

## **Forsmark site investigation**

### **Single-hole injection tests in borehole KFM06C**

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February 2006

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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.

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# Abstract

Borehole KFM06C is a deep core-drilled borehole within the site investigations in the Forsmark area. It is designed as a so called telescopic borehole, with an enlarged diameter in the upper approximately 100 m, enabling installation of certain bulky borehole equipment. The borehole is inclined c 60° from the horizontal plane, has a drilling length about 1,000 m and is cased to a depth of about 102 m. The borehole diameter is about 77 mm in the interval 102–1,000 m.

This report presents injection tests performed using the pipe string system PSS3 in borehole KFM06C and the test results.

The main aim of the injection tests in KFM06C was to characterize the hydraulic conditions of the rock adjacent to the borehole on different measurement scales (100 m, 20 m and 5 m). Hydraulic parameters such as transmissivity and hydraulic conductivity were determined using analysis methods for stationary as well as transient conditions together with the dominating flow regime and possible outer hydraulic boundaries.

The injection tests gave consistent results on the different measurement scales regarding transmissivity. During most of the tests, some period with pseudo-radial flow could be identified from the injection period, making a relatively straight-forward transient evaluation possible. However, the recovery periods in KFM06C were often strongly affected by wellbore storage, making a transient evaluation of this period more difficult.

The most conductive zones are the intervals between 141.5–146.5 m, 164.5–169.5 m and 179.5–184.5 m. These three sections contribute to c 40% of the total transmissivity of KFM06C. The section 141.5–146.5 m itself represents c 25% of the total transmissivity. There is also a section with relatively high transmissivity between 392.0–397.0 m, contributing to c 4% of the total transmissivity.

The injection tests provide a database for statistical analysis of the hydraulic conductivity distribution along the borehole on the different measurement scales. Basic statistical parameters are presented in this report.

# Sammanfattning

Borrhål KFM06C är ett djupt kärnborrhål inom platsundersökningarna i Forsmarksområdet. Det är utfört som ett så kallat teleskopborrhål för att göra det möjligt att installera viss borrhålsutrustning i det övre, ca 100 m långa partiet med större diameter än resten av borrhålet. Borrhålet är ca 1 000 m långt, lutar ca 60 grader från horisontalplanet och är försett med foderrör till ca 102 m. Borrhålsdiametern är ca 77 mm i intervallet 102–1 000 m.

Denna rapport beskriver genomförda injektionstester med rörgångssystemet PSS3 i borrhål KFM06C samt resultaten från desamma.

Huvudsyftet med injektionstesterna var att karaktärisera de hydrauliska förhållandena hos berget i anslutning till borrhålet i olika mätskalor (100 m, 20 m och 5 m). Hydrauliska parametrar såsom transmissivitet och hydraulisk konduktivitet bestämdes med hjälp av analysmetoder för såväl stationära som transienta förhållanden tillsammans med dominerande flödesregim och eventuella yttre hydrauliska randvillkor.

Injektionstesterna gav samstämmiga resultat för de olika mätskalorna beträffande transmissivitet. Under de flesta tester kunde en viss period med pseudoradiellt flöde identifieras från flödesperioden, vilket möjliggjorde en standardmässig transient utvärdering. Återhämtningsperioden i KFM06C var däremot ofta starkt påverkad av brunnsmagasinseffekter, vilket gjorde en unik transient utvärdering av denna period svårare.

De mest konduktiva zonerna är intervallen mellan 141,5–146,5 m, 164,5–169,5 m och 179,5–184,5 m. Dessa tre sektioner bidrar till ca 40 % av den totala transmissiviteten i KFM06C. Sektionen 141,5–146,5 står ensam för ca 25 % av den totala transmissiviteten. Det finns också en sektion med relativt hög transmissivitet vid 392,0–397,0 m, som bidrar till ca 4 % av den totala transmissiviteten.

Resultaten från injektionstesterna utgör en databas för statistisk analys av den hydrauliska konduktivitetens fördelning längs borrhålet i de olika mätskalorna. Viss statistisk analys har utförts inom ramen för denna aktivitet och grundläggande statistiska parametrar presenteras i rapporten.

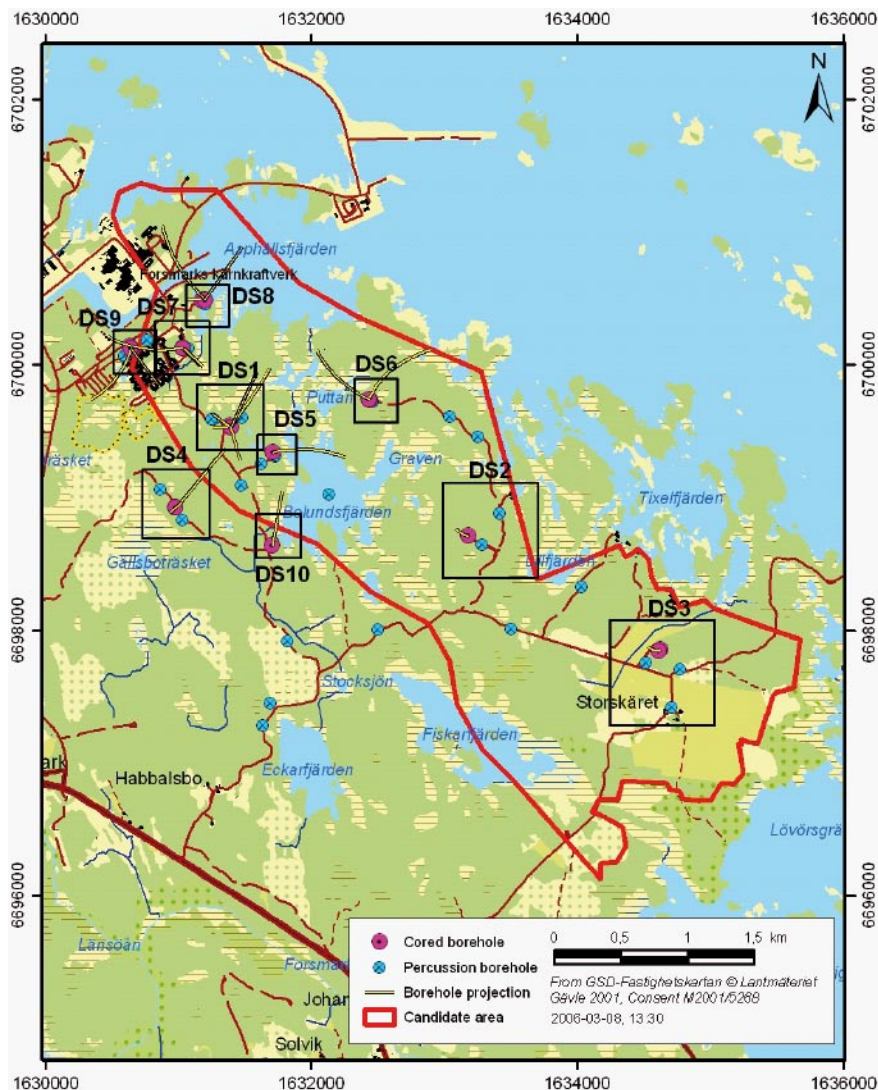
# Contents

<b>1</b>	<b>Introduction</b>	<b>7</b>
<b>2</b>	<b>Objectives</b>	<b>9</b>
<b>3</b>	<b>Scope</b>	<b>11</b>
3.1	Borehole data	11
3.2	Tests performed	11
3.3	Equipment checks	15
<b>4</b>	<b>Description of equipment</b>	<b>17</b>
4.1	Overview	17
4.1.1	Measurement container	17
4.1.2	Down-hole equipment	18
4.2	Measurement sensors	19
4.3	Data acquisition system	20
<b>5</b>	<b>Execution</b>	<b>21</b>
5.1	Preparation	21
5.1.1	Calibration	21
5.1.2	Functioning checks	21
5.1.3	Cleaning of equipment	21
5.2	Test performance	21
5.2.1	Test principle	21
5.2.2	Test procedure	21
5.2.3	Test strategy	22
5.3	Data handling	22
5.4	Analysis and interpretation	23
5.4.1	General	23
5.4.2	Measurement limit for flow rate and specific flow rate	23
5.4.4	Qualitative analysis	25
5.4.1	Quantitative analysis	25
5.1	Nonconformities	29
<b>6</b>	<b>Results</b>	<b>31</b>
6.1	Nomenclature and symbols	31
6.2	Routine evaluation of the single-hole injection tests	31
6.2.1	General test data	31
6.2.2	Length corrections	31
6.2.3	General results	32
6.2.4	Comments on the tests	40
6.2.5	Flow regimes	66
6.3	Comparison of transmissivity values on different test scales	67
6.4	Basic statistics of hydraulic conductivity distributions in different scales	72
<b>7</b>	<b>References</b>	<b>73</b>
<b>8</b>	<b>Appendices</b>	<b>75</b>

# 1 Introduction

Injection tests in borehole KFM06C at Forsmark, Sweden, were carried out during September, October and November of 2005 by Geosigma AB. The borehole KFM06C is a deep cored borehole within the on-going site investigation in the Forsmark area. The borehole is a so called telescopic borehole and designed with an enlarged diameter in the upper approximately 100 m percussion drilled part, allowing for installation of certain bulky borehole equipment. The borehole is inclined, c 60° from the horizontal plane, has a drilling length of about 1,000 m and is cased to about 102 m. The borehole diameter is about 77 mm in the interval 102.08–1,000.43 m. The location of the borehole is shown in Figure 1-1.

This document reports the results obtained from the injection tests in borehole KFM06C. The activity is performed within the Forsmark site investigation. The work was carried out in compliance with the SKB internal controlling documents presented in Table 1-1. Data and results were delivered to the SKB site characterization database.



**Figure 1-1.** The investigation area at Forsmark including the candidate area selected for more detailed investigations. Borehole KFM06C is situated at drill site DS6.

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

<b>Activity Plan</b>	<b>Number</b>	<b>Version</b>
Hydraulic injection tests in borehole KFM06C with PSS3	AP PF 400-05-087	1.0
<b>Method descriptions</b>	<b>Number</b>	<b>Version</b>
Mätsystembeskrivning (MSB) – Allmän del. Pipe String System (PSS3)	SKB MD 345.100	1.0
Mätsystembeskrivning för: Kalibrering, PSS3	SKB MD 345.122	1.0
Mätsystembeskrivning för: Skötsel, service, serviceprotokoll, PSS3	SKB MD 345.124	1.0
Metodbeskrivning för hydrauliska injektionstester	SKB MD 323.01	1.0
Instruktion för analys av injektions- och enhåls-pumptester	SKB MD 320.004	1.0
Instruktion för rengöring av borrhålsutrustning och viss mark-baserad utrustning	SKB MD 600.04	1.0

## 2 Objectives

The main aim of the injection tests in borehole KFM06C was to characterize the hydraulic properties of the rock adjacent to the borehole on different measurement scales (100 m, 20 m and 5 m). The primary parameter to be determined was hydraulic transmissivity from which hydraulic conductivity can be derived. The results of the injection tests provide a database which can be used for statistical analyses of the hydraulic conductivity distribution along the borehole on different measurement scales. Basic statistical analyses are presented in this report.

Other hydraulic parameters of interest were flow regimes and outer hydraulic boundaries. These parameters were analysed using transient evaluation on the test responses during the flow- and recovery periods.



## 3 Scope

### 3.1 Borehole data

Technical data of the tested borehole are shown in Table 3-1 and in Appendix 4. The reference point of the borehole is defined as the centre of top of casing (ToC), given as “Elevation” in the table below. The Swedish National coordinate system (RT90) is used for the horizontal coordinates together with RHB70 for the elevation. “Northing” and “Easting” refer to the top of the borehole.

**Table 3-1. Technical data of borehole KFM06C (printout from SKB database, SICADA).**

<b>Borehole length (m):</b>	1,000.430				
<b>Drilling period(s):</b>	<b>From date</b>	<b>To date</b>	<b>Secup (m)</b>	<b>Seclow (m)</b>	<b>Drilling type</b>
	2005-04-27	2005-06-30	100.400	1,000.430	Core drilling
<b>Starting point coordinate:</b>	<b>Length (m)</b>	<b>Northing (m)</b>	<b>Easting (m)</b>	<b>Elevation</b>	<b>Coord System</b>
	0.00	6699740.961	1632437.029	4.085	RT90-RHB70
	3.00	6699742.303	1632437.686	1.484	RT90-RHB70
<b>Angles:</b>	<b>Length (m)</b>	<b>Bearing</b>	<b>Inclination (– = down)</b>		
	0.00	26.067	–60.124		
<b>Borehole diameter:</b>	<b>Secup (m)</b>	<b>Seclow (m)</b>	<b>Hole diam (m)</b>		
	0.00	12.140	0.339		
	12.140	18.00	0.260		
	18.00	100.350	0.249		
	100.350	100.400	0.162		
	100.400	102.080	0.086		
	102.080	1,000.430	0.077		
<b>Core diameter:</b>	<b>Secup (m)</b>	<b>Seclow (m)</b>	<b>Core diam (m)</b>		
	100.400	102.080	0.070		
	102.080	1,000.430	0.051		
<b>Casing diameter:</b>	<b>Secup (m)</b>	<b>Seclow (m)</b>	<b>Case in (m)</b>	<b>Case out (m)</b>	
	0.00	100.070	0.200	0.208	
	0.200	12.00	0.280	0.324	
	100.070	100.120	0.170	0.208	

### 3.2 Tests performed

The injection tests in borehole KFM06C, performed according to Activity Plan AP PF 400-05-087 (see Table 1-1), are listed in Table 3-2. The injection tests were carried out with the Pipe String System (PSS3). The test procedure and the equipment are described in the measurement system description for PSS (SKB MD 345.100) and in the corresponding method descriptions for hydraulic injection tests (SKB MD 323.01, Table 1-1).

Some of the tests were not performed as intended because the time required for achieving a constant head in the test section was judged to be too long or, in other cases, equipment malfunctions caused pressure and/or flow rate disturbances. Whenever such disturbances were expected to affect data evaluation, the test was repeated. Test number (Test no in Table 3-2) refers to the number of tests performed in the actual section. For evaluation, only data from the last test in each section were used.

**Table 3-2. Single-hole injection tests performed in borehole KFM06C.**

Borehole Bh ID	Test section		Section length	Test type <sup>1</sup> (1-6)	Test no	Test start date, time YYYYMMDD hh:mm	Test stop date, time YYYYMMDD hh:mm
	secup	seclow					
KFM06C	104.50	204.50	100.0	3	1	2005-09-29 15:44	2005-09-29 17:39
KFM06C	204.50	304.50	100.0	3	1	2005-09-30 10:33	2005-09-30 12:46
KFM06C	304.50	404.50	100.0	3	1	2005-09-30 15:13	2005-09-30 17:03
KFM06C	404.50	504.50	100.0	3	2	2005-10-05 09:32	2005-10-05 11:24
KFM06C	504.50	604.50	100.0	3	1	2005-10-03 13:30	2005-10-03 15:27
KFM06C	604.50	704.50	100.0	3	1	2005-10-04 06:23	2005-10-04 08:17
KFM06C	691.00	791.00	100.0	3	1	2005-10-04 09:24	2005-10-04 11:19
KFM06C	791.00	891.00	100.0	3	1	2005-10-04 15:03	2005-10-04 17:14
KFM06C	891.00	991.00	100.0	3	1	2005-10-04 18:39	2005-10-04 20:45
KFM06C	104.50	124.50	20.0	3	1	2005-10-06 09:01	2005-10-06 10:58
KFM06C	124.50	144.50	20.0	3	1	2005-10-06 11:18	2005-10-06 13:32
KFM06C	144.50	164.50	20.0	3	1	2005-10-06 13:57	2005-10-06 15:12
KFM06C	164.50	184.50	20.0	3	3	2005-10-14 13:50	2005-10-14 15:09
KFM06C	184.50	204.50	20.0	3	1	2005-10-06 17:05	2005-10-06 18:24
KFM06C	204.50	224.50	20.0	3	1	2005-10-06 18:51	2005-10-06 20:12
KFM06C	224.50	244.50	20.0	3	1	2005-10-06 20:41	2005-10-06 22:05
KFM06C	244.50	264.50	20.0	3	1	2005-10-06 22:30	2005-10-06 23:52
KFM06C	264.50	284.50	20.0	3	1	2005-10-07 08:22	2005-10-07 09:50
KFM06C	284.50	304.50	20.0	3	1	2005-10-07 10:36	2005-10-07 11:58
KFM06C	304.50	324.50	20.0	3	1	2005-10-07 13:43	2005-10-07 15:18
KFM06C	324.50	344.50	20.0	3	1	2005-10-07 15:45	2005-10-07 17:03
KFM06C	344.50	364.50	20.0	3	1	2005-10-10 08:44	2005-10-10 10:07
KFM06C	364.50	384.50	20.0	3	1	2005-10-10 10:42	2005-10-10 12:05
KFM06C	384.50	404.50	20.0	3	1	2005-10-10 13:44	2005-10-10 15:01
KFM06C	387.00	407.00	20.0	3	1	2005-10-10 15:24	2005-10-10 16:41
KFM06C	407.00	427.00	20.0	3	1	2005-10-10 17:06	2005-10-10 18:23
KFM06C	427.00	447.00	20.0	3	1	2005-10-11 08:03	2005-10-11 09:30
KFM06C	447.00	467.00	20.0	3	1	2005-10-11 09:57	2005-10-11 11:22
KFM06C	467.00	487.00	20.0	3	1	2005-10-11 12:42	2005-10-11 13:59
KFM06C	487.00	507.00	20.0	3	1	2005-10-11 14:24	2005-10-11 15:10
KFM06C	504.50	524.50	20.0	3	1	2005-10-11 15:29	2005-10-11 16:19
KFM06C	524.50	544.50	20.0	3	1	2005-10-11 16:38	2005-10-11 17:52
KFM06C	544.50	564.50	20.0	3	1	2005-10-11 18:16	2005-10-11 19:01
KFM06C	564.50	584.50	20.0	3	1	2005-10-11 19:19	2005-10-11 20:06
KFM06C	584.50	604.50	20.0	3	1	2005-10-11 20:28	2005-10-11 21:45
KFM06C	604.50	624.50	20.0	3	1	2005-10-11 22:03	2005-10-11 22:48
KFM06C	624.50	644.50	20.0	3	1	2005-10-11 23:10	2005-10-11 23:51

Borehole Bh ID	Test section		Section length	Test type <sup>1</sup> (1-6)	Test no	Test start date, time YYYYMMDD hh:mm	Test stop date, time YYYYMMDD hh:mm
	secup	seclow					
KFM06C	636.00	656.00	20.0	3	1	2005-10-12 06:36	2005-10-12 08:05
KFM06C	656.00	676.00	20.0	3	1	2005-10-12 08:30	2005-10-12 09:49
KFM06C	676.00	696.00	20.0	3	1	2005-10-12 10:10	2005-10-12 11:26
KFM06C	691.00	711.00	20.0	3	1	2005-10-12 12:38	2005-10-12 14:04
KFM06C	711.00	731.00	20.0	3	1	2005-10-12 14:30	2005-10-12 15:10
KFM06C	731.00	751.00	20.0	3	1	2005-10-12 15:32	2005-10-12 16:51
KFM06C	751.00	771.00	20.0	3	1	2005-10-12 17:12	2005-10-12 17:59
KFM06C	771.00	791.00	20.0	3	1	2005-10-12 19:09	2005-10-12 20:24
KFM06C	791.00	811.00	20.0	3	1	2005-10-12 20:47	2005-10-12 21:34
KFM06C	811.00	831.00	20.0	3	1	2005-10-12 21:51	2005-10-12 23:07
KFM06C	831.00	851.00	20.0	3	1	2005-10-12 23:29	2005-10-13 00:42
KFM06C	851.00	871.00	20.0	3	1	2005-10-13 06:44	2005-10-13 08:01
KFM06C	871.00	891.00	20.0	3	1	2005-10-13 08:37	2005-10-13 09:41
KFM06C	891.00	911.00	20.0	3	1	2005-10-13 10:22	2005-10-13 11:40
KFM06C	911.00	931.00	20.0	3	1	2005-10-13 12:53	2005-10-13 14:18
KFM06C	931.00	951.00	20.0	3	1	2005-10-13 14:41	2005-10-13 16:10
KFM06C	951.00	971.00	20.0	3	1	2005-10-13 16:38	2005-10-13 17:24
KFM06C	971.00	991.00	20.0	3	1	2005-10-13 17:44	2005-10-13 18:31
KFM06C	124.50	129.50	5.0	3	1	2005-10-18 08:12	2005-10-18 09:28
KFM06C	129.50	134.50	5.0	3	1	2005-10-18 09:52	2005-10-18 11:08
KFM06C	134.50	139.50	5.0	3	1	2005-10-18 12:24	2005-10-18 13:39
KFM06C	139.50	144.50	5.0	3	1	2005-10-18 13:49	2005-10-18 15:03
KFM06C	141.50	146.50	5.0	3	1	2005-10-18 15:18	2005-10-18 16:37
KFM06C	146.50	151.50	5.0	3	1	2005-10-18 16:53	2005-10-18 18:10
KFM06C	151.50	156.50	5.0	3	1	2005-10-18 18:24	2005-10-18 19:47
KFM06C	153.50	158.50	5.0	3	1	2005-10-18 19:59	2005-10-18 21:24
KFM06C	159.50	164.50	5.0	3	1	2005-10-18 21:50	2005-10-18 23:08
KFM06C	164.50	169.50	5.0	3	1	2005-10-18 23:19	2005-10-19 00:36
KFM06C	169.50	174.50	5.0	3	1	2005-10-19 06:16	2005-10-19 07:33
KFM06C	174.50	179.50	5.0	3	1	2005-10-19 07:47	2005-10-19 09:00
KFM06C	179.50	184.50	5.0	3	1	2005-10-19 09:10	2005-10-19 10:24
KFM06C	184.50	189.50	5.0	3	2	2005-11-01 18:30	2005-11-01 19:45
KFM06C	189.50	194.50	5.0	3	1	2005-10-19 12:49	2005-10-19 14:03
KFM06C	194.50	199.50	5.0	3	1	2005-10-19 14:18	2005-10-19 15:31
KFM06C	199.50	204.50	5.0	3	1	2005-10-19 15:51	2005-10-19 16:45
KFM06C	204.50	209.50	5.0	3	1	2005-10-19 17:02	2005-10-19 18:21
KFM06C	209.50	214.50	5.0	3	1	2005-10-19 18:36	2005-10-19 19:54
KFM06C	214.50	219.50	5.0	3	1	2005-10-19 20:15	2005-10-19 21:34
KFM06C	219.50	224.50	5.0	3	2	2005-11-01 16:51	2005-11-01 18:07
KFM06C	224.50	229.50	5.0	3	1	2005-10-19 23:02	2005-10-20 00:25
KFM06C	229.50	234.50	5.0	3	1	2005-10-20 07:05	2005-10-20 08:07
KFM06C	234.50	239.50	5.0	3	1	2005-10-20 08:25	2005-10-20 09:52
KFM06C	239.50	244.50	5.0	3	1	2005-10-20 10:11	2005-10-20 11:31
KFM06C	244.50	249.50	5.0	3	1	2005-10-20 12:50	2005-10-20 14:11
KFM06C	249.50	254.50	5.0	3	1	2005-10-20 14:28	2005-10-20 15:32

Borehole Bh ID	Test section		Section length	Test type <sup>1</sup> (1-6)	Test no	Test start date, time YYYYMMDD hh:mm	Test stop date, time YYYYMMDD hh:mm
	secup	seclo					
KFM06C	254.50	259.50	5.0	3	1	2005-10-20 15:59	2005-10-20 16:47
KFM06C	259.50	264.50	5.0	3	1	2005-10-20 17:00	2005-10-20 18:20
KFM06C	264.50	269.50	5.0	3	1	2005-10-20 18:38	2005-10-20 19:20
KFM06C	269.50	274.50	5.0	3	1	2005-10-20 19:36	2005-10-20 20:53
KFM06C	274.50	279.50	5.0	3	1	2005-10-20 21:07	2005-10-20 21:50
KFM06C	279.50	284.50	5.0	3	1	2005-11-01 15:34	2005-11-01 16:16
KFM06C	284.50	289.50	5.0	3	1	2005-10-20 23:02	2005-10-21 00:26
KFM06C	289.50	294.50	5.0	3	2	2005-11-01 14:05	2005-11-01 15:20
KFM06C	294.50	299.50	5.0	3	1	2005-10-21 10:24	2005-10-21 11:40
KFM06C	299.50	304.50	5.0	3	1	2005-10-21 12:51	2005-10-21 13:46
KFM06C	304.50	309.50	5.0	3	1	2005-10-21 13:57	2005-10-21 14:50
KFM06C	309.50	314.50	5.0	3	1	2005-10-21 15:06	2005-10-21 15:48
KFM06C	314.50	319.50	5.0	3	1	2005-10-24 08:36	2005-10-24 10:02
KFM06C	319.50	324.50	5.0	3	1	2005-10-24 10:20	2005-10-24 11:15
KFM06C	324.50	329.50	5.0	3	1	2005-10-24 11:32	2005-10-24 14:09
KFM06C	329.50	334.50	5.0	3	1	2005-10-24 14:23	2005-10-24 15:17
KFM06C	334.50	339.50	5.0	3	1	2005-10-24 15:29	2005-10-24 16:46
KFM06C	339.50	344.50	5.0	3	1	2005-10-25 06:01	2005-10-25 07:16
KFM06C	344.50	349.50	5.0	3	1	2005-10-25 07:30	2005-10-25 08:44
KFM06C	349.50	354.50	5.0	3	1	2005-10-25 08:53	2005-10-25 09:34
KFM06C	354.50	359.50	5.0	3	1	2005-10-25 09:47	2005-10-25 11:00
KFM06C	359.50	364.50	5.0	3	1	2005-10-25 11:58	2005-10-25 13:11
KFM06C	384.50	389.50	5.0	3	1	2005-10-25 13:29	2005-10-25 14:43
KFM06C	387.00	392.00	5.0	3	1	2005-10-25 14:51	2005-10-25 16:14
KFM06C	392.00	397.00	5.0	3	1	2005-10-25 16:39	2005-10-25 17:54
KFM06C	397.00	402.00	5.0	3	1	2005-10-25 18:06	2005-10-25 19:21
KFM06C	402.00	407.00	5.0	3	1	2005-10-25 19:39	2005-10-25 20:29
KFM06C	407.00	412.00	5.0	3	1	2005-10-25 20:48	2005-10-25 22:19
KFM06C	412.00	417.00	5.0	3	1	2005-10-25 22:33	2005-10-25 23:50
KFM06C	417.00	422.00	5.0	3	1	2005-10-26 06:17	2005-10-26 07:37
KFM06C	422.00	427.00	5.0	3	2	2005-10-26 08:48	2005-10-26 10:11
KFM06C	426.00	431.00	5.0	3	1	2005-10-26 10:19	2005-10-26 11:45
KFM06C	431.00	436.00	5.0	3	1	2005-10-26 12:33	2005-10-26 13:47
KFM06C	436.00	441.00	5.0	3	1	2005-10-26 13:55	2005-10-26 14:42
KFM06C	441.00	446.00	5.0	3	1	2005-10-26 15:02	2005-10-26 16:23
KFM06C	446.00	451.00	5.0	3	1	2005-10-26 16:41	2005-10-26 18:03
KFM06C	451.00	456.00	5.0	3	1	2005-10-26 18:16	2005-10-26 19:43
KFM06C	458.00	463.00	5.0	3	1	2005-10-26 20:08	2005-10-26 20:52
KFM06C	463.00	468.00	5.0	3	1	2005-10-26 21:06	2005-10-26 21:49
KFM06C	524.00	529.00	5.0	3	1	2005-10-26 22:30	2005-10-26 23:51
KFM06C	528.00	533.00	5.0	3	1	2005-10-27 06:23	2005-10-27 07:13
KFM06C	534.00	539.00	5.0	3	1	2005-10-27 07:25	2005-10-27 08:39
KFM06C	539.50	544.50	5.0	3	1	2005-10-27 08:50	2005-10-27 09:29
KFM06C	635.50	640.50	5.0	3	1	2005-10-27 10:22	2005-10-27 11:02
KFM06C	640.00	645.00	5.0	3	1	2005-10-27 11:10	2005-10-27 12:34

Borehole	Test section		Section length	Test type <sup>1</sup>	Test no	Test start date, time	Test stop date, time
	secup	seclow					
Bh ID				(1–6)		YYYYMMDD hh:mm	YYYYMMDD hh:mm
KFM06C	642.50	647.50	5.0	3	1	2005-10-27 12:47	2005-10-27 13:28
KFM06C	647.50	652.50	5.0	3	1	2005-10-27 13:38	2005-10-27 14:52
KFM06C	651.00	656.00	5.0	3	1	2005-10-27 15:01	2005-10-27 16:20
KFM06C	656.00	661.00	5.0	3	1	2005-10-27 16:34	2005-10-27 17:21
KFM06C	661.00	666.00	5.0	3	1	2005-10-27 17:37	2005-10-27 18:58
KFM06C	666.00	671.00	5.0	3	1	2005-10-27 19:12	2005-10-27 20:36
KFM06C	671.00	676.00	5.0	3	1	2005-10-27 20:50	2005-10-27 22:14
KFM06C	691.00	696.00	5.0	3	1	2005-10-27 22:29	2005-10-27 23:30
KFM06C	696.00	701.00	5.0	3	1	2005-10-28 08:08	2005-10-28 09:25
KFM06C	701.00	706.00	5.0	3	1	2005-10-28 09:40	2005-10-28 10:27
KFM06C	706.00	711.00	5.0	3	1	2005-10-28 10:47	2005-10-28 11:32
KFM06C	811.00	816.00	5.0	3	1	2005-10-28 15:01	2005-10-28 15:42
KFM06C	816.00	821.00	5.0	3	1	2005-10-28 15:58	2005-10-28 17:12
KFM06C	821.00	826.00	5.0	3	1	2005-10-31 06:17	2005-10-31 06:58
KFM06C	826.00	831.00	5.0	3	1	2005-10-31 07:09	2005-10-31 07:48
KFM06C	831.00	836.00	5.0	3	1	2005-10-31 07:59	2005-10-31 08:39
KFM06C	836.00	841.00	5.0	3	1	2005-10-31 08:49	2005-10-31 09:31
KFM06C	841.00	846.00	5.0	3	1	2005-10-31 09:40	2005-10-31 10:54
KFM06C	846.00	851.00	5.0	3	1	2005-10-31 11:09	2005-10-31 13:05
KFM06C	891.00	896.00	5.0	3	1	2005-10-31 13:34	2005-10-31 14:15
KFM06C	896.00	901.00	5.0	3	1	2005-10-31 14:30	2005-10-31 15:12
KFM06C	901.00	906.00	5.0	3	1	2005-10-31 15:31	2005-10-31 16:45
KFM06C	906.00	911.00	5.0	3	1	2005-10-31 16:57	2005-10-31 17:46
KFM06C	911.00	916.00	5.0	3	1	2005-10-31 17:57	2005-10-31 19:11
KFM06C	915.00	920.00	5.0	3	1	2005-10-31 19:20	2005-10-31 20:33
KFM06C	920.00	925.00	5.0	3	1	2005-10-31 20:46	2005-10-31 22:00
KFM06C	925.00	930.00	5.0	3	1	2005-10-31 22:09	2005-10-31 23:26
KFM06C	930.00	935.00	5.0	3	1	2005-11-01 06:04	2005-11-01 07:20

<sup>1</sup> 3: Injection test

### 3.3 Equipment checks

The PSS3 equipment was fully serviced, according to SKB internal controlling documents (SKB MD 345.124, service, and SKB MD 345.122, calibration), in May 2005.

Functioning checks of the equipment were performed during the installation of the PSS equipment at the test site. In order to check the function of the pressure sensors, the air pressure was recorded and found to be as expected. While lowering, the sensors showed good agreement with the total head of water ( $p/\rho g$ ). The temperature sensor displayed expected values in both air and water.

Simple functioning checks of down-hole sensors were done at every change of test section interval. Checks were also made continuously while lowering the pipe string along the borehole.

## 4 Description of equipment

### 4.1 Overview

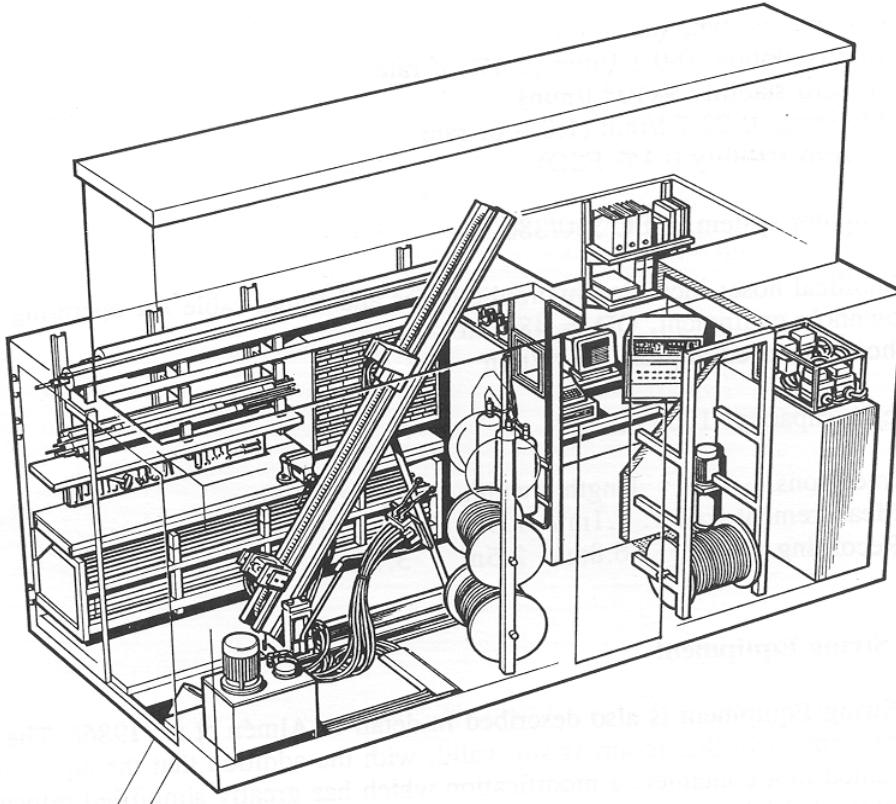
#### 4.1.1 Measurement container

All of the equipment needed to perform the injection tests is located in a steel container (Figure 4-1). The container is divided into two compartments; a data-room and a workshop. The container is placed on pallets in order to obtain a suitable working level in relation to the borehole casing.

The hoisting rig is of a hydraulic chain-feed type. The jaws, holding the pipe string, are opened hydraulically and closed mechanically by springs. The rig is equipped with a load transmitter and the load limit may be adjusted. The maximum load is 22 kN.

The packers and the test valve are operated hydraulically by water filled pressure vessels. Expansion and release of packers, as well as opening and closing of the test valve, is done using magnetic valves controlled by the software in the data acquisition system.

The injection system consists of a tank, a pump and a flow meter. The injection flow rate may be manually or automatically controlled. At small flow rates, a water filled pressure vessel connected to a nitrogen gas regulator is used instead of the pump.



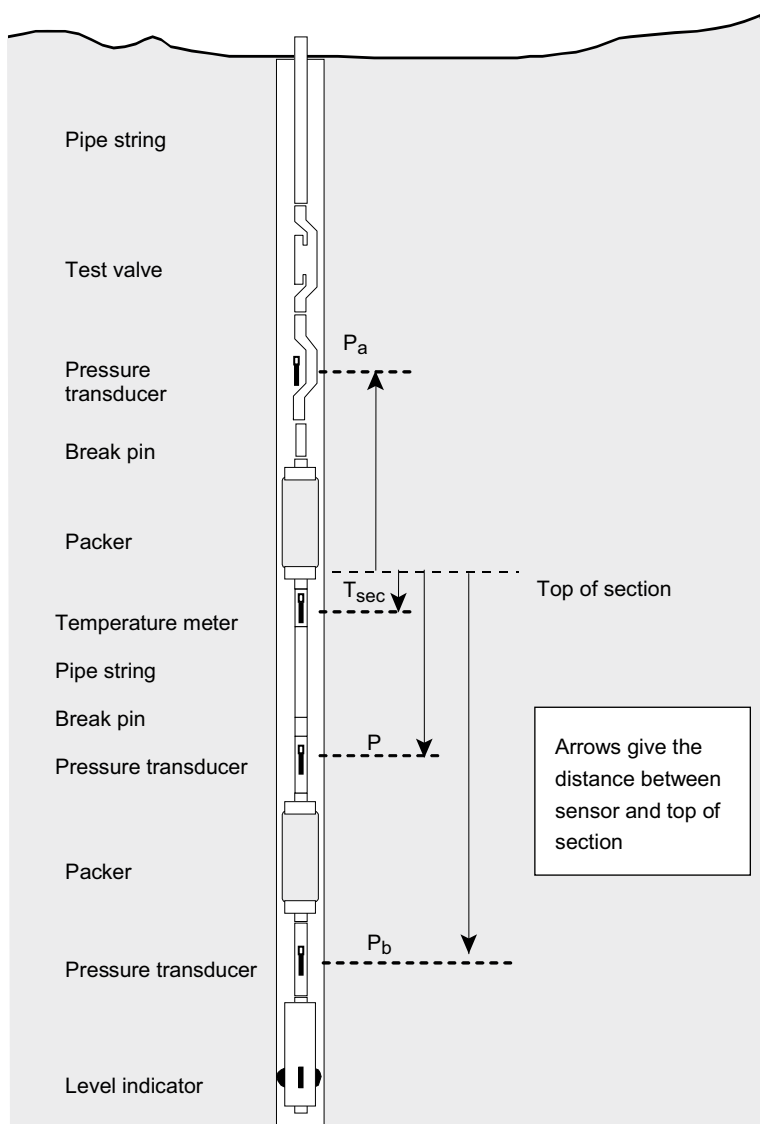
*Figure 4-1. Outline of the PSS3 container with equipment.*

### 4.1.2 Down-hole equipment

A schematic drawing of the down-hole equipment is shown in Figure 4-2. The pipe string consists of aluminium pipes of 3 m length, connected by stainless steel taps sealed with double o-rings. Pressure is measured above ( $P_a$ ), within ( $P$ ) and below ( $P_b$ ) the test section, which is isolated by two packers. The groundwater temperature in the test section is also measured. The hydraulic connection between the pipe string and the test section can be closed or opened by a test valve operated by the measurement system.

At the lower end of the borehole equipment, a level indicator (calliper type) gives a signal as the reference depth marks along the borehole are passed.

The length of the test section may be varied (5, 20 or 100 m).



**Figure 4-2.** Schematic drawing of the down-hole equipment in the PSS3 system.

## 4.2 Measurement sensors

Technical data for the measurement sensors in the PSS system together with corresponding data of the system are shown in Table 4-1. The sensors are components of the PSS system. The accuracy of the PSS system may also be affected by the I/O-unit, cf Figure 4-3, and the calibration of the system.

The sensor positions are fixed relative to the top of the test section. In Table 4-2, the position of the sensors is given with top of test section as reference (Figure 4-2).

**Table 4-1. Technical data for sensors together with estimated data for the PSS system (based on current experience).**

Technical specification		Unit	Sensor	PSS	Comments
Parameter					
Absolute pressure	Output signal	mA	4–20		
	Meas. range	MPa	0–13.5		
	Resolution	kPa	< 1.0		
	Accuracy <sup>1</sup>	% F.S.	0.1		
Differential pressure, 200 kPa	Accuracy	kPa		< ± 5	Estimated value
Temperature	Output signal	mA	4–20		
	Meas. range	°C	0–32		
	Resolution	°C	< 0.01		
	Accuracy	°C	± 0.1		
Flow Qbig	Output signal	mA	4–20		
	Meas. range	m <sup>3</sup> /s	1.67·10 <sup>-5</sup> –1.67·10 <sup>-3</sup>		The specific accuracy is depending on actual flow
	Resolution	m <sup>3</sup> /s	6.7·10 <sup>-8</sup>		
	Accuracy <sup>2</sup>	% O.R.	0.15–0.3	< 1	
Flow Qsmall	Output signal	mA	4–20		
Flow Qsmall	Meas. range	m <sup>3</sup> /s	1.67·10 <sup>-8</sup> –1.67·10 <sup>-5</sup>		The specific accuracy is depending on actual flow
	Resolution	m <sup>3</sup> /s	6.7·10 <sup>-10</sup>		
	Accuracy <sup>3</sup>	% O.R.	0.1–0.4	0.5–20	

<sup>1</sup> 0.1% of Full Scale. Includes hysteresis, linearity and repeatability.

<sup>2</sup> Maximum error in % of actual reading (% o.r.).

<sup>3</sup> Maximum error in % of actual reading (% o.r.). The higher numbers correspond to the lower flow.

**Table 4-2. Position of sensors in the borehole and displacement volume of equipment in the test section.**

Parameter	Length of test section (m)		
	5	20	100
Equipment displacement volume in test section <sup>1</sup>	3.6	13	61
Total volume of test section <sup>2</sup>	23	93	466
Position for sensor P <sub>a</sub> , pressure above test section, (m above secup) <sup>3</sup>	1.89	1.89	1.89
Position for sensor P, pressure in test section, (m above secup) <sup>3</sup>	-4.13	-19.12	-99.12
Position for sensor T <sub>sec</sub> , temperature in test section, (m above secup) <sup>3</sup>	-0.97	-0.97	-0.97
Position for sensor P <sub>b</sub> , pressure below test section, (m above secup) <sup>3</sup>	-7.01	-22.01	-102.01

<sup>1</sup> Displacement volume in test section due to pipe string, signal cable, sensors and packer ends (in litre).

<sup>2</sup> Total volume of test section ( $V = \text{section length} \cdot \pi \cdot d^2/4$ ).

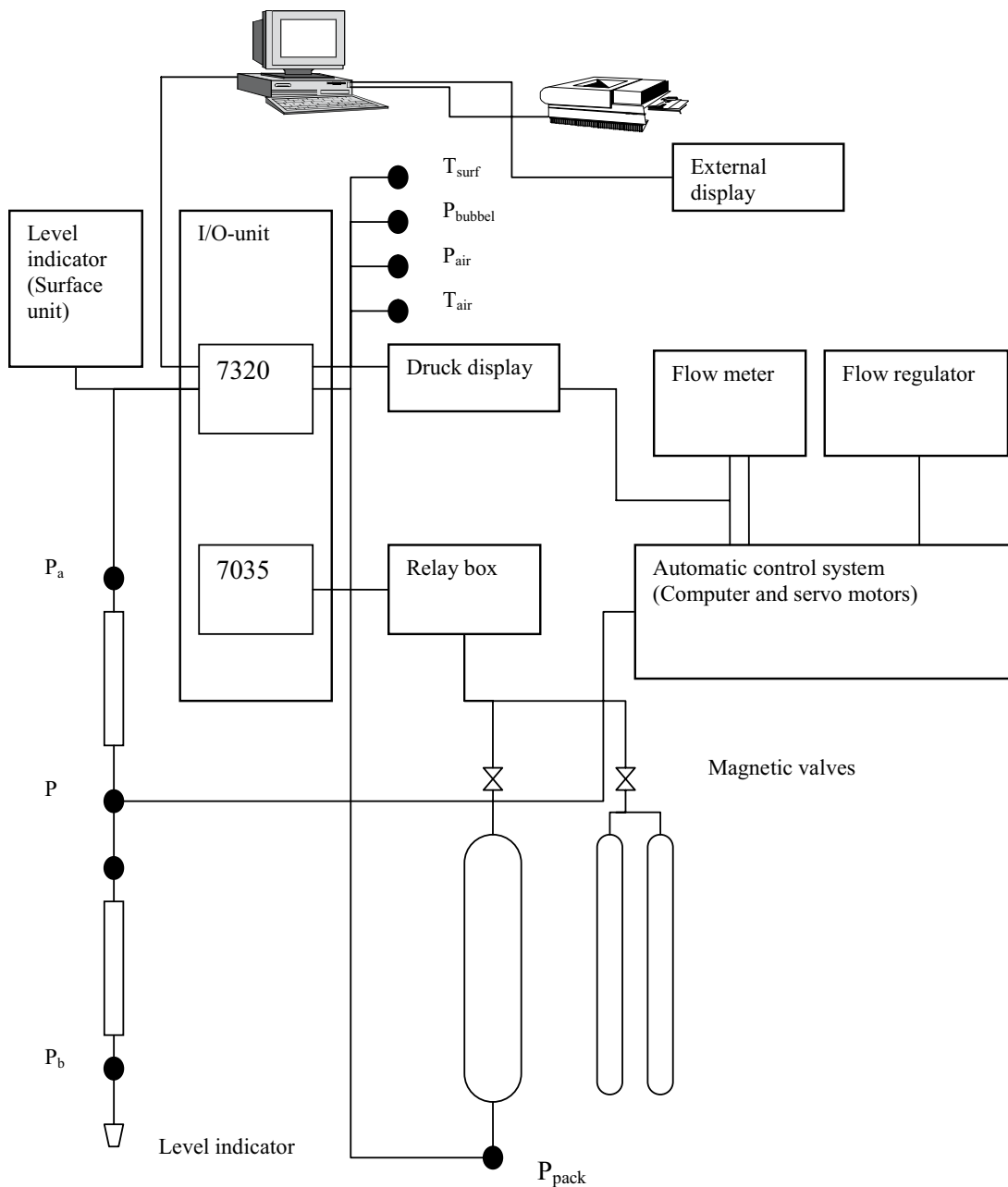
<sup>3</sup> Position of sensor relative top of test section. A negative value indicates a position below top of test section, (secup).



### 4.3 Data acquisition system

The data acquisition system in the PSS equipment contains a standard office PC connected to an I/O-unit (Datascan 7320). Using the Orchestrator software, pumping and injection tests are monitored and borehole sensor data are collected. In addition to the borehole parameters, packer and atmospheric pressure, container air temperature and water temperature are logged. Test evaluation may be performed on-site after a conducted test. An external display enables monitoring of test parameters.

The data acquisition system may be used to start and stop the automatic control system (computer and servo motors). These are connected as shown in Figure 4-3. The control system monitors the flow regulator and uses differential pressure across the regulating valve together with pressure in test section as input signals.



**Figure 4-3.** Schematic drawing of the data acquisition system and the automatic control system in PSS.

## **5 Execution**

### **5.1 Preparation**

#### **5.1.1 Calibration**

All sensors included in PSS are calibrated at the Geosigma engineering service station in Uppsala. Calibration is generally performed at least once every year. Results from calibration, e.g. calibration constants, of sensors are kept in a document folder in PSS. If a sensor is replaced at the test site, calibration constants are altered as well. If a new, un-calibrated, sensor is to be used, calibration may be performed afterwards and data re-calculated.

#### **5.1.2 Functioning checks**

Equipment functioning checks were performed during the establishment of PSS at the test site. Simple function checks of down-hole sensors were done at every change of test section length, as well as while lowering the pipe string along the borehole.

#### **5.1.3 Cleaning of equipment**

Cleaning of the borehole equipment was performed according to the cleaning instruction (SKB MD 600.04, see Table 1-1), level 2.

### **5.2 Test performance**

#### **5.2.1 Test principle**

The injection tests in KFM06C were carried out while maintaining a constant head of generally 200 kPa (20 m) in the test section. Before start of the injection period, approximately steady-state pressure conditions prevailed in the test section. After the injection period, the pressure recovery was measured.

For injection tests with 20 m and 5 m section length, the injection phase was interrupted if the injection flow was clearly below the measurement limit. Thereafter, the recovery was measured for at least 5 minutes to verify the low conductivity of the section.

#### **5.2.2 Test procedure**

Generally, the tests were performed according to the Activity Plan AP PF 400-05-087. Exceptions to this are presented in Section 5.5.

A test cycle includes the following phases: 1) Transfer of down-hole equipment to the next section, 2) Packer inflation, 3) Pressure stabilisation, 4) Injection, 5) Pressure recovery and 6) Packer deflation.

The estimated times for the various phases are presented in Table 5-1. Regarding the packer inflation times and actual injection and recovery times, slightly different procedures were used for the tests in 100 m sections compared to the tests in 20 m and 5 m sections in accordance with AP PF 400-05-087. Furthermore, slightly longer test times were used for the tests in 100 m sections, cf Table 5-1.

**Table 5-1. Packer inflation times, pressure stabilisation times and test times used for the injection tests in KFM06C.**

Test section length (m)	Packer inflation time (min)	Time for pressure stabilisation (min)	Injection period (min)	Recovery period (min)	Total time/test (min) <sup>1</sup>
100	30	15	30	30	105
20	25	5	20	20	70
5	25	5	20	20	70

<sup>1</sup> Exclusive of trip times in the borehole.

### 5.2.3 Test strategy

Firstly, injection tests in 100 m sections were performed in KFM06C within the interval 104.5–991.0 m.

Secondly, injection tests in 20 m sections were carried out in the entire interval 104.5–991.0 m. All 100 m sections were measured in five successive injection tests using a 20 m section length. For the 100 m section 404.5–504.5 six tests with section length 20 m were performed instead of five, and hence some of the sections are overlapping. This was done in order to avoid placing the packers over large fractures, which can damage the packers.

Finally, injection tests with 5 m section length were conducted in all 20 m sections with a definable flow rate within the interval 124.5–935 m. Four tests using a 5 m section length were performed within the 20 m intervals. The total number of injection tests was, thus, dependent on the results of the previous tests. For a few 20 m sections five tests with section length 5 m were performed within the 20 m interval instead of four, and a few small intervals of maximum 2 m were not covered at all by the 5 m sections, depending on large fractures making it impossible to place the packers there.

Since the results of the tests in 100 m sections would have a strong effect on the continued test program, it was particularly important to ensure reliable results of these tests, including sections close to the lower measurement limit.

## 5.3 Data handling

With the PSS system, primary data are handled using the Orchestrator software (Version 2.3.8). During a test, data are continuously logged in \*.odl-files. After the test is finished, a report file (\*.ht2) with space separated data is generated. The \*.ht2-file (mio-format) contains logged parameters as well as test-specific information, such as calibration constants and background data. The parameters are presented as percentage of sensor measurement range and not in engineering units. The report file in ASCII-format is the raw data file delivered to the data base SICADA.

The \*.ht2-files are automatically named with borehole id, top of test section and date and time of test start (as for example \_\_KFM06C\_0104.50\_200509291544.ht2). The name differs slightly from the convention stated in Instructions for analysis of injection and single-hole pumping tests, SKB MD 320.004.

Using the IPPLOT software (Version 3.0), the \*.ht2-files are converted to parameter files suitable for plotting using the code SKB-plot and analysis with the AQTESOLV software.

A backup of data files was created on a regular basis by CD-storage and by sending the files to the Geosigma office in Uppsala by a file transfer protocol. A file description table is presented in Appendix 1.

## **5.4 Analysis and interpretation**

### **5.4.1 General**

As described in Section 5.2.1, the injection tests in KFM06C were performed as transient constant head tests followed by a pressure recovery period. From the injection period, the (reciprocal) flow rate versus time was plotted in log-log and lin-log diagrams together with the corresponding derivative. From the recovery period, the pressure was plotted versus Agarwal equivalent time in lin-log and log-log diagrams, respectively, together with the corresponding derivative. The routine data processing of the measured data was done according to the Instruction for analysis of injection and single-hole pumping tests (SKB MD 320.004).

For evaluation of the test data, no corrections of the measured flow rate and absolute pressure data (e.g. due to barometric pressure variations or tidal fluctuations) have been made. For short-time single-hole tests, such corrections are generally not needed, unless very small pressure changes are applied. No subtraction of the barometric pressure from the measured absolute pressure has been made, since the length of the test periods are short relative to the time scale for barometric pressure changes. In addition, pressure differences rather than the pressure magnitudes are used by the evaluation.

### **5.4.2 Measurement limit for flow rate and specific flow rate**

The estimated standard lower measurement limit for flow rate for injection tests with PSS is c 1 mL/min ( $1.7 \cdot 10^{-8}$  m<sup>3</sup>/s). However, if the flow rate for a test was close to, or below, the standard lower measurement limit, a test-specific estimate of the lower measurement limit of flow rate was made. The test-specific lower limit was based on the measurement noise level of the flow rate before and after the injection period. The decisive factor for the varying lower measurement limit is not identified, but it might be of both technical and hydraulic character. For approximately 40 per cent of the injection tests in KFM06C, the actual lower measurement limit of the flow rate was estimated ranging from  $3.9 \cdot 10^{-9}$  m<sup>3</sup>/s to  $1.0 \cdot 10^{-8}$  m<sup>3</sup>/s.

The lower measurement limit for transmissivity is defined in terms of the specific flow rate (Q/s). The minimum specific flow rate corresponds to the estimated lower measurement limit of the flow rate together with the actual injection pressure during the test, see Table 5-2. The intention during this test campaign was to use a standard injection pressure of 200 kPa (20 m water column). However, for some test sections in KFM06C, the actual injection pressure was considerably different. The highest injection pressure during the tests in KFM06C was 343 kPa and for eleven of the tests the injection pressure was below

100 kPa. A low injection pressure is often the result of a test section of low conductivity due to a pressure increase, caused by packer expansion, before the injection start. A highly conductive section may also result in a low injection pressure due to limited flow capacity of PSS. The estimated test specific lower measurement limit for the specific flow rate in KFM06C ranged from  $3.88 \cdot 10^{-9} \text{ m}^2/\text{s}$  to  $1.0 \cdot 10^{-8} \text{ m}^2/\text{s}$ .

Whenever the final flow rate ( $Q_p$ ) was not defined (i.e. not clearly above the measurement noise before and after the injection period), the estimated lower measurement limit for specific flow rate was based on the estimated lower measurement limit for flow rate for the specific test and a standard injection pressure of 200 kPa. This is done in order to avoid excessively high, apparent estimates of the specific flow rate for these low conductivity sections, which would have resulted if the actual pressure difference at start of injection had been used as injection pressure (since the actual pressure difference often was significantly less than 200 kPa, see above).

The lower measurement limits for the flow rate correspond to different values of steady-state transmissivity,  $T_M$ , depending on the section lengths used in the factor  $C_M$  in Moye's formula, as described in the Instruction for analysis of injection and single-hole pumping tests (SKB MD 320.004), see Table 5-2.

The practical upper measurement limit of hydraulic transmissivity for the PSS system is estimated at a flow rate of c 30 L/min ( $5 \cdot 10^{-4} \text{ m}^3/\text{s}$ ) and an injection pressure of c 1 m. Thus, the upper measurement limit for the specific flow rate is  $5 \cdot 10^{-4} \text{ m}^2/\text{s}$ . However, the practical upper measurement limit may vary, depending on e.g. depth of the test section (friction losses in the pipe string).

