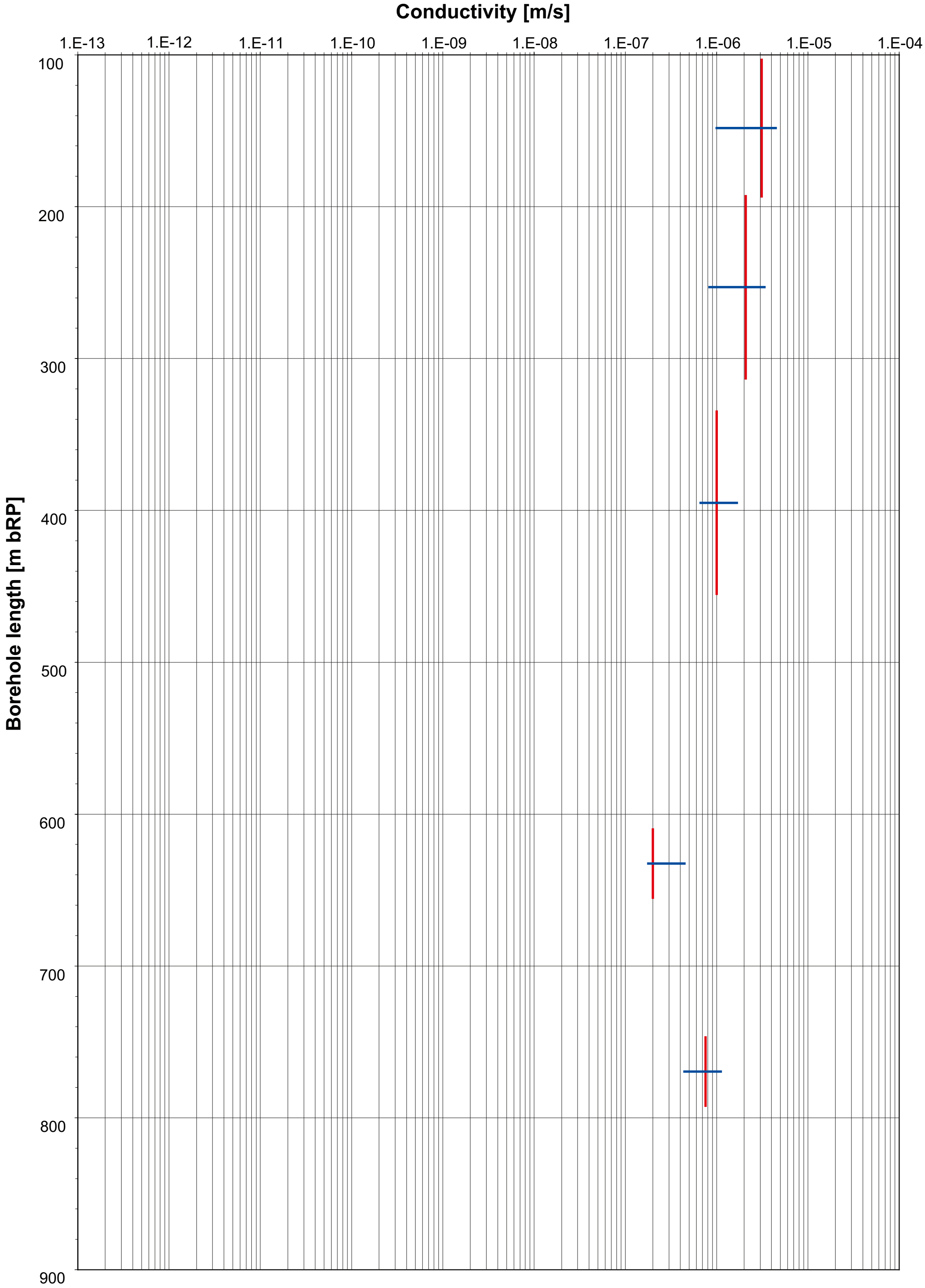


Figure 8-2. *Results summary of KLX07A – profile of hydraulic conductivity, conductivity derived from the pump tests.*

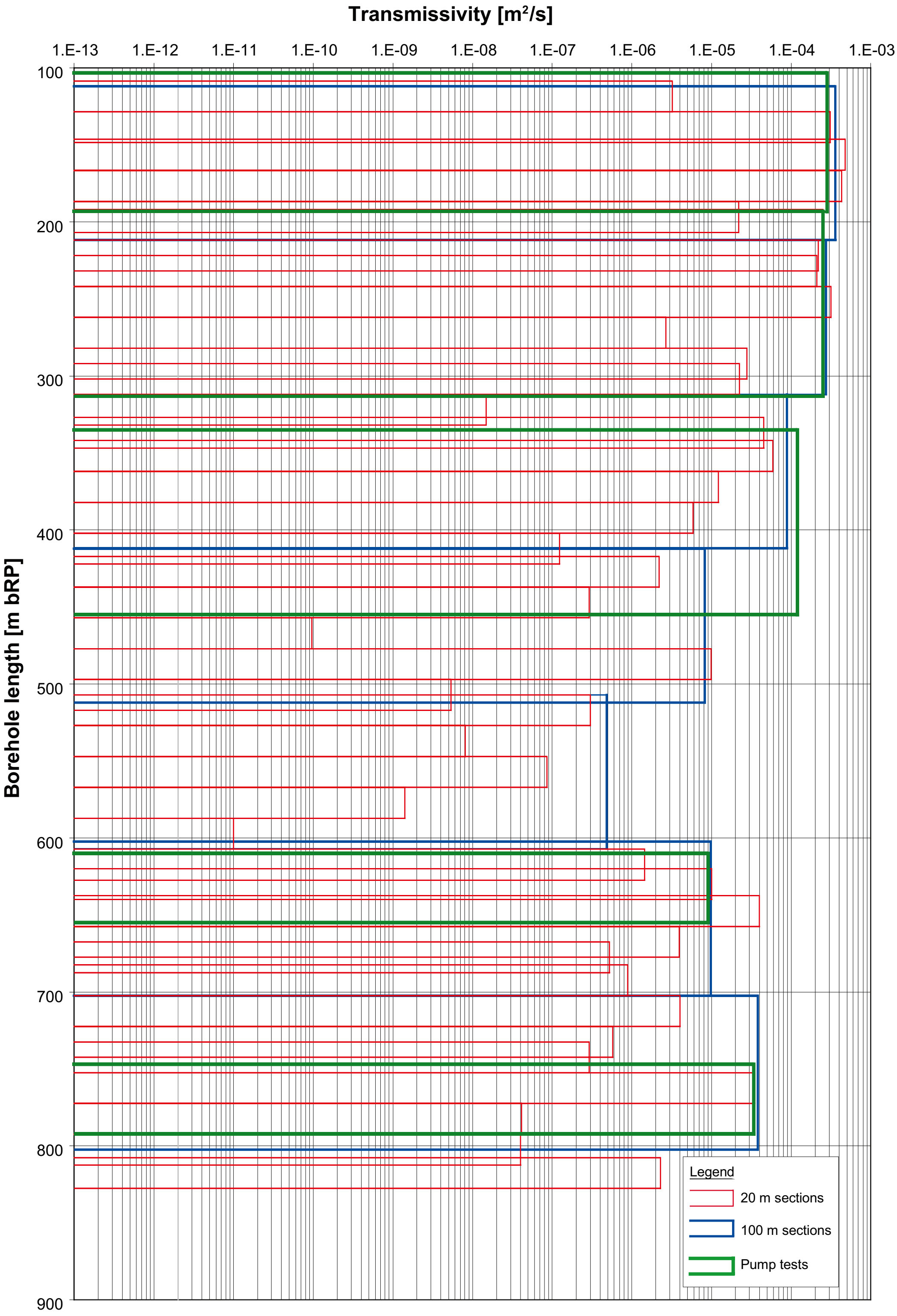


Figure 8-3. *Results summary of KLX07A – comparison of the derived transmissivities of the former injection and the pump tests.*

8.2 Correlation analysis

A correlation analysis was used with the aim of examining the consistency of results and deriving general conclusion regarding the testing and analysis methods used.

8.2.1 Comparison of steady state and transient analysis results

The steady state derived transmissivities (T_M and Q/s) were compared in a cross-plot with the recommended transmissivity values derived from the transient analysis for the pump tests (see following Figure 8-4).

The correlation analysis shows that most of the steady state derived transmissivities differ by less than one order of magnitude from the transmissivities derived from the transient analysis. In general, the values of the steady state analysis are in the most cases slightly lower than the recommended values.

8.2.2 Comparison between the matched and theoretical wellbore storage coefficient

The wellbore storage coefficient describes the capacity of the test interval to store fluid as result to a unit pressure change in the interval. For a closed system (i.e. closed downhole valve) the theoretical value of the wellbore storage coefficient is given by the product between the interval volume and the test zone compressibility. The interval volume is calculated from the borehole radius and interval length. There are uncertainties concerning the interval volume calculation. Cavities or high transmissivity fractures intersecting the interval may enlarge the effective volume of the interval.

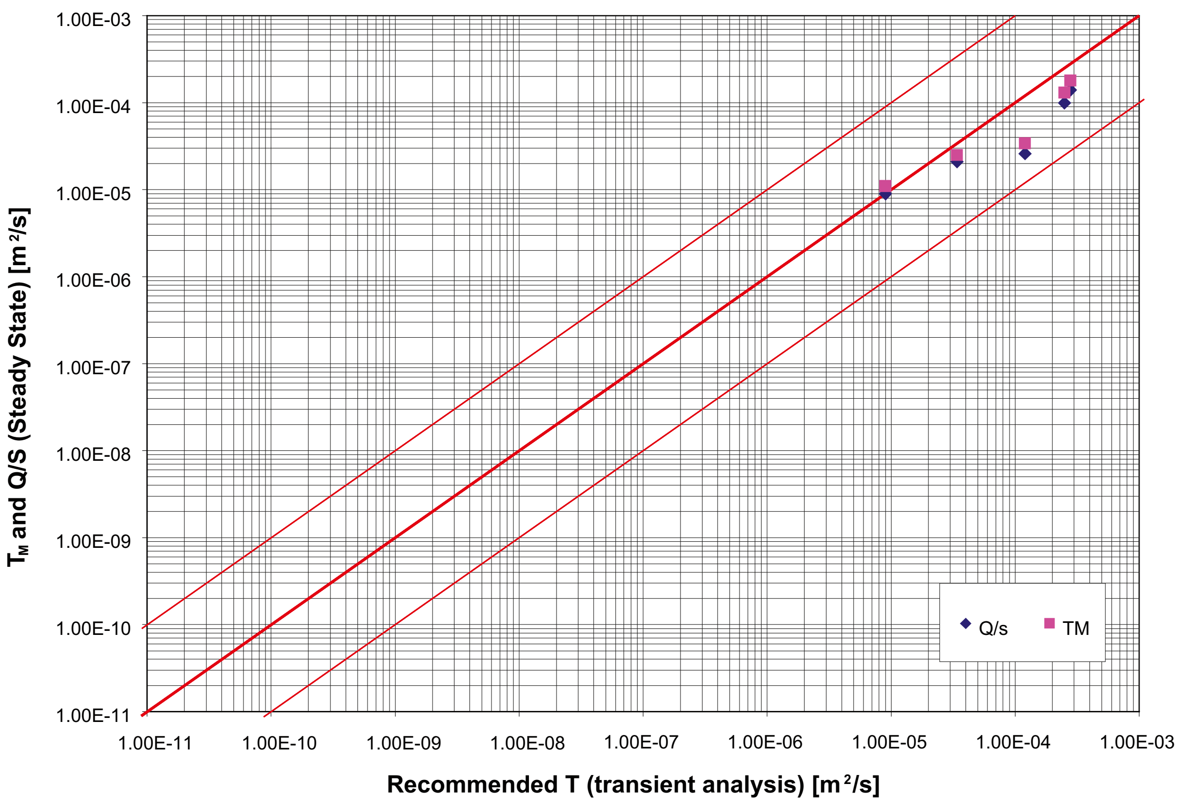


Figure 8-4. *Correlation analysis of transmissivities derived by steady state and transient methods for the pump tests.*

The test zone compressibility is given by the sum of compressibilities of the individual components present in the interval (water, packer elements, other test tool components and the borehole wall). The water compressibility depends on the temperature and salinity. However, for temperature and salinity values as encountered at the Oskarshamn site the water compressibility varies only slightly between $4.6 \cdot 10^{-10}$ 1/Pa and $5.0 \cdot 10^{-10}$ 1/Pa.

A water compressibility of ca $5 \cdot 10^{-10}$ 1/Pa and a rock compressibility of $1 \cdot 10^{-10}$ 1/Pa was assumed for the analysis. In addition, the test zone compressibility is influenced by the test tool (packer compliance). The test tool compressibility was calculated as follow:

$$c = \frac{\Delta V}{\Delta p} * \frac{1}{V} \quad [1/\text{Pa}]$$

ΔV Volume change of 2 Packers (The volume change was estimated at $7 \cdot 10^{-7}$ m³/100 kPa based on the results of laboratory tests conducted by GEOSIGMA) [m³].

Δp Pressure change in test section (usually $2 \cdot 10^{5}$ Pa) [Pa].

V Volume in test section [m³].

The following Table 8-4 presents the calculated compressibilities for each relevant section length. The average value for the test tool compressibility based on different section length is $2 \cdot 10^{-11}$ 1/Pa.

The sum of the compressibilities (water, rock, test tool) leads to a test zone compressibility with a value of $6 \cdot 10^{-10}$ 1/Pa. This value is used for the calculation of the theoretical wellbore storage coefficient. The resulting theoretical wellbore storage coefficients are $3.9 \cdot 10^{-11}$ m³/Pa for the 45 m section, $7.8 \cdot 10^{-11}$ m³/Pa for the 90 m section and $1.0 \cdot 10^{-10}$ m³/Pa. The matched wellbore storage coefficient is derived from the transient type curve analysis by matching the unit slope early times derivative plotted in log-log coordinates.

The following Figure 8-5 presents a cross-plot of the theoretical and matched wellbore storage coefficients derived by the pump tests.

It can be seen that the matched wellbore storage coefficients are up to two orders of magnitude larger than the theoretical values for the 120 m and 45 m tests and up to three orders of magnitude larger for the 90 m test. This phenomenon was already observed at the injection tests in previous boreholes. A two or three orders of magnitude increase is difficult to explain by volume uncertainty. Even if large fractures are connected to the interval, a volume increase by three orders of magnitude does not seem probable. The discrepancy is not fully understood, but following hypothesis may be formulated:

- increased compressibility of the packer system,
- potentially the phenomenon of increased wellbore storage coefficients can be explained by turbulent flow induced by the test in the vicinity of the borehole. Considering the fact that deviations concerning the wellbore storage rather occur in test sections with a higher transmissivity (which can lead to turbulent flow) seems to rest upon this hypothesis.

Table 8-4. Test tool compressibility values based on packer displacement.

Length of test section [m]	Volume in test section [m³]	Compressibility [1/Pa]
45	0.204	$3 \cdot 10^{-11}$
90	0.408	$2 \cdot 10^{-11}$
120	0.544	$1 \cdot 10^{-11}$
Average compressibility:		$2 \cdot 10^{-11}$

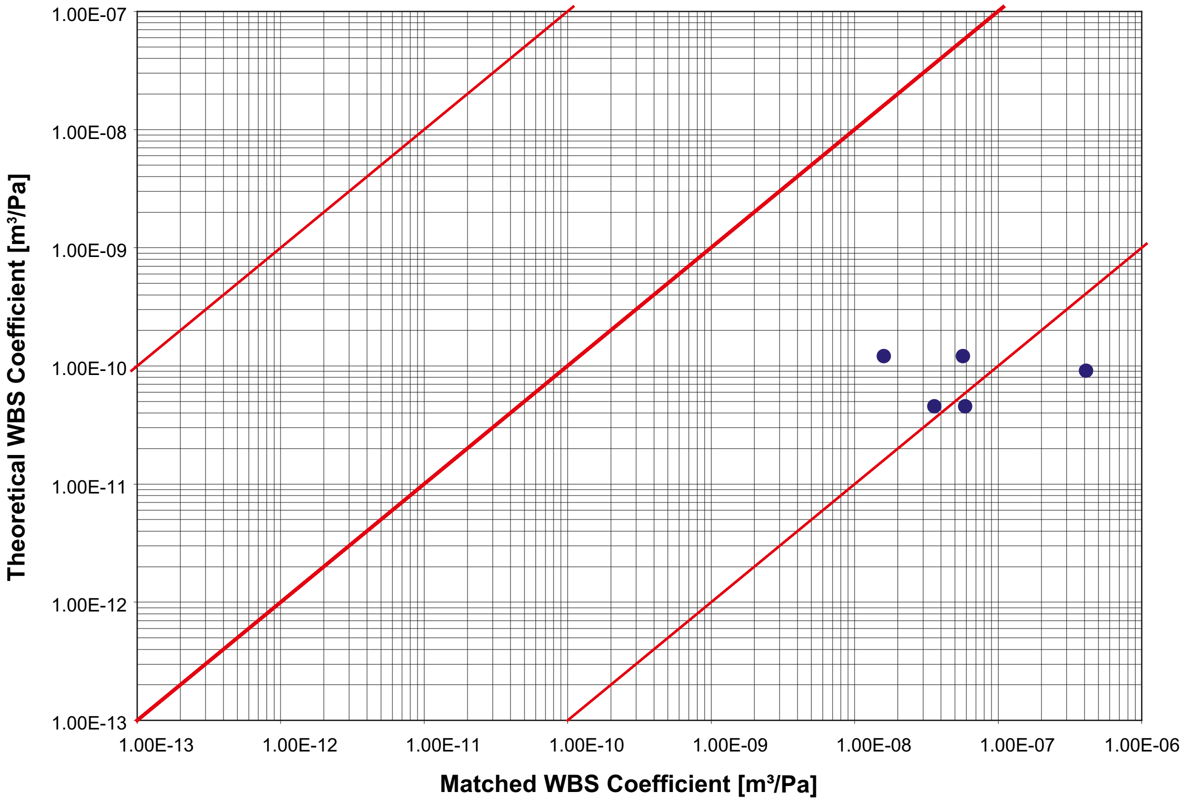


Figure 8-5. *Correlation analysis of theoretical and matched wellbore storage coefficients.*

9 Conclusions

9.1 Transmissivity derived from the pump tests

Figure 8-1 presents a profile of transmissivities, including the confidence range derived from the transient analysis. The method used for deriving the recommended transmissivity and its confidence range is described in Section 5.5.8.

Whenever possible, the transmissivities derived are representative for the "undisturbed formation" further away from the borehole. The borehole vicinity was typically described by using a skin effect. If a composite flow model was chosen the inner zone transmissivity was recommended.

The transmissivity profile in Figure 8-1 shows a transmissivity between $9.0 \cdot 10^{-6}$ m^2/s and $2.8 \cdot 10^{-4}$ m^2/s. The transmissivities derived from the pump tests are consistent with the results derived from the injection tests (see Figure 8-3).

9.2 Flow regimes encountered

The flow models used in analysis were derived from the shape of the pressure derivative calculated with respect to log time and plotted in log-log coordinates.

In several cases the pressure derivative suggests a change of transmissivity with the distance from the borehole. In such cases a composite flow model was used in the analysis.

The flow dimension displayed by the test can be diagnosed from the slope of the pressure derivative. A slope of 0.5 indicates linear flow, a slope of 0 (horizontal derivative) indicates radial flow and a slope of –0.5 indicates spherical flow. The flow dimension diagnosis was commented for each of the tests. However, in all cases it was possible to achieve to acceptable analysis results (good match quality) by using radial flow geometry (flow dimension of 2).

9.3 Interference tests and hydraulic connectivity

For the interference tests five constant rate tests were performed in KLX07A. 50 sections in 22 boreholes along the lineament EW007 and northeast of KLX07A were monitored. During the pump test in the test sections 103.20–193.20 m and 193.00–313.00 m 15 observed sections responded due to pumping and 11 sections responded during pumping in test section 335.00–455.00 m. No response was observed during performing the constant rate test in test sections 610.00–655.00 m and 747.00–792.00 m.

The responded observation sections are located in boreholes along the lineament EW007 approximately 300–400 m away from KLX07A and the sections in the observation holes KLX02 and KLX07B lying near by the pump hole KLX07A.

In average, the highest drawdown in the observation holes was measured during the pump test in section 103.20–193.20 and the lowest during pumping in test section 335.00–455.00 m. The evaluation of the interference test data shows a low to medium response and a medium to excellent response time.

The recommended transmissivities derived from the transient analysis ranges in the most cases from $1 \cdot 10^{-4}$ m^2/s to $4 \cdot 10^{-4}$ m^2/s and in a few cases up to $7 \cdot 10^{-4}$ m^2/s.

Exceptions are the transmissivities derived form HLX23_1, HLX23_2 and HLX24 while pumping in section 103.20–193.20 m and while pumping in 193.00–313.00 m with values around $2 \cdot 10^{-3}$ m^2/s and $3 \cdot 10^{-3}$ m^2/s, respectively. During pumping in section 335.00–455.00 m a low pressure response was observed and no transmissivity was recommended due to the poor data quality. Both boreholes HLX23 and HLX24 are located near the lineament EW007. The relatively high transmissivity and low drawdown, respectively, is probably caused by the good connection to lineament EW007.

Other exceptions are the results from HLX22_1, HLX22_2 and KLX02_6 during pumping in section 193.00–313 m with a transmissivity between $9 \cdot 10^{-4}$ m^2/s and $1 \cdot 10^{-3}$ m^2/s. The transmissivities derived from the other test sections (103.20–193.20 m and 335.00–455.00 m) are in the range of the above mentioned. This derivation is probably because of the poor data quality and resulting uncertainties in the analysis. The differences are covered by the confidence range.

10 References

Bourdet D, Ayoub J A, Pirard Y M, 1989. Use of pressure derivative in well-test interpretation. Coc. Of Petroleum Engineers, SPE Formation Evaluation, pp. 293–302.

Gringarten A C, 1986. Computer-aided well-test analysis. SPE Paper 14099.

Horne R N, 1990. Modern well test analysis. Petroway, Inc., Palo Alto, Calif.

Horner D R, 1951. Pressure build-up in wells. Third World Pet. Congress, E.J. Brill, Leiden II, pp. 503–521.

Moye D G, 1967. Diamond drilling for foundation exploration Civil Eng. Trans., Inst. Eng. Australia, Apr. 1967, pp. 95–100.

Rahm N, Enachescu C, 2005. Oskarshamn site investigation – Hydraulic injection tests in borehole KLX07A, 2005 – Laxemar. SKB P-05-273, Svensk Kärnbränslehantering AB.

Rhen I, 2005. Reporting influence radius – proposal (2005-02-09).

SKB, 2001. Platsundersökningar – Undersökningsmetoder och generellt genomförandeprogram. SKB R-01-10, Svensk Kärnbränslehantering AB

SKB, 2002. Execution programme for the initial site investigations at Simpevarp. SKB P-02-06, Svensk Kärnbränslehantering AB.

SKB, 2006. Oskarshamn site investigation – Programme for further investigations of bedrock, soil, water and environment in Laxemar subarea. SKB R-06-29, Svensk Kärnbränslehantering AB.

Streltsova T D, 1988. Well testing in heterogeneous formations. John Wiley & Sons, New York.

Theis C V, 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage. Trans. Am. Geophys. Union 16:519–524.

APPENDIX 1

File Description Table

HYDROTESTING WITH PSS					DRILLHOLE IDENTIFICATION NO.: KLX07A				
TEST- AND FILEPROTOCOL					Testorder dated : 2005-09-12				
Teststart		Interval boundaries		Name of Datafiles		Testtype	Copied to	Plotted	Sign.
Date	Time	Upper	Lower	(*.HT2-file)	(*.CSV-file)		disk/CD	(date)	
2005-10-28	09:51	103.20	193.20	__KLX07A_0103.20_200510280951.ht2	KLX07A_103.20-193.20_051028_1_CRwr_Q_r.csv	CRwr	2005-12-09	2005-11-04	
2005-11-04	21:35	335.00	455.00	__KLX07A_0335.00_200511042135.ht2	KLX07A_335.00-455.00_051104_1_CRwr_Q_r.csv	CRwr	2005-12-09	2005-11-12	
2005-11-12	18:54	193.00	313.00	__KLX07A_0193.00_200511121854.ht2	KLX07A_193.00-313.00_051112_1_CRwr_Q_r.csv	CRwr	2005-12-09	2005-11-21	
2005-11-22	21:14	747.00	792.00	__KLX07A_0747.00_200511222114.ht2	KLX07A_747.00-792.00_051122_1_CRwr_Q_r.csv	CRwr	2005-12-09	2005-12-09	
2005-11-30	10:14	610.00	655.00	__KLX07A_0610.00_200511301014.ht2	KLX07A_610.00-655.00_051130_1_CRwr_Q_r.csv	CRwr	2005-12-09	2005-12-09	

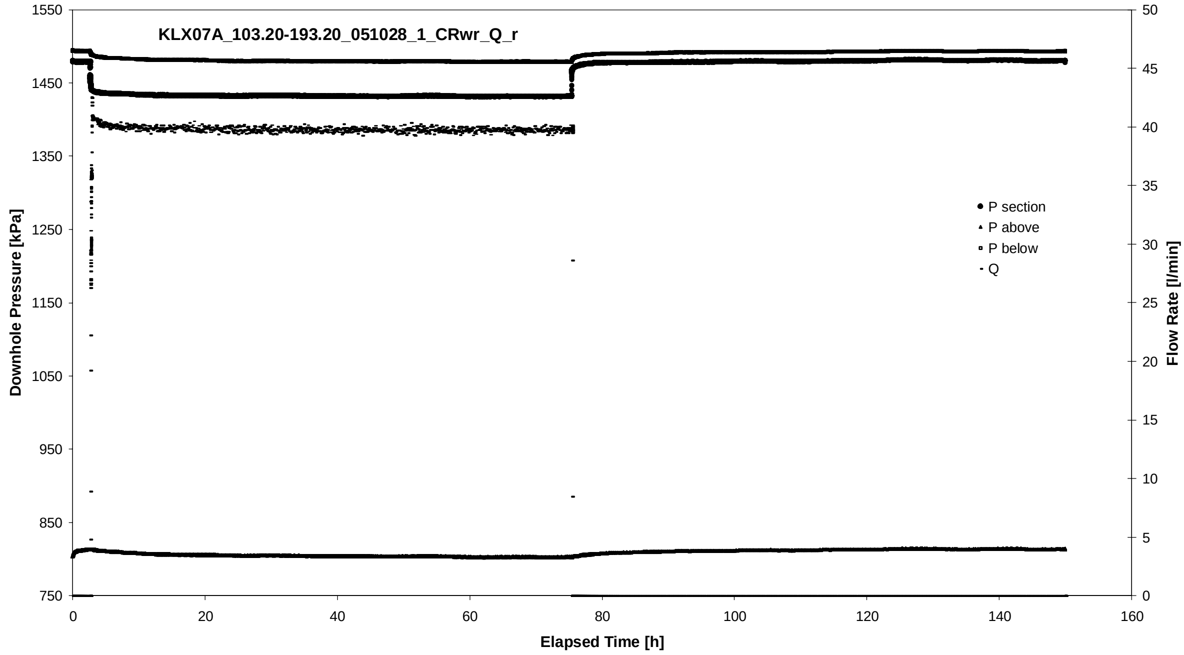
APPENDIX 2

Pump Test Analysis diagrams

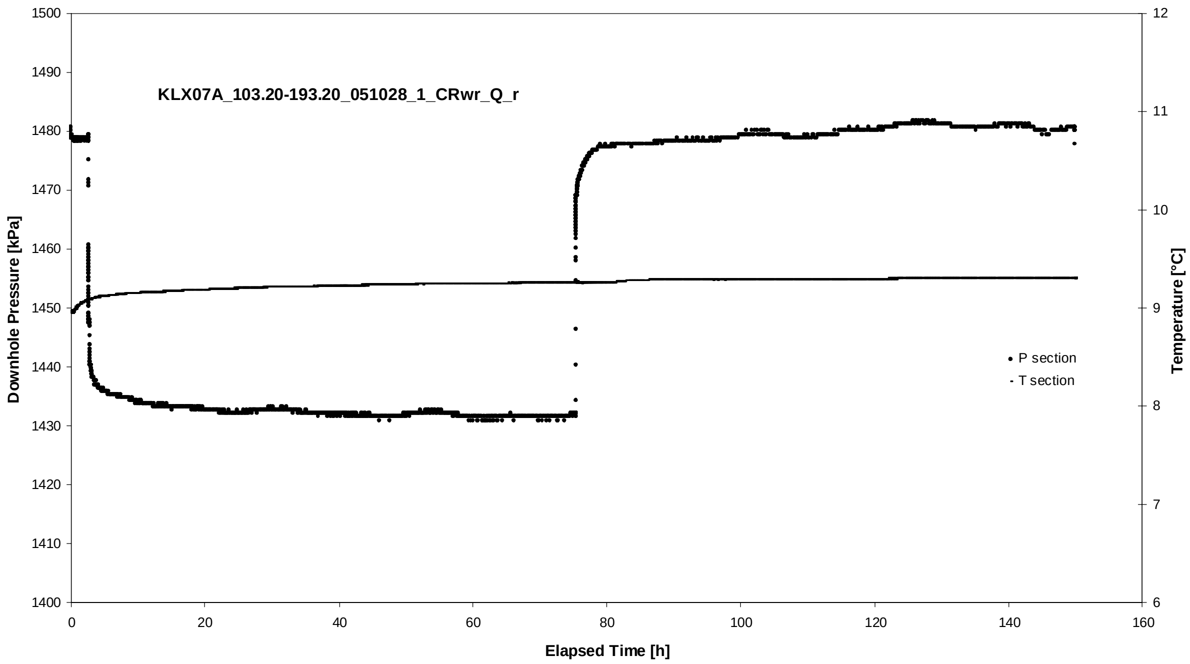
APPENDIX 2-1

Test 103.20 – 193.20 m

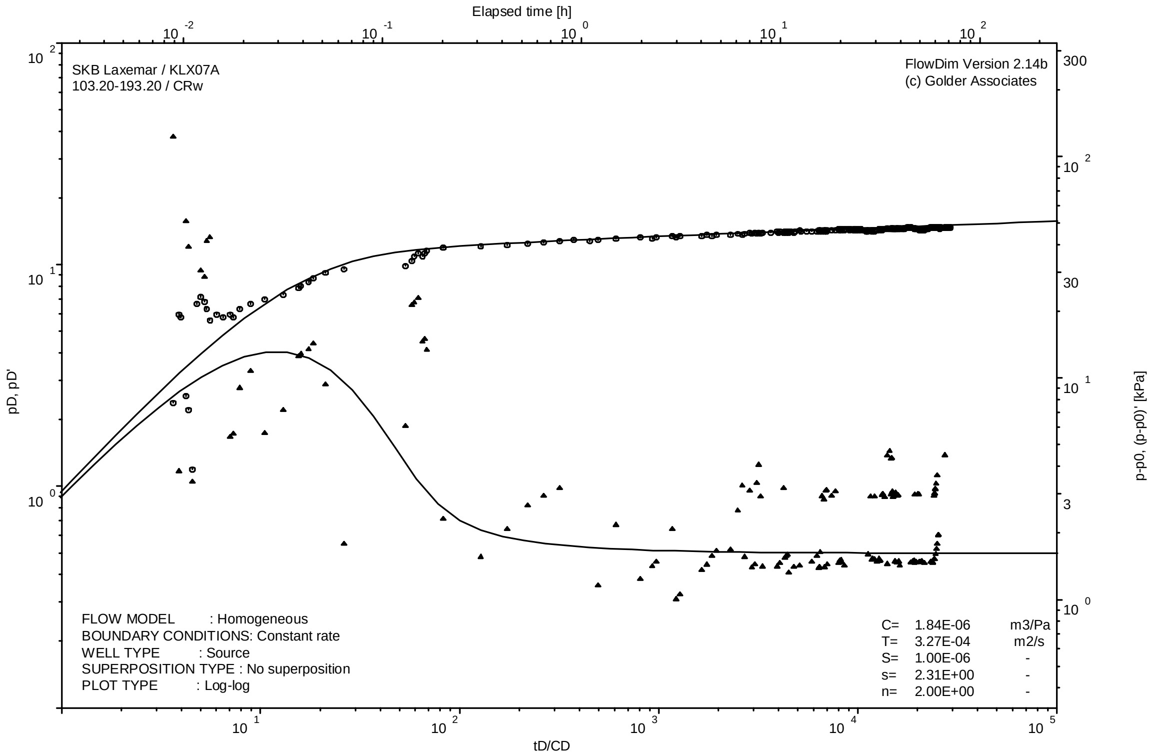
Pump Test Analysis diagrams



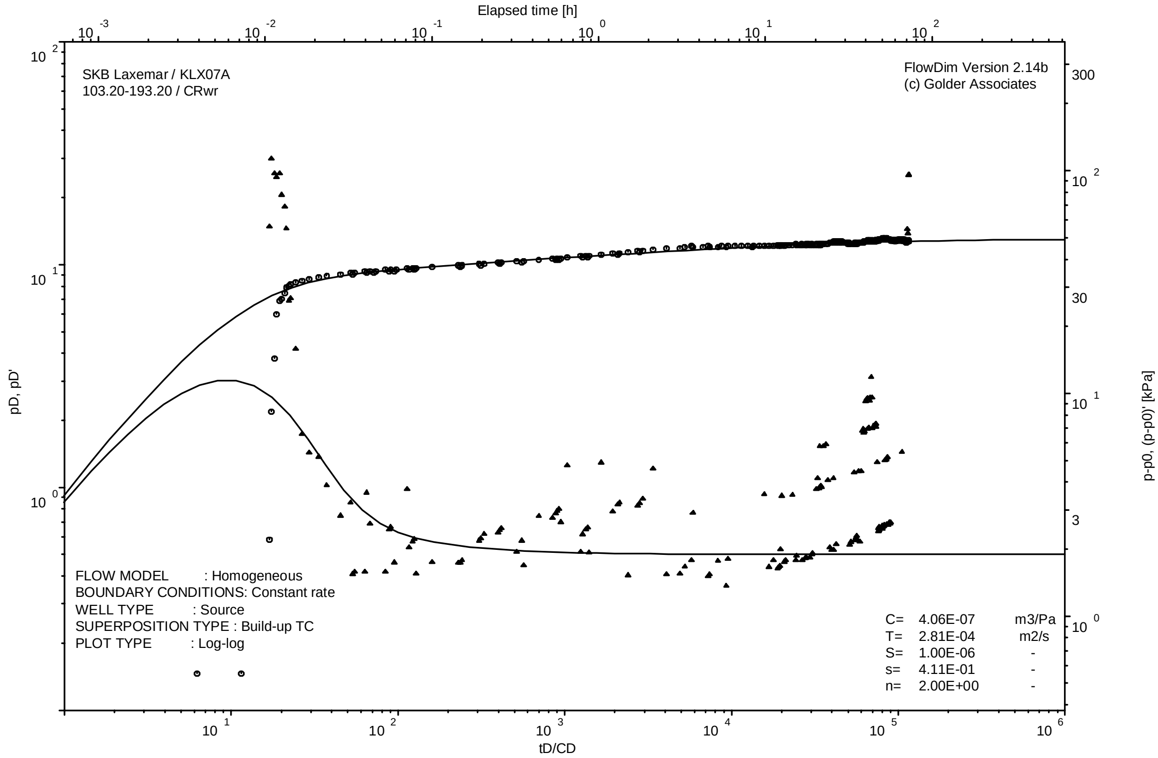
Pressure and flow rate vs. time; cartesian plot



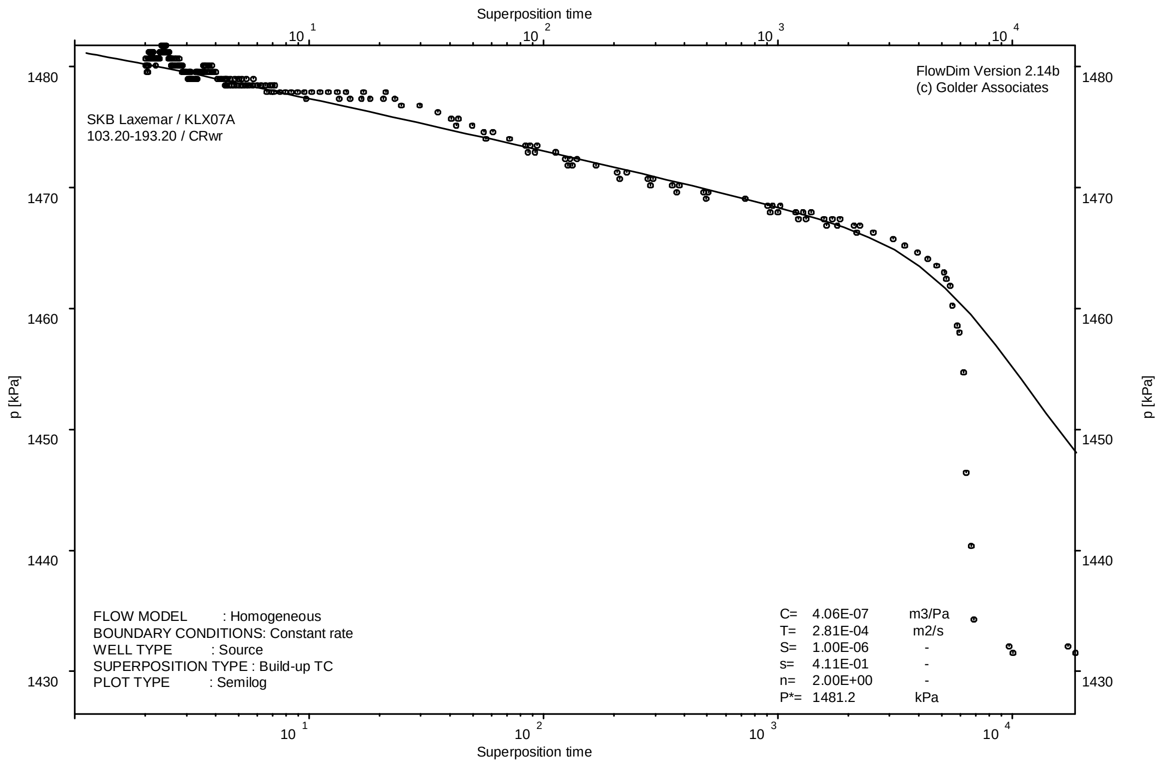
Interval pressure and temperature vs. time; cartesian plot



CRw phase; log-log match



CRwr phase; log-log match

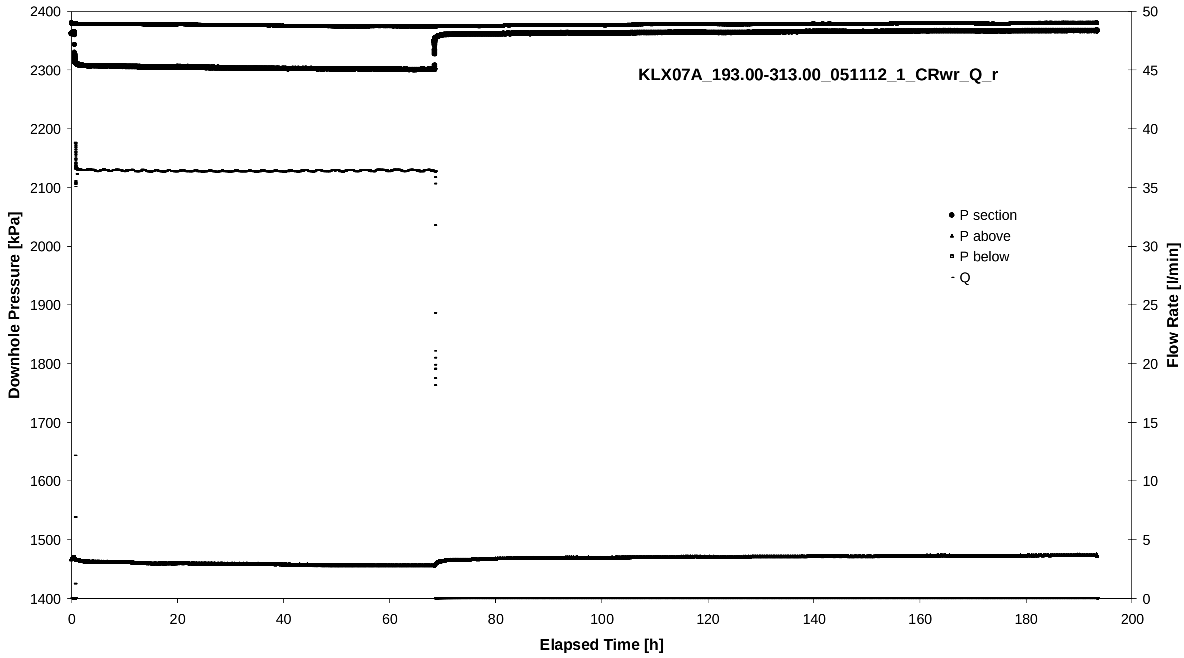


CRwr phase; HORNER match

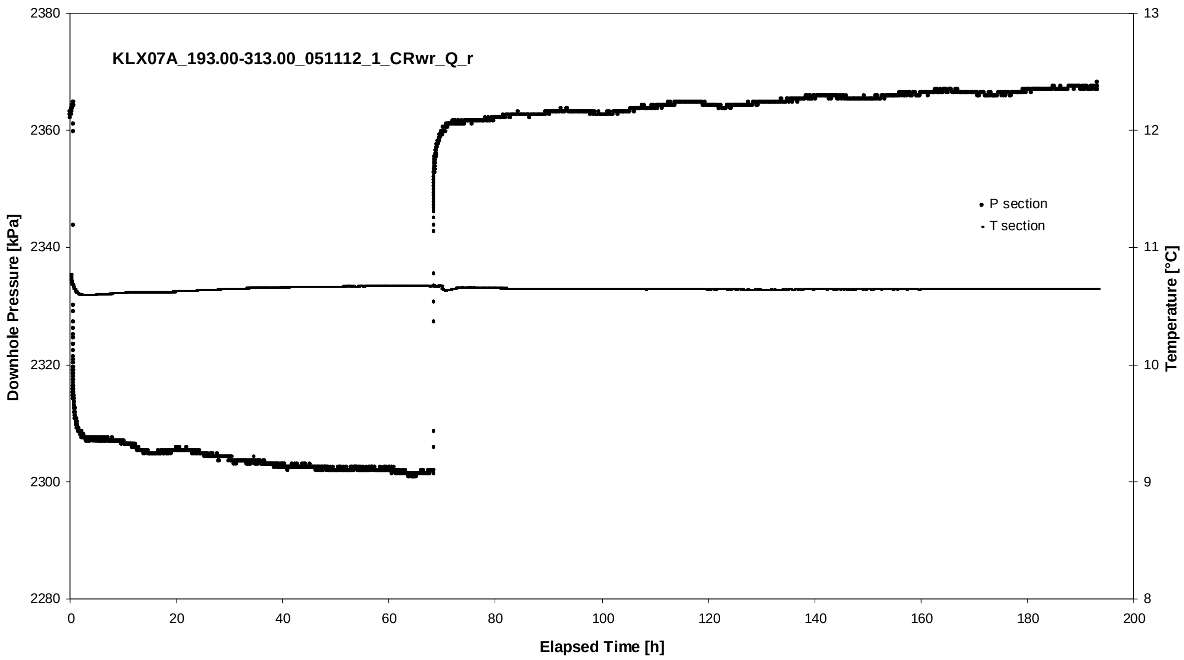
APPENDIX 2-2

Test 193.00 – 313.00 m

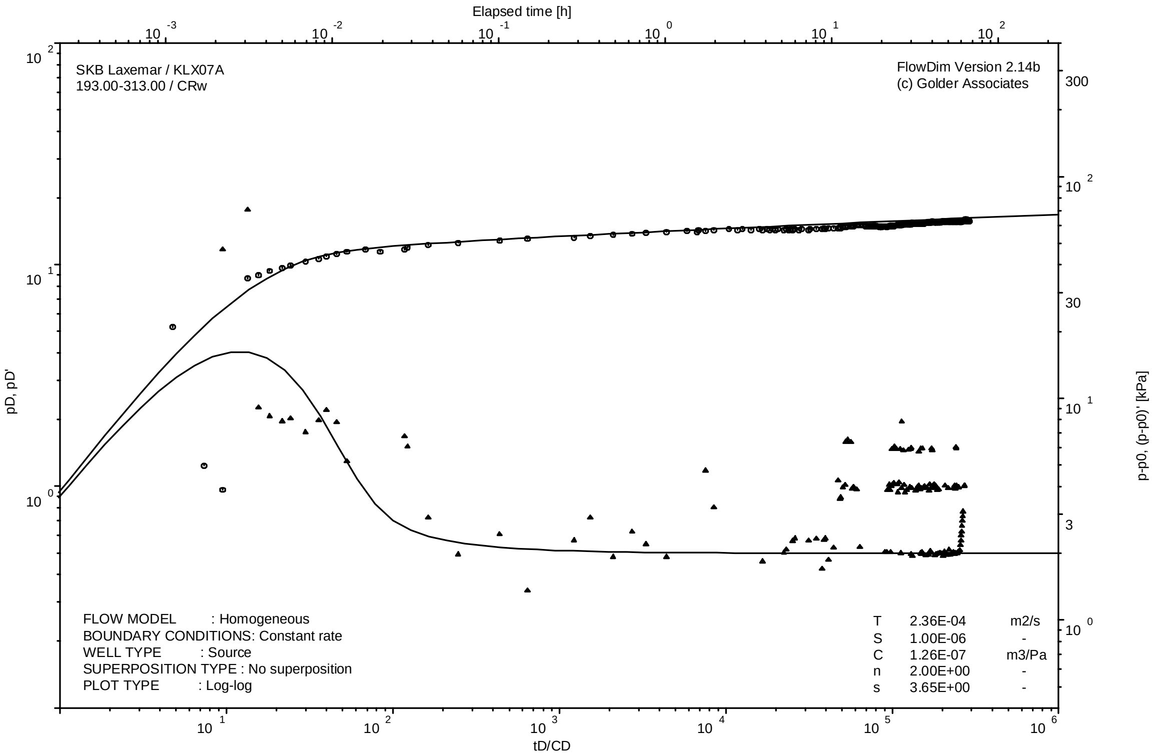
Pump Test Analysis diagrams



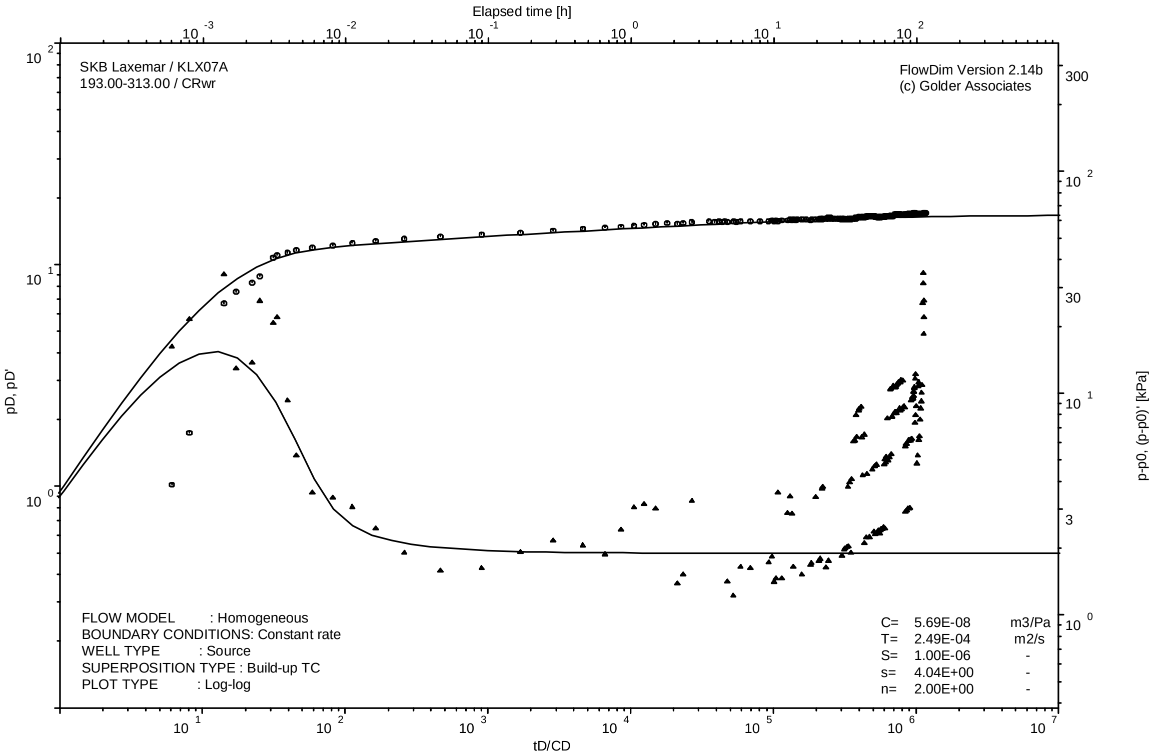
Pressure and flow rate vs. time; cartesian plot



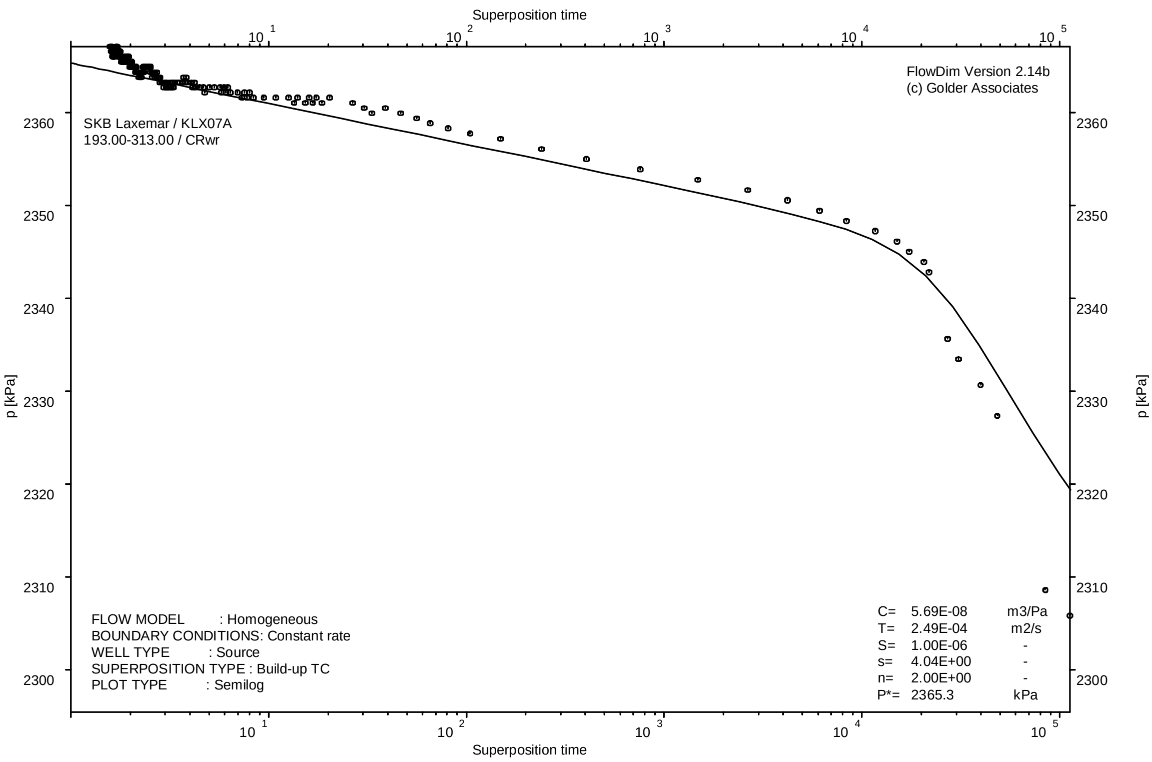
Interval pressure and temperature vs. time; cartesian plot



CRw phase; log-log match



CRwr phase; log-log match

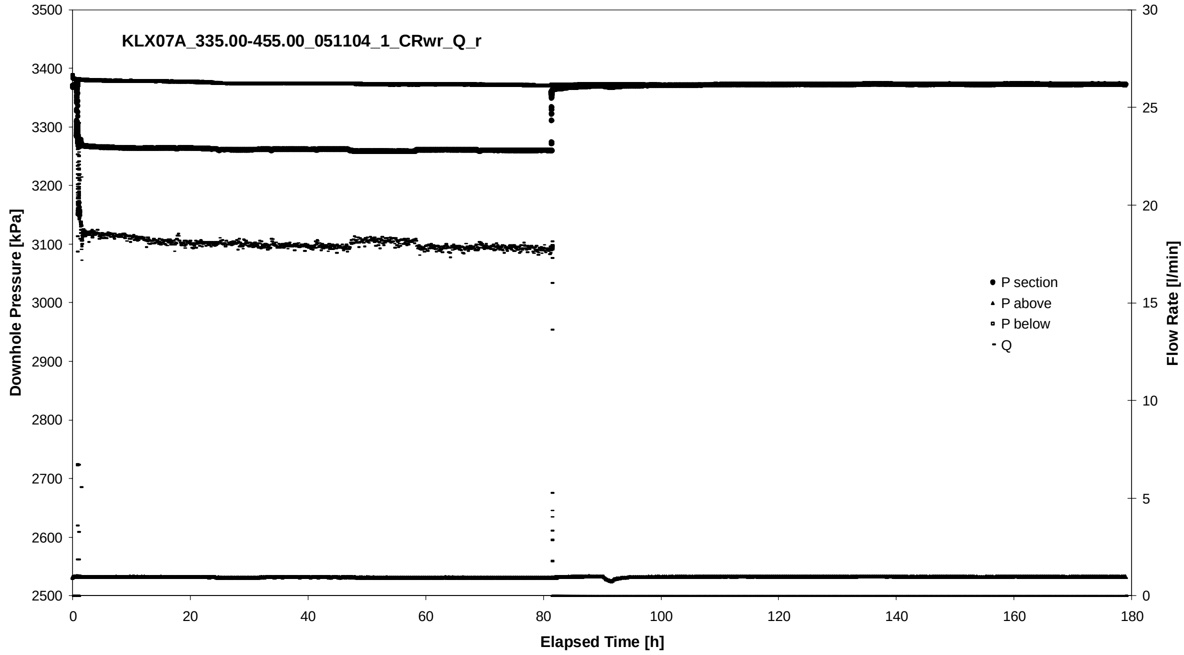


CRwr phase; HORNER match

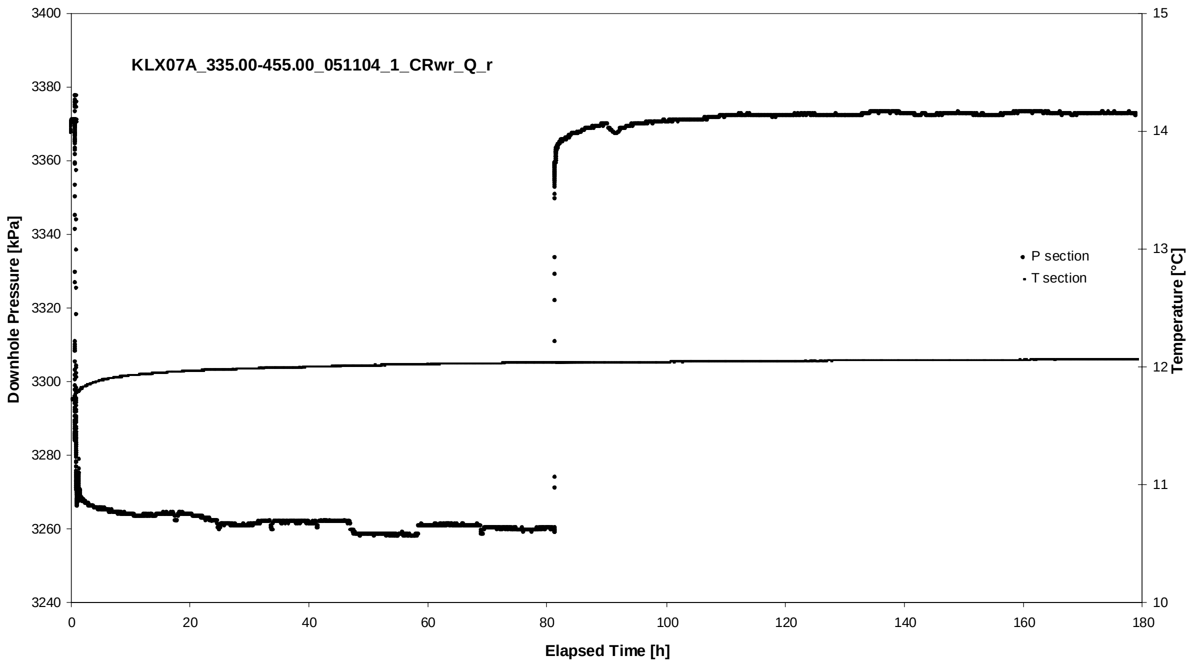
APPENDIX 2-3

Test 335.00 – 455.00 m

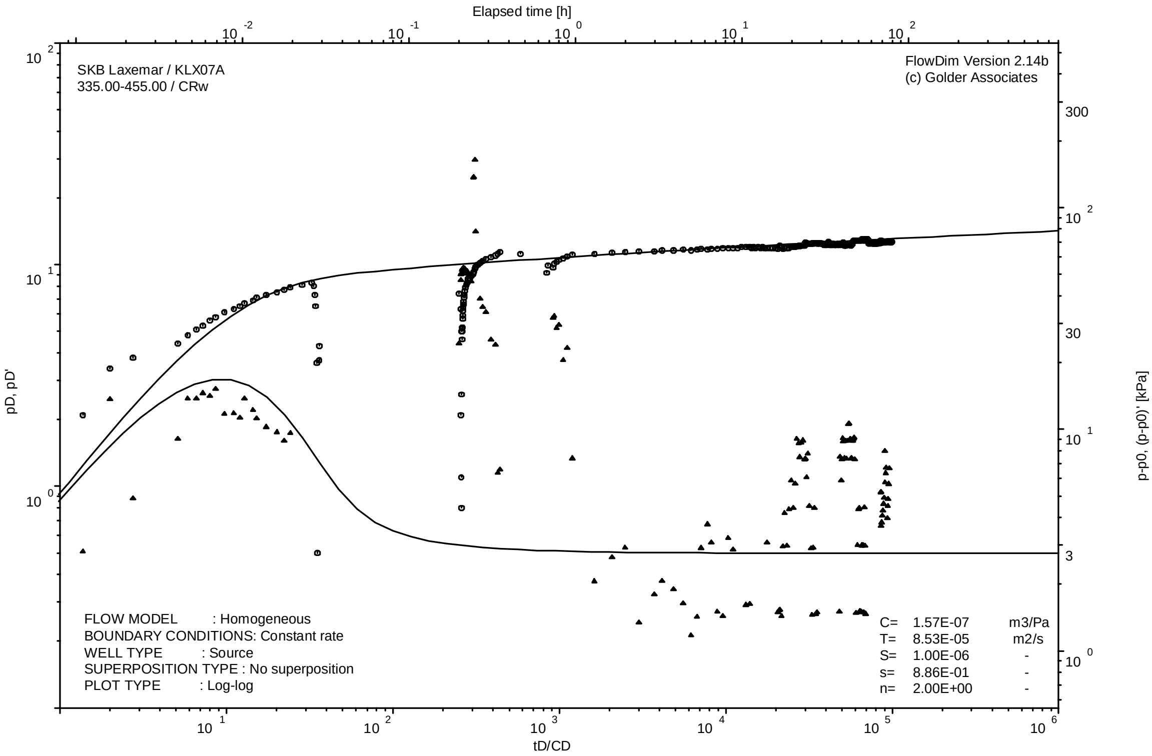
Pump Test Analysis diagrams



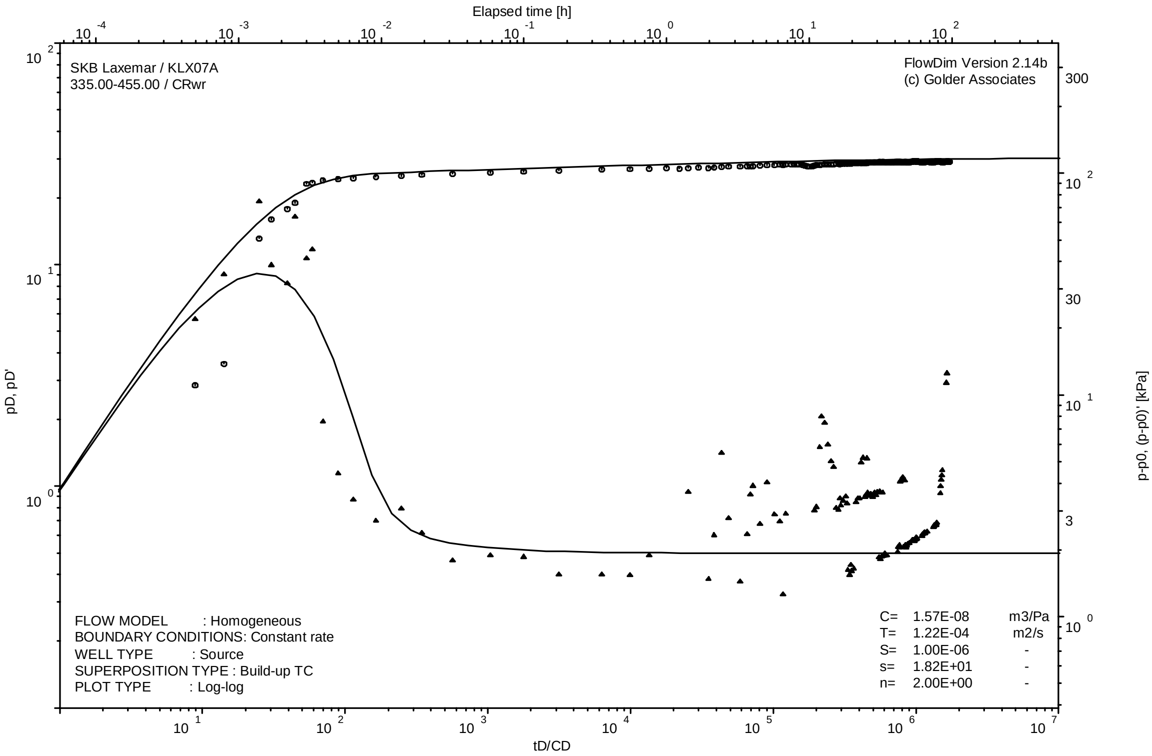
Pressure and flow rate vs. time; cartesian plot



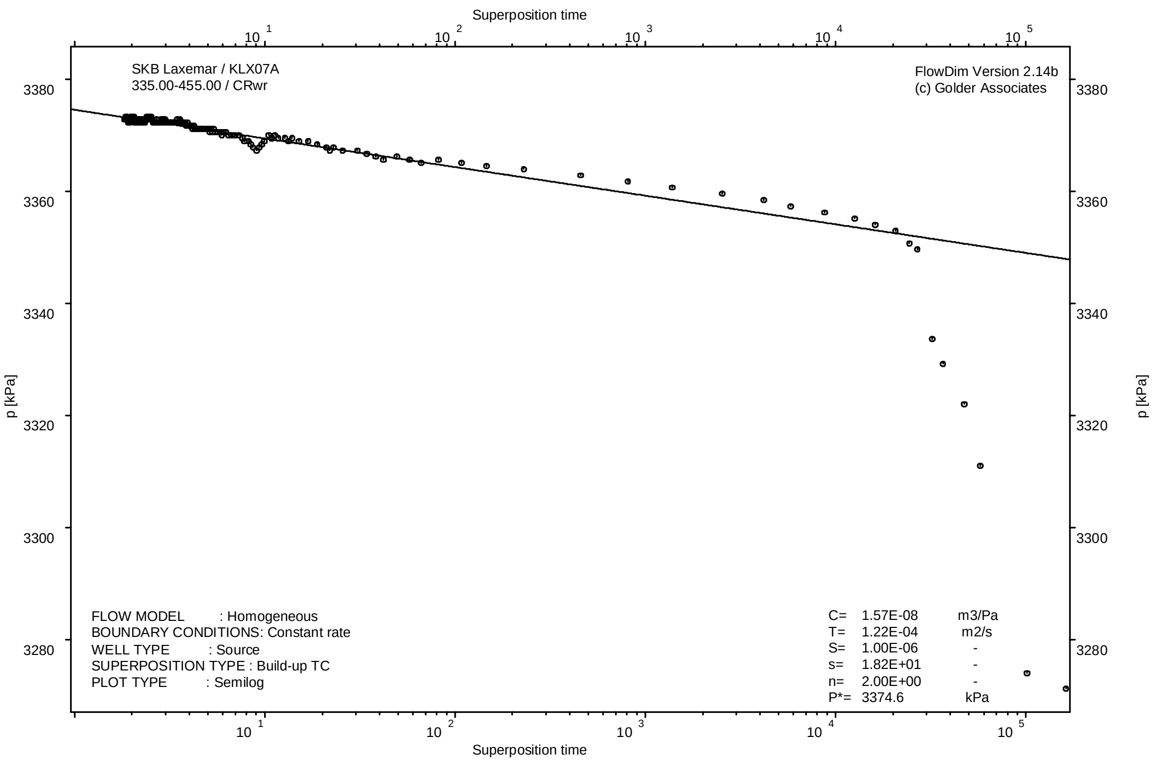
Interval pressure and temperature vs. time; cartesian plot



CRw phase; log-log match



CRwr phase; log-log match

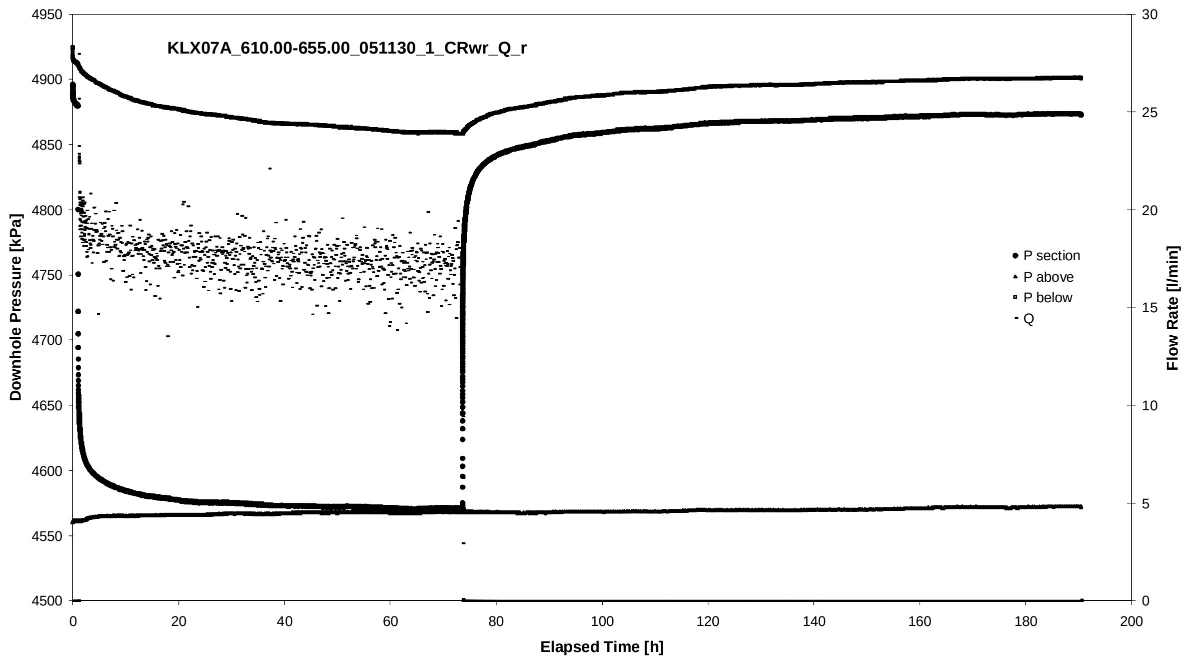


CRwr phase; HORNER match

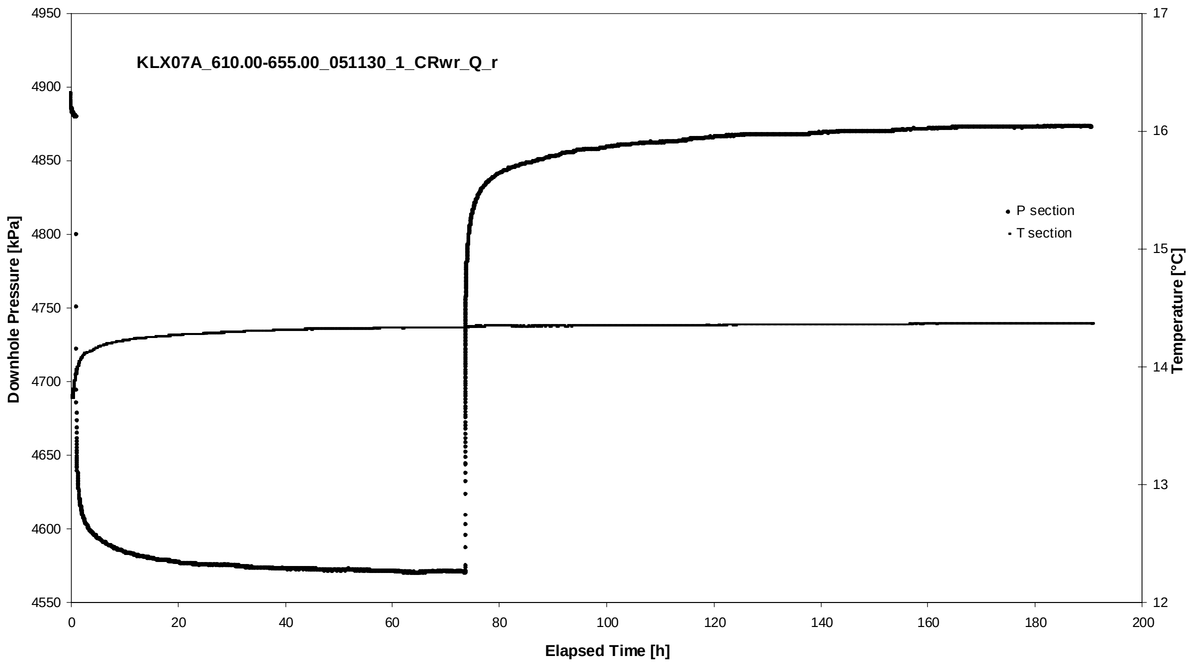
APPENDIX 2-4

Test 610.00 – 655.00 m

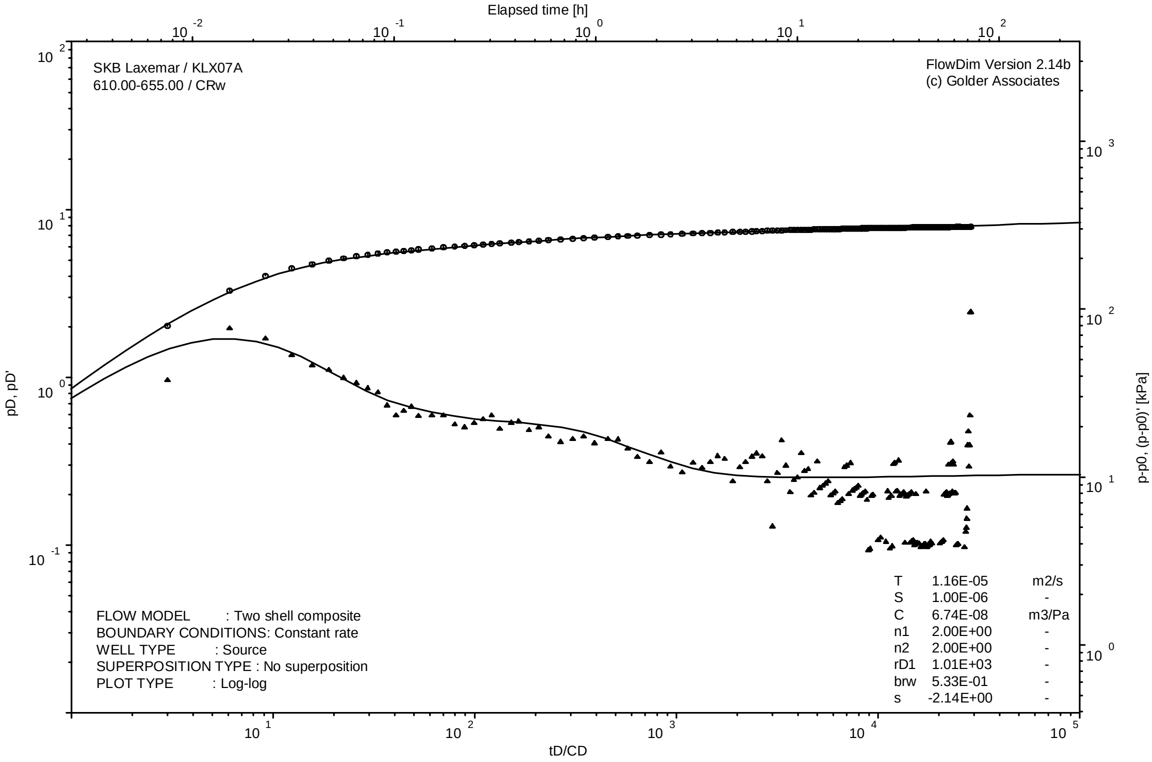
Pump Test Analysis diagrams



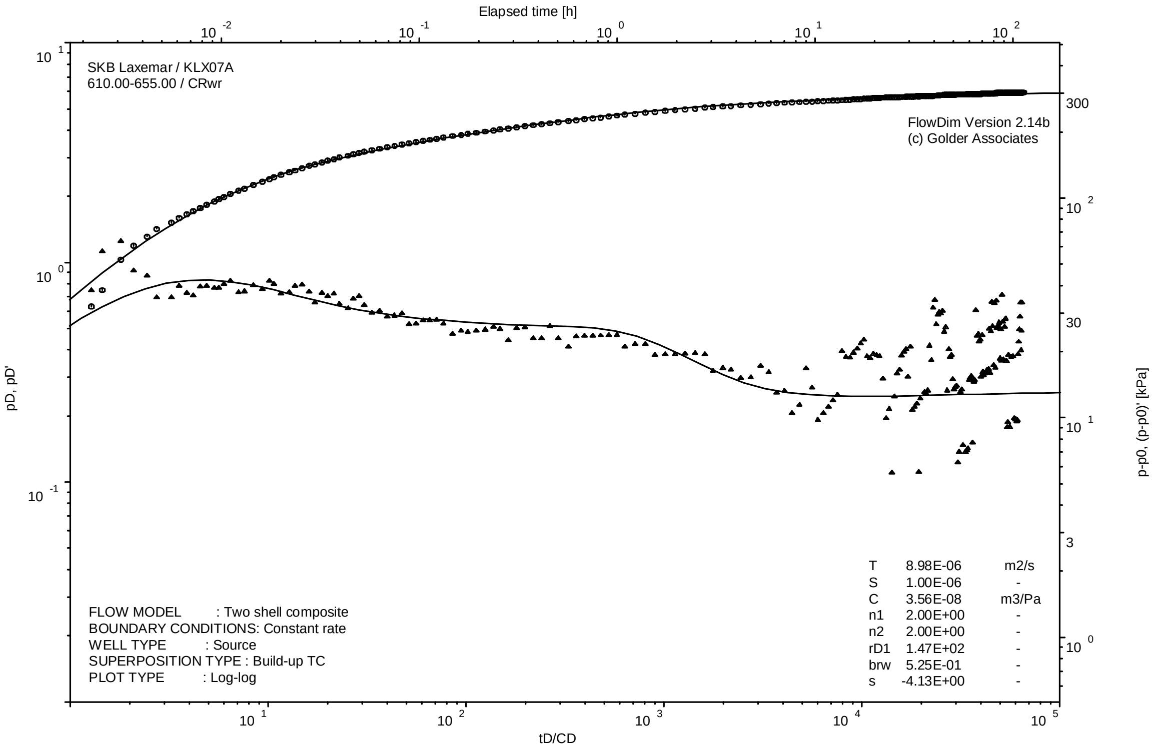
Pressure and flow rate vs. time; cartesian plot



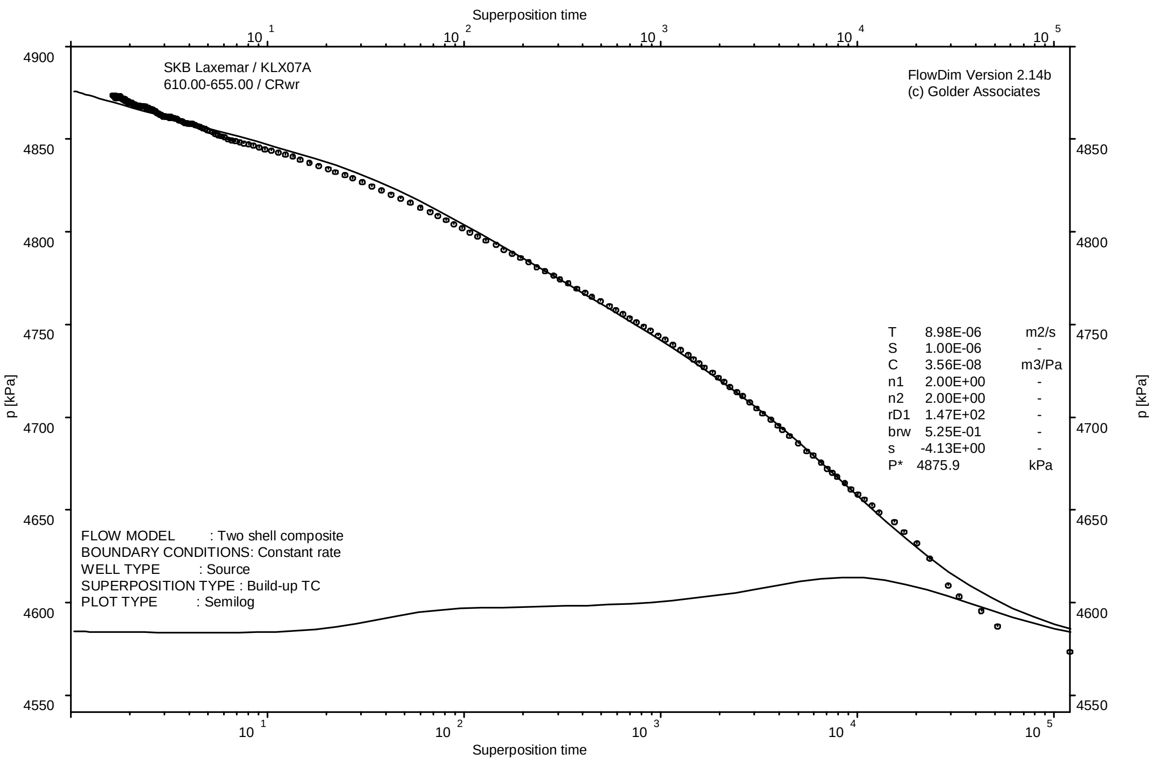
Interval pressure and temperature vs. time; cartesian plot



CRw phase; log-log match



CRwr phase; log-log match

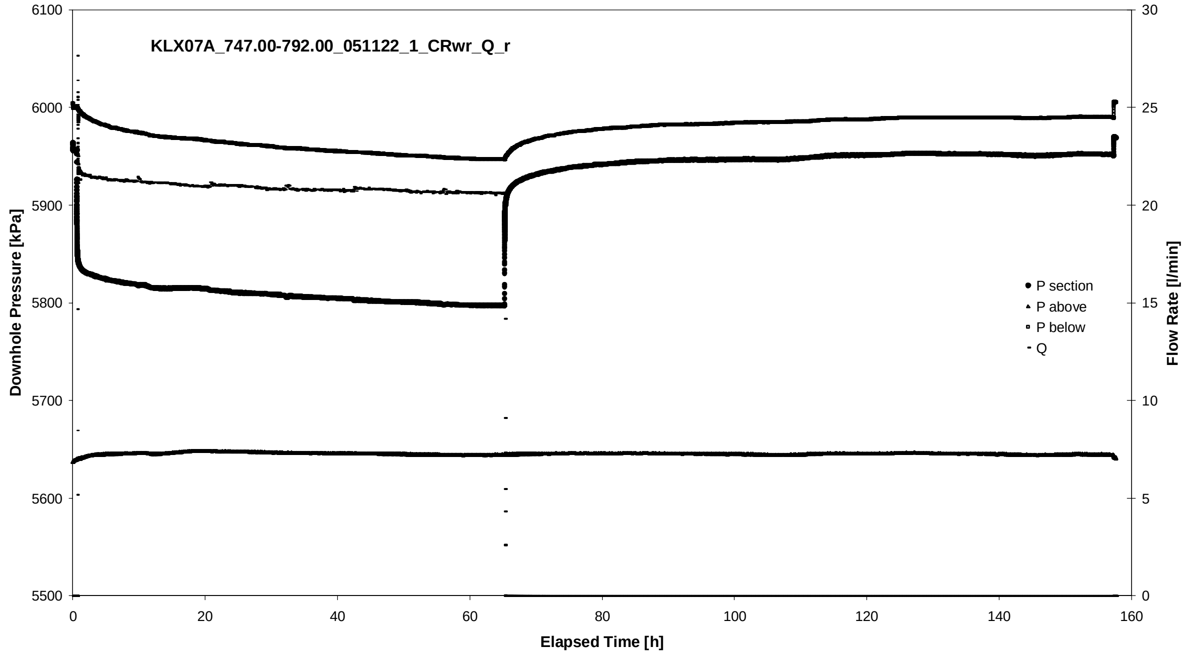


CRwr phase; HORNER match

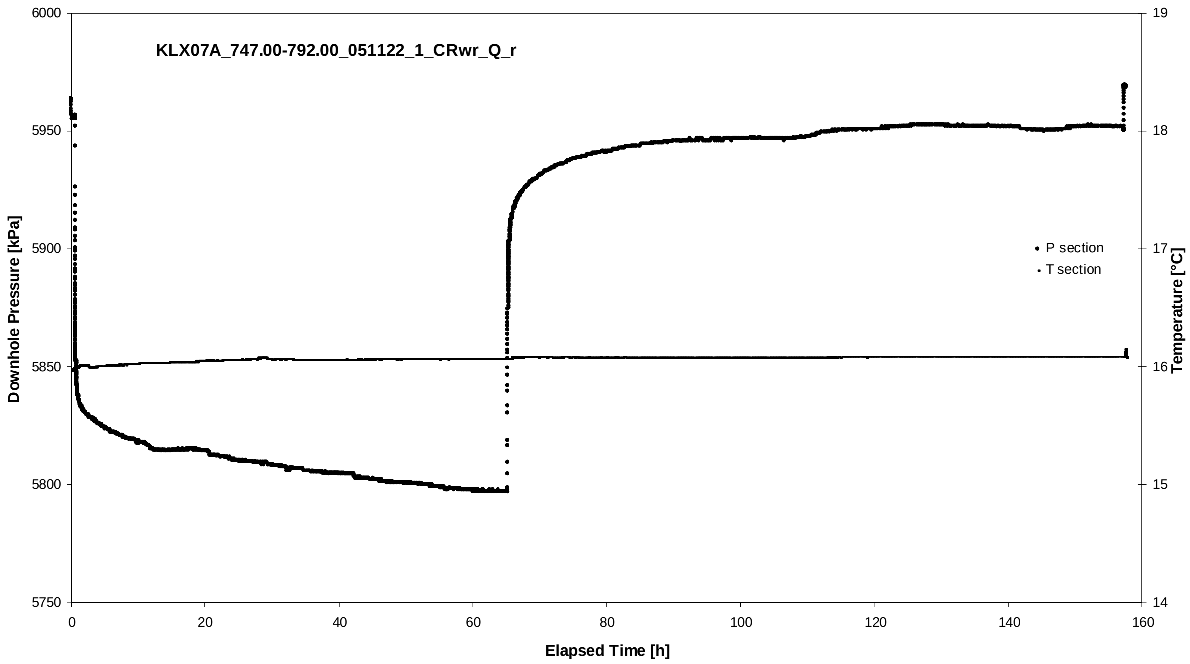
APPENDIX 2-5

Test 747.00 – 792.00 m

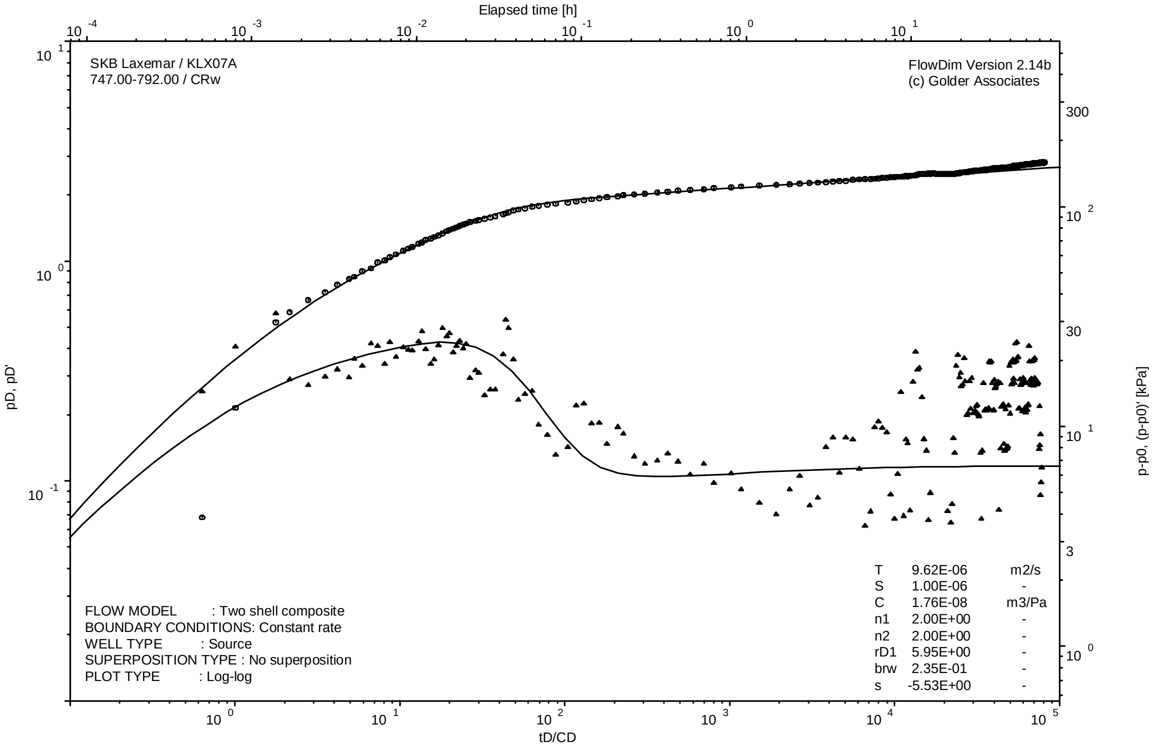
Pump Test Analysis diagrams



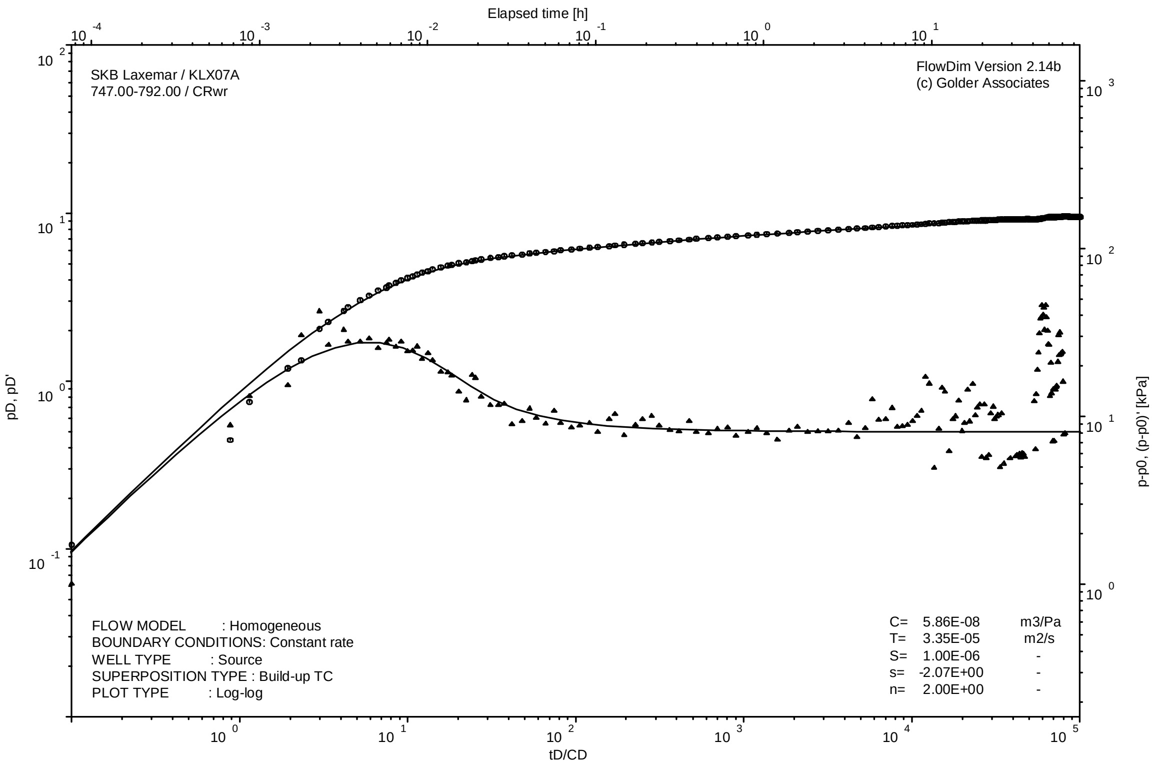
Pressure and flow rate vs. time; cartesian plot



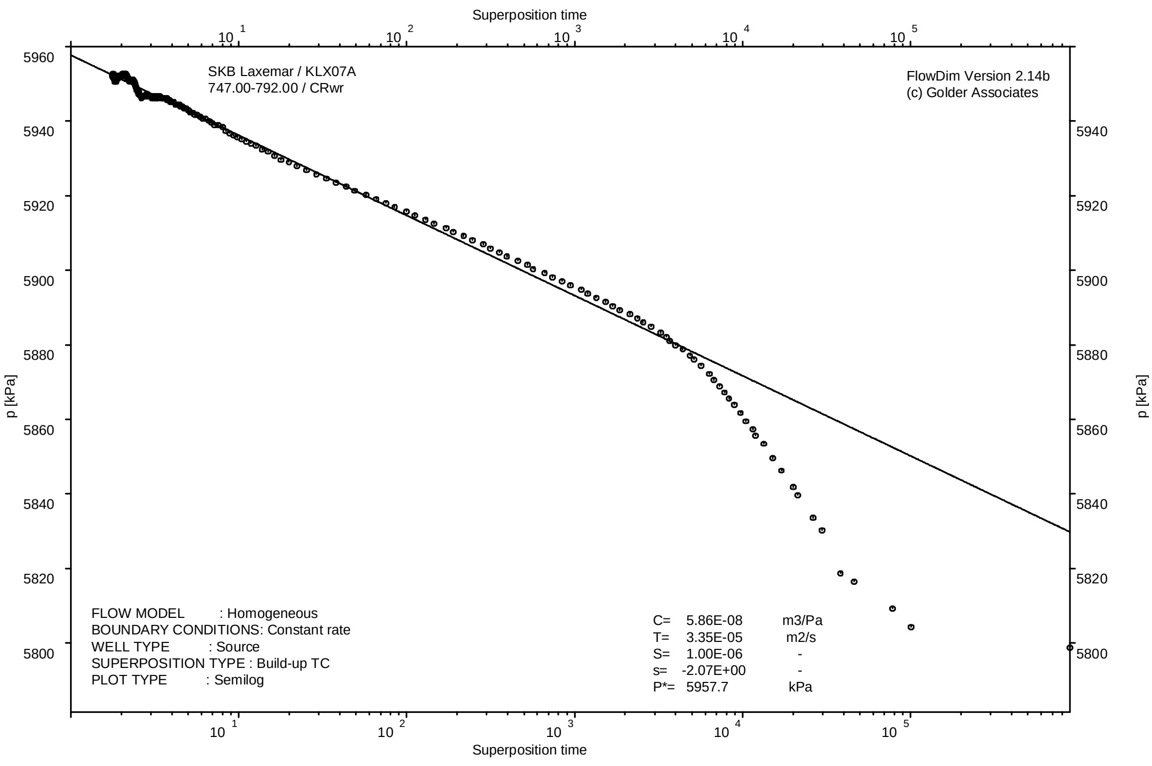
Interval pressure and temperature vs. time; cartesian plot



CRw phase; log-log match



CRwr phase; log-log match



CRwr phase; HORNER match

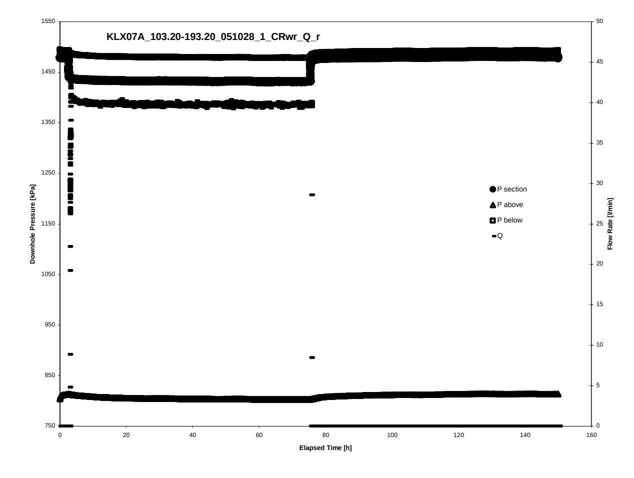
APPENDIX 3

Pump Test Summary Sheets

Test Summary Sheet

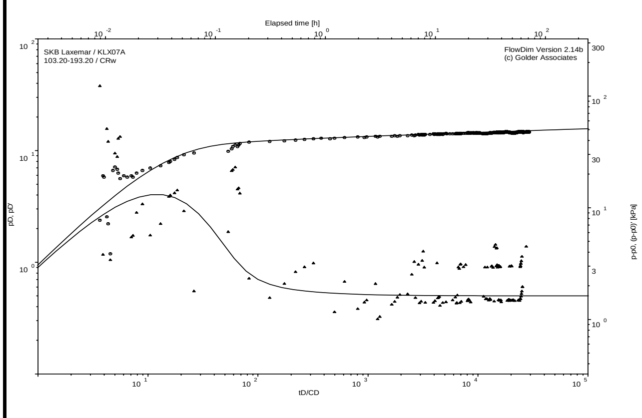
Project:	Oskarshamn site investigation	Test type:[1]	CRwr
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07A	Test start:	051028 09:51
Test section from - to (m):	103.20-193.20 m	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):	0.076	Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

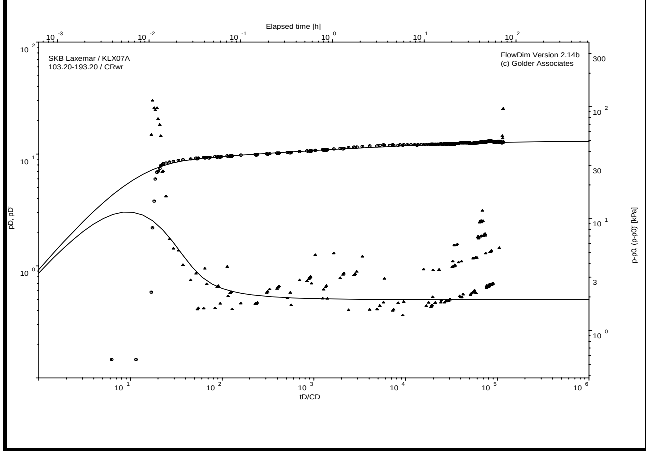


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =	1478		
p_i (kPa) =	1478		
p_p(kPa) =	1432	p_F (kPa) =	1480
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=	1.00E-06	S el S^* (-)=	1.00E-06
EC_w (mS/m)=			
$Temp_w$(gr C)=	9.3		
Derivative fact.=	0.07	Derivative fact.=	0.07
Results		**Results**	
Q/s (m^2/s)=	1.4E-04		
T_M (m^2/s)=	1.8E-04		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	72.65	dt_1 (min) =	4.37
dt_2 (min) =	3575.40	dt_2 (min) =	1110.78
T (m^2/s) =	3.3E-04	T (m^2/s) =	2.8E-04
S (-) =	1.0E-06	S (-) =	1.0E-06
K_s (m/s) =	3.6E-06	K_s (m/s) =	3.1E-06
S_s (1/m) =	1.1E-08	S_s (1/m) =	1.1E-08
C (m^3/Pa) =	NA	C (m^3/Pa) =	4.1E-07
C_D (-) =	NA	C_D (-) =	4.5E+01
ξ (-) =	2.31	ξ (-) =	0.41
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	4.37	C (m^3/Pa) =	4.1E-07
dt_2 (min) =	1110.78	C_D (-) =	4.5E+01
T_T (m^2/s) =	2.8E-04	ξ (-) =	0.41
S (-) =	1.0E-06		
K_s (m/s) =	3.1E-06		
S_s (1/m) =	1.1E-08		

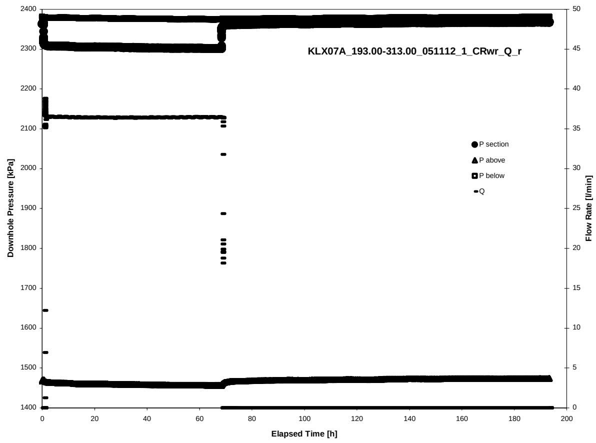
Comments:

The recommended transmissivity of 2.8•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be 9.0•10-5 to 4.0•10-4 m2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CHwr phase using straight line extrapolation in the Horner plot to a value of 1481.2 kPa.

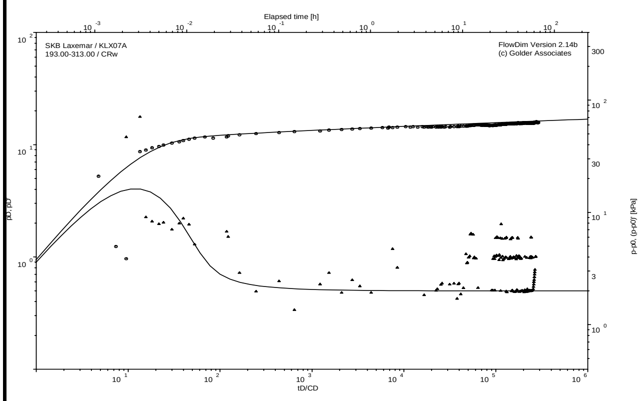
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07A	Test start:	051112 18:54
Test section from - to (m):	193.00-313.00 m	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):	0.076	Responsible for test evaluation:	Cristian Enachescu

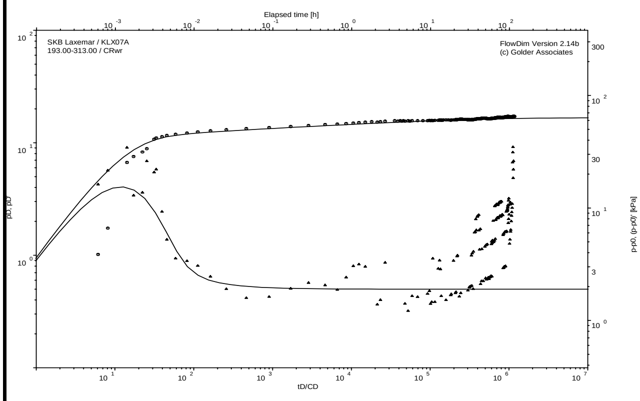
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =	2361		
p_i (kPa) =	2361		
p_p(kPa) =	2301	p_F (kPa) =	2368
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=	1.00E-06	S el S^* (-)=	1.00E-06
EC_w (mS/m)=			
$Temp_w$(gr C)=	10.7		
Derivative fact.=	0.05	Derivative fact.=	0.08
Results		**Results**	
Q/s (m^2/s)=	9.9E-05		
T_M (m^2/s)=	1.3E-04		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	3.41	dt_1 (min) =	1.54
dt_2 (min) =	3389.40	dt_2 (min) =	1450.20
T (m^2/s) =	2.4E-04	T (m^2/s) =	2.5E-04
S (-) =	1.0E-06	S (-) =	1.0E-06
K_s (m/s) =	2.0E-06	K_s (m/s) =	2.1E-06
S_s (1/m) =	8.3E-09	S_s (1/m) =	8.3E-09
C (m^3/Pa) =	NA	C (m^3/Pa) =	5.7E-08
C_D (-) =	NA	C_D (-) =	6.3E+00
ξ (-) =	3.65	ξ (-) =	4.04
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	1.54	C (m^3/Pa) =	5.7E-08
dt_2 (min) =	1450.20	C_D (-) =	6.3E+00
T_T (m^2/s) =	2.5E-04	ξ (-) =	4.04
S (-) =	1.0E-06		
K_s (m/s) =	2.1E-06		
S_s (1/m) =	8.3E-09		

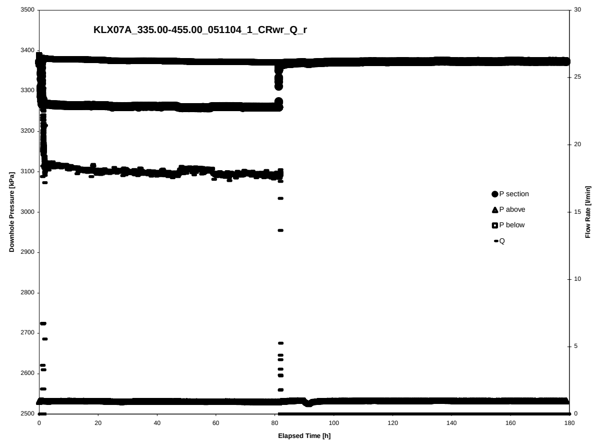
Comments:

The recommended transmissivity of 2.5•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the better data and derivative quality. The confidence range for the transmissivity is estimated to be 1.0•10-4 to 4.0•10-4 m2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CHwr phase using straight line extrapolation in the Horner plot to a value of 2365.3 kPa.

Test Summary Sheet

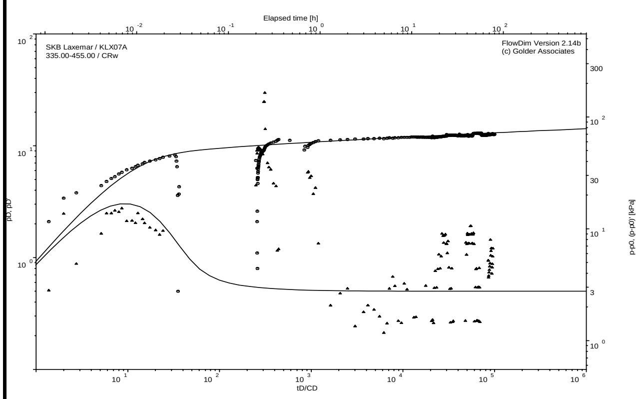
Project:	Oskarshamn site investigation	Test type:[1]	CRwr
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07A	Test start:	051104 21:35
Test section from - to (m):	335.00-455.00 m	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):	0.076	Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

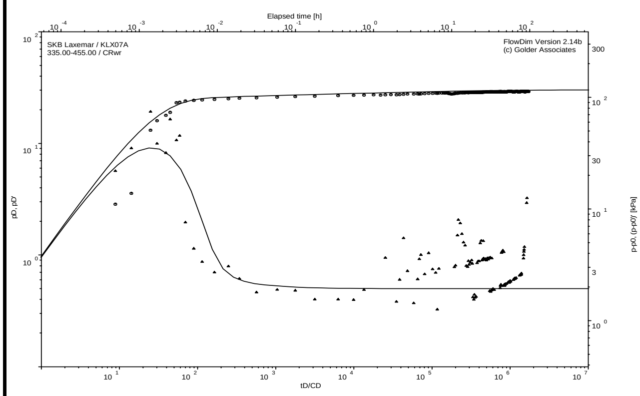


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =	3371		
p_i (kPa) =	3374		
p_p(kPa) =	3260	p_F (kPa) =	3372
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=	1.00E-06	S el S^* (-)=	1.00E-06
EC_w (mS/m)=			
$Temp_w$(gr C)=	12.0		
Derivative fact.=	0.07	Derivative fact.=	0.08
Results		**Results**	
Q/s (m^2/s)=	2.6E-05		
T_M (m^2/s)=	3.4E-05		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	993.60	dt_1 (min) =	1.90
dt_2 (min) =	3217.20	dt_2 (min) =	1040.10
T (m^2/s) =	8.5E-05	T (m^2/s) =	1.2E-04
S (-) =	1.0E-06	S (-) =	1.0E-06
K_s (m/s) =	7.1E-07	K_s (m/s) =	1.0E-06
S_s (1/m) =	8.3E-09	S_s (1/m) =	8.3E-09
C (m^3/Pa) =	NA	C (m^3/Pa) =	1.6E-08
C_D (-) =	NA	C_D (-) =	1.7E+00
ξ (-) =	0.89	ξ (-) =	18.16
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1.90	C (m^3/Pa) =	1.6E-08
dt_2 (min) =	1040.10	C_D (-) =	1.7E+00
T_T (m^2/s) =	1.2E-04	ξ (-) =	18.16
S (-) =	1.0E-06		
K_s (m/s) =	1.0E-06		
S_s (1/m) =	8.3E-09		

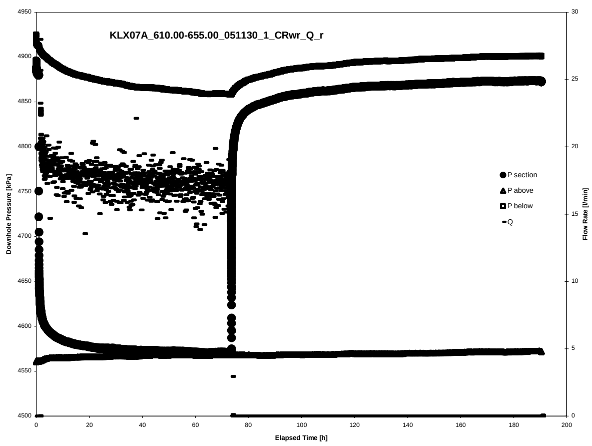
Comments:

The recommended transmissivity of 1.2•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be 8.0•10-5 to 2.0•10-4 m2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 3374.6 kPa.

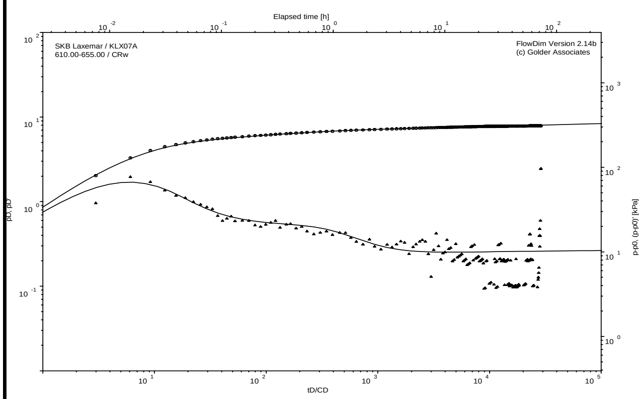
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07A	Test start:	051130 10:14
Test section from - to (m):	610.00-655.00 m	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):	0.076	Responsible for test evaluation:	Cristian Enachescu

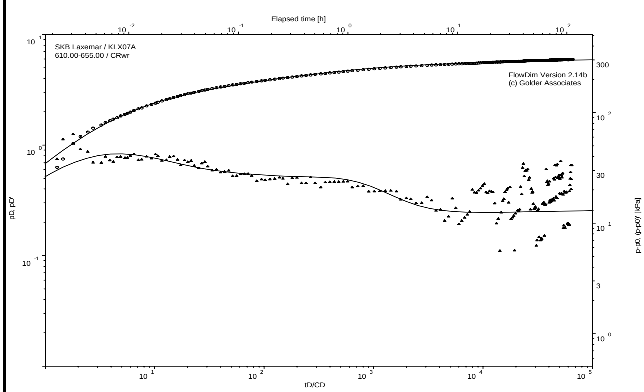
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =	4896		
p_i (kPa) =	4880		
p_p(kPa) =	4571	p_F (kPa) =	4873
Q_p (m^3/s)=	2.83E-04		
tp (s) =	265014	t_F (s) =	416882
S el S^* (-)=	1.00E-06	S el S^* (-)=	1.00E-06
EC_w (mS/m)=			
$Temp_w$(gr C)=	14.3		
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=	9.0E-06		
T_M (m^2/s)=	1.1E-05		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	6.71	dt_1 (min) =	4.50
dt_2 (min) =	46.00	dt_2 (min) =	59.85
T (m^2/s) =	1.2E-05	T (m^2/s) =	9.0E-06
S (-) =	1.0E-06	S (-) =	1.0E-06
K_s (m/s) =	2.6E-07	K_s (m/s) =	2.0E-07
S_s (1/m) =	2.2E-08	S_s (1/m) =	2.2E-08
C (m^3/Pa) =	NA	C (m^3/Pa) =	3.6E-08
C_D (-) =	NA	C_D (-) =	3.9E+00
ξ (-) =	-2.14	ξ (-) =	-4.13
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	4.50	C (m^3/Pa) =	3.6E-08
dt_2 (min) =	59.85	C_D (-) =	3.9E+00
T_T (m^2/s) =	9.0E-06	ξ (-) =	-4.13
S (-) =	1.0E-06		
K_s (m/s) =	2.0E-07		
S_s (1/m) =	2.2E-08		

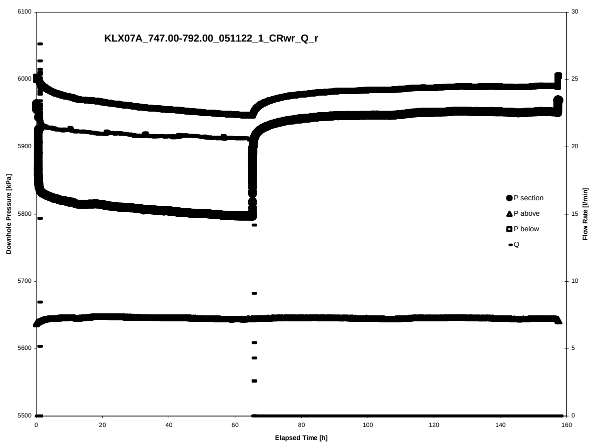
Comments:

The recommended transmissivity of 9.0•10-6 m2/s was derived from the analysis of the CRwr phase (inner zone), which shows the better data and derivative quality. The confidence range for the transmissivity is estimated to be 8.0•10-6 to 2.0•10-5 m2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 4875.9 kPa.

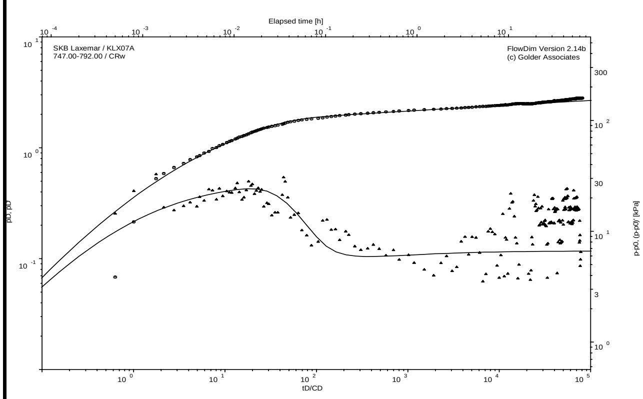
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07A	Test start:	051122 21:14
Test section from - to (m):	747.00-792.00 m	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):	0.076	Responsible for test evaluation:	Cristian Enachescu

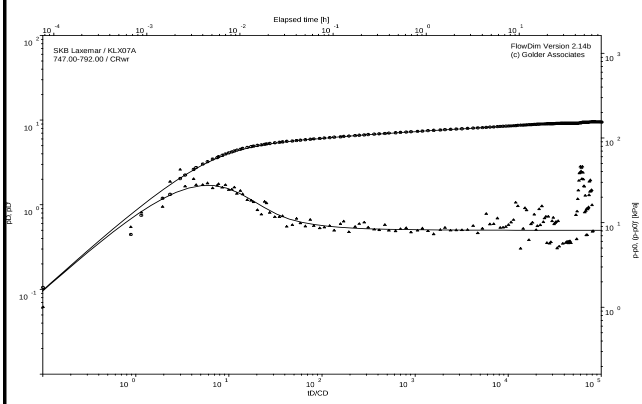
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =	5963		
p_i (kPa) =	5957		
p_p(kPa) =	5797	p_F (kPa) =	5952
Q_p (m^3/s)=	3.43E-04		
tp (s) =	232783	t_F (s) =	331066
S el S^* (-)=	1.00E-06	S el S^* (-)=	1.00E-06
EC_w (mS/m)=			
$Temp_w$(gr C)=	16.1		
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=	2.1E-05		
T_M (m^2/s)=	2.5E-05		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	14.55	dt_1 (min) =	3.02
dt_2 (min) =	2286.00	dt_2 (min) =	3710.40
T (m^2/s) =	4.1E-05	T (m^2/s) =	3.4E-05
S (-) =	1.0E-06	S (-) =	1.0E-06
K_s (m/s) =	9.1E-07	K_s (m/s) =	7.4E-07
S_s (1/m) =	2.2E-08	S_s (1/m) =	2.2E-08
C (m^3/Pa) =	NA	C (m^3/Pa) =	5.9E-08
C_D (-) =	NA	C_D (-) =	6.5E+00
ξ (-) =	-5.53	ξ (-) =	-2.07
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	3.02	C (m^3/Pa) =	5.9E-08
dt_2 (min) =	3710.40	C_D (-) =	6.5E+00
T_T (m^2/s) =	3.4E-05	ξ (-) =	-2.07
S (-) =	1.0E-06		
K_s (m/s) =	7.4E-07		
S_s (1/m) =	2.2E-08		

Comments:

The recommended transmissivity of 3.4•10-5 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the transmissivity is estimated to be 2.0•10-5 to 5.0•10-5 m2/s. The flow dimension displayed during the test is 2. The static pressure measured at transducer depth, was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 5957.7 kPa.

APPENDIX 4

Nomenclature

Character	SICADA designation	Explanation	Dimension	Unit
Variables, constants				
A_w		Horizontal area of water surface in open borehole, not including area of signal cables, etc.	$[L^2]$	m^2
b		Aquifer thickness (Thickness of 2D formation)	[L]	m
B		Width of channel	[L]	m
L		Corrected borehole length	[L]	m
L_0		Uncorrected borehole length	[L]	m
L_p		Point of application for a measuring section based on its centre point or centre of gravity for distribution of transmissivity in the measuring section.	[L]	m
L_w		Test section length.	[L]	m
dL		Step length, Positive Flow Log - overlapping flow logging. (step length, PFL)	[L]	m
r		Radius	[L]	m
r_w		Borehole, well or soil pipe radius in test section.	[L]	m
r_{we}		Effective borehole, well or soil pipe radius in test section. (Consideration taken to skin factor)	[L]	m
r_s		Distance from test section to observation section, the shortest distance.	[L]	m
r_t		Distance from test section to observation section, the **interpreted** shortest distance via conductive structures.	[L]	m
r_D		Dimensionless radius, $r_D=r/r_w$	-	-
z		Level above reference point	[L]	m
z_r		Level for reference point on borehole	[L]	m
z_{wu}		Level for test section (section that is being flowed), upper limitation	[L]	m
z_{wl}		Level for test section (section that is being flowed), lower limitation	[L]	m
z_{ws}		Level for sensor that measures response in test section (section that is flowed)	[L]	m
z_{ou}		Level for observation section, upper limitation	[L]	m
z_{ol}		Level for observation section, lower limitation	[L]	m
z_{os}		Level for sensor that measures response in observation section	[L]	m
E		Evaporation: hydrological budget:	$[L^3/(T\ L^2)]$ $[L^3/T]$	mm/y, mm/d, m^3/s
ET		Evapotranspiration hydrological budget:	$[L^3/(T\ L^2)]$ $[L^3/T]$	mm/y, mm/d, m^3/s
P		Precipitation hydrological budget:	$[L^3/(T\ L^2)]$ $[L^3/T]$	mm/y, mm/d, m^3/s
R		Groundwater recharge hydrological budget:	$[L^3/(T\ L^2)]$ $[L^3/T]$	mm/y, mm/d, m^3/s
D		Groundwater discharge hydrological budget:	$[L^3/(T\ L^2)]$ $[L^3/T]$	mm/y, mm/d, m^3/s
Q_R		Run-off rate	$[L^3/T]$	m^3/s
Q_p		Pumping rate	$[L^3/T]$	m^3/s
Q_I		Infiltration rate	$[L^3/T]$	m^3/s
Q		Volumetric flow. Corrected flow in flow logging ($Q_1 – Q_0$) (Flow rate)	$[L^3/T]$	m^3/s
Q_0		Flow in test section during undisturbed conditions (flow logging).	$[L^3/T]$	m^3/s

Q_p		Flow in test section immediately before stop of flow. Stabilised pump flow in flow logging.	$[L^3/T]$	m^3/s
Q_m		Arithmetical mean flow during perturbation phase.	$[L^3/T]$	m^3/s
Q_1		Flow in test section during pumping with pump flow Q_{p1}, (flow logging).	$[L^3/T]$	m^3/s
Q_2		Flow in test section during pumping with pump flow Q_{p1}, (flow logging).	$[L^3/T]$	m^3/s
ΣQ	SumQ	Cumulative volumetric flow along borehole	$[L^3/T]$	m^3/s
ΣQ_0	SumQ0	Cumulative volumetric flow along borehole, undisturbed conditions (ie, not pumped)	$[L^3/T]$	m^3/s
ΣQ_1	SumQ1	Cumulative volumetric flow along borehole, with pump flow Q_{p1}	$[L^3/T]$	m^3/s
ΣQ_2	SumQ2	Cumulative volumetric flow along borehole, with pump flow Q_{p2}	$[L^3/T]$	m^3/s
ΣQ_{C1}	SumQC1	Corrected cumulative volumetric flow along borehole, ΣQ_1-ΣQ_0	$[L^3/T]$	m^3/s
ΣQ_{C2}	SumQC2	Corrected cumulative volumetric flow along borehole, ΣQ_2-ΣQ_0	$[L^3/T]$	m^3/s
q		Volumetric flow per flow passage area (Specific discharge (Darcy velocity, Darcy flux, Filtration velocity)).	$([L^3/T*L^2]$	m/s
V		Volume	$[L^3]$	m^3
V_w		Water volume in test section.	$[L^3]$	m^3
V_p		Total water volume injected/pumped during perturbation phase.	$[L^3]$	m^3
v		Velocity	$([L^3/T*L^2]$	m/s
v_a		Mean transport velocity (Average linear velocity (Average linear groundwater velocity, Mean microscopic velocity));. $v_a=q/n_e$	$([L^3/T*L^2]$	m/s
t		Time	[T]	hour,min,s
t_0		Duration of rest phase before perturbation phase.	[T]	s
t_p		Duration of perturbation phase. (from flow start as far as p_p).	[T]	s
t_F		Duration of recovery phase (from p_p to p_F).	[T]	s
t_1, t_2 etc		Times for various phases during a hydro test.	[T]	hour,min,s
dt		Running time from start of flow phase and recovery phase respectively.	[T]	s
dt_e		$dt_e = (dt \cdot tp) / (dt + tp)$ Agarwal equivalent time with dt as running time for recovery phase.	[T]	s
t_D		$t_D = T \cdot t / (S \cdot r_w^2)$. Dimensionless time	-	-
p		Static pressure; including non-dynamic pressure which depends on water velocity. Dynamic pressure is normally ignored in estimating the potential in groundwater flow relations.	$[M/(LT)^2]$	kPa
p_a		Atmospheric pressure	$[M/(LT)^2]$	kPa
p_t		Absolute pressure; $p_t=p_a+p_g$	$[M/(LT)^2]$	kPa
p_g		Gauge pressure; Difference between absolute pressure and atmospheric pressure.	$[M/(LT)^2]$	kPa
p_0		Initial pressure before test begins, prior to packer expansion.	$[M/(LT)^2]$	kPa
p_i		Pressure in measuring section before start of flow.	$[M/(LT)^2]$	kPa
p_f		Pressure during perturbation phase.	$[M/(LT)^2]$	kPa
p_s		Pressure during recovery.	$[M/(LT)^2]$	kPa
p_p		Pressure in measuring section before flow stop.	$[M/(LT)^2]$	kPa
p_F		Pressure in measuring section at end of recovery.	$[M/(LT)^2]$	kPa
p_D		$p_D=2\pi \cdot T \cdot p/(Q \cdot \rho_w g)$, Dimensionless pressure	-	-

dp		Pressure difference, drawdown of pressure surface between two points of time.	$[M/(LT)^2]$	kPa
dp_f		$dp_f = p_i - p_f$ or $= p_f – p_i$, drawdown/pressure increase of pressure surface between two points of time during perturbation phase. dp_f usually expressed positive.	$[M/(LT)^2]$	kPa
dp_s		$dp_s = p_s – p_p$ or $= p_p – p_s$, pressure increase/drawdown of pressure surface between two points of time during recovery phase. dp_s usually expressed positive.	$[M/(LT)^2]$	kPa
dp_p		$dp_p = p_i – p_p$ or $= p_p – p_i$, **maximal** pressure increase/drawdown of pressure surface between two points of time during perturbation phase. dp_p expressed positive.	$[M/(LT)^2]$	kPa
dp_F		$dp_F = p_p – p_F$ or $= p_F – p_p$, **maximal** pressure increase/drawdown of pressure surface between two points of time during recovery phase. dp_F expressed positive.	$[M/(LT)^2]$	kPa
H		Total head; (potential relative a reference level) (indication of h for phase as for p). $H=h_e+h_p+h_v$	[L]	m
h		Groundwater pressure level (hydraulic head (piezometric head; possible to use for level observations in boreholes, static head)); (indication of h for phase as for p). $h=h_e+h_p$	[L]	m
h_e		Height of measuring point (Elevation head); Level above reference level for measuring point.	[L]	m
h_p		Pressure head; Level above reference level for height of measuring point of stationary column of water giving corresponding static pressure at measuring point	[L]	m
h_v		Velocity head; height corresponding to the lifting for which the kinetic energy is capable (usually neglected in hydrogeology)	[L]	m
s		Drawdown; Drawdown from undisturbed level (same as dh_p, positive)	[L]	m
s_p		Drawdown in measuring section before flow stop.	[L]	m
			[L]	
h_0		Initial above reference level before test begins, prior to packer expansion.	[L]	m
h_i		Level above reference level in measuring section before start of flow.	[L]	m
h_f		Level above reference level during perturbation phase.	[L]	m
h_s		Level above reference level during recovery phase.	[L]	m
h_p		Level above reference level in measuring section before flow stop.	[L]	m
h_F		Level above reference level in measuring section at end of recovery.	[L]	m
dh		Level difference, drawdown of water level between two points of time.	[L]	m
dh_f		$dh_f = h_i - h_f$ or $= h_f – h_i$, drawdown/pressure increase of pressure surface between two points of time during perturbation phase. dh_f usually expressed positive.	[L]	m
dh_s		$dh_s = h_s – h_p$ or $= h_p – h_s$, pressure increase/drawdown of pressure surface between two points of time during recovery phase. dh_s usually expressed positive.	[L]	m
dh_p		$dh_p = h_i – h_p$ or $= h_p –h_i$, maximal pressure increase/drawdown of pressure surface between two points of time during perturbation phase. dh_p expressed positive.	[L]	m
dh_F		$dh_F = h_p – h_F$ or $= h_F – h_p$, maximal pressure increase/drawdown of pressure surface between two points of time during perturbation phase. dh_F expressed positive.	[L]	m
Te_w		Temperature in the test section (taken from temperature		^oC

		logging). Temperature		
Te_{w0}		Temperature in the test section during undisturbed conditions (taken from temperature logging). Temperature		^oC
Te_o		Temperature in the observation section (taken from temperature logging). Temperature		^oC
EC_w		Electrical conductivity of water in test section.		mS/m
EC_{w0}		Electrical conductivity of water in test section during undisturbed conditions.		mS/m
EC_o		Electrical conductivity of water in observation section		mS/m
TDS_w		Total salinity of water in the test section.	$[M/L^3]$	mg/L
TDS_{w0}		Total salinity of water in the test section during undisturbed conditions.	$[M/L^3]$	mg/L
TDS_o		Total salinity of water in the observation section.	$[M/L^3]$	mg/L
g		Constant of gravitation (9.81 $m*s^{-2}$) (Acceleration due to gravity)	$[L/T^2]$	m/s^2
π	pi	Constant (approx 3.1416).	[-]	
r		Residual. r= p_c-p_m , r= h_c-h_m, etc. Difference between measured data (p_m, h_m, etc) and estimated data (p_c, h_c, etc)		
ME		Mean error in residuals. $ME = \frac{1}{n}\sum_{i=1}^{n} r_i$		
NME		Normalized ME. NME=ME/(x_{MAX}-x_{MIN}), x: measured variable considered.		
MAE		Mean absolute error. $MAE = \frac{1}{n}\sum_{i=1}^{n} \lvert r_i \rvert$		
NMAE		Normalized MAE. NMAE=MAE/(x_{MAX}-x_{MIN}), x: measured variable considered.		
RMS		Root mean squared error. $RMS = \left(\frac{1}{n}\sum_{i=1}^{n} r_i^2\right)^{0.5}$		
NRMS		Normalized RMR. NRMR=RMR/(x_{MAX}-x_{MIN}), x: measured variable considered.		
SDR		Standard deviation of residual. $SDR = \left(\frac{1}{n-1}\sum_{i=1}^{n} (r_i - ME)^2\right)^{0.5}$		
SEMR		Standard error of mean residual. $SEMR = \left(\frac{1}{n(n-1)}\sum_{i=1}^{n} (r_i - ME)^2\right)^{0.5}$		
Parameters				
Q/s		Specific capacity s=dp_p or s=s_p=h_0-h_p (open borehole)	$[L^2/T]$	m^2/s
D		Interpreted flow dimension according to Barker, 1988.	[-]	-
dt_1		Time of starting for semi-log or log-log evaluated characteristic counted from start of flow phase and recovery phase respectively.	[T]	s
dt_2		End of time for semi-log or log-log evaluated characteristic counted from start of flow phase and recovery phase respectively.	[T]	s

dt_L		Response time to obtain 0.1 m (or 1 kPa) drawdown in observation section counted from start of recovery phase.	[T]	s
TB		Flow capacity in a one-dimensional structure of width B and transmissivity T. Transient evaluation of one-dimensional structure	$[L^3/T]$	m^3/s
T		Transmissivity	$[L^2/T]$	m^2/s
T_M		Transmissivity according to Moye (1967)	$[L^2/T]$	m^2/s
T_Q		Evaluation based on Q/s and regression curve between Q/s and T, as example see Rhén et al (1997) p. 190.	$[L^2/T]$	m^2/s
T_S		Transmissivity evaluated from slug test	$[L^2/T]$	m^2/s
T_D		Transmissivity evaluated from PFL-Difference Flow Meter	$[L^2/T]$	m^2/s
T_I		Transmissivity evaluated from Impeller flow log	$[L^2/T]$	m^2/s
T_{Sf}, T_{Lf}		Transient evaluation based on semi-log or log-log diagram for perturbation phase in injection or pumping.	$[L^2/T]$	m^2/s
T_{Ss}, T_{Ls}		Transient evaluation based on semi-log or log-log diagram for recovery phase in injection or pumping.	$[L^2/T]$	m^2/s
T_T		Transient evaluation (log-log or lin-log). Judged best evaluation of T_{Sf}, T_{Lf}, T_{Ss}, T_{Ls}	$[L^2/T]$	m^2/s
T_{NLR}		Evaluation based on non-linear regression.	$[L^2/T]$	m^2/s
T_{Tot}		Judged most representative transmissivity for particular test section and (in certain cases) evaluation time with respect to available data (made by SKB at a later stage).	$[L^2/T]$	m^2/s
K		Hydraulic conductivity	[L/T]	m/s
K_s		Hydraulic conductivity based on spherical flow model	[L/T]	m/s
K_m		Hydraulic conductivity matrix, intact rock	[L/T]	m/s
k		Intrinsic permeability	$[L^2]$	m^2
kb		Permeability-thickness product: kb=k·b	$[L^3]$	m^3
SB		Storage capacity in a one-dimensional structure of width B and storage coefficient S. Transient evaluation of one-dimensional structure	[L]	m
SB*		Assumed storage capacity in a one-dimensional structure of width B and storage coefficient S. Transient evaluation of one-dimensional structure	[L]	m
S		Storage coefficient, (Storativity)	[-]	-
S*		Assumed storage coefficient	[-]	-
S_y		Theoretical specific yield of water (Specific yield; unconfined storage. Defined as total porosity (n) minus retention capacity (S_r)	[-]	-
S_{ya}		Specific yield of water (Apparent specific yield); unconfined storage, field measuring. Corresponds to volume of water achieved on draining saturated soil or rock in free draining of a volumetric unit. S_{ya}= S_y (often called S_y in literature)	[-]	-
S_r		Specific retention capacity, (specific retention of water, field capacity) (Specific retention); unconfined storage. Corresponds to water volume that the soil or rock has left after free draining of saturated soil or rock.	[-]	-
S_f		Fracture storage coefficient	[-]	-
S_m		Matrix storage coefficient	[-]	-
S_{NLR}		Storage coefficient, evaluation based on non-linear regression	[-]	-
S_{Tot}		Judged most representative storage coefficient for particular test section and (in certain cases) evaluation	[-]	-

		time with respect to available data (made by SKB at a later stage).		
S_s		Specific storage coefficient; confined storage.	[1/L]	1/m
S_s*		Assumed specific storage coefficient; confined storage.	[1/L]	1/m
c_f		Hydraulic resistance: The hydraulic resistance is an aquitard with a flow vertical to a two-dimensional formation. The inverse of c is also called Leakage coefficient. c_f=b´/K´ where b´ is thickness of the aquitard and K´ its hydraulic conductivity across the aquitard.	[T]	s
L_f		Leakage factor: $L_f =(K \cdot b \cdot c_f)^{0.5}$ where K represents characteristics of the aquifer.	[L]	m
ξ	Skin	Skin factor	[-]	-
ξ*	Skin	Assumed skin factor	[-]	-
C		Wellbore storage coefficient	$[(LT^2)\cdot M^2]$	m^3/Pa
C_D		$C_D = C \cdot \rho_w g /(2\pi \cdot S \cdot r_w^2)$, Dimensionless wellbore storage coefficient	[-]	-
ω	Stor-ratio	$\omega = S_f /(S_f + S_m)$, storage ratio (Storativity ratio); the ratio of storage coefficient between that of the fracture and total storage.	[-]	-
λ	Interflow-coeff	$\lambda = \alpha \cdot (K_m / K_f) \cdot r_w^2$ interporosity flow coefficient.	[-]	-
T_{GRF}		Transmissivity interpreted using the GRF method	$[L^2/T]$	m^2/s
S_{GRF}		Storage coefficient interpreted using the GRF method	[1/L]	1/m
D_{GRF}		Flow dimension interpreted using the GRF method	[-]	-
c_w		Water compressibility; corresponding to β in hydrogeological literature.	$[(LT^2)/M]$	1/Pa
c_r		Pore-volume compressibility, (rock compressibility); Corresponding to α/n in hydrogeological literature.	$[(LT^2)/M]$	1/Pa
c_t		$c_t = c_r + c_w$, total compressibility; compressibility per volumetric unit of rock obtained through multiplying by the total porosity, n. (Presence of gas or other fluids can be included in c_t if the degree of saturation (volume of respective fluid divided by n) of the pore system of respective fluid is also included)	$[(LT^2)/M]$	1/Pa
nc_t		Porosity-compressibility factor: $nc_t = n \cdot c_t$	$[(LT^2)/M]$	1/Pa
nc_tb		Porosity-compressibility-thickness product: $nc_tb = n \cdot c_t \cdot b$	$[(L^2T^2)/M]$	m/Pa
n		Total porosity	-	-
n_e		Kinematic porosity, (Effective porosity)	-	-
e		Transport aperture. $e = n_e \cdot b$	[L]	m
ρ	Density	Density	$[M/L^3]$	$kg/(m^3)$
ρ_w	Density-w	Fluid density in measurement section during pumping/injection	$[M/L^3]$	$kg/(m^3)$
ρ_o	Density-o	Fluid density in observation section	$[M/L^3]$	$kg/(m^3)$
ρ_{sp}	Density-sp	Fluid density in standpipes from measurement section	$[M/L^3]$	$kg/(m^3)$
μ	my	Dynamic viscosity	[M/LT]	Pa s
μ_w	my	Dynamic viscosity (Fluid density in measurement section during pumping/injection)	[M/LT]	Pa s
FC_T		Fluid coefficient for intrinsic permeability, transference of k to K; $K = FC_T \cdot k$; $FC_T = \rho_w \cdot g / \mu_w$	[1/LT]	1/(ms)
FC_S		Fluid coefficient for porosity-compressibility, transference	$[M/T^2L^2]$	Pa/m

		of c_t to S_s ; S_s=FC_S·n·c_t ; FC_S=ρ_w ·g		
Index on K, T and S				
S		S: semi-log		
L		L: log-log		
f		Pump phase or injection phase, designation following S or L (withdrawal)		
s		Recovery phase, designation following S or L (recovery)		
NLR		NLR: Non-linear regression. Performed on the entire test sequence, perturbation and recovery		
M		Moye		
GRF		Generalised Radial Flow according to Barker (1988)		
m		Matrix		
f		Fracture		
measl		Measurement limit. Estimated measurement limit on parameter being measured (T or K)		
T		Judged best evaluation based on transient evaluation.		
Tot		Judged most representative parameter for particular test section and (in certain cases) evaluation time with respect to available data (made by SKB at a later stage).		
b		Bloch property in a numerical groundwater flow model		
e		Effective property (constant) within a domain in a numerical groundwater flow model.		
Index on p and Q				
0		Initial condition, undisturbed condition in open holes		
i		Natural, "undisturbed" condition of formation parameter		
f		Pump phase or injection phase (withdrawal, flowing phase)		
s		Recovery, shut-in phase		
p		Pressure or flow in measuring section at end of perturbation period		
F		Pressure in measuring section at end of recovery period.		
m		Arithmetical mean value		
c		Estimated value. The index is placed last if index for “where” and “what” are used. Simulated value		
m		Measured value. The index is placed last if index for “where” and “what” are used. Measured value		
Some miscellaneous indexes on p and h				
w		Test section (final difference pressure during flow phase in test section can be expressed dp_{wp}; First index shows “where” and second index shows “what”)		
o		Observation section (final difference pressure during flow phase in observation section can be expressed dp_{op}; First index shows “where” and second index shows “what”)		
f		Fresh-water head. Water is normally pumped up from section to measuring hoses where pressure and level are observed. Density of the water is therefore approximately the same as that of the measuring section. Measured groundwater level is therefore normally represented by what is defined as point-water head. If pressure at the measuring level is recalculated to a level for a column of water with density of fresh water above the measuring point it is referred to as fresh-water head and h is indicated last by an f. Observation section (final level during flow phase in observation section can be expressed h_{opf}; the first index shows “where” and the second index shows “what” and the last one “recalculation”)		

APPENDIX 5

SICADA data tables

(Pump tests)

(Simplified version v1.4)

SICADA/Data Import Template

SKB & Ergodata AB 2004

File Identity	
Created By	Stephan Rohs
Created	2006-01-17

Compiled By	
Quality Check For Delivery	
Delivery Approval	

Activity Type	KLX07A KLX07A - Interference test

Project	AP PS 400-05-045

Activity Information						**Additional Activity Data**				
						C10	P20	P200	P220	R25
Idcode	**Start Date**	**Stop Date**	**Secup (m)**	**Seclow (m)**	**Section No**	**Company**	**Field crew manager**	**Field crew**	**evaluating data**	**Report**
KLX07A	20051028 09:51	20051208 08:54	103.20	792.00		Golder	Stephan Rohs	Stephan Rohs, Philipp Wolf	Cristian Enachescu, Jörg Böhner, Stephan Rohs	Cristian Enachescu, Jörg Böhner, Stephan Rohs

Table	plu_s_hole_test_d PLU Injection and pumping, General information

Column	Datatype	Unit	Column Description
site	CHAR		Investigation site name
activity_type	CHAR		Activity type code
start_date	DATE		Date (yymmdd hh:mm:ss)
stop_date	DATE		Date (yymmdd hh:mm:ss)
project	CHAR		project code
idcode	CHAR		Object or borehole identification code
secup	FLOAT	m	Upper section limit (m)
seclow	FLOAT	m	Lower section limit (m)
section_no	INTEGER	number	Section number
test_type	CHAR		Test type code (1-7), see table description
formation_type	CHAR		1: Rock, 2: Soil (superficial deposits)
start_flow_period	DATE	yyyymmdd	Date & time of pumping/injection start (YYYY-MM-DD hh:mm:ss)
stop_flow_period	DATE	yyyymmdd	Date & time of pumping/injection stop (YYYY-MM-DD hh:mm:ss)
flow_rate_end_qp	FLOAT	m**3/s	Flow rate at the end of the flowing period
value_type_qp	CHAR		0:true value,-1<lower meas.limit1:>upper meas.limit
mean_flow_rate_qm	FLOAT	m**3/s	Arithmetic mean flow rate during flow period
q_measl__l	FLOAT	m**3/s	Estimated lower measurement limit of flow rate
q_measl__u	FLOAT	m**3/s	Estimated upper measurement limit of flow rate
tot_volume_vp	FLOAT	m**3	Total volume of pumped or injected water
dur_flow_phase_tp	FLOAT	s	Duration of the flowing period of the test
dur_rec_phase_tf	FLOAT	s	Duration of the recovery period of the test
initial_head_hi	FLOAT	m	Hydraulic head in test section at start of the flow period
head_at_flow_end_h	FLOAT	m	Hydraulic head in test section at stop of the flow period.
final_head_hf	FLOAT	m	Hydraulic head in test section at stop of recovery period.
initial_press_pi	FLOAT	kPa	Groundwater pressure in test section at start of flow period
press_at_flow_end_	FLOAT	kPa	Groundwater pressure in test section at stop of flow period.
final_press_pf	FLOAT	kPa	Ground water pressure at the end of the recovery period.
fluid_temp_tew	FLOAT	oC	Measured section fluid temperature, see table description
fluid_elcond_ecw	FLOAT	mS/m	Measured section fluid el. conductivity,see table descr.
fluid_salinity_tdsw	FLOAT	mg/l	Total salinity of section fluid based on EC,see table descr.
fluid_salinity_tdswm	FLOAT	mg/l	Tot. section fluid salinity based on water sampling,see...
reference	CHAR		SKB report No for reports describing data and evaluation
comments	VARCHAR		Short comment to data
error_flag	CHAR		If error_flag = "*" then an error occured and an error
in_use	CHAR		If in_use = "*" then the activity has been selected as
sign	CHAR		Signature for QA data accknowledge (QA - OK)
lp	FLOAT	m	Hydraulic point of application

idcode	start_date	stop_date	secup	seclow	section_ no	test_type	formation_ type	start_flow_period	stop_flow_period	flow_rate_end_ qp	value_type_ qp	mean_flow_ rate_qm	q_measl__l	q_measl__u	tot_volume_vp
KLX07A	051028 09:51:38	051103 15:53:11	103.20	193.20		1B	1	2005-10-28 12:34:39	2005-10-31 13:20:28	6.59E-04	0	6.80E-04	1.67E-08	8.33E-04	1.78E+02
KLX07A	051104 21:35:50	051112 08:36:30	335.00	455.00		1B	1	2005-11-04 22:33:25	2005-11-08 07:03:40	2.97E-04	0	3.02E-04	1.67E-08	8.33E-04	8.74E+01
KLX07A	051112 18:54:39	051120 20:17:29	193.00	313.00		1B	1	2005-11-12 19:32:10	2005-11-15 15:24:33	6.07E-04	0	6.07E-04	1.67E-08	8.33E-04	1.48E+02
KLX07A	051122 21:14:52	051129 10:56:05	747.00	792.00		1B	1	2005-11-22 21:53:31	2005-11-25 14:33:14	3.43E-04	0	3.48E-04	1.67E-08	8.33E-04	7.99E+01
KLX07A	051130 10:14:30	051208 08:54:40	610.00	655.00		1B	1	2005-11-30 11:27:04	2005-12-03 12:03:58	2.83E-04	0	2.93E-04	1.67E-08	8.33E-04	7.77E+01

idcode	secup	seclow	dur_flow_phase_tp	dur_rec_phase_tf	initial_head_hi	head_at_flow_end_hp	final_head_hf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew	fluid_elcond_ecw	fluid_salinity_tdsw	fluid_salinity_tdswm	reference	comments	lp
KLX07A	103.20	193.20	261960	333120			6.26	1478	1432	1480	9.3						148.20
KLX07A	335.00	455.00	289815	351140			7.49	3374	3260	3372	12.0						395.00
KLX07A	193.00	313.00	244343	449307			6.02	2361	2301	2368	10.7						253.00
KLX07A	747.00	792.00	232783	331066			10.05	5957	5797	5952	16.1						769.50
KLX07A	610.00	655.00	265014	416882			6.45	4880	4571	4873	14.3						632.50

Table: plu_s_hole_test_ed1

PLU Single hole tests, pumping/injection. Basic evaluation

Column	Datatype	Unit	Column Description
site	CHAR		Investigation site name
activity_type	CHAR		Activity type code
start_date	DATE		Date (yymmdd hh:mm:ss)
stop_date	DATE		Date (yymmdd hh:mm:ss)
project	CHAR		project code
idcode	CHAR		Object or borehole identification code
secup	FLOAT	m	Upper section limit (m)
seclow	FLOAT	m	Lower section limit (m)
section_no	INTEGER	number	Section number
test_type	CHAR		Test type code (1-7), see table description!
formation_type	CHAR		Formation type code. 1: Rock, 2: Soil (superficial deposits)
lp	FLOAT	m	Hydraulic point of application for test section, see descr.
seclen_class	FLOAT	m	Planned ordinary test interval during test campaign.
spec_capacity_q_s	FLOAT	m**2/s	Specific capacity (Q/s) of test section, see table descript.
value_type_q_s	CHAR		0:true value,-1:Q/s<lower meas.limit,1:Q/s>upper meas.limit
transmissivity_tq	FLOAT	m**2/s	Tranmissivity based on Q/s, see table description
value_type_tq	CHAR		0:true value,-1:TQ<lower meas.limit,1:TQ>upper meas.limit.
bc_tq	CHAR		Best choice code. 1 means TQ is best choice of T, else 0
transmissivity_moye	FLOAT	m**2/s	Transmissivity,TM, based on Moye (1967)
bc_tm	CHAR		Best choice code. 1 means Tmoye is best choice of T, else 0
value_type_tm	CHAR		0:true value,-1:TM<lower meas.limit,1:TM>upper meas.limit.
hydr_cond_moye	FLOAT	m/s	K_M: Hydraulic conductivity based on Moye (1967)
formation_width_b	FLOAT	m	b:Aquifer thickness repr. for T(generally b=Lw) ,see descr.
width_of_channel_b	FLOAT	m	B:Inferred width of formation for evaluated TB
tb	FLOAT	m**3/s	TB:Flow capacity in 1D formation of T & width B, see descr.
l_measl_tb	FLOAT	m**3/s	Estimated lower meas. limit for evaluated TB,see description
u_measl_tb	FLOAT	m**3/s	Estimated upper meas. limit of evaluated TB,see description
sb	FLOAT	m	SB:S=storativity,B=width of formation,1D model,see descript.
assumed_sb	FLOAT	m	SB* : Assumed SB,S=storativity,B=width of formation,see...
leakage_factor_lf	FLOAT	m	Lf:1D model for evaluation of Leakage factor
transmissivity_tt	FLOAT	m**2/s	TT:Transmissivity of formation, 2D radial flow model,see...
value_type_tt	CHAR		0:true value,-1:TT<lower meas.limit,1:TT>upper meas.limit,
bc_tt	CHAR		Best choice code. 1 means TT is best choice of T, else 0
l_measl_q_s	FLOAT	m**2/s	Estimated lower meas. limit for evaluated TT,see table descr
u_measl_q_s	FLOAT	m**2/s	Estimated upper meas. limit for evaluated TT,see description
storativity_s	FLOAT		S:Storativity of formation based on 2D rad flow,see descr.
assumed_s	FLOAT		Assumed Storativity,2D model evaluation,see table descr.
bc_s	FLOAT		Best choice of S (Storativity) ,see descr.
ri	FLOAT	m	Radius of influence
ri_index	CHAR		ri index=index of radius of influence :-1,0 or 1, see descr.
leakage_coeff	FLOAT	1/s	K'/b':2D rad flow model evaluation of leakage coeff,see desc
hydr_cond_ksf	FLOAT	m/s	Ksf:3D model evaluation of hydraulic conductivity,see desc.
value_type_ksf	CHAR		0:true value,-1:Ksf<lower meas.limit,1:Ksf>upper meas.limit,
l_measl_ksf	FLOAT	m/s	Estimated lower meas.limit for evaluated Ksf,see table desc.
u_measl_ksf	FLOAT	m/s	Estimated upper meas.limit for evaluated Ksf,see table descr
spec_storage_ssf	FLOAT	1/m	Ssf:Specific storage,3D model evaluation,see table descr.
assumed_ssf	FLOAT	1/m	Ssf*:Assumed Spec.storage,3D model evaluation,see table des.
c	FLOAT	m**3/pa	C: Wellbore storage coefficient; flow or recovery period

idcode	start_date	stop_date	secup	seclow	section_no	test_type	formation_type	lp	seclen_class	spec_capacity_q_s	value_type_q_s	transmissivity_tq	value_type_tq	bc_tq	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye
KLX07A	051028 09:51:38	051103 15:53:11	103.20	193.20		1B	1	148.20	90	1.40E-04	0				1.81E-04	0	0	2.01E-06
KLX07A	051104 21:35:50	051112 08:36:30	335.00	455.00		1B	1	395.00	120	2.56E-05	0				3.40E-05	0	0	2.83E-07
KLX07A	051112 18:54:39	051120 20:17:29	193.00	313.00		1B	1	253.00	120	9.92E-05	0				1.32E-04	0	0	1.10E-06
KLX07A	051122 21:14:52	051129 10:56:05	747.00	792.00		1B	1	769.50	45	2.11E-05	0				2.47E-05	0	0	5.49E-07
KLX07A	051130 10:14:30	051208 08:54:40	610.00	655.00		1B	1	632.50	45	9.00E-06	0				1.06E-05	0	0	2.36E-07

idcode	secup	seclow	formation_ width_b	width_of_channel_ b	tb	l_measl_tb	u_measl_tb	sb	assumed_ sb	leakage_f actor_lf	transmissivity_ tt	value_type_ tt	bc_tt	l_measl_q_s	u_measl_q_s	storativity_s	assumed_s	bc_s	ri	ri_index
KLX07A	103.20	193.20									2.81E-04	0	1	9.00E-05	4.00E-04	1.00E-06	1.00E-06		5338.14	0
KLX07A	335.00	455.00									1.22E-04	0	1	8.00E-05	2.00E-04	1.00E-06	1.00E-06		4448.80	0
KLX07A	193.00	313.00									2.49E-04	0	1	1.00E-04	4.00E-04	1.00E-06	1.00E-06		6014.98	0
KLX07A	747.00	792.00									3.35E-05	0	1	2.00E-05	5.00E-05	1.00E-06	1.00E-06		3127.02	0
KLX07A	610.00	655.00									8.98E-06	0	1	8.00E-06	2.00E-05	1.00E-06	1.00E-06		234.34	-1

idcode	secup	seclow	leakage_coeff	hydr_cond_ksf	value_type_ksf	l_measl_ksf	u_measl_ksf	spec_storage_ssf	assumed_ssf	c	cd	skin	dt1	dt2	t1	t2	dte1	dte2	p_horner	transmissivity_t_nlr	storativity_s_nlr	value_type_t_nlr	bc_t_nlr	c_nlr	cd_nlr	skin_nlr	transmissivity_t_grf	value_type_t_grf	bc_t_grf	storativity_s_grf	flow_dim_grf	comment
KLX07A	103.20	193.20								1.84E-06	2.03E+02	0.41	262	66647					1481.2													
KLX07A	335.00	455.00								1.57E-08	1.73E+00	18.16	114	62406					3374.6													
KLX07A	193.00	313.00								5.69E-08	6.27E+00	4.04	92	87012					2365.3													
KLX07A	747.00	792.00								5.86E-08	6.46E+00	-2.07	181	222624					5957.7													
KLX07A	610.00	655.00								3.56E-08	3.92E+00	-4.13	270	3591					4875.9													

Table	plu_s_hole_test_obs
	Data of observation sections of single hole test

Column	Datatype	Unit	Column Description
site	CHAR		Investigation site name
activity_type	CHAR		Activity type code
idcode	CHAR		Object or borehole identification code
start_date	DATE		Date (yymmdd hh:mm:ss)
secup	FLOAT	m	Upper section limit (m)
seclow	FLOAT	m	Lower section limit (m)
obs_secup	FLOAT	m	Upper limit of observation section
obs_seclow	FLOAT	m	Lower limit of observation section
pi_above	FLOAT	kPa	Groundwater pressure above test section,start of flow period
pp_above	FLOAT	kPa	Groundwater pressure above test section,at stop flow period
pf_above	FLOAT	kPa	Groundwater pressure above test section at stop recovery per
pi_below	FLOAT	kPa	Groundwater pressure below test section at start flow period
pp_below	FLOAT	kPa	Groundwater pressure below test section at stop flow period
pf_below	FLOAT	kPa	Groundwater pressure below test section at stop recovery per
comments	VARCHAR		Comment text row (unformatted text)

idcode	start_date	stop_date	secup	seclow	section_no	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KLX07A	051028 09:51:38	051103 15:53:11	103.20	193.20		102.20	844.73	813	804	814	1492	1481	1493	
KLX07A	051104 21:35:50	051112 08:36:30	335.00	455.00		334.00	844.73	2532	2531	2532	3381	3371	3371	
KLX07A	051112 18:54:39	051120 20:17:29	193.00	313.00		192.00	844.73	1467	1457	1473	2379	2375	2381	
KLX07A	051122 21:14:52	051129 10:56:05	747.00	792.00		746.00	844.73	5643	5644	5645	6001	5949	5993	
KLX07A	051130 10:14:30	051208 08:54:40	610.00	655.00		609.00	844.73	4563	4568	4571	4911	4861	4901	

APPENDIX 6

Index calculation

APPENDIX 6-1

Index calculation

KLX07A Section 103.20-193.20 m pumped

Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX01	Section no.:	HLX01_1
		Section length:	16.00-100.63
Distance r_s [m]:	751.43	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.7
Pressure in test section before stop of flowing:	p_p	kPa	62.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

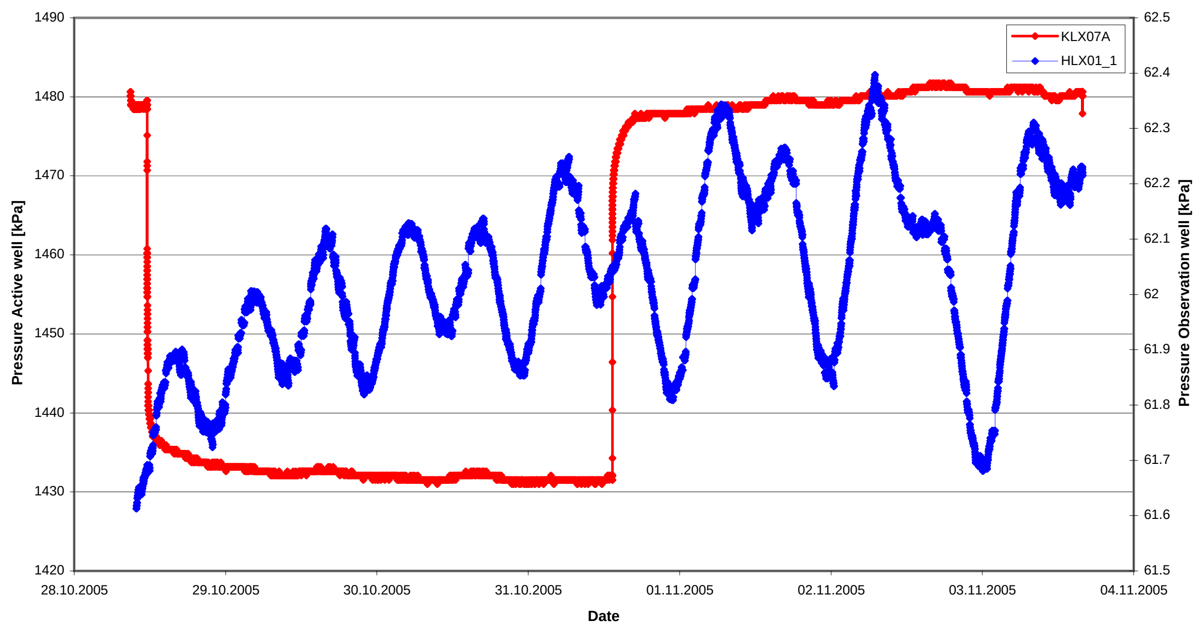
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX02	Section no.:	HLX02_1
		Section length:	0.60-132.00
Distance r_s [m]:	1619.95	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	45.6
Pressure in test section before stop of flowing:	p_p	kPa	43.9
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

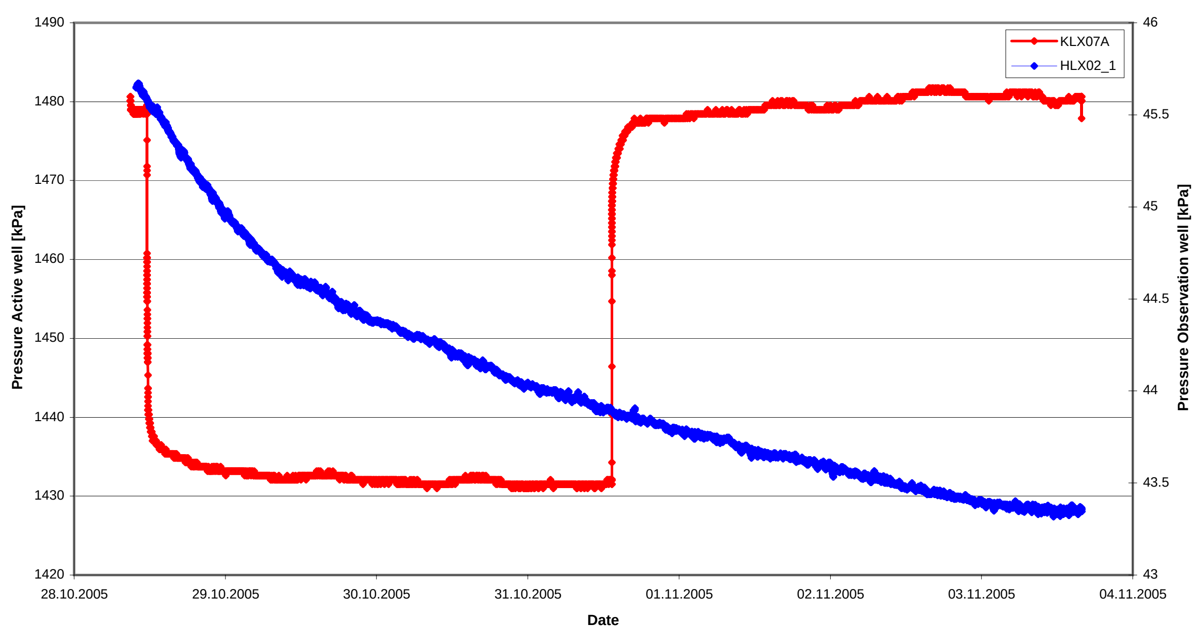
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX06	Section no.:	HLX06_1
		Section length:	1.00-100.00
Distance r_s [m]:	739.56	max. Drawdown s_p [m]:*	0.15
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	75.8
Pressure in test section before stop of flowing:	p_p	kPa	77.3
Maximum pressure change during flowing period:*	dp_p	kPa	1.5

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

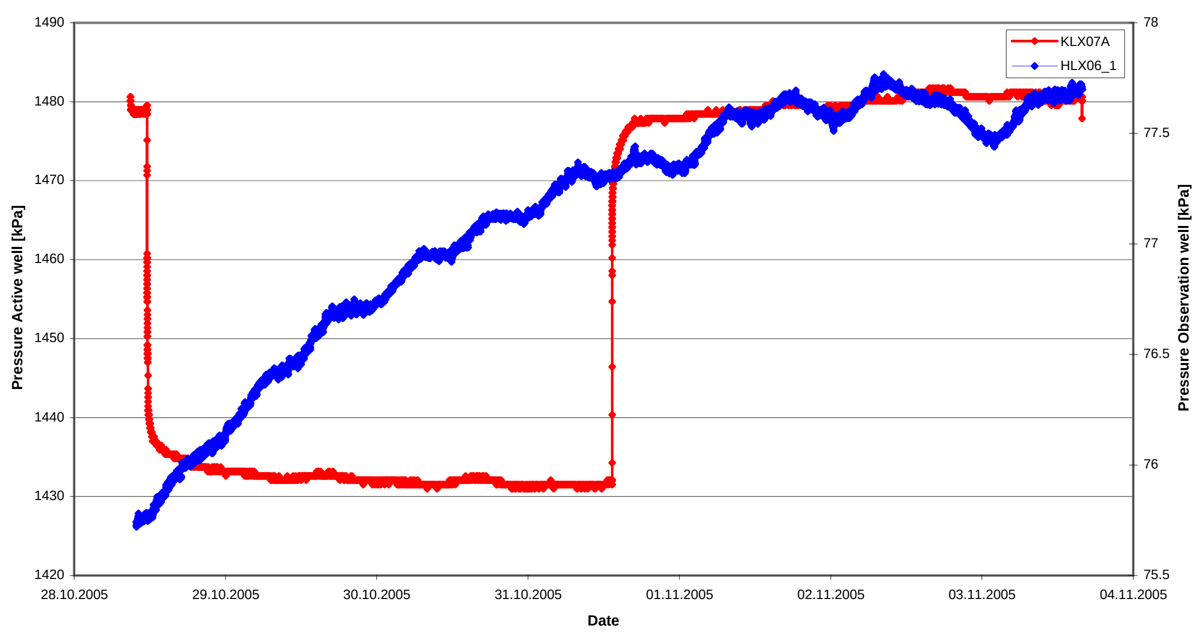
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX07	Section no.:	HLX07_1
		Section length:	16.00-100.00
Distance r_s [m]:	958.88	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.0
Pressure in test section before stop of flowing:	p_p	kPa	54.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

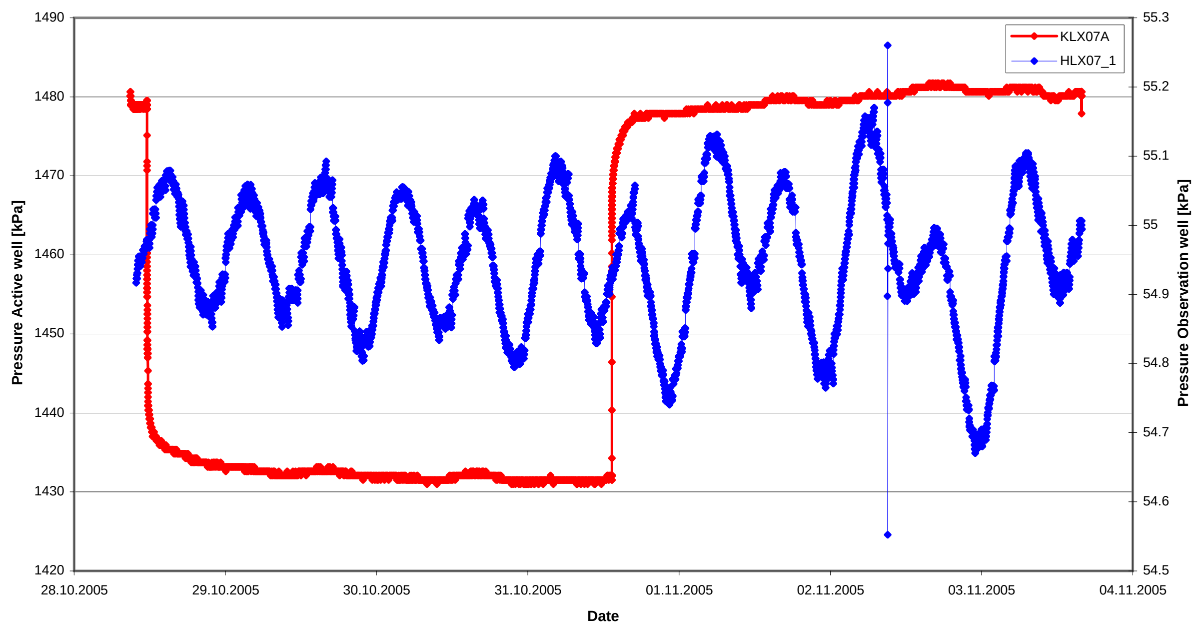
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX10	Section no.:	HLX10_1
		Section length:	3.00-85.00
Distance r_s [m]:	105.46	max. Drawdown s_p [m]:*	1.17
Response time dt_L [s]:	209		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.3
Pressure in test section before stop of flowing:	p_p	kPa	38.8
Maximum pressure change during flowing period:*	dp_p	kPa	11.5

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **53.21**

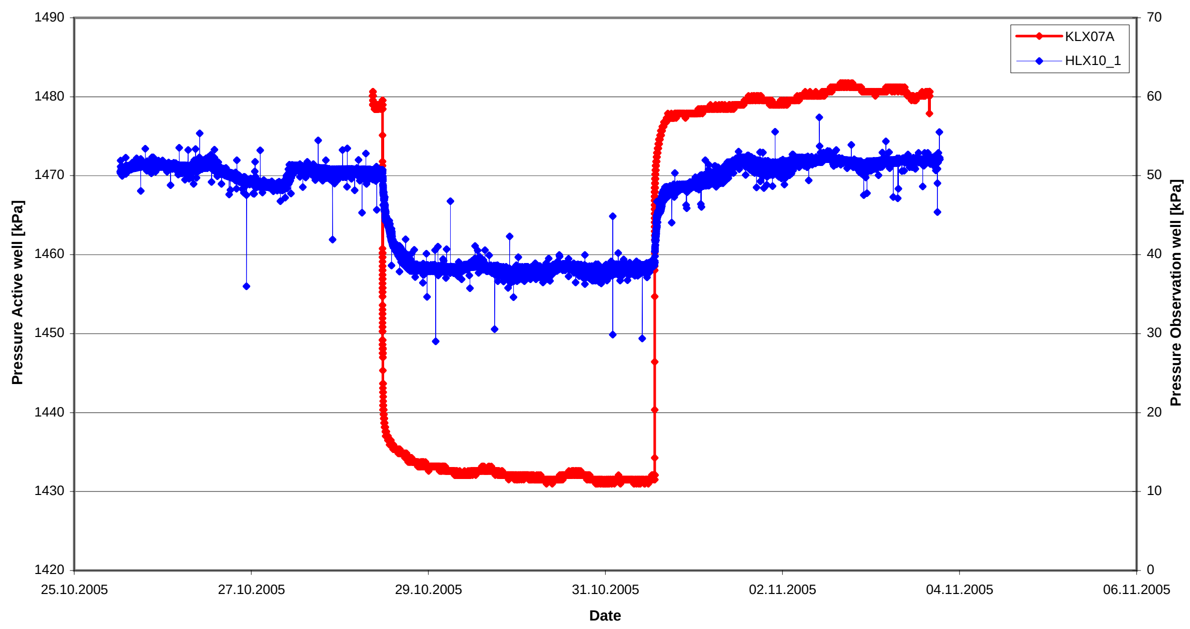
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1723.93**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **8030.64**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX11	Section no.:	HLX11_1
		Section length:	17.00-70.00
Distance r_s [m]:	160.20	max. Drawdown s_p [m]:*	0.83
Response time dt_L [s]:	1521		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.6
Pressure in test section before stop of flowing:	p_p	kPa	54.5
Maximum pressure change during flowing period:*	dp_p	kPa	8.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **16.87**

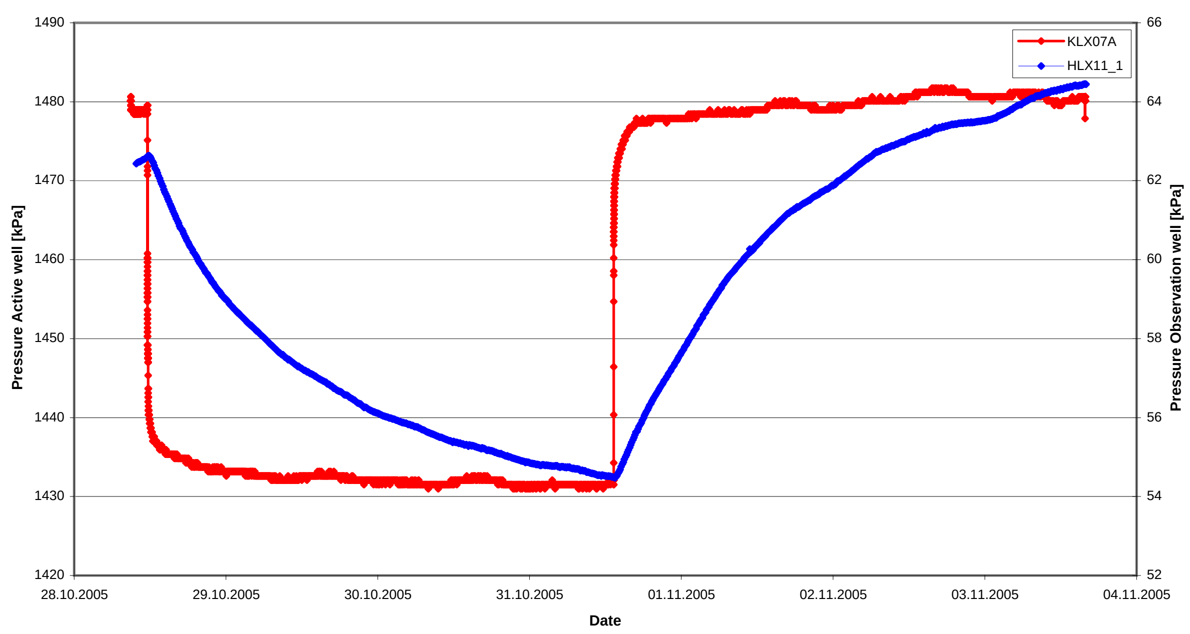
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1214.25**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6164.05**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX11	Section no.:	HLX11_2
		Section length:	6.00-16.00
Distance r_s [m]:	175.11	max. Drawdown s_p [m]:*	0.80
Response time dt_L [s]:	6321		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.3
Pressure in test section before stop of flowing:	p_p	kPa	53.5
Maximum pressure change during flowing period:*	dp_p	kPa	7.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **4.85**

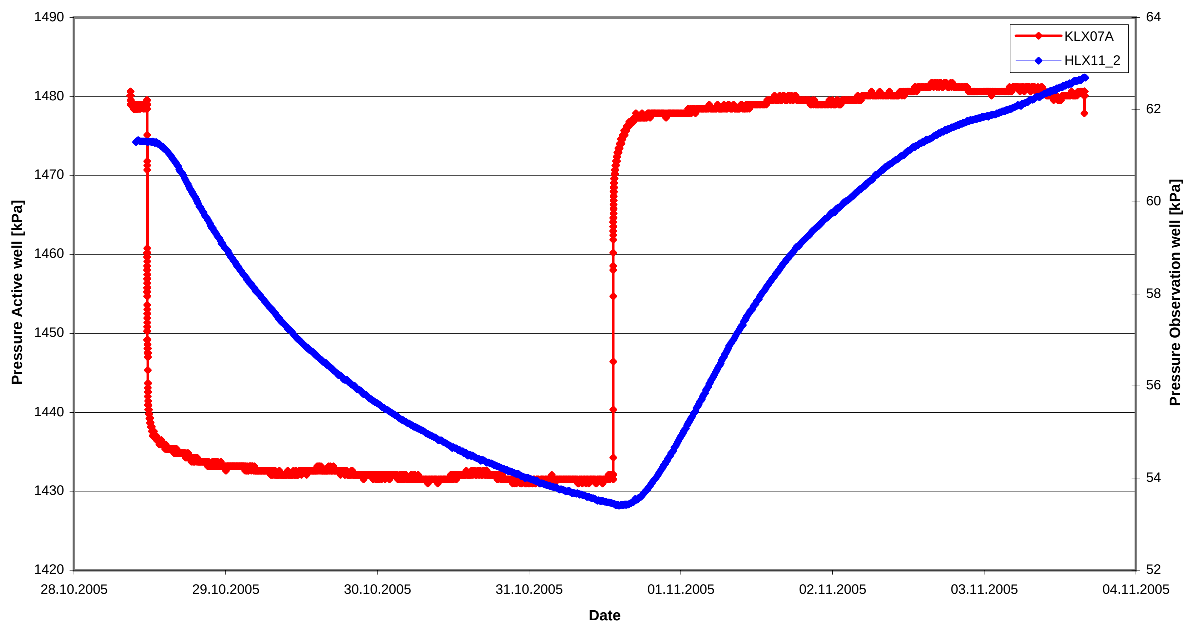
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1169.28**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6039.78**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX13	Section no.:	HLX13_1
		Section length:	11.87-200.02
Distance r_s [m]:	1552.42	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	119.5
Pressure in test section before stop of flowing:	p_p	kPa	120.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

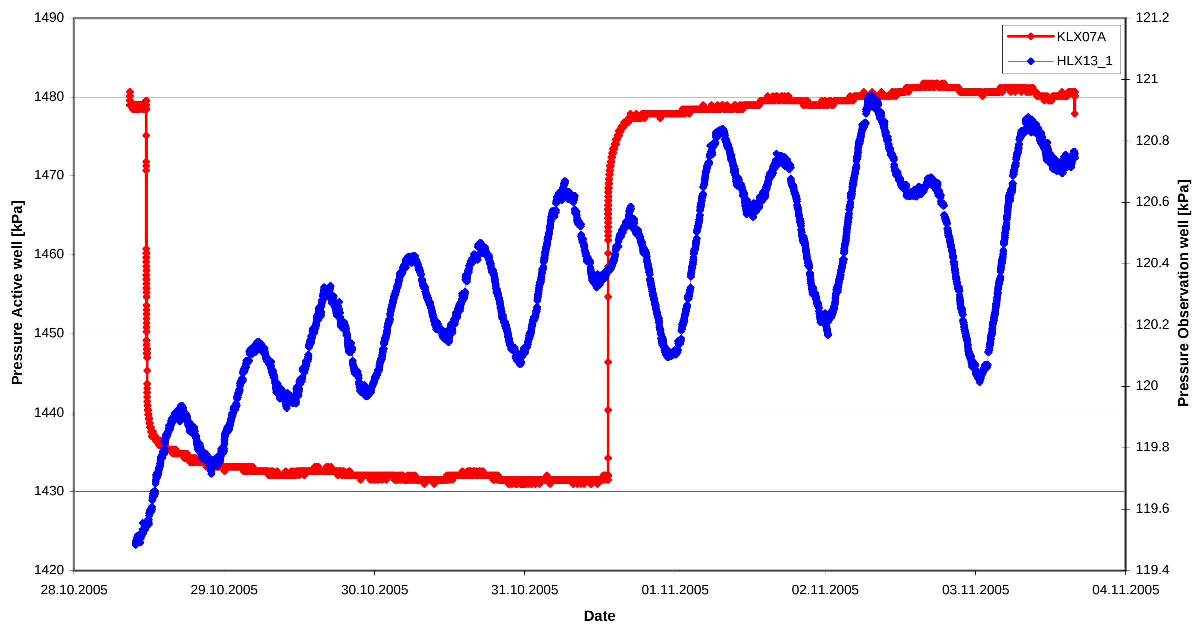
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX14	Section no.:	HLX14_1
		Section length:	11.00-115.90
Distance r_s [m]:	1551.21	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.9
Pressure in test section before stop of flowing:	p_p	kPa	116.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

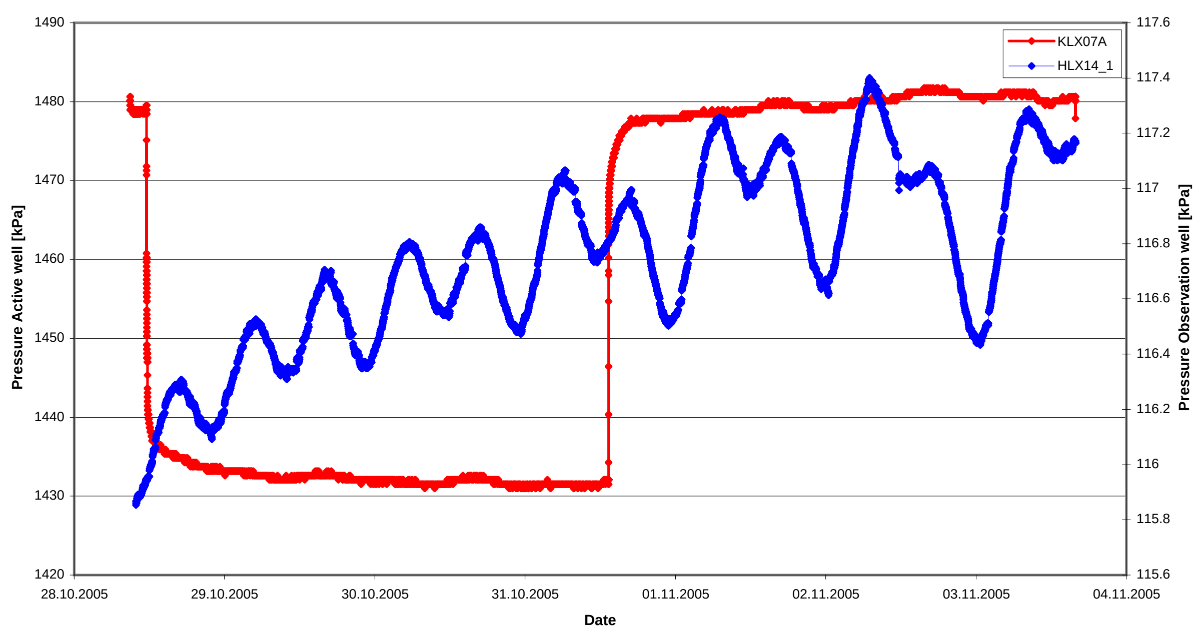
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX21	Section no.:	HLX21_1
		Section length:	81.00-150.00
Distance r_s [m]:	435.74	max. Drawdown s_p [m]:*	0.27
Response time dt_L [s]:	10924		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	53.4
Pressure in test section before stop of flowing:	p_p	kPa	50.8
Maximum pressure change during flowing period:*	dp_p	kPa	2.6