**Table 5-2. Estimated lower measurement limit for specific flow rate and steady-state transmissivity for different injection pressures, measurement scales and estimated lower measurement limits for flow rate for the injection tests in borehole KFM06C.**

$r_w$ (m)	$L_w$ (m)	Q-measl-L ( $\text{m}^3/\text{s}$ )	Injection pressure (kPa)	Q/s-measl-L ( $\text{m}^2/\text{s}$ )	Factor $C_M$ in Moye's formula	$T_M$ -measl-L ( $\text{m}^2/\text{s}$ )
0.0385	100	1.7E-08	100	1.6E-09	1.30	2.1E-09
0.0385	100	1.7E-08	200	8.2E-10	1.30	1.1E-09
0.0385	100	1.7E-08	300	5.5E-10	1.30	7.1E-10
0.0385	100	1.2E-08	100	1.1E-09	1.30	1.5E-09
0.0385	100	1.2E-08	200	5.7E-10	1.30	7.4E-10
0.0385	100	1.2E-08	300	3.8E-10	1.30	5.0E-10
0.0385	100	5.0E-09	100	4.9E-10	1.30	6.4E-10
0.0385	100	5.0E-09	200	2.5E-10	1.30	3.2E-10
0.0385	100	5.0E-09	300	1.6E-10	1.30	2.1E-10
0.0385	20	1.7E-08	100	1.6E-09	1.04	1.7E-09
0.0385	20	1.7E-08	200	8.2E-10	1.04	8.5E-10
0.0385	20	1.7E-08	300	5.5E-10	1.04	5.7E-10
0.0385	20	1.2E-08	100	1.1E-09	1.04	1.2E-09
0.0385	20	1.2E-08	200	5.7E-10	1.04	6.0E-10
0.0385	20	1.2E-08	300	3.8E-10	1.04	4.0E-10
0.0385	20	5.0E-09	100	4.9E-10	1.04	5.1E-10
0.0385	20	5.0E-09	200	2.5E-10	1.04	2.6E-10
0.0385	20	5.0E-09	300	1.6E-10	1.04	1.7E-10
0.0385	5	1.7E-08	100	1.6E-09	0.82	1.3E-09

$r_w$ (m)	$L_w$ (m)	Q-measl-L (m <sup>3</sup> /s)	Injection pressure (kPa)	Q/s-measl-L (m <sup>2</sup> /s)	Factor $C_M$ in Moye's formula	$T_M$ -measl-L (m <sup>2</sup> /s)
0.0385	5	1.7E-08	200	8.2E-10	0.82	6.7E-10
0.0385	5	1.7E-08	300	5.5E-10	0.82	4.5E-10
0.0385	5	1.2E-08	100	1.1E-09	0.82	9.4E-10
0.0385	5	1.2E-08	200	5.7E-10	0.82	4.7E-10
0.0385	5	1.2E-08	300	3.8E-10	0.82	3.1E-10
0.0385	5	5.0E-09	100	4.9E-10	0.82	4.0E-10
0.0385	5	5.0E-09	200	2.5E-10	0.82	2.0E-10
0.0385	5	5.0E-09	300	1.6E-10	0.82	1.3E-10

#### 5.4.4 Qualitative analysis

Initially, a qualitative evaluation of actual flow regimes, e.g. wellbore storage (WBS), pseudo-radial flow regime (PRF), pseudo-spherical flow regime (PSF) and pseudo-stationary flow regime (PSS), respectively, was performed. In addition, indications of outer boundary conditions during the tests were identified. The qualitative evaluation was mainly interpreted from the log-log plots of flow rate and pressure together with the corresponding derivatives.

In particular, time intervals with pseudo-radial flow, reflected by a constant (horizontal) derivative in the test diagrams, were identified. Pseudo-linear flow may, at the beginning of the test, be reflected by a straight line of slope 0.5 or less in log-log diagrams, both for the measured variable (flow rate or pressure) and the derivative. A true spherical flow regime is reflected by a straight line with a slope of  $-0.5$  for the derivative. However, other slopes may indicate transitions to pseudo-spherical (leaky) or pseudo-stationary flow. The latter flow regime corresponds to almost stationary conditions with a derivative approaching zero.

The interpreted flow regimes can also be described in terms of the distance from the borehole:

- **Inner zone:** Representing very early responses that may reflect the fracture properties close to the borehole which may possibly be characterized by turbulent head losses. These specific properties are generally reflected by the skin factor.
- **Middle zone:** Representing the first response from which it is considered possible to evaluate the hydraulic properties of the formation close to the borehole.
- **Outer zone:** Representing the response at late times of hydraulic structure(s) connected to the hydraulic feature for the middle zone. Sometimes it is possible to deduce the possible character of the actual feature or boundary and evaluate the hydraulic properties.

Due to the limited resolution of the flow meter and pressure sensor, the derivative may some times indicate a false horizontal line by the end of periods with pseudo-stationary flow. Apparent no-flow (NFB) and constant head boundaries (CHB), or equivalent boundary conditions of fractures, are reflected by an increase/decrease of the derivative, respectively.

#### 5.4.1 Quantitative analysis

A preliminary steady-state analysis of transmissivity according to Moye's formula (denoted  $T_M$ ) was made for the injection period for all tests in conjunction with the qualitative analysis according to the following equation:

$$T_M = \frac{Q_p \cdot \rho_w \cdot g}{dp_p} \cdot C_M \quad (5-1)$$

$$C_M = \frac{1 + \ln\left(\frac{L_w}{2r_w}\right)}{2\pi} \quad (5-2)$$

$Q_p$  = flow rate by the end of the flow period (m<sup>3</sup>/s)

$\rho_w$  = density of water (kg/m<sup>3</sup>)

$g$  = acceleration of gravity (m/s<sup>2</sup>)

$C_M$  = geometrical shape factor (-)

$dp_p = p_p - p_i$  (Pa)

$r_w$  = borehole radius (m)

$L_w$  = section length (m)

From the results of the qualitative evaluation, appropriate interpretation models for the quantitative evaluation of the tests were selected. When possible, transient analysis was made on both the injection and recovery periods of the tests.

The transient analysis was performed using a special version of the test analysis software AQTESOLV, which enables both visual and automatic type curve matching. The quantitative transient evaluation is generally carried out as an iterative process of manual type curve matching and automatic matching. For the injection period, a model based on the Jacob and Lohman (1952) solution /1/ was applied for estimating the transmissivity and skin factor for an assumed value on the storativity when a certain period with pseudo-radial flow could be identified. The model is based on the effective wellbore radius concept to account for non-zero (negative) skin factors according to Hurst, Clark and Brauer (1969) /2/.

In borehole KFM06C, the storativity was calculated using an empirical regression relationship between storativity and transmissivity, see Equation 5-3 Rhén et al. (1997) /3/. Firstly, the transmissivity and skin factor was obtained by type curve matching on the data curve using a fixed storativity value of 10<sup>-6</sup>, according to the instruction SKB MD 320.004. From the transmissivity value obtained, the storativity was then calculated according to Equation 5-3 and the type curve matching was repeated. In most cases the change of storativity did not significantly alter the calculated transmissivity by the new type curve matching. Instead, the estimated skin factor, which is strongly correlated to the storativity using the effective borehole radius concept, was altered correspondingly.

$$S = 0.007 \cdot T^{0.5} \quad (5-3)$$

$S$  = storativity (-)

$T$  = transmissivity (m<sup>2</sup>/s)

For transient analysis of the recovery period, a model presented by Dougherty-Babu (1984) /4/ was used when a certain period with pseudo-radial flow could be identified. In this model, a variety of transient solutions for flow in fractured porous media is available, accounting for e.g. wellbore storage and skin effects, double porosity etc. The solution for wellbore storage and skin effects is analogous to the corresponding solution presented in Earlougher (1977) /5/ based on the effective wellbore radius concept to account for non-

zero (negative) skin factors. However, for tests in isolated test sections, wellbore storage is represented by a radius of a fictive standpipe (denoted fictive casing radius,  $r(c)$ ) connected to the test section, cf Equation 5-6. This concept is equivalent to calculating the wellbore storage coefficient  $C$  from the compressibility in an isolated test section according to Equation 5-5.

The model by Dougherty-Babu (1984) was used to estimate the transmissivity and skin factor from the recovery period. The storativity was calculated using Equation 5-3 in the same way as described above for the transient analysis of the injection period. In addition, the wellbore storage coefficient was estimated, both from the simulated value on the fictive casing radius  $r(c)$  and from the slope of 1:1 in the log-log recovery plots.

For tests characterized by pseudo-spherical (leaky) flow or pseudo-stationary flow during the injection period, a model by Hantush (1959) /6/ for constant head tests was adopted for the evaluation. In this model, the skin factor is not separated but can be calculated from the simulated effective borehole radius according to Equation 5-4. In addition, the leakage coefficient  $K'/b'$  can be calculated from the simulated leakage factor  $r/B$ . The corresponding model for constant flow rate tests, Hantush (1955) /7/, was applied for evaluation of the recovery period for tests showing pseudo-spherical- or pseudo-stationary flow during this period. This model also allows calculation of the wellbore storage coefficient according to Equation 5-6.

$$\zeta = \ln(r_w/r_{wf}) \quad (5-4)$$

$\zeta$  = skin factor

$r_w$  = borehole radius (m)

$r_{wf}$  = effective borehole radius

Some tests showed fracture responses (a slope of 0.5 or less in a log-log plot). A model for single fractures was then used for the transient analysis as a complement to the standard models. The model by Ozkan-Raghavan (1991a) /8/ and (1991b) /9/ for a vertical fracture was employed. In this case, the test section length was used to convert  $K$  and  $S_s$  to  $T$  and  $S$ , respectively, after analysis by fracture models. The quotient  $K_x/K_y$  of the hydraulic conductivity in the  $x$  and the  $y$ -direction, respectively, was assumed to be 1.0 (one). Type curve matching provided values of  $K_x$  and  $L_f$ , where  $L_f$  is the theoretical fracture length.

The different transient estimates of transmissivity from the injection and recovery period, respectively, were then compared and examined. One of these was chosen as the best representative value of the transient transmissivity of the formation adjacent to the test section. This value is denoted  $T_T$ . In cases with more than one pseudo-radial flow regime during the injection or recovery period, the first one is assumed as the most representative for the hydraulic conditions in the rock close to the tested section. In most cases, the transient estimates of transmissivity from the injection period were considered more representative than those from the recovery period. The recovery responses were often strongly affected by wellbore storage and, frequently, no pseudo-radial flow regime was reached. In addition, pseudo-stationary flow sometimes occurred during the recovery period.

Finally, a representative value of transmissivity of the test section,  $T_R$ , was chosen from  $T_T$  and  $T_M$ . In general, the transmissivity from the transient evaluation,  $T_T$ , was considered as the best estimate. In 18 out of 102 tests with a definable final flow rate in KFM06C the steady-state transmissivity,  $T_M$ , was chosen as the most representative value of transmissivity of the test section. The latter transmissivity was chosen whenever a transient evaluation of the test data was not possible. Whenever the flow rate by the end of the injection period



( $Q_p$ ) was too low to be defined, and thus neither  $T_T$  nor  $T_M$  could be estimated, the representative transmissivity for the test section was considered to be less than  $T_M$  based on the estimated lower measurement limit for  $Q/s$  (i.e.  $T_R < T_M = Q/s - \text{measl} - L \cdot C_M$ ).

Estimated values of the borehole storage coefficient,  $C$ , based on actual borehole geometrical data and assumed fluid properties together with the estimated effective  $C_{\text{eff}}$  from laboratory experiments /10/ are shown in Table 5-3. The net water volume in the test section,  $V_w$ , has in Table 5-3 been calculated by subtracting the volume of equipment in the test section (pipes and thin hoses) from the total volume of the test section. For an isolated test section, the wellbore storage coefficient,  $C$ , may be calculated as by Almén et al. (1986) /11/:

$$C = V_w \cdot c_w = L_w \cdot \pi \cdot r_w^2 \cdot c_w \quad (5-5)$$

$V_w$  = water volume in test section ( $\text{m}^3$ )

$r_w$  = nominal borehole radius (m)

$L_w$  = section length (m)

$c_w$  = compressibility of water ( $\text{Pa}^{-1}$ )

When appropriate, estimation of the actual borehole storage coefficient  $C$  in the test sections was made from the recovery period, based on the early borehole response with 1:1 slope in the log-log diagrams. The coefficient  $C$  was calculated only for tests with a well-defined line of slope 1:1 in the beginning of the recovery period. In the most conductive sections, this period occurred during very short periods at early test times. The latter values may be compared with the net values of  $C$  based on geometry and the value of  $C_{\text{eff}}$  based on laboratory experiments (Table 5-3).

Furthermore, when using the model by Dougherty-Babu (1984) /4/, a fictive casing radius,  $r(c)$ , is obtained from the parameter estimation of the recovery period. This value can then be used for calculating  $C$  as by Almén et al. (1986) /11/:

$$C = \frac{\pi \cdot r(c)^2}{\rho \cdot g} \quad (5-6)$$

Although this calculation was not done regularly and the results are not presented in this report, the calculations corresponded in most cases well to the value of  $C$  obtained from the line of slope 1:1 in the beginning of the recovery period.

The estimated values of  $C$  from the tests may differ from the net values in Table 5-3 based on geometry. For example, the effective compressibility for an isolated test section may sometimes be higher than the water compressibility due to e.g. packer compliance, resulting in increased  $C$ -values.

**Table 5-3. Calculated net values of  $C$ , based on the actual geometrical properties of the borehole and equipment configuration in the test section ( $C_{\text{net}}$ ) together with the effective wellbore storage coefficient ( $C_{\text{eff}}$ ) for injection tests from laboratory experiments /10/.**

$r_w$ (m)	$L_w$ (m)	Volume of test section ( $\text{m}^3$ )	Volume of equipment in section ( $\text{m}^3$ )	$V_w$ ( $\text{m}^3$ )	$C_{\text{net}}$ ( $\text{m}^3/\text{Pa}$ )	$C_{\text{eff}}$ ( $\text{m}^3/\text{Pa}$ )
0.03865	100	0.469	0.061	0.408	$1.9 \cdot 10^{-10}$	$1.9 \cdot 10^{-10}$
0.03865	20	0.094	0.013	0.081	$3.7 \cdot 10^{-11}$	$4.3 \cdot 10^{-11}$
0.03865	5	0.023	0.004	0.019	$9.0 \cdot 10^{-12}$	$1.6 \cdot 10^{-11}$

The radius of influence at a certain time may be estimated from Jacob's approximation of the Theis' well function, Cooper and Jacob (1946) /12/:

$$r_i = \sqrt{\frac{2.25Tt}{S}} \quad (5-7)$$

$T$  = representative transmissivity from the test (m<sup>2</sup>/s)

$S$  = storativity estimated from Equation 5-3

$r_i$  = radius of influence (m)

$t$  = time after start of injection (s)

If a certain time interval of pseudo-radial flow (PRF) from  $t_1$  to  $t_2$  can be identified during the test, the radius of influence is estimated using time  $t_2$  in Equation 5-7. If no interval of PRF can be identified, the actual total flow time  $t_p$  is applied. The radius of influence can be used to deduce the length of the hydraulic feature(s) tested.

Furthermore, an  $r_i$ -index (-1, 0 or 1) is defined to characterize the hydraulic conditions by the end of the test. The  $r_i$ -index is defined as shown below. It is assumed that a certain time interval of PRF can be identified between  $t_1$  and  $t_2$  during the test.

- $r_i$ -index = 0: The transient response indicates that the size of the hydraulic feature tested is greater than the radius of influence based on the actual test time ( $t_2 = t_p$ ), i.e. the PRF is continuing at stop of the test. This fact is reflected by a flat derivative at this time.
- $r_i$ -index = 1: The transient response indicates that the hydraulic feature tested is connected to a hydraulic feature with lower transmissivity or an apparent barrier boundary (NFB). This fact is reflected by an increase of the derivative. The size of the hydraulic feature tested is estimated as the radius of influence based on  $t_2$ .
- $r_i$ -index = -1: The transient response indicates that the hydraulic feature tested is connected to a hydraulic feature with higher transmissivity or an apparent constant head boundary (CHB). This fact is reflected by a decrease of the derivative. The size of the hydraulic feature tested is estimated as the radius of influence based on  $t_2$ .

If a certain time interval of PRF cannot be identified during the test, the  $r_i$ -indices -1 and 1 are defined as above. In such cases the radius of influence is estimated using the flow time  $t_p$  in Equation 5-7.

## 5.1 Nonconformities

The test program in KFM06C was carried out according to the Activity Plan AP PF 400-05-087 with the following exceptions:

- The temperature sensors in the injection water at the ground surface,  $T_{surf}$ , and in the logging cabin,  $T_{air}$ , were out of order during the injection tests.
- The pressure sensor measuring the pressure above the section,  $P_a$ , broke down during the performance of the tests with 5 m section length. The sensor was not replaced because of limited time for the field campaign. Instead, the pressure sensor  $P_{bubbel}$ , measuring the ground water level, was supervised more carefully to notice any interference with the section above during the injection tests. Hence, all tests in KFM06C performed after 10:33 am on October 19 2005 have no or unreliable registration of pressure above the test section.

- Due to major fractures in the borehole, some of the positions of the 20- and 5 m tests were shifted. This results in some partly overlapping sections, and that some of the intervals measured with different section lengths are not identical.
- The first 20 m test (104.5–124.5 m) was not measured in 5 m sections because of large fractures in the borehole making it impossible to place the packers there.
- For one of the tests using the 100 m section length (891.0–991.0 m) the injection time was longer (36 minutes) than the 30 minutes normally used, because the automatic sequence stopping the injection was not used. This has however not affected the evaluation of transmissivity in the section.

## **6 Results**

### **6.1 Nomenclature and symbols**

The nomenclature and symbols used for the results of the injection tests in KFM06C are in accordance with the Instruction for analysis of injection and single-hole pumping tests (SKB MD 320.004). Additional symbols are explained in the text and in Appendix 5. Symbols used by the AQTESOLV software are explained in Appendix 3.

### **6.2 Routine evaluation of the single-hole injection tests**

#### **6.2.1 General test data**

General test data and selected pressure and flow data from all tests are listed in Appendix 2.1 and 2.2, respectively.

#### **6.2.2 Length corrections**

The down-hole equipment is supplied with a level indicator located c 3 m below the lower packer in the test section, see Figure 4-2. The level indicator transmits a signal each time a reference mark in the borehole is passed. In KFM06C, reference marks were milled into the borehole wall at every 50 m (with a few exceptions).

During the injection tests in KFM06C with the PSS, length reference marks were detected as presented in Table 6-1. As seen from Table 6-1, all of the reference marks were detected. At each mark, the length scale for the injection tests was adjusted according to the reported length to the reference mark. The tests with 20 m and 5 m section length above the first reference mark were adjusted according to the first detected reference mark by the tests in 100 m sections.

The largest difference between the reported and measured lengths at the reference marks during the injection tests was 0.29 m, at the 898 m reference mark. The difference between two consecutive measurements over a 100 m borehole interval was 0.06 m or less in all cases. A comparison of the measurements performed with different section lengths results in a maximum difference of 0.03 m.

Since the length scale was adjusted in the field every time a reference mark was passed, and because the difference between consecutive marks was small, it was not found worthwhile to make any further adjustments after the measurements, e.g. by linear interpolation between reference marks.

**Table 6-1. Detected reference marks during the injection tests in KFM06C.**

Borehole length (m)	Detected during the injection tests in 100 m sections	Detected during the injection tests in 20 m sections	Detected during the injection tests in 5 m sections <sup>1</sup>
150	yes	yes	yes
200	yes	yes	yes
250	yes	yes	yes
300	yes	yes	yes
350	yes	yes	yes
400	yes	yes	yes
447	yes	yes	yes
500	yes	yes	yes
550	yes	yes	yes
600	yes	yes	yes
652	yes	yes	yes
700	yes	yes	yes
750	yes	yes	yes
800	yes	yes	yes
850	yes	yes	yes
898	yes	yes	yes
960	yes	yes	–

<sup>1</sup> No tests of section length 5 m were performed below 930–935 m, hence the 960 m reference mark was not passed using this section length.

### 6.2.3 General results

For the injection tests, transient evaluation was conducted, whenever possible, both on the injection and recovery periods ( $T_i$  and  $T_s$ , respectively) according to the methods described in Section 5.4.4. The steady-state transmissivity ( $T_M$ ) was calculated by Moye’s formula according to Equation 5-1. Transient evaluation was performed for all tests for which a significant flow rate,  $Q_p$ , could be identified, see Section 5.4.2. The quantitative analysis was conducted using the AQTESOLV software.

A summary of the results of the routine evaluation of the injection tests is presented, test by test, in Table 6-2. Selected test diagrams are presented in Appendix 3. In general, one linear diagram showing the entire test sequence together with log-log and lin-log diagrams from the injection and recovery periods, respectively, are presented. The quantitative analysis was performed from such diagrams using the AQTESOLV software. From tests with a flow rate below the estimated lower measurement limit for the specific test, only the linear diagram is presented. The results of the routine evaluation of the tests in borehole KFM06C are also compiled in appropriate tables in Appendix 5 to be stored in the SICADA database, where they will be traceable by the Activity Plan number.

**Table 6-2. Summary of the routine evaluation of the single-hole injection tests in borehole KFM06C.**

Secup	Seclow	Test start	b	Flow regime <sup>1</sup>	T <sub>M</sub>	T <sub>R</sub>	T <sub>S</sub>	T <sub>T</sub>	T <sub>R</sub> <sup>2</sup>	ξ	t <sub>1</sub>	t <sub>2</sub>	dte <sub>1</sub>	dte <sub>2</sub>	C	r <sub>i</sub>	r <sub>i</sub> -index
(m)	(m)	YYYYMMDD hh:mm	(m)	injection	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(-)	(s)	(s)	(s)	(s)	(m <sup>3</sup> /Pa)	(m)	(-)
104.50	204.50	2005-09-29 15:44	100.0	PRF	1.34E-04	2.21E-05	2.81E-05	2.21E-05	2.21E-05	-7.44	100	1,800			164.92	0	
204.50	304.50	2005-09-30 10:33	100.0	PRF	1.77E-06	7.29E-07	7.88E-07	7.29E-07	7.29E-07	-4.32	100	1,800	500	1,100	70.28	0	
304.50	404.50	2005-09-30 15:13	100.0	PRF/(PSF)	2.44E-05	1.04E-05	6.09E-06	1.04E-05	1.04E-05	-4.82	400	1,800			136.73	0	
404.50	504.50	2005-10-05 09:32	100.0	PLF	9.61E-08	7.85E-09	4.23E-08	4.23E-08	4.23E-08						34.48	1	
504.50	604.50	2005-10-03 13:30	100.0	PRF	1.65E-06	4.80E-07	1.20E-06	4.80E-07	4.80E-07	-5.29	300	1,800			63.32	0	
604.50	704.50	2005-10-04 06:23	100.0	PRF	8.73E-08	3.06E-08	3.26E-08	3.06E-08	3.06E-08	-4.05	500	1,800	1,000	1,300	31.81	0	
691.0	791.0	2005-10-04 09:24	100.0	PRF	8.41E-09	3.94E-09	5.08E-09	3.94E-09	3.94E-09	-2.53	500	1,800			19.06	0	2.66E-10
791.0	891.0	2005-10-04 15:03	100.0	PRF	5.28E-09	1.84E-09	4.12E-09	1.84E-09	1.84E-09	-3.24	200	1,800			15.76	0	2.84E-10
891.0	991.0	2005-10-04 18:39	100.0	PRF->NFB	1.54E-08	4.33E-09	8.48E-09	8.48E-09	8.48E-09	-3.03	300	1,200	200	1,000	3.49E-10	17.20	1
104.50	124.50	2005-10-06 09:01	20.0	PRF1->PRF2	1.11E-06	4.92E-07	7.85E-07	4.92E-07	4.92E-07	-3.73	30	100	20	70	15.01	0	
124.50	144.50	2005-10-06 11:18	20.0	PRF->NFB	3.65E-05	3.07E-05	3.68E-05	3.07E-05	3.07E-05	-3.01	200	400			84.38	1	
144.50	164.50	2005-10-06 13:57	20.0	(PRF)->NFB	6.33E-05	2.60E-05	7.58E-05	2.60E-05	2.60E-05	-6.22	200	500			90.53	1	
164.50	184.50	2005-10-14 13:50	20.0	(PRF)->PSF	3.81E-05	8.73E-06	1.19E-05	8.73E-06	8.73E-06	-6.33	80	200	10	200	43.59	-1	
184.50	204.50	2005-10-06 17:05	20.0	PLF->(PRF)->PSF	1.97E-07	2.62E-08	2.57E-08	2.62E-08	2.62E-08	-6.88					25.16	-1	
204.50	224.50	2005-10-06 18:51	20.0	PRF/PSF	1.66E-06	1.33E-06	1.38E-06	1.33E-06	1.33E-06	-2.32	100	800	30	300	54.50	1	
224.50	244.50	2005-10-06 20:41	20.0	PRF	3.20E-07	3.59E-07	2.08E-07	3.59E-07	3.59E-07	0.16	300	1,200			48.07	0	
244.50	264.50	2005-10-06 22:30	20.0	PRF->(NFB)	7.85E-08	8.09E-08	5.41E-08	8.09E-08	8.09E-08	-0.10	100	1,200			33.12	0	
264.50	284.50	2005-10-07 08:22	20.0	NFB	5.08E-09		8.94E-09	8.94E-09	8.94E-09	0.80			200	1,200	5.96E-11	19.10	0
284.50	304.50	2005-10-07 10:36	20.0	PLF?->PRF	4.35E-07	1.07E-07	1.31E-07	1.07E-07	1.07E-07						35.77	1	
304.50	324.50	2005-10-07 13:43	20.0	PLF?->PRF	4.17E-06	7.99E-07	1.37E-06	7.99E-07	7.99E-07						59.13	0	
324.50	344.50	2005-10-07 15:45	20.0	PLF	3.75E-08	4.47E-09	4.12E-09	4.47E-09	3.75E-08						27.54	1	
344.50	364.50	2005-10-10 08:44	20.0	NFB	1.38E-06		2.54E-07	2.54E-07	1.38E-06						67.78	1	
364.50	384.50	2005-10-10 10:42	20.0	PLF	1.18E-09	4.22E-11	7.55E-11	4.22E-11	4.22E-11						5.04	1	
384.50	404.50	2005-10-10 13:44	20.0	PSS	3.68E-06	6.55E-06	4.25E-06	4.25E-06	3.68E-06	5.42					86.52	-1	
387.0	407.0	2005-10-10 15:24	20.0	PSS	3.45E-06	6.20E-06		6.20E-06	3.45E-06	5.20					85.11	-1	
407.0	427.0	2005-10-10 17:06	20.0	PLF	9.24E-08	1.08E-08	2.63E-08	2.63E-08	2.63E-08	-5.85					25.07	1	
427.0	447.0	2005-10-11 08:03	20.0	PRF	3.27E-10	1.49E-10	4.60E-11	1.49E-10	1.49E-10	-2.94	200	1,200			6.86	0	
447.0	467.0	2005-10-11 09:57	20.0	NFB	2.75E-09		1.45E-09	1.45E-09	1.45E-09						12.14	1	
467.0	487.0	2005-10-11 12:42	20.0	-	<2.66E-10				<2.66E-10						-	-	
487.0	507.0	2005-10-11 14:24	20.0	-	<2.66E-10				<2.66E-10						-	-	

Secup	Seclow	Test start	b	Flow regime <sup>1</sup>	T <sub>M</sub>	T <sub>R</sub>	T <sub>S</sub>	T <sub>T</sub>	T <sub>R</sub> <sup>2</sup>	ξ	t <sub>1</sub>	t <sub>2</sub>	dte <sub>1</sub>	dte <sub>2</sub>	C	r <sub>i</sub>	r <sub>r</sub>	r <sub>r</sub> -index
(m)	(m)	YYMMDD hh:mm	(m)	injection	recovery	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(-)	(s)	(s)	(s)	(s)	(m <sup>3</sup> /Pa)	(m)	(-)	(-)
504.50	524.50	2005-10-11 15:29	20.0	-	-	<2.66E-10	4.96E-07	4.96E-07	<2.66E-10	-5.09	700	1,200	30	300		52.13	0	
524.50	544.50	2005-10-11 16:38	20.0	PRF	WBS->PRF->NFB	1.37E-06	8.93E-07	4.96E-07	4.96E-07	-5.09	700	1,200	30	300		52.13	0	
544.50	564.50	2005-10-11 18:16	20.0	-	-	<3.32E-10			<3.32E-10									
564.50	584.50	2005-10-11 19:19	20.0	-	-	<2.66E-10			<2.66E-10									
584.50	604.50	2005-10-11 20:28	20.0	PLF/NFB	WBS->	4.42E-10	1.61E-10	1.61E-10	1.61E-10	-4.85					4.49E-11	7.05	1	
604.50	624.50	2005-10-11 22:03	20.0	-	-	<2.66E-10			<2.66E-10									
624.50	644.50	2005-10-11 23:10	20.0	-	-	<2.66E-10			<2.66E-10									
636.0	656.0	2005-10-12 06:36	20.0	PSF	WBS	2.94E-08			2.94E-08							25.92	-1	
656.0	676.0	2005-10-12 08:30	20.0	PRF	WBS->PRF	5.23E-08	6.02E-08	4.75E-08	4.75E-08	-0.84	300	1,200	300	700		22.14	0	
676.0	696.0	2005-10-12 10:10	20.0	PRF	WBS->	1.18E-09	3.72E-10	3.72E-10	3.72E-10	-3.59	10	1,200			6.08E-11	8.62	0	
691.0	711.0	2005-10-12 12:38	20.0	PRF	WBS->(PRF)	6.0E-09	3.76E-09	3.76E-09	3.76E-09	-2.07	30	1,200			8.54E-11	15.38	0	
711.0	731.0	2005-10-12 14:30	20.0	-	-	<3.32E-10			<3.32E-10									
731.0	751.0	2005-10-12 15:32	20.0	PLF	WBS->	4.97E-10	6.26E-11	6.26E-11	6.26E-11	-5.09					9.93E-11	5.56	1	
751.0	771.0	2005-10-12 17:12	20.0	-	-	<2.66E-10			<2.66E-10									
771.0	791.0	2005-10-12 19:09	20.0	PLF->NFB	WBS->NFB	2.86E-10	3.80E-10	3.80E-10	3.80E-10	-3.99						8.18	1	
791.0	811.0	2005-10-12 20:47	20.0	-	-	<2.09E-10			<2.09E-10									
811.0	831.0	2005-10-12 21:51	20.0	PRF	WBS->	2.26E-09	1.31E-09	1.31E-09	1.31E-09	-2.06	30	1,200			1.88E-11	11.82	0	
831.0	851.0	2005-10-12 23:29	20.0	PRF->NFB	WBS->NFB	2.42E-09	1.07E-09	1.07E-09	1.07E-09	-3.29	30	100	400	700	6.19E-11	3.24	1	
851.0	871.0	2005-10-13 06:44	20.0	-	-	<2.61E-10			<2.61E-10									
871.0	891.0	2005-10-13 08:37	20.0	-	-	<2.87E-10			<2.87E-10									
891.0	911.0	2005-10-13 10:22	20.0	PRF	WBS->	3.32E-09	1.80E-09	1.80E-09	1.80E-09	-3.09	250	1,200			12.80	0		
911.0	931.0	2005-10-13 12:53	20.0	PRF->NFB	WBS->PRF->NFB	1.15E-08	9.0E-08	1.0E-08	1.0E-08	-1.17	20	80	80	400	7.04E-11	5.07	1	
931.0	951.0	2005-10-13 14:41	20.0	-	-	<3.32E-10			<3.32E-10									
951.0	971.0	2005-10-13 16:38	20.0	-	-	<3.32E-10			<3.32E-10									
971.0	991.0	2005-10-13 17:44	20.0	-	-	<2.66E-10			<2.66E-10									
124.50	129.50	2005-10-18 08:12	5.0	PRF/PSF->NFB	PRF/PSF->NFB	9.0E-07	2.08E-06	2.08E-06	2.08E-06	4.11	60	600	50	200		52.74	1	
129.50	134.50	2005-10-18 09:52	5.0	PSF	WBS->	1.67E-08	1.13E-08	2.72E-08	1.13E-08	-2.19						20.44	-1	
134.50	139.50	2005-10-18 12:24	5.0	PSF	WBS->	4.05E-08	1.06E-08	3.28E-08	1.06E-08	-4.56						20.07	-1	
139.50	144.50	2005-10-18 13:49	5.0	PRF?->NFB	PRF?->NFB	2.80E-05	4.79E-05	8.91E-05	4.79E-05	-1.14	150	300	30	100		143.75	1	
141.50	146.50	2005-10-18 15:18	5.0	PRF?->NFB	PRF?->NFB	3.14E-05	3.63E-05	5.75E-05	3.63E-05	-5.55	80	200	80	200		146.90	1	
146.50	151.50	2005-10-18 16:53	5.0	PSF	PSF	6.05E-06	9.02E-06	7.67E-06	9.02E-06							98.06	-1	

Setup	Seclow	Test start	b	Flow regime <sup>1</sup>	recovery	T <sub>m</sub>	T <sub>r</sub>	T <sub>s</sub>	T <sub>r</sub>	T <sub>R</sub> <sup>2</sup>	ξ	t <sub>1</sub>	t <sub>2</sub>	dte <sub>1</sub>	dte <sub>2</sub>	C	r <sub>i</sub>	r <sub>r</sub>	index
(m)	(m)	YYYYMMDD hh:mm	(m)	injection		(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(-)	(s)	(s)	(s)	(s)	(m <sup>3</sup> /Pa)	(m)	(m)	(-)
151.50	156.50	2005-10-18 18:24	5.0	PSF→NFB?	PSS	2.43E-06	3.43E-06	3.43E-06	3.43E-06	3.43E-06							85.14	-1	
153.50	158.50	2005-10-18 19:59	5.0	PSF	PSS	2.35E-06	3.24E-06	2.04E-06	3.24E-06	3.24E-06							83.99	-1	
159.50	164.50	2005-10-18 21:50	5.0	PSF→NFB?	PSF→PSS	1.76E-06	2.47E-06	1.86E-06	2.47E-06	2.47E-06	0.26						78.47	-1	
164.50	169.50	2005-10-18 23:19	5.0	PSF	PLF→PSS	1.44E-05	4.60E-06	4.17E-06	4.60E-06	4.60E-06	-5.51						91.66	-1	
169.50	174.50	2005-10-19 06:16	5.0	PSF	PLF→PSS	1.69E-06	5.54E-07	4.45E-07	5.54E-07	5.54E-07	-4.87						54.02	1	
174.50	179.50	2005-10-19 07:47	5.0	PRF→PSF	PLF→PSF	9.97E-06	3.31E-06		3.31E-06	3.31E-06	-5.96						84.27	-1	
179.50	184.50	2005-10-19 09:10	5.0	PSF	PSF/PSS	8.21E-06	7.63E-06	1.67E-06	7.63E-06	7.63E-06	-2.49						103.98	-1	
184.50	189.50	2005-11-01 18:30	5.0	PSF	WBS→	1.24E-08	2.0E-09	1.94E-09	2.0E-09	2.0E-09	-4.74						13.25	-1	
189.50	194.50	2005-10-19 12:49	5.0	PSF	WBS→	4.85E-08	2.40E-08	6.22E-08	2.40E-08	2.40E-08	-3.63						24.65	-1	
194.50	199.50	2005-10-19 14:18	5.0	PLF→PSF	PLF→	8.73E-08	2.04E-08	1.52E-08	2.04E-08	2.04E-08							23.67	-1	
199.50	204.50	2005-10-19 15:51	5.0	-	-	<2.06E-10				<2.06E-10							-	-	
204.50	209.50	2005-10-19 17:02	5.0	PRF1→PRF2	PRF→PSF	7.07E-07	6.39E-07	6.46E-07	6.39E-07	6.39E-07	-2.58	40	400				32.06	0	
209.50	214.50	2005-10-19 18:36	5.0	PRF→(NFB)	WBS→PRF	2.90E-07	4.99E-07	7.16E-07	4.99E-07	4.99E-07	1.43	100	600	70	700		36.91	1	
214.50	219.50	2005-10-19 20:15	5.0	PRF/PSF	WBS→PSF	2.42E-07	3.05E-07	2.34E-07	3.05E-07	3.05E-07	-0.39						46.57	-1	
219.50	224.50	2005-11-01 16:51	5.0	PRF	WBS→PRF	2.74E-07	7.18E-07	1.25E-06	7.18E-07	7.18E-07	6.19	100	1,200	100	600		57.16	0	
224.50	229.50	2005-10-19 23:02	5.0	PRF→NFB	PRF→NFB	2.31E-07	5.37E-07	8.71E-07	5.37E-07	5.37E-07	4.42	100	650				39.13	1	
229.50	234.50	2005-10-20 07:05	5.0	-	-	<6.86E-10	2.19E-07			<6.86E-10							-	-	
234.50	239.50	2005-10-20 08:25	5.0	PRF?	WBS	2.35E-08	2.12E-08	1.38E-08	2.12E-08	2.12E-08	-2.0	200	1,200				23.69	0	
239.50	244.50	2005-10-20 10:11	5.0	PLF?→PRF	PLF	1.29E-08	4.32E-09	8.51E-09	4.32E-09	4.32E-09	-5.0	500	1,200				15.93	0	
244.50	249.50	2005-10-20 12:50	5.0	PRF	WBS→PSF?	4.28E-09	4.71E-09	3.17E-09	4.71E-09	4.71E-09	-1.0	200	1,200			2.04E-11	16.27	0	
249.50	254.50	2005-10-20 14:28	5.0	-	-	<3.13E-10				<3.13E-10							-	-	
254.50	259.50	2005-10-20 15:59	5.0	-	-	<3.13E-10				<3.13E-10							-	-	
259.50	264.50	2005-10-20 17:00	5.0	PRF→NFB	PSF→NFB	6.76E-08	1.07E-07	8.38E-08	1.07E-07	1.07E-07	1.33	150	1,200				35.63	0	
264.50	269.50	2005-10-20 18:38	5.0	-	-	<2.26E-10				<2.26E-10							-	-	
269.50	274.50	2005-10-20 19:36	5.0	PLF→NFB	PLF?	3.88E-09	9.54E-09	9.54E-09	9.54E-09	9.54E-09							19.45	1	
274.50	279.50	2005-10-20 21:07	5.0	-	-	<2.26E-10				<2.26E-10							-	-	
279.50	284.50	2005-11-01 15:34	5.0	-	-	<1.65E-10				<1.65E-10							-	-	
284.50	289.50	2005-10-20 23:02	5.0	PRF1→PRF2	PLF	2.99E-07	1.44E-07	3.82E-07	1.44E-07	1.44E-07	-4.64	400	1,200	200	800		38.26	0	
289.50	294.50	2005-11-01 14:05	5.0	NFB	WBS/PLF	4.04E-08				4.04E-08							28.04	1	
294.50	299.50	2005-10-21 10:24	5.0	PRF	WBS→PLF	5.51E-10	1.57E-10	3.0E-10	3.0E-10	3.0E-10		300	1,200			1.90E-11	8.24	1	
299.50	304.50	2005-10-21 12:51	5.0	-	-	<2.28E-10				<2.28E-10							-	-	
304.50	309.50	2005-10-21 13:57	5.0	-	-	<2.63E-10				<2.63E-10							-	-	
309.50	314.50	2005-10-21 15:06	5.0	-	-	<2.06E-10				<2.06E-10							-	-	



Secup	Seclow	Test start	b	Flow regime <sup>1</sup>	T <sub>M</sub>	T <sub>R</sub>	T <sub>S</sub>	T <sub>T</sub>	T <sub>R</sub> <sup>2</sup>	ξ	t <sub>1</sub>	t <sub>2</sub>	dte <sub>1</sub>	dte <sub>2</sub>	C	r <sub>i</sub>	r <sub>i</sub> -index
314.50	319.50	YYMMDD hh:mm	5.0	PLF→PRF?	3.25E-06	9.12E-07	1.02E-06	1.02E-06	1.02E-06	<1.85E-10	300	1,200				62.80	0
319.50	324.50	2005-10-24 08:36	5.0	-	<1.85E-10												
324.50	329.50	2005-10-24 10:20	5.0	NFB	7.40E-09	2.37E-08	2.37E-08	7.40E-09	7.40E-09							18.38	1
329.50	334.50	2005-10-24 11:32	5.0	-	<1.85E-10												
334.50	339.50	2005-10-24 14:23	5.0	NFB	4.66E-10											9.20	1
339.50	344.50	2005-10-24 15:29	5.0	NFB	3.33E-08											26.74	1
344.50	349.50	2005-10-25 06:01	5.0	NFB	1.69E-07											40.17	1
349.50	354.50	2005-10-25 07:30	5.0	NFB	<2.88E-10												
354.50	359.50	2005-10-25 08:53	5.0	-	2.12E-08	3.84E-08	8.69E-08	3.84E-08	3.84E-08	-0.26	40	200				11.22	1
359.50	364.50	2005-10-25 09:47	5.0	PRF→NFB	3.89E-07											49.47	1
364.50	369.50	2005-10-25 11:58	5.0	NFB	6.91E-09	3.52E-09	5.26E-09	3.52E-09	3.52E-09	-2.91						15.27	-1
369.50	374.50	2005-10-25 13:29	5.0	PSF	3.04E-09	1.99E-09	6.01E-10	1.99E-09	1.99E-09	-2.39						13.24	-1
374.50	379.50	2005-10-25 14:51	5.0	PRF→PSF	5.27E-06	7.87E-06	7.96E-06	7.87E-06	7.87E-06	0.27						104.80	1
379.50	384.50	2005-10-25 16:39	5.0	PSF→NFB	<2.47E-10												
384.50	389.50	2005-10-25 18:06	5.0	-	<2.67E-10												
389.50	394.50	2005-10-25 19:39	5.0	-	2.36E-09	6.90E-10	5.96E-10	6.90E-10	6.90E-10	-4.39						10.16	0
394.50	399.50	2005-10-25 20:48	5.0	PLF→(PRF)	1.16E-09	1.45E-09	1.70E-09	1.45E-09	1.45E-09	0.61	50	1,200				12.11	0
399.50	404.50	2005-10-25 22:33	5.0	PRF	1.08E-07	5.37E-08	6.15E-08	5.37E-08	5.37E-08	-4.33	100	700	80	500		22.84	1
404.50	409.50	2005-10-26 06:17	5.0	PRF	7.09E-08	1.32E-08	4.16E-08	1.32E-08	1.32E-08	-6.0						21.20	1
409.50	414.50	2005-10-26 08:48	5.0	PLF	<3.70E-10												
414.50	419.50	2005-10-26 10:19	5.0	-	2.48E-10	9.68E-11	1.78E-10	1.78E-10	2.48E-10	-1.80						7.87	1
419.50	424.50	2005-10-26 12:33	5.0	PRF?	<2.57E-10												
424.50	429.50	2005-10-26 12:33	5.0	-	<2.06E-10												
429.50	434.50	2005-10-26 13:55	5.0	-	<2.06E-10												
434.50	439.50	2005-10-26 15:02	5.0	-	1.50E-09	1.30E-09	5.76E-10	1.30E-09	1.30E-09	-1.32	100	1,200				11.79	0
439.50	444.50	2005-10-26 16:41	5.0	PRF	2.27E-09	1.66E-10	1.27E-09	1.27E-09	1.27E-09							11.73	1
444.50	449.50	2005-10-26 18:16	5.0	PLF	<1.65E-10												
449.50	454.50	2005-10-26 20:08	5.0	-	<1.65E-10												
454.50	459.50	2005-10-26 21:06	5.0	-	<1.65E-10												
459.50	464.50	2005-10-26 22:30	5.0	PRF/PSF	5.88E-09	9.48E-09	1.18E-08	9.48E-09	9.48E-09	2.12	200	1,200				19.38	0
464.50	469.50	2005-10-26 22:30	5.0	-	<2.17E-10												
469.50	474.50	2005-10-27 06:23	5.0	-	1.21E-06	8.01E-07	1.06E-06	1.06E-06	1.06E-06	-3.86	100	300	20	300		31.49	1
474.50	479.50	2005-10-27 07:25	5.0	PRF1→PRF2	<2.17E-10												
479.50	484.50	2005-10-27 08:50	5.0	-	<2.17E-10												
484.50	489.50	2005-10-27 10:22	5.0	-	<2.69E-10												

Setup	Seclow	Test start	b	Flow regime <sup>1</sup>	recovery	T <sub>m</sub>	T <sub>r</sub>	T <sub>s</sub>	T <sub>r</sub>	T <sub>R</sub> <sup>2</sup>	ξ	t <sub>1</sub>	t <sub>2</sub>	dte <sub>1</sub>	dte <sub>2</sub>	C	r <sub>i</sub>	r <sub>r</sub>	r <sub>r</sub>	index		
(m)	(m)	YYYYMMDD hh:mm	(m)	injection		(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(-)	(s)	(s)	(s)	(s)	(m <sup>3</sup> /Pa)	(m)	(m)	(m)	(-)		
640.0	645.0	2005-10-27 11:10	5.0	-	-	<2.69E-10				<2.69E-10											-	
642.50	647.50	2005-10-27 12:47	5.0	-	-	<2.69E-10				<2.69E-10											-	
647.50	652.50	2005-10-27 13:38	5.0	PLF->CHB?	WBS->(PLF)	2.14E-08	4.25E-09	4.25E-09	4.25E-09	2.14E-08	-5.54										23.98	
651.0	656.0	2005-10-27 15:01	5.0	PLF->PSF	WBS->(PLF)	2.76E-08	3.33E-09	3.33E-09	3.33E-09	2.76E-08	-5.95											25.54
656.0	661.0	2005-10-27 16:34	5.0	-	-	<1.85E-10				<1.85E-10											-	
661.0	666.0	2005-10-27 17:37	5.0	PRF	WBS->(PRF)	4.04E-08	4.58E-08	5.31E-08	4.58E-08	4.58E-08	-0.83	100	1,200								28.72	
666.0	671.0	2005-10-27 19:12	5.0	PRF?	WBS->	2.99E-10	1.84E-10	2.46E-10	1.84E-10	1.84E-10	-1.07	100	1,200								7.23	
671.0	676.0	2005-10-27 20:50	5.0	PLF->(PRF)	WBS->(PLF)	2.60E-09	8.76E-10	5.45E-10	8.76E-10	8.76E-10	-4.20	100	1,200									10.69
691.0	696.0	2005-10-27 22:29	5.0	-	-	<2.06E-10				<2.06E-10											-	
696.0	701.0	2005-10-28 08:08	5.0	PRF1->PRF2?	WBS->(PRF)	4.42E-09	4.06E-09	4.51E-09	4.06E-09	4.06E-09	-1.57	80	500									10.12
701.0	706.0	2005-10-28 09:40	5.0	-	-	<2.10E-10				<2.10E-10											-	
706.0	711.0	2005-10-28 10:47	5.0	-	-	<2.10E-10				<2.10E-10											-	
811.0	816.0	2005-10-28 15:01	5.0	-	-	<2.14E-10				<2.14E-10											-	
816.0	821.0	2005-10-28 15:58	5.0	PRF1->PRF2	WBS->(PSF)	2.01E-09	1.25E-09	8.92E-10	1.25E-09	1.25E-09	-2.29	30	100									3.37
821.0	826.0	2005-10-31 06:17	5.0	-	-	<2.69E-10				<2.69E-10											-	
826.0	831.0	2005-10-31 07:09	5.0	-	-	<2.18E-10				<2.18E-10											-	
831.0	836.0	2005-10-31 07:59	5.0	-	-	<1.67E-10				<1.67E-10											-	
836.0	841.0	2005-10-31 08:49	5.0	-	-	<1.67E-10				<1.67E-10											-	
841.0	846.0	2005-10-31 09:40	5.0	PRF->NFB?	WBS->PSF?	9.30E-10	8.96E-10	2.32E-10	8.96E-10	8.96E-10	-1.36	200	800									8.77
846.0	851.0	2005-10-31 11:09	5.0	PRF->NFB	WBS->(PRF)->NFB	8.28E-10	1.30E-09	1.93E-09	1.30E-09	1.30E-09	-1.50	20	100									3.41
891.0	896.0	2005-10-31 13:34	5.0	-	-	<2.72E-10				<2.72E-10											-	
896.0	901.0	2005-10-31 14:30	5.0	-	-	<2.16E-10				<2.16E-10											-	
901.0	906.0	2005-10-31 15:31	5.0	PRF	WBS->	2.61E-09	2.35E-09	2.16E-09	2.35E-09	2.35E-09	-1.34	300	1,200									13.67
906.0	911.0	2005-10-31 16:57	5.0	-	-	<2.72E-10				<2.72E-10											-	
911.0	916.0	2005-10-31 17:57	5.0	PLF->(PRF)	PLF->(PRF)	5.99E-10	1.10E-10	5.07E-10	5.07E-10	5.07E-10	-4.05			1,000	1,500							10.42
915.0	920.0	2005-10-31 19:20	5.0	PLF->(PRF)	WBS->(PLF)	4.12E-10	7.95E-11	3.06E-10	3.06E-10	3.06E-10	-4.58											8.28
920.0	925.0	2005-10-31 20:46	5.0	PRF	WBS->PRF?	2.39E-09	3.69E-09	7.85E-09	3.69E-09	3.69E-09	1.97	40	1,200	250	600							15.31
925.0	930.0	2005-10-31 22:09	5.0	PRF->NFB	PRF->NFB	8.16E-09	1.08E-08	2.95E-08	1.08E-08	1.08E-08	-1.44	25	60									4.48
930.0	935.0	2005-11-01 06:04	5.0	-	-	<2.26E-10				<2.26E-10											-	

<sup>1</sup> The acronyms in the column "Flow regime" are as follow: wellbore storage (WBS), pseudo-linear flow (PLF), pseudo-radial flow (PRF), pseudo-spherical flow (PSF), pseudo-stationary flow (PSS) and apparent no-flow boundary (NFB). The flow regime definitions are further discussed in Section 5.4.3 above.

<sup>2</sup> For the tests where Q<sub>p</sub> was not detected, T<sub>R</sub> was assumed to be less than T<sub>m</sub> based on the estimated Q/s-measi-L.

The dominating transient flow regimes during the injection and recovery periods, as interpreted from the qualitative test evaluation, are listed in Table 6-2 and are further commented on in Section 6.2.4. Several of the responses during the recovery period were strongly influenced by wellbore storage effects. Thus, for many tests, pseudo-radial flow was not reached during this period. On the other hand, during the injection period, a certain time interval with pseudo-radial flow could, in most tests, be identified. Consequently, standard methods for single-hole tests with wellbore storage and skin effects were generally used for the routine evaluation of the tests. The approximate start and stop times of the pseudo-radial flow regime used for the transient evaluation are also listed in Table 6-2.

For a few tests a type curve fit is yet displayed in the diagrams in Appendix 3, despite the estimated parameters from the fit are judged as non-representative and are thus not included in the result tables in SICADA. For these tests, the type curve fit is presented, for example, to illustrate that an assumption of pseudo-radial flow regime is not justified for the test. Instead, some other flow regime is likely to dominate. For example, for test responses showing only wellbore storage and tests approaching a pseudo-stationary flow, no unique transient evaluation is possible.

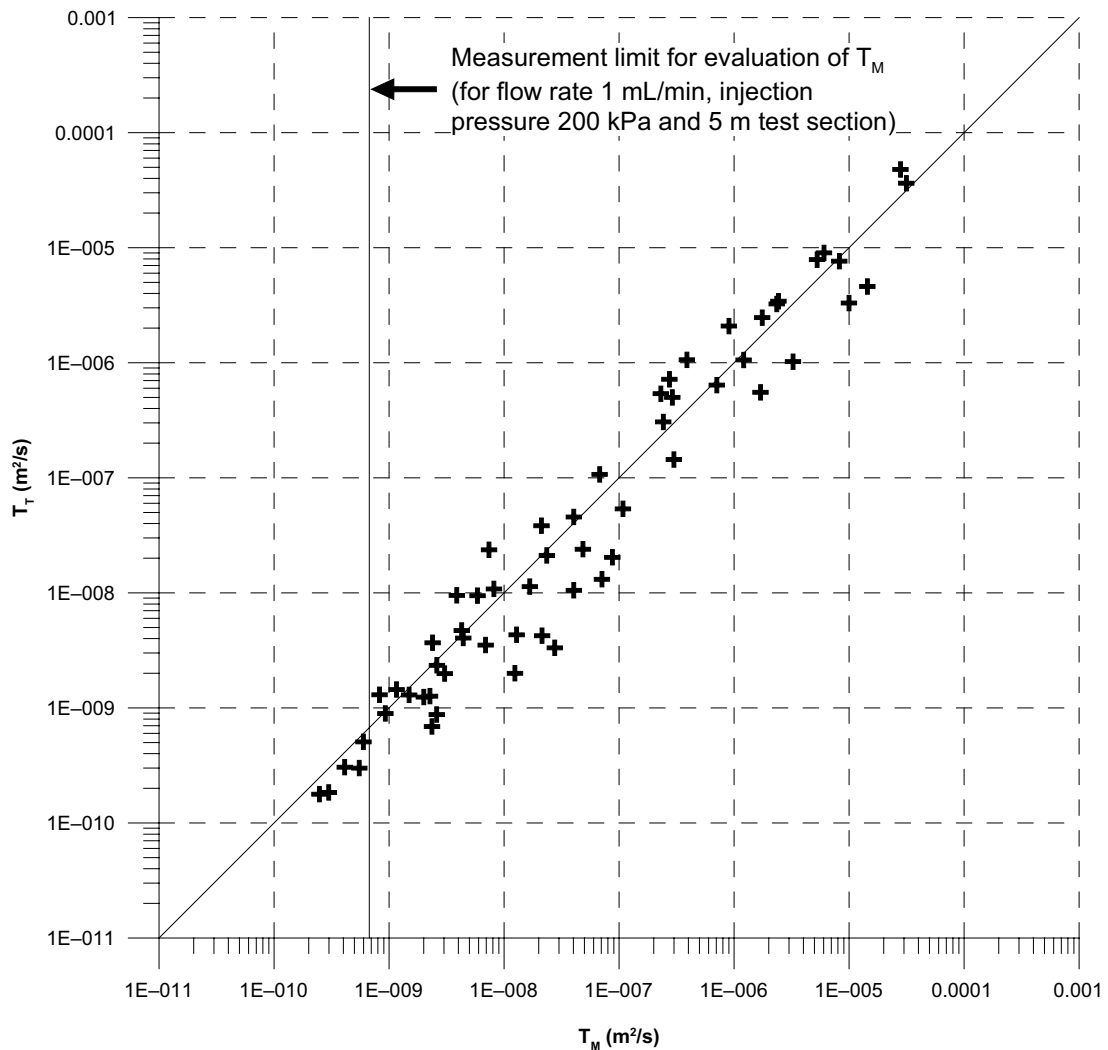
The transmissivity judged as the most reliable from the transient evaluation of the flow- and recovery periods of the tests was selected as  $T_T$ . The associated value of the skin factor is listed in Table 6-2. Since a fairly well-defined time interval with pseudo-radial flow in most cases could be identified from the injection period, the transmissivity calculated from this period is generally considered as the most reliable transmissivity,  $T_T$ , from the transient analysis of the injection tests in KFM06C. Furthermore, the transient evaluation of transmissivity from the injection period was for most of the tests also judged as the most representative estimate of transmissivity,  $T_R$ .