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **17.38**

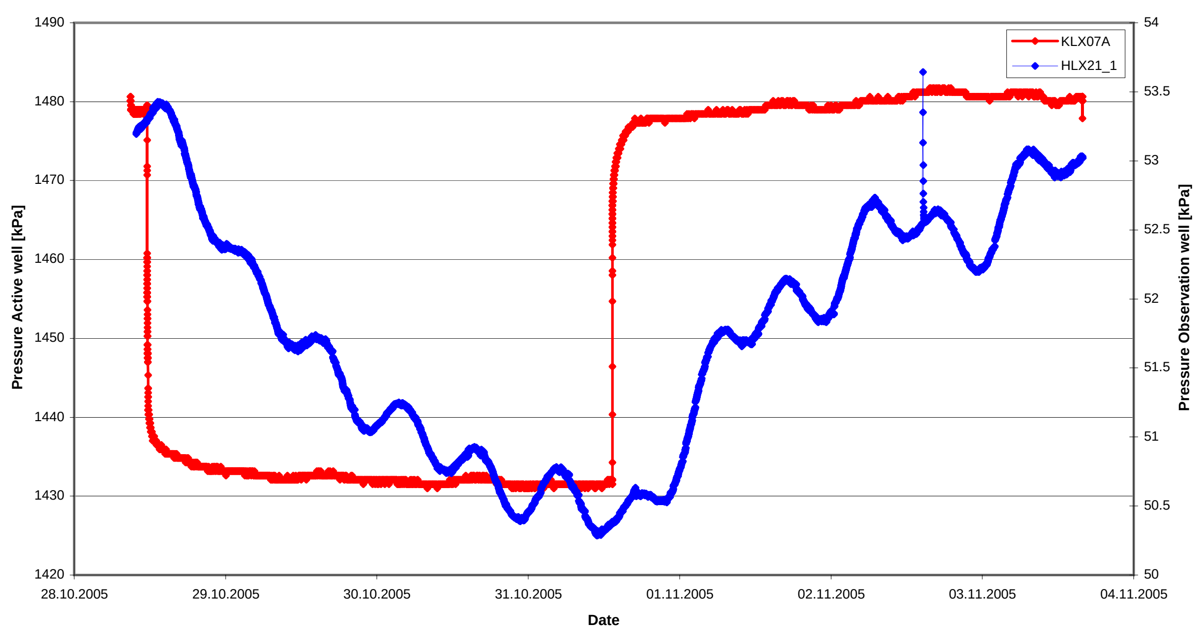
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **389.76**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2368.58**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX21	Section no.:	HLX21_2
		Section length:	9.10-80.00
Distance r_s [m]:	434.21	max. Drawdown s_p [m]:*	0.24
Response time dt_L [s]:	9379		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.3
Pressure in test section before stop of flowing:	p_p	kPa	49.9
Maximum pressure change during flowing period:*	dp_p	kPa	2.4

Normalized distance with respect to the response time

Index 1 r_s^2/dt_L (m^2/s): **20.10**

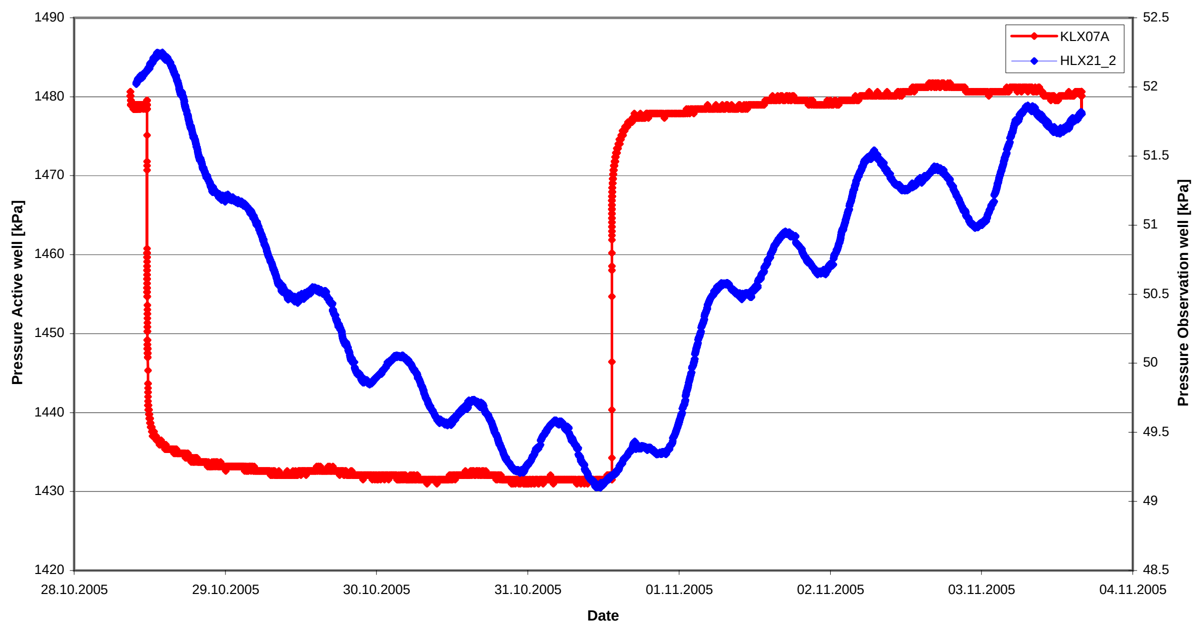
Normalized drawdown with respect to pumping flow rate

Index 2 s_p/Q_p (s/m^2): **359.78**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2185.12**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX22	Section no.:	HLX22_1
		Section length:	86.00-163.20
Distance r_s [m]:	467.00	max. Drawdown s_p [m]:*	0.29
Response time dt_L [s]:	10756		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.2
Pressure in test section before stop of flowing:	p_p	kPa	49.4
Maximum pressure change during flowing period:*	dp_p	kPa	2.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **20.28**

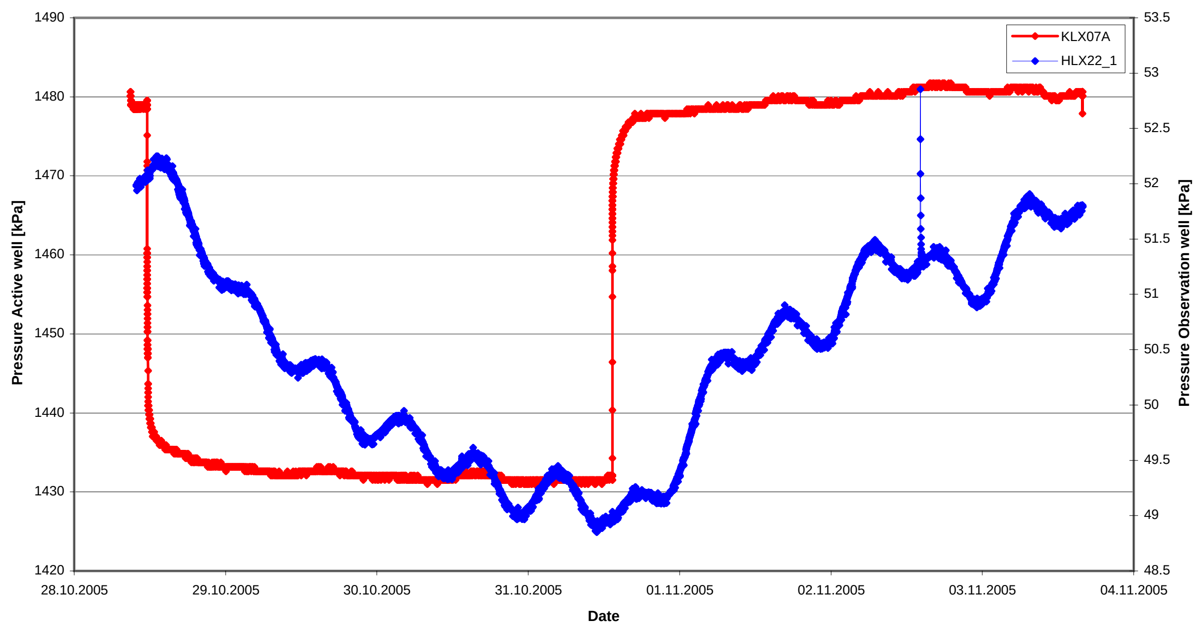
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **419.74**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2579.86**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045				
Pumping Hole:	KLX07A	Pumping Section [m bToC]:			103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:			03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:			31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04				
Pressure data		**Nomenclature**	**Unit**	**Value**	
Pressure in test section before start of flowing:		p_i	kPa	1478	
Pressure in test section before stop of flowing:		p_p	kPa	1432	
Maximum pressure change during flowing period:		dp_p	kPa	46	
Observation Hole:	HLX22	Section no.:			HLX22_2
		Section length:			9.19-85.00
Distance r_s [m]:	477.00	max. Drawdown s_p [m]:*			0.15
Response time dt_L [s]:	13961				
Pressure data		**Nomenclature**	**Unit**	**Value**	
Pressure in test section before start of flowing:		p_i	kPa	38.9	
Pressure in test section before stop of flowing:		p_p	kPa	37.4	
Maximum pressure change during flowing period:*		dp_p	kPa	1.5	

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **16.30**

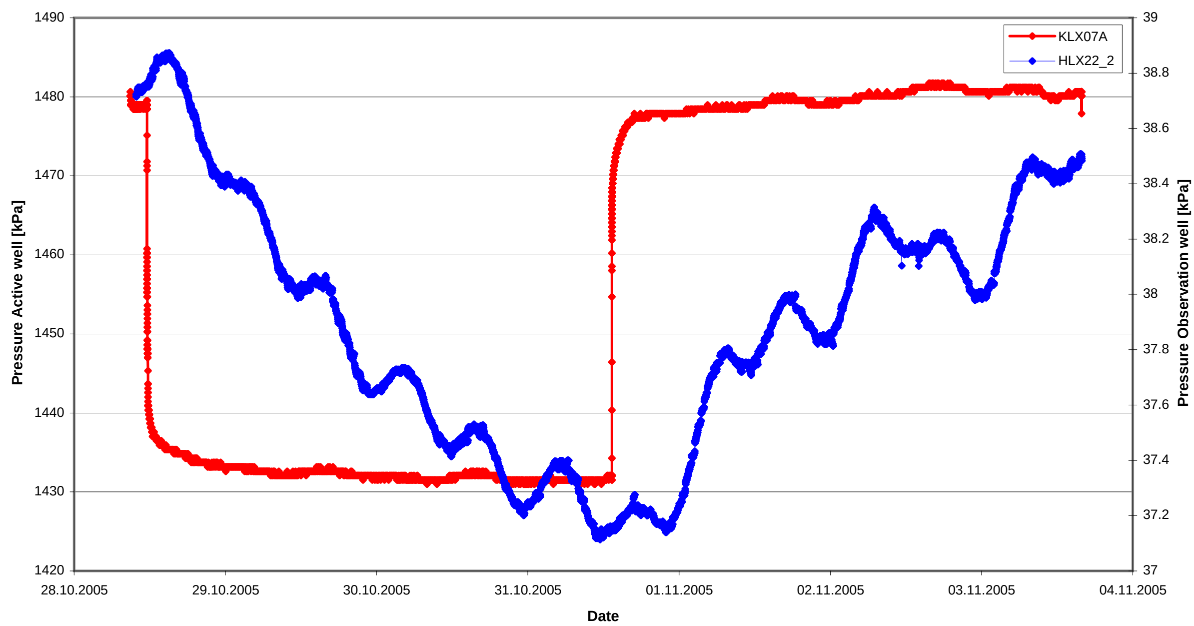
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **224.86**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **1386.83**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX23	Section no.:	HLX23_1
		Section length:	61.00-160.20
Distance r_s [m]:	362.14	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.3
Pressure in test section before stop of flowing:	p_p	kPa	97.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized distance with respect to the response time

Index 1 r_s^2/dt_L (m^2/s): **#NV**

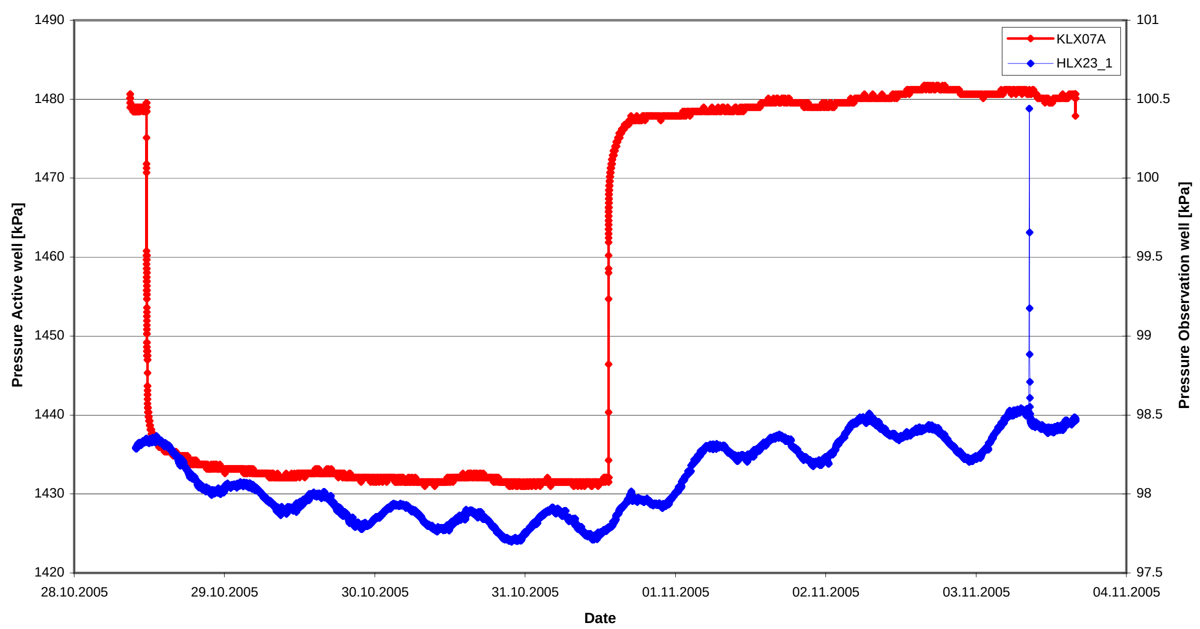
Normalized drawdown with respect to pumping flow rate

Index 2 s_p/Q_p (s/m^2): **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX23	Section no.:	HLX23_2
		Section length:	6.10-60.00
Distance r_s [m]:	361.12	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	96.3
Pressure in test section before stop of flowing:	p_p	kPa	95.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

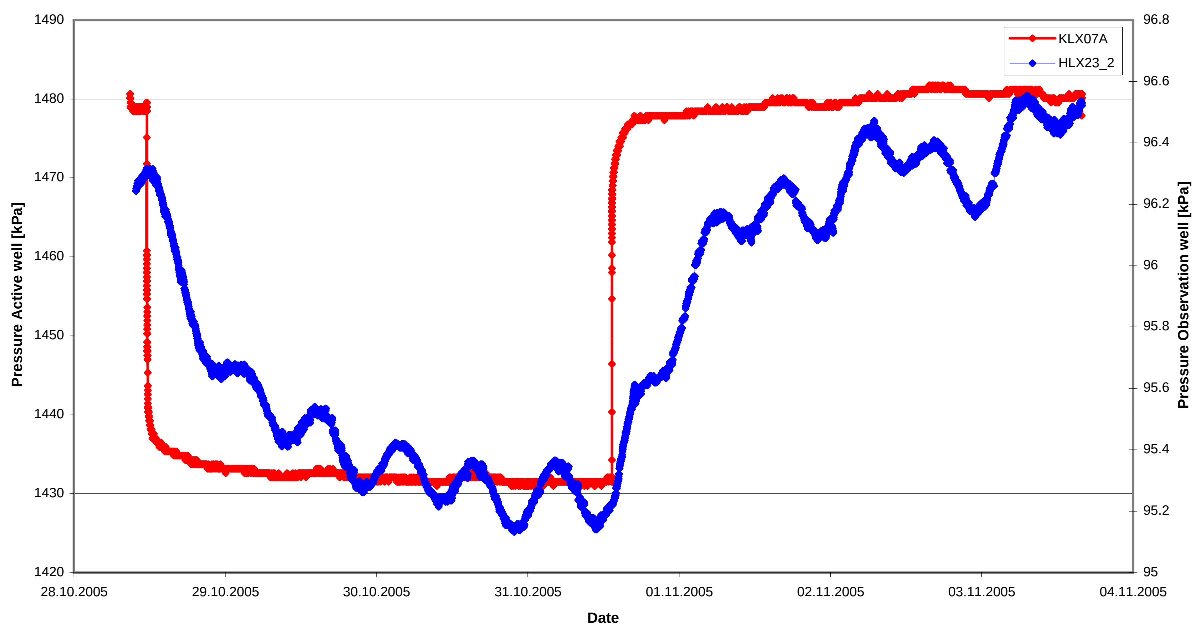
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX24	Section no.:	HLX24_1
		Section length:	41.00-175.20
Distance r_s [m]:	368.70	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.4
Pressure in test section before stop of flowing:	p_p	kPa	97.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

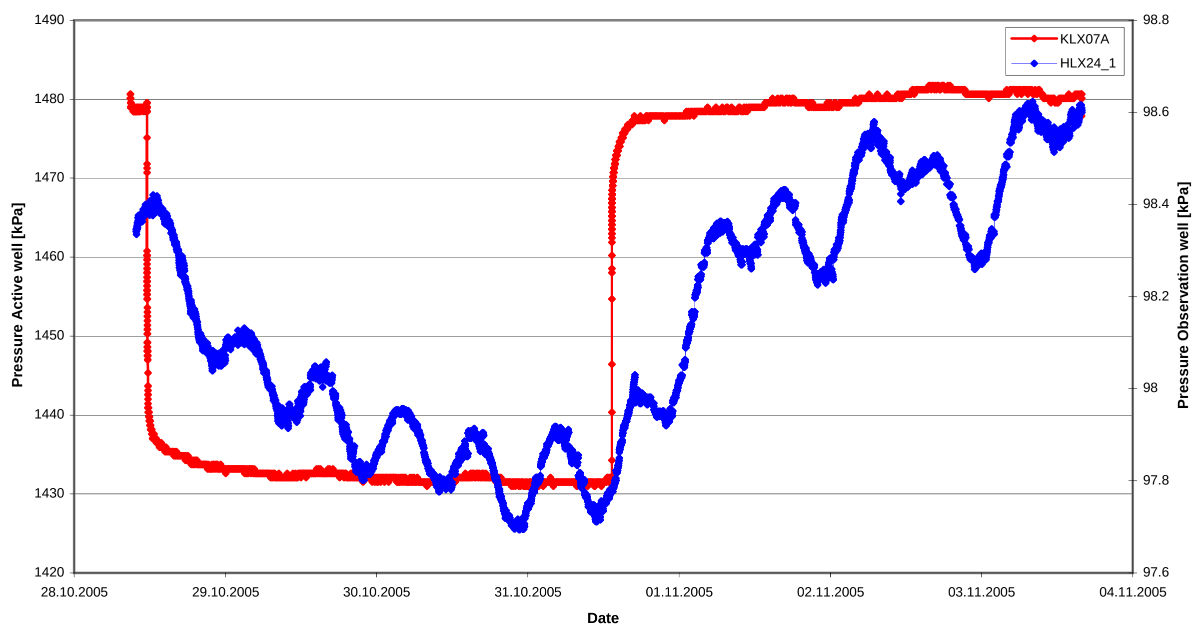
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX24	Section no.:	HLX24_2
		Section length:	9.10-40.00
Distance r_s [m]:	402.48	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	99.8
Pressure in test section before stop of flowing:	p_p	kPa	99.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

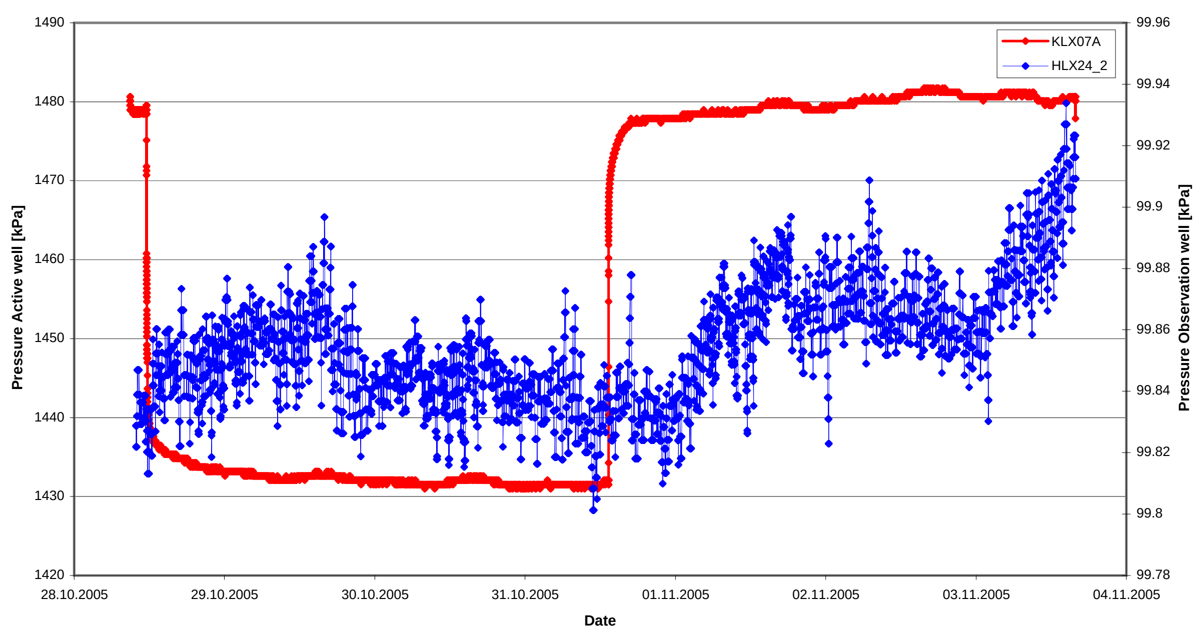
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045			

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX25	Section no.:	HLX25_1
		Section length:	61.00-202.50
Distance r_s [m]:	1434.55	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	110.2
Pressure in test section before stop of flowing:	p_p	kPa	110.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

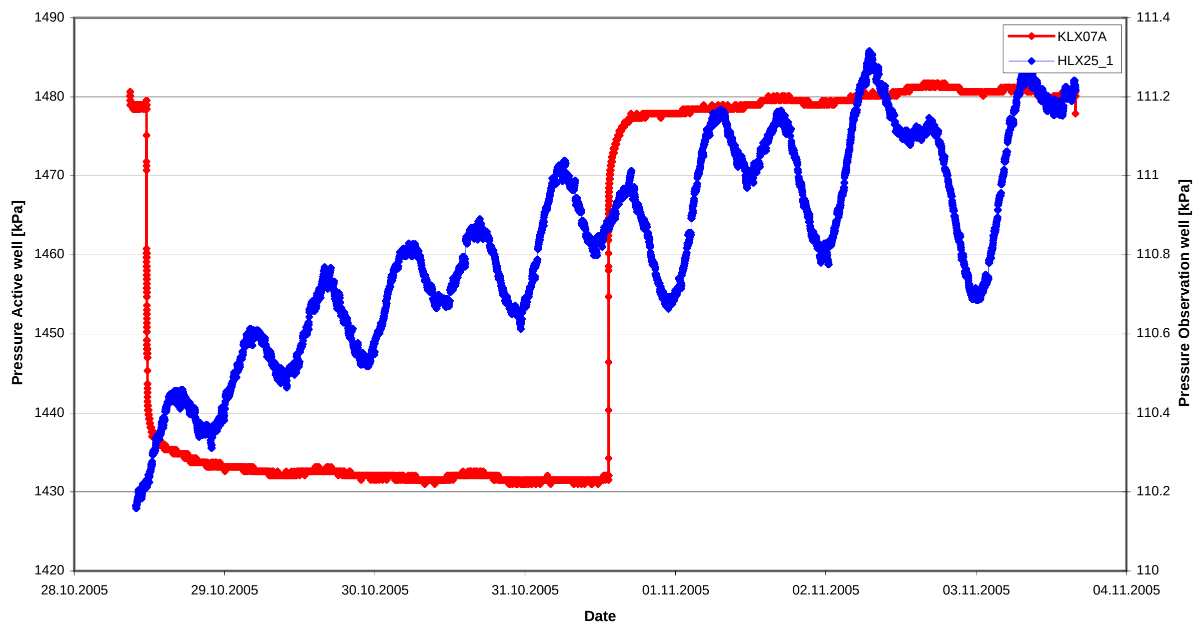
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX25	Section no.:	HLX25_2
		Section length:	6.12-60.00
Distance r_s [m]:	1439.90	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	110.4
Pressure in test section before stop of flowing:	p_p	kPa	111.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

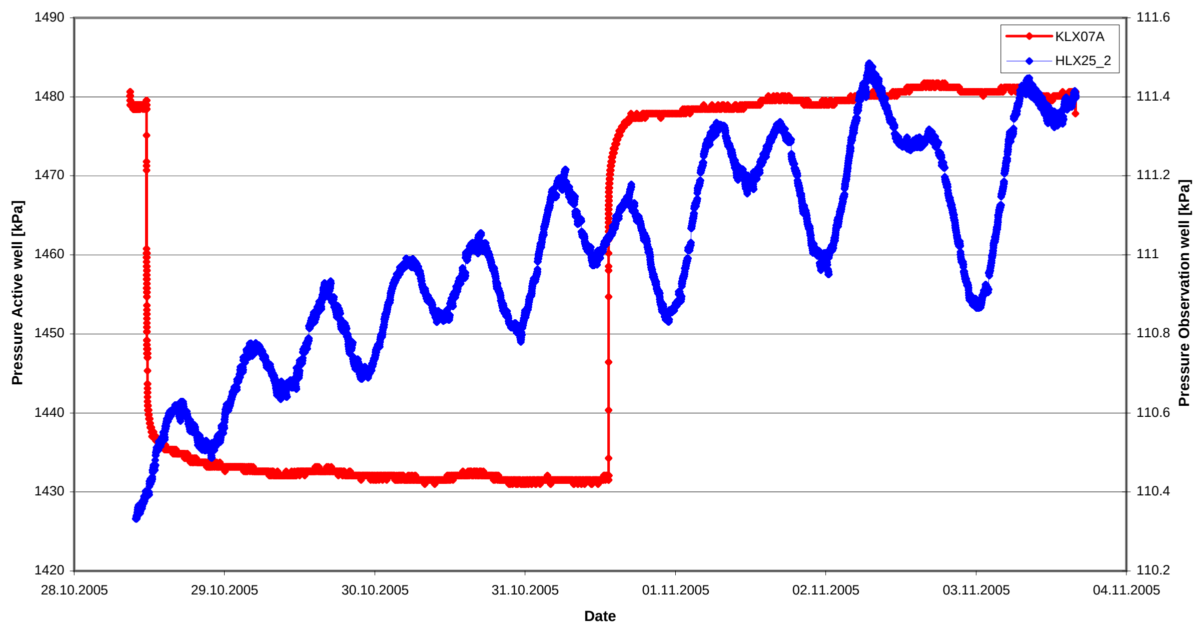
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX30	Section no.:	HLX30_1
		Section length:	101.00-163.40
Distance r_s [m]:	1143.48	max. Drawdown s_p [m]:*	0.42
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	102.6
Pressure in test section before stop of flowing:	p_p	kPa	106.7
Maximum pressure change during flowing period:*	dp_p	kPa	4.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

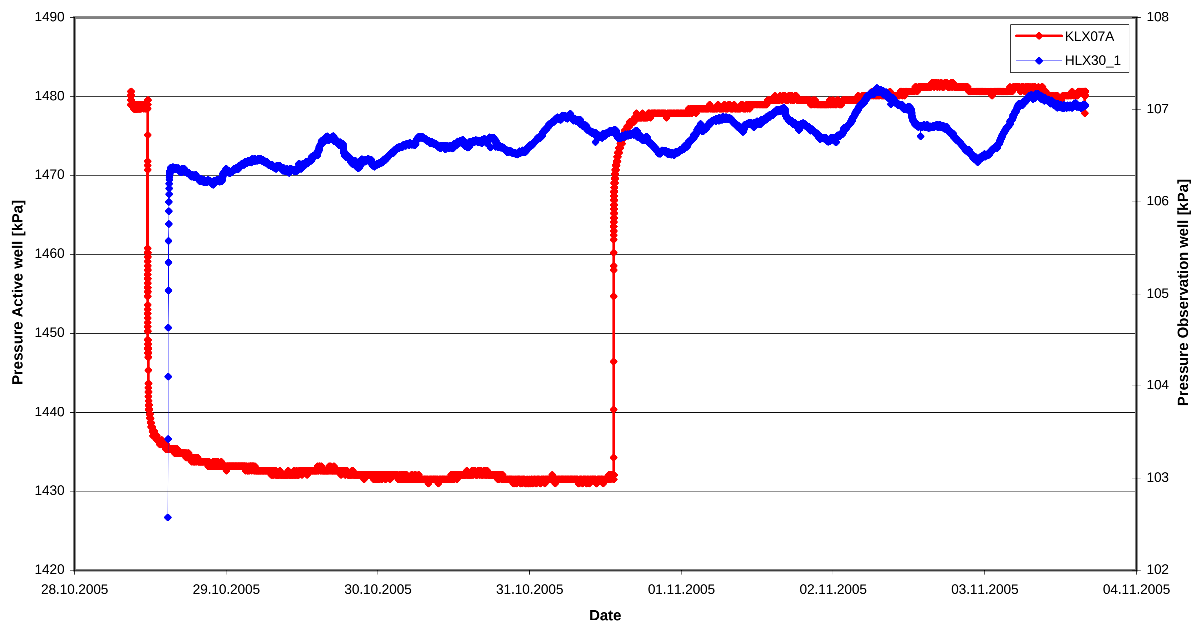
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX30	Section no.:	HLX30_2
		Section length:	9.10-100.0
Distance r_s [m]:	1163.08	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.6
Pressure in test section before stop of flowing:	p_p	kPa	106.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

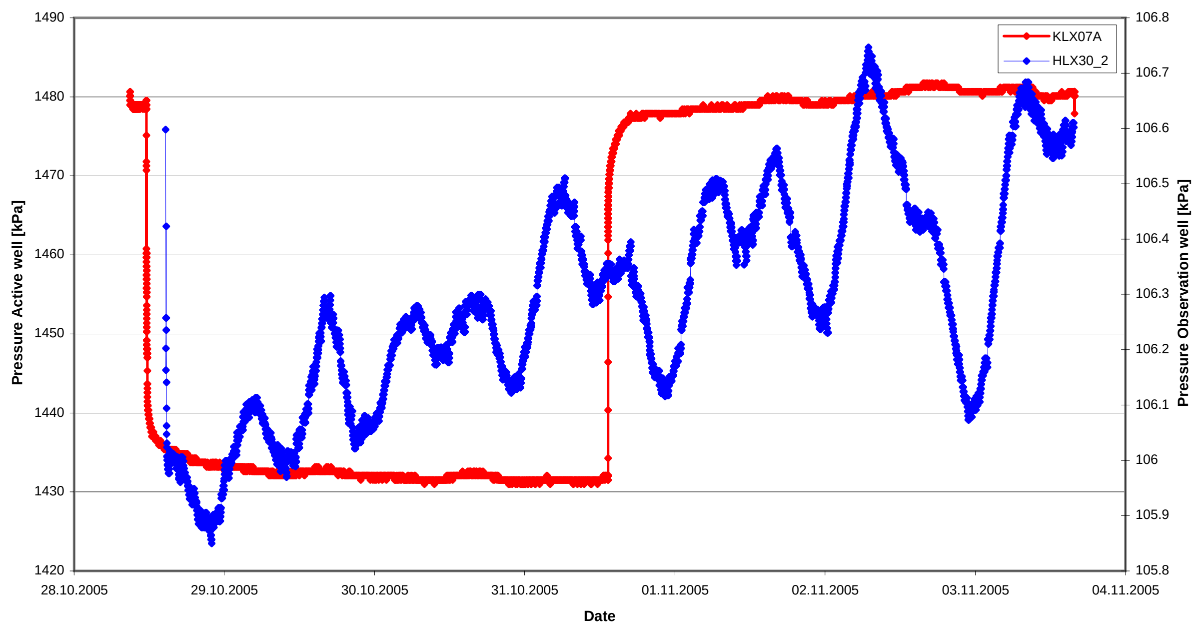
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX31	Section no.:	HLX31_1
		Section length:	9.10-133.20
Distance r_s [m]:	1099.48	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.2
Pressure in test section before stop of flowing:	p_p	kPa	106.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

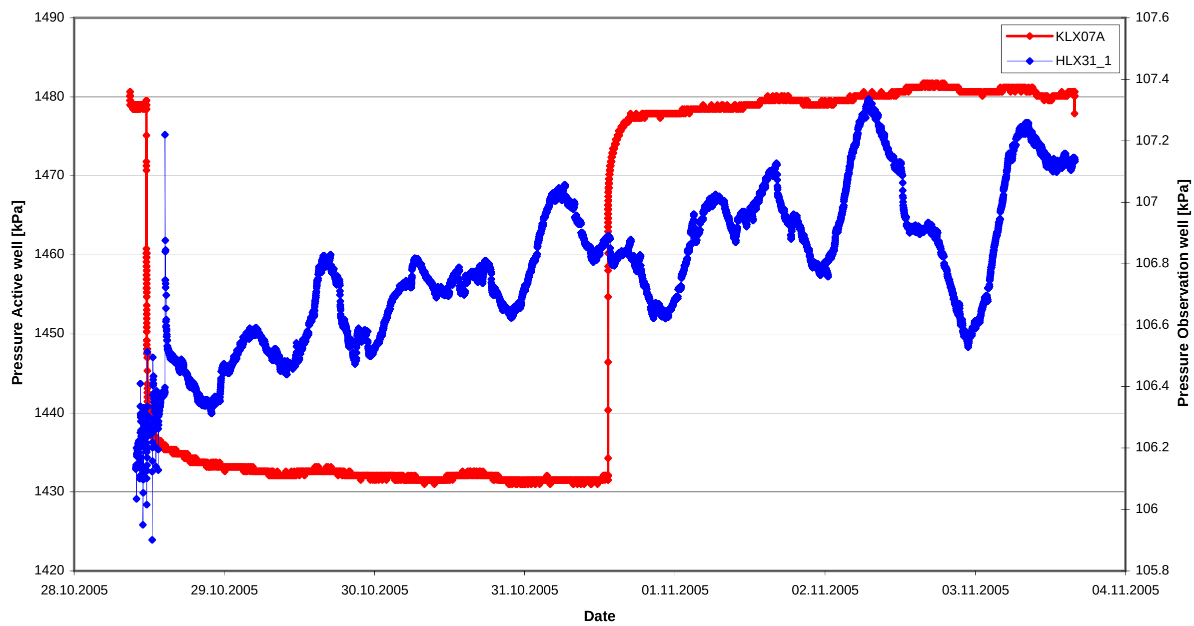
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX33	Section no.:	HLX33_1
		Section length:	31.00-202.10
Distance r_s [m]:	633.76	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.6
Pressure in test section before stop of flowing:	p_p	kPa	100.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

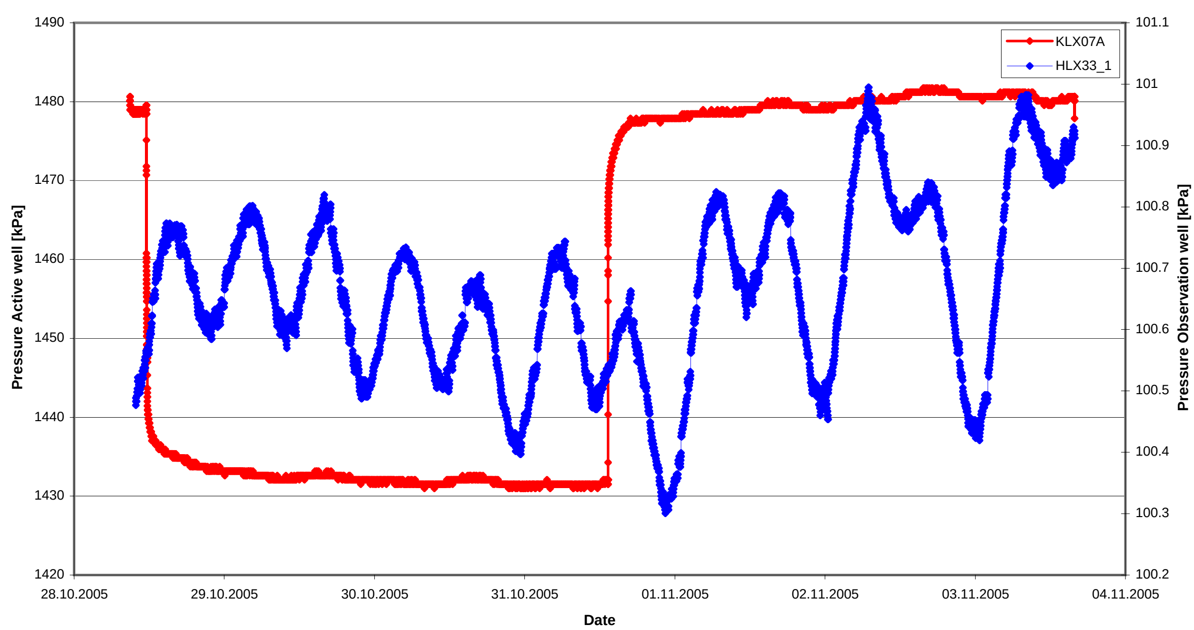
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX33	Section no.:	HLX33_2
		Section length:	9.10-30.00
Distance r_s [m]:	685.95	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.5
Pressure in test section before stop of flowing:	p_p	kPa	100.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

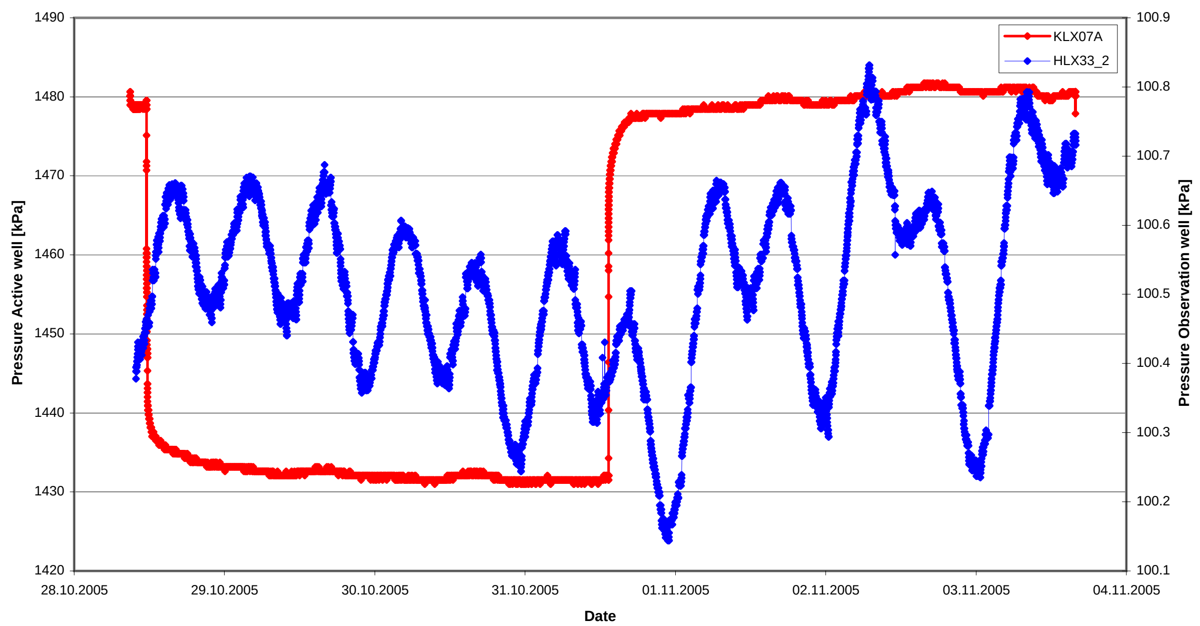
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX34	Section no.:	HLX34_1
		Section length:	9.00-151.80
Distance r_s [m]:	1790.10	max. Drawdown s_p [m]:*	0.14
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	132.2
Pressure in test section before stop of flowing:	p_p	kPa	133.6
Maximum pressure change during flowing period:*	dp_p	kPa	1.4

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

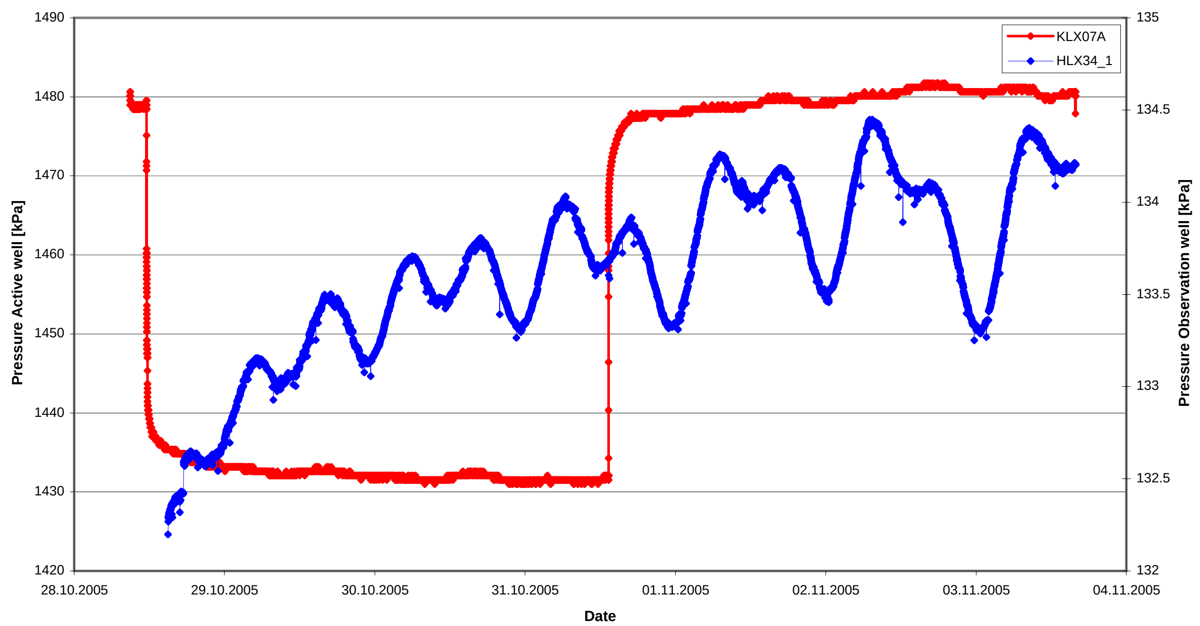
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX35	Section no.:	HLX35_1
		Section length:	65.00-151.50
Distance r_s [m]:	1788.07	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	131.5
Pressure in test section before stop of flowing:	p_p	kPa	132.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

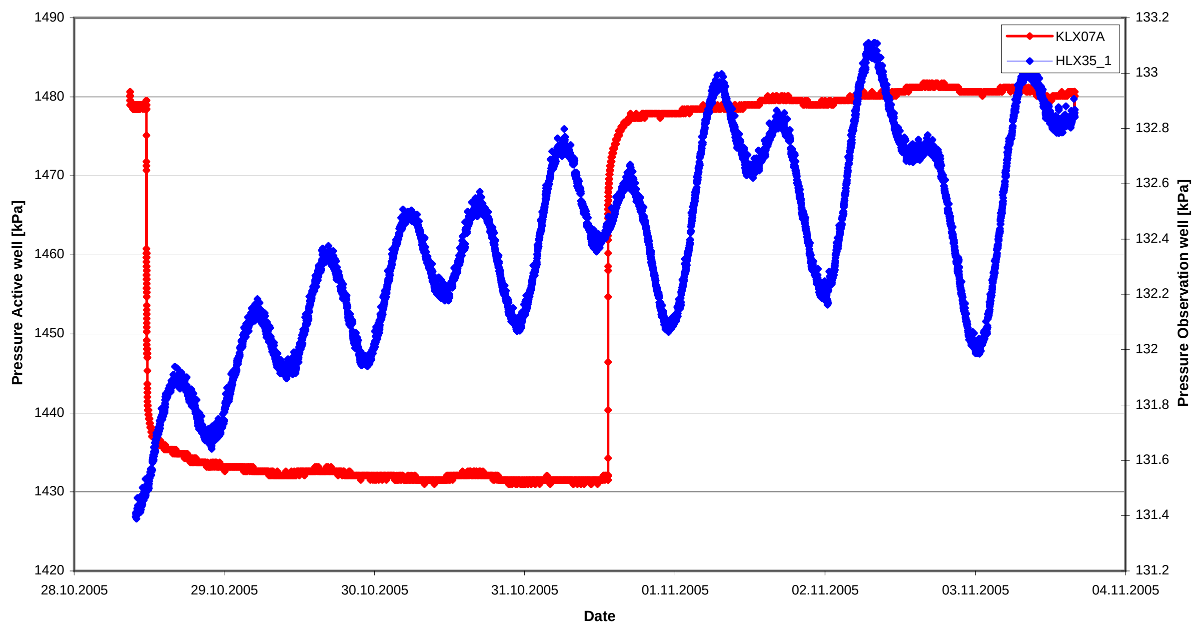
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	HLX35	Section no.:	HLX35_2
		Section length:	6.00-64.00
Distance r_s [m]:	1846.24	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	113.6
Pressure in test section before stop of flowing:	p_p	kPa	113.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

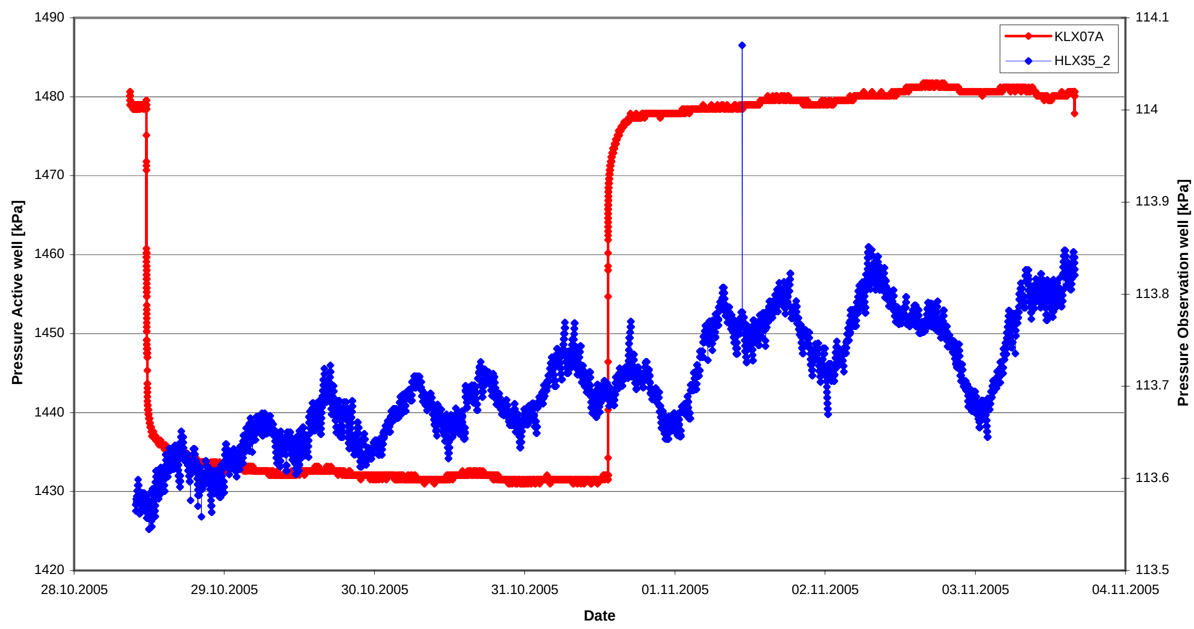
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX01	Section no.:	KLX01_1
		Section length:	705.00-1078.00
Distance r_s [m]:	1353.48	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	-19.2
Pressure in test section before stop of flowing:	p_p	kPa	-18.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

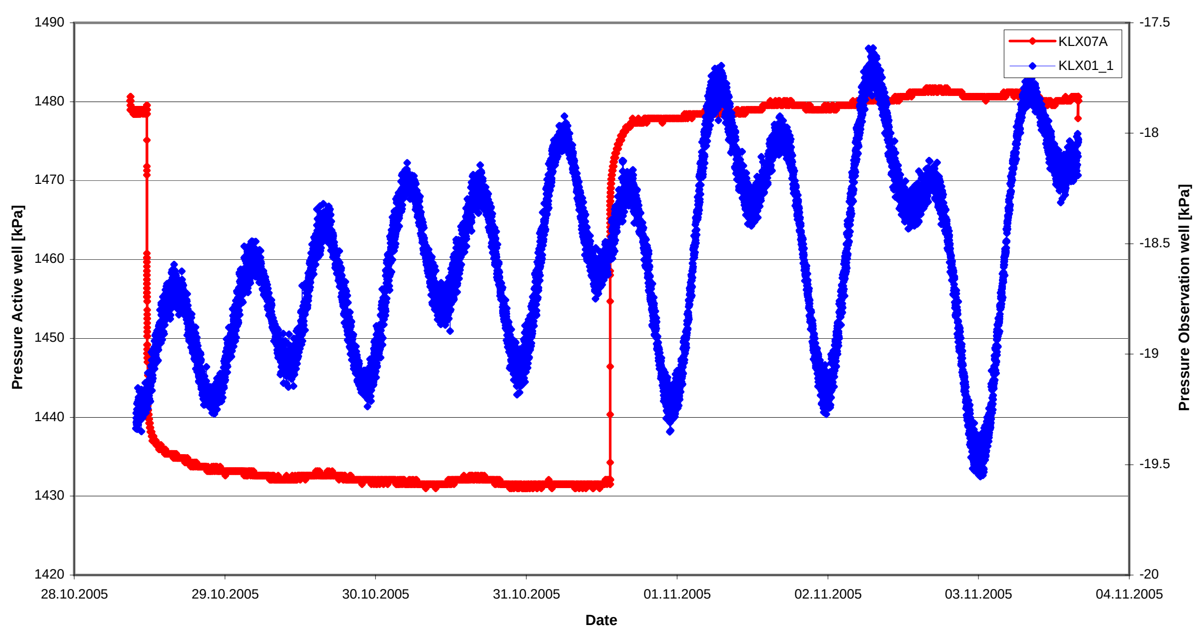
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX01	Section no.:	KLX01_2
		Section length:	191.00-704.00
Distance r_s [m]:	1154.12	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	53.1
Pressure in test section before stop of flowing:	p_p	kPa	53.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

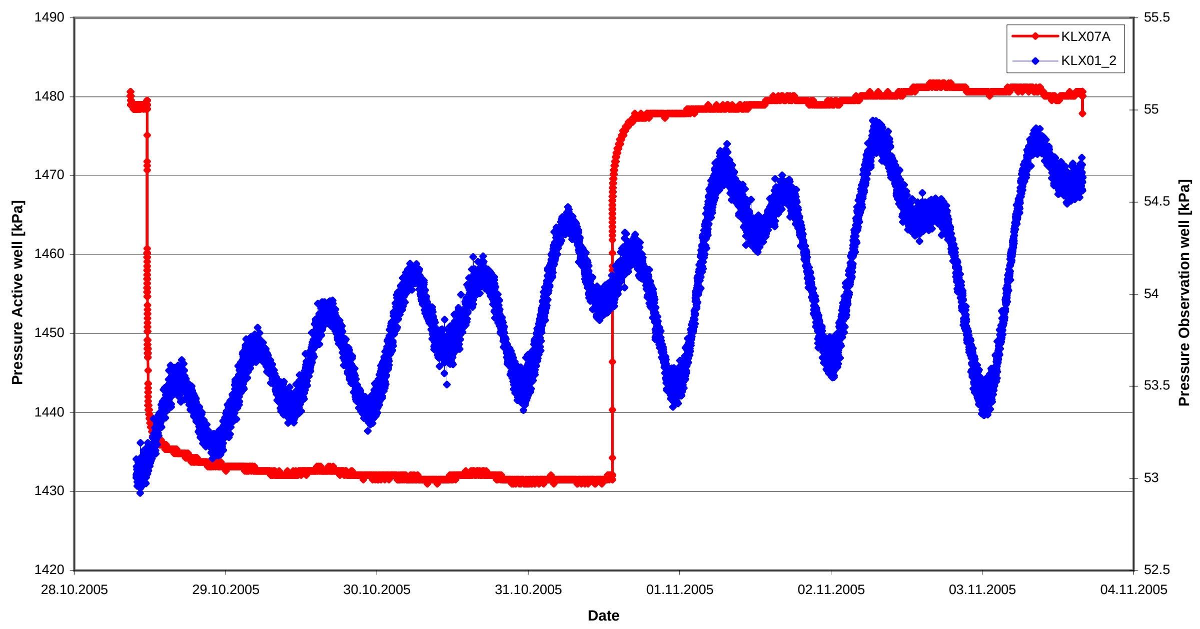
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX01	Section no.:	KLX01_3
		Section length:	171.00-190.00
Distance r_s [m]:	1089.38	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	63.9
Pressure in test section before stop of flowing:	p_p	kPa	64.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

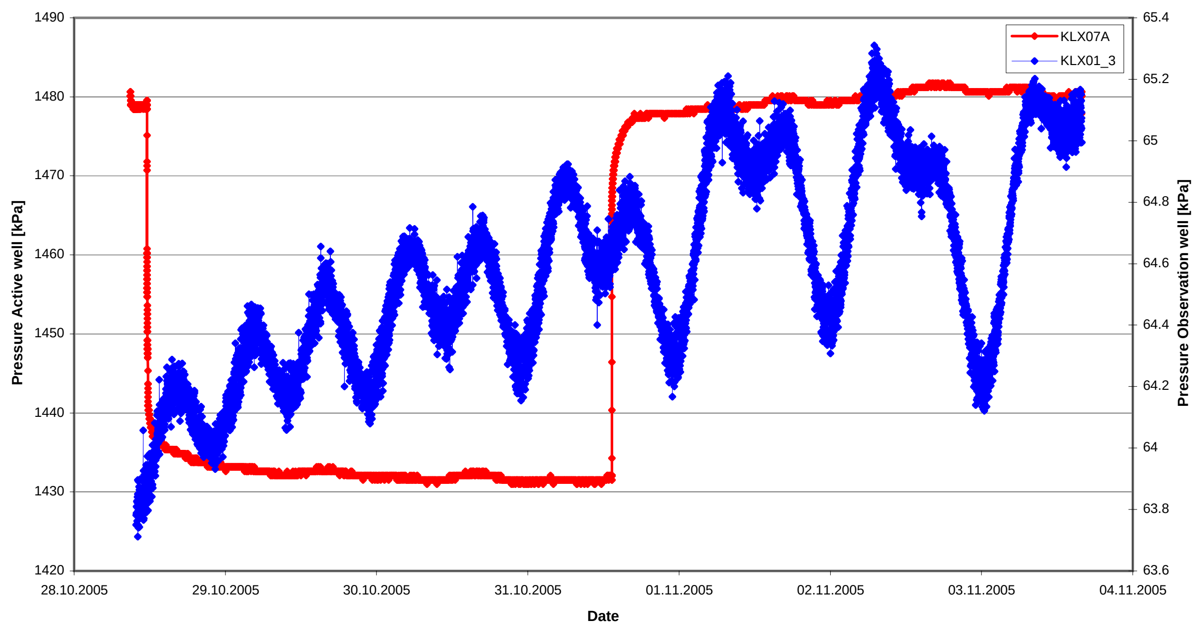
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX01	Section no.:	KLX01_4
		Section length:	1.00-170.00
Distance r_s [m]:	1084.58	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	139.8
Pressure in test section before stop of flowing:	p_p	kPa	140.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

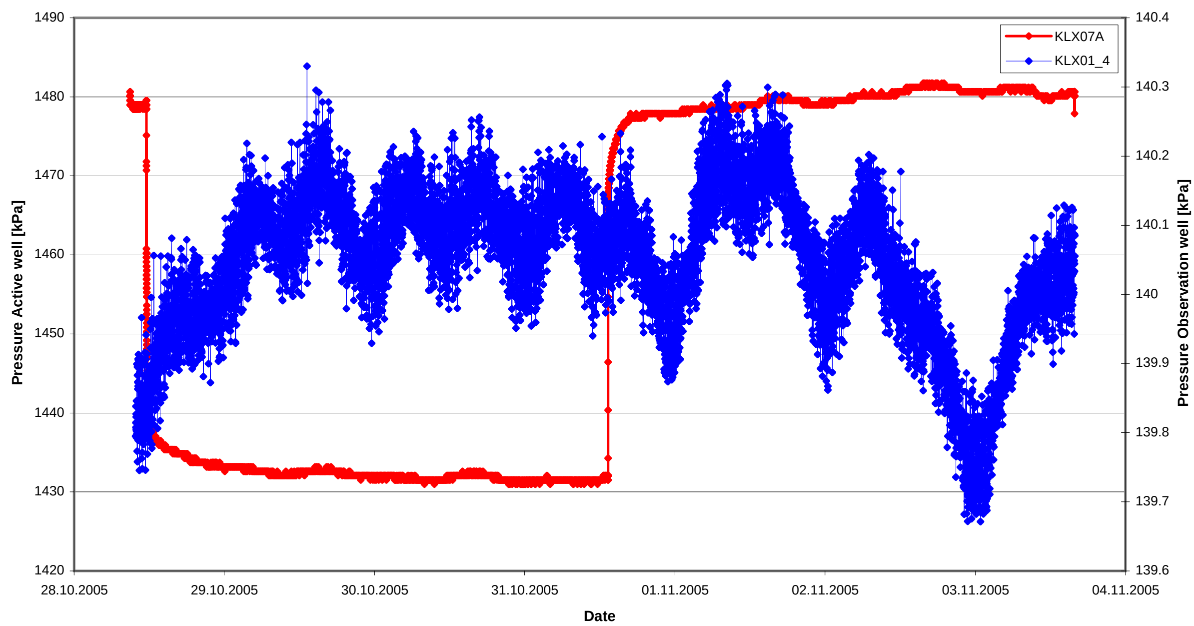
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_1
		Section length:	1165.00-1700.00
Distance r_s [m]:	1328.68	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	74.8
Pressure in test section before stop of flowing:	p_p	kPa	75.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

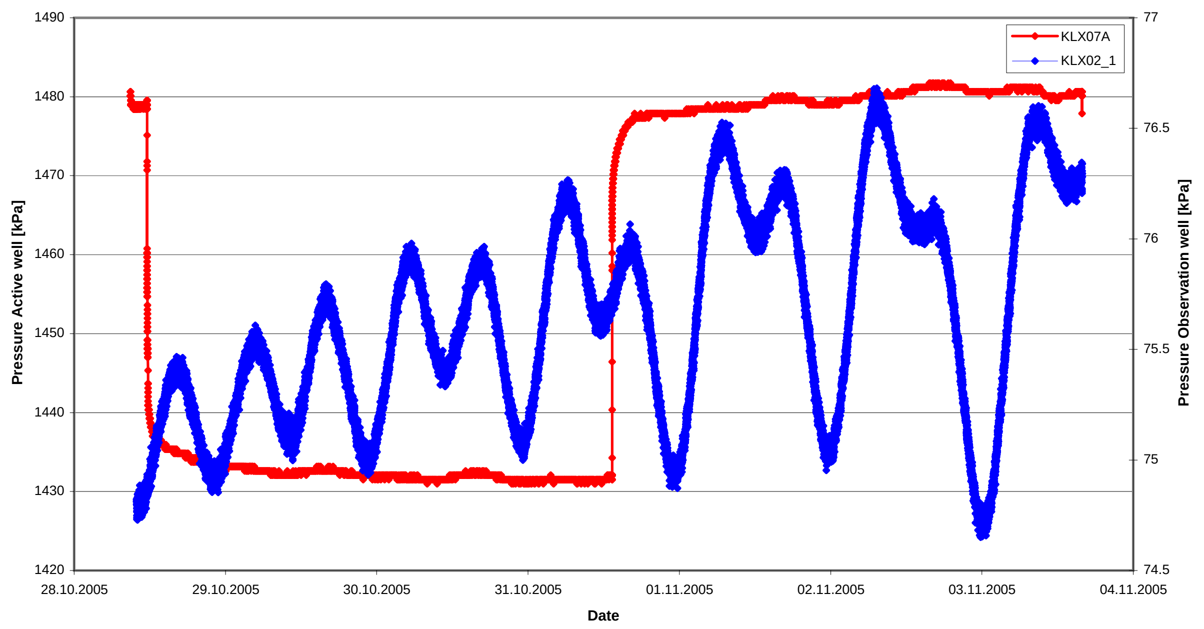
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_2
		Section length:	1145.00-1164.00
Distance r_s [m]:	1051.43	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	58.0
Pressure in test section before stop of flowing:	p_p	kPa	58.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

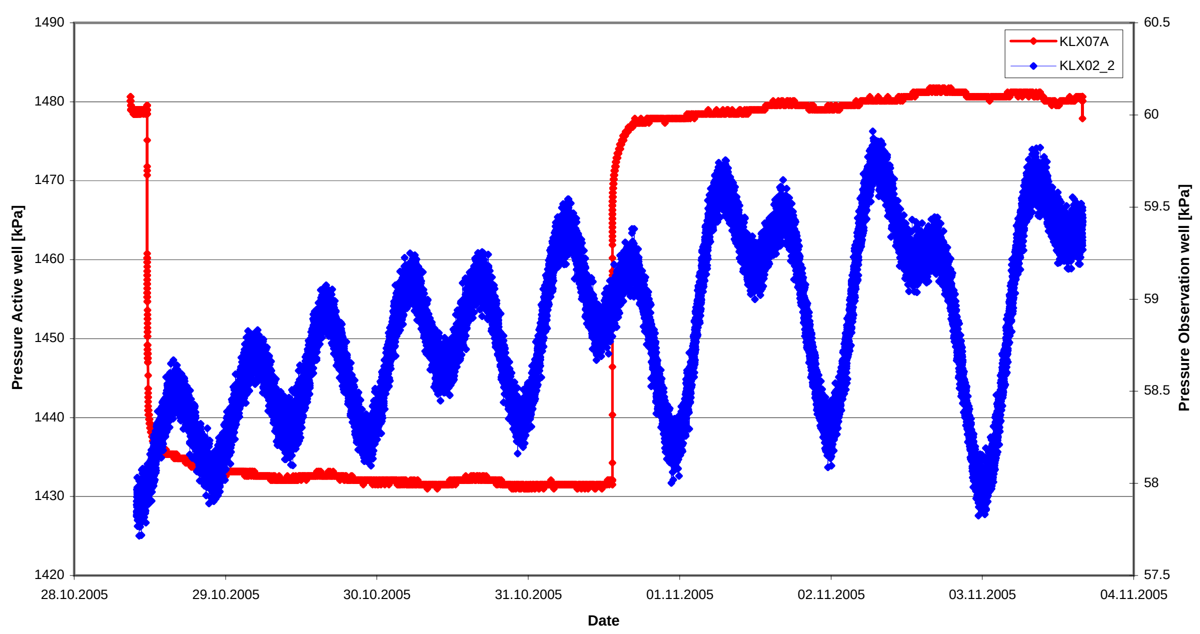
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_3
		Section length:	718.00-1144.00
Distance r_s [m]:	829.28	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	36.4
Pressure in test section before stop of flowing:	p_p	kPa	37.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

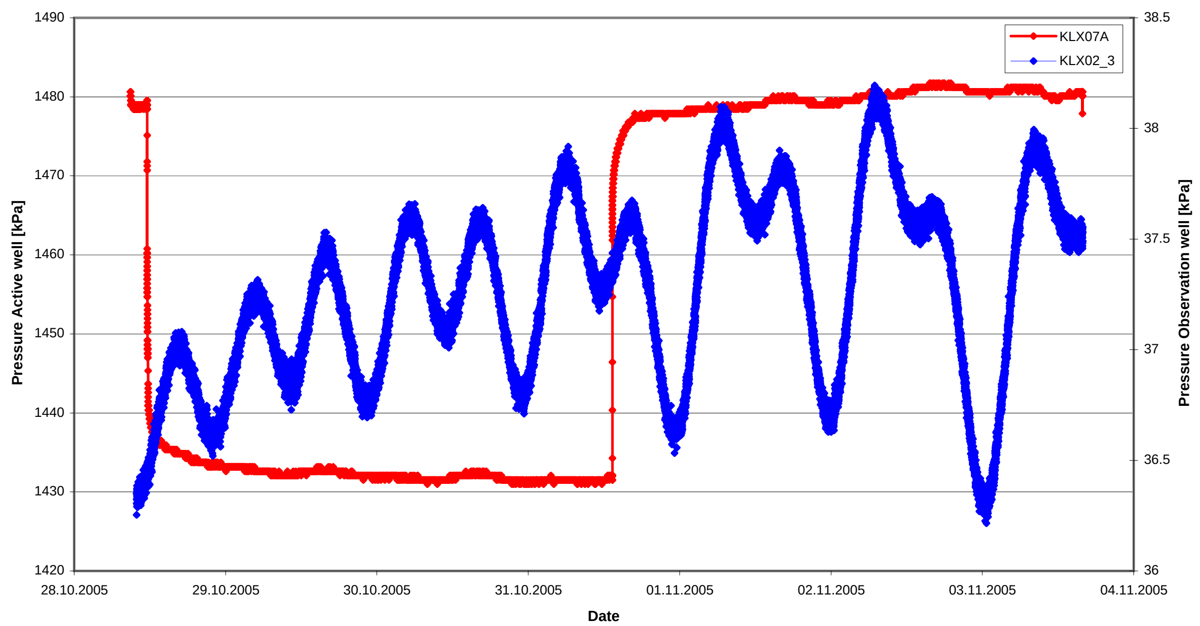
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_4
		Section length:	495.00-717.00
Distance r_s [m]:	508.63	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	48.7
Pressure in test section before stop of flowing:	p_p	kPa	49.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

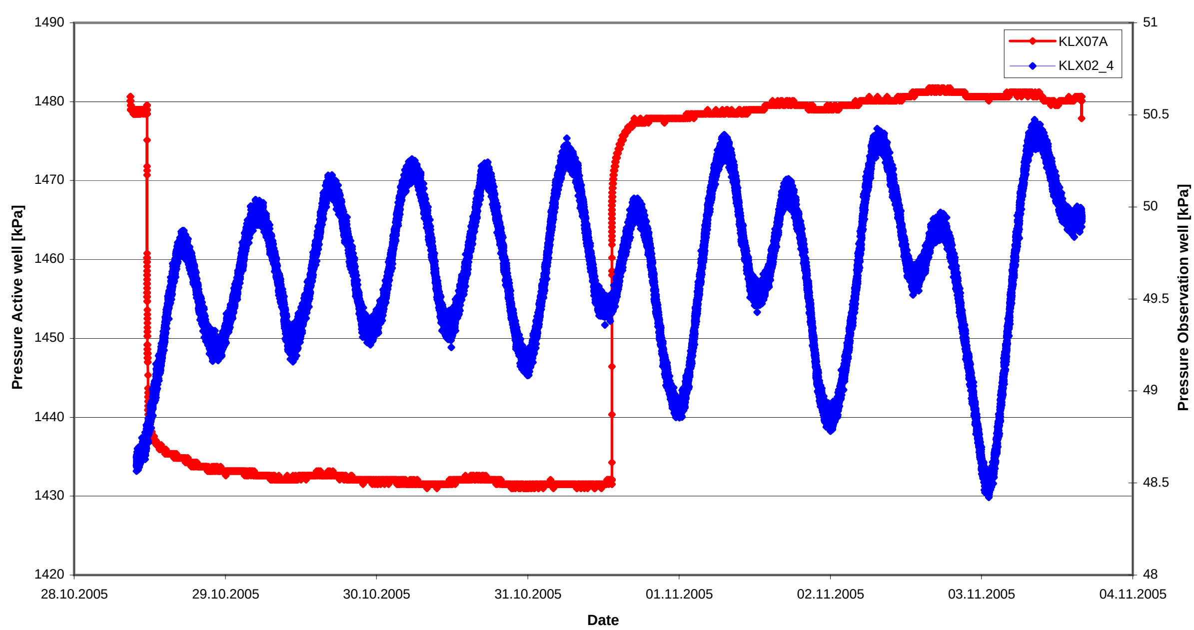
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045			

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_5
		Section length:	452.00-494.00
Distance r_s [m]:	379.74	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	54.7
Pressure in test section before stop of flowing:	p_p	kPa	54.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

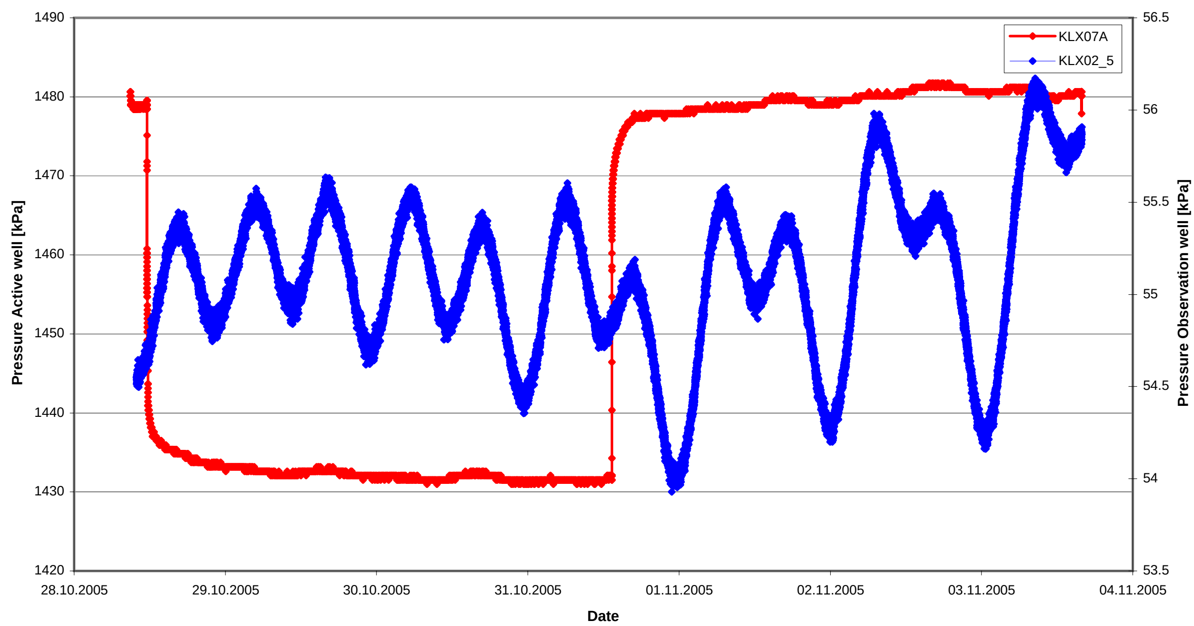
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_6
		Section length:	348.00-451.00
Distance r_s [m]:	310.17	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	7891		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	56.4
Pressure in test section before stop of flowing:	p_p	kPa	54.7
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **12.19**

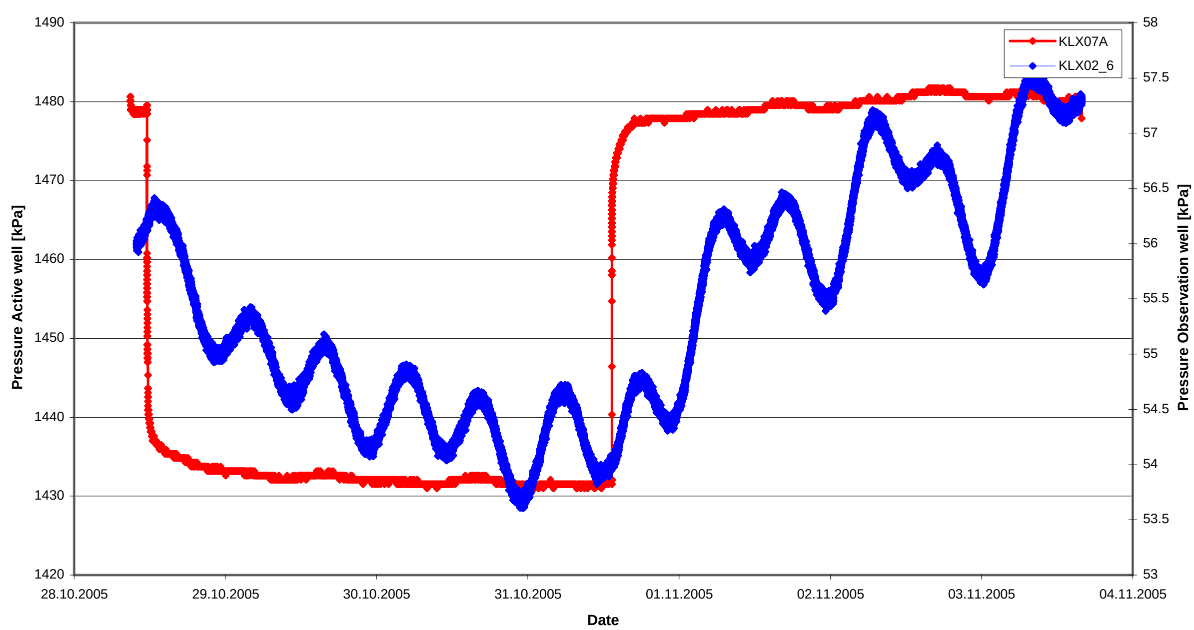
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **254.84**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **1462.06**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_7
		Section length:	209.00-347.00
Distance r_s [m]:	202.22	max. Drawdown s_p [m]:*	0.85
Response time dt_L [s]:	1731		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	60.2
Pressure in test section before stop of flowing:	p_p	kPa	51.9
Maximum pressure change during flowing period:*	dp_p	kPa	8.3

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **23.62**

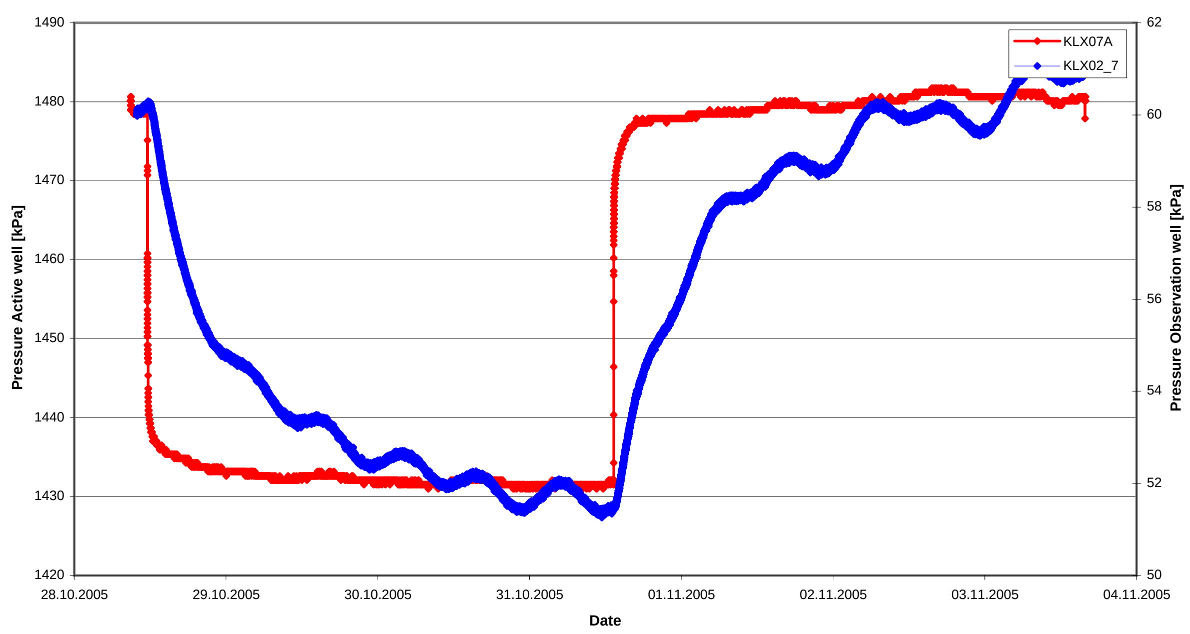
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1244.23**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6606.06**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX02	Section no.:	KLX02_8
		Section length:	202.95-208.00
Distance r_s [m]:	148.53	max. Drawdown s_p [m]:*	0.43
Response time dt_L [s]:	8571		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	75.8
Pressure in test section before stop of flowing:	p_p	kPa	71.6
Maximum pressure change during flowing period:*	dp_p	kPa	4.2

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **2.57**

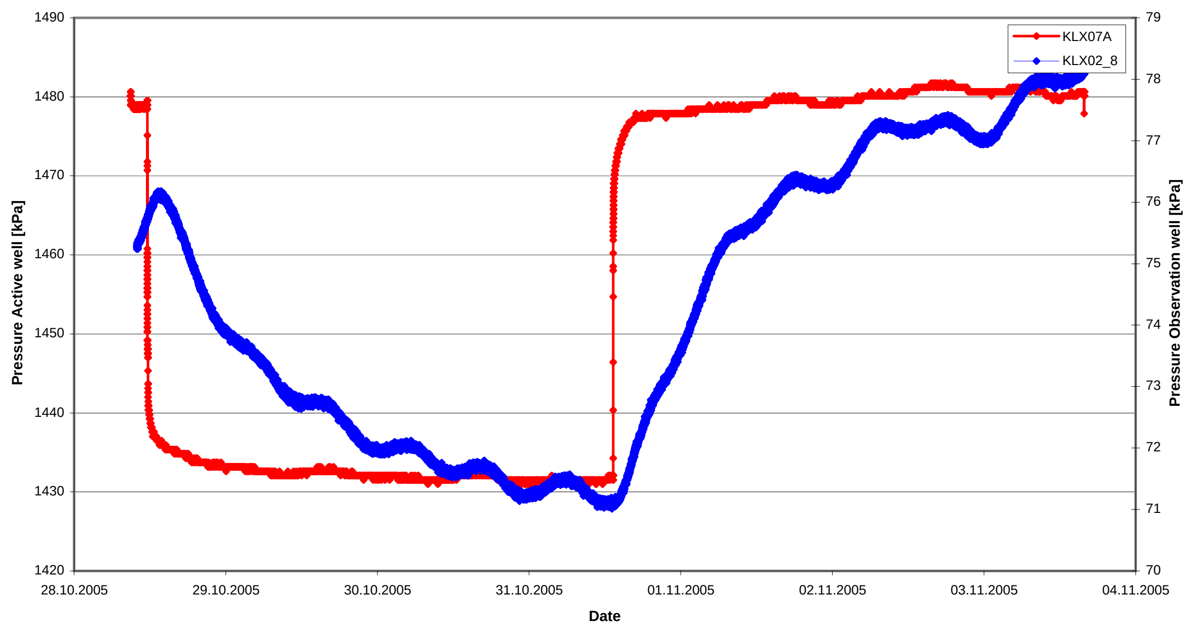
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **629.61**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3148.54**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_1
		Section length:	898.00-1000.00
Distance r_s [m]:	1383.65	max. Drawdown s_p [m]:*	0.13
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	102.3
Pressure in test section before stop of flowing:	p_p	kPa	103.6
Maximum pressure change during flowing period:*	dp_p	kPa	1.3

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

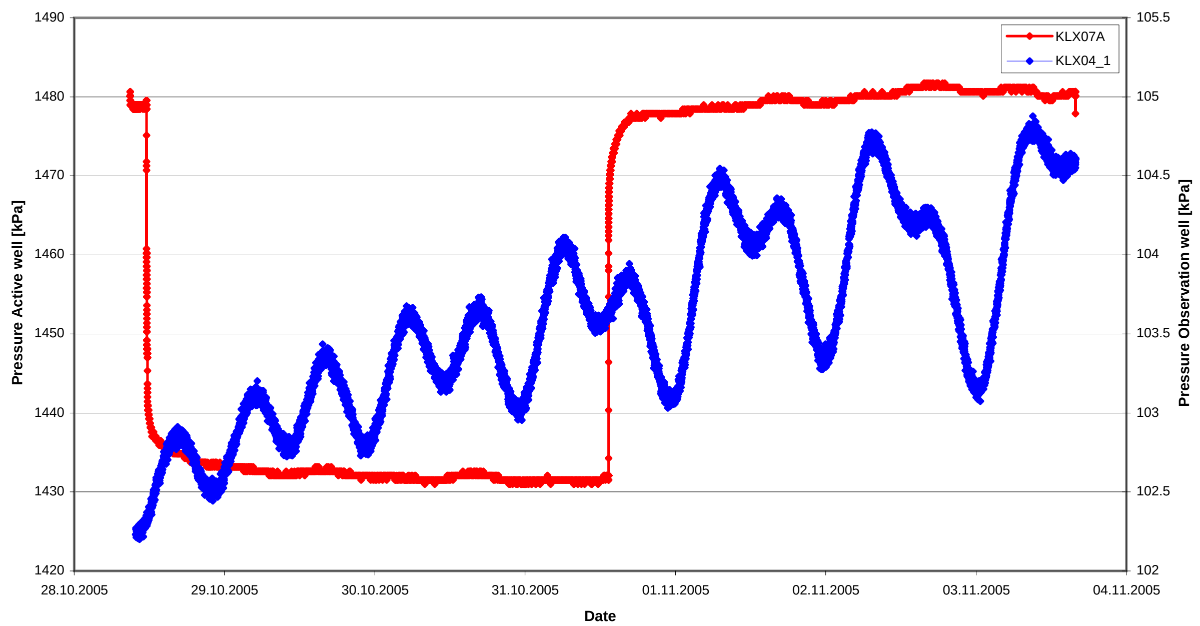
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045				

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_2
		Section length:	870.00-897.00
Distance r_s [m]:	1349.96	max. Drawdown s_p [m]:*	0.13
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.4
Pressure in test section before stop of flowing:	p_p	kPa	101.7
Maximum pressure change during flowing period:*	dp_p	kPa	1.3

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

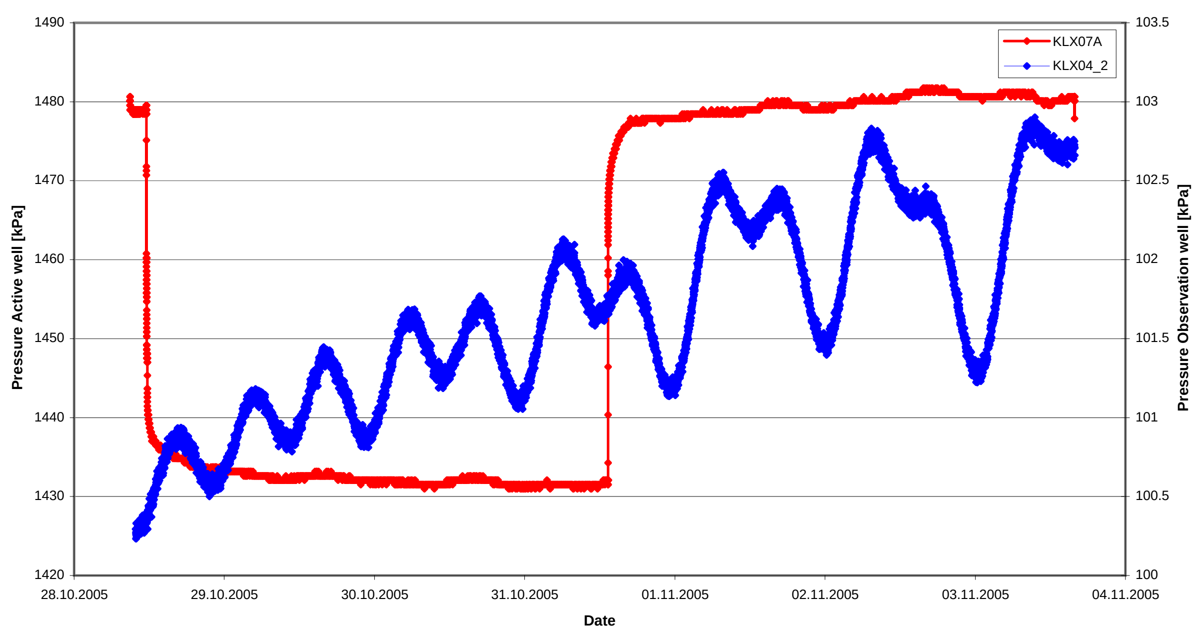
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_3
		Section length:	686.00.869.00
Distance r_s [m]:	1299.40	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	109.7
Pressure in test section before stop of flowing:	p_p	kPa	111.7
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

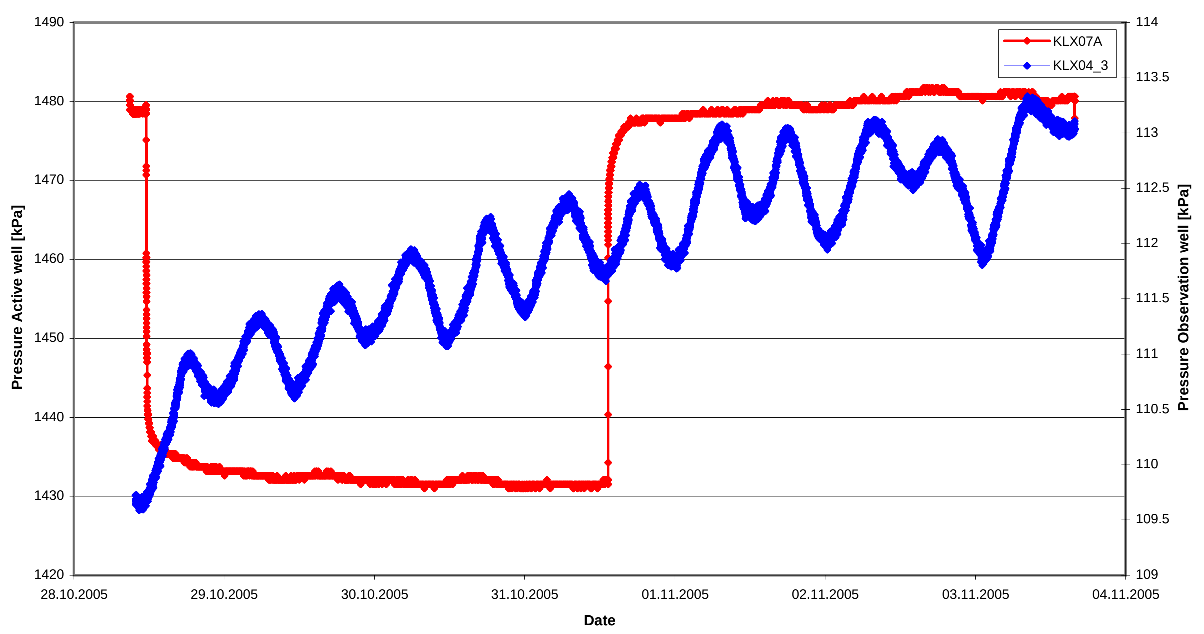
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_4
		Section length:	531.00-685.00
Distance r_s [m]:	1229.53	max. Drawdown s_p [m]:*	0.18
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	110.0
Pressure in test section before stop of flowing:	p_p	kPa	111.8
Maximum pressure change during flowing period:*	dp_p	kPa	1.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

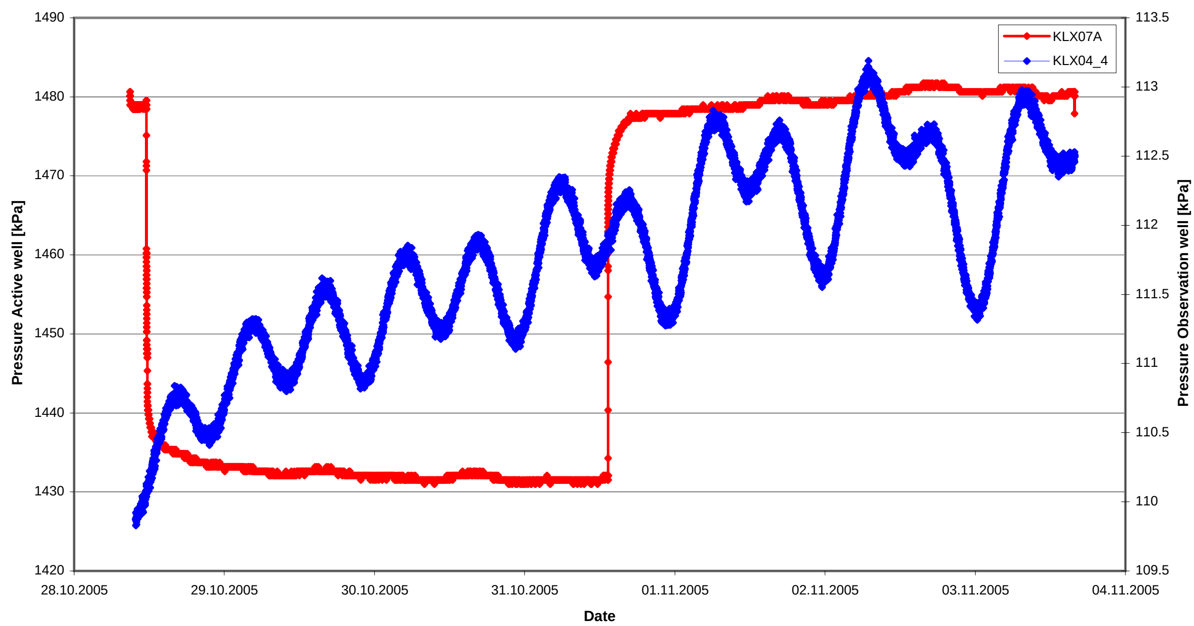
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_5
		Section length:	507.00-530.00
Distance r_s [m]:	1199.37	max. Drawdown s_p [m]:*	0.14
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	113.3
Pressure in test section before stop of flowing:	p_p	kPa	114.7
Maximum pressure change during flowing period:*	dp_p	kPa	1.4

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

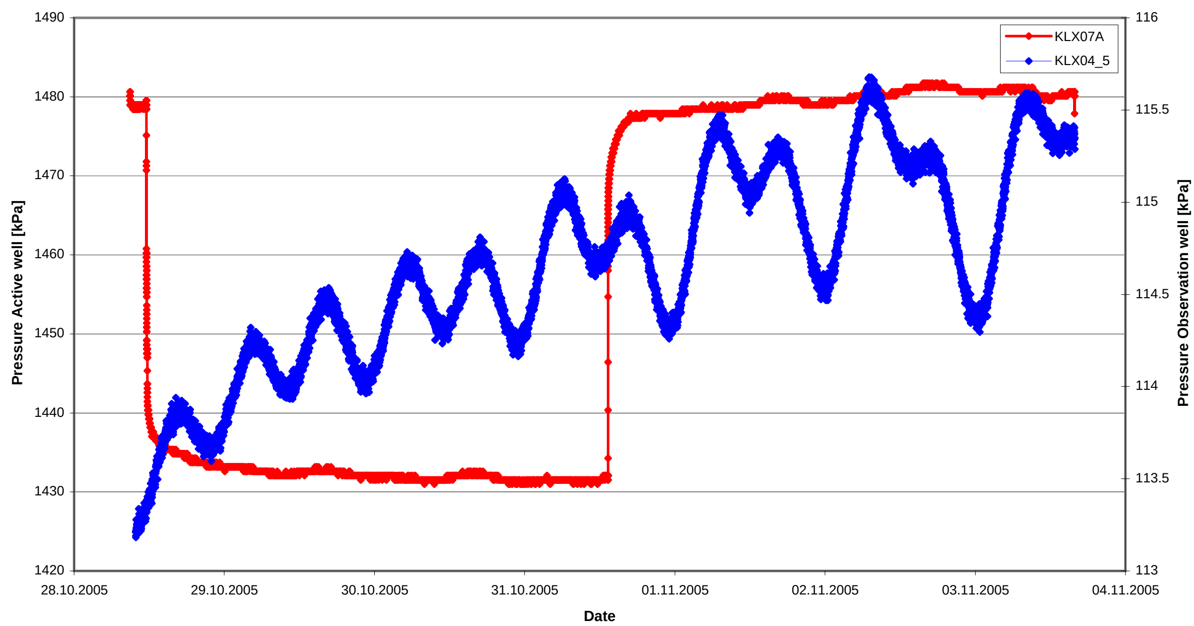
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_6
		Section length:	231.00-506.00
Distance r_s [m]:	1160.65	max. Drawdown s_p [m]:*	0.18
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.0
Pressure in test section before stop of flowing:	p_p	kPa	112.8
Maximum pressure change during flowing period:*	dp_p	kPa	1.8

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

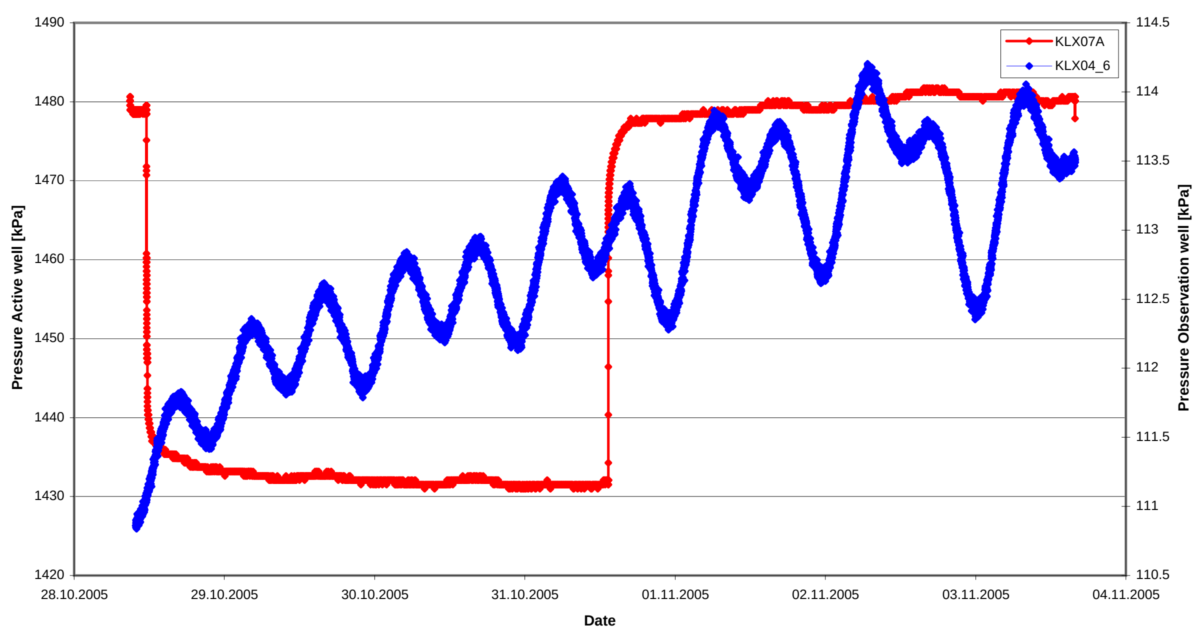
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_7
		Section length:	163.00-230.00
Distance r_s [m]:	1135.17	max. Drawdown s_p [m]:*	0.11
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.1
Pressure in test section before stop of flowing:	p_p	kPa	115.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

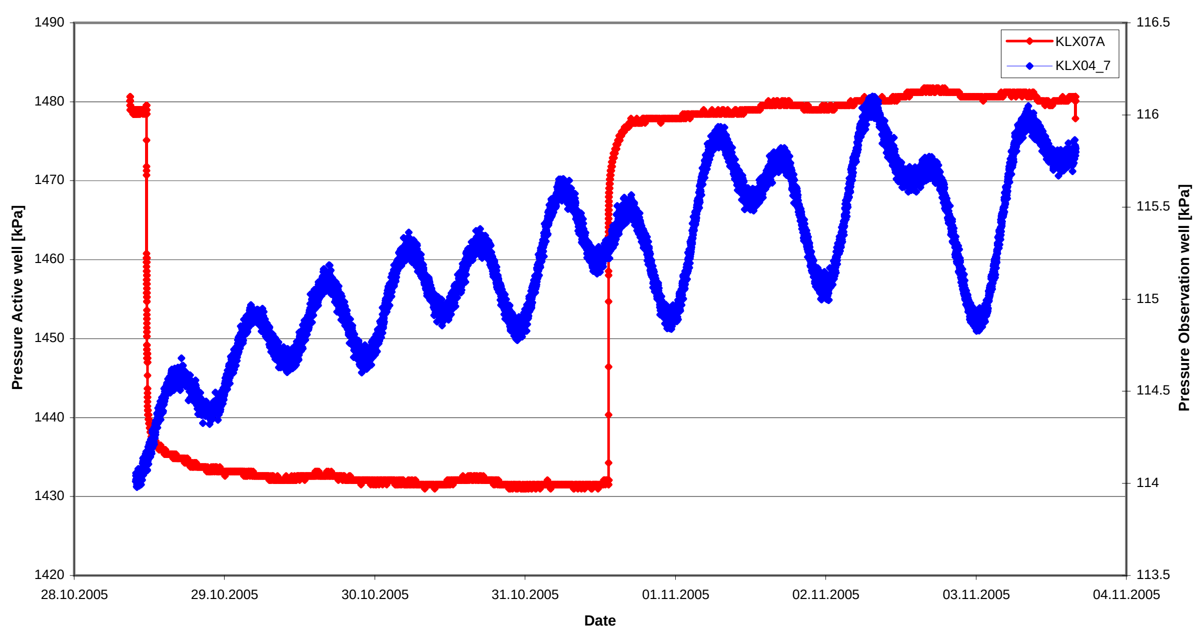
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX04	Section no.:	KLX04_8
		Section length:	12.24-162.00
Distance r_s [m]:	1130.90	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	118.4
Pressure in test section before stop of flowing:	p_p	kPa	119.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

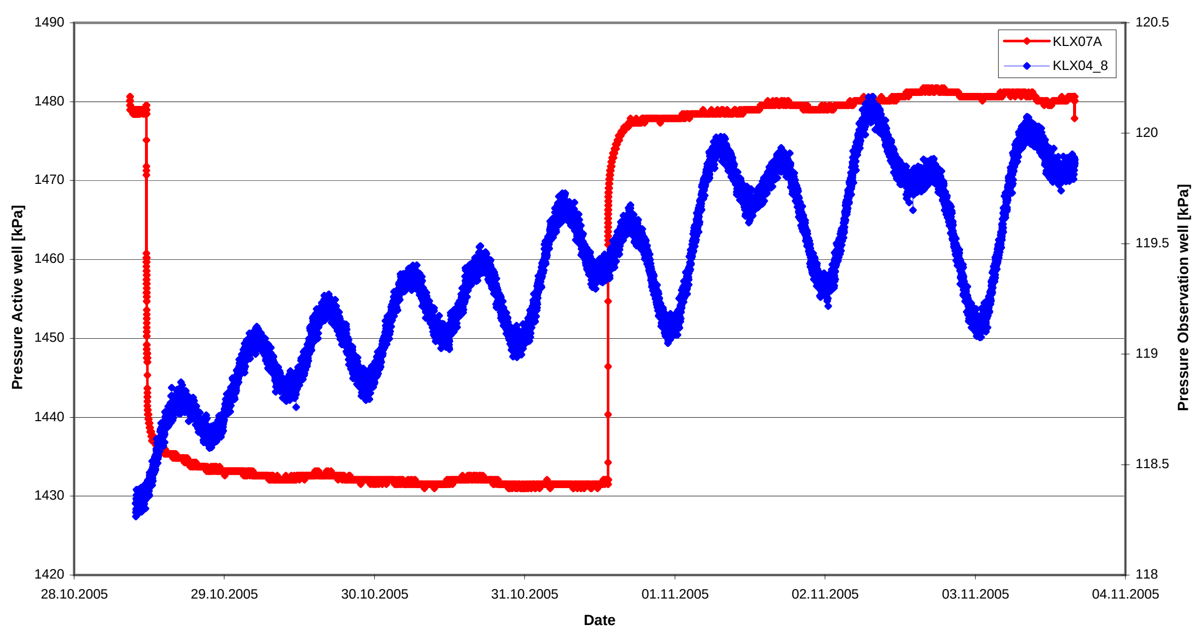
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX07	Section no.:	KLX07B_1
		Section length:	112.00-200.00
Distance r_s [m]:	83.50	max. Drawdown s_p [m]:*	1.03
Response time dt_L [s]:	328		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	66.5
Pressure in test section before stop of flowing:	p_p	kPa	56.4
Maximum pressure change during flowing period:*	dp_p	kPa	10.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **21.26**

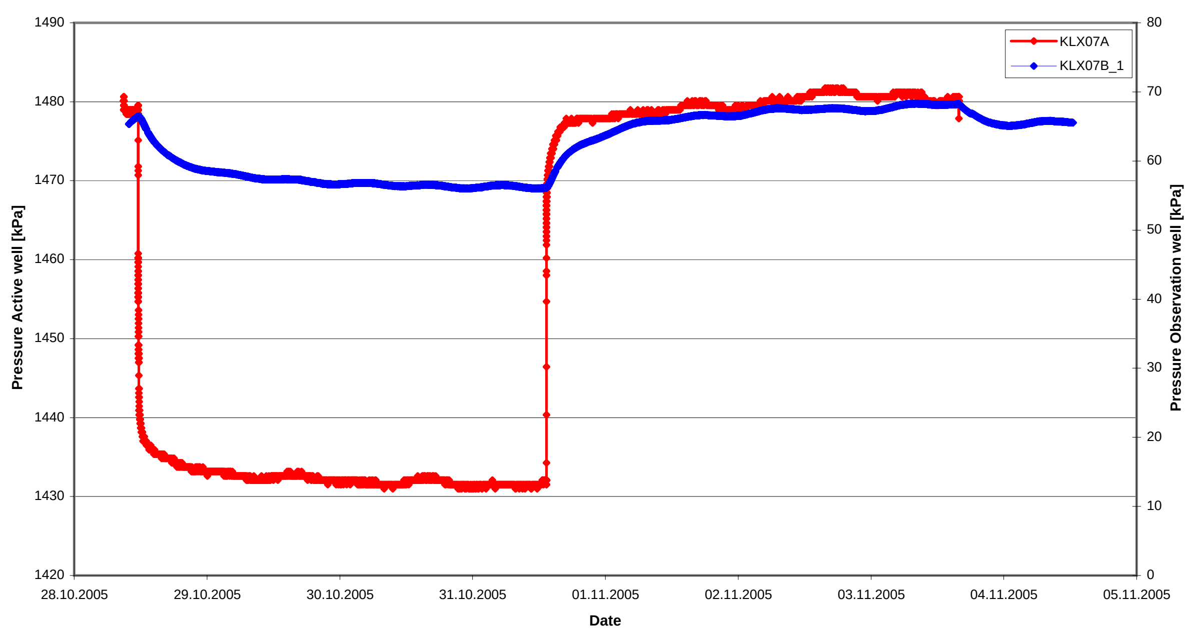
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1514.06**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6699.49**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX07	Section no.:	KLX07B_2
		Section length:	49.00-111.00
Distance r_s [m]:	92.93	max. Drawdown s_p [m]:*	0.93
Response time dt_L [s]:	623		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	66.9
Pressure in test section before stop of flowing:	p_p	kPa	57.8
Maximum pressure change during flowing period:*	dp_p	kPa	9.1

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **13.86**

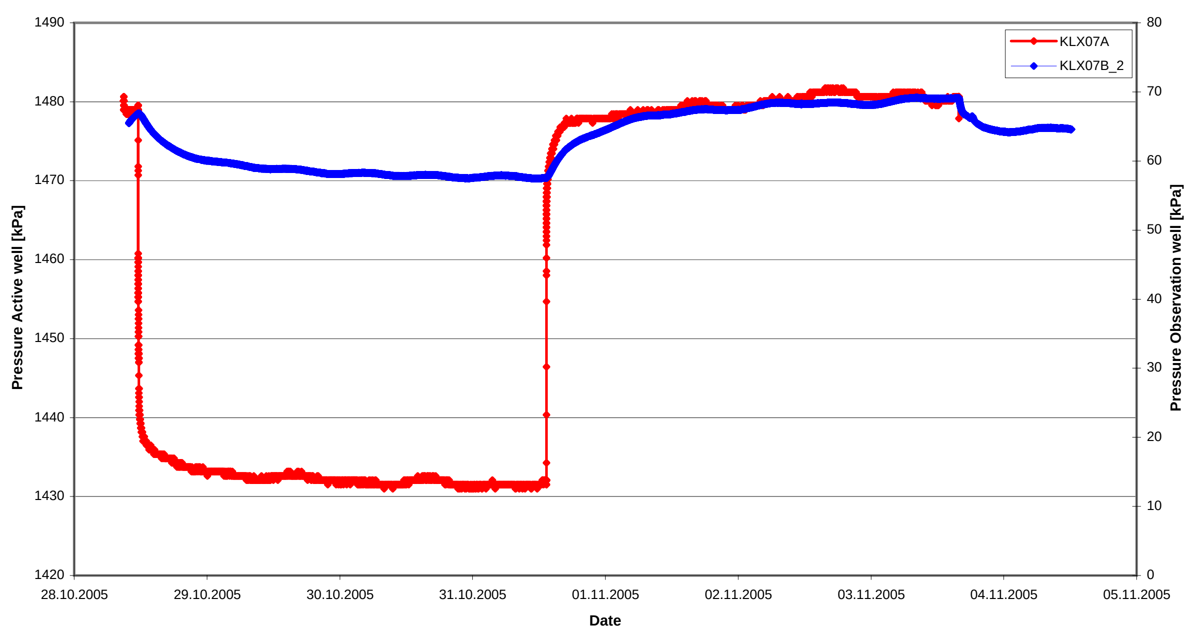
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1364.15**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6182.14**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	103.20-193.20
Test Start:	28.10.2005 09:51	Test Stop:	03.11.2005 15:53
Pump Start:	28.10.2005 12:34	Pump Stop:	31.10.2005 13:20
Flow Rate Q_p [m^3/s]:	6.80E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	1478
Pressure in test section before stop of flowing:	p_p	kPa	1432
Maximum pressure change during flowing period:	dp_p	kPa	46

Observation Hole:	KLX07	Section no.:	KLX07B_3
		Section length:	0.00-48.00
Distance r_s [m]:	131.35	max. Drawdown s_p [m]:*	0.82
Response time dt_L [s]:	2050		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	69.0
Pressure in test section before stop of flowing:	p_p	kPa	61.0
Maximum pressure change during flowing period:*	dp_p	kPa	8.0

Normalized distance with respect to the response time

Index 1 **r_s^2/dt_L (m^2/s):** **8.42**

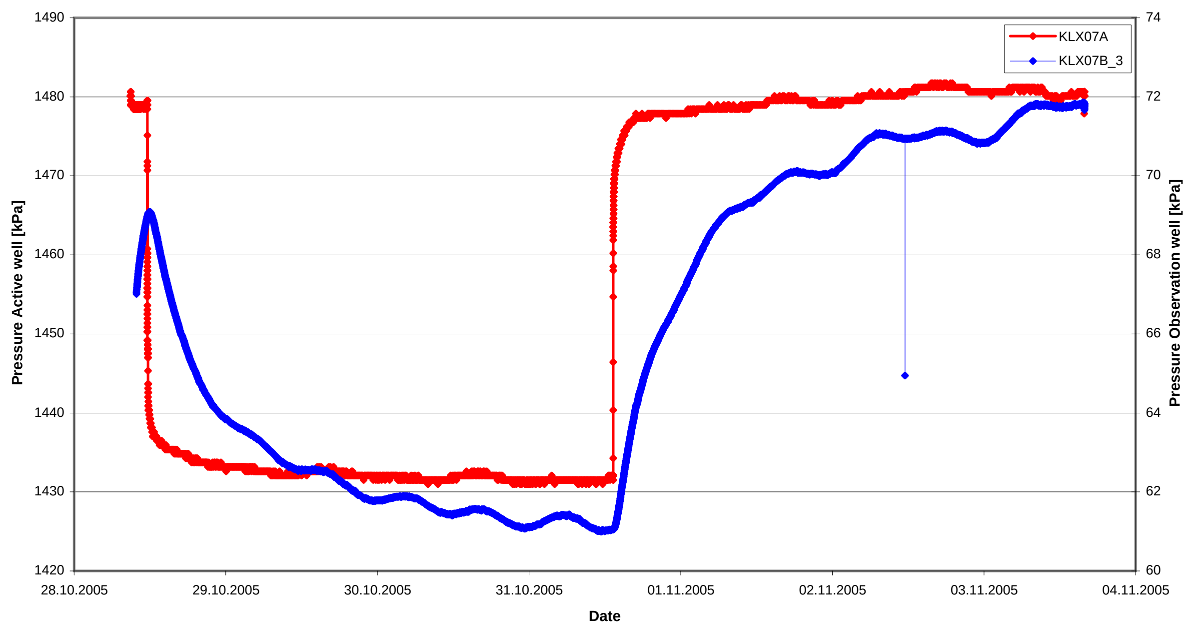
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1199.26**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **5849.81**

* see comment

Comment: clear response due to pumping in source



APPENDIX 6-2

Index calculation

KLX07A Section 193.00-313.00 m pumped

Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX01	Section no.:	HLX01_1
		Section length:	16.00-100.63
Distance r_s [m]:	815.97	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.5
Pressure in test section before stop of flowing:	p_p	kPa	63.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

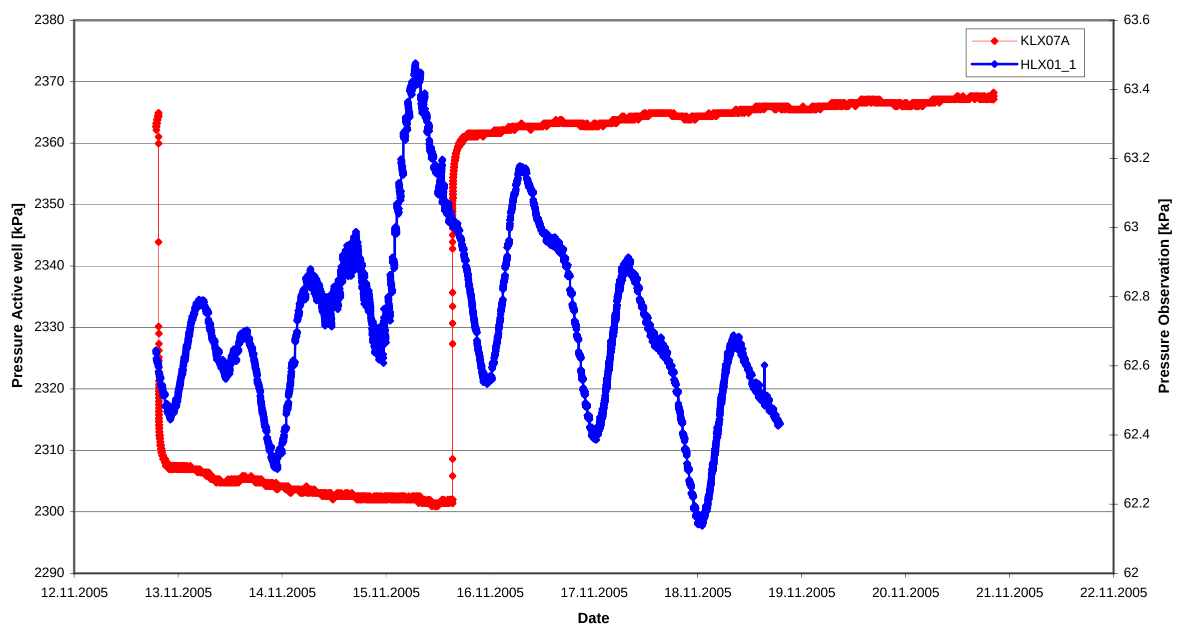
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX02	Section no.:	HLX02_1
		Section length:	0.60-132.00
Distance r_s [m]:	1680.05	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	45.1
Pressure in test section before stop of flowing:	p_p	kPa	44.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

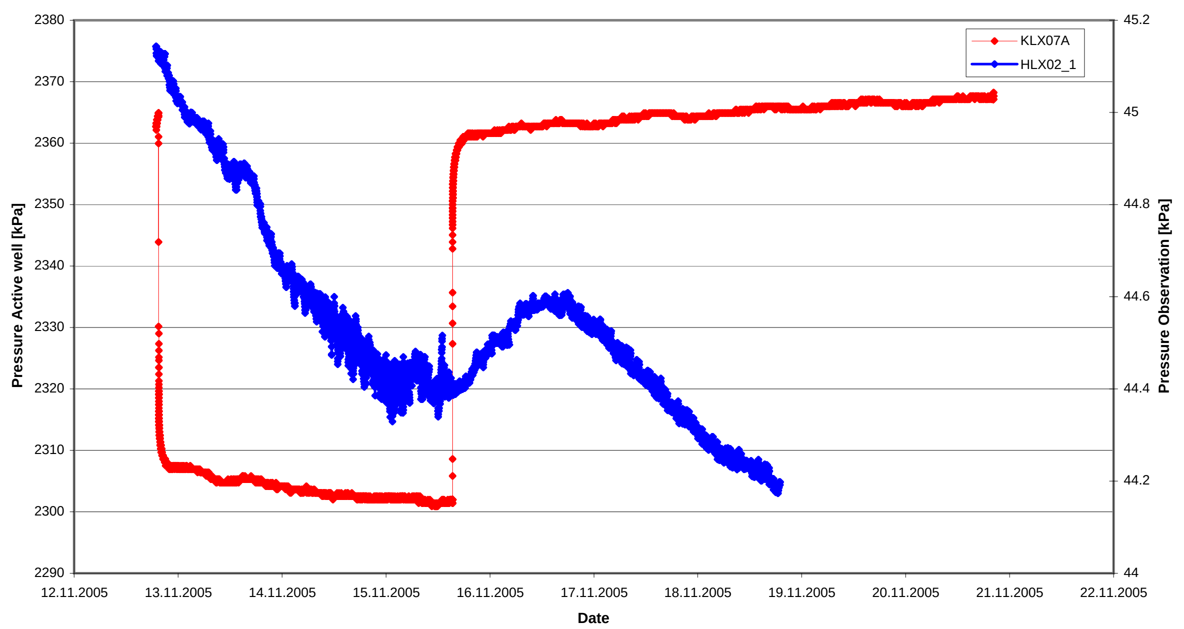
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX06	Section no.:	HLX06_1
		Section length:	1.00-100.00
Distance r_s [m]:	788.33	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	78.5
Pressure in test section before stop of flowing:	p_p	kPa	79.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

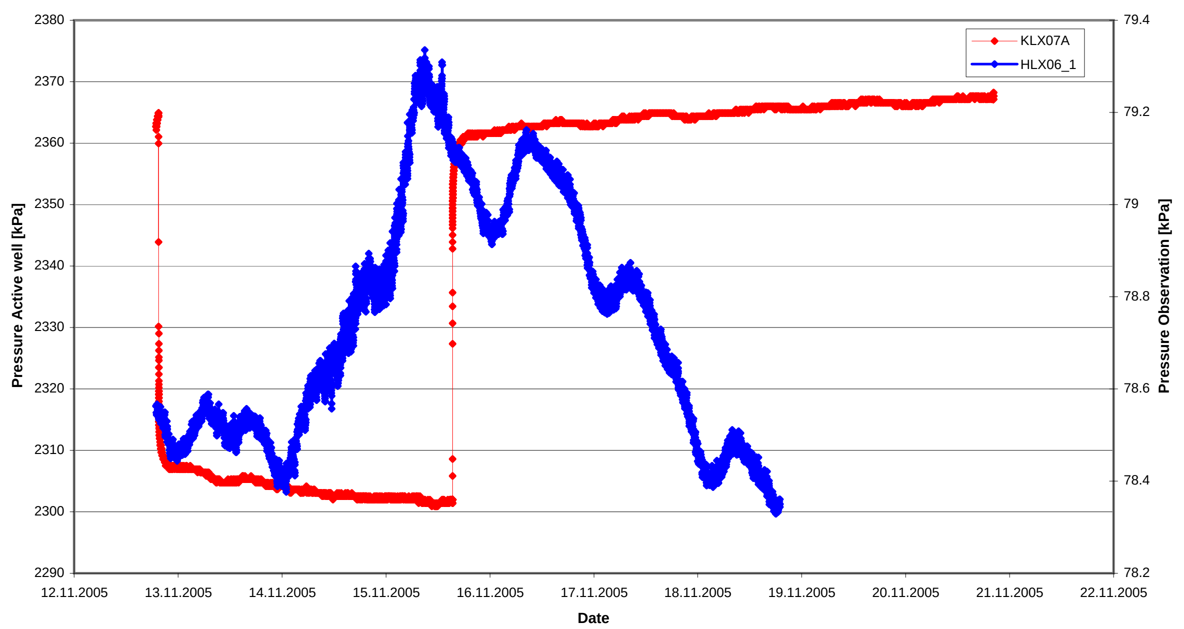
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX07	Section no.:	HLX07_1
		Section length:	16.00-100.00
Distance r_s [m]:	995.41	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.6
Pressure in test section before stop of flowing:	p_p	kPa	55.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

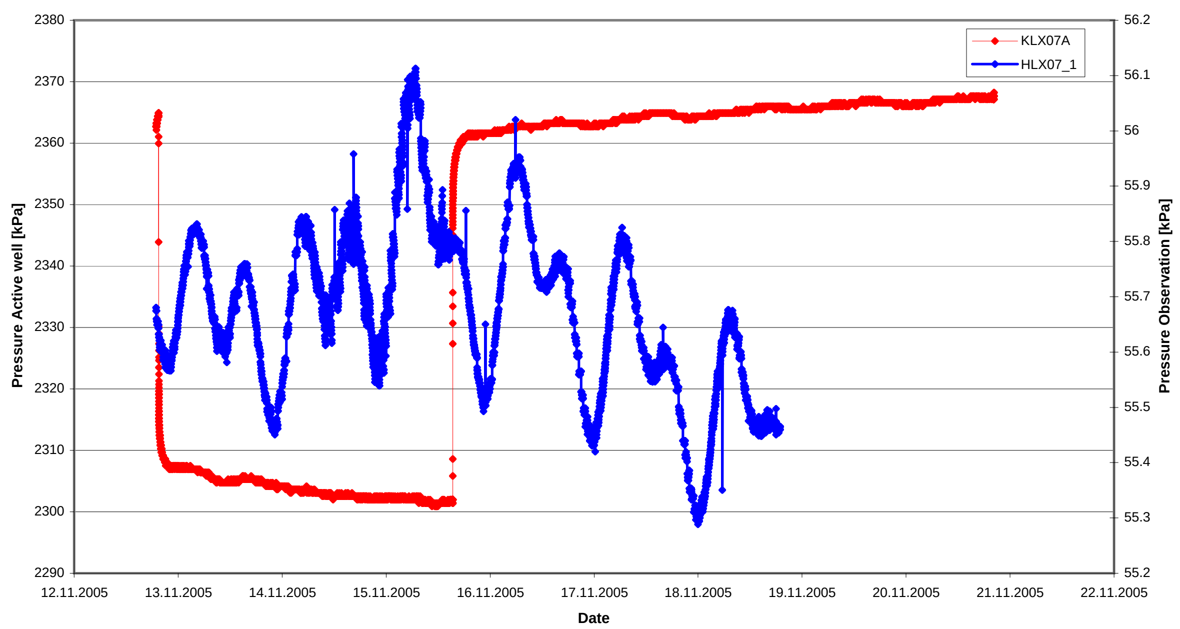
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX10	Section no.:	HLX10_1
		Section length:	3.00-85.00
Distance r_s [m]:	144.23	max. Drawdown s_p [m]:*	0.77
Response time dt_L [s]:	186		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	45.7
Pressure in test section before stop of flowing:	p_p	kPa	38.1
Maximum pressure change during flowing period:*	dp_p	kPa	7.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s): 111.84**

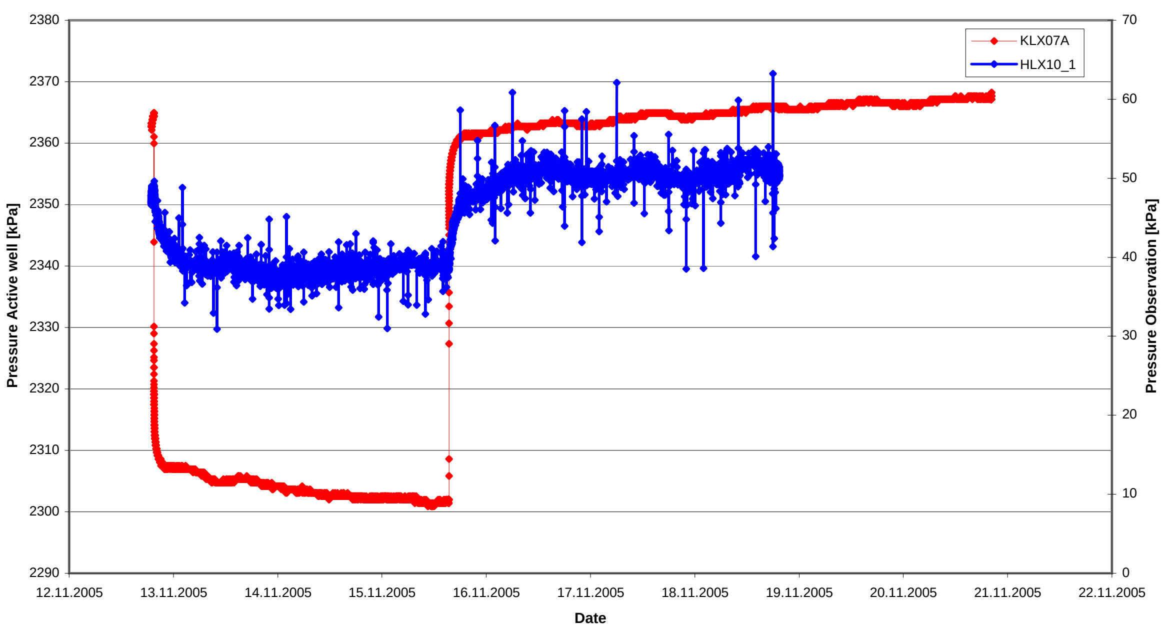
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2): 1276.31**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): 6345.06

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX11	Section no.:	HLX11_1
		Section length:	17.00-70.00
Distance r_s [m]:	209.12	max. Drawdown s_p [m]:*	0.84
Response time dt_L [s]:	931		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.0
Pressure in test section before stop of flowing:	p_p	kPa	53.8
Maximum pressure change during flowing period:*	dp_p	kPa	8.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **46.97**

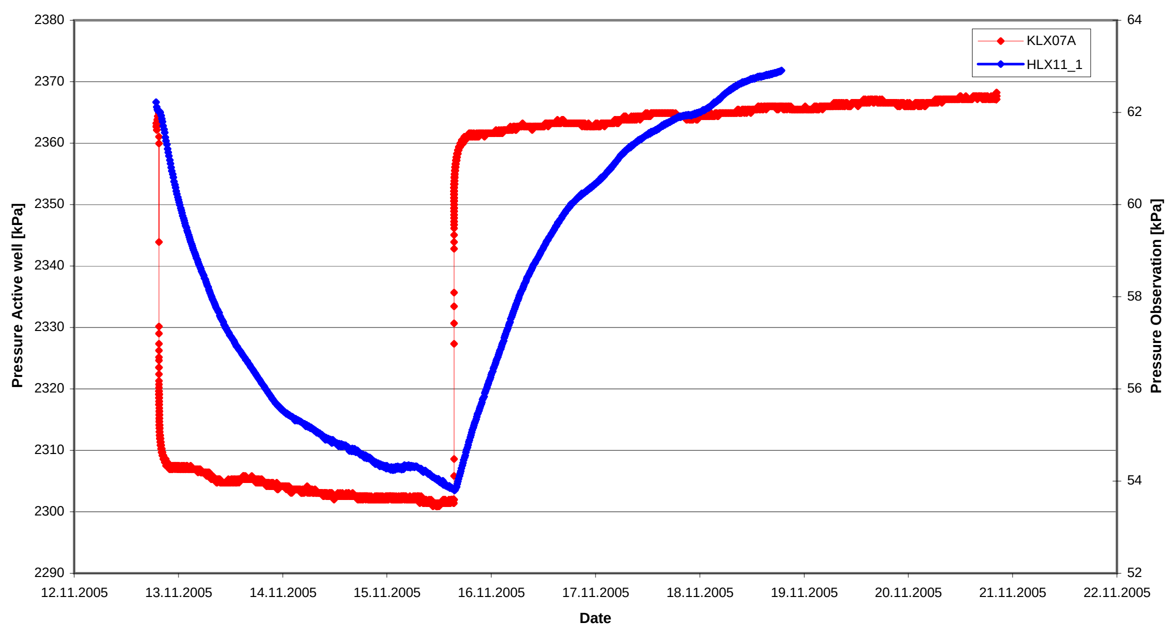
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1377.07**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7357.54**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX11	Section no.:	HLX11_2
		Section length:	6.00-16.00
Distance r_s [m]:	225.27	max. Drawdown s_p [m]:*	0.88
Response time dt_L [s]:	3332		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.6
Pressure in test section before stop of flowing:	p_p	kPa	53.0
Maximum pressure change during flowing period:*	dp_p	kPa	8.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **15.23**

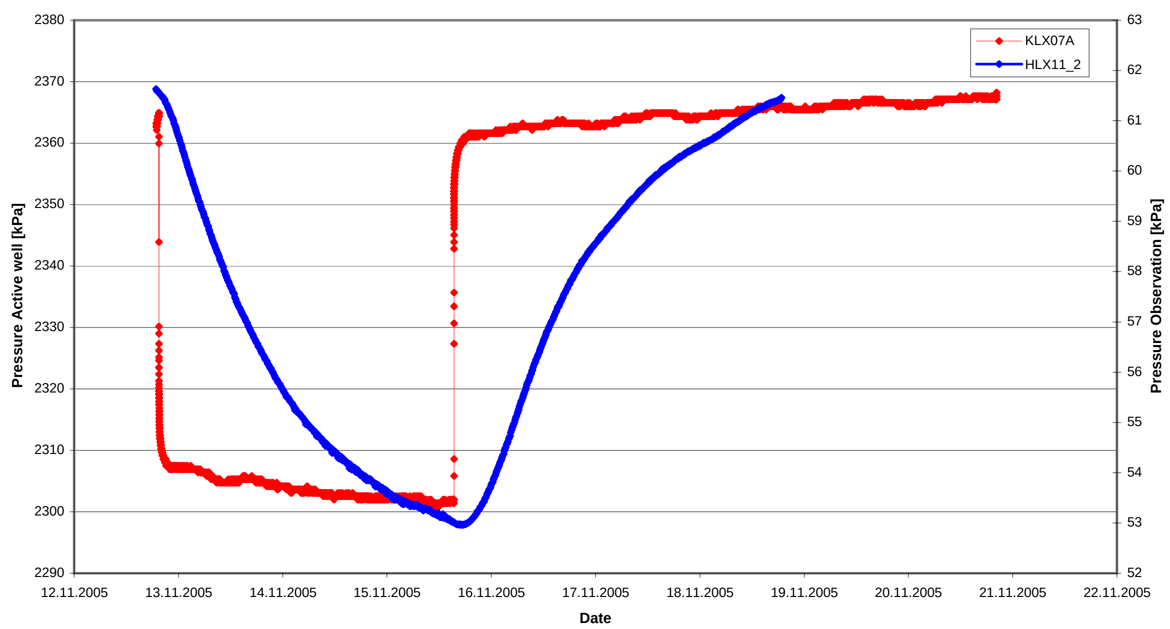
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1444.24**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7823.89**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX13	Section no.:	HLX13_1
		Section length:	11.87-200.02
Distance r_s [m]:	1576.00	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	120.7
Pressure in test section before stop of flowing:	p_p	kPa	121.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

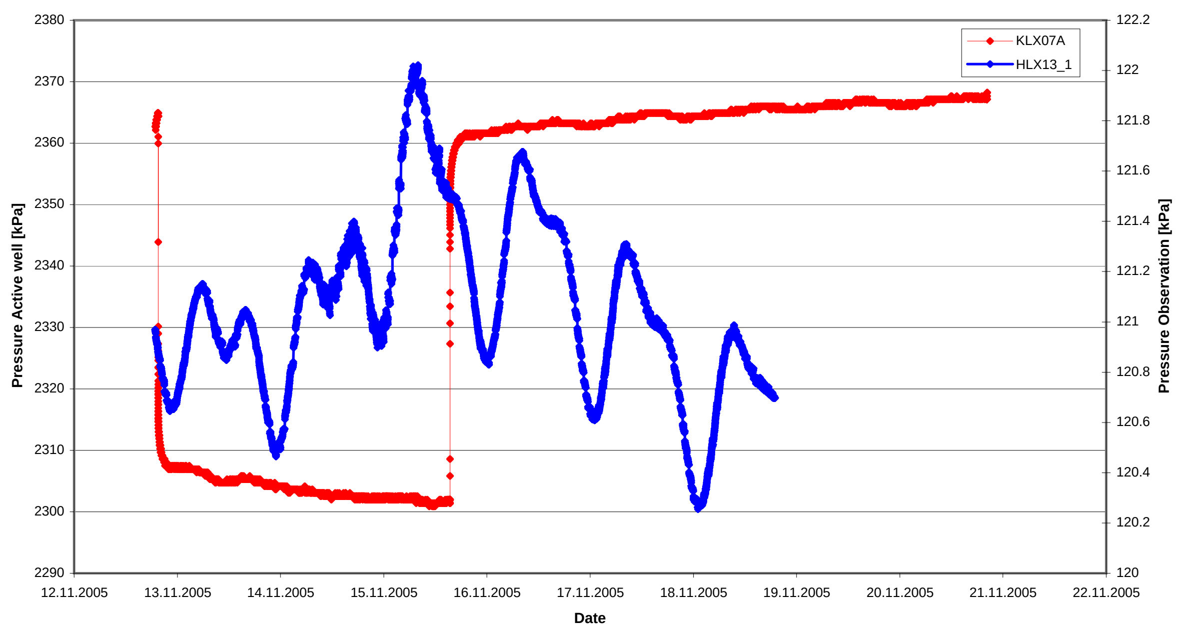
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX14	Section no.:	HLX14_1
		Section length:	11.00-115.90
Distance r_s [m]:	1580.94	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	117.3
Pressure in test section before stop of flowing:	p_p	kPa	118.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

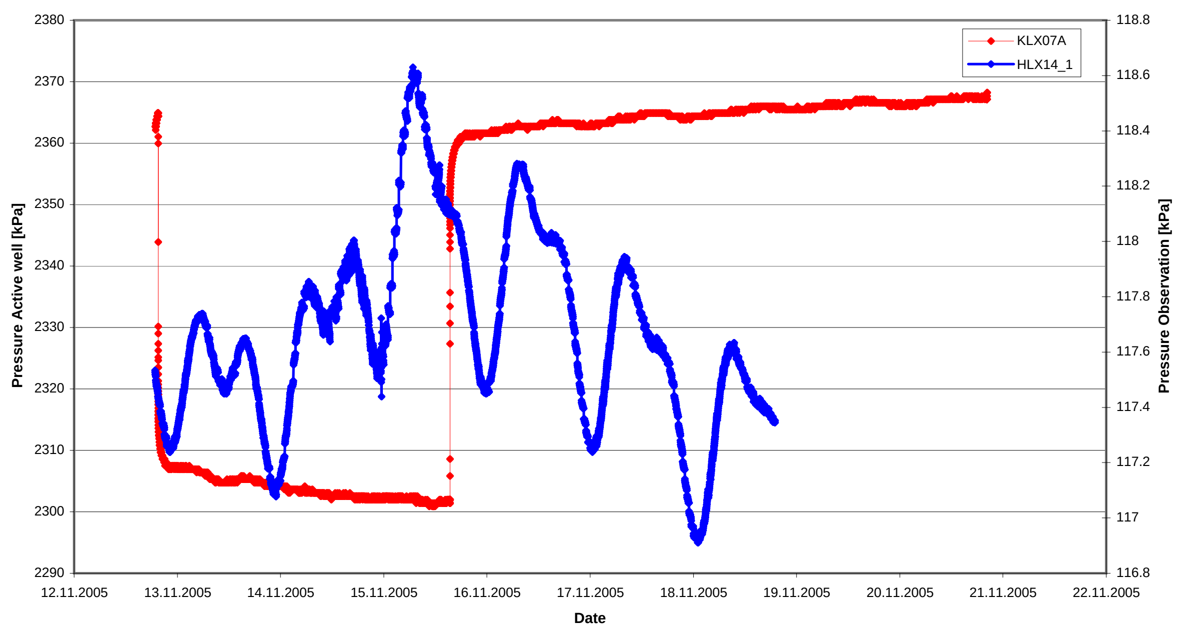
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX21	Section no.:	HLX21_1
		Section length:	81.00-150.00
Distance r_s [m]:	423.78	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.4
Pressure in test section before stop of flowing:	p_p	kPa	50.4
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

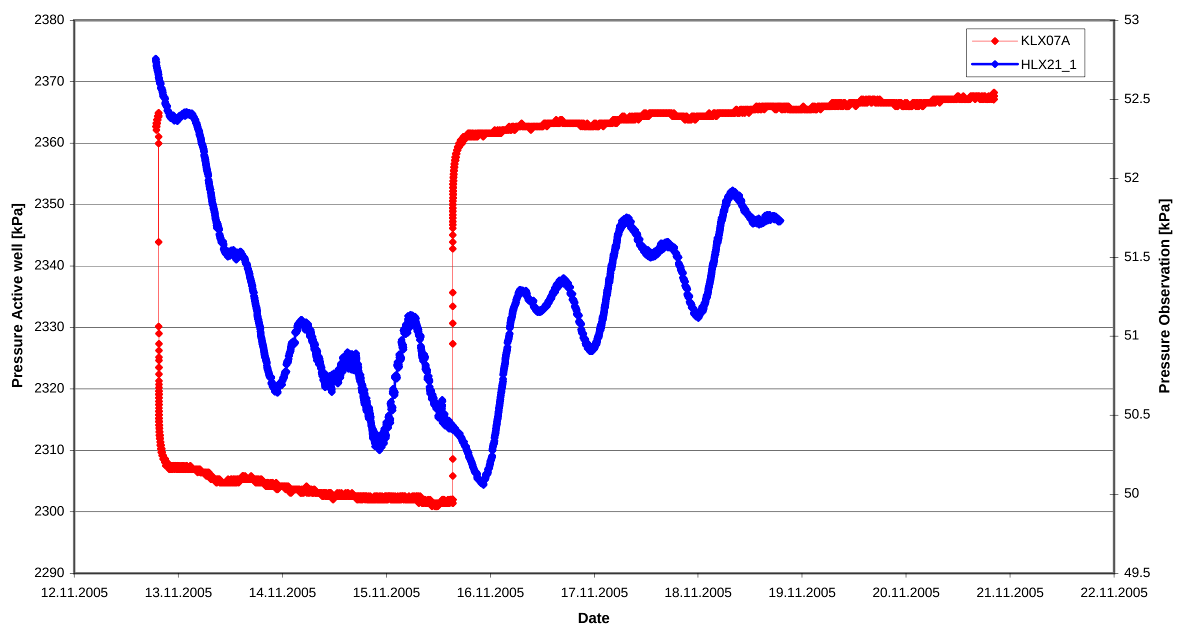
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **335.87**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **2031.75**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX21	Section no.:	HLX21_2
		Section length:	9.10-80.00
Distance r_s [m]:	427.20	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.2
Pressure in test section before stop of flowing:	p_p	kPa	49.2
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

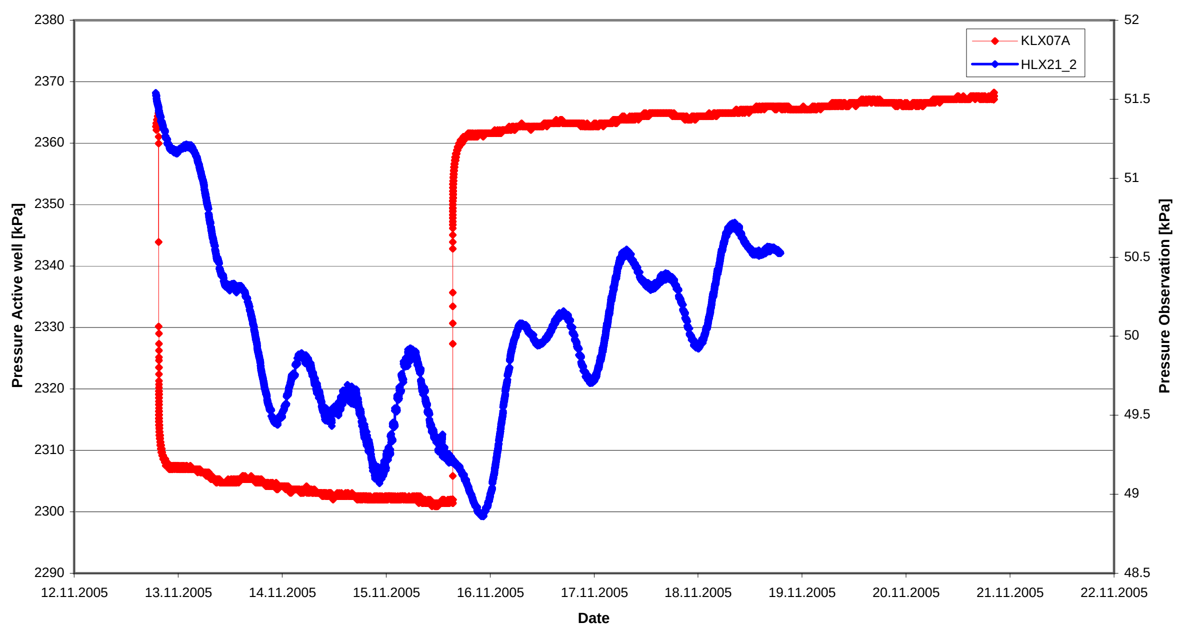
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **335.87**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2034.46**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX22	Section no.:	HLX22_1
		Section length:	86.00-163.20
Distance r_s [m]:	456.00	max. Drawdown s_p [m]:*	0.22
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.2
Pressure in test section before stop of flowing:	p_p	kPa	49.0
Maximum pressure change during flowing period:*	dp_p	kPa	2.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

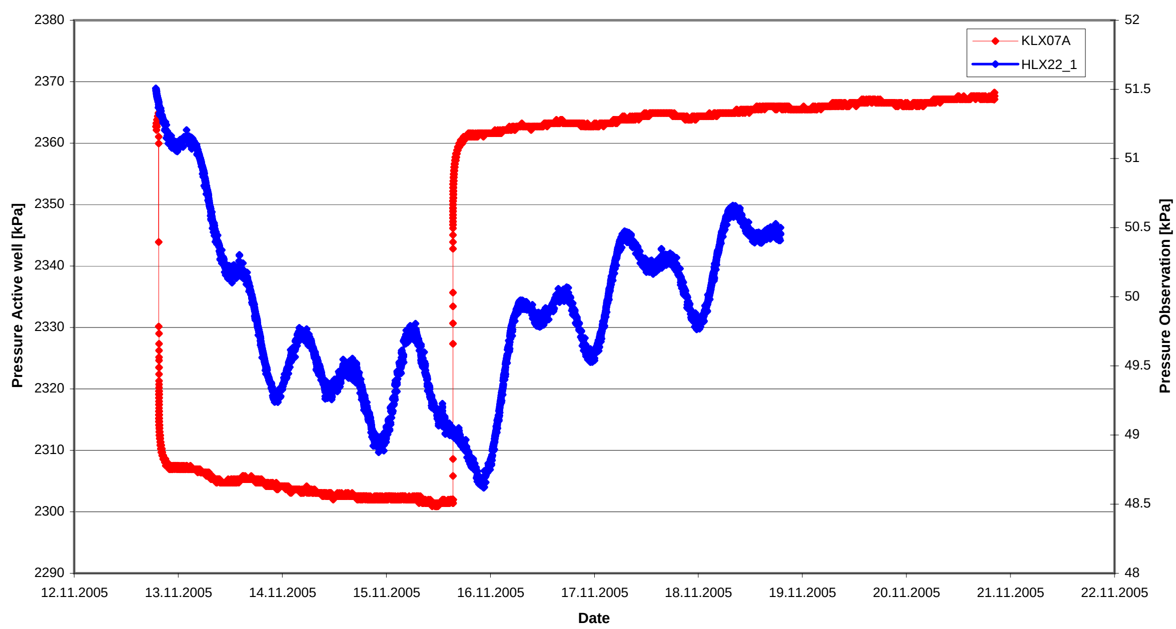
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **369.46**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2262.00**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX22	Section no.:	HLX22_2
		Section length:	9.19-85.00
Distance r_s [m]:	469.00	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	38.2
Pressure in test section before stop of flowing:	p_p	kPa	37.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

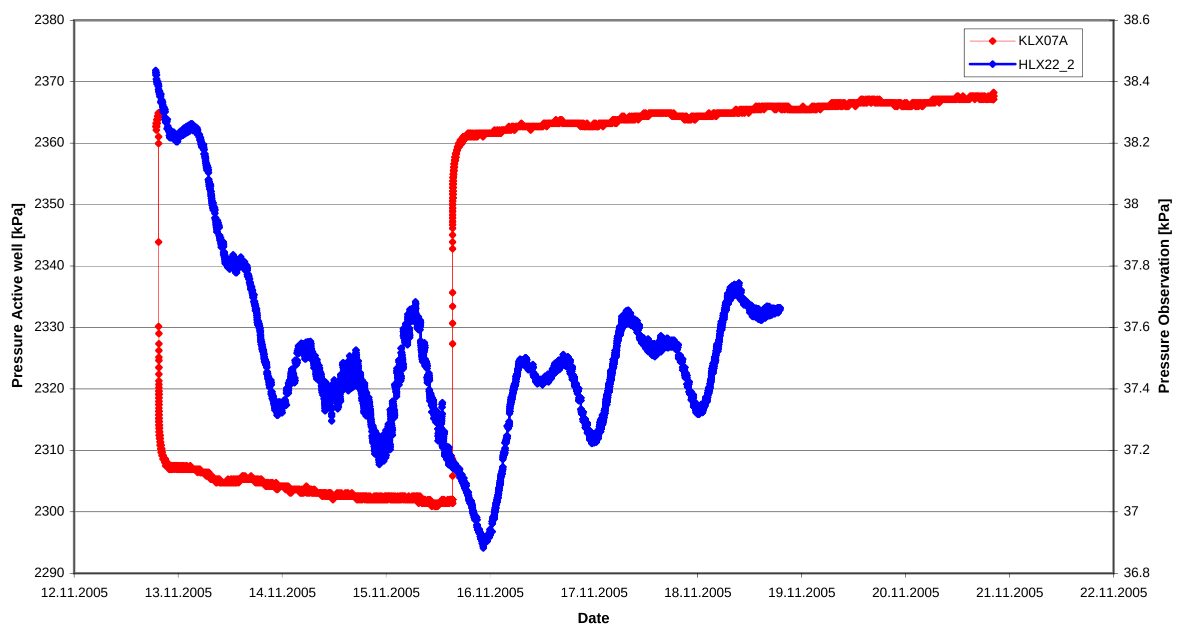
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **167.94**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **1032.90**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX23	Section no.:	HLX23_1
		Section length:	61.00-160.20
Distance r_s [m]:	375.47	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.2
Pressure in test section before stop of flowing:	p_p	kPa	97.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

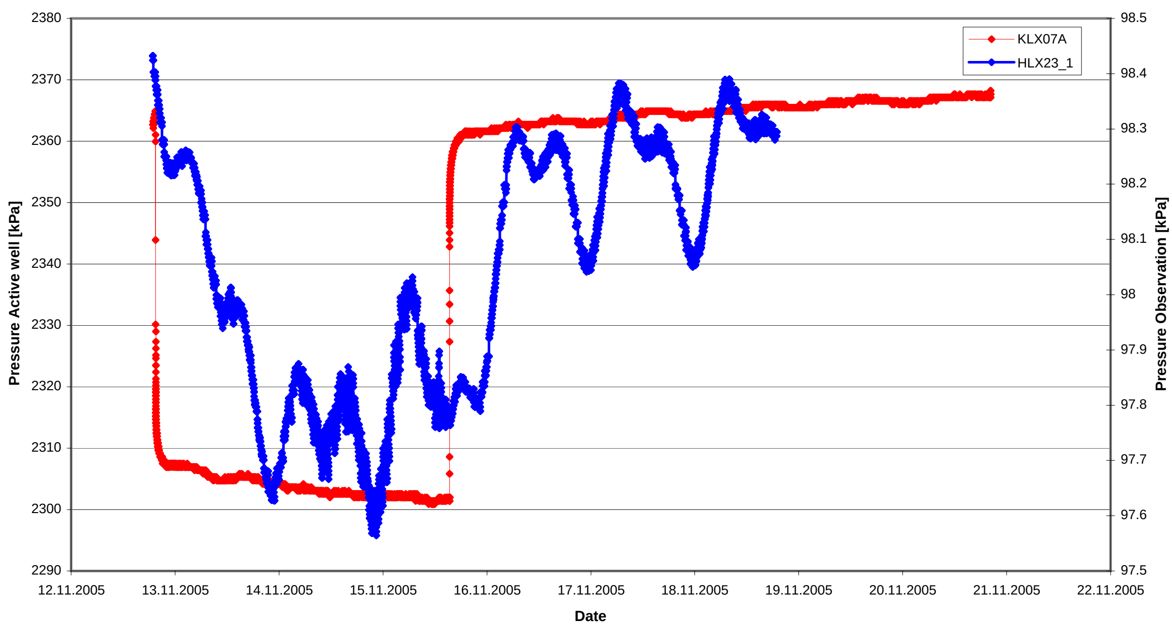
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX23	Section no.:	HLX23_2
		Section length:	6.10-60.00
Distance r_s [m]:	379.29	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	96.1
Pressure in test section before stop of flowing:	p_p	kPa	95.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

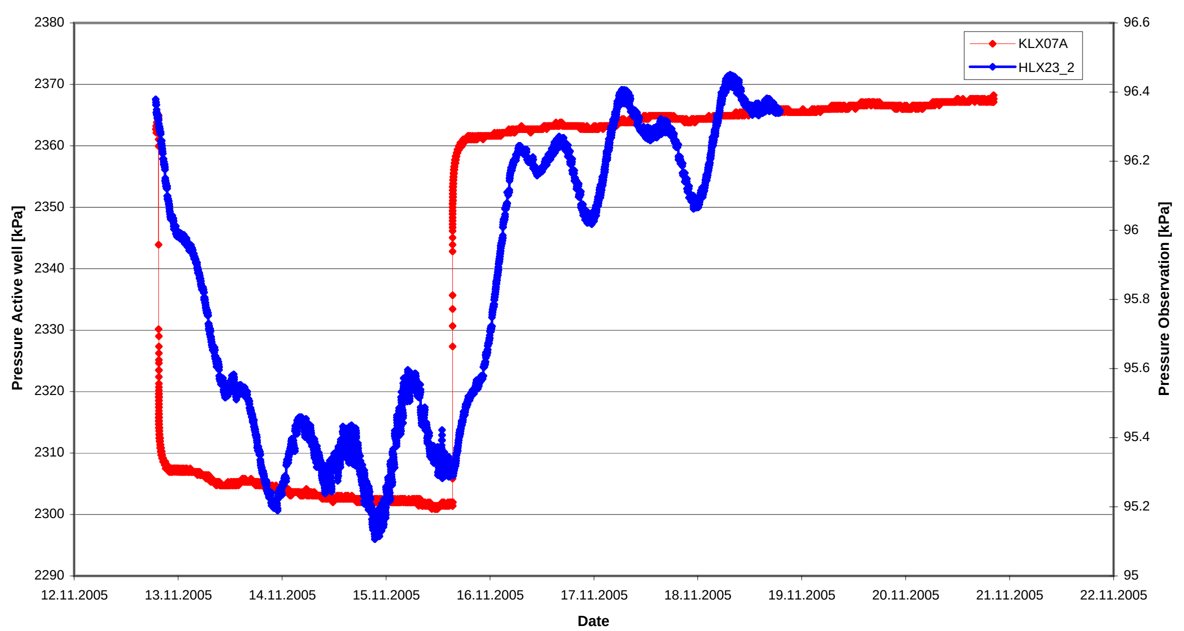
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX24	Section no.:	HLX24_1
		Section length:	41.00-175.20
Distance r_s [m]:	378.97	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.4
Pressure in test section before stop of flowing:	p_p	kPa	97.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

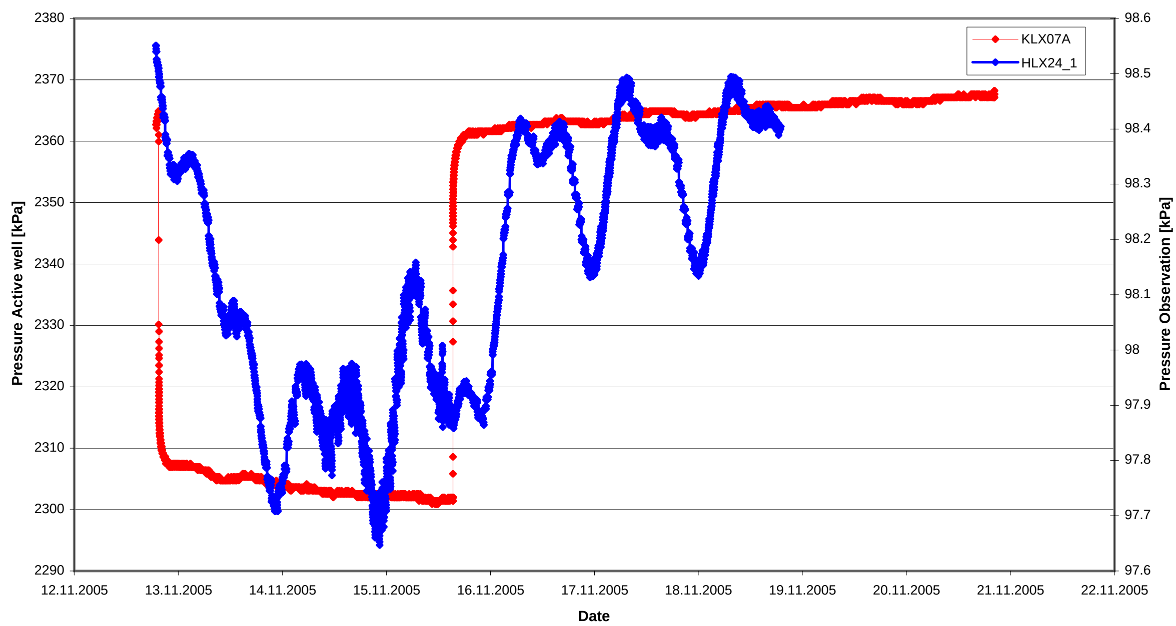
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX24	Section no.:	HLX24_2
		Section length:	9.10-40.00
Distance r_s [m]:	418.25	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.1
Pressure in test section before stop of flowing:	p_p	kPa	100.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

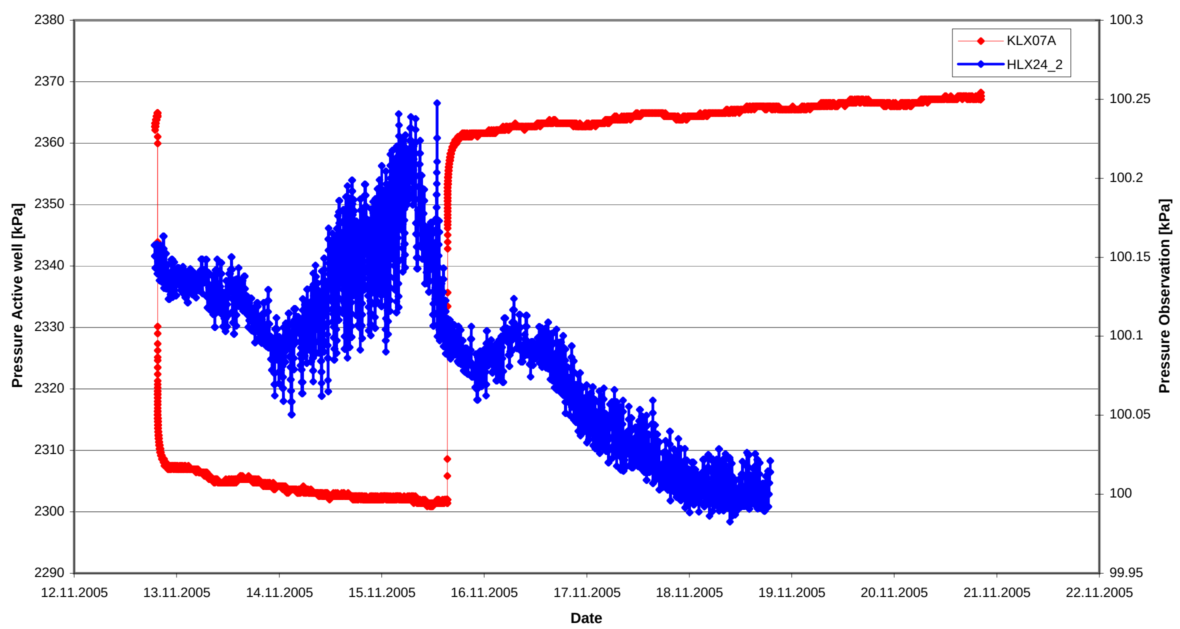
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX25	Section no.:	HLX25_1
		Section length:	61.00-202.50
Distance r_s [m]:	1456.14	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.5
Pressure in test section before stop of flowing:	p_p	kPa	112.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

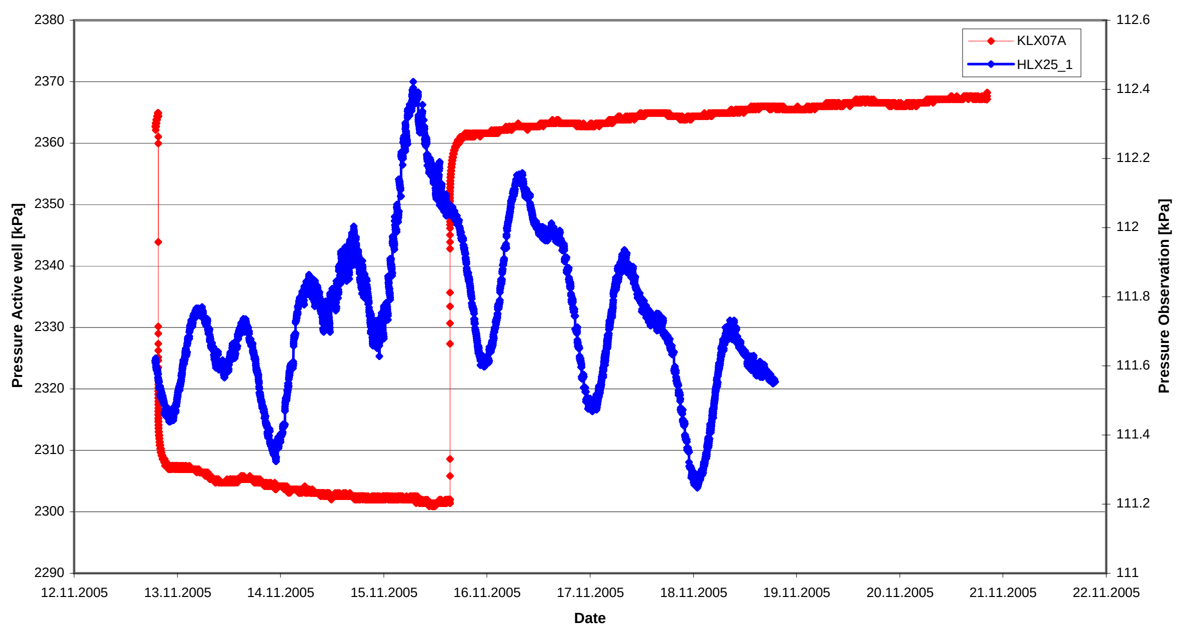
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX25	Section no.:	HLX25_2
		Section length:	6.12-60.00
Distance r_s [m]:	1462.60	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.6
Pressure in test section before stop of flowing:	p_p	kPa	112.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

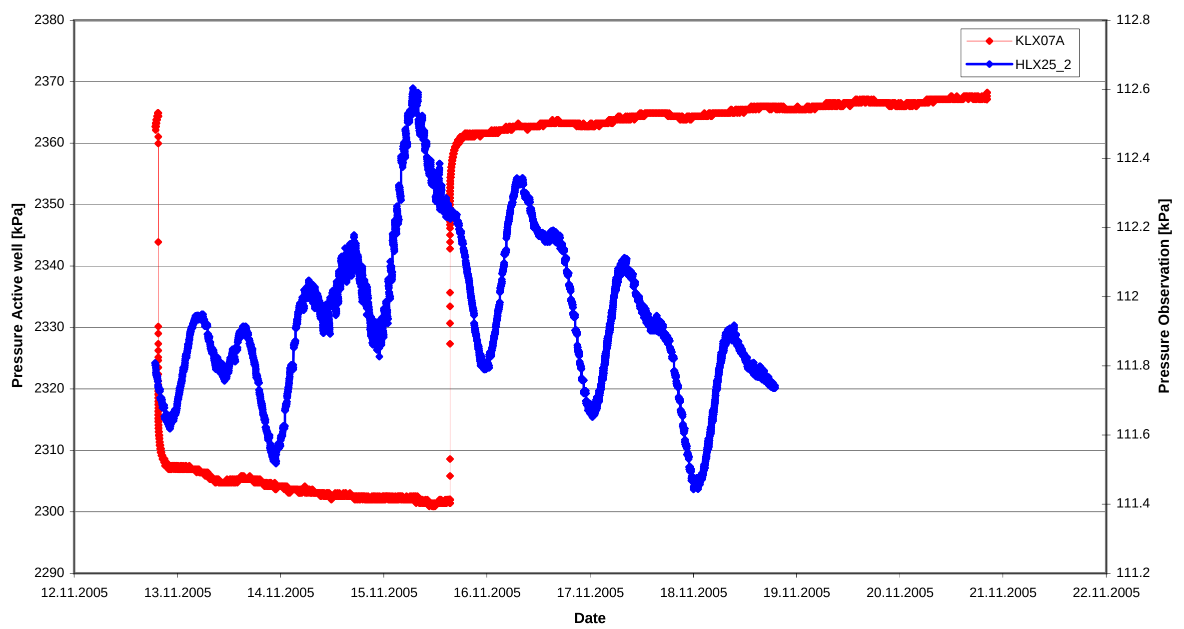
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX30	Section no.:	HLX30_1
		Section length:	101.00-163.40
Distance r_s [m]:	1162.90	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.0
Pressure in test section before stop of flowing:	p_p	kPa	107.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

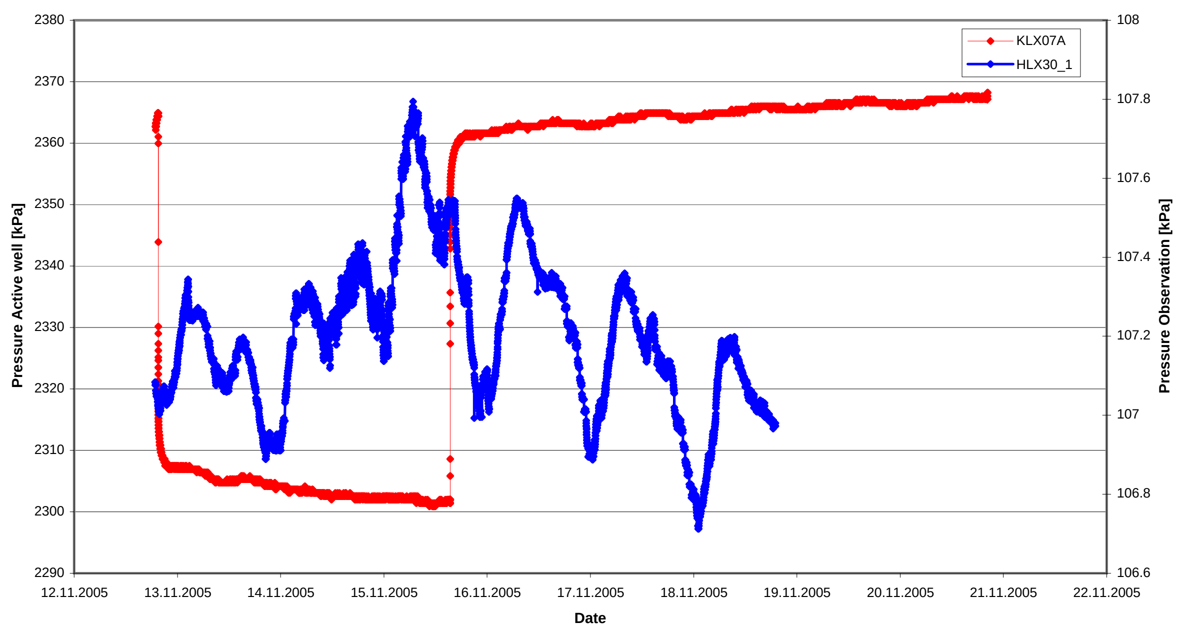
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX30	Section no.:	HLX30_2
		Section length:	9.10-100.00
Distance r_s [m]:	1184.40	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.6
Pressure in test section before stop of flowing:	p_p	kPa	107.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

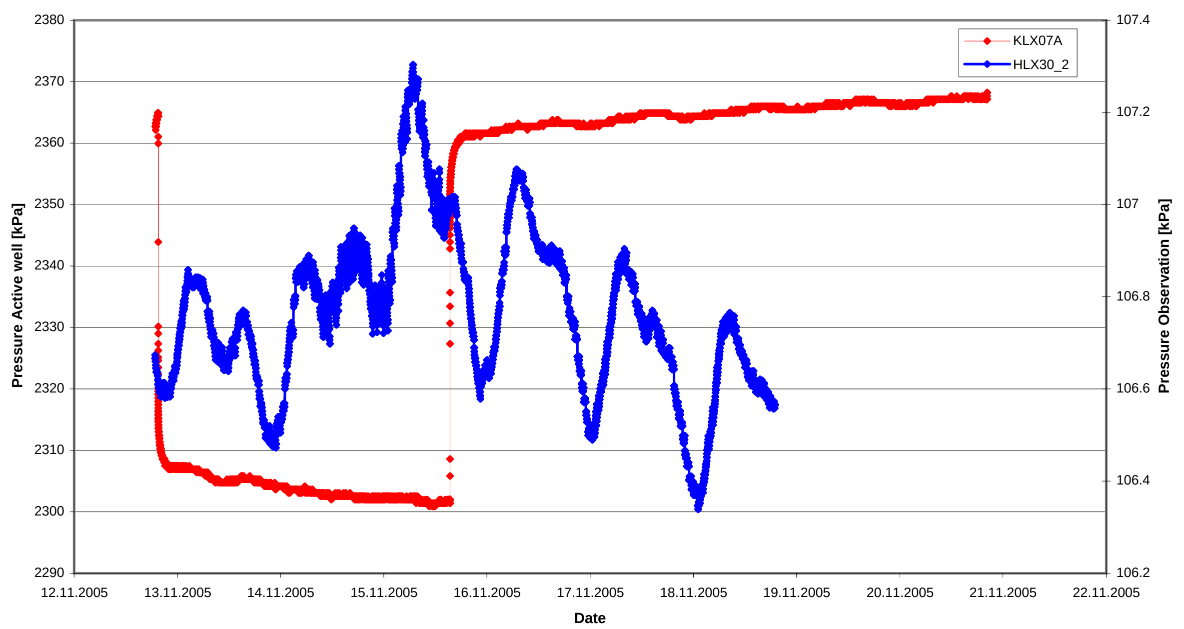
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX31	Section no.:	HLX31_1
		Section length:	9.10-133.20
Distance r_s [m]:	1118.76	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.1
Pressure in test section before stop of flowing:	p_p	kPa	107.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

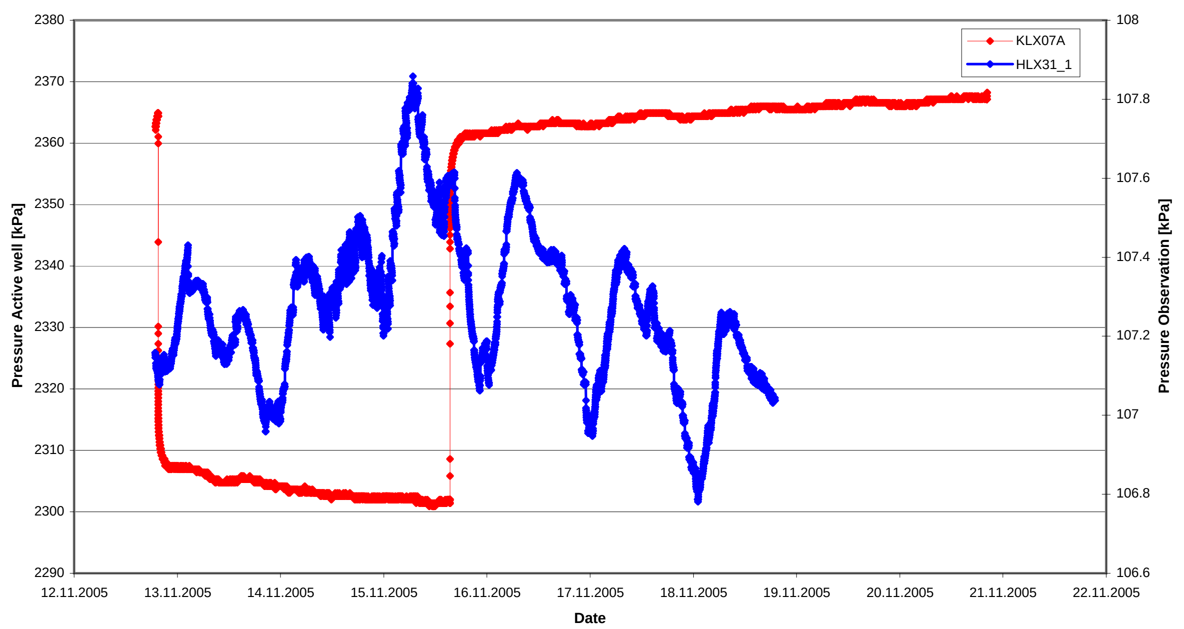
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX33	Section no.:	HLX33_1
		Section length:	31.00-202.10
Distance r_s [m]:	635.36	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.5
Pressure in test section before stop of flowing:	p_p	kPa	100.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

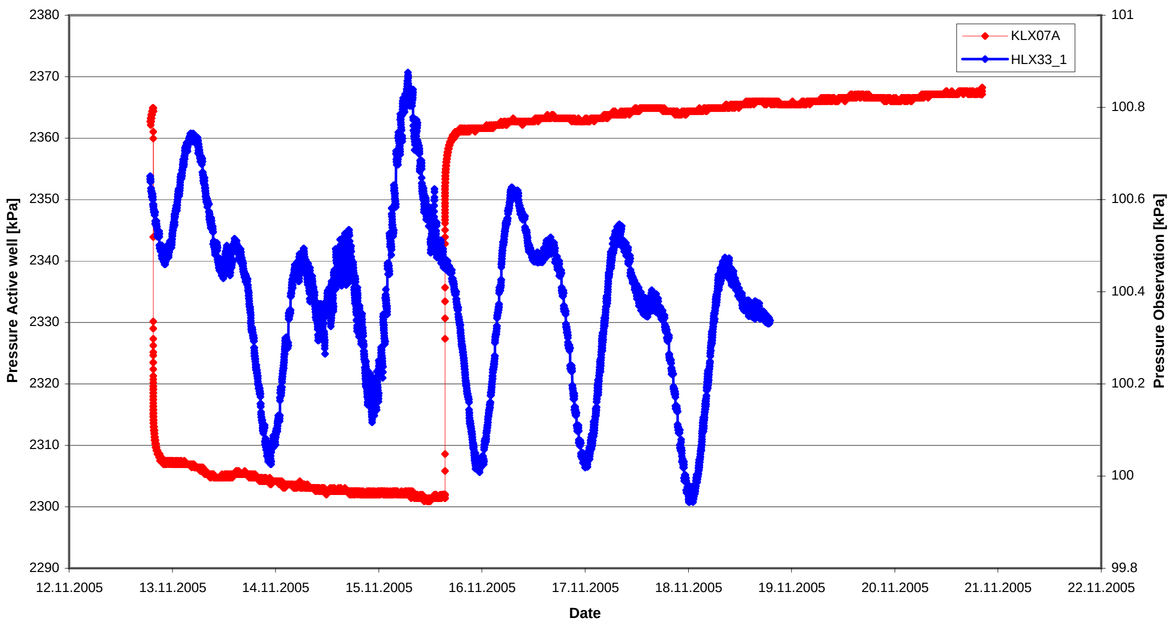
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX33	Section no.:	HLX33_2
		Section length:	9.10-30.00
Distance r_s [m]:	695.59	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.3
Pressure in test section before stop of flowing:	p_p	kPa	100.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

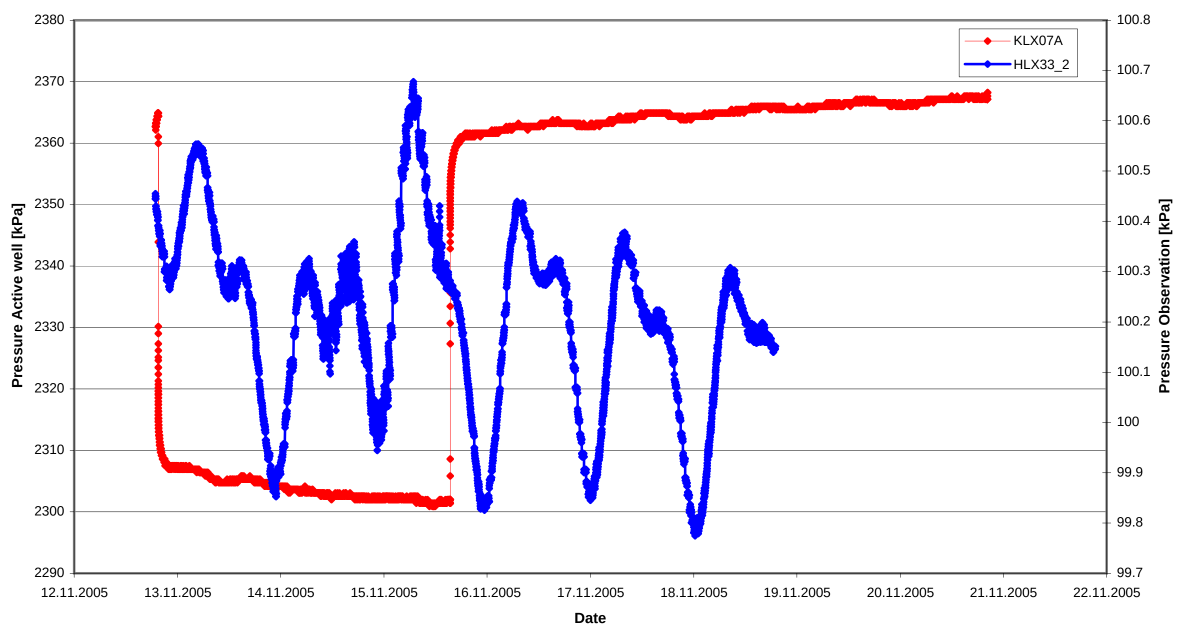
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX34	Section no.:	HLX34_1
		Section length:	9.00-151.80
Distance r_s [m]:	1825.88	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	133.9
Pressure in test section before stop of flowing:	p_p	kPa	134.9
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

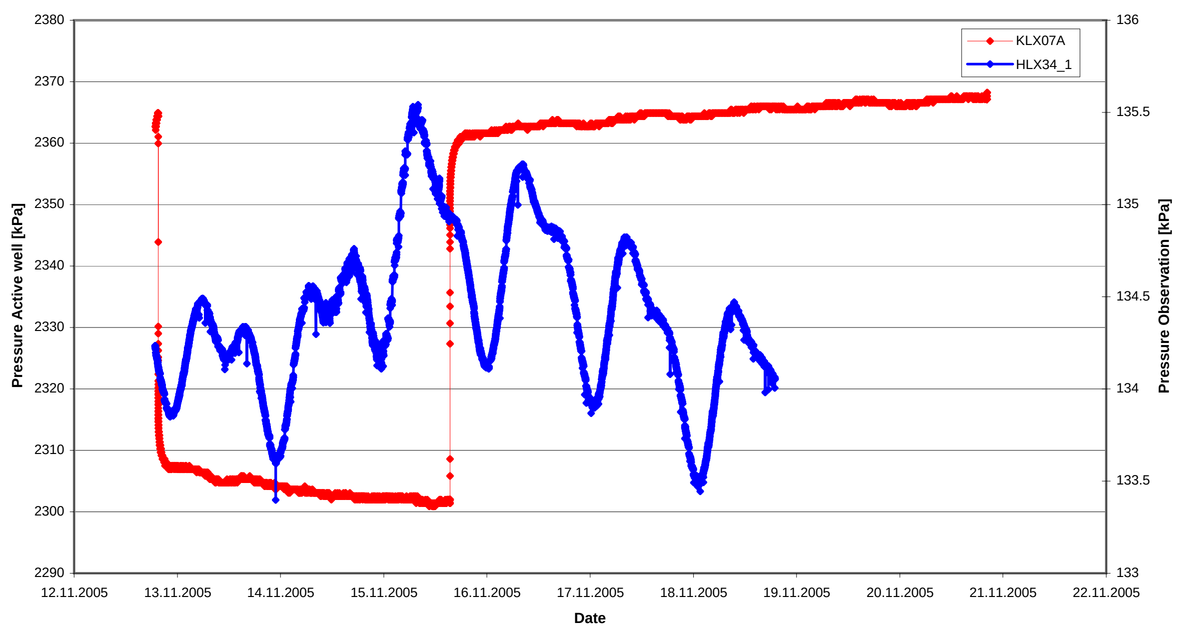
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX35	Section no.:	HLX35_1
		Section length:	65.00-151.50
Distance r_s [m]:	1818.46	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	132.6
Pressure in test section before stop of flowing:	p_p	kPa	133.6
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

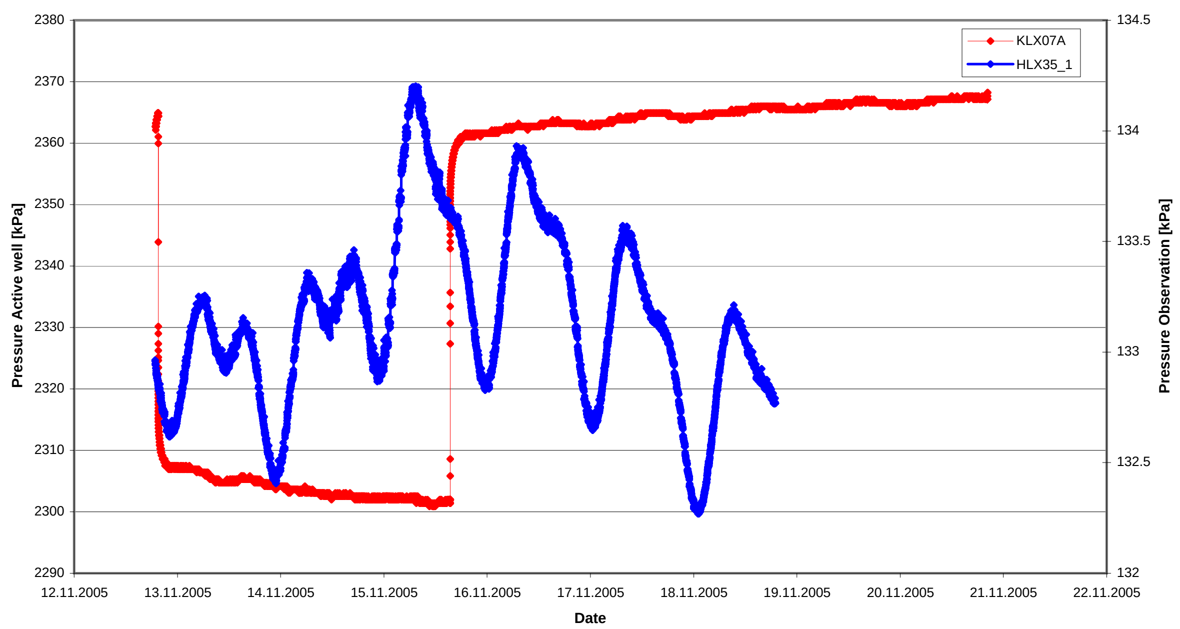
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	HLX35	Section no.:	HLX35_2
		Section length:	6.00-64.00
Distance r_s [m]:	1880.36	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.1
Pressure in test section before stop of flowing:	p_p	kPa	114.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

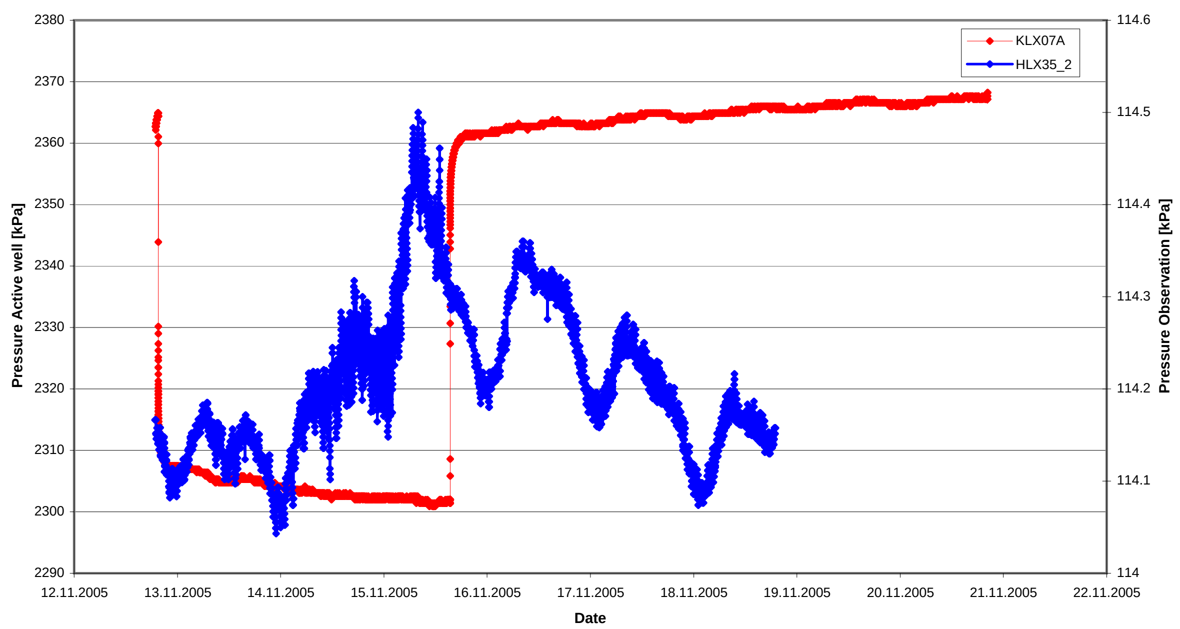
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX01	Section no.:	KLX01_1
		Section length:	705.00-1077.99
Distance r_s [m]:	1351.68	max. Drawdown s_p [m]:*	0.21
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	-19.2
Pressure in test section before stop of flowing:	p_p	kPa	-17.1
Maximum pressure change during flowing period:*	dp_p	kPa	2.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

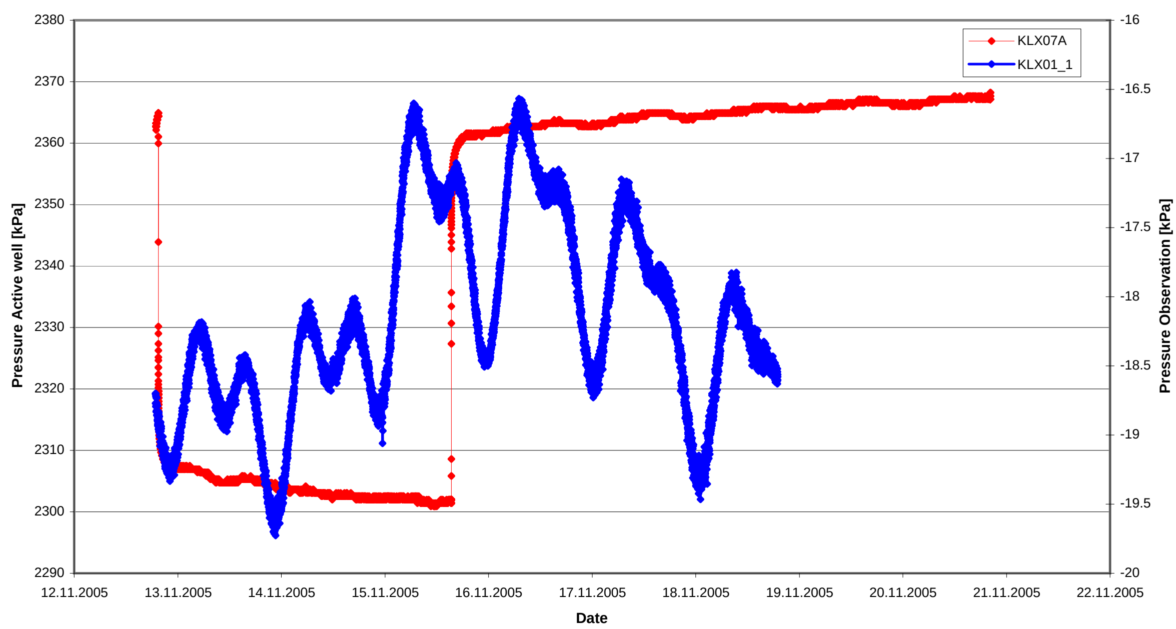
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX01	Section no.:	KLX01_2
		Section length:	191.00-704.00
Distance r_s [m]:	1171.07	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	54.4
Pressure in test section before stop of flowing:	p_p	kPa	56.0
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

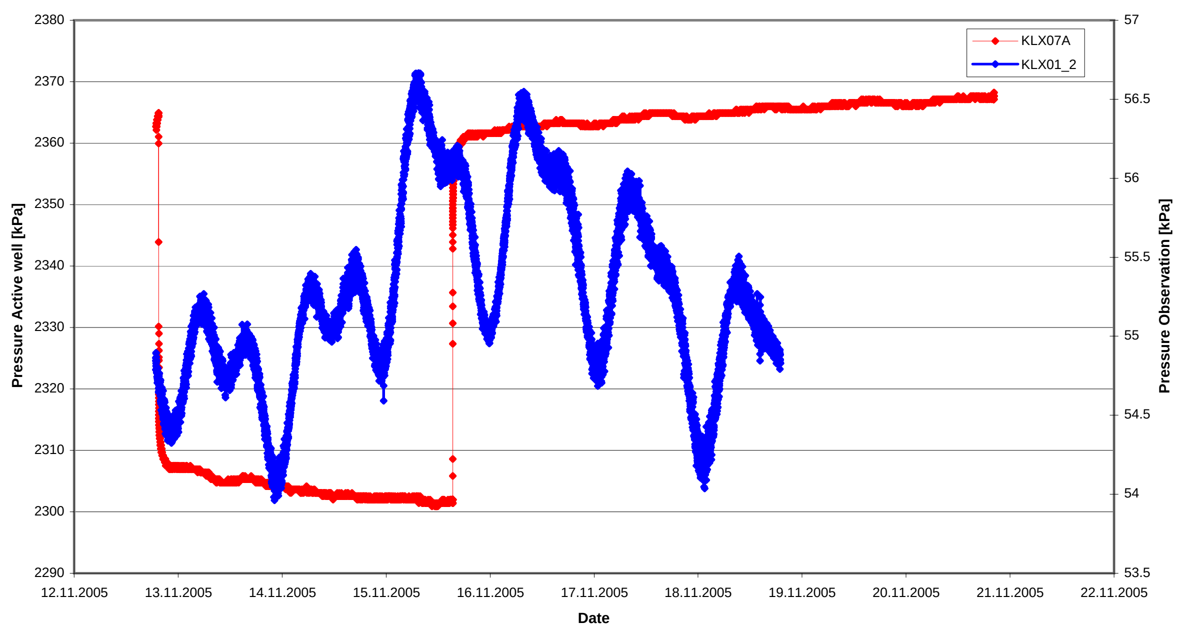
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX01	Section no.:	KLX01_3
		Section length:	171.00-190.00
Distance r_s [m]:	1133.85	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	65.1
Pressure in test section before stop of flowing:	p_p	kPa	66.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

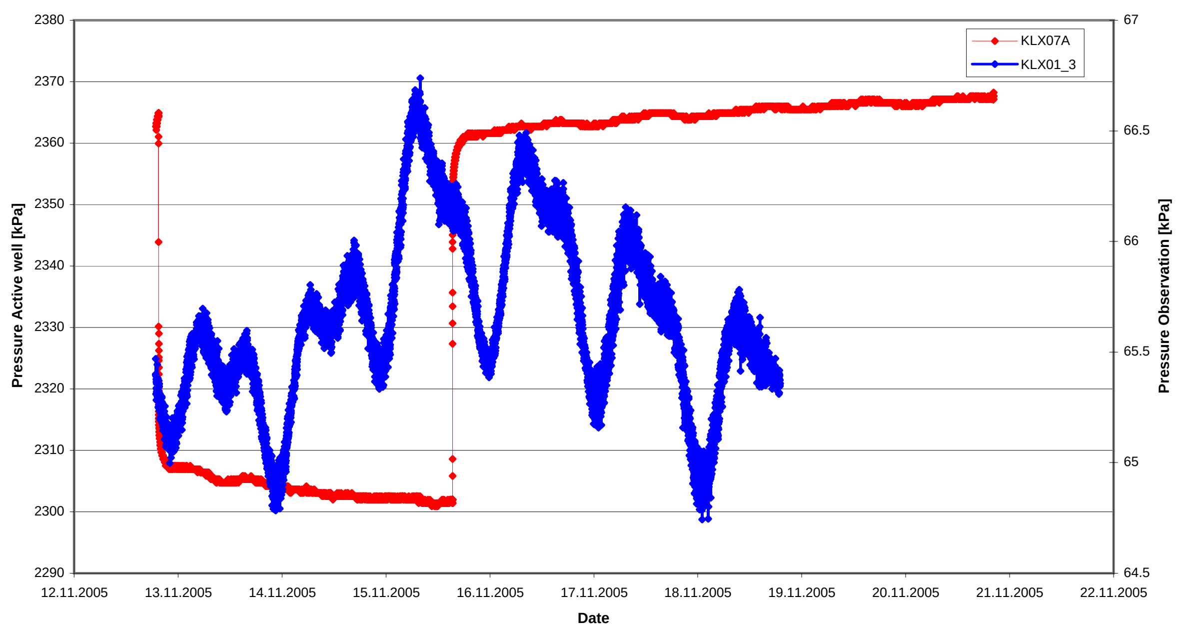
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX01	Section no.:	KLX01_4
		Section length:	0.00-170.00
Distance r_s [m]:	1135.29	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	140.6
Pressure in test section before stop of flowing:	p_p	kPa	140.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

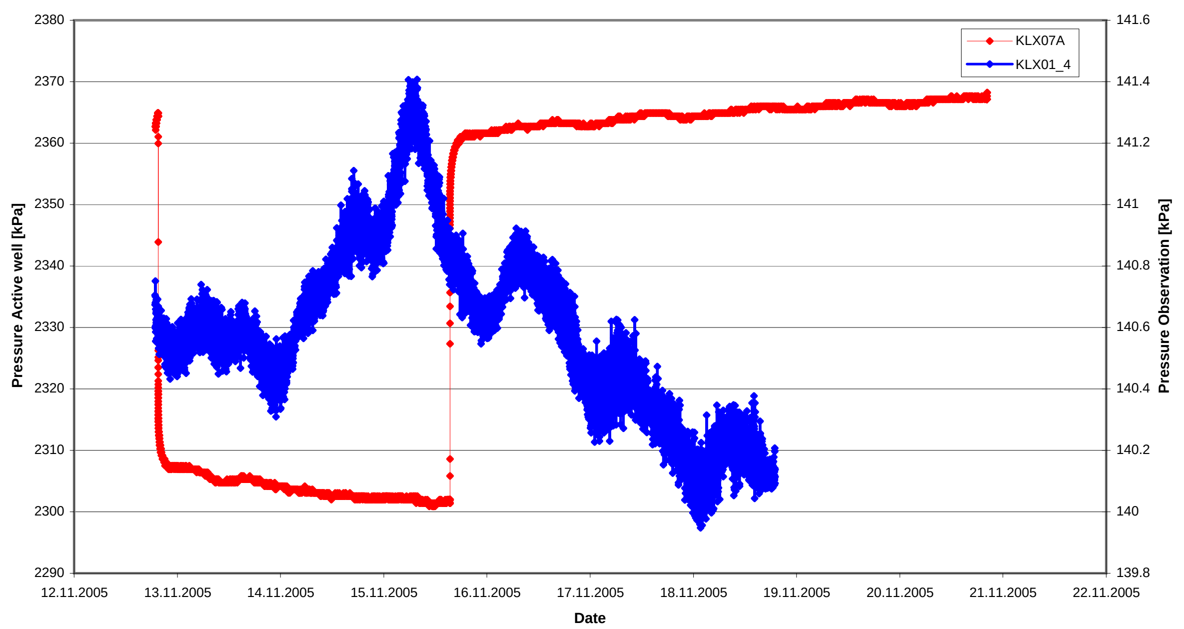
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_1
		Section length:	1165.00-1700.00
Distance r_s [m]:	1269.39	max. Drawdown s_p [m]:*	0.19
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	75.9
Pressure in test section before stop of flowing:	p_p	kPa	77.8
Maximum pressure change during flowing period:*	dp_p	kPa	1.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

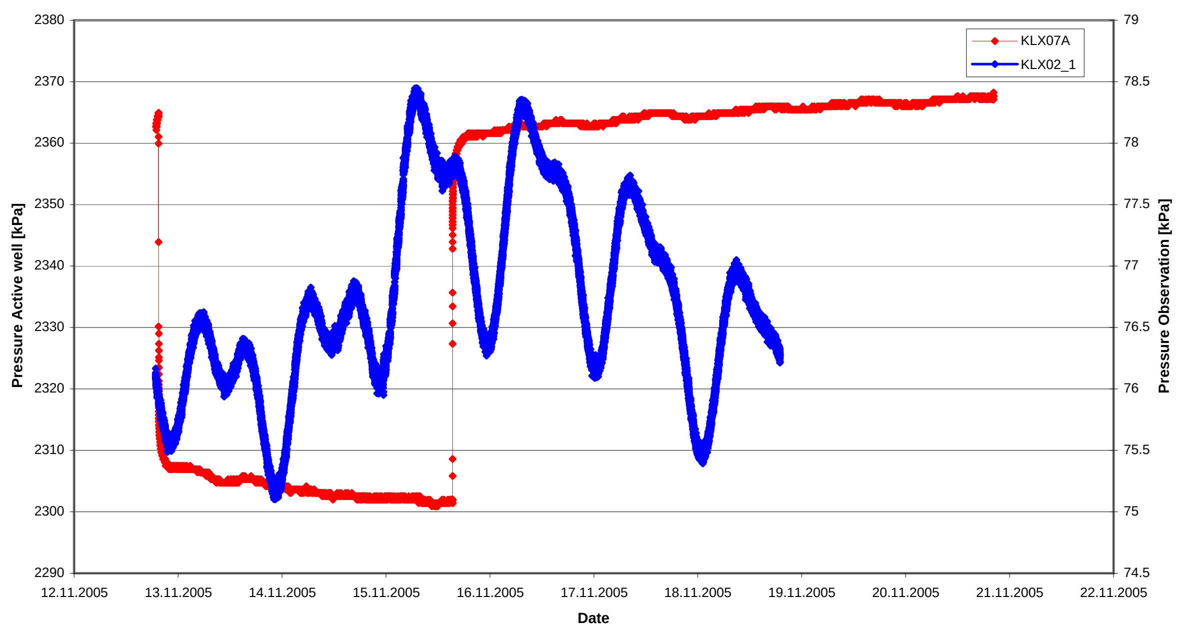
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_2
		Section length:	1145.00-1164.00
Distance r_s [m]:	994.36	max. Drawdown s_p [m]:*	0.21
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	58.7
Pressure in test section before stop of flowing:	p_p	kPa	60.8
Maximum pressure change during flowing period:*	dp_p	kPa	2.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

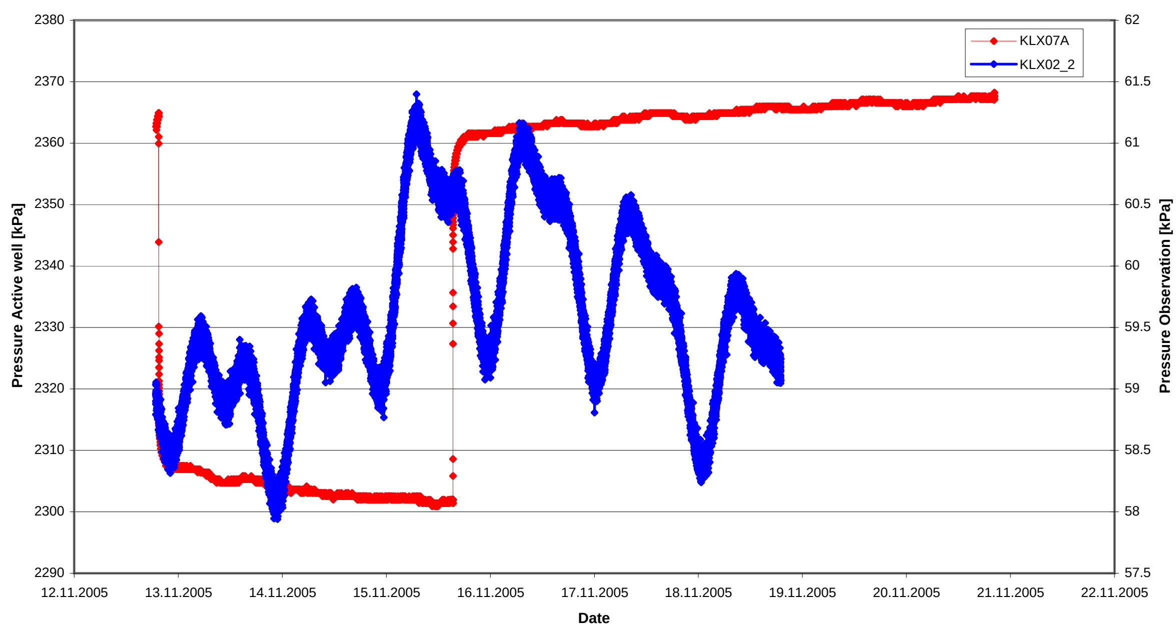
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_3
		Section length:	718.00-1144.00
Distance r_s [m]:	775.50	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	36.9
Pressure in test section before stop of flowing:	p_p	kPa	38.6
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

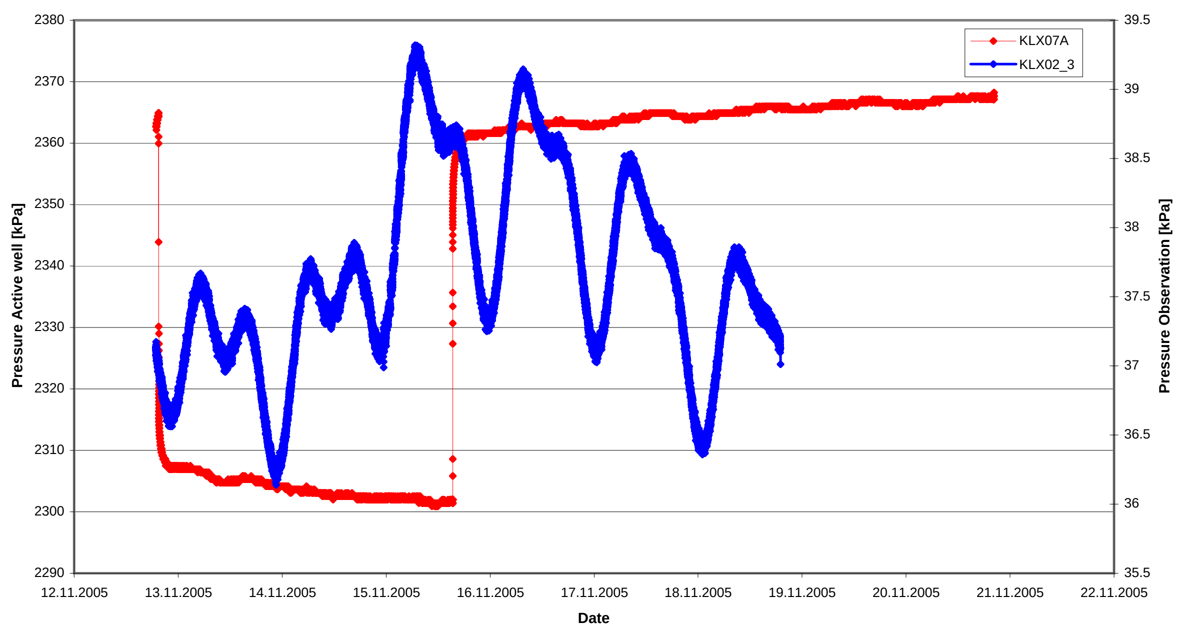
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_4
		Section length:	495.00-717.00
Distance r_s [m]:	465.70	max. Drawdown s_p [m]:*	0.14
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.2
Pressure in test section before stop of flowing:	p_p	kPa	51.6
Maximum pressure change during flowing period:*	dp_p	kPa	1.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

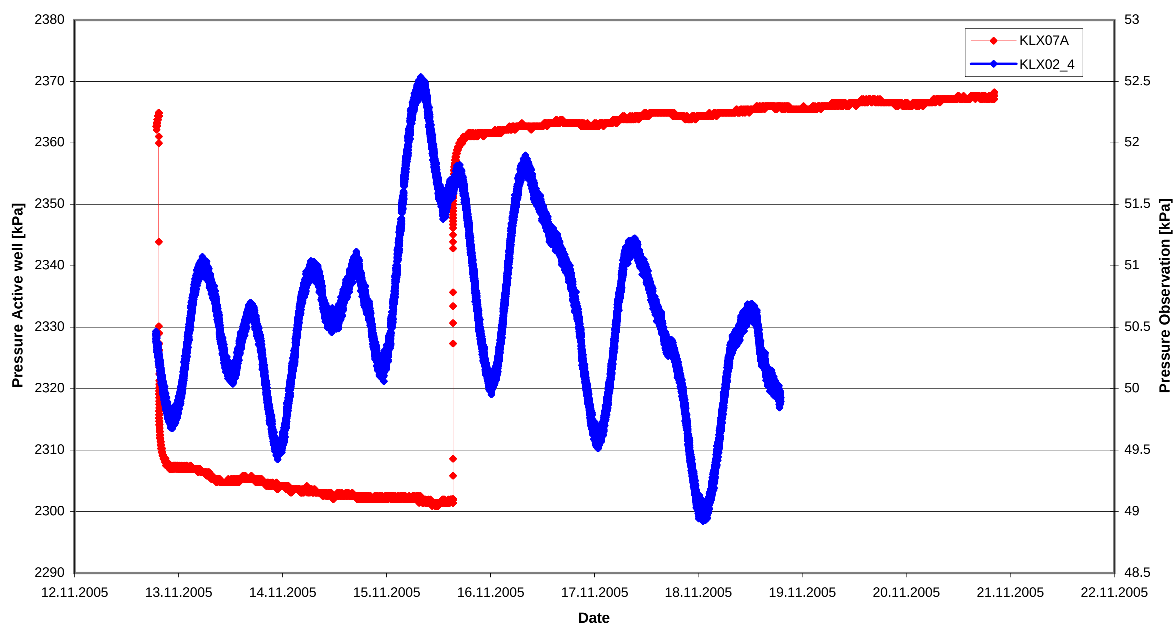
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_5
		Section length:	452.00-494.00
Distance r_s [m]:	347.39	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.9
Pressure in test section before stop of flowing:	p_p	kPa	56.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

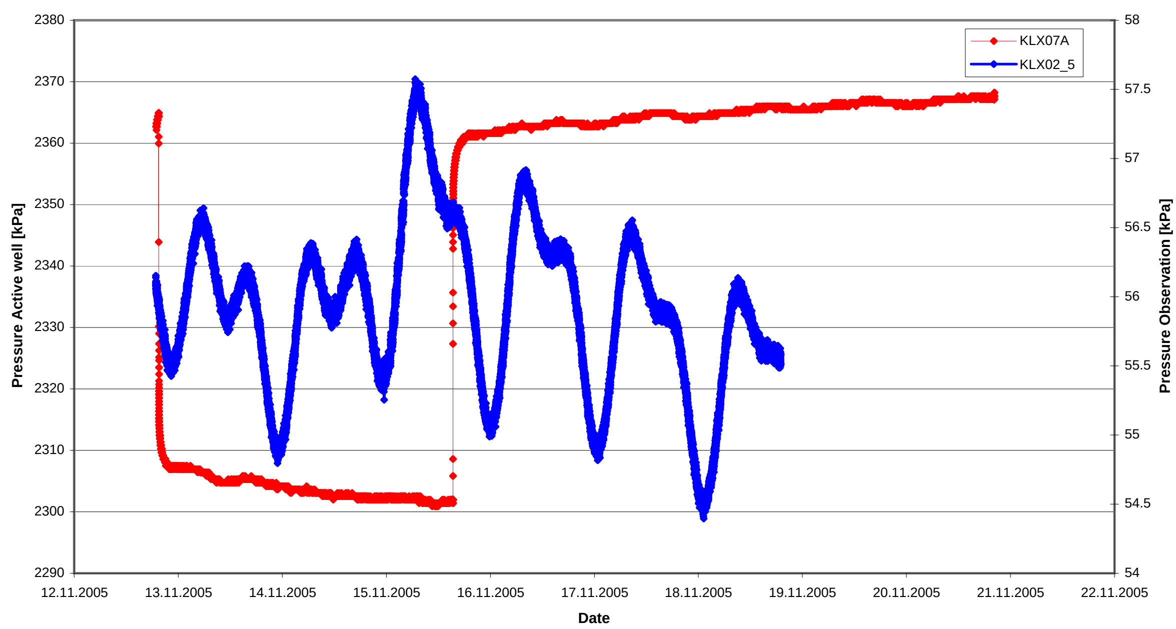
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_6
		Section length:	348.00-451.00
Distance r_s [m]:	287.87	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	56.9
Pressure in test section before stop of flowing:	p_p	kPa	55.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

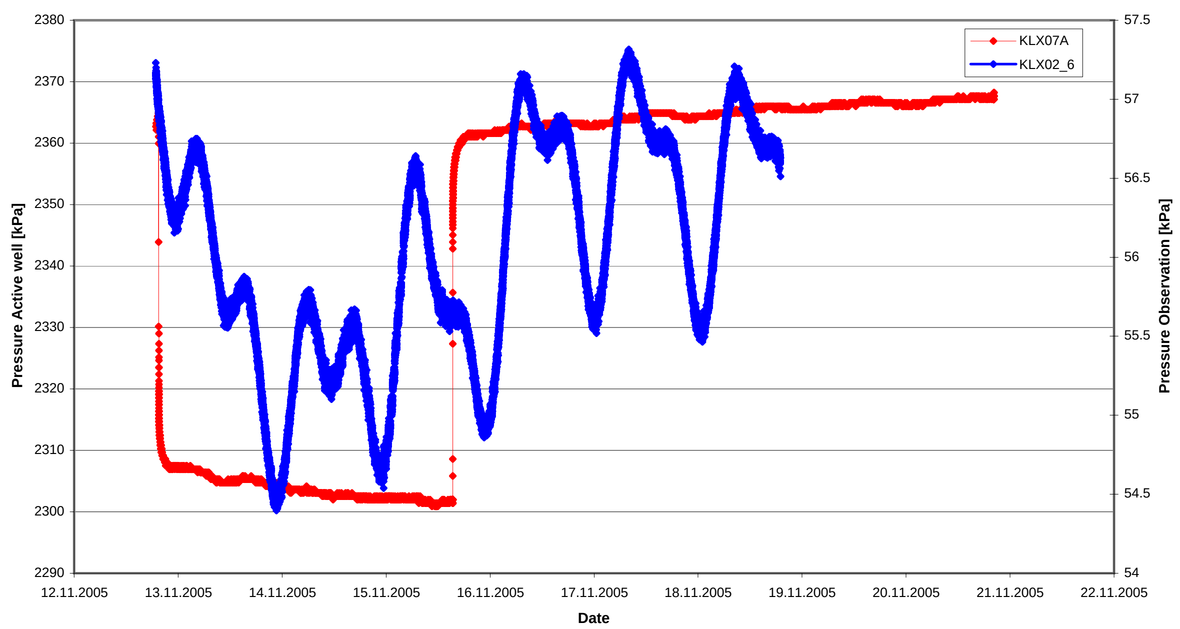
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **285.49**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **1616.59**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_7
		Section length:	209.00-347.00
Distance r_s [m]:	211.19	max. Drawdown s_p [m]:*	0.70
Response time dt_L [s]:	557		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	59.0
Pressure in test section before stop of flowing:	p_p	kPa	52.1
Maximum pressure change during flowing period:*	dp_p	kPa	6.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s): 80.07**

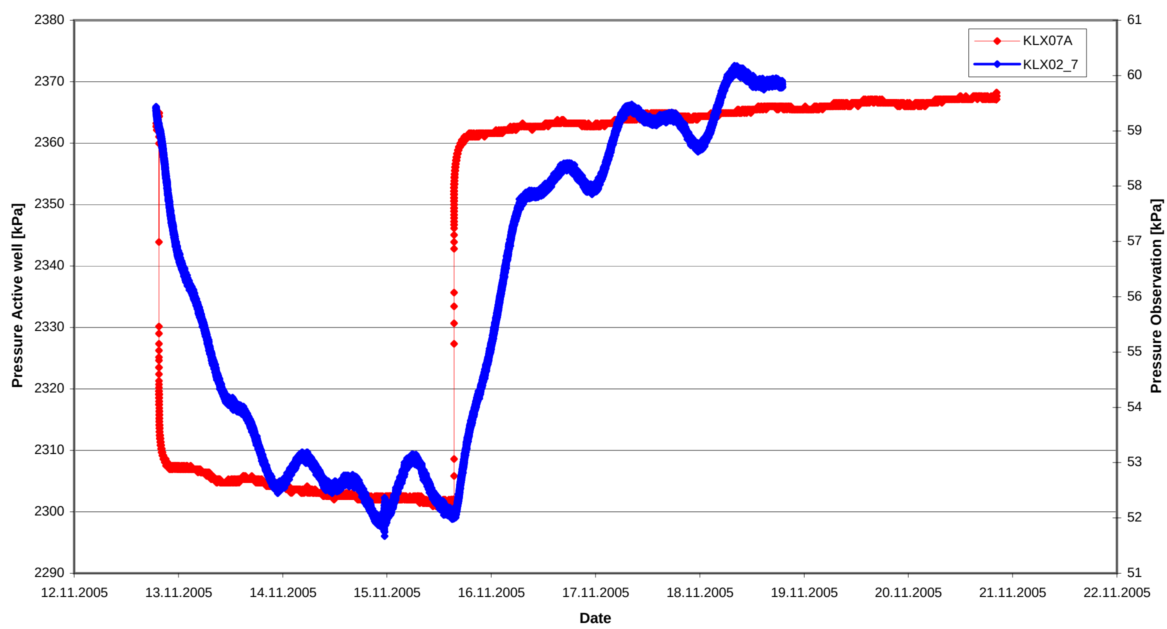
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2): 1158.75**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): 6202.52

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX02	Section no.:	KLX02_8
		Section length:	202.95-208.00
Distance r_s [m]:	189.75	max. Drawdown s_p [m]:*	0.64
Response time dt_L [s]:	1717		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	74.7
Pressure in test section before stop of flowing:	p_p	kPa	68.4
Maximum pressure change during flowing period:*	dp_p	kPa	6.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **20.97**

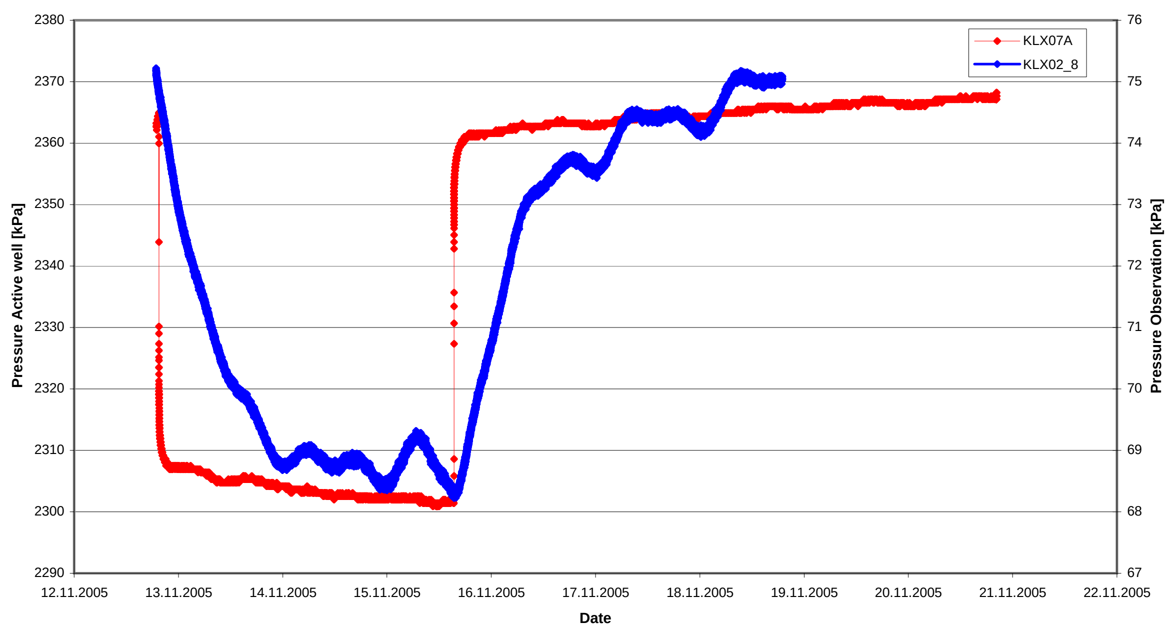
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1057.99**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **5549.95**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_1
		Section length:	898.00-1000.00
Distance r_s [m]:	1372.41	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	105.1
Pressure in test section before stop of flowing:	p_p	kPa	107.1
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

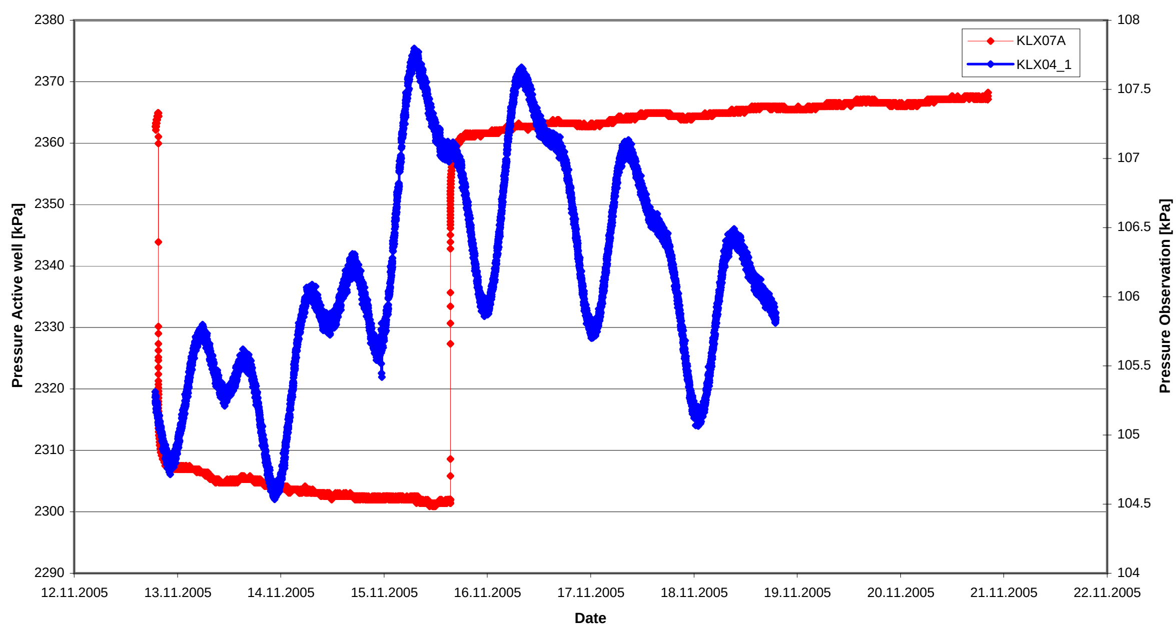
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_2
		Section length:	870.00-897.00
Distance r_s [m]:	1342.02	max. Drawdown s_p [m]:*	0.22
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	103.0
Pressure in test section before stop of flowing:	p_p	kPa	105.2
Maximum pressure change during flowing period:*	dp_p	kPa	2.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

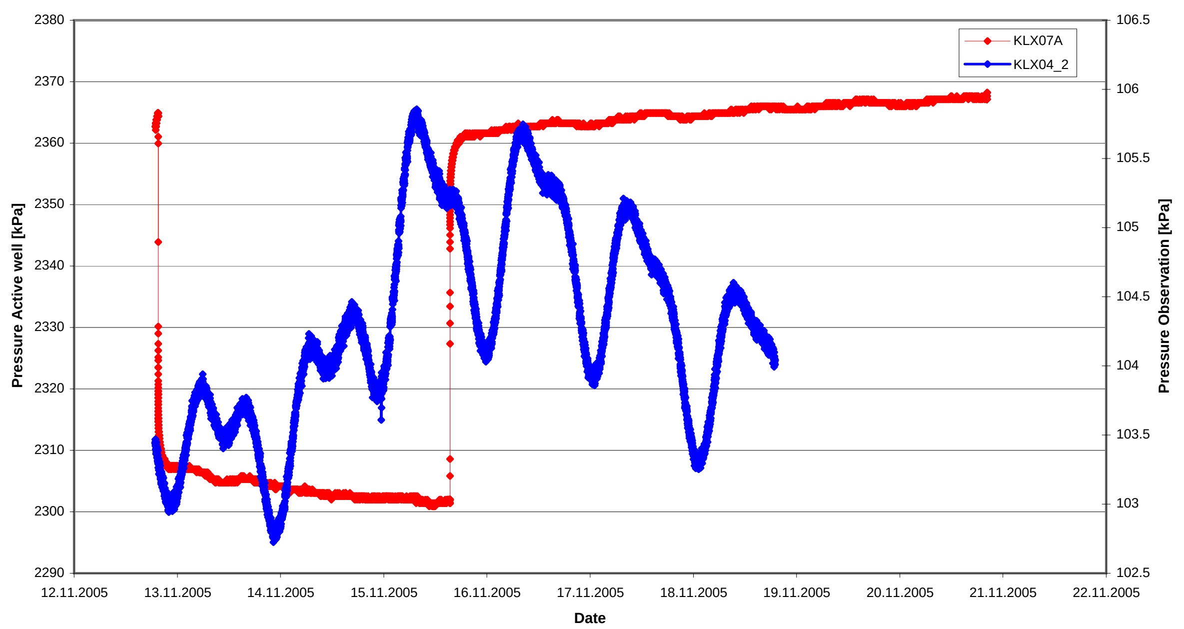
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_3
		Section length:	686.00-869.00
Distance r_s [m]:	1297.10	max. Drawdown s_p [m]:*	0.19
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.2
Pressure in test section before stop of flowing:	p_p	kPa	116.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

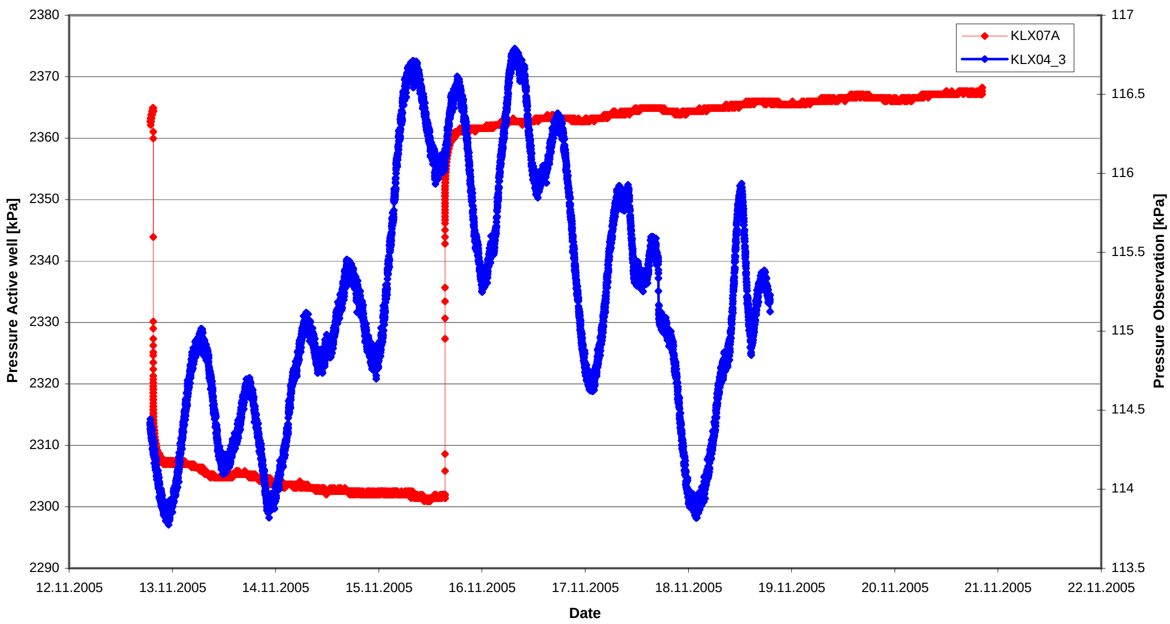
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_4
		Section length:	531.00-685.00
Distance r_s [m]:	1236.99	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	113.5
Pressure in test section before stop of flowing:	p_p	kPa	115.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

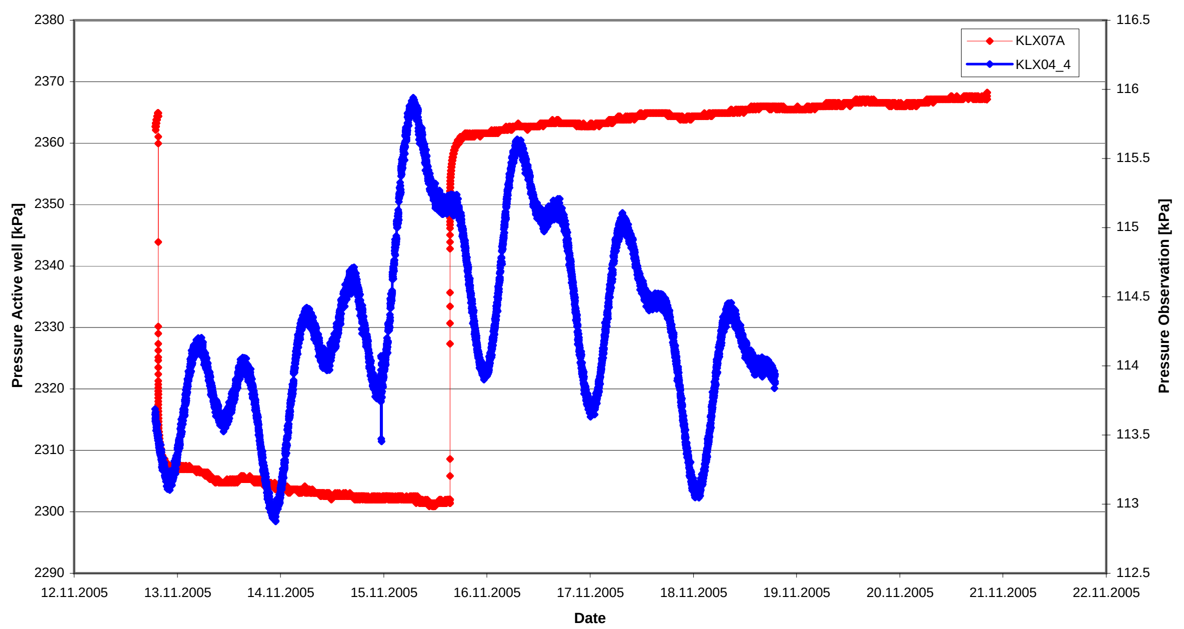
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_5
		Section length:	507.00-530.00
Distance r_s [m]:	1212.35	max. Drawdown s_p [m]:*	0.14
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.7
Pressure in test section before stop of flowing:	p_p	kPa	117.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

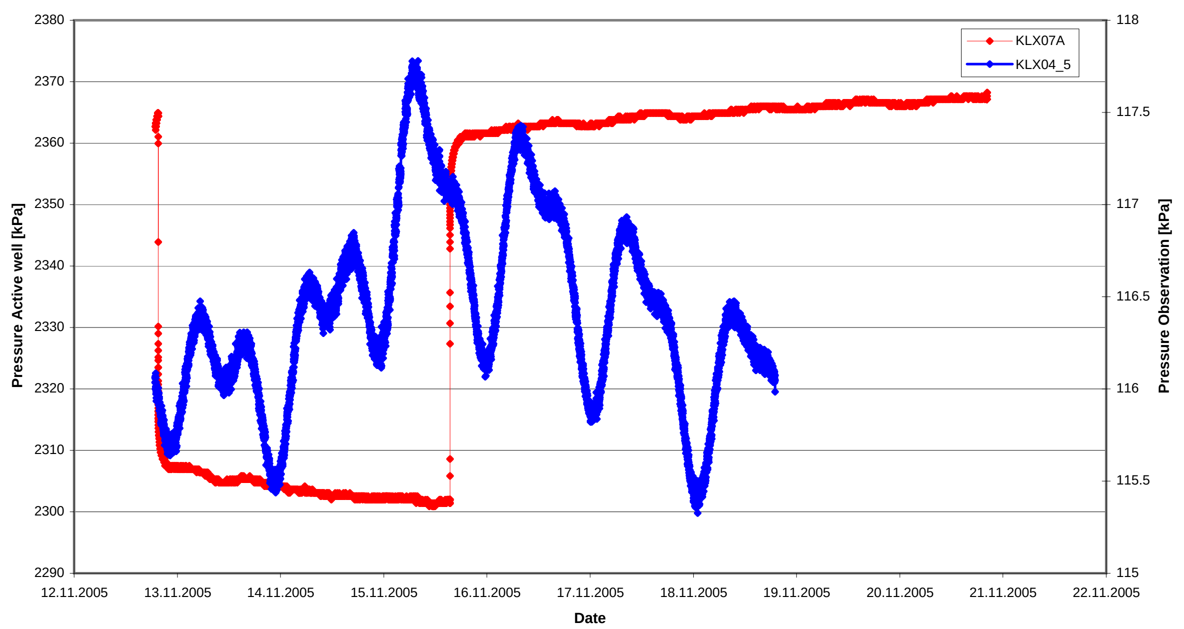
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_6
		Section length:	231.00-506.00
Distance r_s [m]:	1183.15	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.6
Pressure in test section before stop of flowing:	p_p	kPa	116.3
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

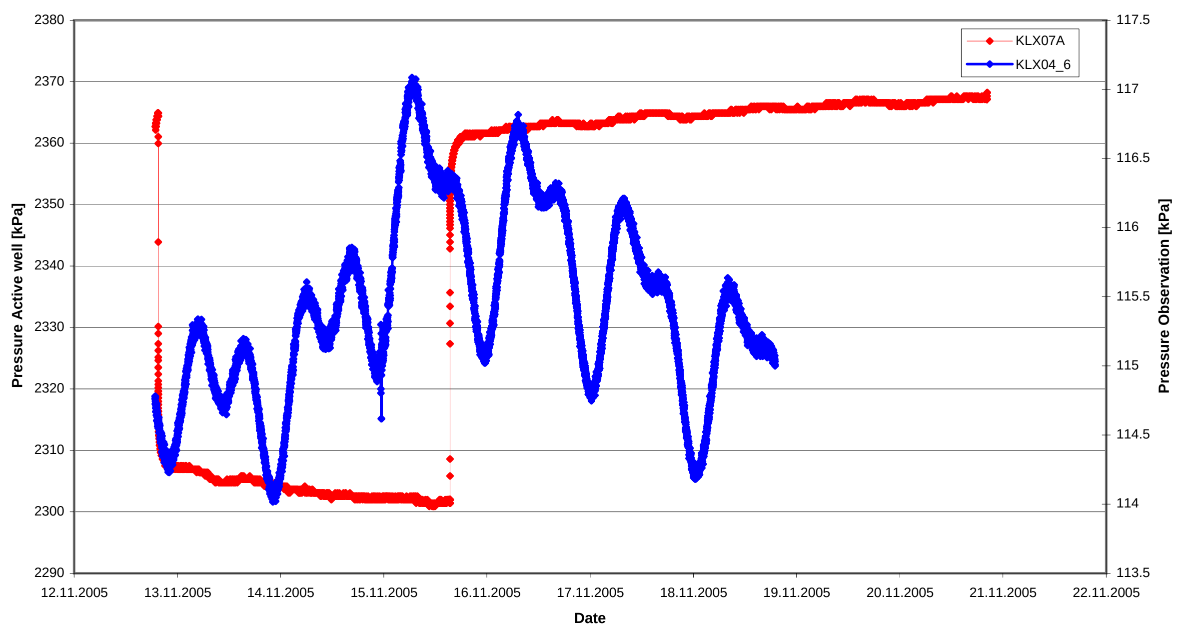
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_7
		Section length:	163.00-230.00
Distance r_s [m]:	1168.64	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	116.1
Pressure in test section before stop of flowing:	p_p	kPa	117.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

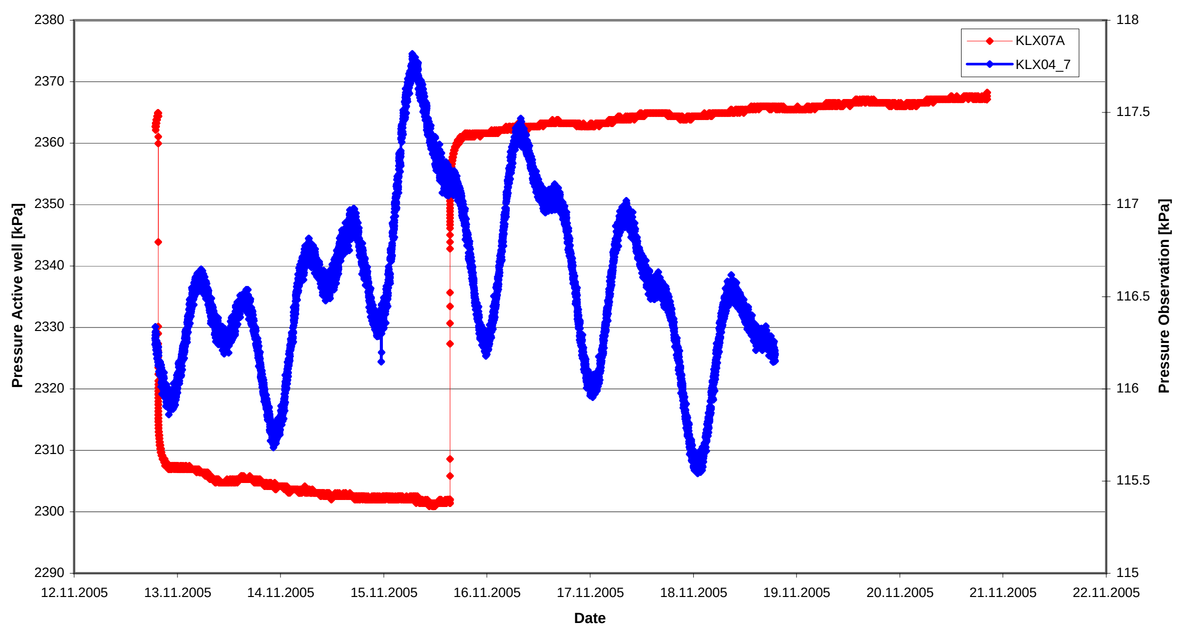
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX04	Section no.:	KLX04_8
		Section length:	12.24-162.00
Distance r_s [m]:	1170.96	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	120.5
Pressure in test section before stop of flowing:	p_p	kPa	121.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

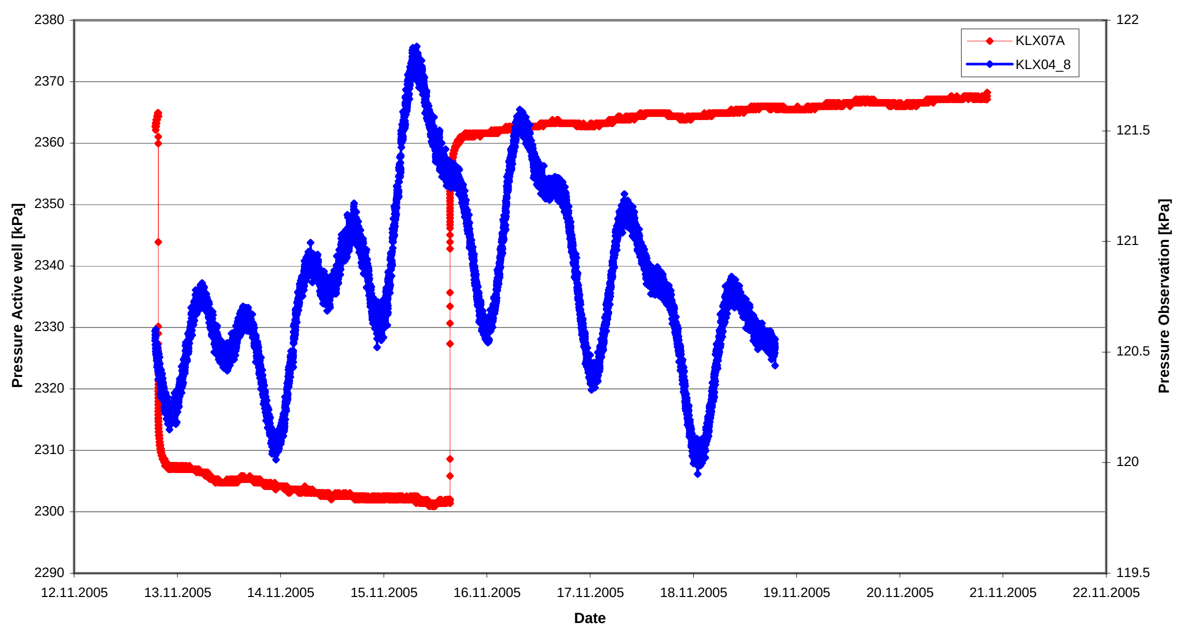
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX07B	Section no.:	KLX07B_1
		Section length:	112.00-200.00
Distance r_s [m]:	149.70	max. Drawdown s_p [m]:*	0.78
Response time dt_L [s]:	978		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.2
Pressure in test section before stop of flowing:	p_p	kPa	54.5
Maximum pressure change during flowing period:*	dp_p	kPa	7.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **22.91**

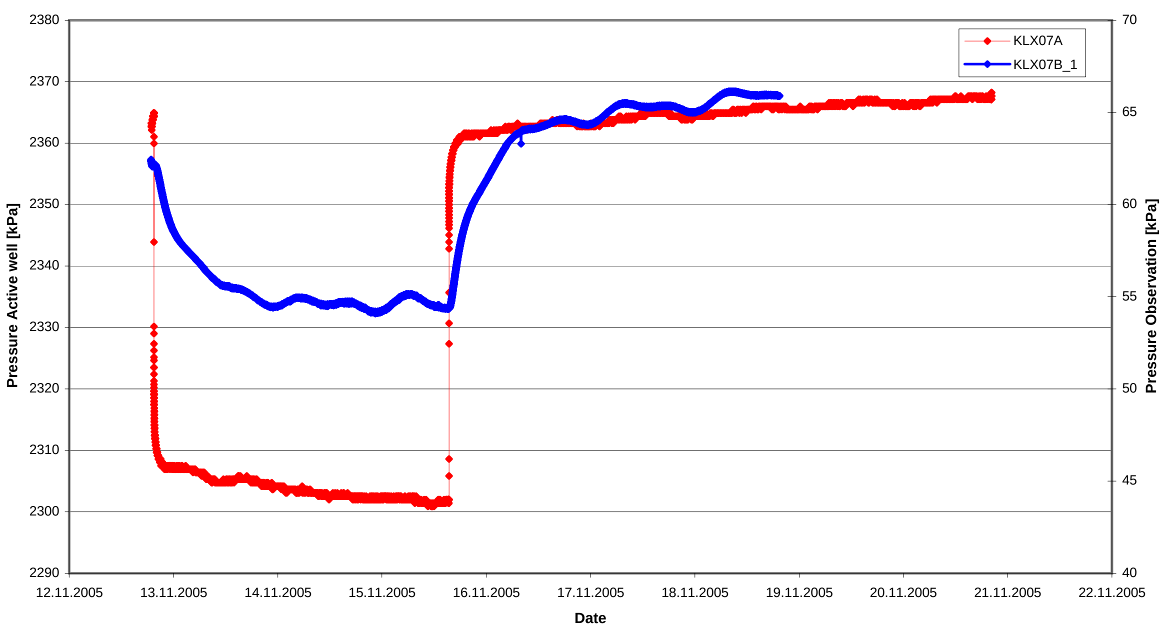
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1293.10**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6476.68**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX07B	Section no.:	KLX07B_2
		Section length:	49.00-111.00
Distance r_s [m]:	191.30	max. Drawdown s_p [m]:*	0.81
Response time dt_L [s]:	212		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.1
Pressure in test section before stop of flowing:	p_p	kPa	53.2
Maximum pressure change during flowing period:*	dp_p	kPa	7.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **172.62**

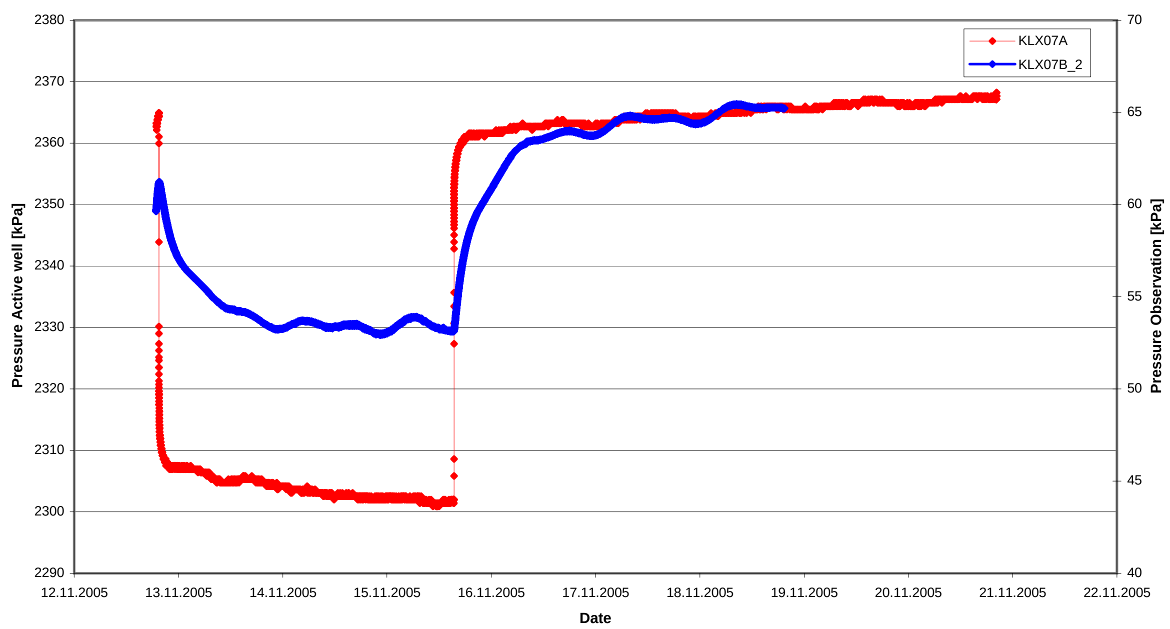
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1326.69**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **6970.22**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	193.00-313.00
Test Start:	12.11.2005 18:54	Test Stop:	20.11.2005 20:17
Pump Start:	12:11.2005 19:32	Pump Stop:	15.11.2005 15:24
Flow Rate Q_p [m^3/s]:	6.07E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	2361
Pressure in test section before stop of flowing:	p_p	kPa	2301
Maximum pressure change during flowing period:	dp_p	kPa	60

Observation Hole:	KLX07B	Section no.:	KLX07B_3
		Section length:	0.00-48.00
Distance r_s [m]:	233.32	max. Drawdown s_p [m]:*	0.80
Response time dt_L [s]:	52		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.9
Pressure in test section before stop of flowing:	p_p	kPa	54.1
Maximum pressure change during flowing period:*	dp_p	kPa	7.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **1046.89**

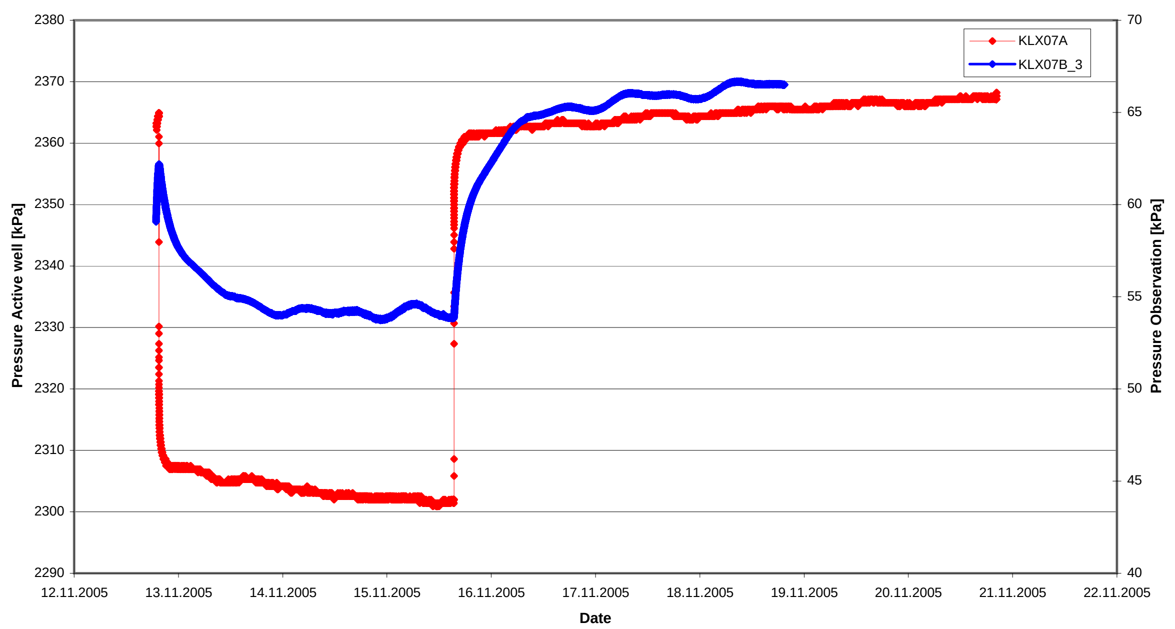
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1309.90**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7142.09**

* see comment

Comment: clear response due to pumping in source



APPENDIX 6-3

Index calculation

KLX07A Section 335.00-455.00 m pumped

Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX01	Section no.:	HLX01_1
		Section length:	16.00-100.63
Distance r_s [m]:	921.51	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.9
Pressure in test section before stop of flowing:	p_p	kPa	62.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

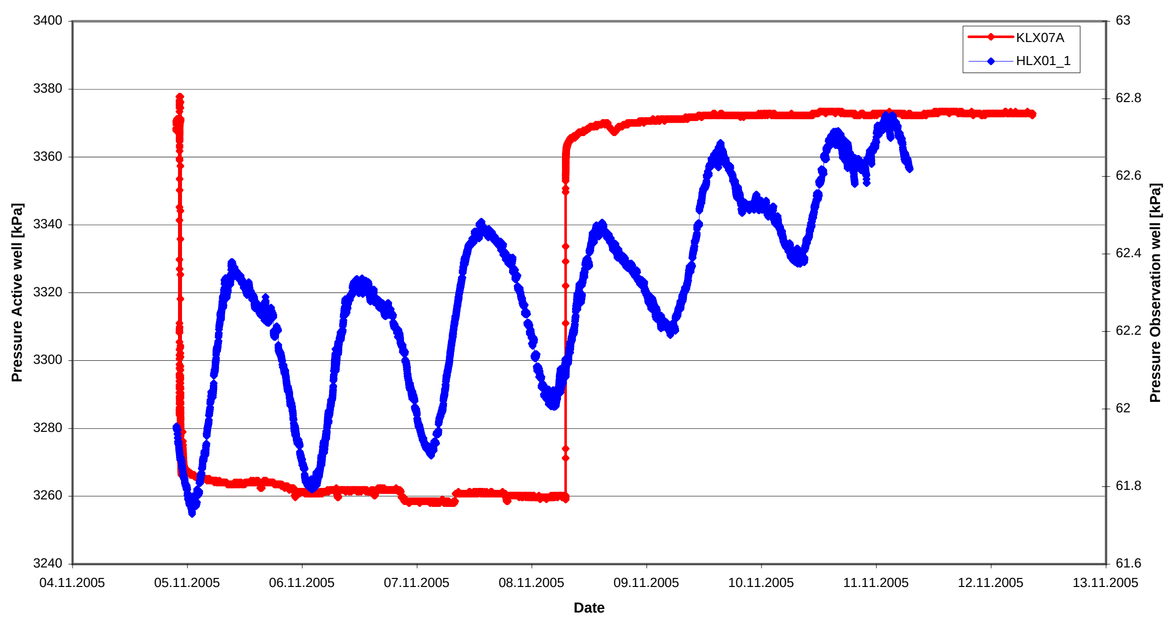
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX02	Section no.:	HLX02_1
		Section length:	0.60-132.00
Distance r_s [m]:	1775.52	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	44.9
Pressure in test section before stop of flowing:	p_p	kPa	46.9
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

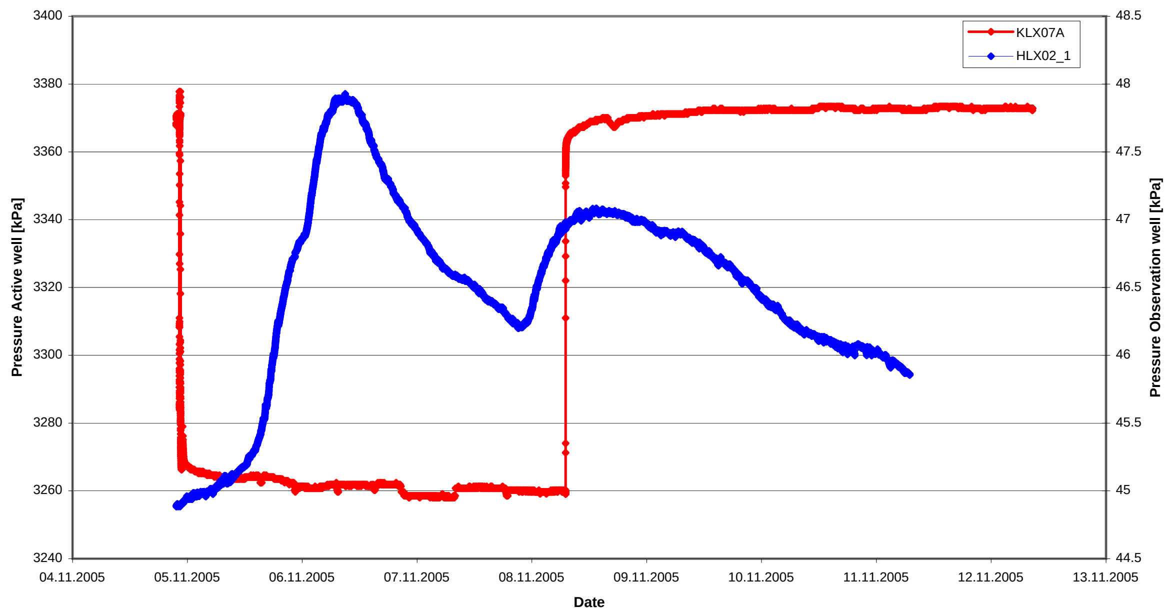
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX06	Section no.:	HLX06_1
		Section length:	1.00-100.00
Distance r_s [m]:	877.25	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	77.6
Pressure in test section before stop of flowing:	p_p	kPa	77.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

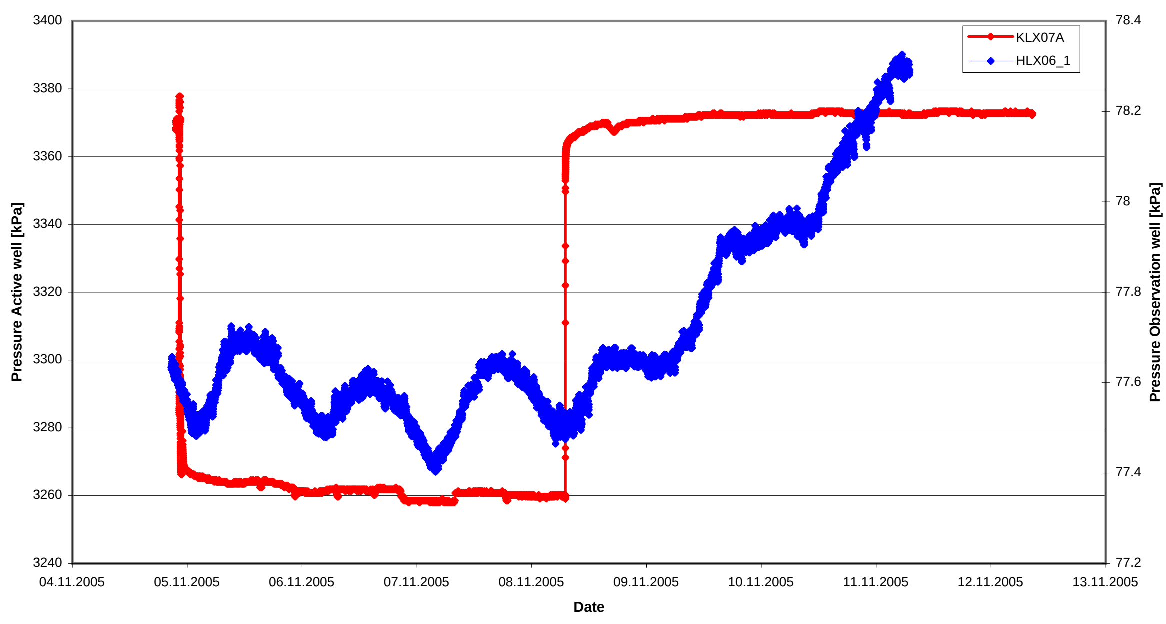
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX07	Section no.:	HLX07_1
		Section length:	16.00-100.00
Distance r_s [m]:	1066.39	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	54.8
Pressure in test section before stop of flowing:	p_p	kPa	55.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

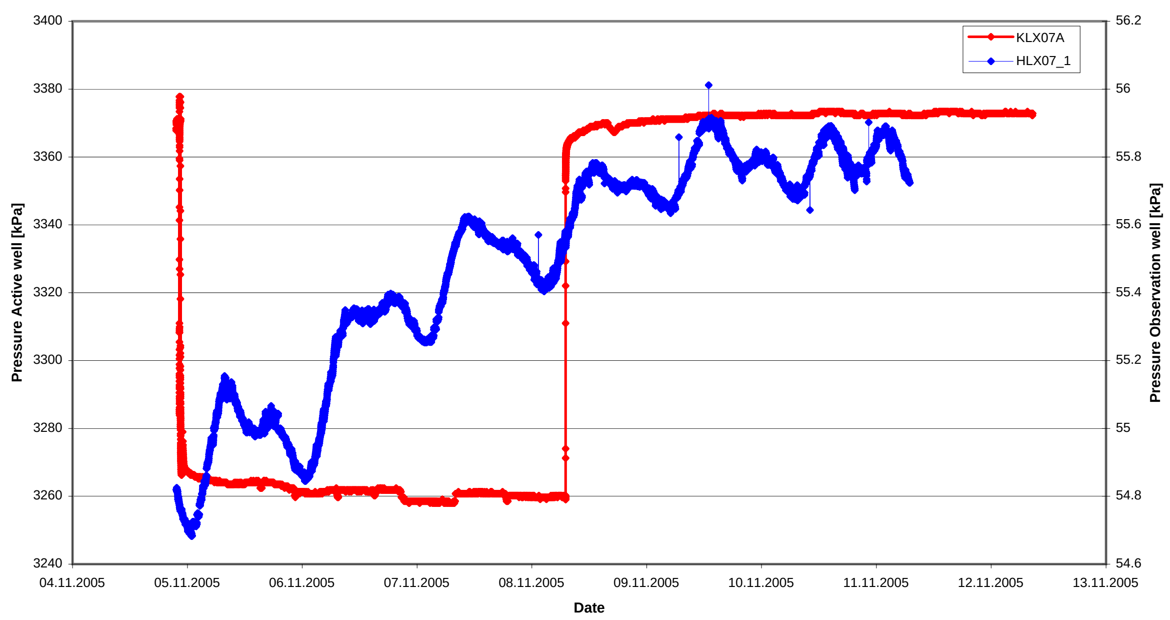
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX10	Section no.:	HLX10_1
		Section length:	3.00-85.00
Distance r_s [m]:	259.56	max. Drawdown s_p [m]:*	0.36
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.1
Pressure in test section before stop of flowing:	p_p	kPa	48.6
Maximum pressure change during flowing period:*	dp_p	kPa	3.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

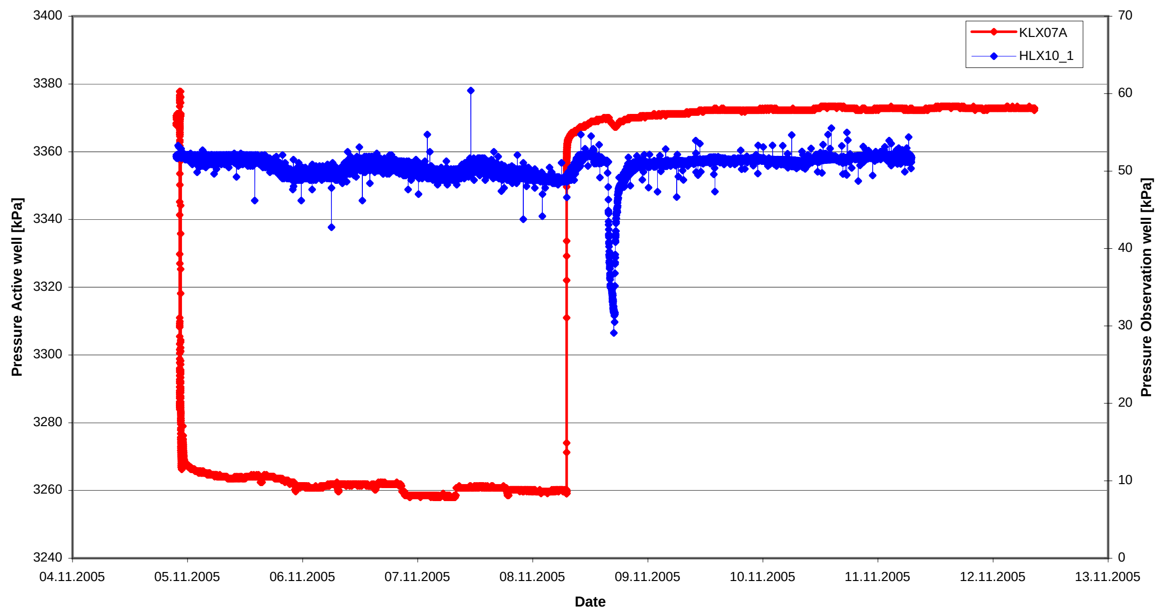
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX11	Section no.:	HLX11_1
		Section length:	17.00-70.00
Distance r_s [m]:	318.19	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	2203		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	63.4
Pressure in test section before stop of flowing:	p_p	kPa	61.4
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s): 45.96**

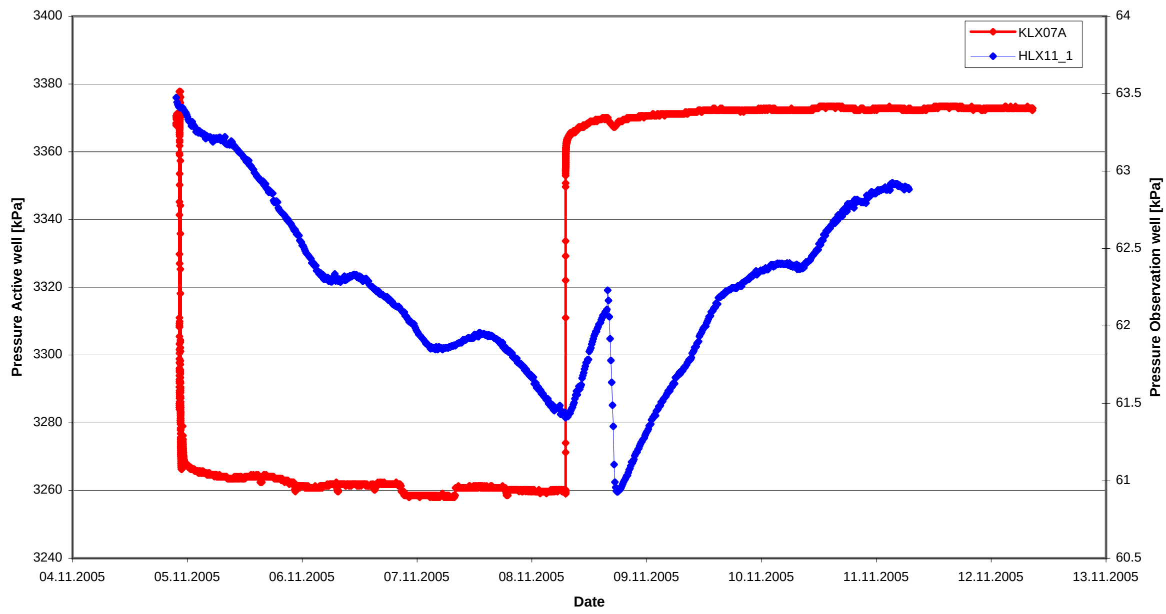
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2): 675.08**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): 3890.24

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045				
Pumping Hole:	KLX07A	Pumping Section [m bToC]:			335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:			12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:			08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		3374
Pressure in test section before stop of flowing:		p_p	kPa		3260
Maximum pressure change during flowing period:		dp_p	kPa		114
Observation Hole:	HLX11	Section no.:			HLX11_2
		Section length:			6.00-16.00
Distance r_s [m]:	333.03	max. Drawdown s_p [m]:*			0.20
Response time dt_L [s]:	7020				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		62.5
Pressure in test section before stop of flowing:		p_p	kPa		60.5
Maximum pressure change during flowing period:*		dp_p	kPa		2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **15.80**

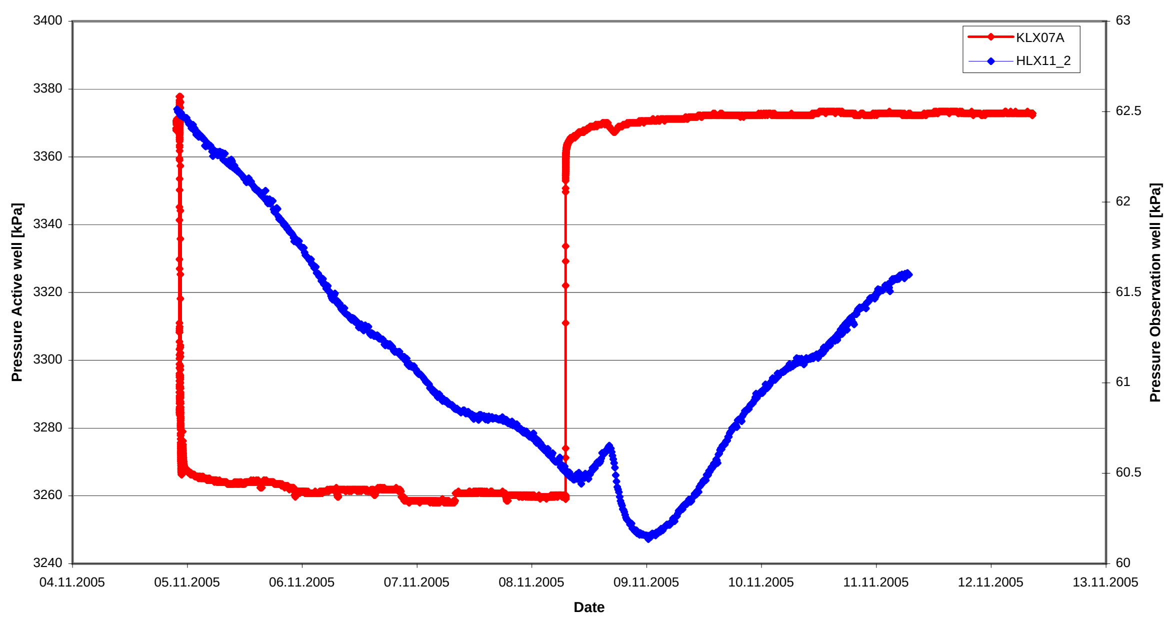
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **675.08**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3921.01**

* see comment

Comment: clear response due to pumping in source



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX13	Section no.:	HLX13_1
		Section length:	11.87-200.02
Distance r_s [m]:	1613.78	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	120.4
Pressure in test section before stop of flowing:	p_p	kPa	120.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

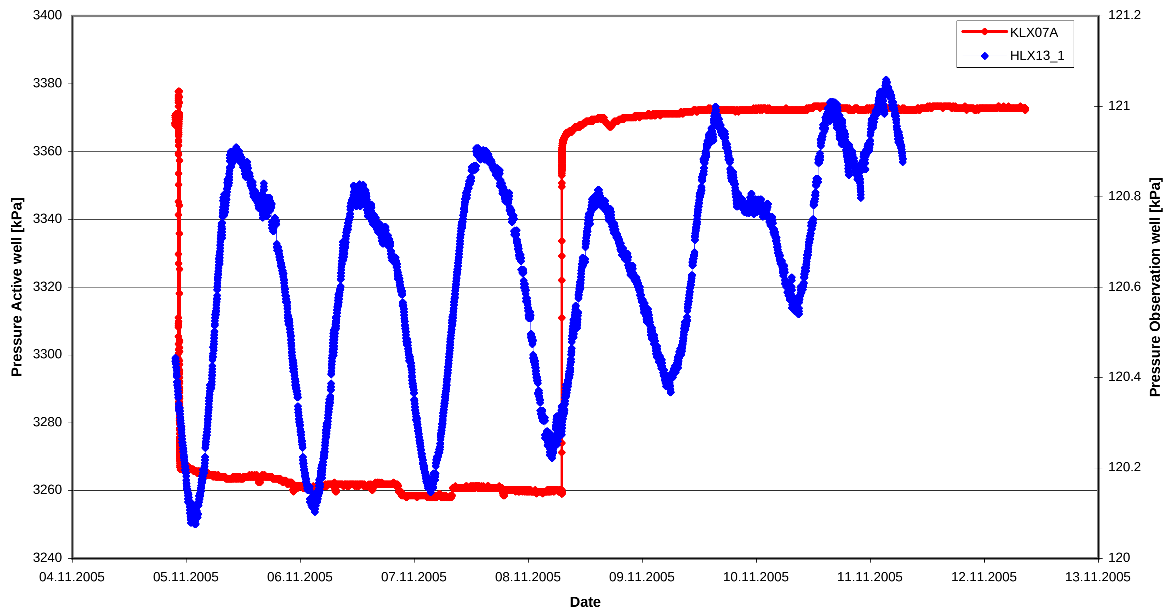
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX14	Section no.:	HLX14_1
		Section length:	11.00-115.90
Distance r_s [m]:	1627.01	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	116.7
Pressure in test section before stop of flowing:	p_p	kPa	116.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

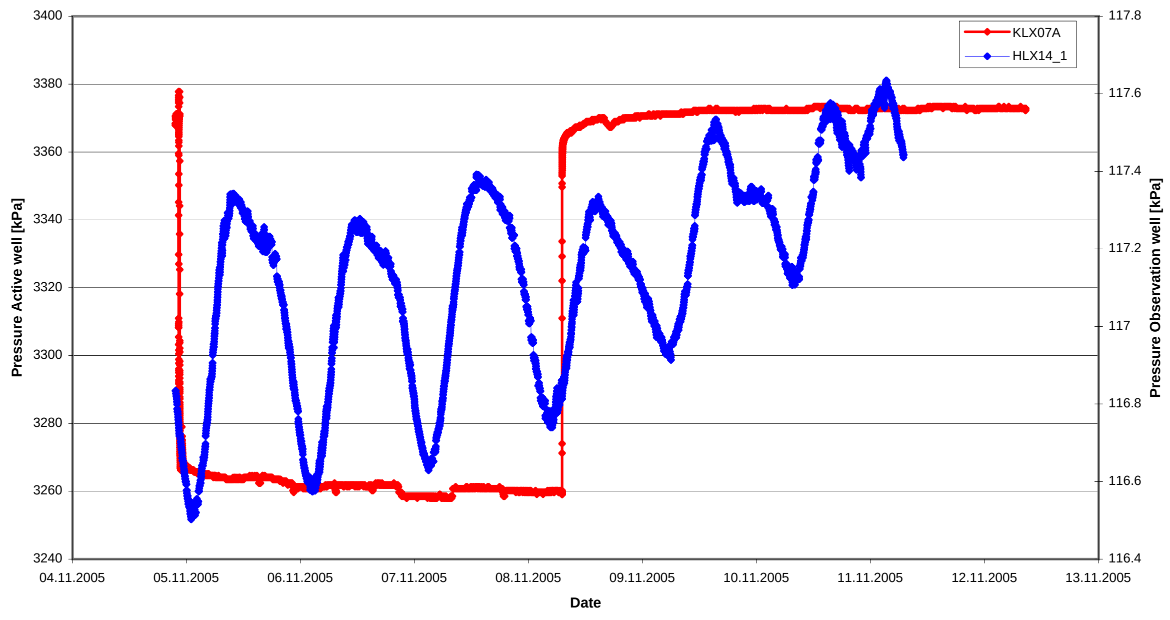
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045			

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX21	Section no.:	HLX21_1
		Section length:	81.00-150.00
Distance r_s [m]:	451.13	max. Drawdown s_p [m]:*	0.36
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.9
Pressure in test section before stop of flowing:	p_p	kPa	49.4
Maximum pressure change during flowing period:*	dp_p	kPa	3.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

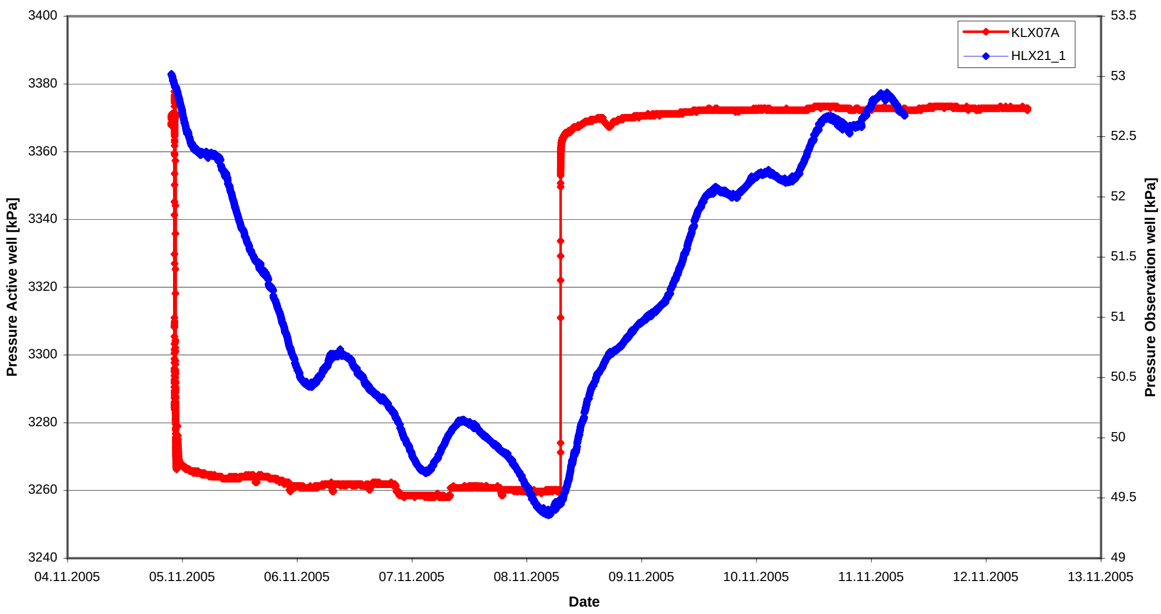
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1181.39**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7220.36**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045			

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX21	Section no.:	HLX21_2
		Section length:	9.10-80.00
Distance r_s [m]:	460.82	max. Drawdown s_p [m]:*	0.35
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.7
Pressure in test section before stop of flowing:	p_p	kPa	48.3
Maximum pressure change during flowing period:*	dp_p	kPa	3.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

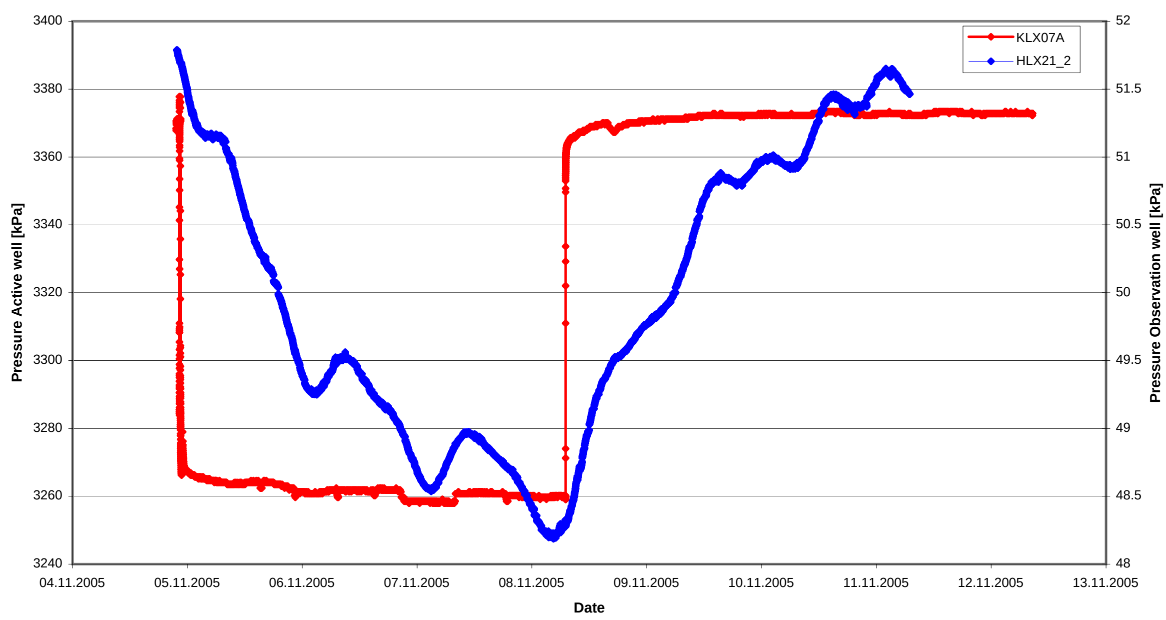
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1147.63**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7038.45**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX22	Section no.:	HLX22_1
		Section length:	86.00-163.20
Distance r_s [m]:	483.00	max. Drawdown s_p [m]:*	0.37
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.7
Pressure in test section before stop of flowing:	p_p	kPa	48.1
Maximum pressure change during flowing period:*	dp_p	kPa	3.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

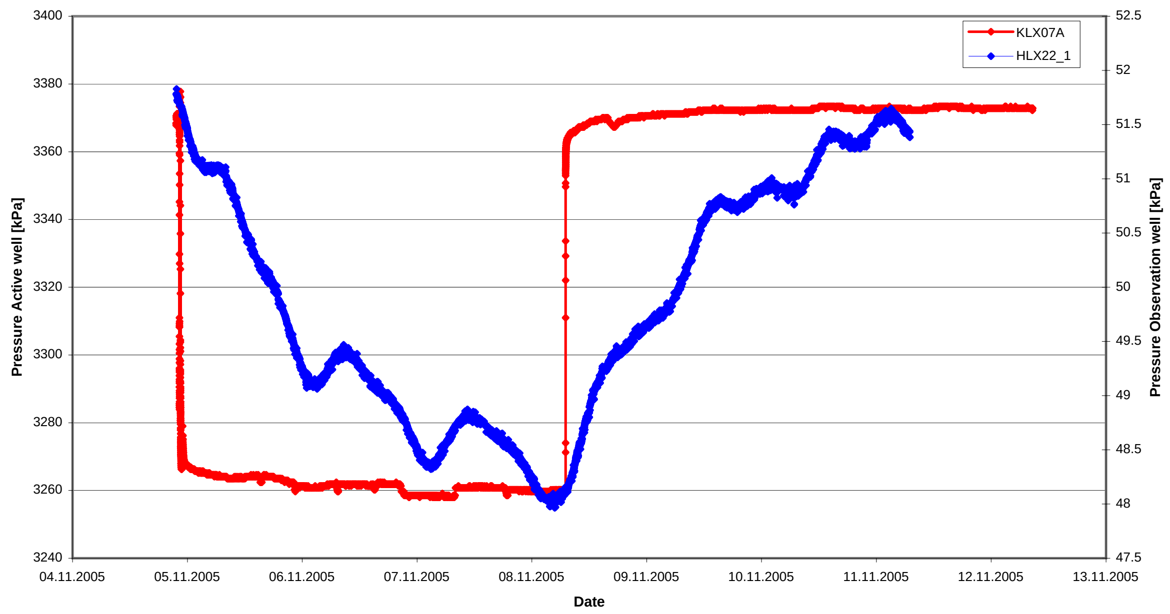
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **1215.14**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **7509.59**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX22	Section no.:	HLX22_2
		Section length:	9.19-85.00
Distance r_s [m]:	500.00	max. Drawdown s_p [m]:*	0.20
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	38.5
Pressure in test section before stop of flowing:	p_p	kPa	36.5
Maximum pressure change during flowing period:*	dp_p	kPa	2.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

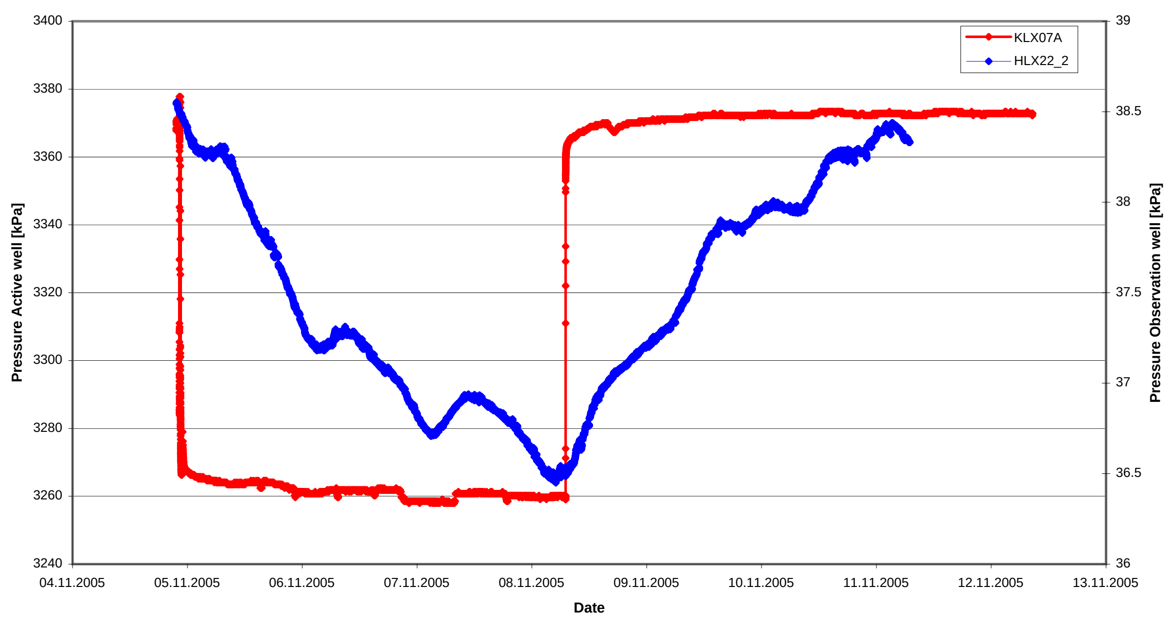
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **675.08**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **4195.35**

* see comment

Comment: response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects); no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX23	Section no.:	HLX23_1
		Section length:	61.00-160.20
Distance r_s [m]:	429.24	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.5
Pressure in test section before stop of flowing:	p_p	kPa	98.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

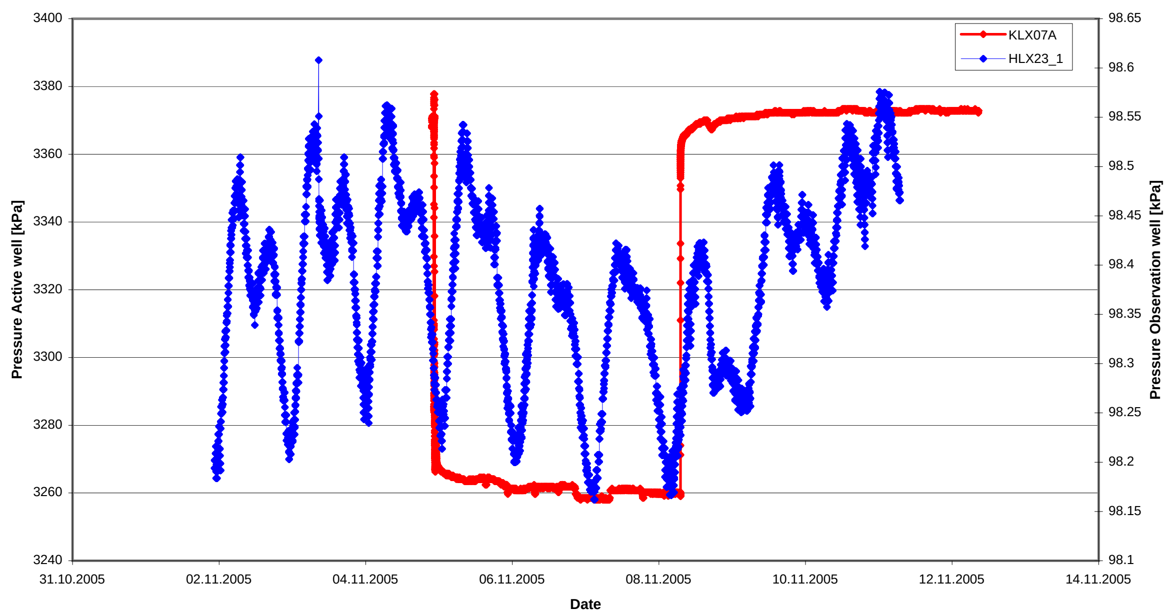
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX23	Section no.:	HLX23_2
		Section length:	6.10-60.00
Distance r_s [m]:	438.38	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	96.5
Pressure in test section before stop of flowing:	p_p	kPa	96.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

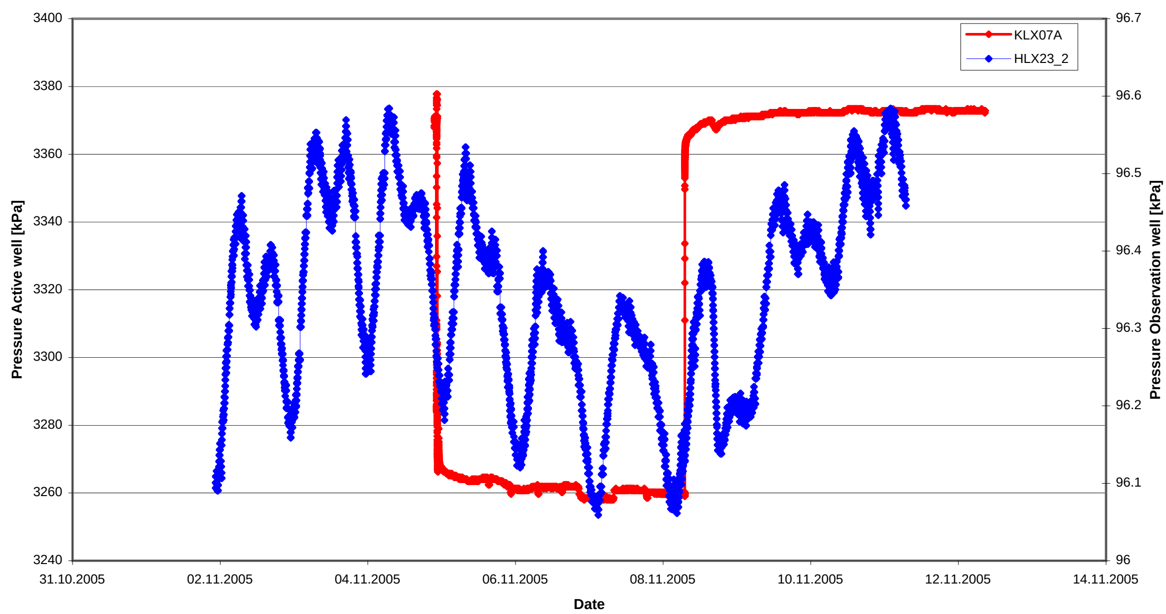
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 ($s_p < 0.1$ m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX24	Section no.:	HLX24_1
		Section length:	41.00-175.20
Distance r_s [m]:	428.99	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.7
Pressure in test section before stop of flowing:	p_p	kPa	98.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

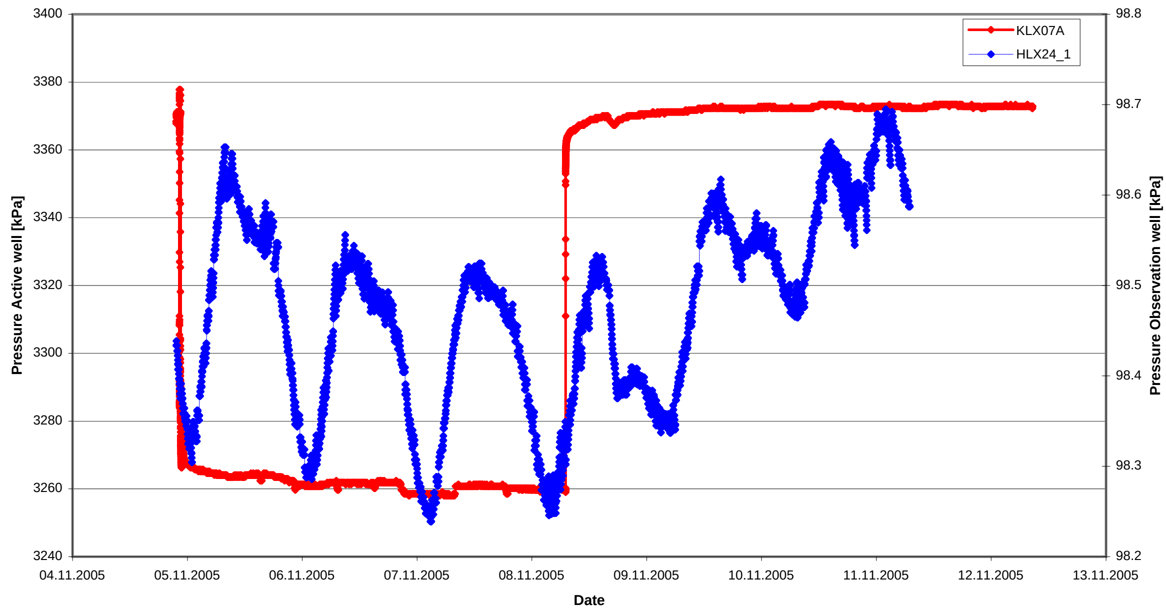
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX24	Section no.:	HLX24_2
		Section length:	9.10-40.00
Distance r_s [m]:	471.05	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	99.9
Pressure in test section before stop of flowing:	p_p	kPa	100.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

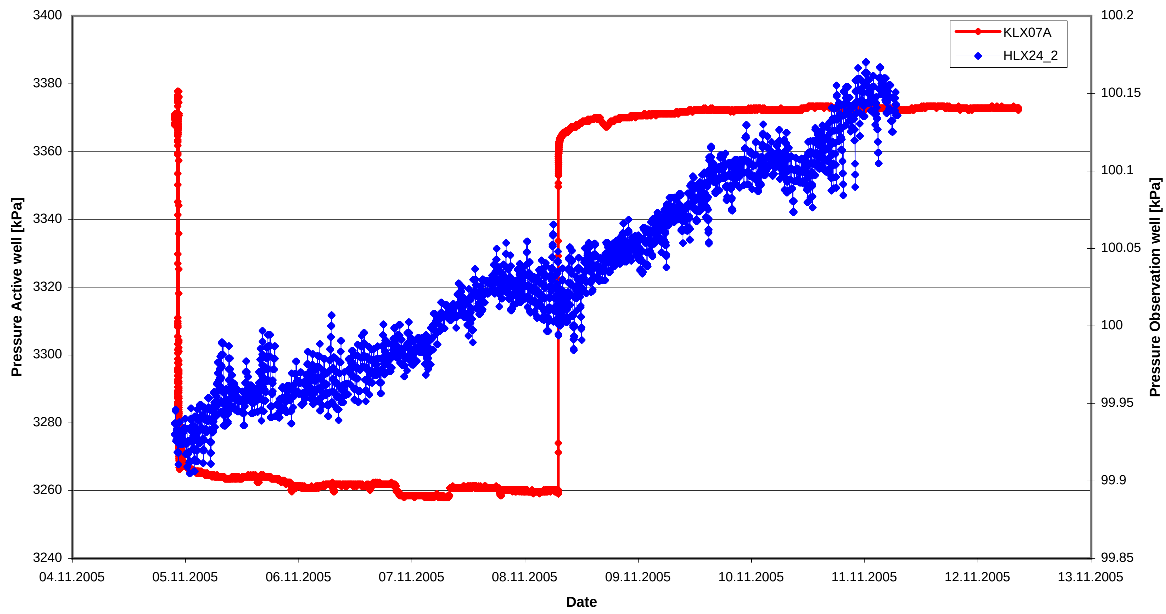
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX25	Section no.:	HLX25_1
		Section length:	61.00-202.50
Distance r_s [m]:	1492.02	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	110.9
Pressure in test section before stop of flowing:	p_p	kPa	111.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

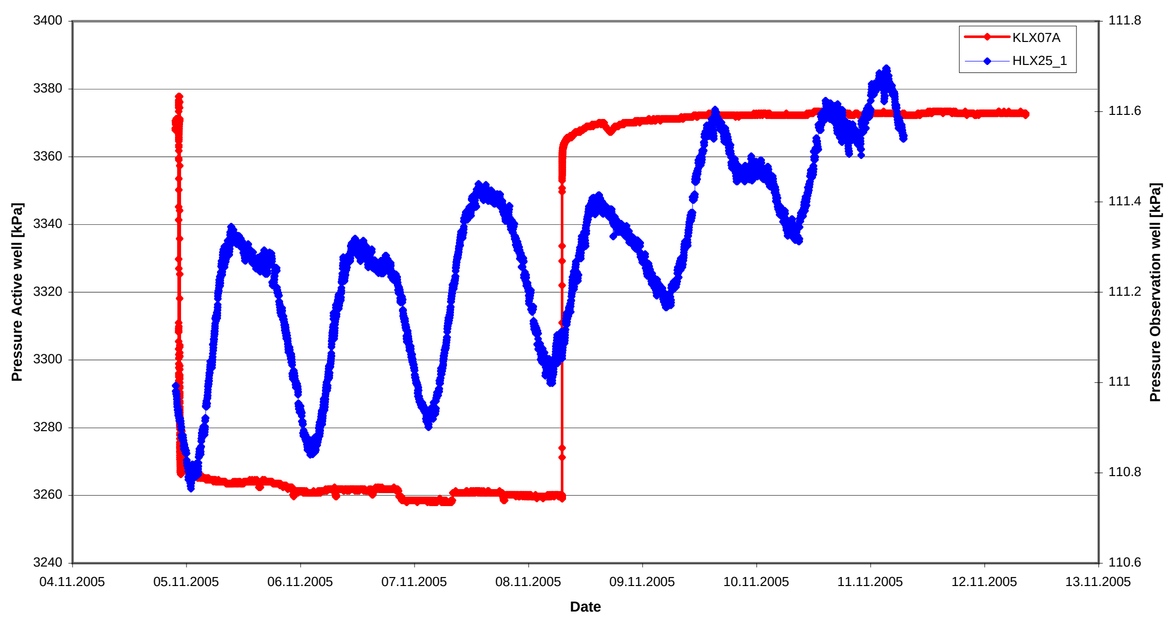
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX25	Section no.:	HLX25_2
		Section length:	6.12-60.00
Distance r_s [m]:	1499.84	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.1
Pressure in test section before stop of flowing:	p_p	kPa	111.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

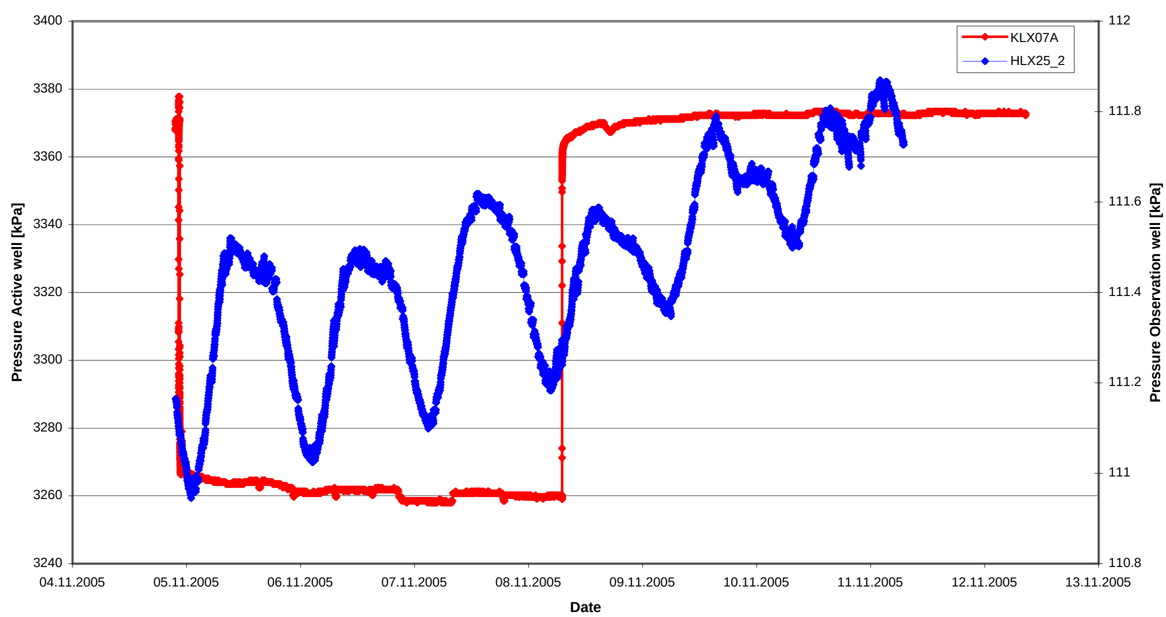
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX30	Section no.:	HLX30_1
		Section length:	101.00-163.40
Distance r_s [m]:	1198.56	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.7
Pressure in test section before stop of flowing:	p_p	kPa	106.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

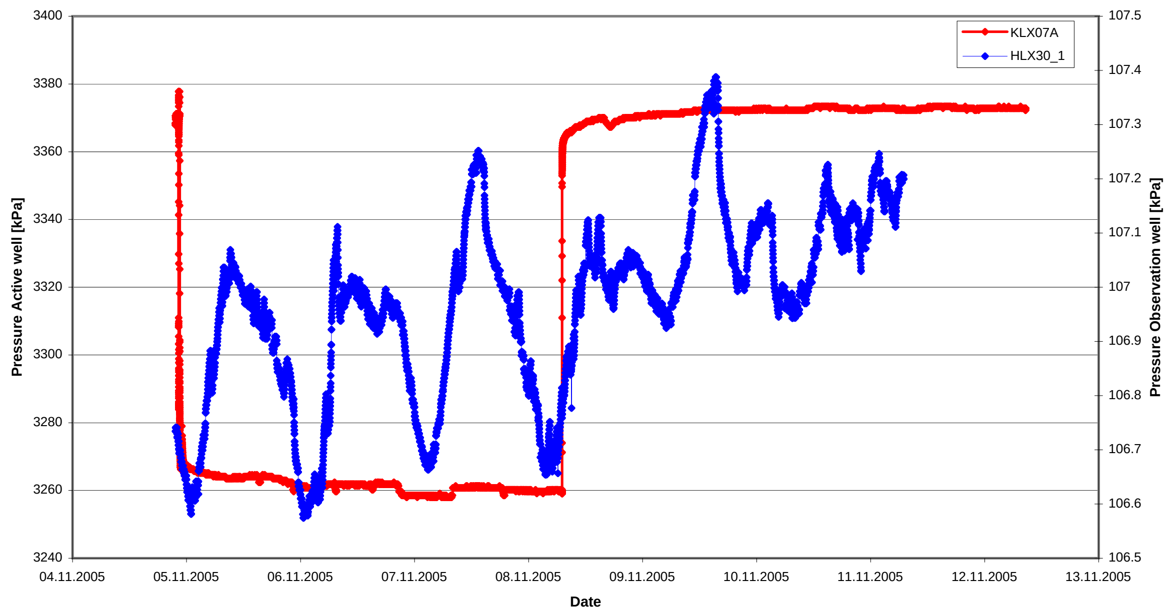
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX30	Section no.:	HLX30_2
		Section length:	9.10-100.00
Distance r_s [m]:	1222.22	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.3
Pressure in test section before stop of flowing:	p_p	kPa	106.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

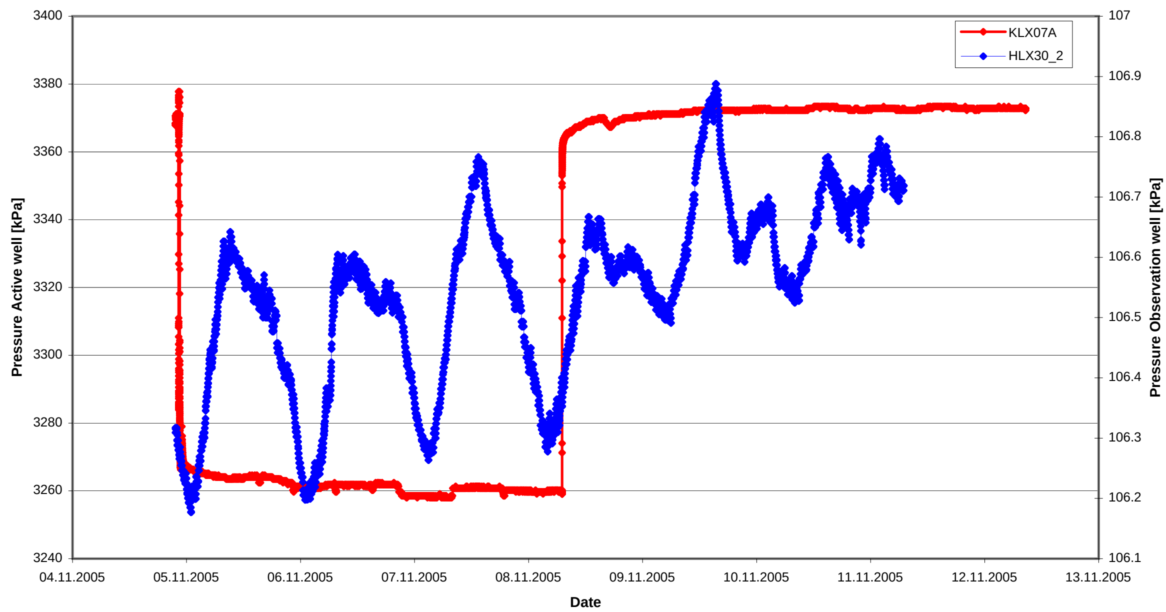
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX31	Section no.:	HLX31_1
		Section length:	9.10-133.20
Distance r_s [m]:	1154.65	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.8
Pressure in test section before stop of flowing:	p_p	kPa	106.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

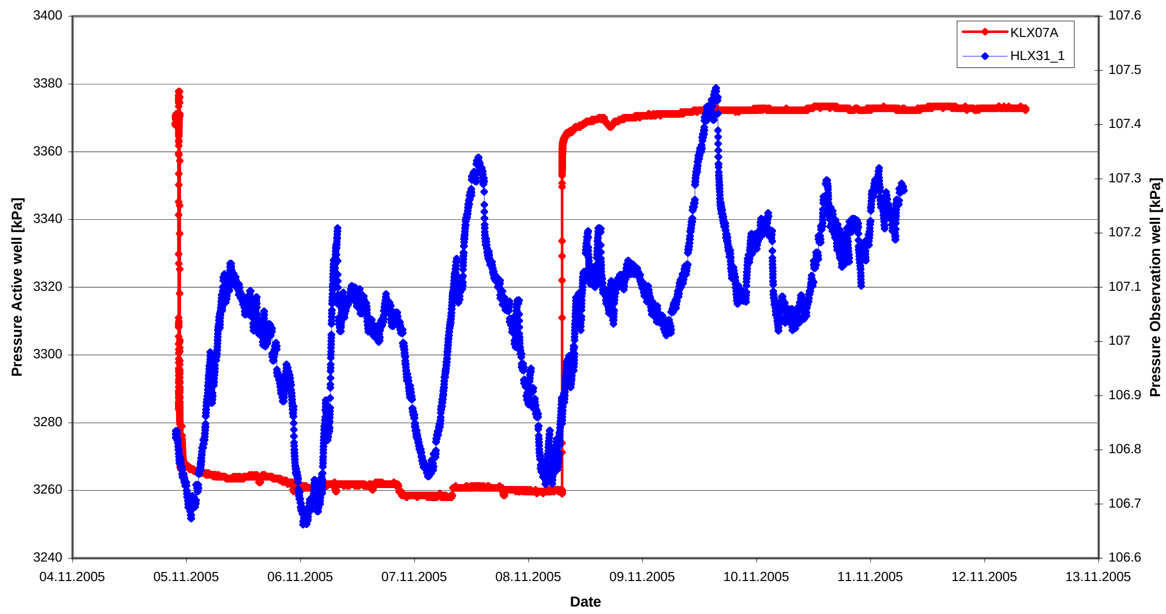
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX33	Section no.:	HLX33_1
		Section length:	31.00-202.10
Distance r_s [m]:	658.23	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.6
Pressure in test section before stop of flowing:	p_p	kPa	100.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

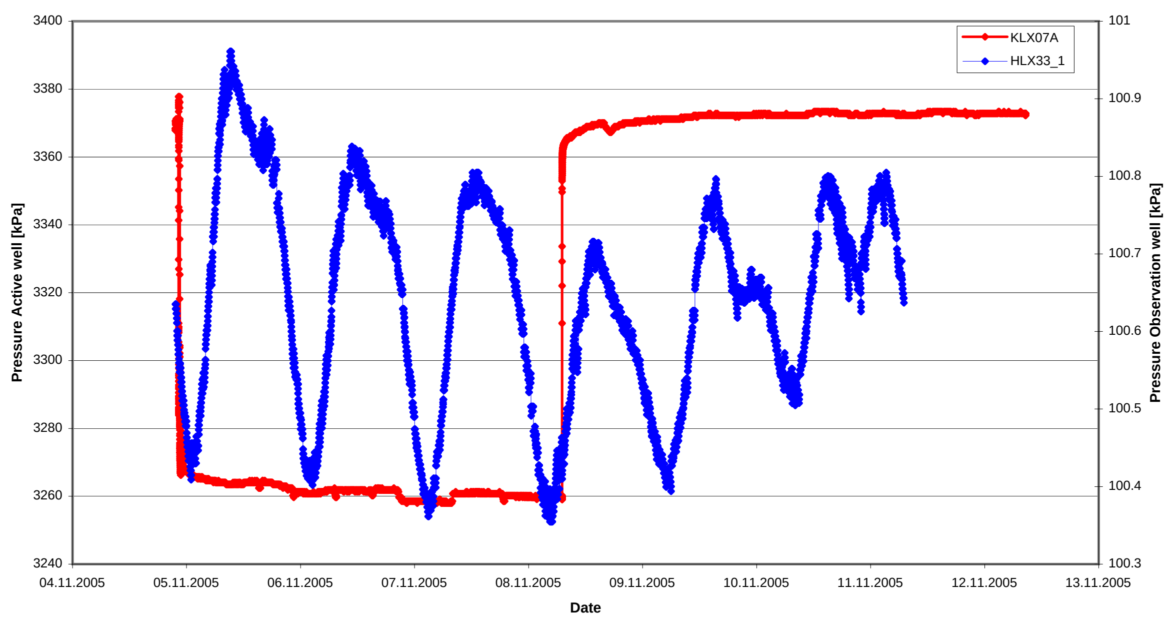
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX33	Section no.:	HLX33_2
		Section length:	9.10-30.00
Distance r_s [m]:	726.43	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.4
Pressure in test section before stop of flowing:	p_p	kPa	100.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

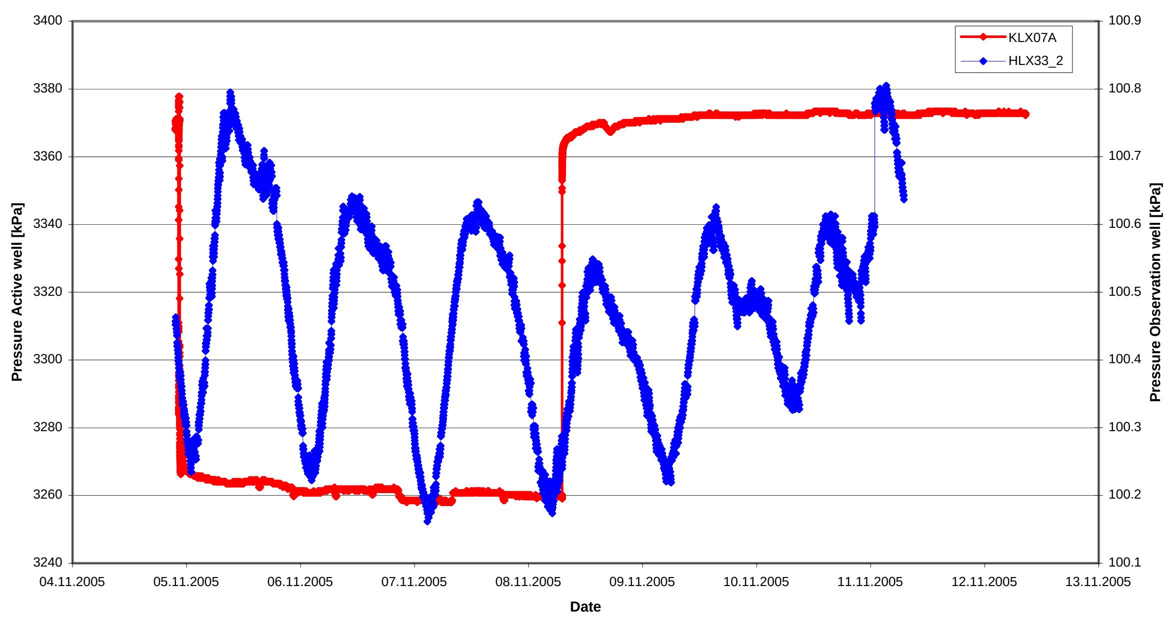
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX34	Section no.:	HLX34_1
		Section length:	9.00-151.80
Distance r_s [m]:	1879.72	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	133.7
Pressure in test section before stop of flowing:	p_p	kPa	133.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

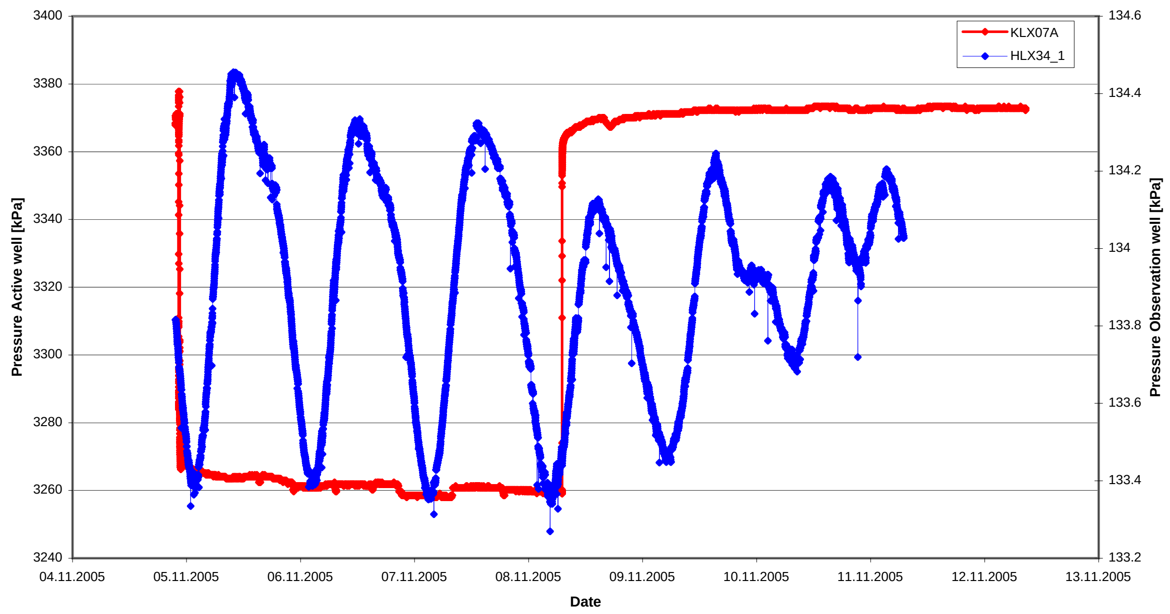
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX35	Section no.:	HLX35_1
		Section length:	65.00-151.50
Distance r_s [m]:	1864.73	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	132.4
Pressure in test section before stop of flowing:	p_p	kPa	132.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

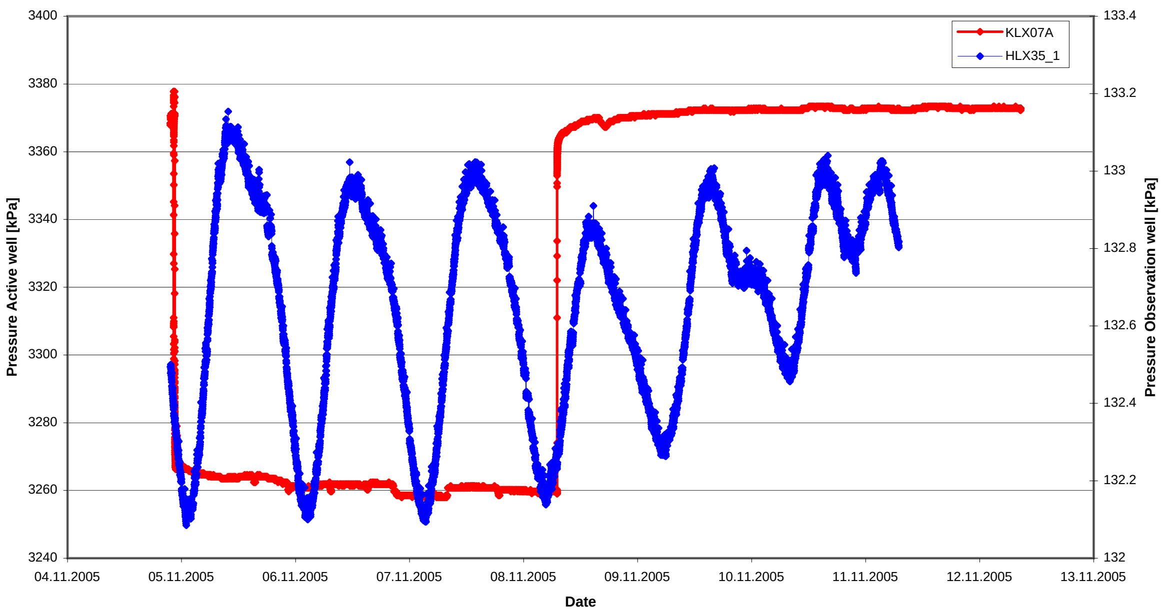
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	HLX35	Section no.:	HLX35_2
		Section length:	6.00-64.00
Distance r_s [m]:	1931.18	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	113.8
Pressure in test section before stop of flowing:	p_p	kPa	113.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

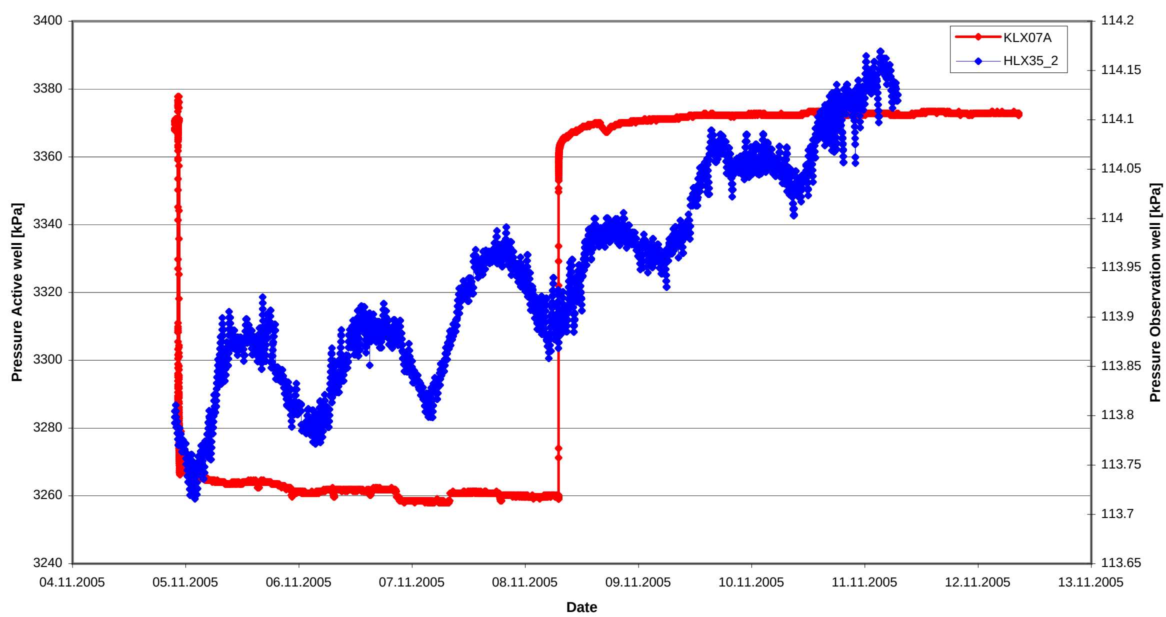
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX01	Section no.:	KLX01_1
		Section length:	705.00-1077.99
Distance r_s [m]:	1368.18	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	-19.1
Pressure in test section before stop of flowing:	p_p	kPa	-19.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

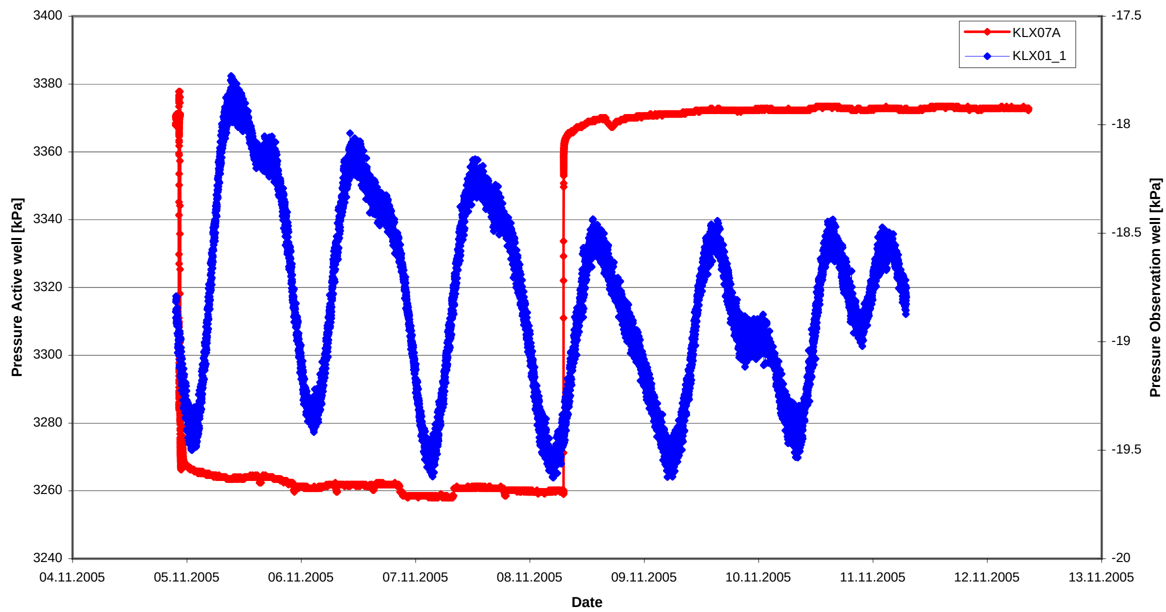
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX01	Section no.:	KLX01_2
		Section length:	191.00-704.00
Distance r_s [m]:	1226.61	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	54.0
Pressure in test section before stop of flowing:	p_p	kPa	53.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

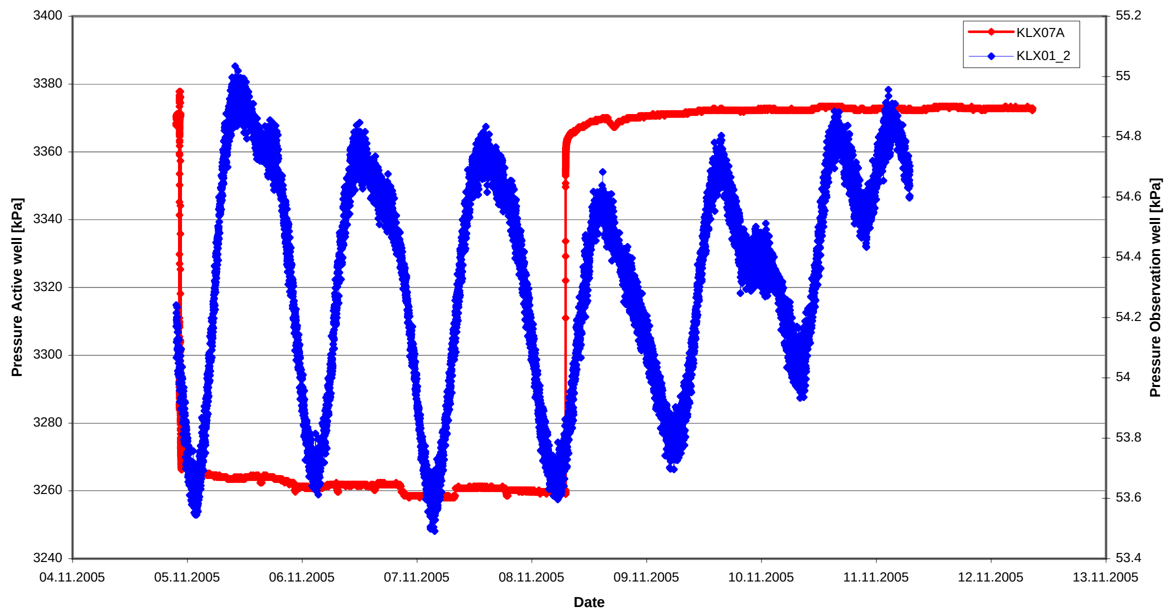
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX01	Section no.:	KLX01_3
		Section length:	171.00-190.00
Distance r_s [m]:	1213.05	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.7
Pressure in test section before stop of flowing:	p_p	kPa	64.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

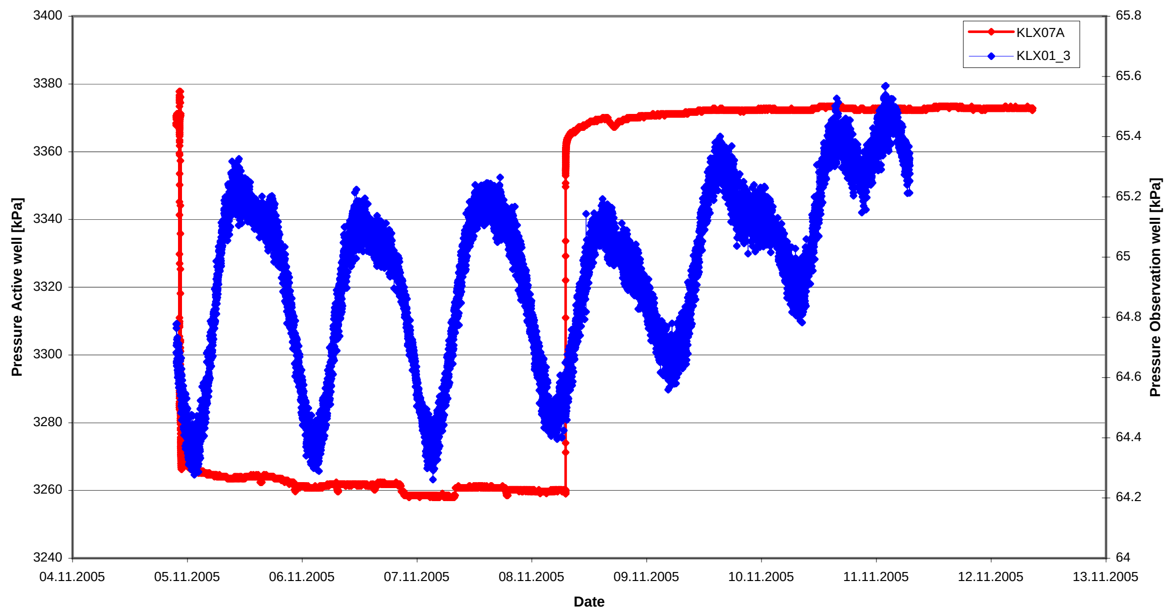
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045			
Pumping Hole:	KLX07A	Pumping Section [m bToC]:		335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:		12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:		08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04			

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX01	Section no.:	KLX01_4
		Section length:	1.00-170.00
Distance r_s [m]:	1222.04	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	139.8
Pressure in test section before stop of flowing:	p_p	kPa	140.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

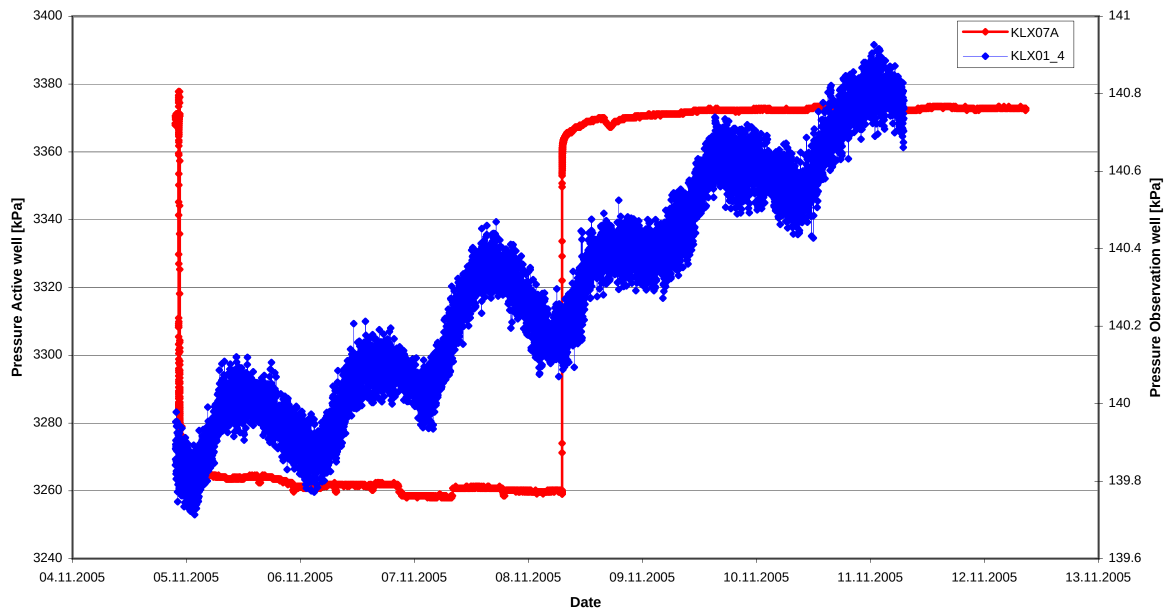
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_1
		Section length:	1165.00-1700.00
Distance r_s [m]:	1199.67	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	75.4
Pressure in test section before stop of flowing:	p_p	kPa	75.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

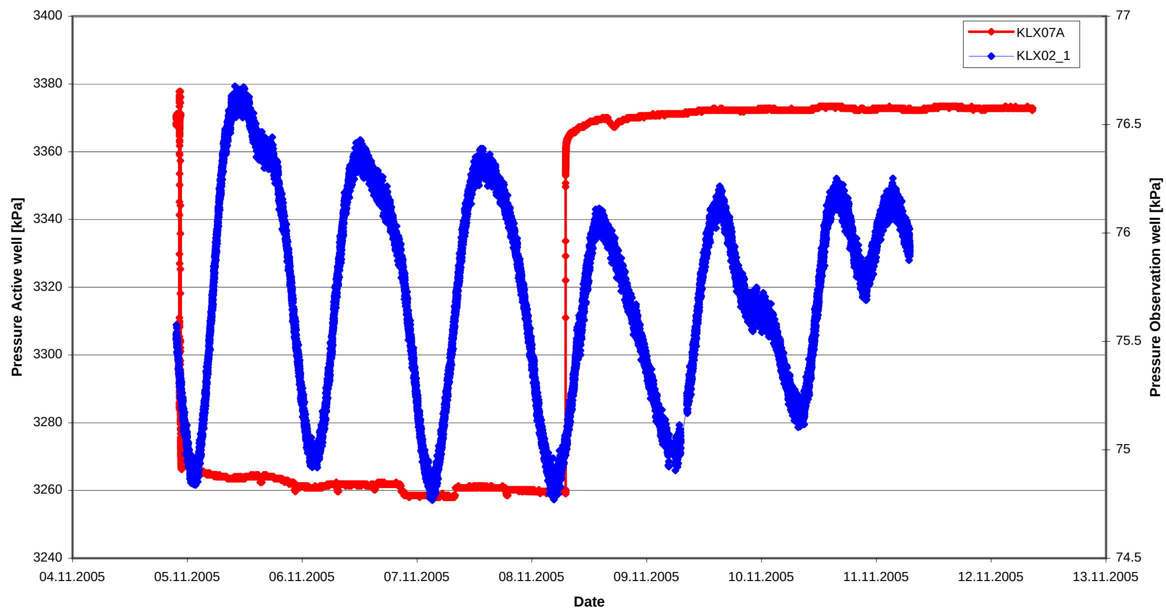
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_2
		Section length:	1145.00-1164.00
Distance r_s [m]:	931.10	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	58.4
Pressure in test section before stop of flowing:	p_p	kPa	58.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

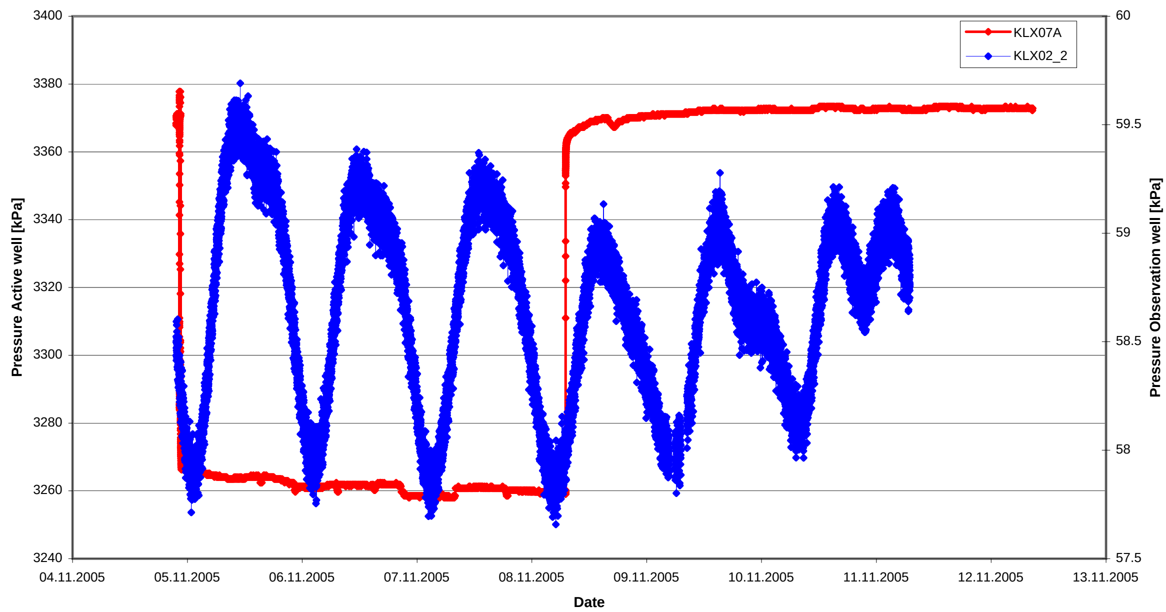
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_3
		Section length:	718.00-1144.00
Distance r_s [m]:	721.66	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	36.5
Pressure in test section before stop of flowing:	p_p	kPa	36.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

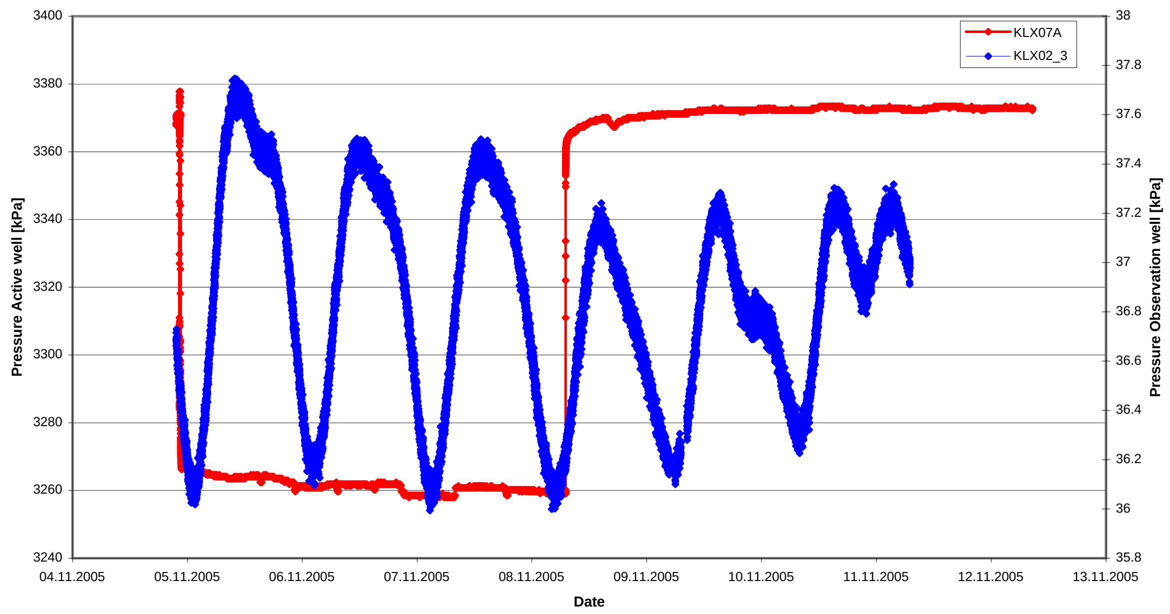
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_4
		Section length:	495.00-717.00
Distance r_s [m]:	443.26	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	49.4
Pressure in test section before stop of flowing:	p_p	kPa	49.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

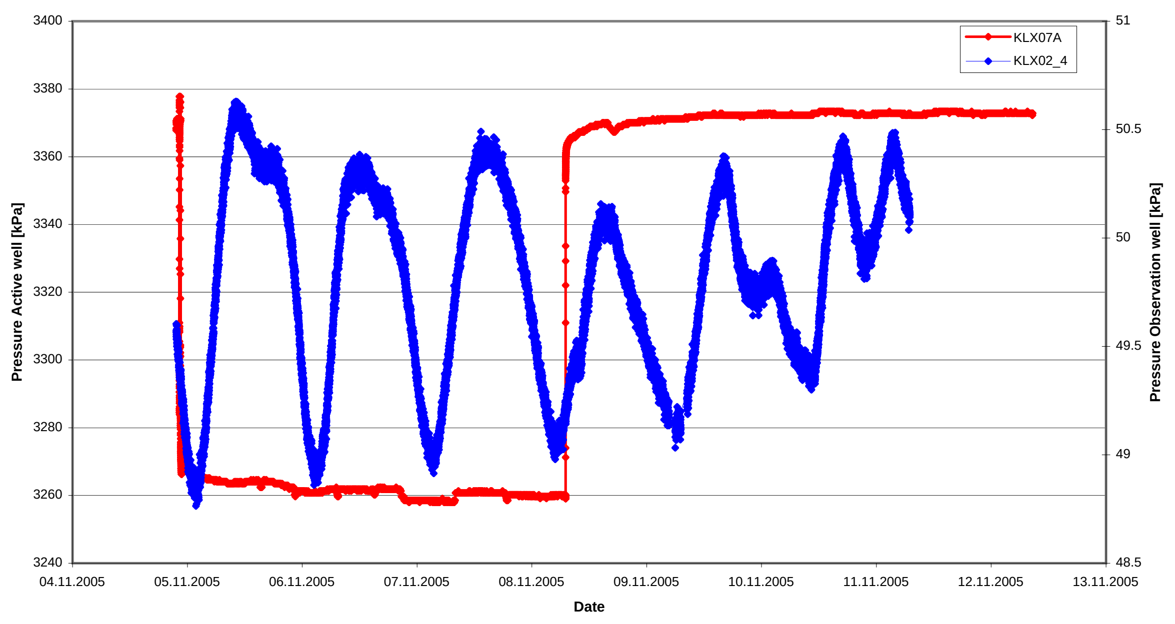
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_5
		Section length:	452.00-494.00
Distance r_s [m]:	353.61	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.2
Pressure in test section before stop of flowing:	p_p	kPa	55.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

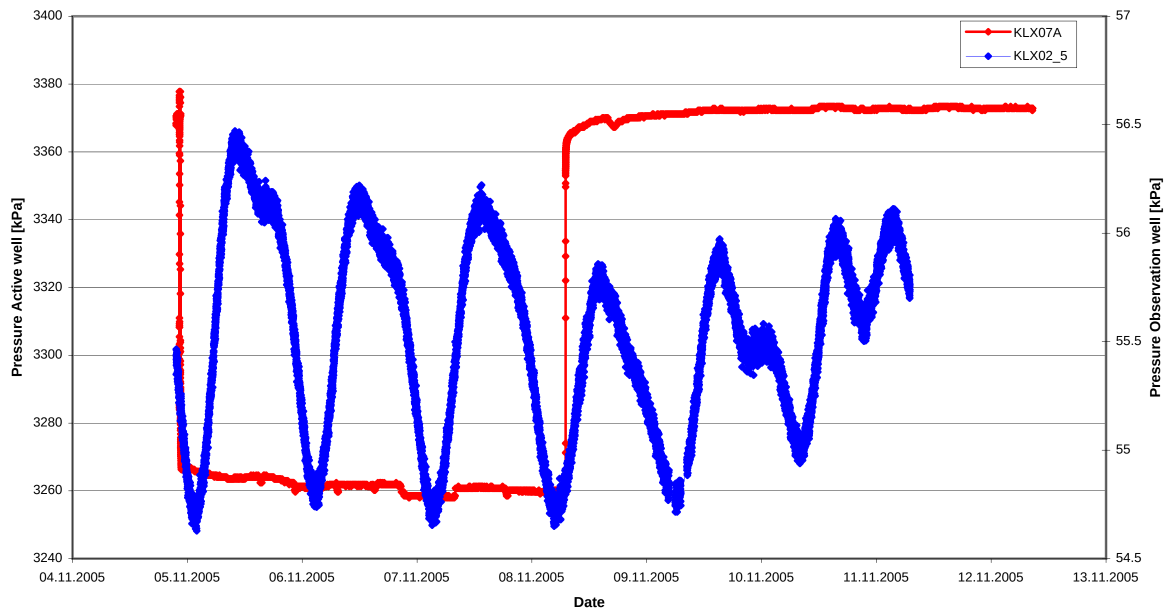
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_6
		Section length:	348.00-451.00
Distance r_s [m]:	317.84	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	57.8
Pressure in test section before stop of flowing:	p_p	kPa	57.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

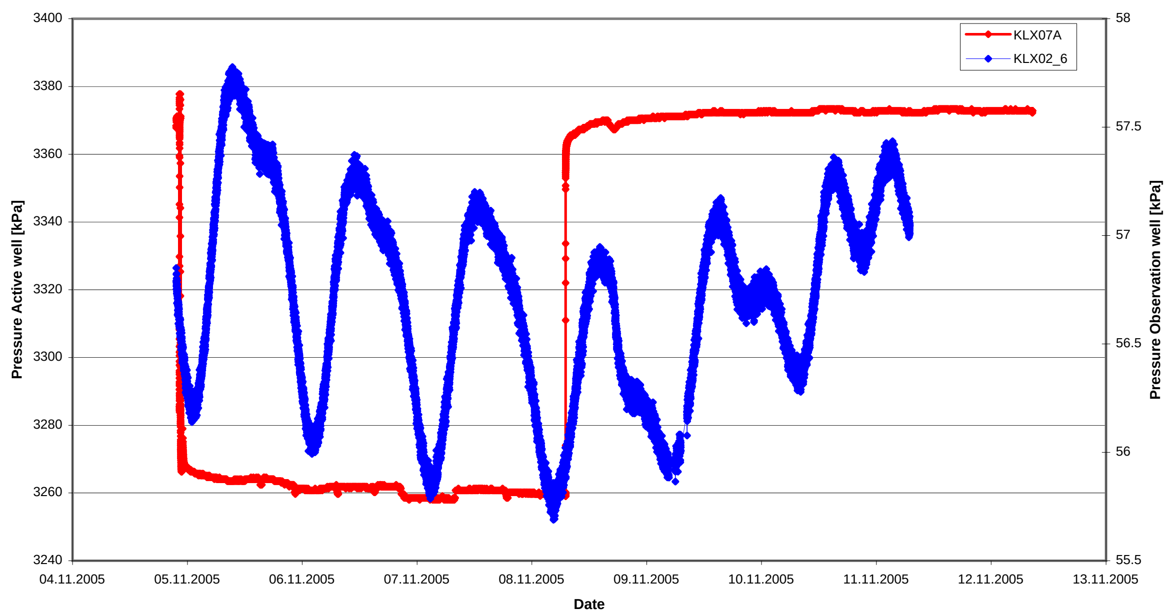
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: response due to pumping in source (analysis performed)
no response according to SKB MD 330.003 (s_p < 0.1 m)
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_7
		Section length:	209.00-347.00
Distance r_s [m]:	293.03	max. Drawdown s_p [m]:*	0.15
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	60.8
Pressure in test section before stop of flowing:	p_p	kPa	59.3
Maximum pressure change during flowing period:*	dp_p	kPa	1.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

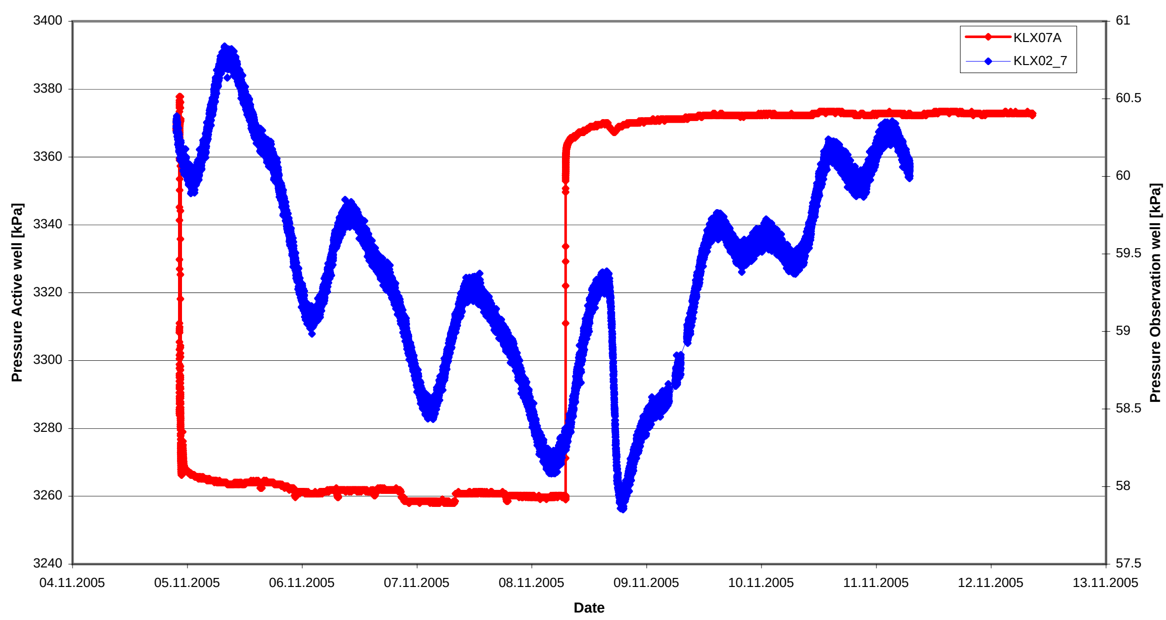
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **506.31**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2875.97**

* see comment

Comment: response due to pumping in source
pressure changes mainly influenced by natural fluctuations (e.g. tidal effects)
no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX02	Section no.:	KLX02_8
		Section length:	202.95-208.00
Distance r_s [m]:	301.92	max. Drawdown s_p [m]:*	0.11
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	75.9
Pressure in test section before stop of flowing:	p_p	kPa	74.8
Maximum pressure change during flowing period:*	dp_p	kPa	1.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

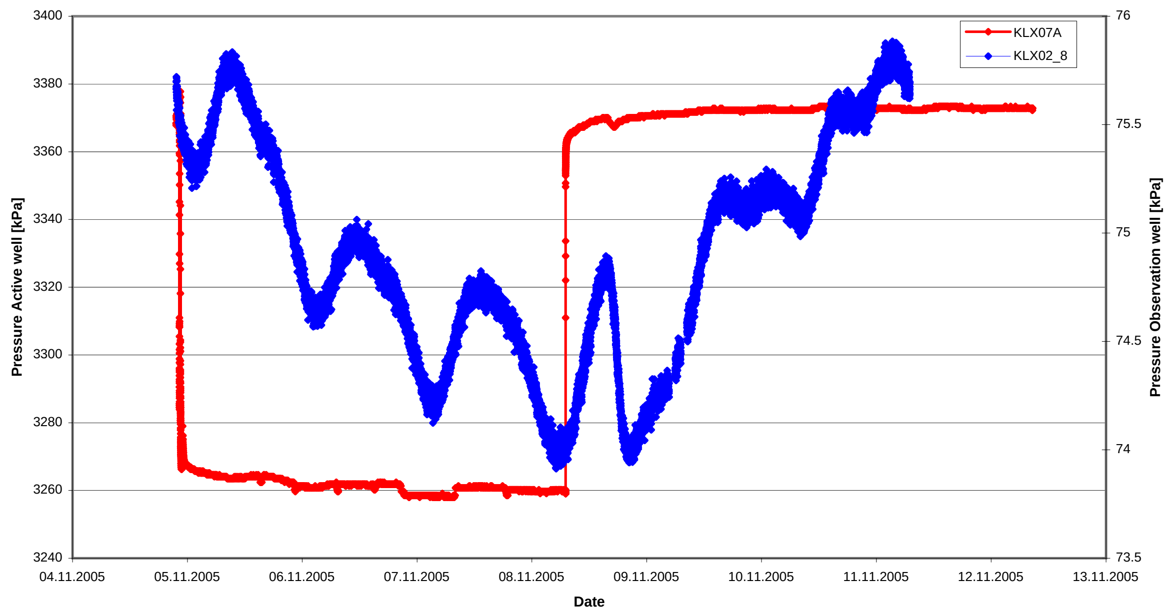
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **371.29**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **2120.14**

* see comment

Comment: response due to pumping in source
pressure changes mainly influenced by natural fluctuations (e.g. tidal effects)
no index 1 calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_1
		Section length:	898.00-1000.00
Distance r_s [m]:	1367.48	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	103.9
Pressure in test section before stop of flowing:	p_p	kPa	103.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

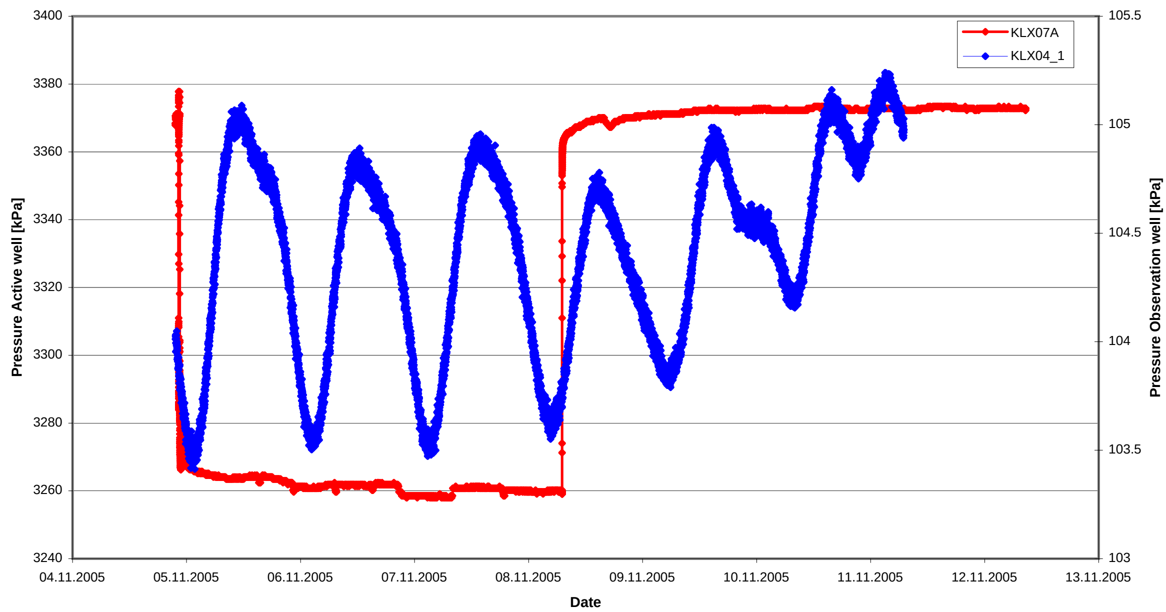
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_2
		Section length:	870.00-897.00
Distance r_s [m]:	1341.80	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	102.1
Pressure in test section before stop of flowing:	p_p	kPa	101.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

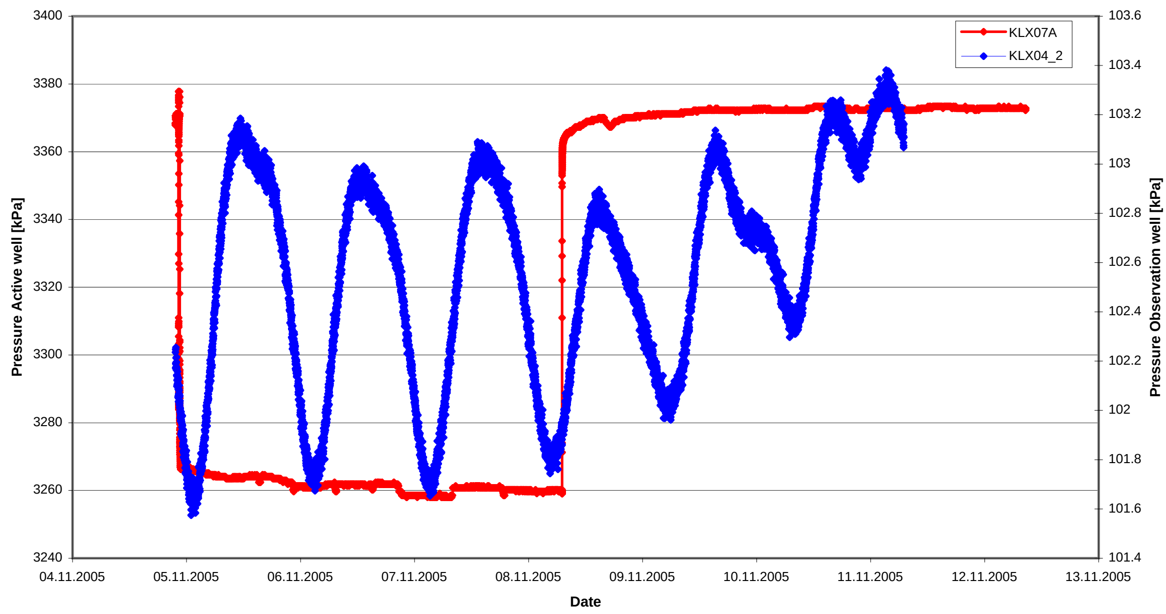
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_3
		Section length:	686.00-869.00
Distance r_s [m]:	1304.87	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	112.6
Pressure in test section before stop of flowing:	p_p	kPa	112.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

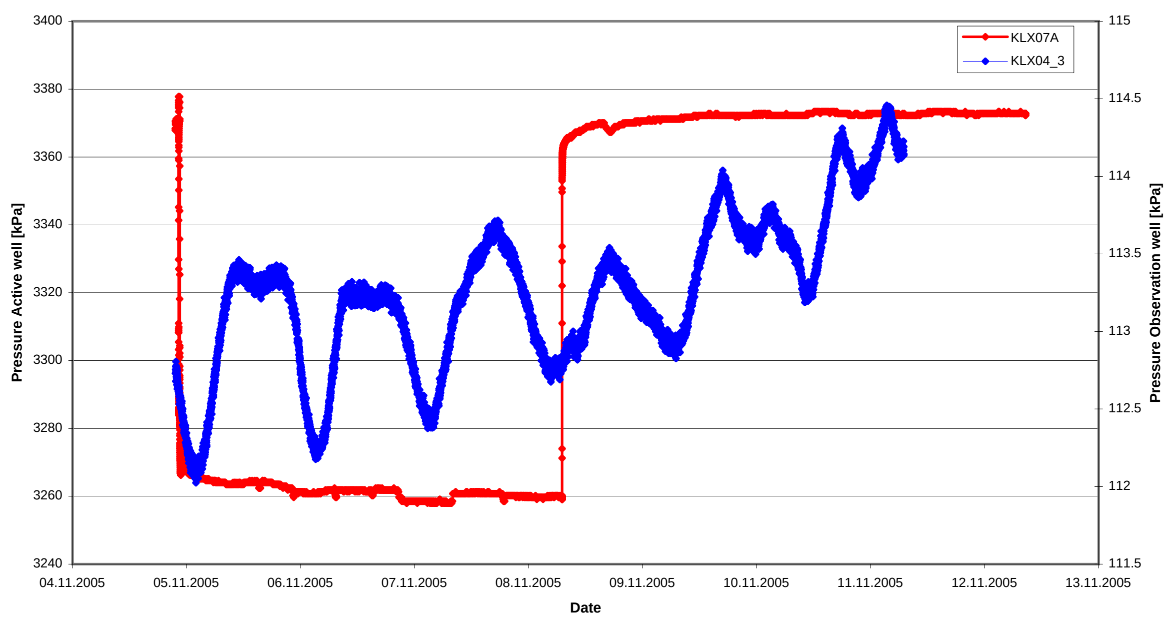
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_4
		Section length:	531.00-685.00
Distance r_s [m]:	1258.31	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.8
Pressure in test section before stop of flowing:	p_p	kPa	112.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

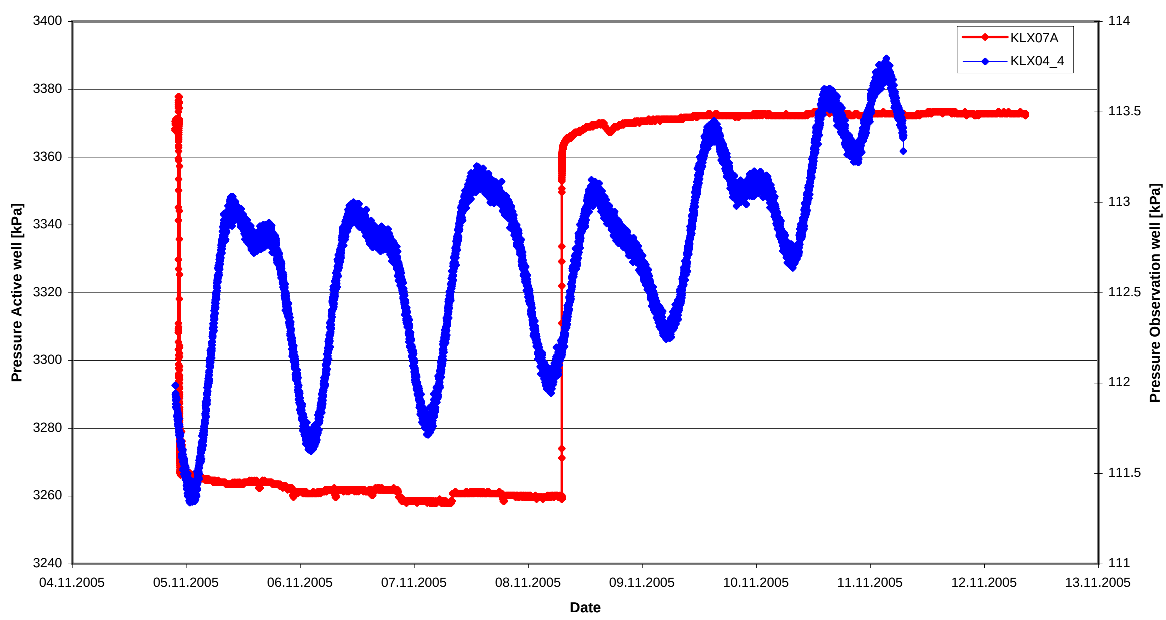
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_5
		Section length:	507.00-530.00
Distance r_s [m]:	1241.13	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.7
Pressure in test section before stop of flowing:	p_p	kPa	114.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