For those tests where transient evaluation was not possible or not considered representative,  $T_M$  was chosen as the representative transmissivity value,  $T_R$ . If  $Q_p$  fell below the actual test-specific measurement limit, the representative transmissivity value was assumed to be less than the estimated  $T_M$ , based on  $Q/s$ -measl-L, see Section 5.4.2 and 5.4.4.

Some of the tests in KFM06C showed unusual responses, both during the injection- and recovery period, possibly representing flow in conductive fractures of limited extension. During the injection period the flow rate decreased rapidly indicating a closed no-flow boundary in these tests, but the final flow rate was still rather high. No transient evaluation of the injection period was possible for these tests. After stop of the injection the pressure recovered very slowly and only to a limited extent during the recovery period. Examples of such sections are 269.5–274.5 m and 324.5–329.5 m. One possible explanation to these responses is flow in a high-conductive fracture of limited extension, i.e. decreasing fracture aperture away from the borehole, or other geometrical restrictions of the fracture. Some other tests show initial pseudo-radial flow transitioning to flow in an apparent no-flow boundary, followed by slow and limited pressure recovery after stop of the injection.

The results of the routine evaluation of the injection tests in borehole KFM06C are also compiled in appropriate tables in Appendix 5 to be stored in the SICADA database.

In Figure 6-1, a comparison of calculated transmissivities in 5 m sections from steady-state evaluation ( $T_M$ ) and transmissivity values from the transient evaluation ( $T_T$ ) is shown. The agreement between the two populations is in general considered as good. The lower standard measurement limit of transmissivity in 5 m sections based on a flow rate of 1 mL/min and an injection pressure of 200 kPa is indicated in the figure.



**Figure 6-1.** Estimated transmissivities in 5 m sections from steady-state ( $T_M$ ) and transient ( $T_T$ ) evaluation in KFM06C.

The wellbore storage coefficient,  $C$ , was calculated from the straight line with a unit slope in the log-log diagrams from the recovery period in KFM06C, see Table 6-2. The coefficient  $C$  was only calculated for tests with a well-defined line of unit slope in the beginning of the recovery period. In the most conductive sections, this period occurred during very short intervals at very early times and is not visible in the diagrams. In sections with a very low transmissivity, the estimates of  $C$  may be uncertain due to difficulties in defining an accurate time for the start of the recovery period. Furthermore, the resolution of the pressure sensors causes the recovery to be quite scattered in sections of low transmissivity. The values of  $C$  presented in Table 6-2 may be compared with the net values of  $C_{net}$  (based on geometry) and the value of  $C$  obtained from laboratory experiments,  $C_{eff}/10$ , both found in Table 5-3.

The number of tests with a well-defined line of unit slope for which it was possible to calculate  $C$  was as follows: 3 of 9 with the 100 m test section resulted in a well-defined 1:1 straight line. The corresponding figures for the 20 m tests were 8 out of 46, and for the 5 m tests 13 out of 100. Table 6-2 shows that the calculated values from the tests tend to be slightly higher than  $C_{net}$  presented in Table 5-3. However, when the calculated values are compared with the value  $C_{eff}$  obtained from laboratory experiments, the agreement is better

for the 20 m and the 5 m test sections although the calculated values still tend to be slightly higher. When constructing 95% confidence intervals (using a t-distribution) from calculated values of  $C$  from the tests, the values of  $C_{net}$  listed in Table 5-3 are within these confidence intervals for the 100 m sections but slightly lower than the confidence interval for the 5 m sections and 20 m sections. When the same comparison is made with  $C_{eff}$ , the values fall within the confidence interval for section lengths 100 m and 20 m, but for the 5 m sections the value falls just below the confidence interval.

#### **6.2.4 Comments on the tests**

Short comments on each test follow below. Tests were performed within the interval 104.5–991.0 m in KFM06C. Flow regimes and hydraulic boundaries, as discussed in Section 5.4.3, are in the text referred to as:

WBS = Wellbore storage

PRF = Pseudo-radial flow regime

PLF = Pseudo-linear flow regime

PSF = Pseudo-spherical flow regime

PSS = Pseudo-stationary flow regime

NFB = No-flow boundary

CHB = Constant-head boundary

##### ***104.5–204.5 m***

Due to the high transmissivity of the test section a coarse manual regulation was initially performed in an attempt to reach the standard injection pressure. The difficult circumstances made the flow regulation unsmooth for most of the injection period and an injection pressure of only c 1.32 m water column was achieved. However, a reasonably stable flow was achieved during the last half of the injection period. A PRF is assumed to dominate the injection period. During the recovery period a PLF was dominating, possibly transitioning to a PRF at the end.

##### ***204.5–304.5 m***

The injection period is dominated by a PRF from 100 s and throughout the period. The recovery period indicates a PLF transitioning to a PRF after 500 s. The transient evaluations from the two periods show consistent results.

##### ***304.5–404.5 m***

The injection period indicates a PRF, or possibly an intermediate between a PRF and a PSF. The beginning of the recovery is dominated by a PLF. It is followed by a transition period to PSF.

##### ***404.5–504.5 m***

Both the injection and the recovery period exhibit an apparent early PLF.

### **504.5–604.5 m**

The injection period is dominated by a PRF, possibly preceded by a PLF. The early stage of the recovery period is affected by WBS transitioning to a possible PRF. After 300 s, the recovery period shows an apparent NFB.

### **604.5–704.5 m**

A PRF dominates the injection period from 500 s throughout the period. The early stage of the recovery period indicates a PLF, possibly affected by WBS transitioning to a possible PRF.

### **691.0–791.0 m**

Although the derivative is very scattered, a possible PRF is indicated during the injection period, lasting from c 500 s until the end of the injection period. The recovery period is dominated by initial WBS and a transition period to some other flow regime.

### **791.0–891.0 m**

Although the derivative is very scattered, a possible PRF is indicated during the injection period, lasting from c 200 s until the end of the injection period. The recovery period is dominated by initial WBS and a transition period.

### **891.0–991.0 m**

The derivative is rather scattered during the injection period. A PRF is still indicated between 300 and 1,200 s. It is followed by a weakly indicated apparent NFB. The injection period was slightly longer than normal. During the recovery period, a possible PRF is indicated transitioning to an apparent NFB. The PRF is preceded by WBS.

### **104.5–124.5 m**

Both the injection- and recovery period indicate an early PRF and a transition to a later PRF with higher transmissivity. The transient evaluation of the first PRF period during the injection period was considered to give the most representative transmissivity value for this section.

### **124.5–144.5 m**

The injection period shows signs of a possible PRF after c 200 seconds continuing until 400 s. Thereafter an apparent NFB appears. During the recovery period a PSF transitioning to an apparent NFB is identified. The pressure in the section below the test section increased by c 3 kPa during the injection period. However, since the transmissivity in the borehole interval below the test section is in the same order of magnitude as the transmissivity in the section 124.5–144.5, this relatively small pressure interference should not have a major impact on the test performed in the section.

#### **144.5–164.5 m**

The injection period shows signs of a possible PRF after c 200 seconds continuing until c 500 s. Thereafter an apparent NFB appears. During the recovery period an early PSF transitioning to an apparent NFB may be identified. The pressure in the section above the test section increased by c 11 kPa during the injection period and the pressure in the section below increased by c 1.5 kPa. The transmissivity in the section is in the same order of magnitude as the transmissivities both above and below the section. Hence the rather large pressure interference may have caused an overestimation of transmissivity in the section 144.5–164.5 m.

#### **164.5–184.5 m**

The injection period indicates a possible PRF from c 80–200 s transitioning to a PSF. The recovery period indicates an approximate PR until 200 s transitioning to a possible PSF. The pressure in the section above the test section increased by c 5 kPa during the injection period and the pressure in the section. Since the transmissivity in the section above is higher than the transmissivity in section 164.5–184.5, this relatively small pressure interference may have resulted in an overestimation of the transmissivity in this section.

#### **184.5–204.5 m**

A PLF is dominating the injection period from c 30 s to 500 s transitioning towards a possible PRF. By the end of the period a PSF is indicated. The recovery period is similar to the injection period with a dominating PLF transitioning to a possible PRF at the end. The transient evaluations of both the injection- and recovery period result in low, negative skin values indicating a flow dimension less than two, i.e. a fracture response. An alternative evaluation with a model for a single fracture is also presented.

#### **204.5–224.5 m**

The injection period indicates an intermediate between a PRF and a PSF between 100 and 800 s. Towards the end of the period weak effects of an apparent NFB is indicated. The recovery period is dominated by a PRF. After 300 s a transition to a PSF is indicated. Evaluations with Hurst-Clark-Brauer and Dougherty-Babu is consistent with evaluation using the Hantush model for both the injection- and recovery period.

#### **224.5–244.5 m**

The injection period is dominated by a PRF from 300 s and throughout the period. The recovery period only indicates WBS and a transition to some other flow regime, possibly a PSF or PSS.

#### **244.5–264.5 m**

The injection period indicates a PRF with a weak effect of an apparent NFB by the end. The recovery is rather fast, indicating a possible early PSF, followed by an apparent NFB.

### **264.5–284.5 m**

The automatic regulation during the injection was quite unstable and the period only indicates a transition to an apparent NFB. The recovery is clearly dominated by a PRF after of short WBS. Hence, the transmissivity from transient evaluation of the recovery period is considered as representative for the section.

### **284.5–304.5 m**

An early PLF may be present during the injection period transitioning to a PRF. The recovery period is dominated by a PLF. At the end of the recovery period a transition to a possible PRF is indicated. A fit with Hurst-Clark-Brauer solution to the injection is consistent to evaluations using the Ozkan-Raghavan solution for a single fracture during both the injection and the recovery period.

### **304.5–324.5 m**

The injection period shows a rather flat derivative which suggests a PRF. Evaluation using a PRF model results in a very low skin factor. Therefore, a PLF is assumed to influence the early part of the injection period. The recovery period also indicates a PLF, possibly transitioning to a PRF by the end. The reported transmissivity for both periods is evaluated using the Ozkan-Raghavan model for a single fracture. This evaluation is consistent with models assuming PRF and give similar results.

### **324.5–344.5 m**

Both the injection- and recovery period are assumed to be dominated by a PLF. Hence, the transient evaluation is made using the Ozkan-Raghavan model. However, the fitting is uncertain and therefore  $T_M$  is chosen as the most representative value of transmissivity for the section.

### **344.5–364.5 m**

Towards the end of the injection period, a few unfortunate changes of valves by the automatic regulation system resulted in a slightly unstable pressure which affected the flow rate. However, the injection period solely indicates an apparent NFB and no representative transient evaluation would therefore be possible, even with a stable injection pressure during the entire period. The recovery period indicates a PLF or alternatively, an apparent NFB. Since no transient evaluation is possible neither on the injection- nor recovery period,  $T_M$  is regarded as the representative transmissivity for the section. The approximate evaluation with a single fracture model for the recovery period is regarded as very uncertain and probably not representative and is mainly shown as a reference.

### **364.5–384.5 m**

Both the injection- and recovery period are dominated by a PLF. The first phase of the recovery period is slightly affected by WBS. Evaluations using the single fracture model by Ozkan-Raghavan give similar results which are also provided by the model by Dougherty-Babu for the recovery period.



### **384.5–404.5 m**

Both the injection and recovery are totally dominated by PSS. Hence, only an approximate transient evaluation is possible and  $T_M$  is considered as the representative transmissivity for the section. The observed PSS may indicate a short cut around the upper packer, which would implicate that the actual transmissivity for this section is lower than  $T_M$ .

### **387.0–407.0 m**

PSS is dominating both the injection- and recovery period. Hence only an approximate transient evaluation is possible. This behaviour may possibly be caused by flow through a fracture short-circuiting the test section across one of the packers resulting in an almost constant flow rate to the section above or below.

### **407.0–427.0 m**

The injection period is dominated by a PLF. Since there is no indication of a transition to a PRF, no unique parameter interpretation with a model assuming PLF is possible (the ratio between fracture length and transmissivity can not be uniquely determined). During the recovery period a good type curve fit can be accomplished with a model assuming PRF. The calculated low value of the skin factor may suggest a flow regime of lower dimension (PLF). The evaluation is therefore uncertain.

### **427.0–447.0 m**

The section has a low transmissivity. Data from the injection period are quite scattered, but still indicate a period of PRF starting after c 200 s throughout the injection period. The recovery period indicates WBS and a transition period.

### **447.0–467.0 m**

The injection period is dominated by an apparent NFB in spite of a slightly increasing injection pressure during this period (c 3 kPa) due to a drift in the gas pressure regulator. The positive drift of the injection pressure counteracts the effect of the inverse flow derivative increase. This indicates that the true formation would actually show an even steeper trend, at least initially. The recovery period indicates WBS. However, the flow regime interpretation of the recovery period may be uncertain due to the large impact of the choice of equivalent time calculation (multi-rate Agarwal time or Agarwal time based on  $t_p$ ).

### **467.0–487.0 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

### **487.0–507.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to

be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **504.5–524.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

#### **524.5–544.5 m**

The injection period indicates a PRF. However, a small increase in the derivative may suggest an effect of an apparent NFB. The transient evaluation of the injection period gives consistent results using the Hurst-Clark-Brauer and the Ozkan-Raghavan models. The recovery is assumed to be dominated by a PRF between 30 s and 300 s. Before that time period the test is affected by WBS. After 300 s an apparent NFB is indicated.

#### **544.5–564.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

#### **564.5–584.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **584.5–604.5 m**

The flow rate during the test is very low and the data are therefore quite scattered. During the injection only a PLF, or possibly an apparent NFB, is indicated and no representative transient evaluation is feasible for this period. The recovery period shows WBS and a transition to some other flow regime. A transient evaluation using the Dougherty-Babu model results in a good fit.

#### **604.5–624.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

### **624.5–644.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **636.0–656.0 m**

The injection period indicates a PSF. The recovery, on the other hand, only shows WBS. The responses are thus inconsistent between the injection- and recovery period. No good fit was possible to obtain with any of the transient models for the recovery period. The stationary evaluation was considered to be the most representative for this section, since the model used for the transient evaluation of the injection period does not converge. The pressure in the section below the test section increased by c 15 kPa during the injection period, indicating a hydraulic connection between the two sections. However, since the transmissivity in the borehole interval below 656.0 m is in the same order of magnitude as the transmissivity in the section 636.0–656.0 m, this relatively small pressure interference should not have a major impact on the test performed in the section. However the transmissivity in the section may be slightly overestimated.

### **656.0–676.0 m**

Due to a drift in the gas pressure regulator, the pressure in the test section decreased c 6 kPa during the first 300 s and then increased by c 8 kPa. Hence, the flow rate may be affected during the injection period. Still, a PRF is assumed to dominate the injection period which is consistent with the recovery period, which is dominated by a PRF after an initial WBS. Since there are some uncertainties about the injection period, the transient evaluation of the recovery period was considered to be the most representative transmissivity value for this section.

### **676.0–696.0 m**

Due to the low flow rate, the data are somewhat scattered. However, a PRF is assumed to dominate the injection period. The recovery period indicates a WBS and a transition to some other flow regime.

### **691.0–711.0 m**

The injection period is dominated by a PRF from 30 s throughout the period. The recovery period shows WBS and a transition to some other flow regime, possibly a PRF.

### **711.0–731.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

### **731.0–751.0 m**

The injection period indicates a PLF. Rather good fit is obtained to the models by Hurst et al and Ozkan-Raghavan. The recovery period indicates WBS and a transition period. The transient evaluation of both the injection- and recovery period is uncertain.

### **751.0–771.0 m**

Since the flow rate was not detectable, no evaluation of transmissivity was possible. The injection time was shortened due to flow within the range of zero flow noise. As a result,  $T_M$ , based on Q/s-measl-L was considered to be the most representative transmissivity value for this test section.

### **771.0–791.0 m**

The injection period is dominated by a PLF up to c 200 s where a strong apparent NFB is indicated. The registered flow is the lowest possible flow to be separated from zero flow noise. The response during the recovery period is consistent with the response from the injection period except for the WBS indicated during the first 30 s and the period of PLF being less pronounced. However, no unique transient evaluation can be made of either period. The representative transmissivity was selected from the steady-state evaluation.

### **791.0–811.0 m**

Since the flow rate was not detectable, no evaluation of transmissivity was possible. The injection time was shortened due to flow within the range of zero flow noise. As a result,  $T_M$ , based on Q/s-measl-L was considered to be the most representative transmissivity value for this test section.

### **811.0–831.0 m**

The injection period is dominated by a PRF. During recovery, WBS is indicated from c 100 s when a transition period starts. No PRF is developed during the recovery period. Although the type curve fit for the recovery period is considered rather good, the transient evaluation of the injection period is chosen as the most representative, since no PRF is indicated during recovery. The transient evaluations show good agreement between the injection- and recovery period, hence supporting the choice of the parameters from the transient evaluation.

### **831.0–851.0 m**

The beginning of the injection period suggests an early PRF starting at 30 s and continuing until c 100 s. After the early PRF, a transition to a possible NFB is weakly indicated. The recovery period shows a transition period after the initial period of WBS to some other flow regime, possibly an apparent NFB by the end. The pressure below the section is influenced by the packer expansion which causes the pressure to increase in the section below.

### **851.0–871.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **871.0–891.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **891.0–911.0 m**

During the injection period a PRF is indicated from c 300 throughout the period. It is preceded by a period with a slightly decreasing derivative. The recovery period indicates a period affected by WBS and a transition period to some other flow regime.

### **911.0–931.0 m**

Due to a drift in the gas pressure regulator, the pressure in the test section decreased by c 4 kPa during the injection period which may have disturbed the reciprocal flow rate. However, both the injection and recovery periods show a short PRF followed by a NFB. Before the PRF during the recovery a WBS is evident.

### **931.0–951.0 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **951.0–971.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period. The pressure in the section below the test section increased by c 1.5 kPa during the injection period. However, since the transmissivity in the borehole interval below 971.0 m is in the same order of magnitude as the transmissivity in the section 951.0–971.0 m this relatively small pressure interference should not have a major impact on the test performed in the section.

### **971.0–991.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on  $Q/s\text{-measl-L}$ , was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

### **124.5–129.5 m**

Both the injection- and recovery period indicate a PRF/PSF transitioning to an apparent NFB. The transient evaluation, using a PRF model, of both periods results in a relatively high skin factor which may indicate an intermediate flow regime between PRF and PSF.

### **129.5–134.5 m**

The reciprocal flow rate was rather scattered due to the low flow rate. However, the injection indicates a PSF. The recovery period is dominated by WBS and a transition to some other flow regime.

### **134.5–139.5 m**

The injection period is dominated by a PSF. The recovery period only shows WBS and a transition to some other flow regime.

### **139.5–144.5 m**

During the injection period the flow regulation was unstable during the first 100 s due to manual adjustments at two occasions in order to maintain a stable pressure in the test section. This fact caused severe distortions on the derivative and it is highly sensitive to the derivative filter factor. Hence, the weak indication of a possible PRF from c 150 to 300 s during this period is very uncertain. During the recovery period an apparent (?) PRF or alternatively, a short initial PSF followed by a transition period, is assumed. By the end of both the injection- and recovery periods effects of apparent NFB are indicated. Some interference was observed in the sections above (1.5 kPa) and below (3 kPa) the test section. This might possibly explain the high transmissivity and positive skin value calculated (a sign that the flow regime might be of higher dimension than two) from the transient evaluation of the injection period. Considering the fact that the test sections above and below showed some pressure response, the transient evaluations are judged uncertain, and the steady-state evaluation is considered to be the most representative value of transmissivity. The transmissivity in the section is much higher than the transmissivity above 139.5 m and in the same order of magnitude as the transmissivities below 144.5 m. These relatively small pressure interferences should not have a major impact on the transmissivity in the section.

### **141.5–146.5 m**

A major part of the test section was overlapping the previous test section (139.5–144.5). In the overlapping interval a dominating fracture was interpreted. As expected, the pressure response in the test section and the flow regulation was similar to the test at the previous test position. During the drawdown period weak signs of a PRF can be seen between c 80

to 200 s. From c 200 s and to the end of the injection period an apparent NFB is indicated. Interpretation of the recovery period is very similar to the injection period with weak signs of a PRF from c 80 to 200 s and of an apparent NFB from c 200 s to the end of the test. Due to the short and uncertain periods of possible PRF, the steady-state value of transmissivity is considered to be the most representative. The pressure in the section below the test section increased by c 1.5 kPa during the injection period. However, since the transmissivity in the borehole interval below 146.5 m is in the same order of magnitude as the transmissivity in the section 141.5–146.5 m this relatively small pressure interference should not have a major impact on the test performed in the section.

#### **146.5–151.5 m**

Pressure response in the section above the test section is indicating a hydraulic connection with the test section. This should lead to an apparent “leaky” behaviour of the tested interval, i.e. flow of higher dimension than two. Transient evaluation of data confirms this fact and thus a model assuming PSF was used by the transient evaluation. PSF is dominating both the injection- and recovery period. During the latter period, PSF is indicated initially. After c 200 s the derivative is very close to zero indicating a PSS. Since the test section is hydraulically connected to the section above, the steady-state evaluation of transmissivity is chosen as the most representative transmissivity value. The transmissivity of the test section may be slightly overestimated due to the connection to the section above.

#### **151.5–156.5 m**

The injection period is dominated by a PSF until c 600 s. After this time there is a clear shift in the characteristics of the flow pattern indicating a possible NFB. A transient evaluation is made with a model assuming a leaky aquifer (PSF). The recovery period indicates a PSS throughout the period. No unique transient evaluation could be made on the recovery period. Due to the good type curve fit the transient evaluation of the injection period with a leaky aquifer model is considered to be the most representative.

#### **153.5–158.5 m**

This test position is partly overlapping the previous test sections. Dominating fractures identified by inspection of the BIPS images are shared by these two test section. Hence, the tests give very similar results except the apparent NFB indicated in the previous test. The injection period is dominated by a PSF. The recovery period is dominated by a PSS. An approximate evaluation was made for this period. In analogy with the previous test a transient evaluation using a model assuming a leaky aquifer is considered to provide the most representative value of transmissivity.

#### **159.5–164.5 m**

A PSF is dominating the injection period from the start to c 450 s. After this time an apparent NFB is indicated. During the recovery period a PSS is indicated from c 100 s to the end of the test. No unique transient evaluation could be made from this period.

### **164.5–169.5 m**

The injection is dominated by a PSF. The recovery is first dominated by a PLF, later transitioning to a possible PSS. The pressure below as well as above the test section is influenced by the injection, indicating flow by-passing the packers. This fact together with the possible transition to PSS by the end of the injection may indicate that the estimated transmissivity is slightly overestimated.

### **169.5–174.5 m**

The injection period is dominated by a PSF. The recovery period indicates a short early PLF and a transition to some other flow regime, possibly PSS. During the injection period a small pressure response was observed both above and below the test section. This fact together with the assumed leakage may indicate that the flow in the test section is slightly overestimated.

### **174.5–179.5 m**

An apparent PRF is indicated during the injection, transitioning to a PSF by the end. The recovery starts with an apparent PLF transitioning to a PSF by the end of the recovery period. The pressure above the test section is strongly influenced by the injection, probably due to flow around the upper packer. This fact indicates that the calculated transmissivity may be slightly overestimated. No unique transient evaluation could be made from the recovery period.

### **179.5–184.5 m**

Both the injection- and the recovery period indicate a PSF, possibly transitioning to a PSS by the end of the recovery. Transient evaluation using the Hantush model was made for both periods. However, the fit to the injection period is slightly better than to the recovery period. During the injection period a small (3 kPa) but significant pressure response was observed above the test section. Since the transmissivity in the section above 179.5 m is much higher than the transmissivity in the section 179.5–184.5 m, this relatively small pressure interference may have resulted in an overestimation of the transmissivity in this section.

### **184.5–189.5 m**

The pressure during the injection period was rather unstable, and hence the data, especially the derivative, is rather scattered. The injection indicates a PSF. The recovery period indicates WBS and a transition period. The evaluation of this test is uncertain. There were problems to achieve unambiguous transient evaluations, both for the injection- and recovery period.

### **189.5–194.5 m**

Although the derivative during the injection is rather scattered, this period is dominated by a PSF. During the recovery period WBS is indicated followed by a transition period to some other flow period.



### **194.5–199.5 m**

Both the injection- and recovery period are dominated by an apparent PLF transitioning to a PSF by the end. Only approximate transient evaluations were made on both the injection- and recovery period by a single fracture model.

### **199.5–204.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **204.5–209.5 m**

The injection period indicates two PRF periods of which the second has slightly higher transmissivity. During the recovery period a PRF is indicated between c 30 and 100 s. It then transitions into a PSF lasting throughout the recovery period.

### **209.5–214.5 m**

A PRF is dominating the injection period between c 100 and 600 s. An apparent NFB is weakly indicated by the end. After initial WBS effects, the recovery period is dominated by a PRF lasting from c 100 s throughout the recovery period.

### **214.5–219.5 m**

During the injection period an apparent PRF is reached between c 200 and 1,200 s, slightly affected by leakage flow (PSF). After initial WBS, the entire recovery period is dominated by a PSF.

### **219.5–224.5 m**

According to the flat derivative the injection period is dominated by an apparent PRF. However, transient evaluation with a model assuming two-dimensional (radial) flow gives a rather high positive value of the skin factor which possibly might indicate a flow regime of higher dimension, making the flow regime interpretation rather uncertain. During the recovery period there is also a transition to an apparent PRF after c 100 s lasting throughout the period. Transient evaluation with a two-dimensional model again gives a high positive value of the skin factor which may suggest a flow of higher dimension. Transient evaluation based on a PRF model of injection- and recovery data may thus possibly result in an overestimation of the transmissivity. However, since the responses during the injection- and recovery period are consistent, the transient evaluation was chosen as the representative in this case.

### **224.5–229.5 m**

The injection period is dominated by an apparent PRF between c 100 and 650 s transitioning to an apparent NFB by the end of the flow period. The recovery period starts with a transition period that turns into an apparent PRF dominating the period, transitioning to an apparent NFB by the end. The pressure transducer above the test section stopped function-

ing at the end of this test but no previous pressure interference was observed above the test section. The skin factor calculated with a model assuming PRF during the recovery is high which may possibly indicate a higher-dimension flow regime. The estimated T-value from the injection period was yet chosen as representative for the test.

#### **229.5–234.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

#### **234.5–239.5 m**

Although the derivative is very scattered during the injection period, a possible PRF is indicated. The transient evaluation of the injection period is uncertain. Only WBS is present during the recovery period and thus, no unique transient evaluation is possible.

#### **239.5–244.5 m**

The flow behaviour during the injection was quite unstable in the beginning. A possible early PLF may be masked by the pressure control to a stable injection pressure. There is a weak indication of a PRF from c 500 s throughout the injection period. An approximate evaluation of the injection period was made by a single fracture model. The recovery period only shows a PLF and no unique transient evaluation of the period is possible.

#### **244.5–249.5 m**

Although the flow rate derivative is rather scattered, a probable PRF can be identified during the injection period. At the end of the injection period the the flow rate apparently decreases. This fact may however be an effect of the pressure regulation and not a true characteristic of the rock. Hence, the PRF is assumed to dominate from 200 s and throughout the period. During the recovery period a short initial WBS is transitioning to a possible PSF.

#### **249.5–254.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

#### **254.5–259.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ ,

based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

#### **259.5–264.5 m**

During the injection phase a PRF is dominating from 150 s throughout the period. The recovery period exhibits a fast recovery and a short period of PSF before reaching an apparent NFB.

#### **264.5–269.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

#### **269.5–274.5 m**

The injection period indicates an apparent PLF transitioning to an apparent NFB. Due to a decreasing pressure trend during the injection, some of the increase of the inverse flow rate seen in the curves is probably caused by this fact. No unique transient evaluation is possible for the injection period. Only a limited recovery of the injection pressure (c 8 m) occurred during the recovery period, indicating a low-conductive section and/or a flow conduit of limited extent. An uncertain evaluation based on a single fracture model was though made of the recovery period.  $T_M$  is thus considered as the best estimate of transmissivity in the section.

#### **274.5–279.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

#### **279.5–284.5 m**

Injection interrupted after c 180 s due to no detectable flow. The pressure in the test section continued to rise due to packer expansion during the recovery period.

#### **284.5–289.5 m**

The injection period indicates two periods of PRF, the first starting after 70 seconds, continuing until c 300 seconds from c 400 seconds continuing to the end of the period. The latter one has a slightly lower transmissivity than the first one. The recovery period

either indicates a PLF, possibly corresponding to flow in a fracture of limited extent, or two periods of PRF, one from 10 to 100 seconds and one starting at 200 s, continuing throughout the recovery period.

#### **289.5–294.5 m**

Unambiguous interpretation of flow regimes during the injection period is not possible. A flow dimension lower than two and an apparent NFB is indicated during the later part of the period. An unfortunate change of pressure control valves extended the time to achieve a stable injection pressure. A rather high transmissivity was calculated from the steady-state evaluation of the injection period ( $T_M$ ). The recovery was limited (c 6 m) indicating a flow conduit of limited extension. The response during the recovery period strongly depends on the choice of method for the calculation of Agarwal equivalent time. Using the multi-rate assumption, an apparent PLF is indicated throughout the period whereas with no multi-rate compensation, WBS is indicated. The multi-rate approach is considered to be most relevant in this case due to the major change of the flow rate during the injection period. However, no unambiguous transient evaluation of the test is possible on any period. Accordingly, the steady-state evaluation is considered to be the most representative.

#### **294.5–299.5 m**

Data from the injection period are rather scattered, but still an apparent PRF is identified from c 300 seconds throughout the period. The recovery period indicates a transition to PLF after an initial period of WBS. Since the injection data are scattered the recovery period is assumed to give the best estimate of transmissivity of the section.

#### **299.5–304.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

#### **304.5–309.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

#### **309.5–314.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

### **314.5–319.5 m**

After an initial PLF, the injection period is dominated by an apparent PRF, starting at c 300 s and lasting throughout the injection period. The recovery period is dominated by a PLF. The transient evaluation of both the injection- and recovery period was made by applying a single fracture model.

### **319.5–324.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

### **324.5–329.5 m**

The injection period only shows signs of an apparent NFB indicating a flow conduit of limited extent. No unique transient evaluation could be made for this period. During the recovery period an apparent PLF is indicated. Only a limited recovery (c 3 m) of the injection pressure occurred indicating a flow conduit of limited extent. The shape of the recovery curve strongly depends on the choice of method for calculation of the Agarwal equivalent time. Using the multi-rate assumption, an apparent PLF is indicated throughout the period whereas with no multi-rate compensation, WBS is indicated. The multi-rate approach is considered to be most relevant in this case due to the major change of the flow rate during the injection period. During the injection period a significant flow rate was measured, but a slow recovery was observed. These facts indicate a flow conduit of limited extension.  $T_M$  is chosen as the most representative value of transmissivity for this section due to the uncertainty in the transient evaluation.

### **329.5–334.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

### **334.5–339.5 m**

The injection period is dominated by an apparent NFB indicating a flow conduit of limited extent. The estimated steady-state transmissivity ( $T_M$ ) for this section is low. The recovery period is dominated by an apparent PLF. The total recovery of the injection pressure is less than 2 m, indicating an almost closed flow conduit of limited extent. The recovery curve is very sensitive to the calculation of the Agarwal equivalent time. The multi-rate approach is considered to be most relevant in this case due to the major change of the flow rate during the injection period. The steady-state estimate of transmissivity ( $T_M$ ) is regarded as the most representative for this section, since the transient evaluations are very uncertain.

### **339.5–344.5 m**

During the first part of the injection period a short PSF may possibly be identified (from c 20). After c 300 s it is transitioning to an apparent NFB, e.g. low transmissivity features. The recovery period also shows signs of an apparent NFB, possibly preceded by a very short time of PSF during the early part. No unambiguous transient evaluations were made from either the injection period, or from the recovery period. The transmissivity from the steady-state evaluation was selected as the representative transmissivity.

### **344.5–349.5 m**

Both the injection- and recovery periods indicate a transition to an apparent NFB, e.g. low-conductive flow features, which make an unambiguous transient evaluation impossible. The rather high steady-state transmissivity together with the limited recovery (c 8 m) indicate a high-conductive flow conduit of limited extent. The stationary transmissivity is regarded as the best estimate of transmissivity in the section.

### **349.5–354.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

### **354.5–359.5 m**

A short period of apparent PRF is indicated, from c 40 to 200 s of the injection period. The flow regime is thereafter transitioning to an apparent NFB, e.g. low-conductive flow features. The recovery period indicates an early PSF and a transition period to an apparent NFB. The rather high steady-state transmissivity together with the limited recovery (c 8 m) indicate a rather high-conductive flow conduit of limited extent. Transient evaluations were made on the part of the curves representing the time prior to the apparent NFB for the injection- and recovery period.

### **359.5–364.5 m**

The injection period is dominated by an apparent NFB. The estimated steady-state transmissivity ( $T_M$ ) for this section is high. The recovery period is dominated by an apparent PLF. The total recovery of the injection pressure is less than 3 m, indicating a high-conductivity flow conduit of limited extent intersecting a hydraulic feature with lower transmissivity at some distance from the borehole. The recovery curve is very sensitive to the calculation of the Agarwal equivalent time. The multi-rate approach is considered to be most relevant in this case due to the major change of the flow rate during the injection period. An approximate transient evaluation was made only for the recovery period. The steady-state estimate of transmissivity ( $T_M$ ) is regarded as the most representative for this section, since the transient evaluation is regarded as uncertain.

### **384.5–389.5 m**

Both the injection- and recovery period are dominated by a PSF. The initial part of the recovery period is dominated by a short period of WBS.

### **387.0–392.0 m**

Although the derivative is very scattered, a PRF may be identified between c 200 and 1,000 s of the injection period transitioning to PSF. During the recovery period WBS transitioning to a PSF and finally to a PSS after c 400 s are identified. The recovery is unexpectedly fast for a section of such low transmissivity.

### **392.0–397.0 m**

During the injection period a PSF is indicated between c 100 and 500 s. At c 800 an apparent NFB is indicated. The pressure fluctuated violently during the first c 80 s. No explanation has been found for this behaviour. The pressure recovery was very fast approaching a PSS.

### **397.0–402.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

### **402.0–407.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

### **407.0–412.0 m**

Although the inverse flow rate derivative is scattered, an early PLF (partly masked by the pressure control activity) is indicated during the injection period transitioning to a possible PRF by the end of the period. After initial WBS, a PLF transitioning to a possible PRF after 700 s is dominating the recovery period. Transient evaluation by models for radial flow and a single fracture gives consistent results.

### **412.0–417.0 m**

Due to flow rate close to the measurement limit the flow rate data are scattered causing the use of a high derivative filter factor. A PRF is indicated from c 50 s to the end of the injection period. The recovery period is dominated by WBS with a transition period after c 80 s. No PRF is developed. Transient evaluation of the injection period is chosen as the most representative.

### **417.0–422.0 m**

During the injection period a PRF is indicated from c 100 to 700 s. The recovery period is dominated by WBS during the first c 50 s. A transition period occurs during the next 50 s. A near PRF is indicated from c 100 s to c 700 s. After c 700 s there might be weak signs of an apparent NFB. Transient evaluation of the injection period is considered to be the most

representative. The pressure in the section below the test section increased by c 6.5 kPa during the injection period. Since the transmissivity in the borehole interval below 417.0 m is much higher than the transmissivity in section 417.0–422.5 m, this may have resulted in an overestimation of the transmissivity of the section.

#### **422.0–427.0 m**

Due to a flow rate considerably higher than expected the first test in this section was interrupted. Comparing the flow rate generated in the corresponding 20 m section to the flow generated in the section above, no flow was expected in this section. The actual flow was though in parity with the previous 5 m section and the total flow of the corresponding 20 m section covering these intervals. Based on the pressure response below the test section in the previous 5 m section it can be concluded that there is a fracture connecting this section (422–427) with the previous (417–422), explaining the unexpected flow rate. The injection period is dominated by a PLF. A flow regime between PLF and near PRF is observed during the recovery period. Transient evaluation using a model assuming PRF was made. The transient evaluations are similar, both with a low value of the skin factor, supporting the interpretation of a flow regime less than 2. The transient evaluation of the injection period is selected as representative.

#### **426.0–431.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

#### **431.0–436.0 m**

The test section has a low transmissivity. The flow rate data are scattered and no dominating flow regime can be detected. Only an approximate transient evaluation was made of the injection period. The recovery period is dominated by WBS and a transition period and no unique transient evaluation is possible. An approximate transient evaluation was made although a PRF was not reached. The steady-state transmissivity was chosen as the representative evaluation.

#### **436.0–441.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period.

#### **441.0–446.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.



**446.0–451.0 m**

The injection period is dominated by a PRF. The recovery indicates WBS and a transition to PSS.

**451.0–456.0 m**

Both the injection- and recovery period are dominated by a PLF, which may possibly represent flow in a low-conductive single fracture. The transient evaluation was made with a single fracture model for both periods.

**458.0–463.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result,  $Q/s$ -measl-L was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

**463.0–468.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result,  $Q/s$ -measl-L was considered to be the most representative transmissivity value for this section. The pressure remains almost constant throughout the entire recovery.

**524.0–529.0 m**

The derivative during the injection period is somewhat scattered. Still, the period indicates a PRF with a slight leakage by the end. The recovery indicates WBS transitioning to a PSF. Transient evaluation using the Hantush model results in values close to the evaluation from the injection period. The transient evaluation from the injection period was selected as the representative one.

**528.0–533.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

**534.0–539.0 m**

The injection period is dominated by a first, short PRF and a rather long transition period to a late second PRF. The same interpretation may be done of the recovery period. After an initial period affected by WBS, a first and second PRF are indicated. The later part of

the recovery period may possibly also be interpreted as an apparent NFB. The transient evaluation from the first PRF during the recovery period is considered as the most representative, since the first PRF during the injection period is rather weakly indicated.

#### **539.5–544.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **635.5–640.5 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

#### **640.0–645.0 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section.

#### **642.5–647.5 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **647.5–652.5 m**

The pressure was not stable during the injection period which makes transient evaluation difficult. An initial PLF (partly masked by the pressure regulation) transitioning towards a possible PRF is indicated during this period. By the end of the period, effects of an apparent CHB are shown. The recovery period is dominated by WBS transitioning to an approximate PLF. No unique transient evaluation is possible of the recovery period. The transient evaluation of the injection period is uncertain. Thus, the steady-state transmissivity  $T_M$  was chosen as the most representative value of transmissivity. The pressure in the section below the test section increased by c 16 kPa during the injection period, probably due to an interconnecting fracture. Since the transmissivity in the borehole interval below 417.0 m is much higher than the transmissivity in the section 417.0–422.5 m, this may have resulted in an overestimation of the transmissivity in the section.

### **651.0–656.0 m**

This test is very similar to the previous test since an interconnecting fracture is assumed. An initial PLF (partly masked by the pressure regulation) transitioning to a PSF by the end is indicated during this period. The recovery period is dominated by WBS transitioning to an approximate PLF. No unique transient evaluation is possible of the recovery period. The transient evaluation of the injection period is uncertain. Thus, the steady-state transmissivity  $T_M$  was chosen as the most representative value. The pressure in the section below the test section increased by c 14 kPa during the injection period. However, since the transmissivity in the borehole interval below 656.0 m is of the same order of magnitude as the transmissivity in the section 651.0–656.0 m, this pressure interference should not have a major impact on the test performed in the section.

### **656.0–661.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low conductivity that the packer expansion affects the pressure throughout the period. The pressure increase caused by packer expansion before the start of injection was so large that the pressure in the test section exceeded the pressure prior to injection start after start of injection.

### **661.0–666.0 m**

The injection period is dominated by a well-defined PRF lasting between c 100 and 1,200 s. The recovery period is dominated by initial WBS and a transition period to an approximate PRF. By the end there are weak signs of a possible, apparent NFB.

### **666.0–671.0 m**

During the injection period an apparent PRF may be identified, even though the derivative is very scattered due to the flow rate being very close to the lower measurement limit. During the recovery period only WBS and a transition period is present. No unique transient evaluation could be made of the recovery period. The transient evaluation from the injection period was chosen as the most representative.

### **671.0–676.0 m**

The injection period is indicating a clear PLF transitioning to an approximate PRF after c 100 s, lasting throughout the injection period. The recovery period is dominated by initial WBS transitioning to an apparent PLF and a possible PRF which however, not becomes clearly developed. Transient evaluations with a radial flow model (with negative skin) and a single fracture model give consistent results.

### **691.0–696.0 m**

The transmissivity in the section is low. The pressure in the section below increases when the packers are expanded, but the pressure recovers and no interference between the sections is noticed during the injection period.

### **696.0–701.0 m**

A first PRF is identified from c 80 s during the injection period. The pressure decreased 3 kPa during the injection period. Hence the apparent second PRF (or possibly NFB) indicated by the end of the injection period is probably false. During the recovery period WBS and a transition period towards a possible PRF are indicated.

### **701.0–706.0 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The pressure in the section below increases when the packers are expanded, but the pressure recovers and no interference between sections is noticed during the injection period.

### **706.0–711.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period. The pressure in the section below increases when the packers are expanded, but the pressure recovers and no interference between sections is noticed during the injection period.

### **811.0–816.0 m**

The test section has a low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on Q/s-measl-L, was considered to be the most representative transmissivity value for this section. The pressure in the section below increases when the packers are expanded, but the pressure recovers and no interference between sections is noticed during the injection period.

### **816.0–821.0 m**

The injection period is dominated by two PRFs. The first PRF appears after c 30 s and lasts until about c 100 s. The second PRF starts at c 200 s and prevails throughout the injection period. The first PRF, that is chosen to represent the section in this test, has a lower transmissivity. The recovery is influenced by WBS in the beginning and then transitions to some other flow regime, possibly a PSF.

### **821.0–826.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result, Q/s-measl-L was considered to be the most representative transmissivity value for this section. The Q/s-measl-L is adjusted down one A/D level since the noise-value has drifted a bit

above zero. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **826.0–831.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result, Q/s-measl-L was considered to be the most representative transmissivity value for this section. The Q/s-measl-L is adjusted down one A/D level since the noise-value has drifted a bit above zero. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

#### **831.0–836.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result, Q/s-measl-L was considered to be the most representative transmissivity value for this section. The Q/s-measl-L is adjusted down one A/D level since the noise-value has drifted a bit above zero. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period. Looking at  $P_b$ , it shows less influence from the test sections pressure build-up than earlier sections.

#### **836.0–841.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result, Q/s-measl-L was considered to be the most representative transmissivity value for this section. The Q/s-measl-L is adjusted down one A/D level since the noise-value has drifted a bit above zero.

#### **841.0–846.0 m**

Although the flow rate data are very scattered, the injection period seems to start with a transition and turns to a PRF that dominates the injection period. The period ends with a weak effect of an apparent NFB. The recovery starts with a WBS followed by a transition period into some other flow regime, possibly a PSF. Almost total recovery (c 20 m ) of the injection pressure was achieved during the recovery period. The transient evaluation of the injection period was selected as the representative evaluation.

#### **846.0–851.0 m**

The injection period starts with a short PRF between c 20 and 100 s. The PRF is followed by a transition state to an apparent NFB. The recovery period exhibits initial WBS and a transition period towards a possible PRF until c 1,000 s where an apparent NFB is indicated. The pressure recovered c 13 m during the recovery period. The transient evaluation of the injection period was selected as the representative evaluation.

### **891.0–896.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

### **896.0–901.0 m**

The test section has a very low transmissivity. Due to a mistake, one of the valves that should have been open at the start of the injection was not. Since the test section was below the measurement limit, this had no effect of the test quality. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

### **901.0–906.0 m**

As a result of low transmissivity, flow data are somewhat scattered causing the derivative data to be somewhat difficult to interpret with respect to flow regime. Nevertheless, a PRF is interpreted between c 300 and 1,200 s. During the recovery period, WBS is dominating the first c 100 s where a transition period is indicated. No PRF is developed but a consistent type curve fit with the same parameters as in the transient evaluation of the injection period is accomplished. This supports the transient evaluation of the injection period which is considered to be the most representative for the test section.

### **906.0–911.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section. The period of measured recovery only showed a pressure increase, indicating that the section is of such low transmissivity that packer expansion affects the pressure throughout the period.

### **911.0–916.0 m**

The flow rate at the end of the injection period was below the standard measurement limit of  $1.67E-8$  m<sup>3</sup>/s. A PLF is indicated throughout the injection period, possibly transitioning to a PRF by the end. Hence a model assuming flow in a single fracture was employed for the transient evaluation. The recovery curve is very sensitive to the choice of computational method for the Agarwal equivalent time. The Agarwal multi-rate option is used for the evaluation. An initial PLF is transitioning to a possible PRF during the recovery period. The transient evaluation of the recovery period is considered to be the most reliable.

### **915.0–920.0 m**

The flow rate at the end of the injection period was below the standard measurement limit of  $1.67E-8$  m<sup>3</sup>/s. Nevertheless, a PLF is indicated from the start of the injection period to c 200 s where a transition to a possible PRF is indicated. A model assuming fracture flow was employed for the transient evaluation. The recovery curve is very sensitive to the choice of computational method for the Agarwal equivalent time. The Agarwal multi-rate option is used for the evaluation. After initial effects of WBS (first 10 s) a transition period (PLF) towards a possible PRF is developed. The transient evaluation of the recovery period is considered to be the most reliable.

### **920.0–925.0 m**

Despite the scattered inverse flow rate derivative, a PRF is dominating the entire injection period. The recovery period is initially dominated by WBS. After c 20 s there is a transition phase, and a possible PRF is developed from c 250 to 600 s. By the end, there are weak signs of an apparent NFB. The transient evaluation of the injection period is considered to be the most representative for this test section. A clear pressure response of c 20 kPa is registered in the section below the test section during the injection period. Since the transmissivity in the borehole interval below 417.0 m is much higher than the transmissivity in the section 417.0–422.5 m, this may have resulted in an overestimation of the transmissivity in the section.

### **925.0–930.0 m**

During the injection period a short initial period of PRF is indicated between c 25 and 60 s. After this time, an apparent NFB is indicated. The injection pressure was decreasing c 3.5 kPa during the injection period, but this fact is not believed to affect the interpretation. T-values from the first part of the injection period are consistent with T-values derived from the same time interval of the recovery period. The recovery period is very similar to the injection period. After an initial period of WBS, a short period of PRF is indicated between c 30 and 100 s transitioning to an apparent NFB by the end of the recovery period. The transient evaluation of the injection period is considered to be the most representative.

### **930.0–935.0 m**

The test section has a very low transmissivity. Since the flow rate was not detectable, neither steady-state nor transient evaluation of transmissivity was possible. Hence, in accordance with AP PF 400-05-087, the injection time was shortened. As a result  $T_M$ , based on  $Q/s$ -measl-L, was considered to be the most representative transmissivity value for this section.

## **6.2.5 Flow regimes**

As discussed in Section 5.4.4, several of the recovery periods were dominated by wellbore storage effects and no pseudo-radial flow period was reached. On the other hand, some time interval of pseudo-radial flow could in most cases be identified from the injection period. A summary of the frequency of identified flow regimes on different scales is presented in Table 6-3, which shows all identified flow regimes during the tests. For example, a pseudo-radial flow regime (PRF) transitioning to a pseudo-spherical flow regime (PSF) will contribute to one observation of PRF and one observation of PSF. The numbers within parenthesis denote the number of tests where the actual flow regime is the only one present.

**Table 6-3. Interpreted flow regimes during the injection tests in KFM06C.**

Borehole	Section length (m)	Number of tests	Number of tests with definable $Q_p$	Injection period					Recovery period					
				PLF	PRF	PSF	PSS	NFB	WBS	PLF	PRF	PSF	PSS	NFB
KFM06C	5	100	62	12(3)	37(17)	20(10)	0(0)	20(6)	32(9)	22(10)	17(0)	15(1)	9(3)	9(1)
KFM06C	20	46	31	9(4)	19(9)	4(1)	2(2)	10(3)	16(8)	7(3)	11(1)	6(0)	3(2)	8(0)
KFM06C	100	9	9	1(1)	8(6)	1(0)	0(0)	1(0)	5(2)	5(0)	6(0)	1(0)	0(0)	3(0)

It should be noted that the interpretation of flow regimes is only tentative and only based on visual inspection of the data curves. It should also be observed that the number of tests with a pseudo-linear flow regime during the beginning of the injection period may be underestimated due to the fact that a certain time is required for achieving a constant pressure, which fact may mask the initial flow regime.

Table 6-3 shows that a certain period of pseudo-radial flow could be identified from the injection period in c 63% of the tests with a definable final flow rate for KFM06C. In KFM06C, this percentage is higher for the tests in 100 m sections compared to the tests in 20 m and 5 m. For the recovery period, the corresponding result is c 34%.

For c 50% of the tests, more than one flow regime could be identified during the injection period. The corresponding number for the recovery period is 38%. The most common transitions in KFM06C during the injection period were from pseudo-radial flow to an apparent no-flow boundary. During the recovery period in KFM06C the most common transitions were from wellbore storage to pseudo-radial flow followed by transition from pseudo-radial flow to an apparent no flow boundary.

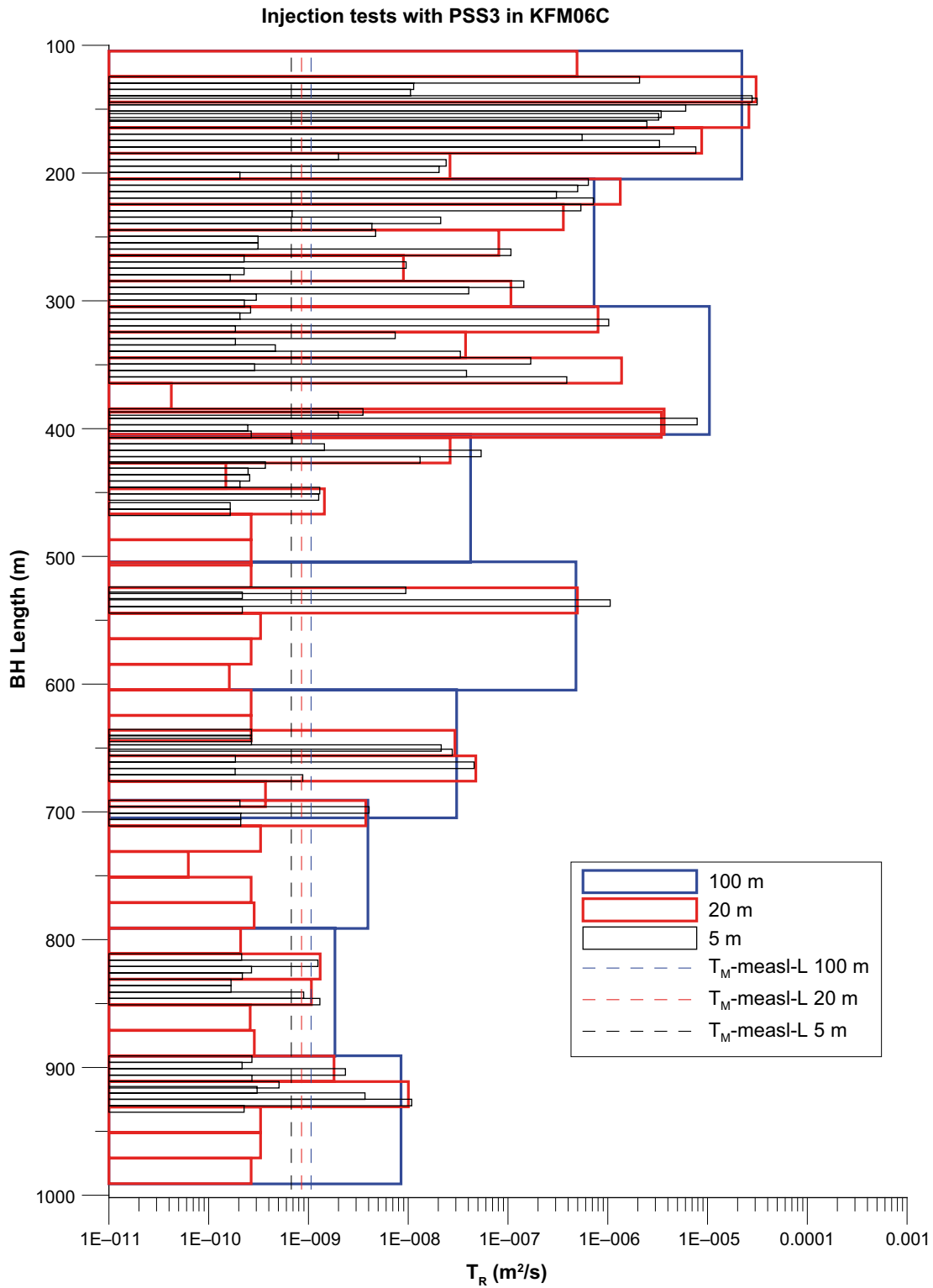
### 6.3 Comparison of transmissivity values on different test scales

The transmissivity values considered as the most representative,  $T_R$ , from the injection tests in KFM06C in the tested sections of 100 m, 20 m and 5 m length, respectively, are shown in Figure 6-2. This figure demonstrates a good agreement between results obtained from tests on different scales in KFM06C. A consistency check of the transmissivity values on the different scales was made by summation of calculated values from smaller scales (20 m and 5 m) and comparing with the estimated values in longer sections (100 m and 20 m).

In Table 6-4, estimated transmissivity values in 100 m and 20 m test sections in KFM06C according to steady-state ( $T_M$ ) and most representative evaluation ( $T_R$ ) are listed together with summed transmissivities in 20 m and 5 m sections over the corresponding 100 m and 20 m sections for KFM06C.

In Table 6-4, when the transmissivity values fall below the measurement limit ( $Q_p$  could not be defined), the most representative transmissivity value,  $T_R$ , was considered to be less than  $T_M$ , based on  $Q/s$ -measl-L, for the test section. The measurement limit values are included in the summed values in Table 6-4. This leads to overestimated values of the summed transmissivities.





**Figure 6-2.** Estimated best representative transmissivity values ( $T_R$ ) for sections of 100 m, 20 m and 5 m length in borehole KFM06C. Estimated transmissivity values for the lower standard measurement limit from stationary evaluation ( $T_M$ -measl-L) for different test section lengths are also shown.