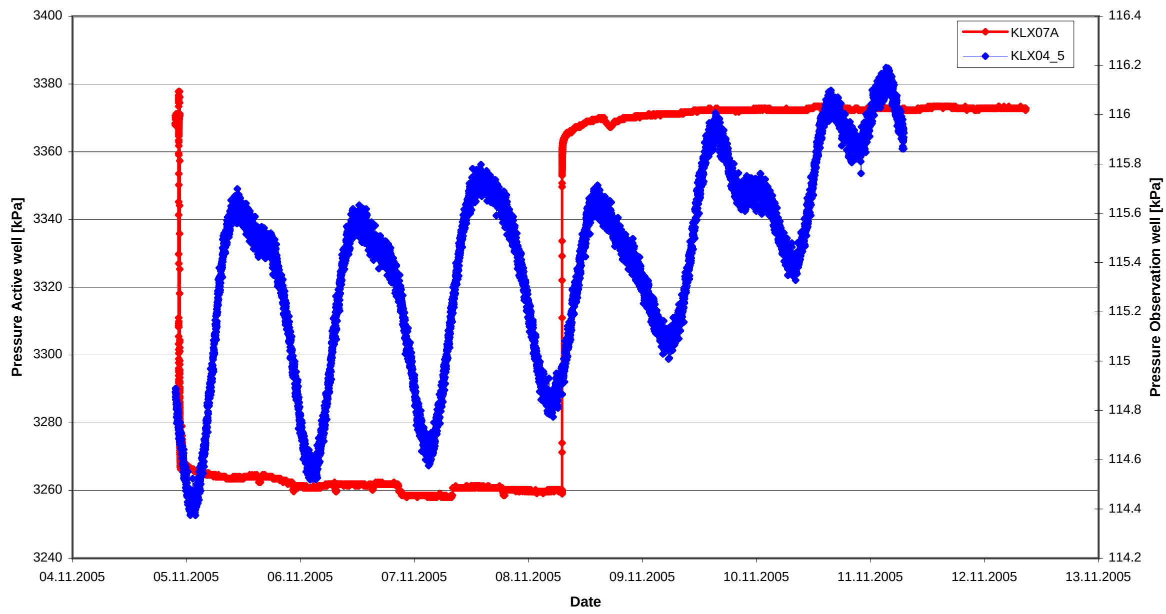
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_6
		Section length:	231.00-506.00
Distance r_s [m]:	1224.52	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	112.8
Pressure in test section before stop of flowing:	p_p	kPa	113.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

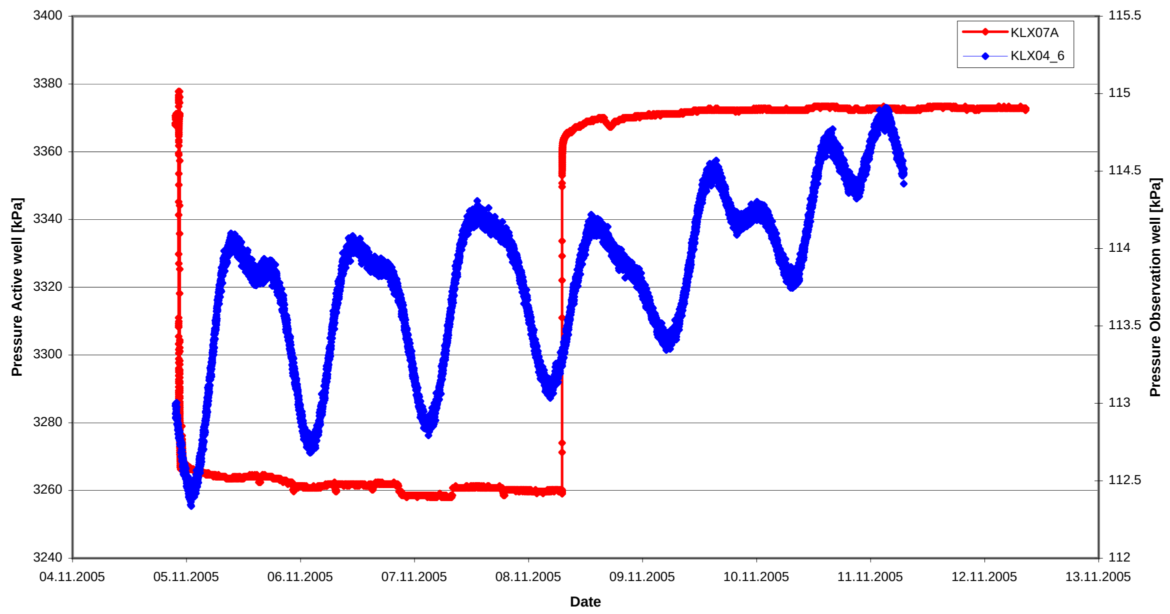
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_7
		Section length:	163.00-230.00
Distance r_s [m]:	1224.05	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.2
Pressure in test section before stop of flowing:	p_p	kPa	115.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

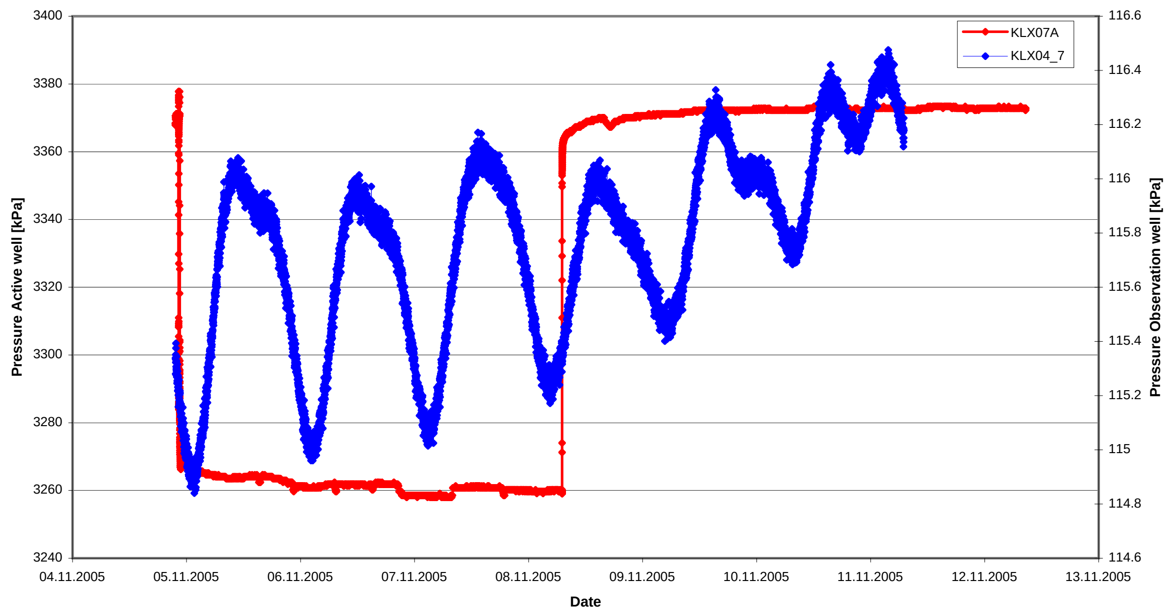
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_8
		Section length:	12.24-162.00
Distance r_s [m]:	1234.59	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	119.4
Pressure in test section before stop of flowing:	p_p	kPa	119.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

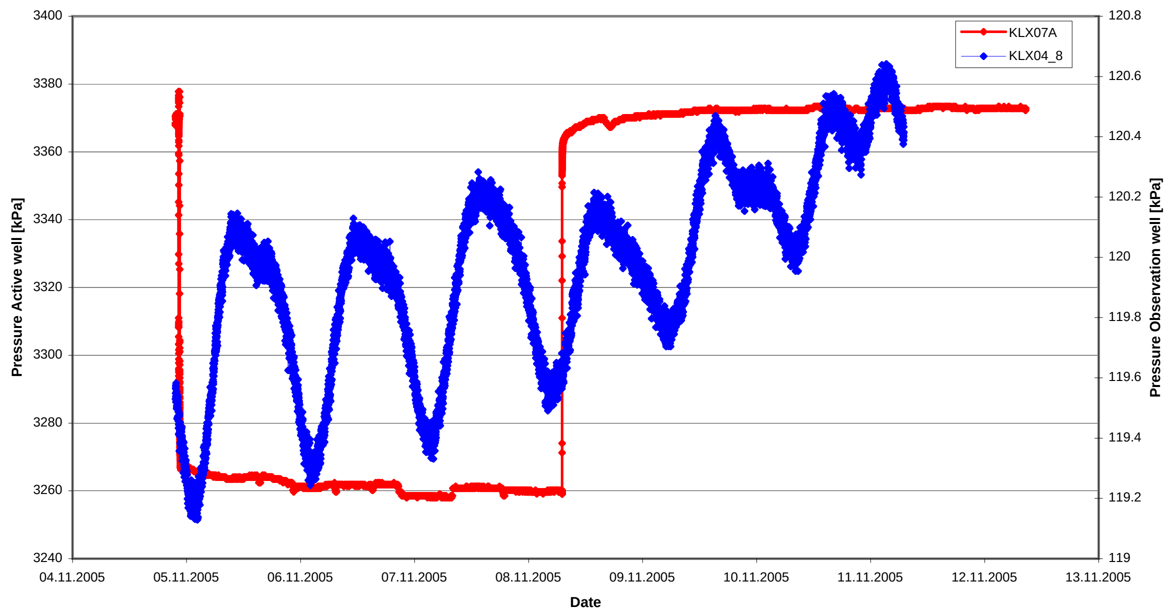
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_1
		Section length:	112.00-200.00
Distance r_s [m]:	280.96	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	2238		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.7
Pressure in test section before stop of flowing:	p_p	kPa	63.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **35.27**

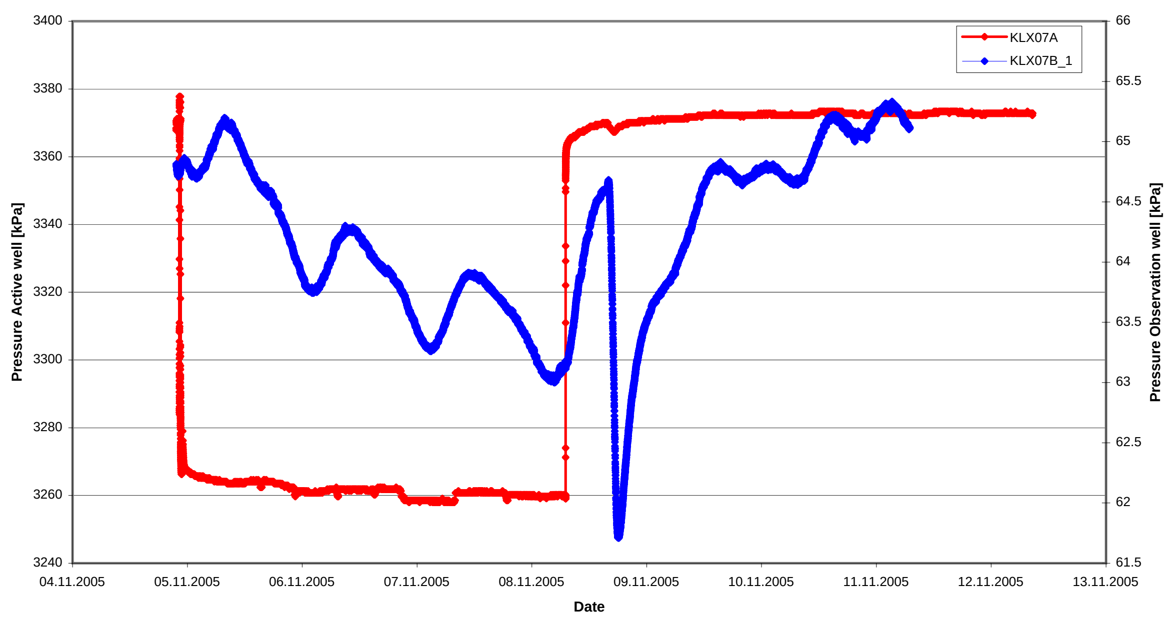
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **540.06**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3044.99**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_2
		Section length:	49.00-111.00
Distance r_s [m]:	332.03	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	1852		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	63.9
Pressure in test section before stop of flowing:	p_p	kPa	62.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **59.53**

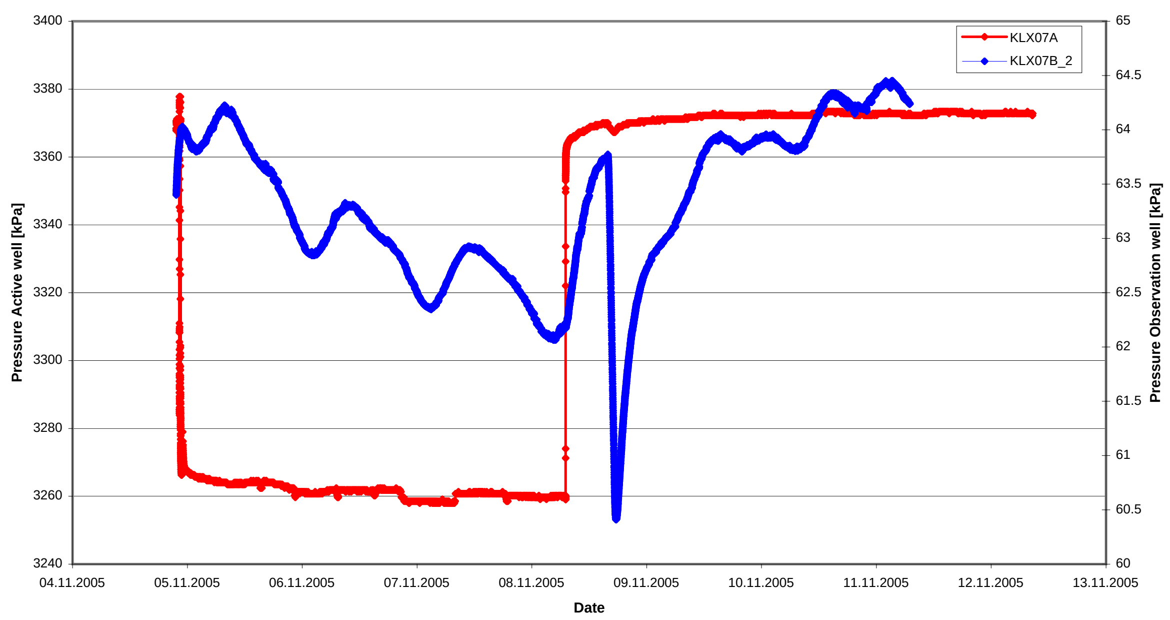
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **573.82**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3331.13**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



Activityplan No.	AP PS 400-05-045			
Pumping Hole:	KLX07A	Pumping Section [m bToC]:		335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:		12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:		08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04			

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_3
		Section length:	0.00-48.00
Distance r_s [m]:	375.09	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	1165		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.6
Pressure in test section before stop of flowing:	p_p	kPa	63.0
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **120.77**

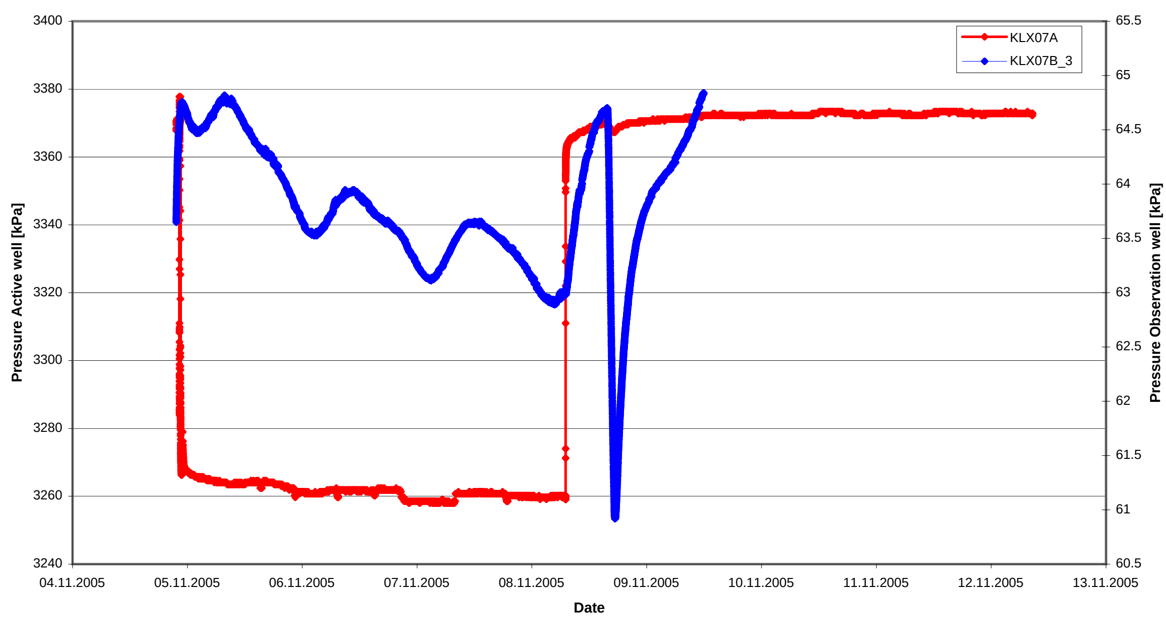
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **540.06**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **3201.04**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



APPENDIX 6-4

Index calculation

KLX07A Section 610.00-655.00 m pumped

Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX01	Section no.:	HLX01_1
		Section length:	16.00-100.63
Distance r_s [m]:	1120.93	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.8
Pressure in test section before stop of flowing:	p_p	kPa	62.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

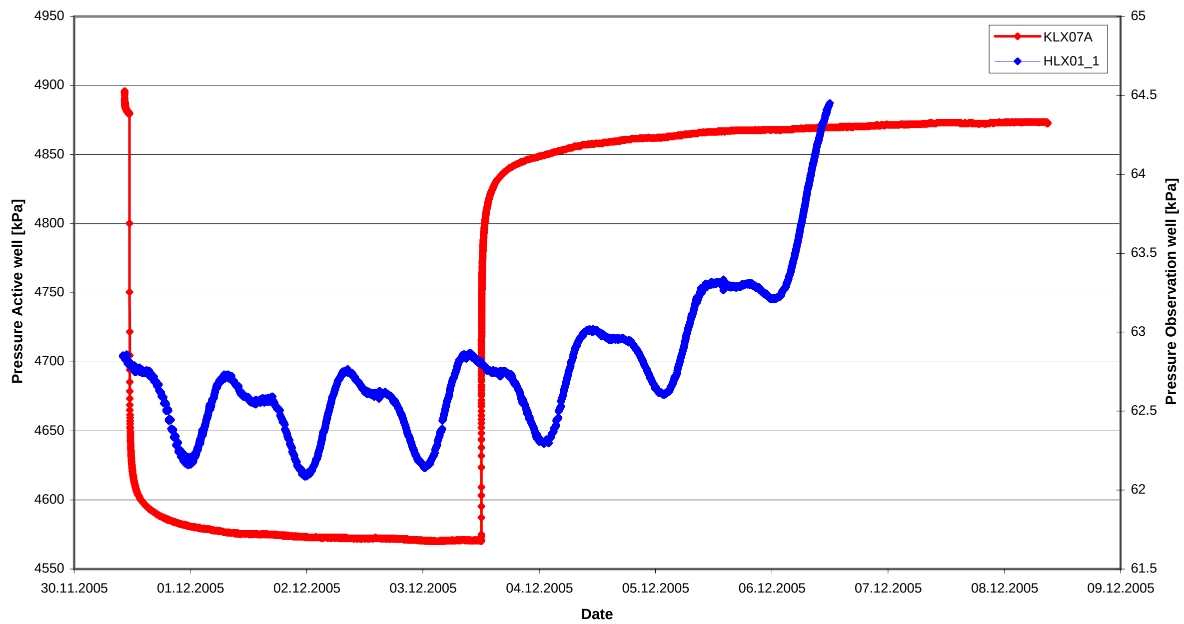
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX02	Section no.:	HLX02_1
		Section length:	0.6-132.00
Distance r_s [m]:	1959.89	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	46.1
Pressure in test section before stop of flowing:	p_p	kPa	45.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

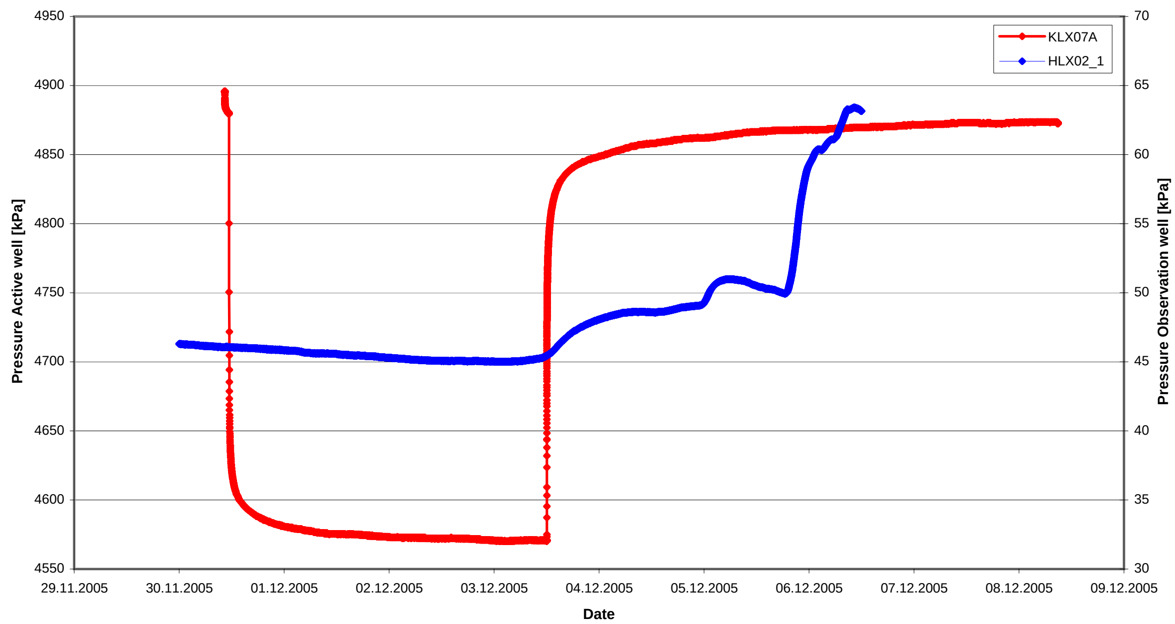
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX06	Section no.:	HLX06_1
		Section length:	1.00-100.00
Distance r_s [m]:	1057.69	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	78.0
Pressure in test section before stop of flowing:	p_p	kPa	77.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

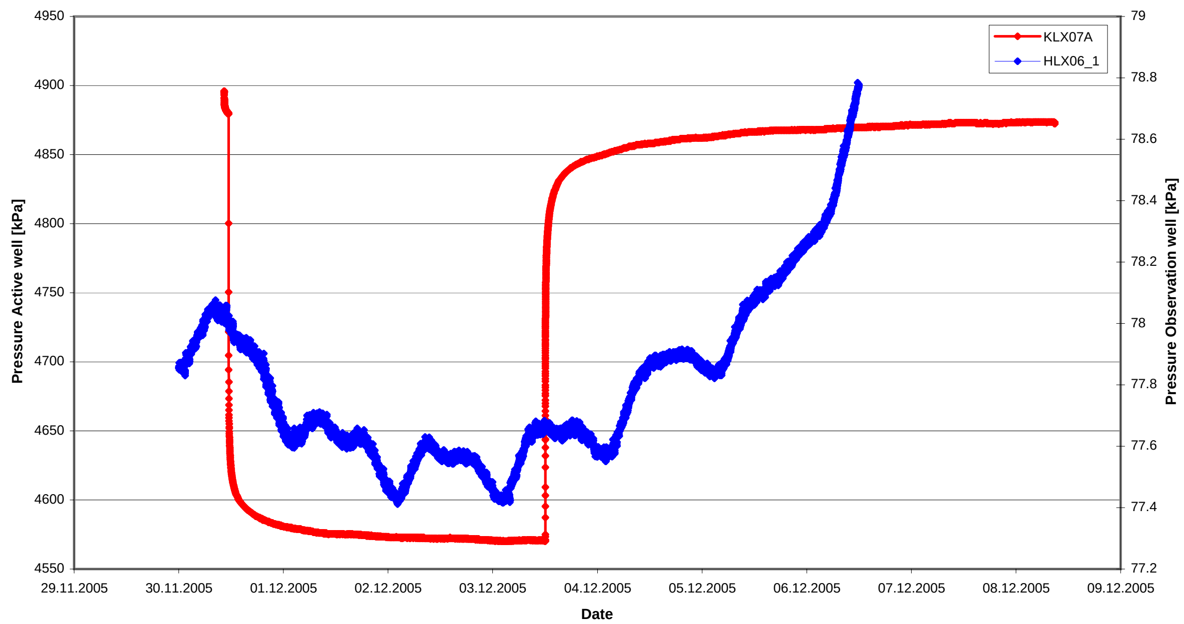
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX07	Section no.:	HLX07_1
		Section length:	16.00-100.00
Distance r_s [m]:	1218.57	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.6
Pressure in test section before stop of flowing:	p_p	kPa	55.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

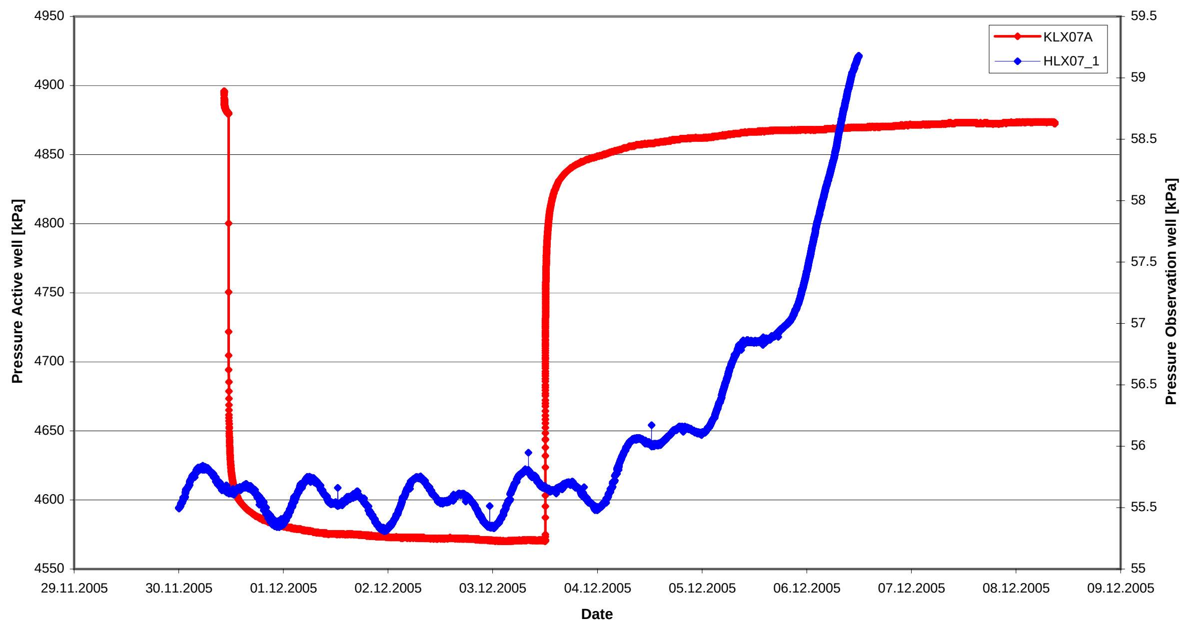
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX10	Section no.:	HLX10_1
		Section length:	3.00-85.00
Distance r_s [m]:	492.34	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.5
Pressure in test section before stop of flowing:	p_p	kPa	50.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

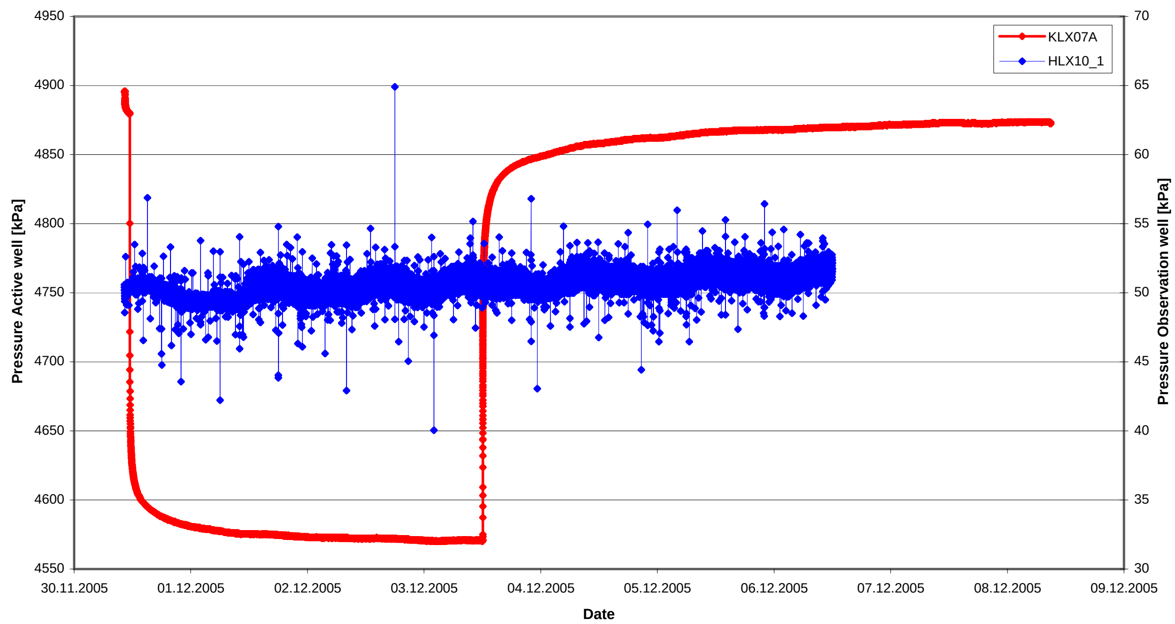
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX11	Section no.:	HLX11_1
		Section length:	17.00-70.00
Distance r_s [m]:	543.34	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.5
Pressure in test section before stop of flowing:	p_p	kPa	63.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

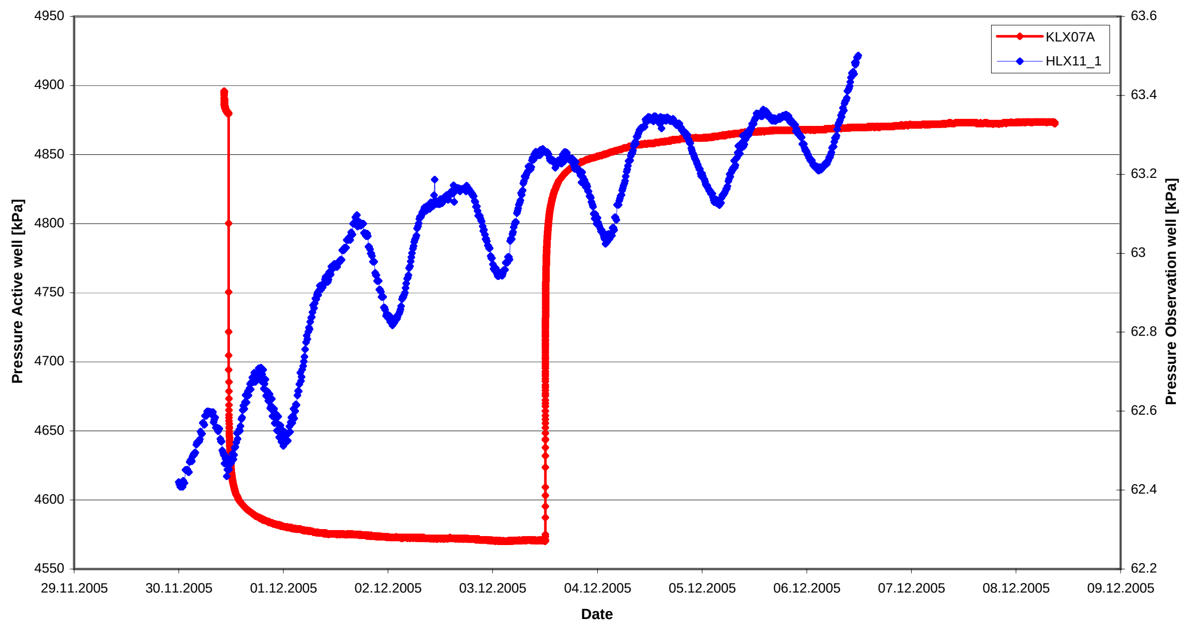
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX11	Section no.:	HLX11_2
		Section length:	6.00-16.00
Distance r_s [m]:	556.45	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.4
Pressure in test section before stop of flowing:	p_p	kPa	62.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

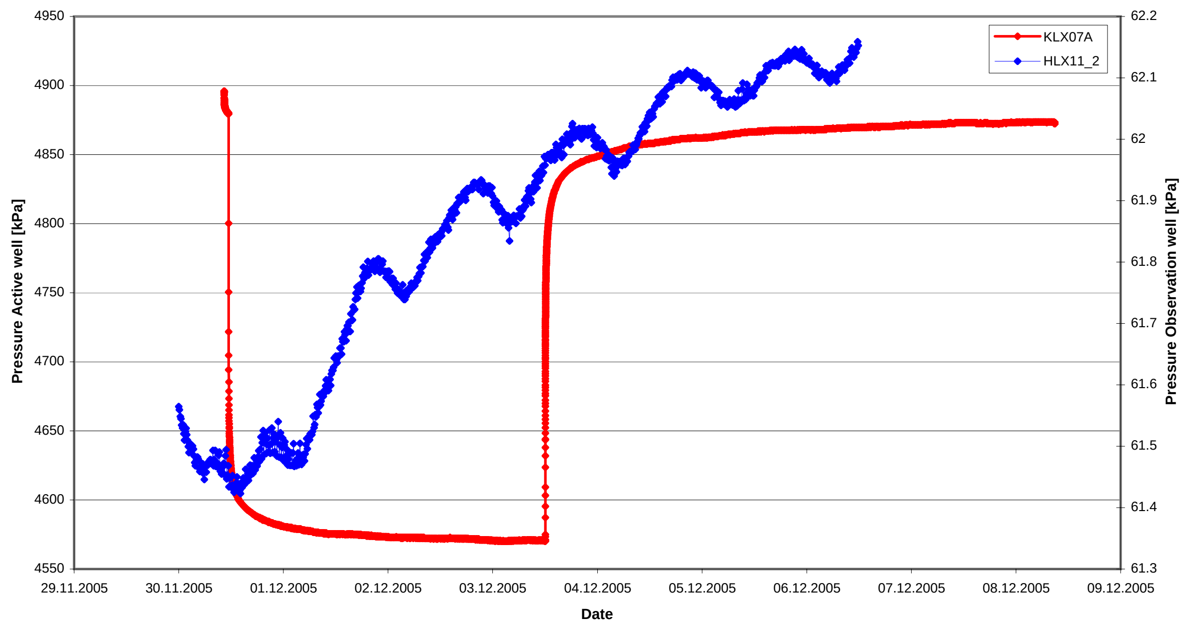
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX13	Section no.:	HLX13_1
		Section length:	11.87-200.02
Distance r_s [m]:	1701.55	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	121.0
Pressure in test section before stop of flowing:	p_p	kPa	120.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

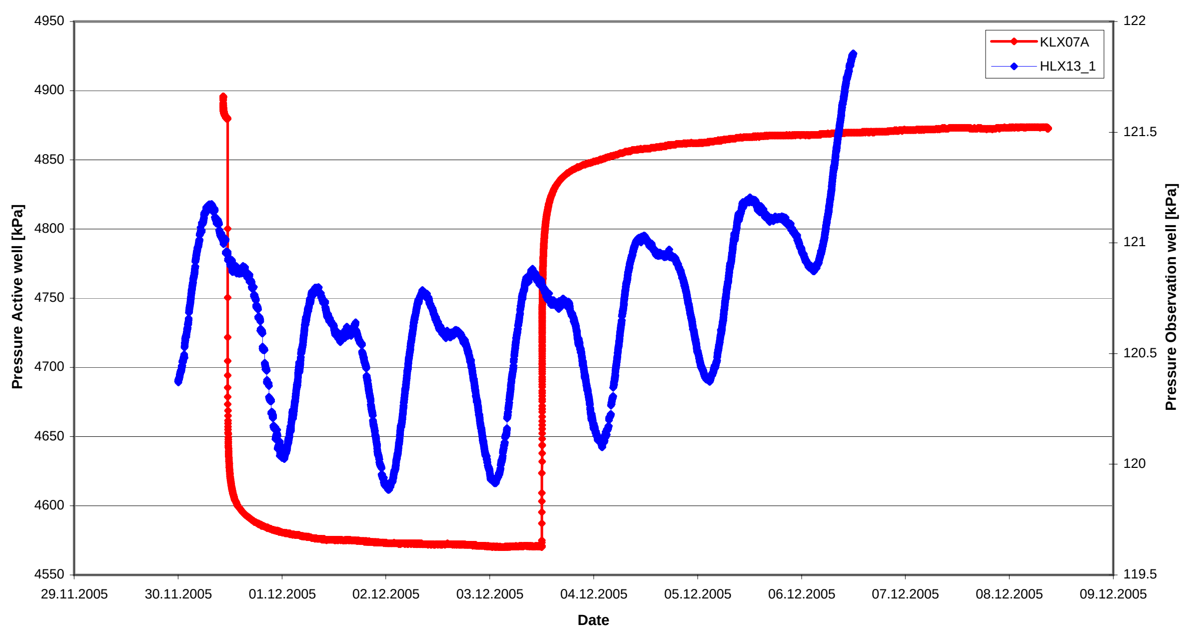
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045				
Pumping Hole:	KLX07A	Pumping Section [m bToC]:			610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:			08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:			03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		4880
Pressure in test section before stop of flowing:		p_p	kPa		4571
Maximum pressure change during flowing period:		dp_p	kPa		309
Observation Hole:	HLX14	Section no.:			HLX14_1
		Section length:			11.00-115.90
Distance r_s [m]:	1727.77	max. Drawdown s_p [m]:*			0.02
Response time dt_L [s]:	#NV				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		117.8
Pressure in test section before stop of flowing:		p_p	kPa		117.6
Maximum pressure change during flowing period:*		dp_p	kPa		0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

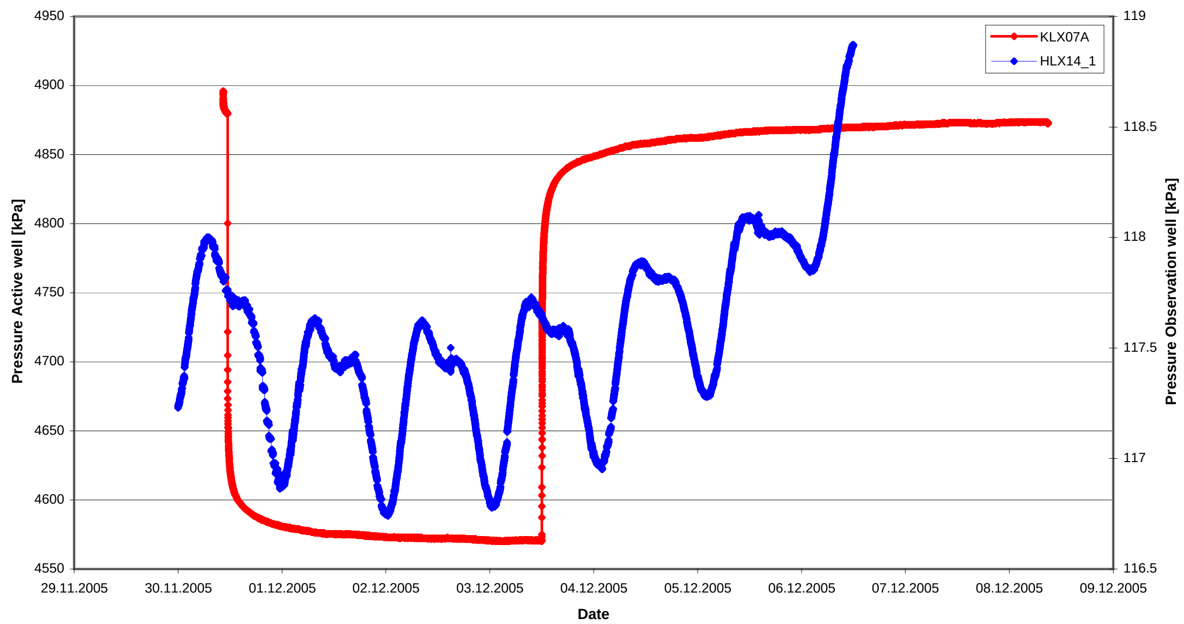
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX21	Section no.:	HLX21_1
		Section length:	81.00-150.00
Distance r_s [m]:	585.94	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.7
Pressure in test section before stop of flowing:	p_p	kPa	51.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

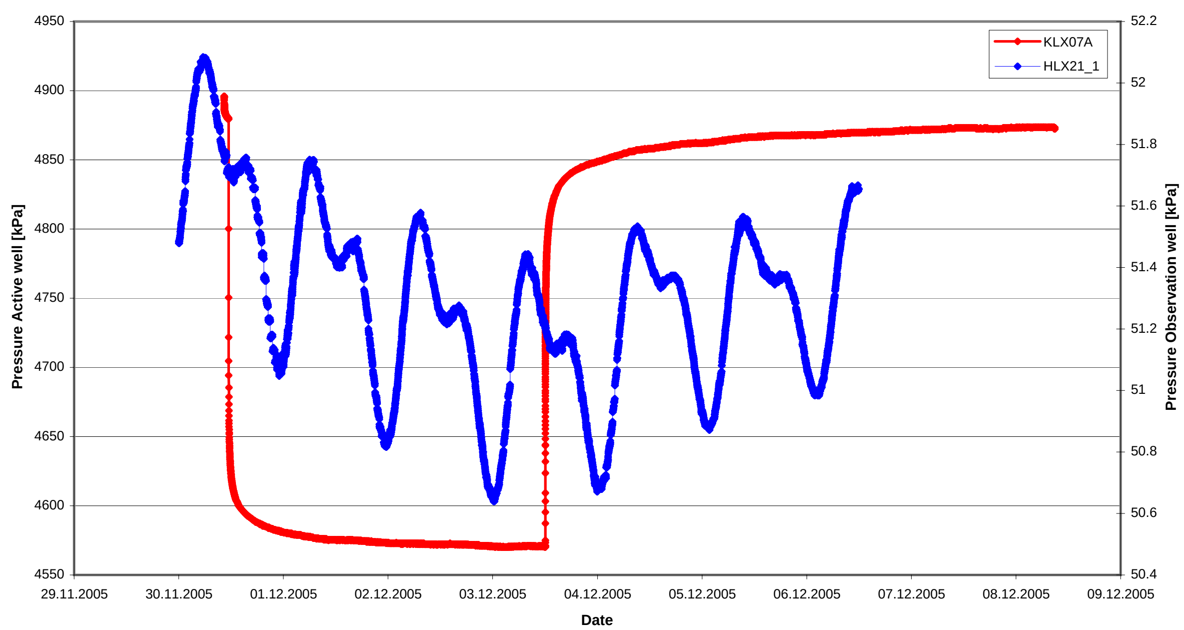
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX21	Section no.:	HLX21_2
		Section length:	9.10-80.00
Distance r_s [m]:	601.98	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.5
Pressure in test section before stop of flowing:	p_p	kPa	50.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

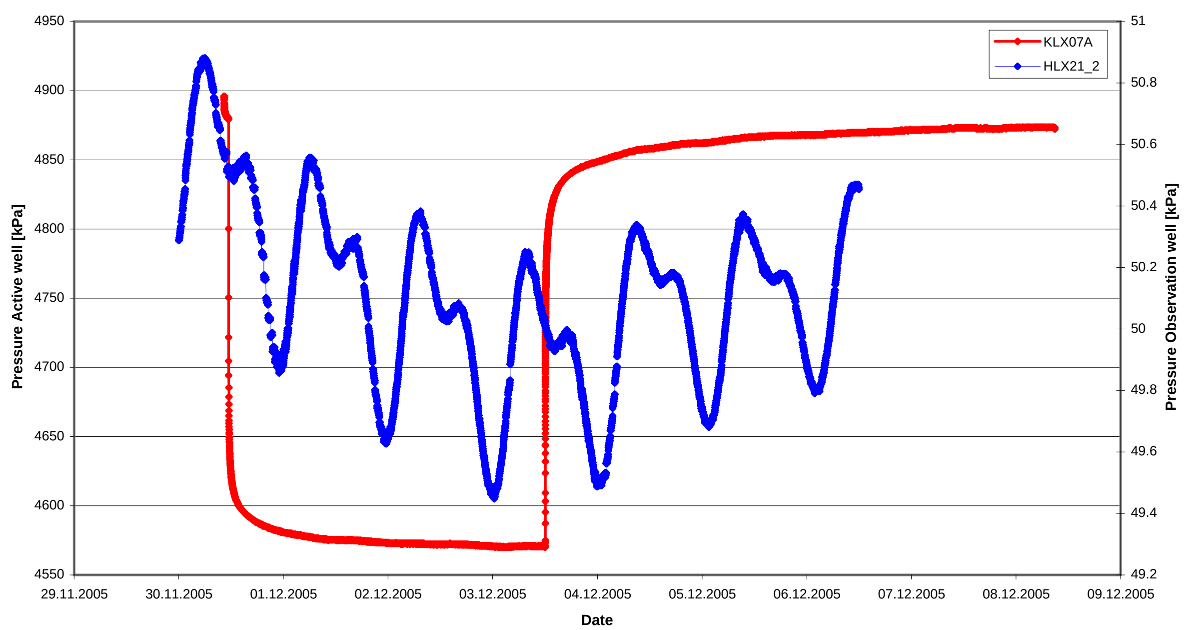
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX22	Section no.:	HLX22_1
		Section length:	86.00-163.20
Distance r_s [m]:	613.00	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.4
Pressure in test section before stop of flowing:	p_p	kPa	49.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

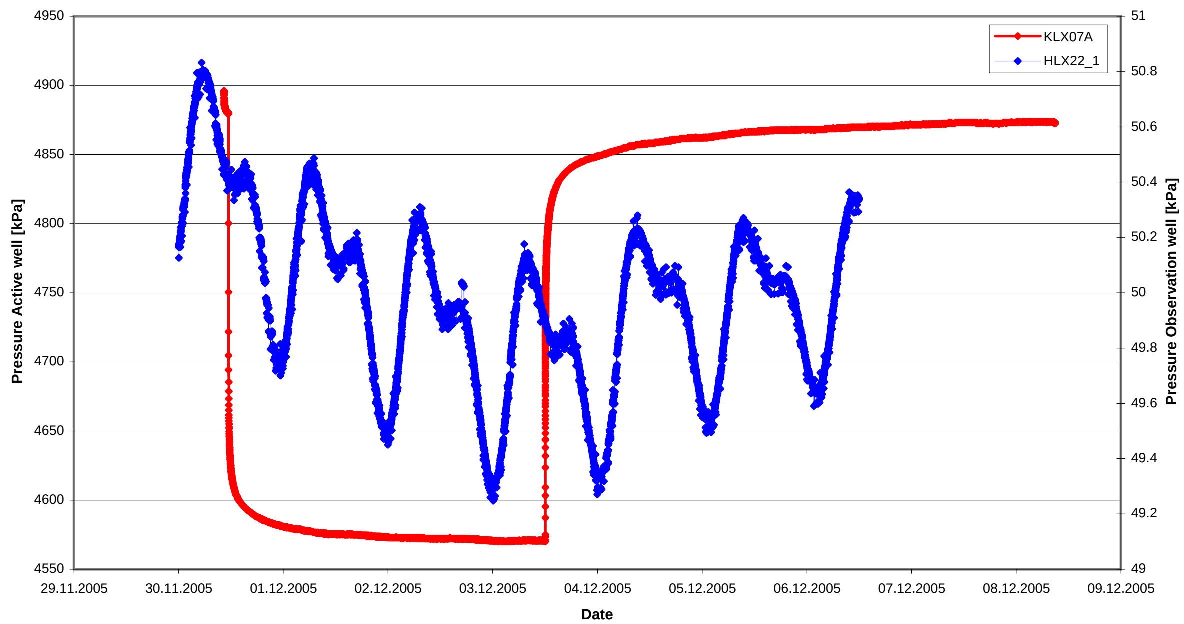
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX22	Section no.:	HLX22_2
		Section length:	9.19-85.00
Distance r_s [m]:	631.00	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	37.7
Pressure in test section before stop of flowing:	p_p	kPa	37.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

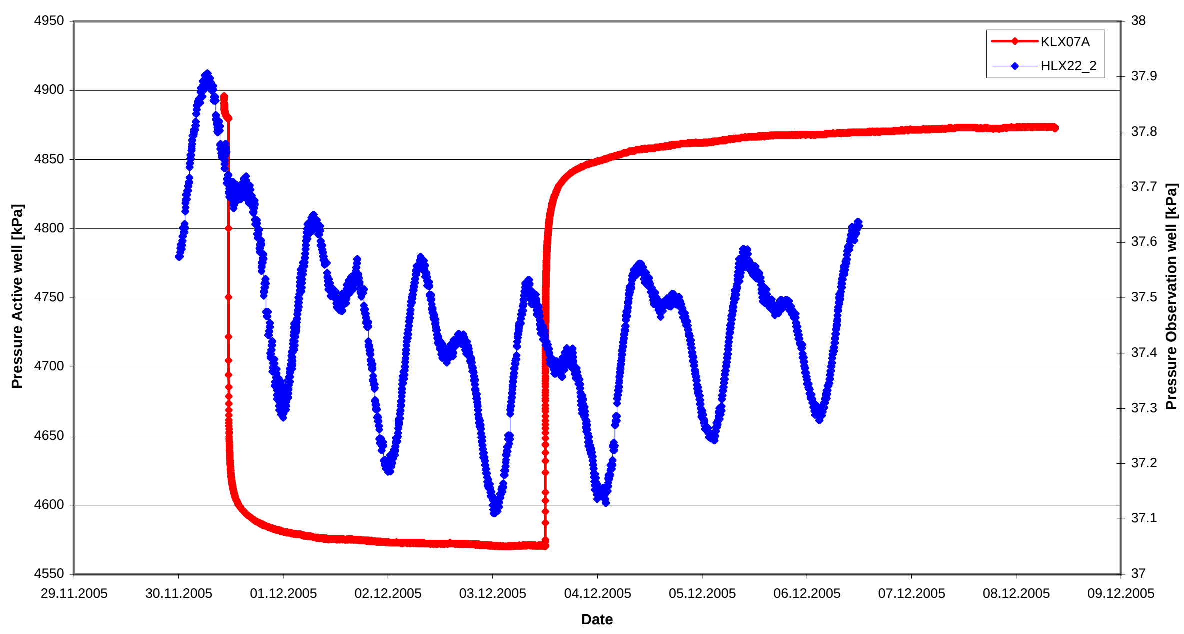
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX23	Section no.:	HLX23_1
		Section length:	61.00-160.20
Distance r_s [m]:	593.69	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.4
Pressure in test section before stop of flowing:	p_p	kPa	98.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

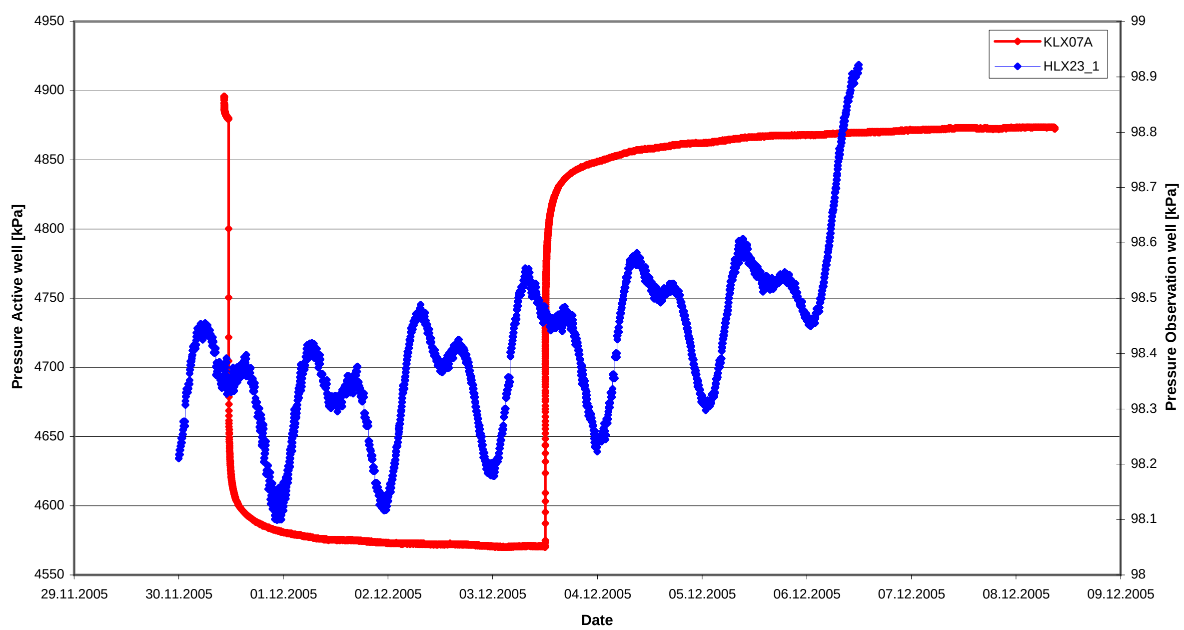
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX23	Section no.:	HLX23_2
		Section length:	6.10-60.00
Distance r_s [m]:	607.81	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	96.4
Pressure in test section before stop of flowing:	p_p	kPa	96.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

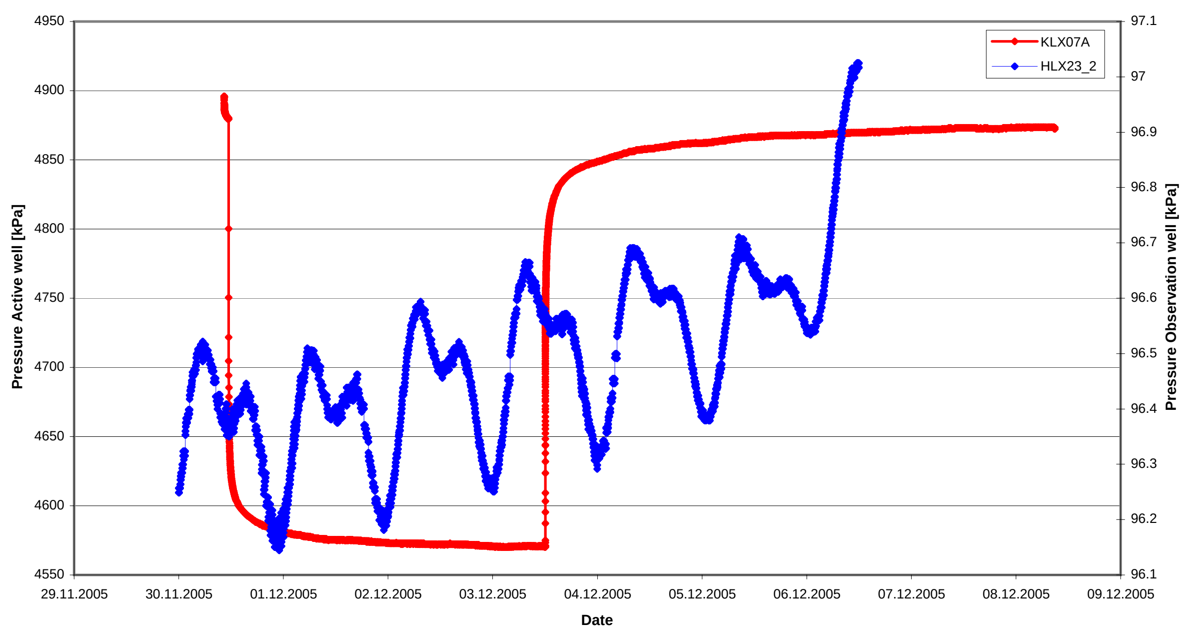
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX24	Section no.:	HLX24_1
		Section length:	41.00-175.20
Distance r_s [m]:	588.96	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.5
Pressure in test section before stop of flowing:	p_p	kPa	98.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

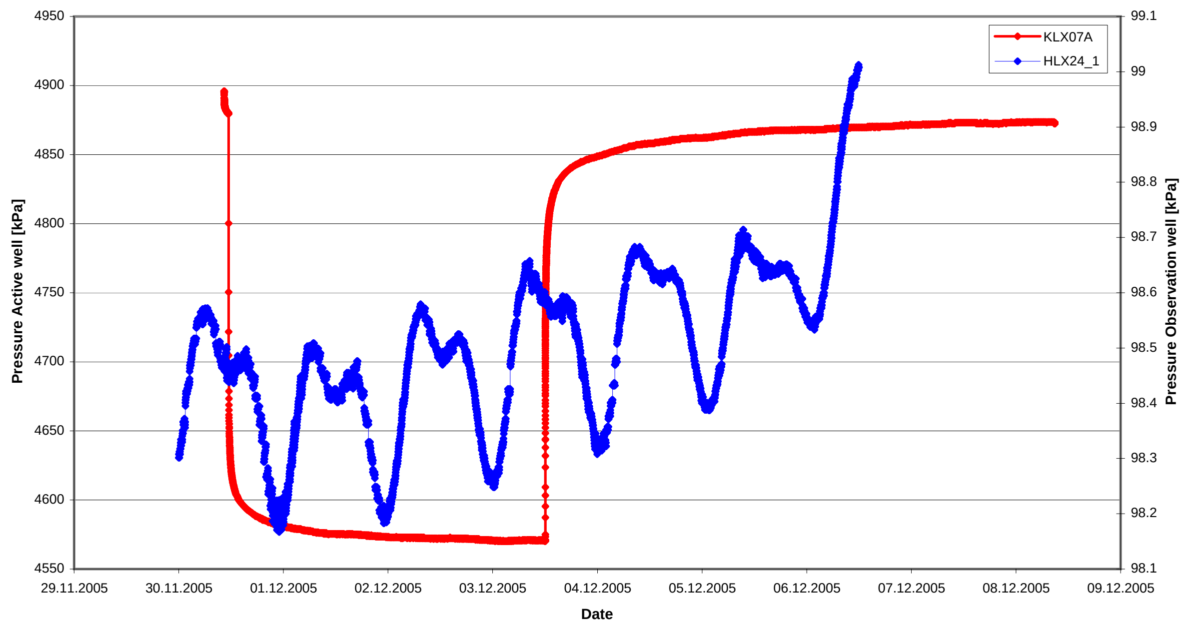
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX24	Section no.:	HLX24_2
		Section length:	9.10-40.00
Distance r_s [m]:	630.30	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.1
Pressure in test section before stop of flowing:	p_p	kPa	100.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

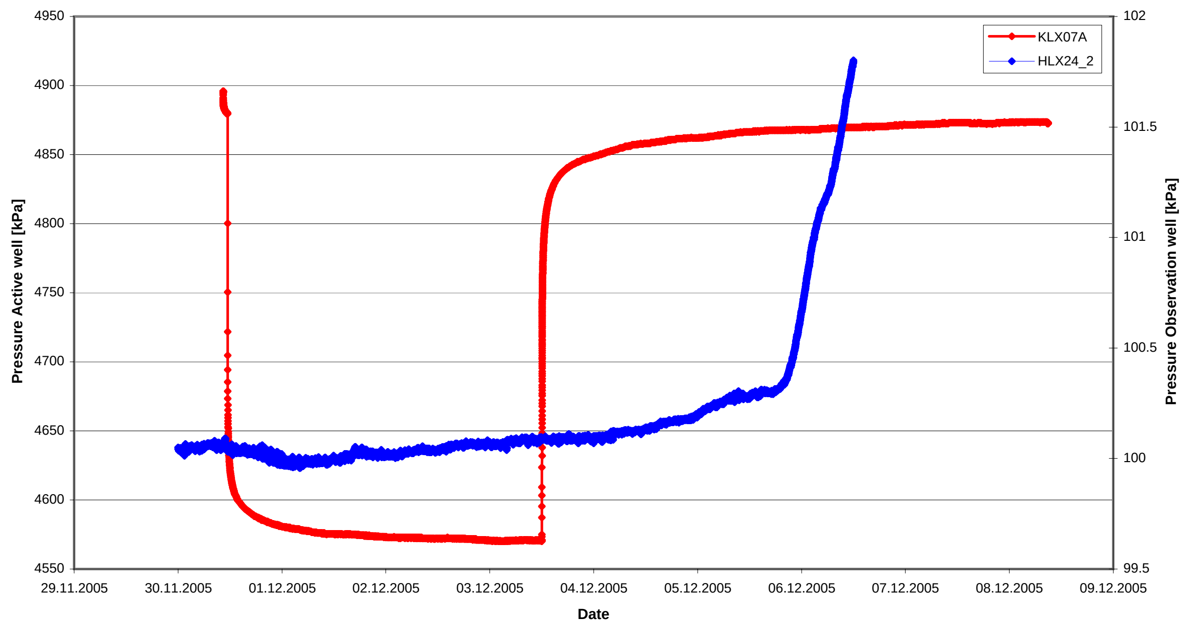
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX25	Section no.:	HLX25_1
		Section length:	61.00-202.50
Distance r_s [m]:	1578.84	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.9
Pressure in test section before stop of flowing:	p_p	kPa	111.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

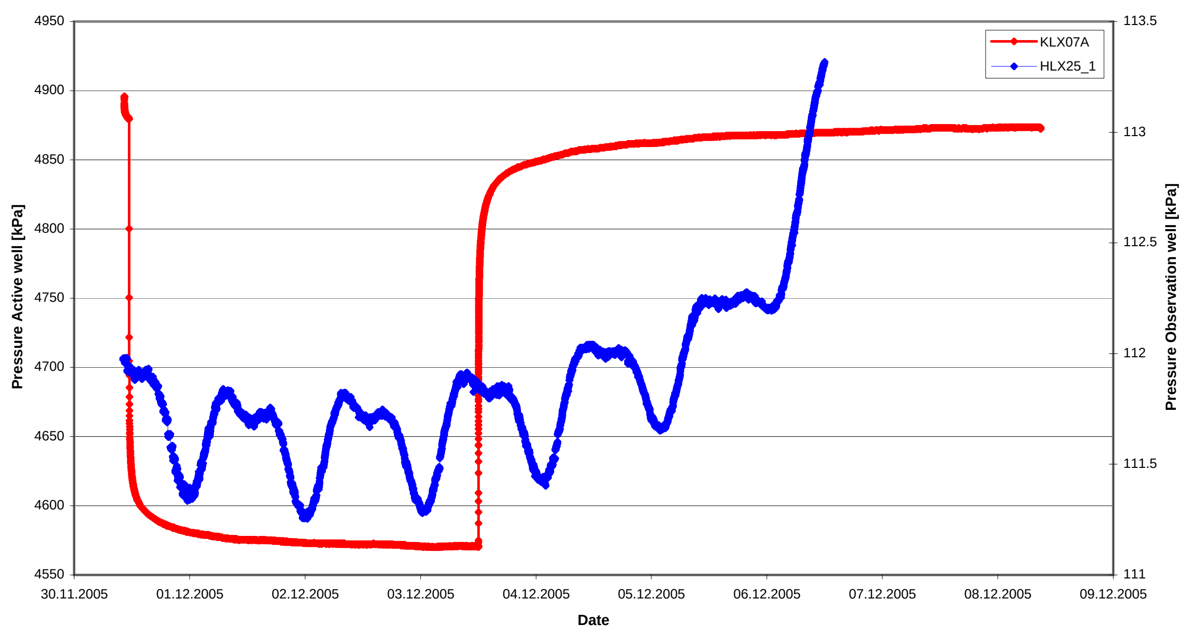
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX25	Section no.:	HLX25_2
		Section length:	6.12-60.00
Distance r_s [m]:	1588.80	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	112.1
Pressure in test section before stop of flowing:	p_p	kPa	112.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

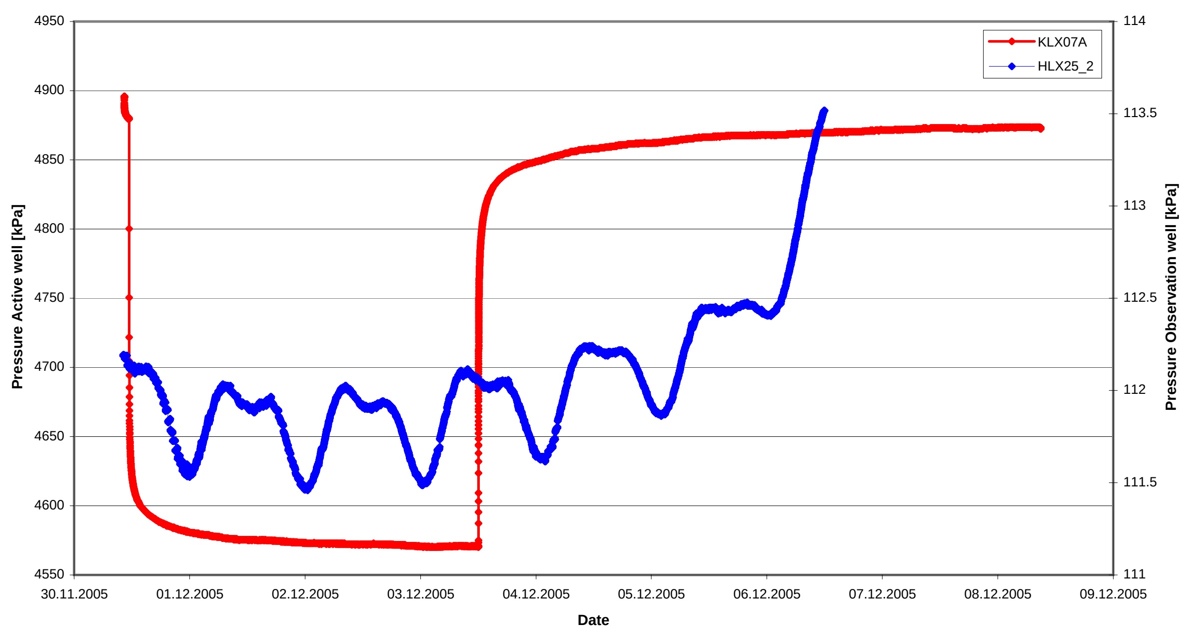
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX30	Section no.:	HLX30_1
		Section length:	101.00-163.40
Distance r_s [m]:	1291.59	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.3
Pressure in test section before stop of flowing:	p_p	kPa	107.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

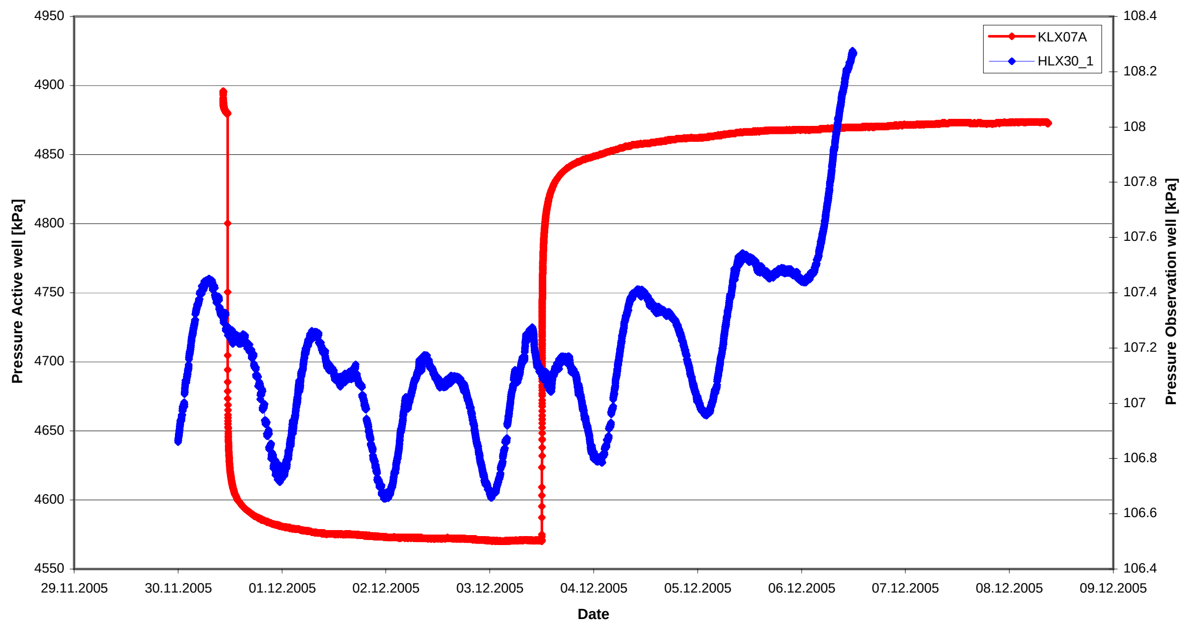
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX30	Section no.:	HLX30_2
		Section length:	9.10-100.00
Distance r_s [m]:	1318.16	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.8
Pressure in test section before stop of flowing:	p_p	kPa	106.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

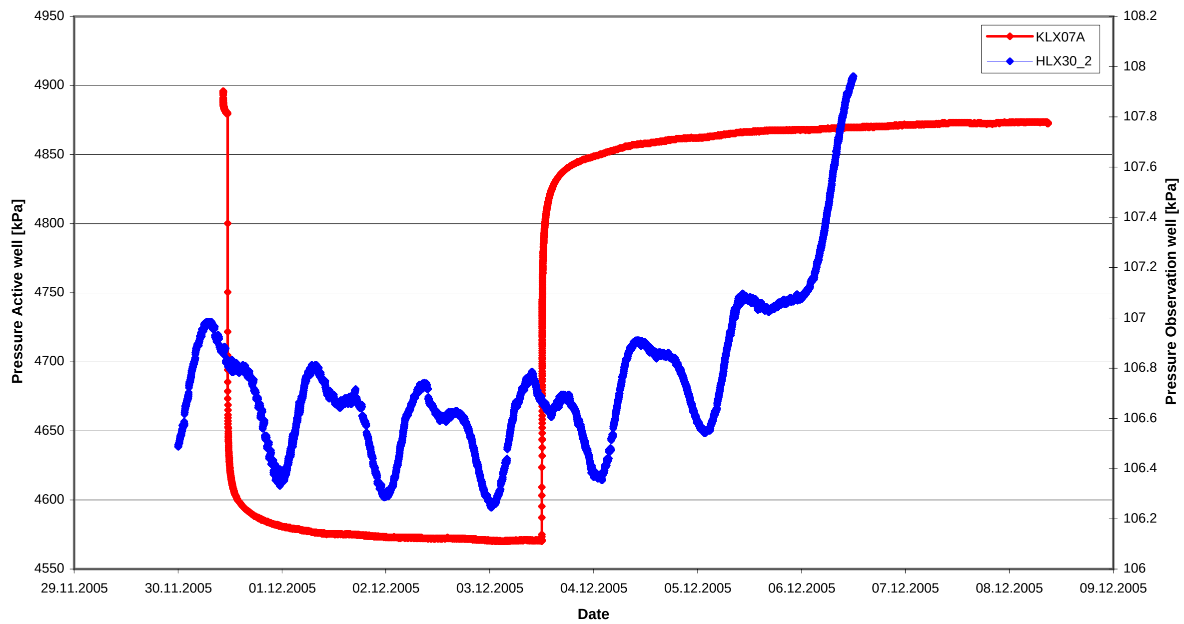
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX31	Section no.:	HLX31_1
		Section length:	9.10-133.20
Distance r_s [m]:	1249.42	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.3
Pressure in test section before stop of flowing:	p_p	kPa	107.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

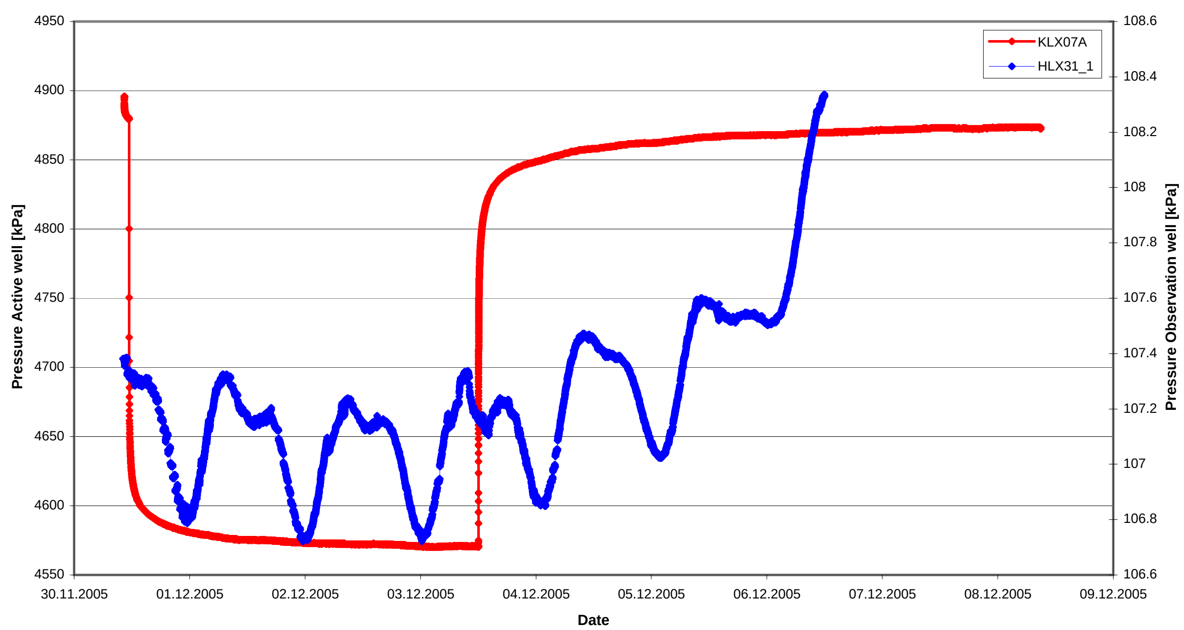
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX33	Section no.:	HLX33_1
		Section length:	31.00-202.10
Distance r_s [m]:	758.60	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.3
Pressure in test section before stop of flowing:	p_p	kPa	100.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

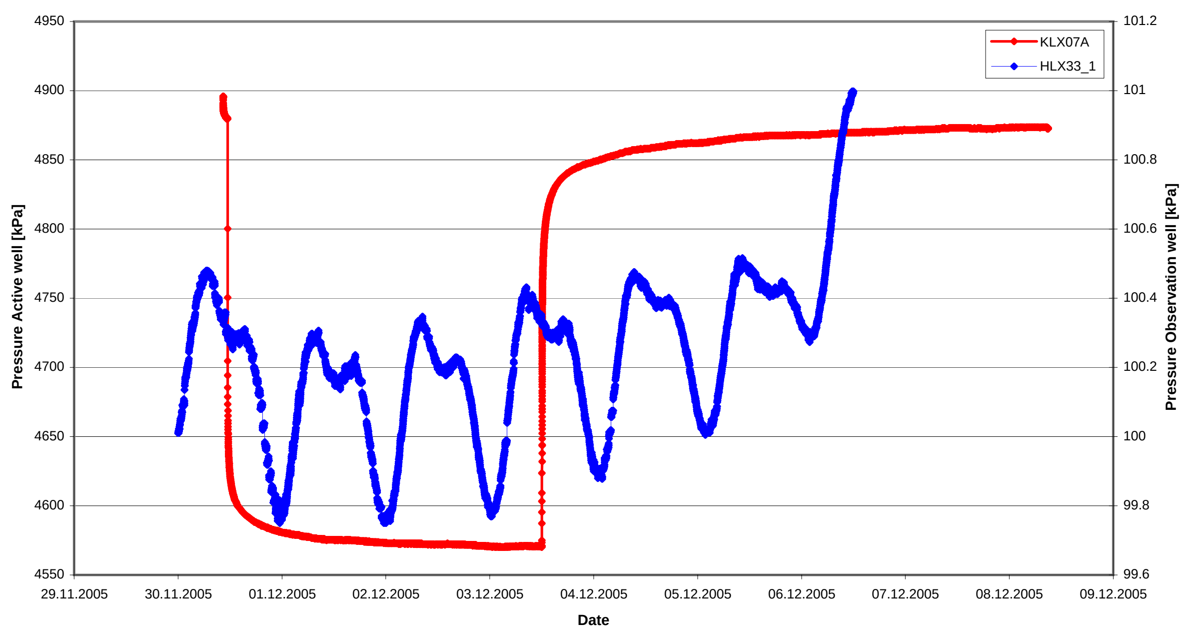
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX33	Section no.:	HLX33_2
		Section length:	9.10-30.00
Distance r_s [m]:	834.31	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.1
Pressure in test section before stop of flowing:	p_p	kPa	100.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

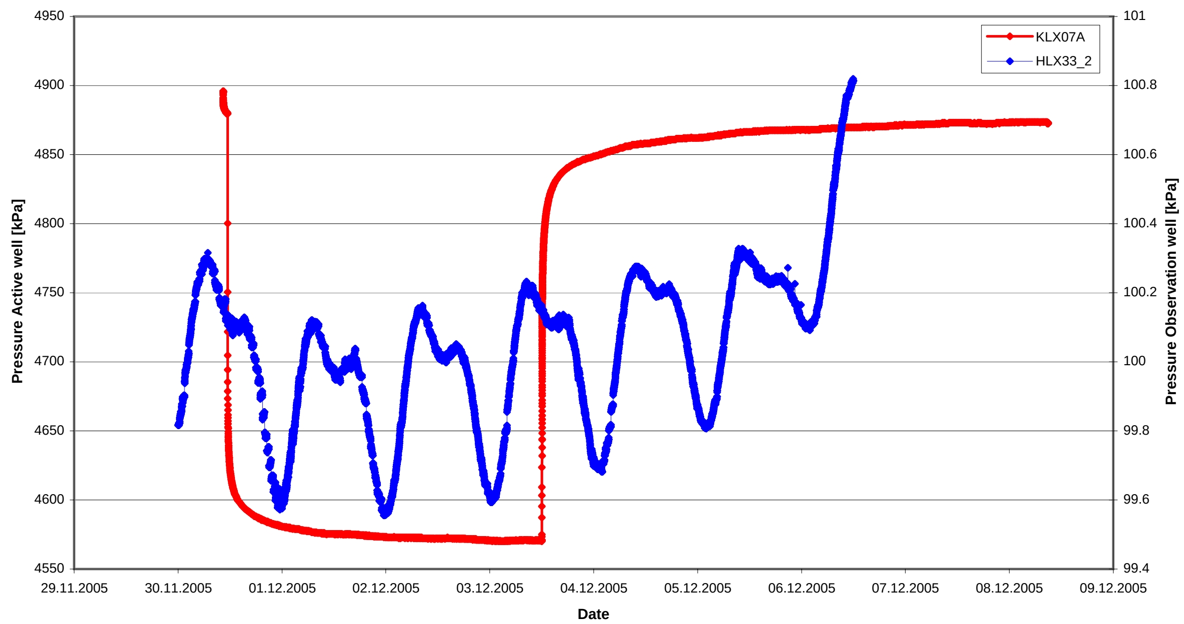
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX34	Section no.:	HLX34_1
		Section length:	9.00-151.80
Distance r_s [m]:	1988.83	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	134.2
Pressure in test section before stop of flowing:	p_p	kPa	134.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

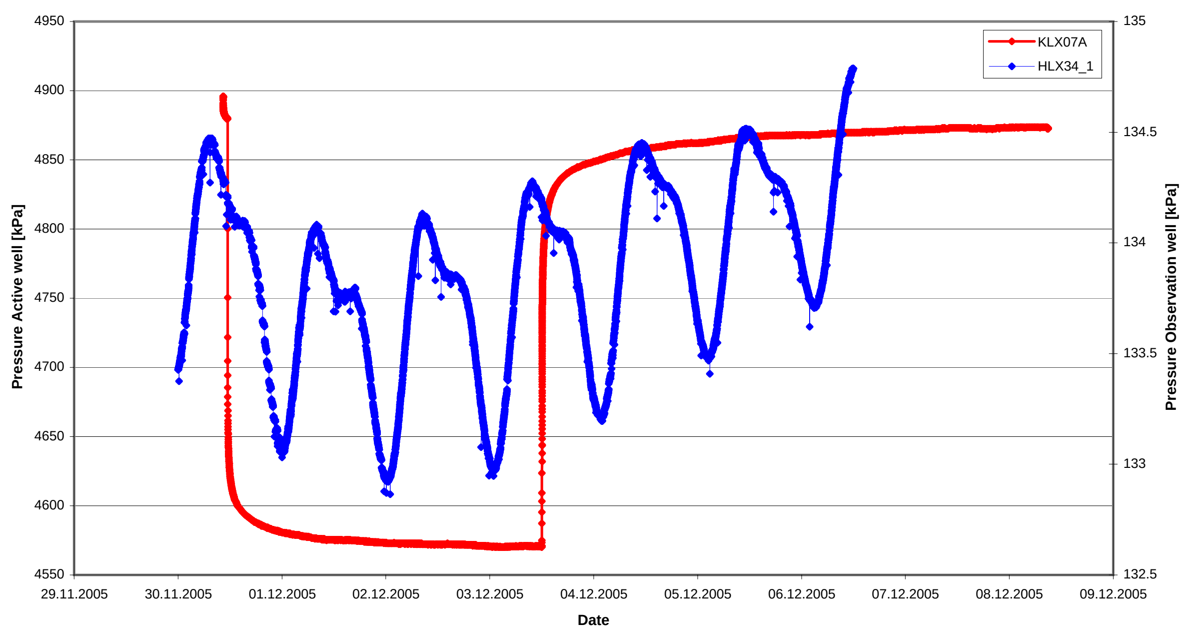
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX35	Section no.:	HLX35_1
		Section length:	65.00-151.50
Distance r_s [m]:	1962.20	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	133.0
Pressure in test section before stop of flowing:	p_p	kPa	132.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

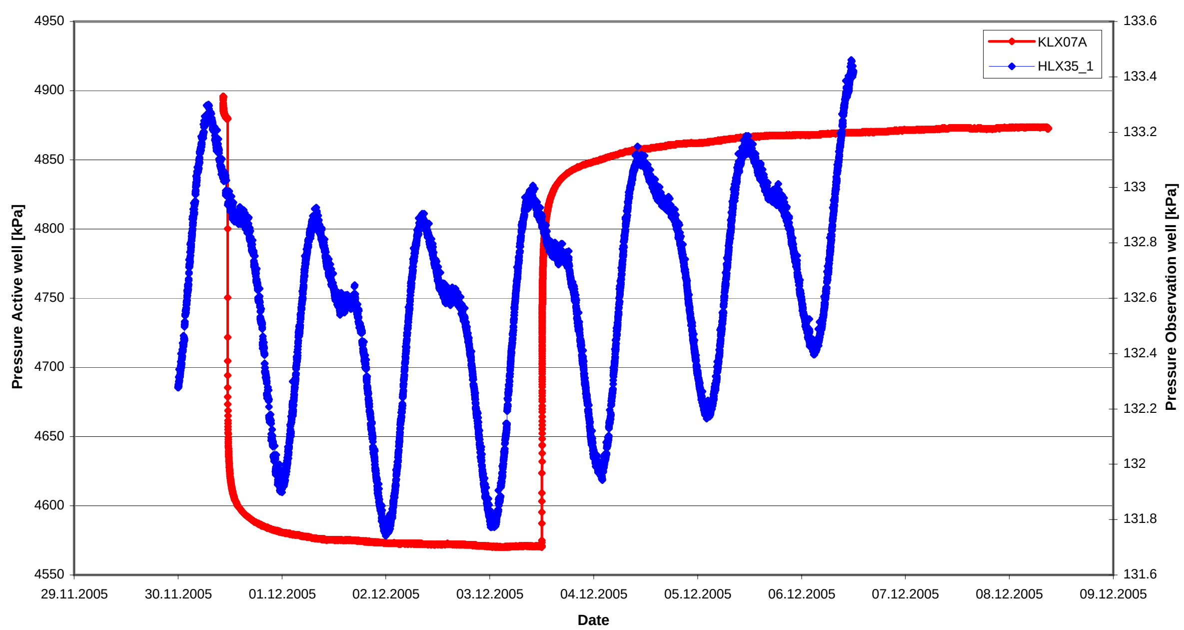
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	HLX35	Section no.:	HLX35_2
		Section length:	6.00-64.00
Distance r_s [m]:	2035.45	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.4
Pressure in test section before stop of flowing:	p_p	kPa	114.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

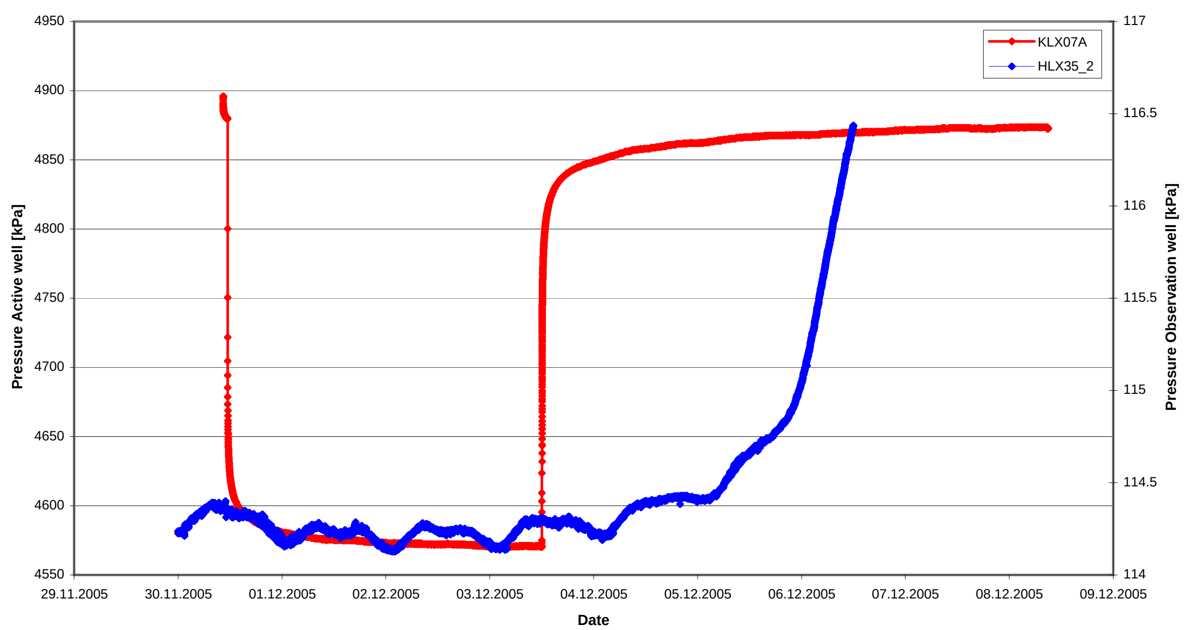
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX01	Section no.:	KLX01_1
		Section length:	705.00-1077.99
Distance r_s [m]:	1426.23	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	-19.1
Pressure in test section before stop of flowing:	p_p	kPa	-20.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

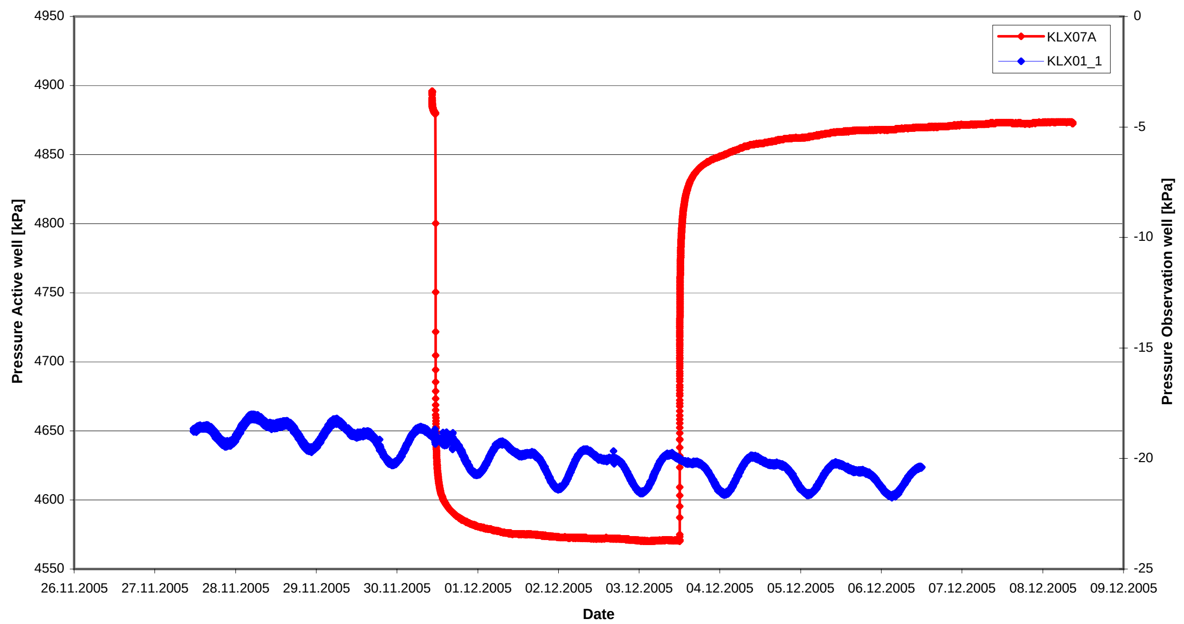
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX01	Section no.:	KLX01_2
		Section length:	191.00-704.00
Distance r_s [m]:	1350.09	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.3
Pressure in test section before stop of flowing:	p_p	kPa	55.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

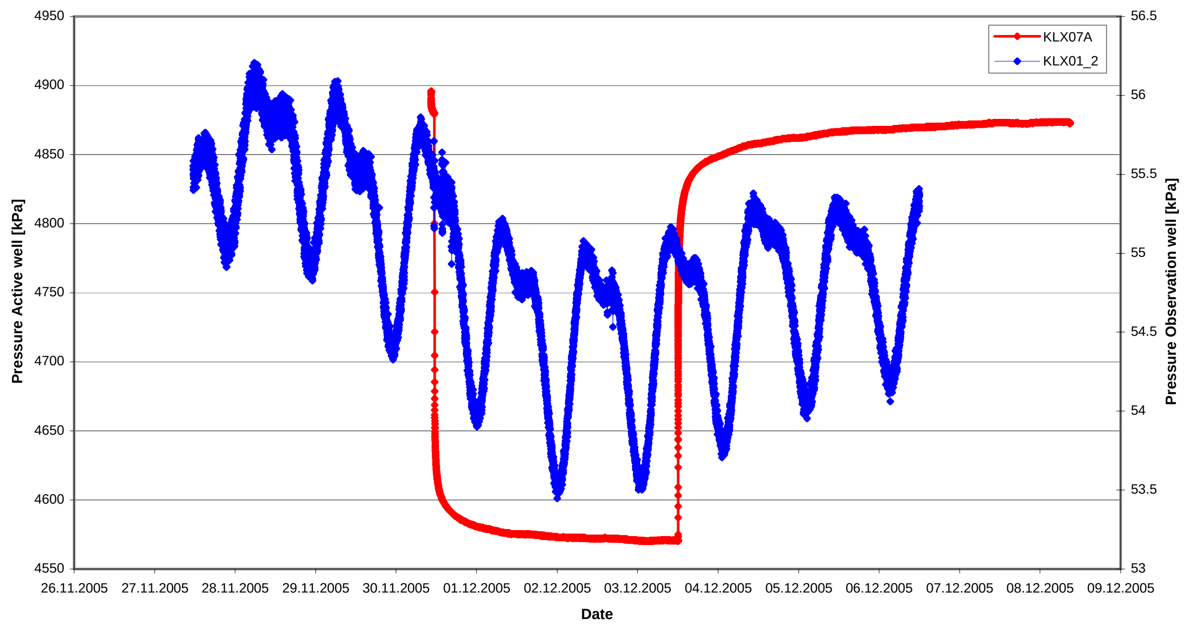
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX01	Section no.:	KLX01_3
		Section length:	171.00-190.00
Distance r_s [m]:	1372.14	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	65.7
Pressure in test section before stop of flowing:	p_p	kPa	65.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

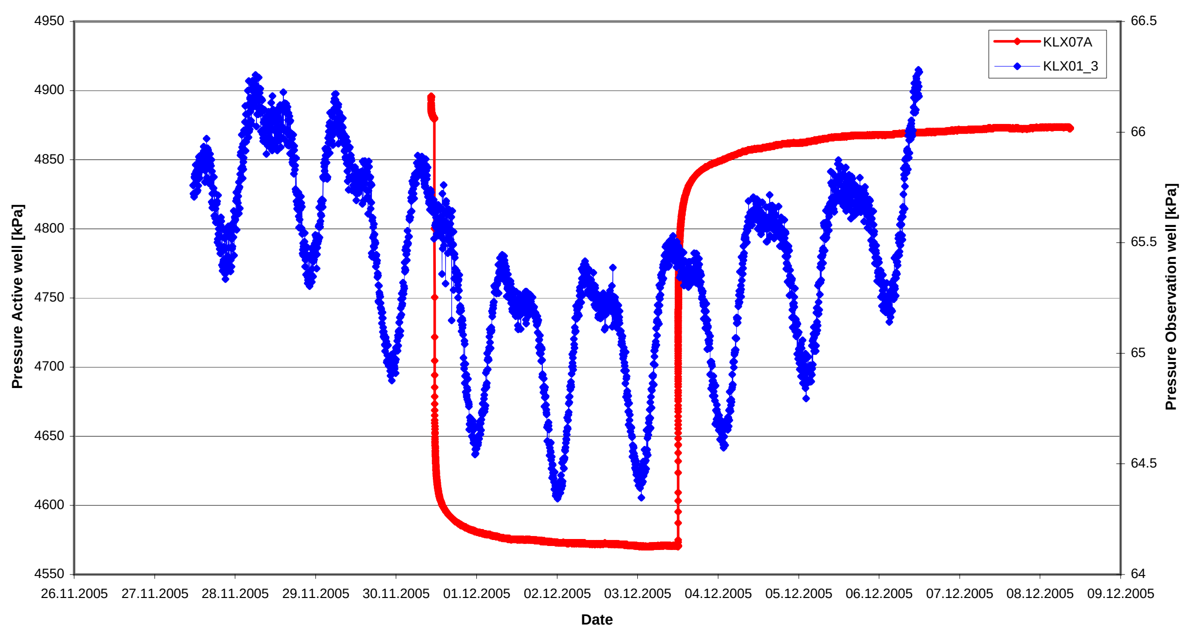
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX01	Section no.:	KLX01_4
		Section length:	1.00-170.00
Distance r_s [m]:	1391.97	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	140.3
Pressure in test section before stop of flowing:	p_p	kPa	140.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

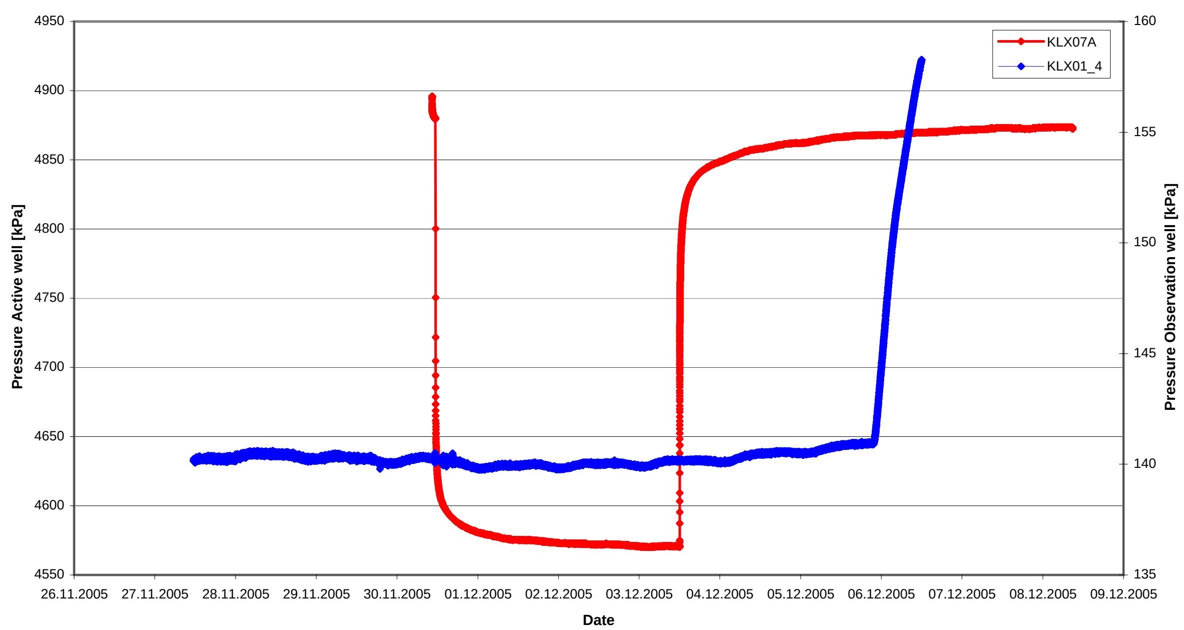
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045			

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_1
		Section length:	1165.00-1700.00
Distance r_s [m]:	1106.44	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	77.3
Pressure in test section before stop of flowing:	p_p	kPa	76.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

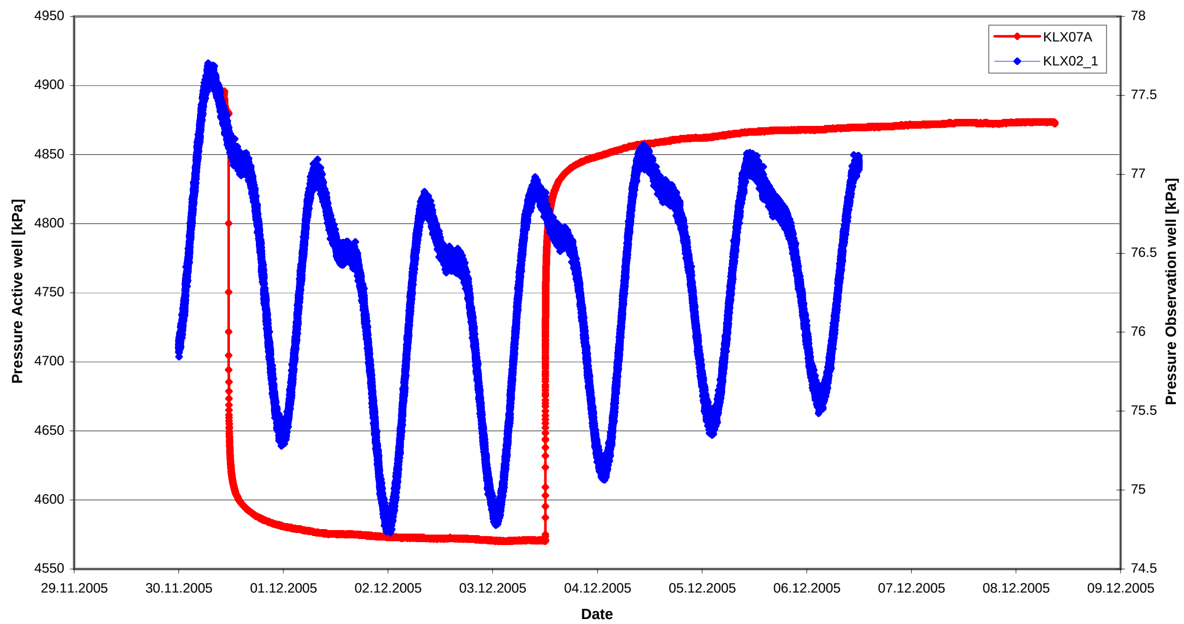
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_2
		Section length:	1145.00-1164.00
Distance r_s [m]:	860.97	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	59.8
Pressure in test section before stop of flowing:	p_p	kPa	59.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

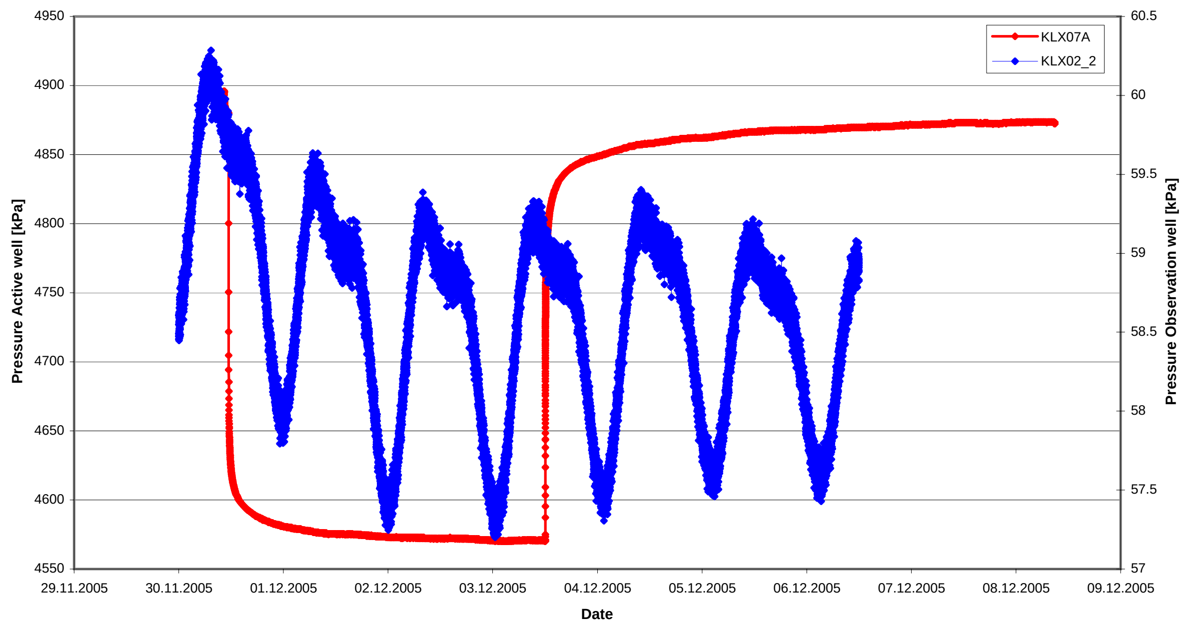
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045			
Pumping Hole:	KLX07A	Pumping Section [m bToC]:		610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:		08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:		03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04			
Pressure data		**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:		p_i	kPa	4880
Pressure in test section before stop of flowing:		p_p	kPa	4571
Maximum pressure change during flowing period:		dp_p	kPa	309
Observation Hole:	KLX02	Section no.:		KLX02_3
		Section length:		718.00-1144.00
Distance r_s [m]:	684.20	max. Drawdown s_p [m]:*		0.08
Response time dt_L [s]:	#NV			
Pressure data		**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:		p_i	kPa	37.4
Pressure in test section before stop of flowing:		p_p	kPa	36.6
Maximum pressure change during flowing period:*		dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

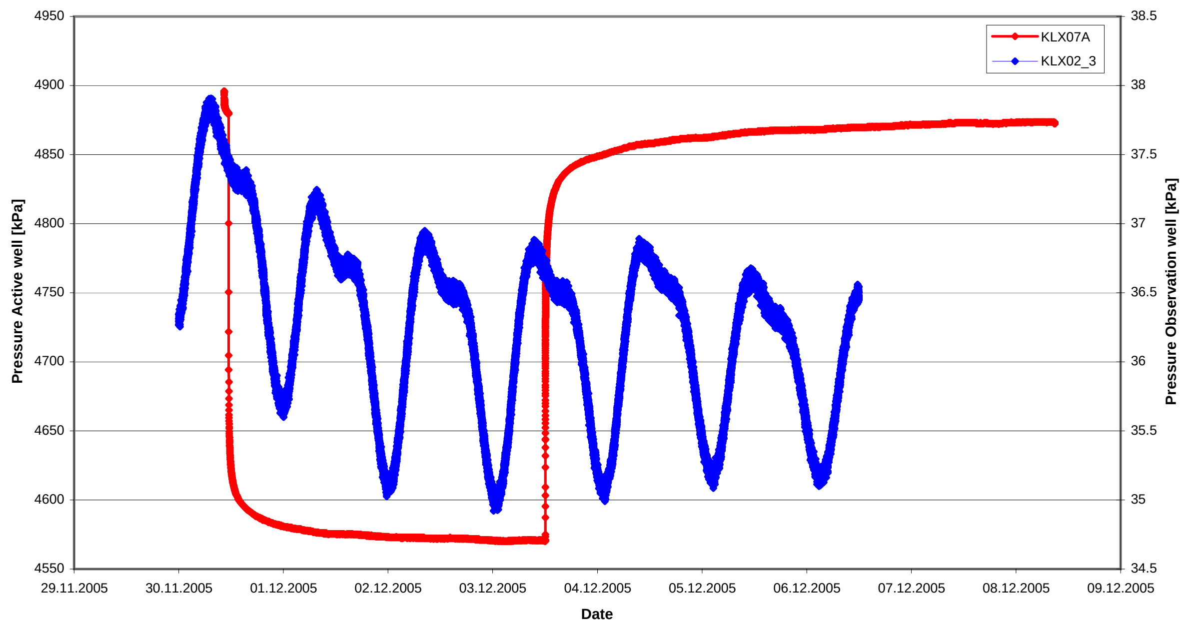
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_4
		Section length:	495.00-717.00
Distance r_s [m]:	500.47	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	51.6
Pressure in test section before stop of flowing:	p_p	kPa	51.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

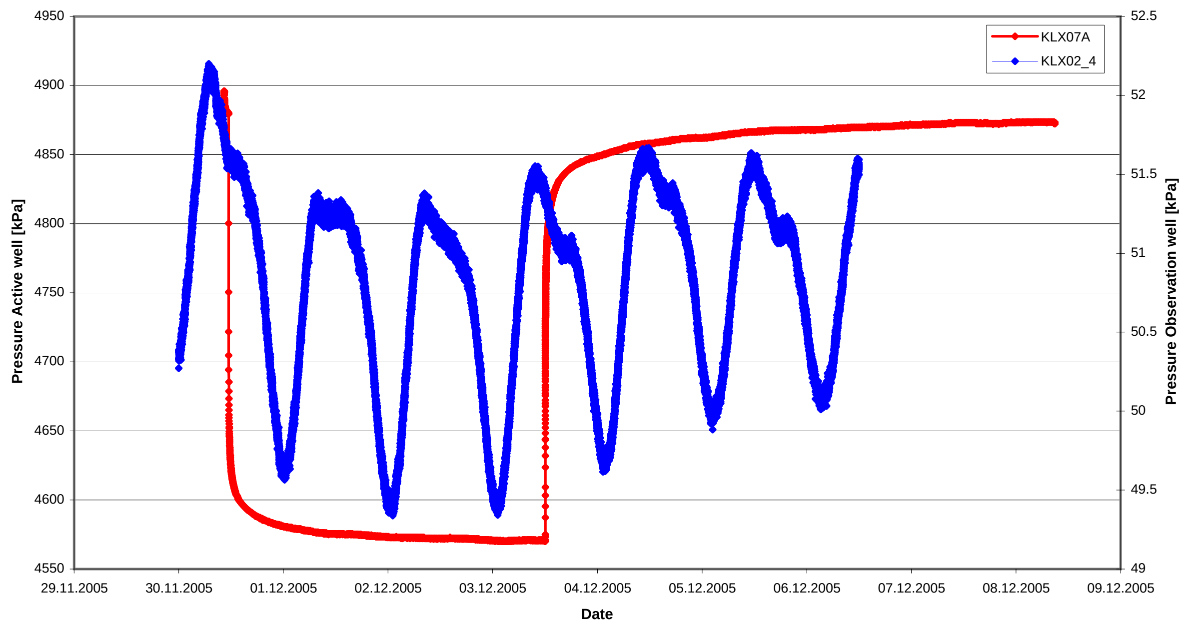
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_5
		Section length:	452.00-494.00
Distance r_s [m]:	472.13	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	57.2
Pressure in test section before stop of flowing:	p_p	kPa	56.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

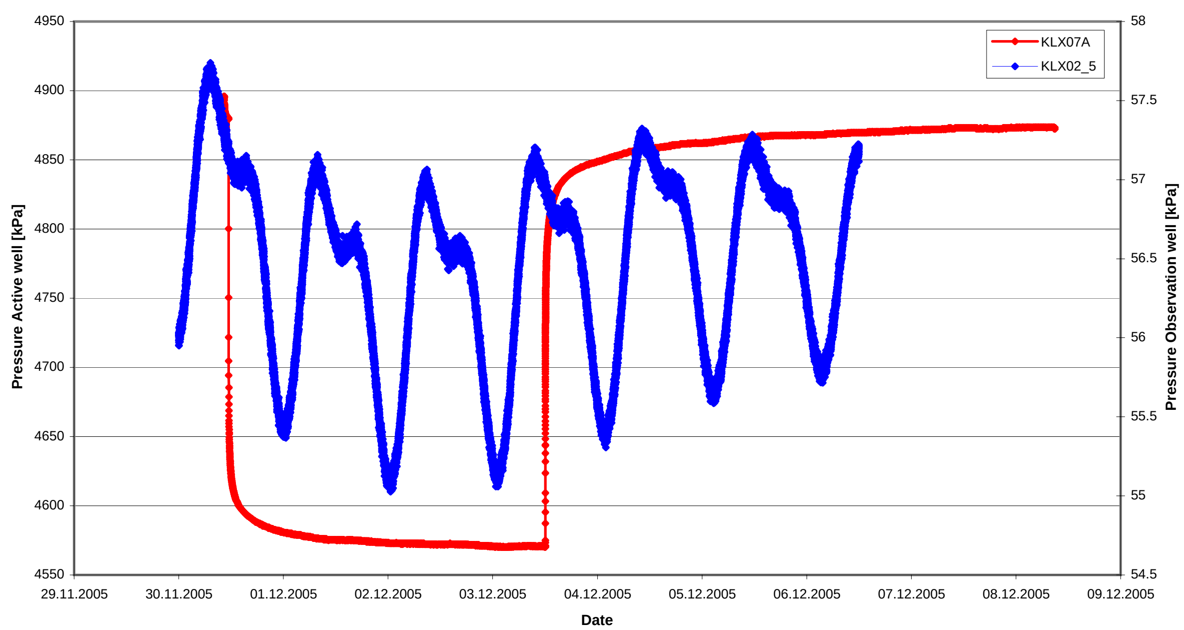
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_6
		Section length:	348.00-451.00
Distance r_s [m]:	472.57	max. Drawdown s_p [m]:*	0.00
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	57.9
Pressure in test section before stop of flowing:	p_p	kPa	57.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

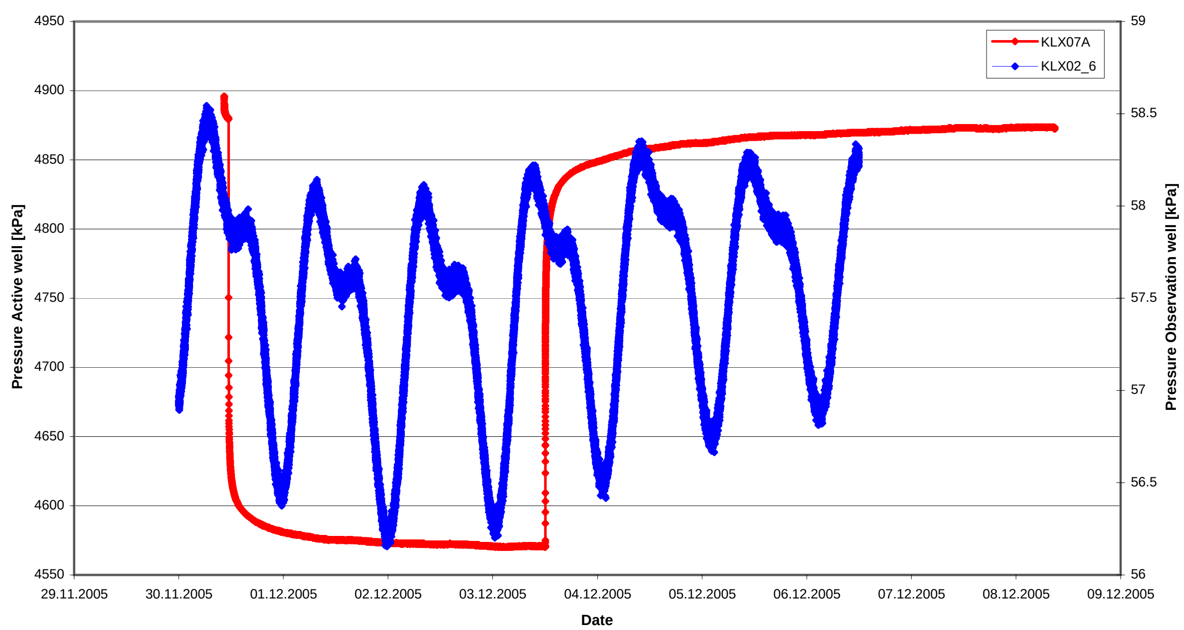
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_7
		Section length:	209.00-347.00
Distance r_s [m]:	499.06	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	59.6
Pressure in test section before stop of flowing:	p_p	kPa	60.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

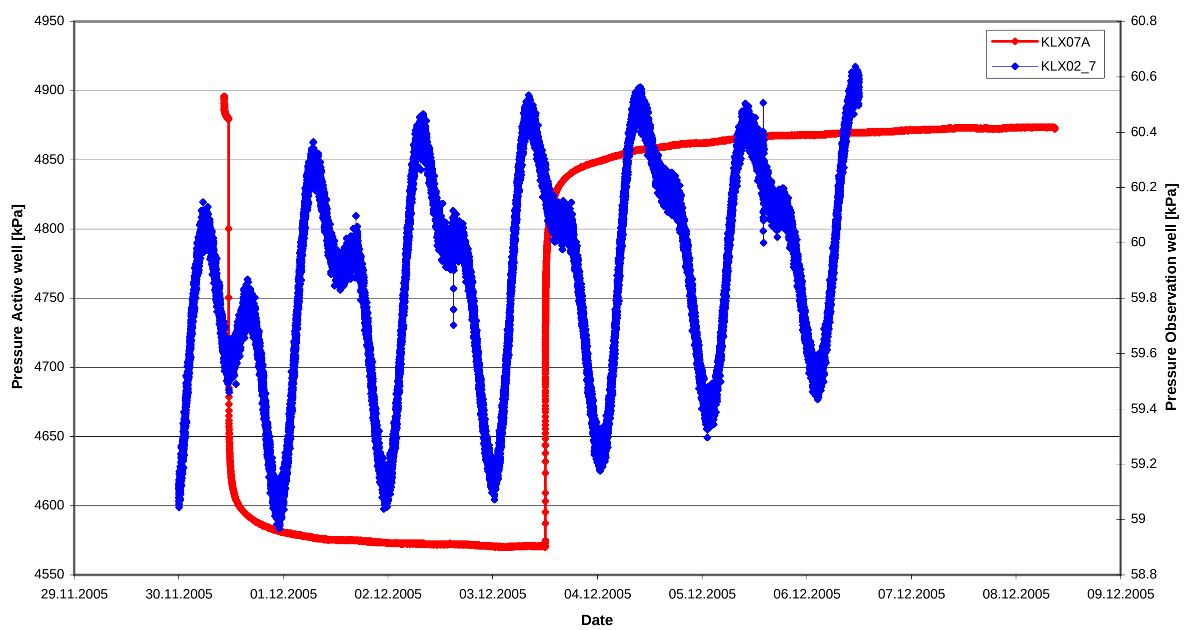
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX02	Section no.:	KLX02_8
		Section length:	202.95-208.00
Distance r_s [m]:	528.13	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	74.7
Pressure in test section before stop of flowing:	p_p	kPa	75.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

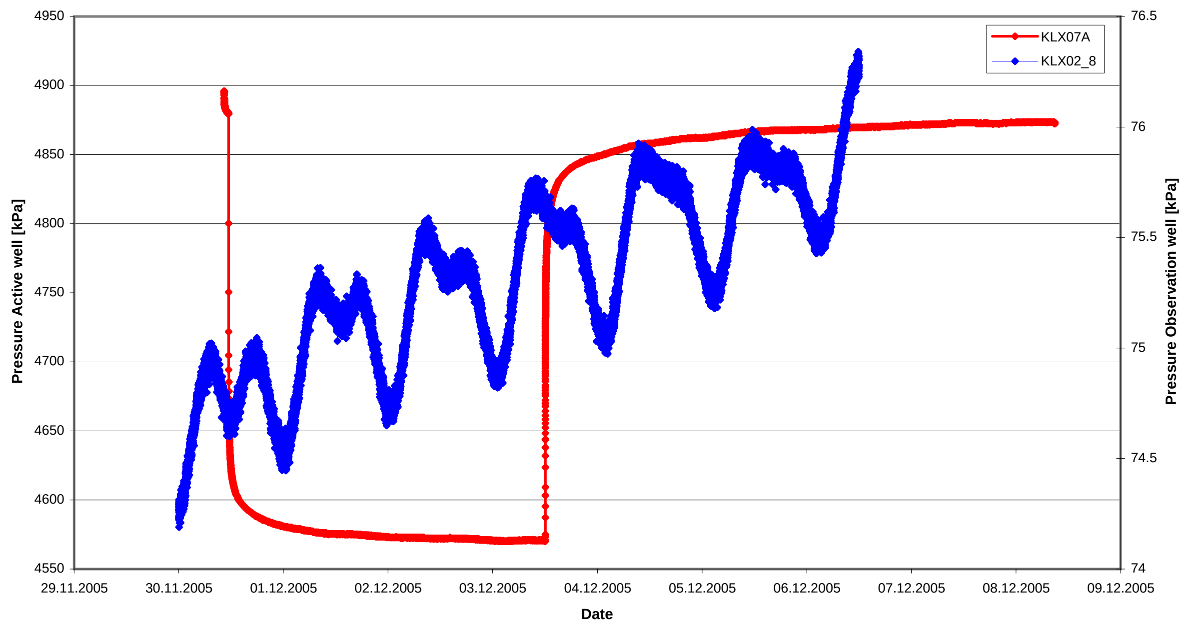
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_1
		Section length:	898.00-1000.00
Distance r_s [m]:	1387.15	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.7
Pressure in test section before stop of flowing:	p_p	kPa	107.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

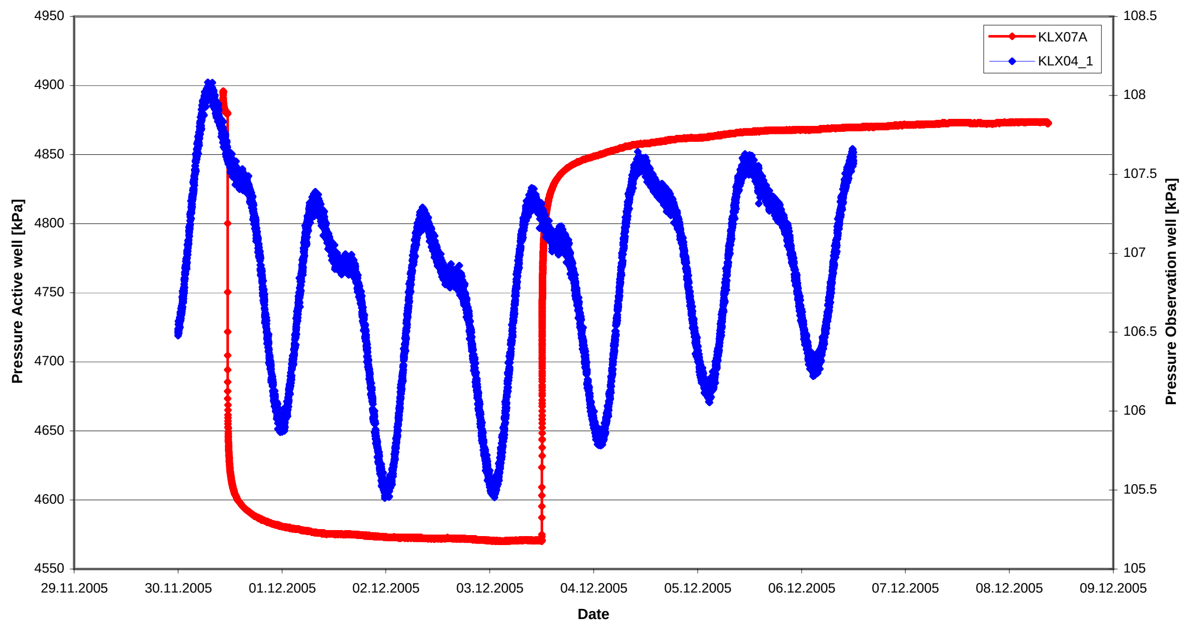
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_2
		Section length:	870.00-897.00
Distance r_s [m]:	1370.19	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	105.8
Pressure in test section before stop of flowing:	p_p	kPa	105.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

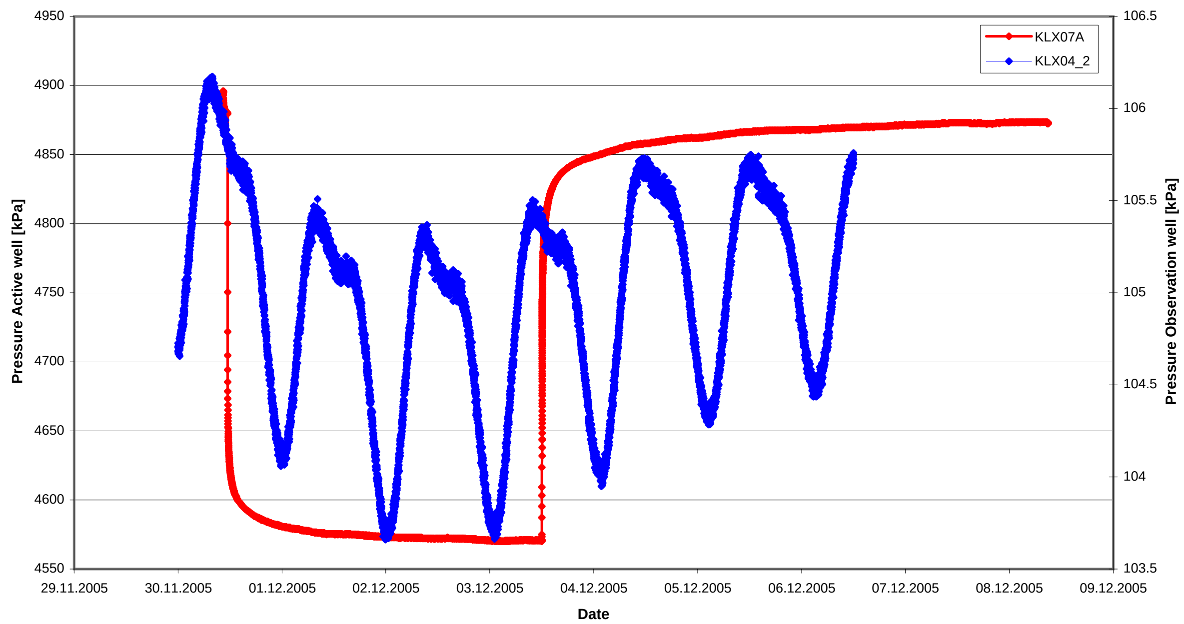
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_3
		Section length:	686.00-869.00
Distance r_s [m]:	1347.72	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.9
Pressure in test section before stop of flowing:	p_p	kPa	115.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

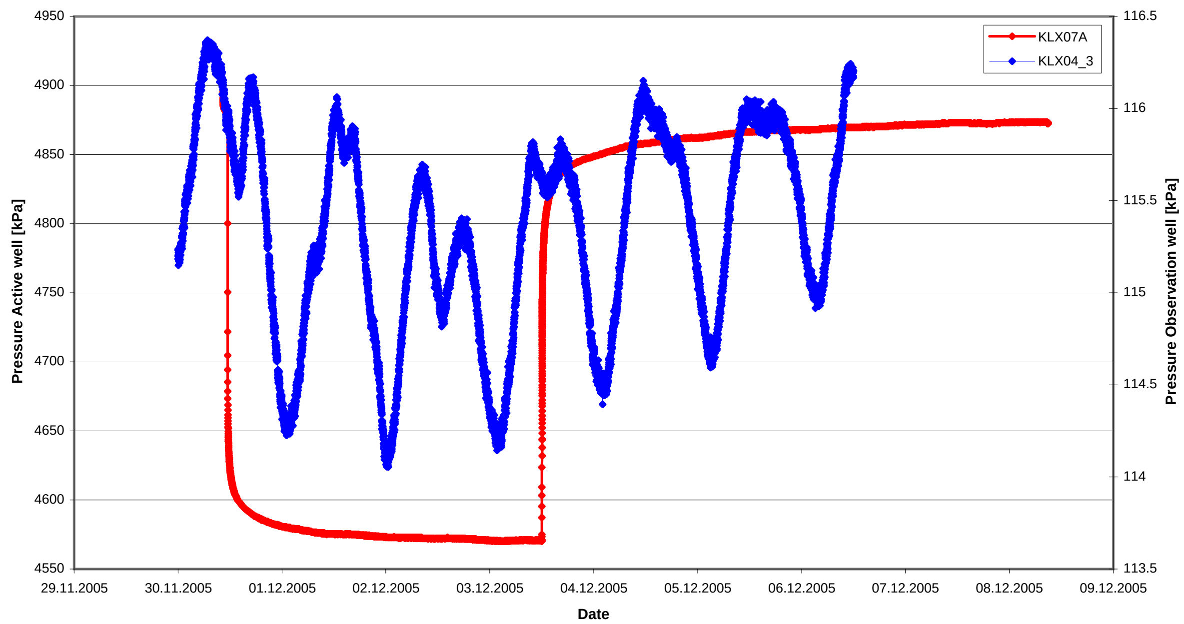
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_4
		Section length:	531.00-685.00
Distance r_s [m]:	1324.85	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.7
Pressure in test section before stop of flowing:	p_p	kPa	114.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

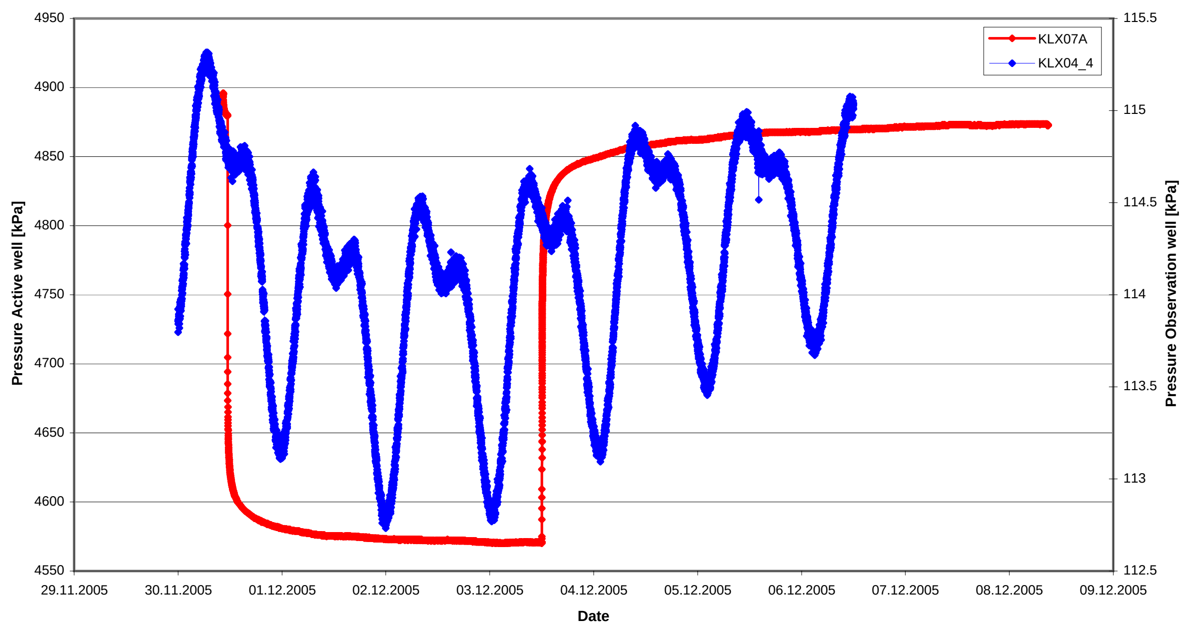
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_5
		Section length:	507.00-530.00
Distance r_s [m]:	1320.25	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	116.8
Pressure in test section before stop of flowing:	p_p	kPa	116.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

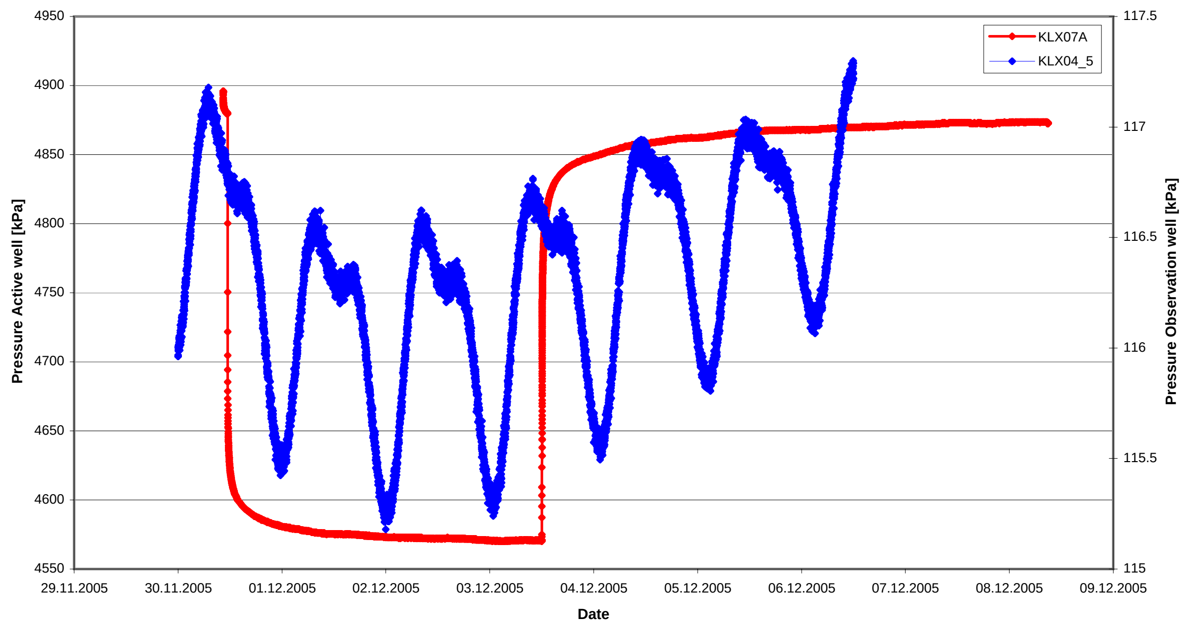
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	610.00-655.00
Test Start:	30.11.2005 10:14	Test Stop:	08.12.2005 08:54
Pump Start:	30.11.2005 11:27	Pump Stop:	03.12.2005 12:03
Flow Rate Q_p [m^3/s]:	2.93E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	4880
Pressure in test section before stop of flowing:	p_p	kPa	4571
Maximum pressure change during flowing period:	dp_p	kPa	309

Observation Hole:	KLX04	Section no.:	KLX04_6
		Section length:	231.00-506.00
Distance r_s [m]:	1324.13	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.9
Pressure in test section before stop of flowing:	p_p	kPa	115.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

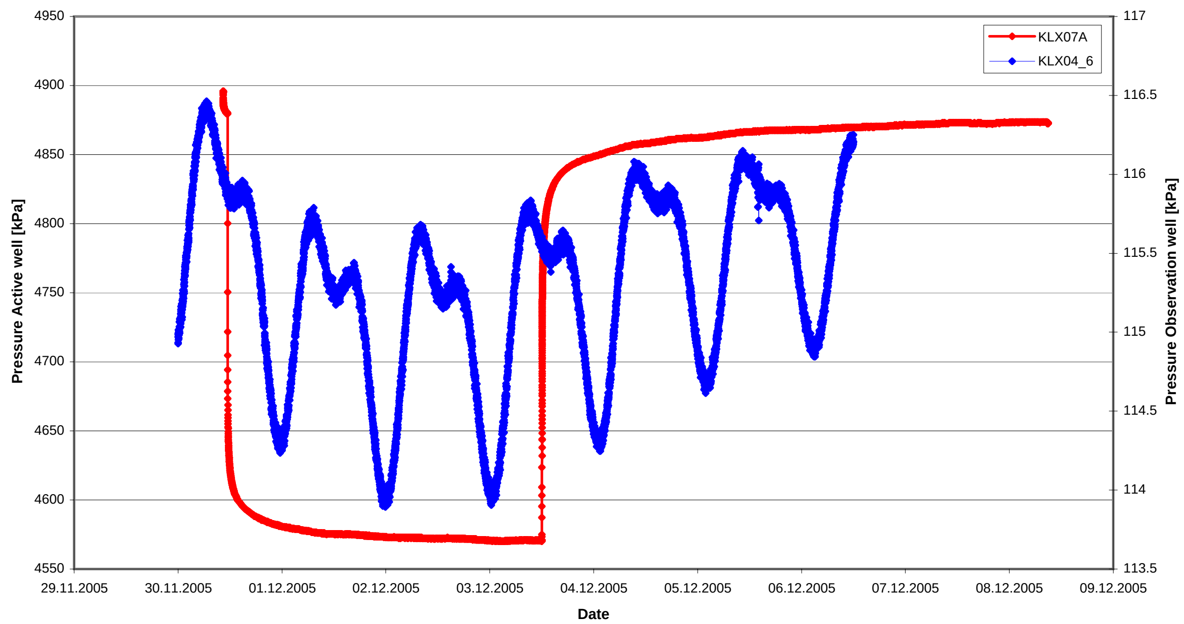
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045				
Pumping Hole:	KLX07A	Pumping Section [m bToC]:			335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:			12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:			08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		3374
Pressure in test section before stop of flowing:		p_p	kPa		3260
Maximum pressure change during flowing period:		dp_p	kPa		114
Observation Hole:	KLX04	Section no.:			KLX04_7
		Section length:			163.00-230.00
Distance r_s [m]:	1224.05	max. Drawdown s_p [m]:*			0.01
Response time dt_L [s]:	#NV				
Pressure data		**Nomenclature**	**Unit**		**Value**
Pressure in test section before start of flowing:		p_i	kPa		115.2
Pressure in test section before stop of flowing:		p_p	kPa		115.3
Maximum pressure change during flowing period:*		dp_p	kPa		0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

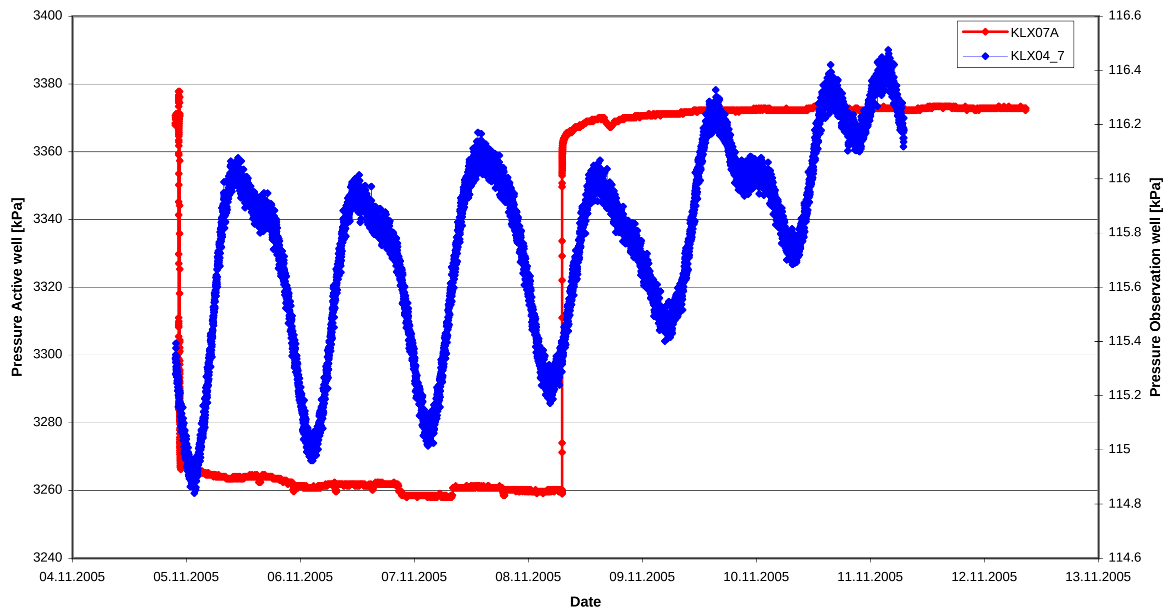
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX04	Section no.:	KLX04_8
		Section length:	12.24-162.00
Distance r_s [m]:	1234.59	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	119.4
Pressure in test section before stop of flowing:	p_p	kPa	119.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

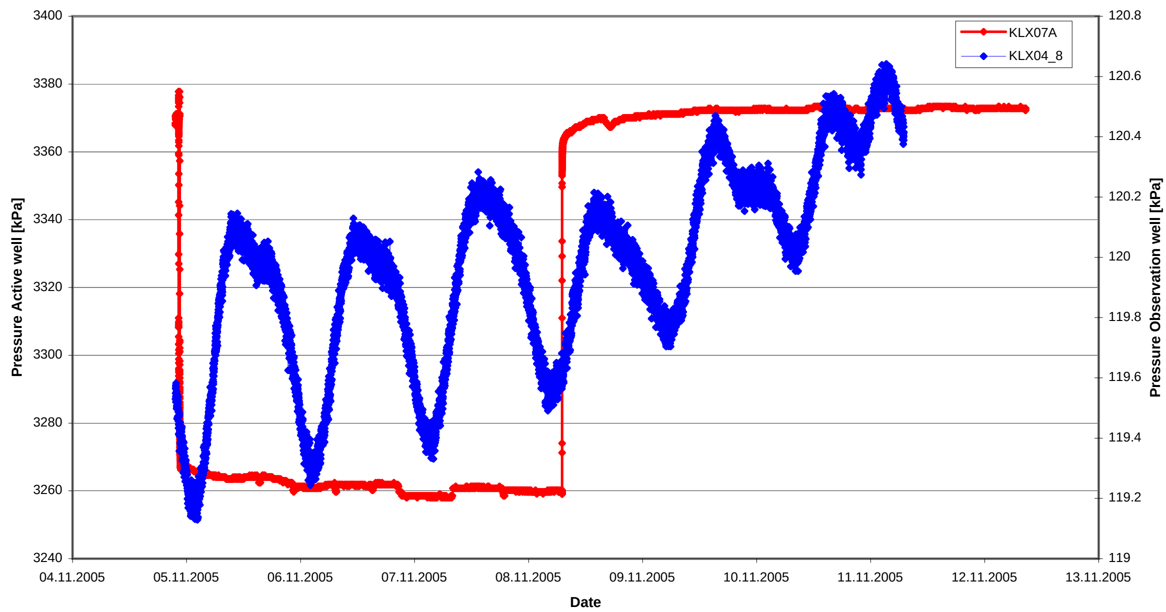
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_1
		Section length:	112.00-200.00
Distance r_s [m]:	280.96	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	2238		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.7
Pressure in test section before stop of flowing:	p_p	kPa	63.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **35.27**

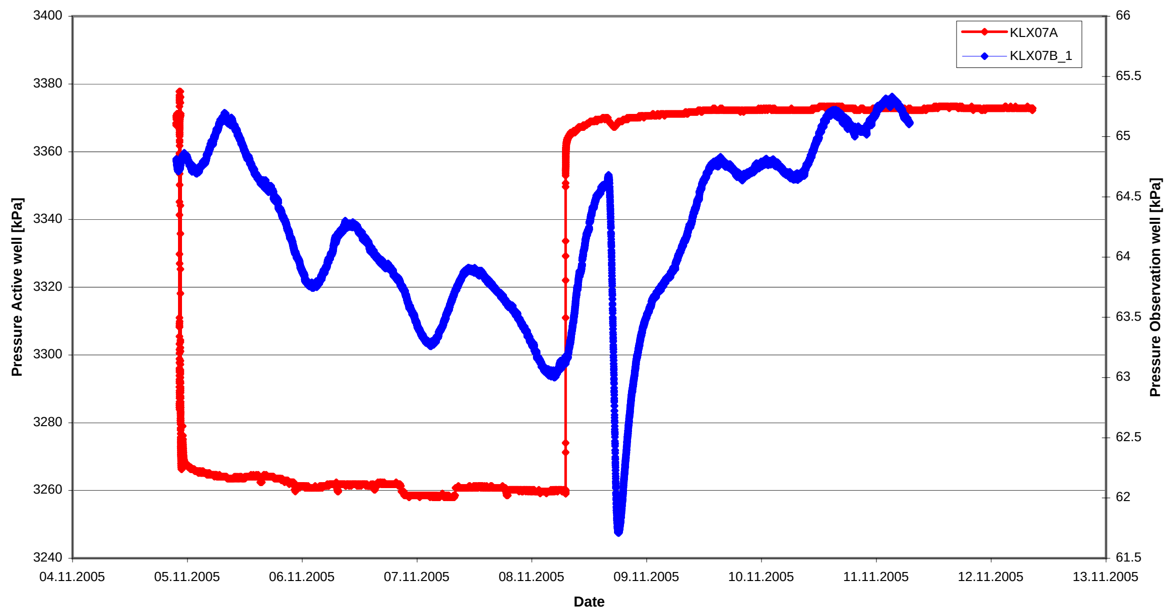
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **540.06**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3044.99**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_2
		Section length:	49.00-111.00
Distance r_s [m]:	332.03	max. Drawdown s_p [m]:*	0.17
Response time dt_L [s]:	1852		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	63.9
Pressure in test section before stop of flowing:	p_p	kPa	62.2
Maximum pressure change during flowing period:*	dp_p	kPa	1.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **59.53**

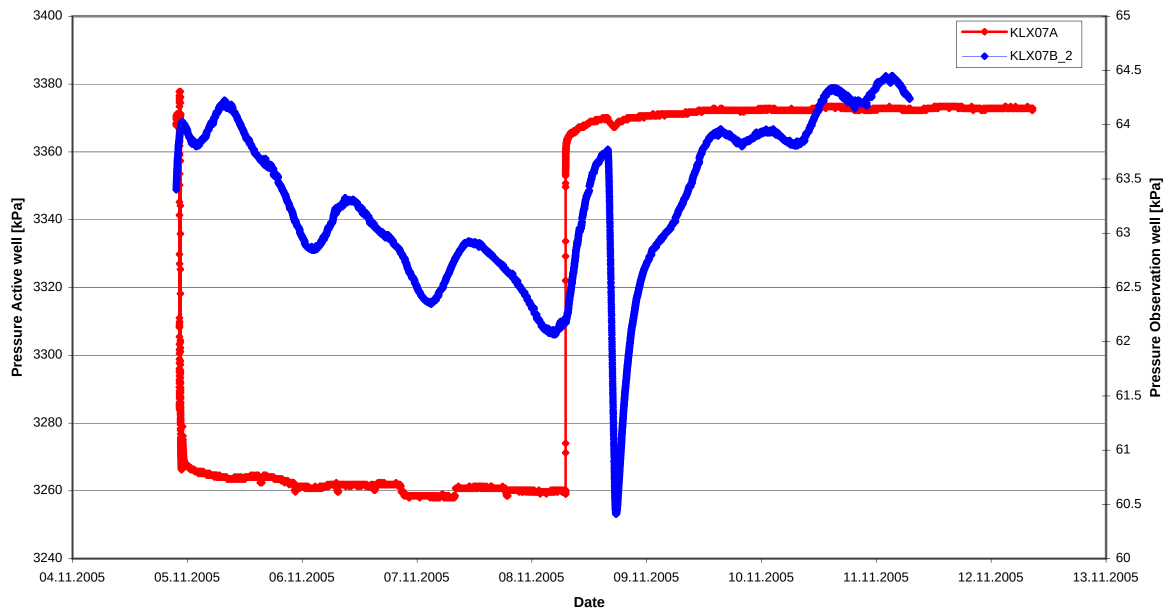
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **573.82**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3331.13**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	335.00-455.00
Test Start:	04.11.2005 21:35	Test Stop:	12.11.2005 08:36
Pump Start:	04.11.2005 22:33	Pump Stop:	08.11.2005 07:03
Flow Rate Q_p [m^3/s]:	3.02E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	3374
Pressure in test section before stop of flowing:	p_p	kPa	3260
Maximum pressure change during flowing period:	dp_p	kPa	114

Observation Hole:	KLX07B	Section no.:	KLX07B_3
		Section length:	0.00-48.00
Distance r_s [m]:	375.09	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	1165		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.6
Pressure in test section before stop of flowing:	p_p	kPa	63.0
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **120.77**

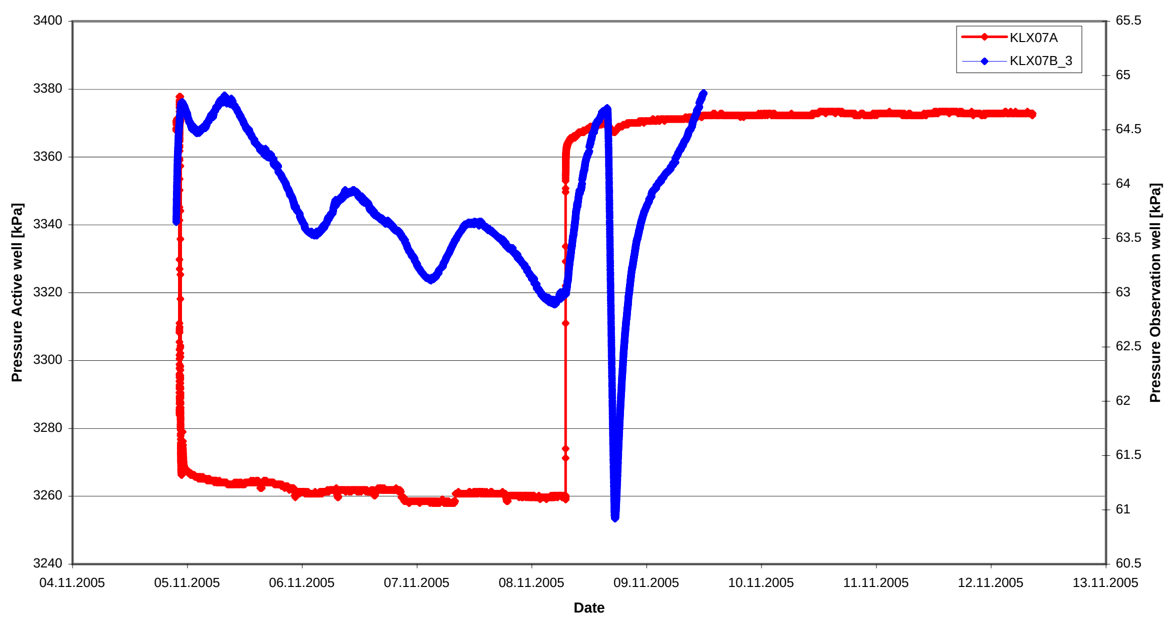
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **540.06**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **3201.04**

* see comment

Comment: clear response due to pumping in source
pressure changes influenced additionally by natural fluctuations
(e.g. tidal effects)



APPENDIX 6-5

Index calculation

KLX07A Section 747.00-792.00 m pumped

Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX01	Section no.:	HLX01_1
		Section length:	16.00-100.63
Distance r_s [m]:	1226.22	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.2
Pressure in test section before stop of flowing:	p_p	kPa	63.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

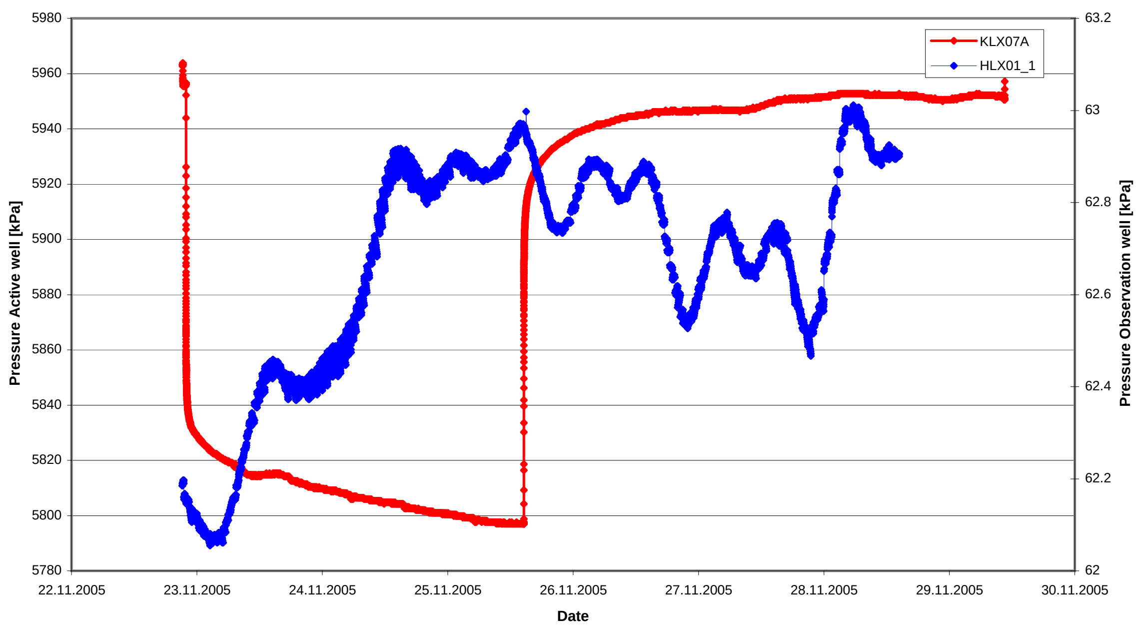
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX02	Section no.:	HLX02_1
		Section length:	0.6-132.00
Distance r_s [m]:	2042.12	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	43.8
Pressure in test section before stop of flowing:	p_p	kPa	43.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

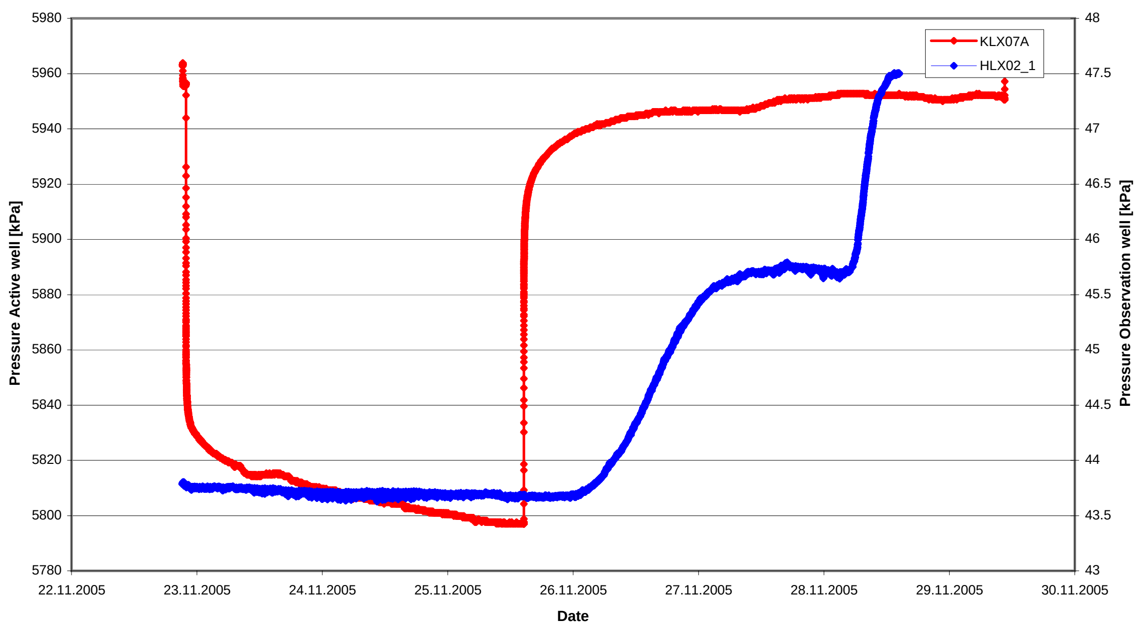
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX06	Section no.:	HLX06_1
		Section length:	1.0-100.0
Distance r_s [m]:	1156.05	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	77.7
Pressure in test section before stop of flowing:	p_p	kPa	78.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

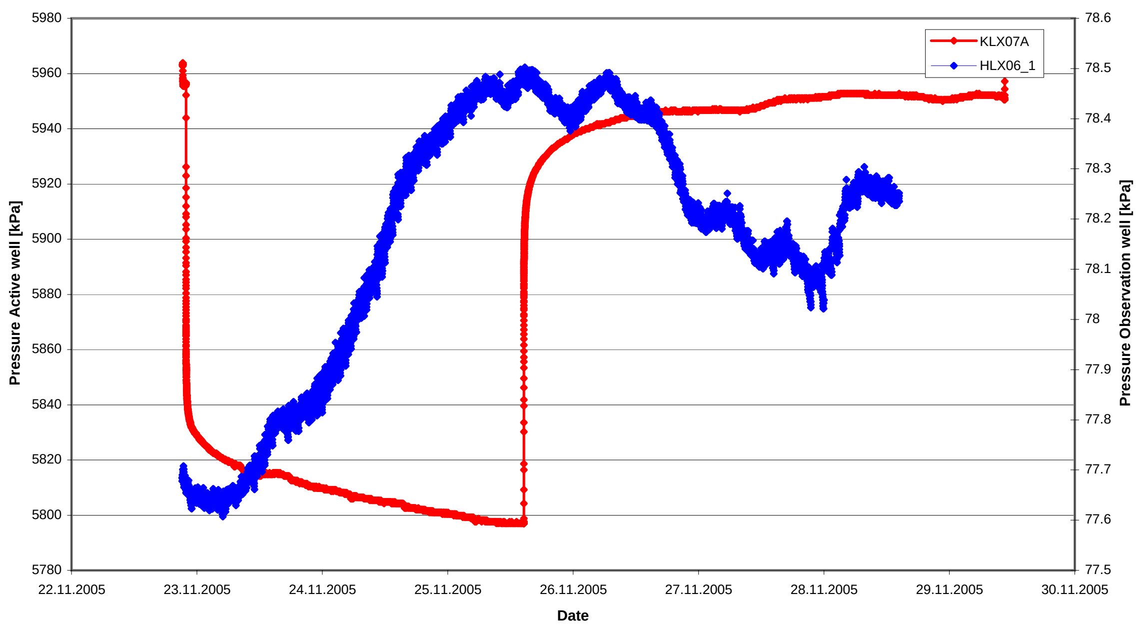
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX07	Section no.:	HLX07_1
		Section length:	16.0-100.0
Distance r_s [m]:	1303.89	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	55.1
Pressure in test section before stop of flowing:	p_p	kPa	55.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

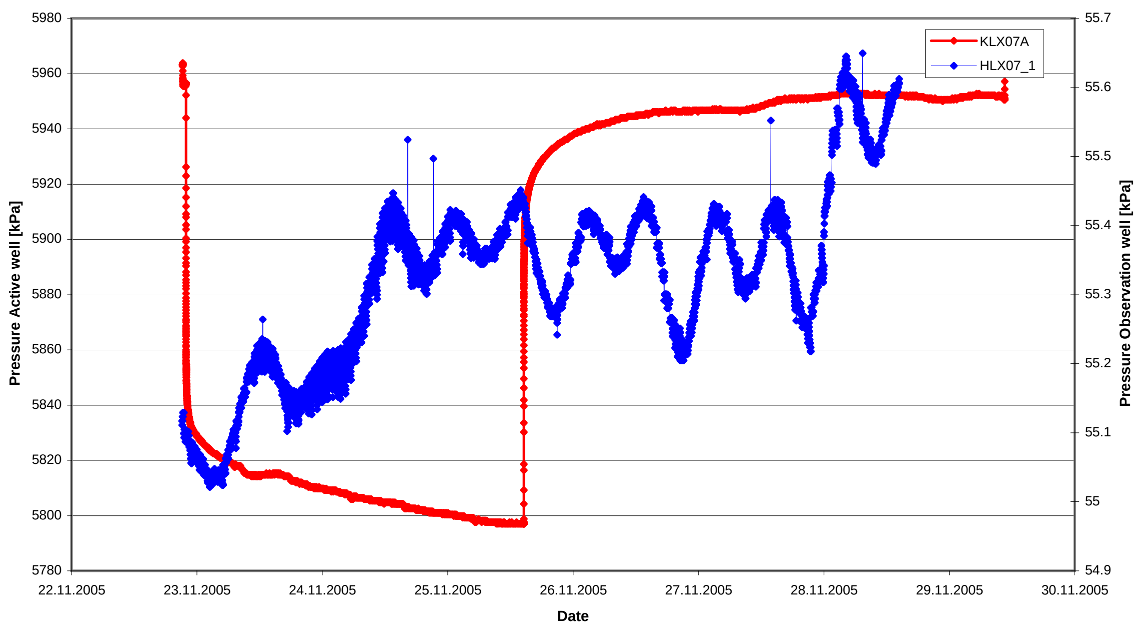
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX10	Section no.:	HLX10_1
		Section length:	3.00-85.00
Distance r_s [m]:	615.73	max. Drawdown s_p [m]:*	0.13
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	49.6
Pressure in test section before stop of flowing:	p_p	kPa	50.9
Maximum pressure change during flowing period:*	dp_p	kPa	1.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

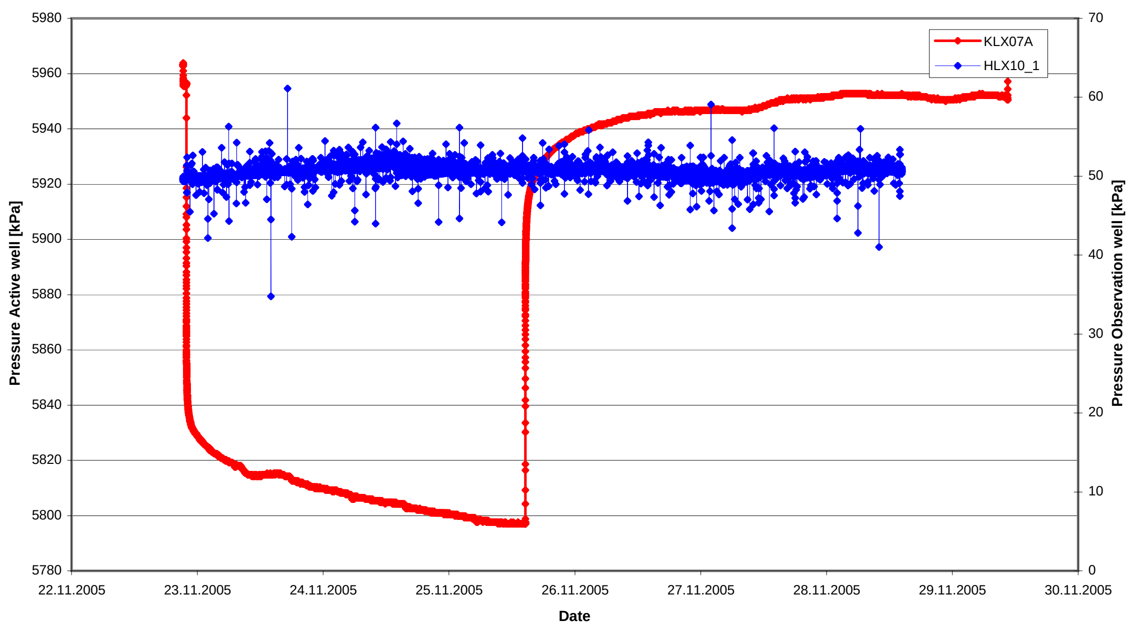
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX11	Section no.:	HLX11_1
		Section length:	17.00-70.00
Distance r_s [m]:	664.96	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	62.8
Pressure in test section before stop of flowing:	p_p	kPa	63.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

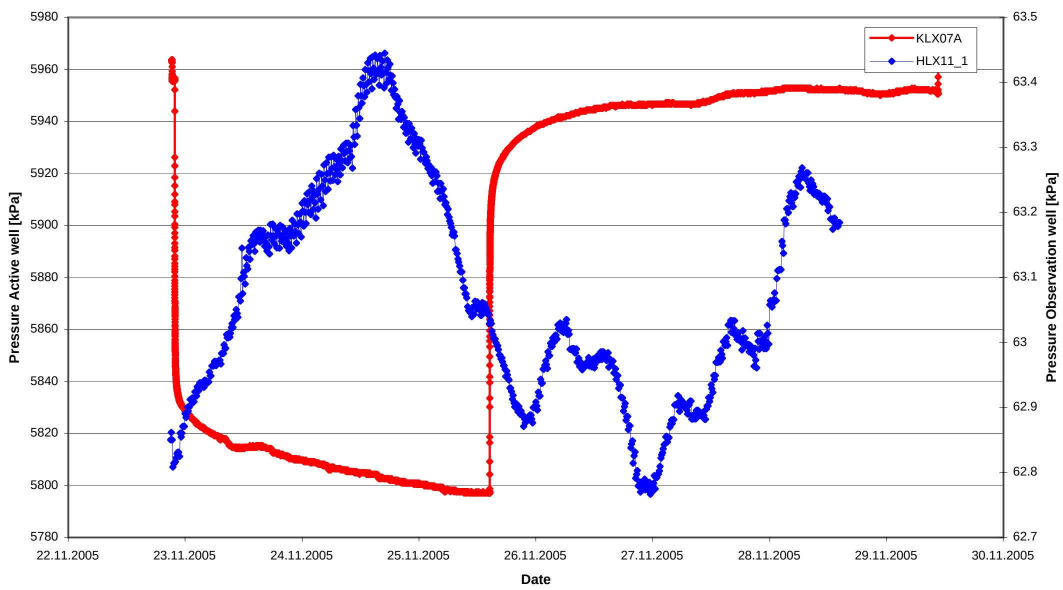
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX11	Section no.:	HLX11_2
		Section length:	6.00-16.00
Distance r_s [m]:	677.66	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	61.7
Pressure in test section before stop of flowing:	p_p	kPa	62.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

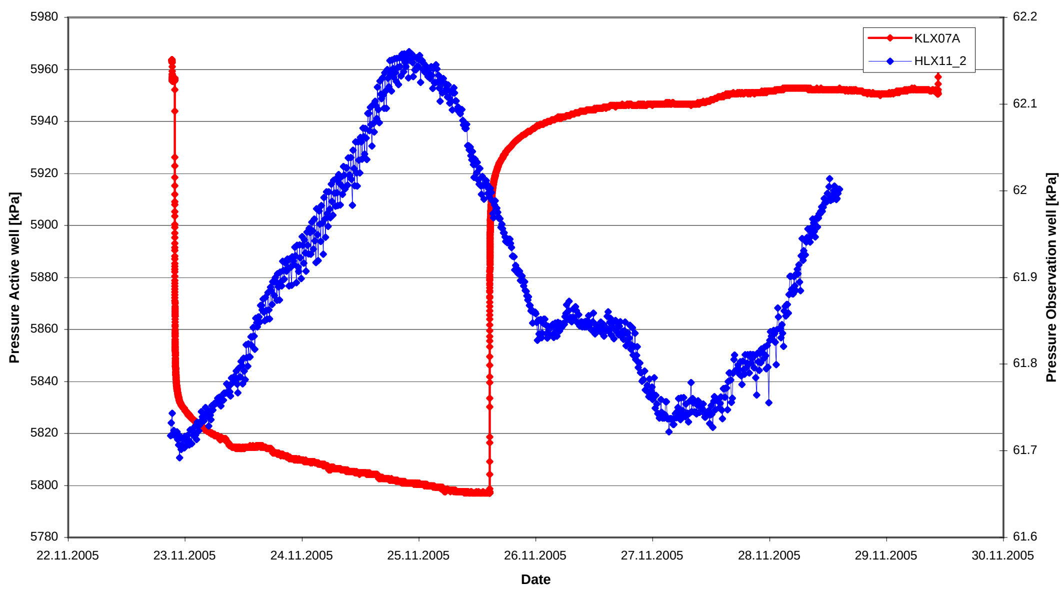
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX13	Section no.:	HLX13_1
		Section length:	11.87-200.2
Distance r_s [m]:	1759.97	max. Drawdown s_p [m]:*	0.09
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	120.4
Pressure in test section before stop of flowing:	p_p	kPa	121.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.9

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

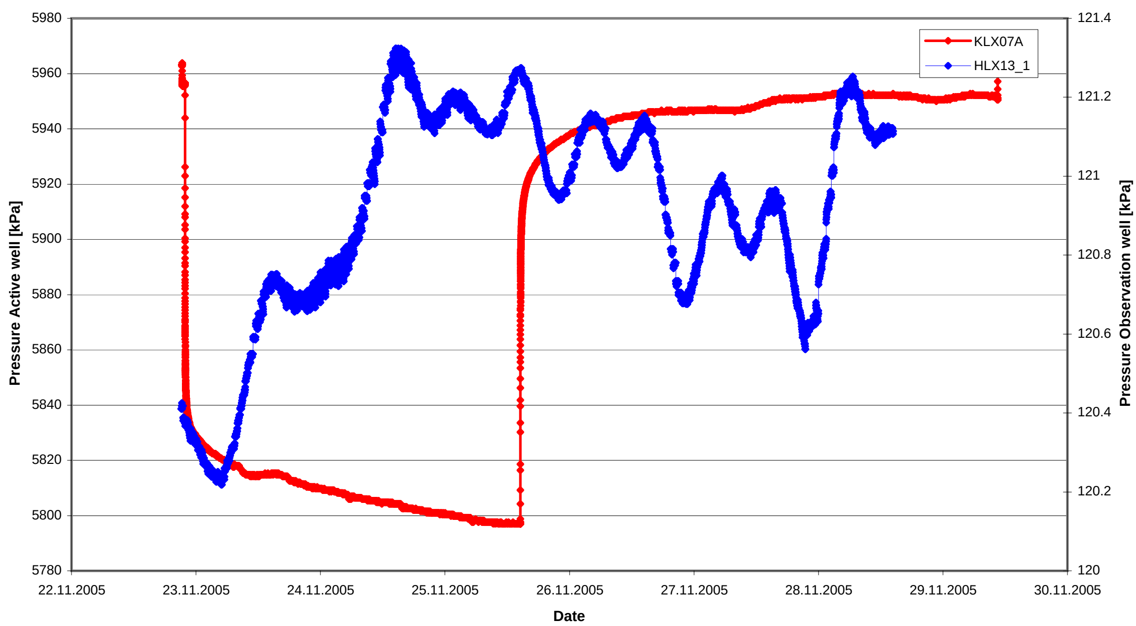
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX14	Section no.:	HLX14_1
		Section length:	11.00-115.90
Distance r_s [m]:	1792.00	max. Drawdown s_p [m]:*	0.10
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	117.1
Pressure in test section before stop of flowing:	p_p	kPa	118.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

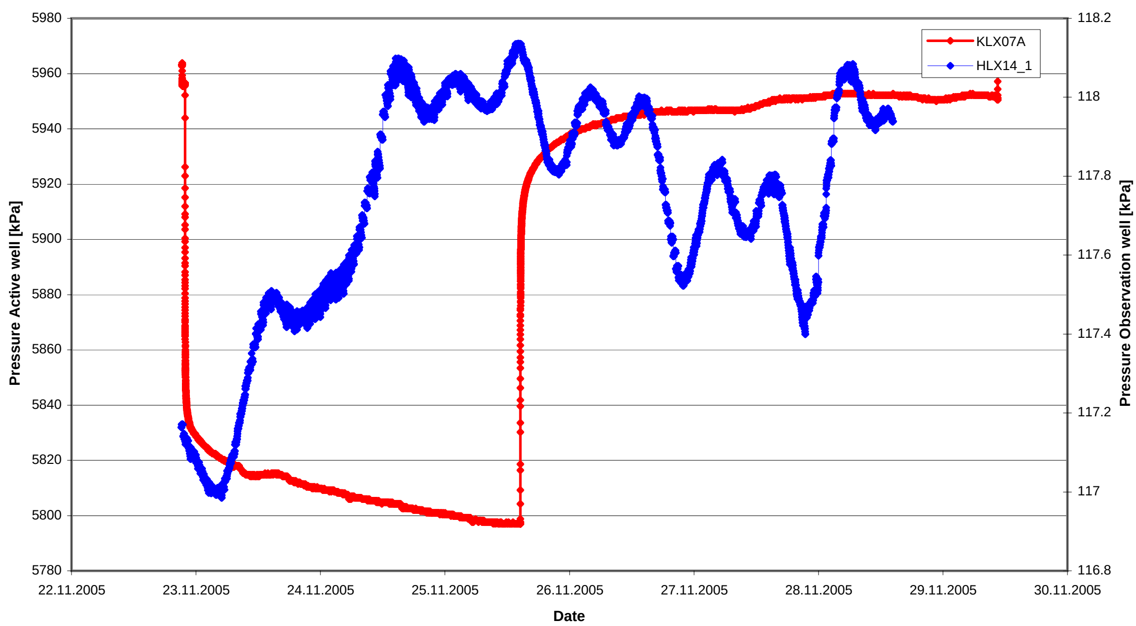
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX21	Section no.:	HLX21_1
		Section length:	81.00-150.00
Distance r_s [m]:	678.15	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	52.0
Pressure in test section before stop of flowing:	p_p	kPa	52.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

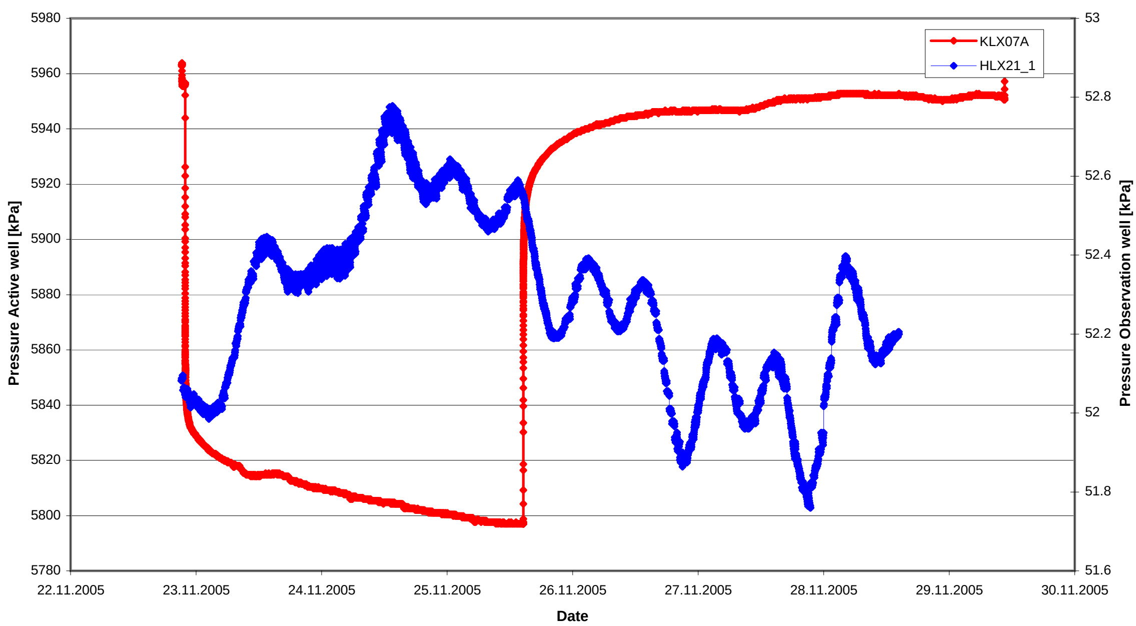
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX21	Section no.:	HLX21_2
		Section length:	9.10-80.00
Distance r_s [m]:	695.83	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.8
Pressure in test section before stop of flowing:	p_p	kPa	51.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 r_s^2/dt_L (m^2/s): **#NV**

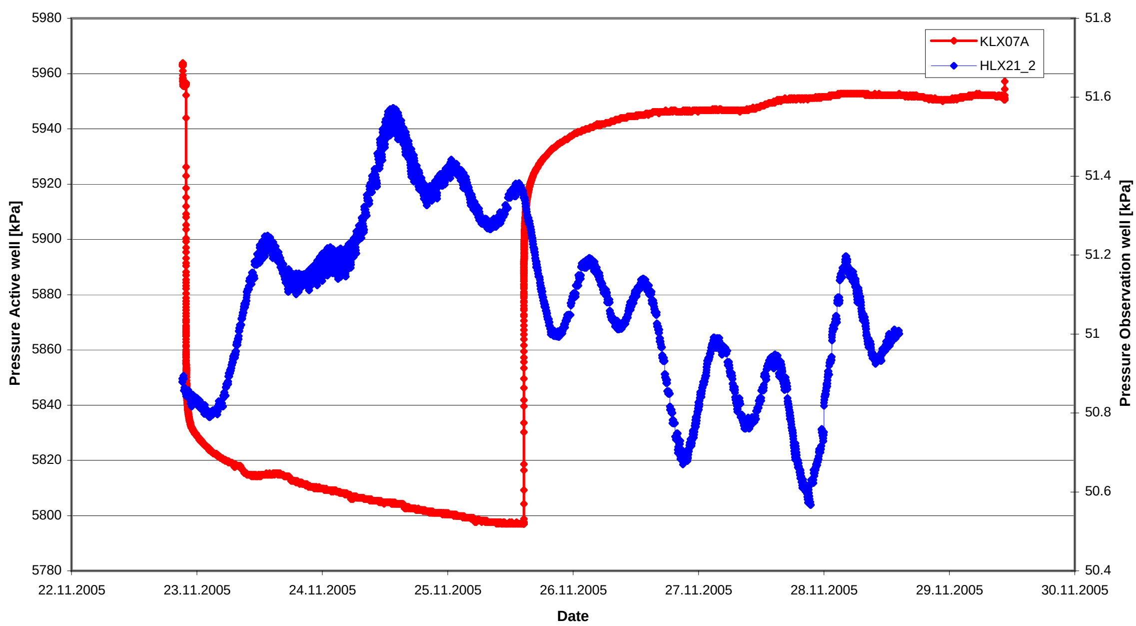
Normalized drawdown with respect to pumping flow rate

Index 2 s_p/Q_p (s/m^2): **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX22	Section no.:	HLX22_1
		Section length:	86.00-163.20
Distance r_s [m]:	702.00	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	50.8
Pressure in test section before stop of flowing:	p_p	kPa	51.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