**Table 6-4. Estimated transmissivity values in 100 m and 20 m test sections together with summed up transmissivity values in 20 m and 5 m sections in the corresponding borehole intervals from the injection tests in KFM06C.**

Borehole	Secup	Seclow	L <sub>w</sub>	T <sub>M</sub>	T <sub>R</sub>	SUM T <sub>M</sub> (20 m)	SUM T <sub>R</sub> (20 m)	SUM T <sub>M</sub> (5 m)	SUM T <sub>R</sub> (5 m)
	inj.test	inj.test		inj. tests	inj. tests	inj. tests	inj. tests	inj. tests	inj. tests
Idcode	(m)	(m)	(m)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)
KFM06C	104.50	204.50	100.0	1.34E-04	2.21E-05	1.39E-04	6.59E-05	1.07E-04 <sup>2,3</sup>	9.28E-05 <sup>2,3</sup>
KFM06C	204.50	304.50	100.0	1.77E-06	7.29E-07	2.50E-06	1.89E-06	2.20E-06	3.03E-06
KFM06C	304.50	404.50	100.0	2.44E-05	1.04E-05	9.27E-06 <sup>1</sup>	5.89E-06 <sup>1</sup>	9.15E-06 <sup>2</sup>	9.54E-06 <sup>2</sup>
KFM06C	404.50	504.50	100.0	9.61E-08	4.23E-08	9.60E-08 <sup>2</sup>	2.84E-08 <sup>2</sup>	1.88E-07 <sup>2,3</sup>	7.33E-08 <sup>2,3</sup>
KFM06C	504.50	604.50	100.0	1.65E-06	4.80E-07	1.38E-06	4.97E-07	1.22E-06 <sup>1,3</sup>	1.07E-06 <sup>1,3</sup>
KFM06C	604.50	704.50	100.0	8.73E-08	3.06E-08	8.34E-08 <sup>2</sup>	7.78E-08 <sup>2</sup>	9.79E-08 <sup>2</sup>	1.01E-07 <sup>2</sup>
KFM06C	691.0	791.0	100.0	8.41E-09	3.94E-09	7.38E-09 <sup>2</sup>	4.70E-09 <sup>2</sup>	5.04E-09	4.68E-09
KFM06C	791.0	891.0	100.0	5.28E-09	1.84E-09	5.43E-09	3.14E-09	4.80E-09	4.48E-09
KFM06C	891.0	991.0	100.0	1.54E-08	8.48E-09	1.58E-08	1.28E-08	1.52E-08 <sup>2</sup>	1.87E-08 <sup>2</sup>
KFM06C	104.50	124.50	20.0	1.11E-06	4.92E-07			n.m. 5 m	n.m. 5 m
KFM06C	124.50	144.50	20.0	3.65E-05	3.07E-05			2.90E-05 <sup>1</sup>	3.01E-05 <sup>1</sup>
KFM06C	144.50	164.50	20.0	6.33E-05	2.60E-05			4.40E-05 <sup>1,3</sup>	4.66E-05 <sup>1,3</sup>
KFM06C	164.50	184.50	20.0	3.81E-05	8.73E-06			3.43E-05	1.61E-05
KFM06C	184.50	204.50	20.0	1.97E-07	2.62E-08			1.48E-07	4.66E-08
KFM06C	204.50	224.50	20.0	1.66E-06	1.33E-06			1.51E-06	2.16E-06
KFM06C	224.50	244.50	20.0	3.20E-07	3.59E-07			2.68E-07	5.63E-07
KFM06C	244.50	264.50	20.0	7.85E-08	8.09E-08			7.25E-08	1.12E-07
KFM06C	264.50	284.50	20.0	5.08E-09	8.94E-09			4.50E-09	1.02E-08
KFM06C	284.50	304.50	20.0	4.35E-07	1.07E-07			3.40E-07	1.85E-07
KFM06C	304.50	324.50	20.0	4.17E-06	7.99E-07			3.25E-06	1.02E-06
KFM06C	324.50	344.50	20.0	3.75E-08	3.75E-08			4.14E-08	4.14E-08
KFM06C	344.50	364.50	20.0	1.38E-06	1.38E-06			5.79E-07	5.96E-07
KFM06C	364.50	384.50	20.0	1.18E-09	4.22E-11			n.m. 5 m	n.m. 5 m
KFM06C	384.50	404.50	20.0	3.68E-06	3.68E-06			5.28E-06 <sup>1</sup>	7.88E-06 <sup>1</sup>
KFM06C	387.0	407.0	20.0	3.45E-06	3.45E-06			5.27E-06	7.87E-06
KFM06C	407.0	427.0	20.0	9.24E-08	2.63E-08			1.83E-07 <sup>2</sup>	6.90E-08 <sup>2</sup>
KFM06C	427.0	447.0	20.0	3.27E-10	1.49E-10			1.08E-09 <sup>2</sup>	1.08E-09 <sup>2</sup>
KFM06C	447.0	467.0	20.0	2.75E-09	1.45E-09			4.10E-09 <sup>3</sup>	2.90E-09 <sup>3</sup>
KFM06C	467.0	487.0	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	487.0	507.0	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	504.50	524.50	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	524.50	544.50	20.0	1.37E-06	4.96E-07			1.22E-06 <sup>1,3</sup>	1.07E-06 <sup>1,3</sup>
KFM06C	544.50	564.50	20.0	<3.32E-10	<3.32E-10			n.m. 5 m	n.m. 5 m
KFM06C	564.50	584.50	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	584.50	604.50	20.0	4.42E-10	1.61E-10			n.m. 5 m	n.m. 5 m
KFM06C	604.50	624.50	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	624.50	644.50	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	636.0	656.0	20.0	2.94E-08	2.94E-08			4.98E-08 <sup>1</sup>	4.98E-08 <sup>1</sup>
KFM06C	656.0	676.0	20.0	5.23E-08	4.75E-08			4.35E-08	4.70E-08
KFM06C	676.0	696.0	20.0	1.18E-09	3.72E-10			n.m. 5 m	n.m. 5 m

Borehole	Secup	Seclow	L <sub>w</sub>	T <sub>M</sub>	T <sub>R</sub>	SUM T <sub>M</sub> (20 m)	SUM T <sub>R</sub> (20 m)	SUM T <sub>M</sub> (5 m)	SUM T <sub>R</sub> (5 m)
	inj.test	inj.test		inj. tests	inj. tests	inj. tests	inj. tests	inj. tests	inj. tests
ldcode	(m)	(m)	(m)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)	(m <sup>2</sup> /s)
KFM06C	691.0	711.0	20.0	6.0E-09	3.76E-09			5.04E-09	4.68E-09
KFM06C	711.0	731.0	20.0	<3.32E-10	<3.32E-10			n.m. 5 m	n.m. 5 m
KFM06C	731.0	751.0	20.0	4.97E-10	6.26E-11			n.m. 5 m	n.m. 5 m
KFM06C	751.0	771.0	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m
KFM06C	771.0	791.0	20.0	2.86E-10	2.86E-10			n.m. 5 m	n.m. 5 m
KFM06C	791.0	811.0	20.0	<2.09E-10	<2.09E-10			n.m. 5 m	n.m. 5 m
KFM06C	811.0	831.0	20.0	2.26E-09	1.31E-09			2.71E-09	1.95E-09
KFM06C	831.0	851.0	20.0	2.42E-09	1.07E-09			2.09E-09	2.54E-09
KFM06C	851.0	871.0	20.0	<2.61E-10	<2.61E-10			n.m. 5 m	n.m. 5 m
KFM06C	871.0	891.0	20.0	<2.87E-10	<2.87E-10			n.m. 5 m	n.m. 5 m
KFM06C	891.0	911.0	20.0	3.32E-09	1.80E-09			3.37E-09	3.11E-09
KFM06C	911.0	931.0	20.0	1.15E-08	1.0E-08			1.16E-08 <sup>1</sup>	1.53E-08 <sup>1</sup>
KFM06C	931.0	951.0	20.0	<3.32E-10	<3.32E-10			n.m. 5 m	n.m. 5 m
KFM06C	951.0	971.0	20.0	<3.32E-10	<3.32E-10			n.m. 5 m	n.m. 5 m
KFM06C	971.0	991.0	20.0	<2.66E-10	<2.66E-10			n.m. 5 m	n.m. 5 m

<sup>1</sup> Partly overlapping sections.

<sup>2</sup> Partly overlapping sections and measured intervals not identical.

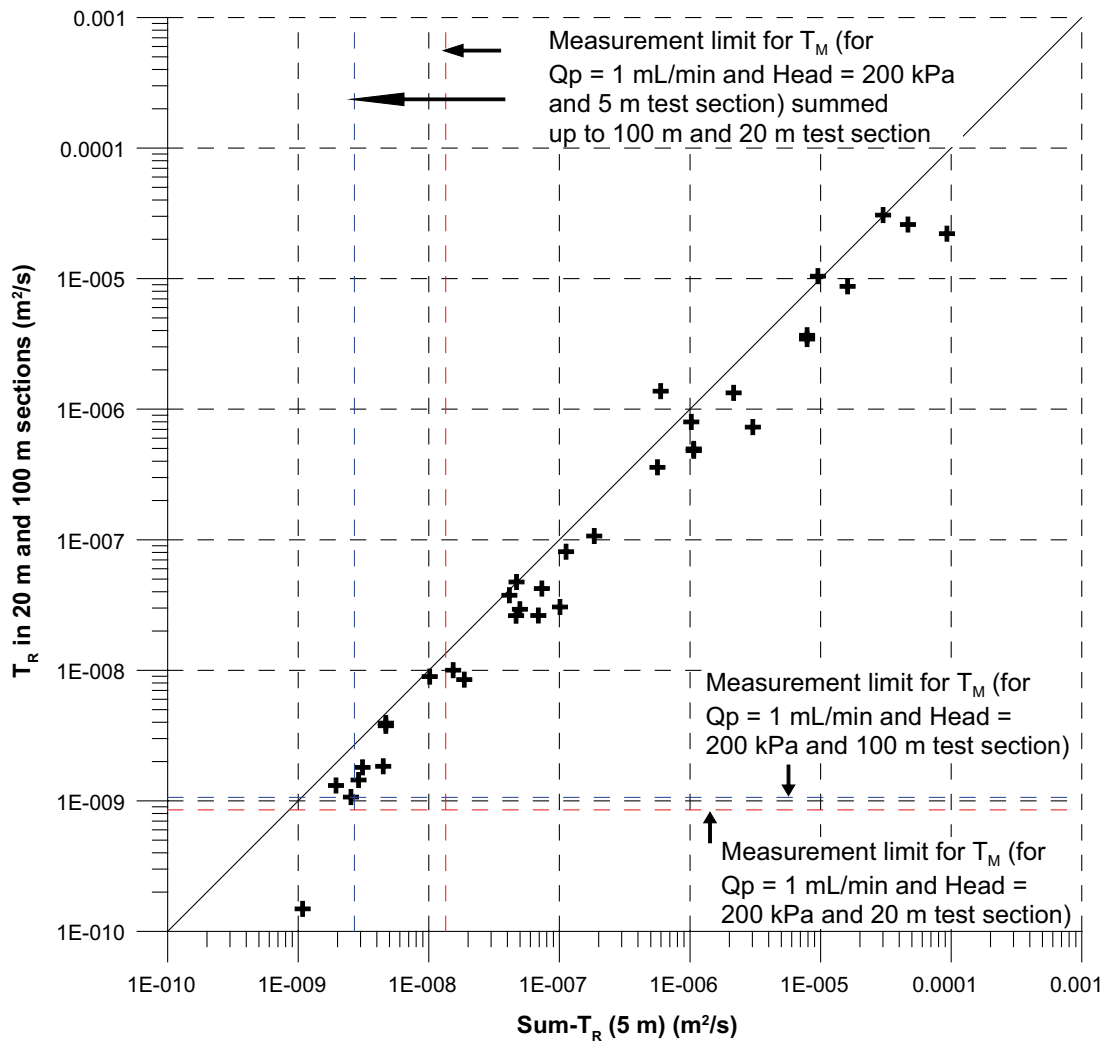
<sup>3</sup> The intervals 158.5–159.5, 456.0–458.0 and 533.0–534.0 are not covered with 5 m sections.

n.m. = not measured

In Figure 6-3, estimated transmissivity values considered as the most representative for 100 m and 20 m sections (T<sub>R</sub>-100 m and T<sub>R</sub>-20 m, respectively) in KFM06C are plotted versus the sum of the transmissivity values considered most representative in 5 m sections in the corresponding intervals (SUM T<sub>R</sub>-5 m). The lower measurement limit of T<sub>M</sub> for the different section lengths (Q<sub>p</sub> = 1 mL/min and an assumed pressure difference of 200 kPa) together with the cumulative measurement limit for the sum of 5 m sections are also shown in the figure.

Figure 6-3 indicates a relatively good agreement between estimated transmissivity values in longer sections and summed transmissivity values in corresponding 5 m sections for the injection tests. However, a majority of the data points are located below the straight line, indicating that the sum of transmissivity from the shorter sections are generally higher than the estimated transmissivity in longer sections. Some of the sections are partly overlapping, resulting in an overestimation when summing the sections together. Also interference between adjacent sections can contribute to an overestimation of the sum of transmissivity when summing the transmissivity from several sections together. Since the measurement limit values are summed up, the sum of T in shorter sections can become higher than the estimated transmissivity value in the longer section, for very low-conductive sections. There might also be other reasons for discrepancies.

In Table 6-5, a comparison of estimated transmissivity values from the injection tests with different section lengths in KFM06C is presented. It should be observed that the summed transmissivity values for the injection tests in each borehole interval only include the tests actually performed for each section length within this interval. However, the most conductive sections are always measured. Table 6-5 shows that the results are consistent. The total transmissivity of KFM06C is dominated by the intervals between 141.5–146.5 m, 164.5–169.5 m and 179.5–184.5 m.



**Figure 6-3.** Transmissivity values considered most representative ( $T_R$ ) for 100 m and 20 m sections versus the sum of most representative transmissivity values ( $T_R$ ) in 5 m sections in the corresponding borehole intervals from the injection tests in KFM06C together with the standard lower measurement limit at different scales.

**Table 6-5. Comparison of calculated transmissivity values from injection tests measured with different section lengths in borehole KFM06C.**

Sum of T (m <sup>2</sup> /s)	Borehole interval and length of interval (m)	
	104.50–991.00 <sup>1</sup>	124.5–935.5 <sup>1</sup>
$\Sigma T_M(100\text{ m})$	1.63E–04	
$\Sigma T_R(100\text{ m})$	3.38E–05	
$\Sigma T_M(20\text{ m})$	1.56E–04	1.55E–04 <sup>2</sup>
$\Sigma T_R(20\text{ m})$	7.78E–05	7.73E–05 <sup>2</sup>
$\Sigma T_M(5\text{ m})$		1.20E–04 <sup>3</sup>
$\Sigma T_R(5\text{ m})$		1.07E–04 <sup>3</sup>

<sup>1</sup> All the measured intervals contain partly overlapping sections.

<sup>2</sup> Actual measured interval was 124.5–931.0.

<sup>3</sup> Tests with section length 5 m are not performed in all 20 m sections.

## 6.4 Basic statistics of hydraulic conductivity distributions in different scales

Some basic statistical parameters were calculated for the steady-state hydraulic conductivity ( $K_M$ ) distributions in different scales (100 m, 20 m and 5 m) from the injection tests in borehole KFM06C. The hydraulic conductivity is obtained by dividing the transmissivity by the section length; in this case  $T_M/L_w$ . Results from tests where  $Q_p$  was below the estimated test-specific measurement limit were not included in the statistical analyses of  $K_M$ . The same basic statistical parameters were derived for the hydraulic conductivity considered most representative ( $K_R = T_R/L_w$ ), including all tests. In the statistical analysis, the logarithm (base 10) of  $K_M$  and  $K_R$  was used. Selected results are shown in Table 6-6. It should be noted that the statistics for the different section lengths is based on slightly different borehole intervals.

**Table 6-6. Basic statistical parameters for steady-state hydraulic conductivity ( $K_M$ ) and hydraulic conductivity considered most representative ( $K_R$ ) in borehole KFM06C.  $L_w$  = section length,  $m$  = arithmetic mean,  $s$  = standard deviation.**

Parameter	Unit	KFM06C $L_w = 100$ m	KFM06C $L_w = 20$ m	KFM06C $L_w = 5$ m
Measured borehole interval	m	104.5–991.0 <sup>2</sup>	104.5–991.0 <sup>3</sup>	124.5–935.0 <sup>4, 5, 6</sup>
Number of tests	–	9	46	100
No of tests below E.L.M.L. <sup>1</sup>	–	0	15	38
$m$ ( $\text{Log}_{10}(K_M)$ )	$\text{Log}_{10}(\text{m/s})$	–8.47	–8.507	–8.06
$s$ ( $\text{Log}_{10}(K_M)$ )	–	1.56	1.62	1.40
$m$ ( $\text{Log}_{10}(K_R)$ )	$\text{Log}_{10}(\text{m/s})$	–8.91	–9.47	–8.98
$s$ ( $\text{Log}_{10}(K_R)$ )	–	1.47	1.69	1.55

<sup>1</sup> Number of tests where  $Q_p$  could not be defined (E.L.M.L. = estimated test-specific lower measurement limit)

<sup>2</sup> Sections 604.5–704.5 m and 691.0–791.0 m are partly overlapping.

<sup>3</sup> The following sections are partly overlapping: 384.5–404.5 m and 387.0–407.0 m, 487.0–507.0 m and 504.5–524.5 m, 624.5–644.5 m and 636.0–656.0 m, 676.0–696.0 m and 691.0–711.0 m.

<sup>4</sup> Sections with very low or non-detectable flow (with 20 m section length) are not measured with 5 m section length.

<sup>5</sup> The following sections are partly overlapping: 139.5–144.5 m and 141.5–164.5 m, 151.5–156.5 m and 153.5–158.5 m, 384.5–389.5 m and 387.5–392.5 m, 422.0–427.0 m and 426.0–431.0 m, 524.0–529.0 m and 528.0–533.0 m, 640.0–645.0 m and 642.5–647.5 m, 647.5–625.5 m and 651.5–656.5 m, 911.0–916.0 m and 915.0–920.0 m.

<sup>6</sup> Within the measured intervals, the following small sections are not measured: 158.5–159.5 m, 456.0–458.0 m and 533.0–434.0 m.

## 7 References

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## **8 Appendices**

**Appendix 1** File description table (attached only on CD)

**Appendix 2.1** General test data (attached only on CD)

**Appendix 2.2** Pressure and flow data (attached only on CD)

**Appendix 3** Test diagrams – Injection tests (attached only on CD)

**Appendix 4** Borehole technical data (attached only on CD)

**Appendix 5** Sicada tables (attached only on CD)

## APPENDIX 1. File description table

Bh id	Test section		Test type	Test no	Test start Date, time	Test stop Date, time	Data files of raw and primary data	Parameters in file	Comments
idcode	(m)	(m)	(1-6) <sup>1)</sup>		YYYYMMDD hh:mm	YYYYMMDD hh:mm	__Borehole id_secup_date and time of test start		
KFM06C	104.50	204.50	3	1	2005-09-29 15:44	2005-09-29 17:39	KFM06C_0104.50_200509291544.ht2	P, Q, Te	
KFM06C	204.50	304.50	3	1	2005-09-30 10:33	2005-09-30 12:46	KFM06C_0204.50_200509301033.ht2	P, Q, Te	
KFM06C	304.50	404.50	3	1	2005-09-30 15:13	2005-09-30 17:03	KFM06C_0304.50_200509301513.ht2	P, Q, Te	
KFM06C	404.50	504.50	3	1	2005-10-03 09:27	2005-10-03 10:32	KFM06C_0404.50_200510030927.ht2	P, Q, Te	Interrupted <sup>2)</sup>
KFM06C	404.50	504.50	3	2	2005-10-05 09:32	2005-10-05 11:24	KFM06C_0404.50_200510050932.ht2	P, Q, Te	
KFM06C	504.50	604.50	3	1	2005-10-03 13:30	2005-10-03 15:27	KFM06C_0504.50_200510031330.ht2	P, Q, Te	
KFM06C	604.50	704.50	3	1	2005-10-04 06:23	2005-10-04 08:17	KFM06C_0604.50_200510040623.ht2	P, Q, Te	
KFM06C	691.00	791.00	3	1	2005-10-04 09:24	2005-10-04 11:19	KFM06C_0691.00_200510040924.ht2	P, Q, Te	
KFM06C	791.00	891.00	3	1	2005-10-04 15:03	2005-10-04 17:14	KFM06C_0791.00_200510041503.ht2	P, Q, Te	
KFM06C	891.00	991.00	3	1	2005-10-04 18:39	2005-10-04 20:45	KFM06C_0891.00_200510041839.ht2	P, Q, Te	
KFM06C	104.50	124.50	3	1	2005-10-06 09:01	2005-10-06 10:58	KFM06C_0104.50_200510060901.ht2	P, Q, Te	
KFM06C	124.50	144.50	3	1	2005-10-06 11:18	2005-10-06 13:32	KFM06C_0124.50_200510061118.ht2	P, Q, Te	
KFM06C	144.50	164.50	3	1	2005-10-06 13:57	2005-10-06 15:12	KFM06C_0144.50_200510061357.ht2	P, Q, Te	
KFM06C	164.50	184.50	3	1	2005-10-06 15:38	2005-10-06 16:35	KFM06C_0164.50_200510061538.ht2	P, Q, Te	Interrupted <sup>2)</sup>
KFM06C	164.50	184.50	3	2	2005-10-14 11:02	2005-10-14 13:48	KFM06C_0164.50_200510141102.ht2	P, Q, Te	Re-performed <sup>2)</sup>
KFM06C	164.50	184.50	3	3	2005-10-14 13:50	2005-10-14 15:09	KFM06C_0164.50_200510141350.ht2	P, Q, Te	
KFM06C	184.50	204.50	3	1	2005-10-06 17:05	2005-10-06 18:24	KFM06C_0184.50_200510061705.ht2	P, Q, Te	
KFM06C	204.50	224.50	3	1	2005-10-06 18:51	2005-10-06 20:12	KFM06C_0204.50_200510061851.ht2	P, Q, Te	
KFM06C	224.50	244.50	3	1	2005-10-06 20:41	2005-10-06 22:05	KFM06C_0224.50_200510062041.ht2	P, Q, Te	
KFM06C	244.50	264.50	3	1	2005-10-06 22:30	2005-10-06 23:52	KFM06C_0244.50_200510062230.ht2	P, Q, Te	
KFM06C	264.50	284.50	3	1	2005-10-07 08:22	2005-10-07 09:50	KFM06C_0264.50_200510070822.ht2	P, Q, Te	
KFM06C	284.50	304.50	3	1	2005-10-07 10:36	2005-10-07 11:58	KFM06C_0284.50_200510071036.ht2	P, Q, Te	
KFM06C	304.50	324.50	3	1	2005-10-07 13:43	2005-10-07 15:18	KFM06C_0304.50_200510071343.ht2	P, Q, Te	
KFM06C	324.50	344.50	3	1	2005-10-07 15:45	2005-10-07 17:03	KFM06C_0324.50_200510071545.ht2	P, Q, Te	
KFM06C	344.50	364.50	3	1	2005-10-10 08:44	2005-10-10 10:07	KFM06C_0344.50_200510100844.ht2	P, Q, Te	
KFM06C	364.50	384.50	3	1	2005-10-10 10:42	2005-10-10 12:05	KFM06C_0364.50_200510101042.ht2	P, Q, Te	
KFM06C	384.50	404.50	3	1	2005-10-10 13:44	2005-10-10 15:01	KFM06C_0384.50_200510101344.ht2	P, Q, Te	
KFM06C	387.00	407.00	3	1	2005-10-10 15:24	2005-10-10 16:41	KFM06C_0387.00_200510101524.ht2	P, Q, Te	
KFM06C	407.00	427.00	3	1	2005-10-10 17:06	2005-10-10 18:23	KFM06C_0407.00_200510101706.ht2	P, Q, Te	
KFM06C	427.00	447.00	3	1	2005-10-11 08:03	2005-10-11 09:30	KFM06C_0427.00_200510110803.ht2	P, Q, Te	
KFM06C	447.00	467.00	3	1	2005-10-11 09:57	2005-10-11 11:22	KFM06C_0447.00_200510110957.ht2	P, Q, Te	
KFM06C	467.00	487.00	3	1	2005-10-11 12:42	2005-10-11 13:59	KFM06C_0467.00_200510111242.ht2	P, Q, Te	
KFM06C	487.00	507.00	3	1	2005-10-11 14:24	2005-10-11 15:10	KFM06C_0487.00_200510111424.ht2	P, Q, Te	
KFM06C	504.50	524.50	3	1	2005-10-11 15:29	2005-10-11 16:19	KFM06C_0504.50_200510111529.ht2	P, Q, Te	
KFM06C	524.50	544.50	3	1	2005-10-11 16:38	2005-10-11 17:52	KFM06C_0524.50_200510111638.ht2	P, Q, Te	



Bh id	Test section		Test type	Test no	Test start	Test stop	Data files of raw and primary data	Parameters in file	Comments
	(m)	(m)			Date, time	Date, time			
idcode			(1-6) <sup>1)</sup>		YYYYMMDD hh:mm	YYYYMMDD hh:mm	__Borehole id_secup_date and time of test start		
KFM06C	544.50	564.50	3	1	2005-10-11 18:16	2005-10-11 19:01	KFM06C_0544.50_200510111816.ht2	P, Q, Te	
KFM06C	564.50	584.50	3	1	2005-10-11 19:19	2005-10-11 20:06	KFM06C_0564.50_200510111919.ht2	P, Q, Te	
KFM06C	584.50	604.50	3	1	2005-10-11 20:28	2005-10-11 21:45	KFM06C_0584.50_200510112028.ht2	P, Q, Te	
KFM06C	604.50	624.50	3	1	2005-10-11 22:03	2005-10-11 22:48	KFM06C_0604.50_200510112203.ht2	P, Q, Te	
KFM06C	624.50	644.50	3	1	2005-10-11 23:10	2005-10-11 23:51	KFM06C_0624.50_200510112310.ht2	P, Q, Te	
KFM06C	636.00	656.00	3	1	2005-10-12 06:36	2005-10-12 08:05	KFM06C_0636.00_200510120636.ht2	P, Q, Te	
KFM06C	656.00	676.00	3	1	2005-10-12 08:30	2005-10-12 09:49	KFM06C_0656.00_200510120830.ht2	P, Q, Te	
KFM06C	676.00	696.00	3	1	2005-10-12 10:10	2005-10-12 11:26	KFM06C_0676.00_200510121010.ht2	P, Q, Te	
KFM06C	691.00	711.00	3	1	2005-10-12 12:38	2005-10-12 14:04	KFM06C_0691.00_200510121238.ht2	P, Q, Te	
KFM06C	711.00	731.00	3	1	2005-10-12 14:30	2005-10-12 15:10	KFM06C_0711.00_200510121430.ht2	P, Q, Te	
KFM06C	731.00	751.00	3	1	2005-10-12 15:32	2005-10-12 16:51	KFM06C_0731.00_200510121532.ht2	P, Q, Te	
KFM06C	751.00	771.00	3	1	2005-10-12 17:12	2005-10-12 17:59	KFM06C_0751.00_200510121712.ht2	P, Q, Te	
KFM06C	771.00	791.00	3	1	2005-10-12 19:09	2005-10-12 20:24	KFM06C_0771.00_200510121909.ht2	P, Q, Te	
KFM06C	791.00	811.00	3	1	2005-10-12 20:47	2005-10-12 21:34	KFM06C_0791.00_200510122047.ht2	P, Q, Te	
KFM06C	811.00	831.00	3	1	2005-10-12 21:51	2005-10-12 23:07	KFM06C_0811.00_200510122151.ht2	P, Q, Te	
KFM06C	831.00	851.00	3	1	2005-10-12 23:29	2005-10-13 00:42	KFM06C_0831.00_200510122329.ht2	P, Q, Te	
KFM06C	851.00	871.00	3	1	2005-10-13 06:44	2005-10-13 08:01	KFM06C_0851.00_200510130644.ht2	P, Q, Te	
KFM06C	871.00	891.00	3	1	2005-10-13 08:37	2005-10-13 09:41	KFM06C_0871.00_200510130837.ht2	P, Q, Te	
KFM06C	891.00	911.00	3	1	2005-10-13 10:22	2005-10-13 11:40	KFM06C_0891.00_200510131022.ht2	P, Q, Te	
KFM06C	911.00	931.00	3	1	2005-10-13 12:53	2005-10-13 14:18	KFM06C_0911.00_200510131253.ht2	P, Q, Te	
KFM06C	931.00	951.00	3	1	2005-10-13 14:41	2005-10-13 16:10	KFM06C_0931.00_200510131441.ht2	P, Q, Te	
KFM06C	951.00	971.00	3	1	2005-10-13 16:38	2005-10-13 17:24	KFM06C_0951.00_200510131638.ht2	P, Q, Te	
KFM06C	971.00	991.00	3	1	2005-10-13 17:44	2005-10-13 18:31	KFM06C_0971.00_200510131744.ht2	P, Q, Te	
KFM06C	124.50	129.50	3	1	2005-10-18 08:12	2005-10-18 09:28	KFM06C_0124.50_200510180812.ht2	P, Q, Te	
KFM06C	129.50	134.50	3	1	2005-10-18 09:52	2005-10-18 11:08	KFM06C_0129.50_200510180952.ht2	P, Q, Te	
KFM06C	134.50	139.50	3	1	2005-10-18 12:24	2005-10-18 13:39	KFM06C_0134.50_200510181224.ht2	P, Q, Te	
KFM06C	139.50	144.50	3	1	2005-10-18 13:49	2005-10-18 15:03	KFM06C_0139.50_200510181349.ht2	P, Q, Te	
KFM06C	141.50	146.50	3	1	2005-10-18 15:18	2005-10-18 16:37	KFM06C_0141.50_200510181518.ht2	P, Q, Te	
KFM06C	146.50	151.50	3	1	2005-10-18 16:53	2005-10-18 18:10	KFM06C_0146.50_200510181653.ht2	P, Q, Te	
KFM06C	151.50	156.50	3	1	2005-10-18 18:24	2005-10-18 19:47	KFM06C_0151.50_200510181824.ht2	P, Q, Te	
KFM06C	153.50	158.50	3	1	2005-10-18 19:59	2005-10-18 21:24	KFM06C_0153.50_200510181959.ht2	P, Q, Te	
KFM06C	159.50	164.50	3	1	2005-10-18 21:50	2005-10-18 23:08	KFM06C_0159.50_200510182150.ht2	P, Q, Te	
KFM06C	164.50	169.50	3	1	2005-10-18 23:19	2005-10-19 00:36	KFM06C_0164.50_200510182319.ht2	P, Q, Te	
KFM06C	169.50	174.50	3	1	2005-10-19 06:16	2005-10-19 07:33	KFM06C_0169.50_200510190616.ht2	P, Q, Te	
KFM06C	174.50	179.50	3	1	2005-10-19 07:47	2005-10-19 09:00	KFM06C_0174.50_200510190747.ht2	P, Q, Te	
KFM06C	179.50	184.50	3	1	2005-10-19 09:10	2005-10-19 10:24	KFM06C_0179.50_200510190910.ht2	P, Q, Te	
KFM06C	184.50	189.50	3	1	2005-10-19 10:33	2005-10-19 11:47	KFM06C_0184.50_200510191033.ht2	P, Q, Te	Re-performed <sup>2)</sup>

Bh id	Test section		Test type	Test no	Test start	Test stop	Data files of raw and primary data	Parameters in file	Comments
	(m)	(m)			Date, time	Date, time			
idcode			(1-6) <sup>1)</sup>		YYYYMMDD hh:mm	YYYYMMDD hh:mm	__Borehole id_secup_date and time of test start		
KFM06C	184.50	189.50	3	2	2005-11-01 18:30	2005-11-01 19:45	KFM06C_0184.50_200511011830.ht2	P, Q, Te	
KFM06C	189.50	194.50	3	1	2005-10-19 12:49	2005-10-19 14:03	KFM06C_0189.50_200510191249.ht2	P, Q, Te	
KFM06C	194.50	199.50	3	1	2005-10-19 14:18	2005-10-19 15:31	KFM06C_0194.50_200510191418.ht2	P, Q, Te	
KFM06C	199.50	204.50	3	1	2005-10-19 15:51	2005-10-19 16:45	KFM06C_199.50_200510191551.ht2	P, Q, Te	
KFM06C	204.50	209.50	3	1	2005-10-19 17:02	2005-10-19 18:21	KFM06C_0204.50_200510191702.ht2	P, Q, Te	
KFM06C	209.50	214.50	3	1	2005-10-19 18:36	2005-10-19 19:54	KFM06C_0209.50_200510191836.ht2	P, Q, Te	
KFM06C	214.50	219.50	3	1	2005-10-19 20:15	2005-10-19 21:34	KFM06C_0214.50_200510192015.ht2	P, Q, Te	
KFM06C	219.50	224.50	3	1	2005-10-19 21:49	2005-10-19 22:40	KFM06C_0219.50_200510192149.ht2	P, Q, Te	Interrupted <sup>2)</sup>
KFM06C	219.50	224.50	3	1	2005-11-01 16:51	2005-11-01 18:07	KFM06C_0219.50_200511011651.ht2	P, Q, Te	
KFM06C	224.50	229.50	3	1	2005-10-19 23:02	2005-10-20 00:25	KFM06C_0224.50_200510192302.ht2	P, Q, Te	
KFM06C	229.50	234.50	3	1	2005-10-20 07:05	2005-10-20 08:07	KFM06C_0229.50_200510200705.ht2	P, Q, Te	
KFM06C	234.50	239.50	3	1	2005-10-20 08:25	2005-10-20 09:52	KFM06C_0234.50_200510200825.ht2	P, Q, Te	
KFM06C	239.50	244.50	3	1	2005-10-20 10:11	2005-10-20 11:31	KFM06C_0239.50_200510201011.ht2	P, Q, Te	
KFM06C	244.50	249.50	3	1	2005-10-20 12:50	2005-10-20 14:11	KFM06C_0244.50_200510201250.ht2	P, Q, Te	
KFM06C	249.50	254.50	3	1	2005-10-20 14:28	2005-10-20 15:32	KFM06C_0249.50_200510201428.ht2	P, Q, Te	
KFM06C	254.50	259.50	3	1	2005-10-20 15:59	2005-10-20 16:47	KFM06C_0254.50_200510201559.ht2	P, Q, Te	
KFM06C	259.50	264.50	3	1	2005-10-20 17:00	2005-10-20 18:20	KFM06C_0259.50_200510201700.ht2	P, Q, Te	
KFM06C	264.50	269.50	3	1	2005-10-20 18:38	2005-10-20 19:20	KFM06C_0264.50_200510201838.ht2	P, Q, Te	
KFM06C	269.50	274.50	3	1	2005-10-20 19:36	2005-10-20 20:53	KFM06C_0269.50_200510201936.ht2	P, Q, Te	
KFM06C	274.50	279.50	3	1	2005-10-20 21:07	2005-10-20 21:50	KFM06C_0274.50_200510202107.ht2	P, Q, Te	
KFM06C	279.50	284.50	3	1	2005-10-20 22:06	2005-10-20 22:21	KFM06C_0279.50_200510202206.ht2	P, Q, Te	Interrupted <sup>2)</sup>
KFM06C	279.50	284.50	3	2	2005-11-01 15:34	2005-11-01 16:16	KFM06C_0279.50_200511011534.ht2	P, Q, Te	
KFM06C	284.50	289.50	3	1	2005-10-20 23:02	2005-10-21 00:26	KFM06C_0284.50_200510202302.ht2	P, Q, Te	
KFM06C	289.50	294.50	3	1	2005-10-21:08:31	2005-10-21 09:49	KFM06C_0289.50_200510210831.ht2	P, Q, Te	Re-performed <sup>2)</sup>
KFM06C	289.50	294.50	3	2	2005-11-01 14:05	2005-11-01 15:20	KFM06C_0289.50_200511011405.ht2	P, Q, Te	
KFM06C	294.50	299.50	3	1	2005-10-21 10:24	2005-10-21 11:40	KFM06C_0294.50_200510211024.ht2	P, Q, Te	
KFM06C	299.50	304.50	3	1	2005-10-21 12:51	2005-10-21 13:46	KFM06C_0299.50_200510211251.ht2	P, Q, Te	
KFM06C	304.50	309.50	3	1	2005-10-21 13:57	2005-10-21 14:50	KFM06C_0304.50_200510211357.ht2	P, Q, Te	
KFM06C	309.50	314.50	3	1	2005-10-21 15:06	2005-10-21 15:48	KFM06C_0309.50_200510211506.ht2	P, Q, Te	
KFM06C	314.50	319.50	3	1	2005-10-24 08:36	2005-10-24 10:02	KFM06C_0314.50_200510240836.ht2	P, Q, Te	
KFM06C	319.50	324.50	3	1	2005-10-24 10:20	2005-10-24 11:15	KFM06C_0319.50_200510241020.ht2	P, Q, Te	
KFM06C	324.50	329.50	3	1	2005-10-24 11:32	2005-10-24 14:09	KFM06C_0324.50_200510241132.ht2	P, Q, Te	
KFM06C	329.50	334.50	3	1	2005-10-24 14:23	2005-10-24 15:17	KFM06C_0329.50_200510241423.ht2	P, Q, Te	
KFM06C	334.50	339.50	3	1	2005-10-24 15:29	2005-10-24 16:46	KFM06C_0334.50_200510241529.ht2	P, Q, Te	
KFM06C	339.50	344.50	3	1	2005-10-25 06:01	2005-10-25 07:16	KFM06C_0339.50_200510250601.ht2	P, Q, Te	
KFM06C	344.50	349.50	3	1	2005-10-25 07:30	2005-10-25 08:44	KFM06C_0344.50_200510250730.ht2	P, Q, Te	
KFM06C	349.50	354.50	3	1	2005-10-25 08:53	2005-10-25 09:34	KFM06C_0349.50_200510250853.ht2	P, Q, Te	
KFM06C	354.50	359.50	3	1	2005-10-25 09:47	2005-10-25 11:00	KFM06C_0354.50_200510250947.ht2	P, Q, Te	

Bh id	Test section		Test type	Test no	Test start	Test stop	Data files of raw and primary data	Parameters in file	Comments
	(m)	(m)			Date, time	Date, time			
idcode			(1-6) <sup>1)</sup>		YYYYMMDD hh:mm	YYYYMMDD hh:mm	__Borehole id_secup_date and time of test start		
KFM06C	359.50	364.50	3	1	2005-10-25 11:58	2005-10-25 13:11	KFM06C_0359.50_200510251158.ht2	P, Q, Te	
KFM06C	384.50	389.50	3	1	2005-10-25 13:29	2005-10-25 14:43	KFM06C_0384.50_200510251329.ht2	P, Q, Te	
KFM06C	387.00	392.00	3	1	2005-10-25 14:51	2005-10-25 16:14	KFM06C_0387.00_200510251451.ht2	P, Q, Te	
KFM06C	392.00	397.00	3	1	2005-10-25 16:39	2005-10-25 17:54	KFM06C_0392.00_200510251639.ht2	P, Q, Te	
KFM06C	397.00	402.00	3	1	2005-10-25 18:06	2005-10-25 19:21	KFM06C_0397.00_200510251806.ht2	P, Q, Te	
KFM06C	402.00	407.00	3	1	2005-10-25 19:39	2005-10-25 20:29	KFM06C_0402.00_200510251939.ht2	P, Q, Te	
KFM06C	407.00	412.00	3	1	2005-10-25 20:48	2005-10-25 22:19	KFM06C_0407.00_200510252048.ht2	P, Q, Te	
KFM06C	412.00	417.00	3	1	2005-10-25 22:33	2005-10-25 23:50	KFM06C_0412.00_200510252233.ht2	P, Q, Te	
KFM06C	417.00	422.00	3	1	2005-10-26 06:17	2005-10-26 07:37	KFM06C_0417.00_200510260617.ht2	P, Q, Te	
KFM06C	422.00	427.00	3	1	2005-10-26 07:53	2005-10-26 08:34	KFM06C_0422.00_200510260753.ht2	P, Q, Te	Interrupted <sup>2)</sup>
KFM06C	422.00	427.00	3	2	2005-10-26 08:48	2005-10-26 10:11	KFM06C_0422.00_200510260848.ht2	P, Q, Te	
KFM06C	426.00	431.00	3	1	2005-10-26 10:19	2005-10-26 11:45	KFM06C_0426.00_200510261019.ht2	P, Q, Te	
KFM06C	431.00	436.00	3	1	2005-10-26 12:33	2005-10-26 13:47	KFM06C_0431.00_200510261233.ht2	P, Q, Te	
KFM06C	436.00	441.00	3	1	2005-10-26 13:55	2005-10-26 14:42	KFM06C_0436.00_200510261355.ht2	P, Q, Te	
KFM06C	441.00	446.00	3	1	2005-10-26 15:02	2005-10-26 16:23	KFM06C_0441.00_200510261502.ht2	P, Q, Te	
KFM06C	446.00	451.00	3	1	2005-10-26 16:41	2005-10-26 18:03	KFM06C_0446.00_200510261641.ht2	P, Q, Te	
KFM06C	451.00	456.00	3	1	2005-10-26 18:16	2005-10-26 19:43	KFM06C_0451.00_200510261816.ht2	P, Q, Te	
KFM06C	458.00	463.00	3	1	2005-10-26 20:08	2005-10-26 20:52	KFM06C_0458.00_200510262008.ht2	P, Q, Te	
KFM06C	463.00	468.00	3	1	2005-10-26 21:06	2005-10-26 21:49	KFM06C_0463.00_200510262106.ht2	P, Q, Te	
KFM06C	524.00	529.00	3	1	2005-10-26 22:30	2005-10-26 23:51	KFM06C_0524.00_200510262230.ht2	P, Q, Te	
KFM06C	528.00	533.00	3	1	2005-10-27 06:23	2005-10-27 07:13	KFM06C_0528.00_200510270623.ht2	P, Q, Te	
KFM06C	534.00	539.00	3	1	2005-10-27 07:25	2005-10-27 08:39	KFM06C_0534.00_200510270725.ht2	P, Q, Te	
KFM06C	539.50	544.50	3	1	2005-10-27 08:50	2005-10-27 09:29	KFM06C_0539.50_200510270850.ht2	P, Q, Te	
KFM06C	635.50	640.50	3	1	2005-10-27 10:22	2005-10-27 11:02	KFM06C_0635.50_200510271022.ht2	P, Q, Te	
KFM06C	640.00	645.00	3	1	2005-10-27 11:10	2005-10-27 12:34	KFM06C_0640.00_200510271110.ht2	P, Q, Te	
KFM06C	642.50	647.50	3	1	2005-10-27 12:47	2005-10-27 13:28	KFM06C_0642.50_200510271247.ht2	P, Q, Te	
KFM06C	647.50	652.50	3	1	2005-10-27 13:38	2005-10-27 14:52	KFM06C_0647.50_200510271338.ht2	P, Q, Te	
KFM06C	651.00	656.00	3	1	2005-10-27 15:01	2005-10-27 16:20	KFM06C_0651.00_200510271501.ht2	P, Q, Te	
KFM06C	656.00	661.00	3	1	2005-10-27 16:34	2005-10-27 17:21	KFM06C_0656.00_200510271634.ht2	P, Q, Te	
KFM06C	661.00	666.00	3	1	2005-10-27 17:37	2005-10-27 18:58	KFM06C_0661.00_200510271737.ht2	P, Q, Te	
KFM06C	666.00	671.00	3	1	2005-10-27 19:12	2005-10-27 20:36	KFM06C_0666.00_200510271912.ht2	P, Q, Te	
KFM06C	671.00	676.00	3	1	2005-10-27 20:50	2005-10-27 22:14	KFM06C_0671.00_200510272050.ht2	P, Q, Te	
KFM06C	691.00	696.00	3	1	2005-10-27 22:29	2005-10-27 23:30	KFM06C_0691.00_200510272229.ht2	P, Q, Te	
KFM06C	696.00	701.00	3	1	2005-10-28 08:08	2005-10-28 09:25	KFM06C_0696.00_200510280808.ht2	P, Q, Te	
KFM06C	701.00	706.00	3	1	2005-10-28 09:40	2005-10-28 10:27	KFM06C_0701.00_200510280940.ht2	P, Q, Te	
KFM06C	706.00	711.00	3	1	2005-10-28 10:47	2005-10-28 11:32	KFM06C_0706.00_200510281047.ht2	P, Q, Te	
KFM06C	811.00	816.00	3	1	2005-10-28 15:01	2005-10-28 15:42	KFM06C_0811.00_200510281501.ht2	P, Q, Te	
KFM06C	816.00	821.00	3	1	2005-10-28 15:58	2005-10-28 17:12	KFM06C_0816.00_200510281558.ht2	P, Q, Te	

Bh id	Test section		Test type	Test no	Test start Date, time	Test stop Date, time	Data files of raw and primary data	Parameters in file	Comments
idcode	(m)	(m)	(1-6) <sup>1)</sup>		YYYYMMDD hh:mm	YYYYMMDD hh:mm	__Borehole id_secup_date and time of test start		
KFM06C	821.00	826.00	3	1	2005-10-31 06:17	2005-10-31 06:58	KFM06C_0821.00_200510310617.ht2	P, Q, Te	
KFM06C	826.00	831.00	3	1	2005-10-31 07:09	2005-10-31 07:48	KFM06C_0826.00_200510310709.ht2	P, Q, Te	
KFM06C	831.00	836.00	3	1	2005-10-31 07:59	2005-10-31 08:39	KFM06C_0831.00_200510310759.ht2	P, Q, Te	
KFM06C	836.00	841.00	3	1	2005-10-31 08:49	2005-10-31 09:31	KFM06C_0836.00_200510310849.ht2	P, Q, Te	
KFM06C	841.00	846.00	3	1	2005-10-31 09:40	2005-10-31 10:54	KFM06C_0841.00_200510310940.ht2	P, Q, Te	
KFM06C	846.00	851.00	3	1	2005-10-31 11:09	2005-10-31 13:05	KFM06C_0846.00_200510311109.ht2	P, Q, Te	
KFM06C	891.00	896.00	3	1	2005-10-31 13:34	2005-10-31 14:15	KFM06C_0891.00_200510311334.ht2	P, Q, Te	
KFM06C	896.00	901.00	3	1	2005-10-31 14:30	2005-10-31 15:12	KFM06C_0896.00_200510311430.ht2	P, Q, Te	
KFM06C	901.00	906.00	3	1	2005-10-31 15:31	2005-10-31 16:45	KFM06C_0901.00_200510311531.ht2	P, Q, Te	
KFM06C	906.00	911.00	3	1	2005-10-31 16:57	2005-10-31 17:46	KFM06C_0906.00_200510311657.ht2	P, Q, Te	
KFM06C	911.00	916.00	3	1	2005-10-31 17:57	2005-10-31 19:11	KFM06C_0911.00_200510311757.ht2	P, Q, Te	
KFM06C	915.00	920.00	3	1	2005-10-31 19:20	2005-10-31 20:33	KFM06C_0915.00_200510311920.ht2	P, Q, Te	
KFM06C	920.00	925.00	3	1	2005-10-31 20:46	2005-10-31 22:00	KFM06C_0920.00_200510312046.ht2	P, Q, Te	
KFM06C	925.00	930.00	3	1	2005-10-31 22:09	2005-10-31 23:26	KFM06C_0925.00_200510312209.ht2	P, Q, Te	
KFM06C	930.00	935.00	3	1	2005-11-01 06:04	2005-11-01 07:20	KFM06C_0930.00_200511010604.ht2	P, Q, Te	

<sup>1)</sup> 3: Injection test

<sup>2)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later.





Test section	Test section	Test start	Start of flow period	Stop of flow period	Test stop	Total flow time	Total recovery time
secup	seclow					t <sub>p</sub>	t <sub>F</sub>
(m)	(m)	YYYYMMDD hh:mm	YYYYMMDD hh:mm:ss	YYYYMMDD hh:mm:ss	YYYYMMDD hh:mm	(min)	(min)
642.50	647.50	2005-10-27 12:47:15	2005-10-27 13:17:40	2005-10-27 13:20:30	2005-10-27 13:28:00	3	5
647.50	652.50	2005-10-27 13:38:20	2005-10-27 14:09:56	2005-10-27 14:30:18	2005-10-27 14:52:12	20	20
651.00	656.00	2005-10-27 15:01:17	2005-10-27 15:38:12	2005-10-27 15:58:34	2005-10-27 16:20:48	20	20
656.00	661.00	2005-10-27 16:34:29	2005-10-27 17:11:16	2005-10-27 17:14:09	2005-10-27 17:21:39	3	5
661.00	666.00	2005-10-27 17:37:36	2005-10-27 18:15:29	2005-10-27 18:35:50	2005-10-27 18:58:05	20	20
666.00	671.00	2005-10-27 19:12:04	2005-10-27 19:54:15	2005-10-27 20:14:34	2005-10-27 20:36:51	20	20
671.00	676.00	2005-10-27 20:50:39	2005-10-27 21:31:47	2005-10-27 21:52:09	2005-10-27 22:14:23	20	20
691.00	696.00	2005-10-27 22:29:34	2005-10-27 23:02:52	2005-10-27 23:22:48	2005-10-27 23:30:18	20	5
696.00	701.00	2005-10-28 08:08:26	2005-10-28 08:42:47	2005-10-28 09:03:08	2005-10-28 09:25:23	20	20
701.00	706.00	2005-10-28 09:40:40	2005-10-28 10:12:38	2005-10-28 10:20:01	2005-10-28 10:27:31	7	5
706.00	711.00	2005-10-28 10:47:43	2005-10-28 11:21:59	2005-10-28 11:24:46	2005-10-28 11:32:16	3	5
811.00	816.00	2005-10-28 15:01:26	2005-10-28 15:32:39	2005-10-28 15:35:09	2005-10-28 15:42:39	3	5
816.00	821.00	2005-10-28 15:58:45	2005-10-28 16:30:13	2005-10-28 16:50:43	2005-10-28 17:12:45	21	20
821.00	826.00	2005-10-31 06:17:08	2005-10-31 06:48:42	2005-10-31 06:51:07	2005-10-31 06:58:37	2	5
826.00	831.00	2005-10-31 07:09:23	2005-10-31 07:40:19	2005-10-31 07:41:26	2005-10-31 07:48:56	1	5
831.00	836.00	2005-10-31 07:59:27	2005-10-31 08:30:43	2005-10-31 08:32:04	2005-10-31 08:39:34	1	5
836.00	841.00	2005-10-31 08:49:31	2005-10-31 09:20:23	2005-10-31 09:23:51	2005-10-31 09:31:21	3	5
841.00	846.00	2005-10-31 09:40:54	2005-10-31 10:11:44	2005-10-31 10:32:14	2005-10-31 10:54:16	21	20
846.00	851.00	2005-10-31 11:09:56	2005-10-31 12:22:39	2005-10-31 12:43:09	2005-10-31 13:05:11	21	20
891.00	896.00	2005-10-31 13:34:53	2005-10-31 14:05:48	2005-10-31 14:07:37	2005-10-31 14:15:07	2	5
896.00	901.00	2005-10-31 14:30:03	2005-10-31 15:03:40	2005-10-31 15:05:00	2005-10-31 15:12:31	1	5
901.00	906.00	2005-10-31 15:31:06	2005-10-31 16:03:23	2005-10-31 16:23:53	2005-10-31 16:45:55	21	20
906.00	911.00	2005-10-31 16:57:36	2005-10-31 17:30:08	2005-10-31 17:38:36	2005-10-31 17:46:07	8	5
911.00	916.00	2005-10-31 17:57:20	2005-10-31 18:29:16	2005-10-31 18:49:45	2005-10-31 19:11:48	20	20
915.00	920.00	2005-10-31 19:20:26	2005-10-31 19:51:26	2005-10-31 20:11:58	2005-10-31 20:33:58	21	20
920.00	925.00	2005-10-31 20:46:46	2005-10-31 21:18:04	2005-10-31 21:38:34	2005-10-31 22:00:36	21	20
925.00	930.00	2005-10-31 22:09:58	2005-10-31 22:43:41	2005-10-31 23:04:11	2005-10-31 23:26:12	21	20
930.00	935.00	2005-11-01 06:04:59	2005-11-01 07:00:39	2005-11-01 07:13:17	2005-11-01 07:20:47	13	5
404.50 <sup>1)</sup>	504.50	2005-10-03 09:27:25	2005-10-03 10:19:16	2005-10-03 10:29:16	2005-10-03 10:32:00	10	1
164.50 <sup>1)</sup>	184.50	2005-10-06 15:38:58	2005-10-06 16:26:05	2005-10-06 16:32:38	2005-10-06 16:35:11	7	0
164.50 <sup>1)</sup>	184.50	2005-10-14 11:02:55	2005-10-14 13:05:31	2005-10-14 13:25:51	2005-10-14 13:48:00	20	20
184.50 <sup>1)</sup>	189.50	2005-10-19 10:33:21	2005-10-19 11:04:34	2005-10-19 11:24:57	2005-10-19 11:47:09	20	20
219.50 <sup>1)</sup>	224.50	2005-10-19 21:49:45	2005-10-19 22:27:25	2005-10-19 22:37:24	2005-10-19 22:40:03	10	1
279.50 <sup>1)</sup>	279.50	2005-10-20 22:06:11	2005-10-20 22:18:00	2005-10-20 22:18:30	2005-10-20 22:21:07	1	1
289.50 <sup>1)</sup>	294.50	2005-10-21 08:31:12	2005-10-21 09:07:18	2005-10-21 09:27:39	2005-10-21 09:49:53	20	20
422.00 <sup>1)</sup>	427.00	2005-10-26 07:53:04	2005-10-26 08:25:00	2005-10-26 08:30:45	2005-10-26 08:34:24	6	2

<sup>1)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later.