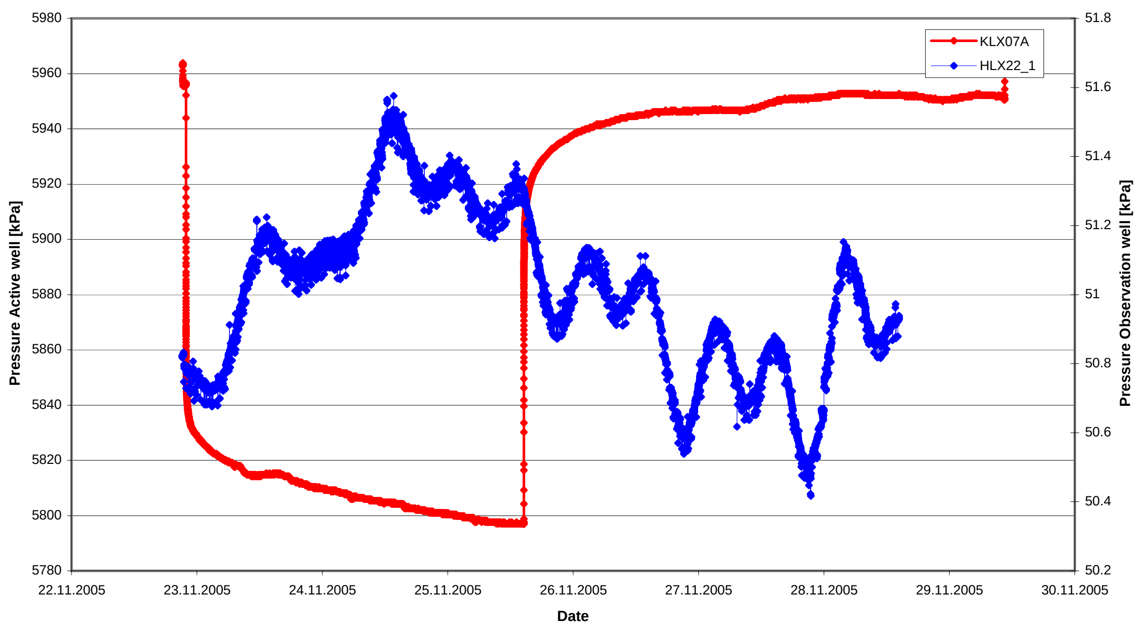
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX22	Section no.:	HLX22_2
		Section length:	9.19-85.00
Distance r_s [m]:	721.00	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	37.9
Pressure in test section before stop of flowing:	p_p	kPa	38.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

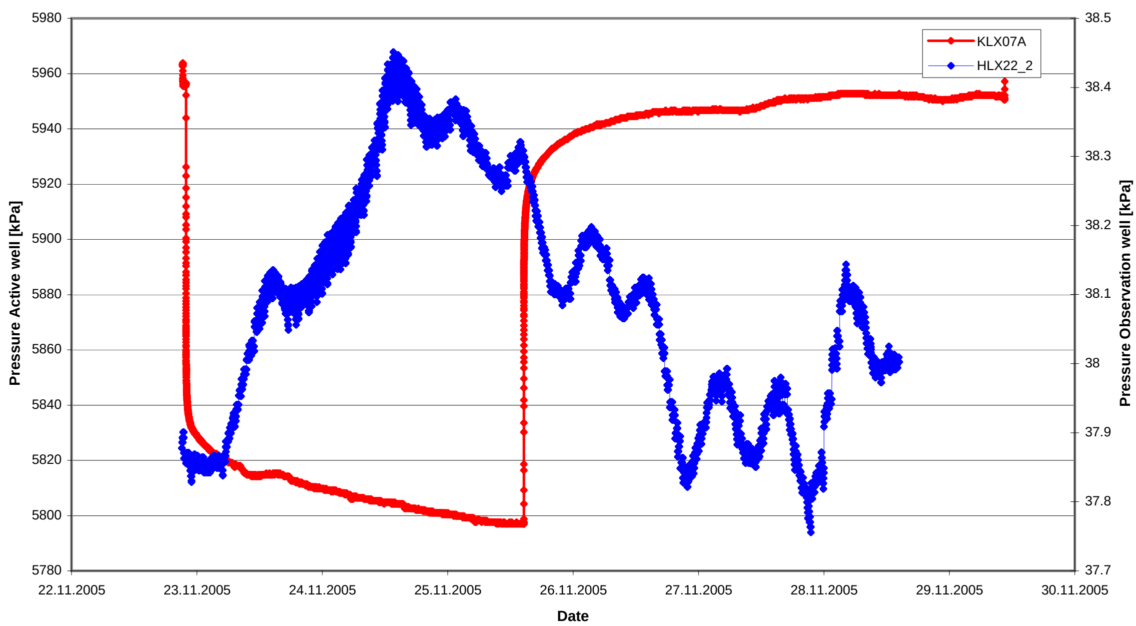
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX23	Section no.:	HLX23_1
		Section length:	61.00-160.20
Distance r_s [m]:	698.87	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.3
Pressure in test section before stop of flowing:	p_p	kPa	98.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

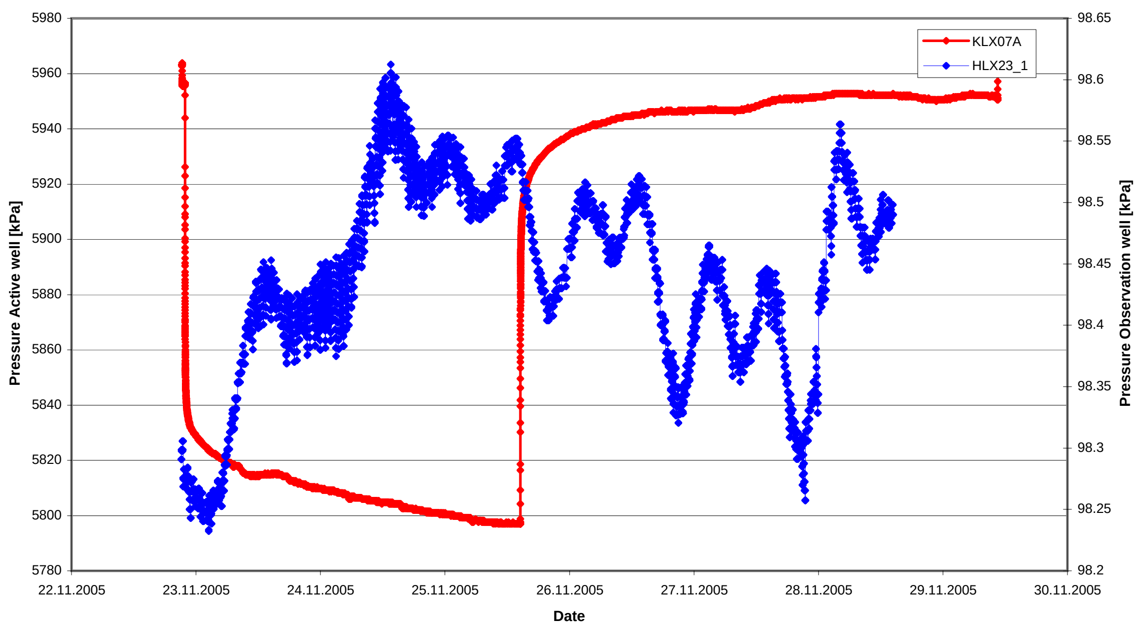
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX23	Section no.:	HLX23_2
		Section length:	6.10-60.00
Distance r_s [m]:	713.82	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	96.3
Pressure in test section before stop of flowing:	p_p	kPa	96.6
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

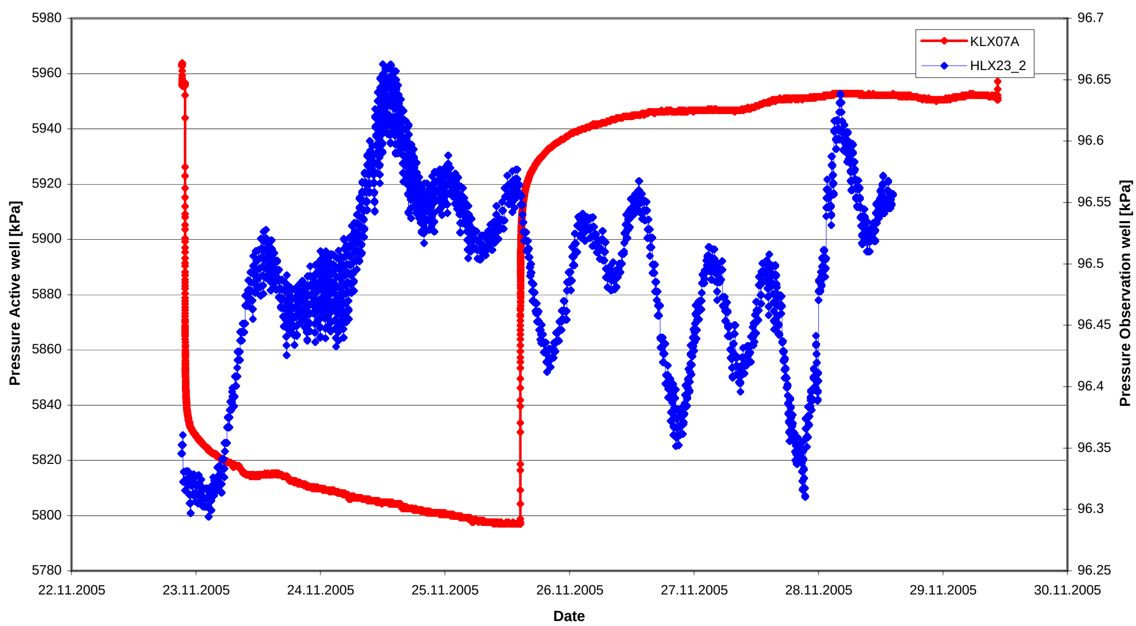
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX24	Section no.:	HLX24_1
		Section length:	41.00-175.20
Distance r_s [m]:	692.22	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	98.4
Pressure in test section before stop of flowing:	p_p	kPa	98.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

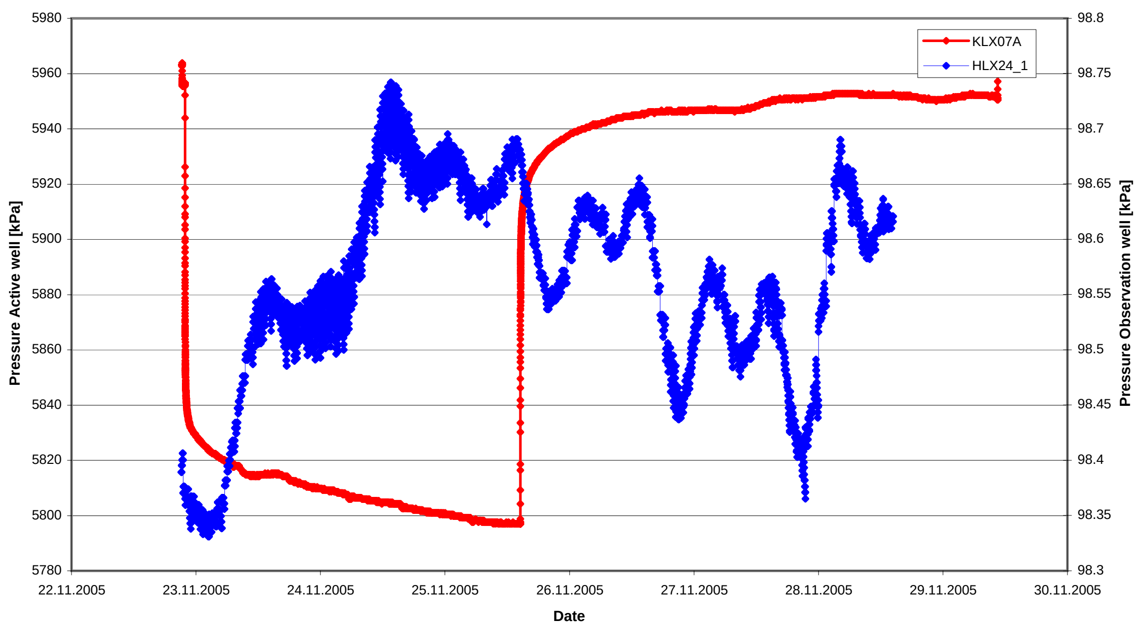
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX24	Section no.:	HLX24_2
		Section length:	9.10-40.00
Distance r_s [m]:	732.87	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.0
Pressure in test section before stop of flowing:	p_p	kPa	100.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

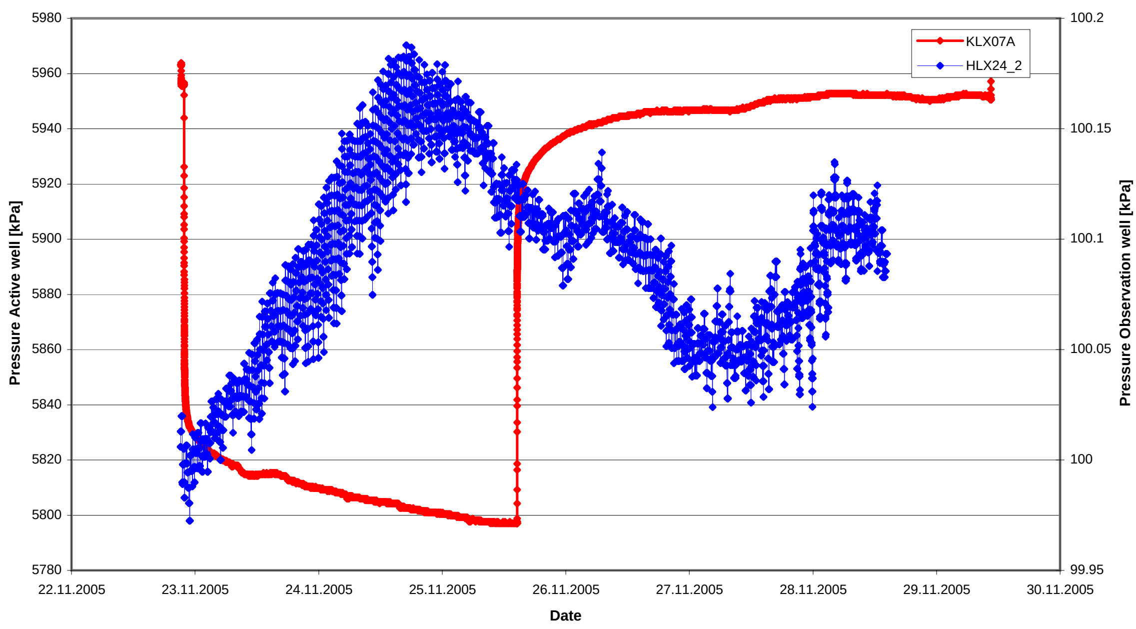
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX25	Section no.:	HLX25_1
		Section length:	61.00-202.50
Distance r_s [m]:	1637.74	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.4
Pressure in test section before stop of flowing:	p_p	kPa	112.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

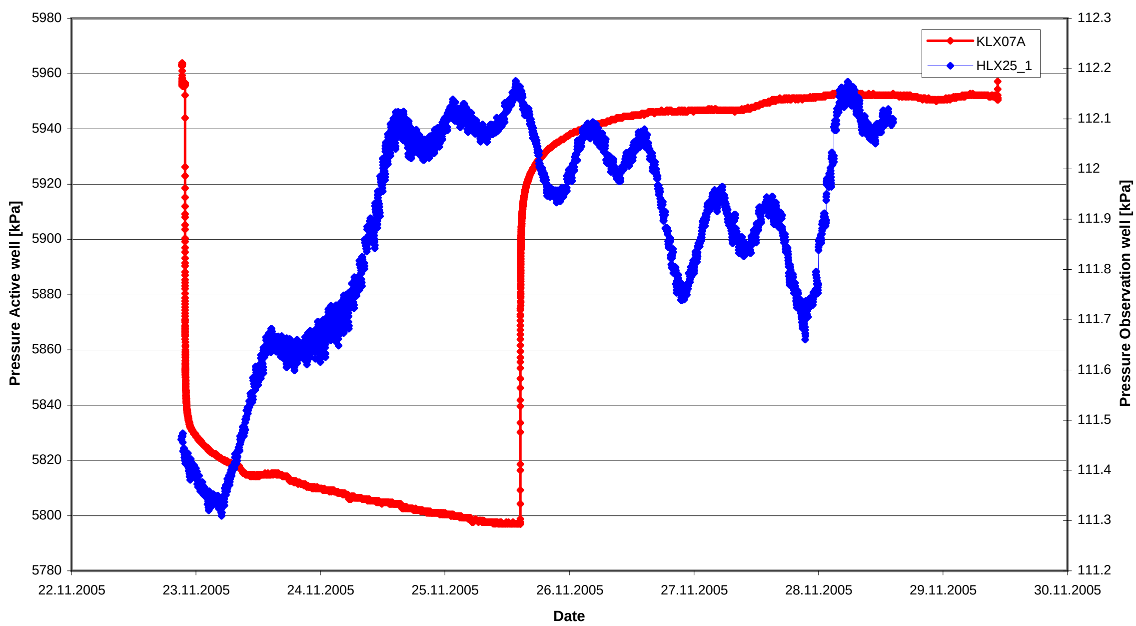
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX25	Section no.:	HLX25_2
		Section length:	6.12-60.00
Distance r_s [m]:	1648.73	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	111.6
Pressure in test section before stop of flowing:	p_p	kPa	111.8
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

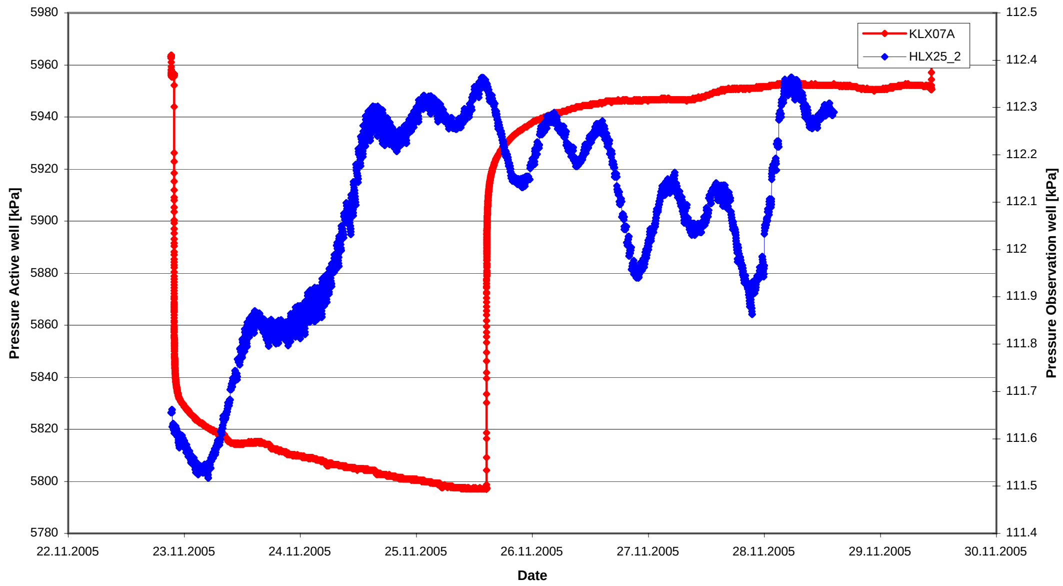
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX30	Section no.:	HLX30_1
		Section length:	101.00-163.40
Distance r_s [m]:	1355.95	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.9
Pressure in test section before stop of flowing:	p_p	kPa	107.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

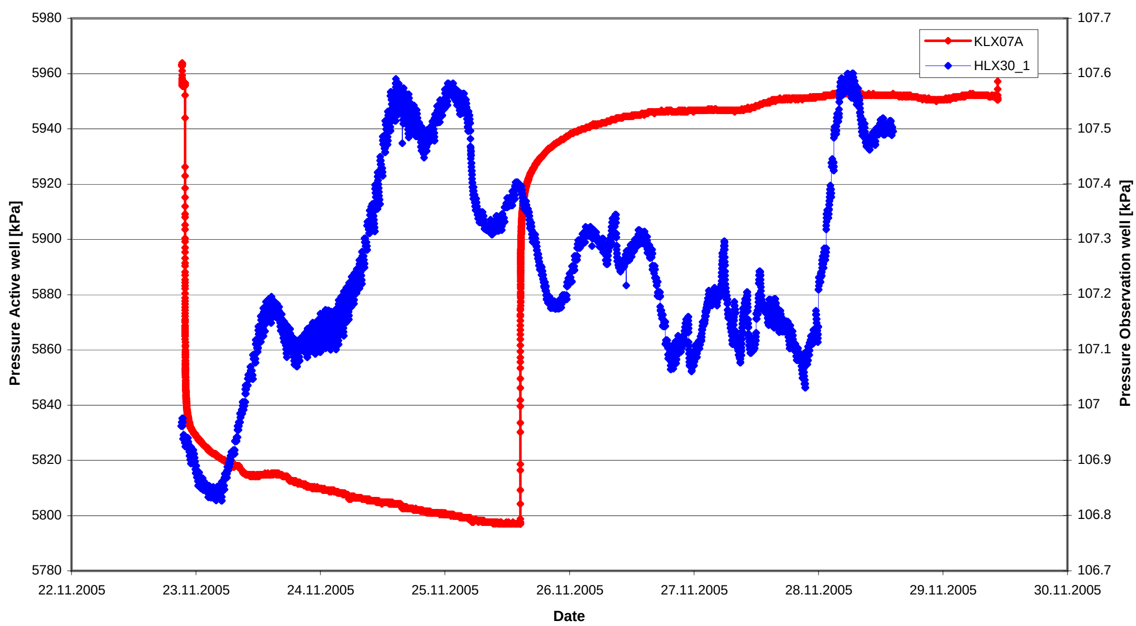
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX30	Section no.:	HLX30_2
		Section length:	9.10-100.00
Distance r_s [m]:	1383.70	max. Drawdown s_p [m]:*	0.04
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	106.5
Pressure in test section before stop of flowing:	p_p	kPa	106.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

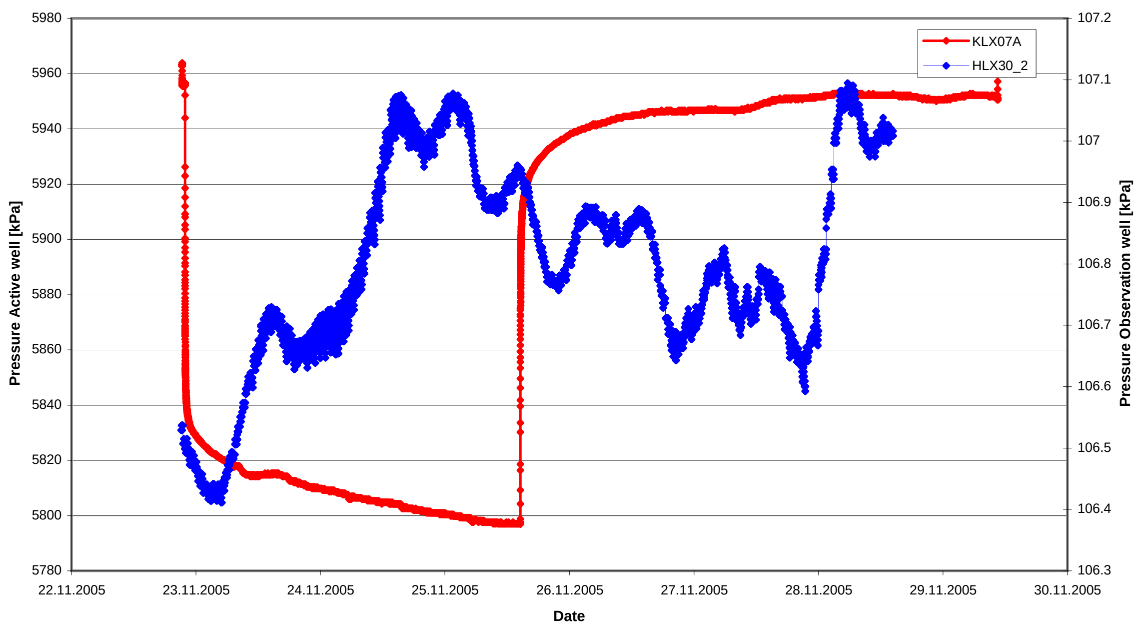
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX31	Section no.:	HLX31_1
		Section length:	9.10-133.20
Distance r_s [m]:	1315.16	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	107.0
Pressure in test section before stop of flowing:	p_p	kPa	107.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

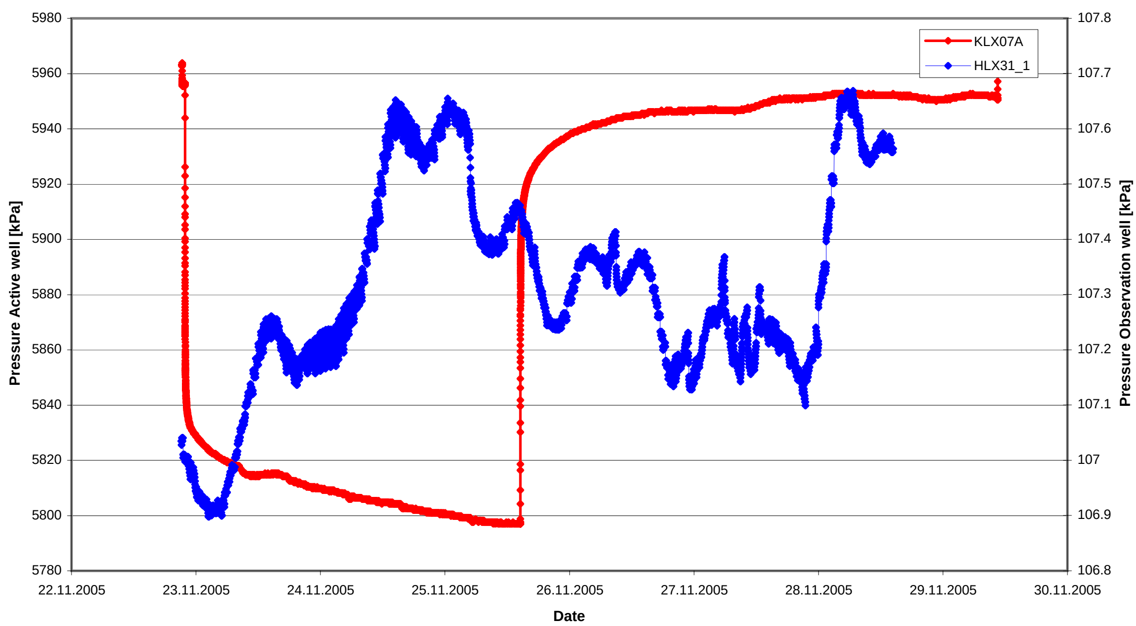
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX33	Section no.:	HLX33_1
		Section length:	31.00-202.10
Distance r_s [m]:	835.81	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.2
Pressure in test section before stop of flowing:	p_p	kPa	100.7
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

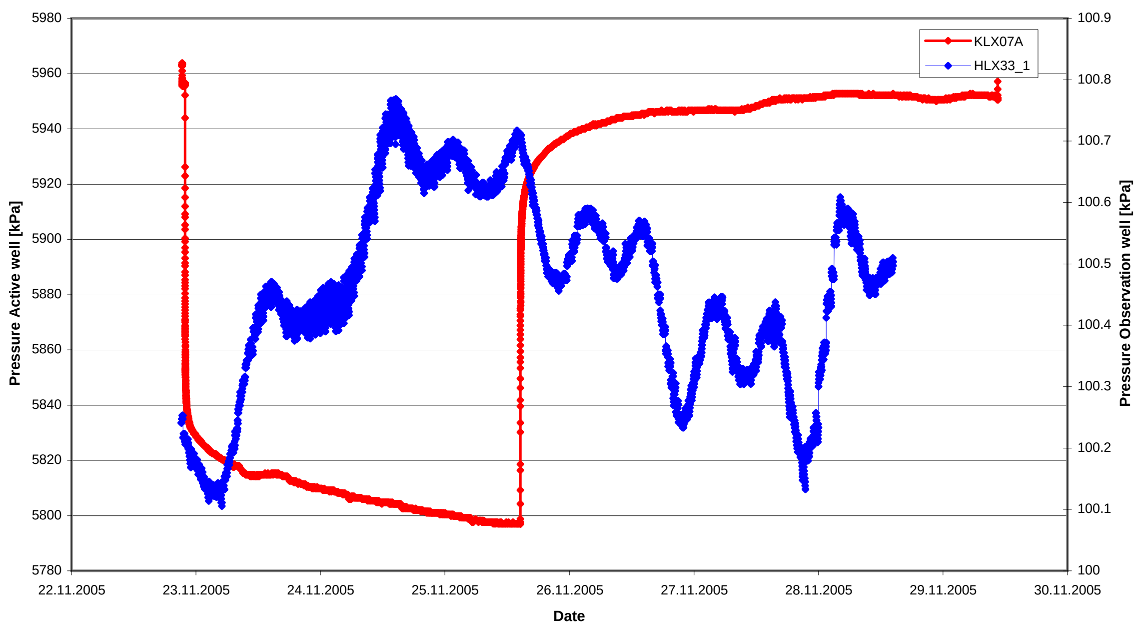
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX33	Section no.:	HLX33_2
		Section length:	9.10-30.00
Distance r_s [m]:	913.36	max. Drawdown s_p [m]:*	0.05
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	100.0
Pressure in test section before stop of flowing:	p_p	kPa	100.5
Maximum pressure change during flowing period:*	dp_p	kPa	0.5

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

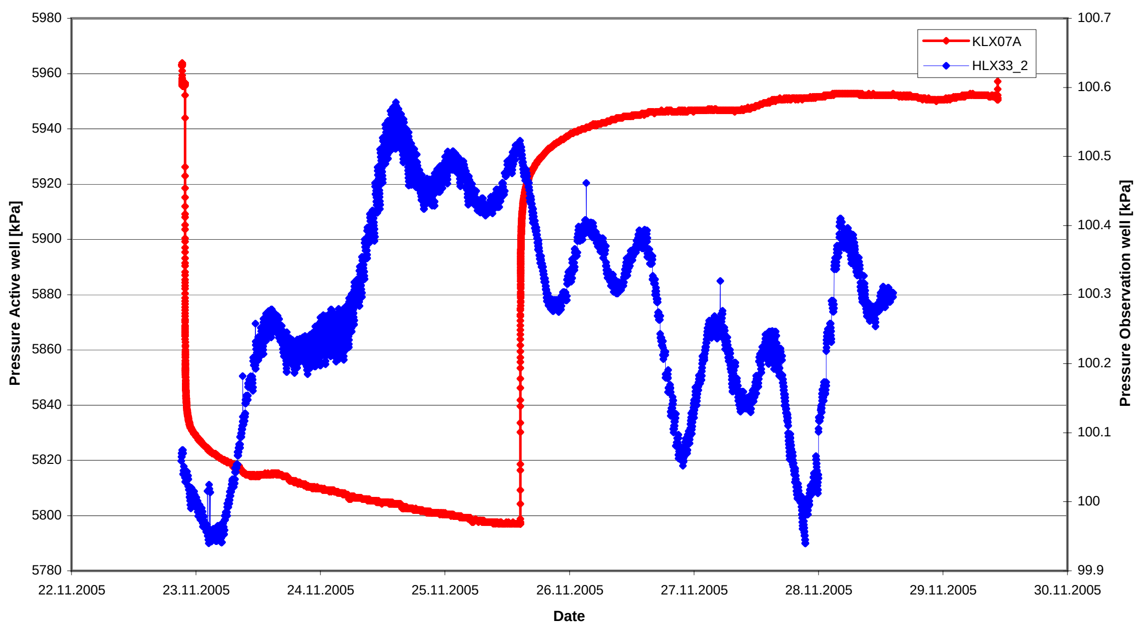
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX34	Section no.:	HLX34_1
		Section length:	9.00-151.80
Distance r_s [m]:	2054.64	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	133.6
Pressure in test section before stop of flowing:	p_p	kPa	133.9
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

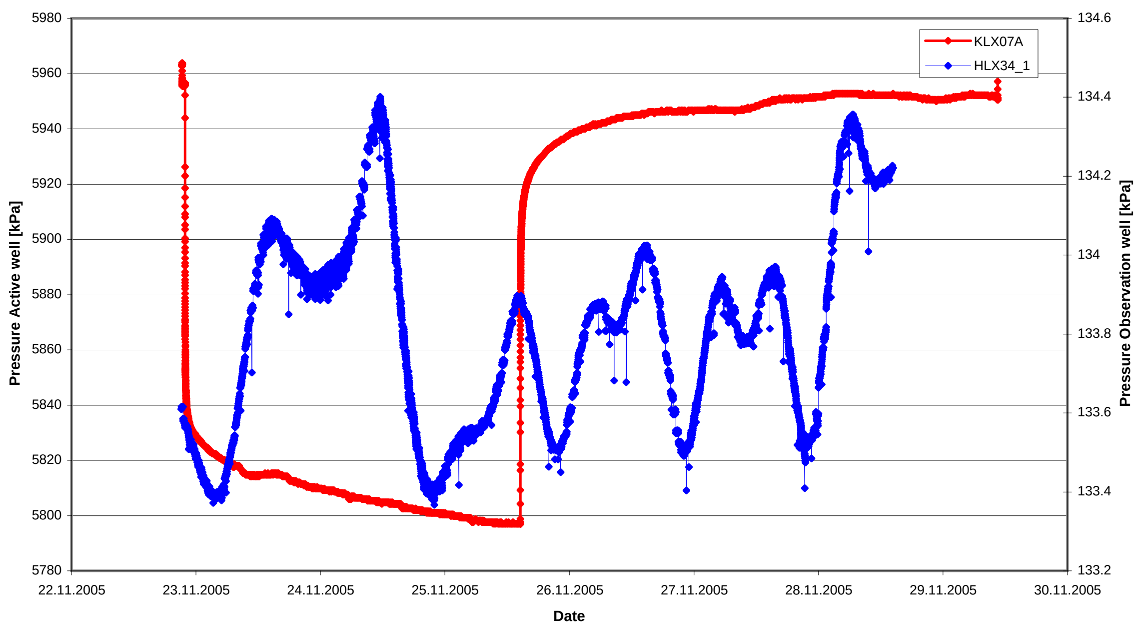
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX35	Section no.:	HLX35_1
		Section length:	65.00-151.50
Distance r_s [m]:	2023.09	max. Drawdown s_p [m]:*	0.08
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	132.3
Pressure in test section before stop of flowing:	p_p	kPa	133.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.8

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

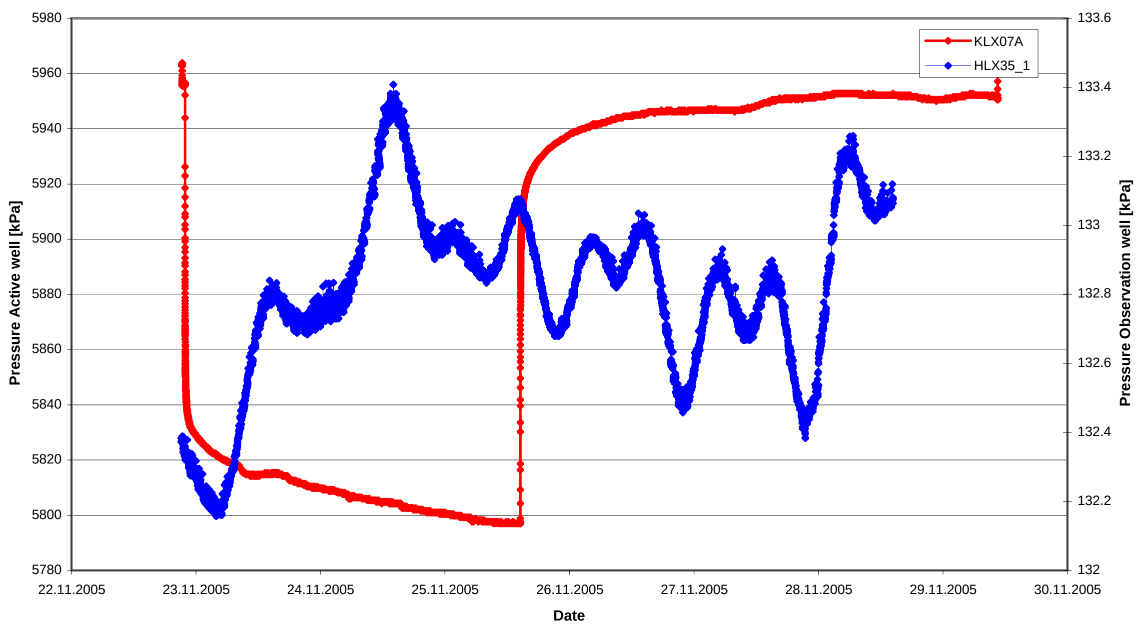
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	HLX35	Section no.:	HLX35_2
		Section length:	6.00-64.00
Distance r_s [m]:	2099.36	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.1
Pressure in test section before stop of flowing:	p_p	kPa	114.3
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

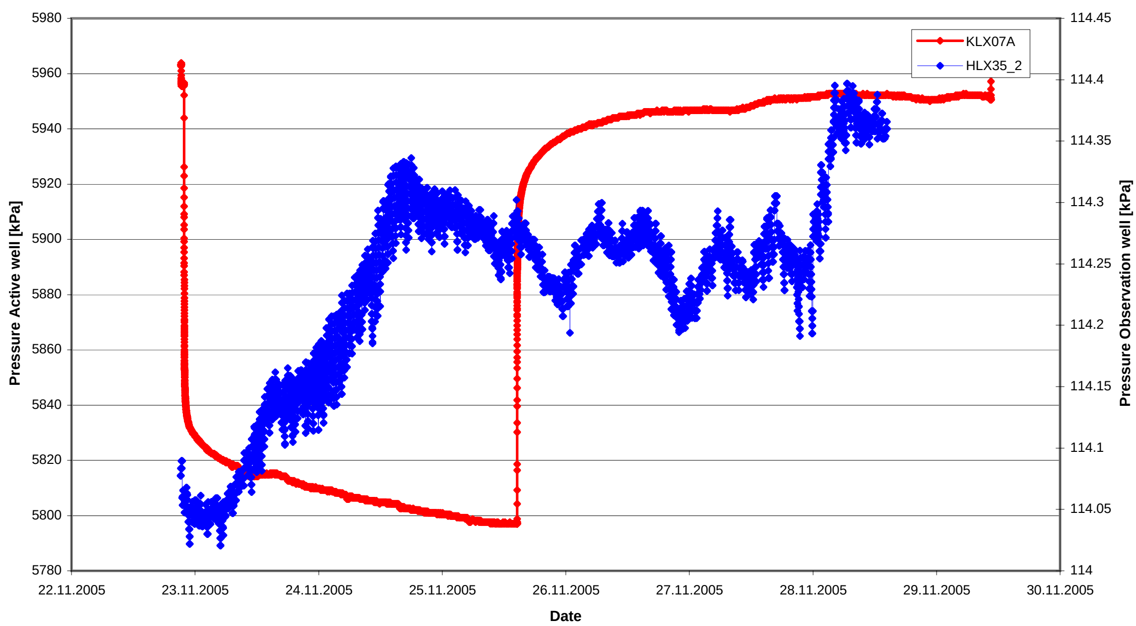
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX01	Section no.:	KLX01_1
		Section length:	705.00-1077.99
Distance r_s [m]:	1465.21	max. Drawdown s_p [m]:*	0.21
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	-19.9
Pressure in test section before stop of flowing:	p_p	kPa	-17.8
Maximum pressure change during flowing period:*	dp_p	kPa	2.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

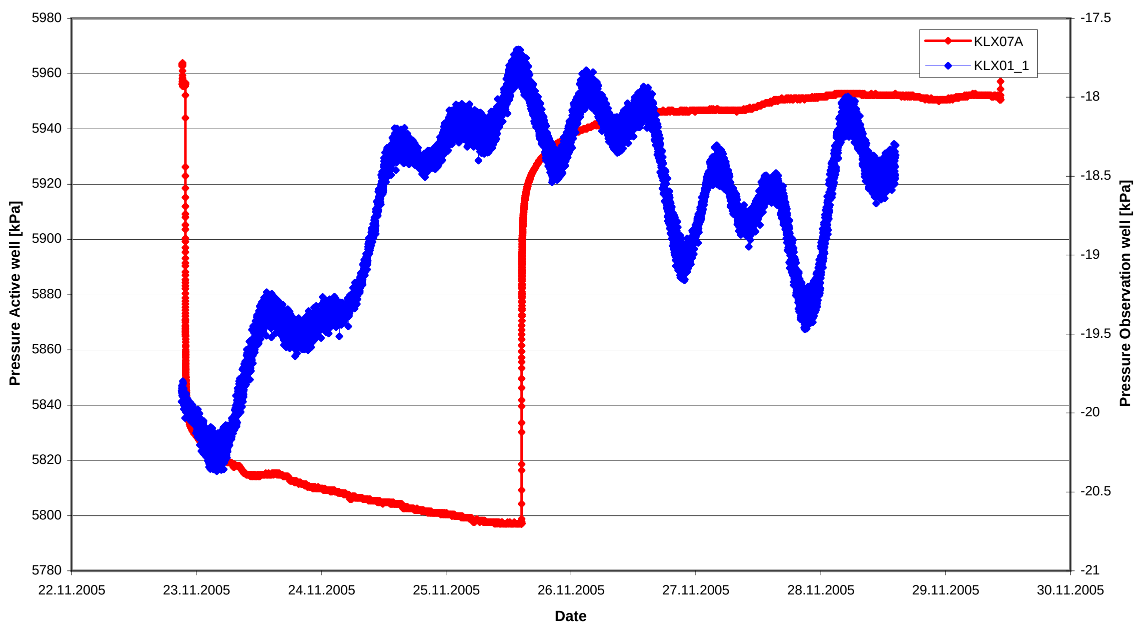
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX01	Section no.:	KLX01_2
		Section length:	191.00-704.00
Distance r_s [m]:	1420.65	max. Drawdown s_p [m]:*	0.21
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	53.9
Pressure in test section before stop of flowing:	p_p	kPa	56.0
Maximum pressure change during flowing period:*	dp_p	kPa	2.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

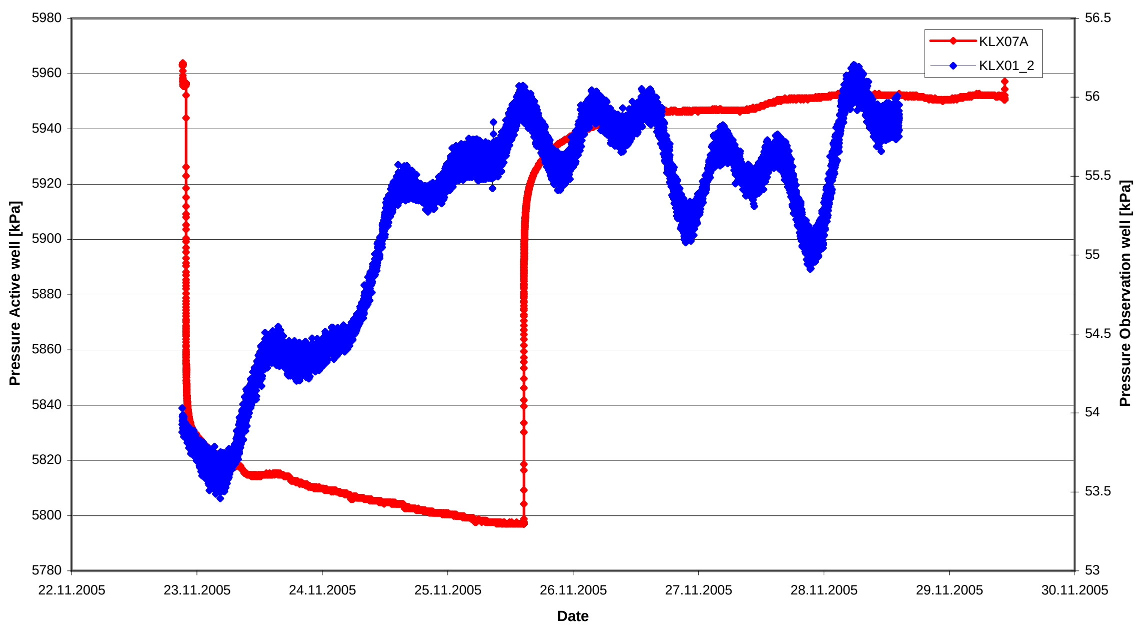
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX01	Section no.:	KLX01_3
		Section length:	171.00-190.00
Distance r_s [m]:	1458.66	max. Drawdown s_p [m]:*	0.13
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.8
Pressure in test section before stop of flowing:	p_p	kPa	66.1
Maximum pressure change during flowing period:*	dp_p	kPa	1.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

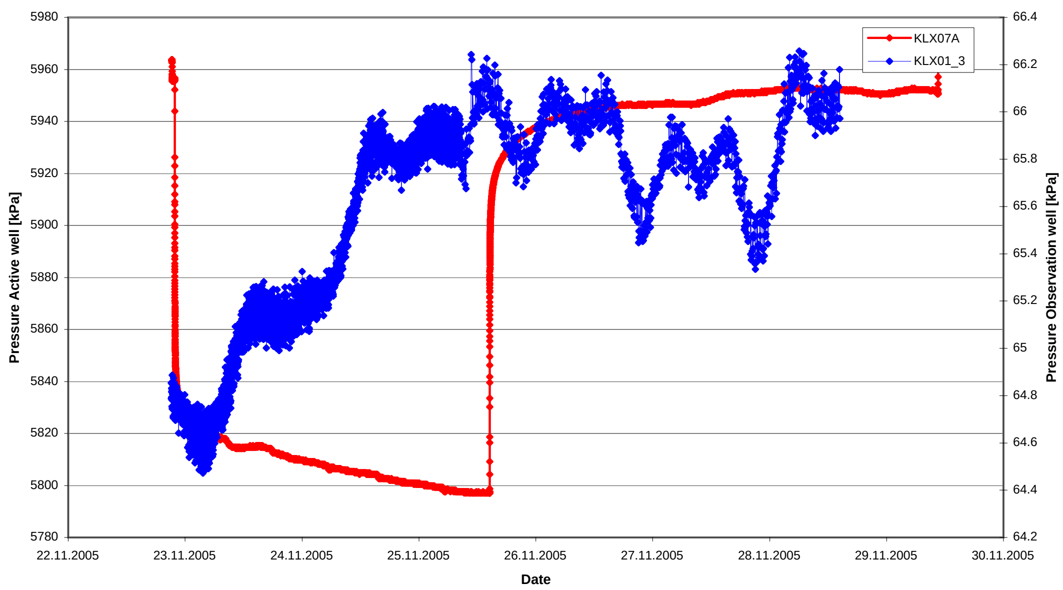
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX01	Section no.:	KLX01_4
		Section length:	1.00-170.00
Distance r_s [m]:	1483.23	max. Drawdown s_p [m]:*	0.06
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	139.8
Pressure in test section before stop of flowing:	p_p	kPa	140.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

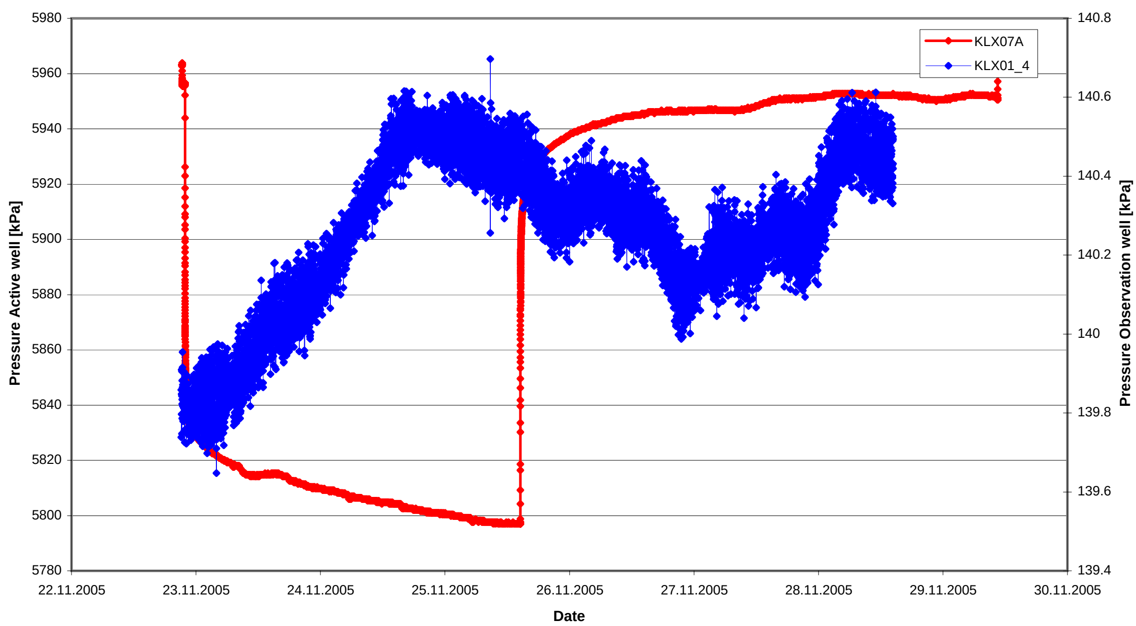
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_1
		Section length:	1165.00-1700.00
Distance r_s [m]:	1072.25	max. Drawdown s_p [m]:*	0.27
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	74.9
Pressure in test section before stop of flowing:	p_p	kPa	77.5
Maximum pressure change during flowing period:*	dp_p	kPa	2.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

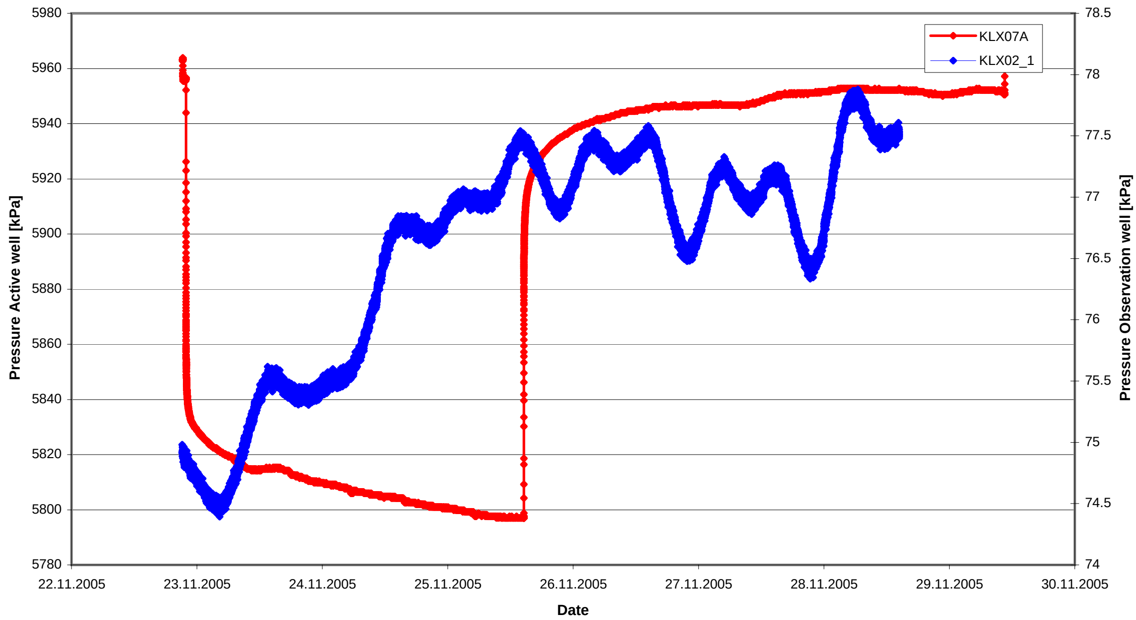
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_2
		Section length:	1145.00-1164.00
Distance r_s [m]:	845.32	max. Drawdown s_p [m]:*	0.24
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	57.9
Pressure in test section before stop of flowing:	p_p	kPa	60.3
Maximum pressure change during flowing period:*	dp_p	kPa	2.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

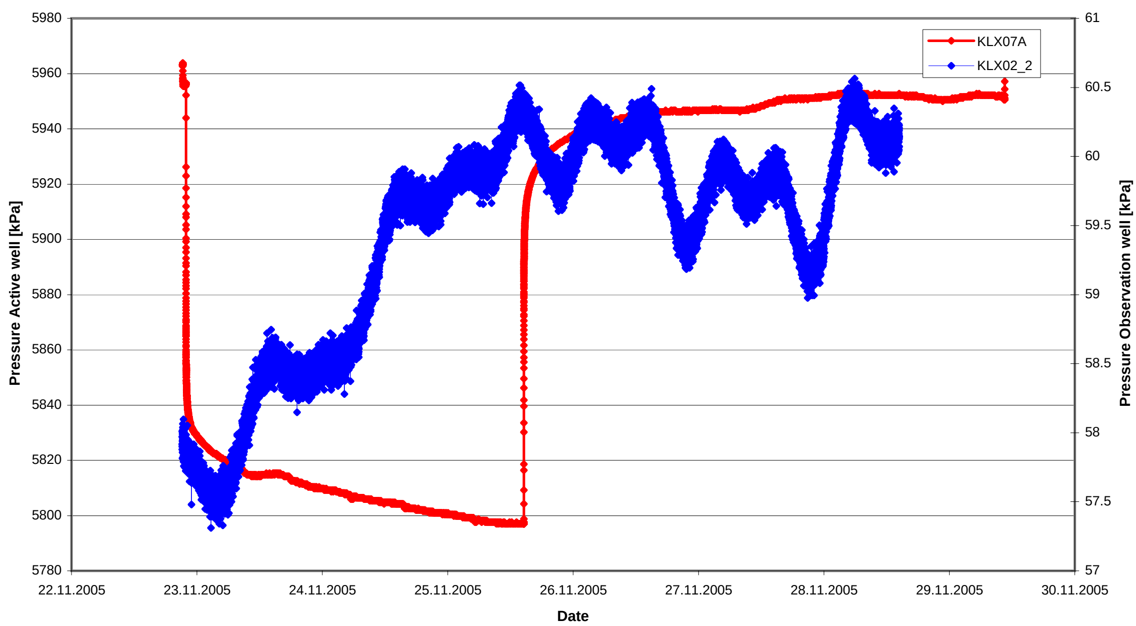
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment:	no response due to pumping in source pressure changes due to natural fluctuations (e.g. tidal effects) only no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_3
		Section length:	718.00-1144.00
Distance r_s [m]:	693.11	max. Drawdown s_p [m]:*	0.24
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	35.8
Pressure in test section before stop of flowing:	p_p	kPa	38.2
Maximum pressure change during flowing period:*	dp_p	kPa	2.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

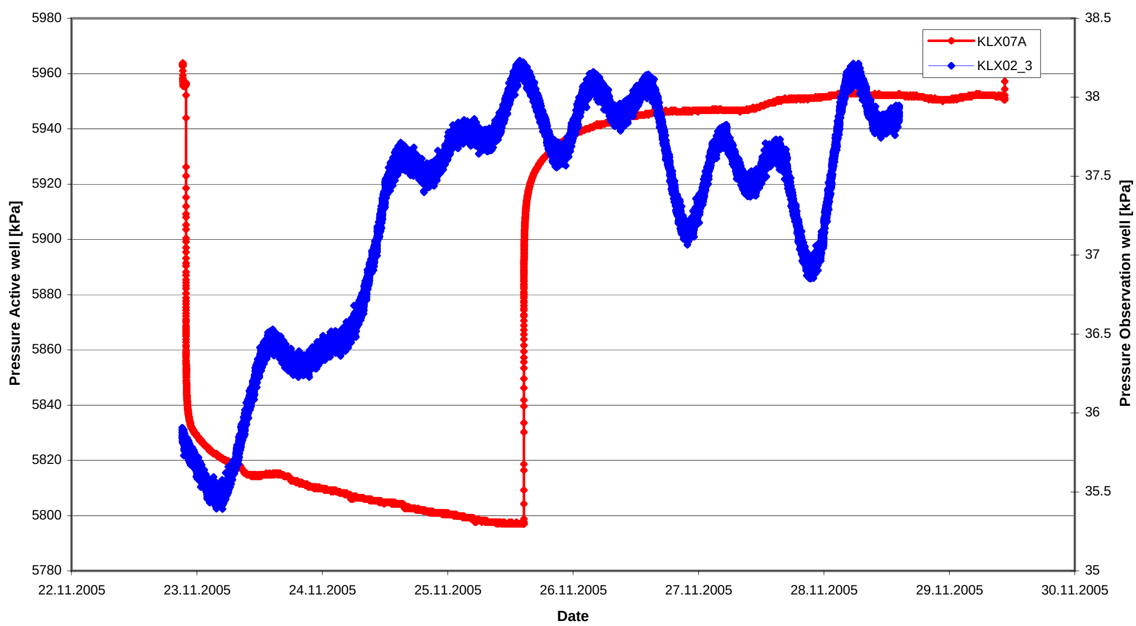
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_4
		Section length:	495.00-717.00
Distance r_s [m]:	565.38	max. Drawdown s_p [m]:*	0.31
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	49.0
Pressure in test section before stop of flowing:	p_p	kPa	52.0
Maximum pressure change during flowing period:*	dp_p	kPa	3.0

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

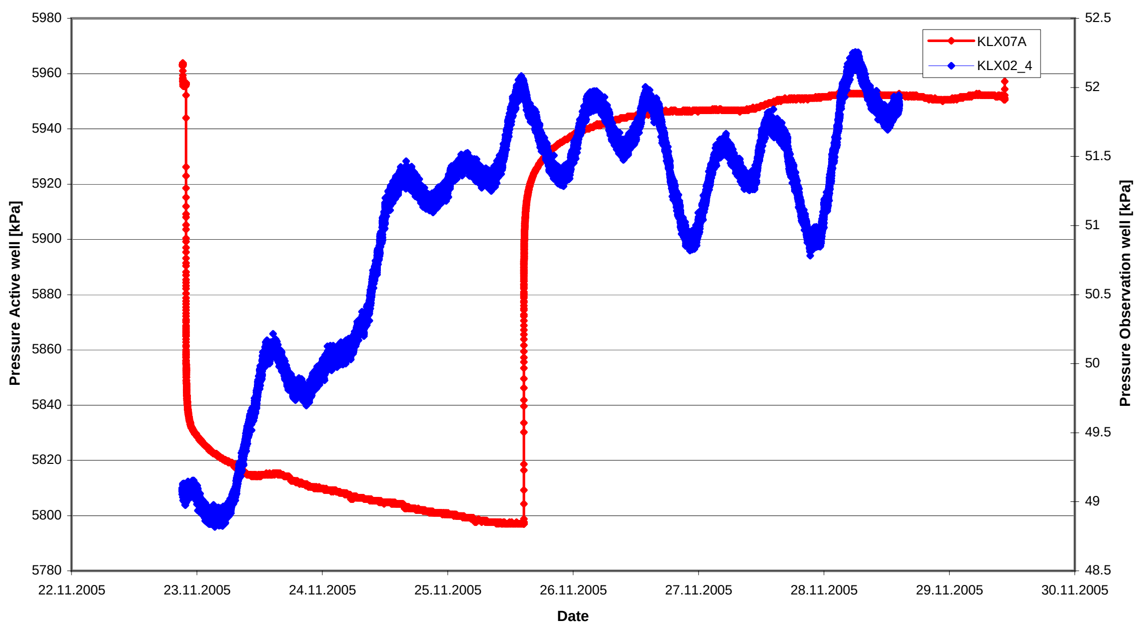
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_5
		Section length:	452.00-494.00
Distance r_s [m]:	561.70	max. Drawdown s_p [m]:*	0.28
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	54.9
Pressure in test section before stop of flowing:	p_p	kPa	57.6
Maximum pressure change during flowing period:*	dp_p	kPa	2.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

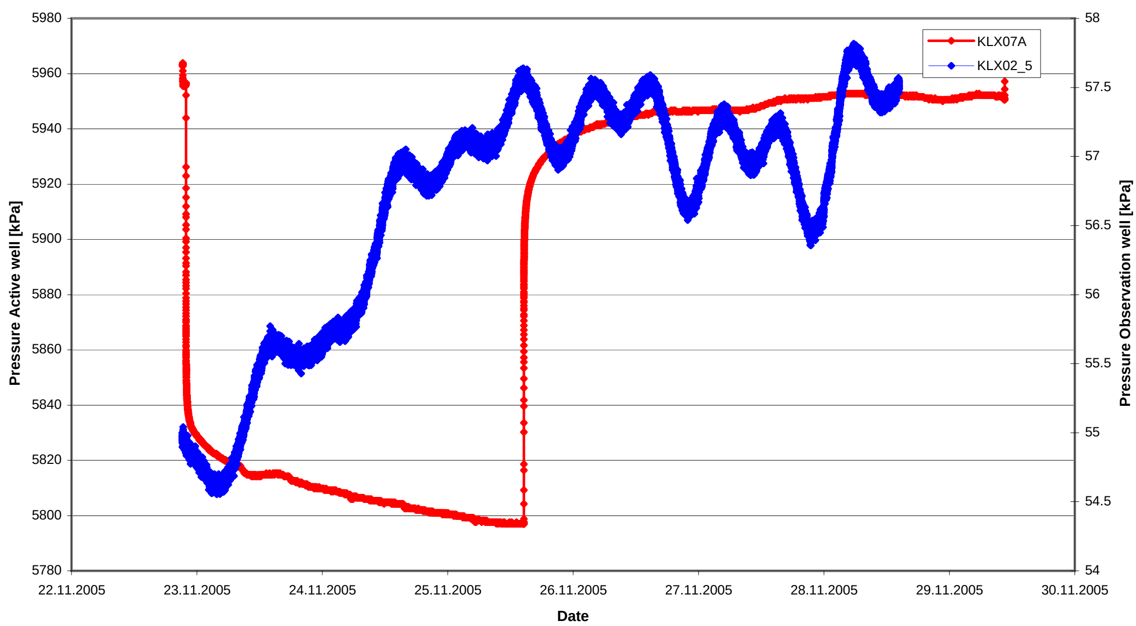
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_6
		Section length:	348.00-451.00
Distance r_s [m]:	573.54	max. Drawdown s_p [m]:*	0.24
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	56.1
Pressure in test section before stop of flowing:	p_p	kPa	58.5
Maximum pressure change during flowing period:*	dp_p	kPa	2.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

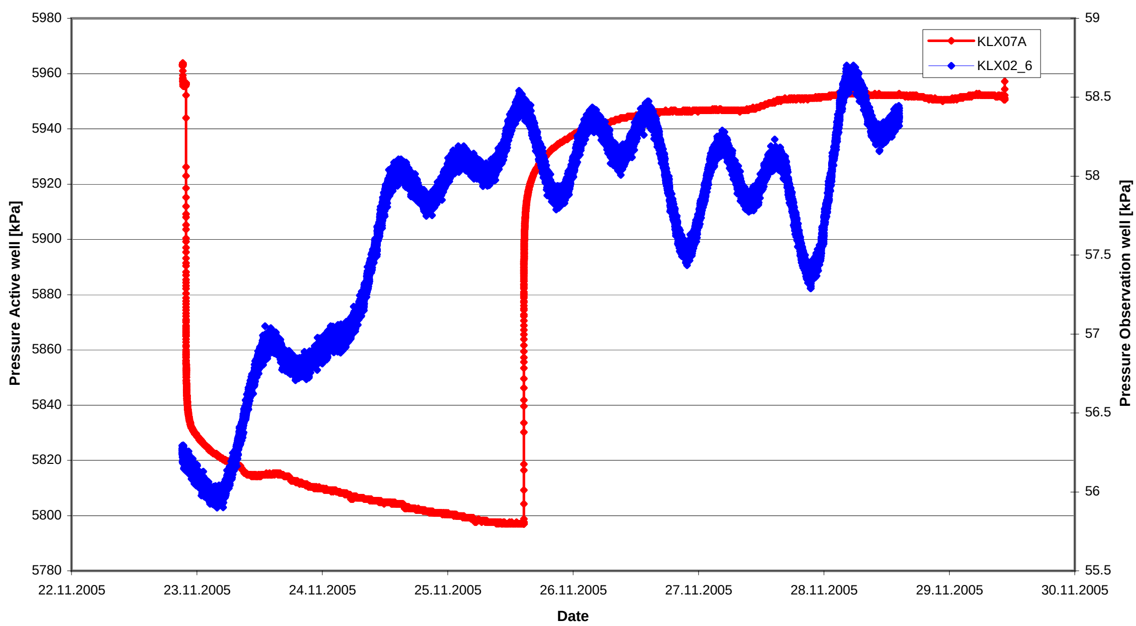
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_7
		Section length:	209.00-347.00
Distance r_s [m]:	613.56	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	59.7
Pressure in test section before stop of flowing:	p_p	kPa	60.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

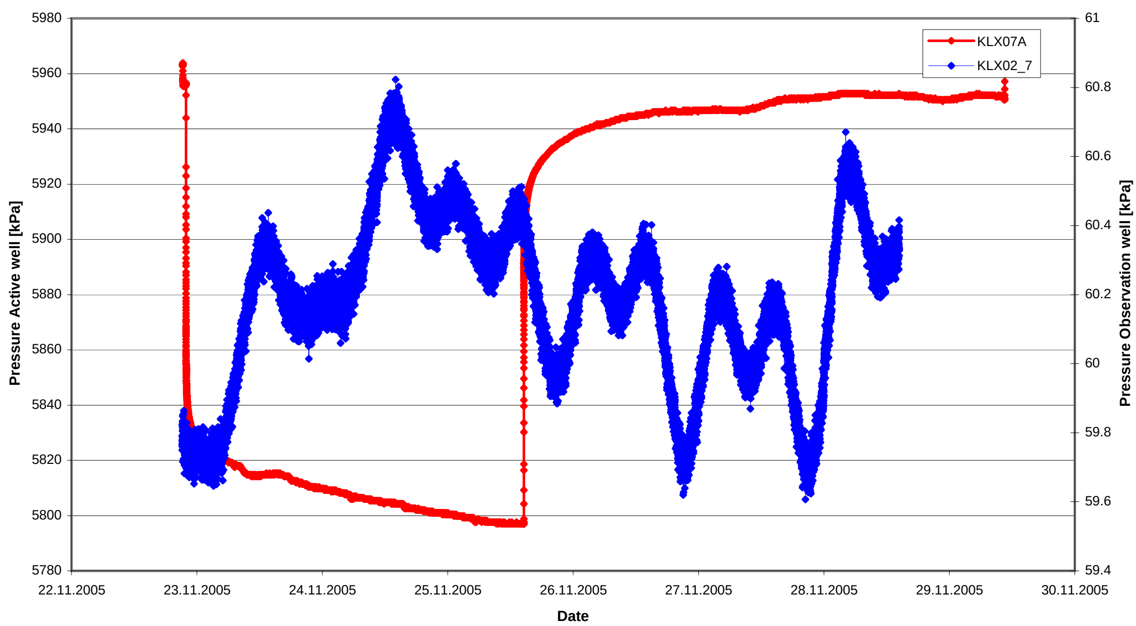
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX02	Section no.:	KLX02_8
		Section length:	202.95-208.00
Distance r_s [m]:	647.60	max. Drawdown s_p [m]:*	0.07
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	74.7
Pressure in test section before stop of flowing:	p_p	kPa	75.4
Maximum pressure change during flowing period:*	dp_p	kPa	0.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

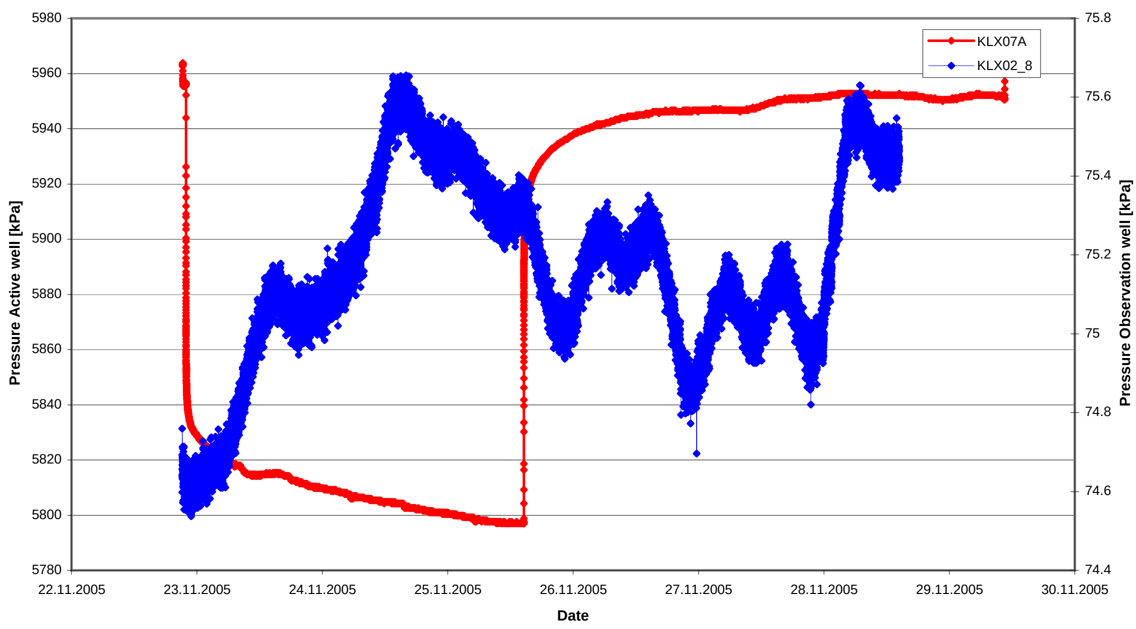
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_1
		Section length:	898.00.1000.00
Distance r_s [m]:	1412.31	max. Drawdown s_p [m]:*	0.28
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	104.8
Pressure in test section before stop of flowing:	p_p	kPa	107.5
Maximum pressure change during flowing period:*	dp_p	kPa	2.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

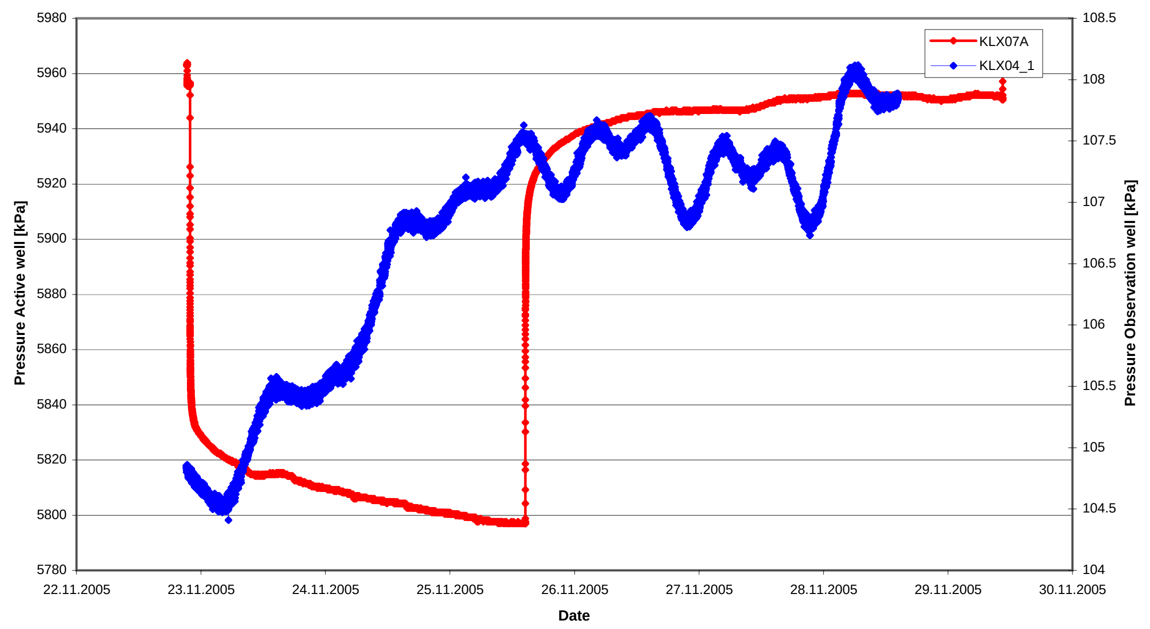
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_2
		Section length:	870.00-897.00
Distance r_s [m]:	1400.00	max. Drawdown s_p [m]:*	0.28
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	103.0
Pressure in test section before stop of flowing:	p_p	kPa	105.7
Maximum pressure change during flowing period:*	dp_p	kPa	2.7

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

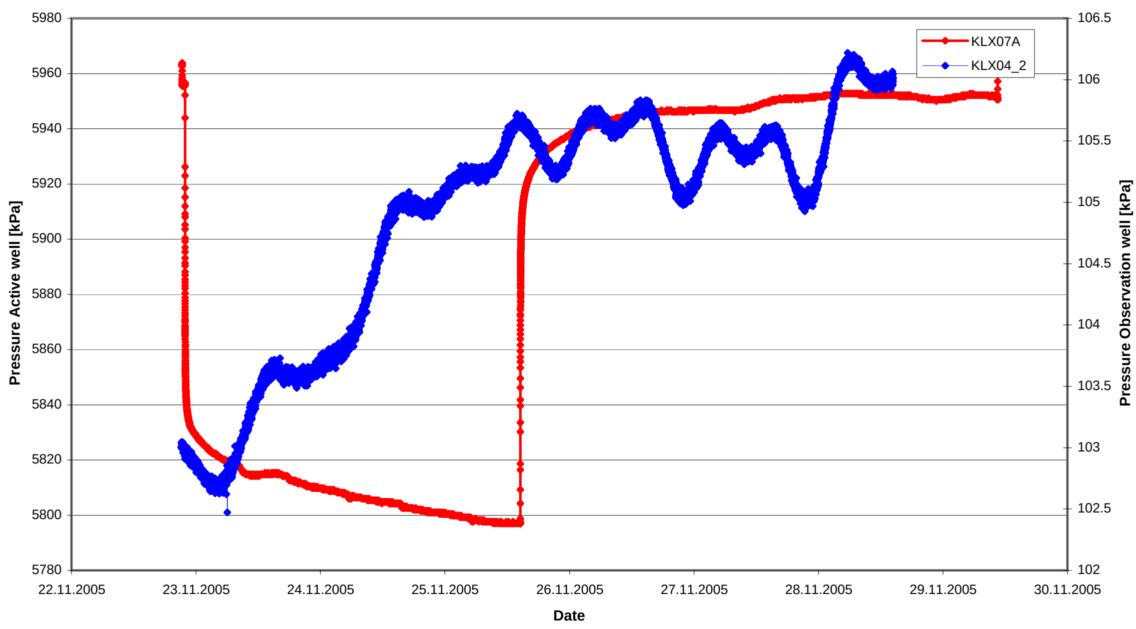
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_3
		Section length:	686.00.869.00
Distance r_s [m]:	1385.09	max. Drawdown s_p [m]:*	0.22
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.1
Pressure in test section before stop of flowing:	p_p	kPa	116.3
Maximum pressure change during flowing period:*	dp_p	kPa	2.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

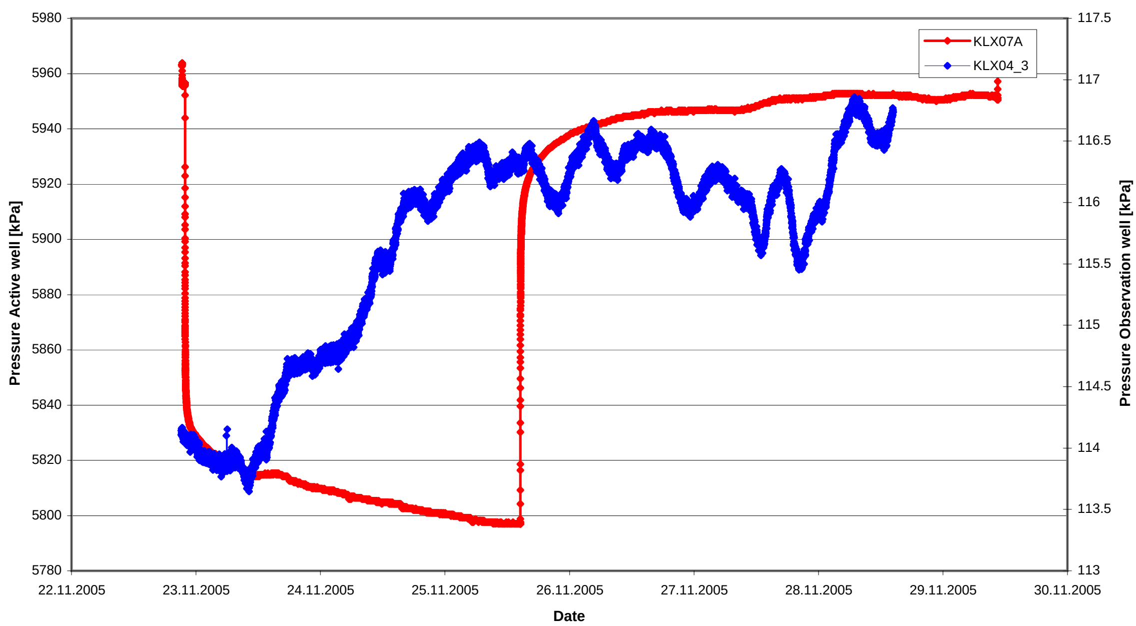
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_4
		Section length:	531.00-685.00
Distance r_s [m]:	1374.18	max. Drawdown s_p [m]:*	0.23
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	113.1
Pressure in test section before stop of flowing:	p_p	kPa	115.4
Maximum pressure change during flowing period:*	dp_p	kPa	2.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

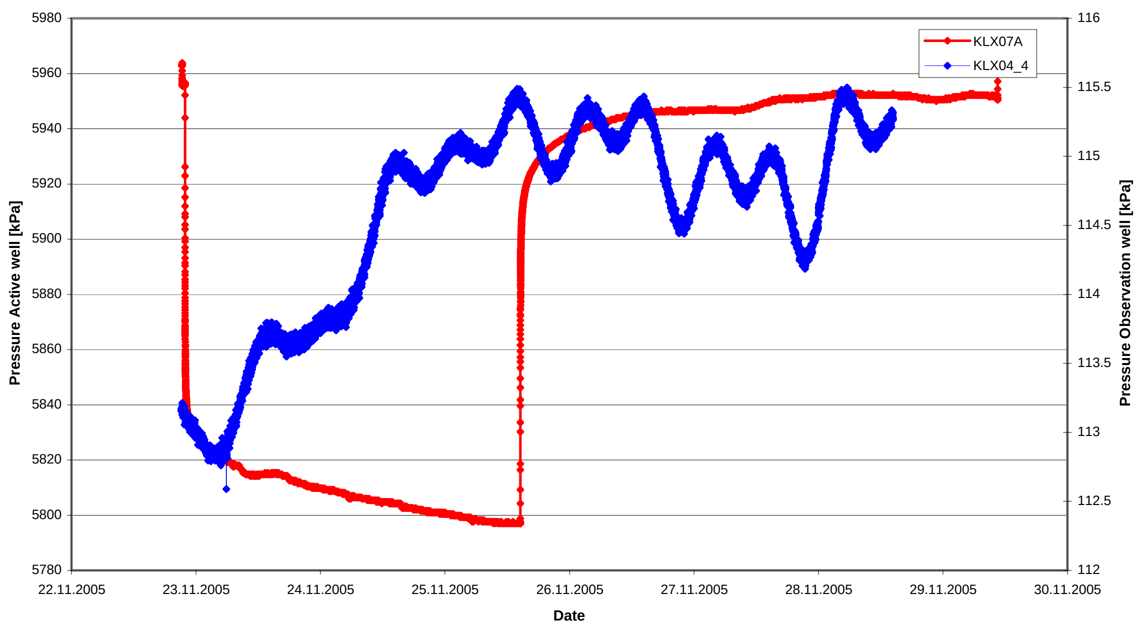
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_5
		Section length:	507.00-530.00
Distance r_s [m]:	1375.73	max. Drawdown s_p [m]:*	0.16
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	115.7
Pressure in test section before stop of flowing:	p_p	kPa	117.3
Maximum pressure change during flowing period:*	dp_p	kPa	1.6

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

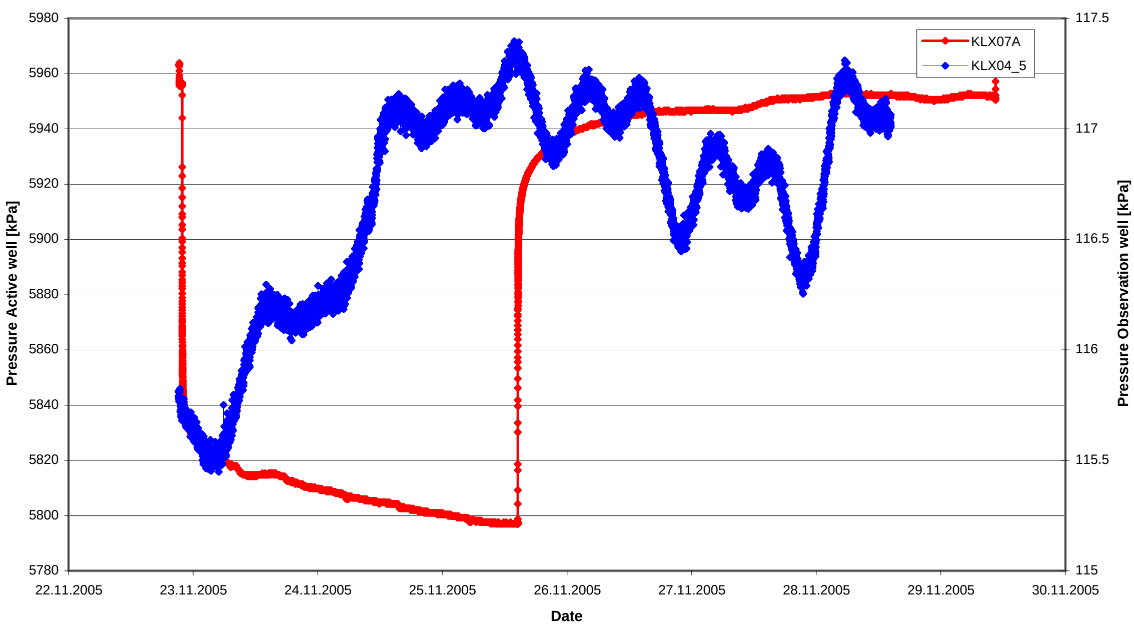
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_6
		Section length:	231.00-506.00
Distance r_s [m]:	1389.30	max. Drawdown s_p [m]:*	0.23
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	114.3
Pressure in test section before stop of flowing:	p_p	kPa	116.6
Maximum pressure change during flowing period:*	dp_p	kPa	2.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

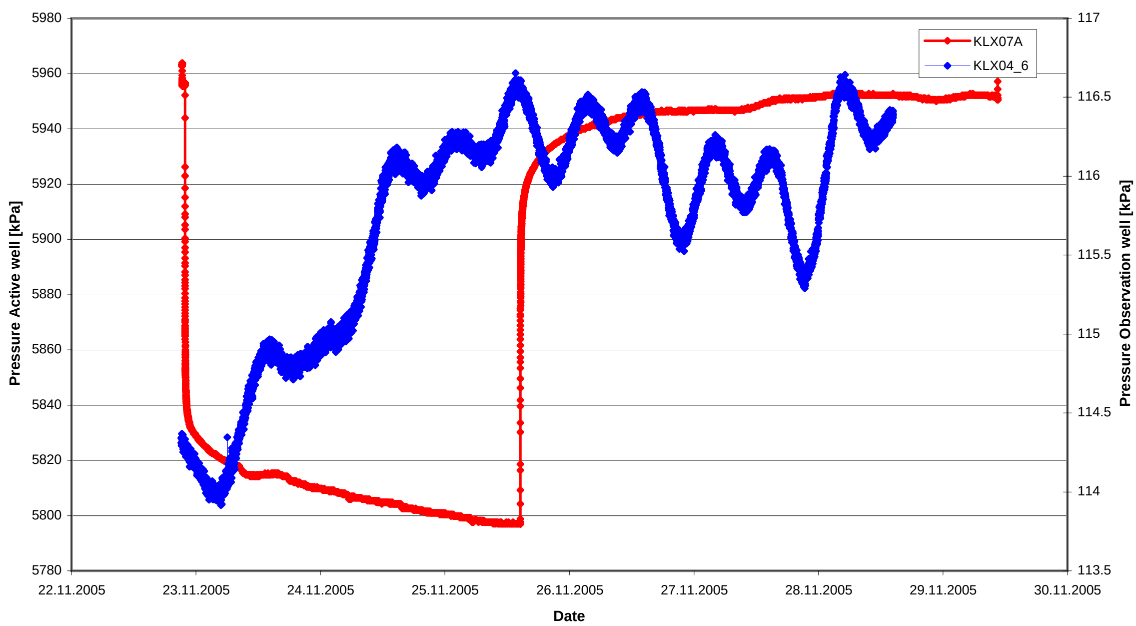
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_7
		Section length:	163.00-230.00
Distance r_s [m]:	1420.73	max. Drawdown s_p [m]:*	0.14
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	116.1
Pressure in test section before stop of flowing:	p_p	kPa	117.5
Maximum pressure change during flowing period:*	dp_p	kPa	1.4

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

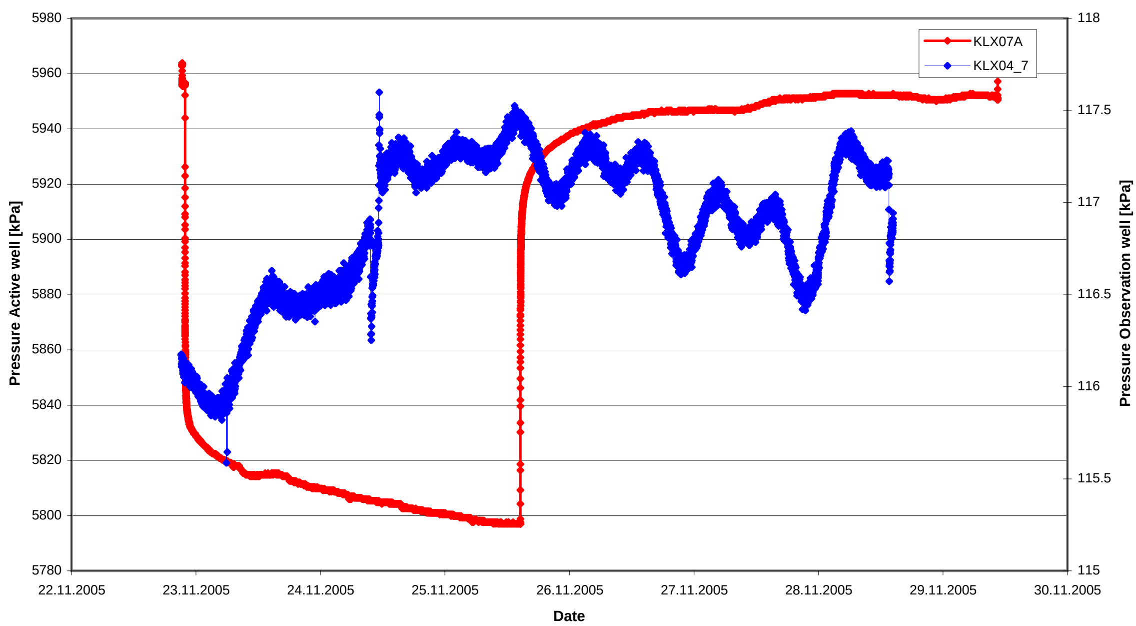
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX04	Section no.:	KLX04_8
		Section length:	12.24-162.00
Distance r_s [m]:	1449.12	max. Drawdown s_p [m]:*	0.12
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	120.8
Pressure in test section before stop of flowing:	p_p	kPa	122.0
Maximum pressure change during flowing period:*	dp_p	kPa	1.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

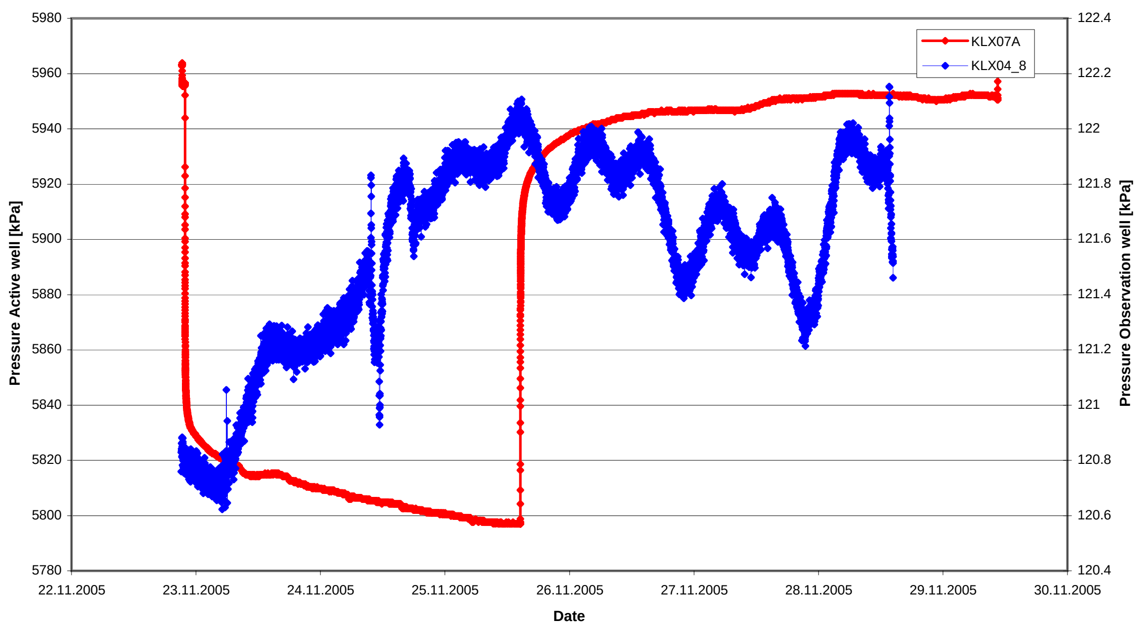
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		

Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX07	Section no.:	KLX07B_1
		Section length:	112.00-200.00
Distance r_s [m]:	642.37	max. Drawdown s_p [m]:*	0.03
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.9
Pressure in test section before stop of flowing:	p_p	kPa	65.2
Maximum pressure change during flowing period:*	dp_p	kPa	0.3

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

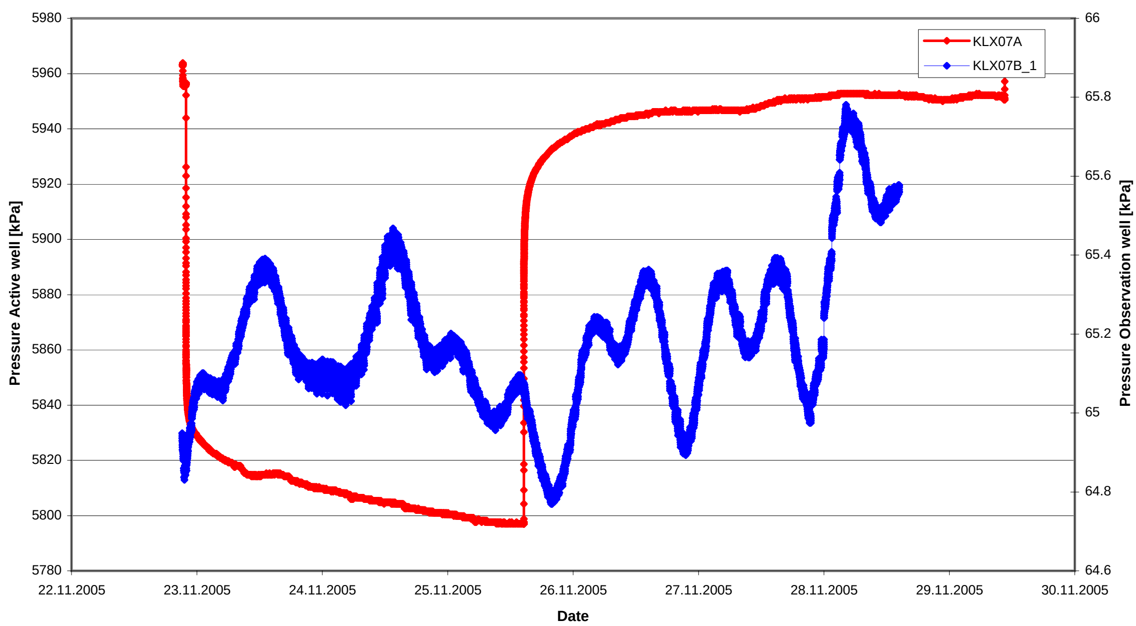
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX07	Section no.:	KLX07B_2
		Section length:	49.00-111.00
Distance r_s [m]:	699.85	max. Drawdown s_p [m]:*	0.02
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	63.9
Pressure in test section before stop of flowing:	p_p	kPa	64.1
Maximum pressure change during flowing period:*	dp_p	kPa	0.2

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

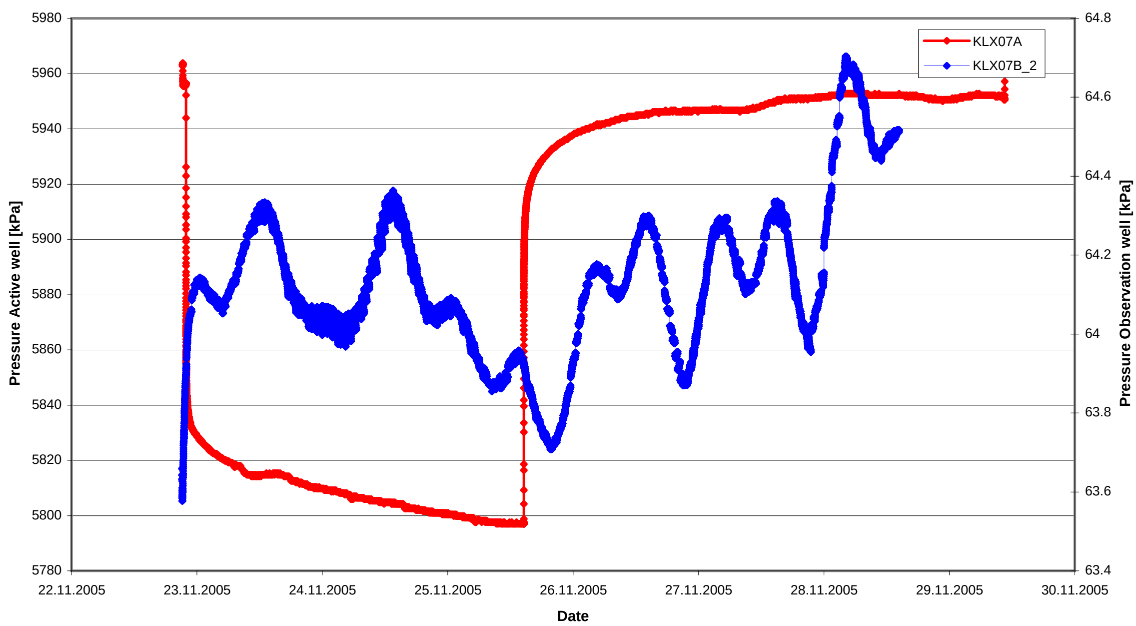
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



Activityplan No.	AP PS 400-05-045		
Pumping Hole:	KLX07A	Pumping Section [m bToC]:	747.00-792.00
Test Start:	22.11.2005 21:14	Test Stop:	29.11.2005 10:56
Pump Start:	22.11.2005 21:53	Pump Stop:	25.11.2005 14:33
Flow Rate Q_p [m^3/s]:	3.48E-04		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	5957
Pressure in test section before stop of flowing:	p_p	kPa	5797
Maximum pressure change during flowing period:	dp_p	kPa	160

Observation Hole:	KLX07	Section no.:	KLX07B_3
		Section length:	0.0-48.00
Distance r_s [m]:	744.34	max. Drawdown s_p [m]:*	0.01
Response time dt_L [s]:	#NV		

Pressure data	**Nomenclature**	**Unit**	**Value**
Pressure in test section before start of flowing:	p_i	kPa	64.9
Pressure in test section before stop of flowing:	p_p	kPa	65.0
Maximum pressure change during flowing period:*	dp_p	kPa	0.1

Normalized response time with respect to the distance

Index 1 **r_s^2/dt_L (m^2/s):** **#NV**

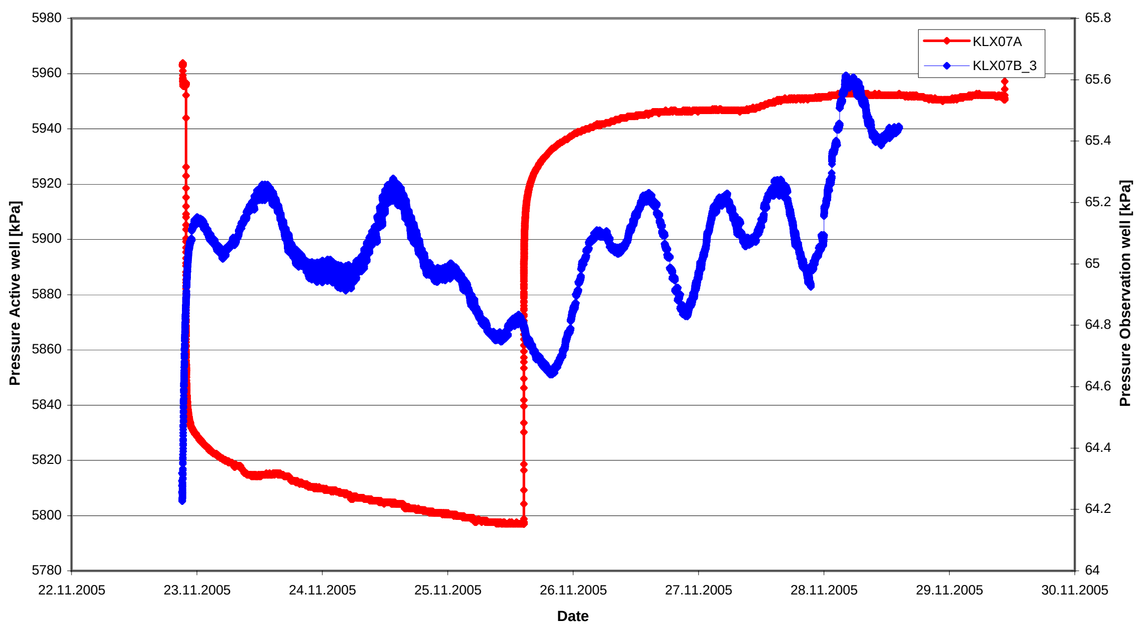
Normalized drawdown with respect to pumping flow rate

Index 2 **s_p/Q_p (s/m^2):** **#NV**

$(s_p/Q_p)*\ln(r_s/r_0)$ (s/m^2): **#NV**

* see comment

Comment: no response due to pumping in source
pressure changes due to natural fluctuations (e.g. tidal effects) only
no index calculated



APPENDIX 7

Observation hole
Test Analysis diagrams

APPENDIX 7-1

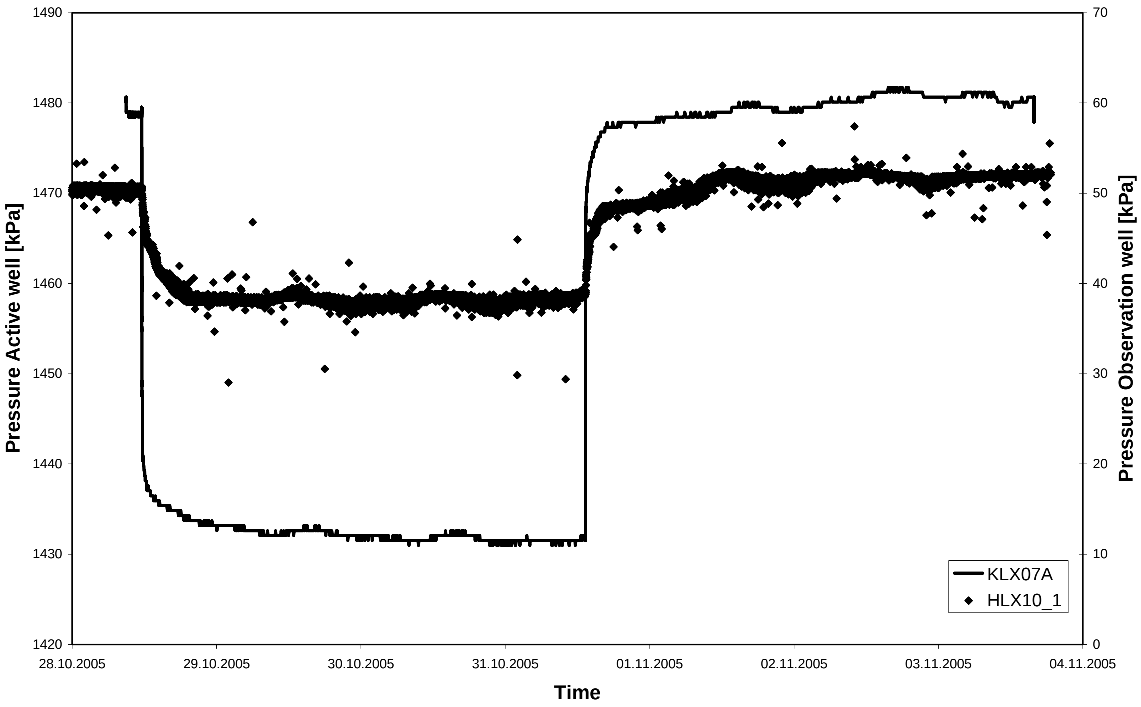
KLX07A Section 103.20-193.20 m pumped

Observation hole
Test Analysis diagrams

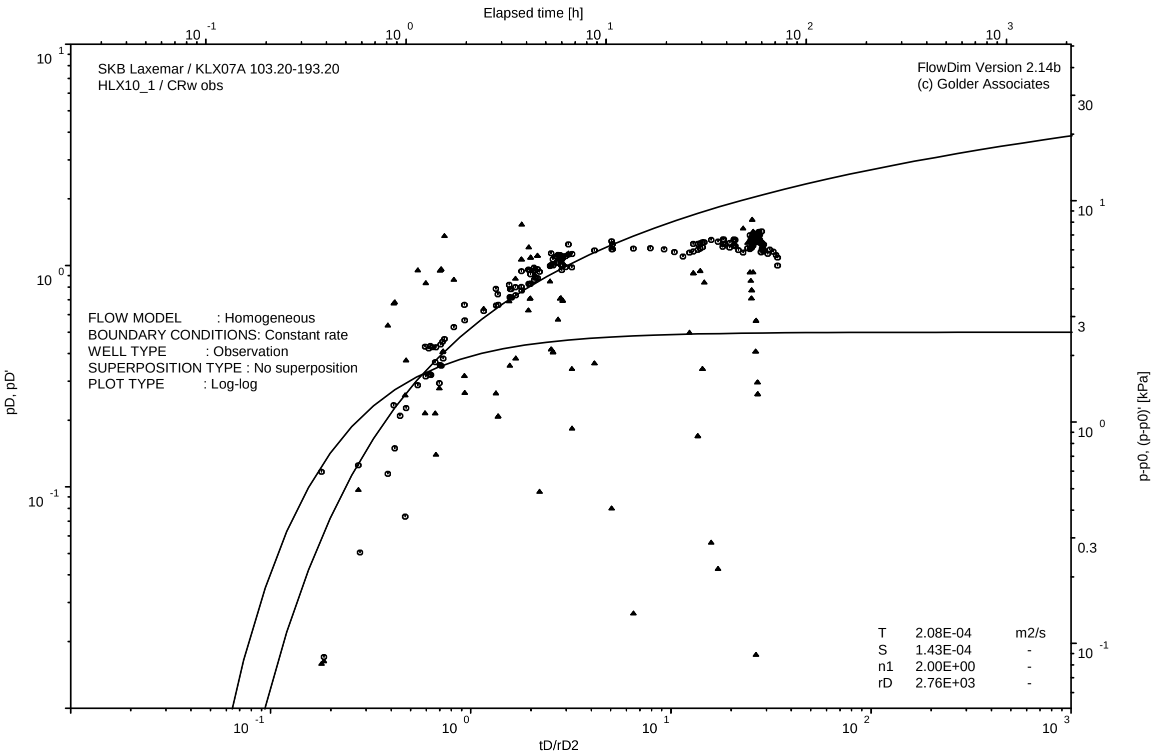
APPENDIX 7-1-1

KLX07A Section 103.20-193.20 m pumped
HLX10_1 3.00-85.00 m observed

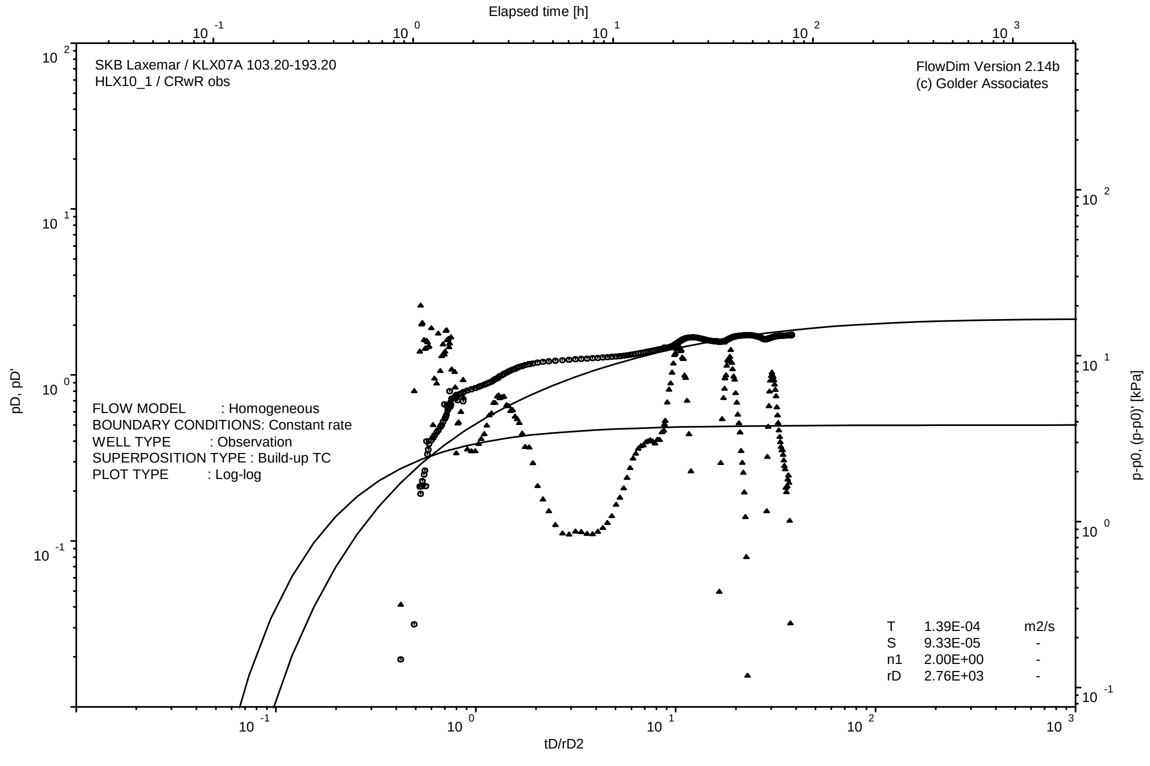
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX10_1 3.00-85.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX10_1 3.00-85.00 m observed

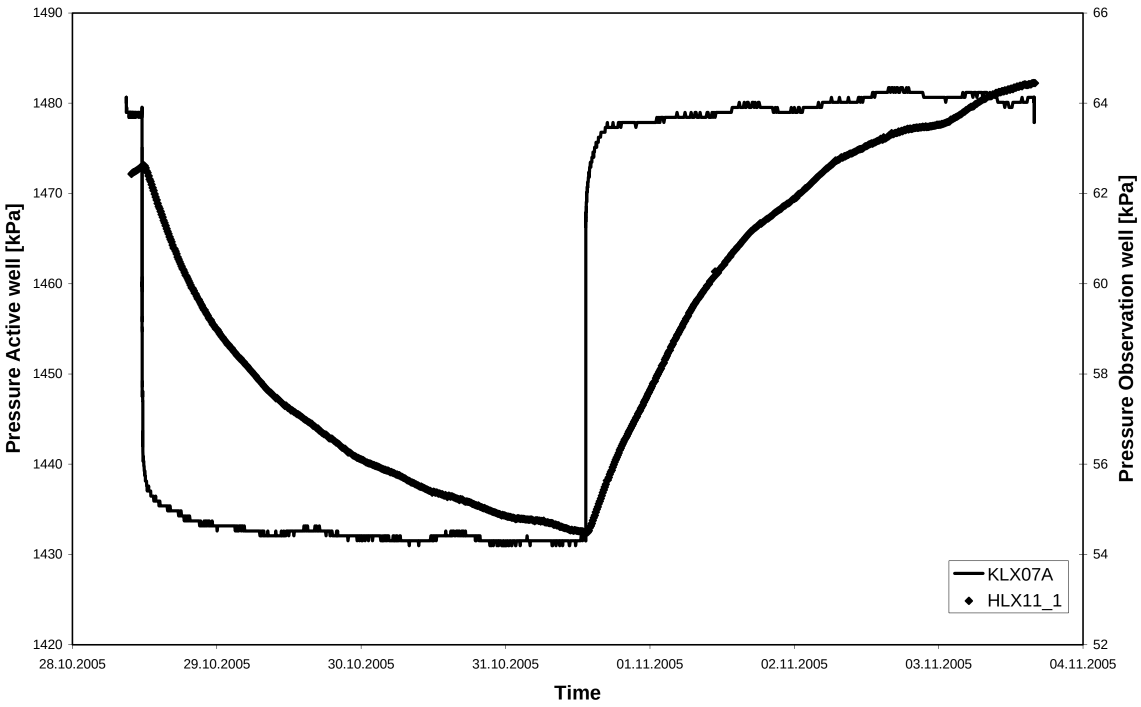


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX10_1 3.00-85.00 m observed

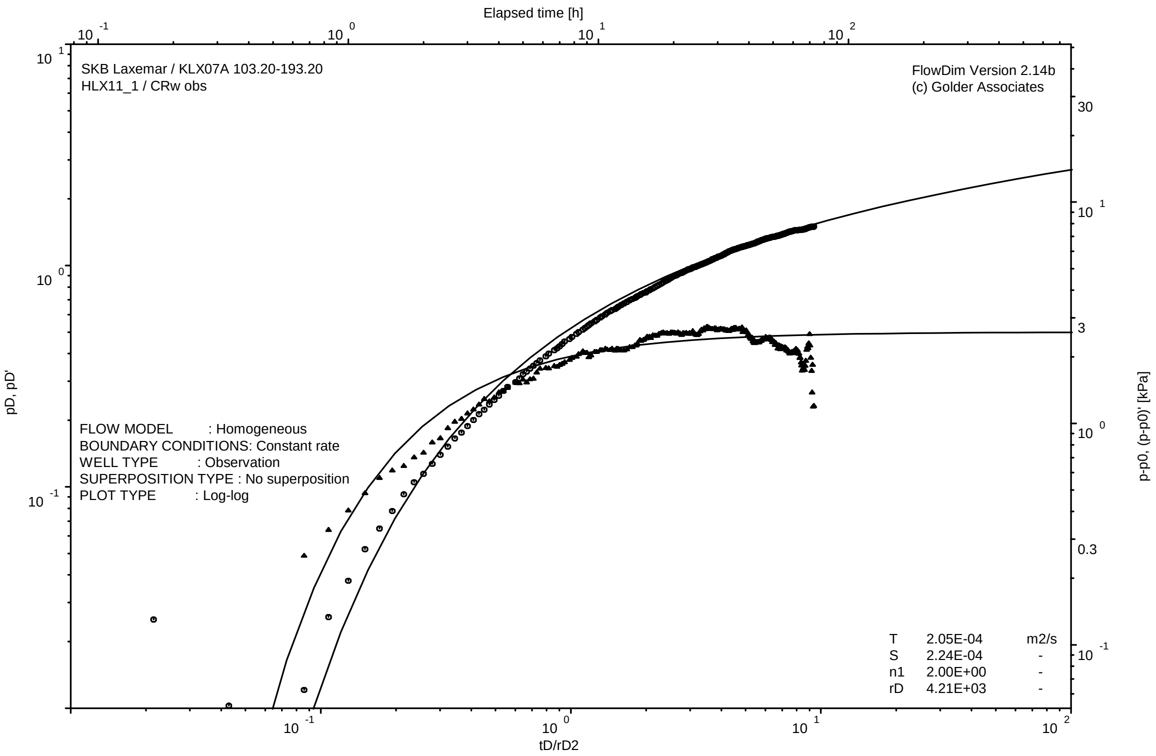
APPENDIX 7-1-2

KLX07A Section 103.20-193.20 m pumped
HLX11_1 17.00-70.00 m observed

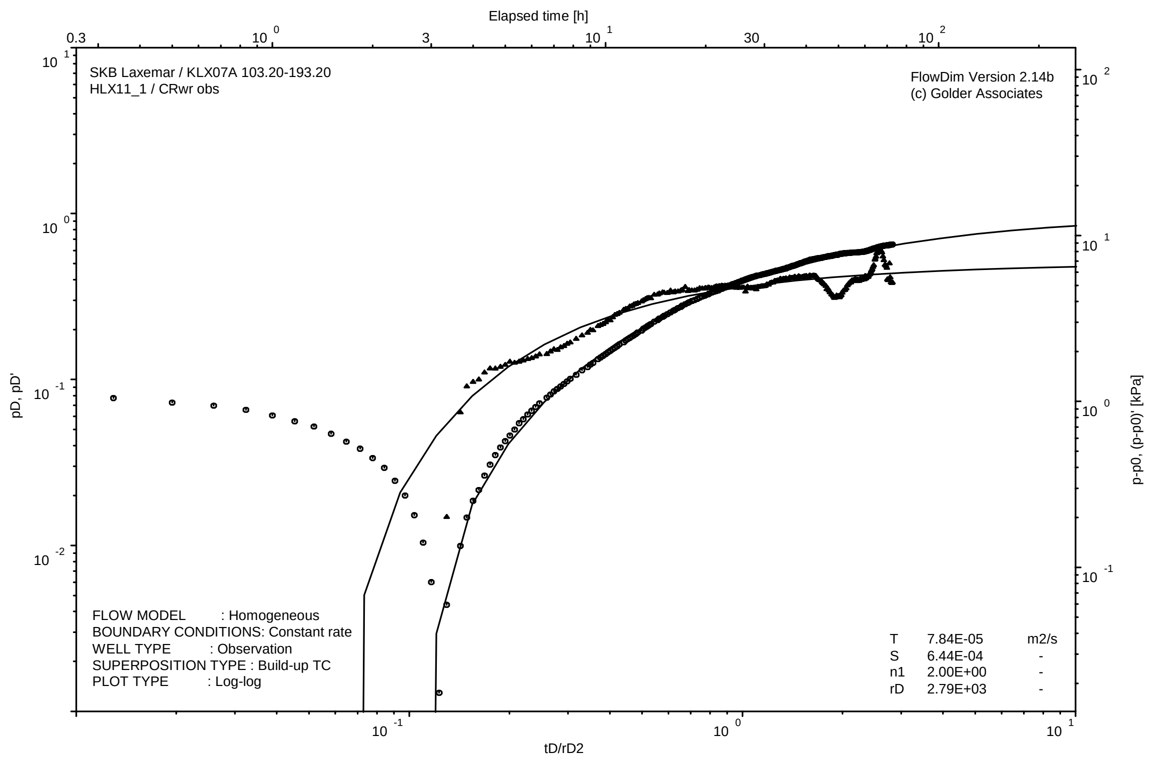
Observation hole
Test Analysis diagrams



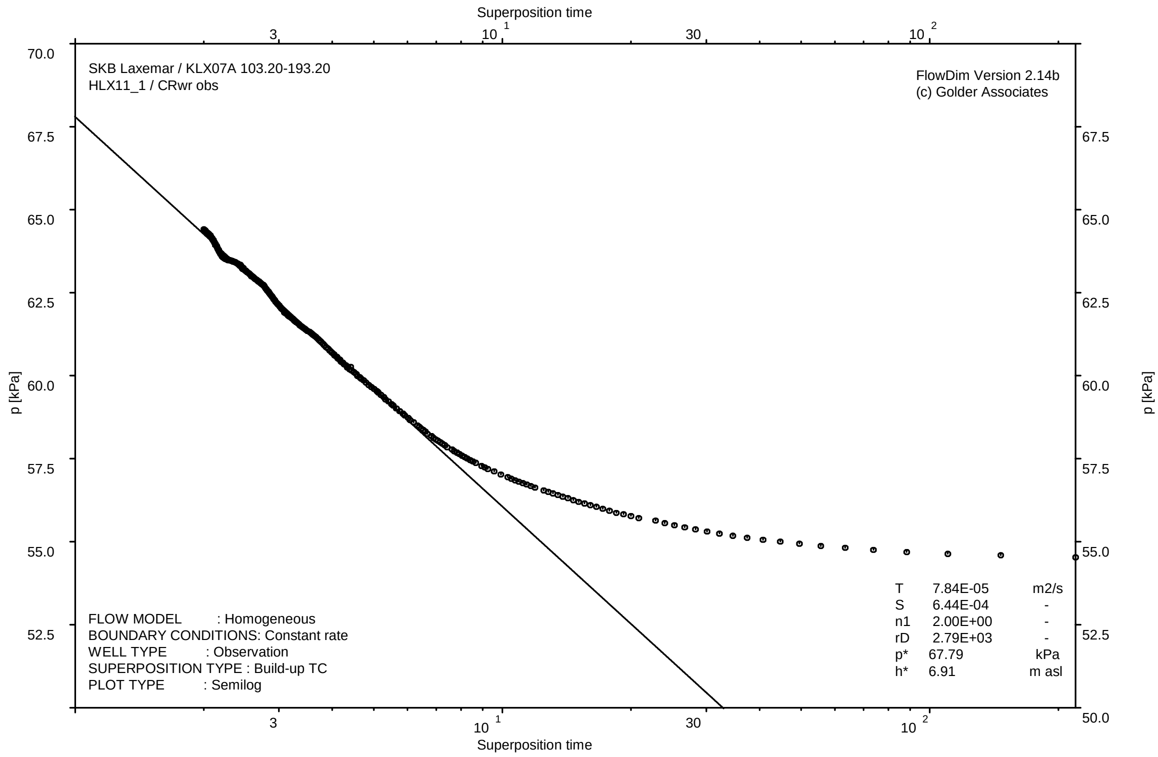
Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX11_1 17.00-70.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX11_1 17.00-70.00 m observed



CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX11_1 17.00-70.00 m observed

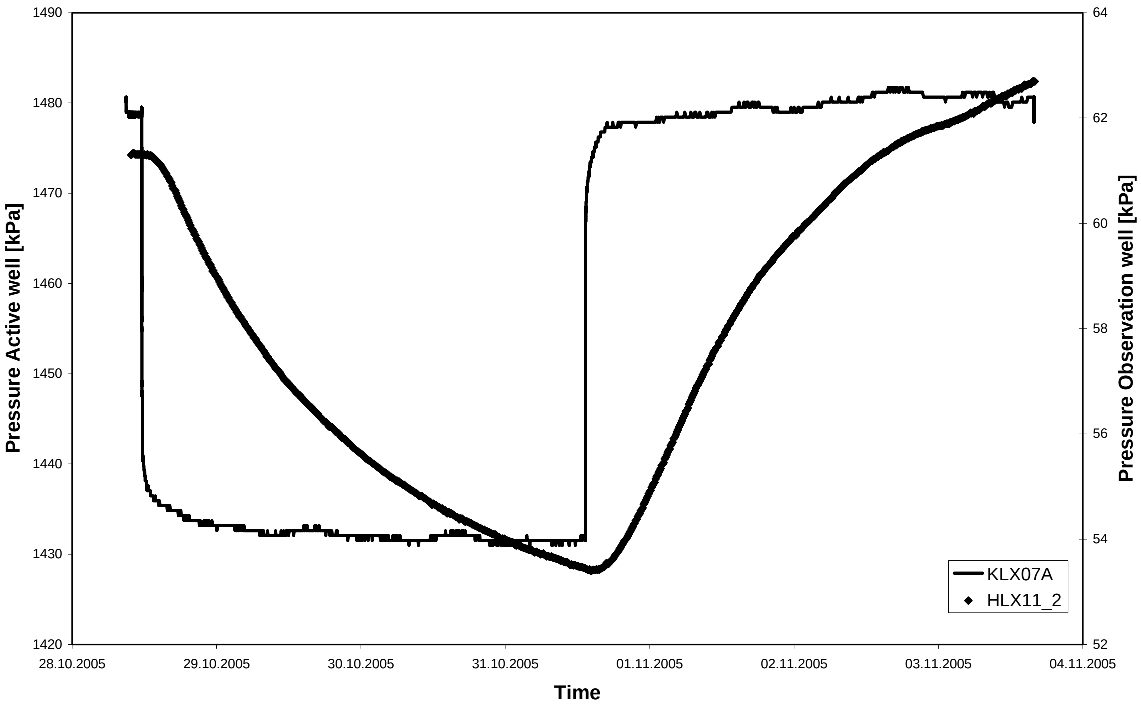


CRwr phase; HORNER match; KLX07A 103.20-193.20 m pumped and HLX11_1 17.00-70.00 m observed

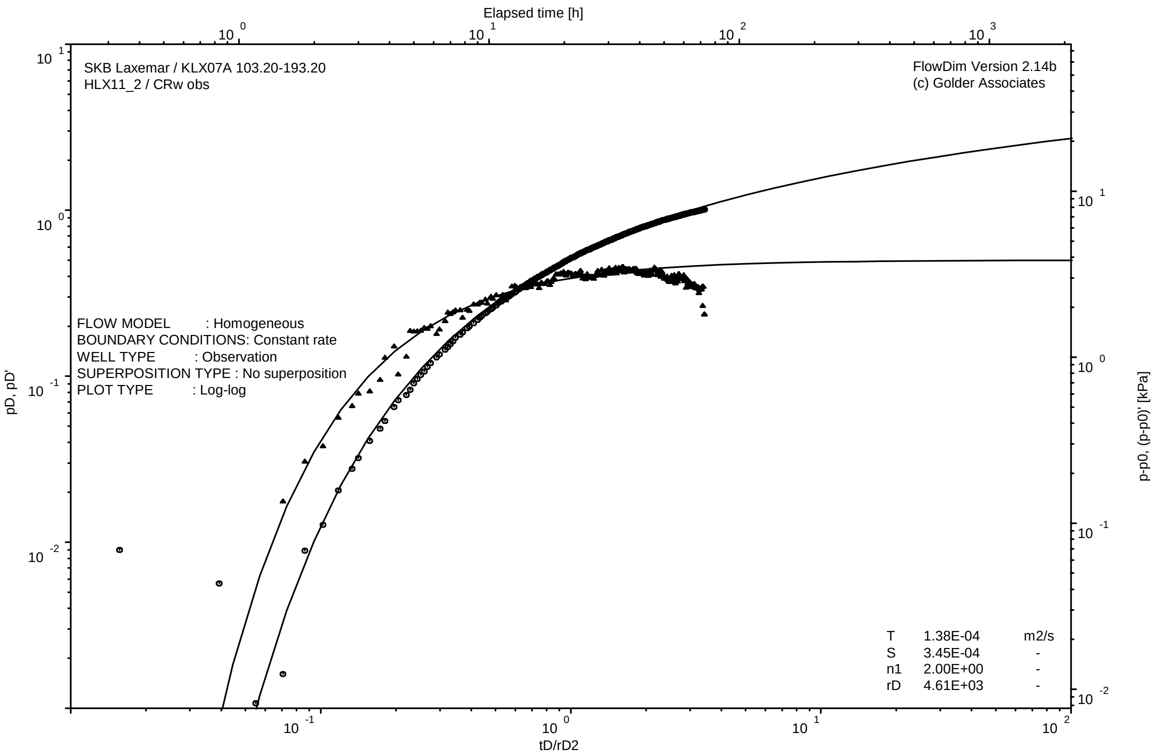
APPENDIX 7-1-3

KLX07A Section 103.20-193.20 m pumped
HLX11_2 6.00-16.00 m observed

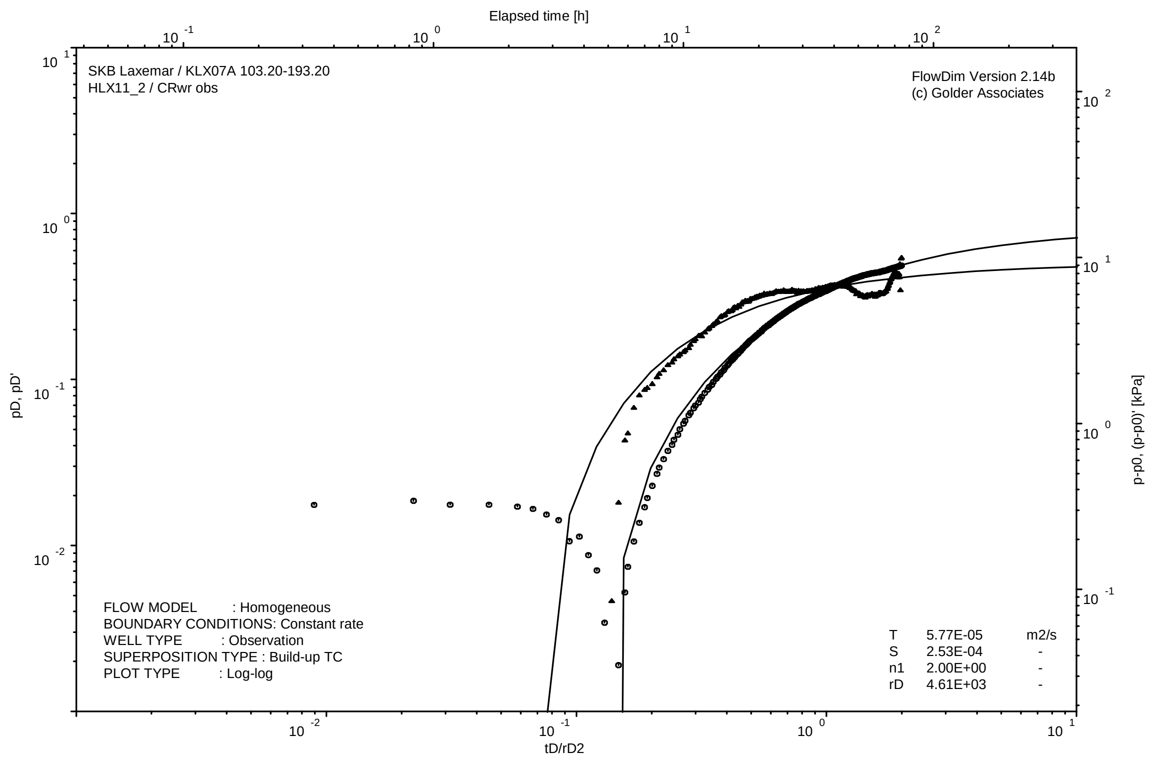
Observation hole
Test Analysis diagrams



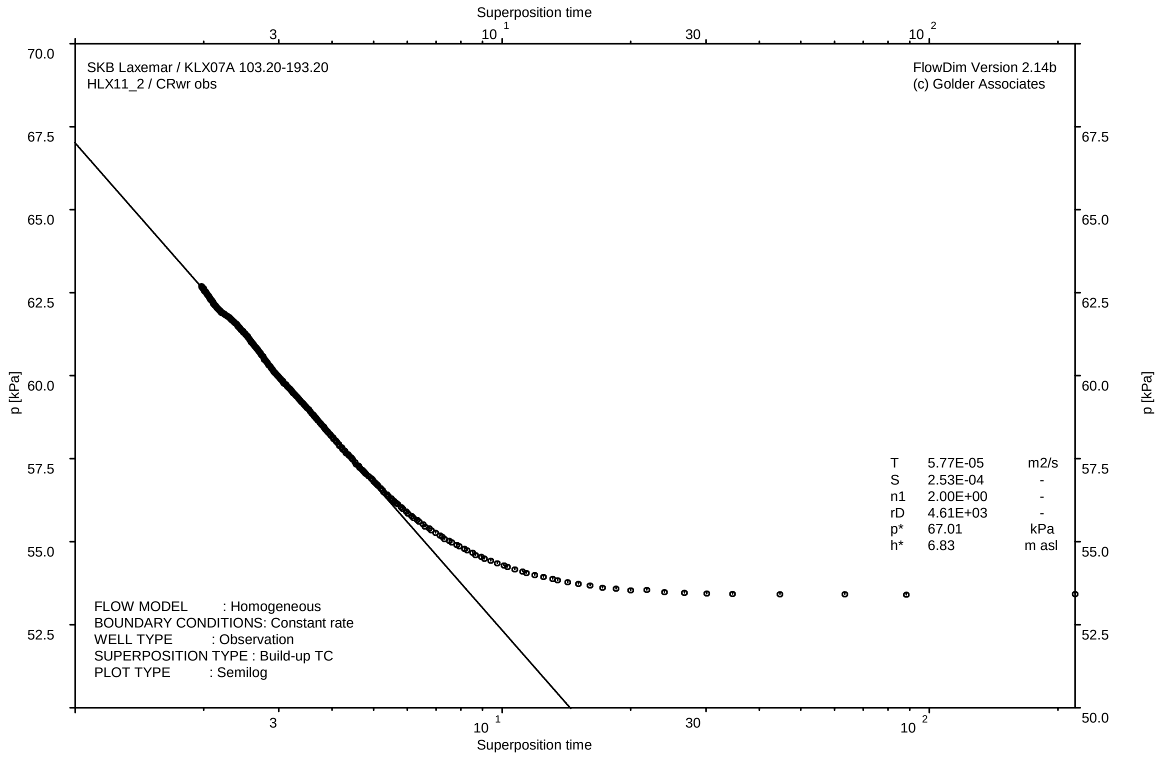
Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX11_2 6.00-16.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX11_2 6.00-16.00 m observed



CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX11_2 6.00-16.00 m observed

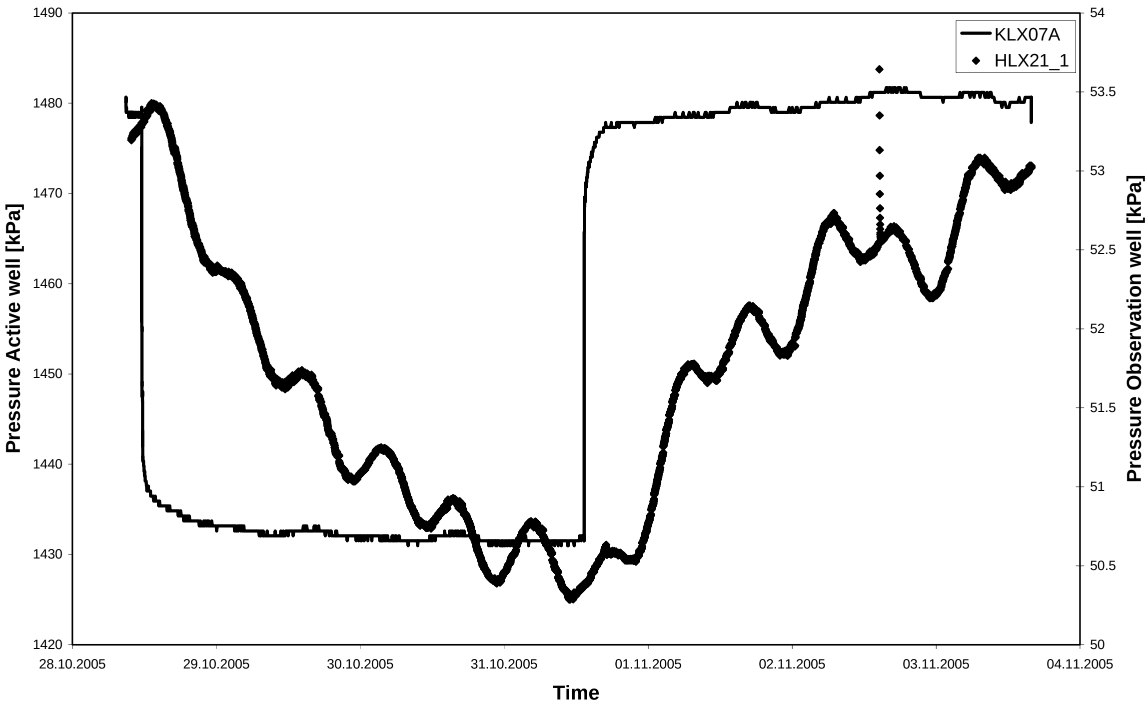


CRwr phase; HORNER match; KLX07A 103.20-193.20 m pumped and HLX11_2 6.00-16.00 m observed

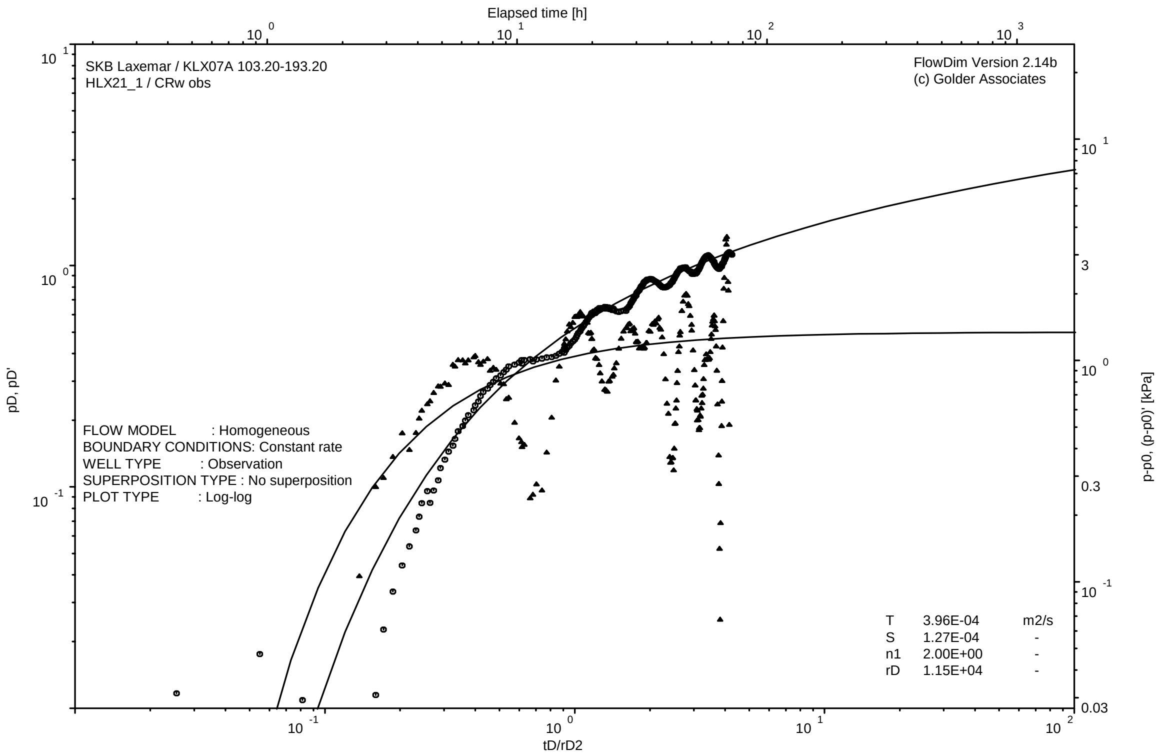
APPENDIX 7-1-4

KLX07A Section 103.20-193.20 m pumped
HLX21_1 81.00-150.00 m observed

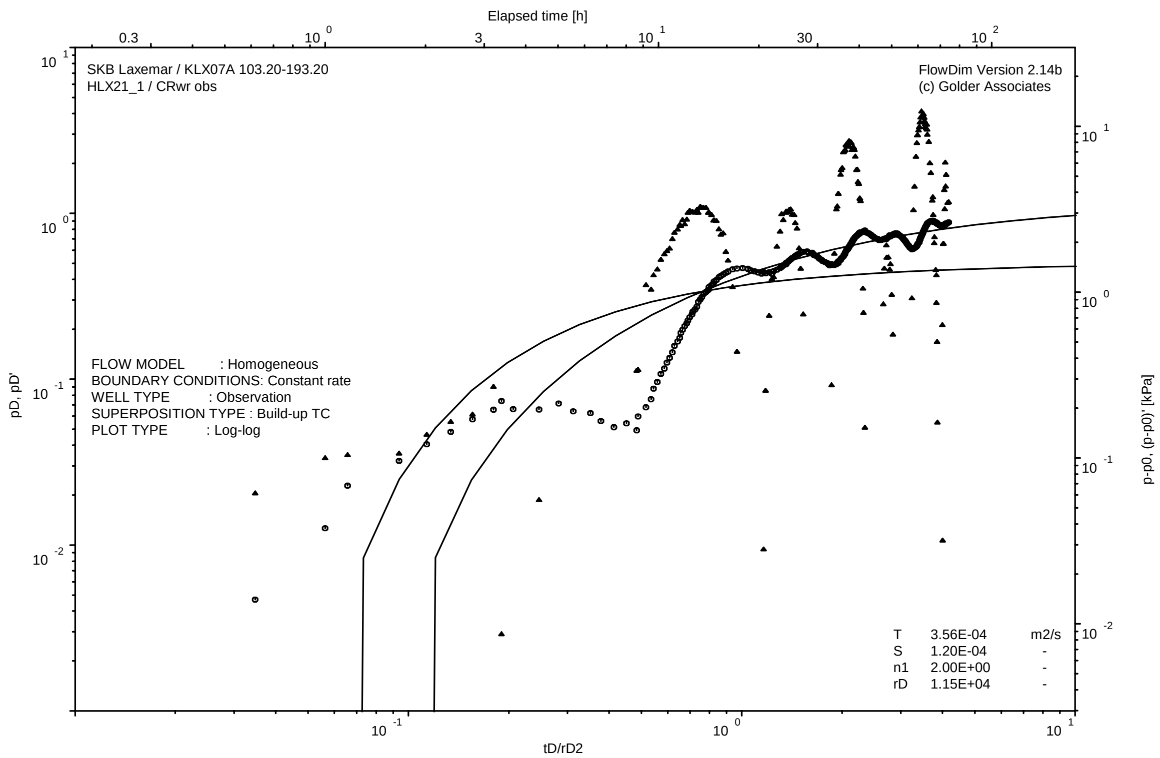
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX21_1 81.00-150.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX21_1 81.00-150.00 m observed

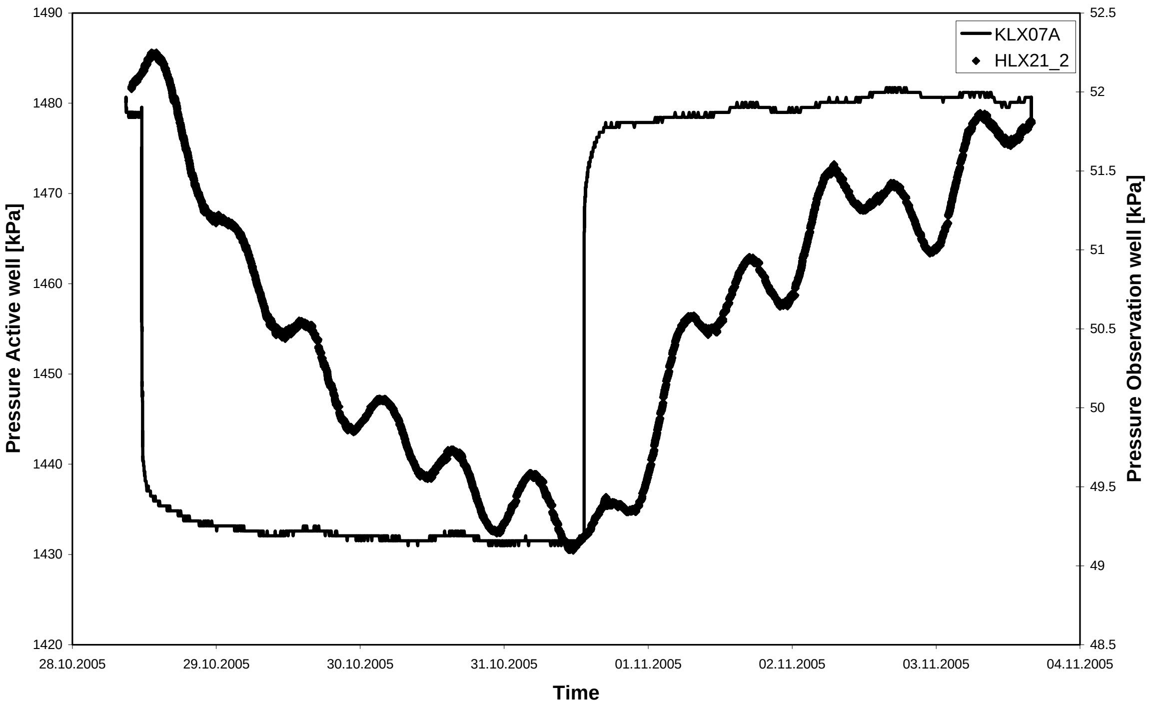


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX21_1 81.00-150.00 m observed

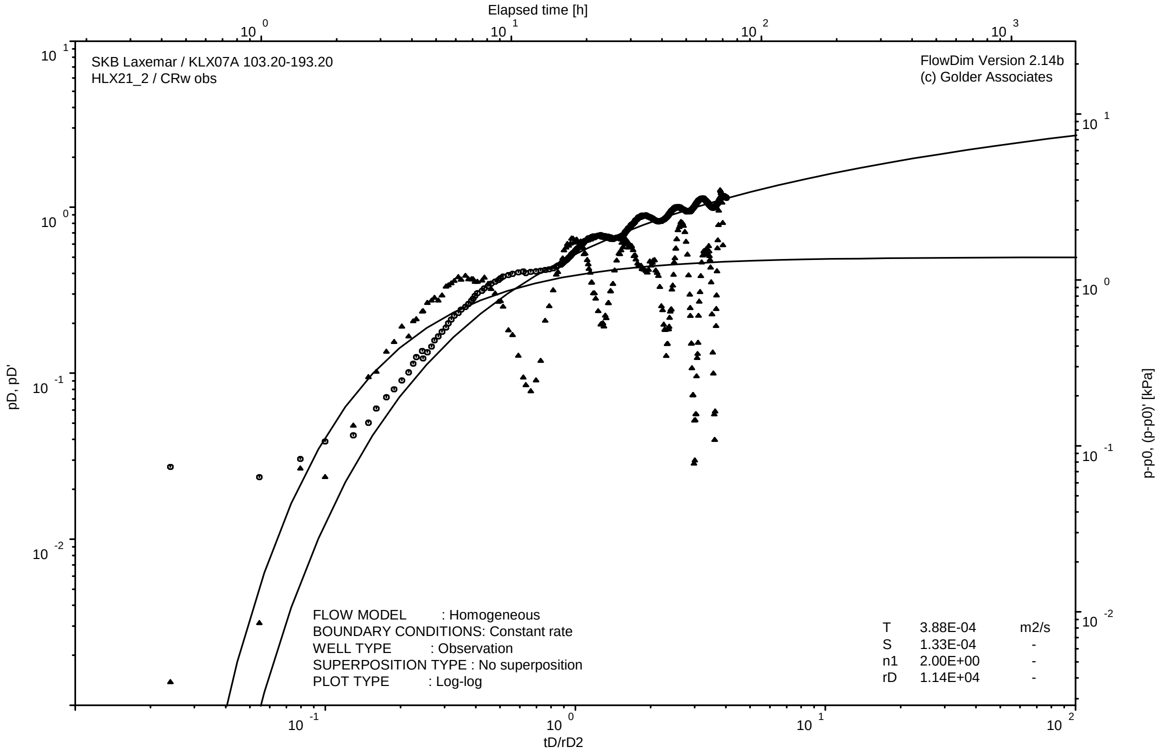
APPENDIX 7-1-5

KLX07A Section 103.20-193.20 m pumped
HLX21_2 9.10-80.00 m observed

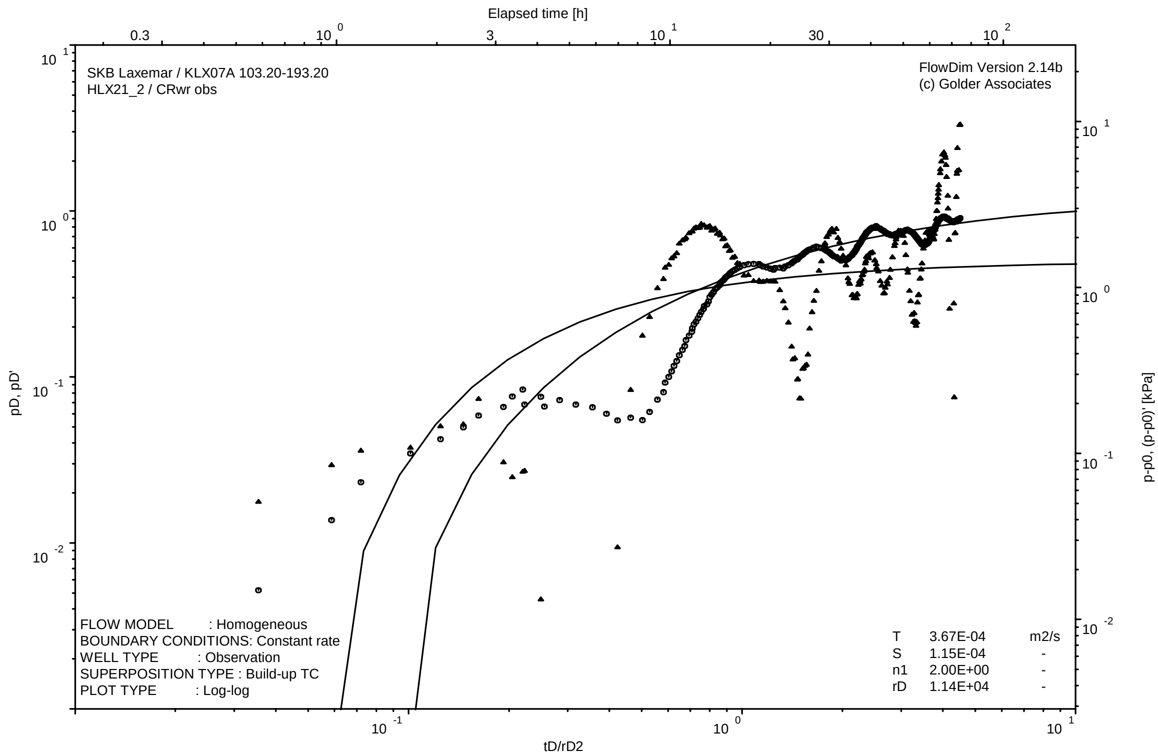
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX21_2 9.10-80.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX21_2 9.10-80.00 m observed

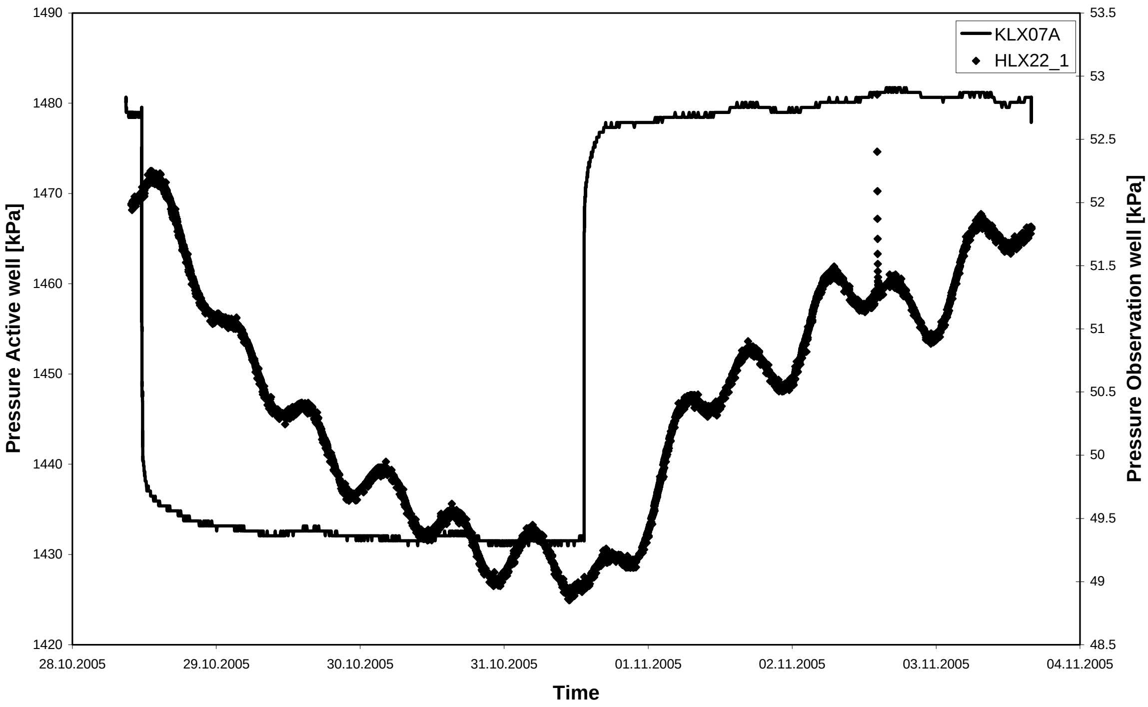


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX21_2 9.10-80.00 m observed

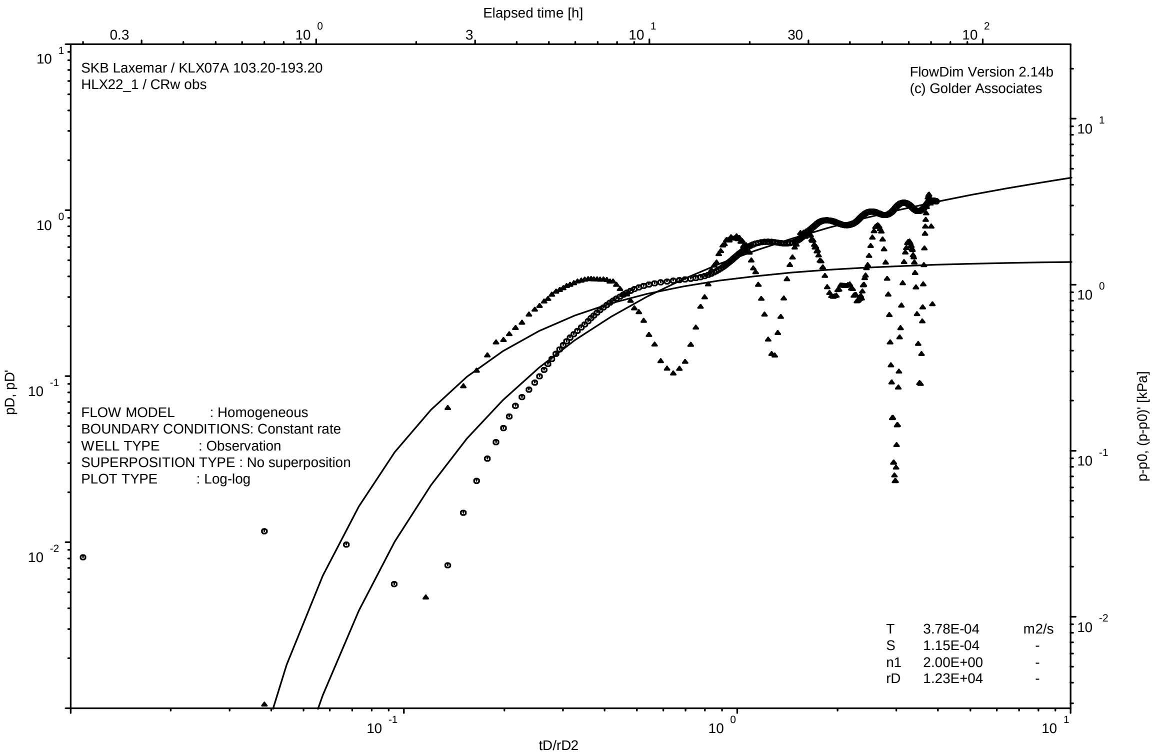
APPENDIX 7-1-6

KLX07A Section 103.20-193.20 m pumped
HLX22_1 86.00-163.20 m observed

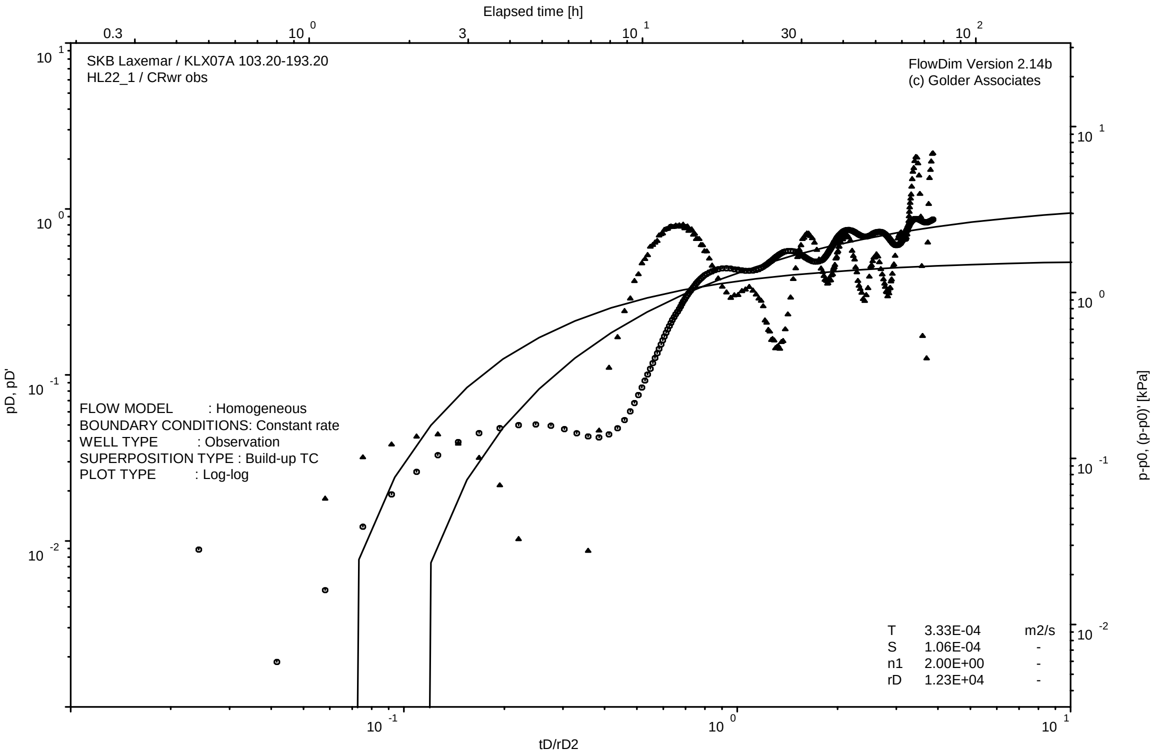
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX22_1 86.00-163.20 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX22_1 86.00-163.20 m observed

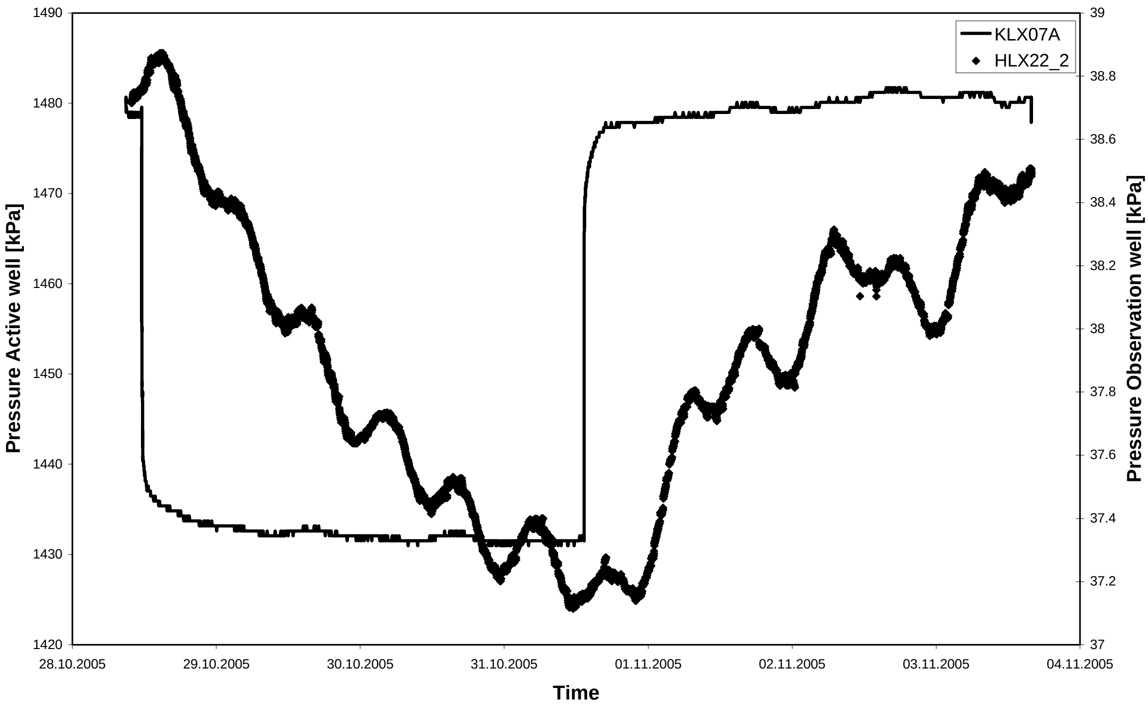


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX22_1 86.00-163.20 m observed

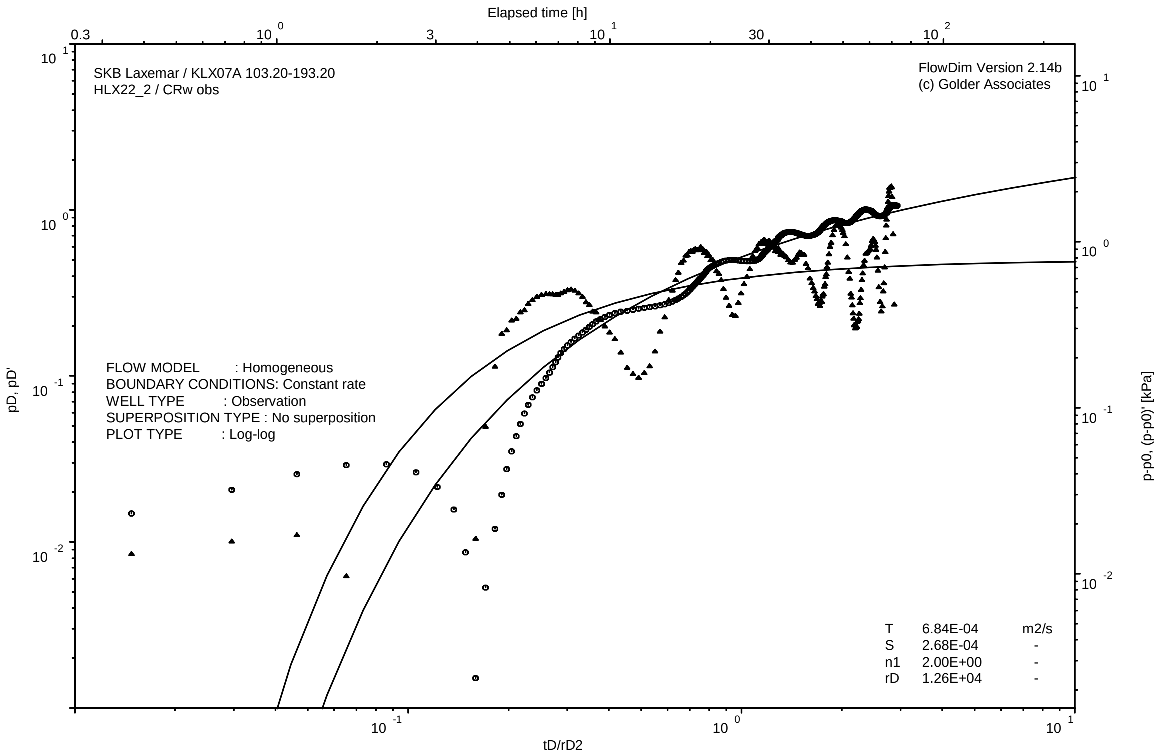
APPENDIX 7-1-7

KLX07A Section 103.20-193.20 m pumped
HLX22_2 9.19-85.00 m observed

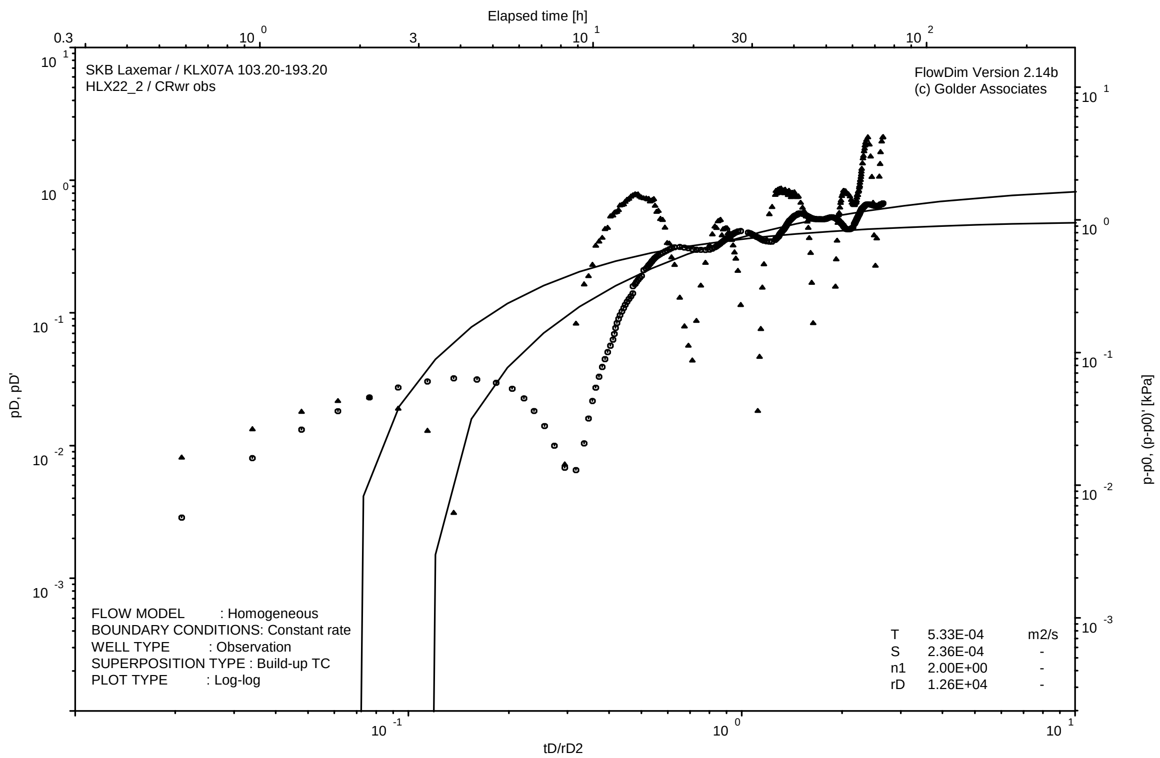
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX22_2 9.19-85.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX22_2 9.19-85.00 m observed

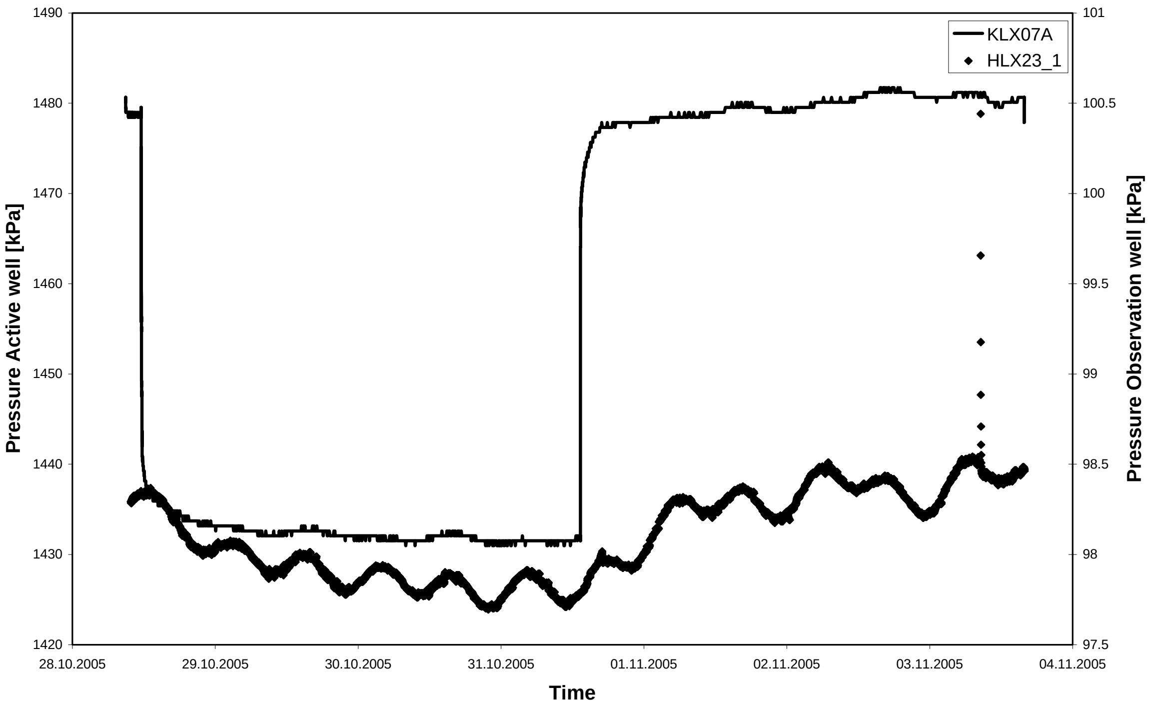


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX22_2 9.19-85.00 m observed

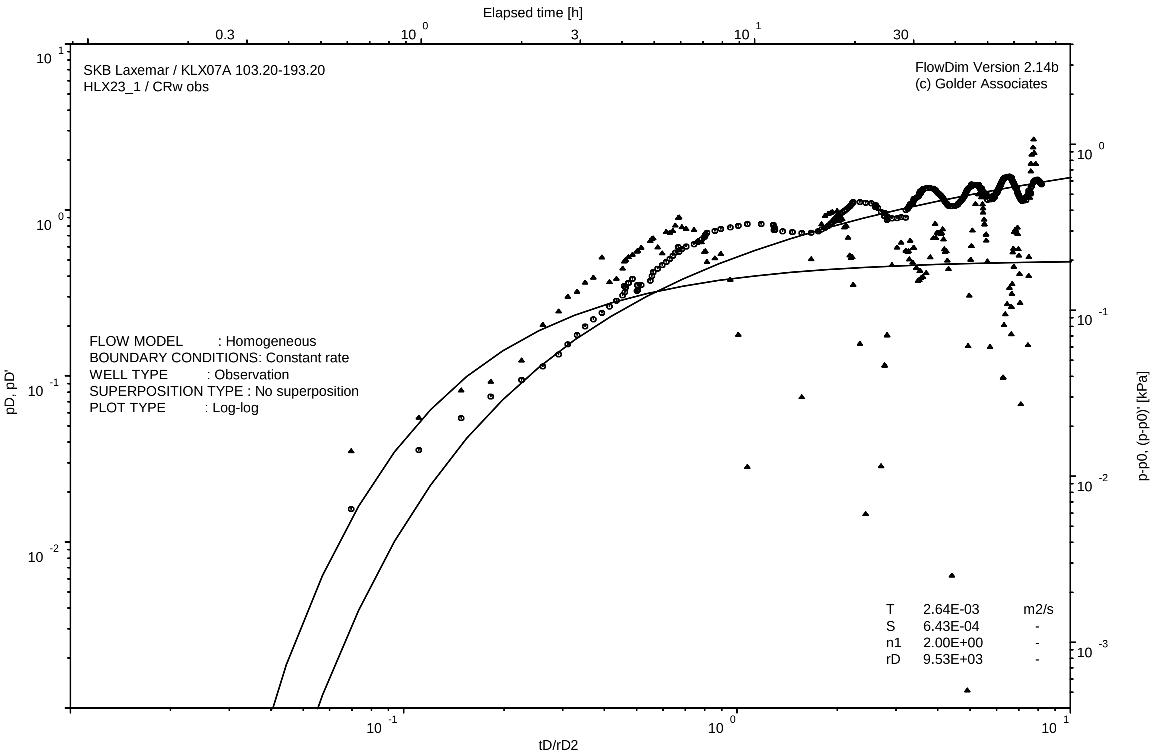
APPENDIX 7-1-8

KLX07A Section 103.20-193.20 m pumped
HLX23_1 61.00-160.20 m observed

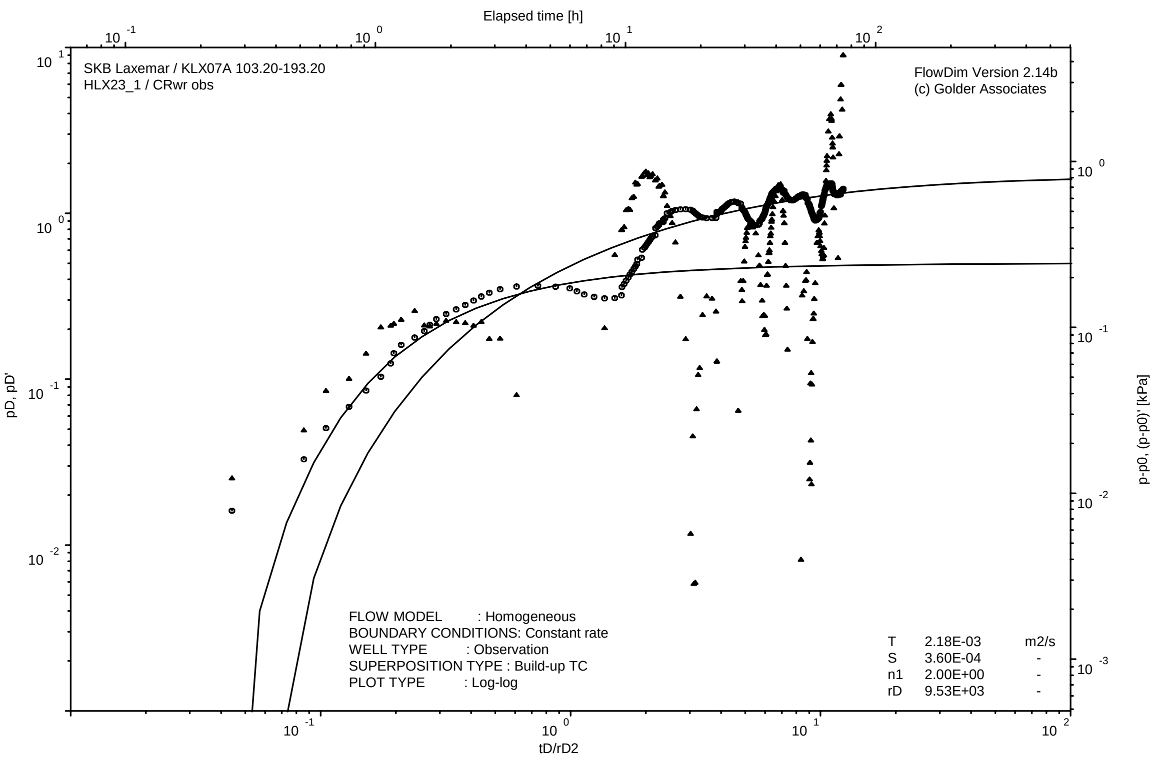
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX23_1 61.00-160.20 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX23_1 61.00-160.20 m observed

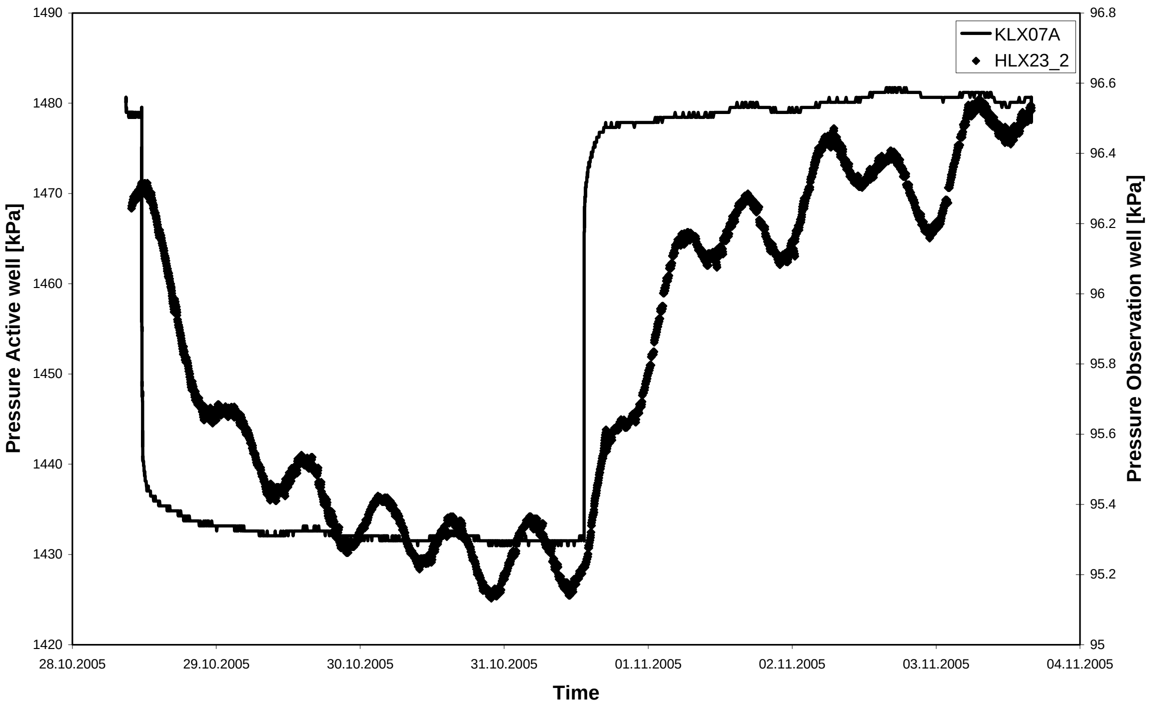


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX23_1 61.00-160.20 m observed