## Appendix 2.2 Pressure and flow data

### Summary of pressure and flow data for all tests in KFM06C

Test section		Pressure			Flow		
secup	seclo	p <sub>i</sub>	p <sub>p</sub>	p <sub>F</sub>	Q <sub>p</sub> <sup>1)</sup>	Q <sub>m</sub> <sup>2)</sup>	V <sub>p</sub> <sup>2)</sup>
(m)	(m)	(kPa)	(kPa)	(kPa)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m <sup>3</sup> )
104.50	204.50	922.83	935.78	924.21	0.000137	0.000178	3.23E-01
204.50	304.50	1761.8	1956.87	1787.16	2.71E-05	3.45E-05	6.27E-02
304.50	404.50	2535.48	2645.28	2540.44	0.00021	0.000259	4.70E-01
404.50	504.50	3312.74	3517.93	3415.51	1.55E-06	3.05E-06	5.57E-03
504.50	604.50	4074.02	4282.32	4102.67	2.7E-05	3.45E-05	6.28E-02
604.50	704.50	4824.82	5067.28	4875.8	1.66E-06	2.35E-06	4.27E-03
691.00	791.00	5474.79	5672.6	5510.61	1.31E-07	1.73E-07	3.16E-04
791.00	891.00	6205.48	6429.7	6250.12	9.28E-08	1.36E-07	2.49E-04
891.00	991.00	6925.16	7123.5	6980.81	2.4E-07	3.48E-07	7.59E-04
104.50	124.50	941.42	1104.12	945.41	1.76E-05	1.86E-05	2.26E-02
124.50	144.50	1107.97	1206.48	1132.78	0.000351	0.000416	5.04E-01
144.50	164.50	1276.05	1326.7	1289.82	0.000313	0.00043	5.20E-01
164.50	184.50	1441.09	1532.3	1442.46	0.000339	0.00038	4.56E-01
184.50	204.50	1605.58	1827.64	1633.13	4.27E-06	5.83E-06	7.11E-03
204.50	224.50	1769.24	1972.6	1775.85	3.3E-05	3.68E-05	4.48E-02
224.50	244.50	1934.01	2132.39	1940.06	6.21E-06	7.93E-06	9.68E-03
244.50	264.50	2096.01	2295.6	2098.21	1.53E-06	1.65E-06	2.02E-03
264.50	284.50	2262.98	2463.5	2380.9	9.95E-08	1.67E-07	2.04E-04
284.50	304.50	2420.58	2586.72	2467.97	7.06E-06	1.07E-05	1.30E-02
304.50	324.50	2581.76	2713.05	2631.08	5.35E-05	8.95E-05	1.09E-01
324.50	344.50	2742.67	2949.45	2857.56	7.58E-07	1.97E-06	2.40E-03
344.50	364.50	2900.5	3127.6	3084.05	3.05E-05	5.87E-05	7.17E-02
364.50	384.50	3067.52	3305.85	3194.26	2.74E-08	6.29E-08	7.67E-05
384.50	404.50	3217.4	3407.51	3217.96	6.83E-05	7.02E-05	8.54E-02
387.00	407.00	3236.69	3437.13	3238.89	6.75E-05	6.88E-05	8.38E-02
407.00	427.00	3394.29	3603.97	3498.43	1.89E-06	3.56E-06	4.34E-03
427.00	447.00	3556.85	3792.13	3675.32	7.52E-09	2.32E-08	2.80E-05
447.00	467.00	3706.19	3923.3	3850.57	5.82E-08	1.67E-07	2.04E-04
467.00	487.00	3864.06	4078.14	4004.85			
487.00	507.00	4025.24	4229.41	4230.79			
504.50	524.50	4161.63	4366.34	4348.15			
524.50	544.50	4299.66	4537.72	4339.34	3.19E-05	4.06E-05	4.96E-02
544.50	564.50	4487.85	4664.19	4661.16			
564.50	584.50	4613.77	4817.65	4818.21			
584.50	604.50	4764.34	4968.65	4883.78	8.82E-09	3.09E-08	3.73E-05
604.50	624.50	4936.54	5118.66	5105.86			
624.50	644.50	5079.82	5268.28	5256.85			
636.00	656.00	5143.88	5349.5	5213.3	5.9E-07	1.05E-06	1.28E-03
656.00	676.00	5294.87	5515.83	5314.16	1.13E-06	1.27E-06	1.55E-03
676.00	696.00	5451.5	5667.93	5519.7	2.49E-08	4.5E-08	5.50E-05
691.00	711.00	5557.72	5777.1	5583.62	1.29E-07	1.61E-07	1.96E-04
711.00	731.00	5731.85	5925.82	5939.05			
731.00	751.00	5874.3	6075.2	5977.62	9.75E-09	2.68E-08	3.23E-05
751.00	771.00	6028.32	6225.73	6220.09			
771.00	791.00	6160.57	6376.58	6355.64	6.03E-09	3.26E-08	3.91E-05
791.00	811.00	6324.51	6527.02	6517.65			
811.00	831.00	6462.96	6672.63	6479.63	4.62E-08	6.36E-08	7.85E-05
831.00	851.00	6602.51	6821.21	6665.34	5.16E-08	7.44E-08	9.19E-05
851.00	871.00	6753.23	6973.37	6912.2			
871.00	891.00	6916.61	7117.19	7117.19			
891.00	911.00	7038.95	7257.3	7087.44	7.09E-08	1.03E-07	1.27E-04
911.00	931.00	7180.7	7395.89	7241.18	2.42E-07	3.41E-07	4.20E-04
931.00	951.00	7336.24	7546.19	7512.3			
951.00	971.00	7516.29	7690.83	7706.27			
971.00	991.00	7642.48	7833.01	7844.03			
124.50	129.50	1101.54	1292.5	1109.81	2.13E-05	2.24E-05	2.73E-02
129.50	134.50	1145.28	1353.09	1150.66	4.31E-07	5.13E-07	6.27E-04
134.50	139.50	1185.44	1394.62	1192.05	1.05E-06	1.25E-06	1.53E-03
139.50	144.50	1226.83	1324.94	1252.77	0.00034	0.00041	4.99E-01
141.50	146.50	1247.8	1284.23	1263.25	0.000142	0.000271	3.24E-01
146.50	151.50	1286.99	1487.5	1288.65	0.00015	0.000155	1.89E-01
151.50	156.50	1327.56	1544.9	1327.84	6.55E-05	6.89E-05	8.40E-02
153.50	158.50	1343.84	1544.9	1343.84	5.84E-05	6E-05	7.33E-02





Test section		Pressure			Flow		
secup	seclo	p <sub>i</sub>	p <sub>p</sub>	p <sub>F</sub>	Q <sub>p</sub> <sup>1)</sup>	Q <sub>m</sub> <sup>2)</sup>	V <sub>p</sub> <sup>2)</sup>
(m)	(m)	(kPa)	(kPa)	(kPa)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m <sup>3</sup> )
691.00	696.00	5593.82	5807.02	5745.75			
696.00	701.00	5605.14	5843.45	5630.95	1.3E-07	1.58E-07	1.93E-04
701.00	706.00	5716.92	5880.71	5814.2			
706.00	711.00	5838.9	5917.96	6014.01			
811.00	816.00	6519.89	6704.1	6707.27			
816.00	821.00	6500.29	6741.49	6514.64	5.99E-08	7.52E-08	9.26E-05
821.00	826.00	6559.9	6754.6	6771.85			
826.00	831.00	6606.13	6794.07	6818.22			
831.00	836.00	6634.69	6831.74	6850.79			
836.00	841.00	6697.89	6869.56	6854.64			
841.00	846.00	6702.3	6905.56	6712.79	2.34E-08	3.56E-08	4.40E-05
846.00	851.00	6723.14	6942.41	6814.36	2.25E-08	4.39E-08	5.40E-05
891.00	896.00	7087.17	7272.49	7307.81			
896.00	901.00	7123.04	7466.36	7483.89			
901.00	906.00	7131.73	7344.79	7166.51	6.88E-08	9.4E-08	1.16E-04
906.00	911.00	7210.11	7381.77	7384.53			
911.00	916.00	7205.7	7417.65	7330.99	1.57E-08	3.53E-08	4.24E-05
915.00	920.00	7266.97	7446.35	7377.91	1.15E-08	2.53E-08	3.04E-05
920.00	925.00	7267.1	7481.68	7278.55	6.36E-08	7.44E-08	9.15E-05
925.00	930.00	7298.42	7512.45	7350.87	2.16E-07	2.89E-07	3.56E-04
930.00	935.00	7370.05	7552.88	7537.98			
404.50 <sup>3)</sup>	504.50	3313.01	3381.76	3377.48	3.62E-07	2.63E-06	1.58E-03
164.50 <sup>3)</sup>	184.50	1442.33	1446.87	1446.32	2.18E-07	0.000153	6.02E-02
164.50 <sup>3)</sup>	184.50	1440.26	1458.3	1439.16	8.71E-05	0.000105	1.29E-01
184.50 <sup>3)</sup>	189.50	1600.92	1804.18	1606.02	3.51E-07	4.22E-07	5.16E-04
219.50 <sup>3)</sup>	224.50	1886.97	1912.22	1898.02	3.73E-07	9.81E-06	5.88E-03
279.50 <sup>3)</sup>	279.50	2412	2422	2422	-	-	-
289.50 <sup>3)</sup>	294.50	2456.46	2684.97	2626.61	1.37E-06	1.29E-05	1.58E-02
422.00 <sup>3)</sup>	427.00	3517.07	3755.24	3653.25	3.36E-06	5.32E-06	1.84E-03

<sup>1)</sup> No value indicates a flow below measurement limit (measurement limit is unique for each test but nominally 1.67 E-8 m<sup>3</sup>/s).

<sup>2)</sup> No value indicates that the parameter could not be calculated due to low and uncertain flow rates during a major part of flow period

<sup>3)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later.

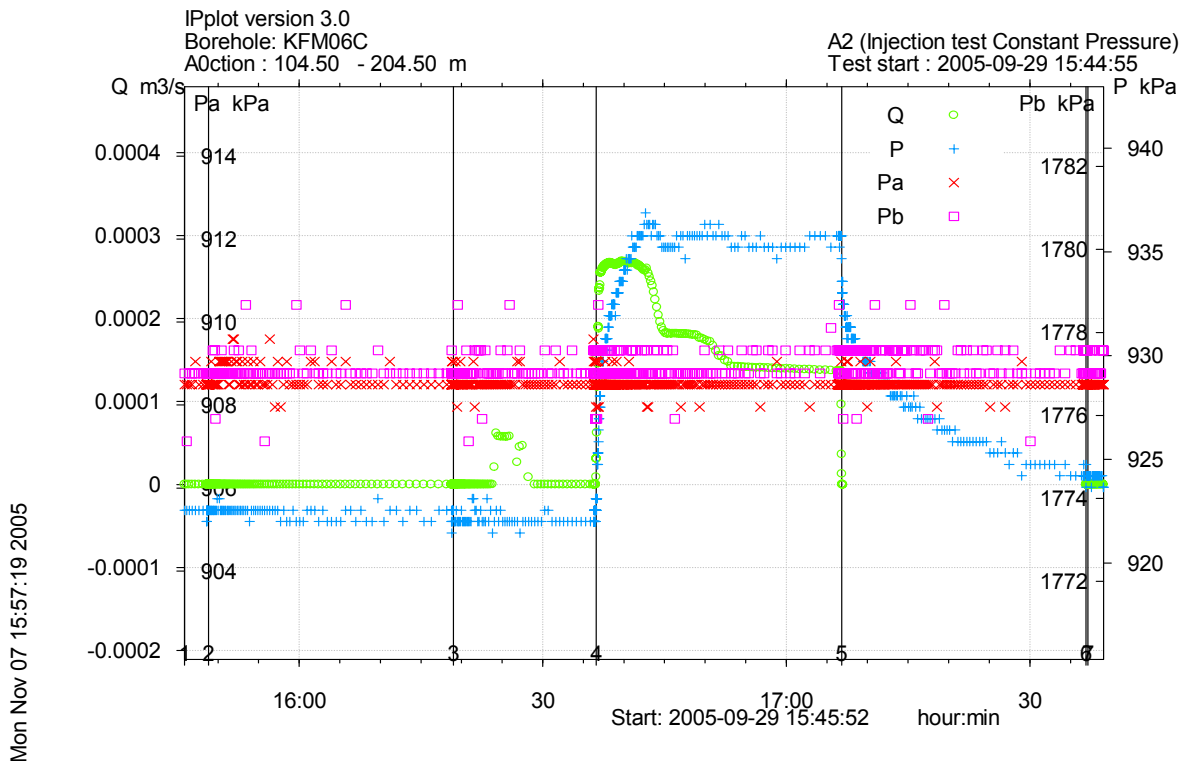
p<sub>i</sub> Pressure in test section before start of flow period  
p<sub>p</sub> Pressure in test section before stop of flow period  
p<sub>F</sub> Pressure in test section at the end of recovery period  
Q<sub>p</sub> Flow rate just before stop of flow period  
Q<sub>m</sub> Mean (arithmetic) flow rate during flow period  
V<sub>p</sub> Total volume injected during the flow period

### Appendix 3. Test diagrams – Injection Tests

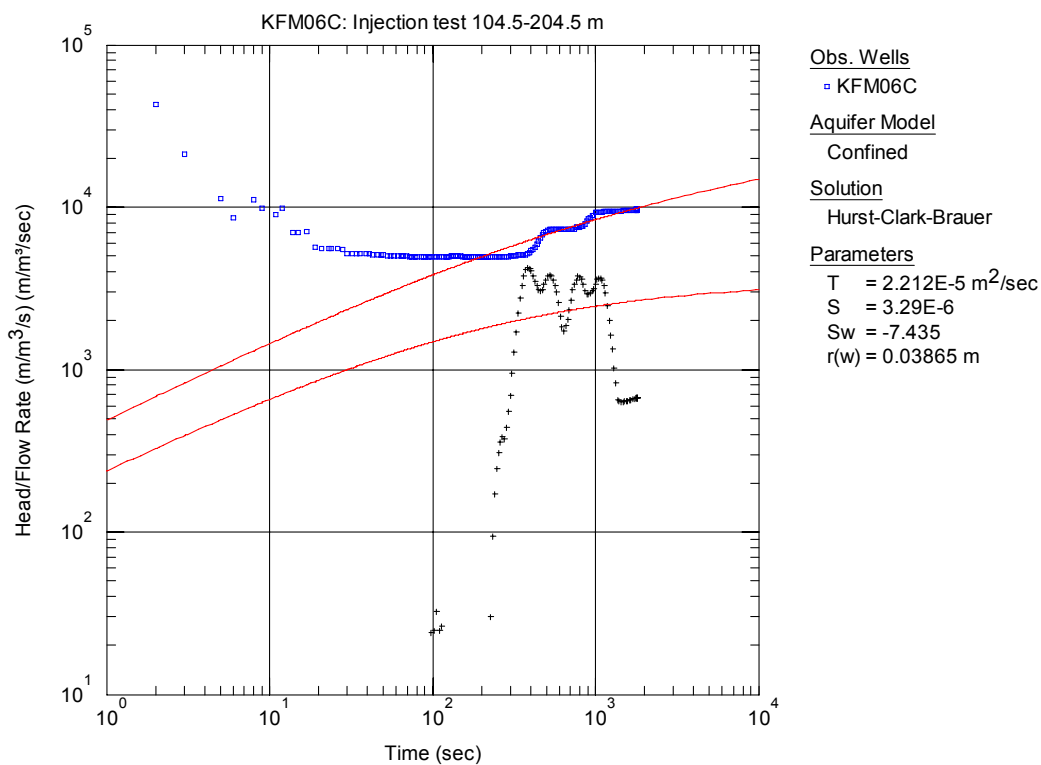
In the following pages diagrams are presented for all test sections. A linear diagram of pressure and flow rate is presented for each test. For most tests are log-log and lin-log diagrams presented, from injection and recovery period respectively.

Nomenclature for Aqtesolv:

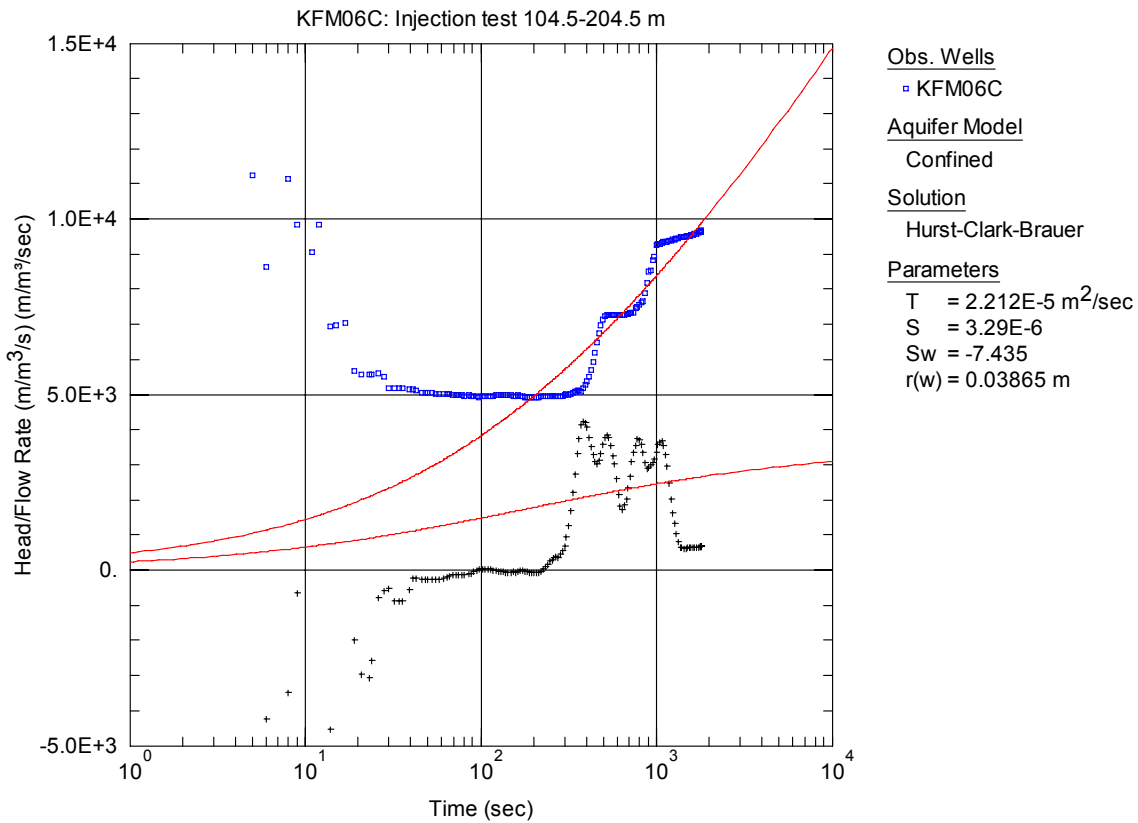
T	=	transmissivity ( $m^2/s$ )
S	=	storativity (-)
$K_z/K_r$	=	ratio of hydraulic conductivities in the vertical and radial direction (set to 1)
Sw	=	skin factor
r(w)	=	borehole radius (m)
r(c)	=	effective casing radius (m)
C	=	well loss constant (set to 0)
r/B	=	leakage factor (-)



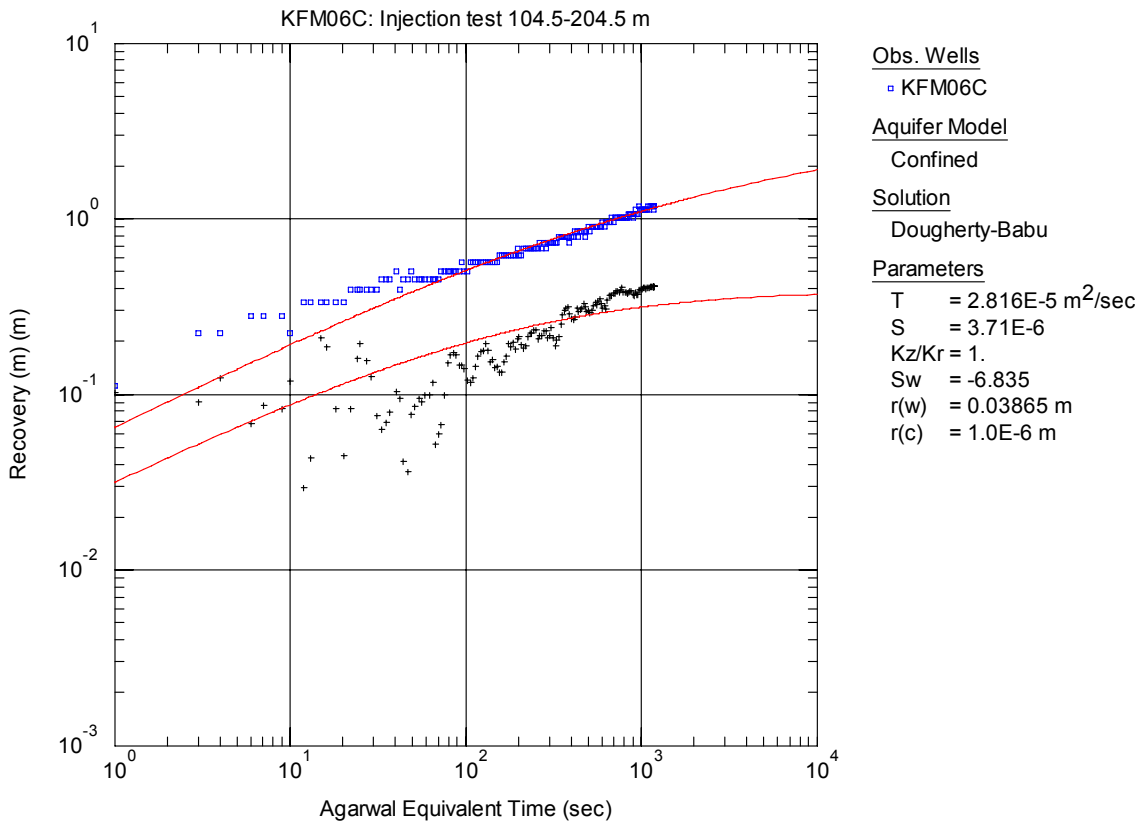
**Figure A3-1.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 104.5-204.5 m in borehole KFM06C.



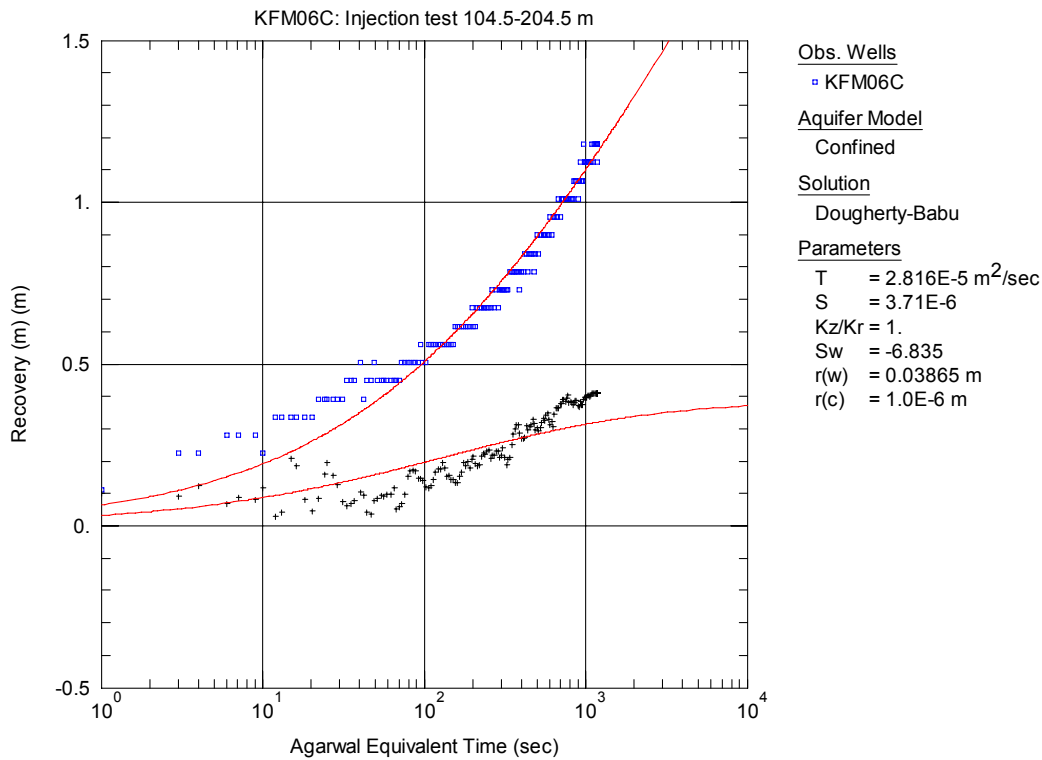
**Figure A3-2.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 104.5-204.5 m in KFM06C.



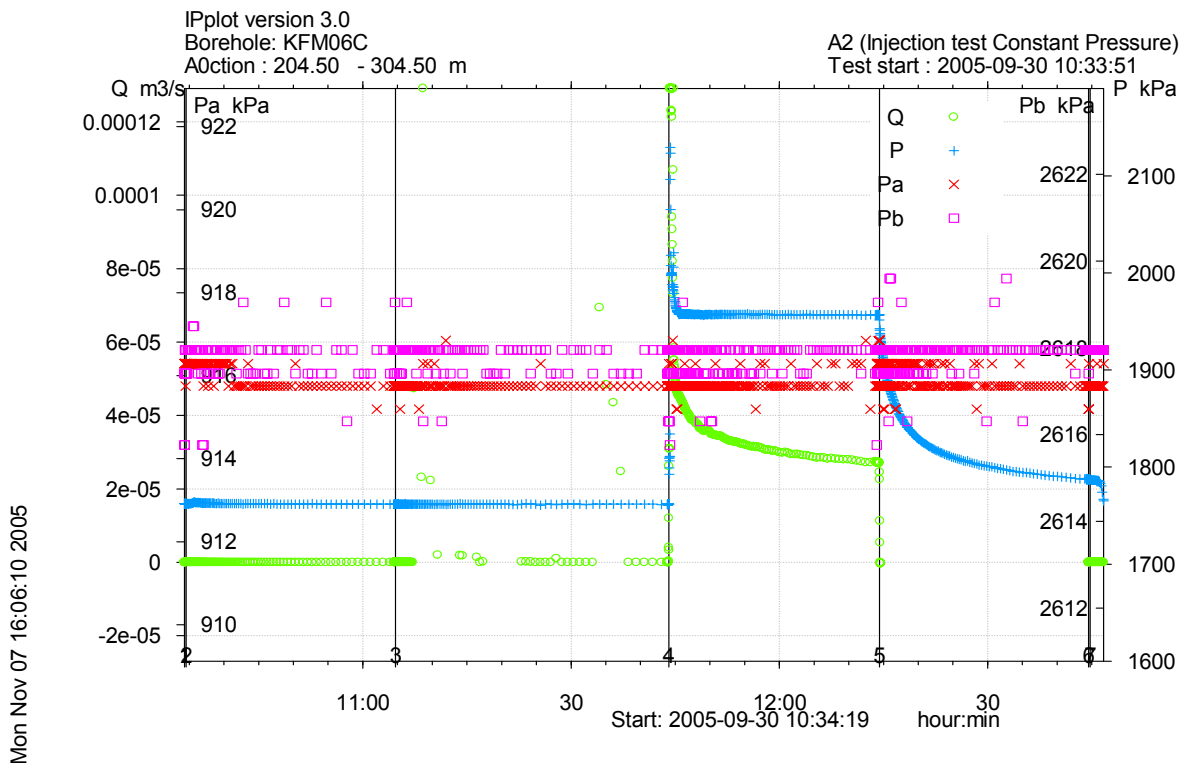
**Figure A3-3.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 104.5-204.5 m in KFM06C.



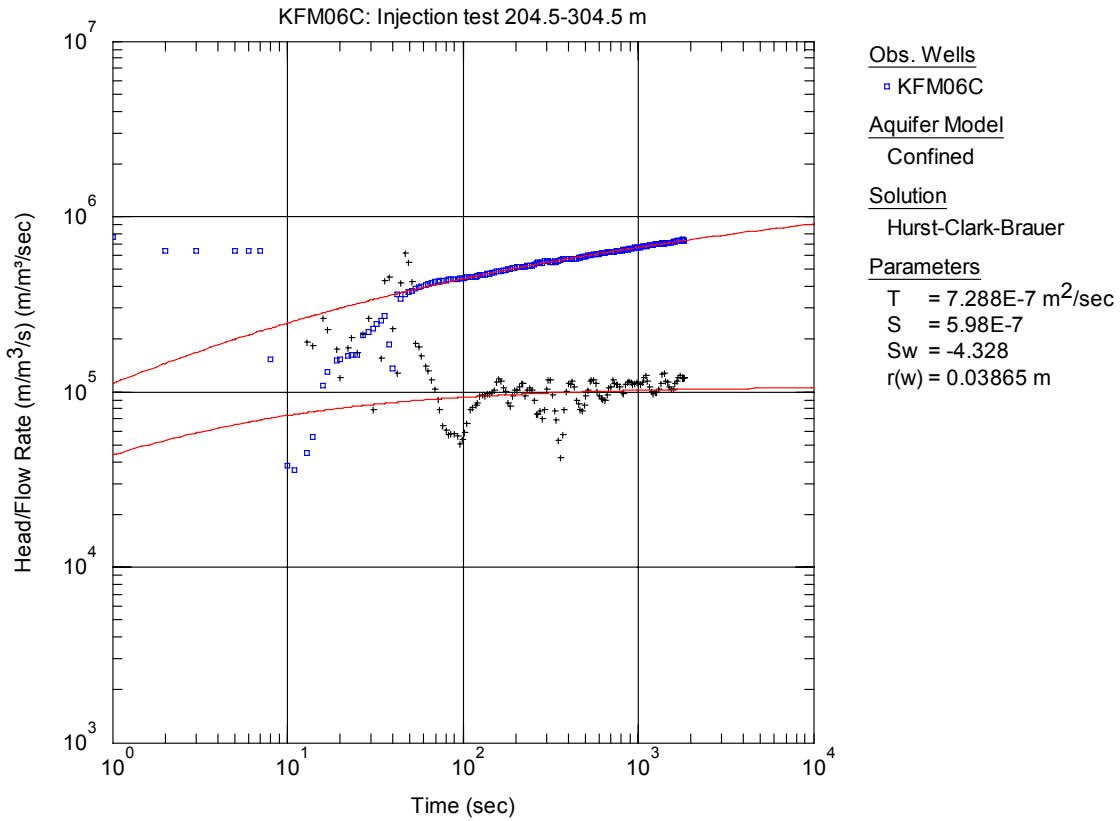
**Figure A3-4.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 104.5-204.5 m in KFM06C.



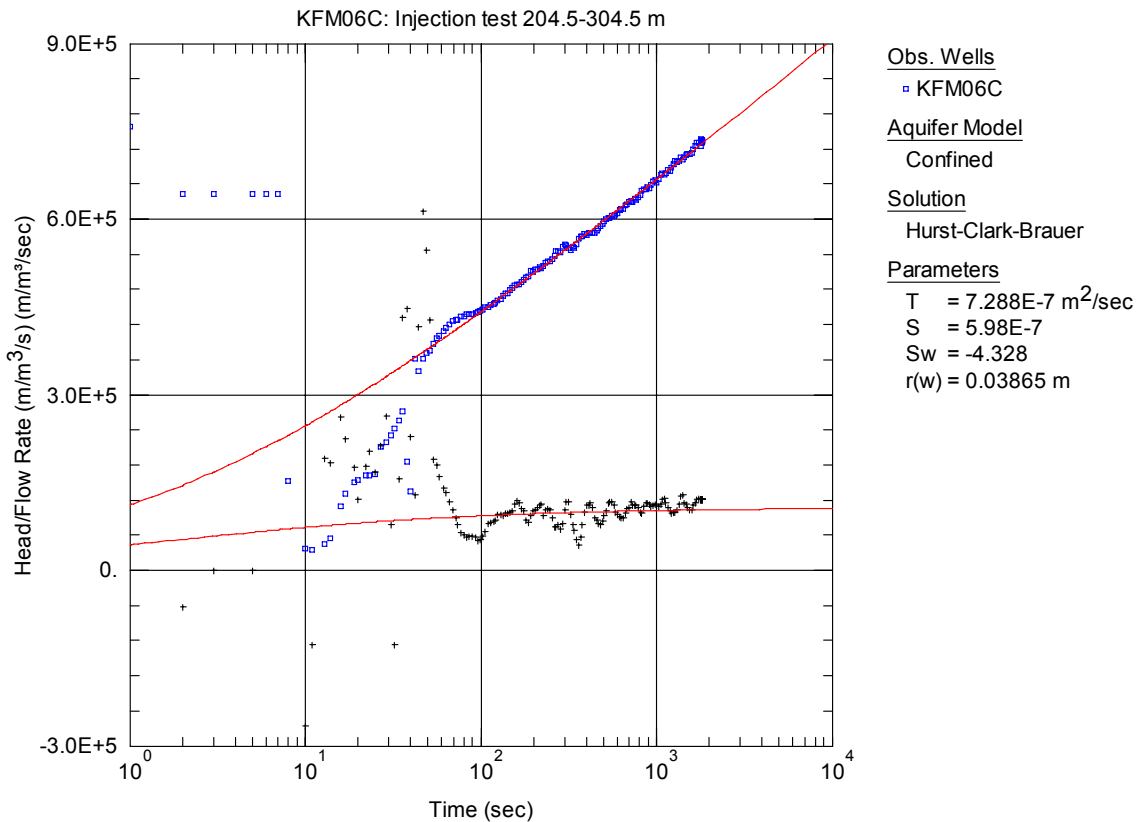
**Figure A3-5.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 104.5-204.5 m in KFM06C.



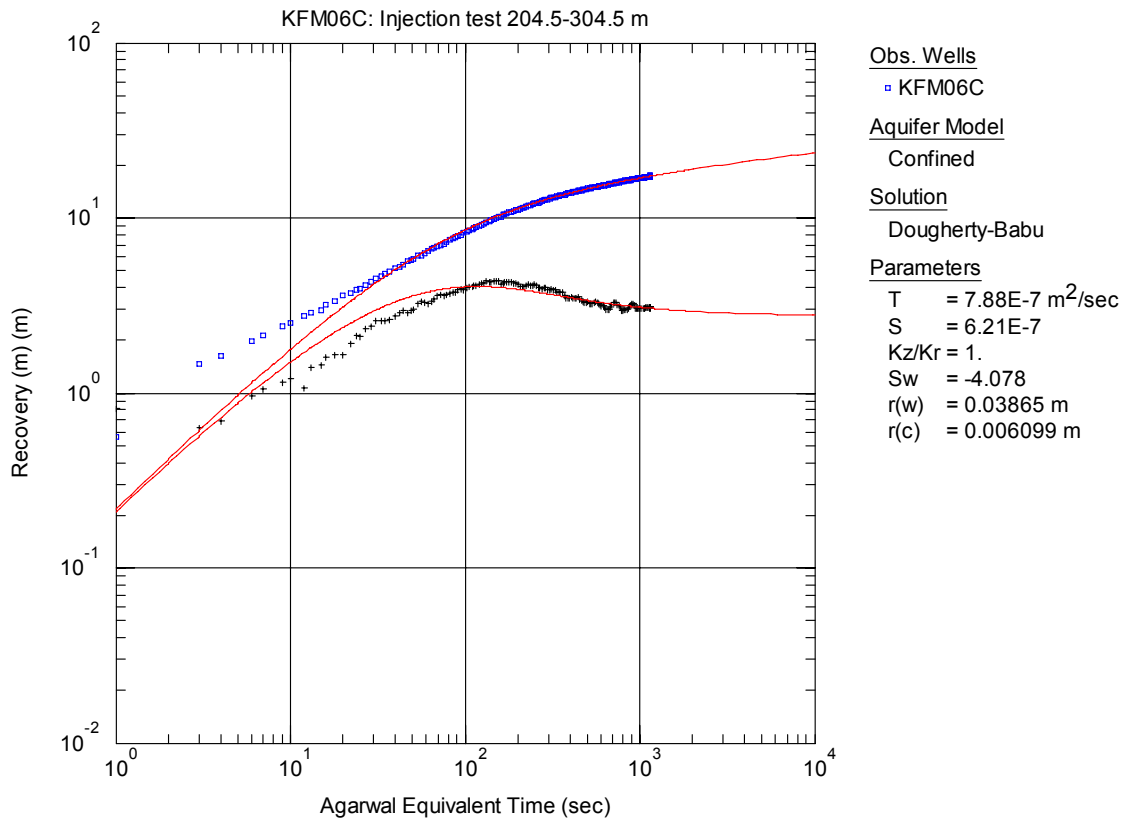
**Figure A3-6.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 204.5-304.5 m in borehole KFM06C.



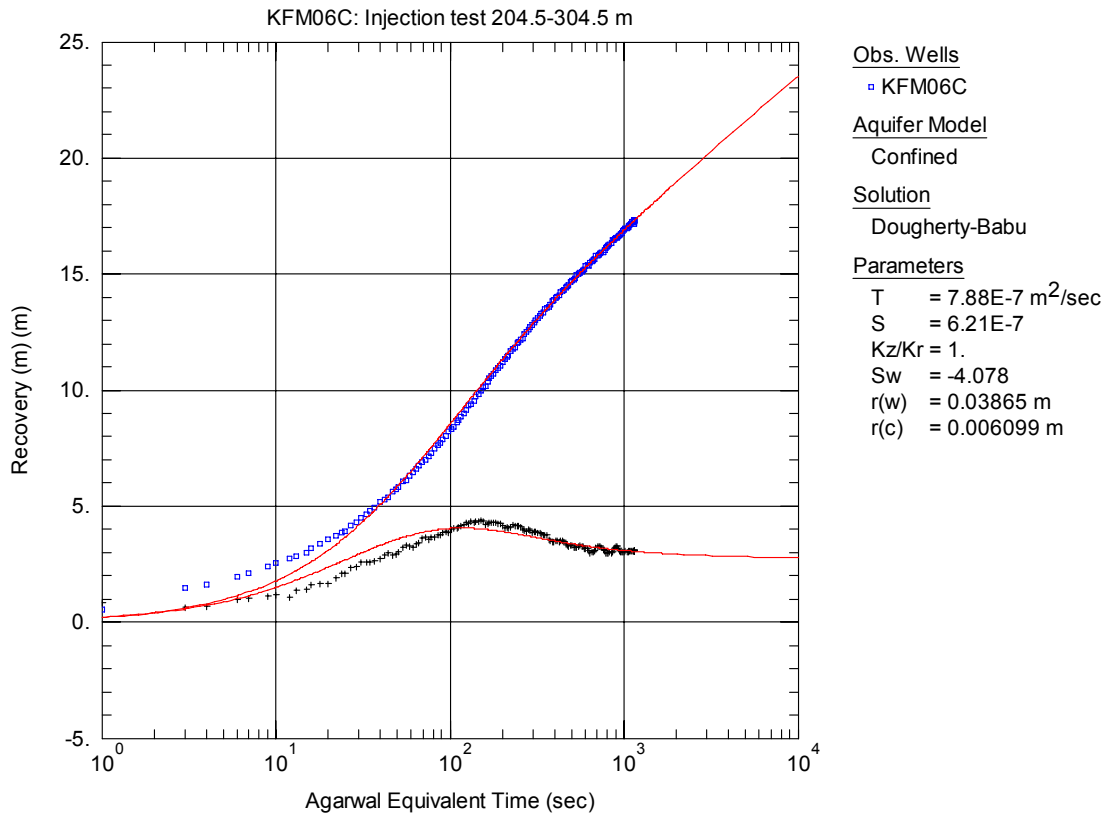
**Figure A3-7.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 204.5-304.5 m in KFM06C.



**Figure A3-8.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 204.5-304.5 m in KFM06C.

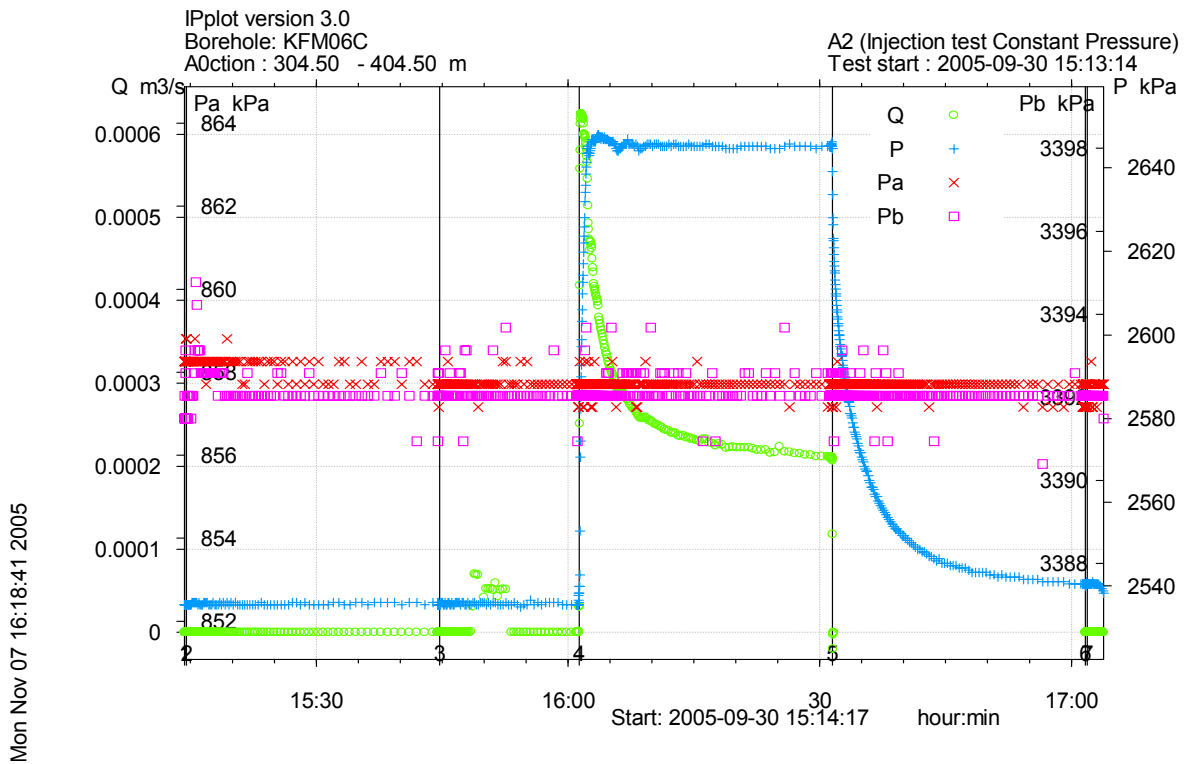


**Figure A3-9.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 204.5-304.5 m in KFM06C.

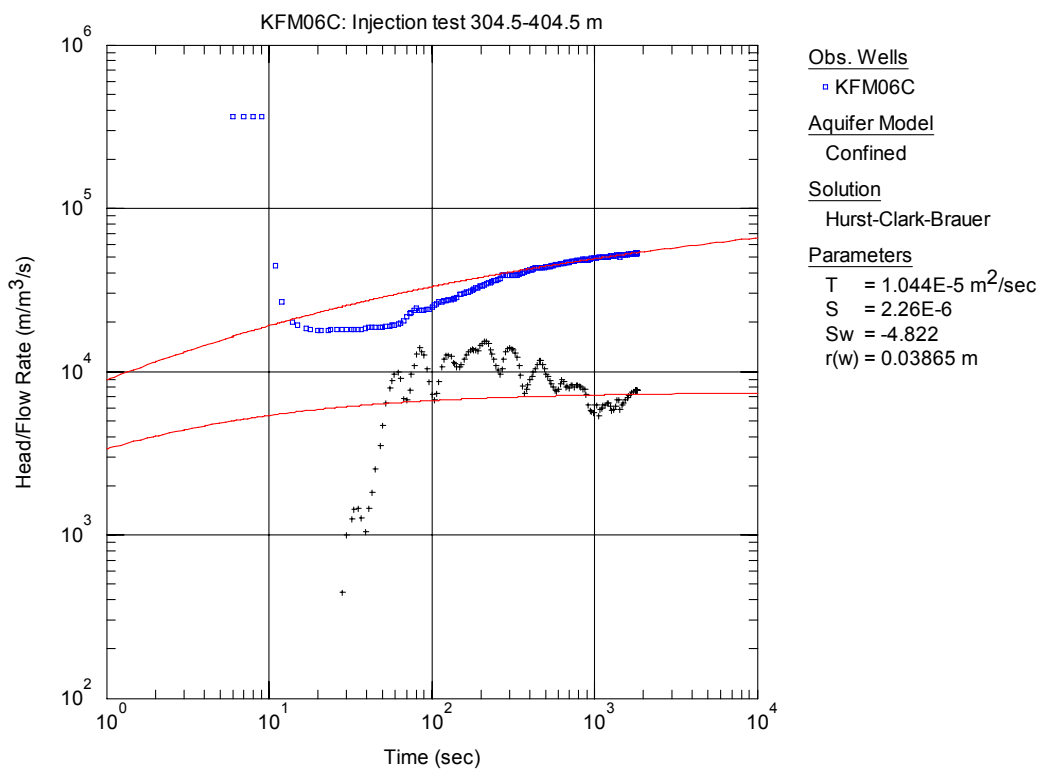


**Figure A3-10.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 204.5-304.5 m in KFM06C.

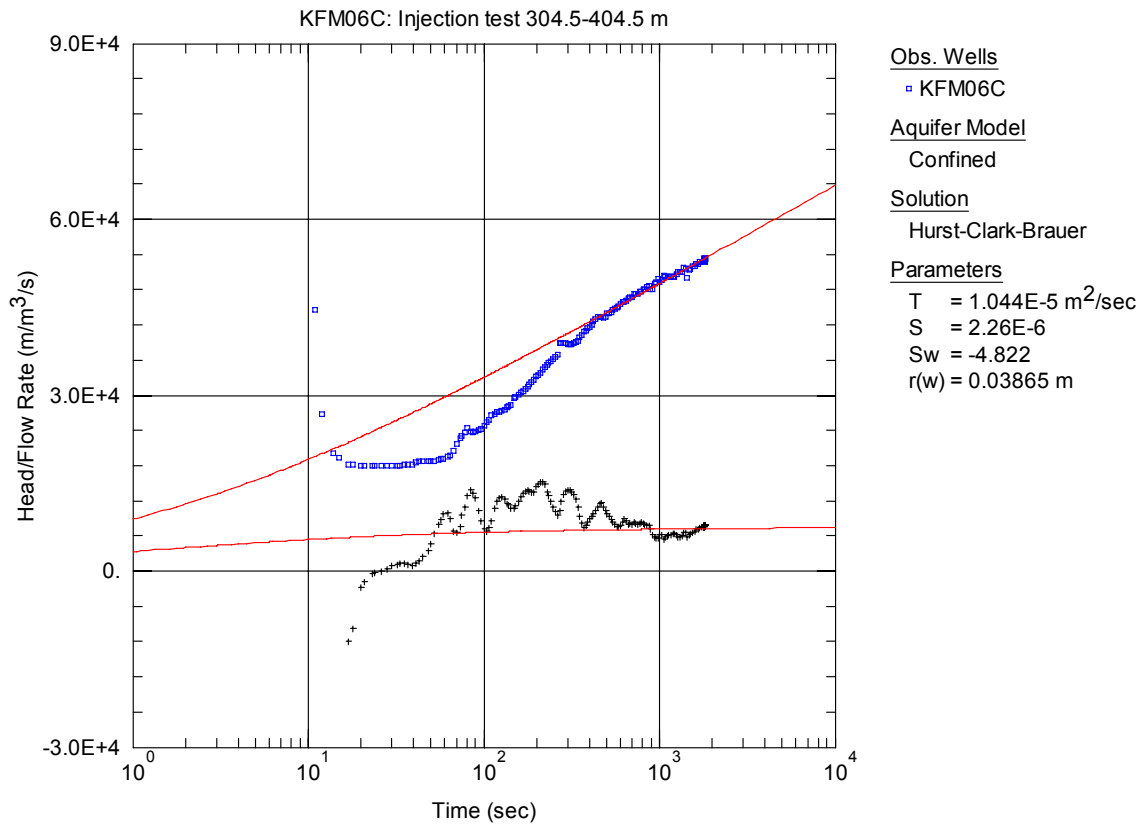




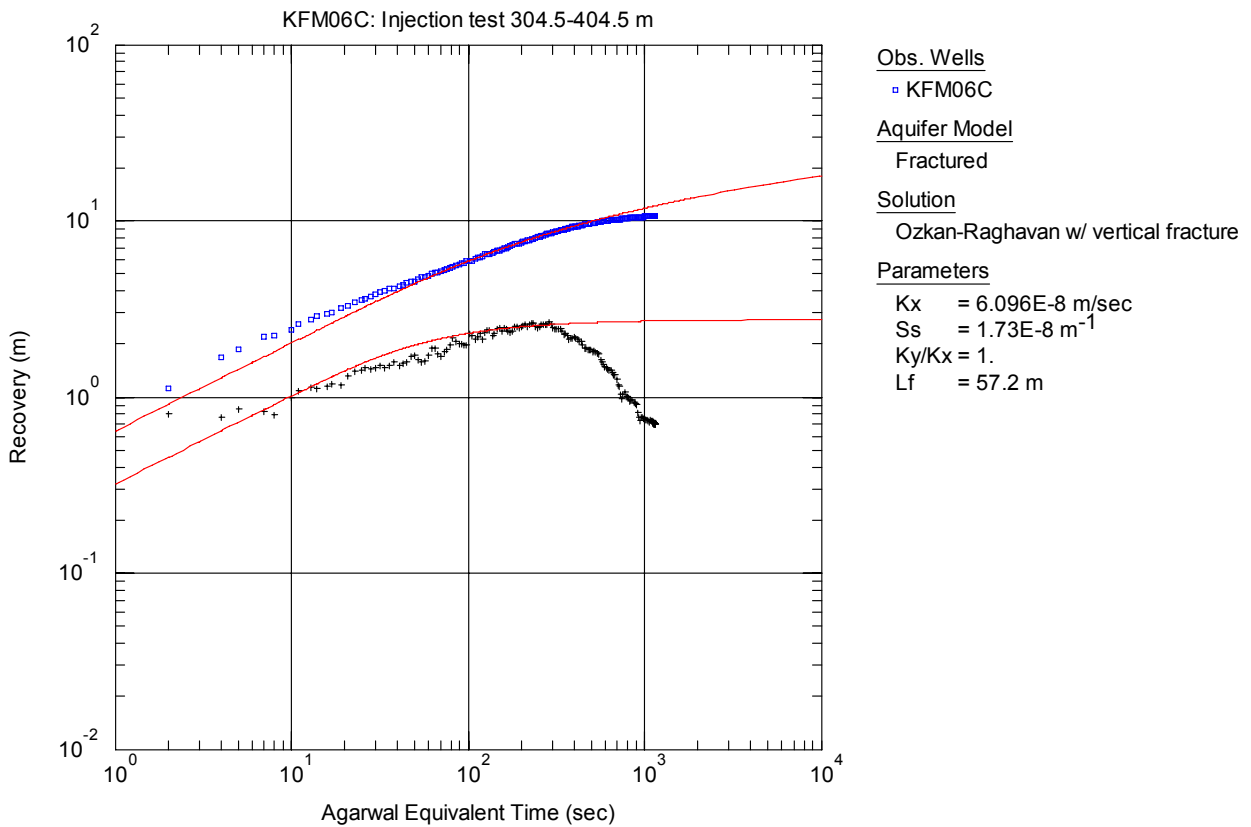
**Figure A3-11.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 304.5-404.5 m in borehole KFM06C.



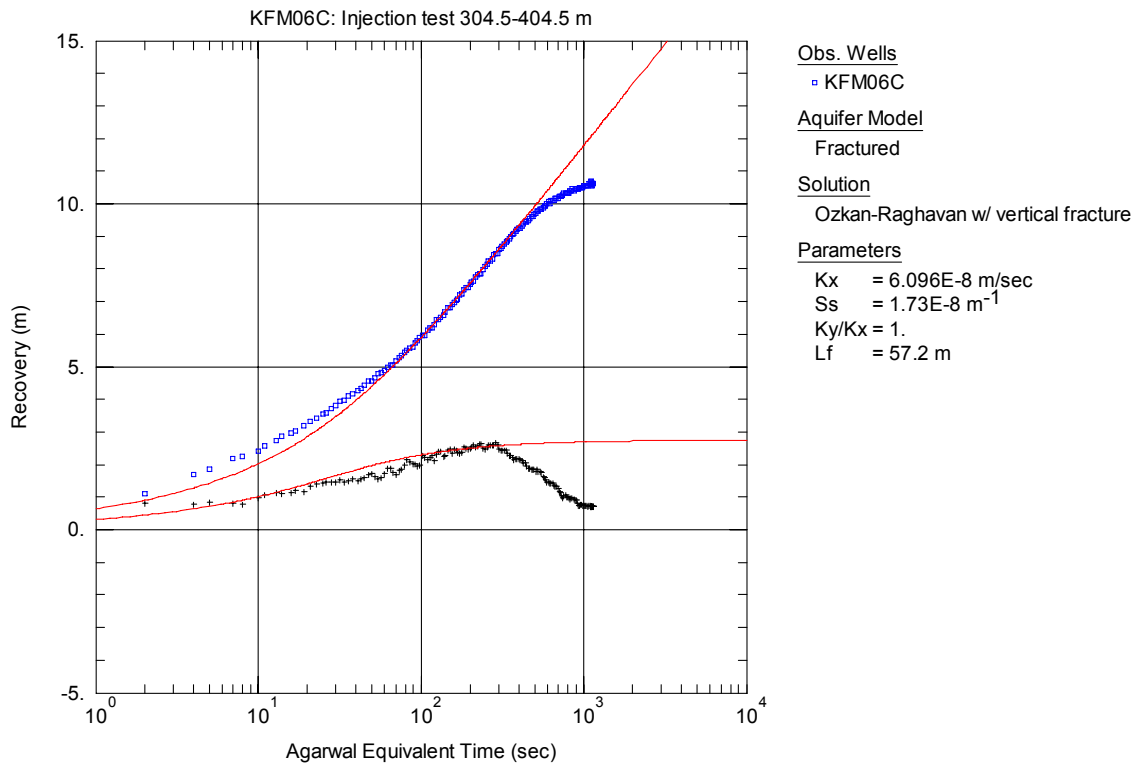
**Figure A3-12.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 304.5-404.5 m in KFM06C.



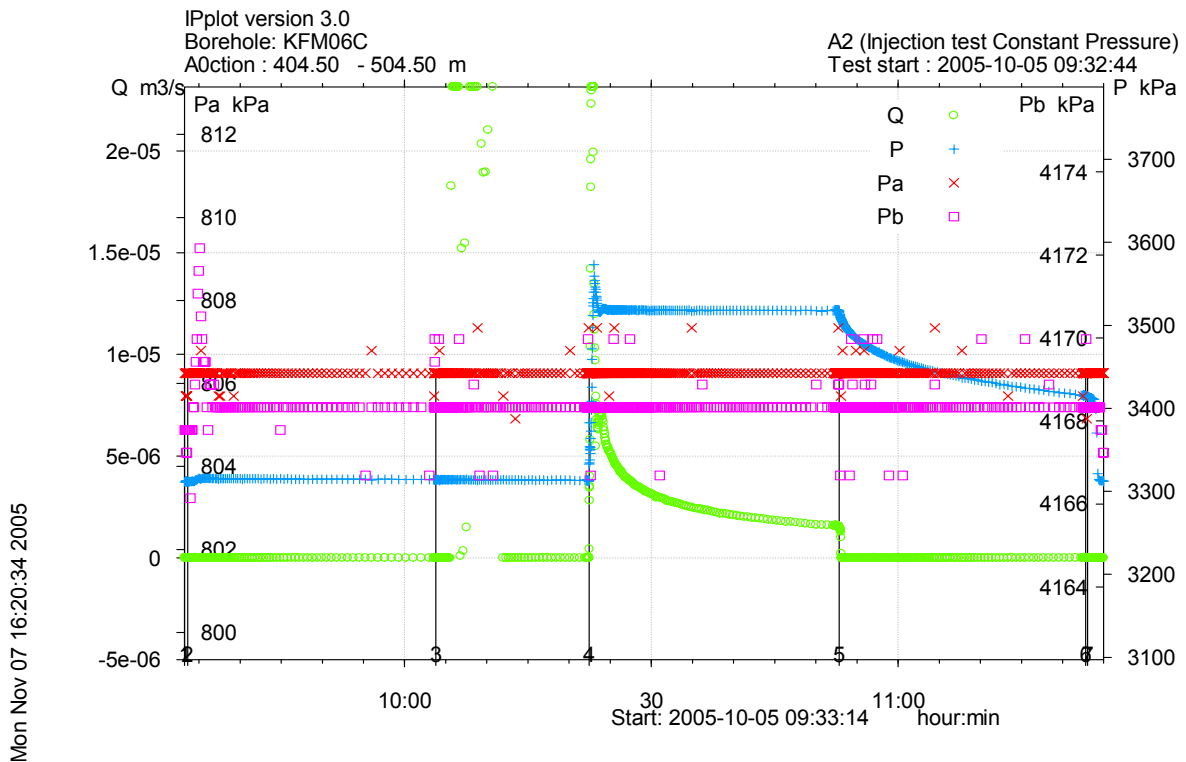
**Figure A3-13.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 304.5-404.5 m in KFM06C.