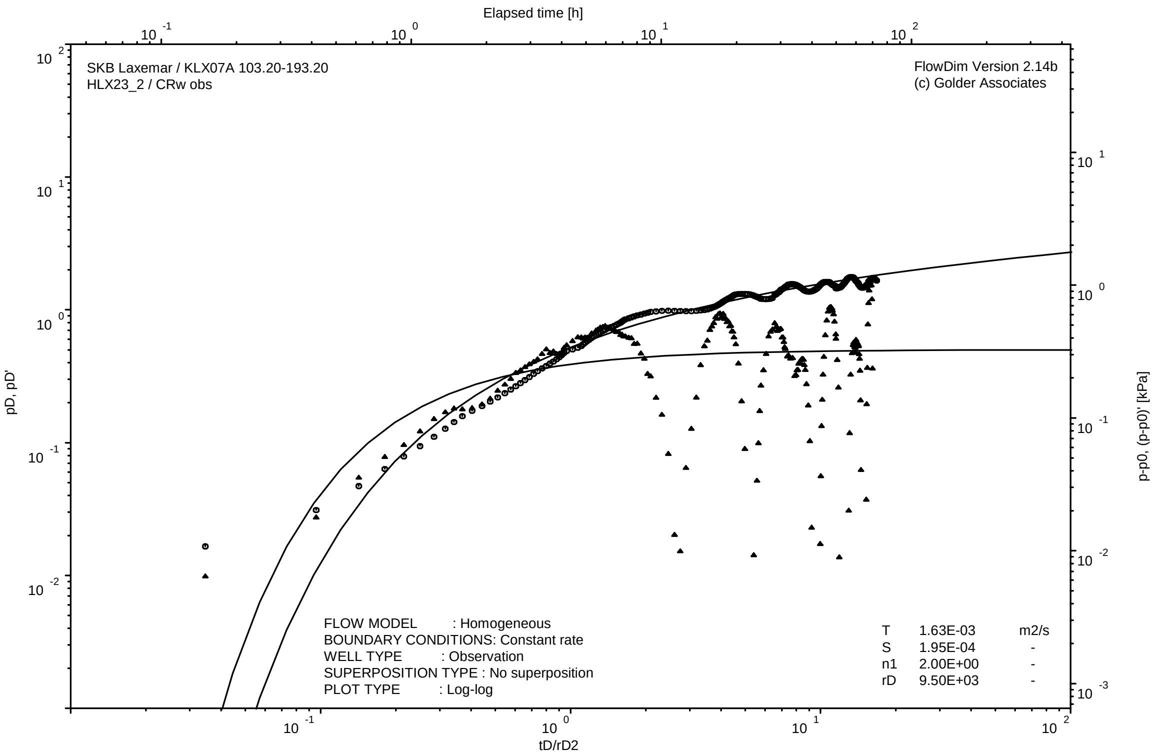
APPENDIX 7-1-9

KLX07A Section 103.20-193.20 m pumped
HLX23_2 6.10-60.00 m observed

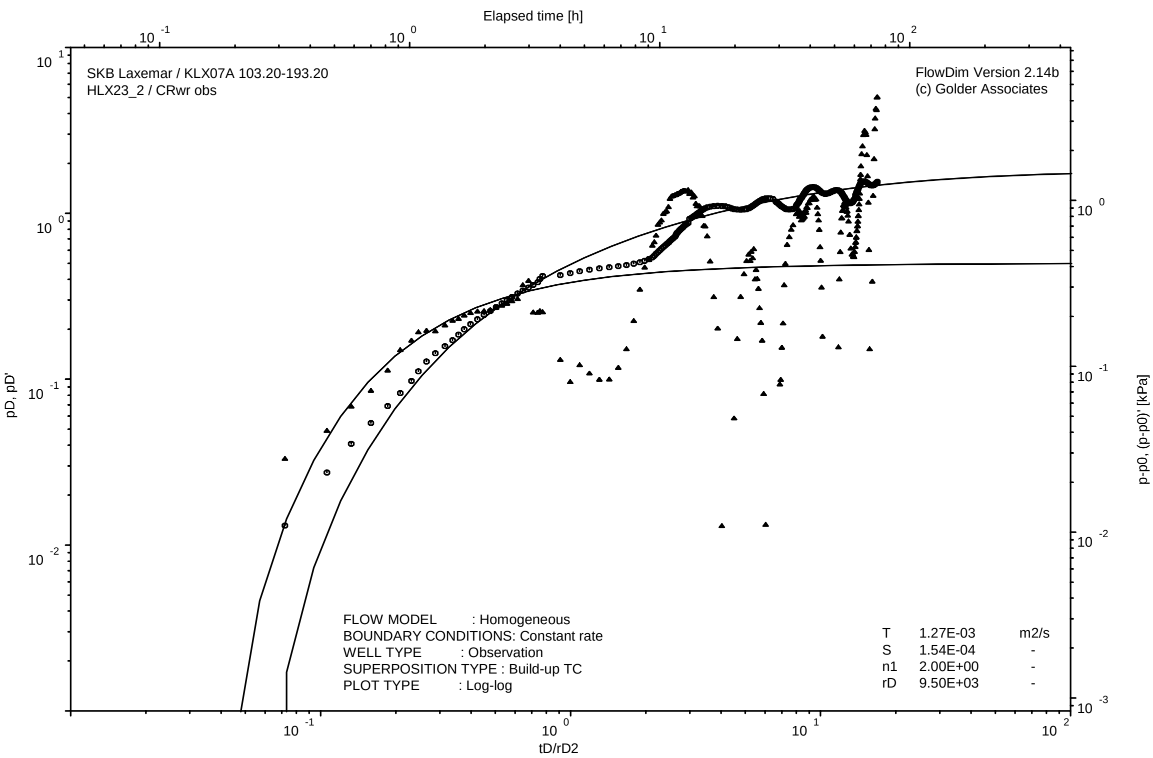
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX23_2 6.10-60.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX23_2 6.10-60.00 m observed

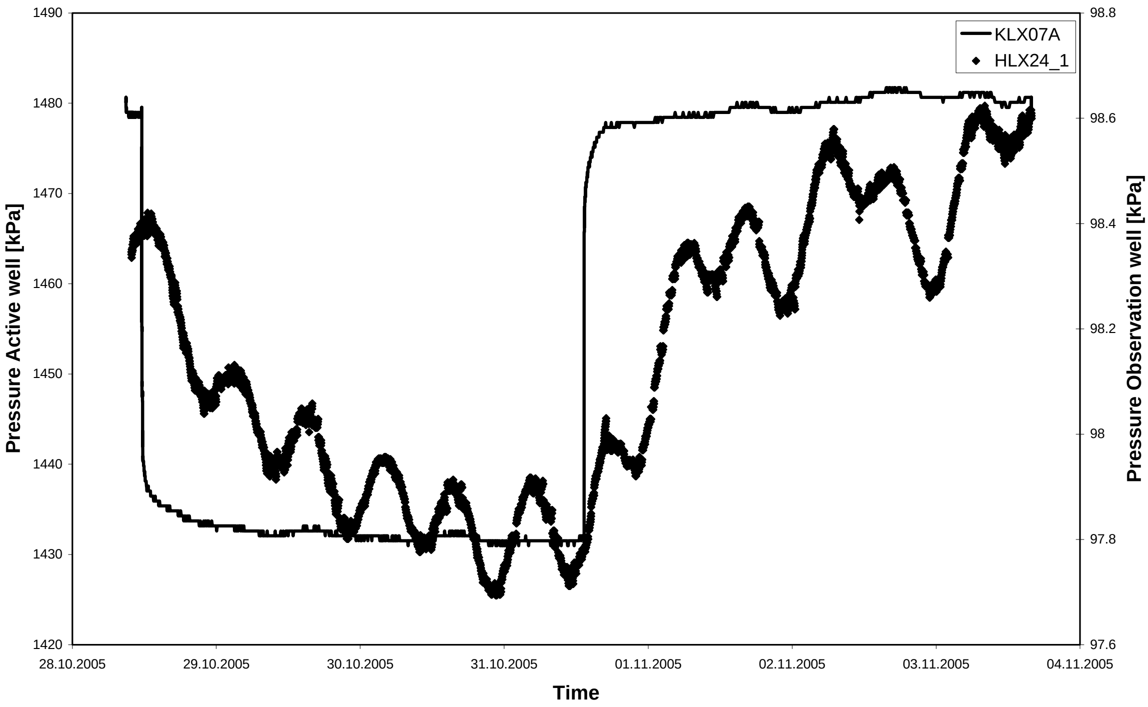


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX23_2 6.10-60.00 m observed

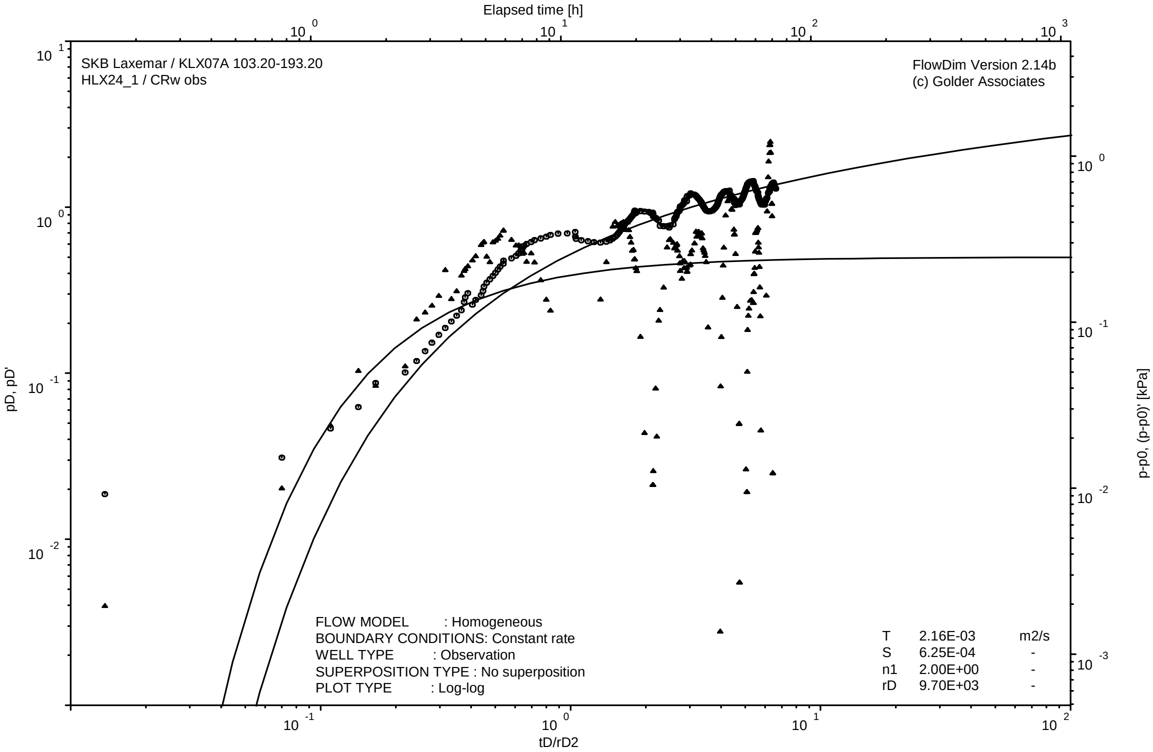
APPENDIX 7-1-10

KLX07A Section 103.20-193.20 m pumped
HLX24_1 41.00-175.20 m observed

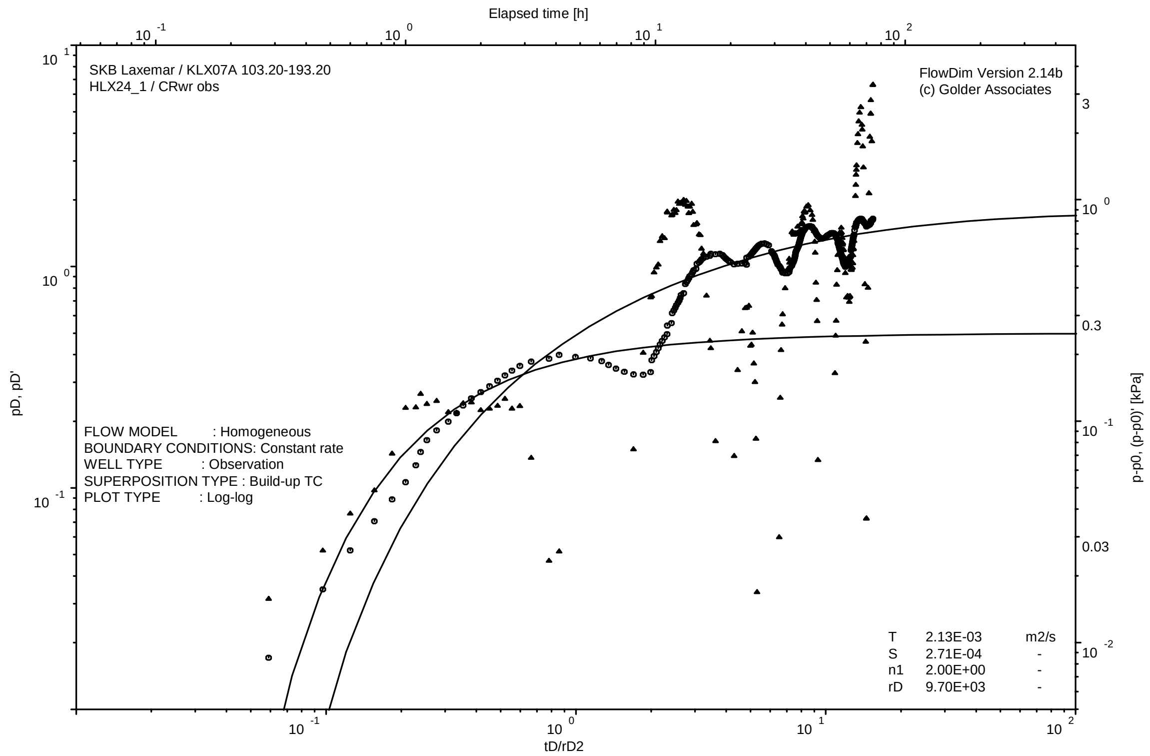
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and HLX24_1 41.00-175.20 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX24_1 41.00-175.20 m observed

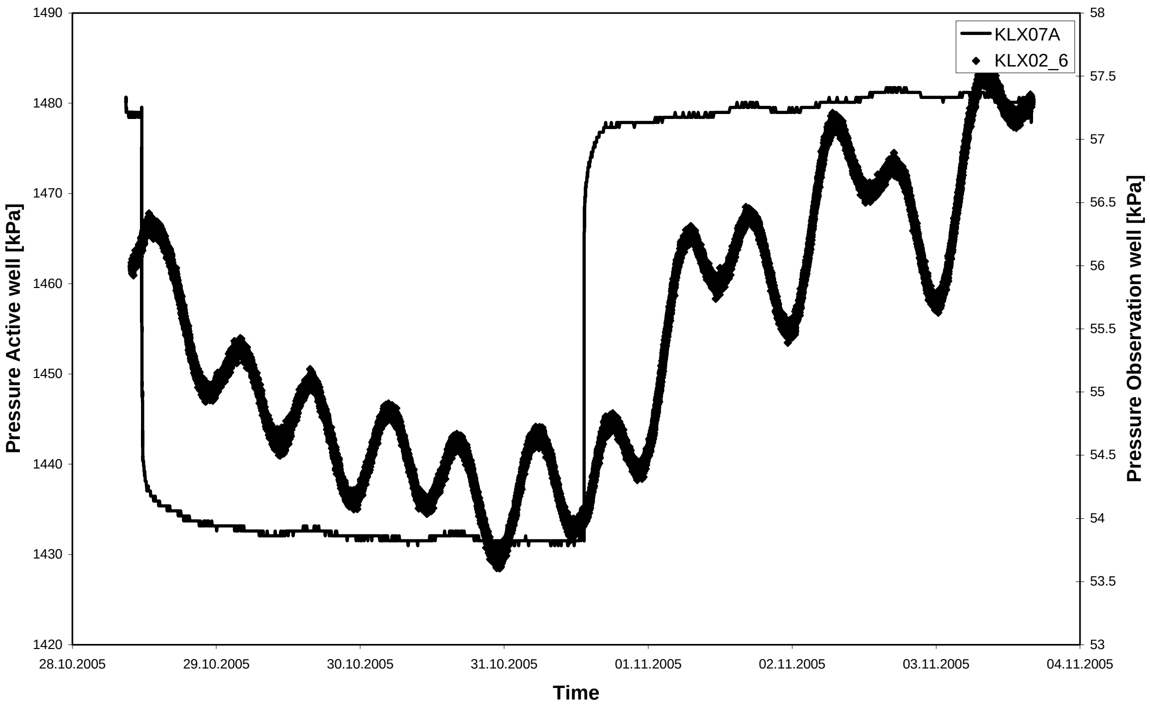


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and HLX24_1 41.00-175.20 m observed

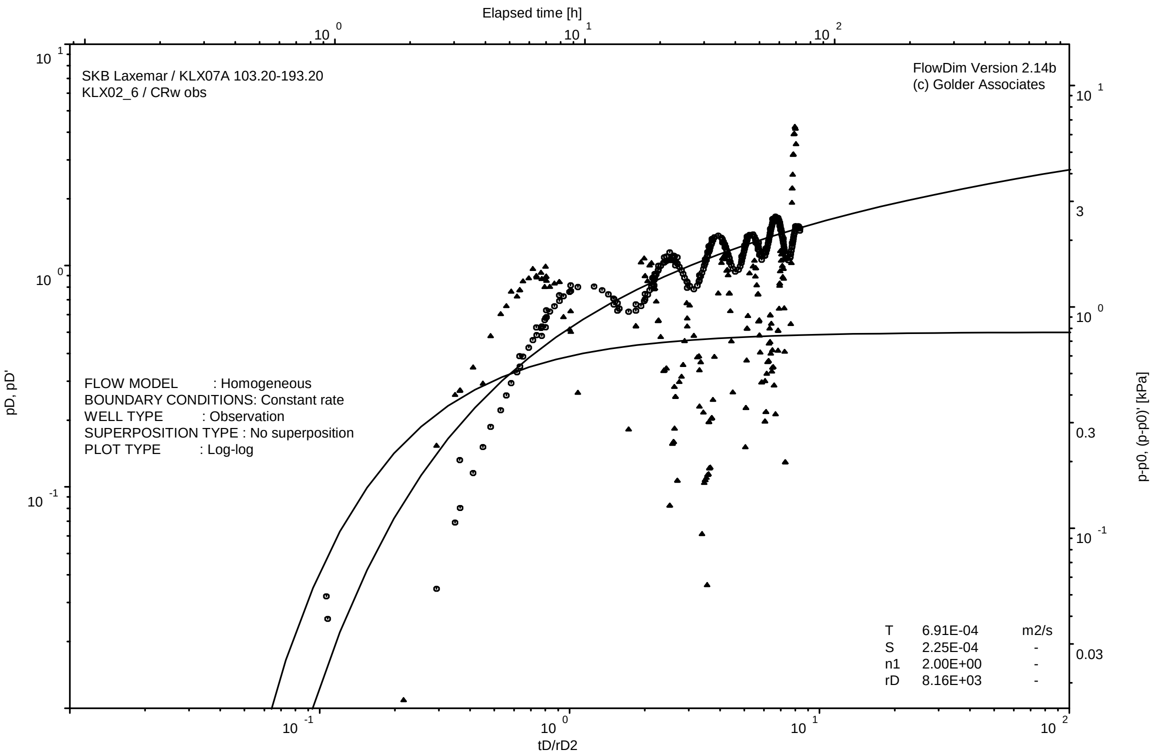
APPENDIX 7-1-11

KLX07A Section 103.20-193.20 m pumped
KLX02_6 348.00-451.00 m observed

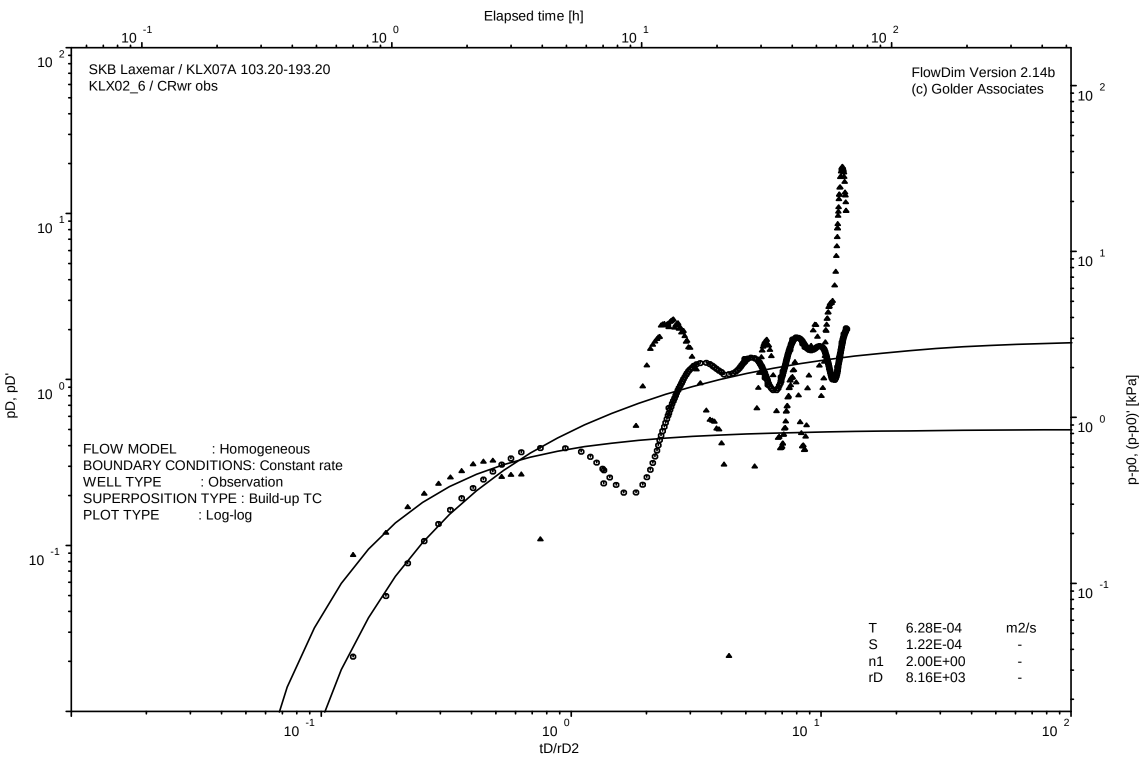
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX02_6 348.00-451.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_6 348.00-451.00 m observed

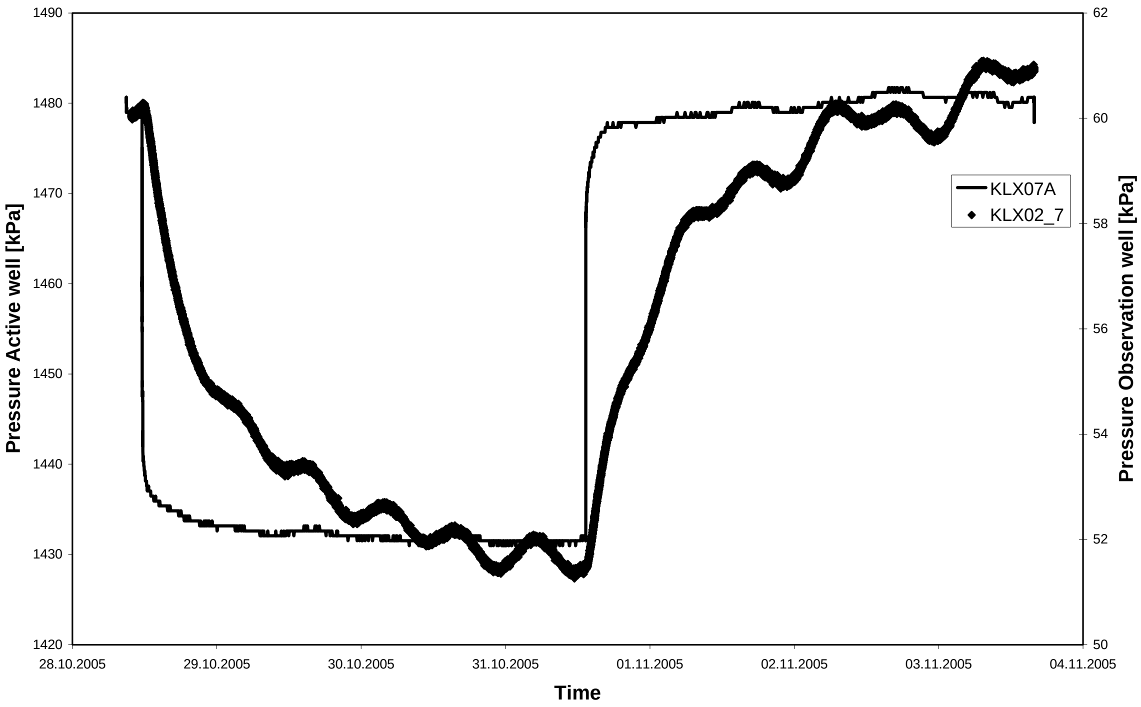


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_6 348.00-451.00 m observed

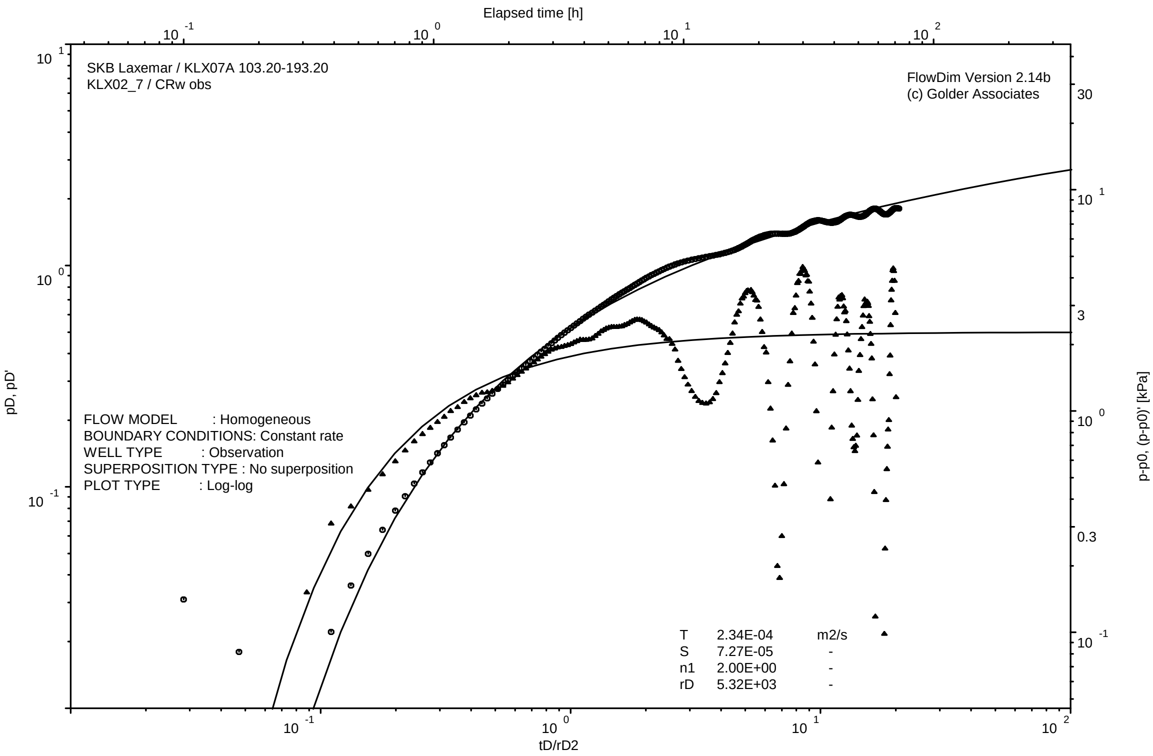
APPENDIX 7-1-12

KLX07A Section 103.20-193.20 m pumped
KLX02_7 209.00-347.00 m observed

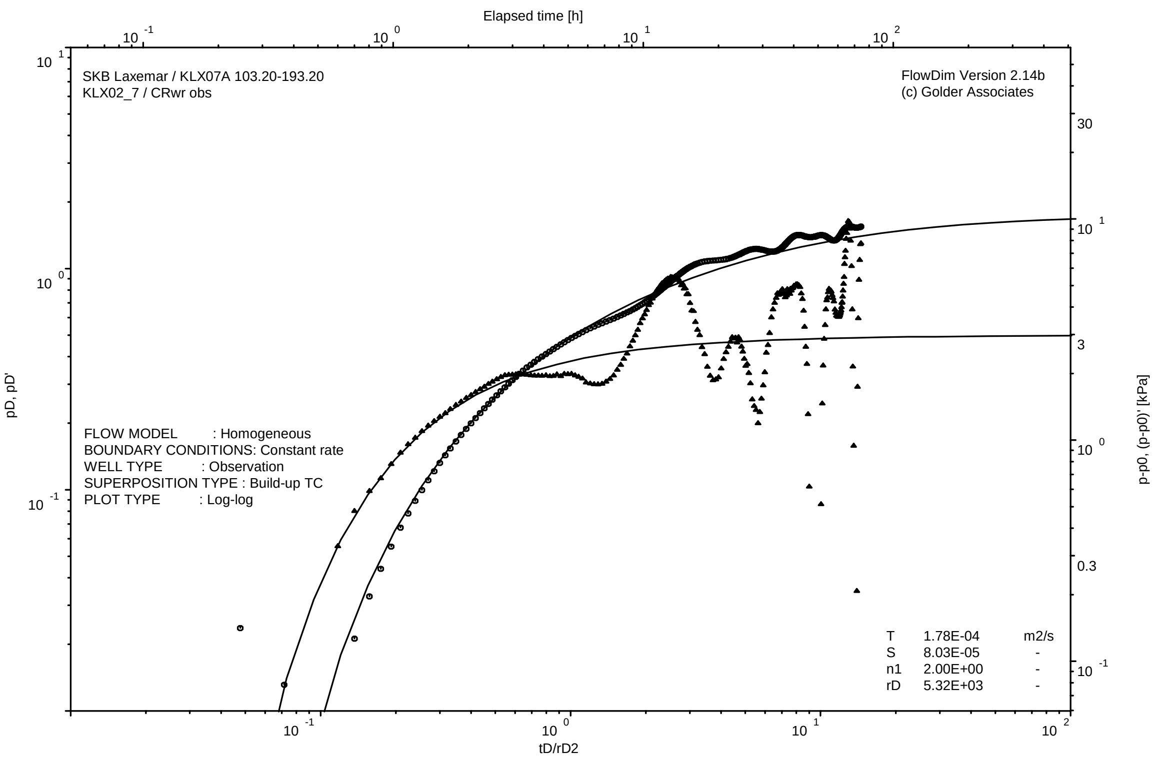
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX02_7 209.00-347.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_7 209.00-347.00 m observed

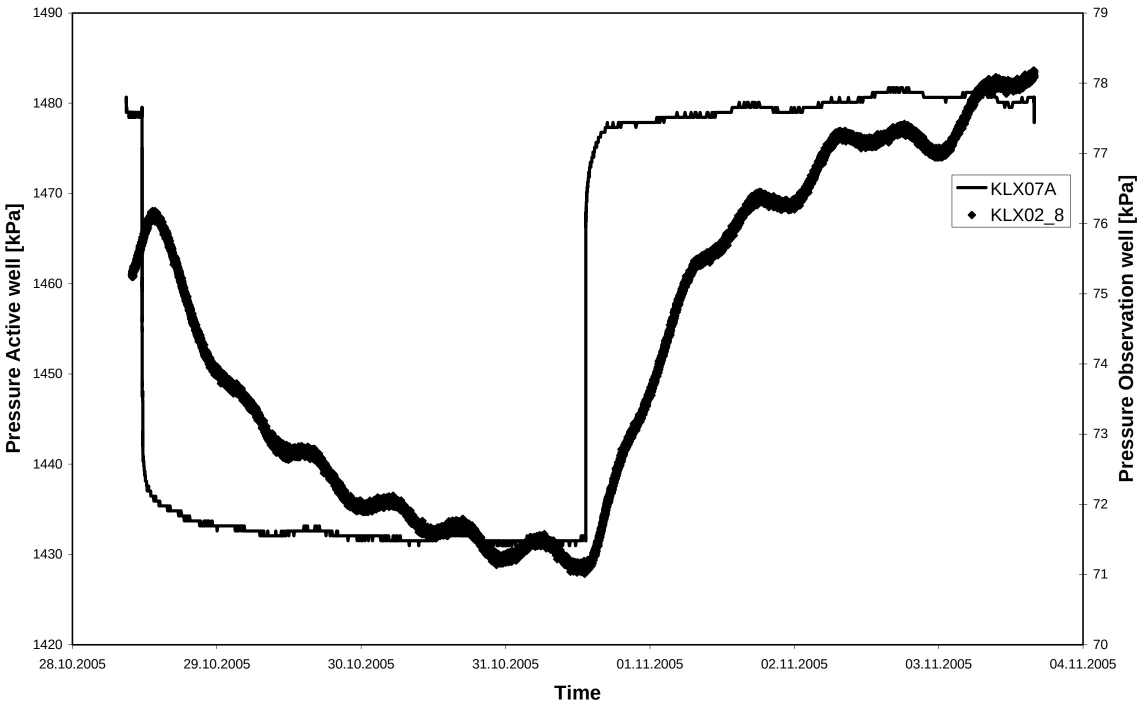


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_7 209.00-347.00 m observed

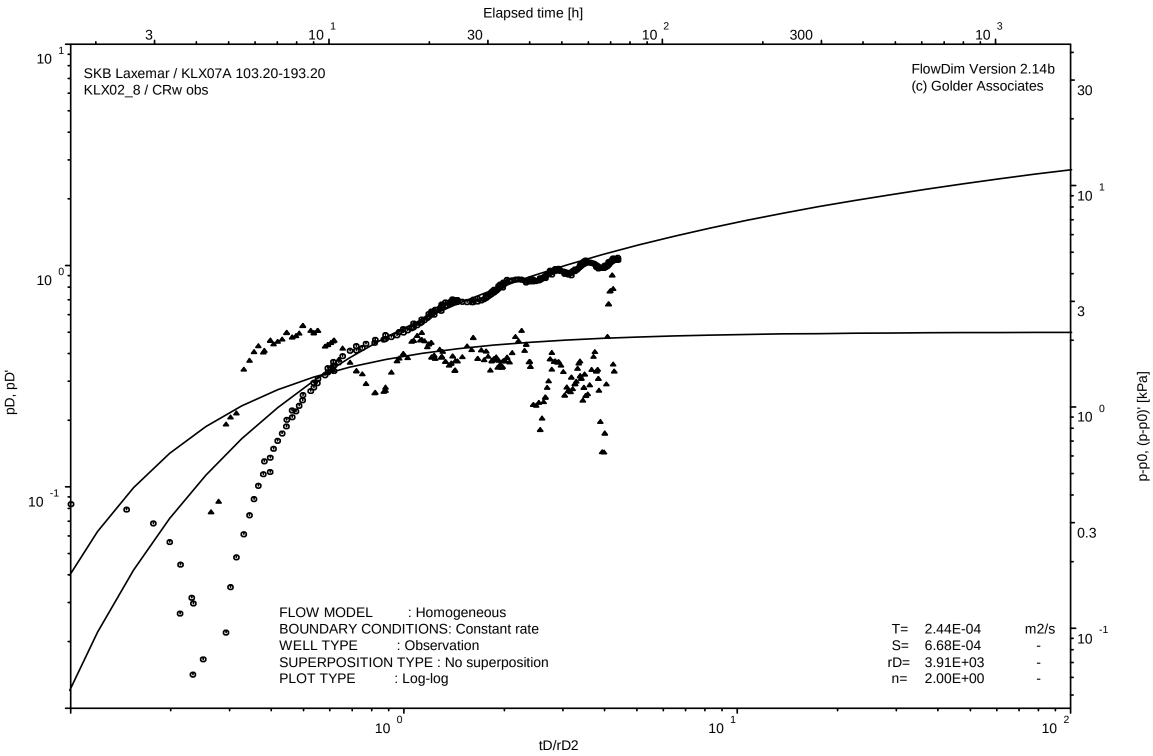
APPENDIX 7-1-13

KLX07A Section 103.20-193.20 m pumped
KLX02_8 202.95-208.00 m observed

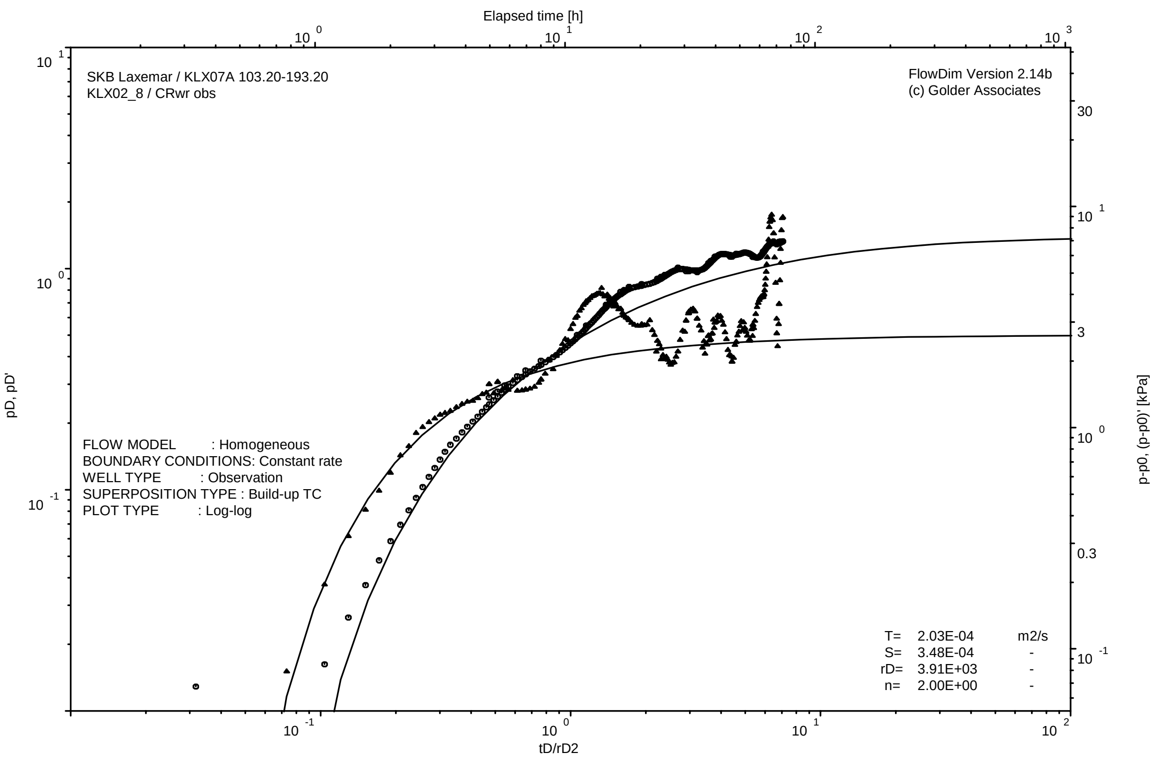
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX02_8 202.95-208.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_8 202.95-208.00 m observed

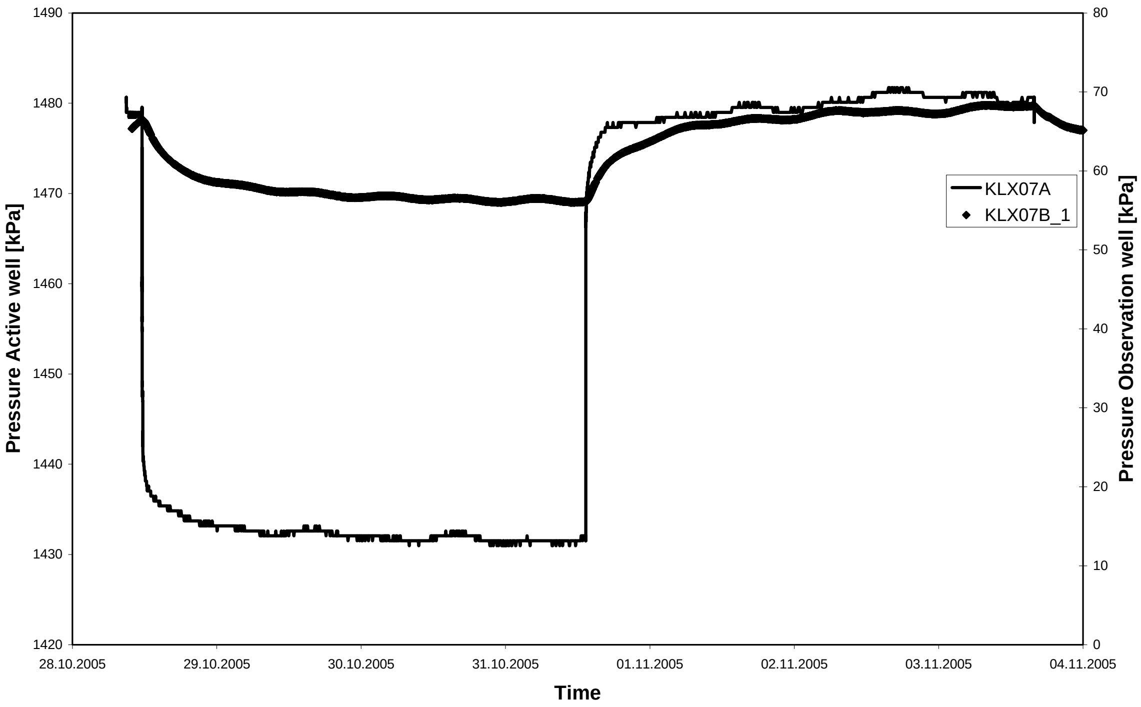


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX02_8 202.95-208.00 m observed

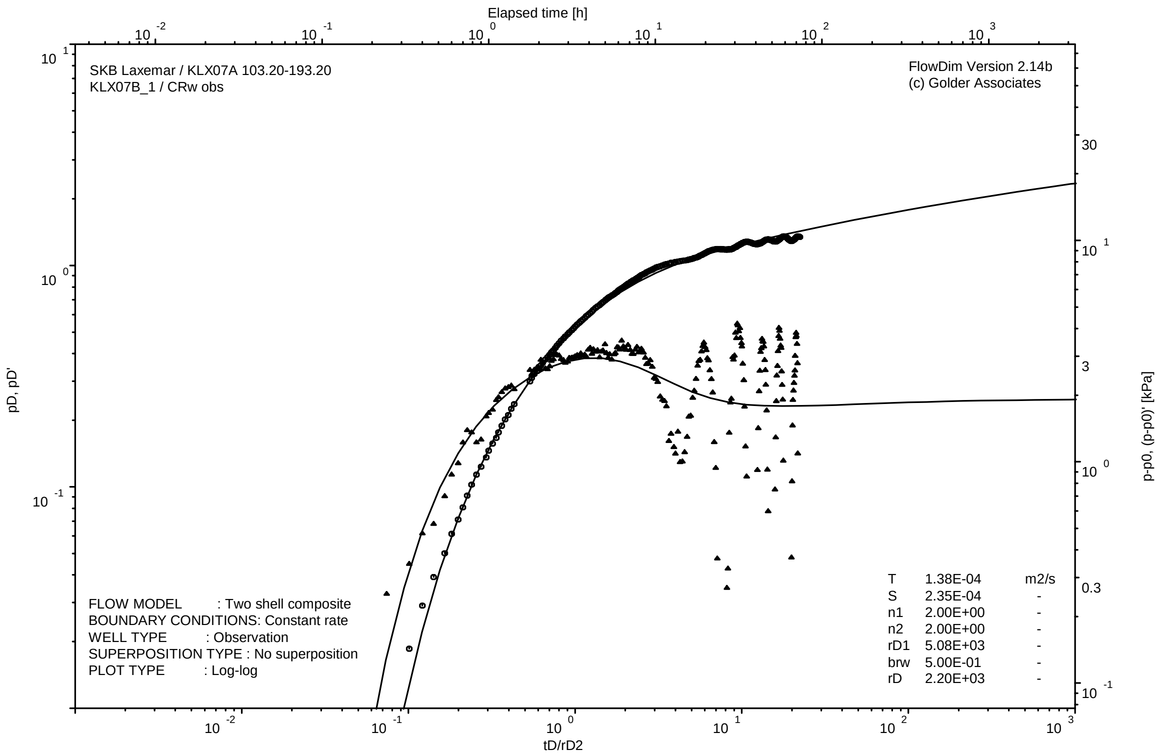
APPENDIX 7-1-14

KLX07A Section 103.20-193.20 m pumped
KLX07B_1 112.00-200.00 m observed

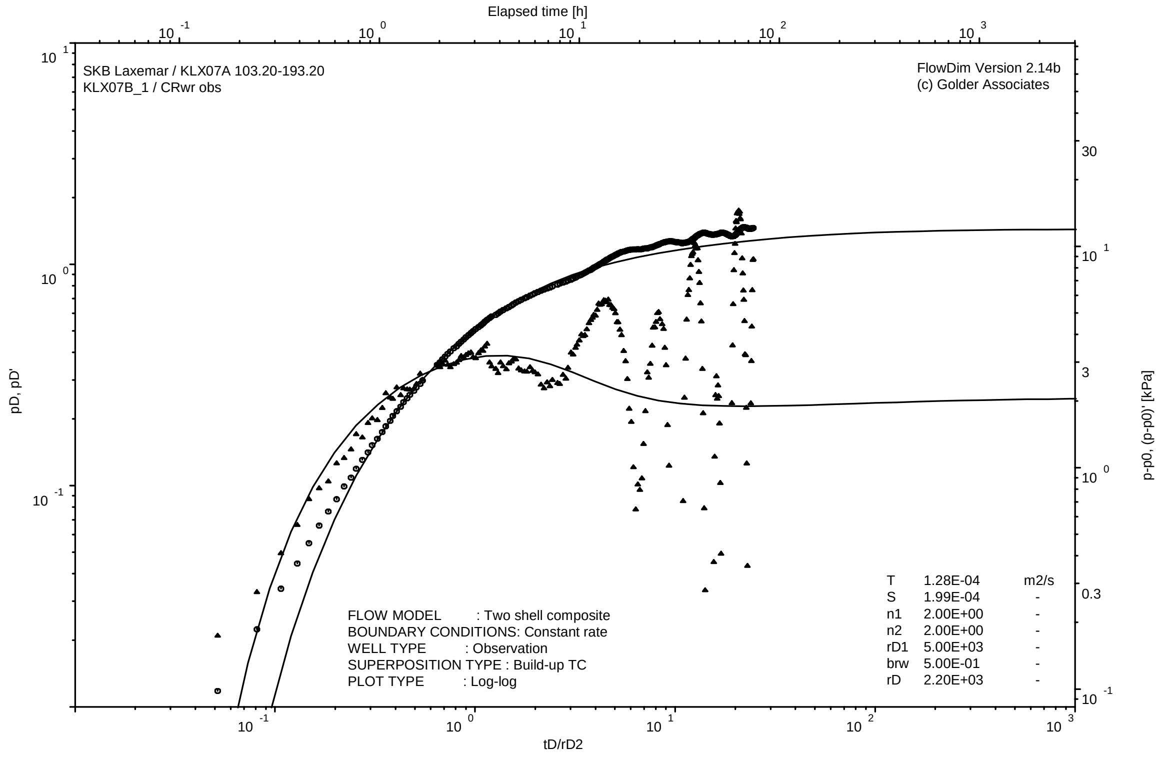
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX07B_1 112.0-200.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped KLX07B_1 112.0-200.00 m observed

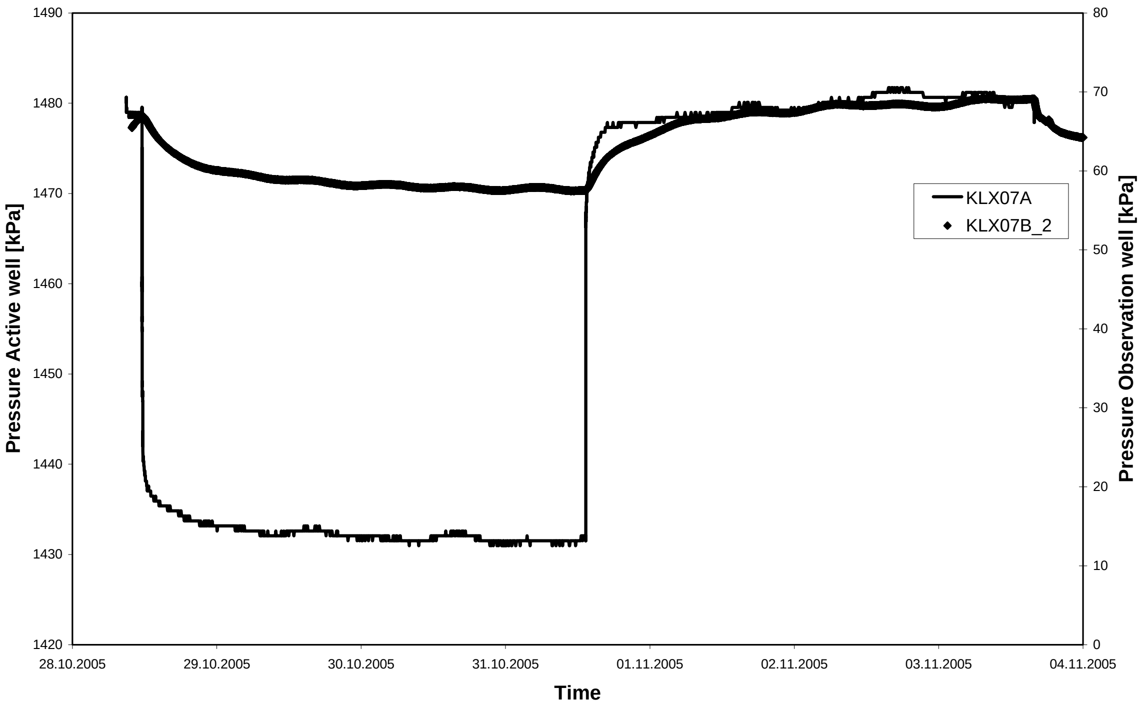


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX07B_1 112.0-200.00 m observed

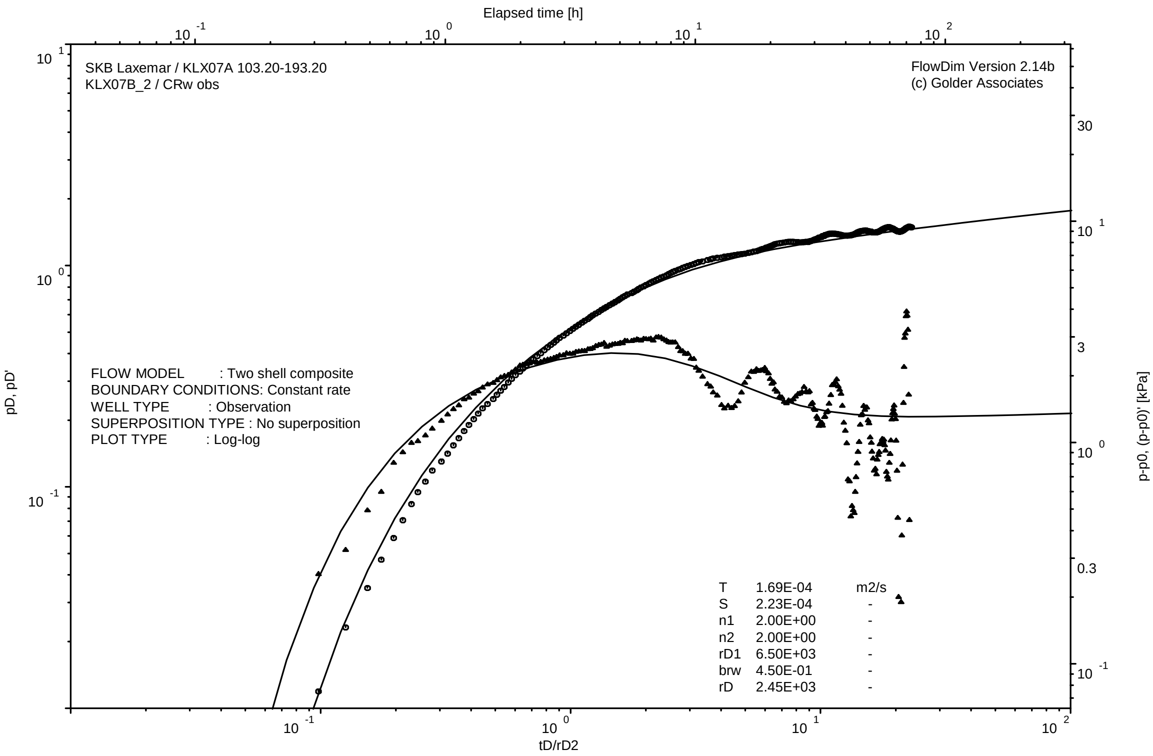
APPENDIX 7-1-15

KLX07A Section 103.20-193.20 m pumped
KLX07B_2 49.00-111.00 m observed

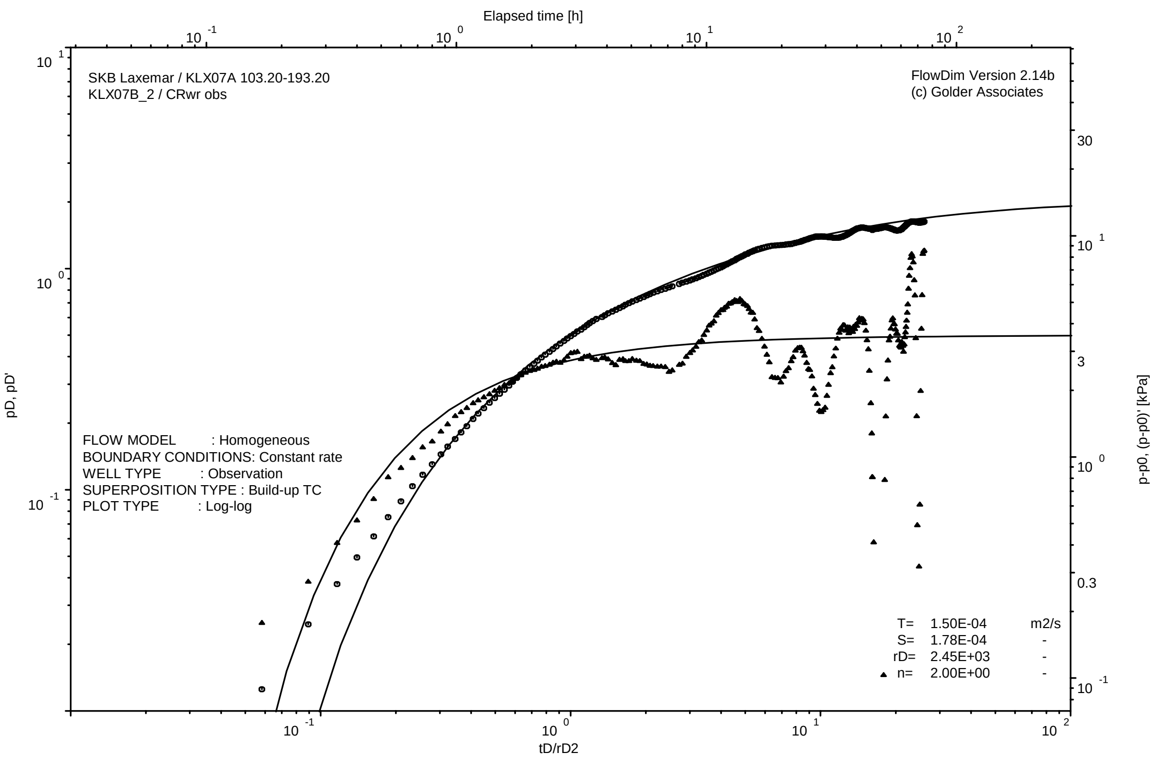
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX07B_2 49.00-111.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped KLX07B_2 49.00-111.00 m observed

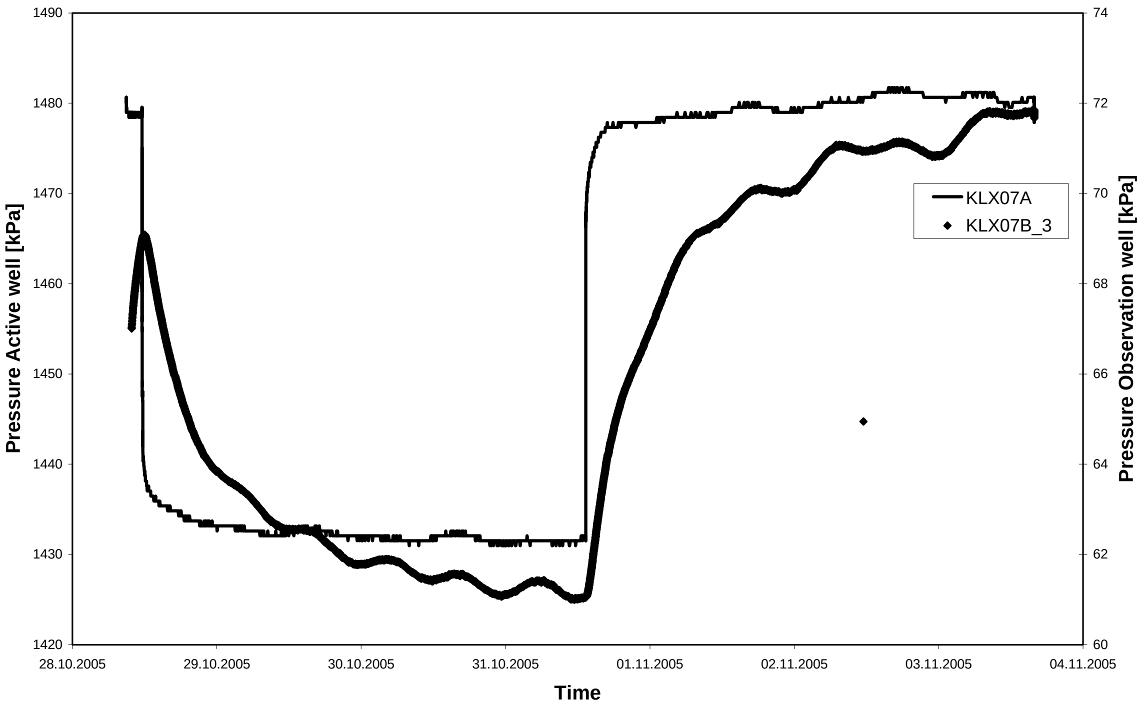


CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX07B_2 49.00-111.00 m observed

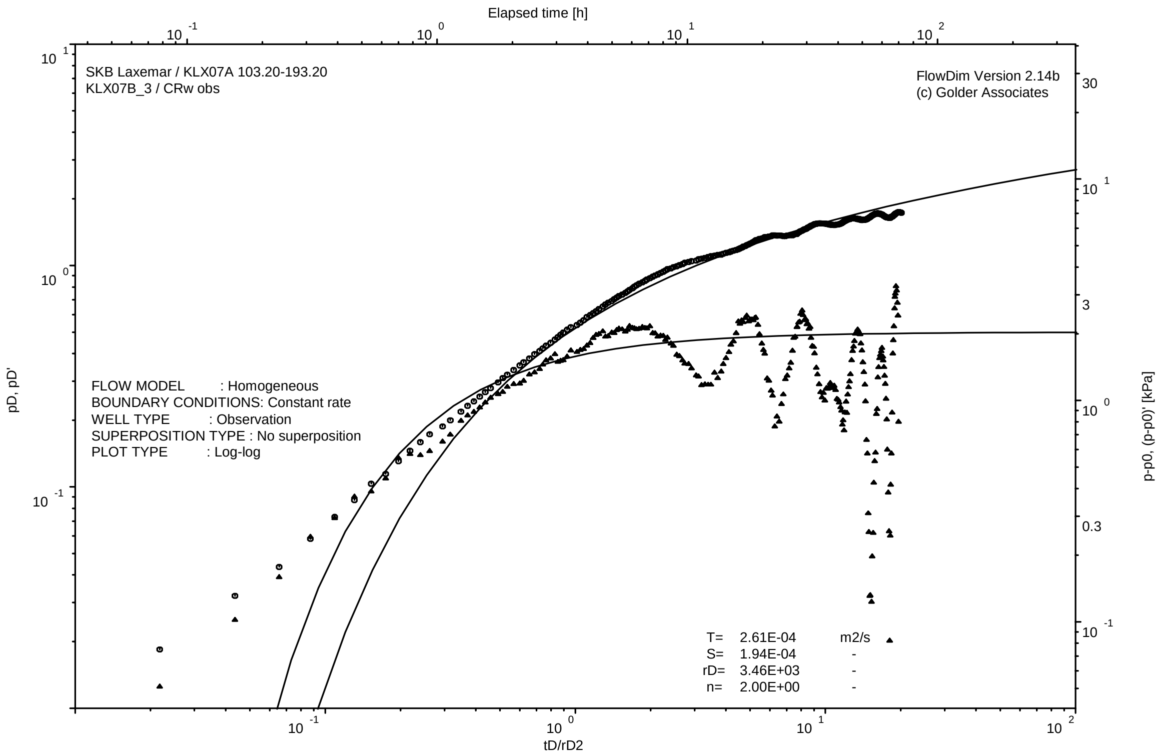
APPENDIX 7-1-16

KLX07A Section 103.20-193.20 m pumped
KLX07B_3 0.00-48.00 m observed

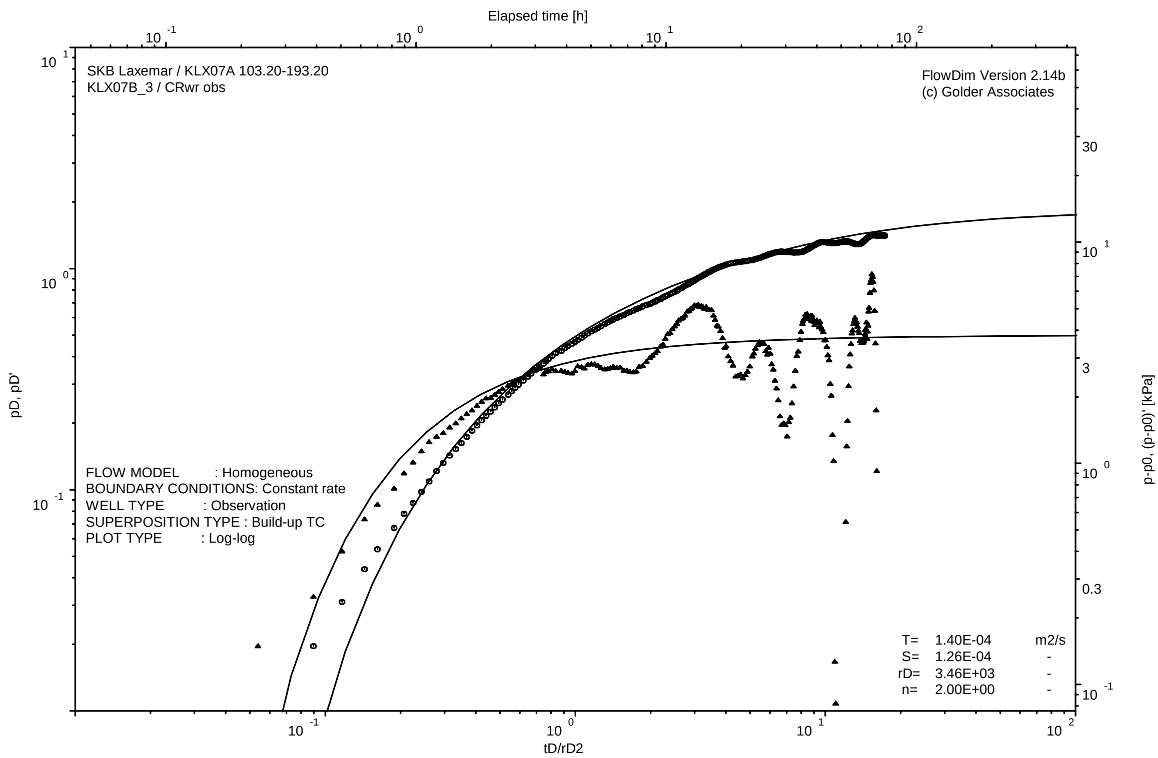
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 103.20-193.20 m pumped and KLX07B_3 0.00-48.00 m observed



CRw phase; log-log match; KLX07A 103.20-193.20 m pumped KLX07B_3 0.00-48.00 m observed



CRwr phase; log-log match; KLX07A 103.20-193.20 m pumped and KLX07B_3 0.00-48.00 m observed

APPENDIX 7-2

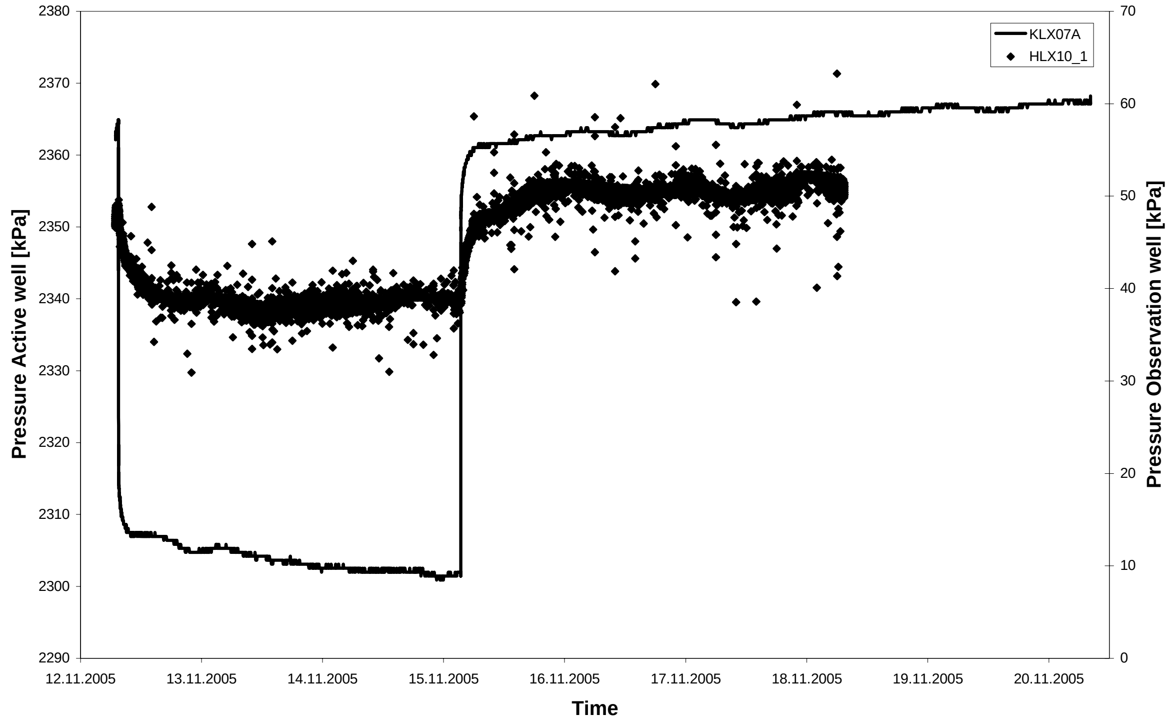
KLX07A Section 193.00-313.00 m pumped

Observation hole
Test Analysis diagrams

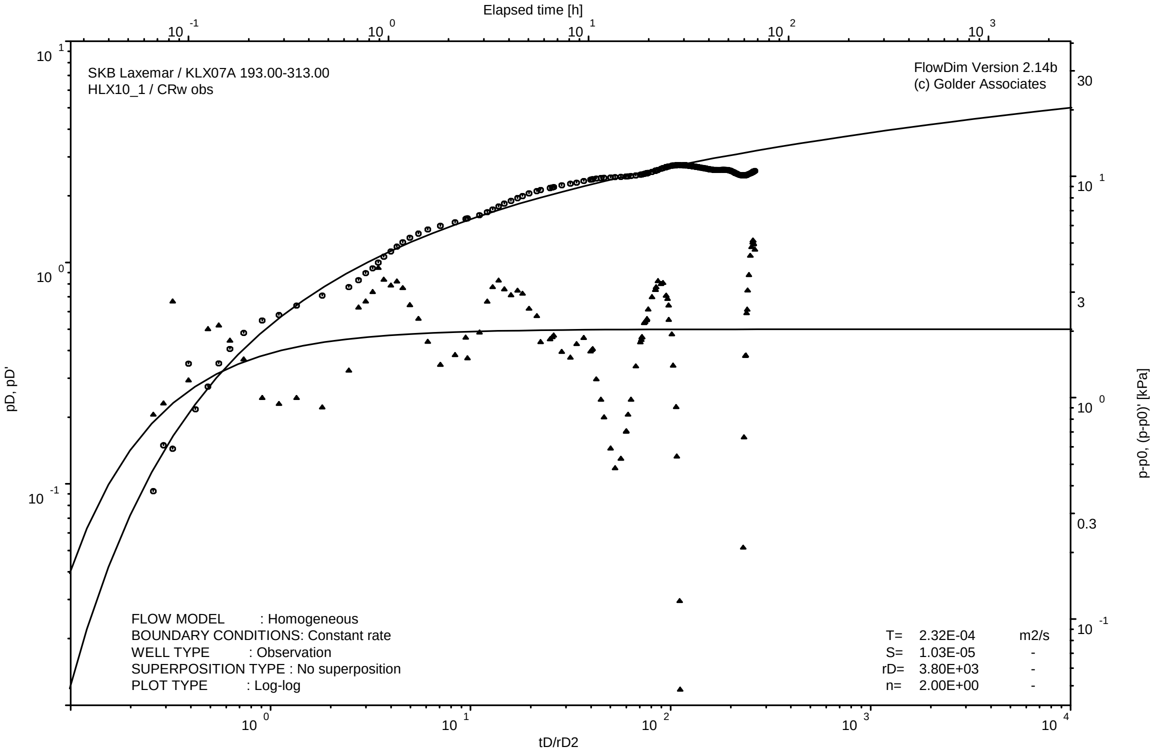
APPENDIX 7-2-1

KLX07A Section 193.00-313.00 m pumped
HLX10_1 3.00-85.00 m observed

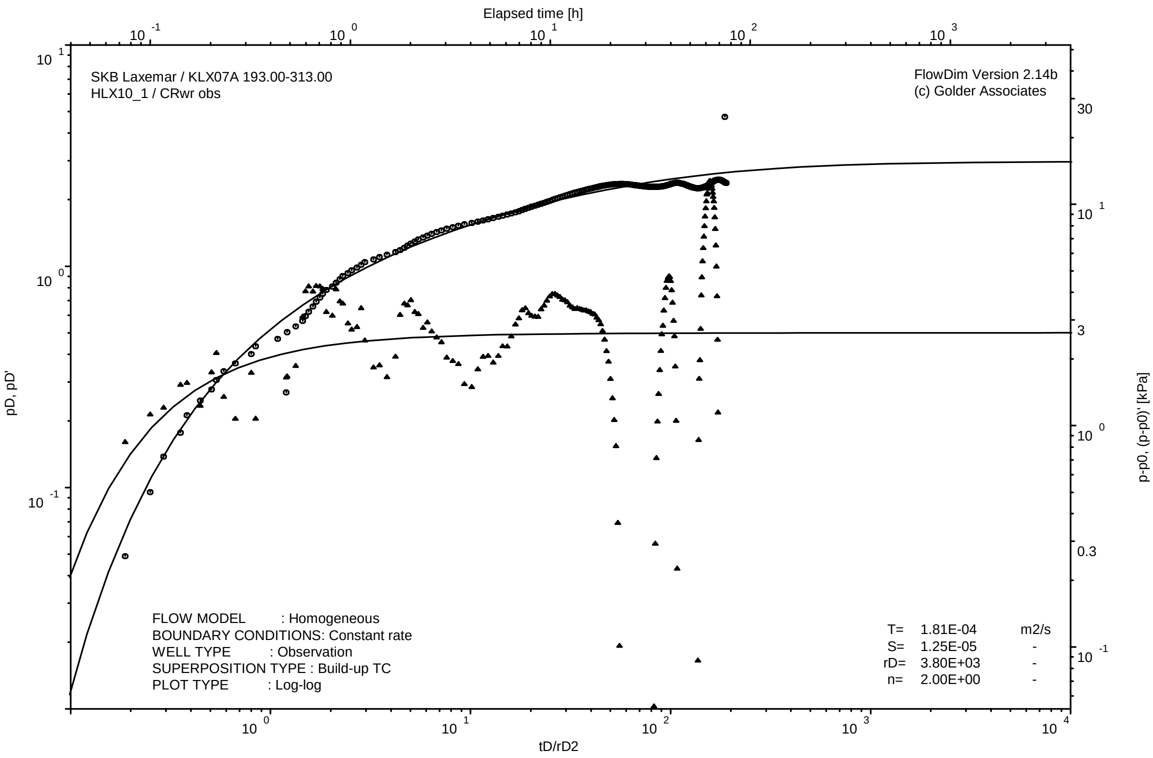
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX10_1 3.00-85.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX10_1 3.00-85.00 m observed

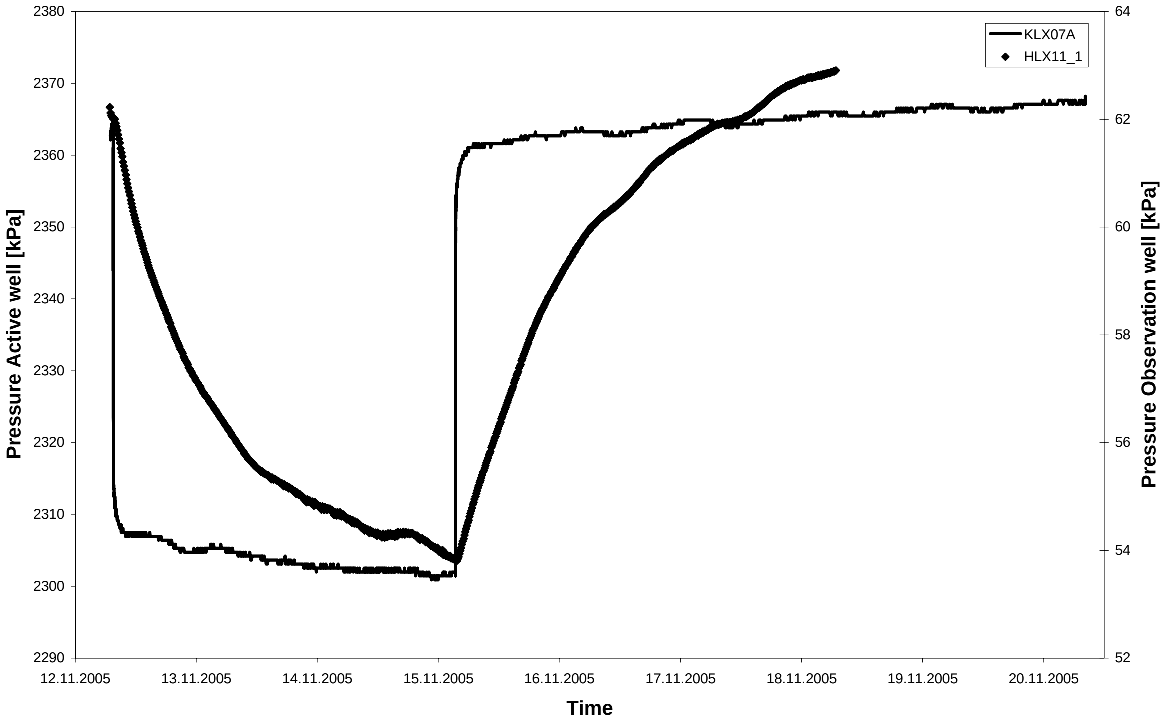


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX10_1 3.00-85.00 m observed

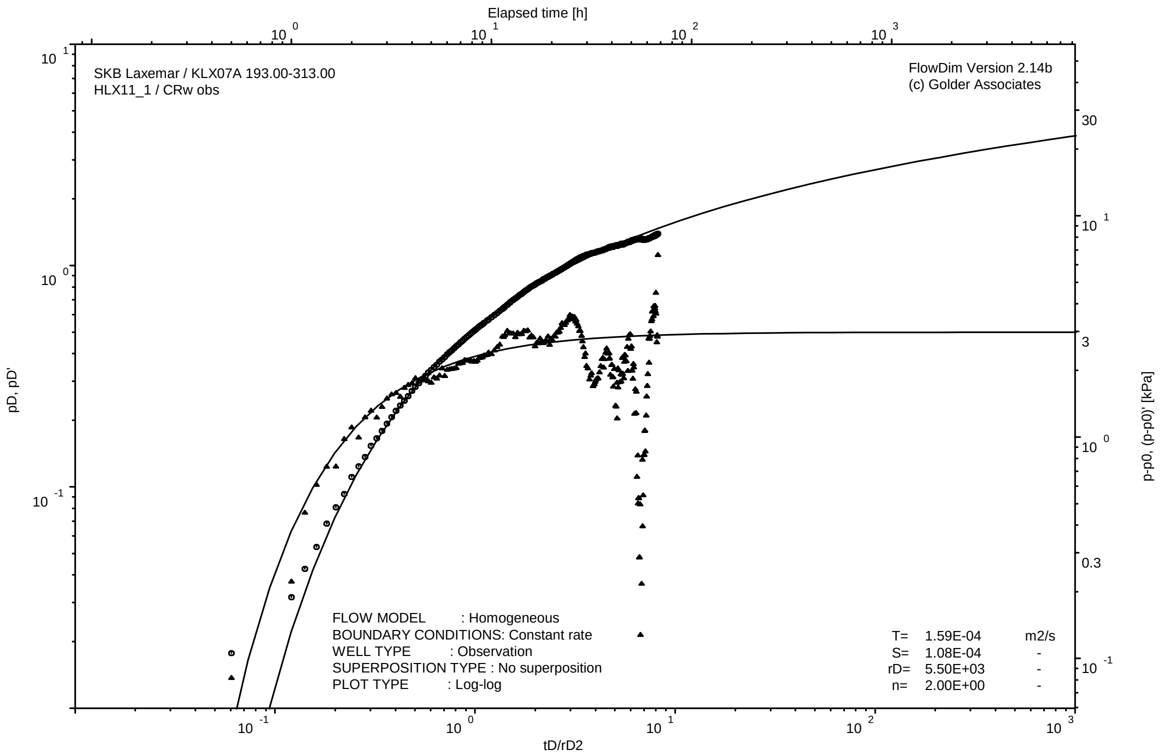
APPENDIX 7-2-2

KLX07A Section 193.00-313.00 m pumped
HLX11_1 17.00-70.00 m observed

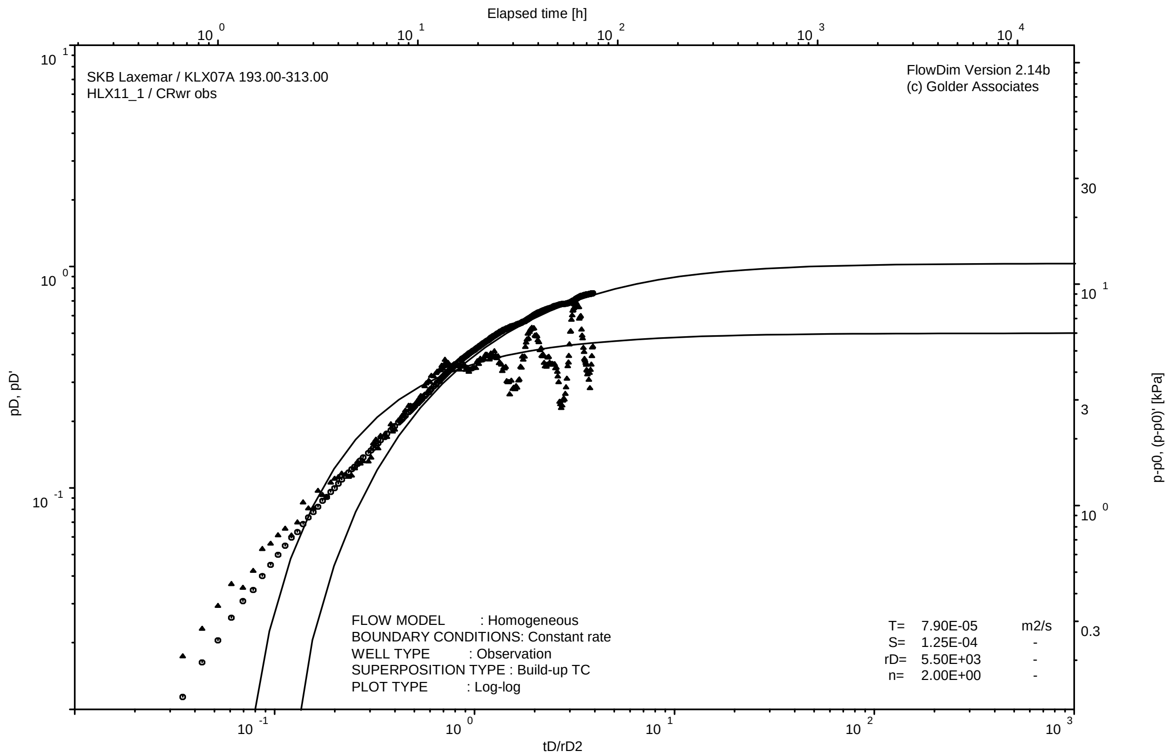
Observation hole
Test Analysis diagrams



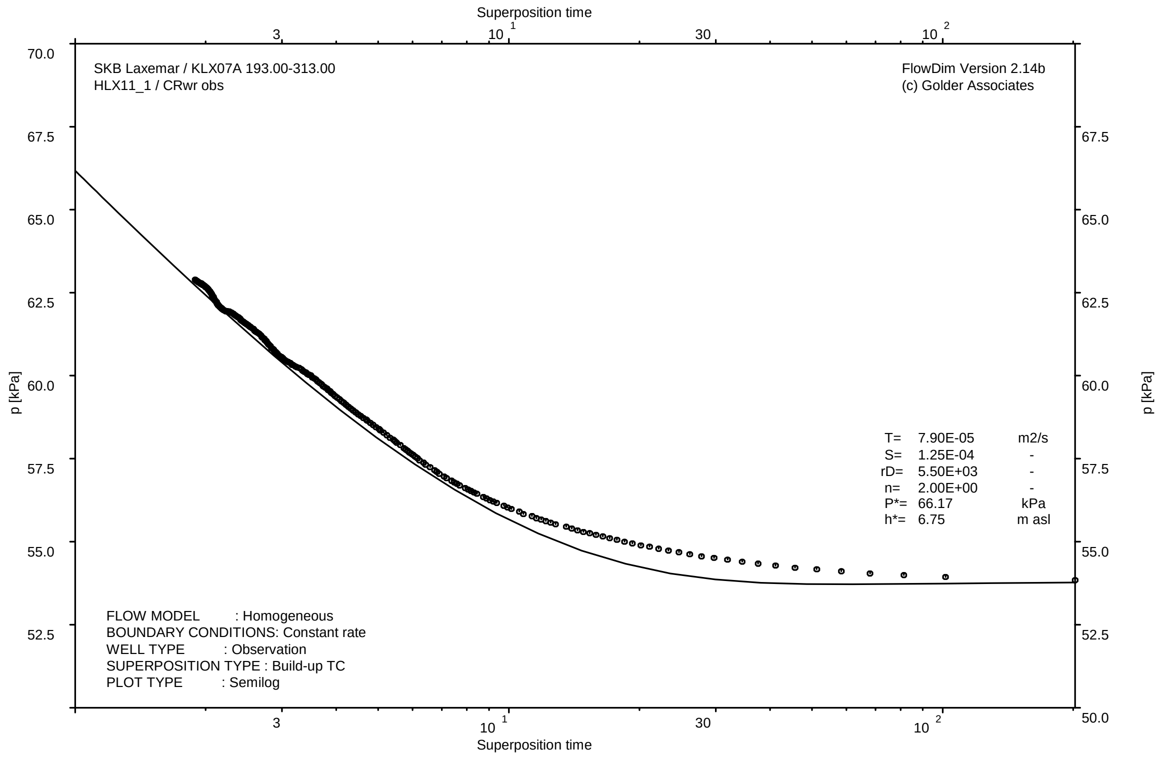
Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX11_1 17.00-70.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX11_1 17.00-70.00 m observed



CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX11_1 17.00-70.00 m observed

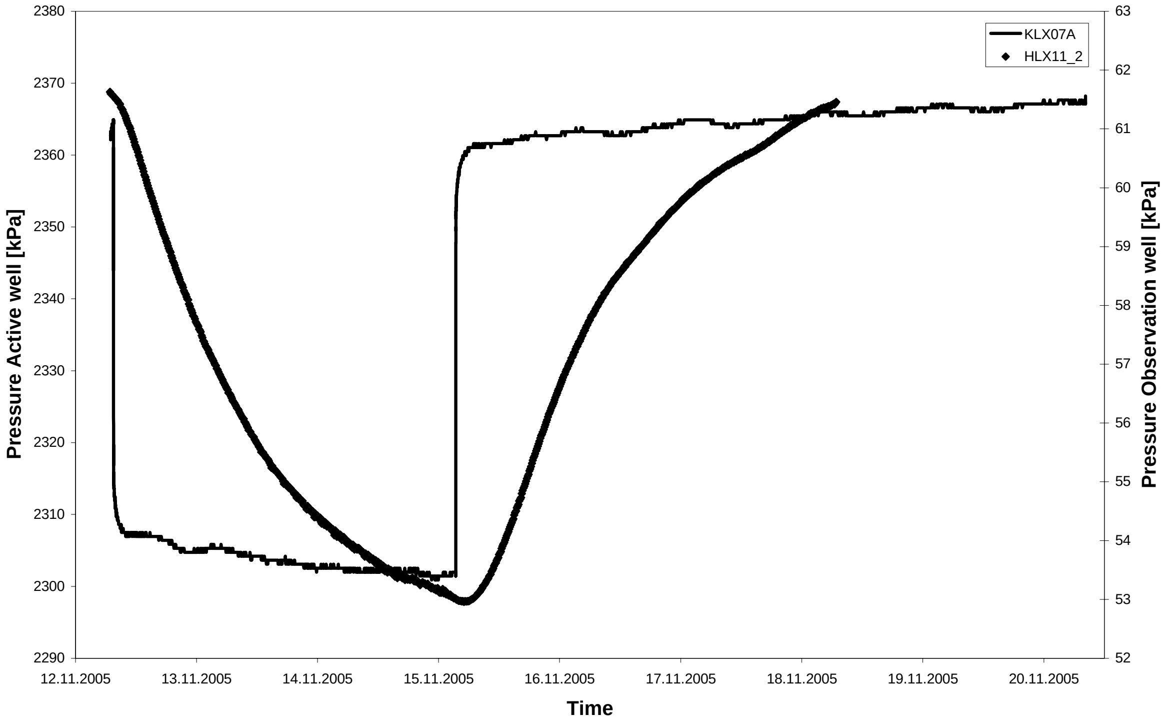


CRwr phase; HORNER match; KLX07A 193.00-313.00 m pumped and HLX11_1 17.00-70.00 m observed

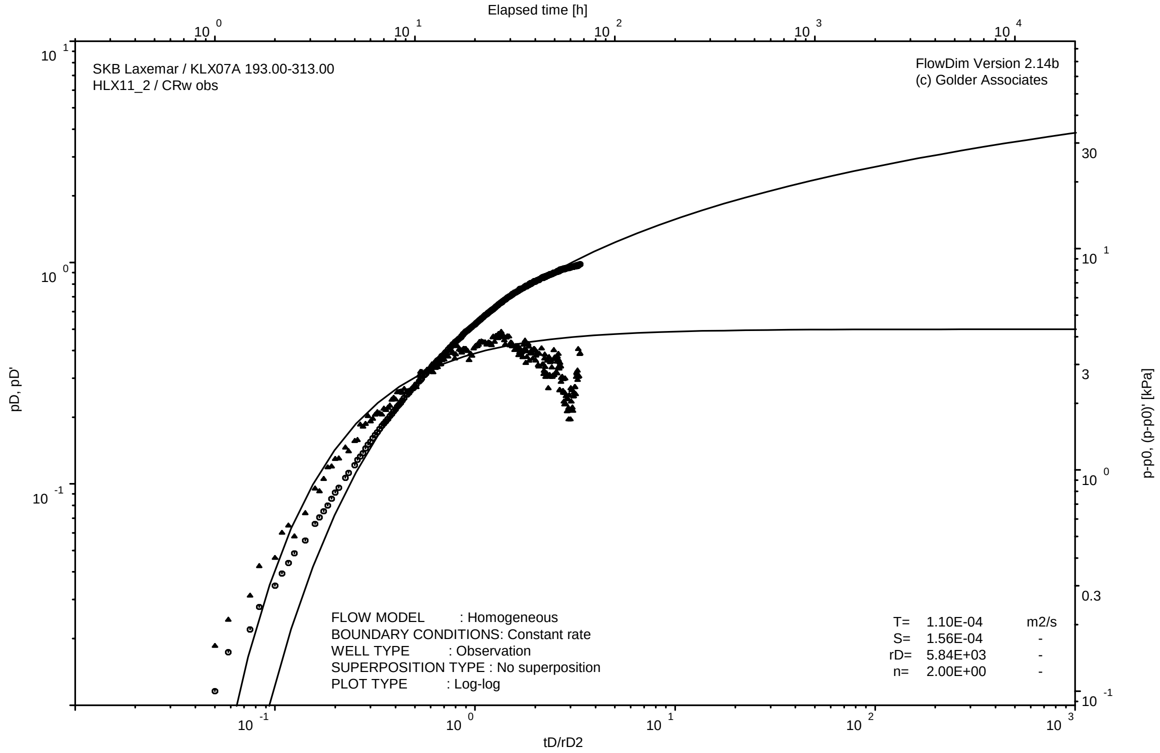
APPENDIX 7-2-3

KLX07A Section 193.00-313.00 m pumped
HLX11_2 6.00-16.00 m observed

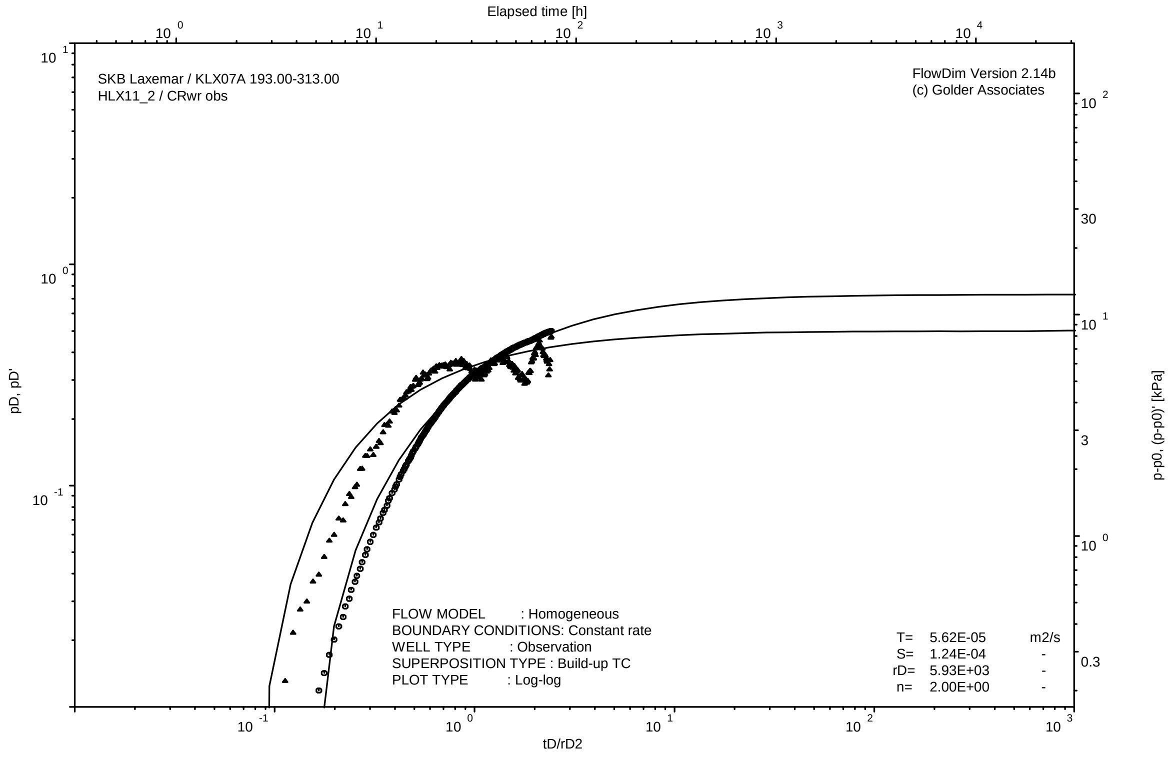
Observation hole
Test Analysis diagrams



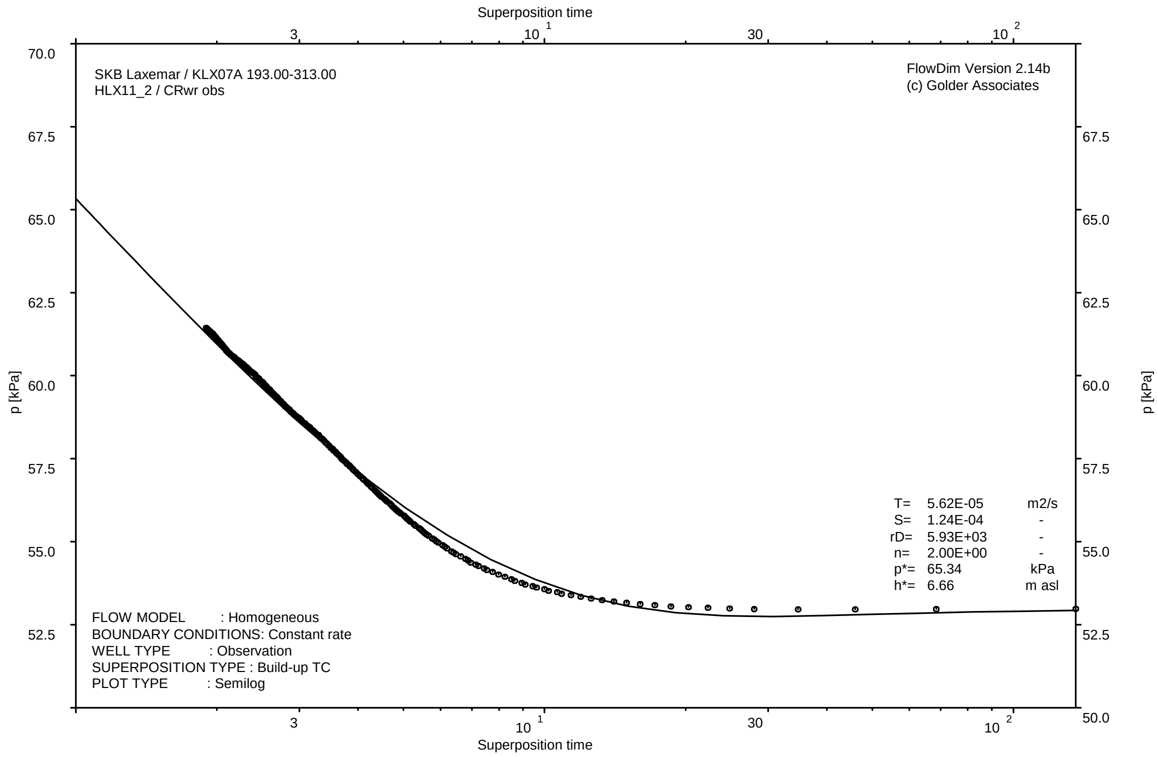
Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX11_2 6.00-16.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX11_2 6.00-16.00 m observed



CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX11_2 6.00-16.00 m observed

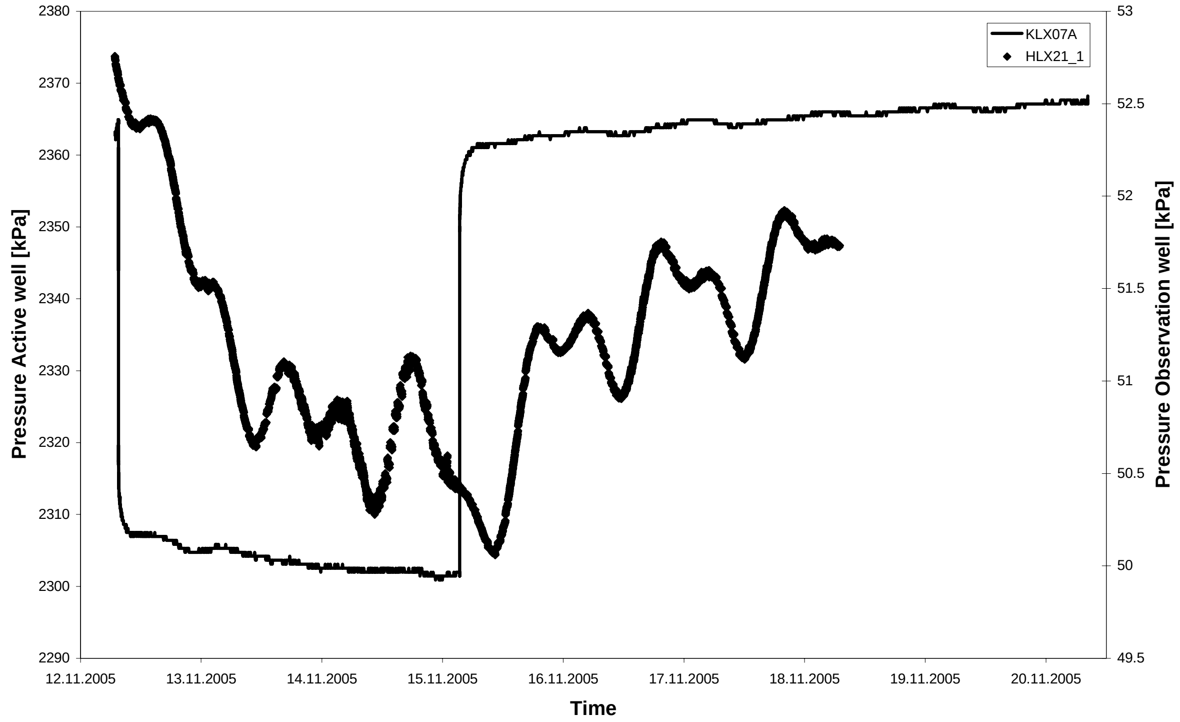


CRwr phase; HORNER match; KLX07A 193.00-313.00 m pumped and HLX11_2 6.00-16.00 m observed

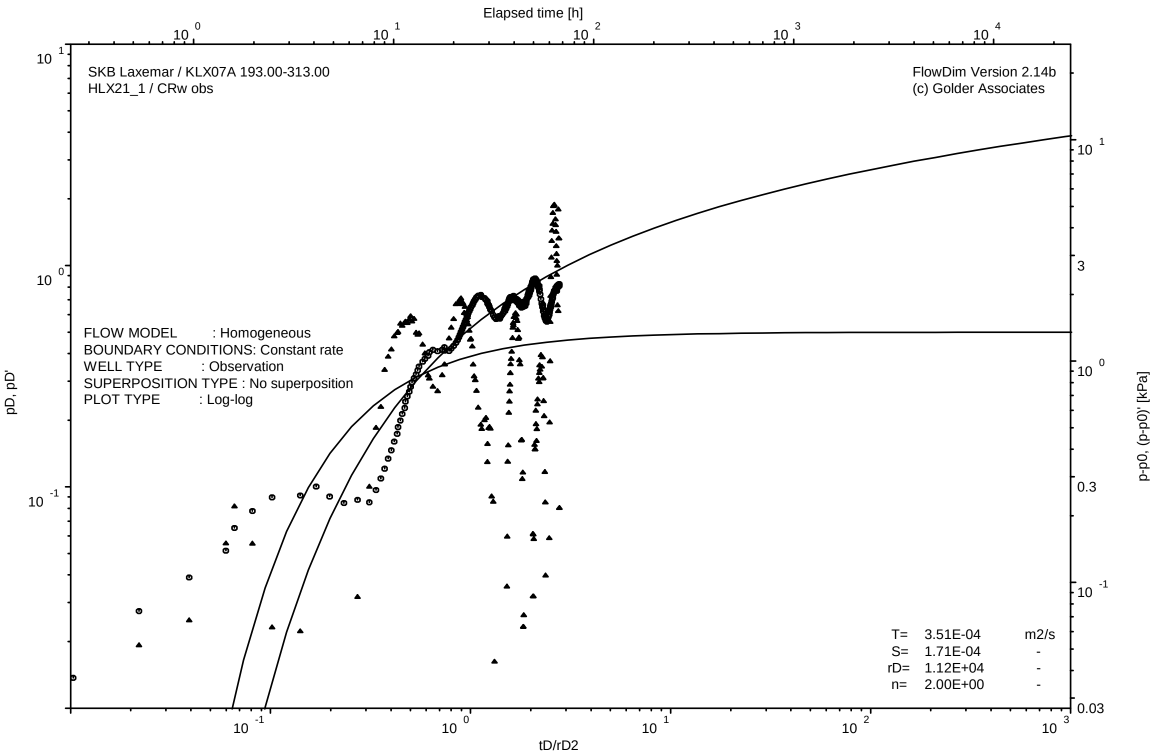
APPENDIX 7-2-4

KLX07A Section 193.00-313.00 m pumped
HLX21_1 81.00-150.00 m observed

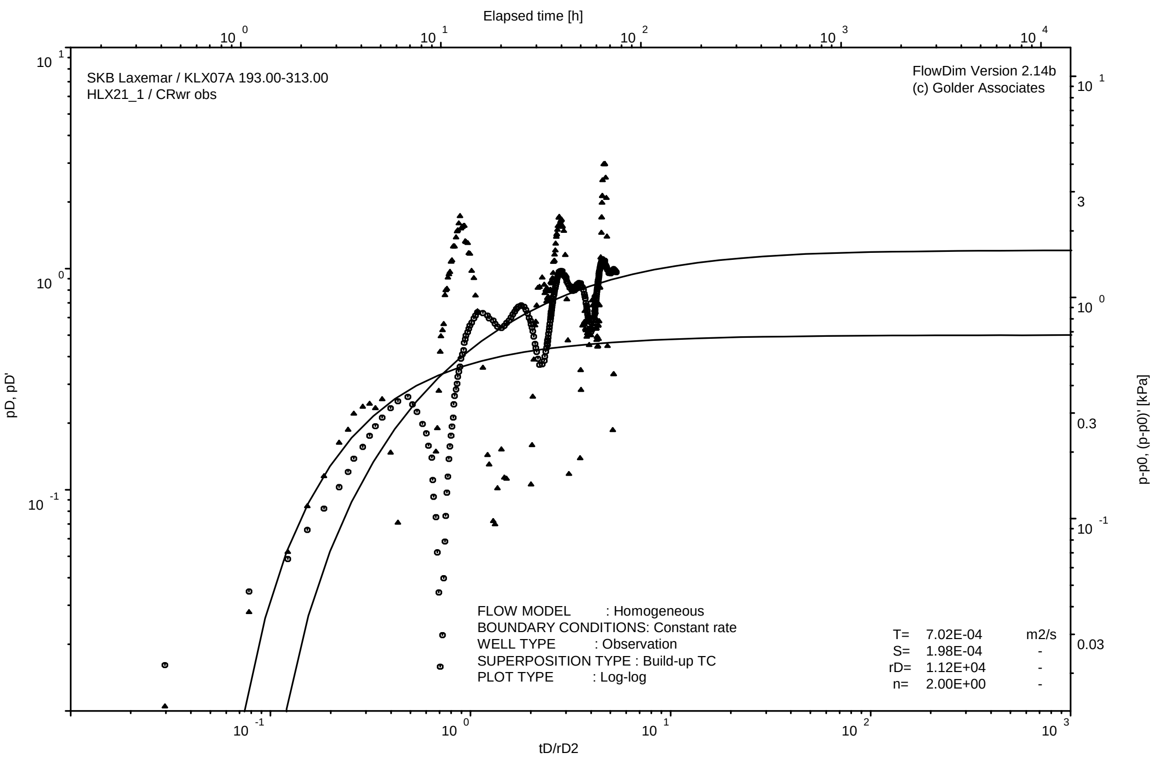
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX21_1 81.00-150.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX21_1 81.00-150.00 m observed

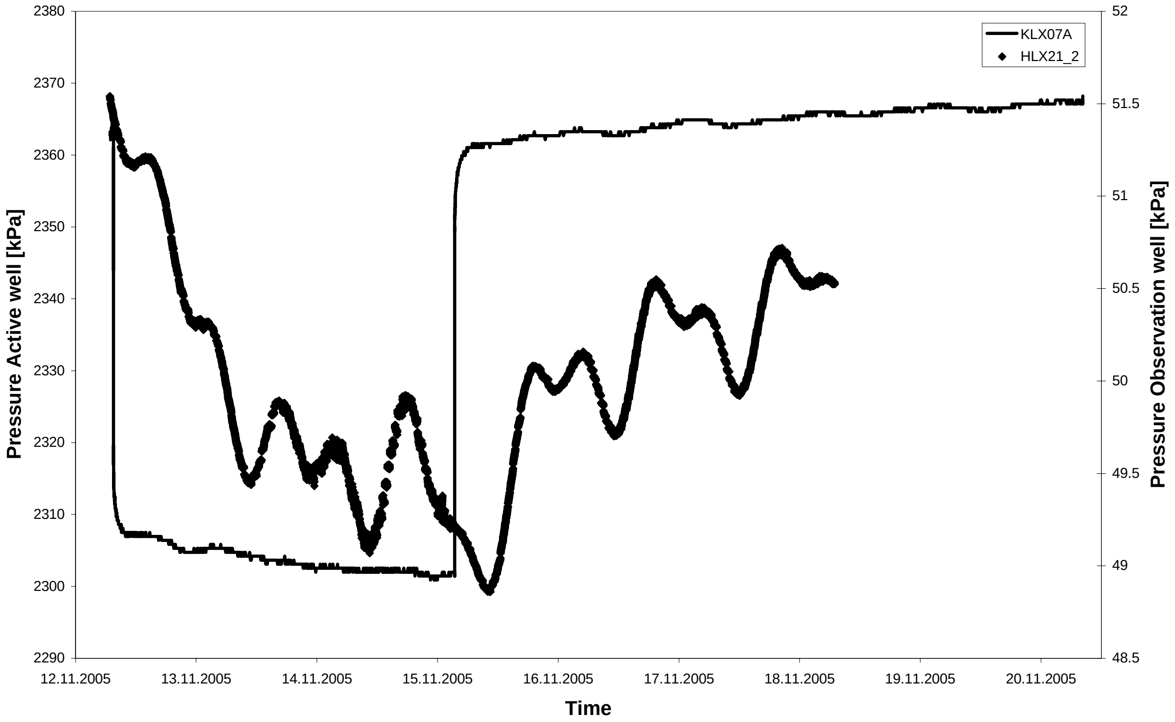


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX21_1 81.00-150.00 m observed

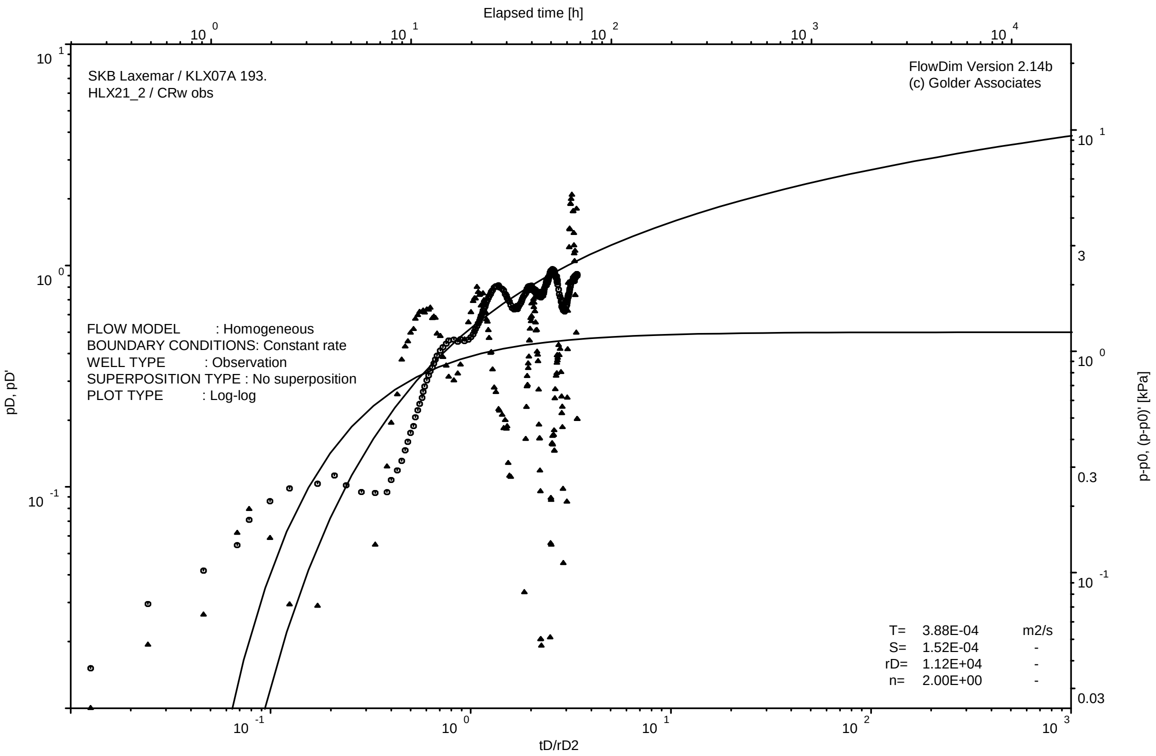
APPENDIX 7-2-5

KLX07A Section 193.00-313.00 m pumped
HLX21_2 9.10-80.00 m observed

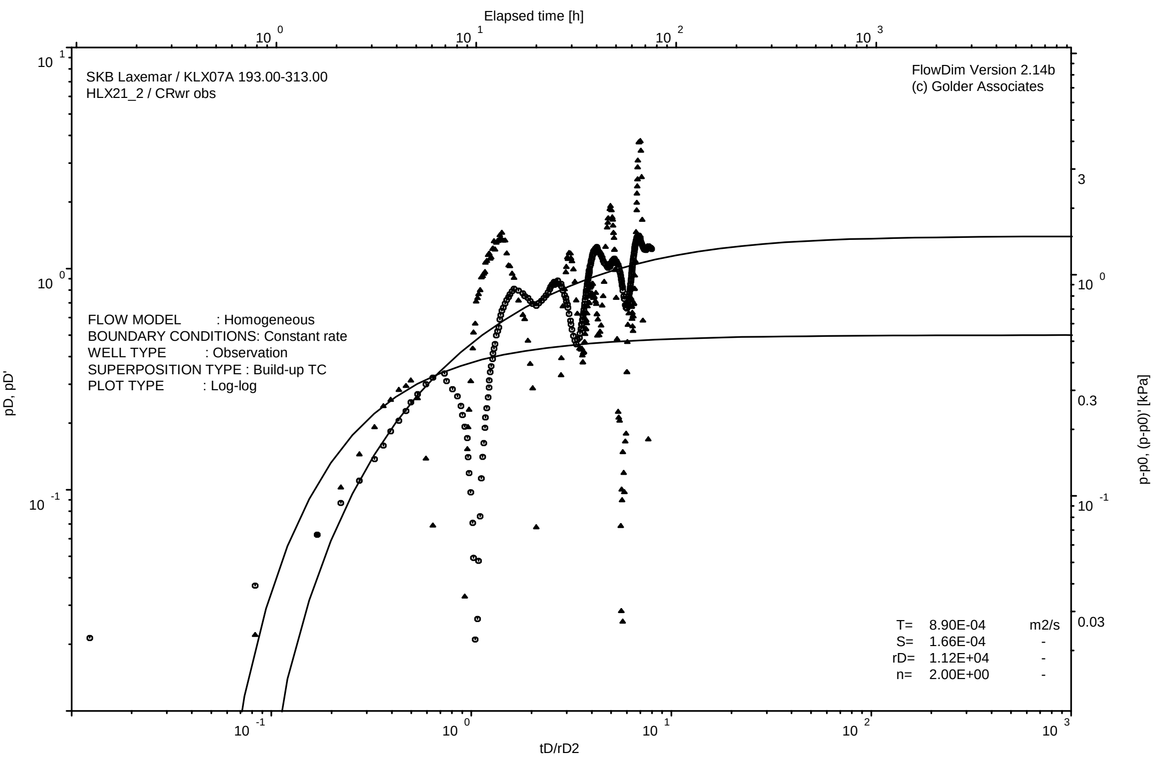
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX21_2 9.10-80.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX21_2 9.10-80.00 m observed

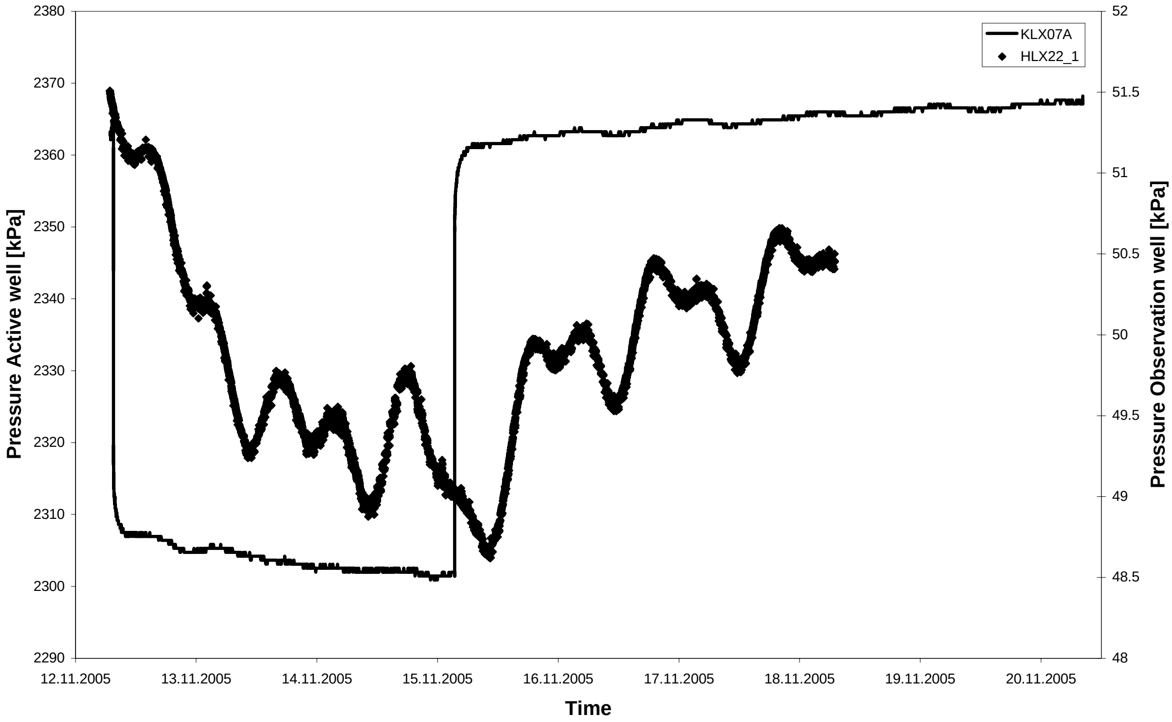


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX21_2 9.10-80.00 m observed

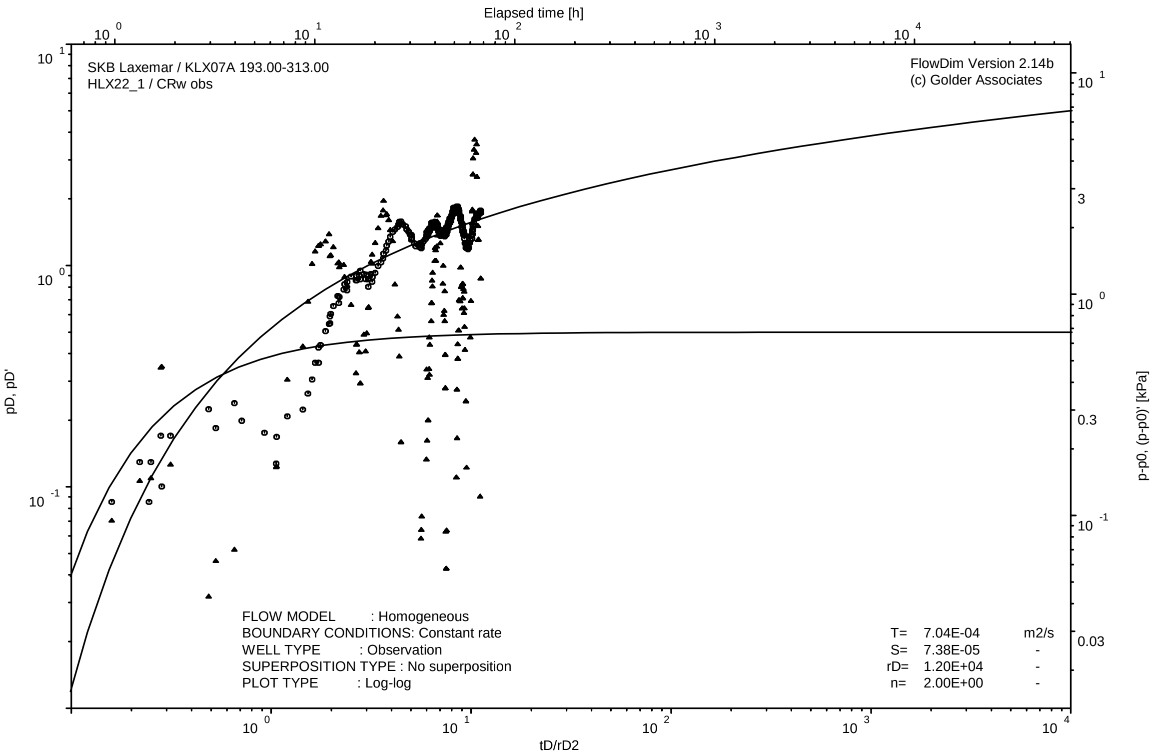
APPENDIX 7-2-6

KLX07A Section 193.00-313.00 m pumped
HLX22_1 86.00-163.20 m observed

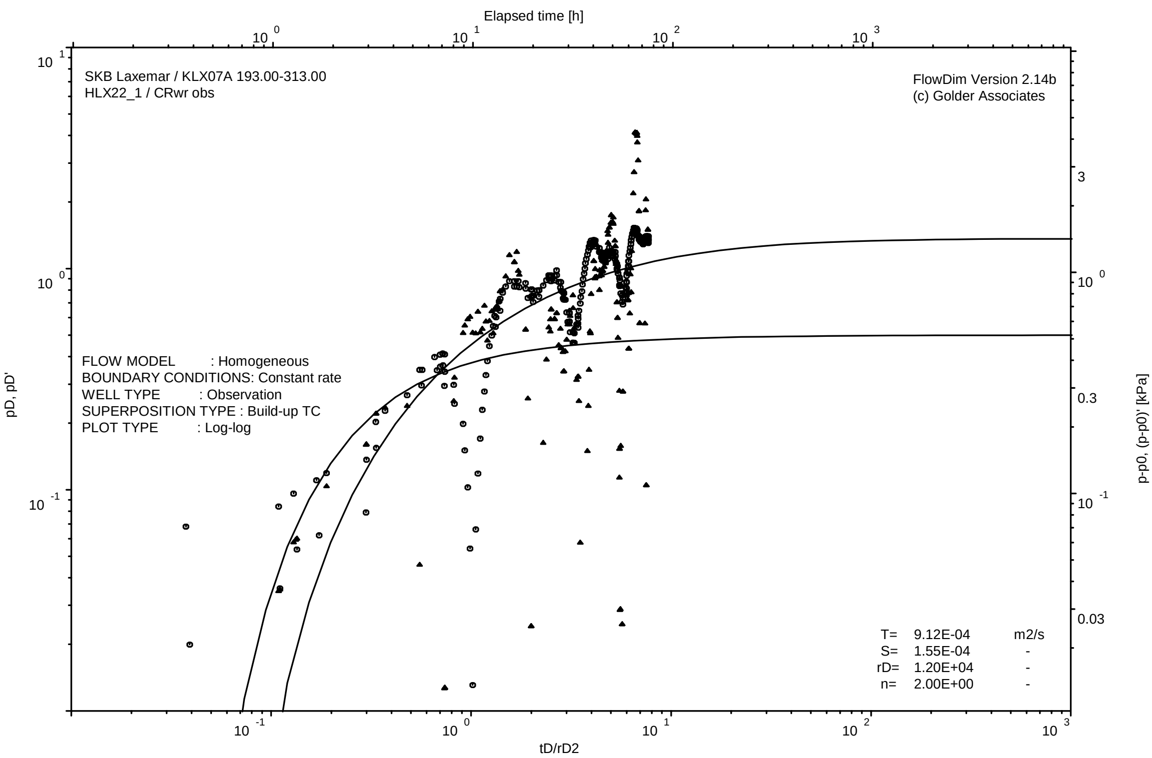
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX22_1 86.00-163.20 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX22_1 86.00-163.20 m observed

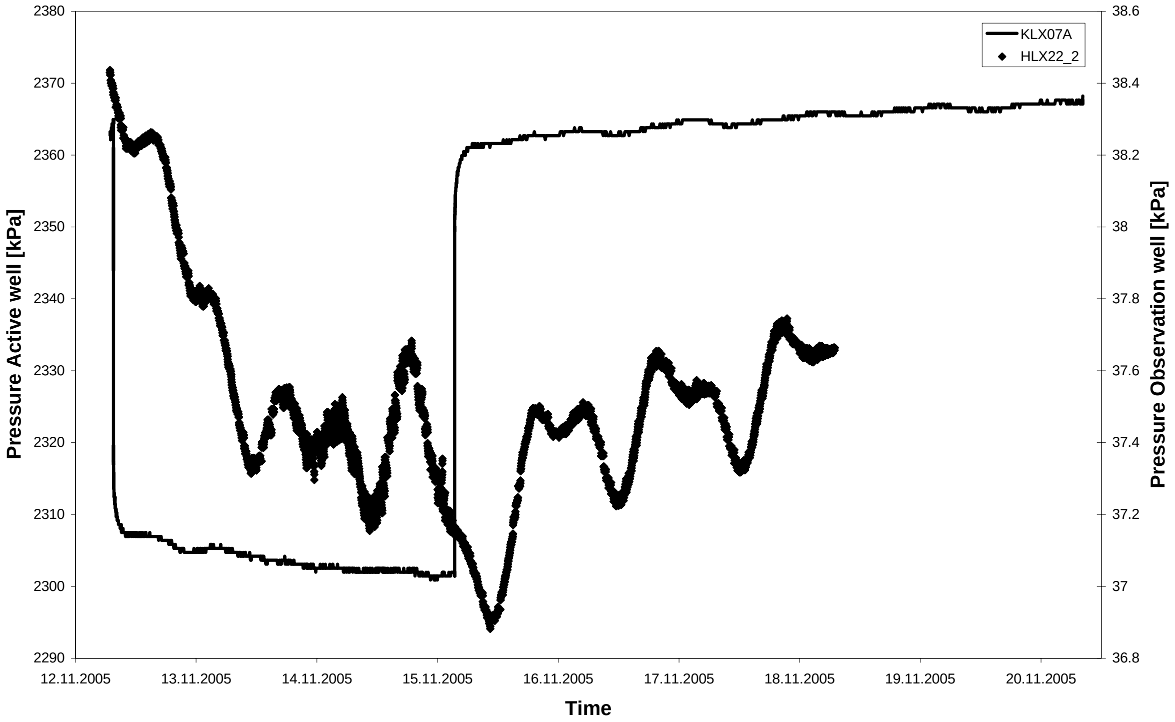


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX22_1 86.00-163.20 m observed

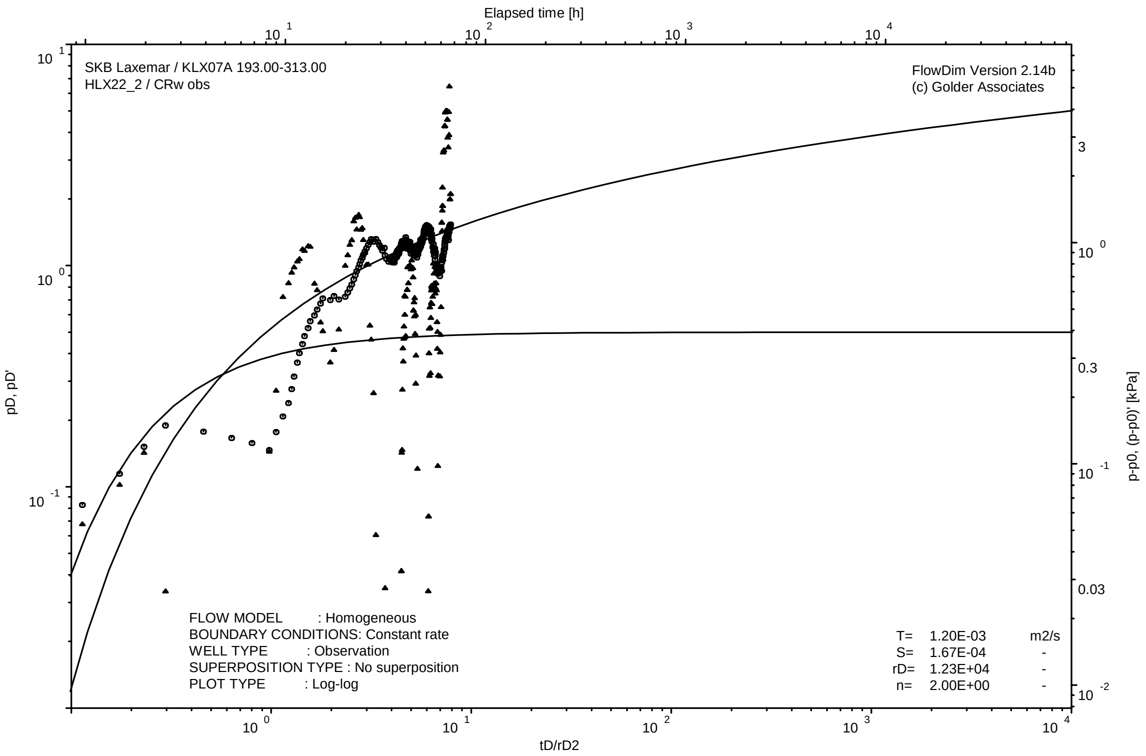
APPENDIX 7-2-7

KLX07A Section 193.00-313.00 m pumped
HLX22_2 9.19-85.00 m observed

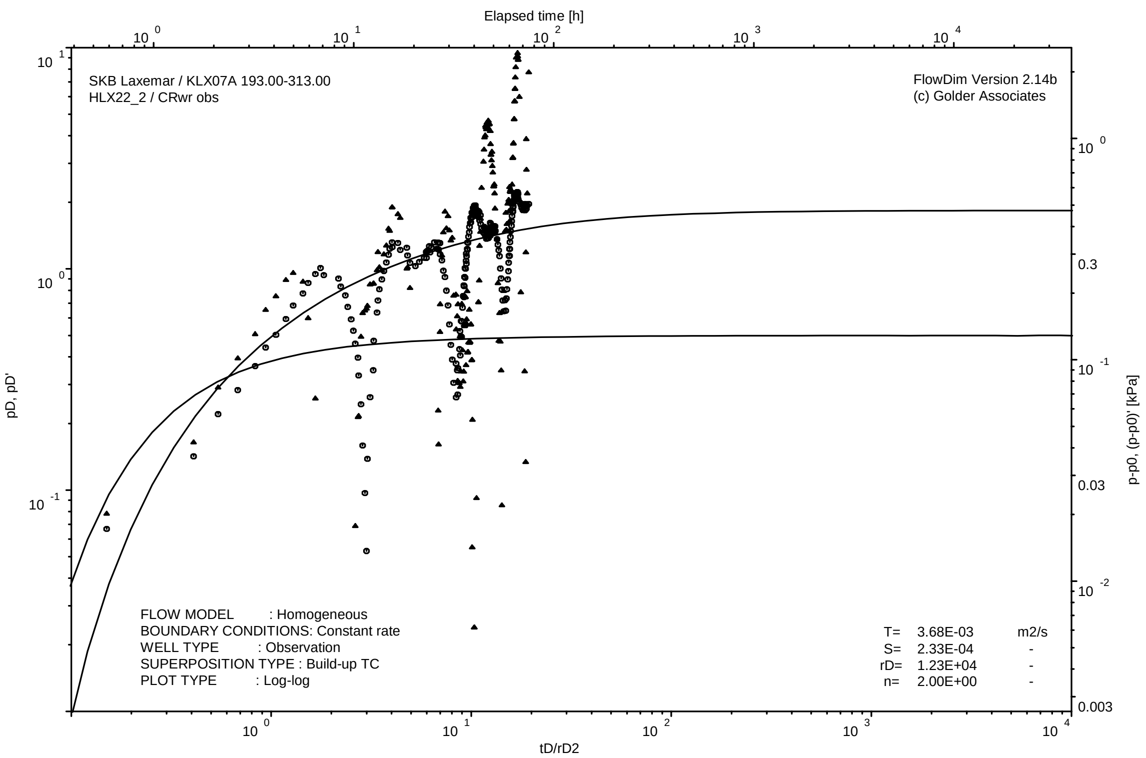
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX22_2 9.19-85.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX22_2 9.19-85.00 m observed

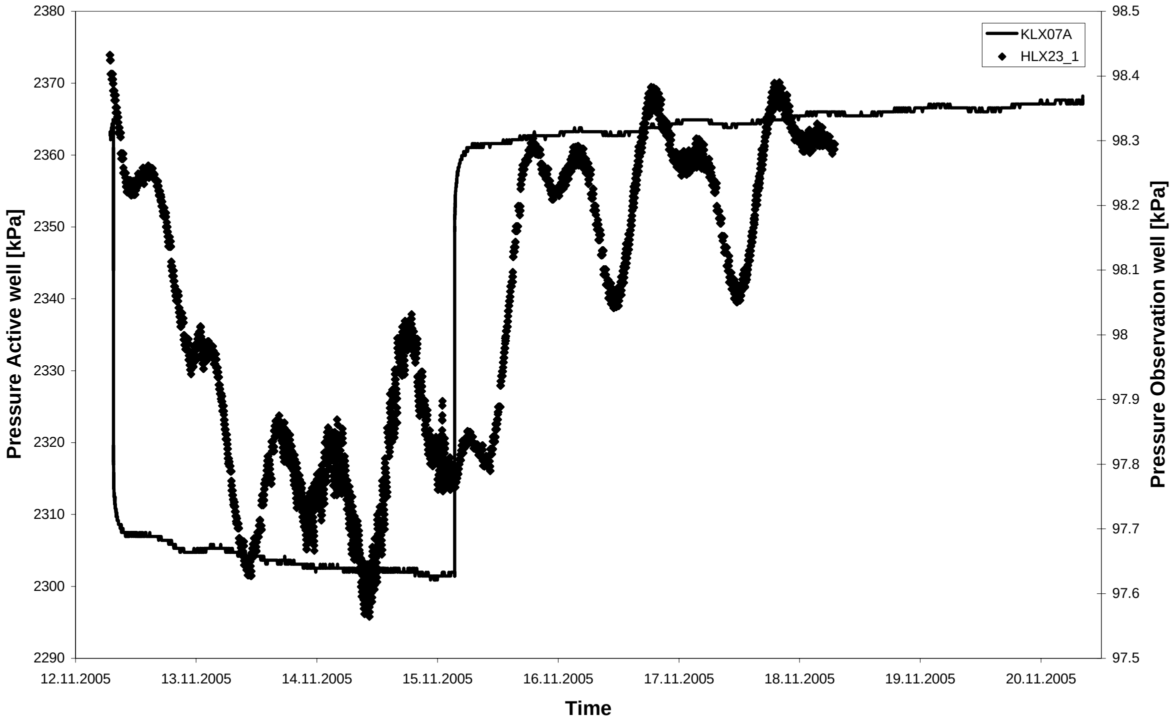


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX22_2 9.19-85.00 m observed

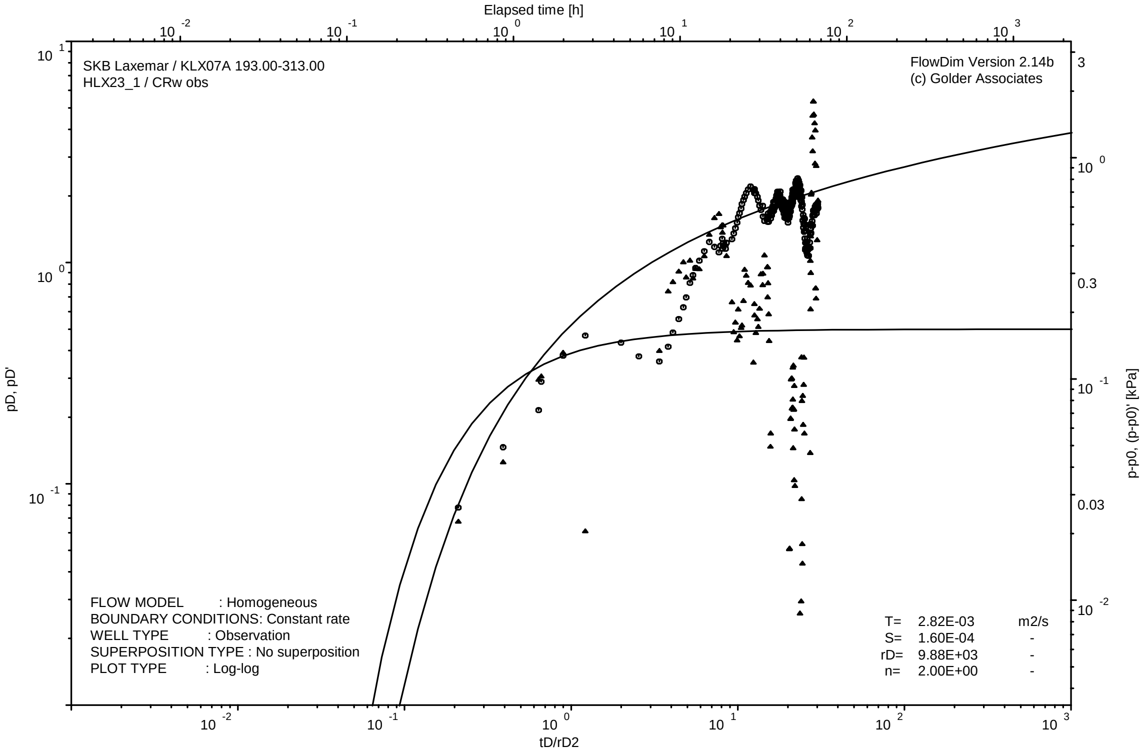
APPENDIX 7-2-8

KLX07A Section 193.00-313.00 m pumped
HLX23_1 61.00-160.20 m observed

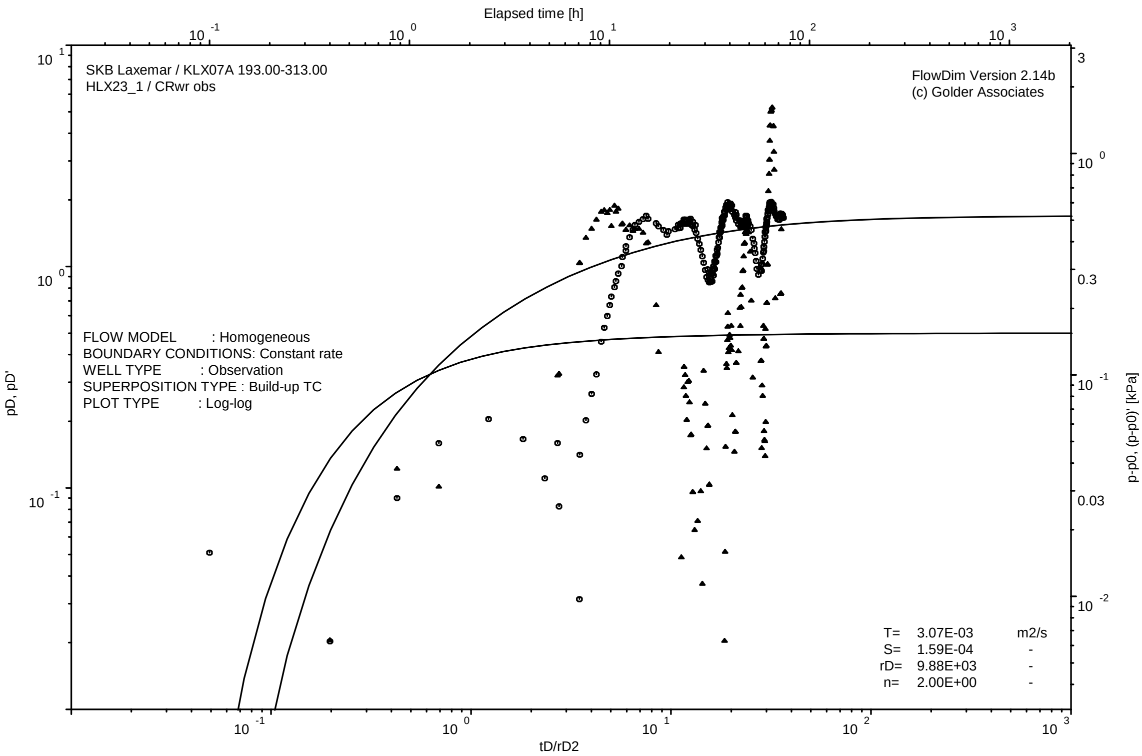
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX23_1 61.00-160.20 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX23_1 61.00-160.20 m observed

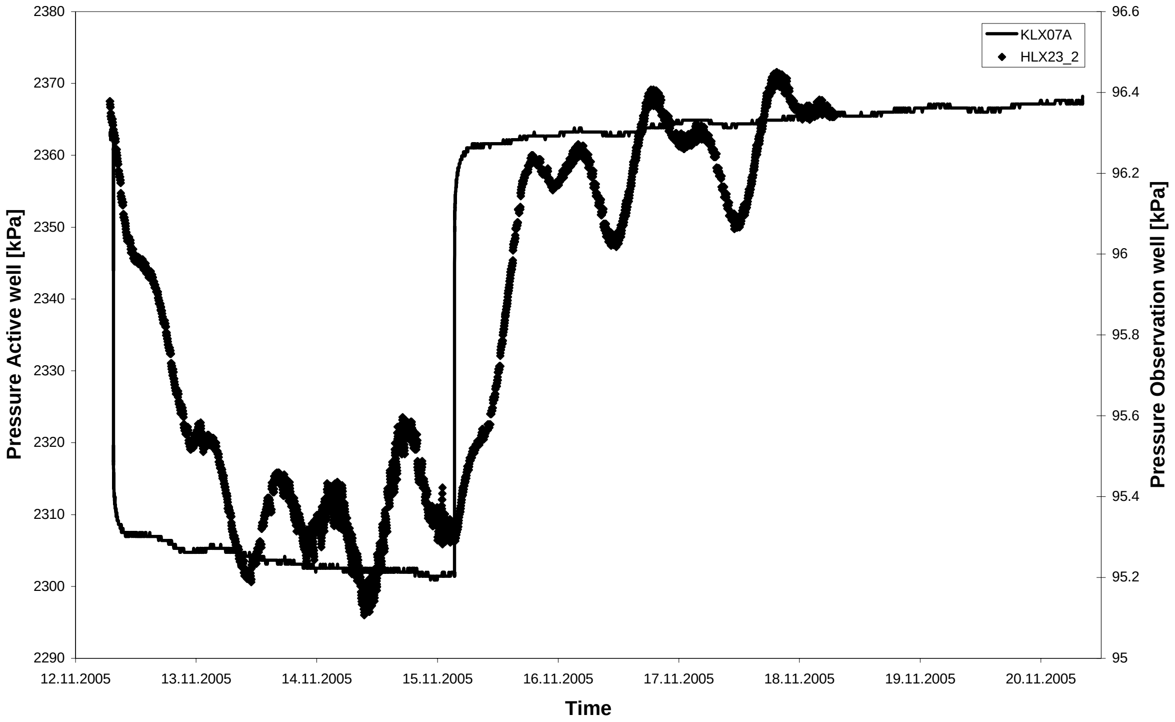


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX23_1 61.00-160.20 m observed

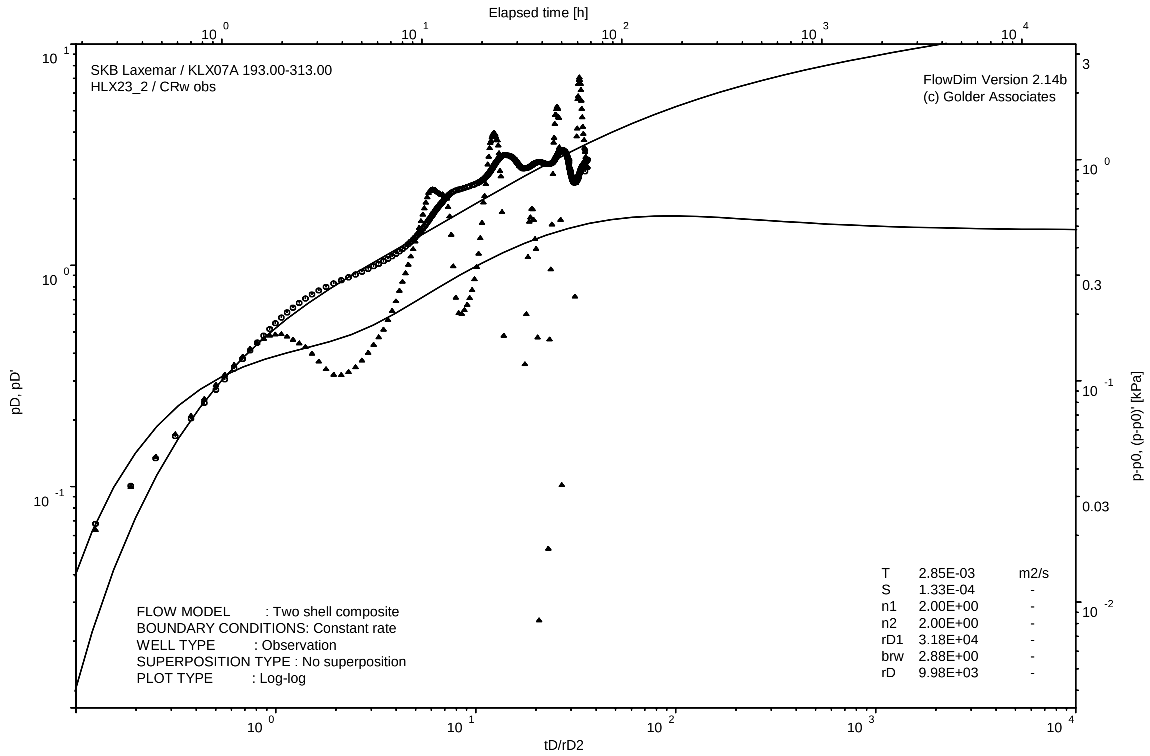
APPENDIX 7-2-9

KLX07A Section 193.00-313.00 m pumped
HLX23_2 6.10-60.00 m observed

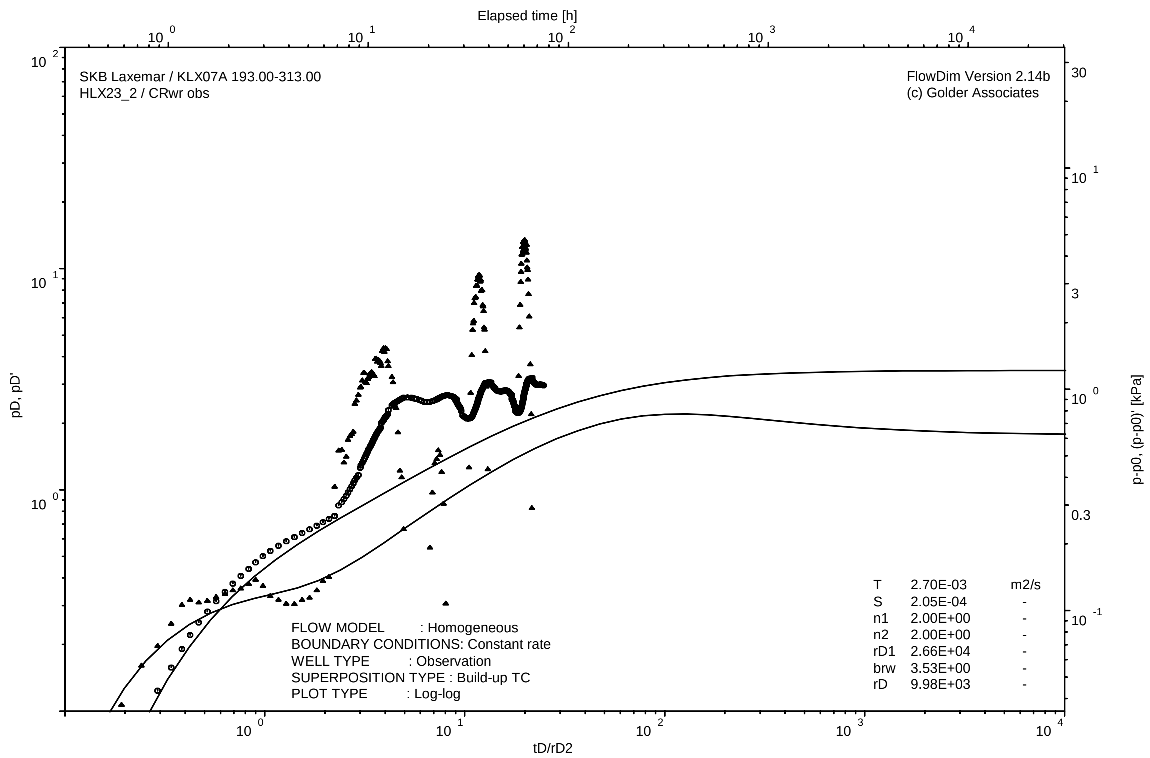
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX23_2 6.10-60.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX23_2 6.10-60.00 m observed

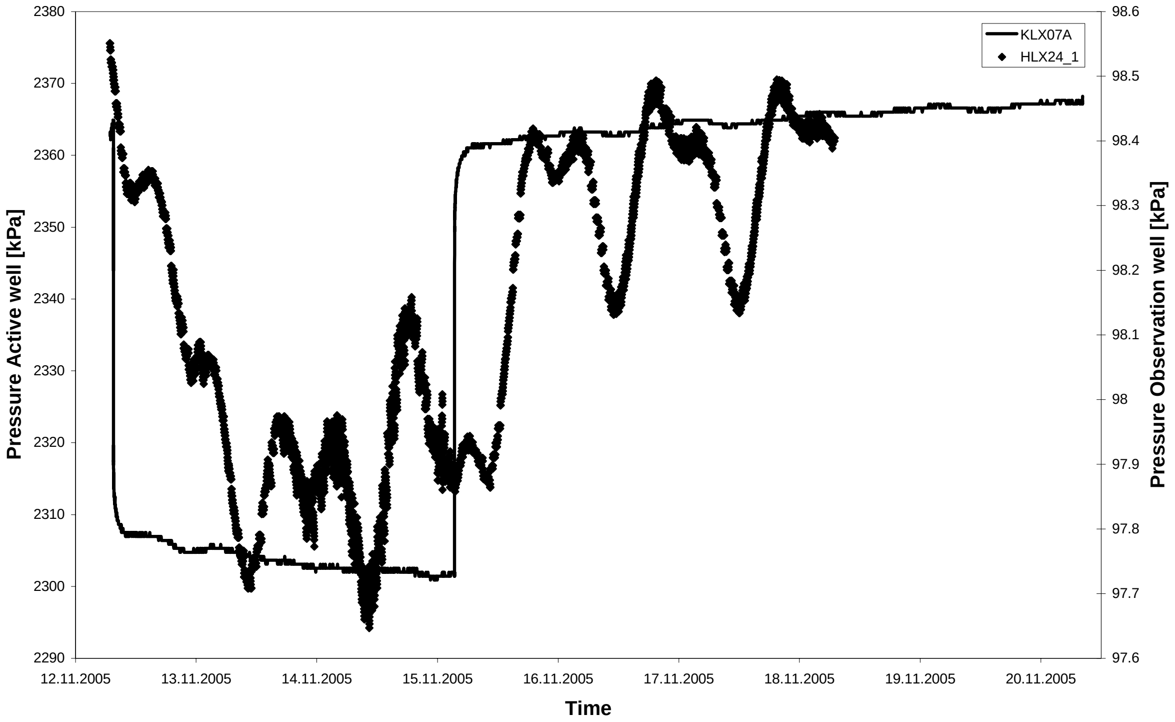


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX23_2 6.10-60.00 m observed

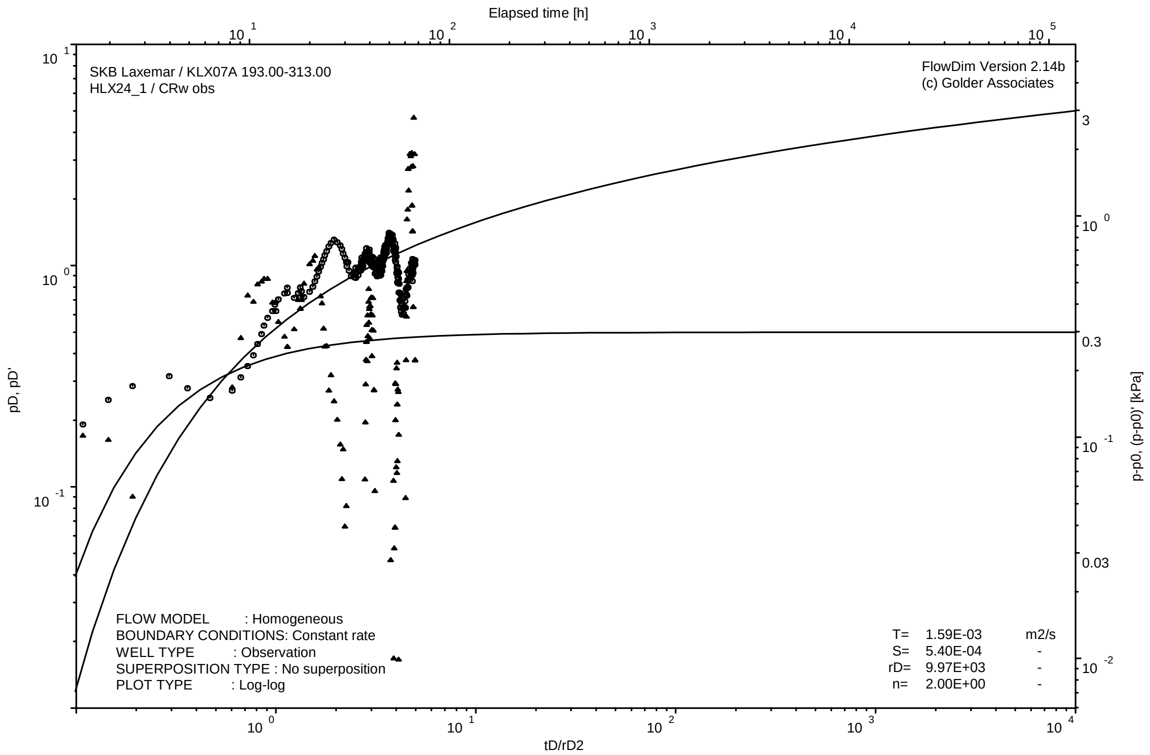
APPENDIX 7-2-10

KLX07A Section 193.00-313.00 m pumped
HLX24_1 41.00-175.20 m observed

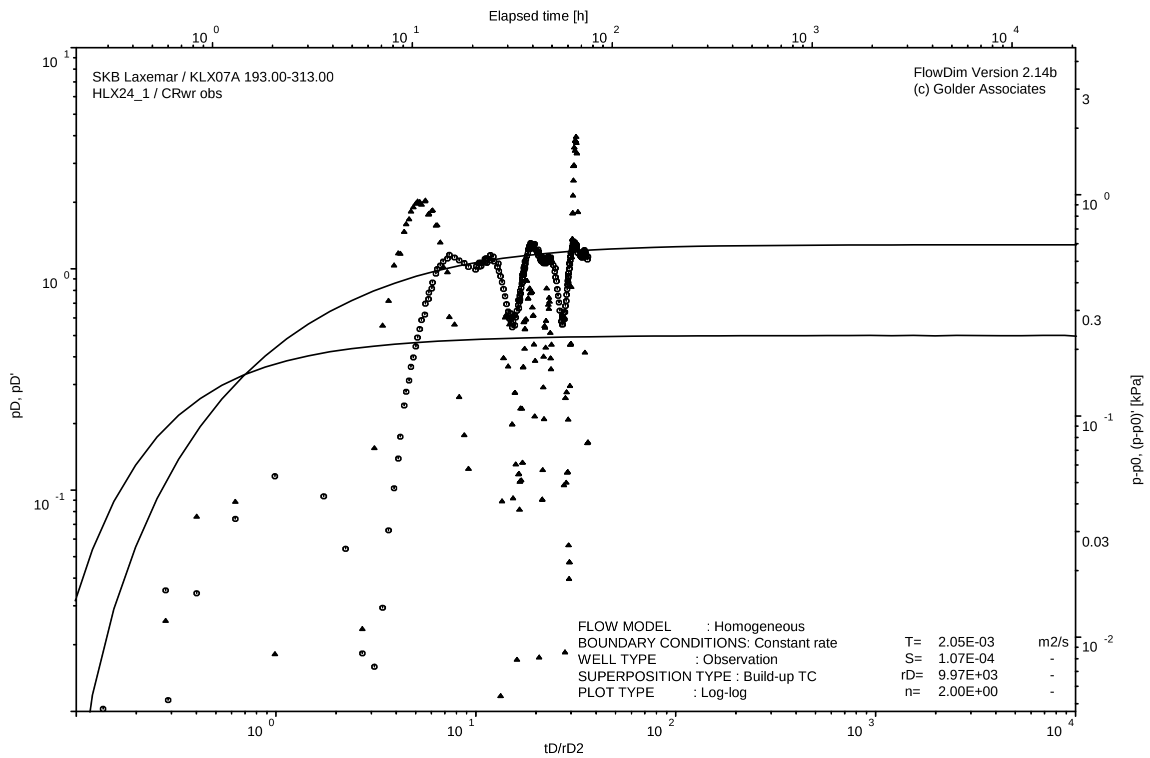
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and HLX24_1 41.00-175.20 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX24_1 41.00-175.20 m observed

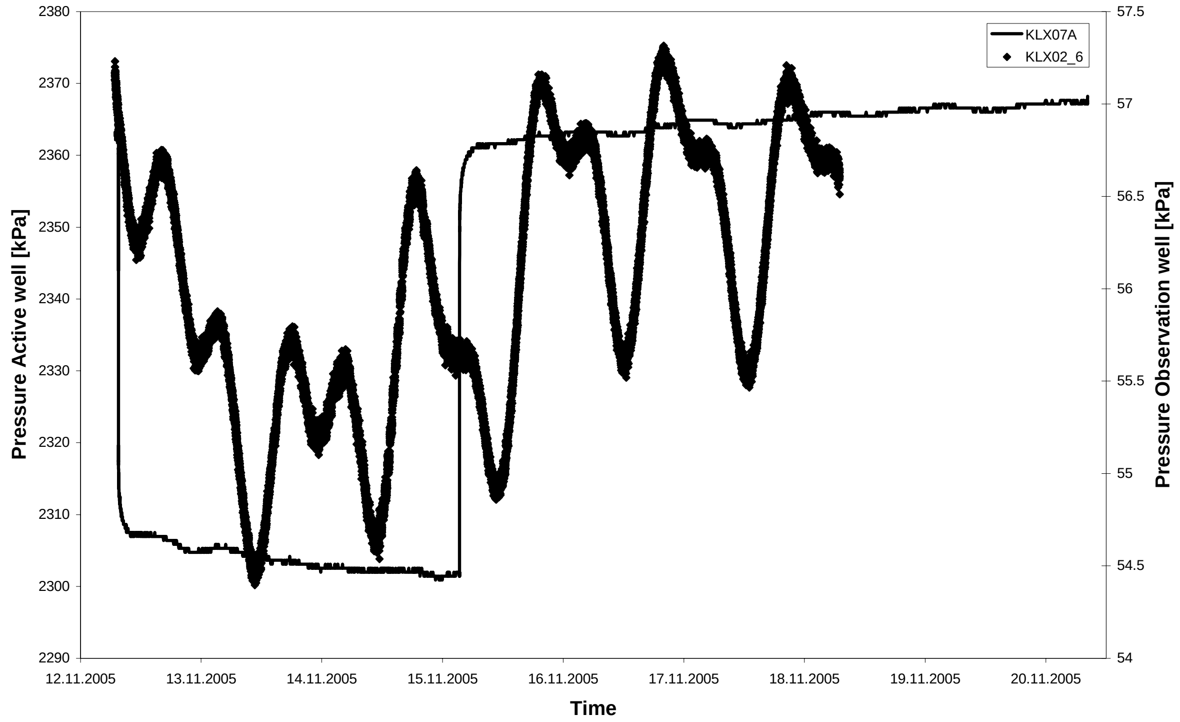


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and HLX24_1 41.00-175.20 m observed

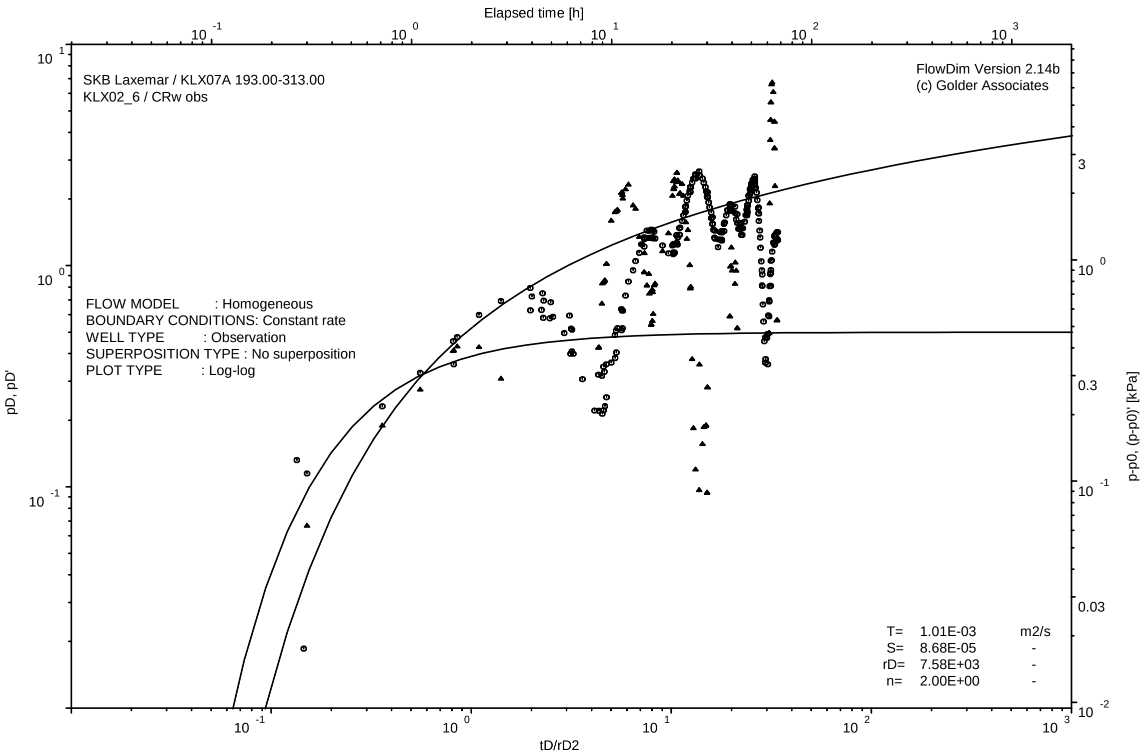
APPENDIX 7-2-11

KLX07A Section 193.00-313.00 m pumped
KLX02_6 348.00-451.00 m observed

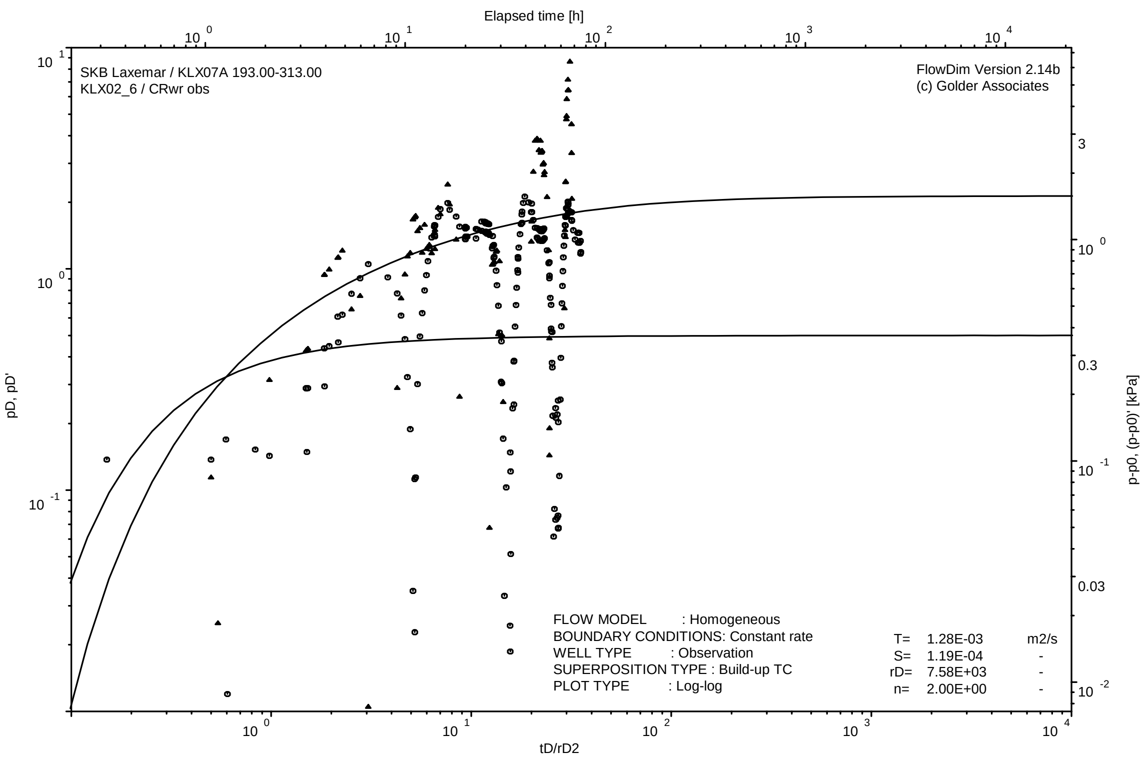
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX02_6 348.00-451.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_6 348.00-451.00 m observed

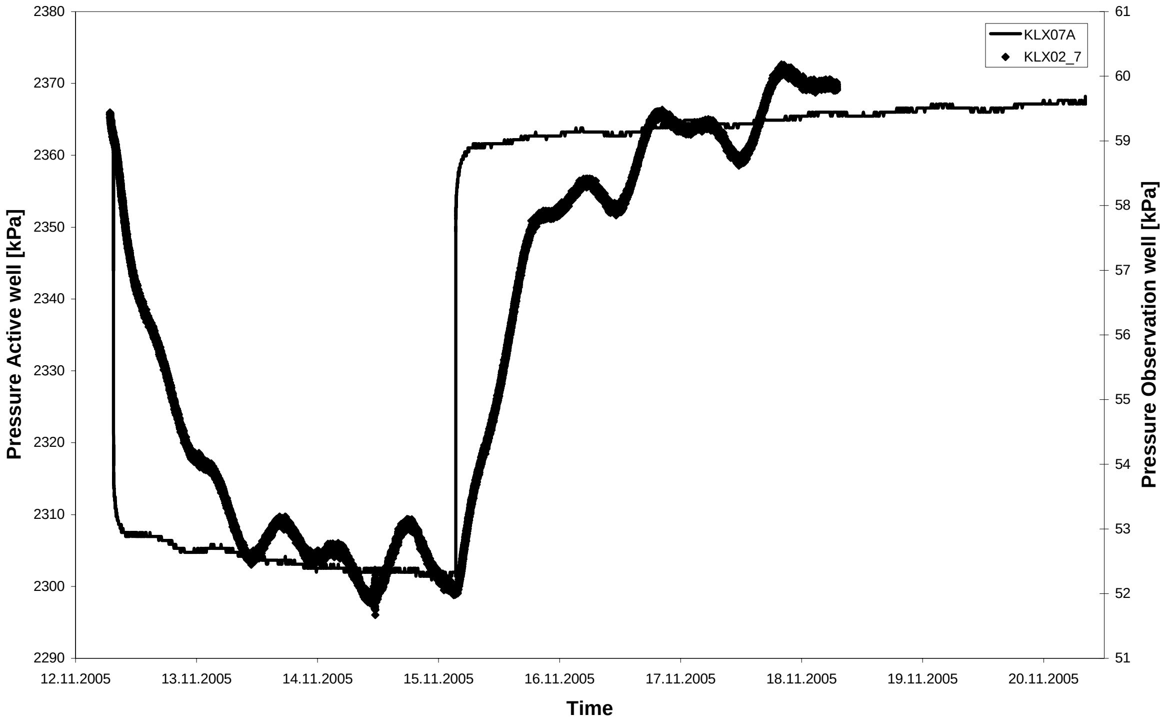


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_6 348.00-451.00 m observed

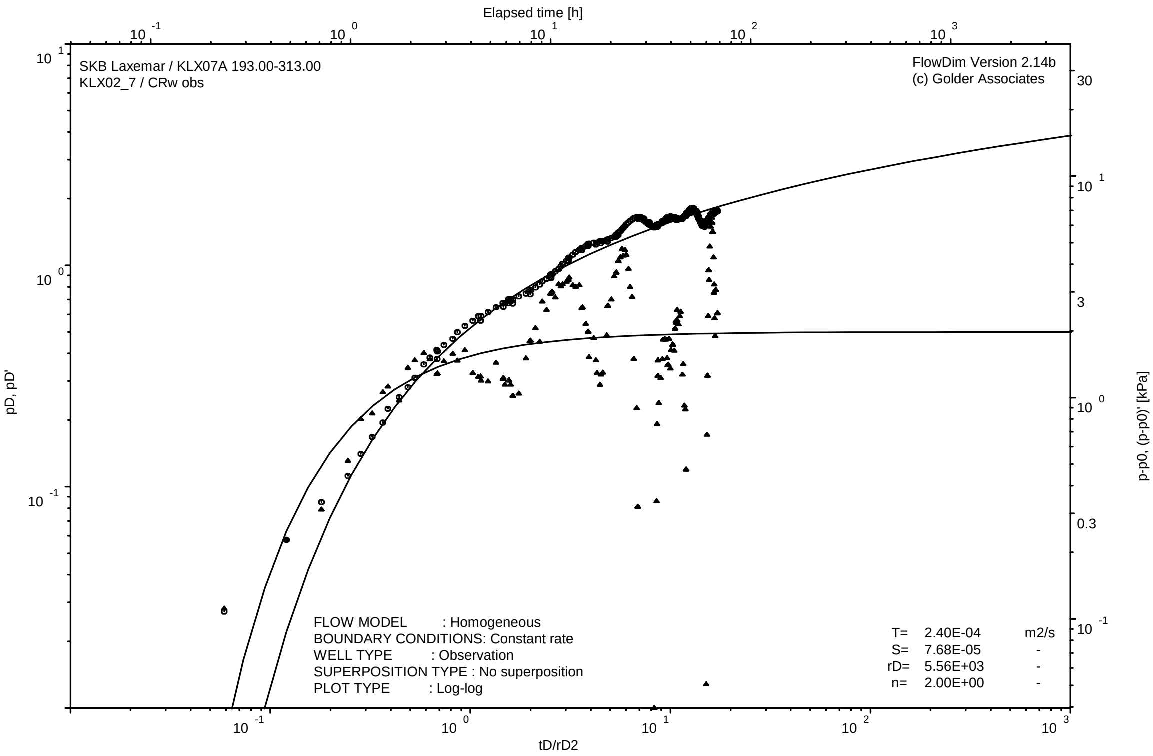
APPENDIX 7-2-12

KLX07A Section 193.00-313.00 m pumped
KLX02_7 209.00-347.00 m observed

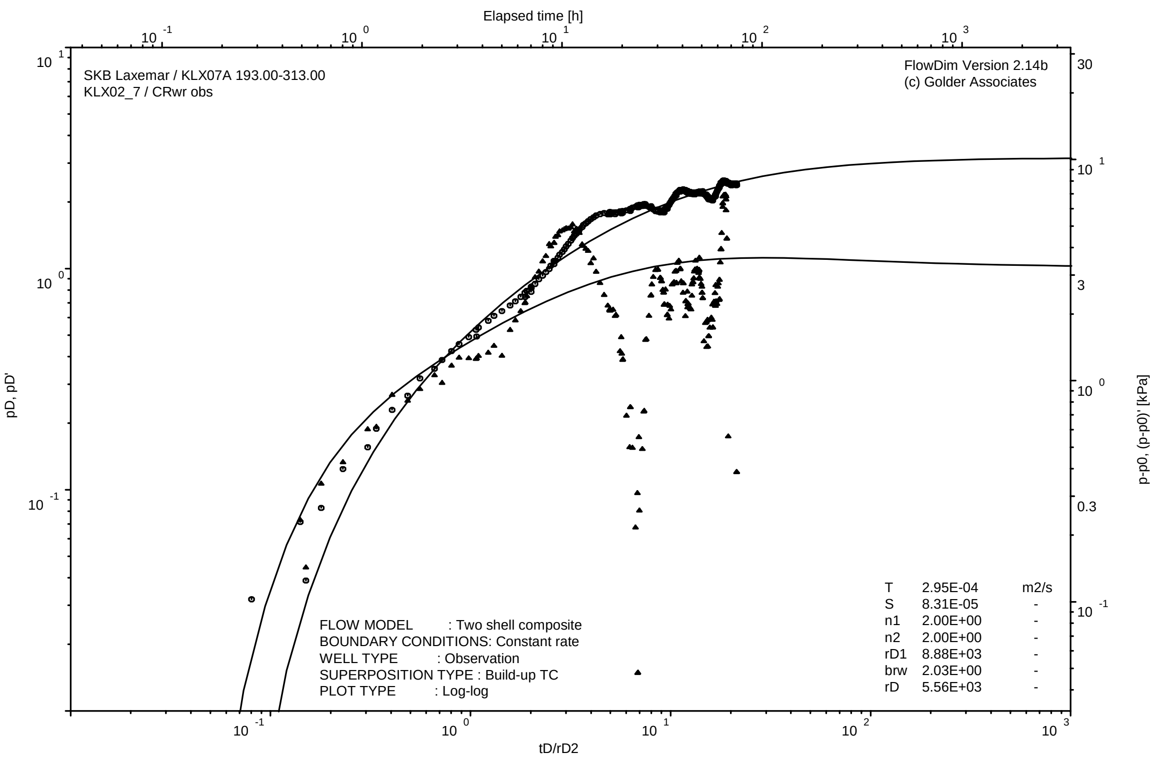
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX02_7 209.00-347.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_7 209.00-347.00 m observed