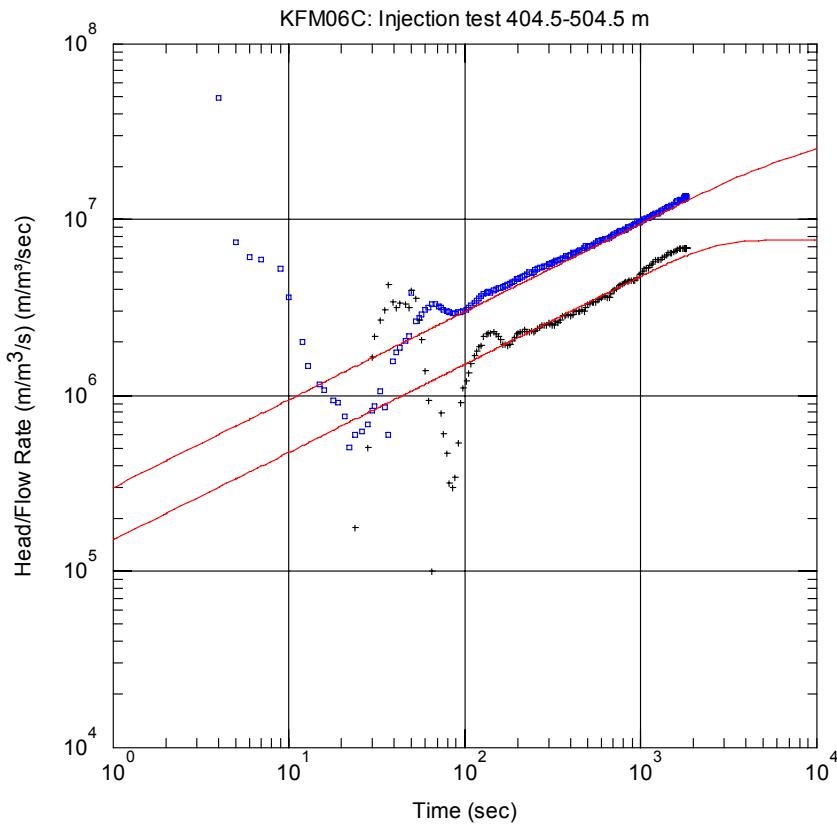
**Figure A3-14.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 304.5-404.5 m in KFM06C.



**Figure A3-15.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 304.5-404.5 m in KFM06C.



**Figure A3-16.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 404.5-504.5 m in borehole KFM06C.



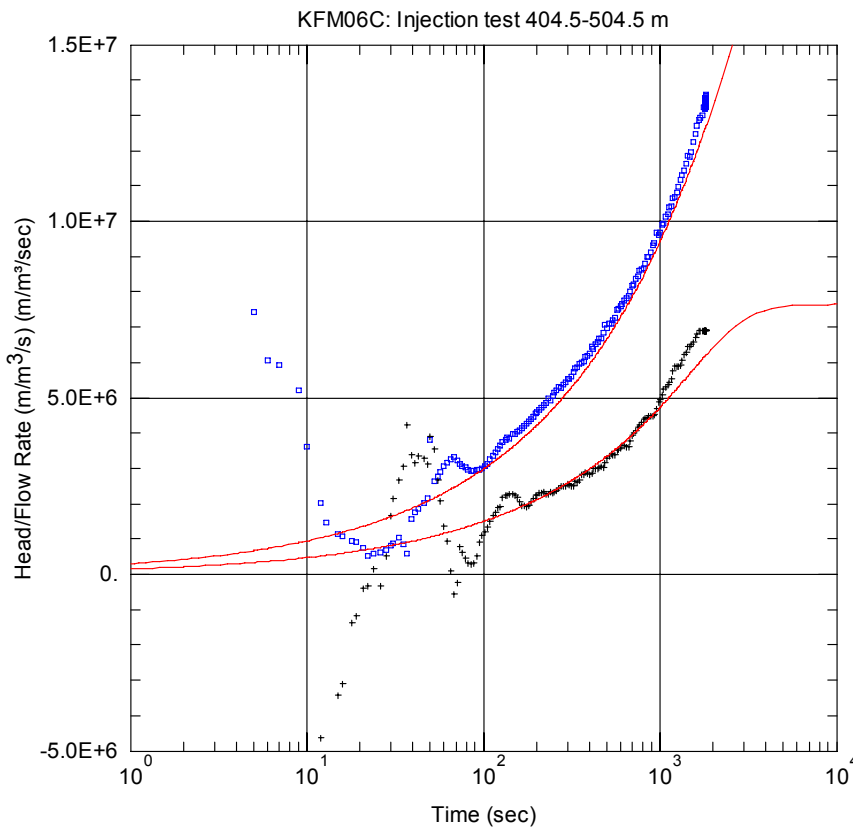
Obs. Wells  
 □ KFM06C

Aquifer Model  
 Fractured

Solution  
 Ozkan-Raghavan w/ vertical fracture

Parameters  
 Kx = 7.85E-11 m/sec  
 Ss = 6.2E-10 m<sup>-1</sup>  
 Ky/Kx = 1.  
 Lf = 134.9 m

**Figure A3-17.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 404.5-504.5 m in KFM06C.



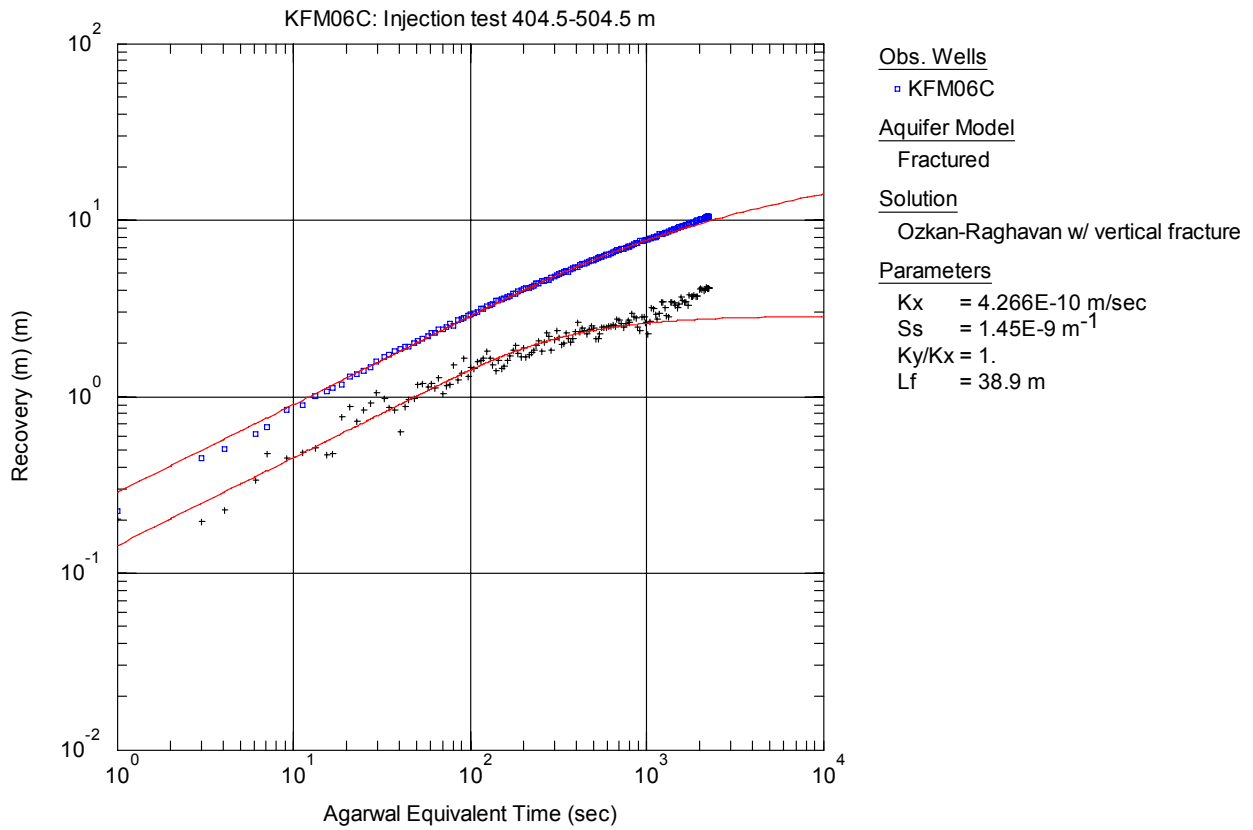
Obs. Wells  
 □ KFM06C

Aquifer Model  
 Fractured

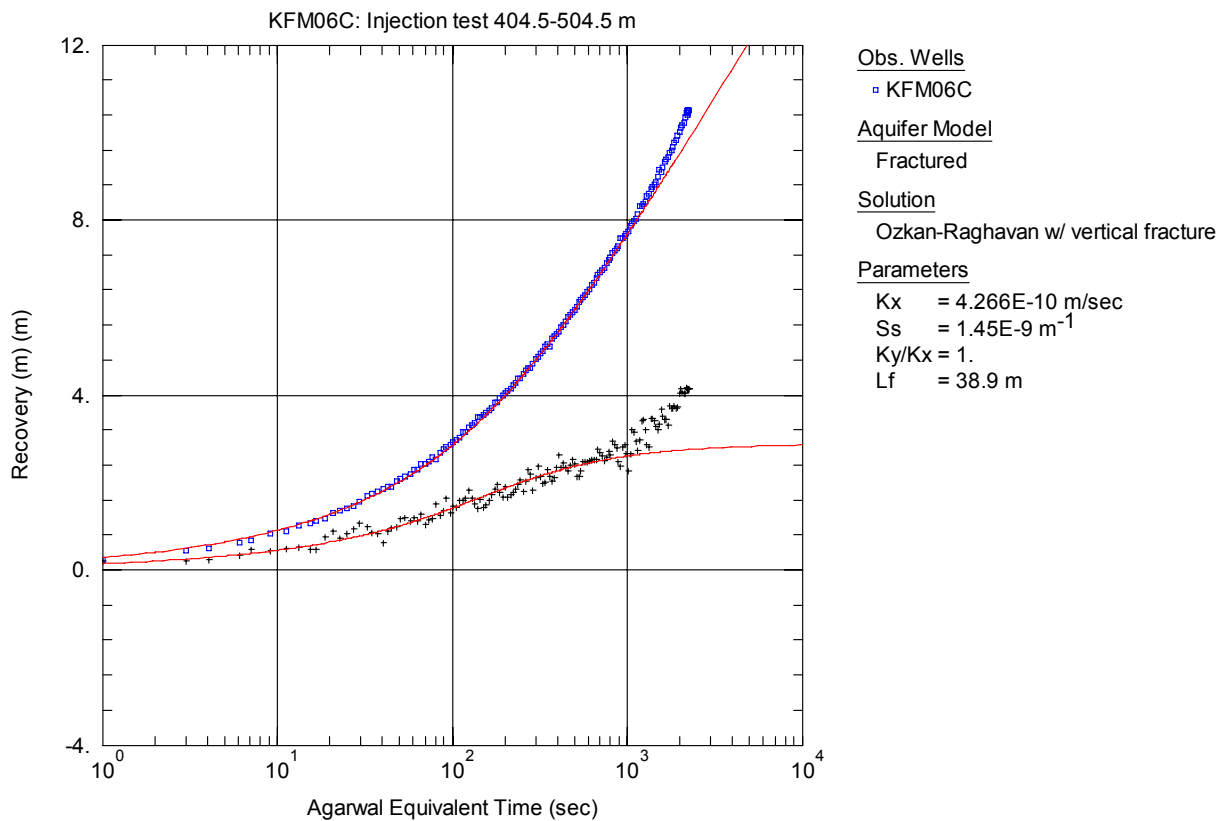
Solution  
 Ozkan-Raghavan w/ vertical fracture

Parameters  
 Kx = 7.85E-11 m/sec  
 Ss = 6.2E-10 m<sup>-1</sup>  
 Ky/Kx = 1.  
 Lf = 134.9 m

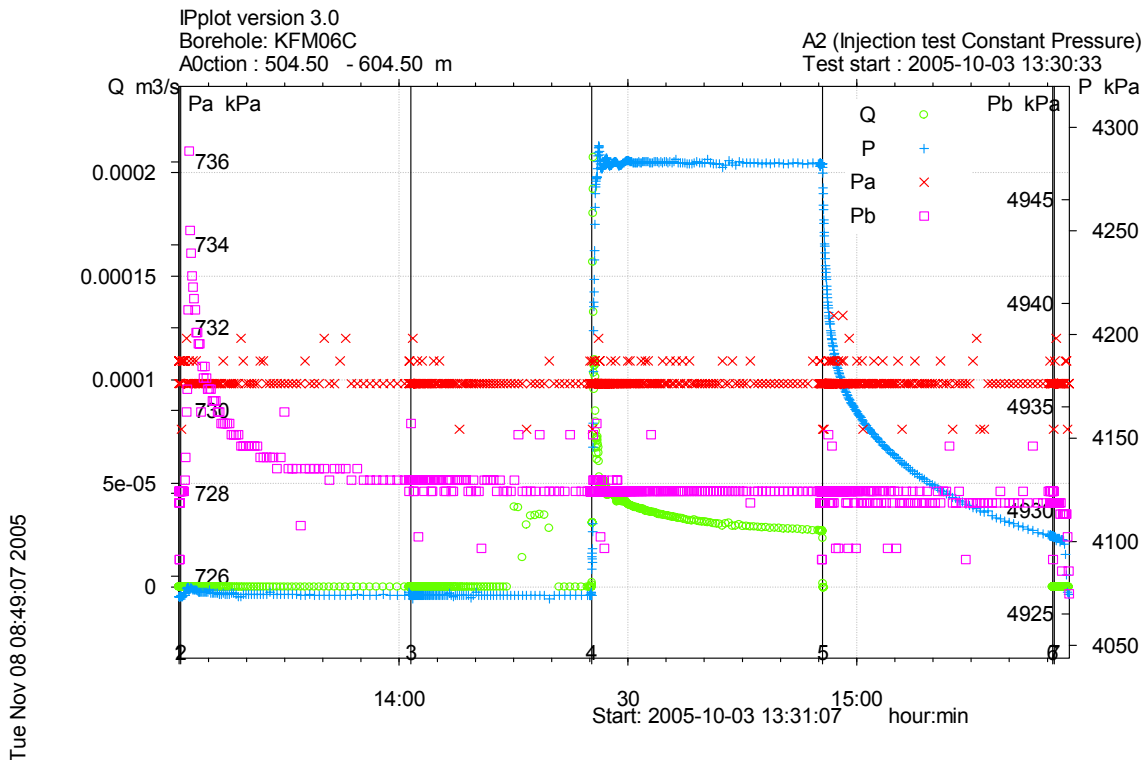
**Figure A3-18.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 404.5-504.5 m in KFM06C.



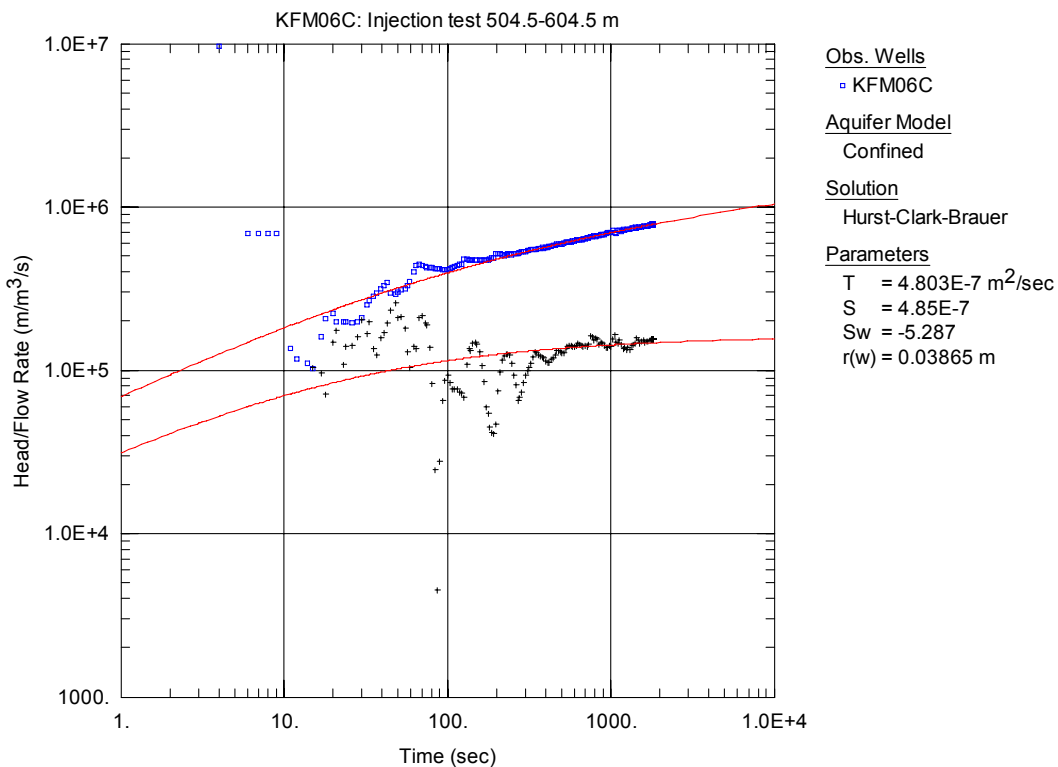
**Figure A3-19.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 404.5-504.5 m in KFM06C.



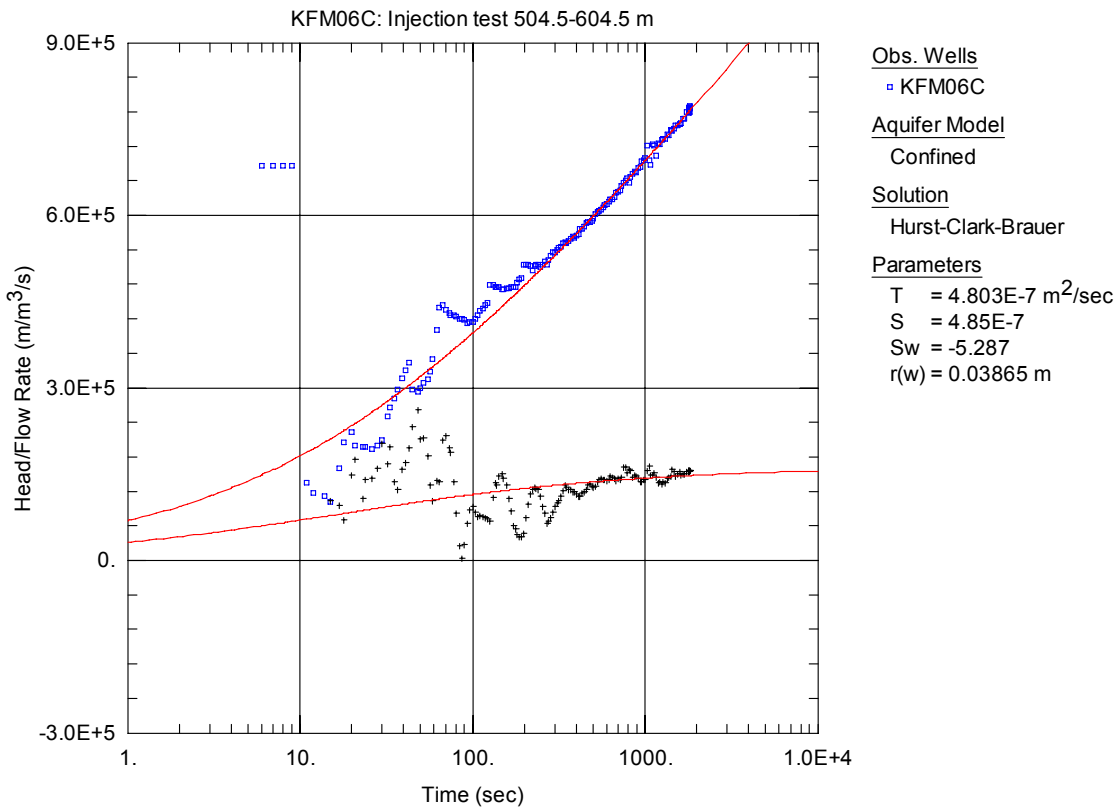
**Figure A3-20.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 404.5-504.5 m in KFM06C.



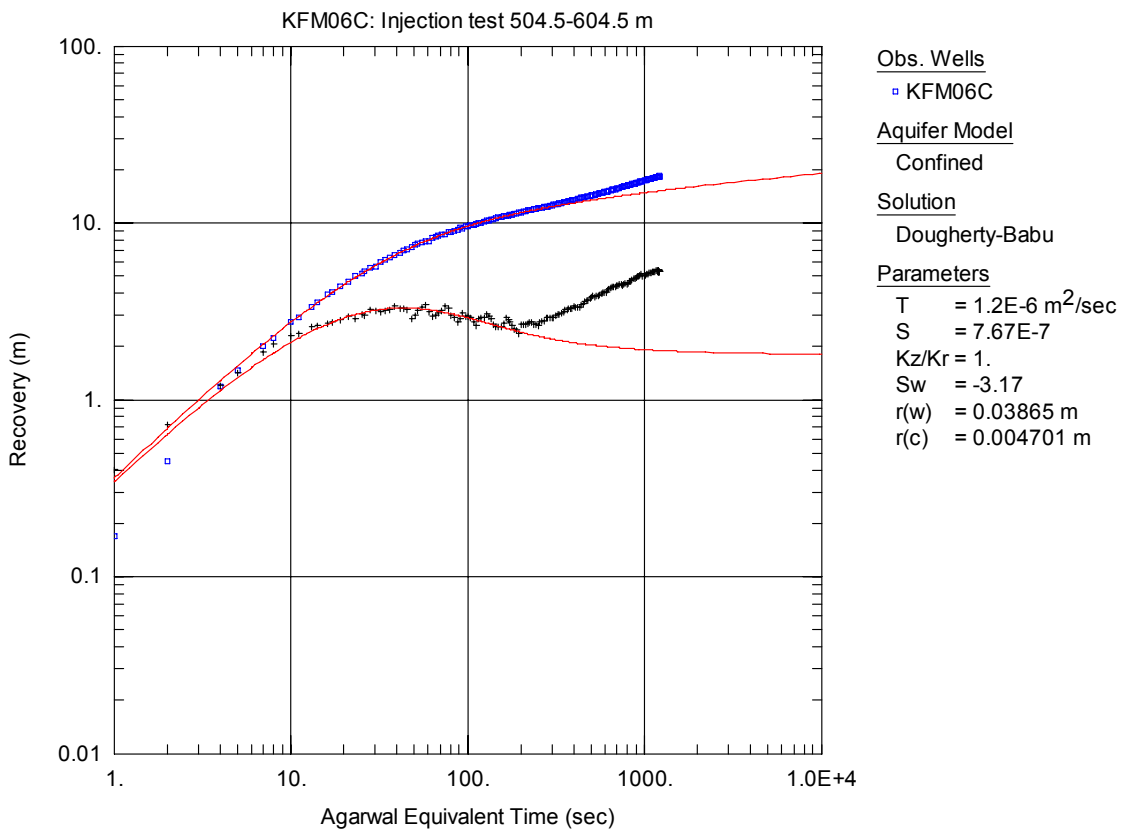
**Figure A3-21.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 504.5-604.5 m in borehole KFM06C.



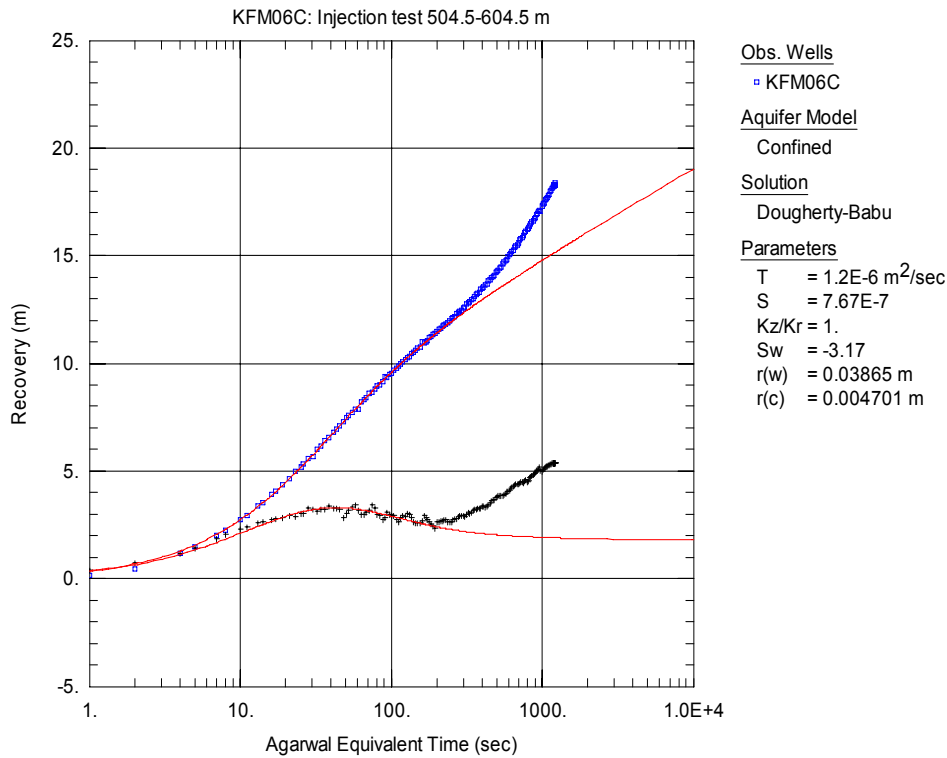
**Figure A3-22.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 504.5-604.5 m in KFM06C.



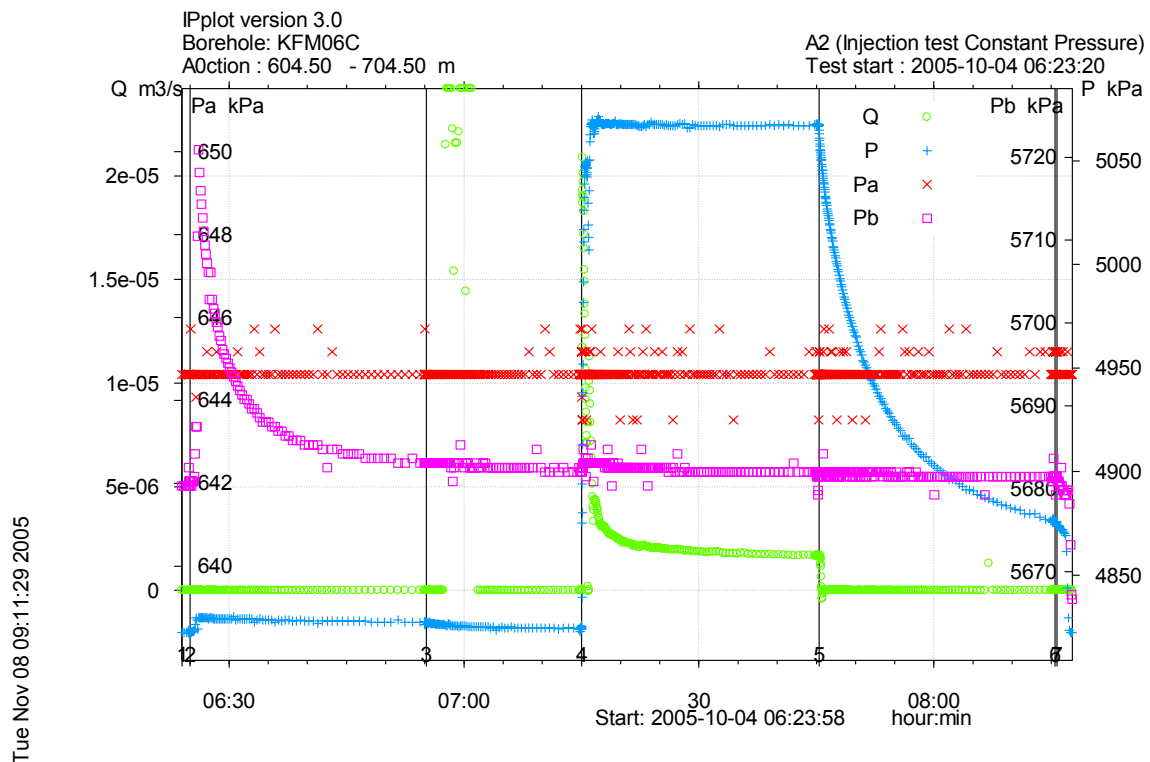
**Figure A3-23.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 504.5-604.5 m in KFM06C.



**Figure A3-24.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 504.5-604.5 m in KFM06C.

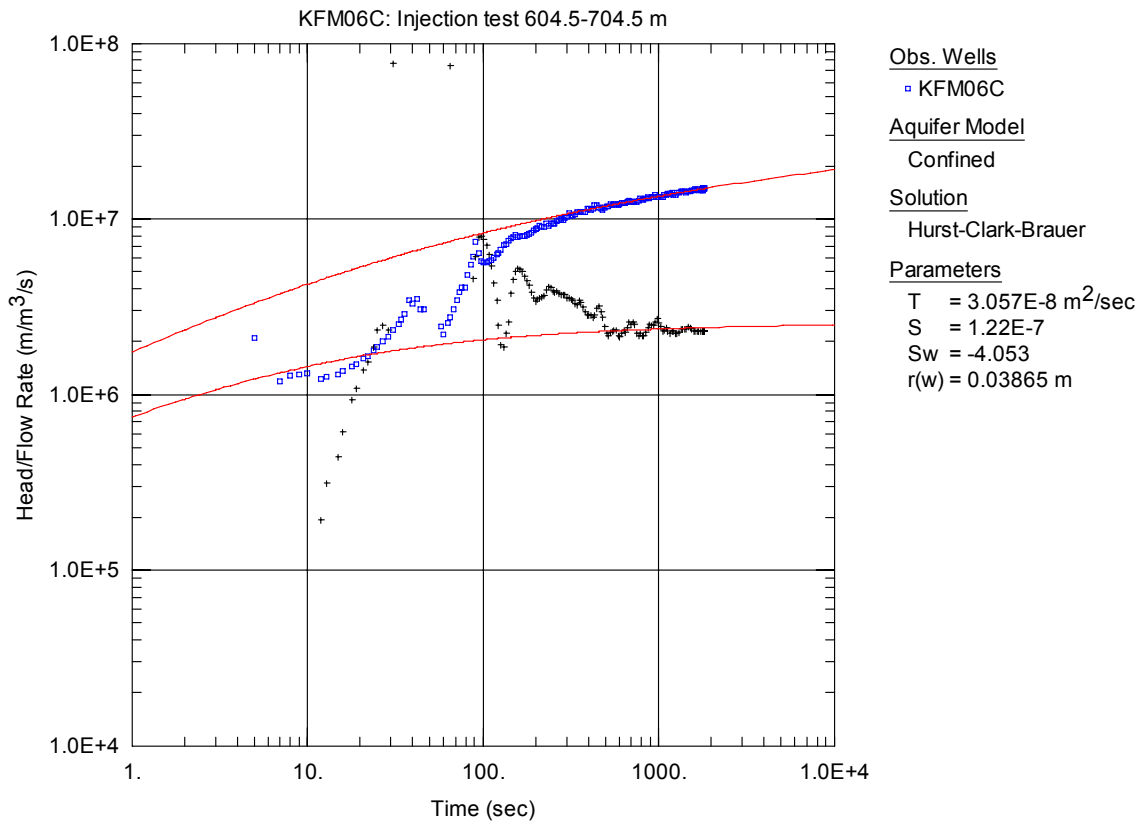


**Figure A3-25.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 504.5-604.5 m in KFM06C.

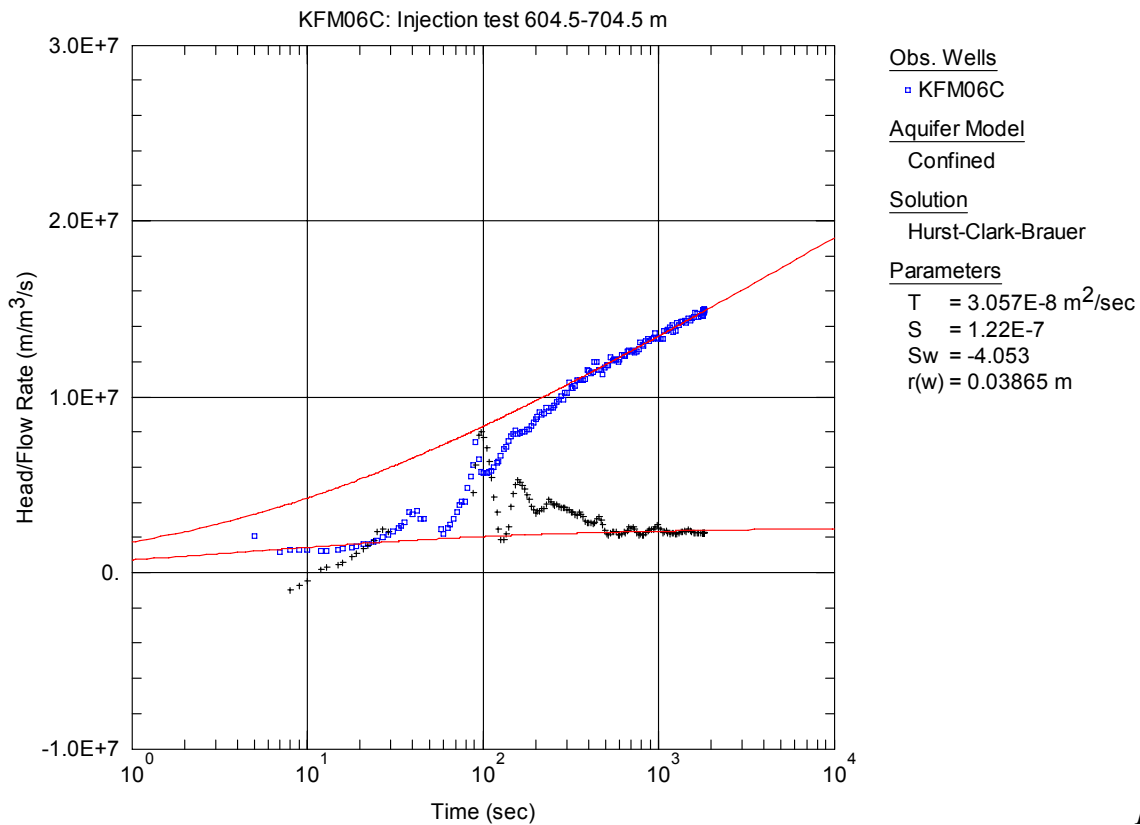


**Figure A3-26.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 604.5-704.5 m in borehole KFM06C.

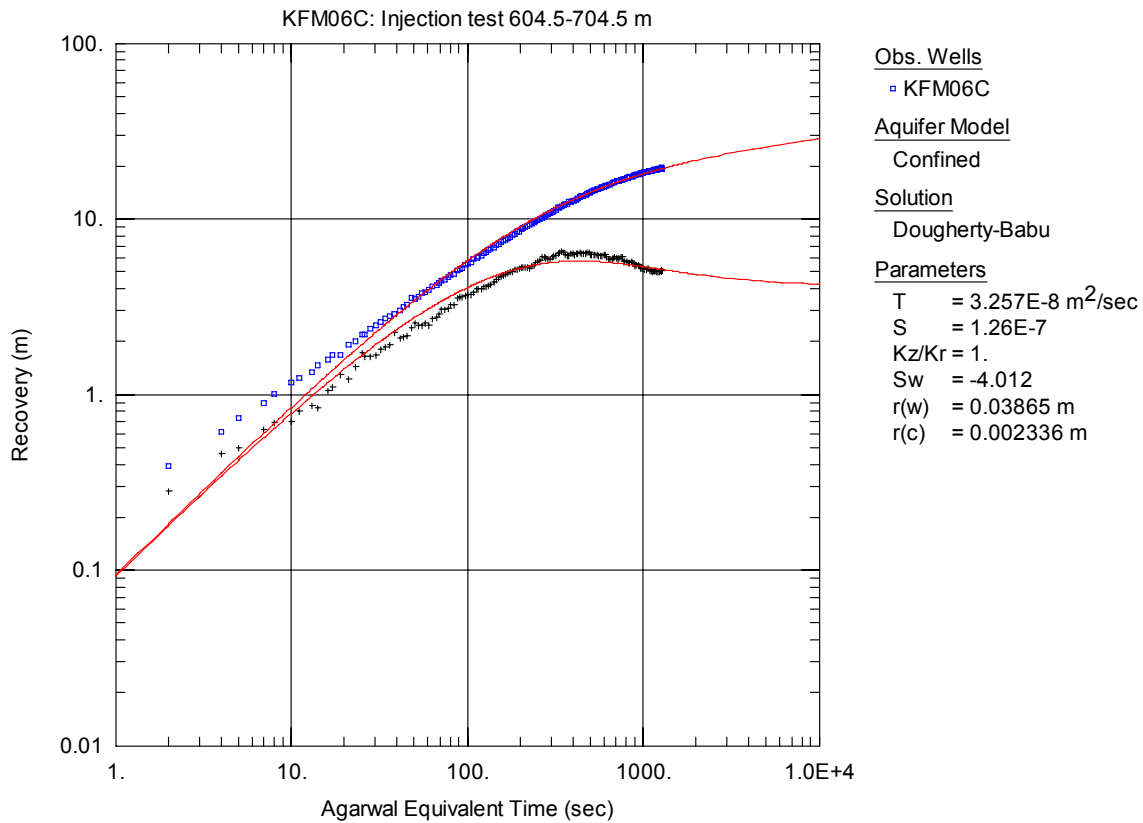




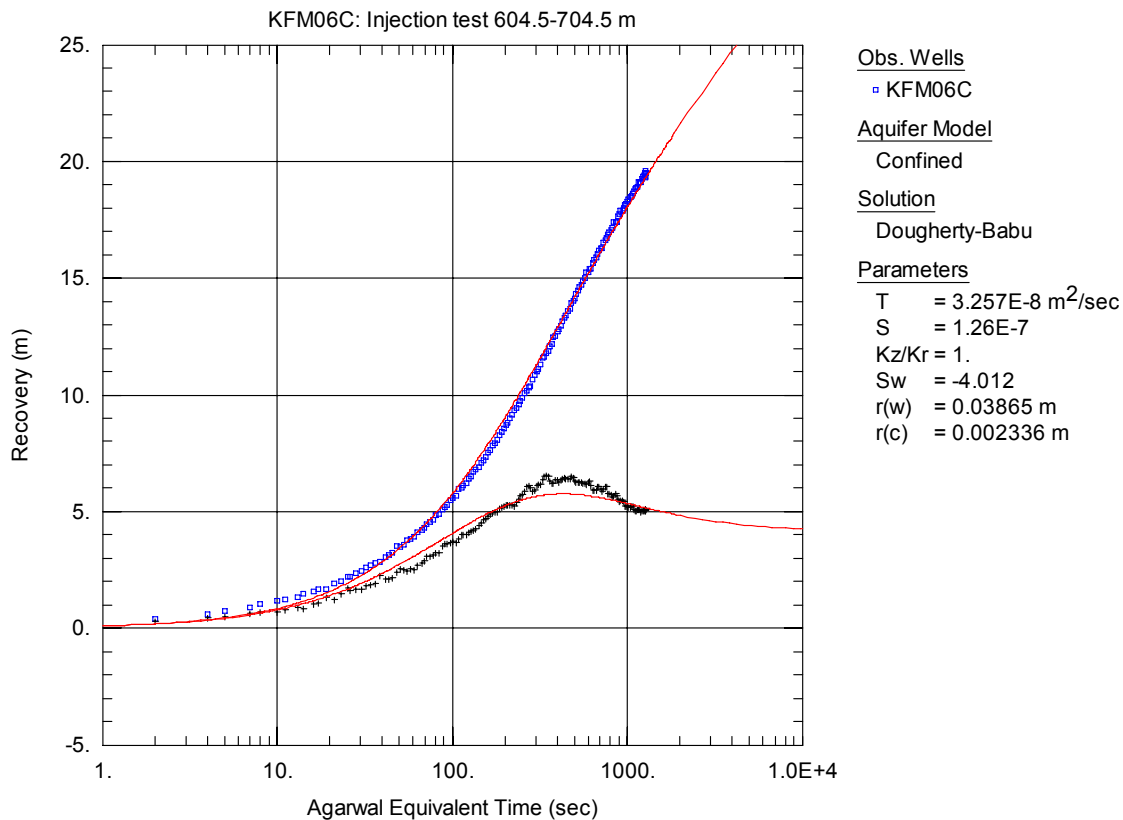
**Figure A3-27.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 604.5-704.5 m in KFM06C.



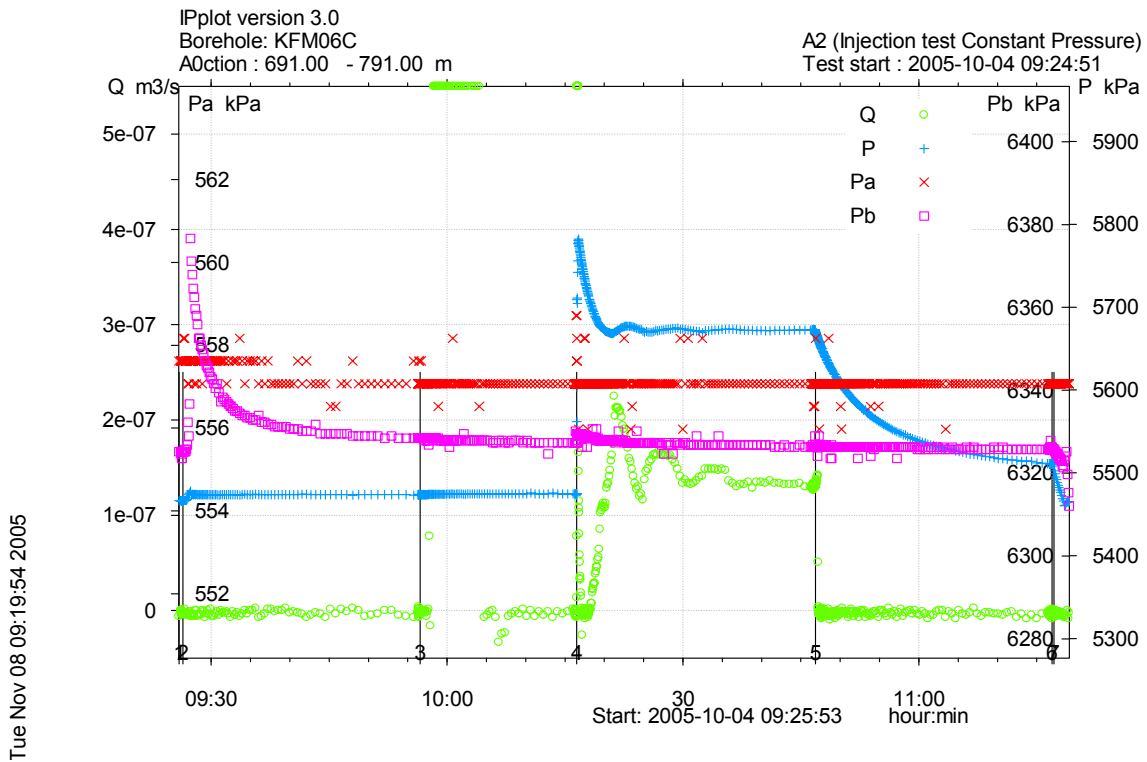
**Figure A3-28.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 604.5-704.5 m in KFM06C.



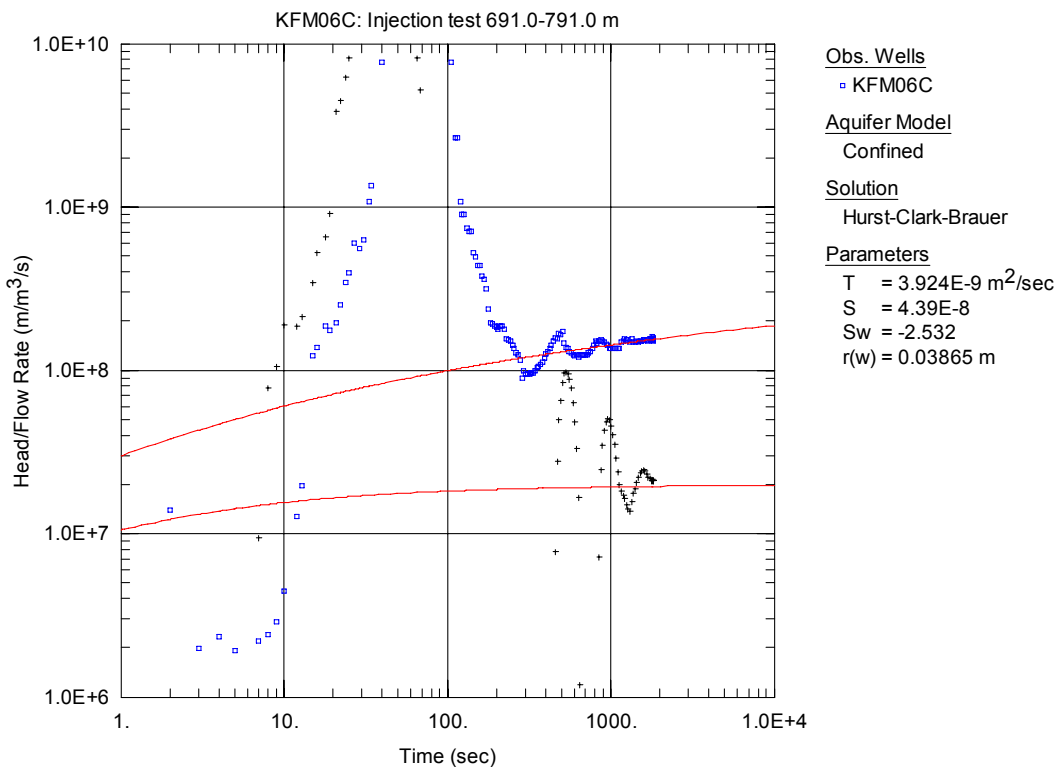
**Figure A3-29.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 604.5-704.5 m in KFM06C.



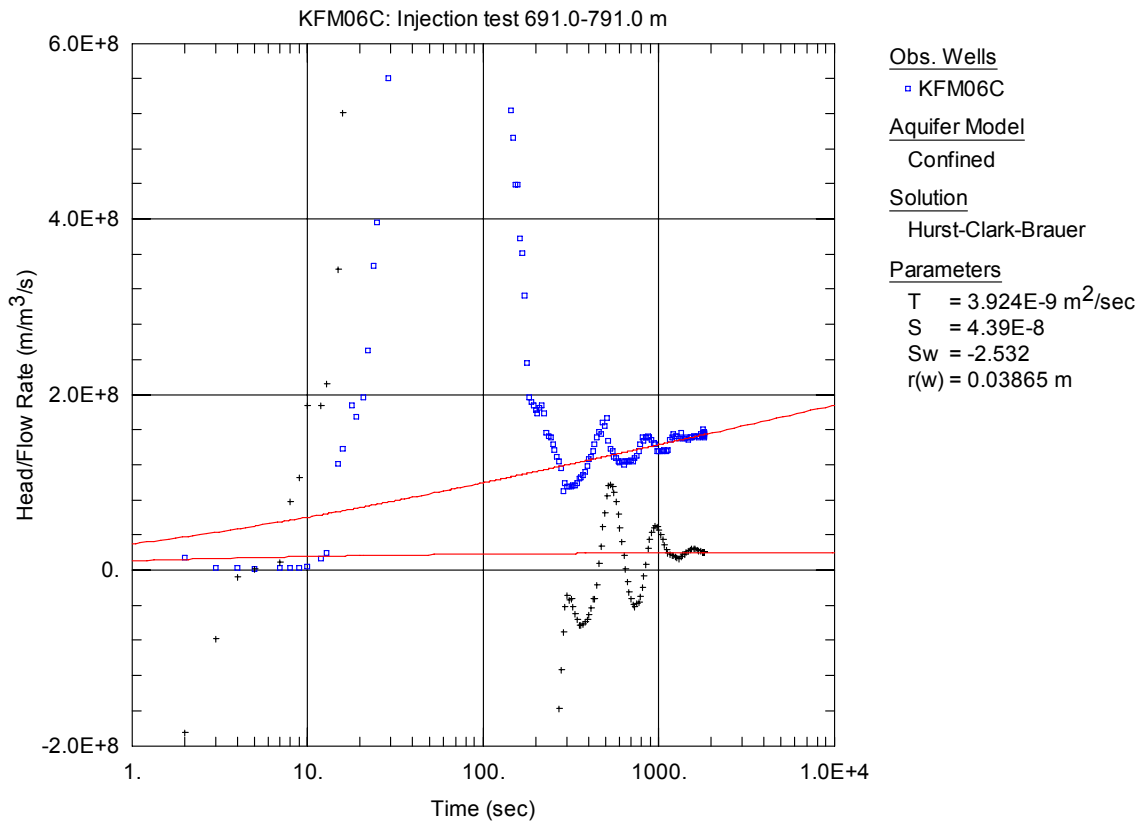
**Figure A3-30.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 604.5-704.5 m in KFM06C.



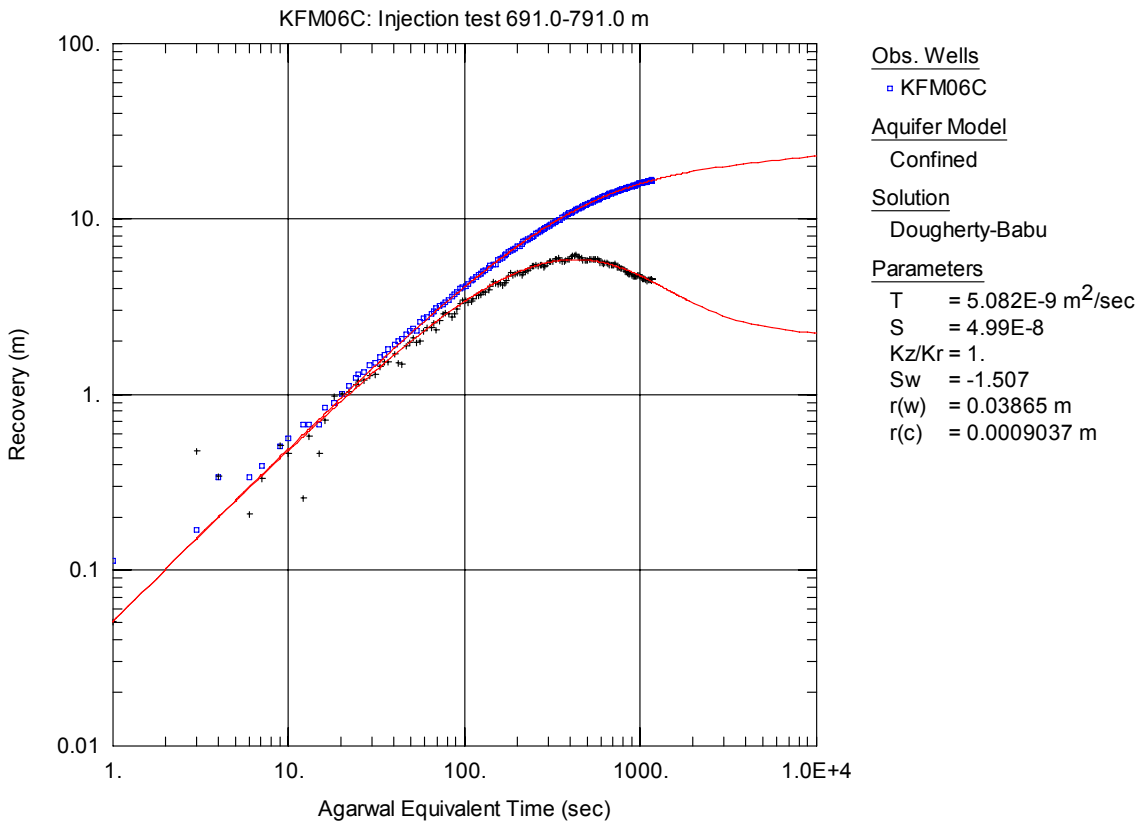
**Figure A3-31.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 691.0-791.0 m in borehole KFM06C.



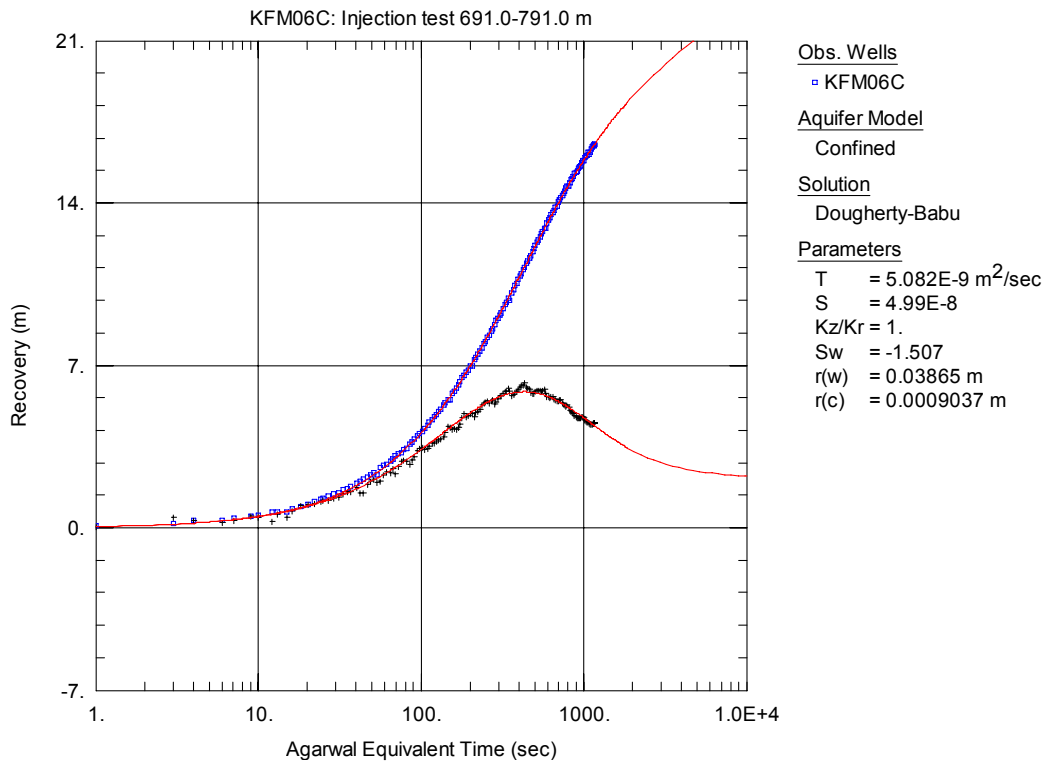
**Figure A3-32.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 691.0-791.0 m in KFM06C.



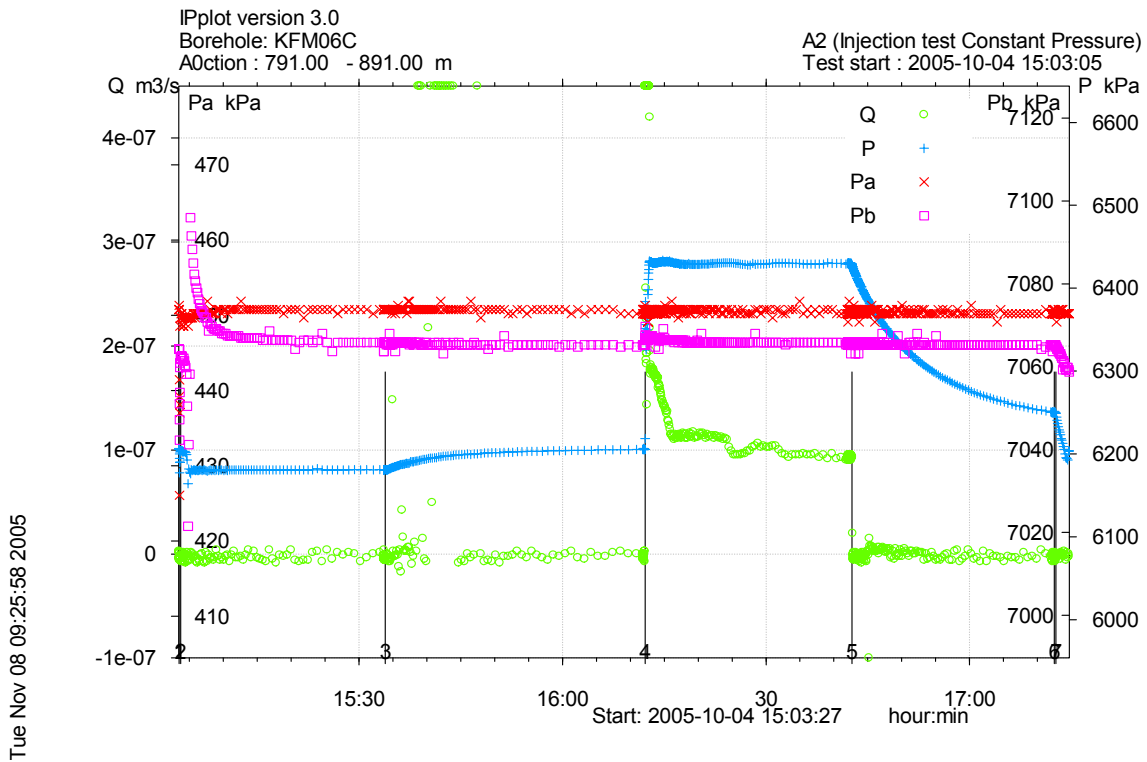
**Figure A3-33.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 691.0-791.0 m in KFM06C.



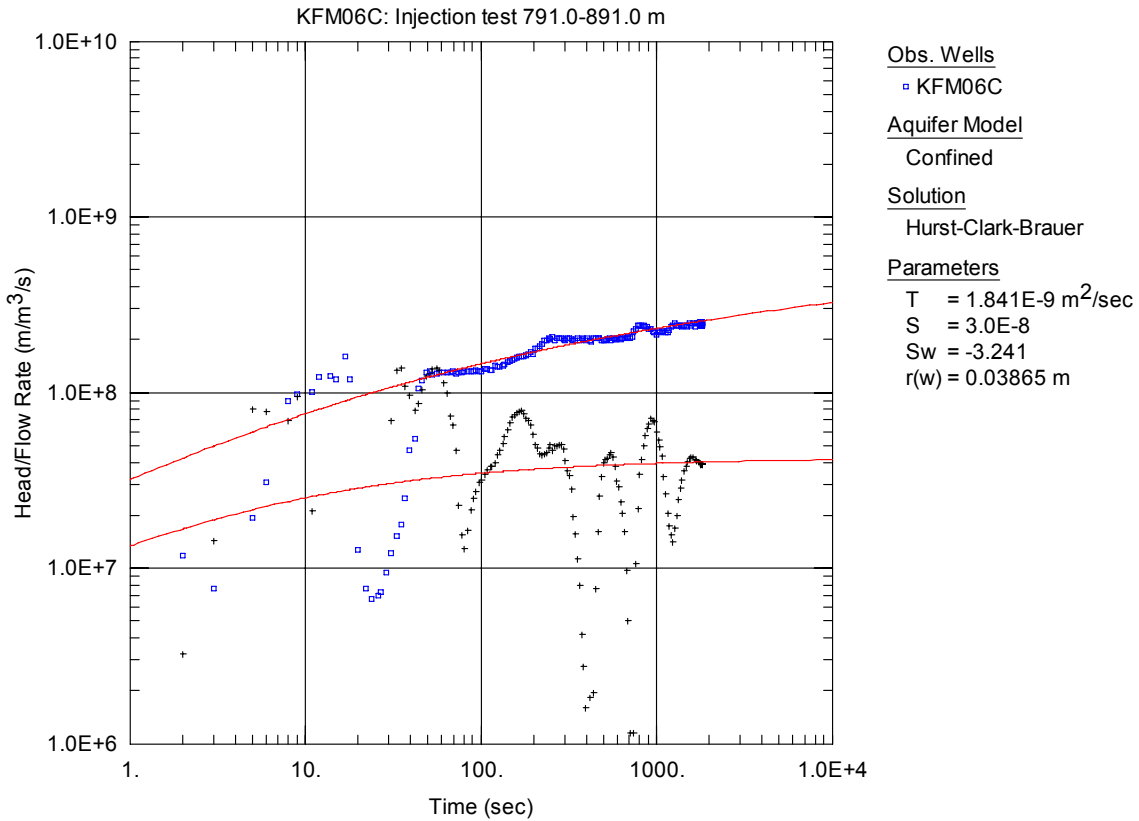
**Figure A3-34.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 691.0-791.0 m in KFM06C.



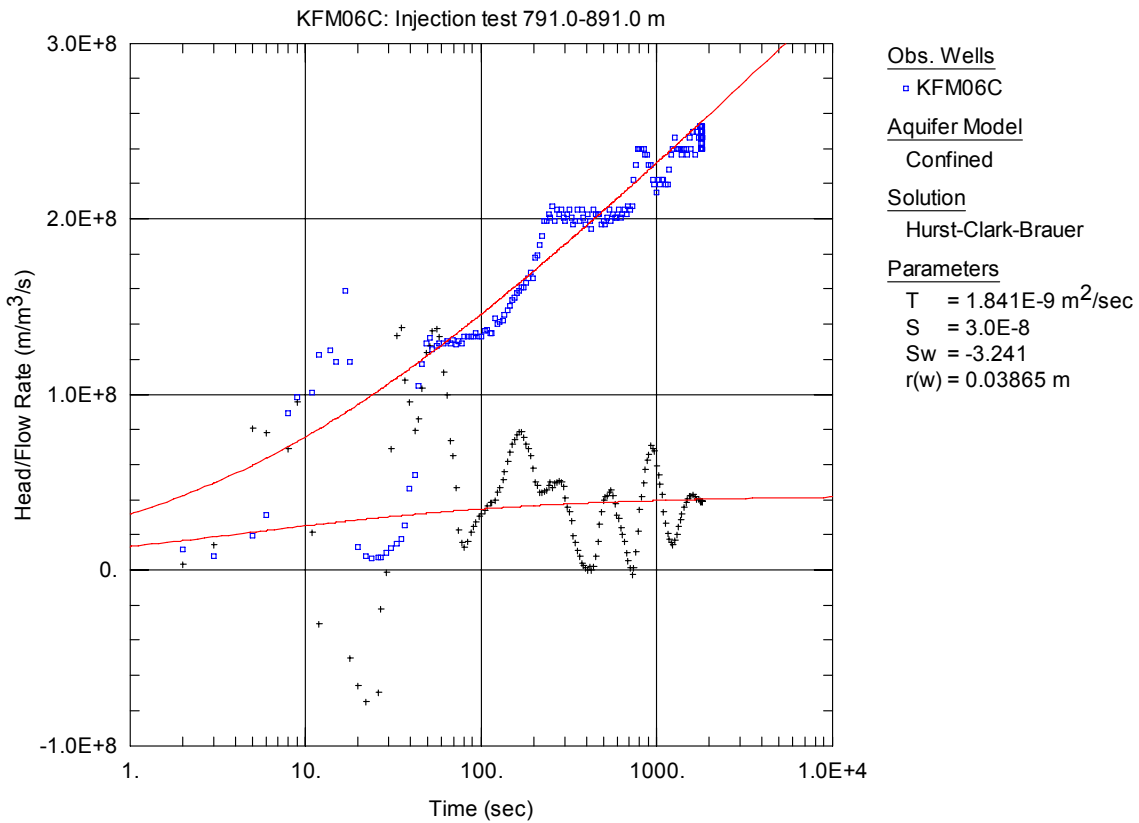
**Figure A3-35.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 691.0-791.0 m in KFM06C.



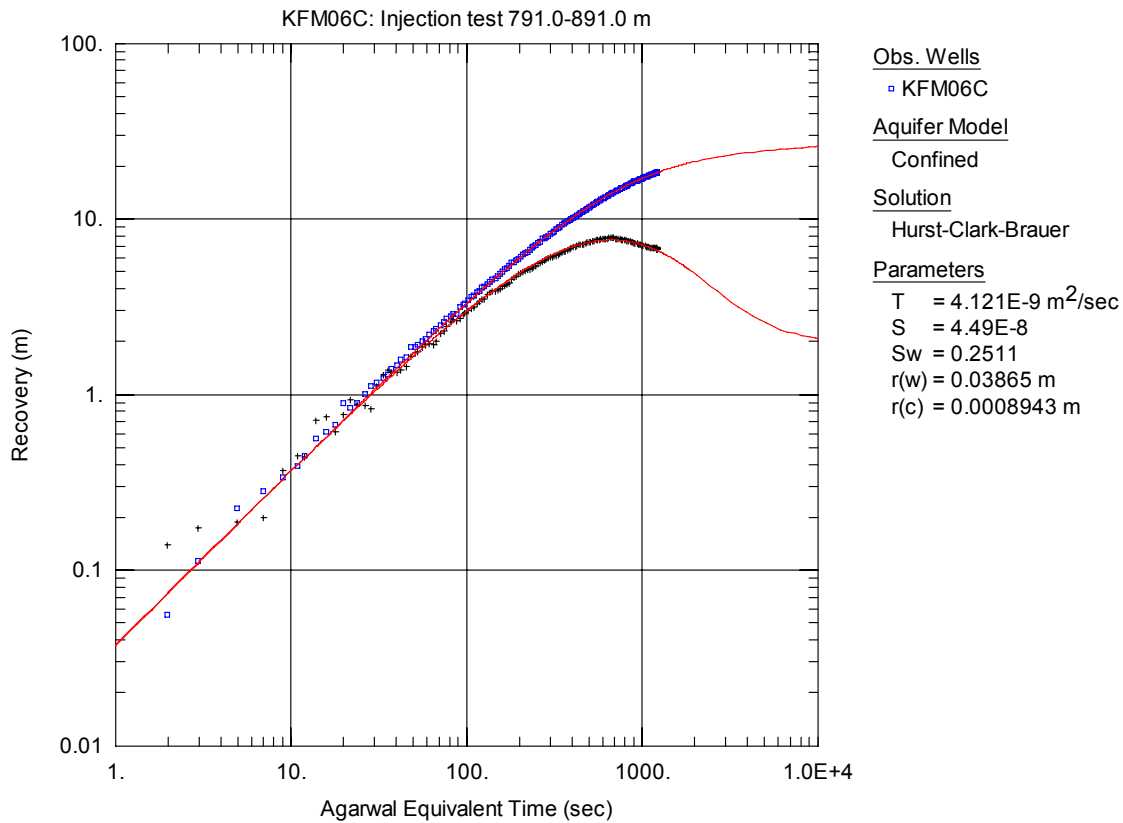
**Figure A3-36.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 791.0-891.0 m in borehole KFM06C.



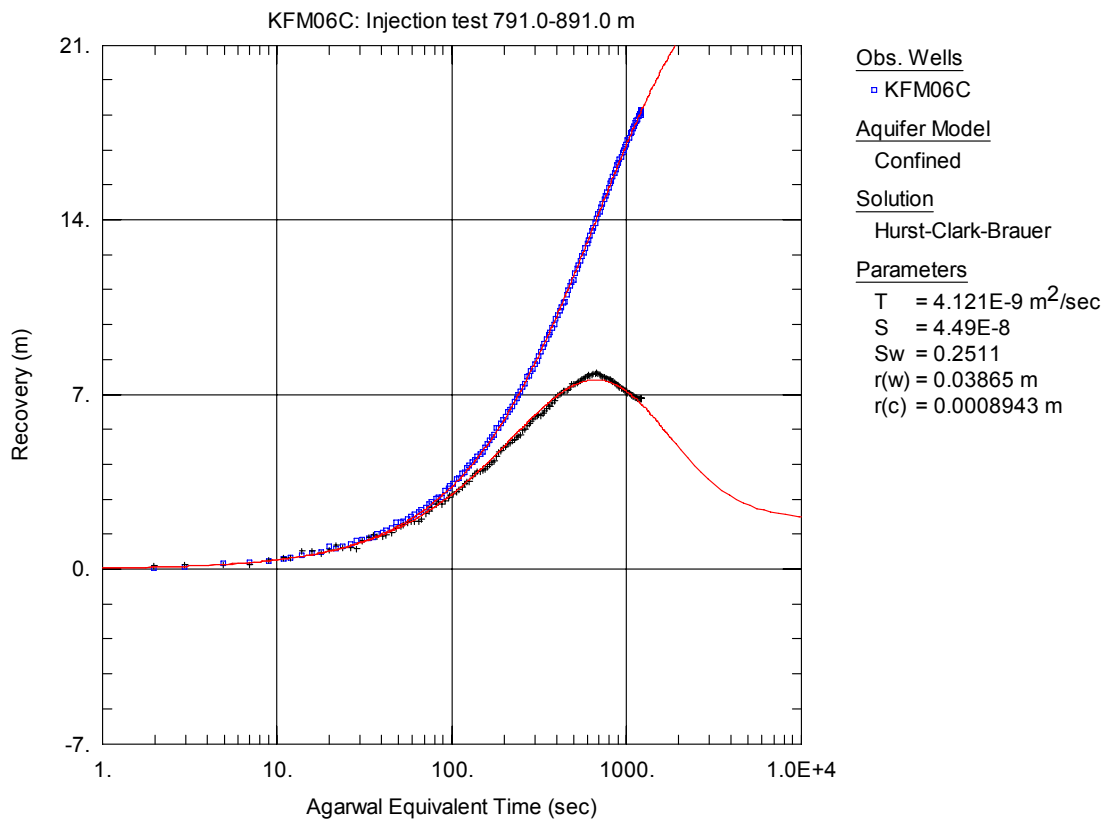
**Figure A3-37.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 791.0-891.0 m in KFM06C.



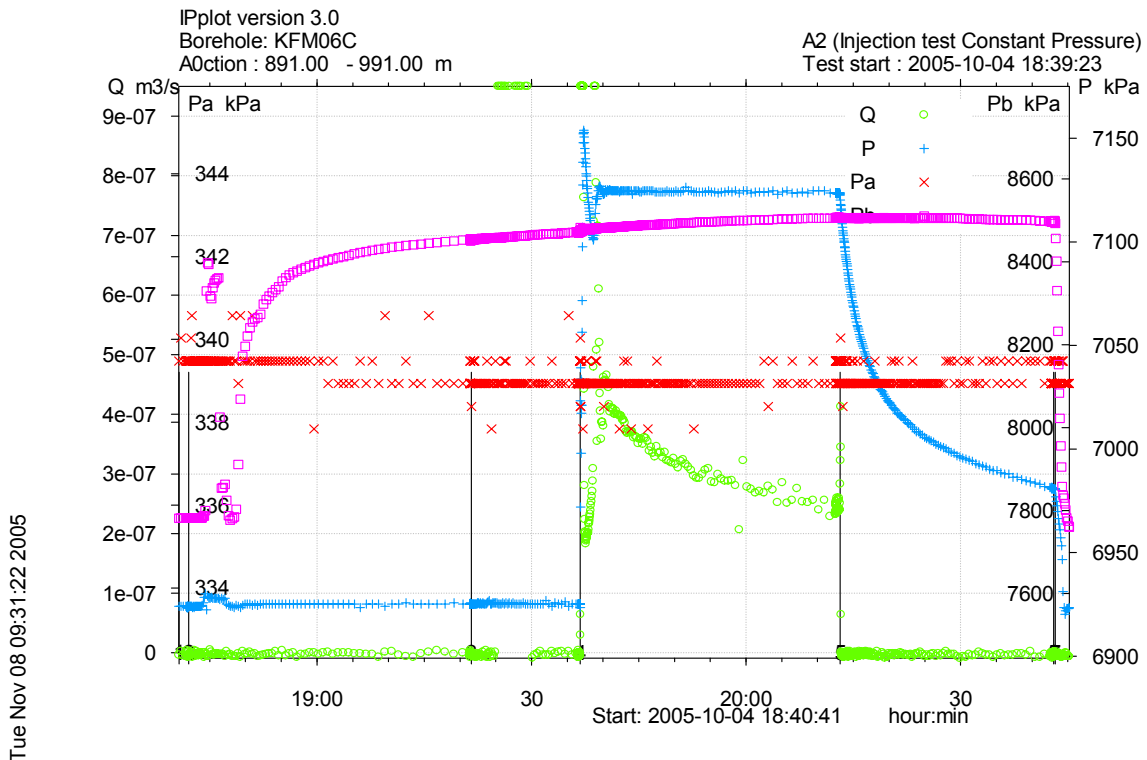
**Figure A3-38.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 791.0-891.0 m in KFM06C.



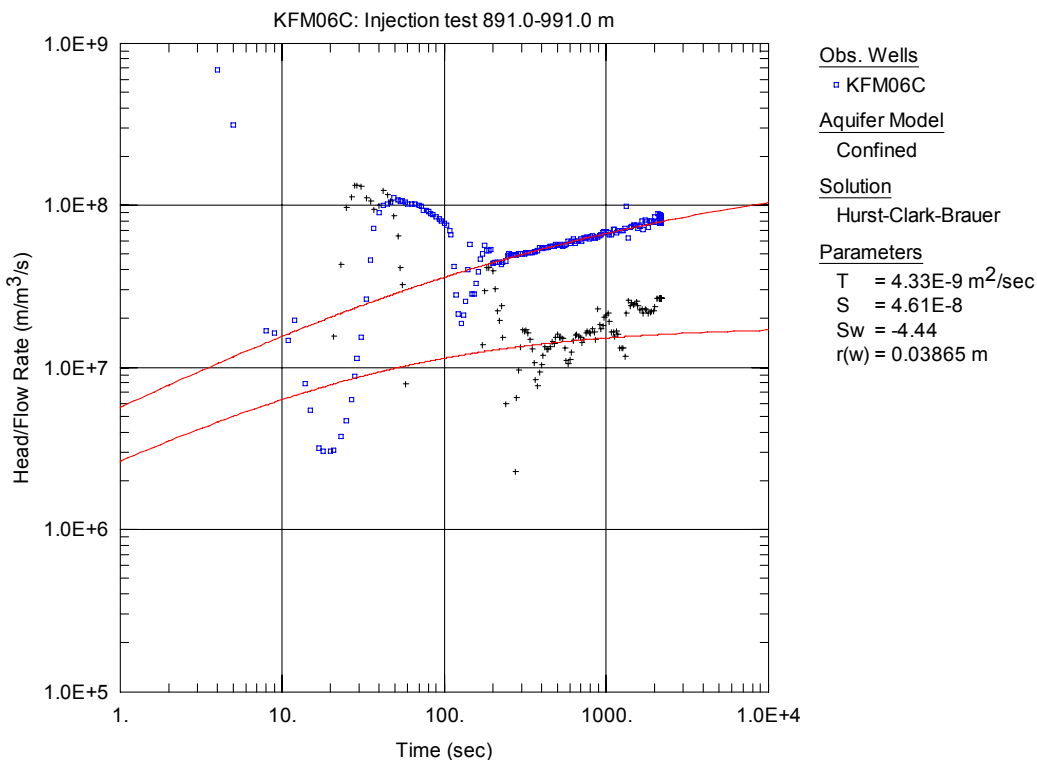
**Figure A3-39.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 791.0-891.0 m in KFM06C.



**Figure A3-40.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 791.0-891.0 m in KFM06C.

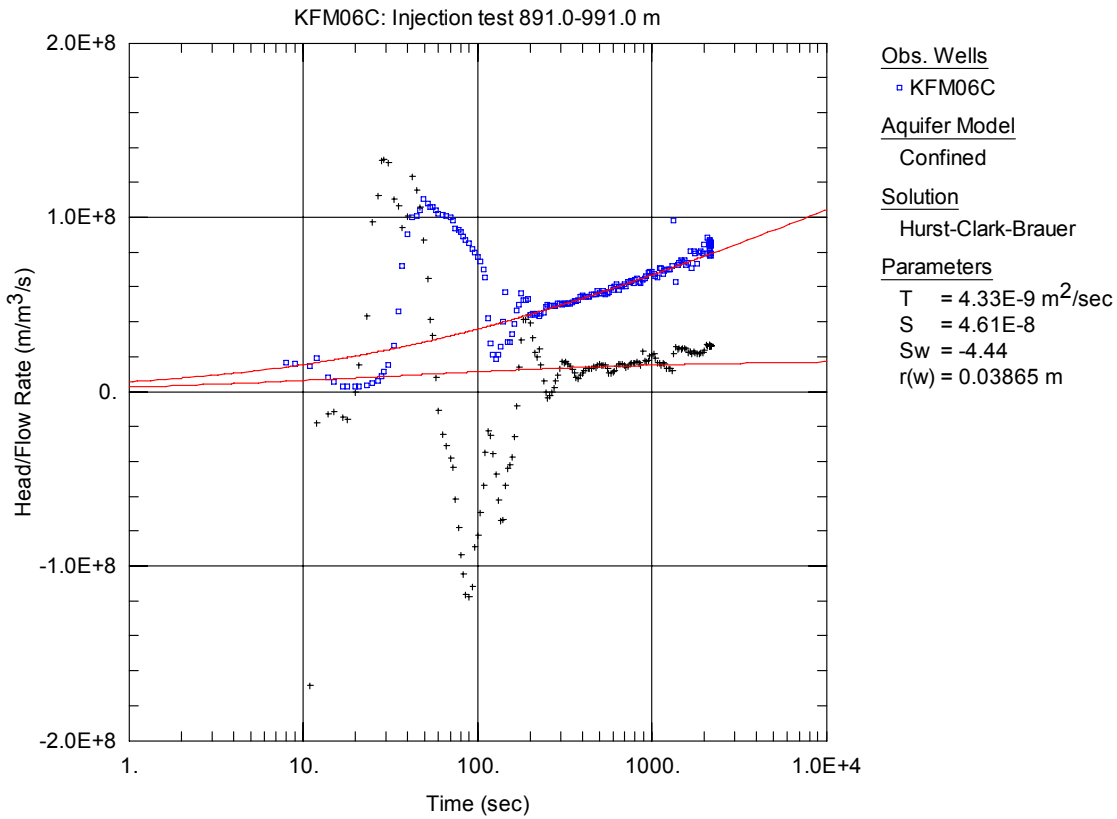


**Figure A3-41.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 891.0-991.0 m in borehole KFM06C.

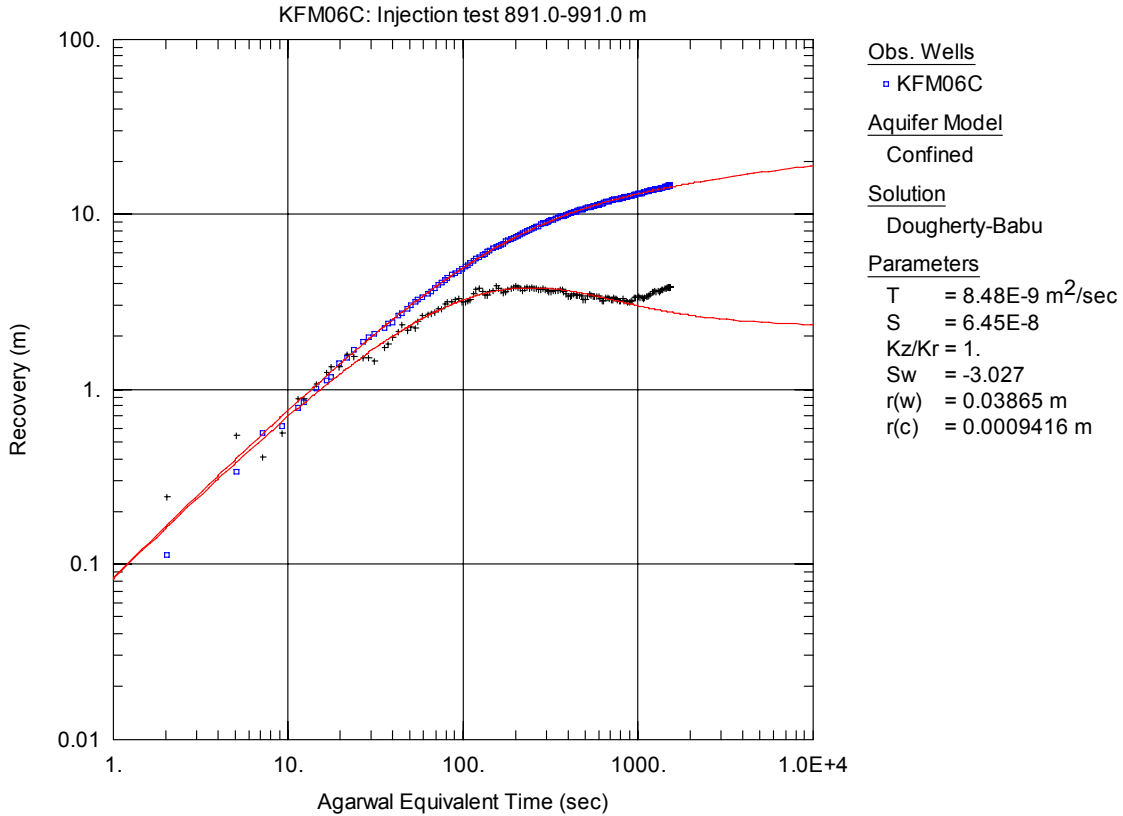


**Figure A3-42.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 891.0-991.0 m in KFM06C.

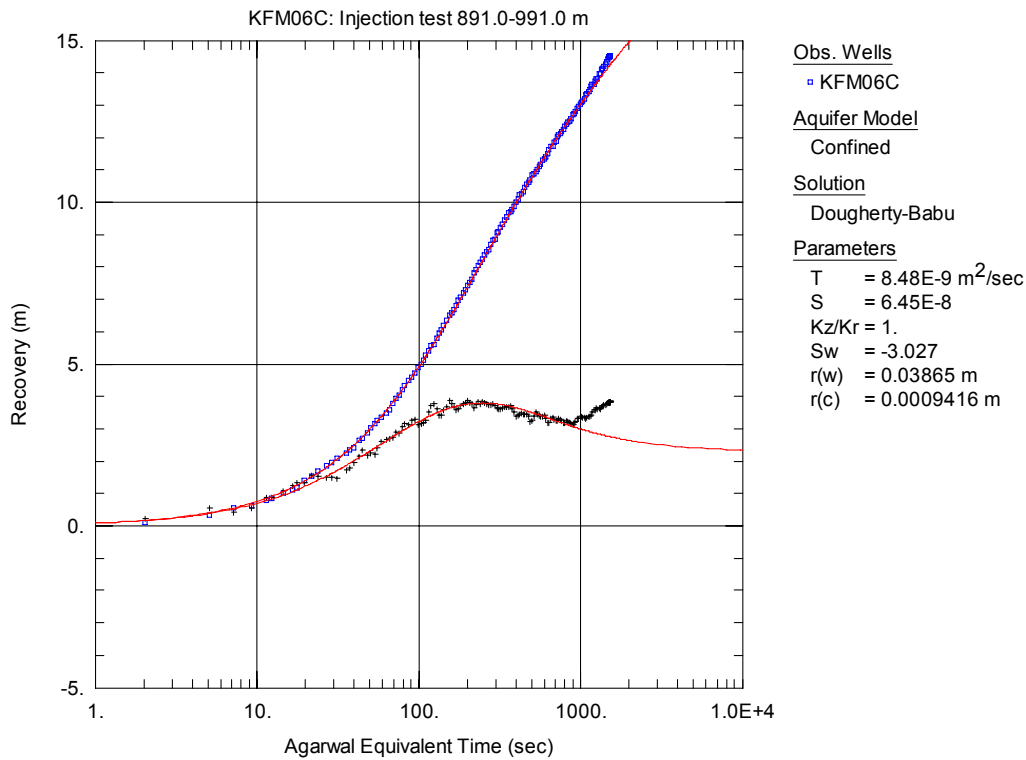




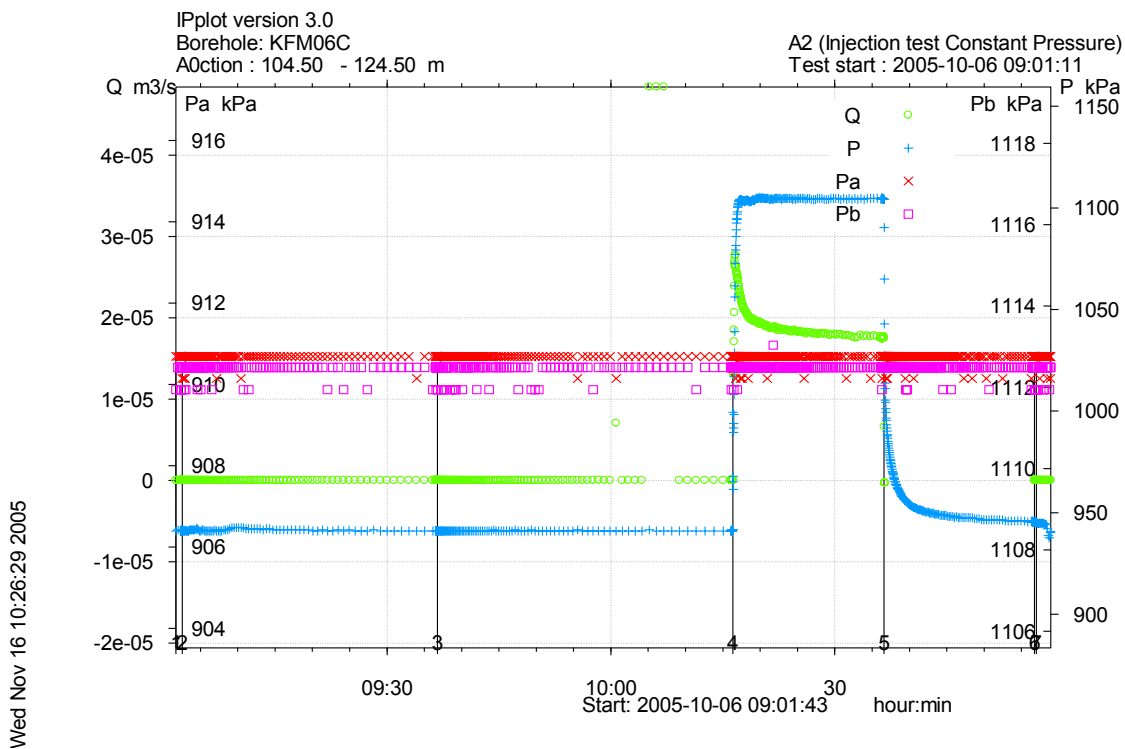
**Figure A3-43.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 891.0-991.0 m in KFM06C.



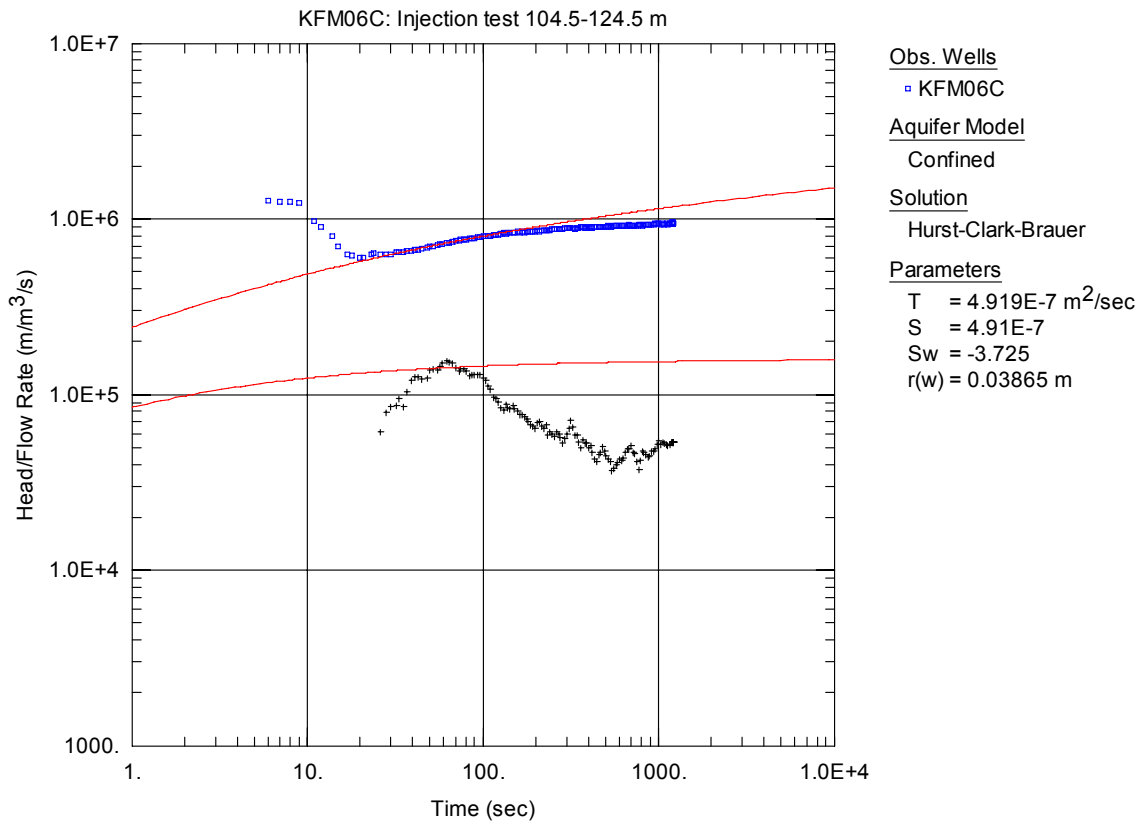
**Figure A3-44.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 891.0-991.0 m in KFM06C.



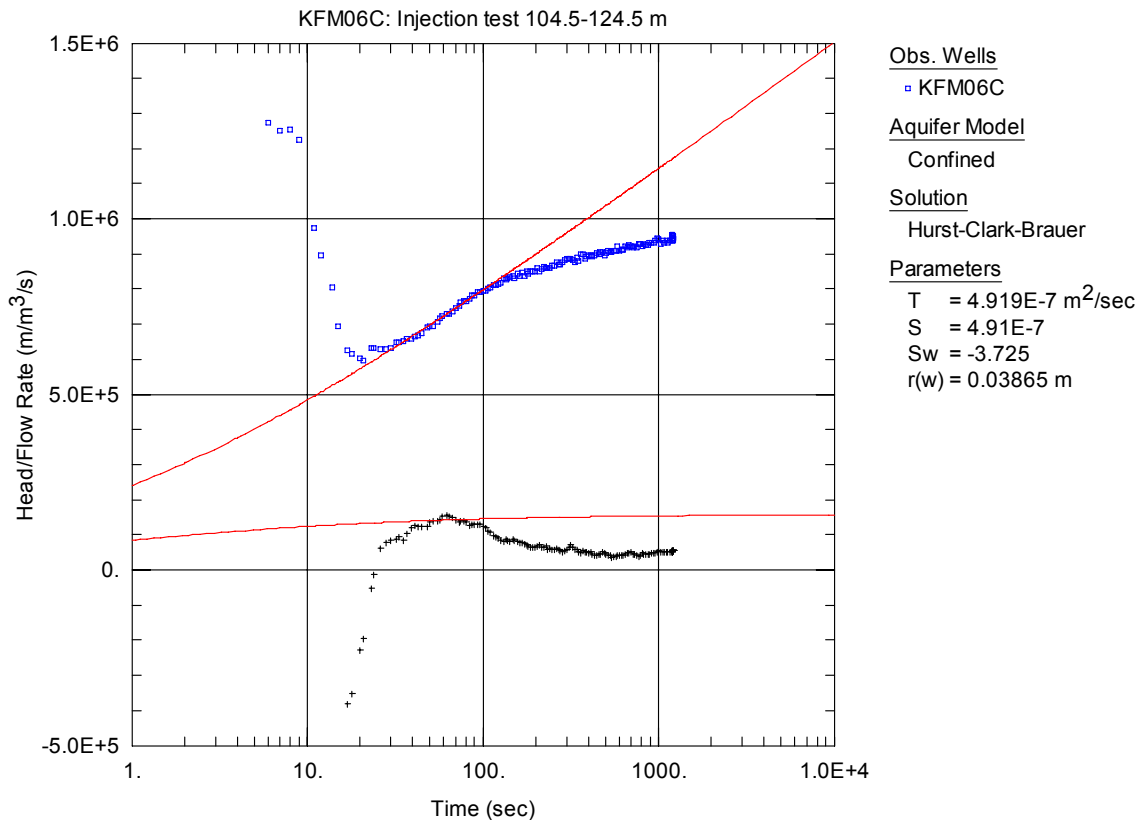
**Figure A3-45.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 891.0-991.0 m in KFM06C.



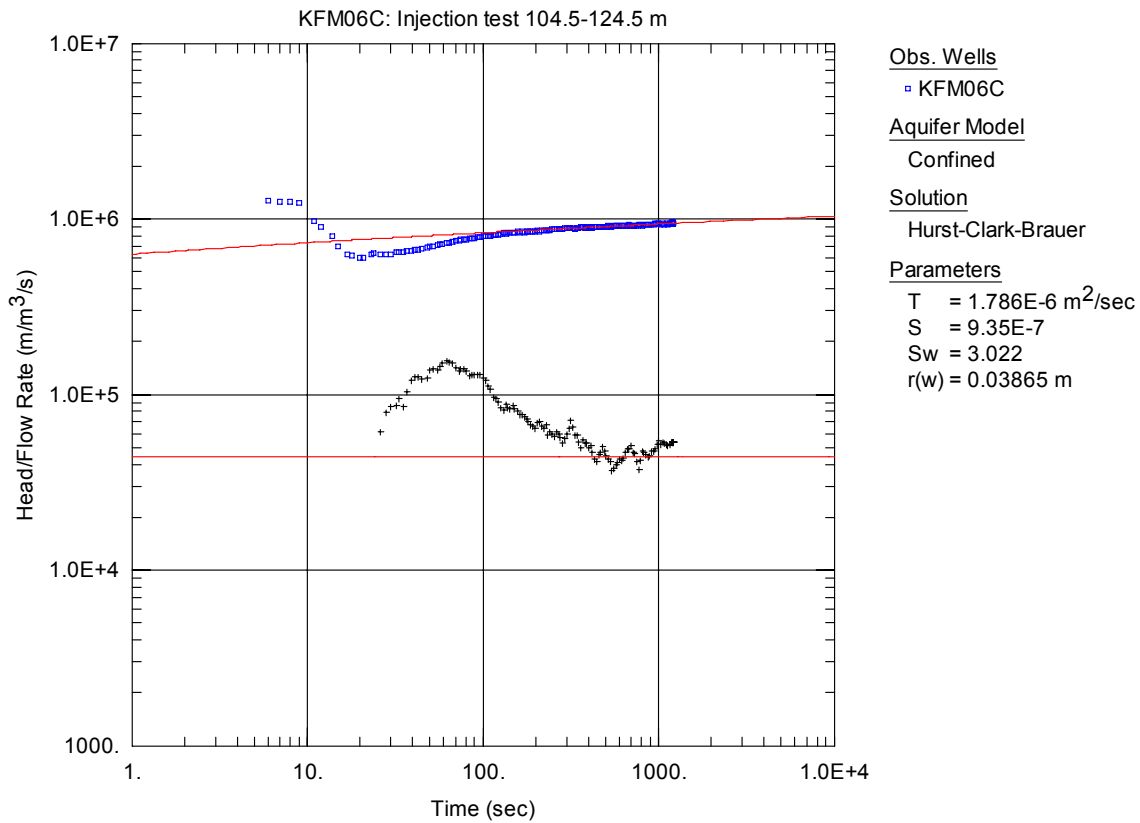
**Figure A3-46.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 104.5-124.5 m in borehole KFM06C.



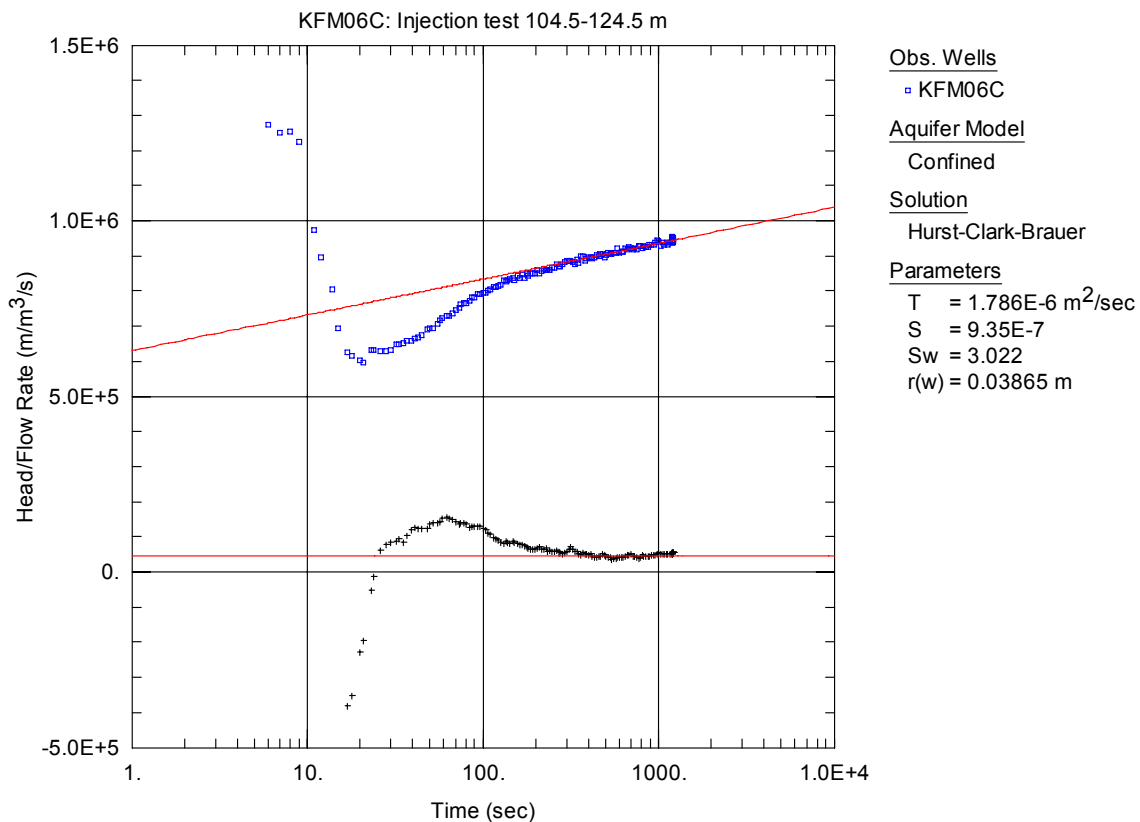
**Figure A3-47.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the first PRF, from the injection test in section 104.5-124.5 m in KFM06C.



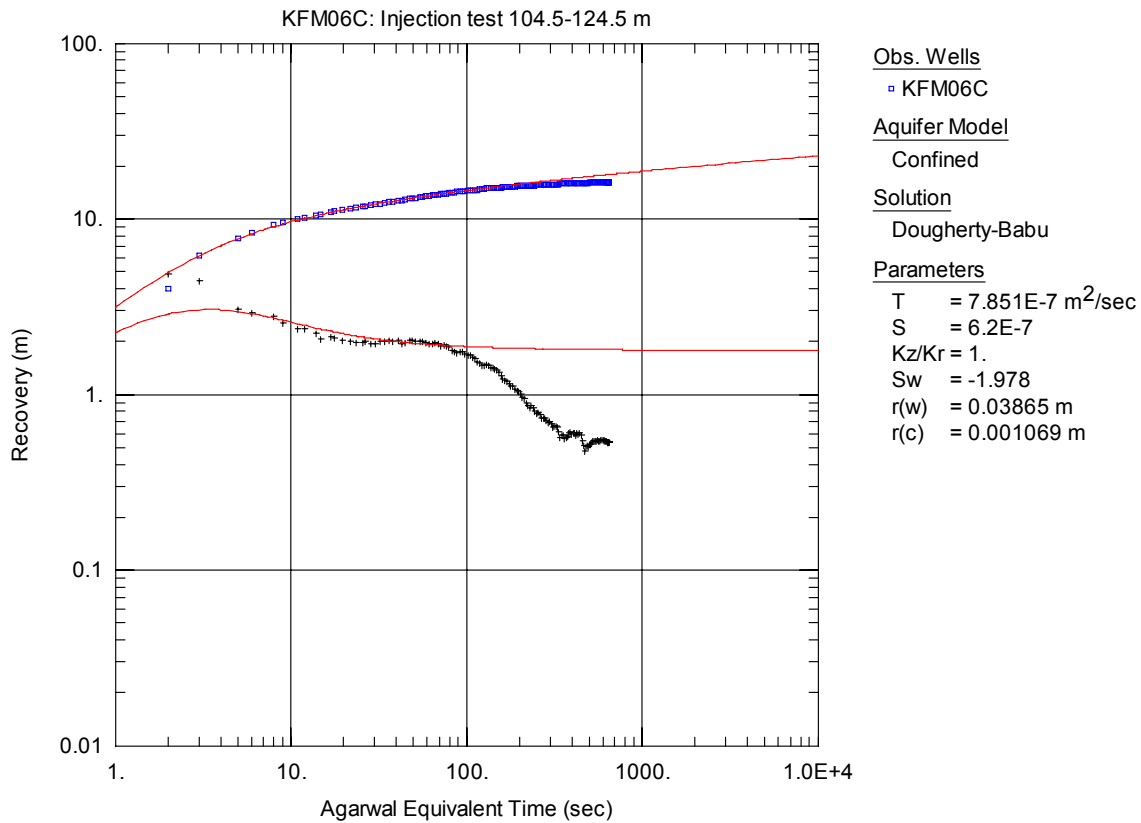
**Figure A3-48.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the first PRF, from the injection test in section 104.5-124.5 m in KFM06C.



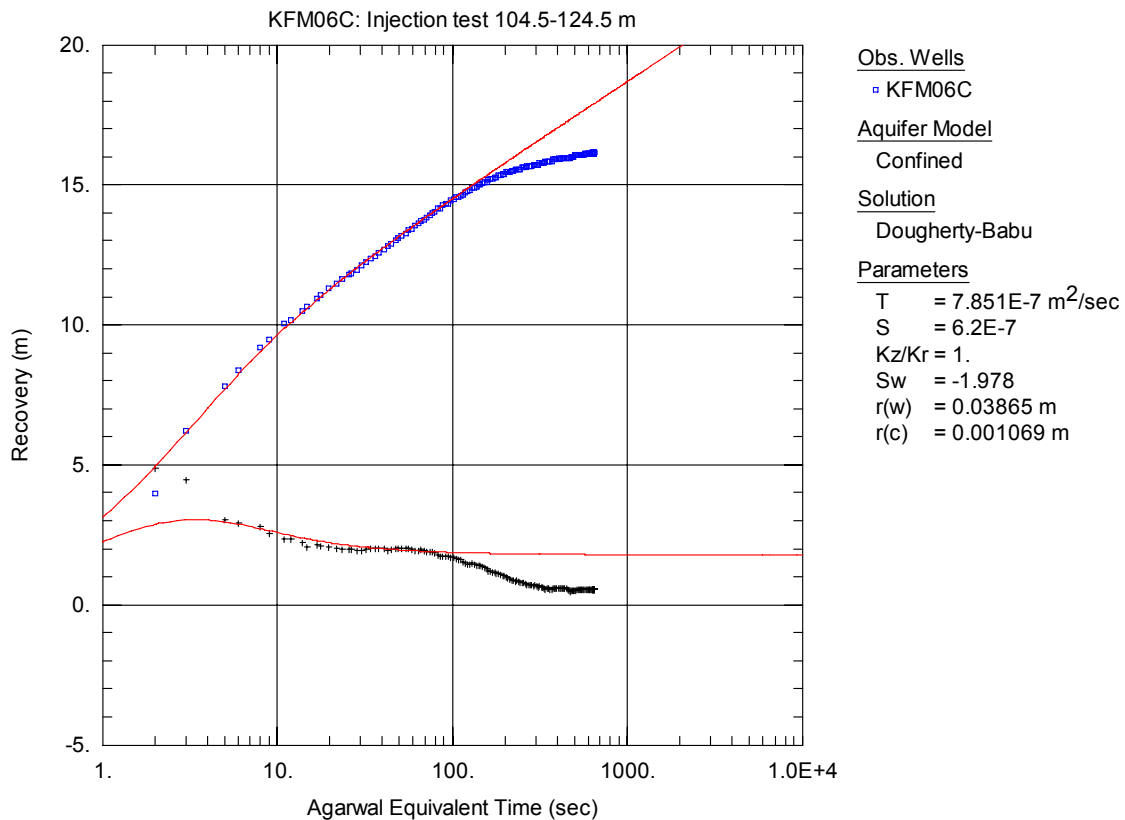
**Figure A3-49.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the second PRF, from the injection test in section 104.5-124.5 m in KFM06C.



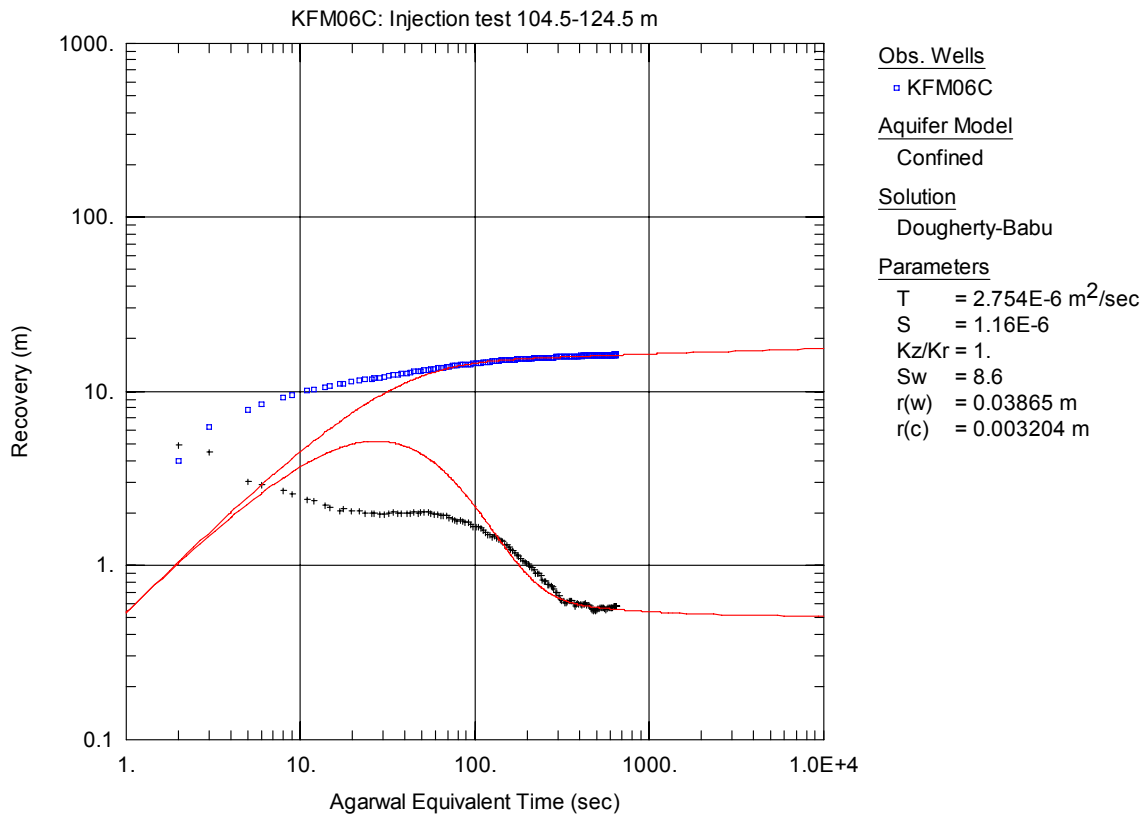
**Figure A3-50.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the second PRF, from the injection test in section 104.5-124.5 m in KFM06C.



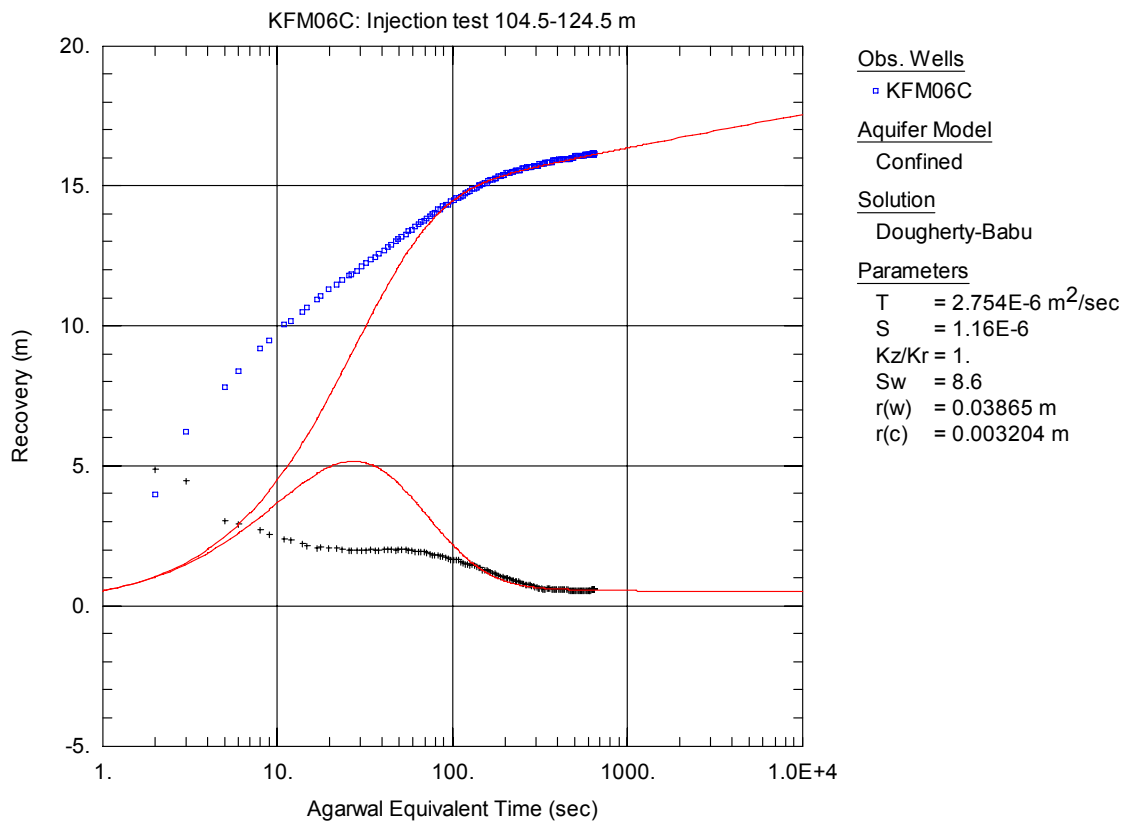
**Figure A3-51.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the first PRF, from the injection test in section 104.5-124.5 m in KFM06C.