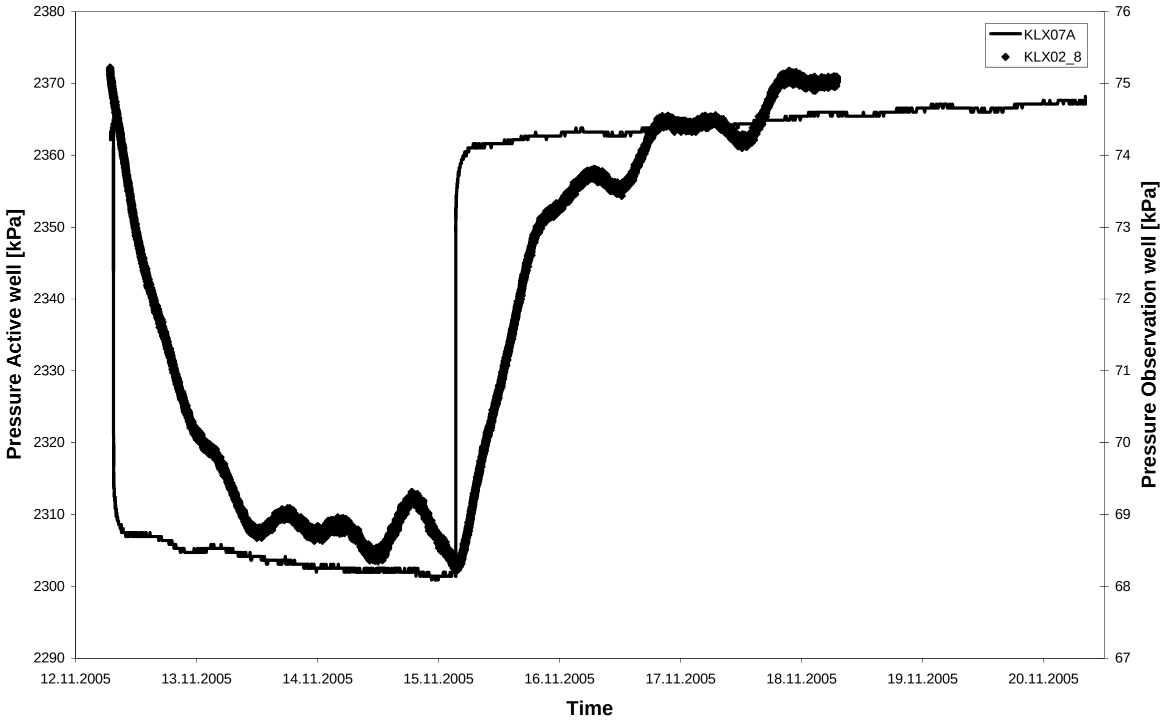


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_7 209.00-347.00 m observed

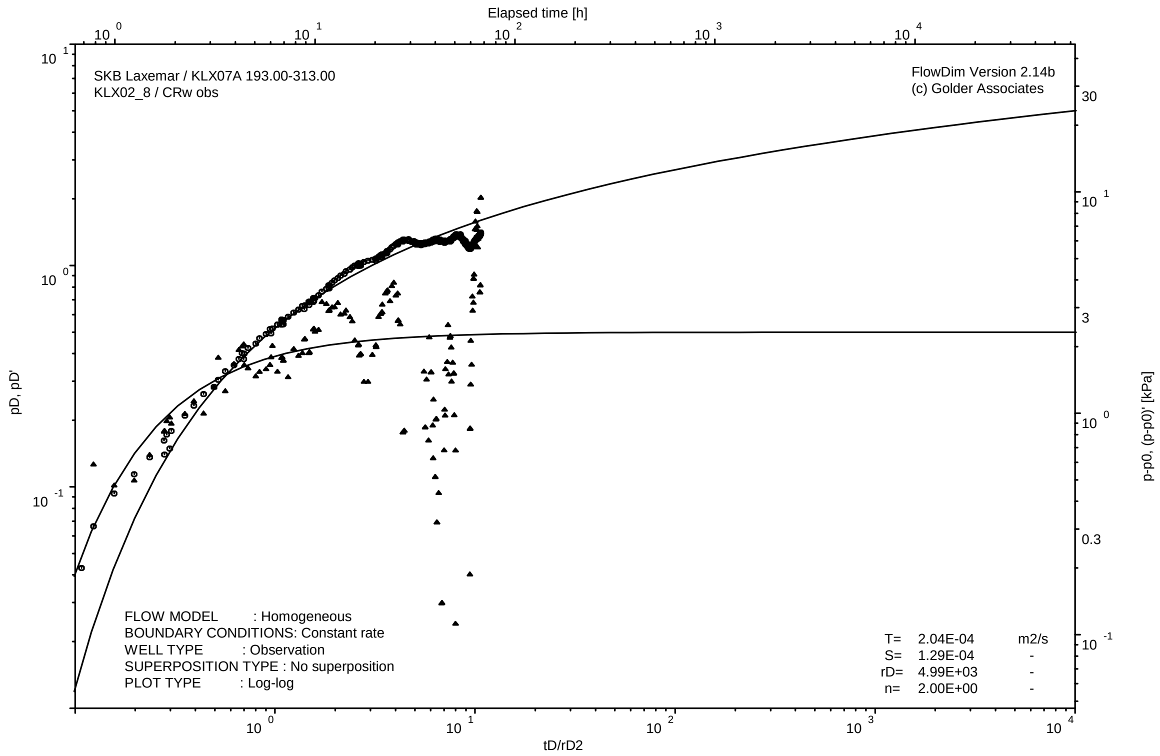
APPENDIX 7-2-13

KLX07A Section 193.00-313.00 m pumped
KLX02_8 202.95-208.00 m observed

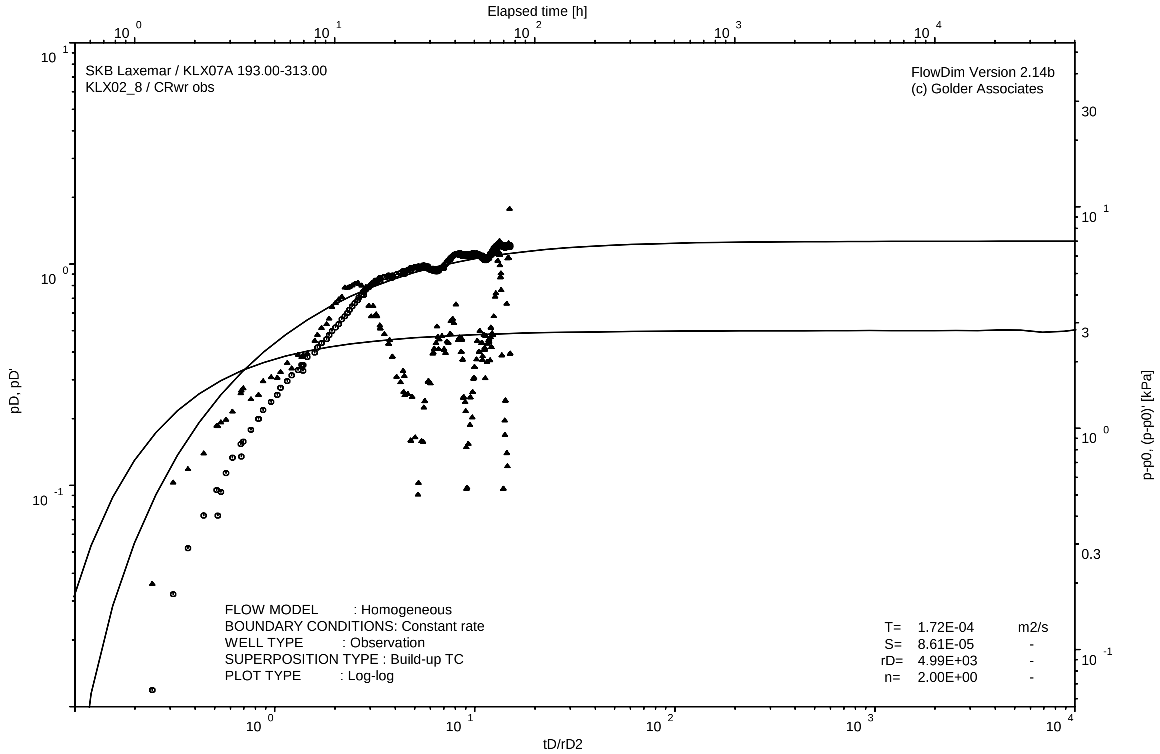
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX02_8 202.95-208.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_8 202.95-208.00 m observed

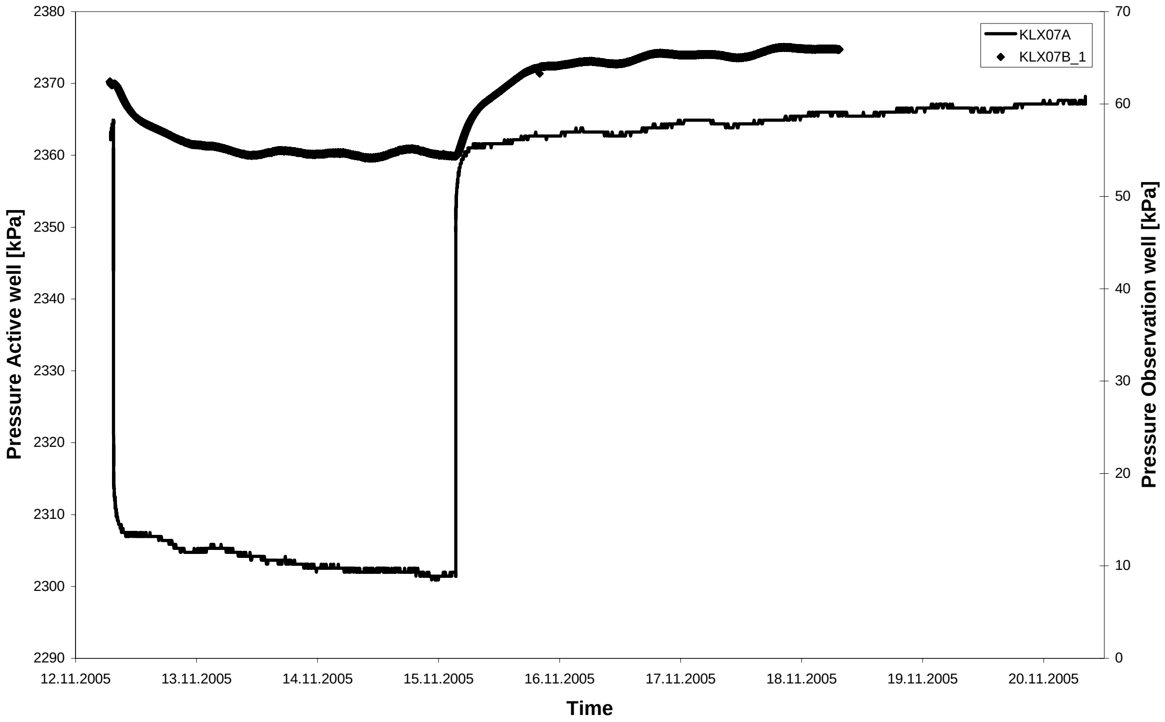


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX02_8 202.95-208.00 m observed

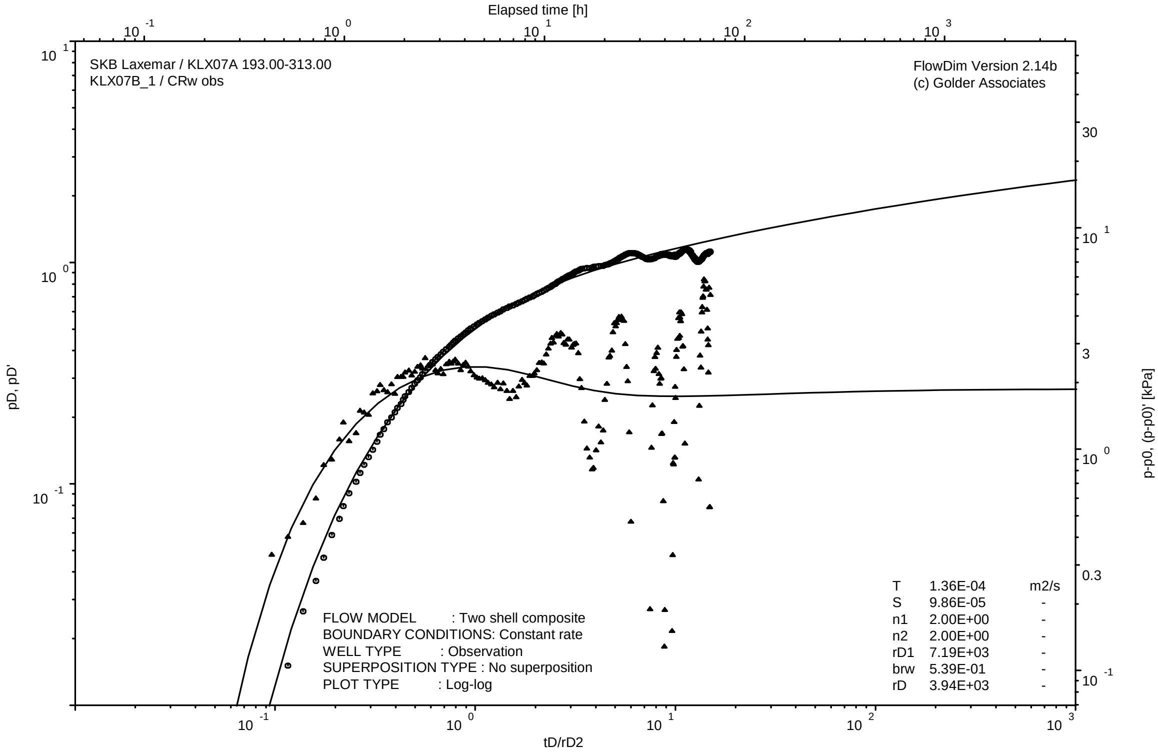
APPENDIX 7-2-14

KLX07A Section 193.00-313.00 m pumped
KLX07B_1 112.00-200.00 m observed

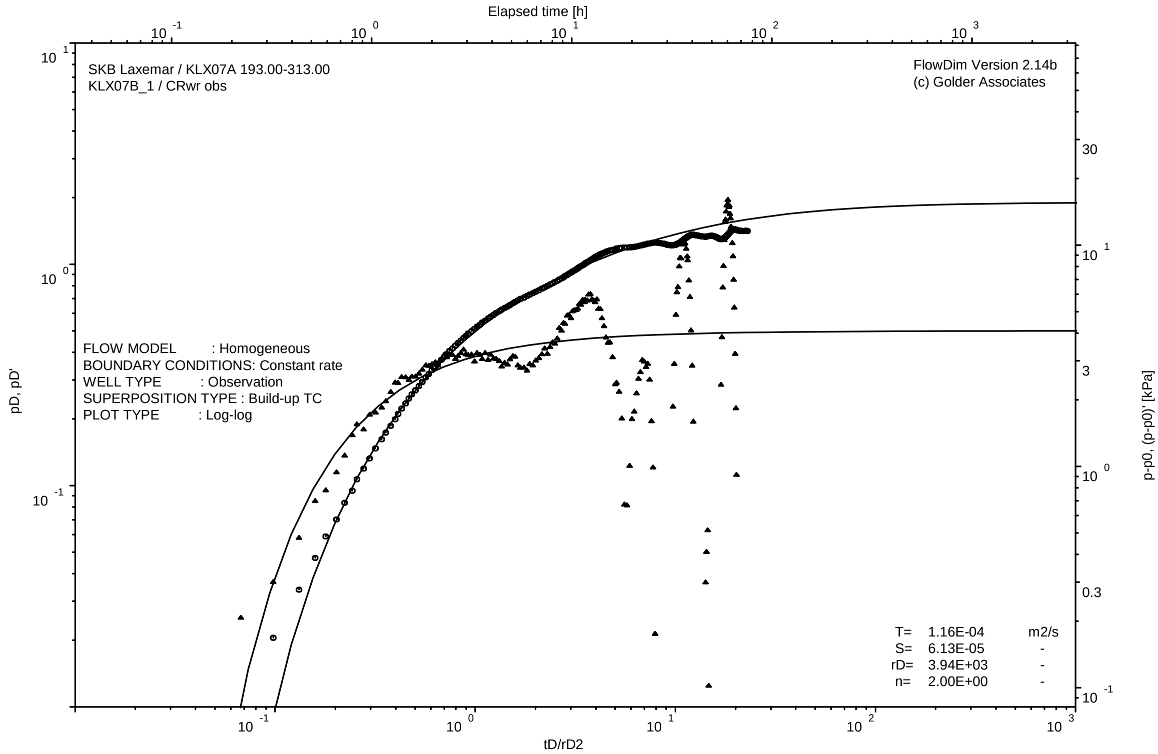
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX07B_1 112.00-200.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_1 112.00-200.00 m observed

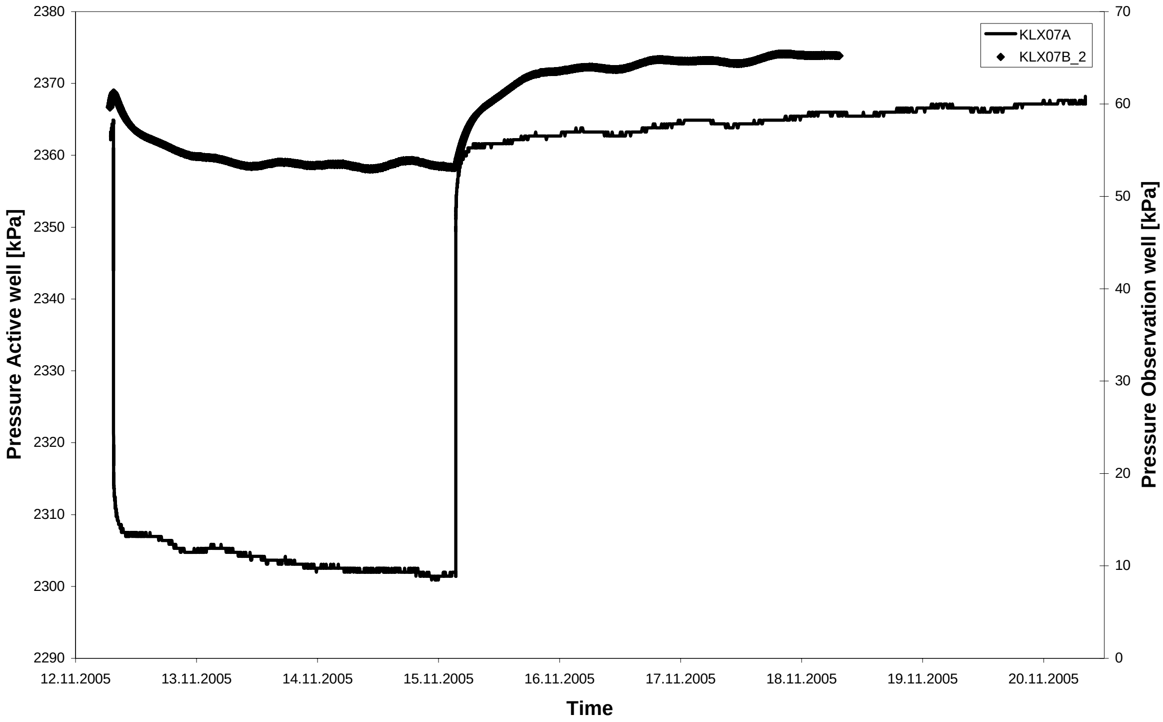


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_1 112.00-200.00 m observed

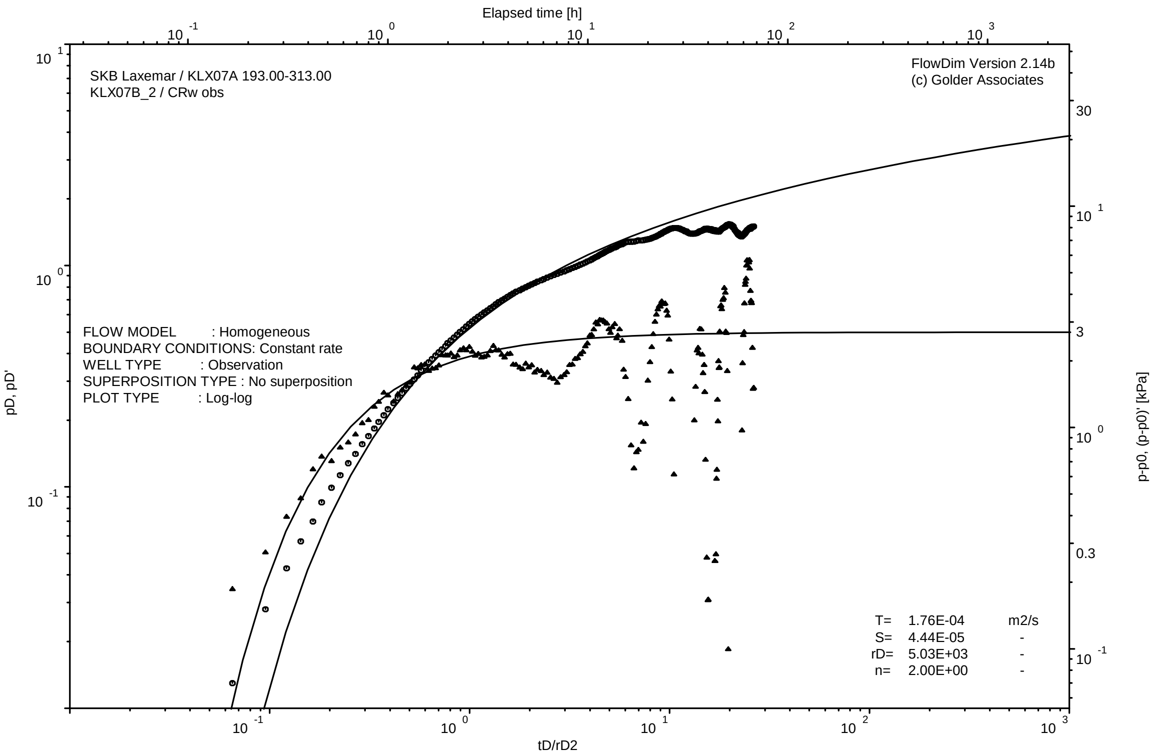
APPENDIX 7-2-15

KLX07A Section 193.00-313.00 m pumped
KLX07B_2 49.00-111.00 m observed

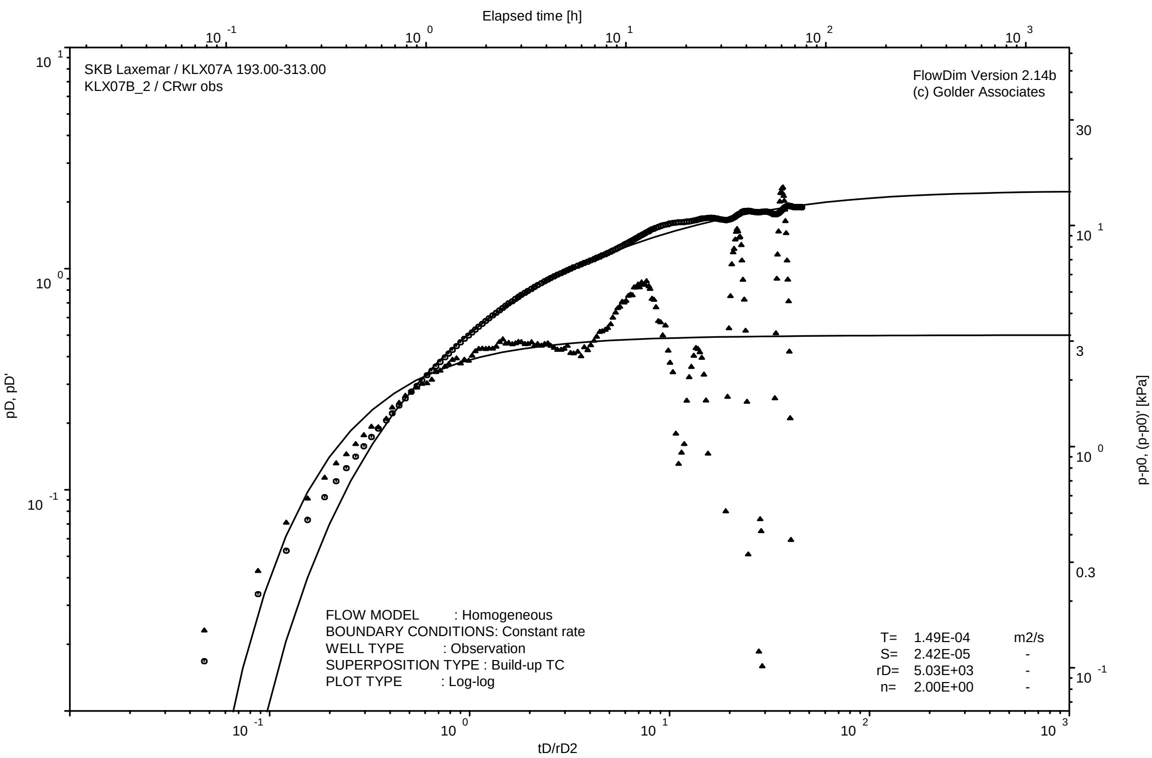
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX07B_2 49.00-111.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_2 49.00-111.00 m observed

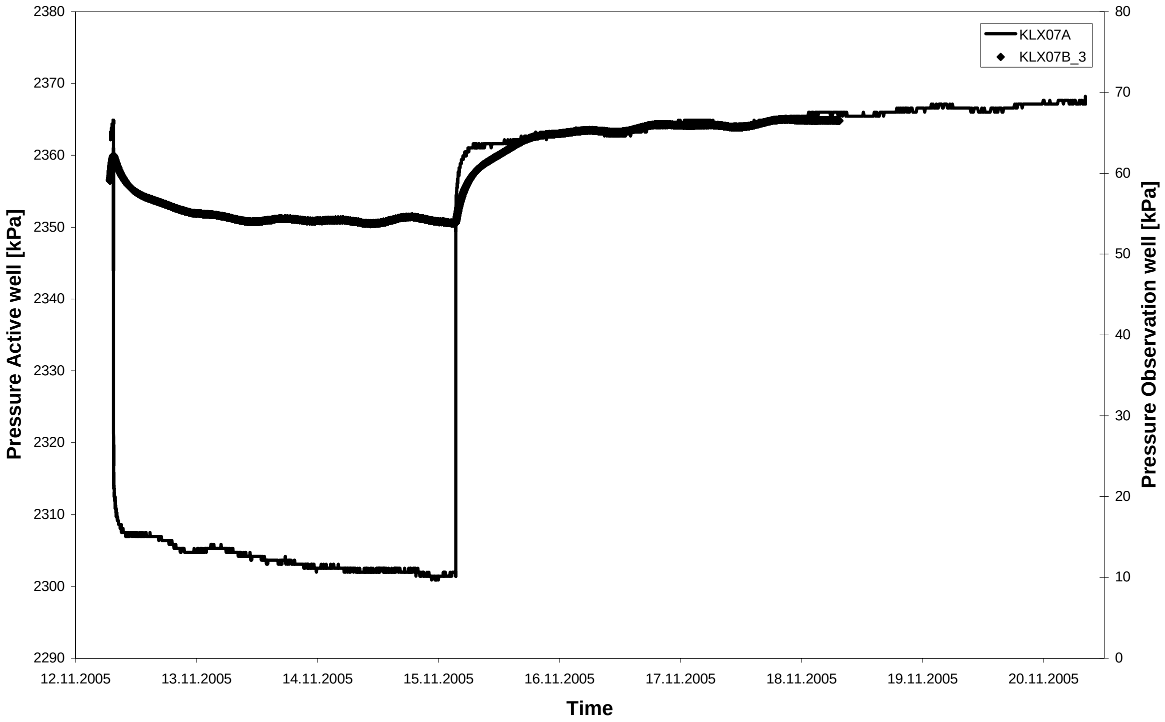


CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_2 49.00-111.00 m observed

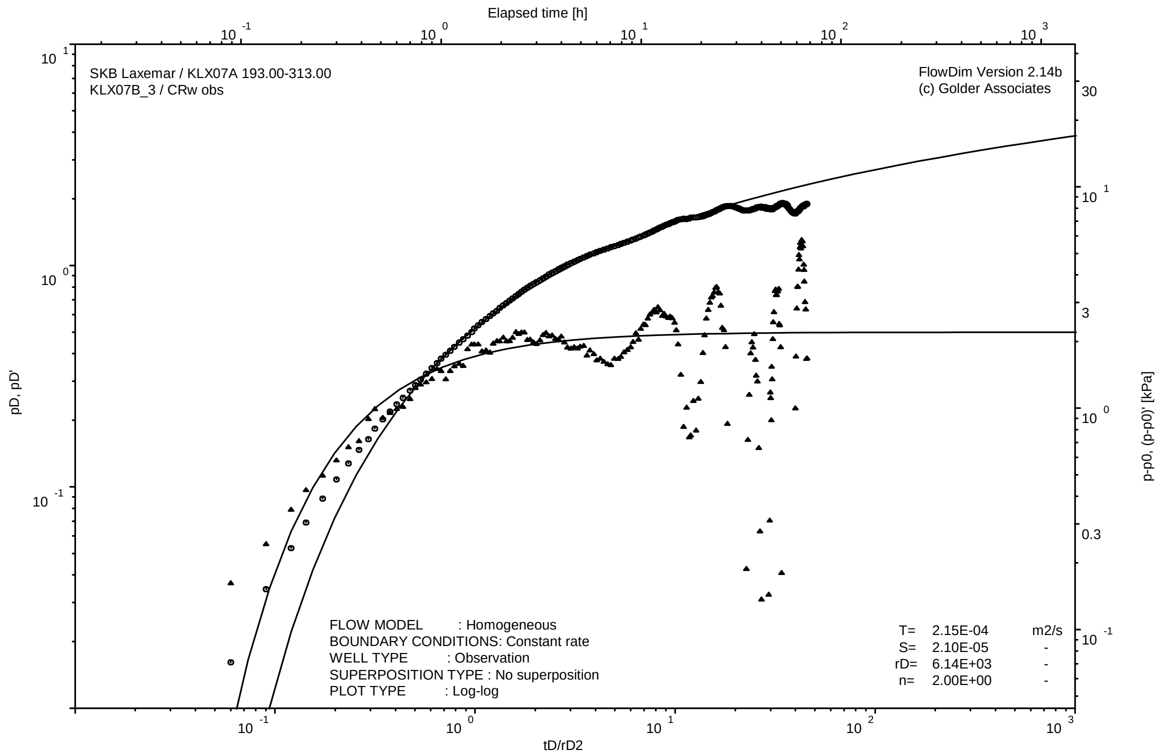
APPENDIX 7-2-16

KLX07A Section 193.00-313.00 m pumped
KLX07B_3 0.00-48.00 m observed

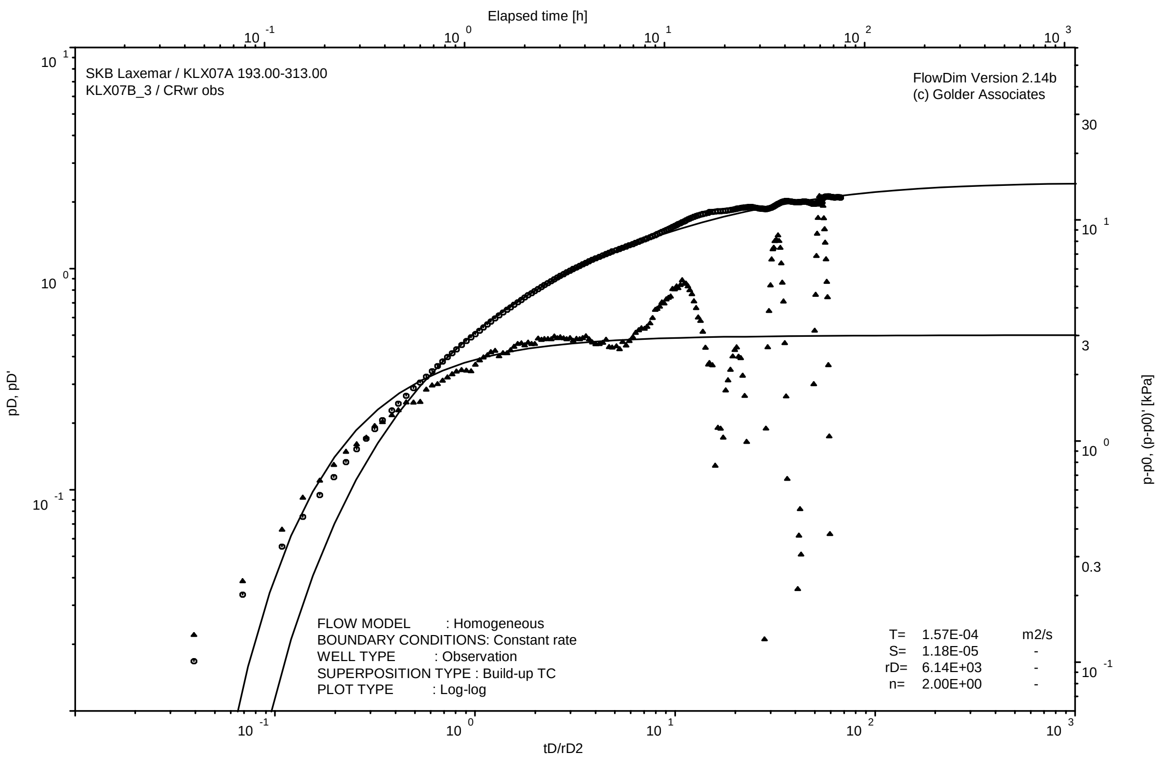
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 193.00-313.00 m pumped and KLX07B_3 0.00-48.00 m observed



CRw phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_3 0.00-48.00 m observed



CRwr phase; log-log match; KLX07A 193.00-313.00 m pumped and KLX07B_3 0.00-48.00 m observed

APPENDIX 7-3

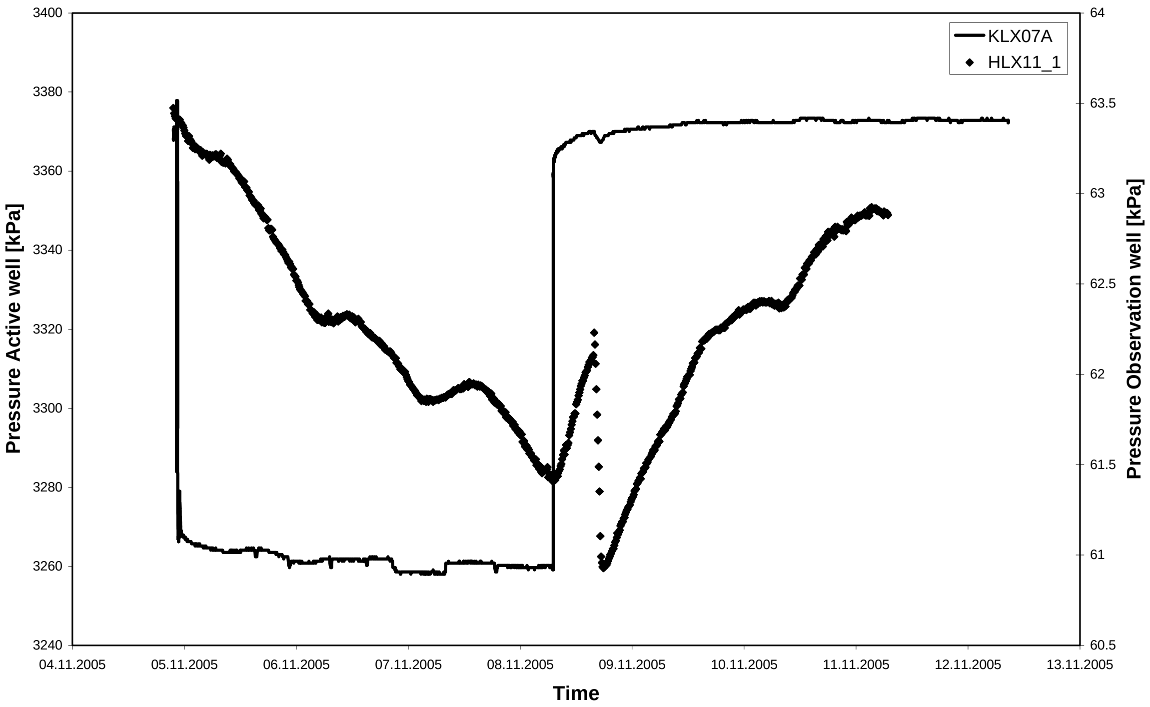
KLX07A Section 335.00-455.00 m pumped

Observation hole
Test Analysis diagrams

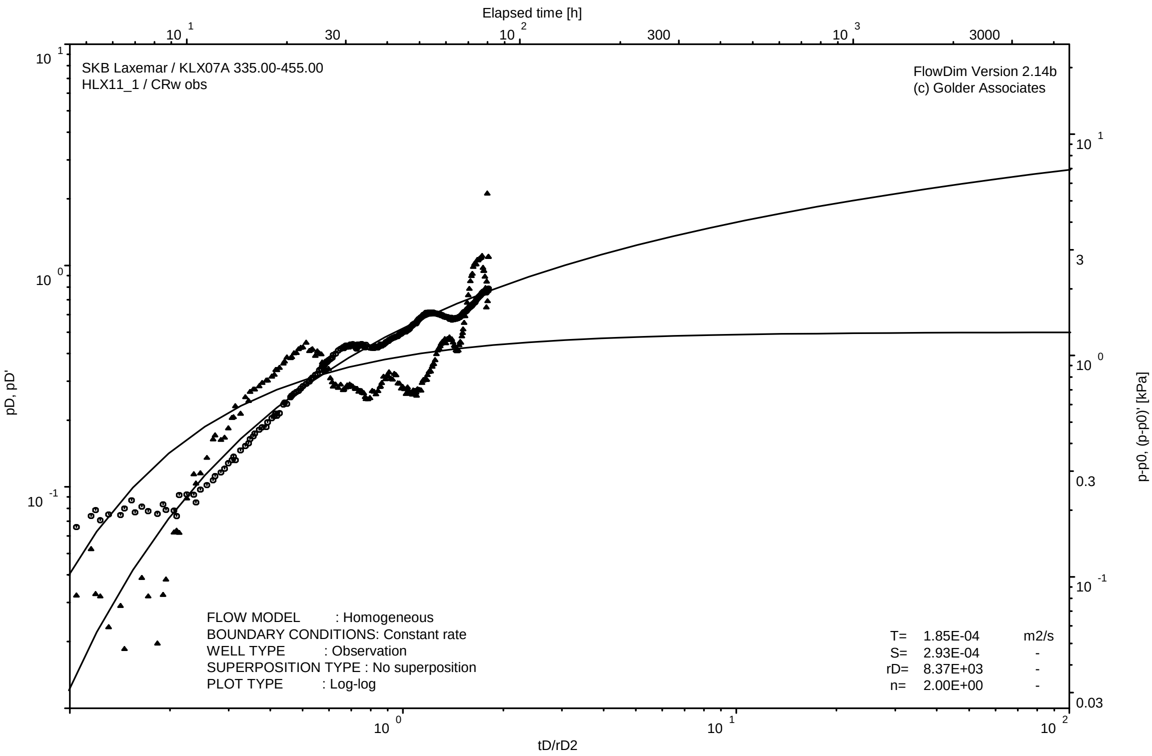
APPENDIX 7-3-1

KLX07A Section 335.00-455.00 m pumped
HLX11_1 17.00-70.00 m observed

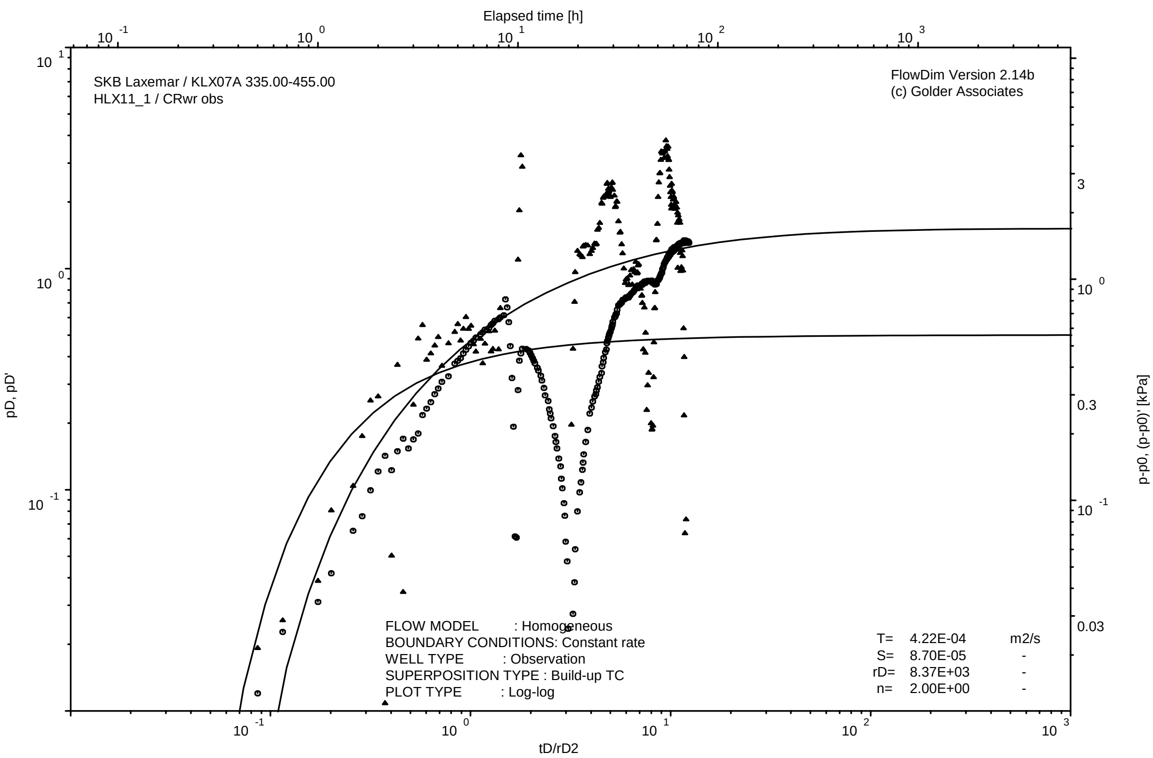
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX11_1 17.00-70.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX11_1 17.00-70.00 m observed

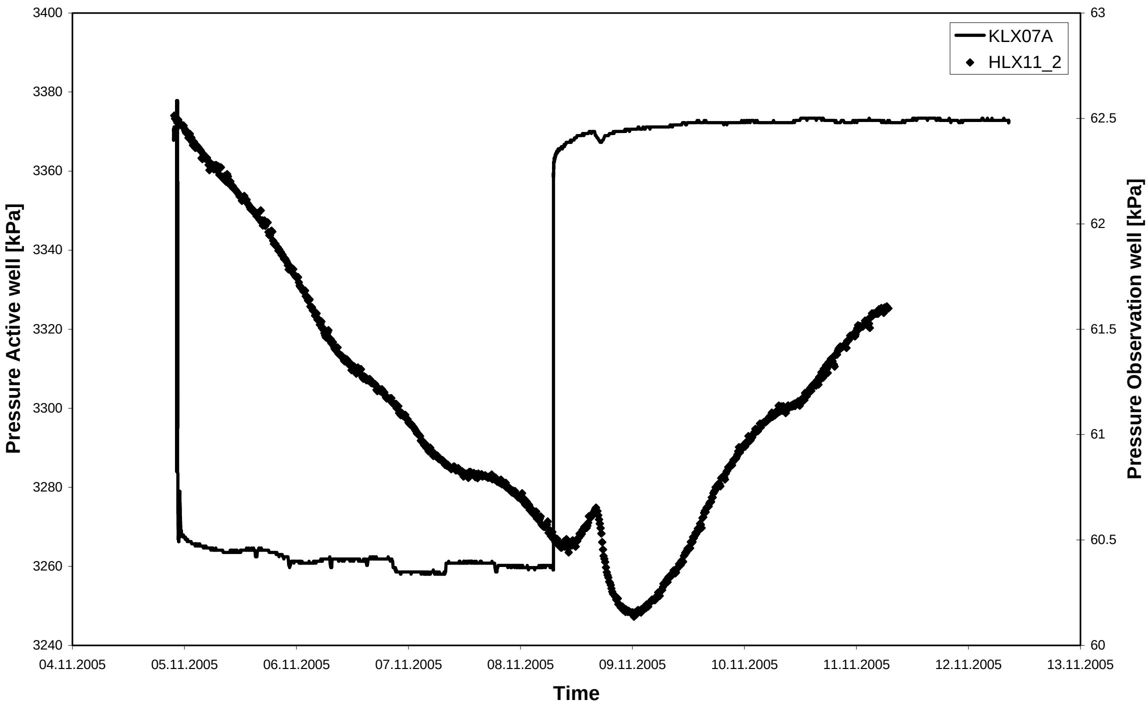


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX11_1 17.00-70.00 m observed

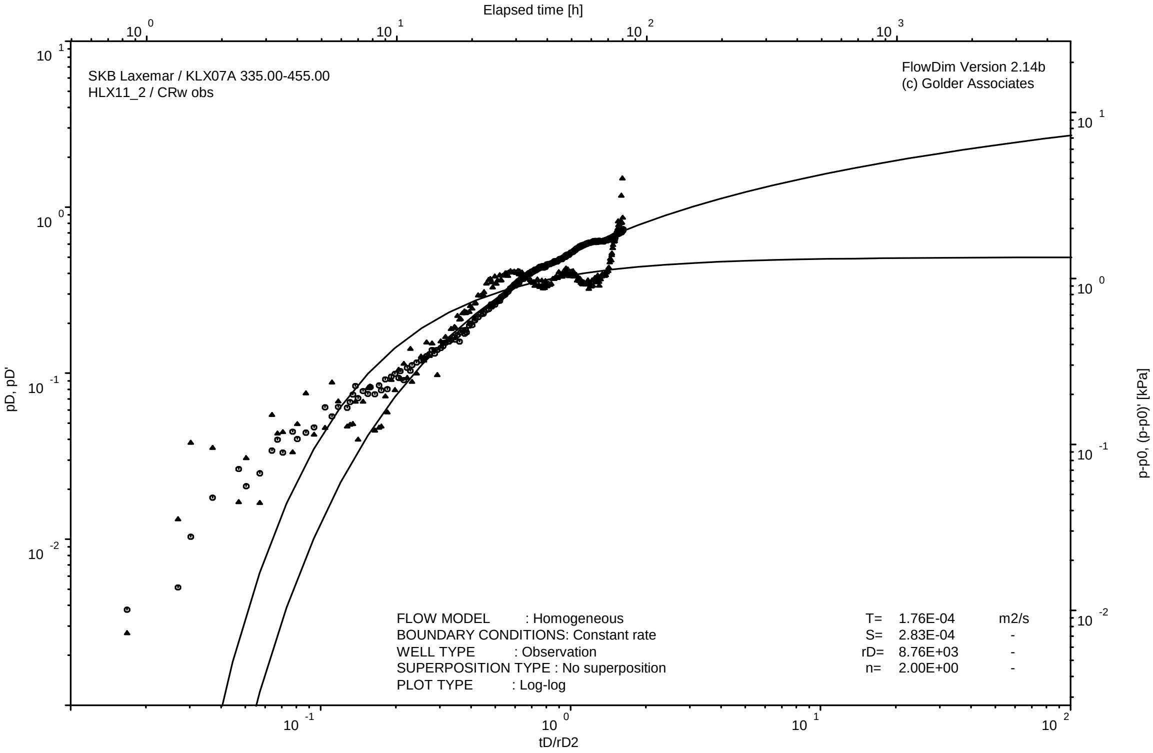
APPENDIX 7-3-2

KLX07A Section 335.00-455.00 m pumped
HLX11_2 6.00-16.00 m observed

Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX11_2 6.00-16.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX11_2 6.00-16.00 m observed

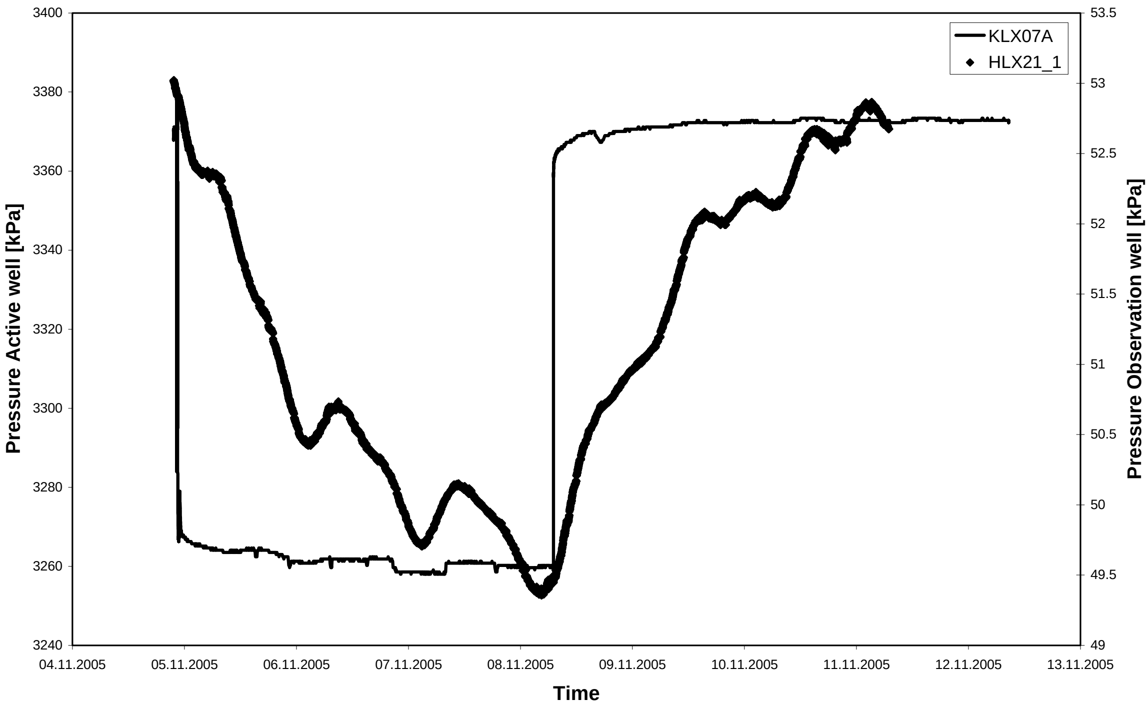
Not analysable

CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX11_2 6.00-16.00 m observed

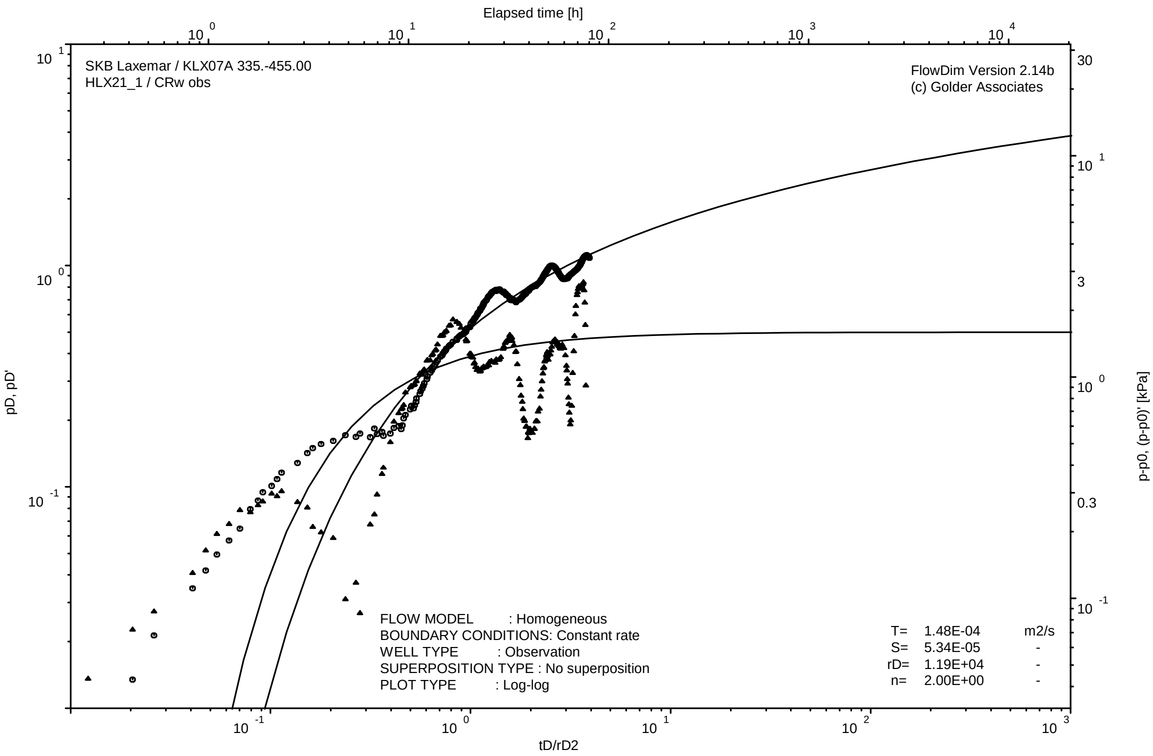
APPENDIX 7-3-3

KLX07A Section 335.00-455.00 m pumped
HLX21_1 81.00-150.00 m observed

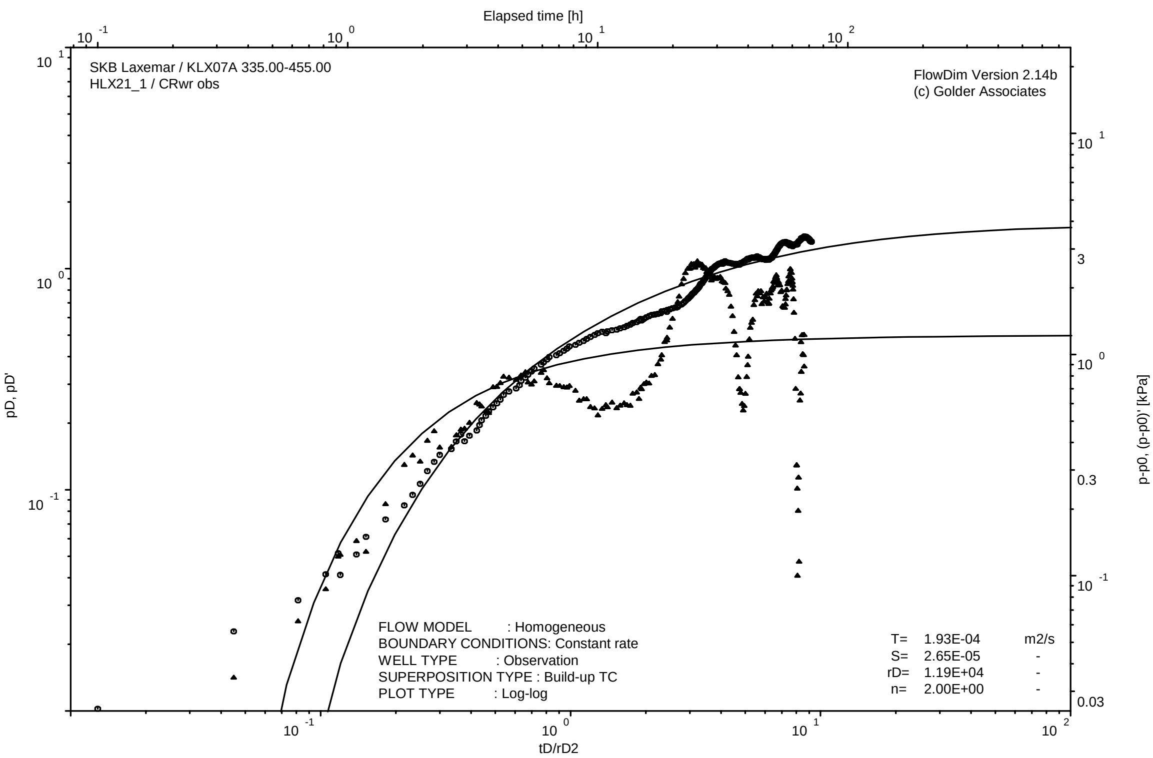
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX21_1 81.00-150.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX21_1 81.00-150.00 m observed

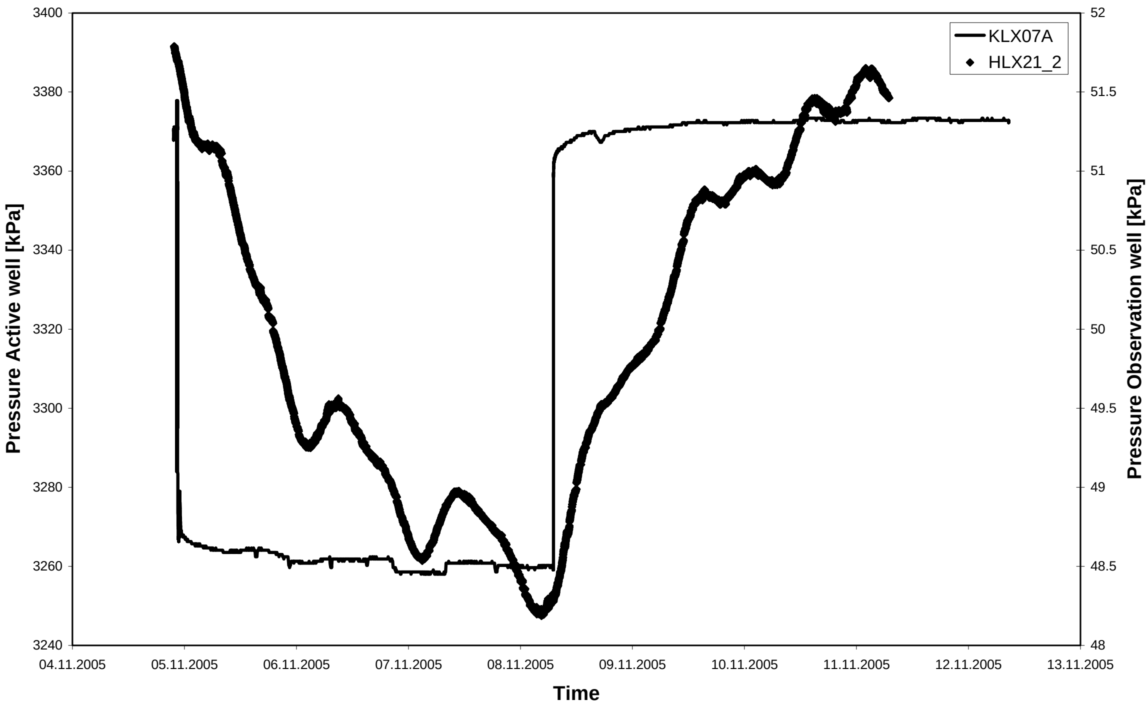


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX21_1 81.00-150.00 m observed

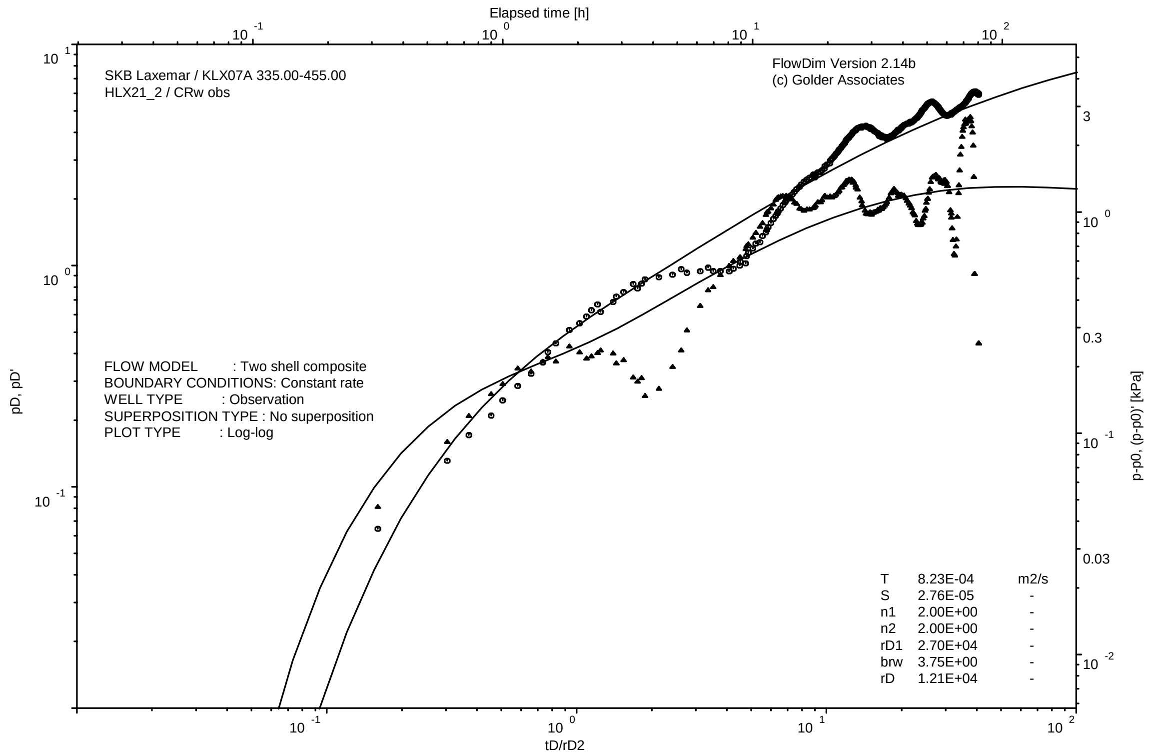
APPENDIX 7-3-4

KLX07A Section 335.00-455.00 m pumped
HLX21_2 9.10-80.00 m observed

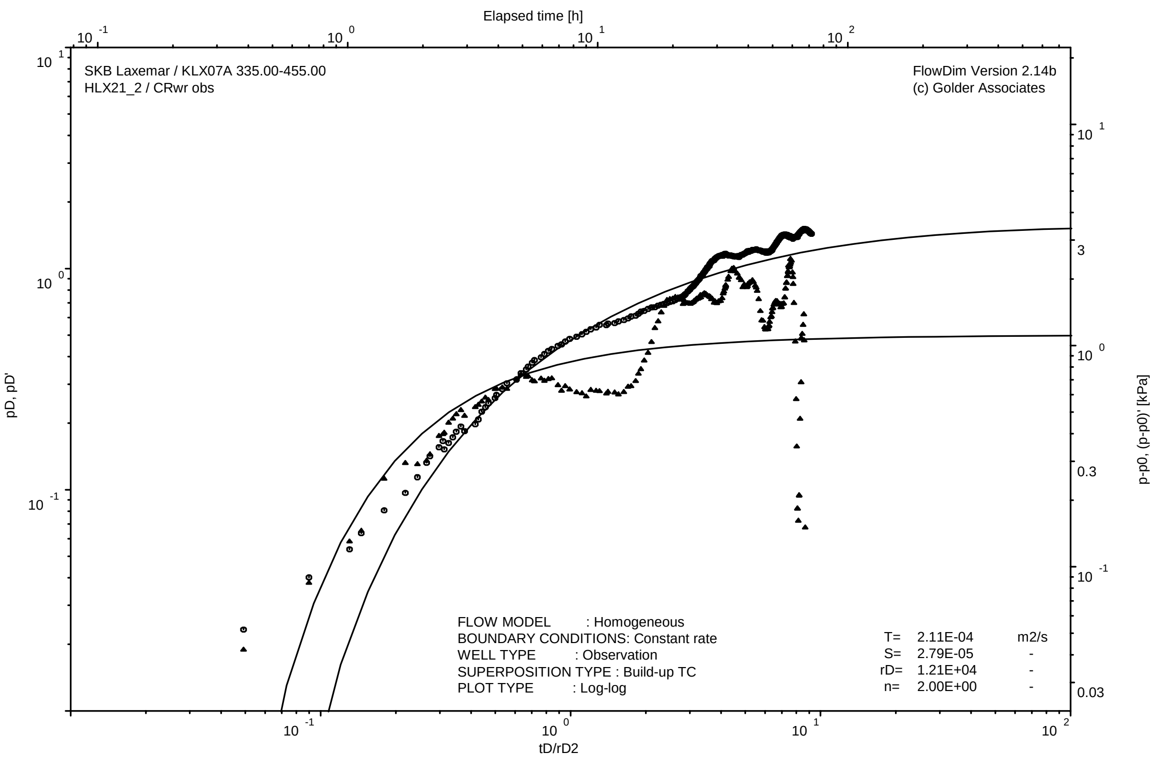
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX21_2 9.10-80.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX21_2 9.10-80.00 m observed

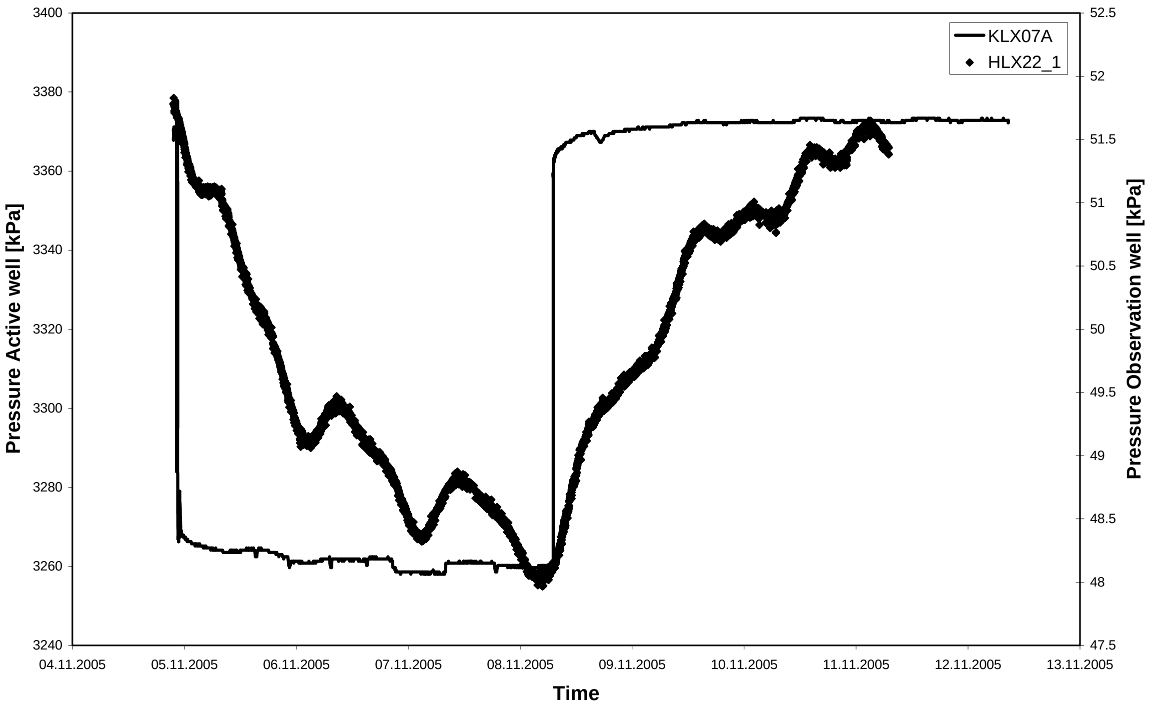


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX21_2 9.10-80.00 m observed

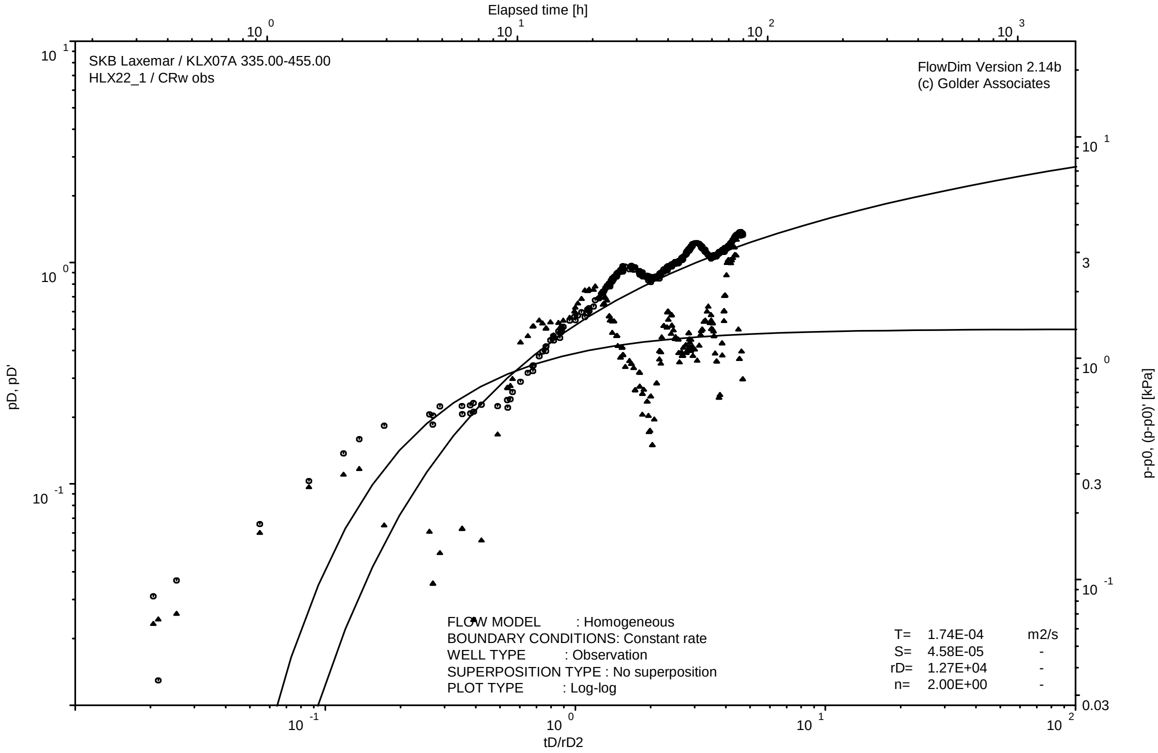
APPENDIX 7-3-5

KLX07A Section 335.00-455.00 m pumped
HLX22_1 86.00-163.20 m observed

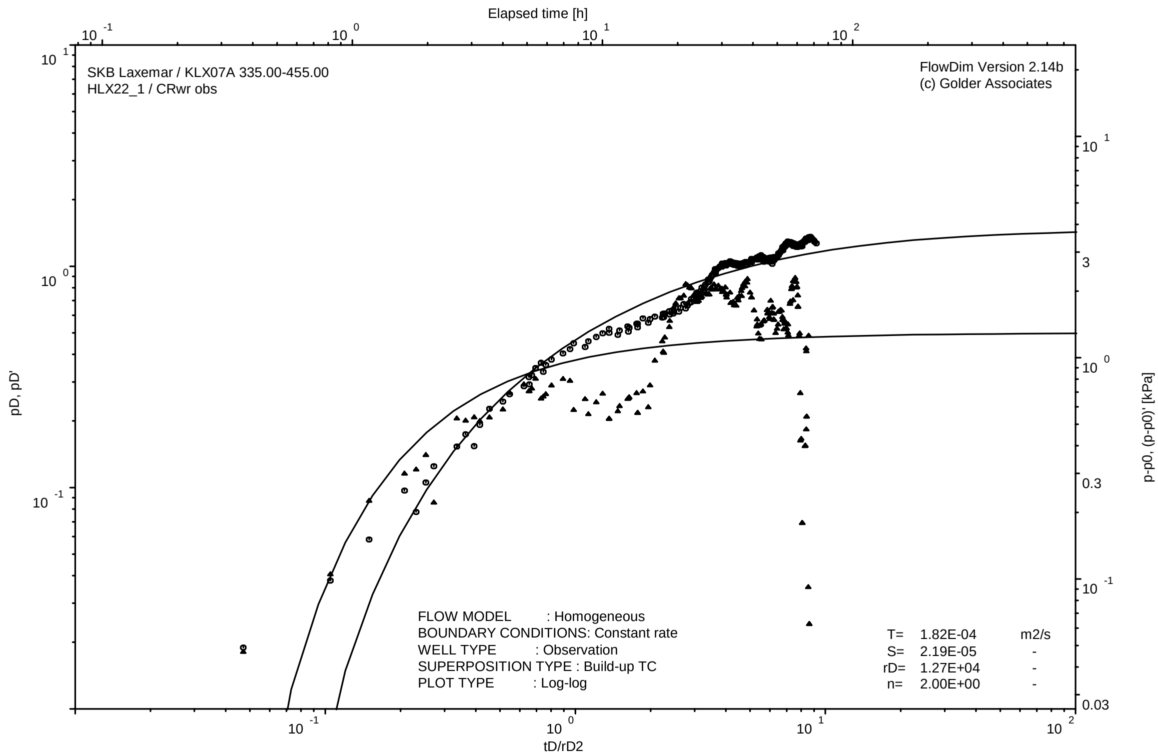
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX22_1 86.00-163.20 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX22_1 86.00-163.20 m observed

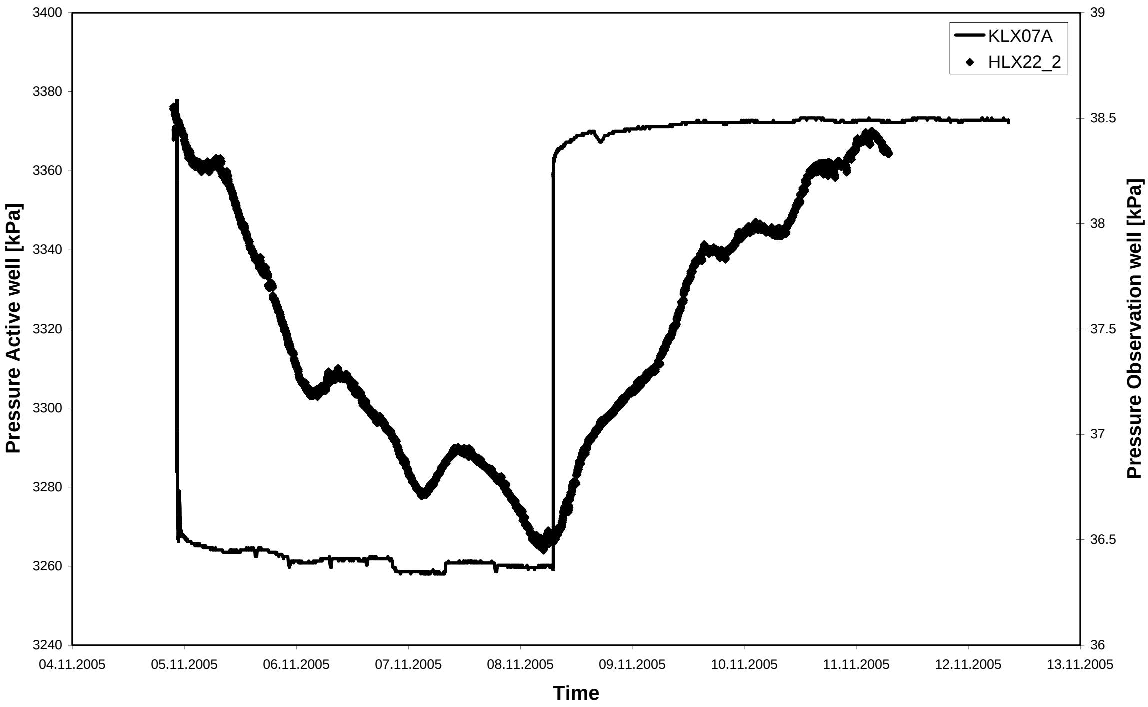


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX22_1 86.00-163.20 m observed

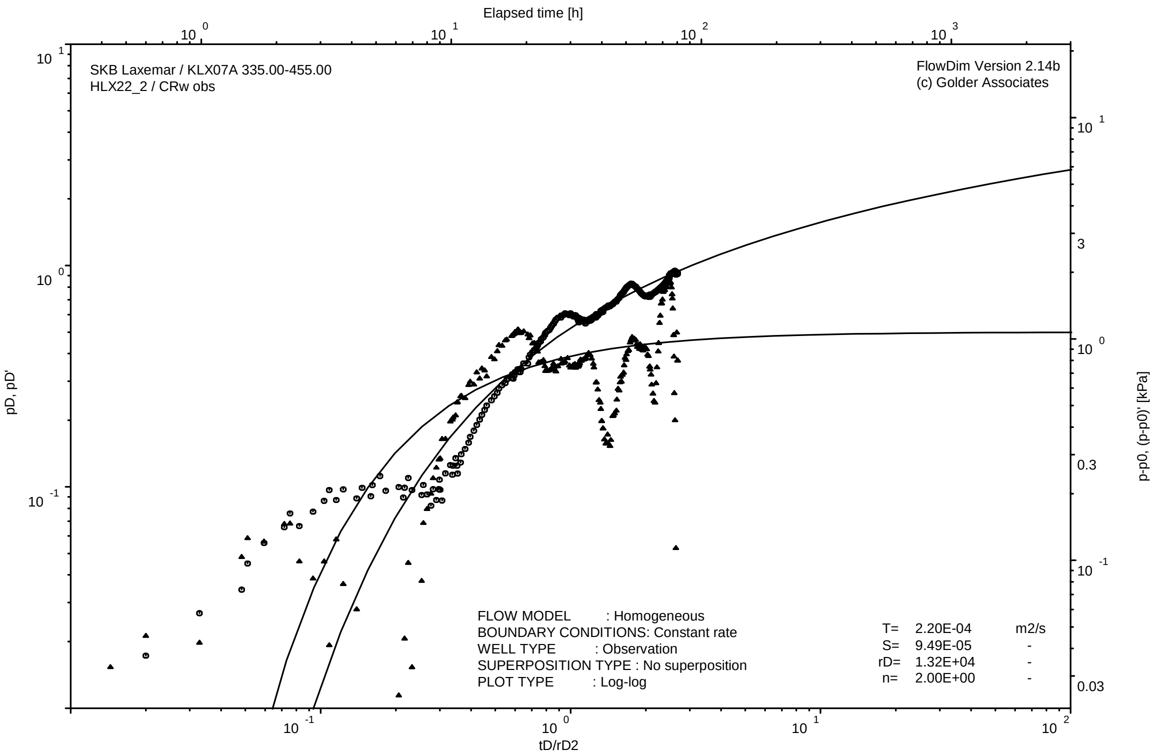
APPENDIX 7-3-6

KLX07A Section 335.00-455.00 m pumped
HLX22_2 9.19-85.00 m observed

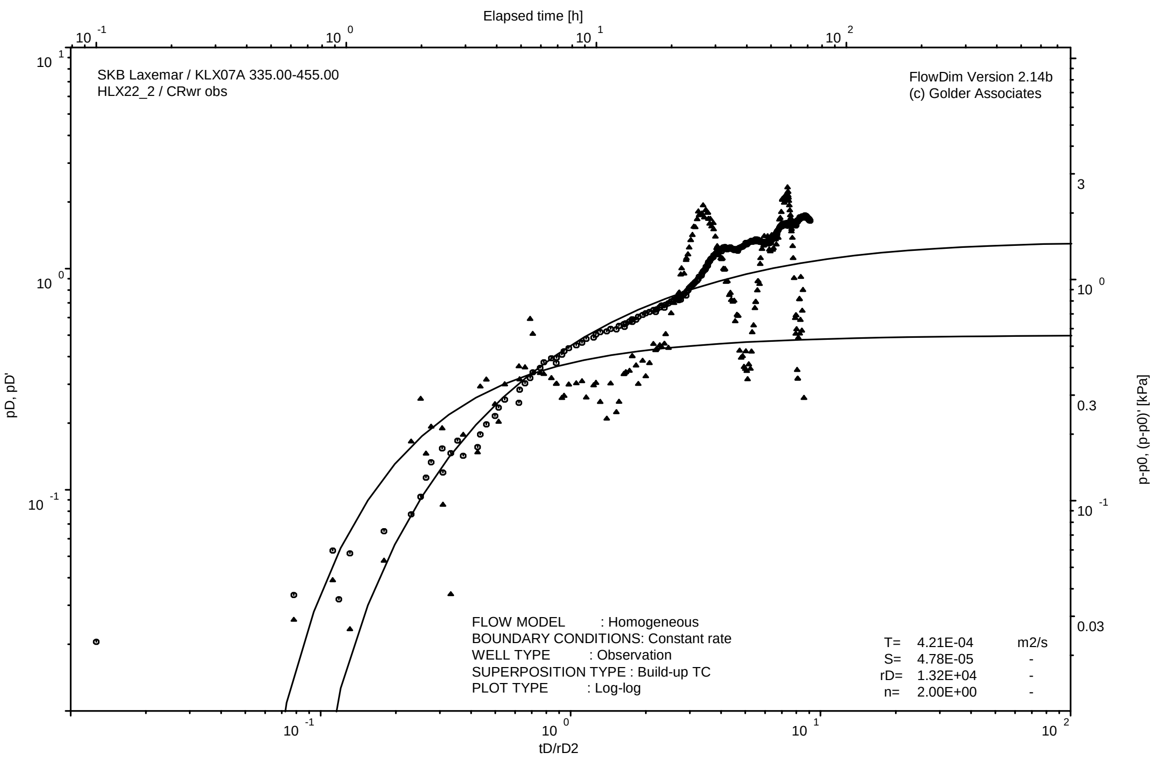
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX22_2 9.19-85.00 observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX22_2 9.19-85.00 observed

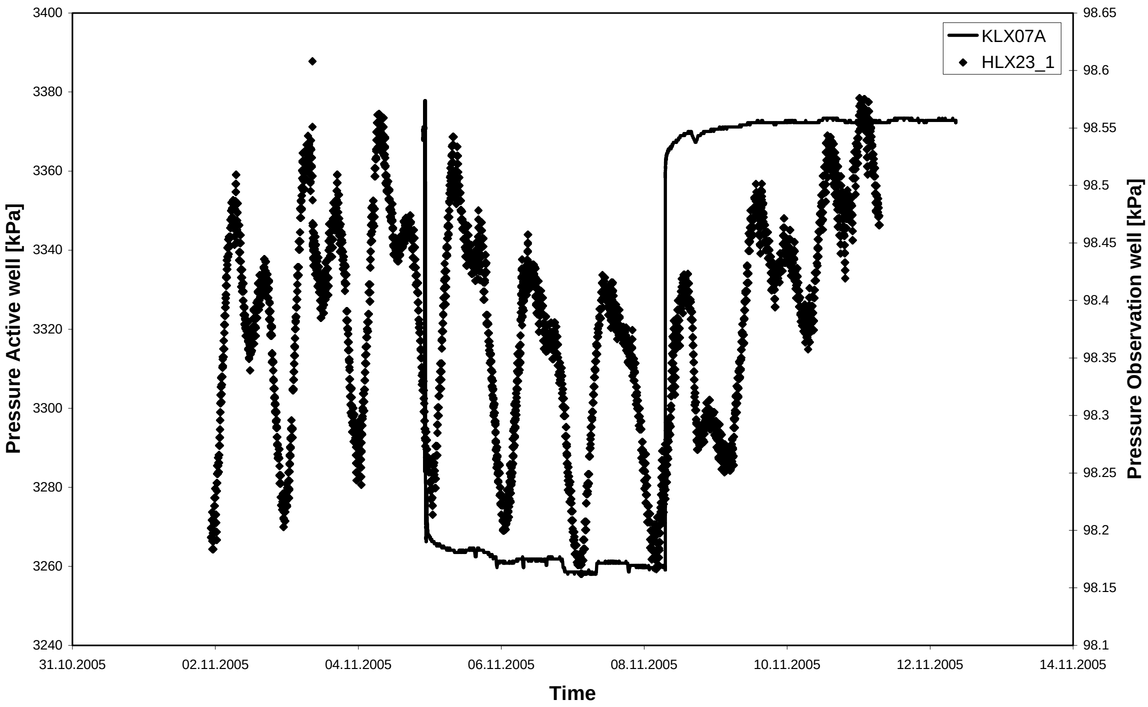


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX22_2 9.19-85.00 m observed

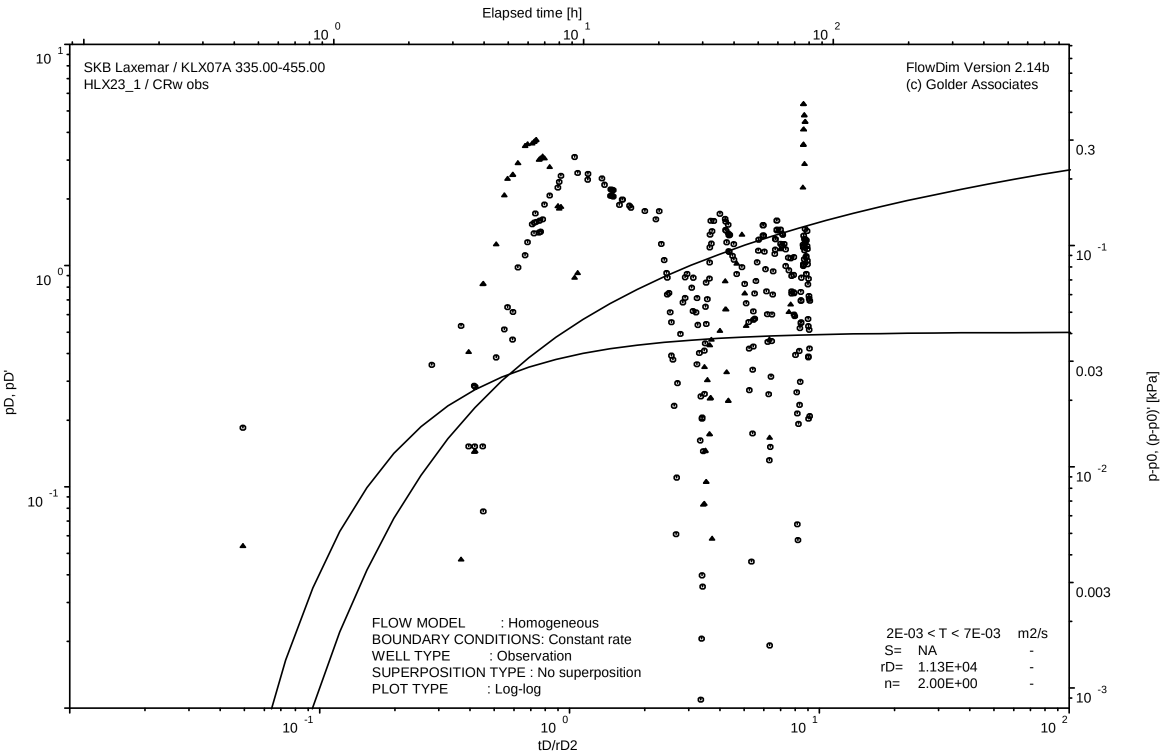
APPENDIX 7-3-7

KLX07A Section 335.00-455.00 m pumped
HLX23_1 61.00-160.20 m observed

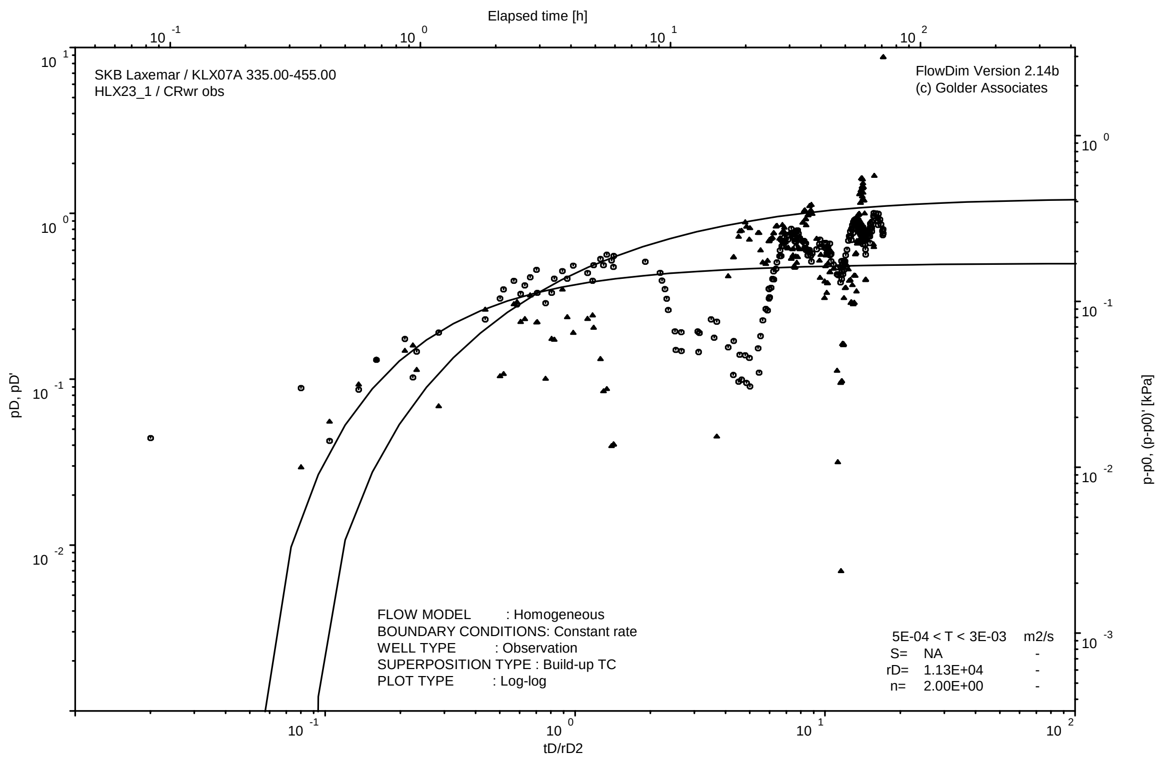
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX23_1 61.00-160.20 observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX23_1 61.00-160.20 observed

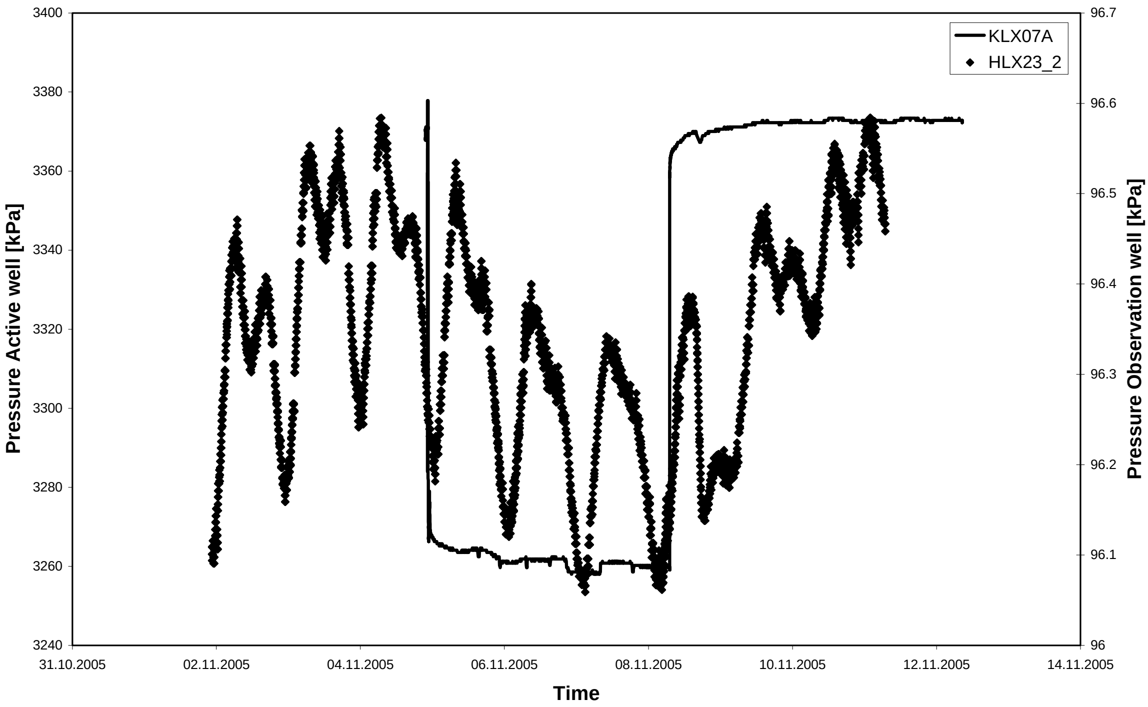


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX23_1 61.00-160.20 m observed

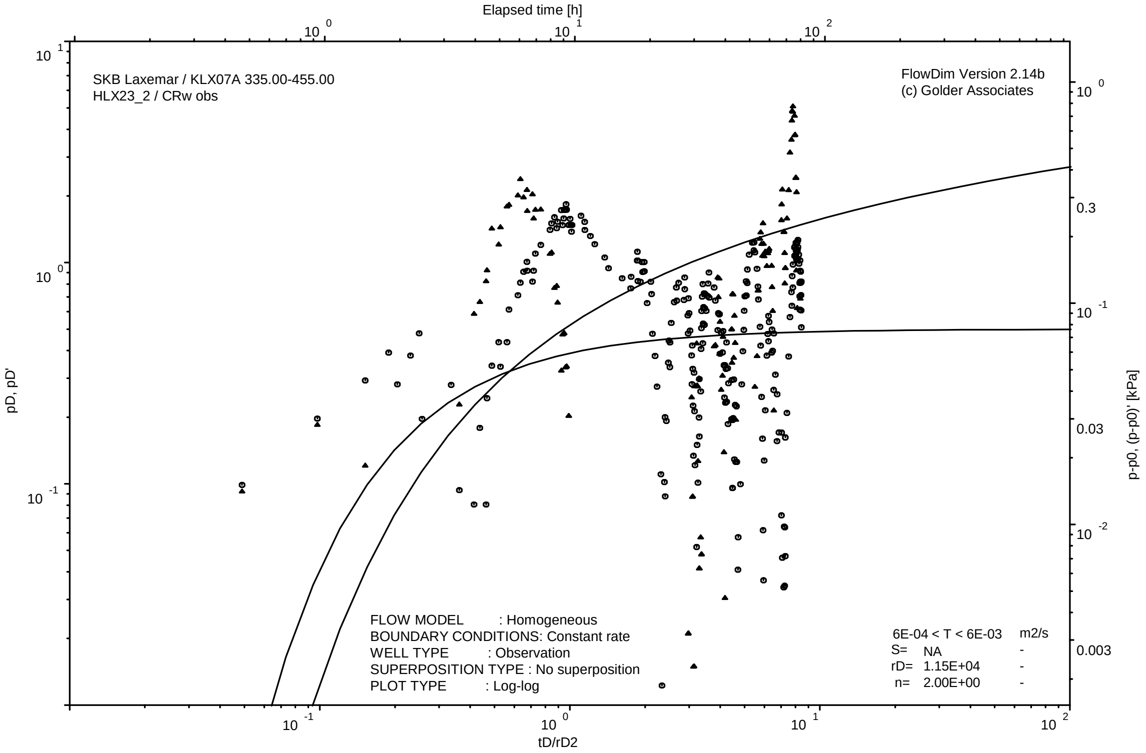
APPENDIX 7-3-8

KLX07A Section 335.00-455.00 m pumped
HLX23_2 6.10-60.00 m observed

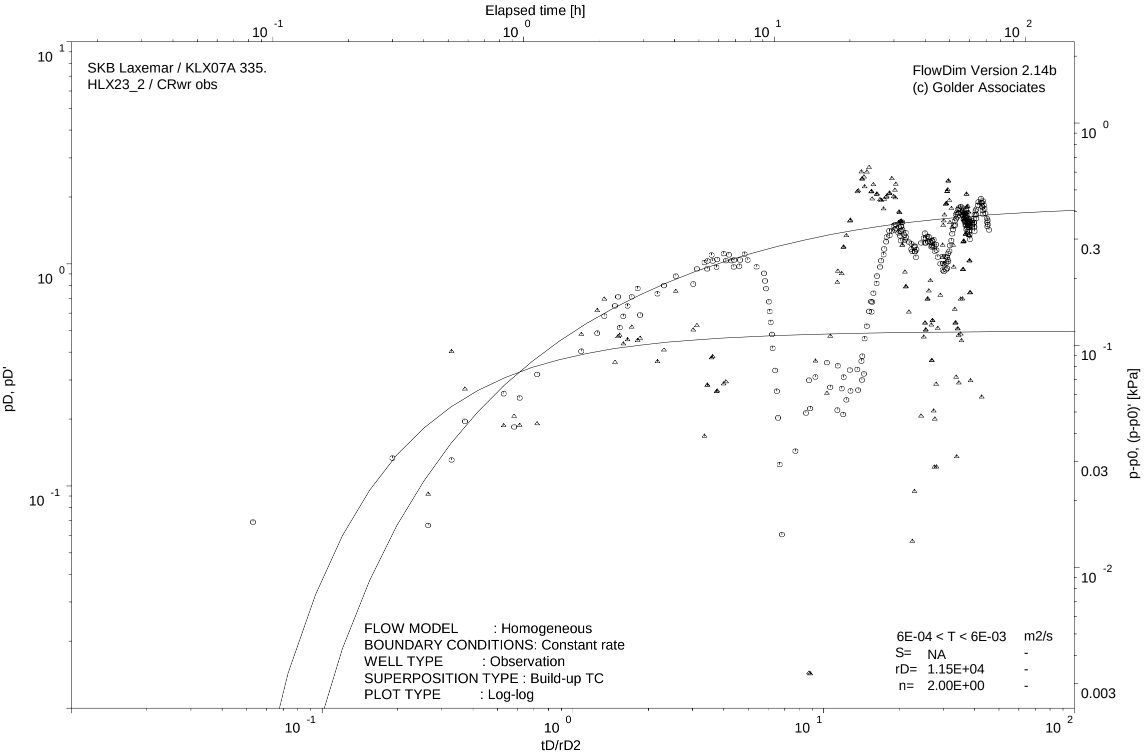
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX23_2 6.10-60.00 observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX23_2 6.10-60.00 observed

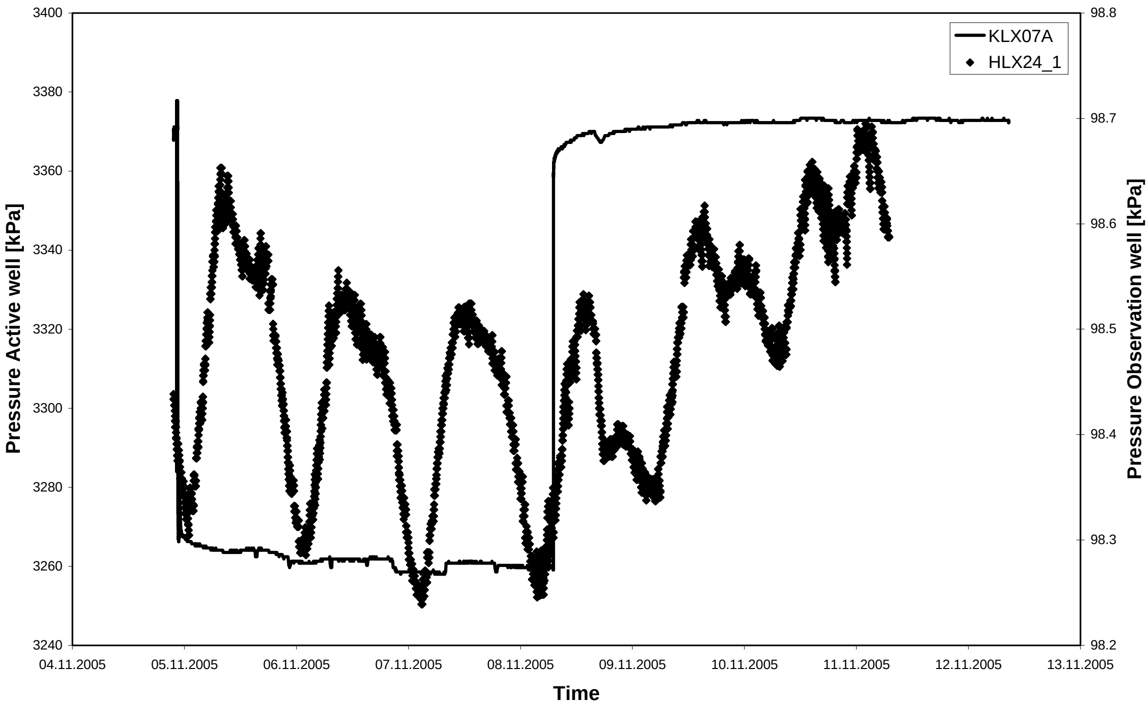


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX23_2 6.10-60.00 observed

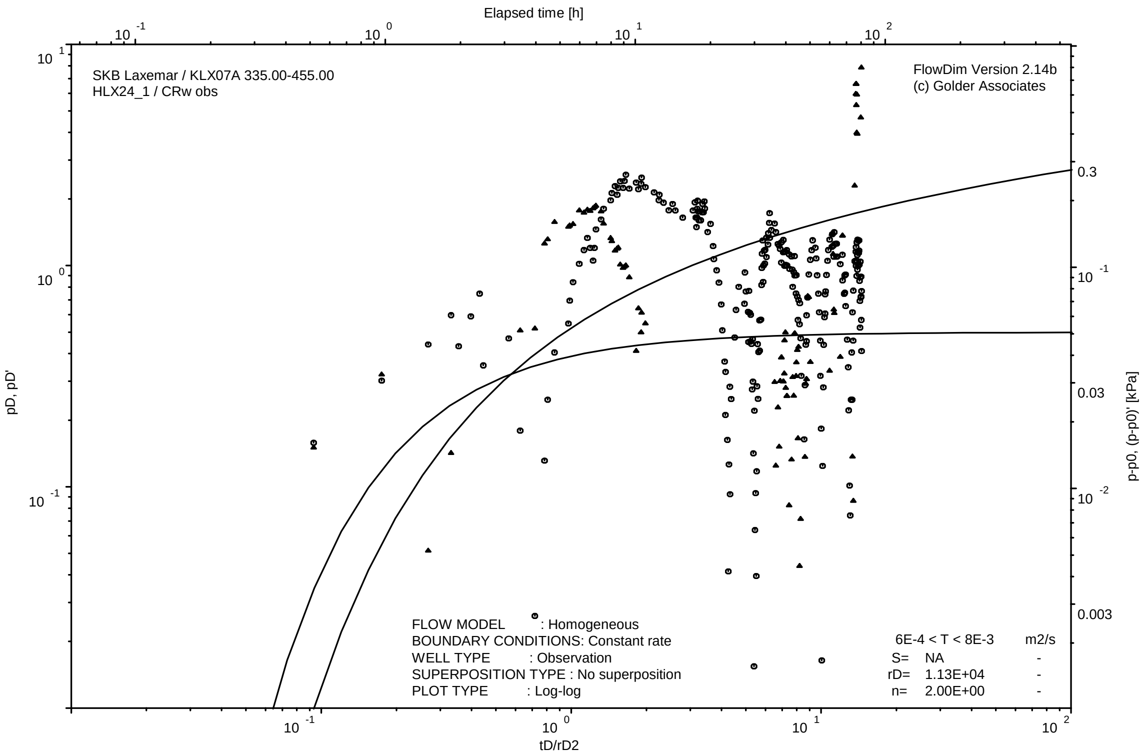
APPENDIX 7-3-9

KLX07A Section 335.00-455.00 m pumped
HLX24_1 41.00-175.20 m observed

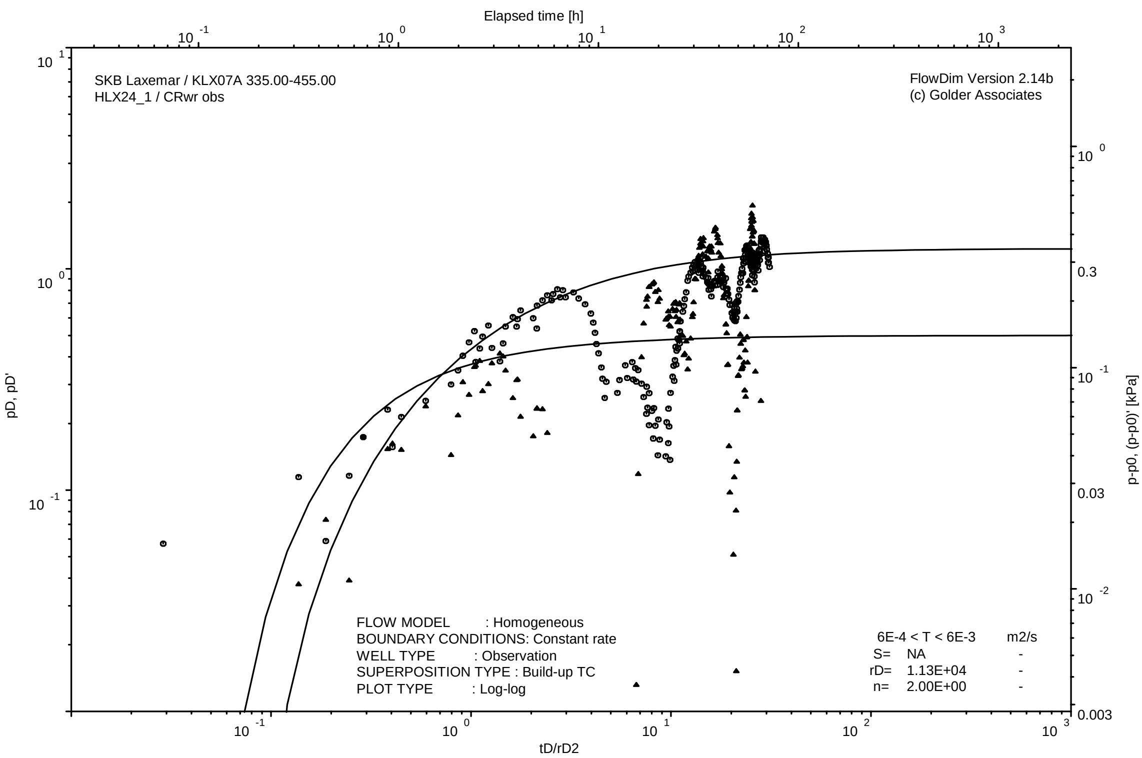
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and HLX24_1 41.00-175.20 observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and HLX24_1 41.00-175.20 observed

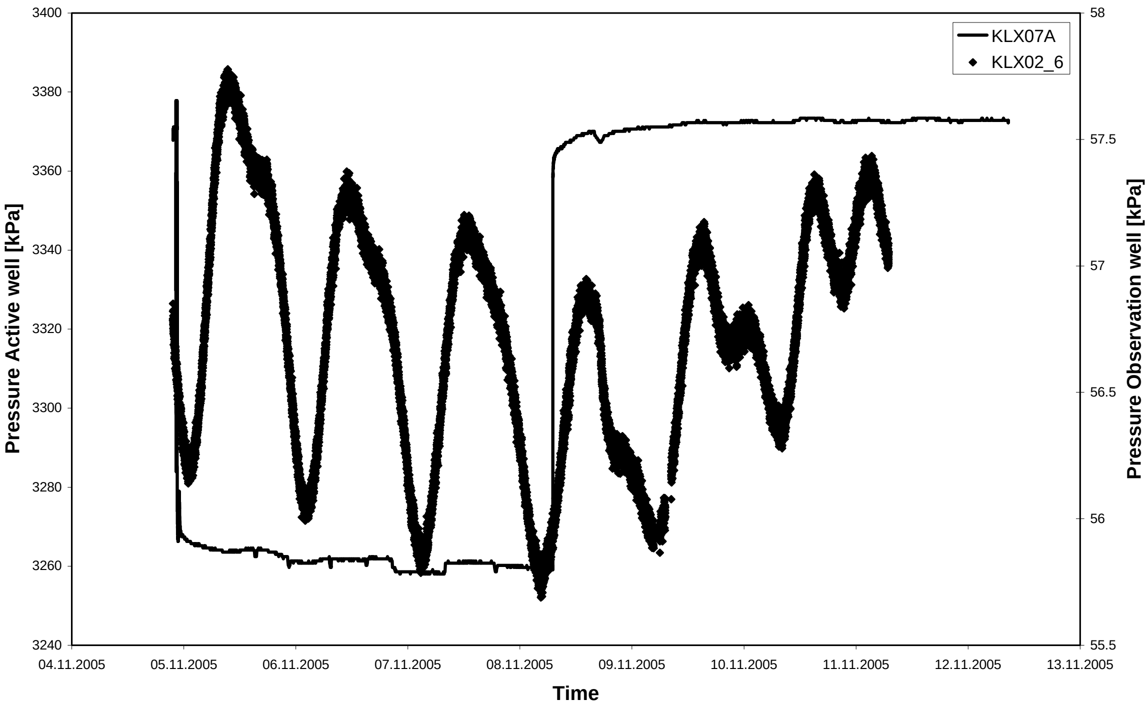


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and HLX24_1 41.00-175.20 observed

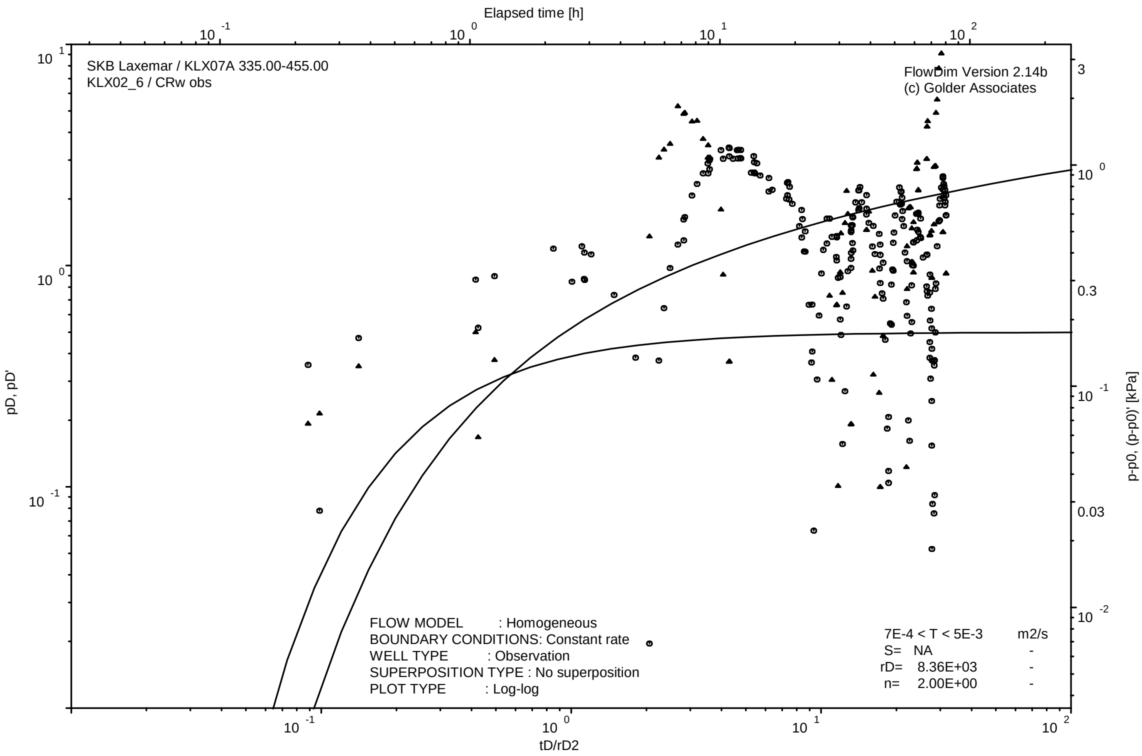
APPENDIX 7-3-10

KLX07A Section 335.00-455.00 m pumped
KLX02_6 348.00-451.00 m observed

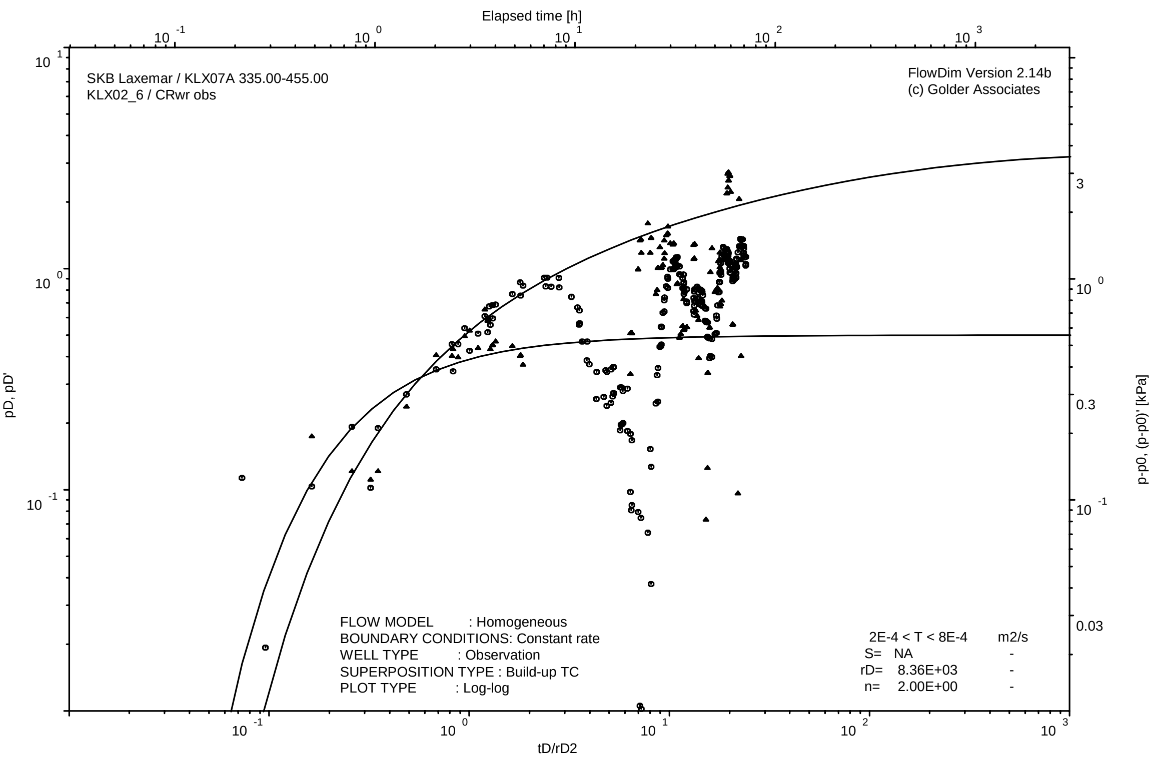
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX02_6 348.00-451.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_6 348.00-451.00 m observed

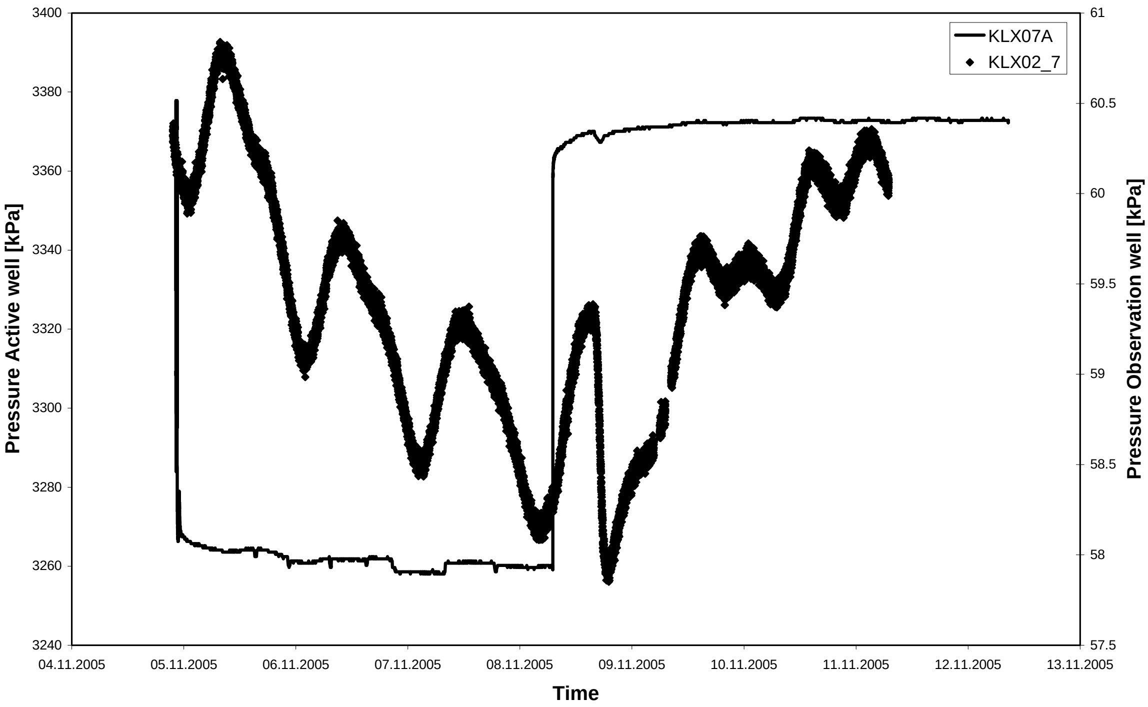


CRwr phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_6 348.00-451.00 m observed

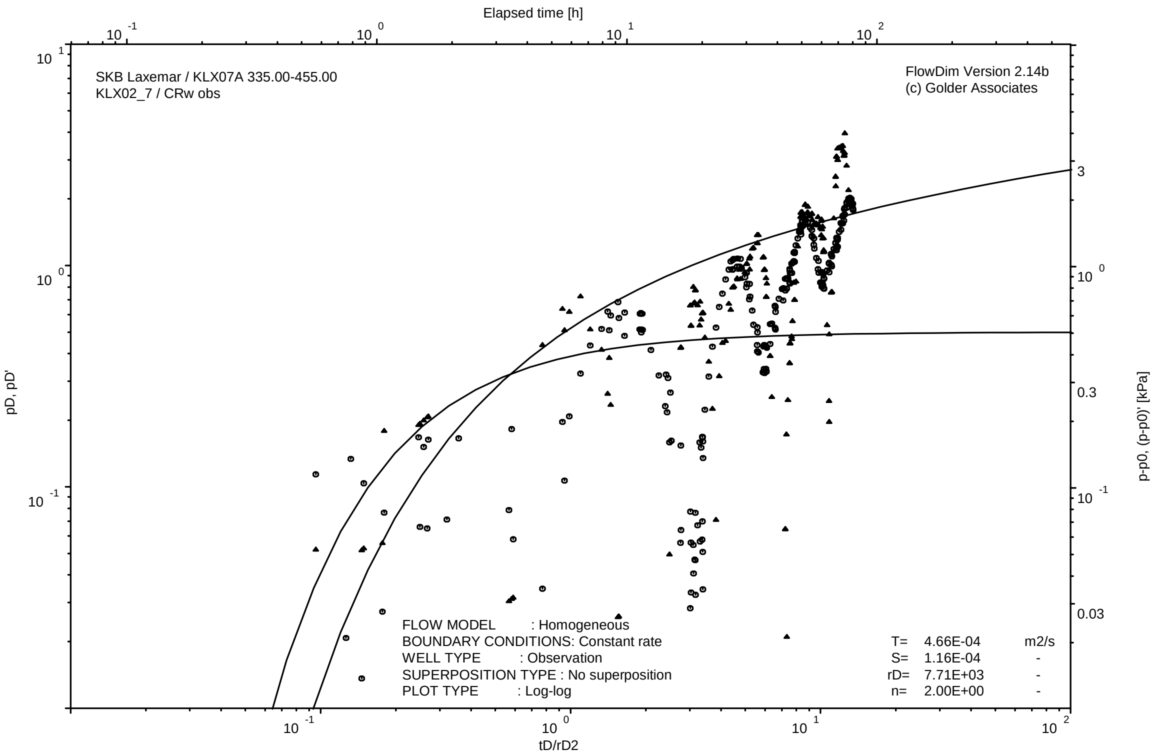
APPENDIX 7-3-11

KLX07A Section 335.00-455.00 m pumped
KLX02_7 209.00-347.00 m observed

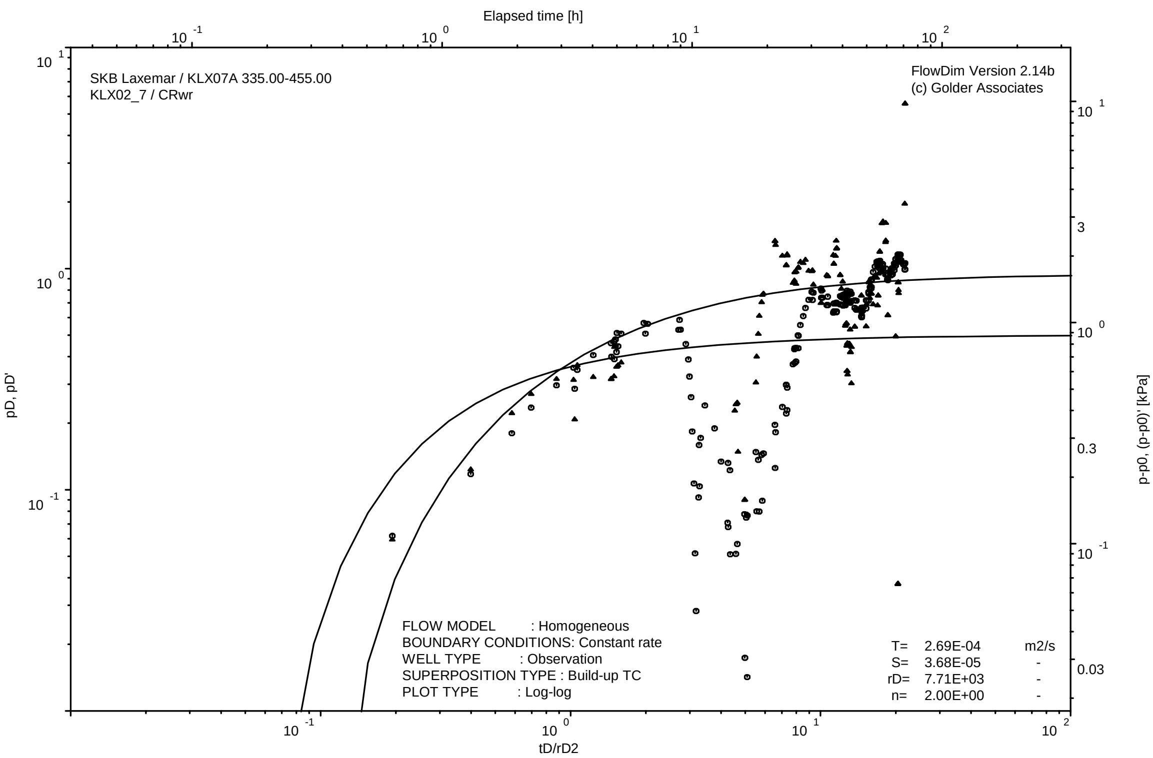
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX02_7 209.00-347.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_7 209.00-347.00 m observed

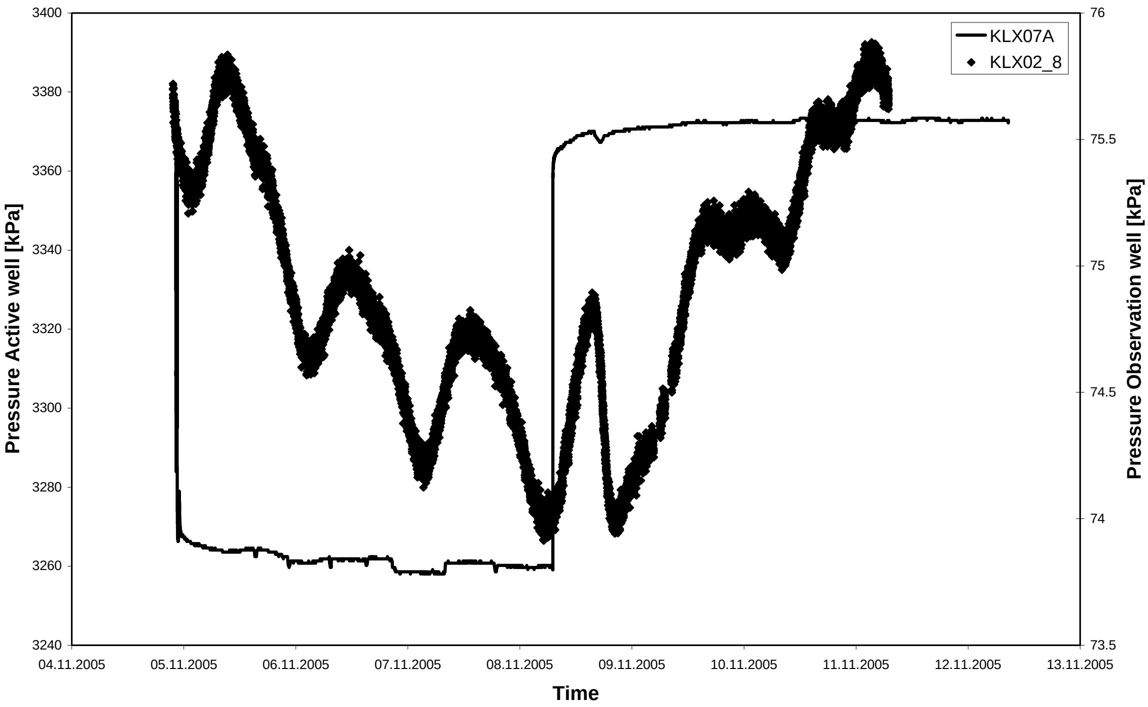


CRwr phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_7 209.00-347.00 m observed

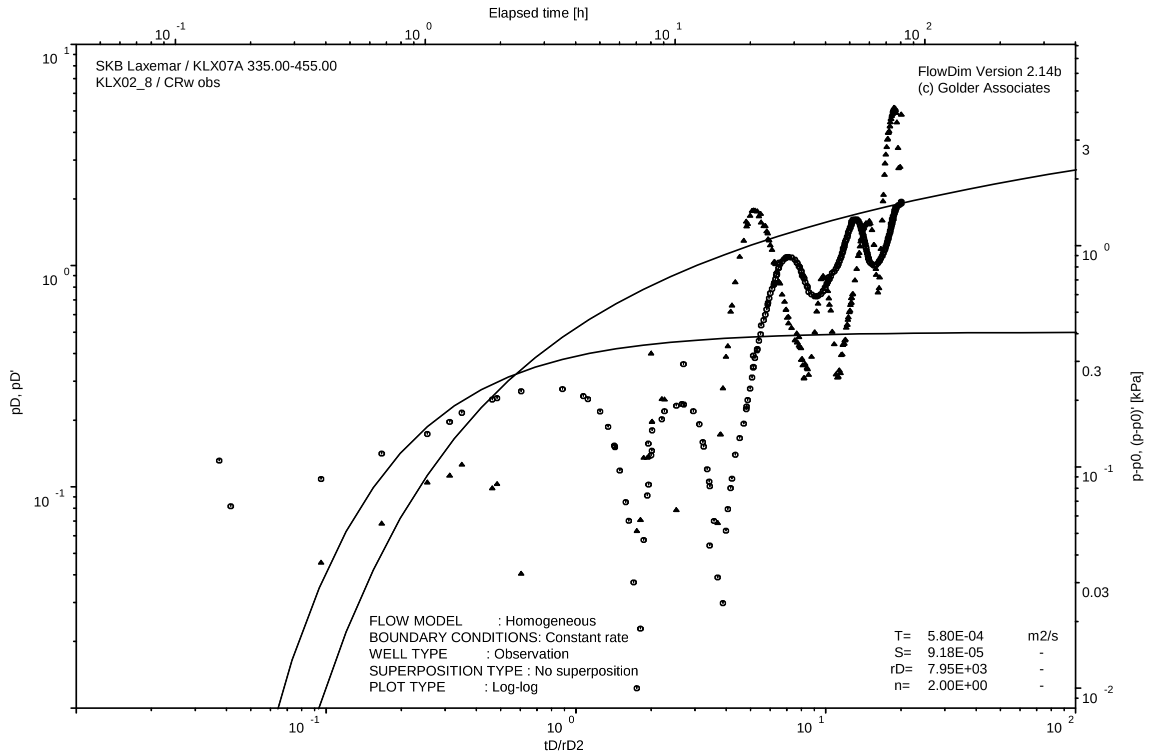
APPENDIX 7-3-12

KLX07A Section 335.00-455.00 m pumped
KLX02_8 202.95-208.00 m observed

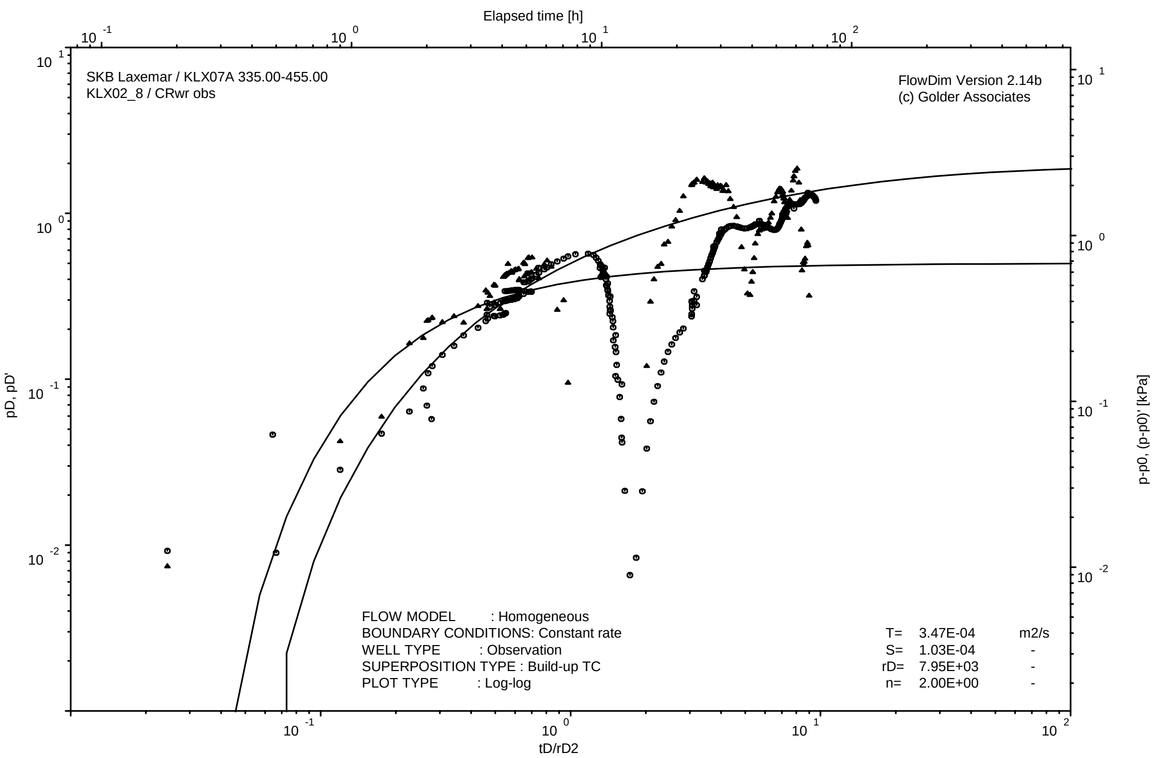
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX02_8 202.95-208.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_8 202.95-208.00 m observed

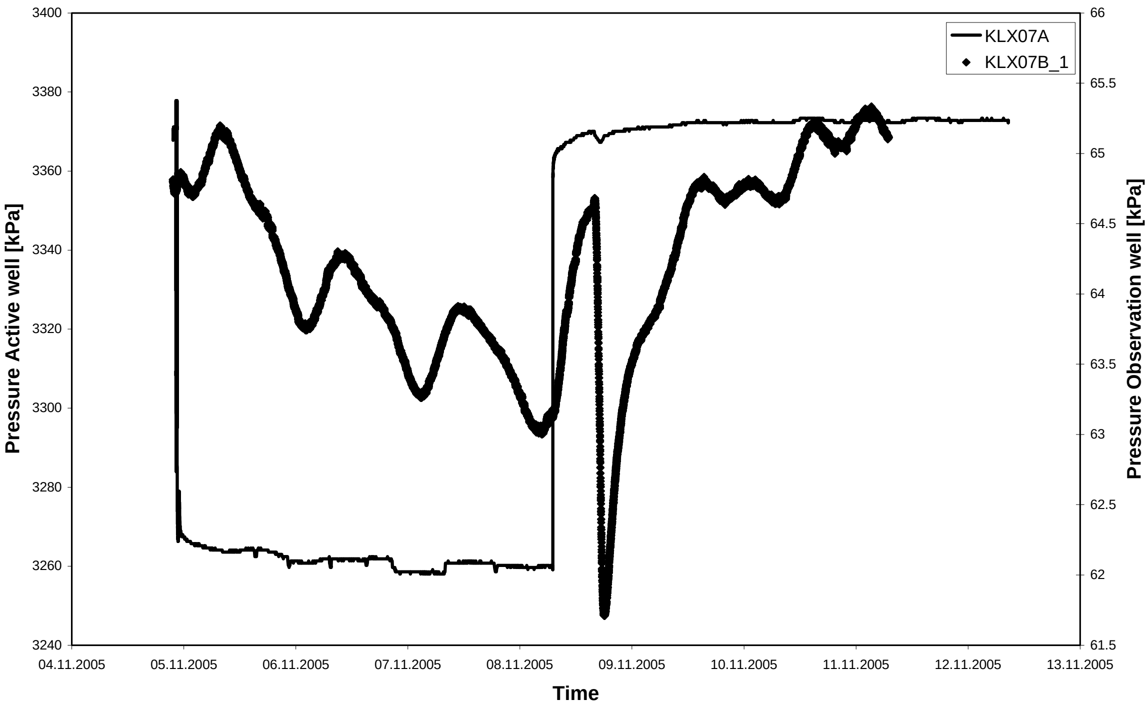


CRwr phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX02_8 202.95-208.00 m observed

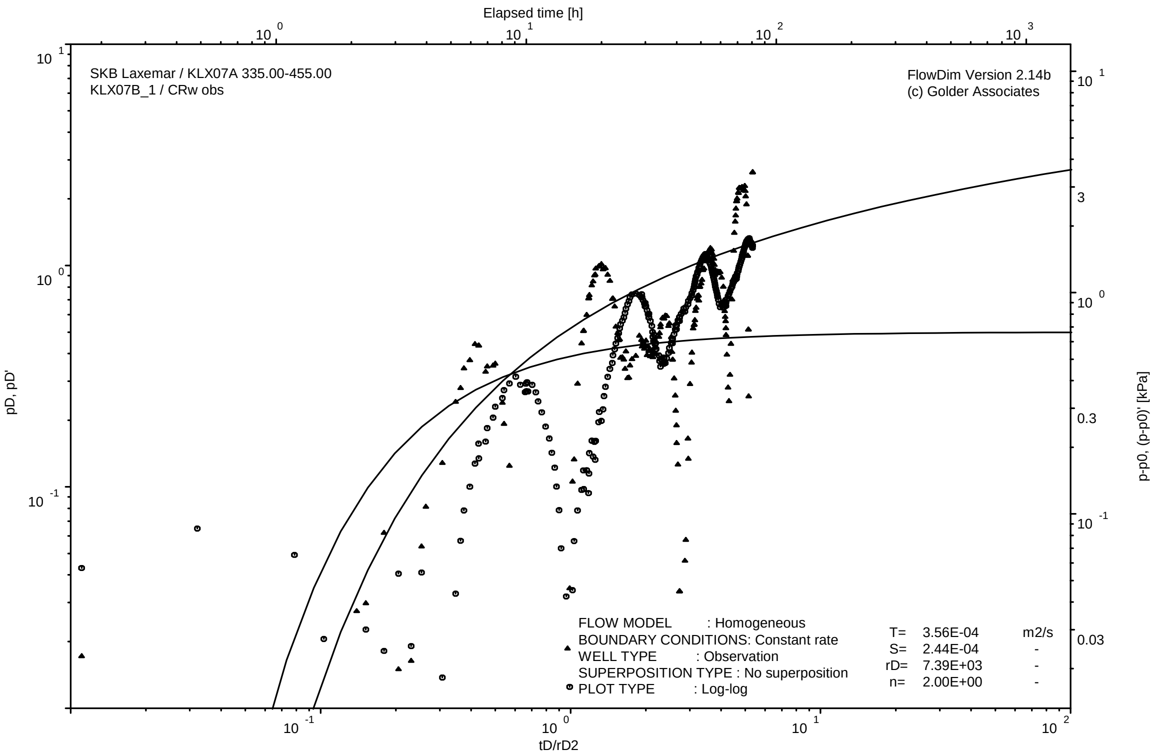
APPENDIX 7-3-13

KLX07A Section 335.00-455.00 m pumped
KLX07B_1 112.00-200.00 m observed

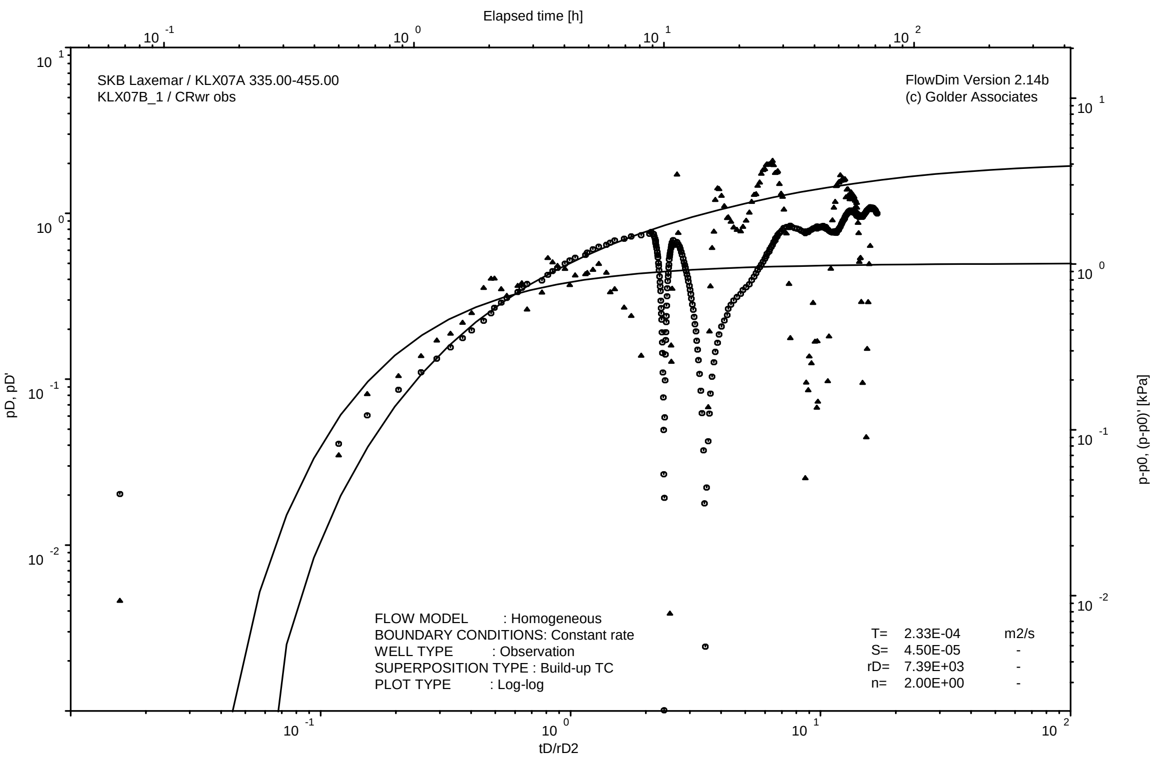
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX07B_1 112.00-200.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX07B_1 112.00-200.00 m observed

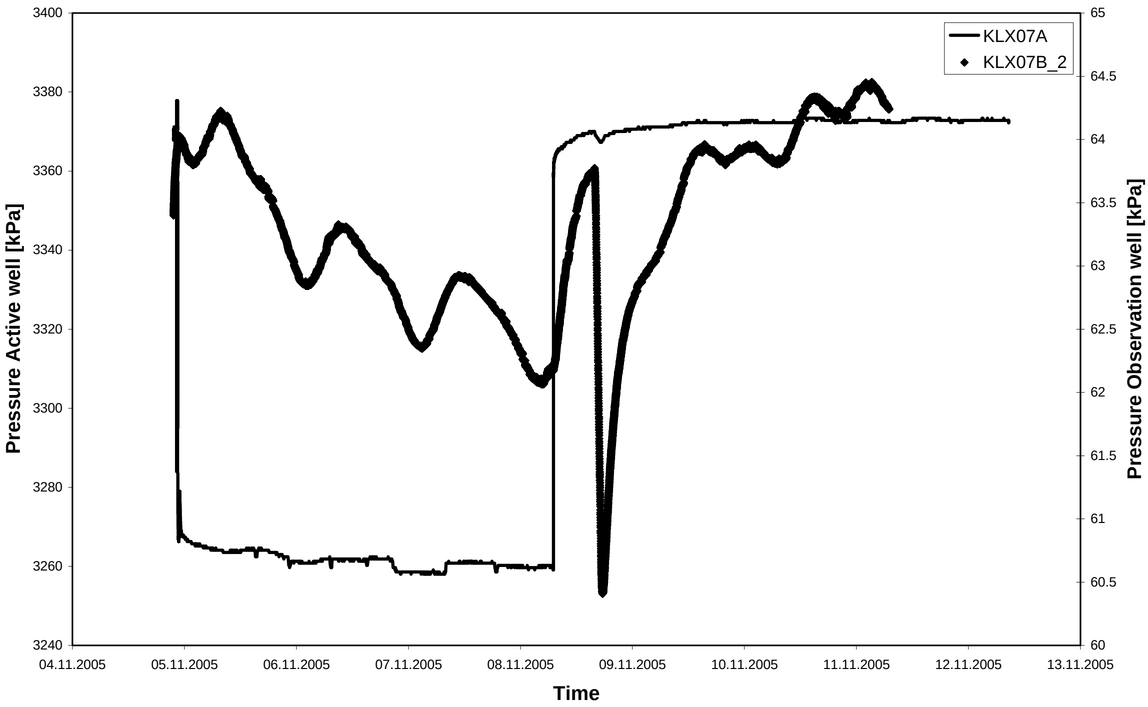


CRwr phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX07B_1 112.00-200.00 m observed

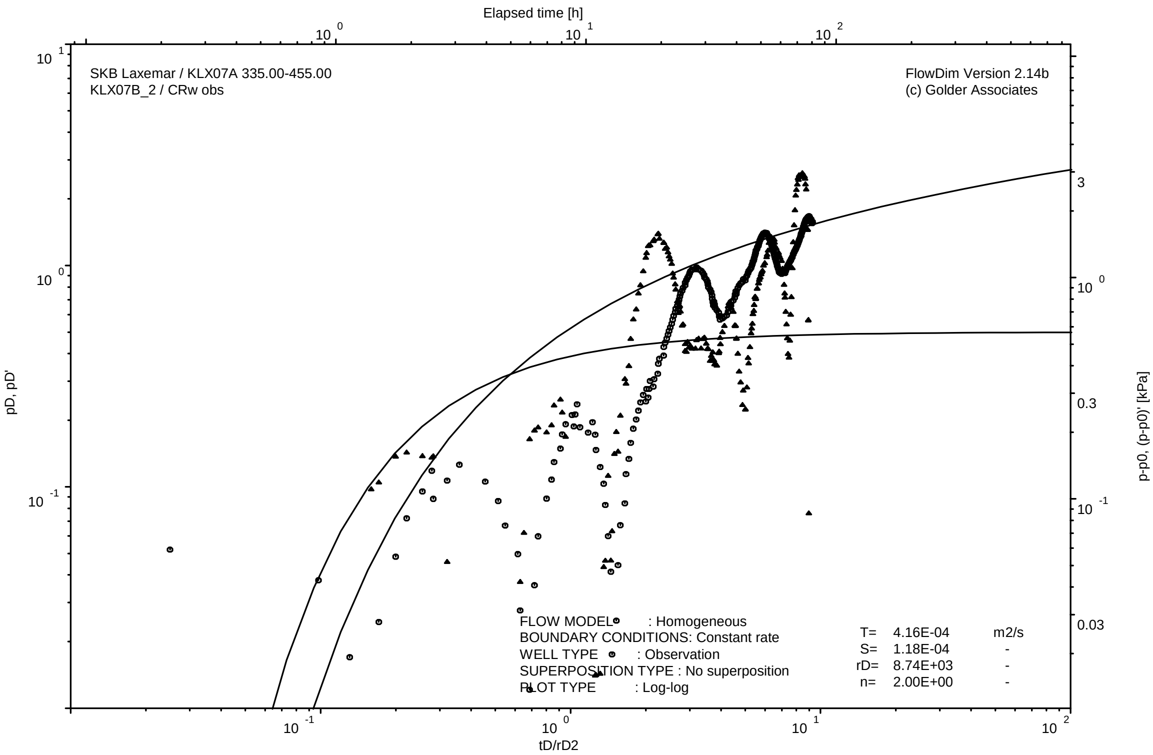
APPENDIX 7-3-14

KLX07A Section 335.00-455.00 m pumped
KLX07B_2 49.00-111.00 m observed

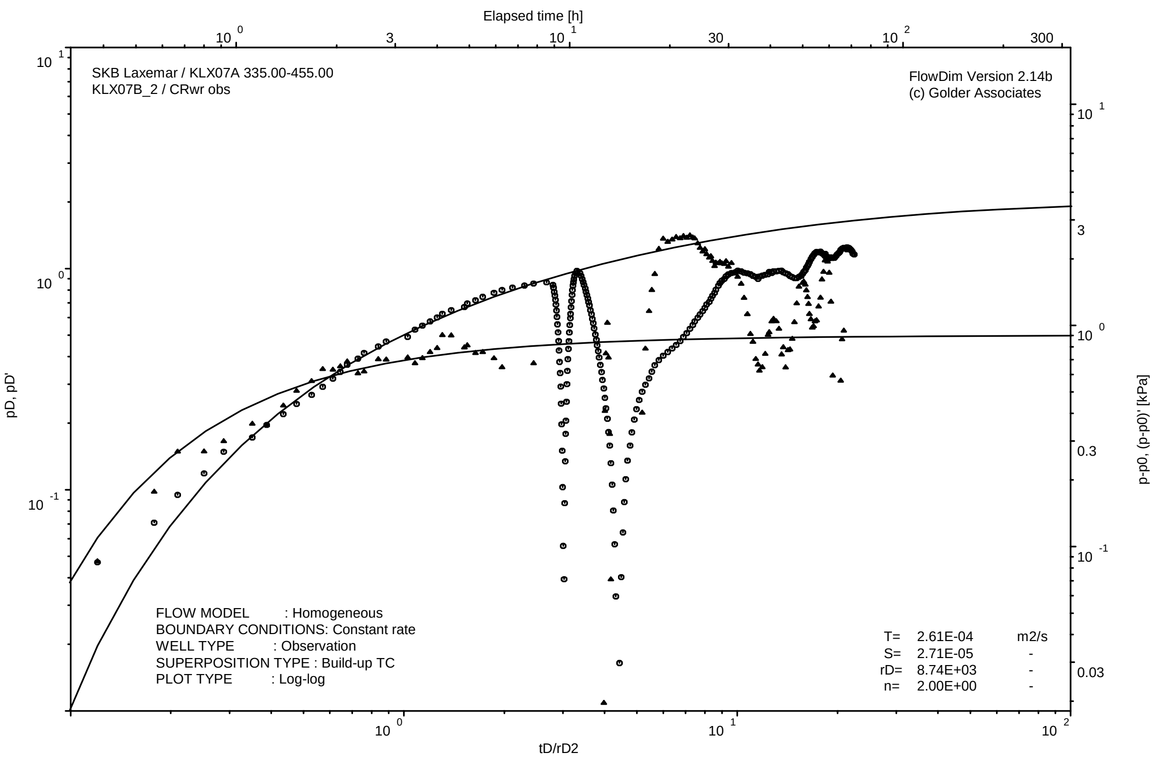
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX07B_2 49.00-111.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX07B_2 49.00-111.00 m observed

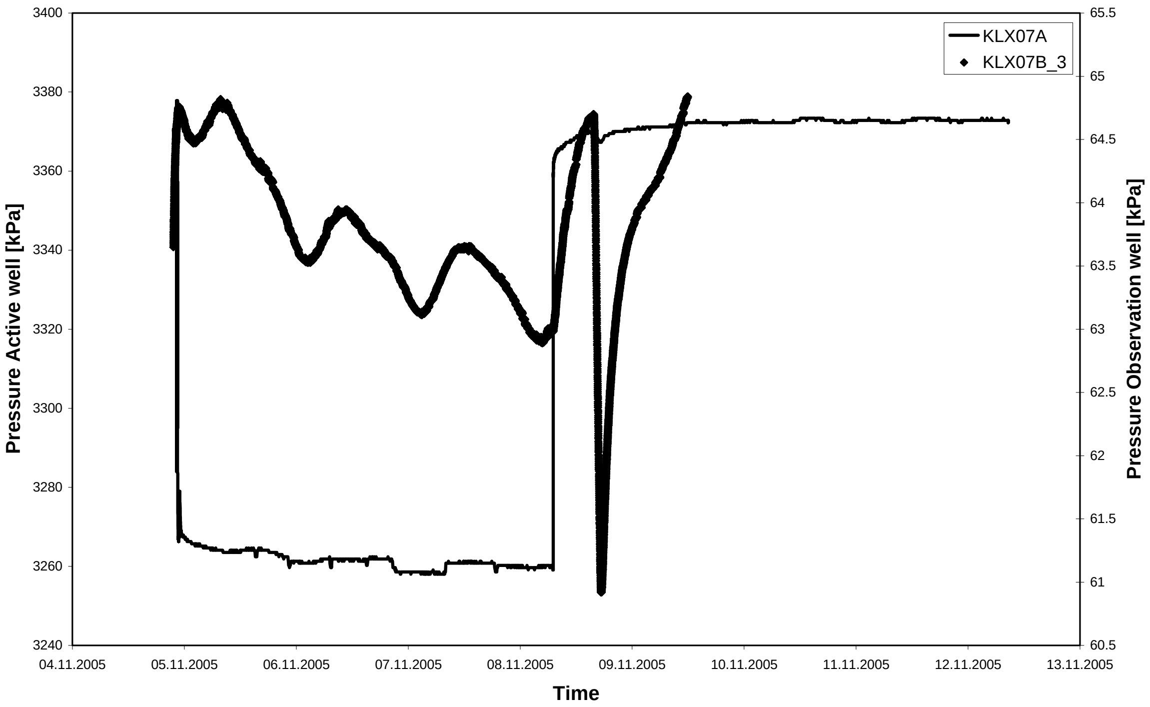


CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and KLX07B_2 49.00-111.00 m observed

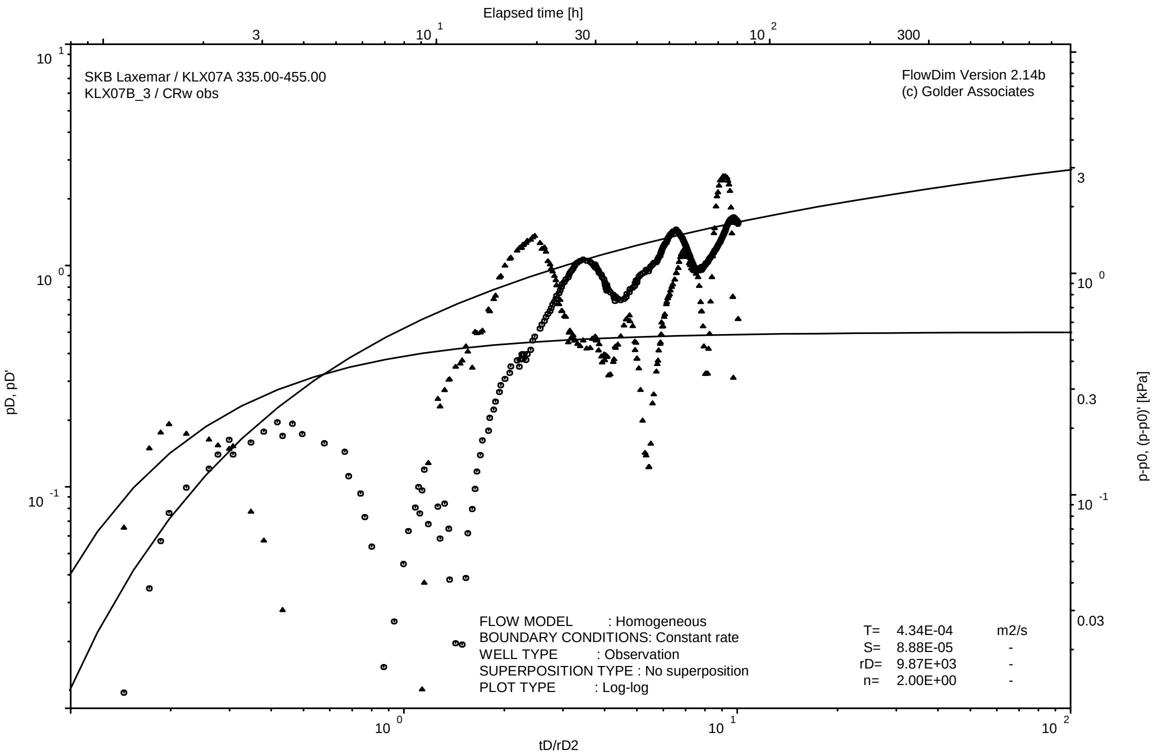
APPENDIX 7-3-15

KLX07A Section 335.00-455.00 m pumped
KLX07B_3 0.00-48.00 m observed

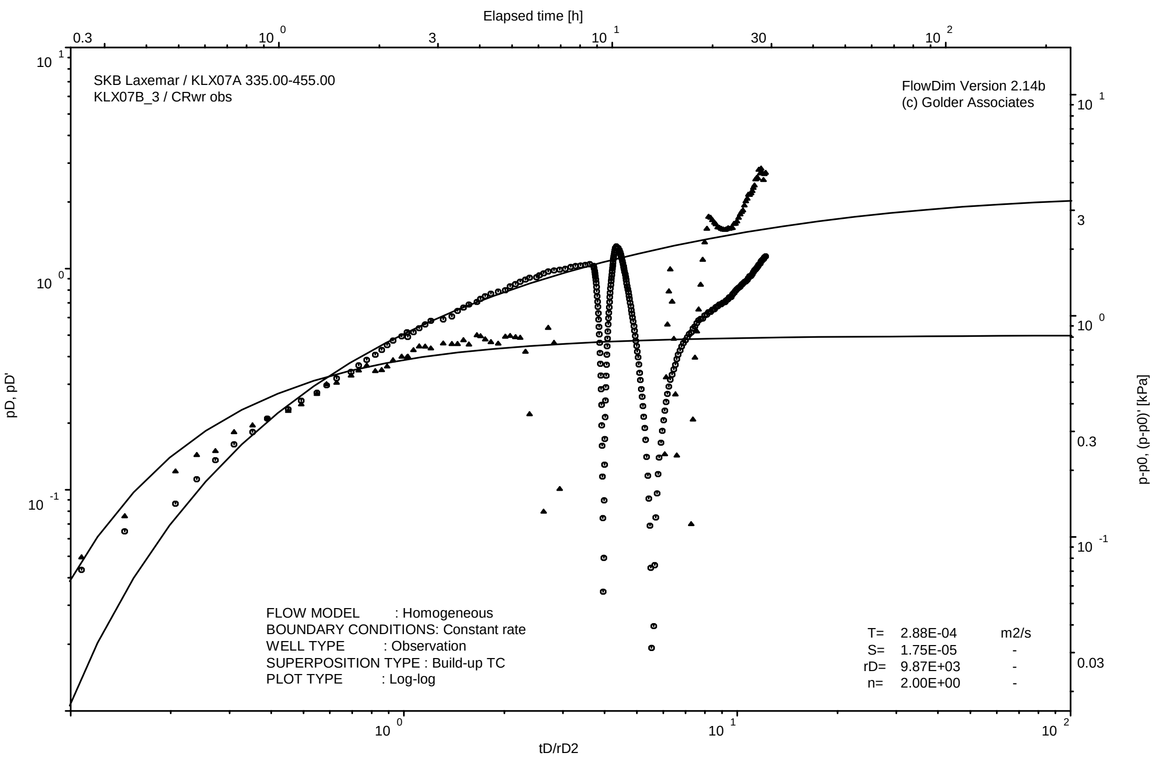
Observation hole
Test Analysis diagrams



Pressure vs. time; KLX07A 335.00-455.00 m pumped and KLX07B_3 0.00-48.00 m observed



CRw phase; log-log match; KLX07A 335.00-455.00 m pumped and KLX07B_3 0.00-48.00 m observed



CRwr phase; log-log match; KLX07A 335.00-435.00 m pumped and KLX07B_3 0.00-48.00 m observed

APPENDIX 8

Observation holes
Test Summary Sheets

APPENDIX 8-1

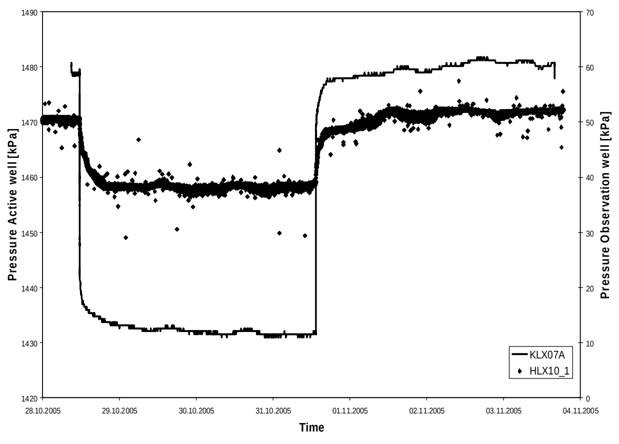
KLX07A Section 103.20-193.20 m pumped

Observation hole
Test Summary Sheets

Test Summary Sheet

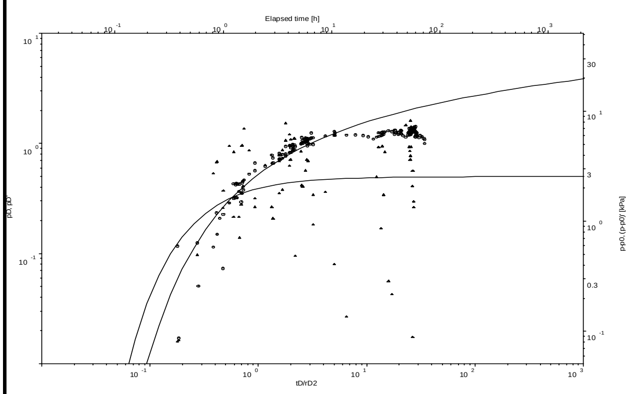
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX10_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	3.00-85.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

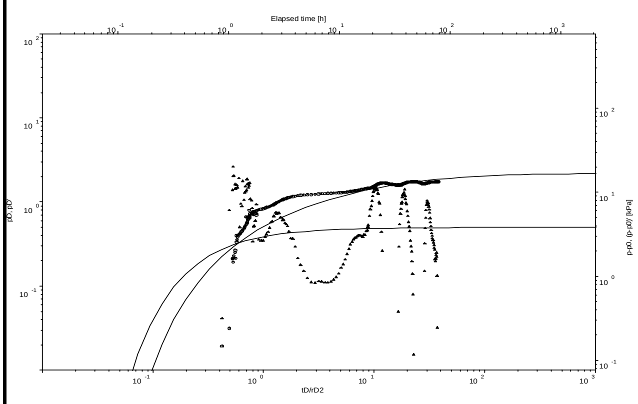


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	1074
dt_2 (min) =	NA	dt_2 (min) =	4020
T (m^2/s) =	2.1E-04	T (m^2/s) =	1.4E-04
S (-) =	1.4E-04	S (-) =	9.3E-05
K_s (m/s) =	2.5E-06	K_s (m/s) =	1.7E-06
S_s (1/m) =	1.7E-06	S_s (1/m) =	1.1E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1074	C (m^3/Pa) =	NA
dt_2 (min) =	4020	C_D (-) =	NA
T_T (m^2/s) =	1.4E-04	ξ (-) =	NA
S (-) =	9.3E-05		
K_s (m/s) =	1.7E-06		
S_s (1/m) =	1.1E-06		

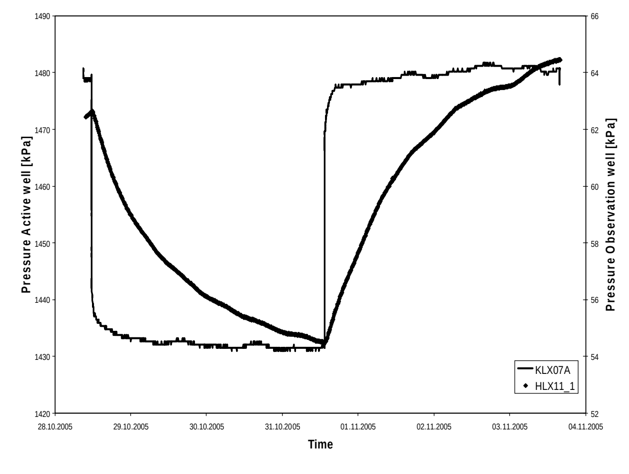
Comments:

The recommended transmissivity of 1.4•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 6.0•10-5 m²/s to 5.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

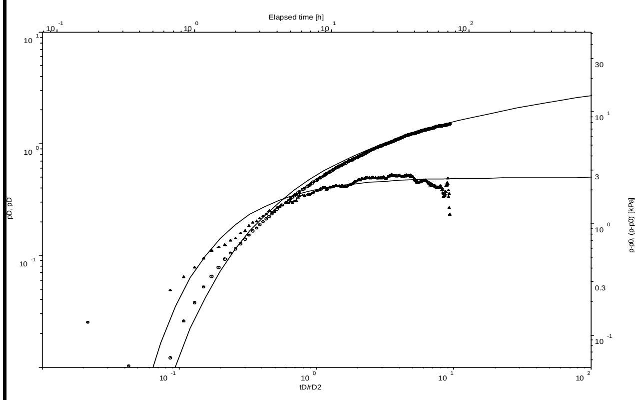
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	17.00-70.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

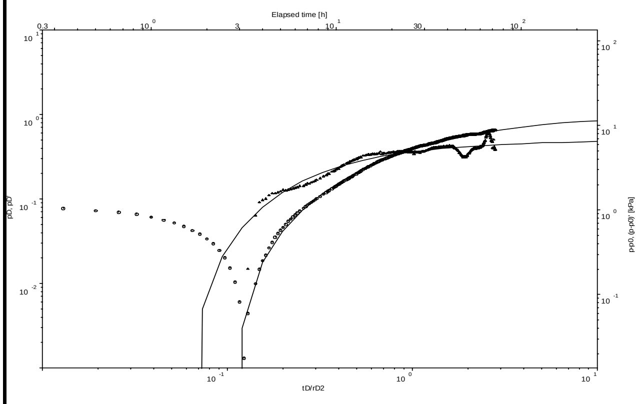


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.08
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	858	dt_1 (min) =	2586
dt_2 (min) =	2952	dt_2 (min) =	4290
T (m^2/s) =	2.1E-04	T (m^2/s) =	7.8E-05
S (-) =	2.2E-04	S (-) =	6.4E-04
K_s (m/s) =	3.9E-06	K_s (m/s) =	1.5E-06
S_s (1/m) =	4.2E-06	S_s (1/m) =	1.2E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	858	C (m^3/Pa) =	NA
dt_2 (min) =	2952	C_D (-) =	NA
T_T (m^2/s) =	2.1E-04	ξ (-) =	NA
S (-) =	2.2E-04		
K_s (m/s) =	3.9E-06		
S_s (1/m) =	4.2E-06		

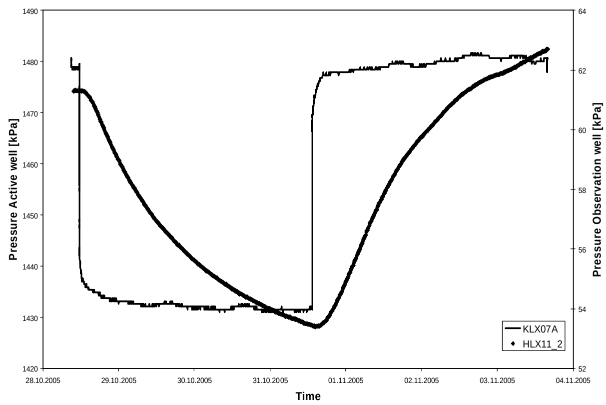
Comments:

The recommended transmissivity of 2.1•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.91 m asl

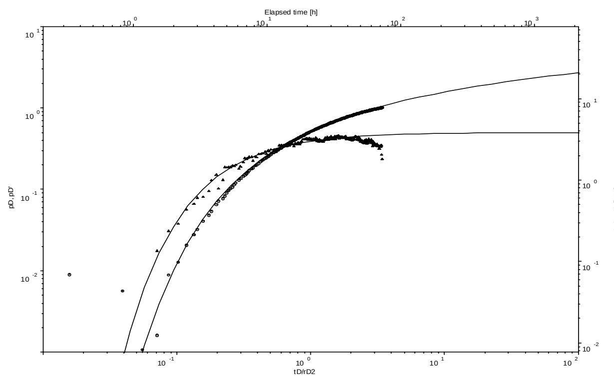
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_2 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	6.00-16.00	Responsible for test execution:	Stephan Rohs
Section diameter, 2·r_w (m):		Responsible for test evaluation:	Cristian Enachescu

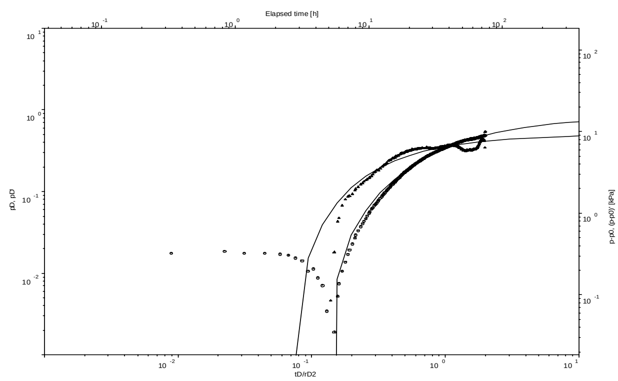
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.08
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1788	dt_1 (min) =	NA
dt_2 (min) =	2718	dt_2 (min) =	NA
T (m^2/s) =	1.4E-04	T (m^2/s) =	5.8E-05
S (-) =	3.5E-04	S (-) =	2.5E-04
K_s (m/s) =	1.4E-05	K_s (m/s) =	5.8E-06
S_s (1/m) =	3.5E-05	S_s (1/m) =	2.5E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	1788	C (m^3/Pa) =	NA
dt_2 (min) =	2718	C_D (-) =	NA
T_T (m^2/s) =	1.4E-04	ξ (-) =	NA
S (-) =	3.5E-04		
K_s (m/s) =	1.4E-05		
S_s (1/m) =	3.5E-05		

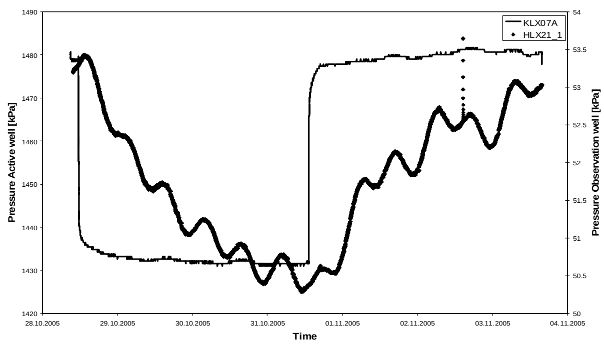
Comments:

The recommended transmissivity of 1.4•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 3.0•10-4 m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.83 m asl.

Test Summary Sheet

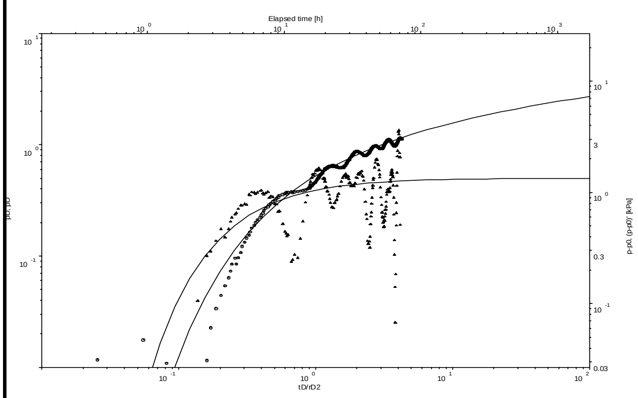
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	81.00-150.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

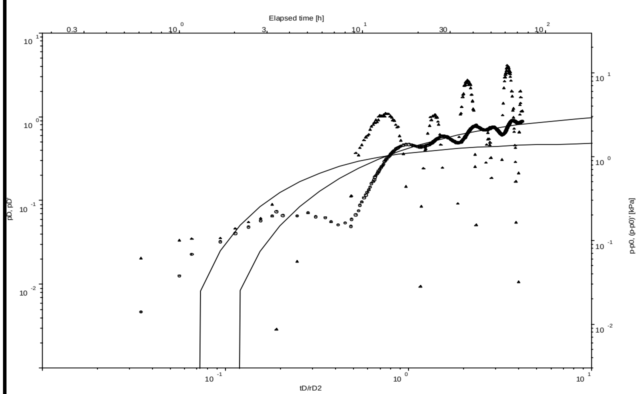


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.08	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	2238	dt_1 (min) =	NA
dt_2 (min) =	3984	dt_2 (min) =	NA
T (m^2/s) =	4.0E-04	T (m^2/s) =	3.6E-04
S (-) =	1.3E-04	S (-) =	1.2E-04
K_s (m/s) =	5.7E-06	K_s (m/s) =	5.2E-06
S_s (1/m) =	1.8E-06	S_s (1/m) =	1.7E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	2238	C (m^3/Pa) =	NA
dt_2 (min) =	3984	C_D (-) =	NA
T_T (m^2/s) =	4.0E-04	ξ (-) =	NA
S (-) =	1.3E-04		
K_s (m/s) =	5.7E-06		
S_s (1/m) =	1.8E-06		

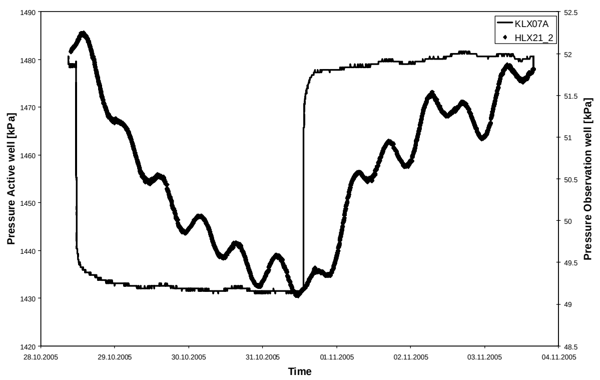
Comments:

The recommended transmissivity of 4.0•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-4 m²/s to 8.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

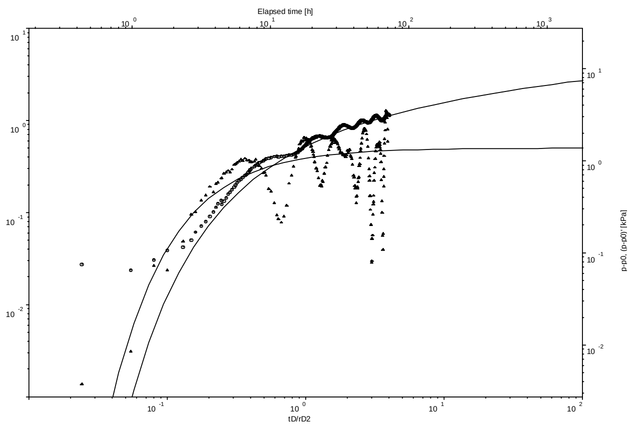
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_2 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	9.10-80.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

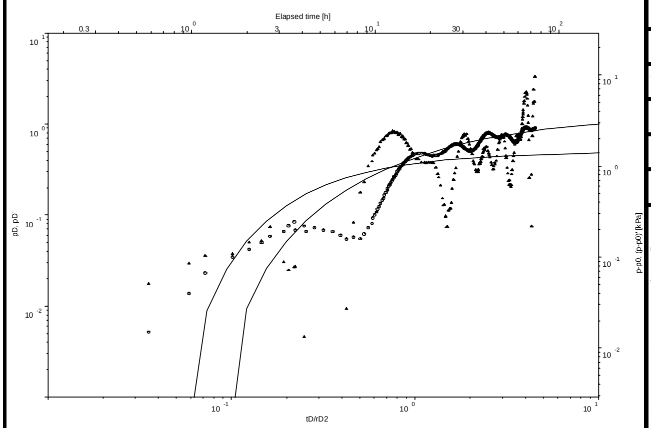


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.07	Derivative fact.=	0.11
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1548	dt_1 (min) =	1680
dt_2 (min) =	4122	dt_2 (min) =	3426
T (m^2/s) =	3.9E-04	T (m^2/s) =	3.7E-04
S (-) =	1.3E-04	S (-) =	1.2E-04
K_s (m/s) =	5.5E-06	K_s (m/s) =	5.2E-06
S_s (1/m) =	1.9E-06	S_s (1/m) =	1.6E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1548	C (m^3/Pa) =	NA
dt_2 (min) =	4122	C_D (-) =	NA
T_T (m^2/s) =	3.9E-04	ξ (-) =	NA
S (-) =	1.3E-04		
K_s (m/s) =	5.5E-06		
S_s (1/m) =	1.9E-06		

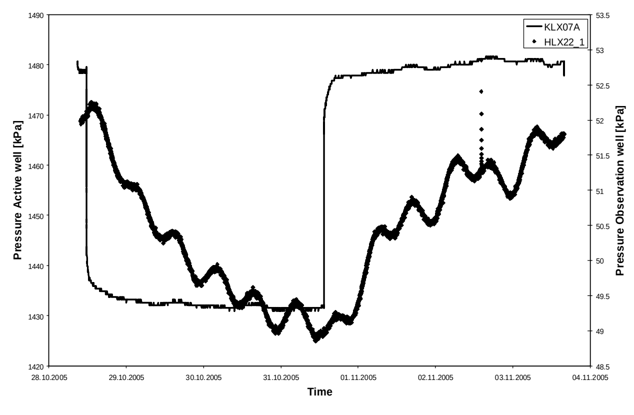
Comments:

The recommended transmissivity of 3.9•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-4 m²/s to 8.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

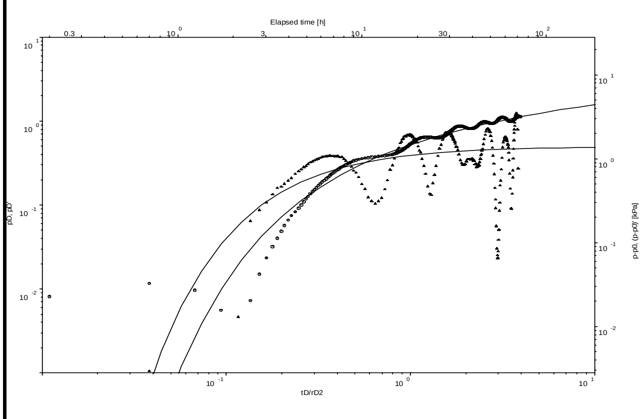
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	86.00-163.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

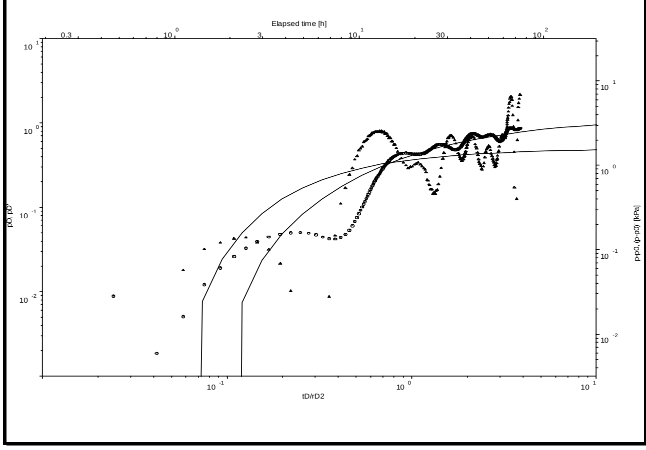
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.06	Derivative fact.=	0.1
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1536	dt_1 (min) =	2634
dt_2 (min) =	3996	dt_2 (min) =	4128
T (m^2/s) =	3.8E-04	T (m^2/s) =	3.3E-04
S (-) =	1.2E-04	S (-) =	1.1E-04
K_s (m/s) =	4.9E-06	K_s (m/s) =	4.3E-06
S_s (1/m) =	1.5E-06	S_s (1/m) =	1.4E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	1536	C (m^3/Pa) =	NA
dt_2 (min) =	3996	C_D (-) =	NA
T_T (m^2/s) =	3.8E-04	ξ (-) =	NA
S (-) =	1.2E-04		
K_s (m/s) =	4.9E-06		
S_s (1/m) =	1.5E-06		

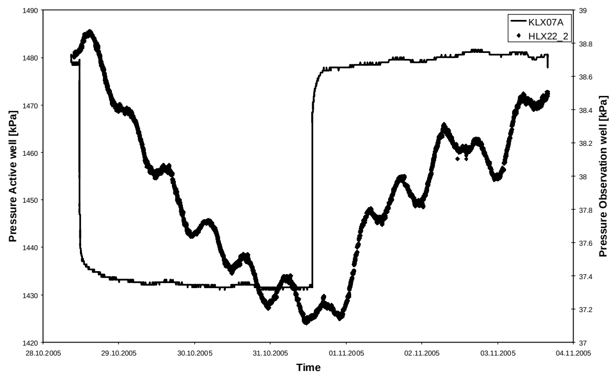
Comments:

The recommended transmissivity of 3.8•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-4 m²/s to 8.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

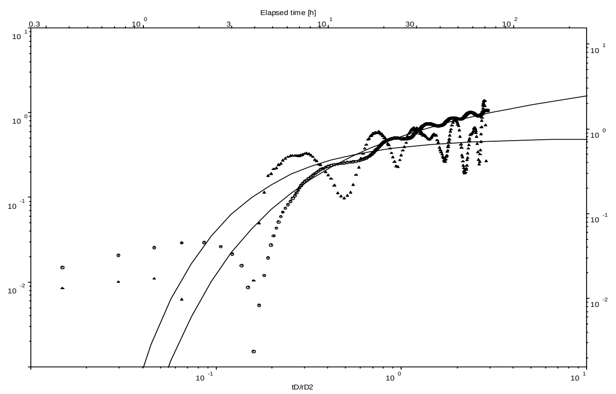
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_2 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	9.19-85.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

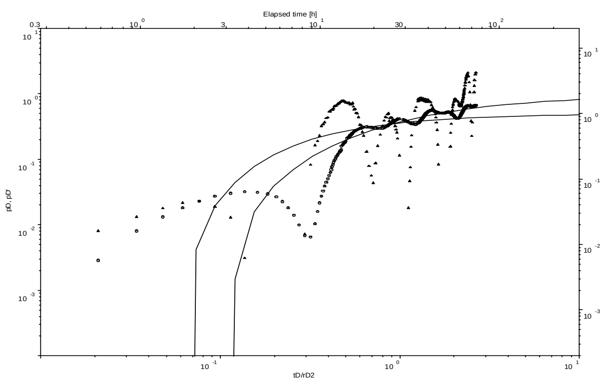
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.07	Derivative fact.=	0.06
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	2352	dt_1 (min) =	2664
dt_2 (min) =	3996	dt_2 (min) =	4254
T (m^2/s) =	6.8E-04	T (m^2/s) =	5.3E-04
S (-) =	2.7E-04	S (-) =	2.4E-04
K_s (m/s) =	9.0E-06	K_s (m/s) =	7.0E-06
S_s (1/m) =	3.5E-06	S_s (1/m) =	3.1E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	2352.00	C (m^3/Pa) =	NA
dt_2 (min) =	3996.00	C_D (-) =	NA
T_T (m^2/s) =	6.8E-04	ξ (-) =	NA
S (-) =	2.7E-04		
K_s (m/s) =	9.0E-06		
S_s (1/m) =	3.5E-06		

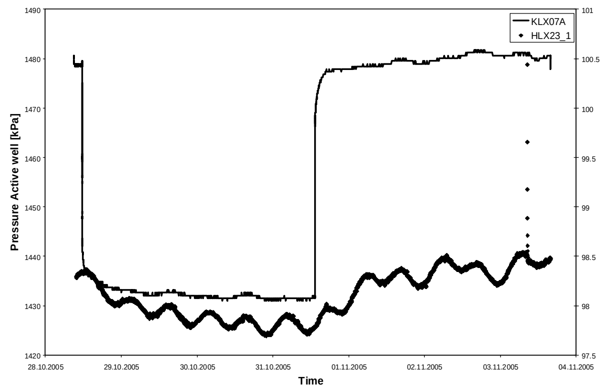
Comments:

The recommended transmissivity of 6.8•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 4.0•10-4 m²/s to 9.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

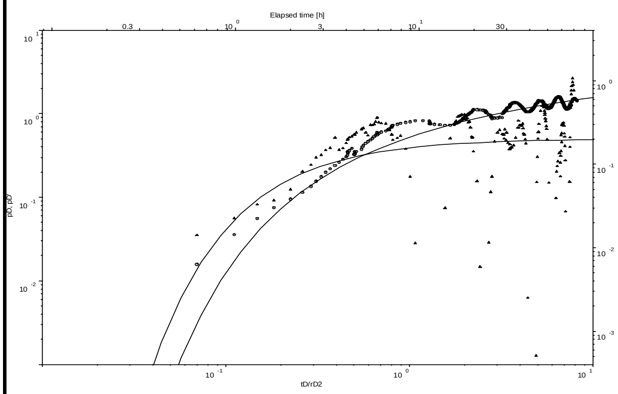
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	61.00-160.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

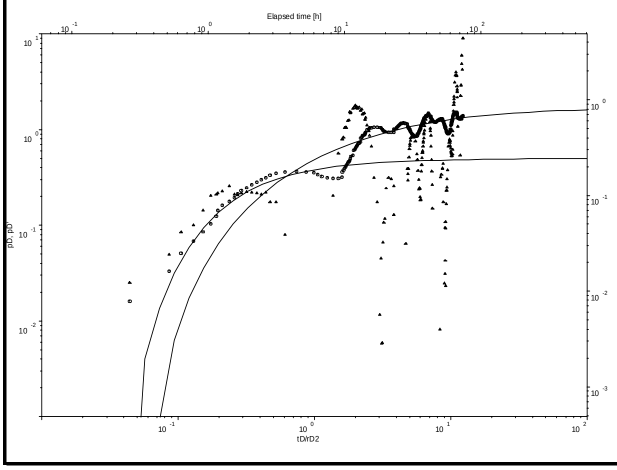
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.08	Derivative fact.=	0.09
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1548	dt_1 (min) =	1788
dt_2 (min) =	3984	dt_2 (min) =	3702
T (m^2/s) =	2.6E-03	T (m^2/s) =	2.2E-03
S (-) =	6.4E-04	S (-) =	3.6E-04
K_s (m/s) =	2.7E-05	K_s (m/s) =	2.2E-01
S_s (1/m) =	6.5E-06	S_s (1/m) =	3.6E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	1548	C (m^3/Pa) =	NA
dt_2 (min) =	3984	C_D (-) =	NA
T_T (m^2/s) =	2.6E-03	ξ (-) =	NA
S (-) =	6.4E-04		
K_s (m/s) =	2.7E-05		
S_s (1/m) =	6.5E-06		

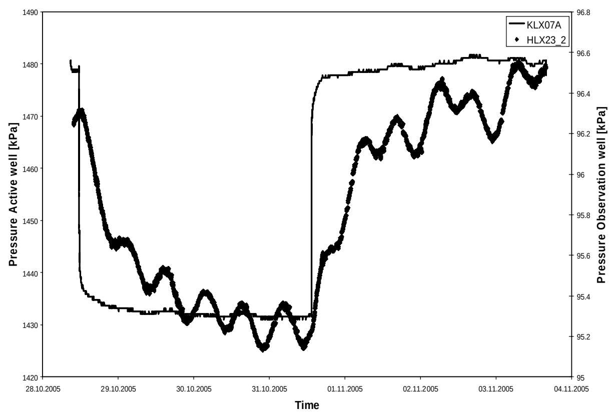
Comments:

The recommended transmissivity of 2.6•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-3 m²/s to 5.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

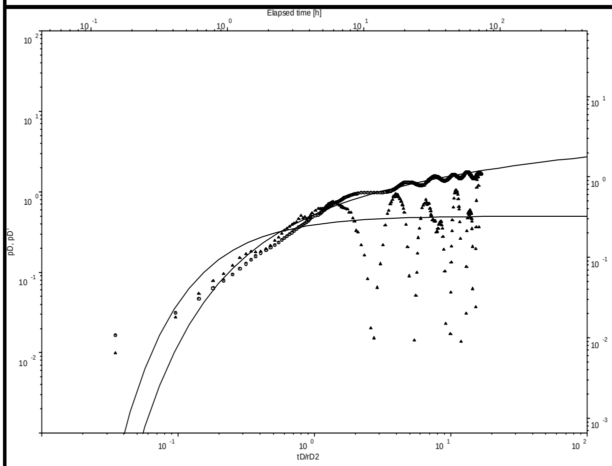
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_2 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	6.10-60.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.07	Derivative fact.=	0.07
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	894	dt_1 (min) =	954
dt_2 (min) =	3708	dt_2 (min) =	3594
T (m^2/s) =	1.6E-03	T (m^2/s) =	1.3E-03
S (-) =	2.0E-04	S (-) =	1.5E-04
K_s (m/s) =	3.0E-05	K_s (m/s) =	2.4E-05
S_s (1/m) =	3.6E-06	S_s (1/m) =	2.9E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

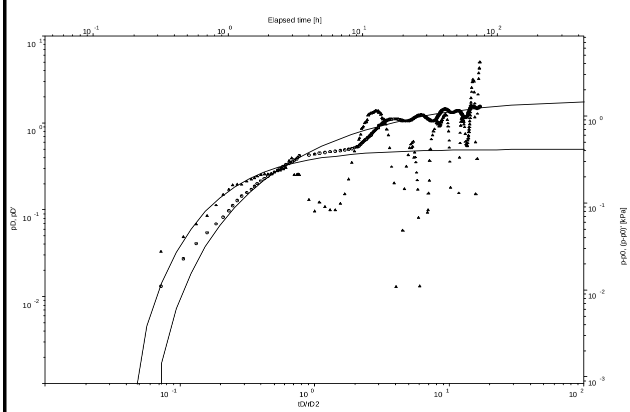
Log-Log plot incl. derivates- flow period



Selected representative parameters.

dt_1 (min) =	894	C (m^3/Pa) =	NA
dt_2 (min) =	3708	C_D (-) =	NA
T_T (m^2/s) =	1.6E-03	ξ (-) =	NA
S (-) =	2.0E-04		
K_s (m/s) =	3.0E-05		
S_s (1/m) =	3.6E-06		

Log-Log plot incl. derivatives- recovery period



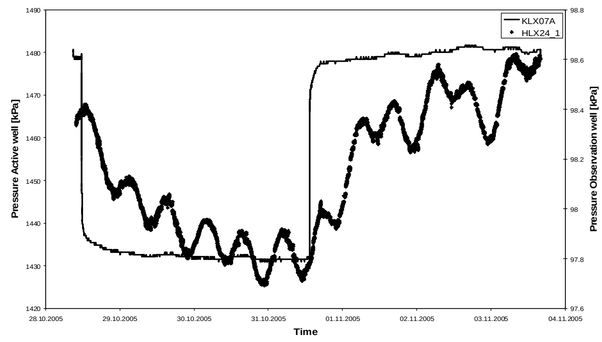
Comments:

The recommended transmissivity of 1.6•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-4 m²/s to 4.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

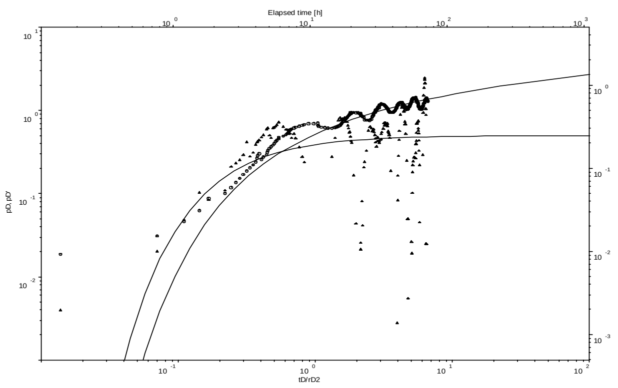
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX24_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	41.00-175.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

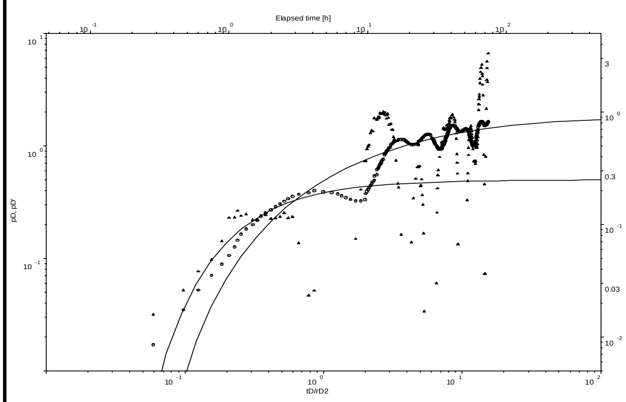


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.08	Derivative fact.=	0.07
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1872	dt_1 (min) =	1470
dt_2 (min) =	3912	dt_2 (min) =	4164
T (m^2/s) =	2.2E-03	T (m^2/s) =	2.1E-03
S (-) =	6.3E-04	S (-) =	2.7E-04
K_s (m/s) =	1.6E-05	K_s (m/s) =	1.6E-05
S_s (1/m) =	4.7E-06	S_s (1/m) =	2.0E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1872	C (m^3/Pa) =	NA
dt_2 (min) =	3912	C_D (-) =	NA
T_T (m^2/s) =	2.2E-03	ξ (-) =	NA
S (-) =	6.3E-04		
K_s (m/s) =	1.6E-05		
S_s (1/m) =	4.7E-06		

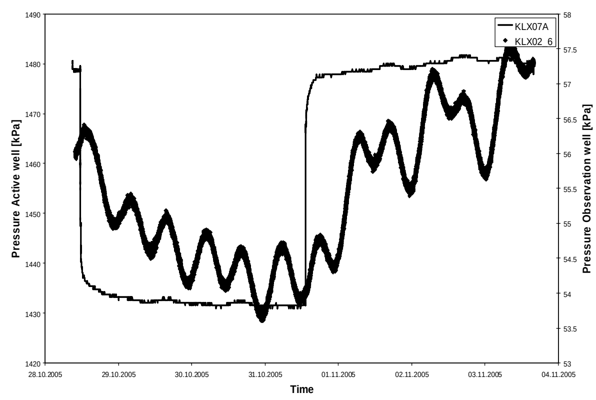
Comments:

The recommended transmissivity of 2.2•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-3 m²/s to 5.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

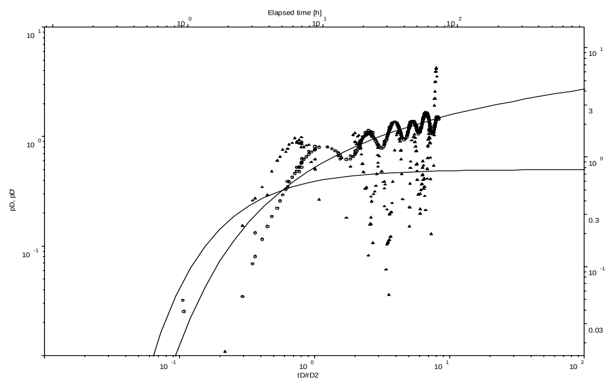
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_6 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	348.00-451.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

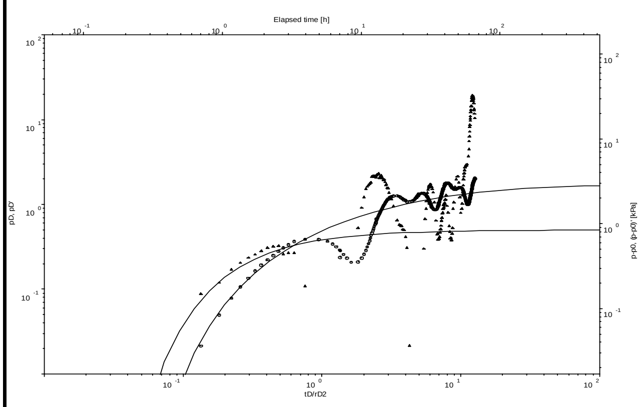
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.11
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1506	dt_1 (min) =	2220
dt_2 (min) =	4002	dt_2 (min) =	2712
T (m^2/s) =	6.9E-04	T (m^2/s) =	6.3E-04
S (-) =	2.3E-04	S (-) =	1.2E-04
K_s (m/s) =	6.7E-06	K_s (m/s) =	6.1E-06
S_s (1/m) =	2.2E-06	S_s (1/m) =	1.2E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	1506	C (m^3/Pa) =	NA
dt_2 (min) =	4002	C_D (-) =	NA
T_T (m^2/s) =	6.9E-04	ξ (-) =	NA
S (-) =	2.3E-04		
K_s (m/s) =	6.7E-06		
S_s (1/m) =	2.2E-06		

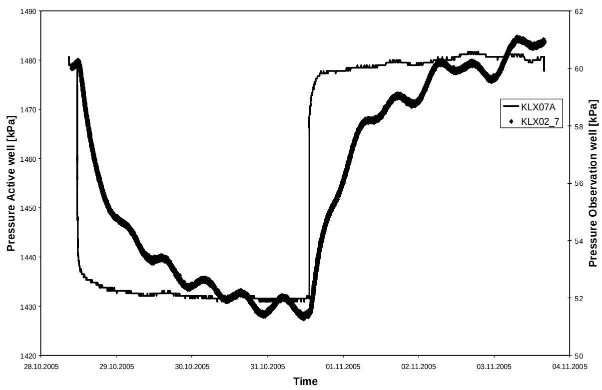
Comments:

The recommended transmissivity of 6.9•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 2.0•10-4 m²/s to 1.0•10-5 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

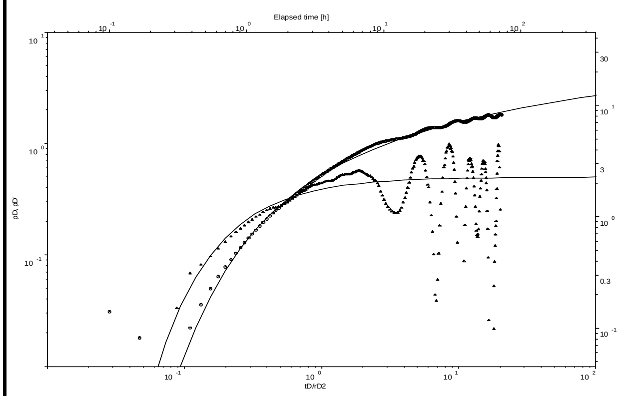
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_7 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	209.00-347.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

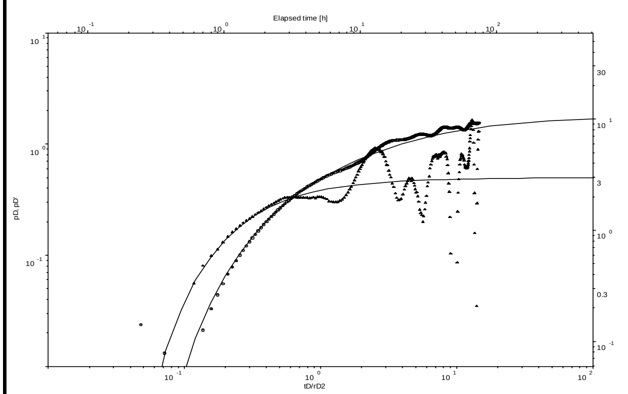


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.03	Derivative fact.=	0.07
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1242	dt_1 (min) =	1422
dt_2 (min) =	4038	dt_2 (min) =	4344
T (m^2/s) =	2.3E-04	T (m^2/s) =	1.8E-04
S (-) =	7.3E-05	S (-) =	8.0E-05
K_s (m/s) =	1.7E-06	K_s (m/s) =	1.3E-06
S_s (1/m) =	5.3E-07	S_s (1/m) =	5.8E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1242.00	C (m^3/Pa) =	NA
dt_2 (min) =	4038.00	C_D (-) =	NA
T_T (m^2/s) =	2.3E-04	ξ (-) =	NA
S (-) =	7.3E-05		
K_s (m/s) =	1.7E-06		
S_s (1/m) =	5.3E-07		

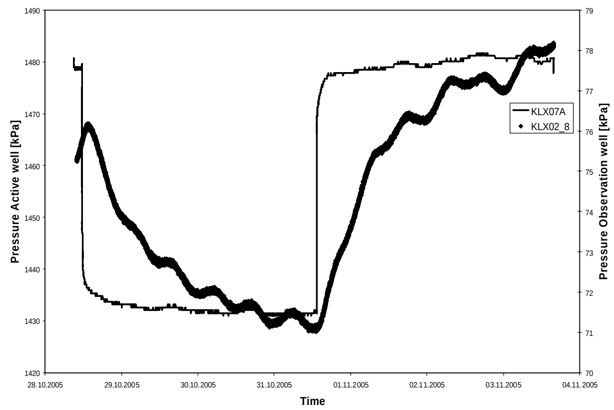
Comments:

The recommended transmissivity of 2.3•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 5.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no hydraulic freshwater head could be derived form straight line interpolation in the Horner plot.

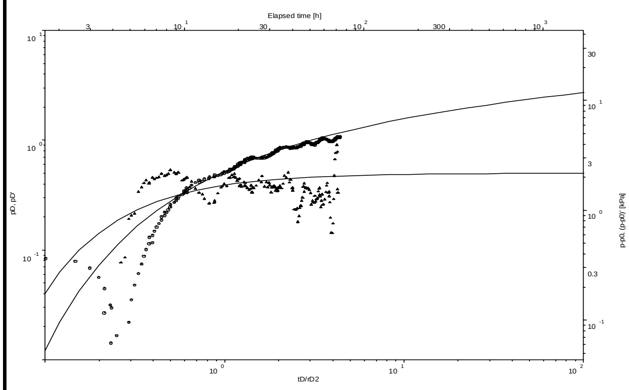
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_8 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	202.95-208.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

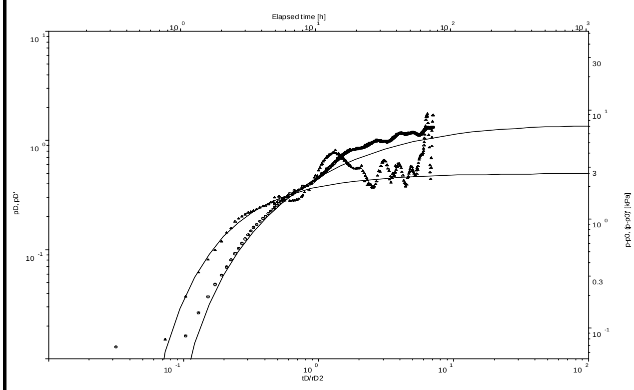
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.10
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1008	dt_1 (min) =	1716
dt_2 (min) =	2340	dt_2 (min) =	3366
T (m^2/s) =	2.4E-04	T (m^2/s) =	2.0E-04
S (-) =	6.7E-04	S (-) =	3.5E-04
K_s (m/s) =	4.8E-05	K_s (m/s) =	4.0E-05
S_s (1/m) =	1.3E-04	S_s (1/m) =	6.9E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	1008.00	C (m^3/Pa) =	NA
dt_2 (min) =	2340.00	C_D (-) =	NA
T_T (m^2/s) =	2.4E-04	ξ (-) =	NA
S (-) =	6.7E-04		
K_s (m/s) =	4.8E-05		
S_s (1/m) =	1.3E-04		

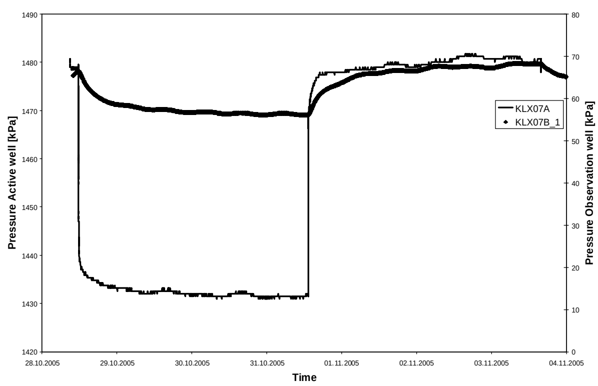
Comments:

The recommended transmissivity of 2.4•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-4 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived form straight line interpolation in the Horner plot.

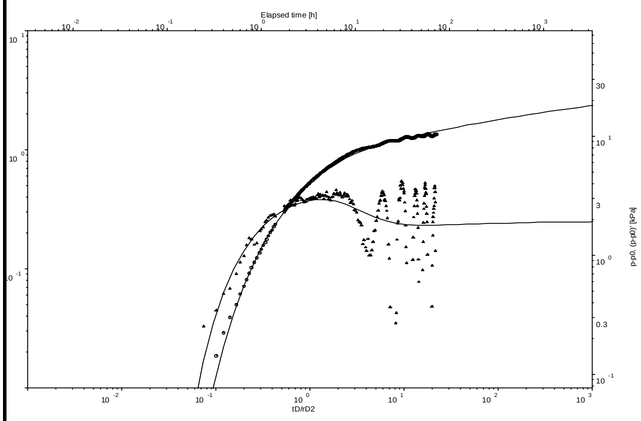
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_1 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	112.00-200.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

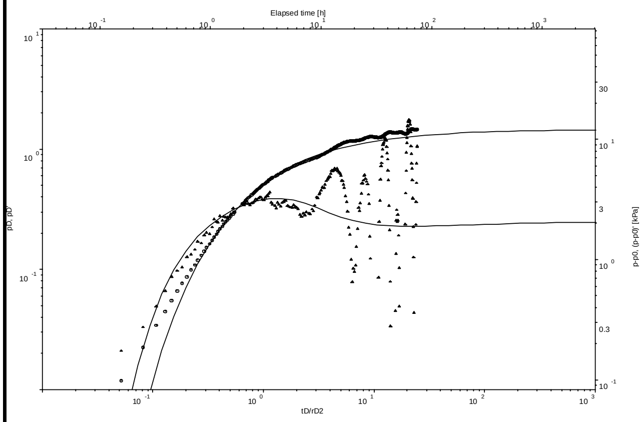
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	144	dt_1 (min) =	170
dt_2 (min) =	366	dt_2 (min) =	344
T (m^2/s) =	1.4E-04	T (m^2/s) =	1.3E-04
S (-) =	2.4E-04	S (-) =	2.0E-04
K_s (m/s) =	1.6E-06	K_s (m/s) =	1.5E-06
S_s (1/m) =	2.7E-06	S_s (1/m) =	2.3E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	144.00	C (m^3/Pa) =	NA
dt_2 (min) =	366.00	C_D (-) =	NA
T_T (m^2/s) =	1.4E-04	ξ (-) =	NA
S (-) =	2.4E-04		
K_s (m/s) =	1.6E-06		
S_s (1/m) =	2.7E-06		

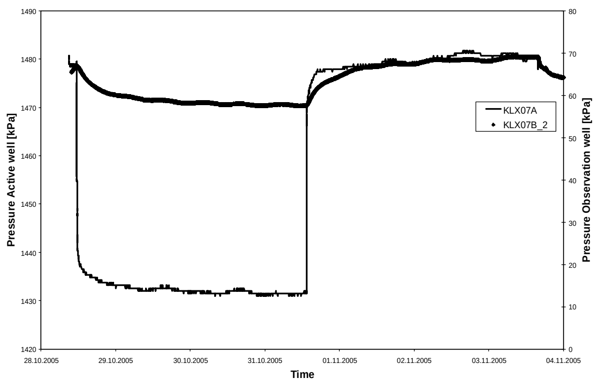
Comments:

The recommended transmissivity of 1.4•10-4 m2/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

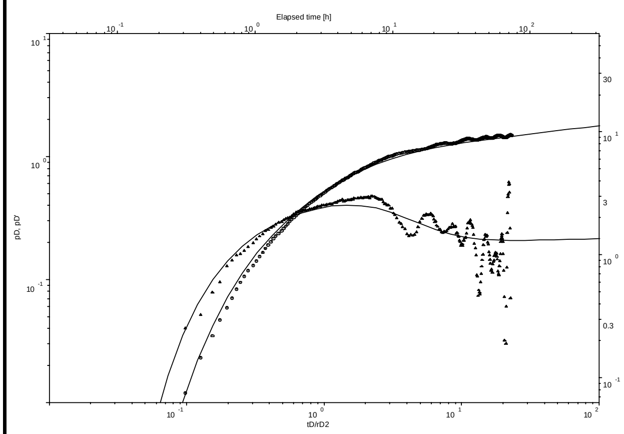
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_2 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	49.00-111.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

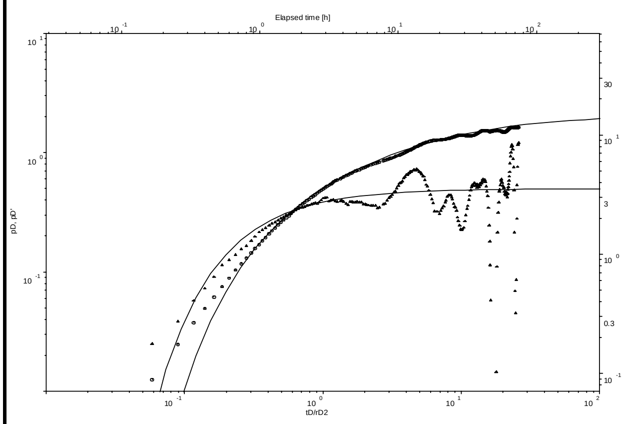


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.07
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	558
dt_2 (min) =	NA	dt_2 (min) =	4116
T (m^2/s) =	1.7E-04	T (m^2/s) =	1.5E-04
S (-) =	2.2E-04	S (-) =	1.8E-04
K_s (m/s) =	2.7E-06	K_s (m/s) =	2.4E-06
S_s (1/m) =	3.6E-06	S_s (1/m) =	2.9E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.			
dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	1.7E-04	ξ (-) =	NA
S (-) =	2.2E-04		
K_s (m/s) =	2.7E-06		
S_s (1/m) =	3.6E-06		

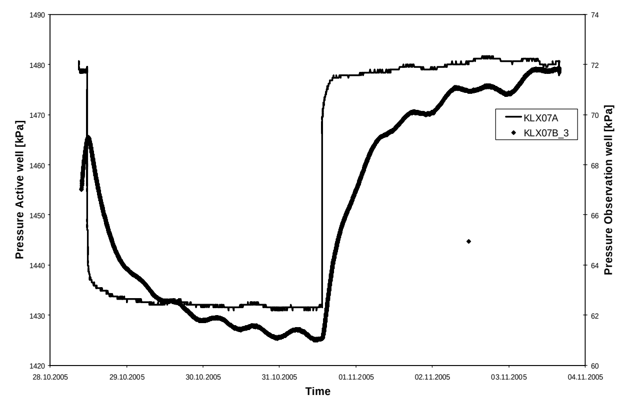
Comments:

The recommended transmissivity of 1.7•10-4 m2/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no fresh water head could be derived form straight line interpolation in the Horner plot.

Test Summary Sheet

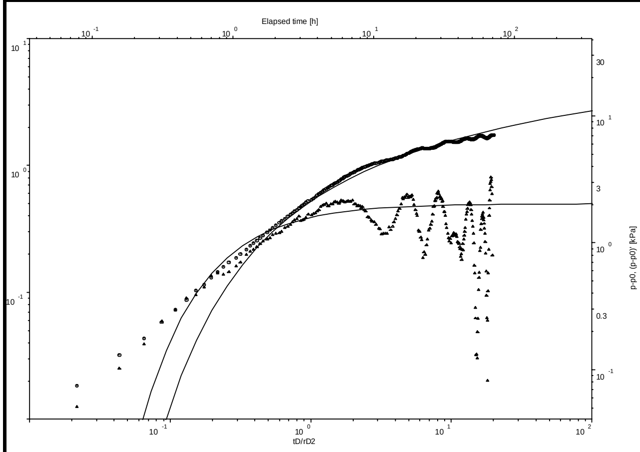
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_3 (KLX07A 103.20-193.20 pumped)	Test start:	051028 09:51
Test section from - to (m):	0.00-48.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

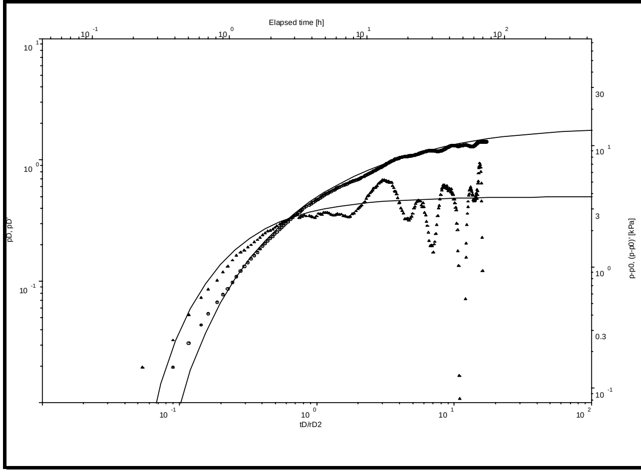


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.59E-04		
tp (s) =	261960	t_F (s) =	333120
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.06	Derivative fact.=	0.06
Results		**Results**	
Q/s (m^2/s)=	NA		
T_M (m^2/s)=	NA		
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	918	dt_1 (min) =	1038
dt_2 (min) =	3996	dt_2 (min) =	3810
T (m^2/s) =	2.6E-04	T (m^2/s) =	1.4E-04
S (-) =	1.9E-04	S (-) =	1.3E-04
K_s (m/s) =	5.4E-06	K_s (m/s) =	2.9E-06
S_s (1/m) =	4.0E-06	S_s (1/m) =	2.6E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1038.00	C (m^3/Pa) =	NA
dt_2 (min) =	3810.00	C_D (-) =	NA
T_T (m^2/s) =	1.4E-04	ξ (-) =	NA
S (-) =	1.3E-04		
K_s (m/s) =	2.9E-06		
S_s (1/m) =	2.6E-06		

Comments:

The recommended transmissivity of 1.4•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 1.0•10-4 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no fresh water head could be derived form straight line interpolation in the Horner plot.

APPENDIX 8-2

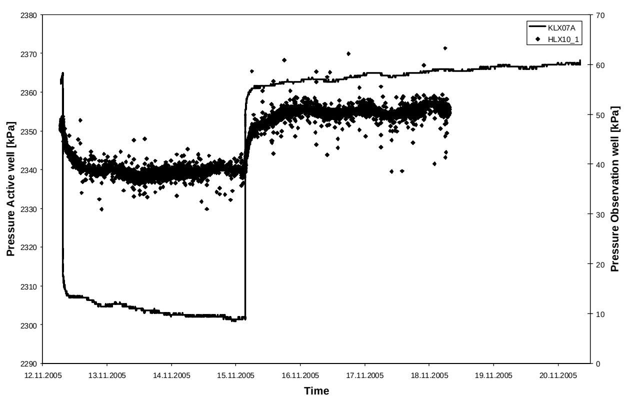
KLX07A Section 193.00-313.00 m pumped

Observation hole
Test Summary Sheets

Test Summary Sheet

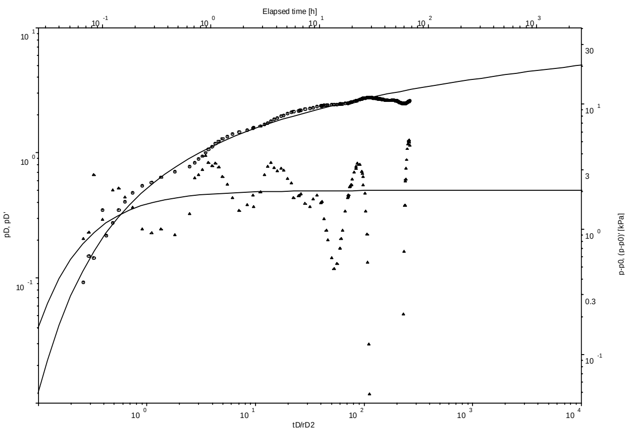
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX10_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	3.00-85.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

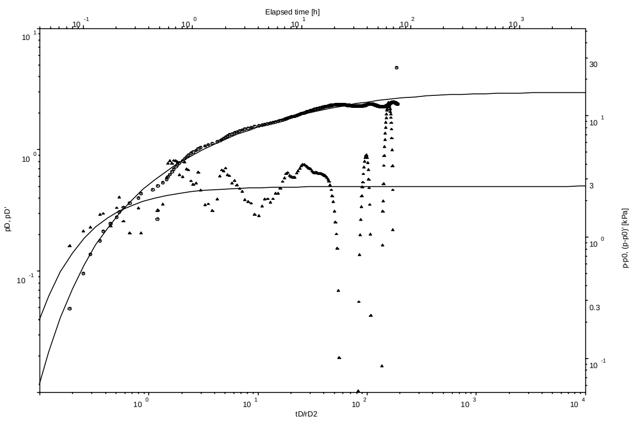


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S* (-)=		S el S* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	171	dt_1 (min) =	162
dt_2 (min) =	1566	dt_2 (min) =	3384
T (m^2/s) =	2.3E-04	T (m^2/s) =	1.8E-04
S (-) =	1.0E-05	S (-) =	1.3E-05
K_s (m/s) =	2.8E-06	K_s (m/s) =	2.2E-06
S_s (1/m) =	1.3E-07	S_s (1/m) =	1.5E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.			
dt_1 (min) =	162	C (m^3/Pa) =	NA
dt_2 (min) =	3384	C_D (-) =	NA
T_T (m^2/s) =	1.8E-04	ξ (-) =	NA
S (-) =	1.3E-05		
K_s (m/s) =	2.2E-06		
S_s (1/m) =	1.5E-07		

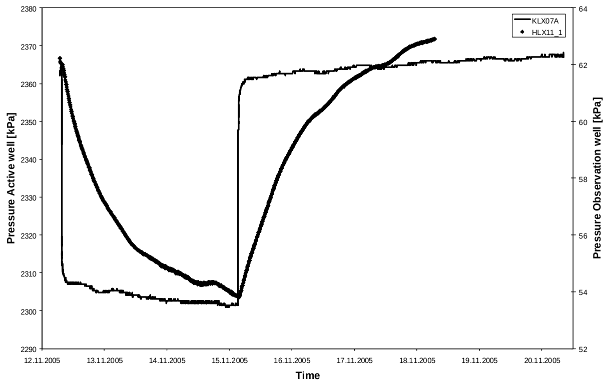
Comments:

The recommended transmissivity of 1.8•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 6.0•10-5 m²/s to 5.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot

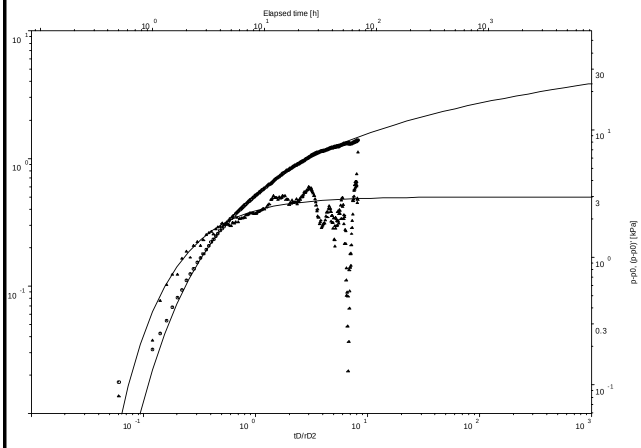
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	17.00-70.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

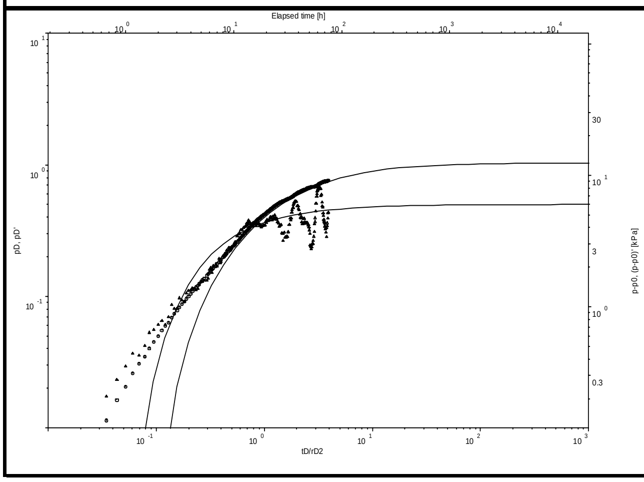
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1212	dt_1 (min) =	3438
dt_2 (min) =	4022	dt_2 (min) =	4512
T (m^2/s) =	1.6E-04	T (m^2/s) =	7.9E-05
S (-) =	1.1E-04	S (-) =	1.3E-04
K_s (m/s) =	3.0E-06	K_s (m/s) =	4.2E-03
S_s (1/m) =	2.0E-06	S_s (1/m) =	6.6E-03
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	1212	C (m^3/Pa) =	NA
dt_2 (min) =	4022	C_D (-) =	NA
T_T (m^2/s) =	1.6E-04	ξ (-) =	NA
S (-) =	1.1E-04		
K_s (m/s) =	3.0E-06		
S_s (1/m) =	2.0E-06		

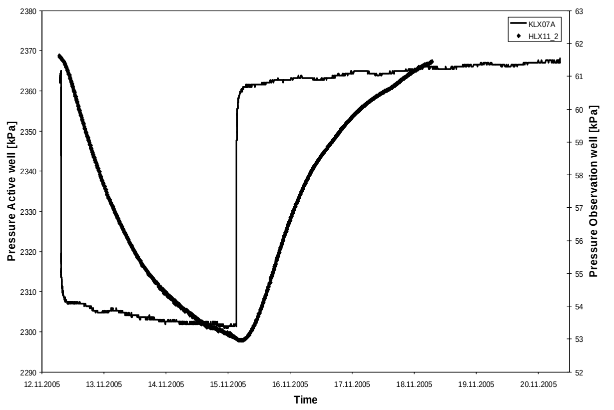
Comments:

The recommended transmissivity of 1.6•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.75 m asl

Test Summary Sheet

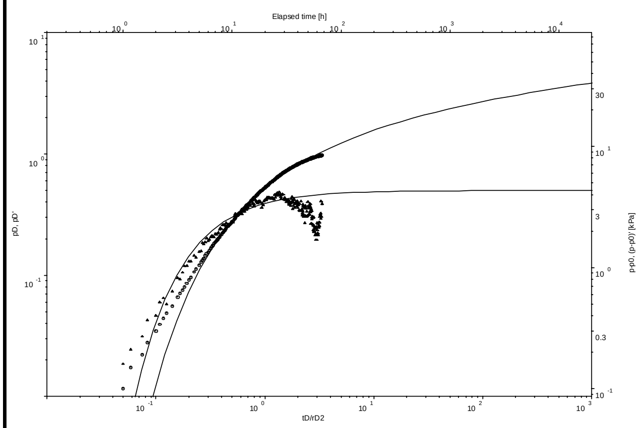
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_2 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	6.00-16.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

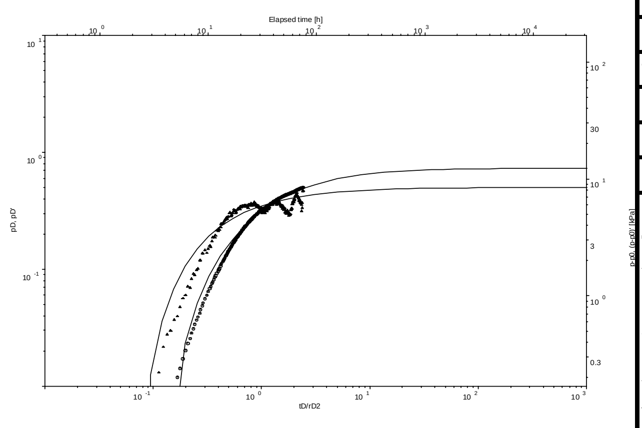


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1184	dt_1 (min) =	1842
dt_2 (min) =	1922	dt_2 (min) =	4422
T (m^2/s) =	1.1E-04	T (m^2/s) =	5.6E-05
S (-) =	1.6E-04	S (-) =	1.2E-04
K_s (m/s) =	1.1E-05	K_s (m/s) =	5.6E-06
S_s (1/m) =	1.6E-05	S_s (1/m) =	1.2E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	1184	C (m^3/Pa) =	NA
dt_2 (min) =	1922	C_D (-) =	NA
T_T (m^2/s) =	1.1E-04	ξ (-) =	NA
S (-) =	1.6E-04		
K_s (m/s) =	1.1E-05		
S_s (1/m) =	1.6E-05		

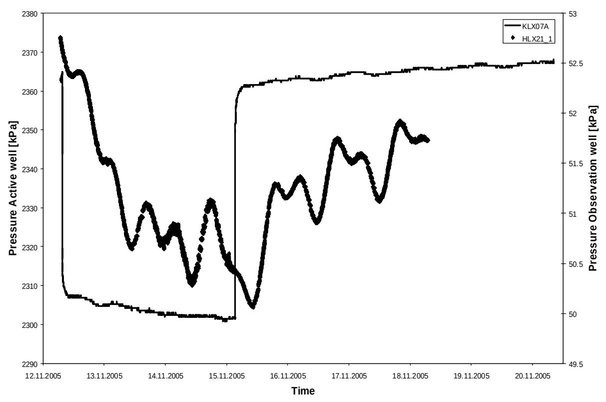
Comments:

The recommended transmissivity of 1.1•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 3.0•10-4 m²/s. The flow dimension during the test is 2. The measured freshwater head was derived from the CRwr phase using straight line extrapolation in the Horner plot to a value of 6.66 m asl.

Test Summary Sheet

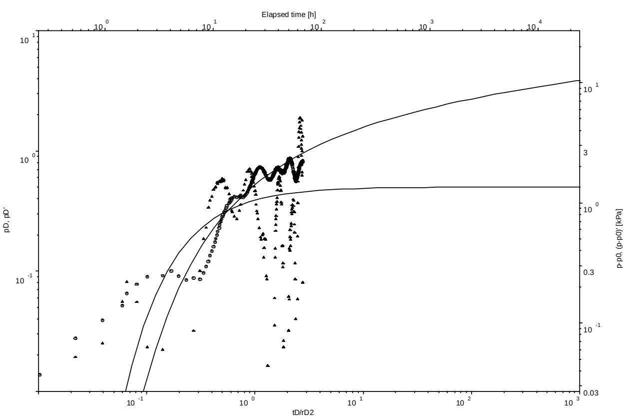
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	81.00-150.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

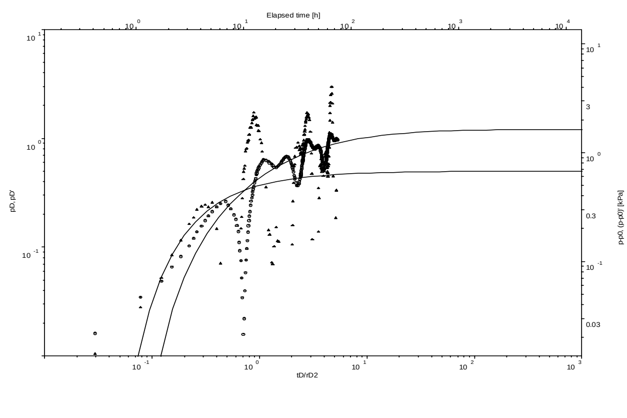


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.09
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	3.5E-04	T (m^2/s) =	7.0E-04
S (-) =	1.7E-04	S (-) =	2.0E-04
K_s (m/s) =	5.1E-06	K_s (m/s) =	1.0E-05
S_s (1/m) =	2.5E-06	S_s (1/m) =	2.9E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	3.5E-04	ξ (-) =	NA
S (-) =	1.7E-04		
K_s (m/s) =	5.1E-06		
S_s (1/m) =	2.5E-06		

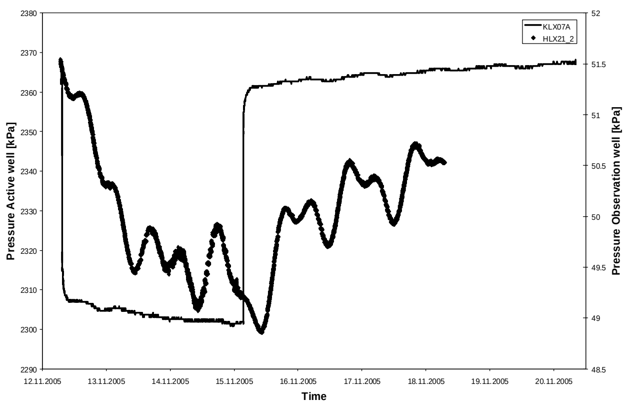
Comments:

The recommended transmissivity of 3.5•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 8.0•10-4 m²/s (this range encompasses the transmissivity derived form the CRwr phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

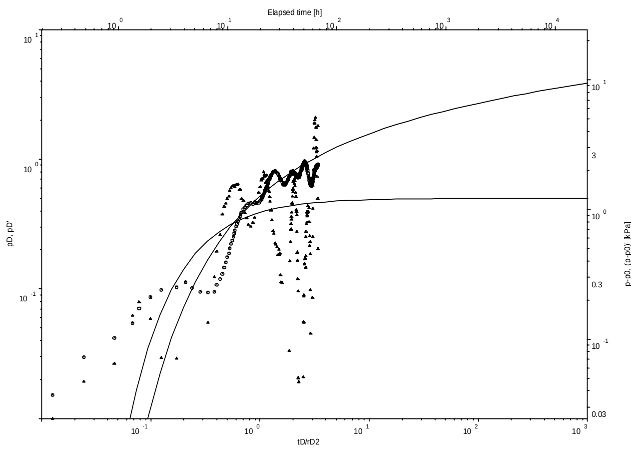
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_2 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	9.10-80.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

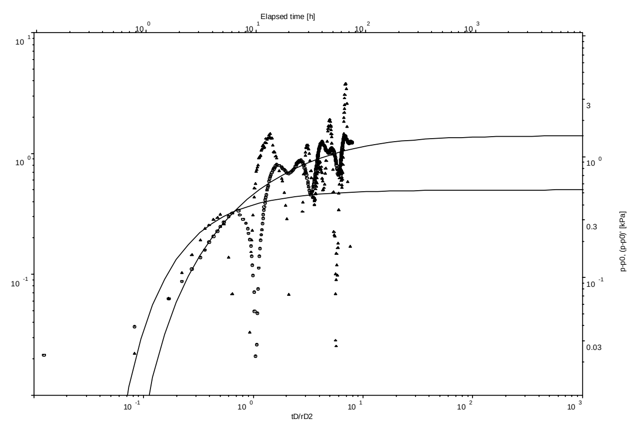
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.09	Derivative fact.=	0.12
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	3.9E-04	T (m^2/s) =	8.9E-04
S (-) =	1.5E-04	S (-) =	1.7E-04
K_s (m/s) =	5.5E-06	K_s (m/s) =	1.3E-05
S_s (1/m) =	2.1E-06	S_s (1/m) =	2.3E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	3.9E-04	ξ (-) =	NA
S (-) =	1.5E-04		
K_s (m/s) =	5.5E-06		
S_s (1/m) =	2.1E-06		

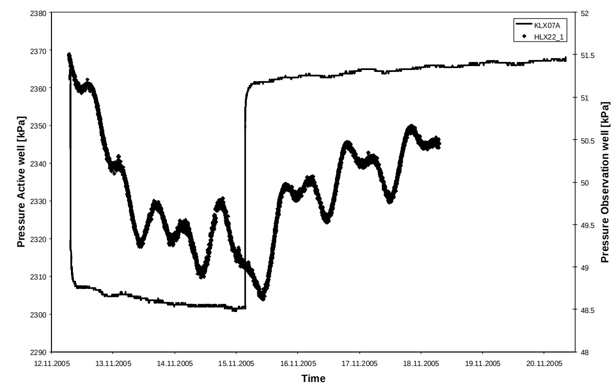
Comments:

The recommended transmissivity of 3.9•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 8.0•10-4 m²/s (this range encompasses the transmissivity derived form the CRwr phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

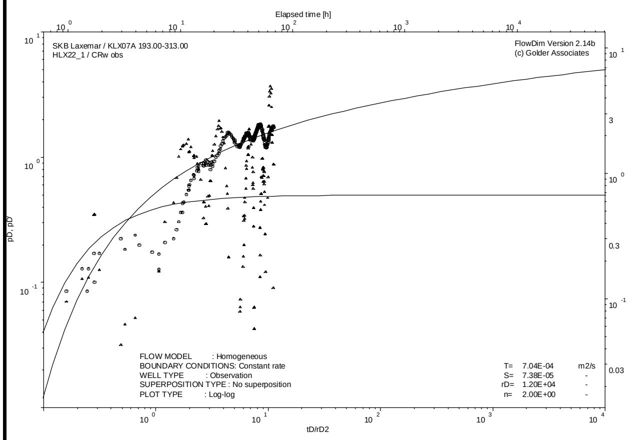
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	86.00-163.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

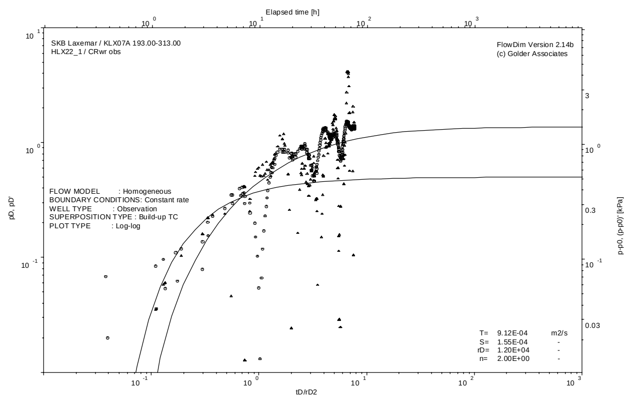


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.07	Derivative fact.=	0.2
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	7.0E-04	T (m^2/s) =	9.1E-04
S (-) =	7.4E-05	S (-) =	1.6E-04
K_s (m/s) =	9.1E-06	K_s (m/s) =	1.2E-05
S_s (1/m) =	9.6E-07	S_s (1/m) =	2.0E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	9.1E-04	ξ (-) =	NA
S (-) =	1.6E-04		
K_s (m/s) =	1.2E-05		
S_s (1/m) =	2.0E-06		

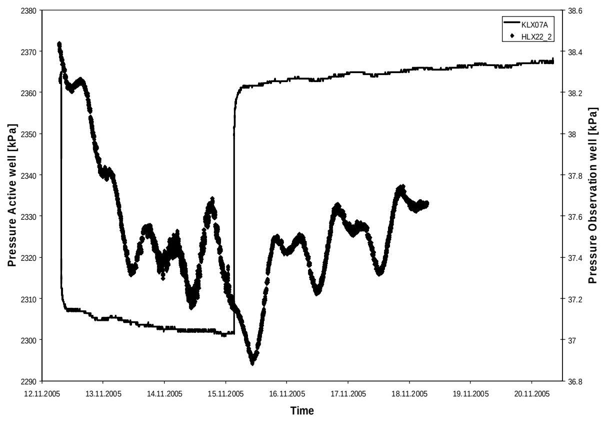
Comments:

The recommended transmissivity of 9.1•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 3.0•10-4 m²/s to 2.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

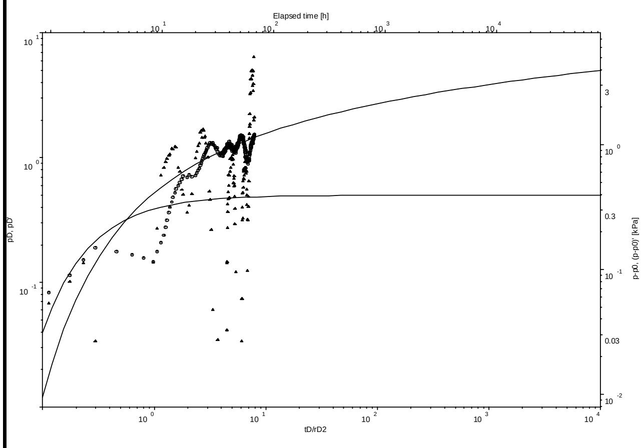
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_2 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	9.19-85.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

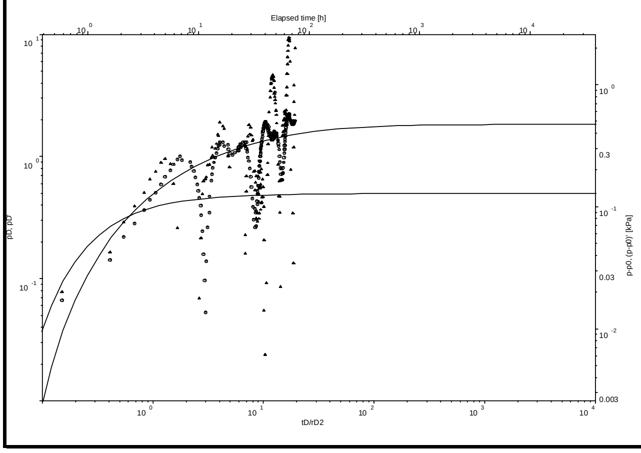
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.07	Derivative fact.=	0.13
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	1.2E-03	T (m^2/s) =	3.7E-03
S (-) =	1.7E-04	S (-) =	2.3E-04
K_s (m/s) =	1.6E-05	K_s (m/s) =	4.9E-05
S_s (1/m) =	2.2E-06	S_s (1/m) =	3.1E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	1.2E-03	ξ (-) =	NA
S (-) =	1.7E-04		
K_s (m/s) =	1.6E-05		
S_s (1/m) =	2.2E-06		

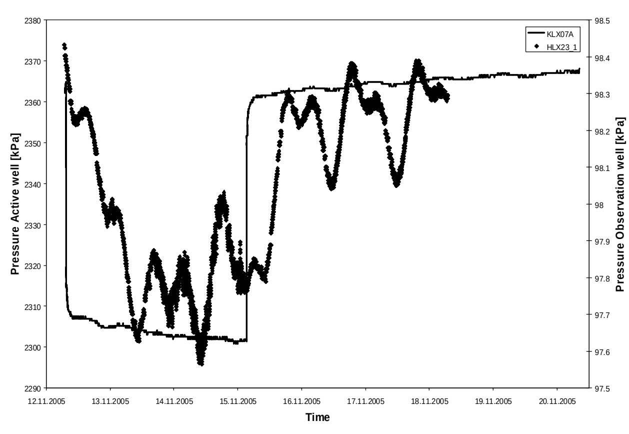
Comments:

The recommended transmissivity of 1.2•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-4 m²/s to 4.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

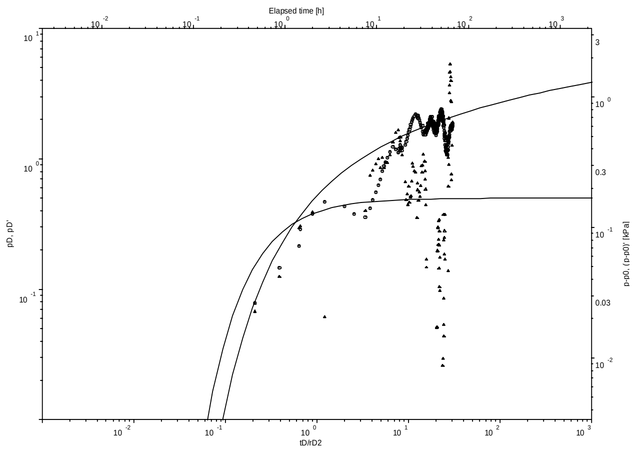
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	61.00-160.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

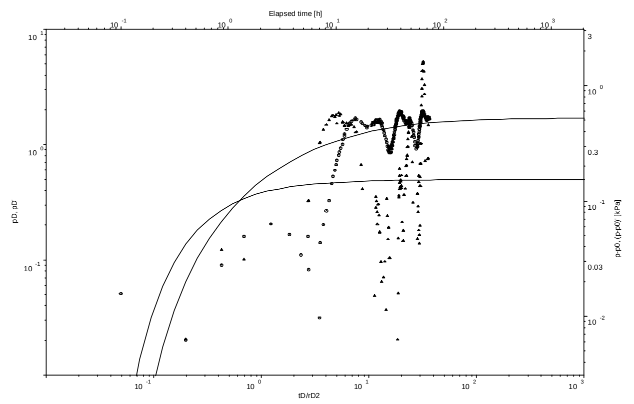
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.19	Derivative fact.=	0.21
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	2.8E-03	T (m^2/s) =	3.1E-03
S (-) =	1.6E-04	S (-) =	1.6E-04
K_s (m/s) =	2.8E-05	K_s (m/s) =	3.1E-05
S_s (1/m) =	1.6E-06	S_s (1/m) =	1.6E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	2.8E-03	ξ (-) =	NA
S (-) =	1.6E-04		
K_s (m/s) =	2.8E-05		
S_s (1/m) =	1.6E-06		

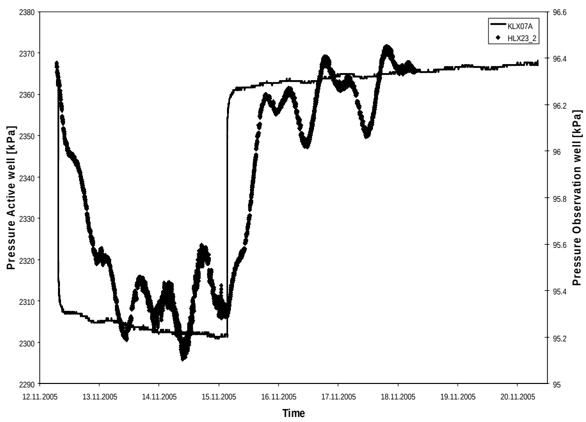
Comments:

The recommended transmissivity of 2.8•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-4 m²/s to 5.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

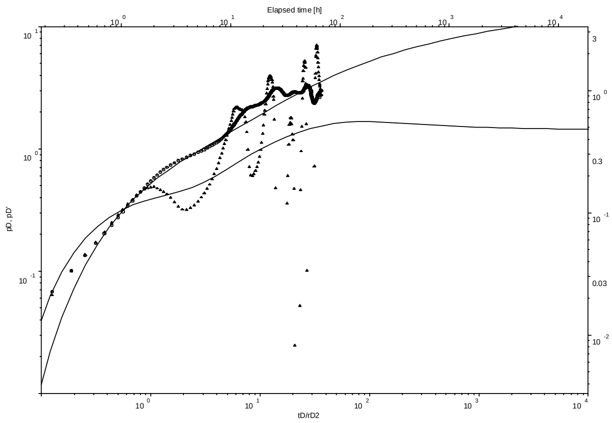
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_2 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	6.10-60.00	Responsible for test execution:	Stephan Rohs
Section diameter, 2·r_w (m):		Responsible for test evaluation:	Cristian Enachescu

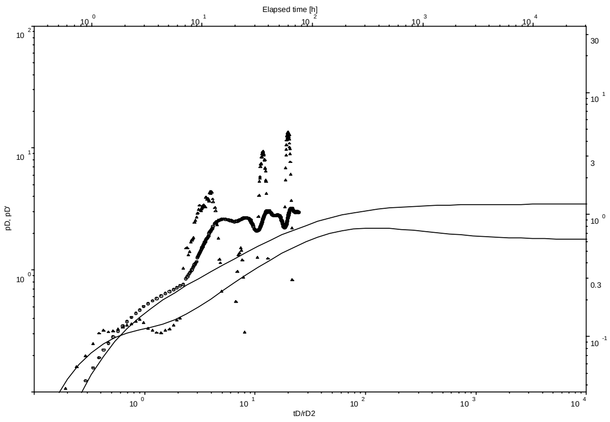
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.00	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	2.9E-03	T (m^2/s) =	2.7E-03
S (-) =	1.3E-04	S (-) =	2.1E-04
K_s (m/s) =	5.3E-05	K_s (m/s) =	5.0E-05
S_s (1/m) =	2.5E-06	S_s (1/m) =	3.8E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	2.9E-03	ξ (-) =	NA
S (-) =	1.3E-04		
K_s (m/s) =	5.3E-05		
S_s (1/m) =	2.5E-06		

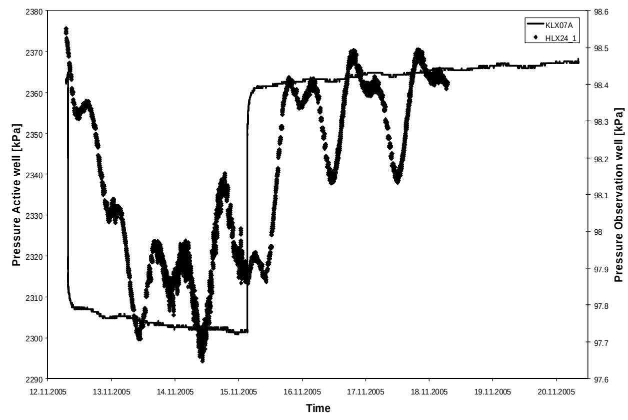
Comments:

The recommended transmissivity of 2.9•10-3 m2/s was derived from the analysis of the CRw phase (inner zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-4 m²/s to 5.0•10-3 m²/s (this range encompasses the outer zone transmissivity derived from the CRw phase). The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

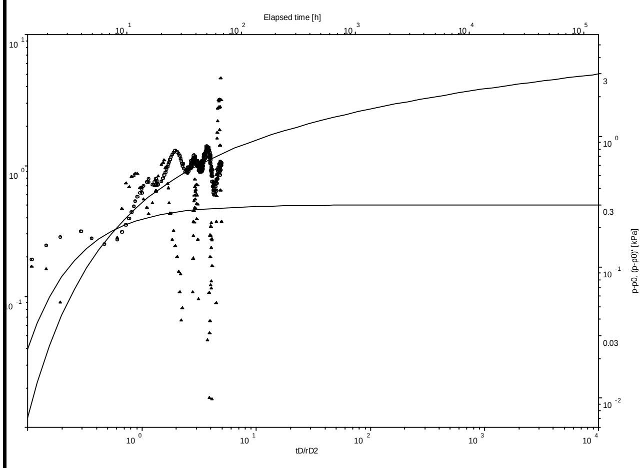
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX24_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	41.00-175.20	Responsible for test execution:	Stephan Rohs
Section diameter, 2·r_w (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

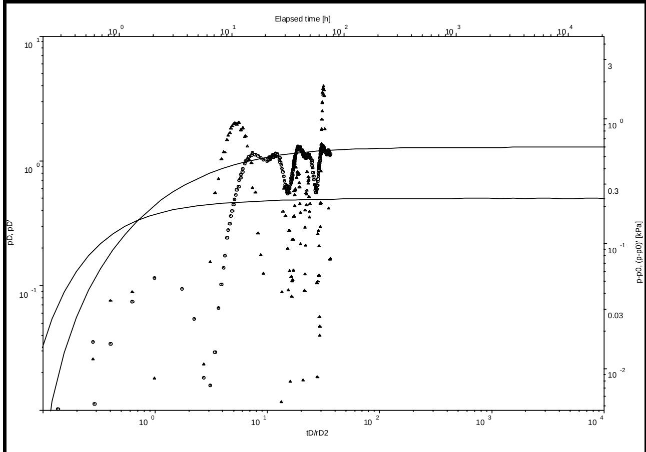


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.1	Derivative fact.=	0.11
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	1.6E-03	T (m^2/s) =	2.1E-03
S (-) =	5.4E-04	S (-) =	1.1E-04
K_s (m/s) =	1.2E-05	K_s (m/s) =	1.5E-05
S_s (1/m) =	4.0E-06	S_s (1/m) =	8.0E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	1.6E-03	ξ (-) =	NA
S (-) =	5.4E-04		
K_s (m/s) =	1.2E-05		
S_s (1/m) =	4.0E-06		

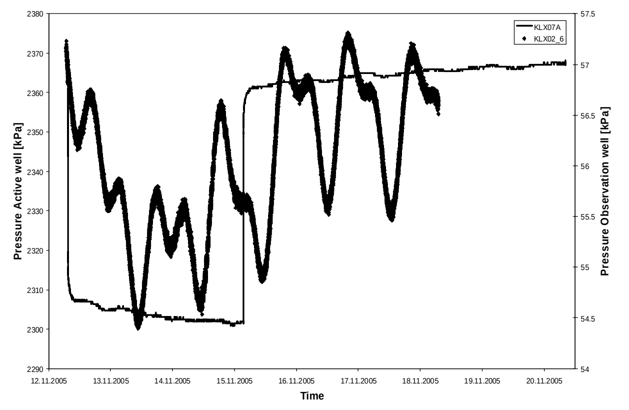
Comments:

The recommended transmissivity of 1.6•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-4 m²/s to 7.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

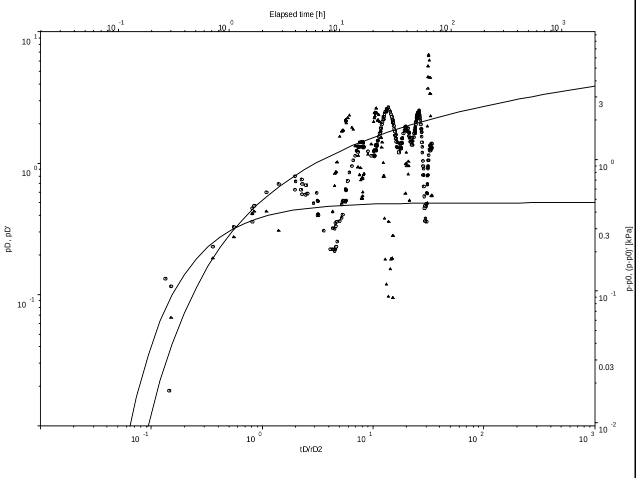
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_6 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	348.00-451.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

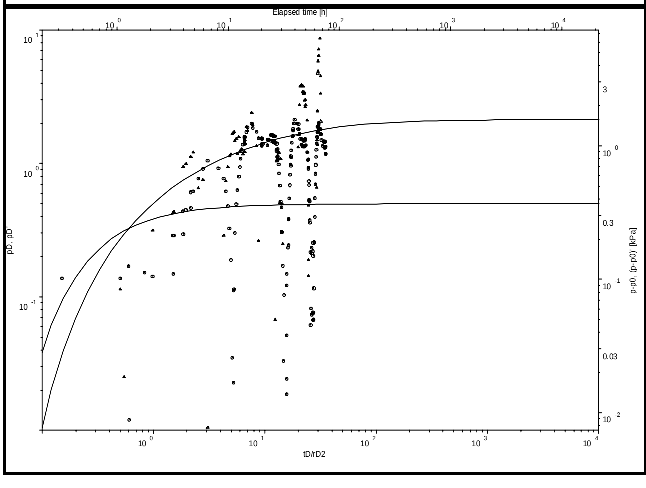
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.10	Derivative fact.=	0.15
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	1.0E-03	T (m^2/s) =	1.3E-03
S (-) =	8.7E-05	S (-) =	1.2E-04
K_s (m/s) =	9.8E-06	K_s (m/s) =	1.2E-05
S_s (1/m) =	8.4E-07	S_s (1/m) =	1.2E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	1.0E-03	ξ (-) =	NA
S (-) =	8.7E-05		
K_s (m/s) =	9.8E-06		
S_s (1/m) =	8.4E-07		

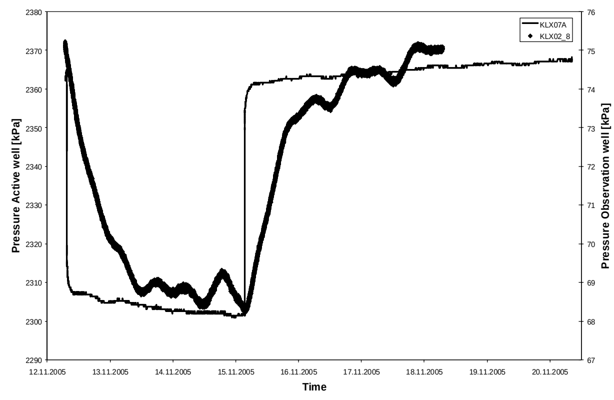
Comments:

The recommended transmissivity of 1.0•10-3 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 6.0•10-4 m²/s to 6.0•10-3 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

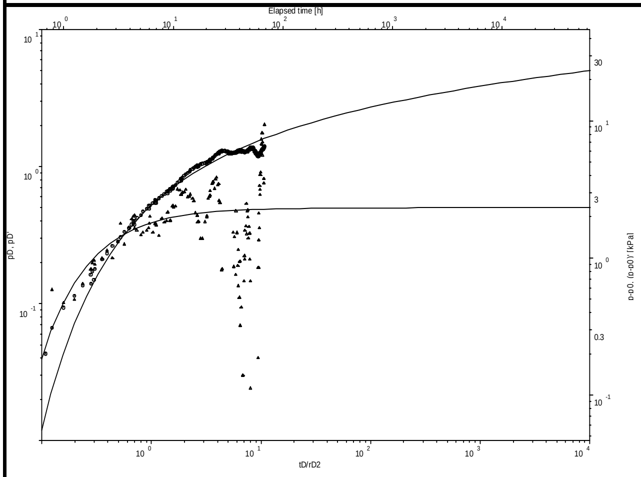
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_7 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	209.00-347.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2\cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

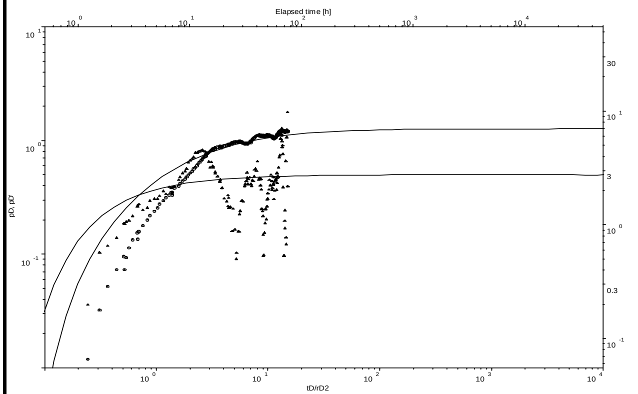


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.05	Derivative fact.=	0.11
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	990	dt_1 (min) =	1860
dt_2 (min) =	2400	dt_2 (min) =	3690
T (m^2/s) =	2.4E-04	T (m^2/s) =	1.5E-04
S (-) =	7.7E-05	S (-) =	8.3E-05
K_s (m/s) =	1.7E-06	K_s (m/s) =	1.1E-06
S_s (1/m) =	5.6E-07	S_s (1/m) =	6.0E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.			
dt_1 (min) =	990	C (m^3/Pa) =	NA
dt_2 (min) =	2400	C_D (-) =	NA
T_T (m^2/s) =	2.4E-04	ξ (-) =	NA
S (-) =	7.7E-05		
K_s (m/s) =	1.7E-06		
S_s (1/m) =	5.6E-07		

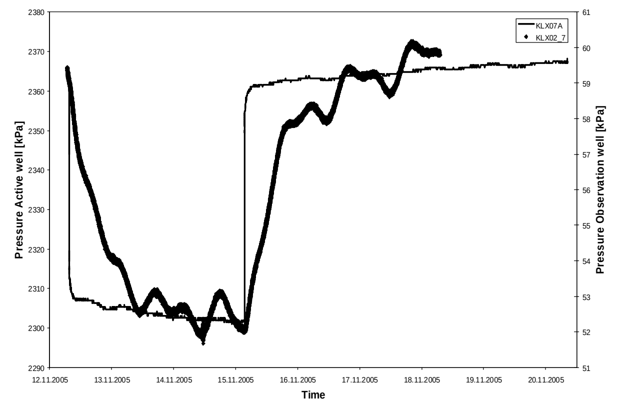
Comments:

The recommended transmissivity of 2.4•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

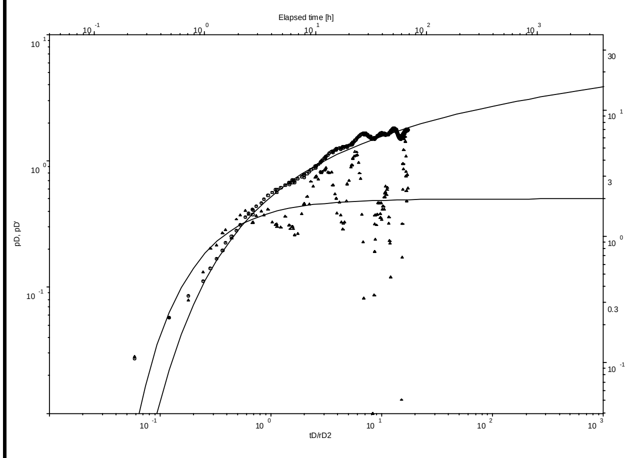
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_8 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	202.95-208.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

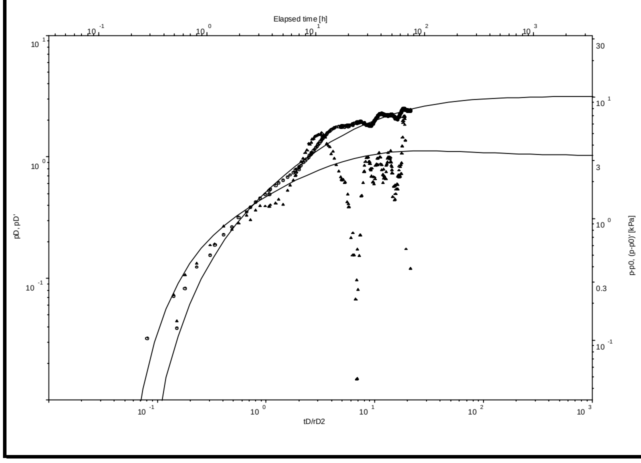
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.03	Derivative fact.=	0.09
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	2064
dt_2 (min) =	NA	dt_2 (min) =	3708
T (m^2/s) =	2.0E-04	T (m^2/s) =	1.7E-04
S (-) =	1.3E-04	S (-) =	8.6E-05
K_s (m/s) =	4.0E-05	K_s (m/s) =	3.4E-05
S_s (1/m) =	2.6E-05	S_s (1/m) =	1.7E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	2064	C (m^3/Pa) =	NA
dt_2 (min) =	3708	C_D (-) =	NA
T_T (m^2/s) =	1.7E-04	ξ (-) =	NA
S (-) =	8.6E-05		
K_s (m/s) =	3.4E-05		
S_s (1/m) =	1.7E-05		

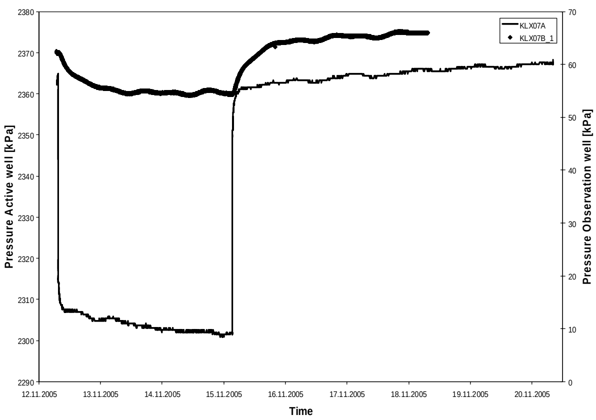
Comments:

The recommended transmissivity of 1.7•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 3.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

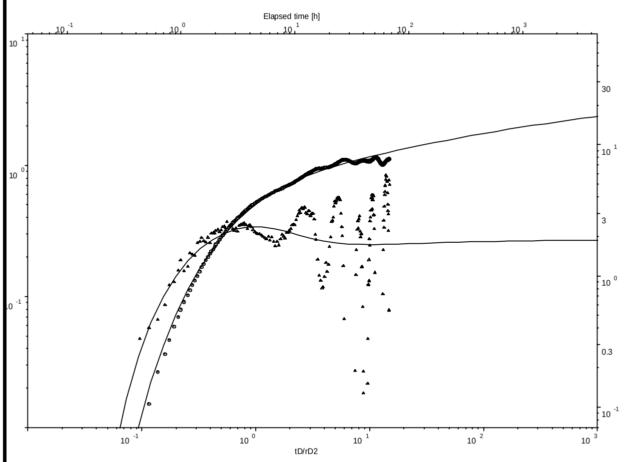
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_1 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	112.00-200.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

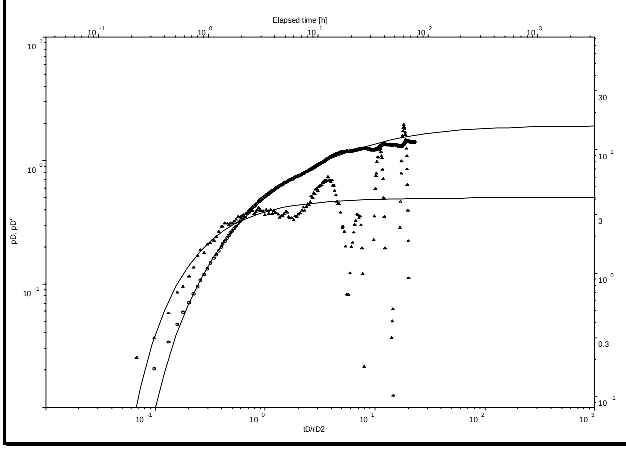
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S* (-)=		S el S* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	1206	dt_1 (min) =	510
dt_2 (min) =	3570	dt_2 (min) =	3378
T (m^2/s) =	2.5E-04	T (m^2/s) =	1.2E-04
S (-) =	9.9E-05	S (-) =	6.1E-05
K_s (m/s) =	2.9E-06	K_s (m/s) =	1.3E-06
S_s (1/m) =	1.1E-06	S_s (1/m) =	7.0E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	510	C (m^3/Pa) =	NA
dt_2 (min) =	3378	C_D (-) =	NA
T_T (m^2/s) =	1.2E-04	ξ (-) =	NA
S (-) =	6.1E-05		
K_s (m/s) =	1.3E-06		
S_s (1/m) =	7.0E-07		

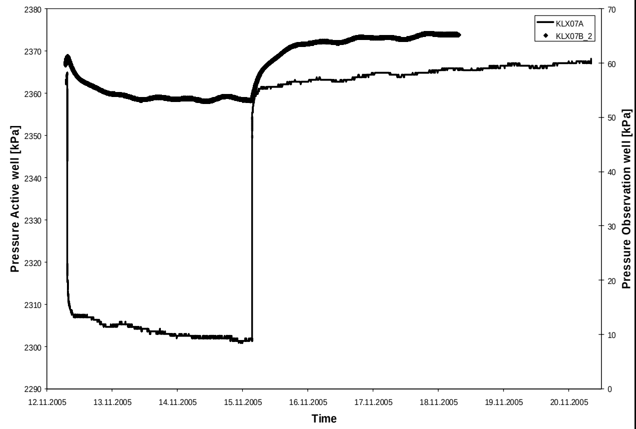
Comments:

The recommended transmissivity of 1.2•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 3.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

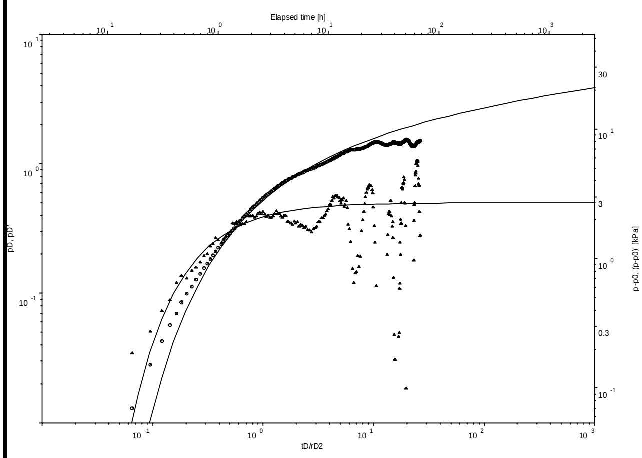
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_2 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	49.00-111.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

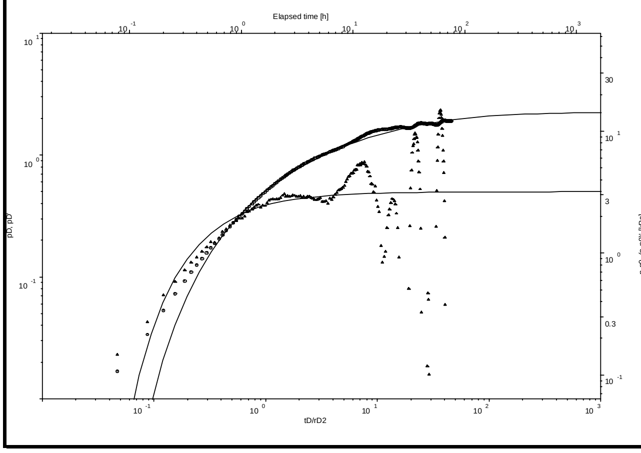
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	612	dt_1 (min) =	192
dt_2 (min) =	3600	dt_2 (min) =	3372
T (m^2/s) =	1.8E-04	T (m^2/s) =	1.5E-04
S (-) =	4.4E-05	S (-) =	2.4E-05
K_s (m/s) =	2.8E-06	K_s (m/s) =	2.4E-06
S_s (1/m) =	7.2E-07	S_s (1/m) =	3.9E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	192	C (m^3/Pa) =	NA
dt_2 (min) =	3372	C_D (-) =	NA
T_T (m^2/s) =	1.5E-04	ξ (-) =	NA
S (-) =	2.4E-05		
K_s (m/s) =	2.4E-06		
S_s (1/m) =	3.9E-07		

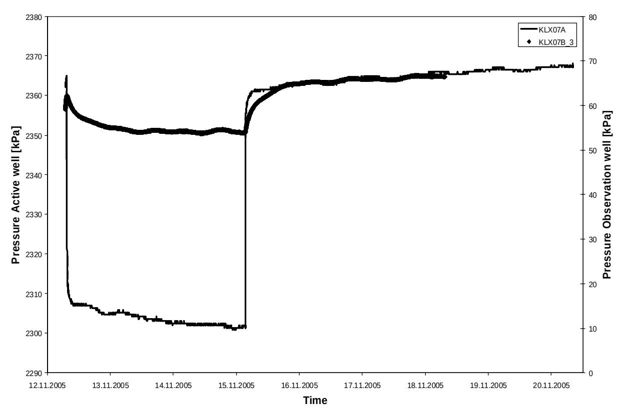
Comments:

The recommended transmissivity of 1.5•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 3.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

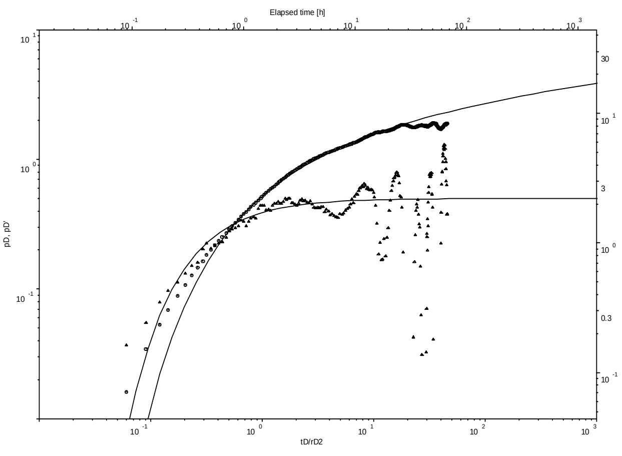
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_3 (KLX07A 193.00-313.00 pumped)	Test start:	051112 18:54
Test section from - to (m):	0.00-48.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

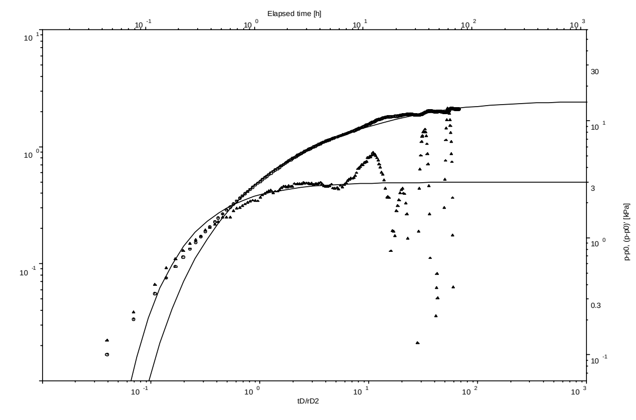


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	6.07E-04		
tp (s) =	244343	t_F (s) =	449307
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.02	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	246	dt_1 (min) =	216
dt_2 (min) =	2964	dt_2 (min) =	3378
T (m^2/s) =	2.2E-04	T (m^2/s) =	1.6E-04
S (-) =	2.1E-05	S (-) =	1.2E-05
K_s (m/s) =	4.5E-06	K_s (m/s) =	3.3E-06
S_s (1/m) =	4.4E-07	S_s (1/m) =	2.5E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	246	C (m^3/Pa) =	NA
dt_2 (min) =	2964	C_D (-) =	NA
T_T (m^2/s) =	2.2E-04	ξ (-) =	NA
S (-) =	2.1E-05		
K_s (m/s) =	4.5E-06		
S_s (1/m) =	4.4E-07		

Comments:

The recommended transmissivity of 2.2•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 9.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

APPENDIX 8-3

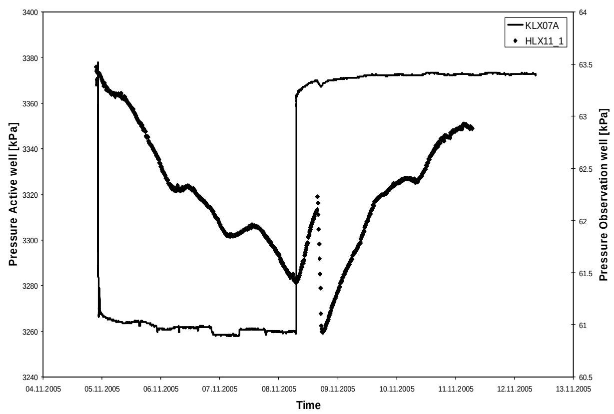
KLX07A Section 335.00-455.00 m pumped

Observation hole
Test Summary Sheets

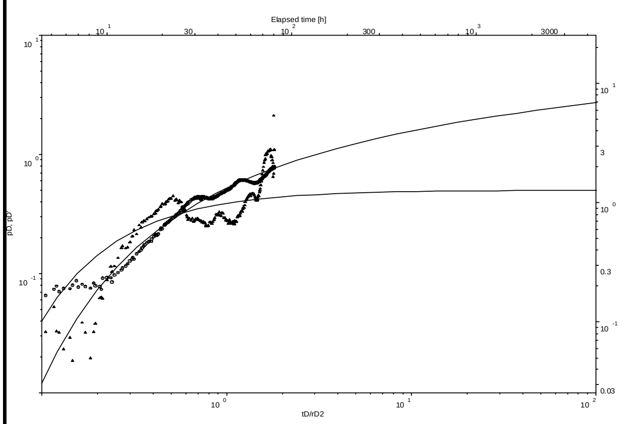
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	17.00-70.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

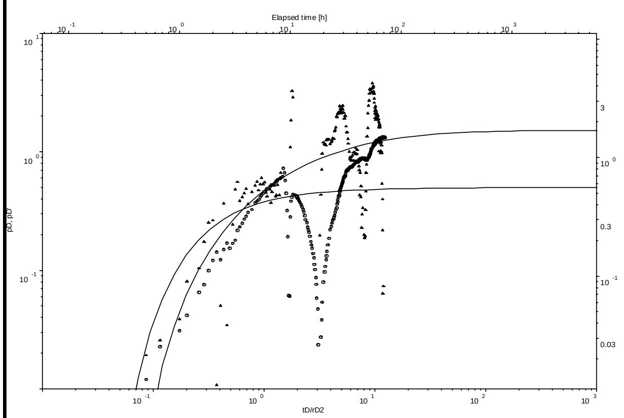
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.11	Derivative fact.=	0.02
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	1.9E-04	T (m^2/s) =	4.2E-04
S (-) =	2.9E-04	S (-) =	8.7E-05
K_s (m/s) =	3.5E-06	K_s (m/s) =	8.0E-06
S_s (1/m) =	5.5E-06	S_s (1/m) =	1.6E-06
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	1.9E-04	ξ (-) =	NA
S (-) =	2.9E-04		
K_s (m/s) =	3.5E-06		
S_s (1/m) =	5.5E-06		

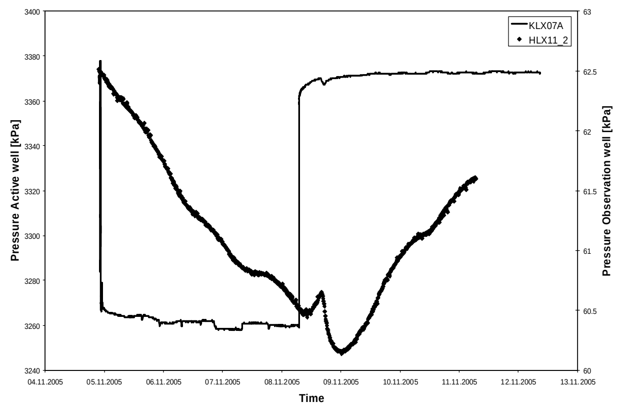
Comments:

The recommended transmissivity of 1.9•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

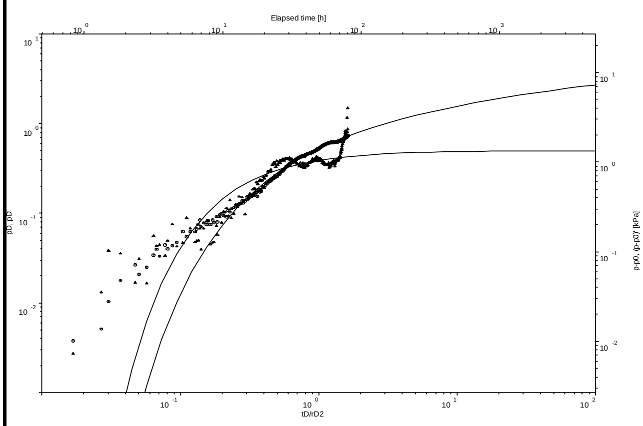
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX11_2 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	6.00-16.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.08	Derivative fact.=	NA
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	NA
dt_1 (min) =	3228	dt_1 (min) =	NA
dt_2 (min) =	4110	dt_2 (min) =	NA
T (m^2/s) =	1.76E-04	T (m^2/s) =	NA
S (-) =	2.83E-04	S (-) =	NA
K_s (m/s) =	1.76E-05	K_s (m/s) =	NA
S_s (1/m) =	2.83E-05	S_s (1/m) =	NA
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period

not analysable

Selected representative parameters.

dt_1 (min) =	3228	C (m^3/Pa) =	NA
dt_2 (min) =	4110	C_D (-) =	NA
T_T (m^2/s) =	1.8E-04	ξ (-) =	NA
S (-) =	2.8E-04		
K_s (m/s) =	1.8E-05		
S_s (1/m) =	2.8E-05		

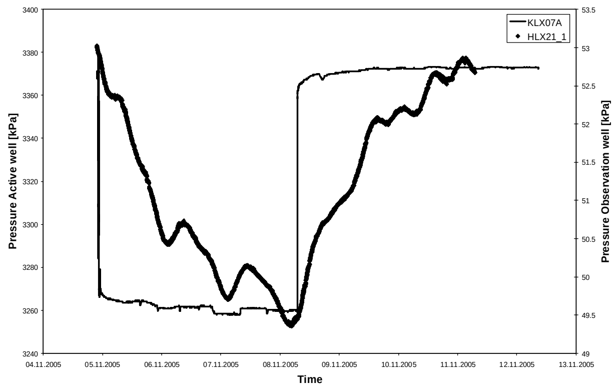
Comments:

The recommended transmissivity of 1.8•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

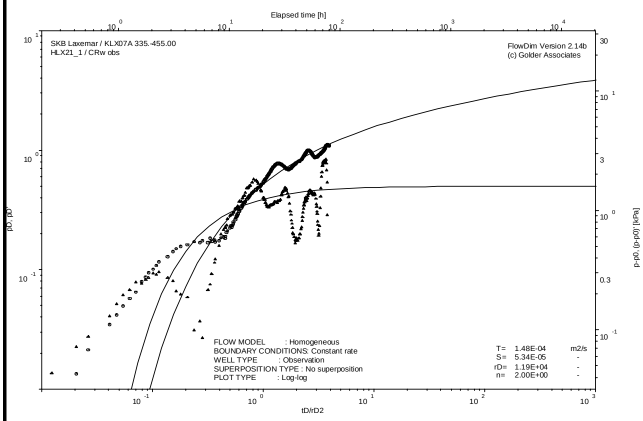
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	81.00-150.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

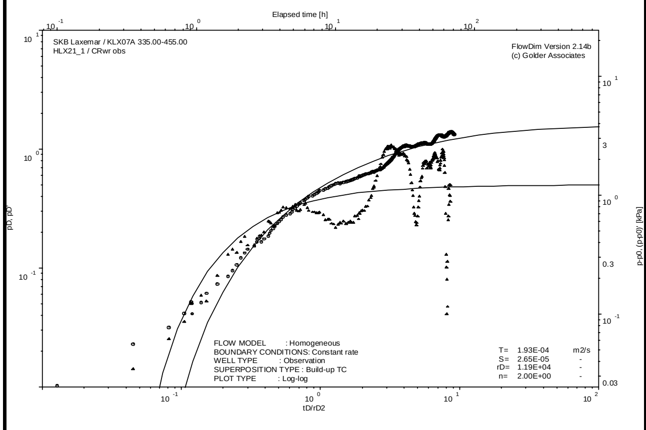


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.20	Derivative fact.=	0.10
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	2016	dt_1 (min) =	2136
dt_2 (min) =	4050	dt_2 (min) =	4014
T (m^2/s) =	1.5E-04	T (m^2/s) =	1.9E-04
S (-) =	5.3E-05	S (-) =	2.7E-05
K_s (m/s) =	2.1E-06	K_s (m/s) =	2.8E-06
S_s (1/m) =	7.7E-07	S_s (1/m) =	3.8E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.			
dt_1 (min) =	2016	C (m^3/Pa) =	NA
dt_2 (min) =	4050	C_D (-) =	NA
T_T (m^2/s) =	1.5E-04	ξ (-) =	NA
S (-) =	5.3E-05		
K_s (m/s) =	2.1E-06		
S_s (1/m) =	7.7E-07		

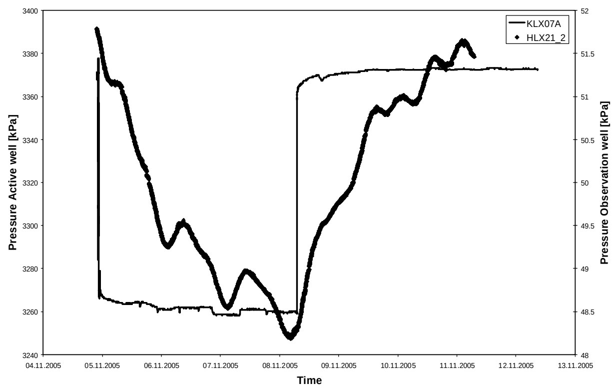
Comments:

The recommended transmissivity of 1.5•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

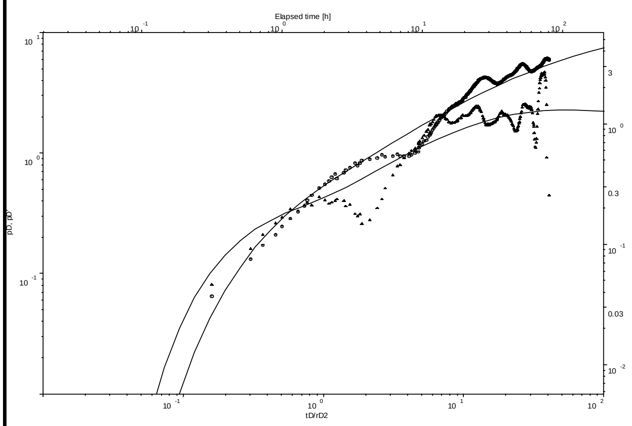
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX21_2 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	9.10-80.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

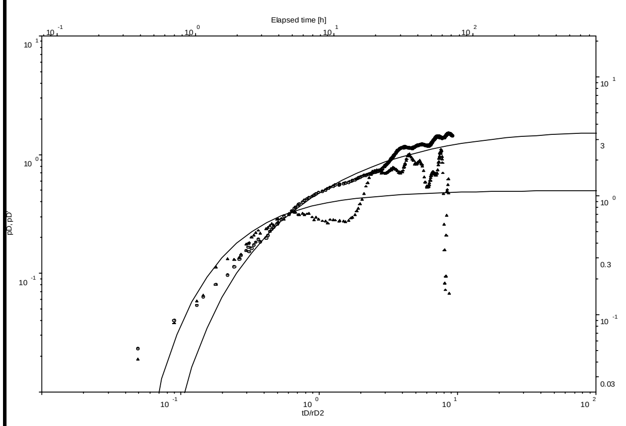
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.31	Derivative fact.=	0.20
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	3072	dt_1 (min) =	NA
dt_2 (min) =	4020	dt_2 (min) =	NA
T (m^2/s) =	2.2E-04	T (m^2/s) =	2.1E-04
S (-) =	2.8E-05	S (-) =	2.8E-05
K_s (m/s) =	3.1E-06	K_s (m/s) =	3.0E-06
S_s (1/m) =	3.9E-07	S_s (1/m) =	3.9E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	3072	C (m^3/Pa) =	NA
dt_2 (min) =	4020	C_D (-) =	NA
T_T (m^2/s) =	2.2E-04	ξ (-) =	NA
S (-) =	2.8E-05		
K_s (m/s) =	3.1E-06		
S_s (1/m) =	3.9E-07		

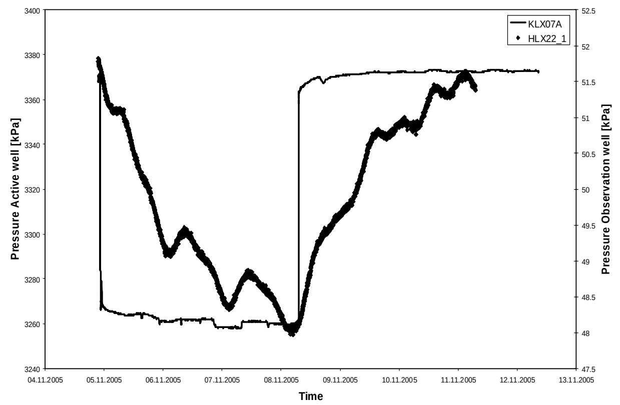
Comments:

The recommended transmissivity of 2.2•10-4 m2/s was derived from the analysis of the CRw phase (outer zone), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-5 m²/s to 4.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

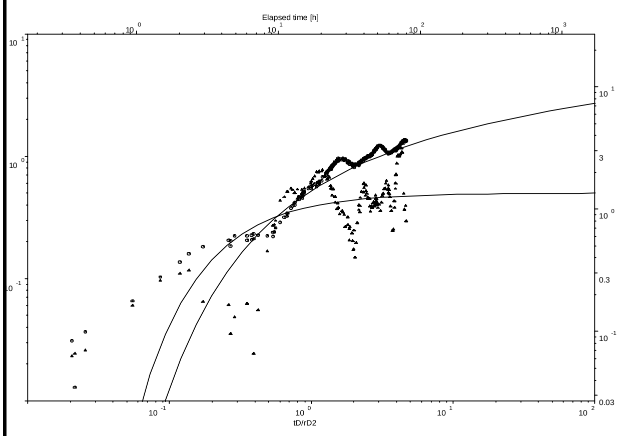
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	86.00-163.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

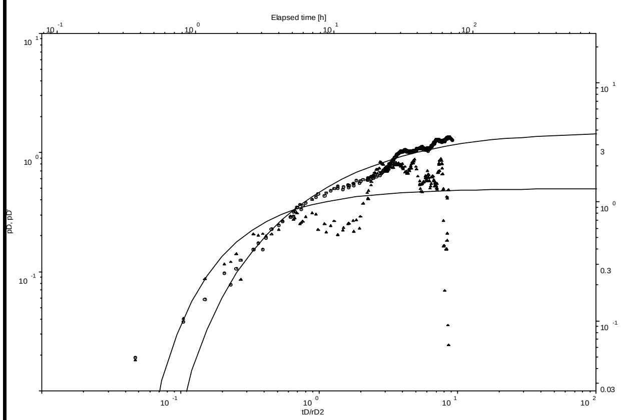
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.11	Derivative fact.=	0.15
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	2466	dt_1 (min) =	NA
dt_2 (min) =	4590	dt_2 (min) =	NA
T (m^2/s) =	1.7E-04	T (m^2/s) =	1.8E-04
S (-) =	4.6E-05	S (-) =	2.2E-05
K_s (m/s) =	2.3E-06	K_s (m/s) =	2.4E-06
S_s (1/m) =	5.9E-07	S_s (1/m) =	2.8E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	2466	C (m^3/Pa) =	NA
dt_2 (min) =	4590	C_D (-) =	NA
T_T (m^2/s) =	1.7E-04	ξ (-) =	NA
S (-) =	4.6E-05		
K_s (m/s) =	2.3E-06		
S_s (1/m) =	5.9E-07		

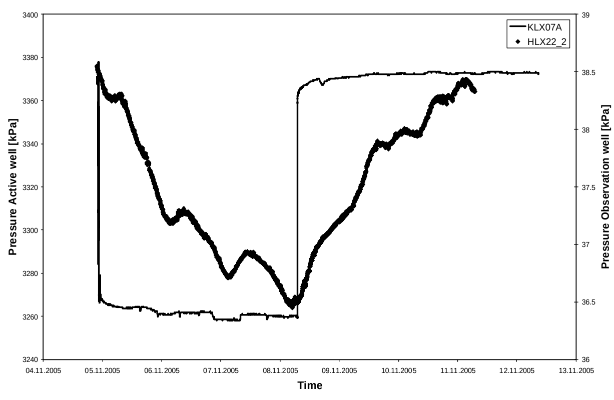
Comments:

The recommended transmissivity of 1.7•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-5 m²/s to 5.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

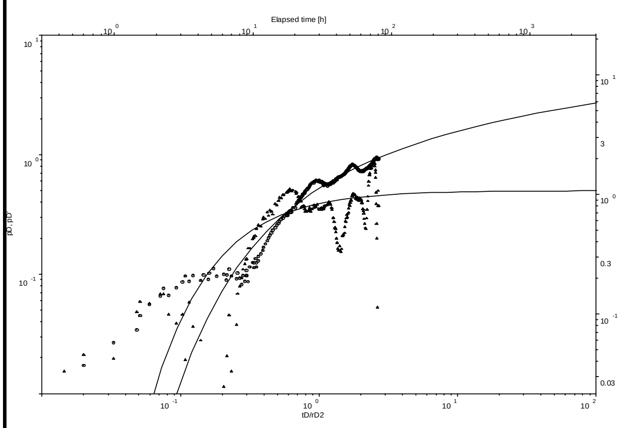
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX22_2 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	9.19-85.00	Responsible for test execution:	Stephan Rohs
Section diameter, 2·r_w (m):		Responsible for test evaluation:	Cristian Enachescu

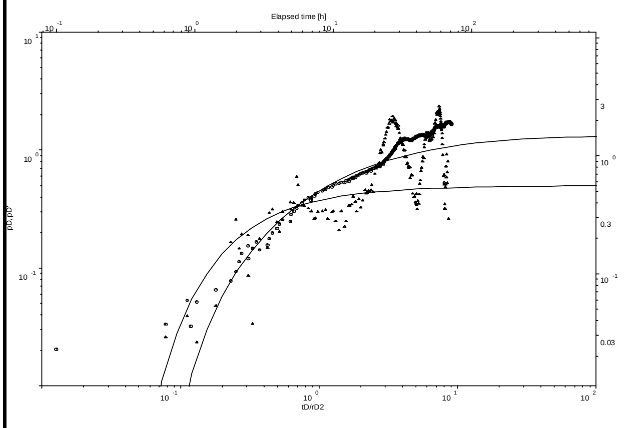
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.15	Derivative fact.=	0.06
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	3114	dt_1 (min) =	NA
dt_2 (min) =	4050	dt_2 (min) =	NA
T (m^2/s) =	2.2E-04	T (m^2/s) =	4.2E-04
S (-) =	9.5E-05	S (-) =	4.8E-05
K_s (m/s) =	2.9E-06	K_s (m/s) =	5.6E-06
S_s (1/m) =	1.3E-06	S_s (1/m) =	6.3E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	3114	C (m^3/Pa) =	NA
dt_2 (min) =	4050	C_D (-) =	NA
T_T (m^2/s) =	2.2E-04	ξ (-) =	NA
S (-) =	9.5E-05		
K_s (m/s) =	2.9E-06		
S_s (1/m) =	1.3E-06		

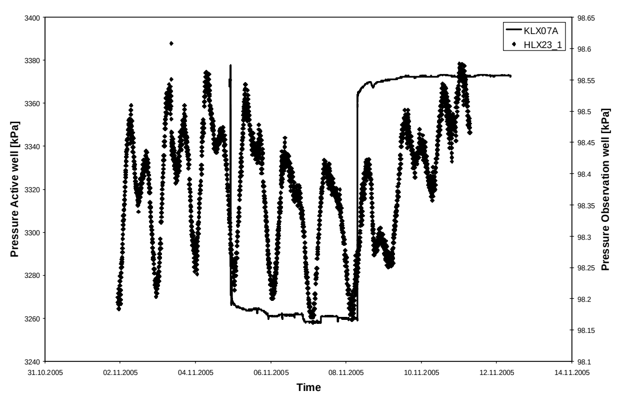
Comments:

The recommended transmissivity of 2.2•10-4 m2/s was derived from the analysis of the CRw phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-5 m²/s to 5.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

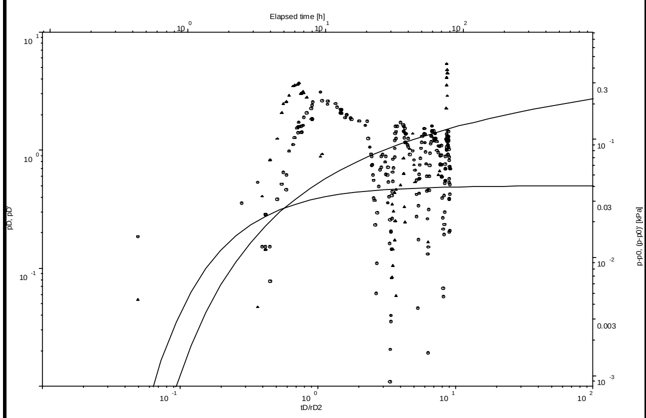
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	61.00-160.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

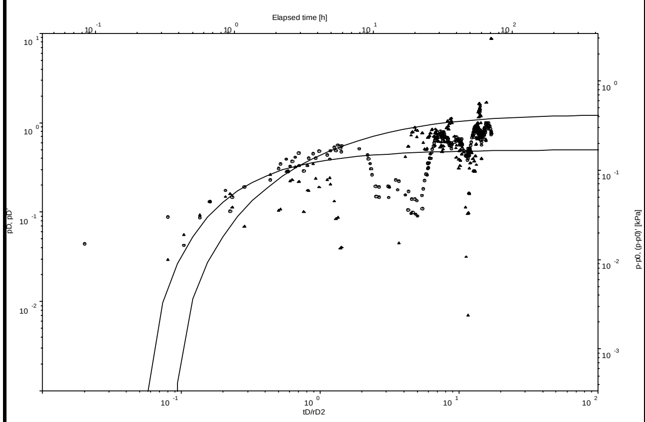
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.14	Derivative fact.=	0.13
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	NA	T (m^2/s) =	NA
S (-) =	Na	S (-) =	NA
K_s (m/s) =	NA	K_s (m/s) =	NA
S_s (1/m) =	NA	S_s (1/m) =	NA
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.			
dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	NA	ξ (-) =	NA
S (-) =	NA		
K_s (m/s) =	NA		
S_s (1/m) =	NA		

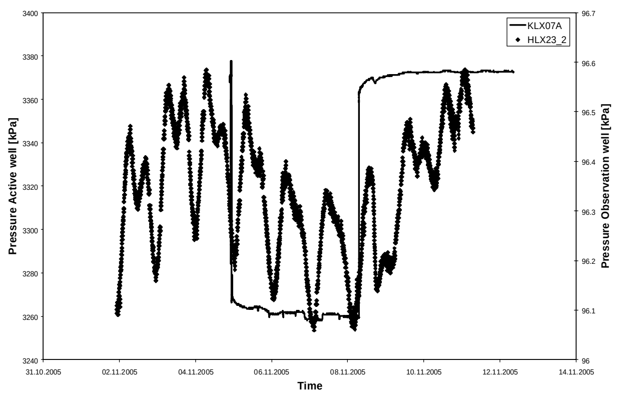
Comments:

The range for the borehole transmissivity is estimated to be 5.0•10-4 m²/s to 7.0•10-3 m²/s. Due to the poor data quality no better estimation is possible.

Test Summary Sheet

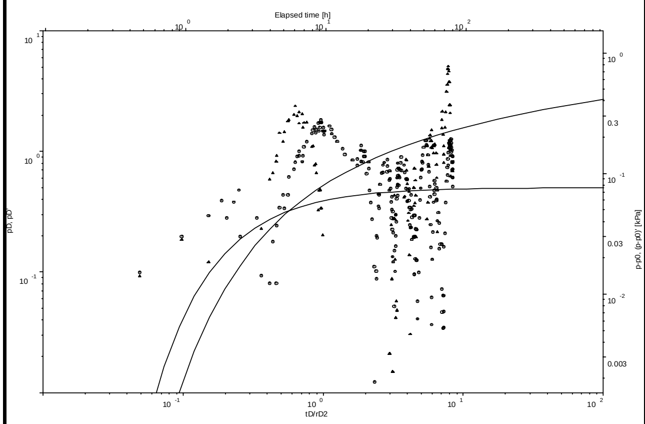
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX23_2 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	6.10-60.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

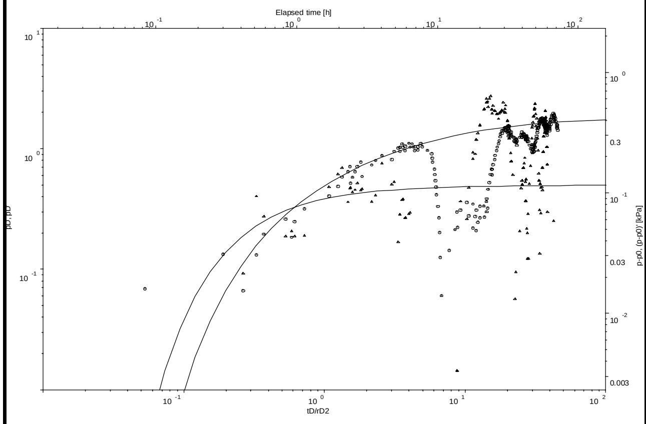


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.13	Derivative fact.=	0.12
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	NA	T (m^2/s) =	NA
S (-) =	NA	S (-) =	NA
K_s (m/s) =	NA	K_s (m/s) =	NA
S_s (1/m) =	NA	S_s (1/m) =	NA
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	NA	ξ (-) =	NA
S (-) =	NA		
K_s (m/s) =	NA		
S_s (1/m) =	NA		

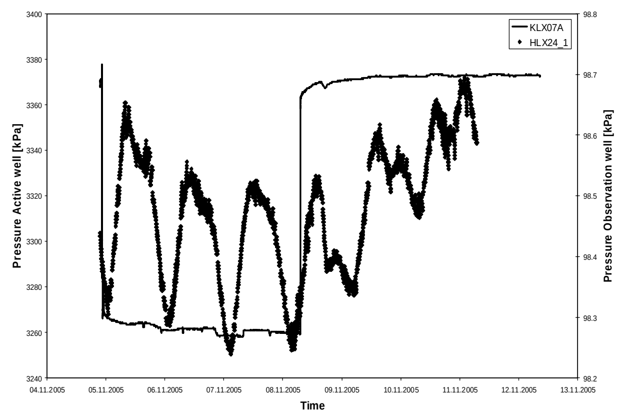
Comments:

The range for the borehole transmissivity is estimated to be 6.0•10-4 m²/s to 6.0•10-3 m²/s. Due to the poor data quality no better estimation is possible.

Test Summary Sheet

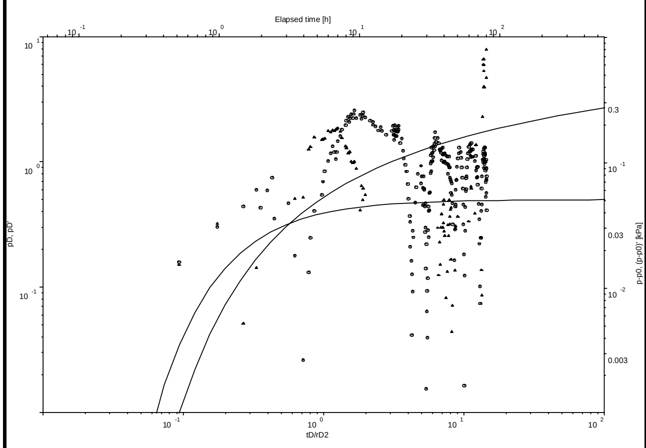
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	HLX24_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	41.00-175.20	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

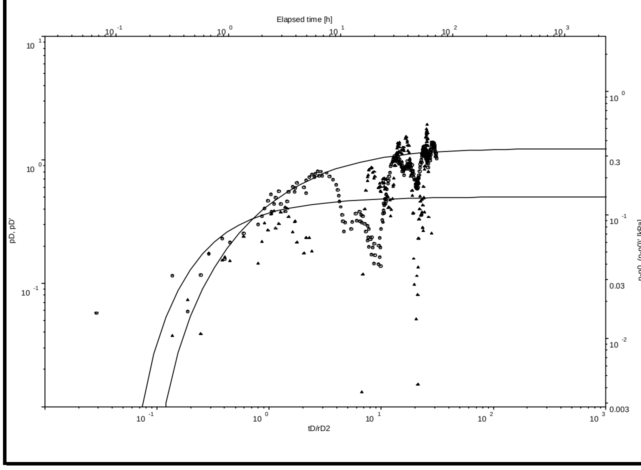


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.24	Derivative fact.=	0.23
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	NA	T (m^2/s) =	NA
S (-) =	NA	S (-) =	NA
K_s (m/s) =	NA	K_s (m/s) =	NA
S_s (1/m) =	NA	S_s (1/m) =	NA
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	NA	ξ (-) =	NA
S (-) =	NA		
K_s (m/s) =	NA		
S_s (1/m) =	NA		

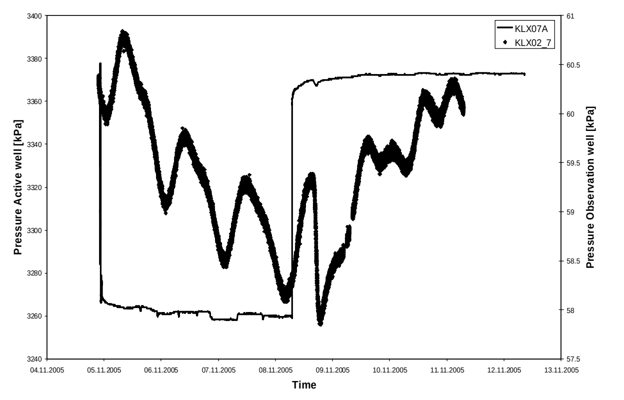
Comments:

The range for the borehole transmissivity is estimated to be 6.0•10-4 m²/s to 8.0•10-3 m²/s. Due to the poor data quality no better estimation is possible.

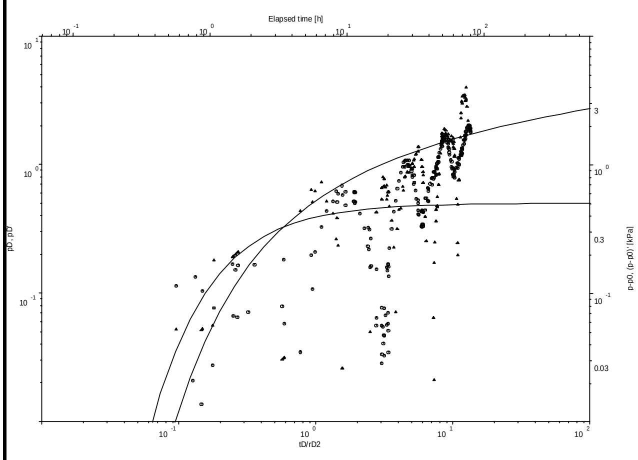
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_6 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	348.00-451.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

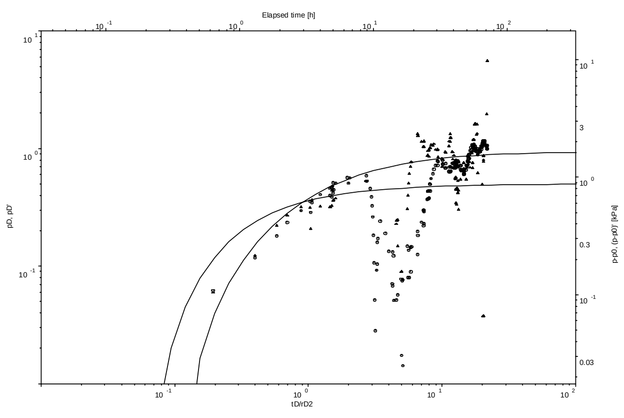
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.12	Derivative fact.=	0.14
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	NA
dt_2 (min) =	NA	dt_2 (min) =	NA
T (m^2/s) =	NA	T (m^2/s) =	NA
S (-) =	NA	S (-) =	NA
K_s (m/s) =	NA	K_s (m/s) =	NA
S_s (1/m) =	NA	S_s (1/m) =	NA
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	NA	C (m^3/Pa) =	NA
dt_2 (min) =	NA	C_D (-) =	NA
T_T (m^2/s) =	NA	ξ (-) =	NA
S (-) =	NA		
K_s (m/s) =	NA		
S_s (1/m) =	NA		

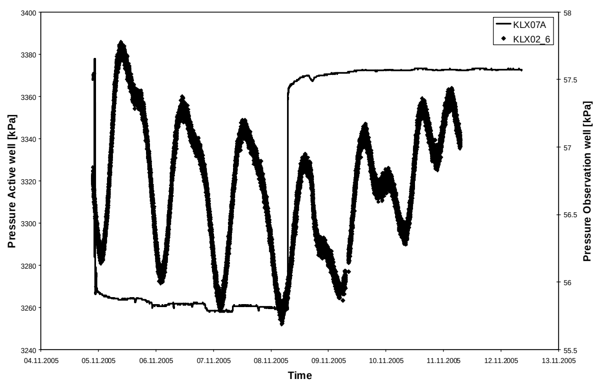
Comments:

The range for the borehole transmissivity is estimated to be 2.0•10-4 m²/s to 5.0•10-3 m²/s. Due to the poor data quality no better estimation is possible.

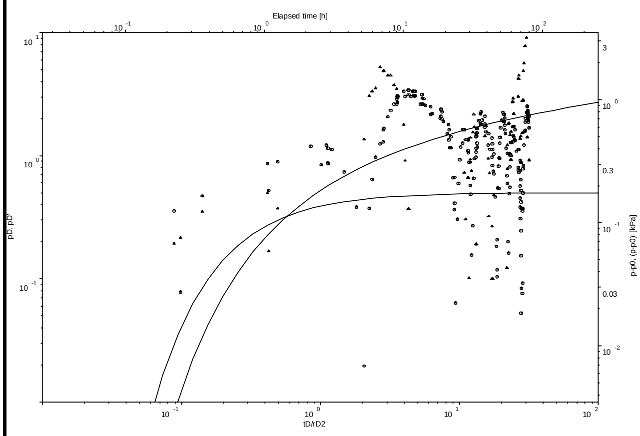
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_7 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	209.00-347.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

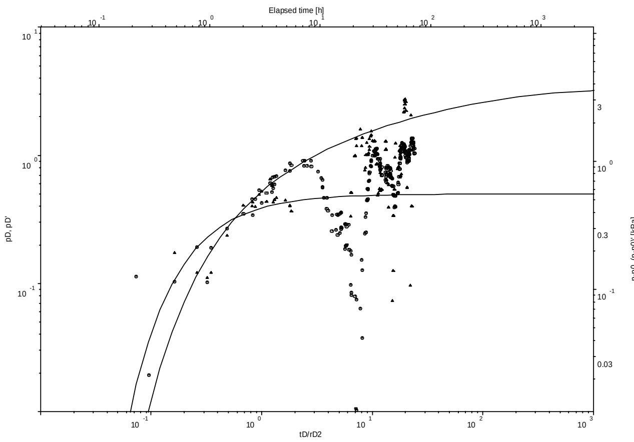
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.17	Derivative fact.=	0.15
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	990	dt_1 (min) =	2550
dt_2 (min) =	3864	dt_2 (min) =	3918
T (m^2/s) =	4.7E-04	T (m^2/s) =	2.7E-04
S (-) =	1.2E-04	S (-) =	3.7E-05
K_s (m/s) =	3.4E-06	K_s (m/s) =	1.9E-06
S_s (1/m) =	8.4E-07	S_s (1/m) =	2.7E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	2550	C (m^3/Pa) =	NA
dt_2 (min) =	3918	C_D (-) =	NA
T_T (m^2/s) =	2.7E-04	ξ (-) =	NA
S (-) =	3.7E-05		
K_s (m/s) =	1.9E-06		
S_s (1/m) =	2.7E-07		

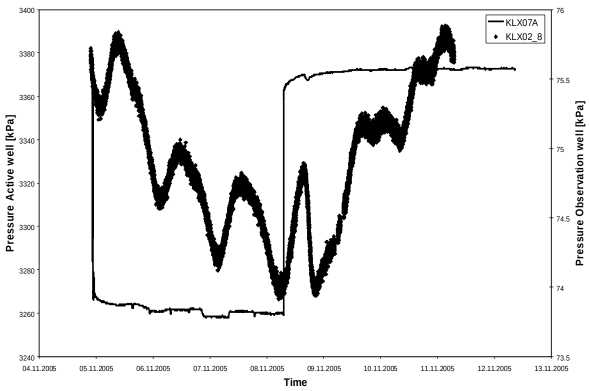
Comments:

The recommended transmissivity of 2.7•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 7.0•10-5 m²/s to 6.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

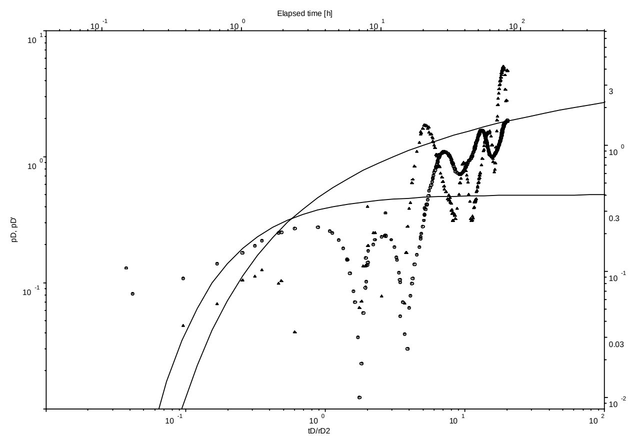
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX02_8 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	202.95-208.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

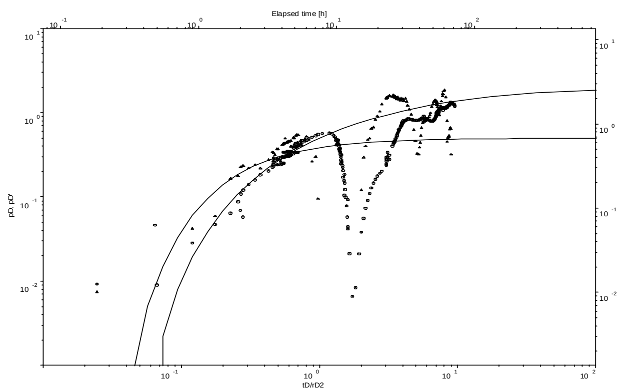


Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.12	Derivative fact.=	0.11
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	2418
dt_2 (min) =	NA	dt_2 (min) =	3804
T (m^2/s) =	5.8E-04	T (m^2/s) =	3.5E-04
S (-) =	9.2E-05	S (-) =	1.0E-04
K_s (m/s) =	1.1E-04	K_s (m/s) =	6.9E-05
S_s (1/m) =	1.8E-05	S_s (1/m) =	2.0E-05
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	2418	C (m^3/Pa) =	NA
dt_2 (min) =	3804	C_D (-) =	NA
T_T (m^2/s) =	3.5E-04	ξ (-) =	NA
S (-) =	1.0E-04		
K_s (m/s) =	6.9E-05		
S_s (1/m) =	2.0E-05		

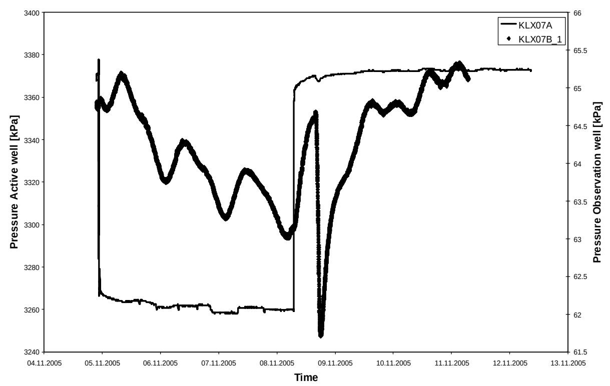
Comments:

The recommended transmissivity of 3.5•10-4 m2/s was derived from the analysis of the CRwr phase, which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 7.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

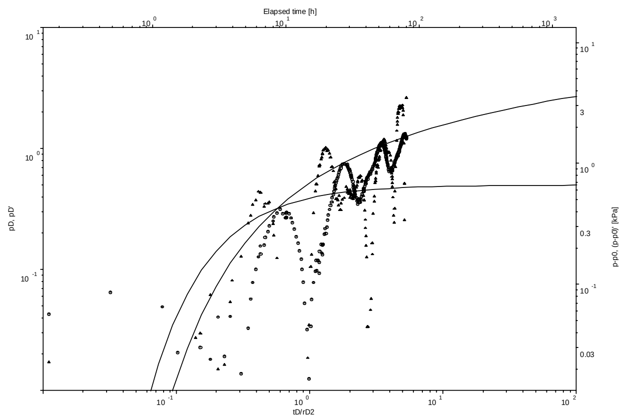
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_1 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	112.00-200.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2\cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

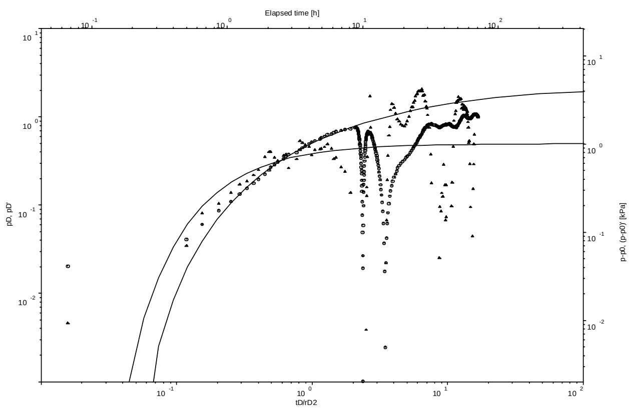


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.14	Derivative fact.=	0.04
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	252
dt_2 (min) =	NA	dt_2 (min) =	354
T (m^2/s) =	3.6E-04	T (m^2/s) =	2.3E-04
S (-) =	2.4E-04	S (-) =	4.5E-05
K_s (m/s) =	4.0E-06	K_s (m/s) =	2.6E-06
S_s (1/m) =	2.8E-06	S_s (1/m) =	5.1E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.			
dt_1 (min) =	252	C (m^3/Pa) =	NA
dt_2 (min) =	354	C_D (-) =	NA
T_T (m^2/s) =	2.3E-04	ξ (-) =	NA
S (-) =	4.5E-05		
K_s (m/s) =	2.6E-06		
S_s (1/m) =	5.1E-07		

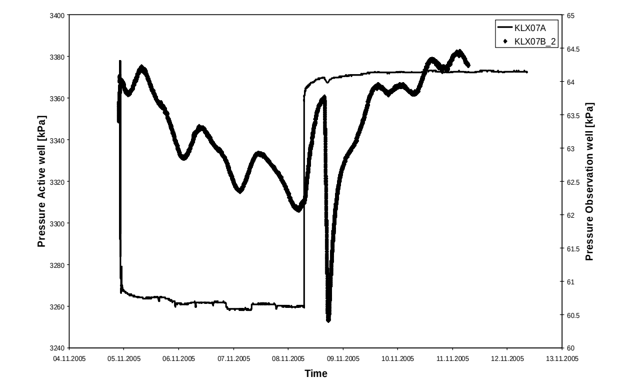
Comments:

The recommended transmissivity of 2.3•10-4 m2/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 6.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

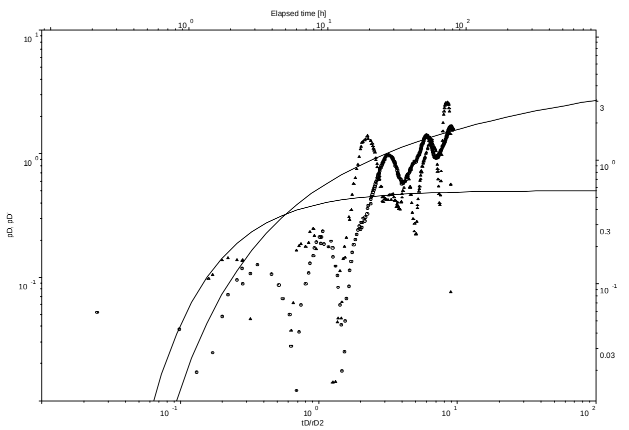
Test Summary Sheet

Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_2 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	49.00-111.00	Responsible for test execution:	Stephan Rohs
Section diameter, $2 \cdot r_w$ (m):		Responsible for test evaluation:	Cristian Enachescu

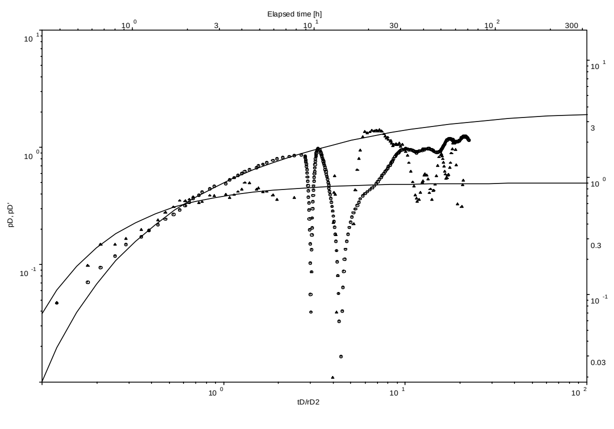
Linear plot Q and p



Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Flow period		Recovery period	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.13	Derivative fact.=	0.12
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	169
dt_2 (min) =	NA	dt_2 (min) =	296
T (m^2/s) =	4.2E-04	T (m^2/s) =	2.6E-04
S (-) =	1.2E-04	S (-) =	2.7E-05
K_s (m/s) =	6.7E-06	K_s (m/s) =	4.2E-06
S_s (1/m) =	1.9E-06	S_s (1/m) =	4.4E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Selected representative parameters.

dt_1 (min) =	169	C (m^3/Pa) =	NA
dt_2 (min) =	296	C_D (-) =	NA
T_T (m^2/s) =	2.6E-04	ξ (-) =	NA
S (-) =	2.7E-05		
K_s (m/s) =	4.2E-06		
S_s (1/m) =	4.4E-07		

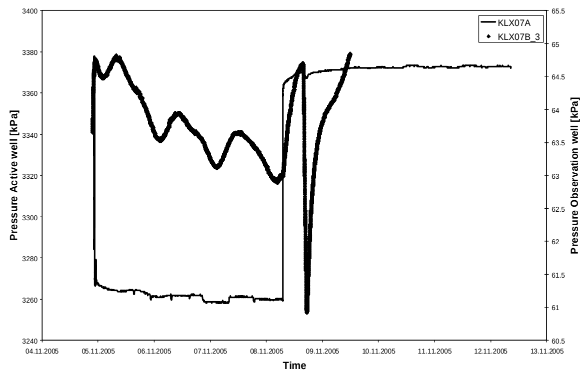
Comments:

The recommended transmissivity of 2.6•10-4 m2/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 6.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

Test Summary Sheet

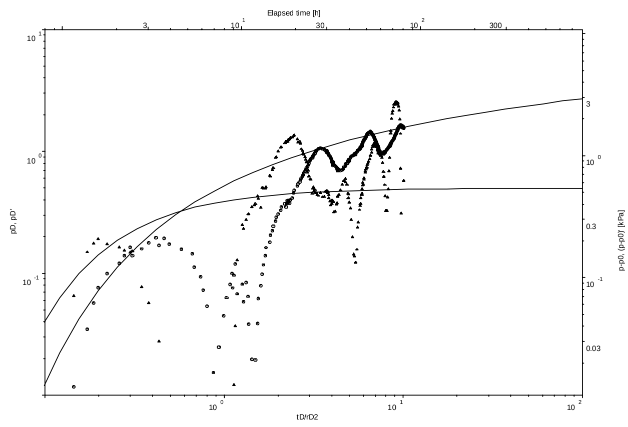
Project:	Oskarshamn site investigation	Test type:[1]	CRwr Observation hole
Area:	Laxemar	Test no:	1
Borehole ID:	KLX07B_3 (KLX07A 335.00-455.00 pumped)	Test start:	051104 21:35
Test section from - to (m):	0.00-48.00	Responsible for test execution:	Stephan Rohs
Section diameter, 2·r_w (m):		Responsible for test evaluation:	Cristian Enachescu

Linear plot Q and p

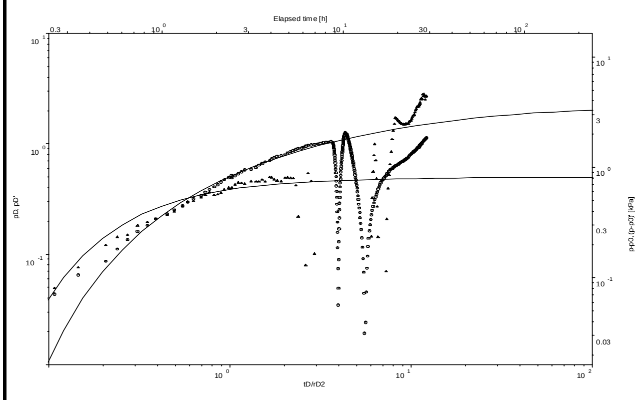


Flow period		**Recovery period**	
Indata		**Indata**	
p_0 (kPa) =			
p_i (kPa) =			
p_p(kPa) =		p_F (kPa) =	
Q_p (m^3/s)=	2.97E-04		
tp (s) =	289815	t_F (s) =	351140
S el S^* (-)=		S el S^* (-)=	
EC_w (mS/m)=			
$Temp_w$(gr C)=			
Derivative fact.=	0.13	Derivative fact.=	0.2
Results		**Results**	
Q/s (m^2/s)=			
T_M (m^2/s)=			
Flow regime:	transient	Flow regime:	transient
dt_1 (min) =	NA	dt_1 (min) =	156
dt_2 (min) =	NA	dt_2 (min) =	306
T (m^2/s) =	4.3E-04	T (m^2/s) =	2.9E-04
S (-) =	8.9E-05	S (-) =	1.8E-05
K_s (m/s) =	9.0E-06	K_s (m/s) =	6.0E-06
S_s (1/m) =	1.9E-06	S_s (1/m) =	3.6E-07
C (m^3/Pa) =	NA	C (m^3/Pa) =	NA
C_D (-) =	NA	C_D (-) =	NA
ξ (-) =	NA	ξ (-) =	NA
T_{GRF}(m^2/s) =		T_{GRF}(m^2/s) =	
S_{GRF}(-) =		S_{GRF}(-) =	
D_{GRF} (-) =		D_{GRF} (-) =	

Log-Log plot incl. derivates- flow period



Log-Log plot incl. derivatives- recovery period



Selected representative parameters.

dt_1 (min) =	156	C (m^3/Pa) =	NA
dt_2 (min) =	306	C_D (-) =	NA
T_T (m^2/s) =	2.9E-04	ξ (-) =	NA
S (-) =	1.8E-05		
K_s (m/s) =	6.0E-06		
S_s (1/m) =	3.6E-07		

Comments:

The recommended transmissivity of 2.9•10-4 m2/s was derived from the analysis of the CRwr phase (early time data), which shows the best data and derivative quality. The confidence range for the borehole transmissivity is estimated to be 8.0•10-5 m²/s to 6.0•10-4 m²/s. The flow dimension during the test is 2. According to the background effects no freshwater head could be derived from straight line interpolation in the Horner plot.

APPENDIX 9

SICADA data tables

(Observation boreholes)

(Simplified version v1.2)

SICADA/Data Import Template

SKB & Ergodata AB 2004

File Identity	
Created By	Stephan Rohs
Created	2006-01-26

Activity Type	KLX07A KLX07A Interference test-obs.holes	**Project**	AP PS 400-05-045

Activity Information						**Additional Activity Data**				
						C30	C40	I160	P20	P200
Idcode	**Start Date**	**Stop Date**	**Secup (m)**	**Seclow (m)**	**Section No**	**Company evaluating data**	**performing field work**	**Instrument**	**Field crew manager**	**Field crew**
HLX10	2005.10.28 09:51	2005.12.08 08:54	3.00	85.00		Golder				
HLX11	2005.10.28 09:51	2005.12.08 08:54	6.00	16.00		Golder				
HLX11	2005.10.28 09:51	2005.12.08 08:54	17.00	70.00		Golder				
HLX21	2005.10.28 09:51	2005.12.08 08:54	9.10	80.00		Golder				
HLX21	2005.10.28 09:51	2005.12.08 08:54	81.00	150.00		Golder				
HLX22	2005.10.28 09:51	2005.12.08 08:54	9.19	85.00		Golder				
HLX22	2005.10.28 09:51	2005.12.08 08:54	86.00	163.20		Golder				
HLX23	2005.10.28 09:51	2005.12.08 08:54	6.10	60.00		Golder				
HLX23	2005.10.28 09:51	2005.12.08 08:54	61.00	160.20		Golder				
HLX24	2005.10.28 09:51	2005.12.08 08:54	41.00	175.20		Golder				
KLX02	2005.10.28 09:51	2005.12.08 08:54	202.95	208.00		Golder				
KLX02	2005.10.28 09:51	2005.12.08 08:54	209.00	347.00		Golder				
KLX02	2005.10.28 09:51	2005.12.08 08:54	348.00	451.00		Golder				
KLX07B	2005.10.28 09:51	2005.12.08 08:54	0.00	48.00		Golder				
KLX07B	2005.10.28 09:51	2005.12.08 08:54	49.00	111.00		Golder				
KLX07B	2005.10.28 09:51	2005.12.08 08:54	112.00	200.00		Golder				

Table	plu_inf_test_obs_d PLU interference test, Observation section data		
Column	**Datatype**	**Unit**	**Column Description**
site	CHAR		Investigation site name
activity_type	CHAR		
start_date	DATE		
stop_date	DATE		
project	CHAR		project code
idcode	CHAR		Object or borehole identification code
secup	FLOAT	m	Upper section limit (m)
seclow	FLOAT	m	Lower section limit (m)
section_no	INTEGER	number	Section number
test_type	CHAR		Test type code, one of 7, see table description
formation_type	CHAR		1: Rock, 2: Soil (superficial deposits)
start_flow_period	DATE	yyyymmdd	Date and time start of pumping/injection(YYMMDDhhmmss)
stop_flow_period	DATE	yyyymmdd	Date and time stop of pumping/injection(YYMMDDhhmmss)
test_borehole	CHAR		Idcode of pumped/injected borehole
test_secup	FLOAT	m	Upper limit of pumped/injected section
test_seclow	FLOAT	m	Lower limit of pumped/injected section
lp	FLOAT	m	Hydraulic point of application, see table description
radial_distance_rs	FLOAT	m	Radial distance:test sec.-obs.sec., see table description
shortest_distance_rt	FLOAT	m	Shortest distance: test sec.-obs.sec., see table description
time_lag_press_dtl	FLOAT	s	Time lag, pressure response obs. hole. See table description
initial_head_hi	FLOAT	m	Initial formation hydraulic head, see table description
head_at_flow_end_h	FLOAT	m	Hydraulic head at end of flow phase, see table description
final_head_hf	FLOAT	m	Hydraulic head at end of recovery phase, see table descr.
initial_press_pi	FLOAT	kPa	Initial formation pressure. Actual formation pressure.
press_at_flow_end_p	FLOAT	kPa	Pressure at the end of flow phase, see table descript.
final_press_pf	FLOAT	kPa	Final pressure at the end of recovery phase, see table desc.
fluid_temp_teo	FLOAT	oC	Fluid temperature in formation at observation section
fluid_elcond_eco	FLOAT	mS/m	Fluid electrical conductivity of formation at obs-section
fluid_salinity_tdso	FLOAT	mg/l	Total salinity of section fluid,based on EC see table descr
fluid_salinity_tdsom	FLOAT	mg/l	Tot salinity of section fluid based on sampling,see descr
reference	CHAR		SKB report No for reports describing data and evaluation
comment	CHAR		Short comment to evaluated data.
error_flag	CHAR		If error_flag = "*" then an error occured and an error
in_use	CHAR		If in_use = "*" then the activity has been selected as
sign	CHAR		Signature for QA data accknowledge (QA - OK)

idcode	start_date	stop_date	secup	seclow	section_no	test_type	formation_type	start_flow_period	stop_flow_period	test_borehole	test_secup	test_seclow	lp	radial_distance_rs	shortest_distance_rt	time_lag_press_dtl	initial_head_hi	head_at_flow_end_hp	final_head_hf
HLX10	2005.10.28 09:51	2005.11.03 15:53	3.00	85.00	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	84.00	105.46		209	4.51	3.97	5.31
HLX11	2005.10.28 09:51	2005.11.03 15:53	6.00	16.00	2	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	15.00	175.11		6321	6.37	5.55	6.57
HLX11	2005.10.28 09:51	2005.11.03 15:53	17.00	70.00	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	35.00	160.20		1521	6.25	5.45	6.39
HLX21	2005.10.28 09:51	2005.11.03 15:53	9.10	80.00	2	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	67.00	434.21		9379	5.32	5.14	5.40
HLX21	2005.10.28 09:51	2005.11.03 15:53	81.00	150.00	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	67.00	435.74		10924	5.44	5.14	5.40
HLX22	2005.10.28 09:51	2005.11.03 15:53	9.19	85.00	2	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	47.00	477.00		13961	3.96	3.79	3.92
HLX22	2005.10.28 09:51	2005.11.03 15:53	86.00	163.20	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	121.00	467.00		10756	5.32	5.00	5.28
HLX23	2005.10.28 09:51	2005.11.03 15:53	6.10	60.00	2	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	49.00	361.12		5740	9.82	9.71	9.84
HLX23	2005.10.28 09:51	2005.11.03 15:53	61.00	160.20	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	67.00	362.14		7116	10.03	9.97	10.04
HLX24	2005.10.28 09:51	2005.11.03 15:53	41.00	175.20	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	121.00	368.70		9661	10.03	9.97	10.05
KLX02	2005.10.28 09:51	2005.11.03 15:53	202.95	208.00	8	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	205.50	148.53		8571	7.75	7.25	7.96
KLX02	2005.10.28 09:51	2005.11.03 15:53	209.00	347.00	7	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	278.00	202.22		1731	6.11	5.24	6.21
KLX02	2005.10.28 09:51	2005.11.03 15:53	348.00	451.00	6	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	399.50	310.17		7891	5.47	5.50	5.84
KLX07B	2005.10.28 09:51	2005.11.03 15:53	0.00	48.00	3	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	24.00	131.35		2050	7.02	6.22	7.32
KLX07B	2005.10.28 09:51	2005.11.03 15:53	49.00	111.00	2	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	80.00	92.93		623	6.73	5.87	7.04
KLX07B	2005.10.28 09:51	2005.11.03 15:53	112.00	200.00	1	2	1	051028 12:34:03	051031 13:20:28	KLX07A	103.20	193.20	156.00	83.50		328	6.66	5.72	6.96
HLX11	2005.11.04 21:35	2005.11.12 08:36	6.00	16.00	2	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	15.00	333.03		7020	6.37	6.17	6.28
HLX11	2005.11.04 21:35	2005.11.12 08:36	17.00	70.00	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	35.00	318.19		2203	6.46	6.26	6.41
HLX21	2005.11.04 21:35	2005.11.12 08:36	9.10	80.00	2	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	67.00	460.82		#NV	5.27	4.92	5.25
HLX21	2005.11.04 21:35	2005.11.12 08:36	81.00	150.00	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	67.00	451.13		#NV	5.39	5.04	5.37
HLX22	2005.11.04 21:35	2005.11.12 08:36	9.19	85.00	2	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	47.00	500.00		#NV	3.92	3.72	3.91
HLX22	2005.11.04 21:35	2005.11.12 08:36	86.00	163.20	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	121.00	483.00		#NV	5.27	4.90	5.24
HLX23	2005.11.04 21:35	2005.11.12 08:36	6.10	60.00	2	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	49.00	438.38		#NV	9.81	9.80	9.83
HLX23	2005.11.04 21:35	2005.11.12 08:36	61.00	160.20	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	67.00	429.24		#NV	10.02	10.01	10.04
HLX24	2005.11.04 21:35	2005.11.12 08:36	41.00	175.20	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	121.00	428.99		#NV	10.03	10.02	10.04
KLX02	2005.11.04 21:35	2005.11.12 08:36	202.95	208.00	8	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	205.50	301.92		#NV	7.70	7.54	7.72
KLX02	2005.11.04 21:35	2005.11.12 08:36	209.00	347.00	7	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	278.00	293.03		#NV	6.14	5.94	6.12
KLX02	2005.11.04 21:35	2005.11.12 08:36	348.00	451.00	6	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	399.50	317.84		#NV	5.76	5.70	5.82
KLX07B	2005.11.04 21:35	2005.11.12 08:36	0.00	48.00	3	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	24.00	375.09		1165	6.58	6.45	6.67
KLX07B	2005.11.04 21:35	2005.11.12 08:36	49.00	111.00	2	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	80.00	332.03		1852	6.52	6.34	6.55
KLX07B	2005.11.04 21:35	2005.11.12 08:36	112.00	200.00	1	2	1	051104 22:33:25	051108 07:03:40	KLX07A	335.00	455.00	156.00	280.96		2238	6.60	6.44	6.64
HLX10	2005.11.12 18:54	2005.11.20 20:17	3.00	85.00	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	84.00	144.23		186	5.30	3.92	5.14
HLX11	2005.11.12 18:54	2005.11.20 20:17	6.00	16.00	2	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	15.00	225.27		3332	6.27	5.40	6.26
HLX11	2005.11.12 18:54	2005.11.20 20:17	17.00	70.00	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	35.00	209.12		931	6.32	5.49	6.41
HLX21	2005.11.12 18:54	2005.11.20 20:17	9.10	80.00	2	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	67.00	427.20		#NV	5.24	5.02	5.15
HLX21	2005.11.12 18:54	2005.11.20 20:17	81.00	150.00	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	67.00	423.78		#NV	5.37	5.14	5.27
HLX22	2005.11.12 18:54	2005.11.20 20:17	9.19	85.00	2	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	47.00	468.00		#NV	3.91	3.79	3.84
HLX22	2005.11.12 18:54	2005.11.20 20:17	86.00	163.20	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	121.00	456.00		#NV	5.24	5.00	5.14
HLX23	2005.11.12 18:54	2005.11.20 20:17	6.10	60.00	2	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	49.00	379.29		#NV	9.82	9.72	9.82
HLX23	2005.11.12 18:54	2005.11.20 20:17	61.00	160.20	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	67.00	375.47		#NV	10.03	9.97	10.02
HLX24	2005.11.12 18:54	2005.11.20 20:17	41.00	175.20	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	121.00	378.97		#NV	10.04	9.98	10.03
KLX02	2005.11.12 18:54	2005.11.20 20:17	202.95	208.00	8	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	205.50	189.75		1717	7.62	6.96	7.65
KLX02	2005.11.12 18:54	2005.11.20 20:17	209.00	347.00	7	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	278.00	211.19		557	6.02	5.31	6.09
KLX02	2005.11.12 18:54	2005.11.20 20:17	348.00	451.00	6	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	399.50	287.87		#NV	5.80	5.68	5.76
KLX07B	2005.11.12 18:54	2005.11.20 20:17	0.00	48.00	3	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	24.00	233.32		52	6.34	5.49	6.78
KLX07B	2005.11.12 18:54	2005.11.20 20:17	49.00	111.00	2	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	80.00	191.30		212	6.24	5.42	6.65
KLX07B	2005.11.12 18:54	2005.11.20 20:17	112.00	200.00	1	2	1	051112 19:32:10	051115 15:24:33	KLX07A	193.00	313.00	156.00	149.70		978	6.33	5.54	6.72

idcode	start_date	stop_date	secup	seclow	section_no	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_teo	fluid_elcond_eco	fluid_salinity_tdso	fluid_salinity_tdsom	reference	comment
HLX10	2005.10.28 09:51	2005.11.03 15:53	3.00	85.00	1									
HLX11	2005.10.28 09:51	2005.11.03 15:53	6.00	16.00	2									
HLX11	2005.10.28 09:51	2005.11.03 15:53	17.00	70.00	1									
HLX21	2005.10.28 09:51	2005.11.03 15:53	9.10	80.00	2									
HLX21	2005.10.28 09:51	2005.11.03 15:53	81.00	150.00	1									
HLX22	2005.10.28 09:51	2005.11.03 15:53	9.19	85.00	2									
HLX22	2005.10.28 09:51	2005.11.03 15:53	86.00	163.20	1									
HLX23	2005.10.28 09:51	2005.11.03 15:53	6.10	60.00	2									
HLX23	2005.10.28 09:51	2005.11.03 15:53	61.00	160.20	1									
HLX24	2005.10.28 09:51	2005.11.03 15:53	41.00	175.20	1									
KLX02	2005.10.28 09:51	2005.11.03 15:53	202.95	208.00	8									
KLX02	2005.10.28 09:51	2005.11.03 15:53	209.00	347.00	7									
KLX02	2005.10.28 09:51	2005.11.03 15:53	348.00	451.00	6									
KLX07B	2005.10.28 09:51	2005.11.03 15:53	0.00	48.00	3									
KLX07B	2005.10.28 09:51	2005.11.03 15:53	49.00	111.00	2									
KLX07B	2005.10.28 09:51	2005.11.03 15:53	112.00	200.00	1									
HLX11	2005.11.04 21:35	2005.11.12 08:36	6.00	16.00	2									
HLX11	2005.11.04 21:35	2005.11.12 08:36	17.00	70.00	1									
HLX21	2005.11.04 21:35	2005.11.12 08:36	9.10	80.00	2									
HLX21	2005.11.04 21:35	2005.11.12 08:36	81.00	150.00	1									
HLX22	2005.11.04 21:35	2005.11.12 08:36	9.19	85.00	2									
HLX22	2005.11.04 21:35	2005.11.12 08:36	86.00	163.20	1									
HLX23	2005.11.04 21:35	2005.11.12 08:36	6.10	60.00	2									
HLX23	2005.11.04 21:35	2005.11.12 08:36	61.00	160.20	1									
HLX24	2005.11.04 21:35	2005.11.12 08:36	41.00	175.20	1									
KLX02	2005.11.04 21:35	2005.11.12 08:36	202.95	208.00	8									
KLX02	2005.11.04 21:35	2005.11.12 08:36	209.00	347.00	7									
KLX02	2005.11.04 21:35	2005.11.12 08:36	348.00	451.00	6									
KLX07B	2005.11.04 21:35	2005.11.12 08:36	0.00	48.00	3									
KLX07B	2005.11.04 21:35	2005.11.12 08:36	49.00	111.00	2									
KLX07B	2005.11.04 21:35	2005.11.12 08:36	112.00	200.00	1									
HLX10	2005.11.12 18:54	2005.11.20 20:17	3.00	85.00	1									
HLX11	2005.11.12 18:54	2005.11.20 20:17	6.00	16.00	2									
HLX11	2005.11.12 18:54	2005.11.20 20:17	17.00	70.00	1									
HLX21	2005.11.12 18:54	2005.11.20 20:17	9.10	80.00	2									
HLX21	2005.11.12 18:54	2005.11.20 20:17	81.00	150.00	1									
HLX22	2005.11.12 18:54	2005.11.20 20:17	9.19	85.00	2									
HLX22	2005.11.12 18:54	2005.11.20 20:17	86.00	163.20	1									
HLX23	2005.11.12 18:54	2005.11.20 20:17	6.10	60.00	2									
HLX23	2005.11.12 18:54	2005.11.20 20:17	61.00	160.20	1									
HLX24	2005.11.12 18:54	2005.11.20 20:17	41.00	175.20	1									
KLX02	2005.11.12 18:54	2005.11.20 20:17	202.95	208.00	8									
KLX02	2005.11.12 18:54	2005.11.20 20:17	209.00	347.00	7									
KLX02	2005.11.12 18:54	2005.11.20 20:17	348.00	451.00	6									
KLX07B	2005.11.12 18:54	2005.11.20 20:17	0.00	48.00	3									
KLX07B	2005.11.12 18:54	2005.11.20 20:17	49.00	111.00	2									
KLX07B	2005.11.12 18:54	2005.11.20 20:17	112.00	200.00	1									

Table	plu_inf_test_obs_ed PLU interference test,Observation section evaluation		
Column	**Datatype**	**Unit**	**Column Description**
site	CHAR		Investigation site name
activity_type	CHAR		Activity type code
start_date	DATE		Date (yymmdd hh:mm:ss)
stop_date	DATE		Date (yymmdd hh:mm:ss)
project	CHAR		project code
idcode	CHAR		Object or borehole identification code
secup	FLOAT	m	Upper section limit (m)
seclow	FLOAT	m	Lower section limit (m)
section_no	INTEGER	number	Section number
test_borehole	CHAR		Idcode of pumped/injected borehole
test_secup	FLOAT	m	Upper limit of pumped/injected section
test_seclow	FLOAT	m	Lower limit of pumped/injected section
formation_width_b	FLOAT	m	b:interpreted formation thickness repr. for evaluated T/B
width_of_channel_b	FLOAT	m	B:Interpreted width of formation with evaluated TB
tbo	FLOAT	m**3/s	TBo,T=transmissivity,B= width of formation, see table descr.
l_meas_limit_tb	FLOAT	m**3/s	Estimated lower limit for evaluated TB, see table descript.
u_meas_limit_tb	FLOAT	m**3/s	Estimated upper limit for evaluated TB,see table descript.
sbo	FLOAT	m	SBo;S=storativity,B=width of formation,see table description
leakage_factor_lfo	FLOAT	m	Lfo: 1D model for evaluation of leakage factor
transmissivity_tto	FLOAT	m**2/s	TTo=transmissivity, 2D model, see table description
value_type_tto	CHAR		0:true value (TTo),-1:<lower meas.limit,1:>upper meaus.limit
l_meas_limit_t	FLOAT	m**2/s	Estimated lower limit for evaluated TTO,see table descript.
u_meas_limit_t	FLOAT	m**2/s	Estimated upper limit of evaluated TTo,see table description
storativity_so	FLOAT		S:2D model for evaluation of storativity, see table descr.
leakage_coeff_o	FLOAT	1/s	K´/b´ :2D model evaluation of leakage coefficient,see descr.
hydr_kond_kso	FLOAT	m**2/s	3Dmodel evaluation of hydraulic conductivity,see table desc.
l_meas_limit_ks	FLOAT	m**2/s	Estimated lowermeas. limit of Ks,see table description
u_meas_limit_ks	FLOAT	m**2/s	Estimated upper meas. limit of Ks,see table description
spec_storage_sso	FLOAT	1/m	3Dmodel for evaluation of specific storage,se table descr.
dt1	FLOAT	s	Estimated start time of evaluation, see table description
dt2	FLOAT	s	Estimated stop time of evaluation, see table description
comments	CHAR		short comment to the evaluated parameters(0ptional)
error_flag	CHAR		If error_flag = "*" then an error occured and an error
in_use	CHAR		If in_use = "*" then the activity has been selected as
sign	CHAR		Signature for QA data acknowledge (QA - OK)

idcode	start_date	stop_date	secup	seclow	section_no	test_borehole	test_secup	test_seclow	formation_width_b	width_of_channel_b	tbo	l_meas_limit_tb	u_meas_limit_tb	sbo	leakage_factor_lfo	transmissivity_tto	value_type_tto	l_meas_limit_t	u_meas_limit_t	storativity_so
HLX10	2005.10.28 09:51	2005.11.03 15:53	3.00	85.00	1	KLX07A	103.20	193.20								1.39E-04	0	6.00E-05	5.00E-04	9.33E-05
HLX11	2005.10.28 09:51	2005.11.03 15:53	6.00	16.00	2	KLX07A	103.20	193.20								1.38E-04	0	8.00E-05	3.00E-04	3.45E-04
HLX11	2005.10.28 09:51	2005.11.03 15:53	17.00	70.00	1	KLX07A	103.20	193.20								2.05E-04	0	8.00E-05	4.00E-04	2.24E-04
HLX21	2005.10.28 09:51	2005.11.03 15:53	9.10	80.00	2	KLX07A	103.20	193.20								3.88E-04	0	1.00E-04	8.00E-04	1.33E-04
HLX21	2005.10.28 09:51	2005.11.03 15:53	81.00	150.00	1	KLX07A	103.20	193.20								3.96E-04	0	1.00E-04	8.00E-04	1.27E-04
HLX22	2005.10.28 09:51	2005.11.03 15:53	9.19	85.00	2	KLX07A	103.20	193.20								6.84E-04	0	4.00E-04	9.00E-04	2.68E-04
HLX22	2005.10.28 09:51	2005.11.03 15:53	86.00	163.20	1	KLX07A	103.20	193.20								3.78E-04	0	1.00E-04	8.00E-04	1.15E-04
HLX23	2005.10.28 09:51	2005.11.03 15:53	6.10	60.00	2	KLX07A	103.20	193.20								1.63E-03	0	9.00E-04	4.00E-03	1.95E-04
HLX23	2005.10.28 09:51	2005.11.03 15:53	61.00	160.20	1	KLX07A	103.20	193.20								2.64E-03	0	1.00E-03	5.00E-03	6.43E-04
HLX24	2005.10.28 09:51	2005.11.03 15:53	41.00	175.20	1	KLX07A	103.20	193.20								2.16E-03	0	1.00E-03	5.00E-03	6.25E-04
KLX02	2005.10.28 09:51	2005.11.03 15:53	202.95	208.00	8	KLX07A	103.20	193.20								2.44E-04	0	1.00E-04	4.00E-04	6.68E-04
KLX02	2005.10.28 09:51	2005.11.03 15:53	209.00	347.00	7	KLX07A	103.20	193.20								2.34E-04	0	8.00E-05	5.00E-04	7.27E-05
KLX02	2005.10.28 09:51	2005.11.03 15:53	348.00	451.00	6	KLX07A	103.20	193.20								6.91E-04	0	2.00E-04	1.00E-03	2.25E-04
KLX07B	2005.10.28 09:51	2005.11.03 15:53	0.00	48.00	3	KLX07A	103.20	193.20								1.40E-04	0	1.00E-04	4.00E-04	1.26E-04
KLX07B	2005.10.28 09:51	2005.11.03 15:53	49.00	111.00	2	KLX07A	103.20	193.20								1.69E-04	0	9.00E-05	4.00E-04	2.23E-04
KLX07B	2005.10.28 09:51	2005.11.03 15:53	112.00	200.00	1	KLX07A	103.20	193.20								1.38E-04	0	9.00E-05	4.00E-04	2.35E-04
HLX11	2005.11.04 21:35	2005.11.12 08:36	6.00	16.00	2	KLX07A	335.00	455.00								1.76E-04	0	8.00E-05	4.00E-04	2.83E-04
HLX11	2005.11.04 21:35	2005.11.12 08:36	17.00	70.00	1	KLX07A	335.00	455.00								1.85E-04	0	8.00E-05	4.00E-04	2.93E-04
HLX21	2005.11.04 21:35	2005.11.12 08:36	9.10	80.00	2	KLX07A	335.00	455.00								2.19E-04	0	7.00E-05	4.00E-04	2.76E-05
HLX21	2005.11.04 21:35	2005.11.12 08:36	81.00	150.00	1	KLX07A	335.00	455.00								1.48E-04	0	8.00E-05	4.00E-04	5.34E-05
HLX22	2005.11.04 21:35	2005.11.12 08:36	9.19	85.00	2	KLX07A	335.00	455.00								2.20E-04	0	7.00E-05	5.00E-04	9.49E-05
HLX22	2005.11.04 21:35	2005.11.12 08:36	86.00	163.20	1	KLX07A	335.00	455.00								1.74E-04	0	7.00E-05	5.00E-04	4.58E-05
HLX23	2005.11.04 21:35	2005.11.12 08:36	6.10	60.00	2	KLX07A	335.00	455.00									0	6.00E-04	6.00E-03	
HLX23	2005.11.04 21:35	2005.11.12 08:36	61.00	160.20	1	KLX07A	335.00	455.00									0	5.00E-04	7.00E-03	
HLX24	2005.11.04 21:35	2005.11.12 08:36	41.00	175.20	1	KLX07A	335.00	455.00									0	6.00E-04	8.00E-03	
KLX02	2005.11.04 21:35	2005.11.12 08:36	202.95	208.00	8	KLX07A	335.00	455.00								3.47E-04	0	8.00E-05	7.00E-04	1.03E-04
KLX02	2005.11.04 21:35	2005.11.12 08:36	209.00	347.00	7	KLX07A	335.00	455.00								2.69E-04	0	7.00E-05	6.00E-04	3.68E-05
KLX02	2005.11.04 21:35	2005.11.12 08:36	348.00	451.00	6	KLX07A	335.00	455.00									0	2.00E-04	5.00E-03	
KLX07B	2005.11.04 21:35	2005.11.12 08:36	0.00	48.00	3	KLX07A	335.00	455.00								2.88E-04	0	8.00E-05	6.00E-04	1.75E-05
KLX07B	2005.11.04 21:35	2005.11.12 08:36	49.00	111.00	2	KLX07A	335.00	455.00								2.61E-04	0	8.00E-05	6.00E-04	2.71E-05
KLX07B	2005.11.04 21:35	2005.11.12 08:36	112.00	200.00	1	KLX07A	335.00	455.00								2.33E-04	0	8.00E-05	6.00E-04	4.50E-05
HLX10	2005.11.12 18:54	2005.11.20 20:17	3.00	85.00	1	KLX07A	193.00	313.00								1.81E-04	0	6.00E-05	5.00E-04	1.25E-05
HLX11	2005.11.12 18:54	2005.11.20 20:17	6.00	16.00	2	KLX07A	193.00	313.00								1.10E-04	0	9.00E-05	3.00E-04	1.56E-04
HLX11	2005.11.12 18:54	2005.11.20 20:17	17.00	70.00	1	KLX07A	193.00	313.00								1.59E-04	0	9.00E-05	4.00E-04	1.08E-04
HLX21	2005.11.12 18:54	2005.11.20 20:17	9.10	80.00	2	KLX07A	193.00	313.00								3.88E-04	0	8.00E-05	8.00E-04	1.52E-04
HLX21	2005.11.12 18:54	2005.11.20 20:17	81.00	150.00	1	KLX07A	193.00	313.00								3.51E-04	0	8.00E-05	8.00E-04	1.71E-04
HLX22	2005.11.12 18:54	2005.11.20 20:17	9.19	85.00	2	KLX07A	193.00	313.00								1.20E-03	0	7.00E-04	4.00E-03	1.67E-04
HLX22	2005.11.12 18:54	2005.11.20 20:17	86.00	163.20	1	KLX07A	193.00	313.00								9.12E-04	0	3.00E-04	2.00E-03	1.55E-04
HLX23	2005.11.12 18:54	2005.11.20 20:17	6.10	60.00	2	KLX07A	193.00	313.00								2.85E-03	0	7.00E-04	5.00E-03	1.33E-04
HLX23	2005.11.12 18:54	2005.11.20 20:17	61.00	160.20	1	KLX07A	193.00	313.00								2.82E-03	0	8.00E-04	5.00E-03	1.60E-04
HLX24	2005.11.12 18:54	2005.11.20 20:17	41.00	175.20	1	KLX07A	193.00	313.00								1.59E-03	0	7.00E-04	7.00E-03	5.40E-05
KLX02	2005.11.12 18:54	2005.11.20 20:17	202.95	208.00	8	KLX07A	193.00	313.00								1.72E-04	0	9.00E-05	3.00E-04	8.61E-05
KLX02	2005.11.12 18:54	2005.11.20 20:17	209.00	347.00	7	KLX07A	193.00	313.00								2.40E-04	0	9.00E-05	4.00E-04	7.68E-05
KLX02	2005.11.12 18:54	2005.11.20 20:17	348.00	451.00	6	KLX07A	193.00	313.00								1.01E-03	0	6.00E-04	6.00E-03	8.68E-05
KLX07B	2005.11.12 18:54	2005.11.20 20:17	0.00	48.00	3	KLX07A	193.00	313.00								2.15E-04	0	9.00E-05	4.00E-04	2.10E-05
KLX07B	2005.11.12 18:54	2005.11.20 20:17	49.00	111.00	2	KLX07A	193.00	313.00								1.49E-04	0	9.00E-05	3.00E-04	2.42E-05
KLX07B	2005.11.12 18:54	2005.11.20 20:17	112.00	200.00	1	KLX07A	193.00	313.00								1.16E-04	0	9.00E-05	4.00E-04	6.13E-05

idcode	start_date	stop_date	secup	seclow	section_no	test_borehole	test_secup	test_seclow	leakage_coeff_o	hydr_kond_kso	l_meas_limit_ks	u_meas_limit_ks	spec_storage_sso	dt1	dt2	comments
HLX10	2005.10.28 09:51	2005.11.03 15:53	3.00	85.00	1	KLX07A	103.20	193.20						1074	4020	
HLX11	2005.10.28 09:51	2005.11.03 15:53	6.00	16.00	2	KLX07A	103.20	193.20						1788	2718	
HLX11	2005.10.28 09:51	2005.11.03 15:53	17.00	70.00	1	KLX07A	103.20	193.20						858	2952	
HLX21	2005.10.28 09:51	2005.11.03 15:53	9.10	80.00	2	KLX07A	103.20	193.20						1548	4122	
HLX21	2005.10.28 09:51	2005.11.03 15:53	81.00	150.00	1	KLX07A	103.20	193.20						2238	3984	
HLX22	2005.10.28 09:51	2005.11.03 15:53	9.19	85.00	2	KLX07A	103.20	193.20						2352	3996	
HLX22	2005.10.28 09:51	2005.11.03 15:53	86.00	163.20	1	KLX07A	103.20	193.20						1536	3996	
HLX23	2005.10.28 09:51	2005.11.03 15:53	6.10	60.00	2	KLX07A	103.20	193.20						894	3708	
HLX23	2005.10.28 09:51	2005.11.03 15:53	61.00	160.20	1	KLX07A	103.20	193.20						1548	3984	
HLX24	2005.10.28 09:51	2005.11.03 15:53	41.00	175.20	1	KLX07A	103.20	193.20						1872	3912	
KLX02	2005.10.28 09:51	2005.11.03 15:53	202.95	208.00	8	KLX07A	103.20	193.20						1008	2340	
KLX02	2005.10.28 09:51	2005.11.03 15:53	209.00	347.00	7	KLX07A	103.20	193.20						1242	4038	
KLX02	2005.10.28 09:51	2005.11.03 15:53	348.00	451.00	6	KLX07A	103.20	193.20						1506	4002	
KLX07B	2005.10.28 09:51	2005.11.03 15:53	0.00	48.00	3	KLX07A	103.20	193.20						1038	3810	
KLX07B	2005.10.28 09:51	2005.11.03 15:53	49.00	111.00	2	KLX07A	103.20	193.20						#NV	#NV	
KLX07B	2005.10.28 09:51	2005.11.03 15:53	112.00	200.00	1	KLX07A	103.20	193.20						144	366	
HLX11	2005.11.04 21:35	2005.11.12 08:36	6.00	16.00	2	KLX07A	335.00	455.00						3228	4110	
HLX11	2005.11.04 21:35	2005.11.12 08:36	17.00	70.00	1	KLX07A	335.00	455.00						#NV	#NV	
HLX21	2005.11.04 21:35	2005.11.12 08:36	9.10	80.00	2	KLX07A	335.00	455.00						3072	4020	
HLX21	2005.11.04 21:35	2005.11.12 08:36	81.00	150.00	1	KLX07A	335.00	455.00						2016	4050	
HLX22	2005.11.04 21:35	2005.11.12 08:36	9.19	85.00	2	KLX07A	335.00	455.00						3114	4050	
HLX22	2005.11.04 21:35	2005.11.12 08:36	86.00	163.20	1	KLX07A	335.00	455.00						2466	4590	
HLX23	2005.11.04 21:35	2005.11.12 08:36	6.10	60.00	2	KLX07A	335.00	455.00								
HLX23	2005.11.04 21:35	2005.11.12 08:36	61.00	160.20	1	KLX07A	335.00	455.00								
HLX24	2005.11.04 21:35	2005.11.12 08:36	41.00	175.20	1	KLX07A	335.00	455.00								
KLX02	2005.11.04 21:35	2005.11.12 08:36	202.95	208.00	8	KLX07A	335.00	455.00						2418	3804	
KLX02	2005.11.04 21:35	2005.11.12 08:36	209.00	347.00	7	KLX07A	335.00	455.00						2550	3918	
KLX02	2005.11.04 21:35	2005.11.12 08:36	348.00	451.00	6	KLX07A	335.00	455.00								
KLX07B	2005.11.04 21:35	2005.11.12 08:36	0.00	48.00	3	KLX07A	335.00	455.00						156	306	
KLX07B	2005.11.04 21:35	2005.11.12 08:36	49.00	111.00	2	KLX07A	335.00	455.00						169	296	
KLX07B	2005.11.04 21:35	2005.11.12 08:36	112.00	200.00	1	KLX07A	335.00	455.00						252	354	
HLX10	2005.11.12 18:54	2005.11.20 20:17	3.00	85.00	1	KLX07A	193.00	313.00						162	3384	
HLX11	2005.11.12 18:54	2005.11.20 20:17	6.00	16.00	2	KLX07A	193.00	313.00						1182	1920	
HLX11	2005.11.12 18:54	2005.11.20 20:17	17.00	70.00	1	KLX07A	193.00	313.00						1212	4020	
HLX21	2005.11.12 18:54	2005.11.20 20:17	9.10	80.00	2	KLX07A	193.00	313.00						#NV	#NV	
HLX21	2005.11.12 18:54	2005.11.20 20:17	81.00	150.00	1	KLX07A	193.00	313.00						#NV	#NV	
HLX22	2005.11.12 18:54	2005.11.20 20:17	9.19	85.00	2	KLX07A	193.00	313.00						#NV	#NV	
HLX22	2005.11.12 18:54	2005.11.20 20:17	86.00	163.20	1	KLX07A	193.00	313.00						#NV	#NV	
HLX23	2005.11.12 18:54	2005.11.20 20:17	6.10	60.00	2	KLX07A	193.00	313.00						#NV	#NV	
HLX23	2005.11.12 18:54	2005.11.20 20:17	61.00	160.20	1	KLX07A	193.00	313.00						#NV	#NV	
HLX24	2005.11.12 18:54	2005.11.20 20:17	41.00	175.20	1	KLX07A	193.00	313.00						#NV	#NV	
KLX02	2005.11.12 18:54	2005.11.20 20:17	202.95	208.00	8	KLX07A	193.00	313.00						2064	3708	
KLX02	2005.11.12 18:54	2005.11.20 20:17	209.00	347.00	7	KLX07A	193.00	313.00						990	2400	
KLX02	2005.11.12 18:54	2005.11.20 20:17	348.00	451.00	6	KLX07A	193.00	313.00						#NV	#NV	
KLX07B	2005.11.12 18:54	2005.11.20 20:17	0.00	48.00	3	KLX07A	193.00	313.00						246	2964	
KLX07B	2005.11.12 18:54	2005.11.20 20:17	49.00	111.00	2	KLX07A	193.00	313.00						192	3372	
KLX07B	2005.11.12 18:54	2005.11.20 20:17	112.00	200.00	1	KLX07A	193.00	313.00						510	3378	