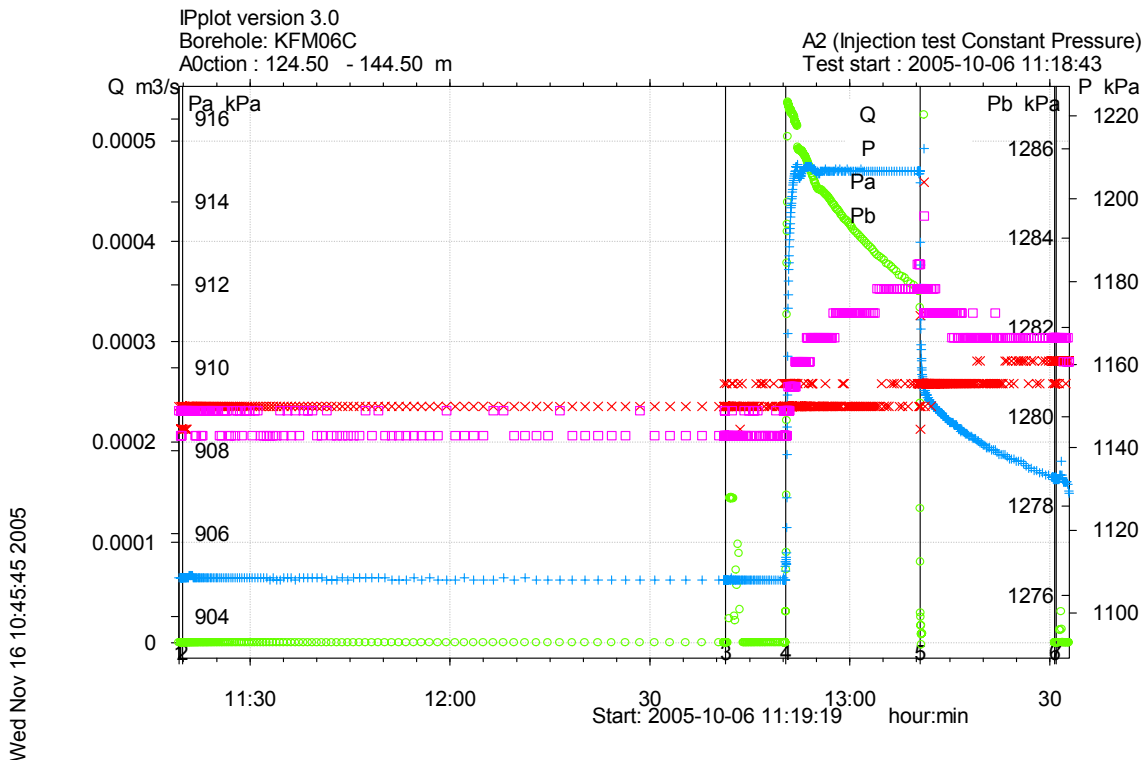
**Figure A3-52.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the first PRF, from the injection test in section 104.5-124.5 m in KFM06C.



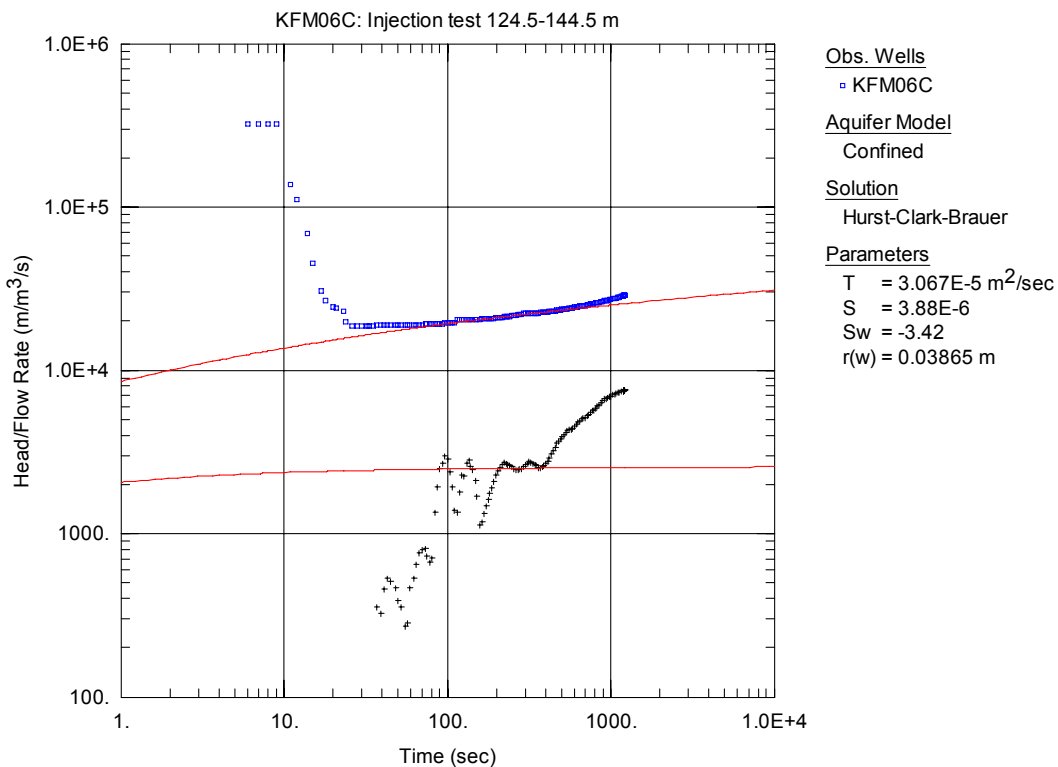
**Figure A3-53.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the second PRF, from the injection test in section 104.5-124.5 m in KFM06C.



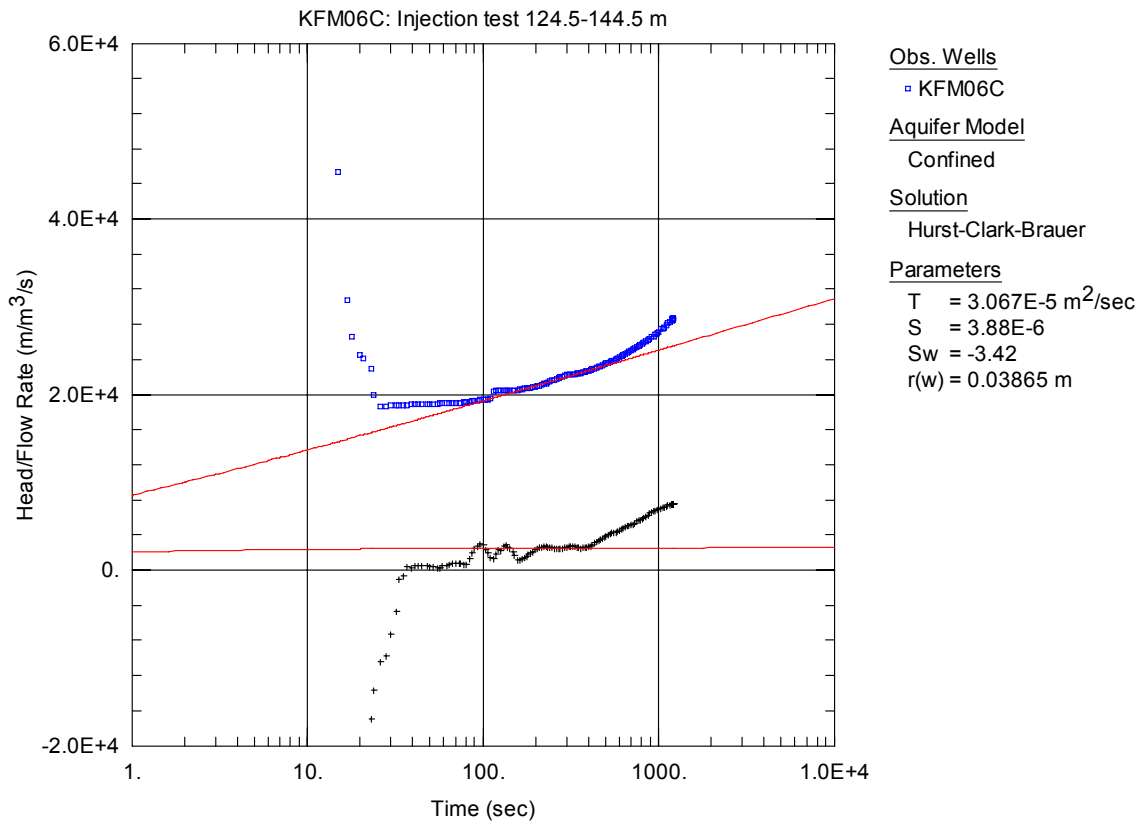
**Figure A3-54.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the second PRF, from the injection test in section 104.5-124.5 m in KFM06C.



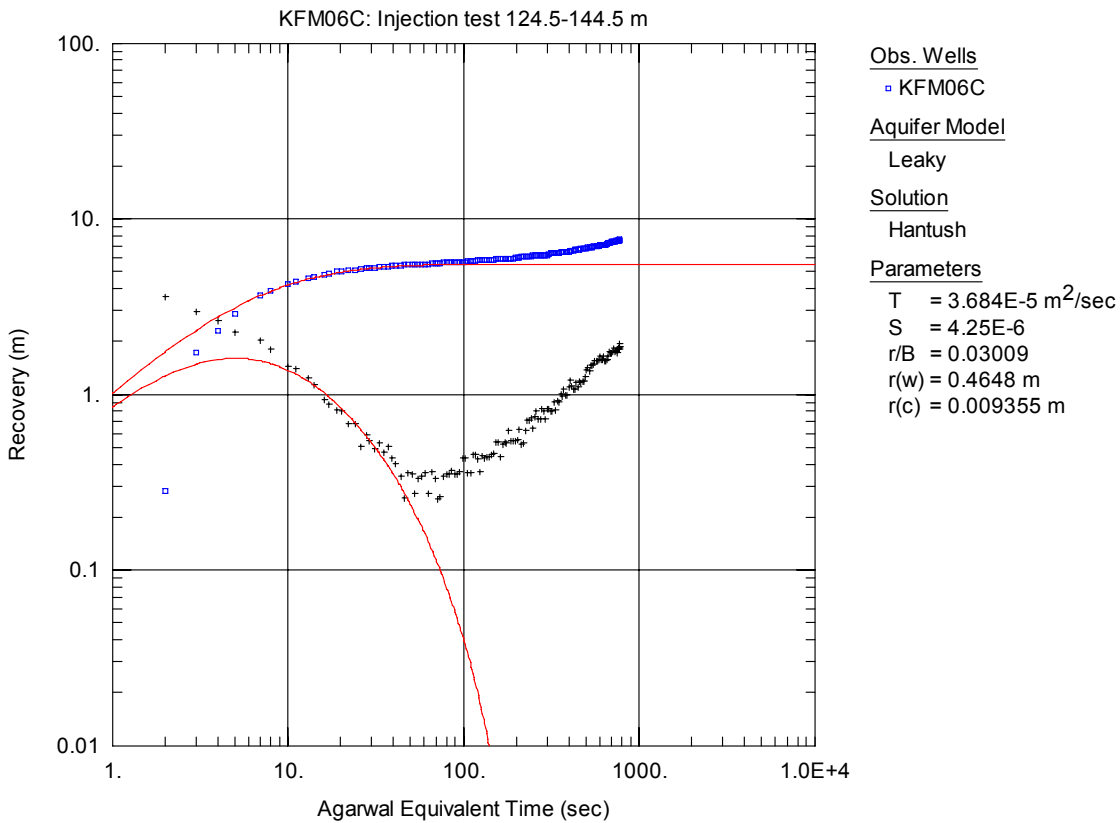
**Figure A3-55.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 124.5-144.5 m in borehole KFM06C.



**Figure A3-56.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 124.5-144.5 m in KFM06C.

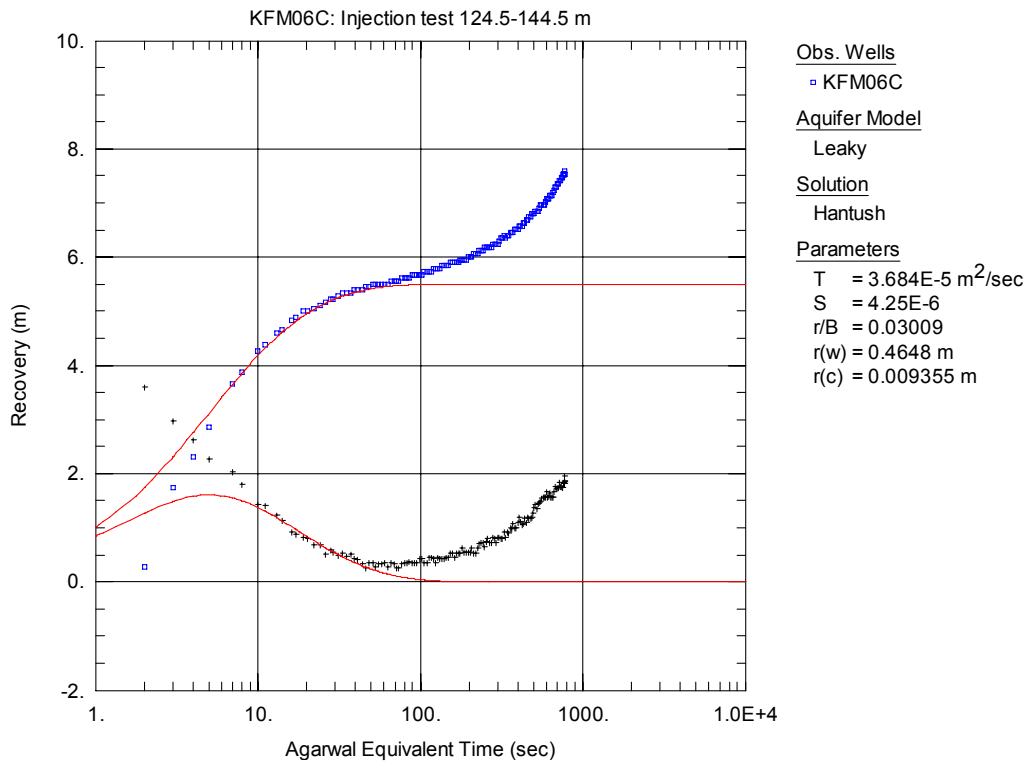


**Figure A3-57.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 124.5-144.5 m in KFM06C.

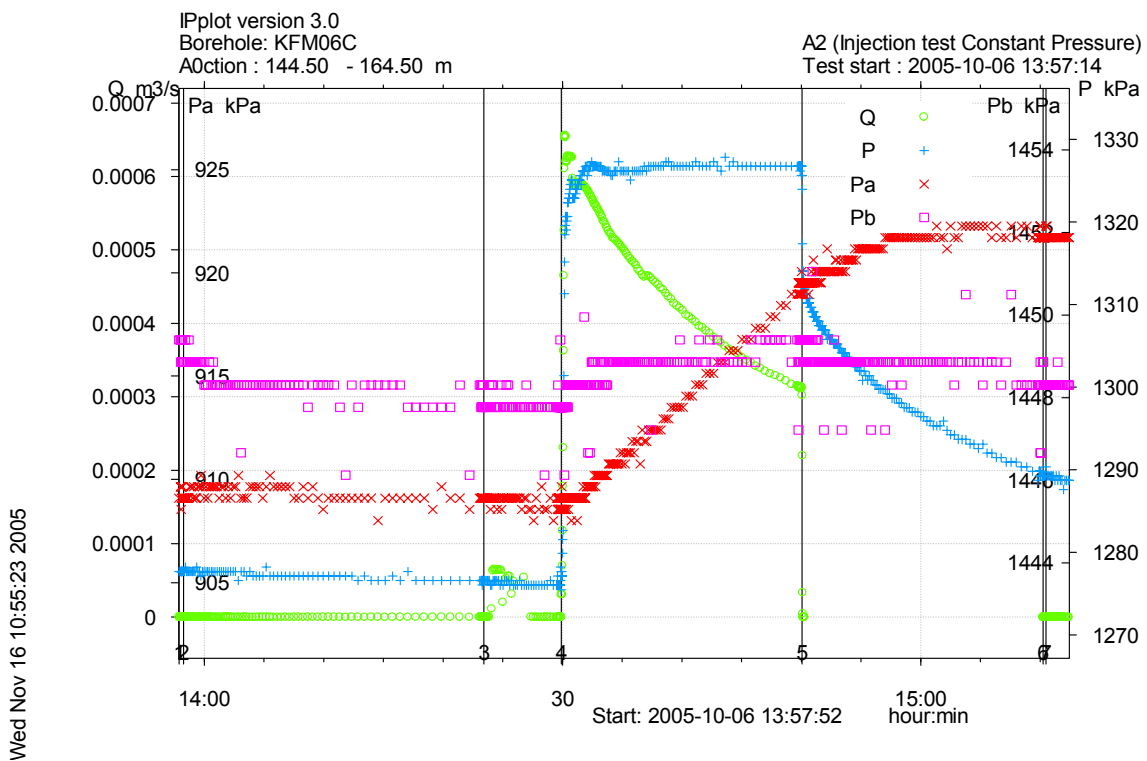


**Figure A3-58.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 124.5-144.5 m in KFM06C.

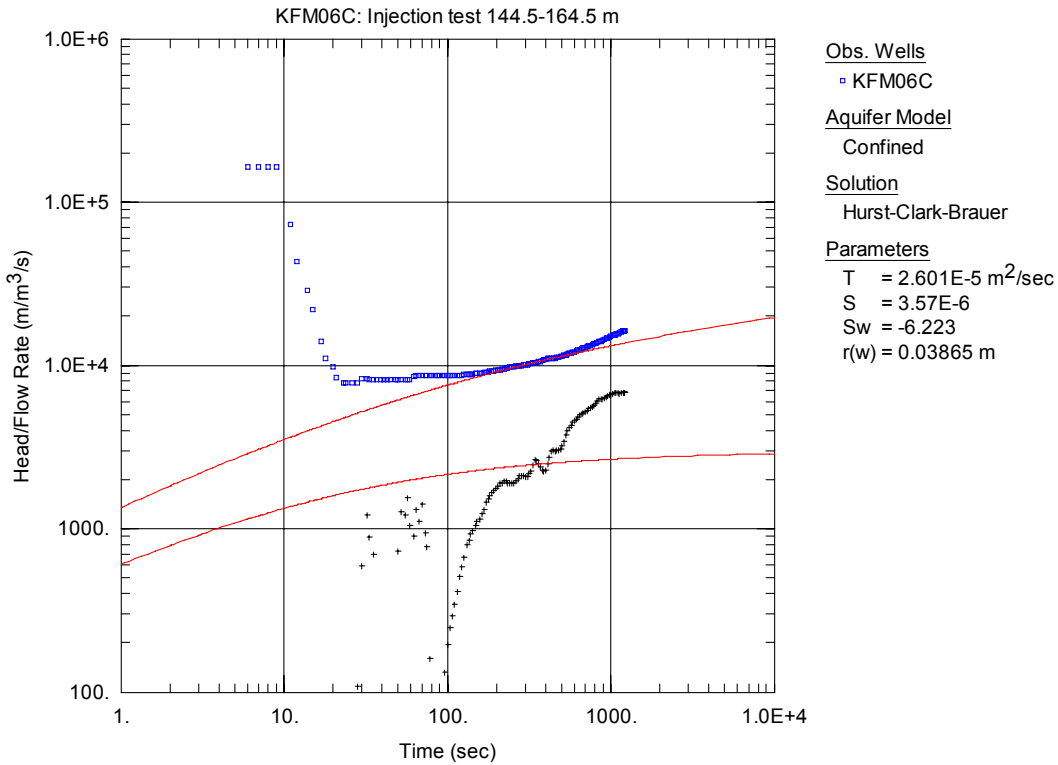




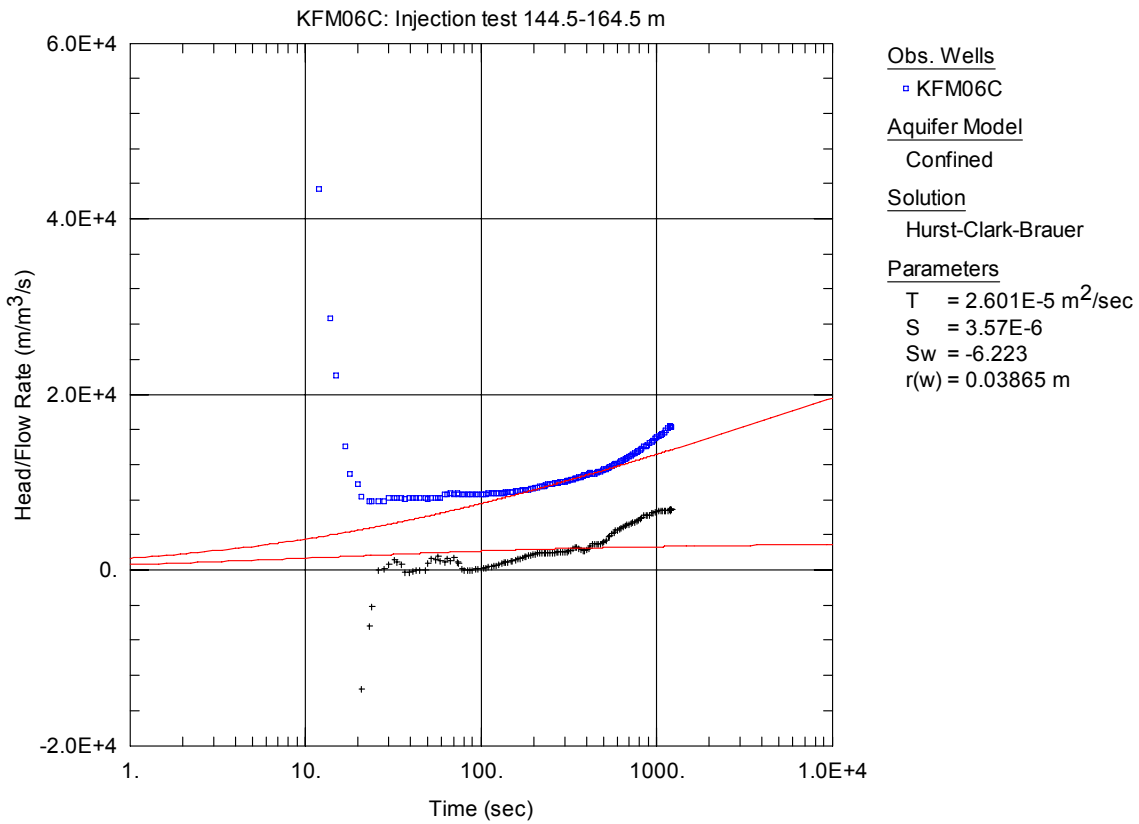
**Figure A3-59.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 124.5-144.5 m in KFM06C.



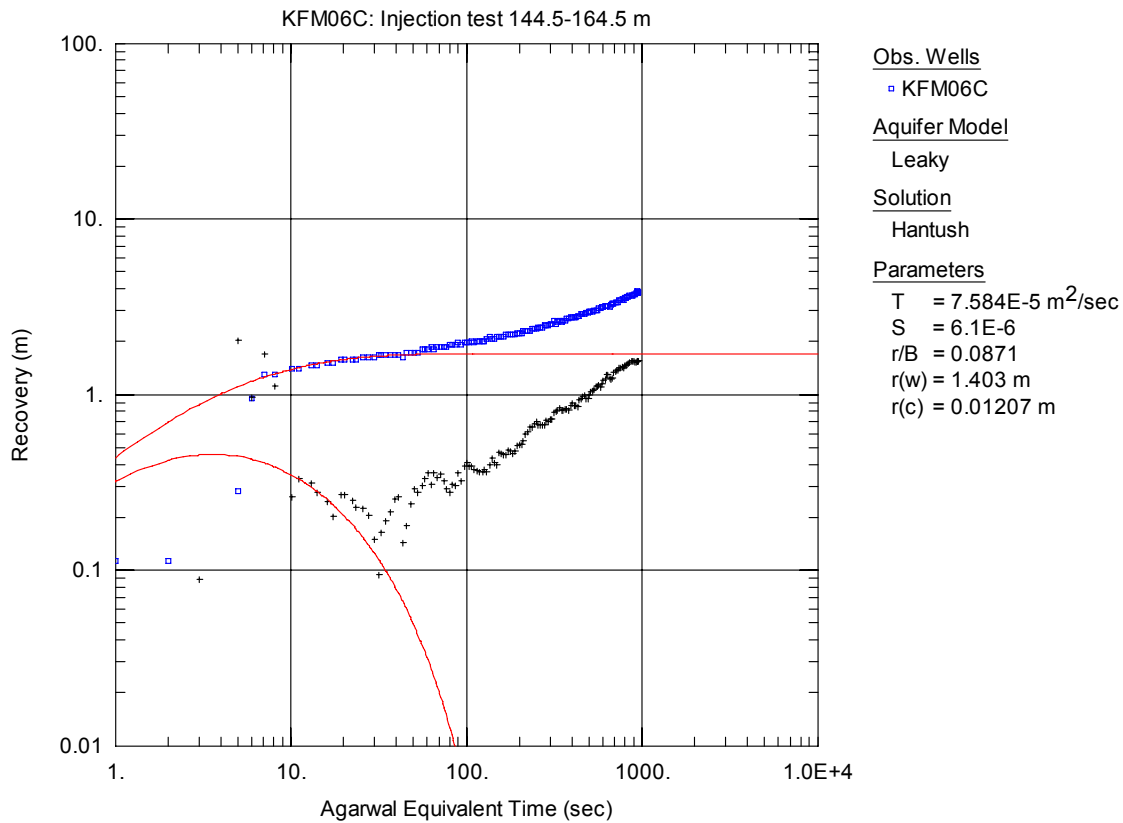
**Figure A3-60.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 144.5-164.5 m in borehole KFM06C.



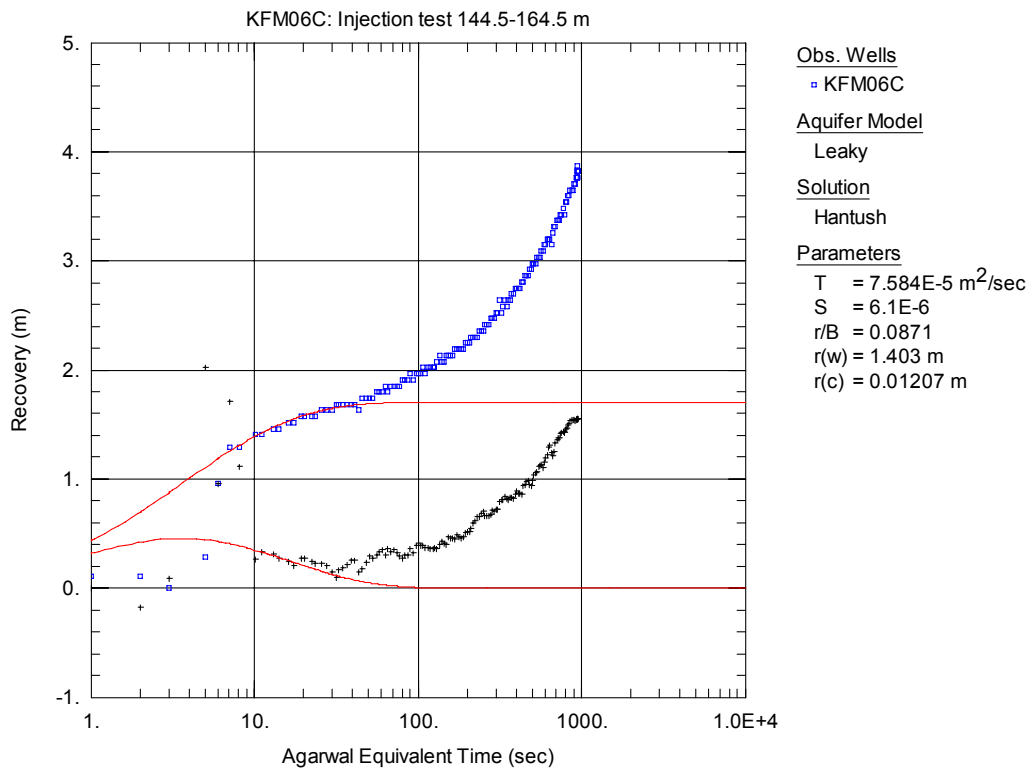
**Figure A3-61.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 144.5-164.5 m in KFM06C.



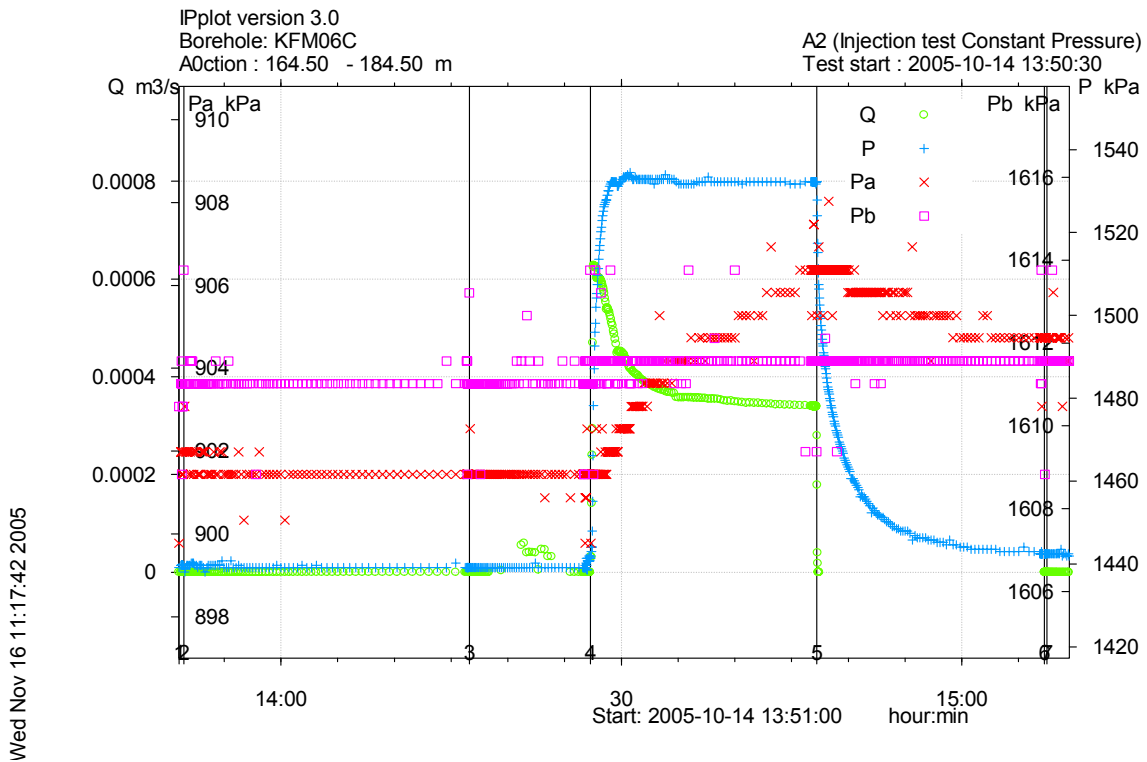
**Figure A3-62.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 144.5-164.5 m in KFM06C.



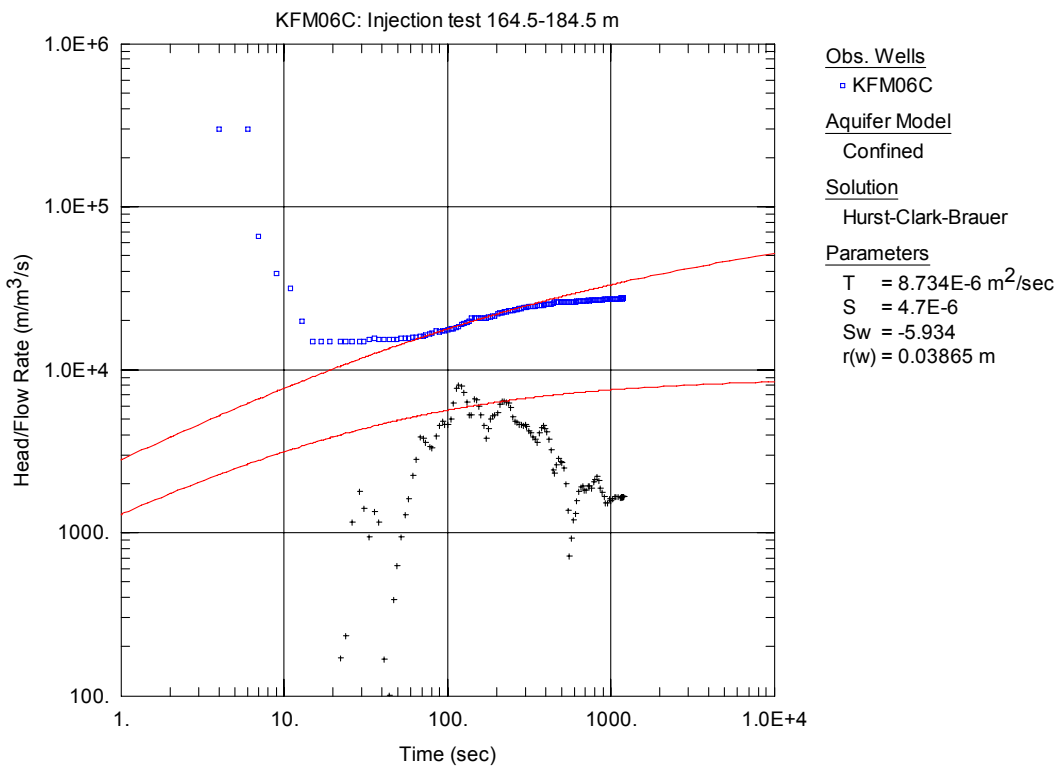
**Figure A3-63.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 144.5-164.5 m in KFM06C.



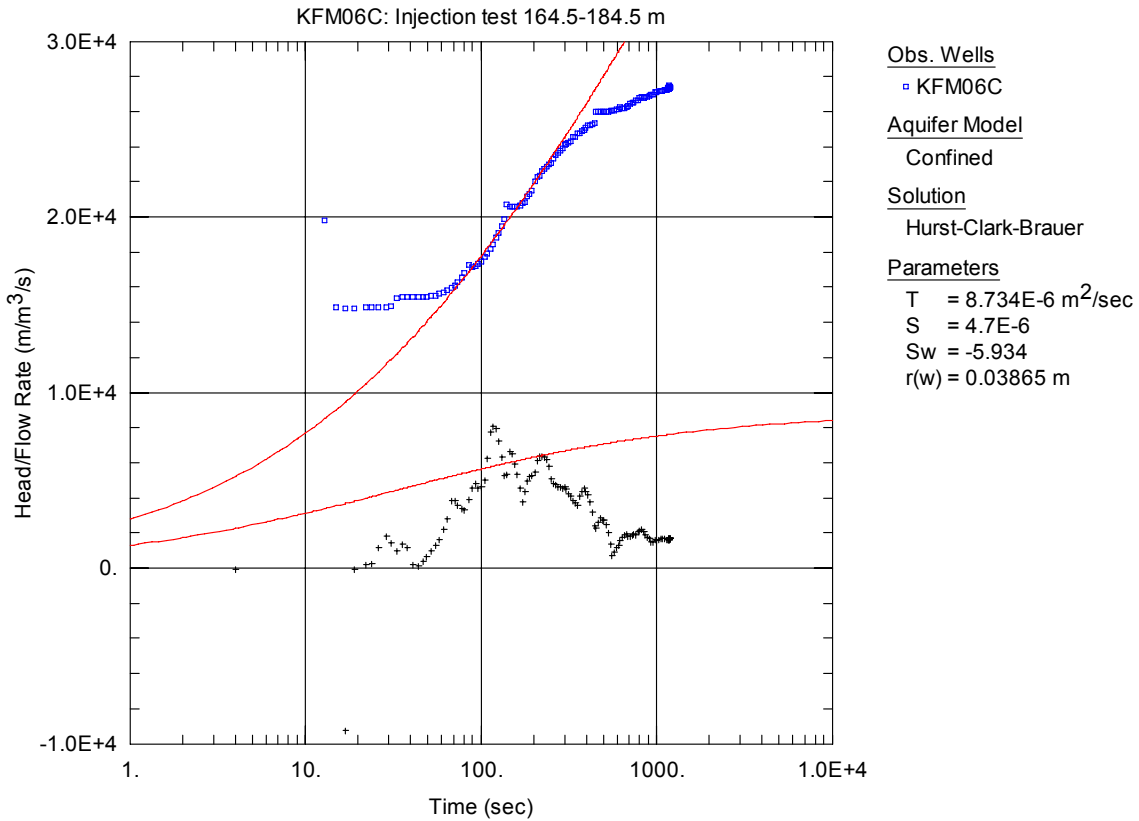
**Figure A3-64.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 144.5-164.5 m in KFM06C.



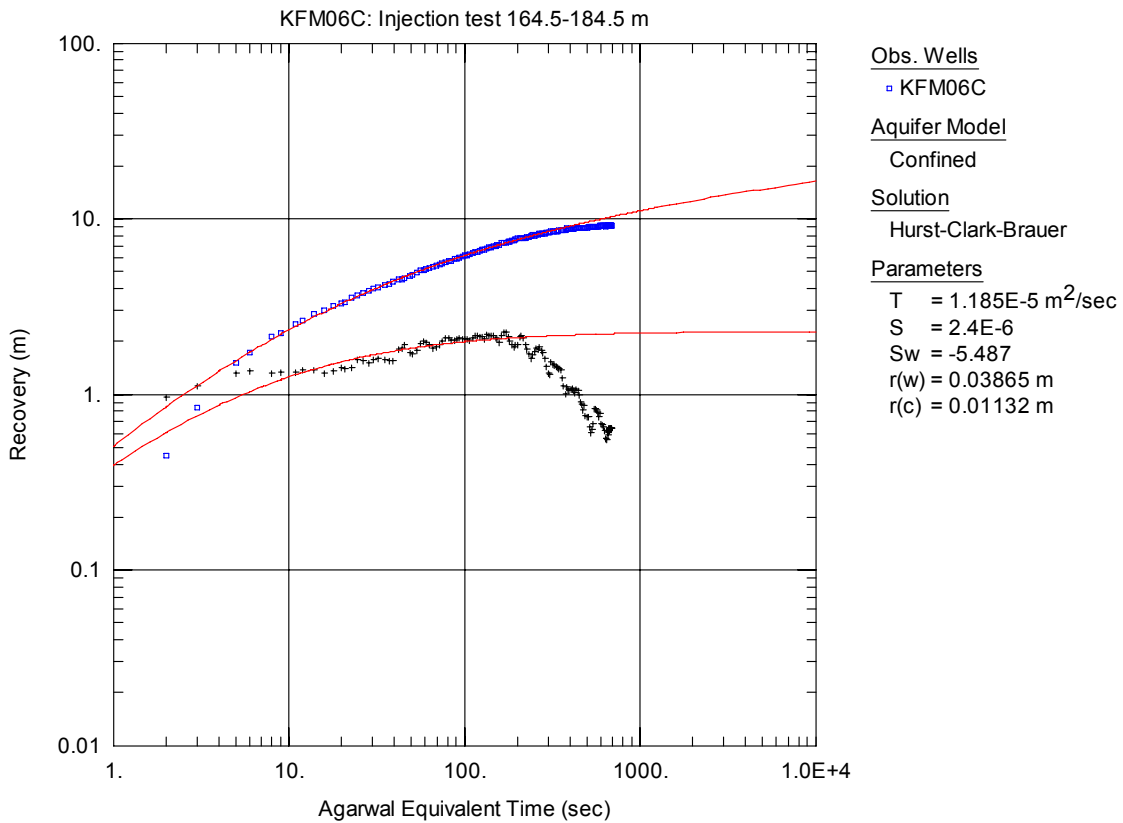
**Figure A3-65.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 164.5-184.5 m in borehole KFM06C.



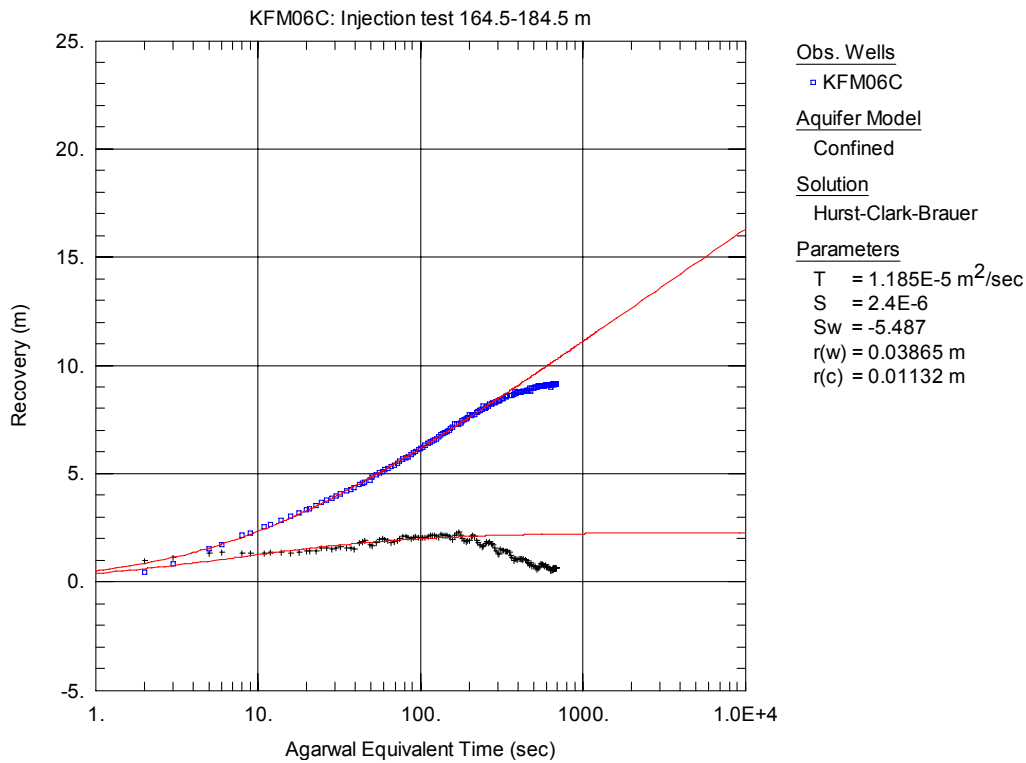
**Figure A3-66.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 164.5-184.5 m in KFM06C.



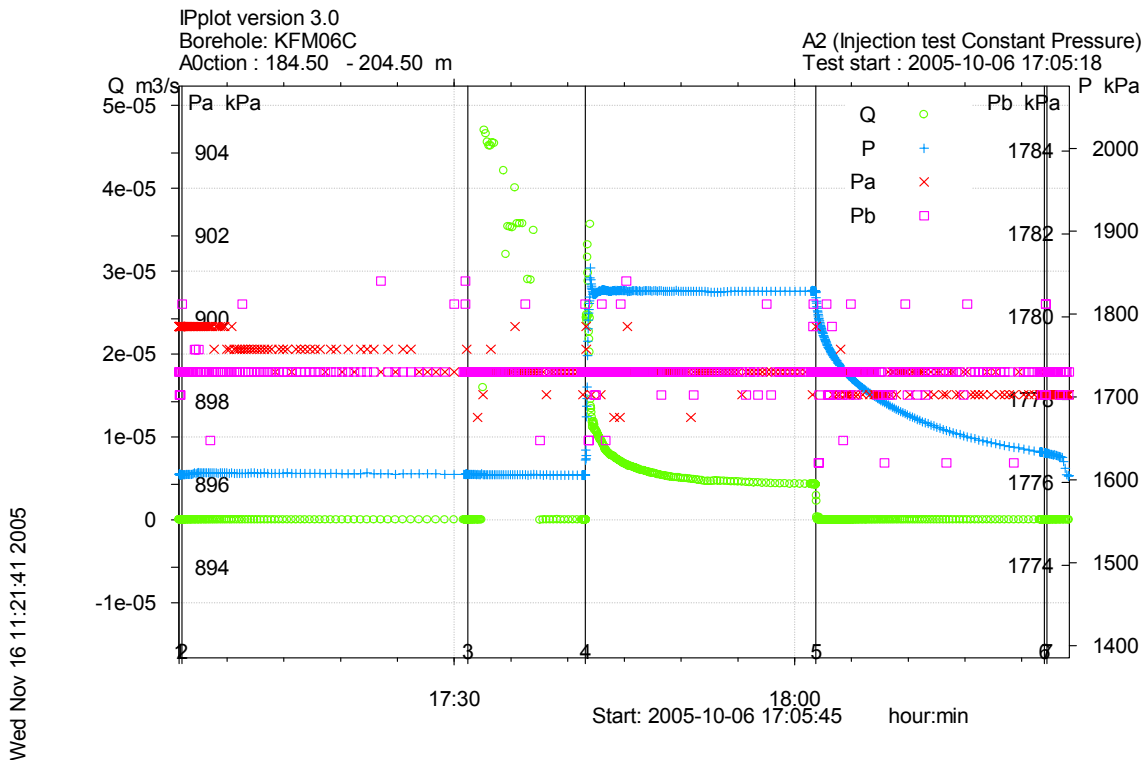
**Figure A3-67.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 164.5-184.5 m in KFM06C.



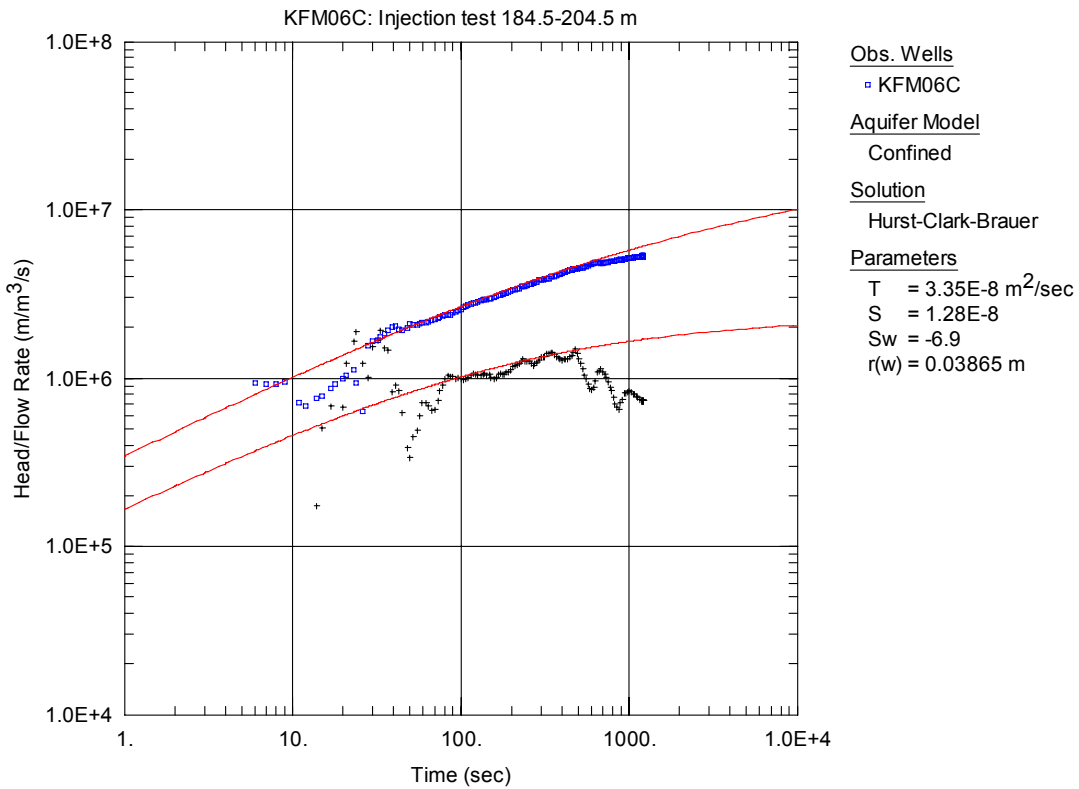
**Figure A3-68.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 164.5-184.5 m in KFM06C.



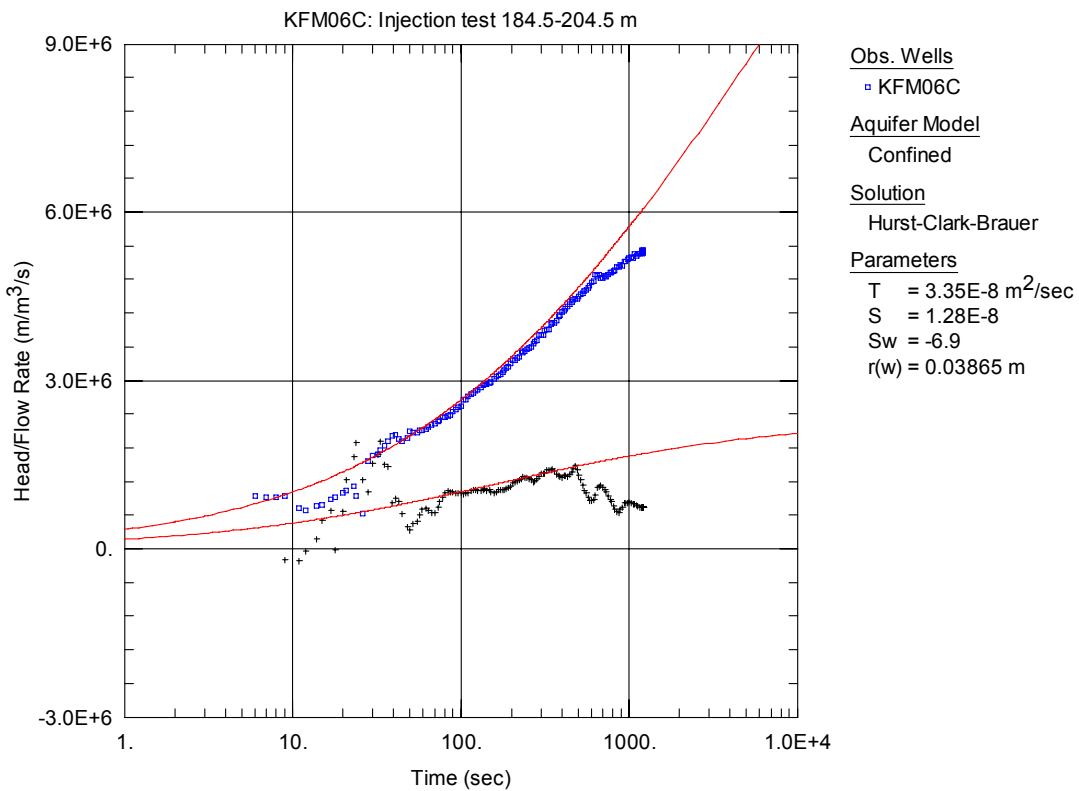
**Figure A3-69.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 164.5-184.5 m in KFM06C.



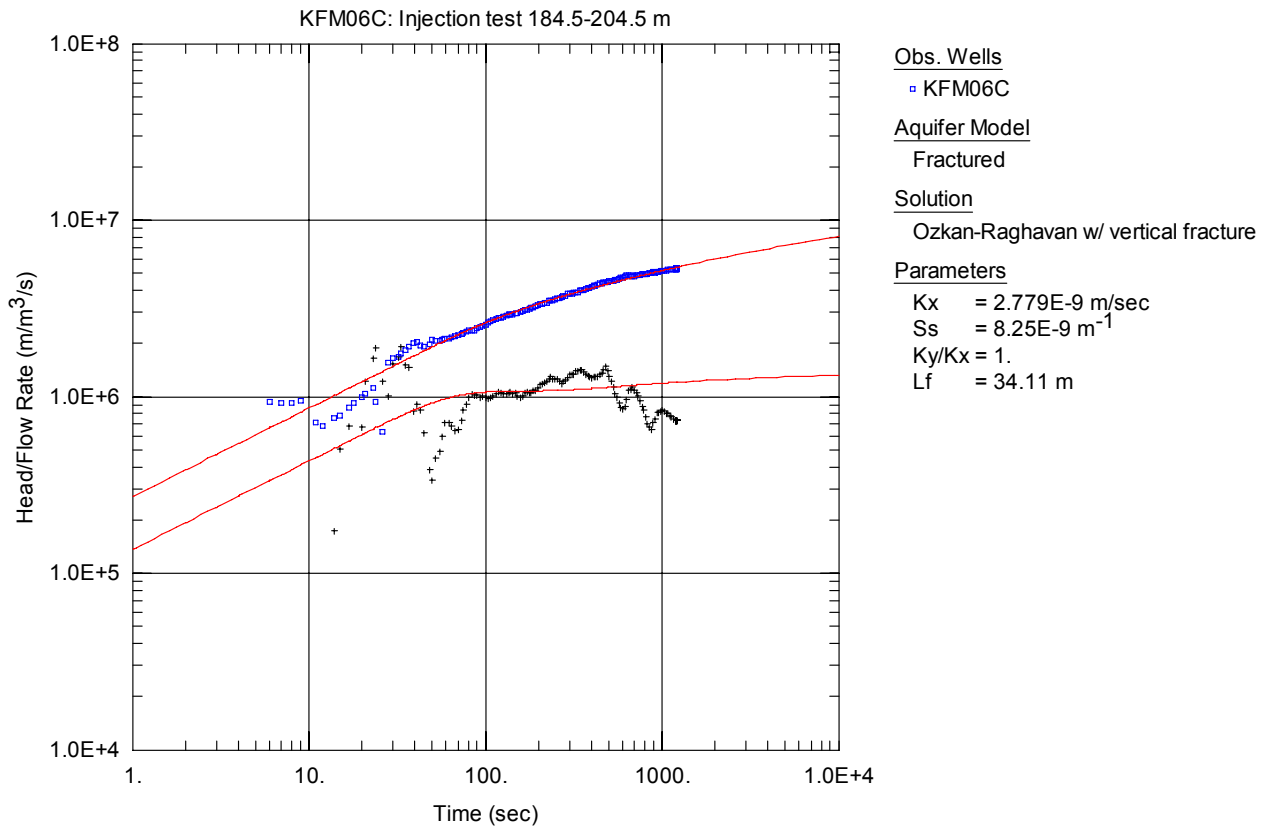
**Figure A3-70.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 184.5-204.5 m in borehole KFM06C.



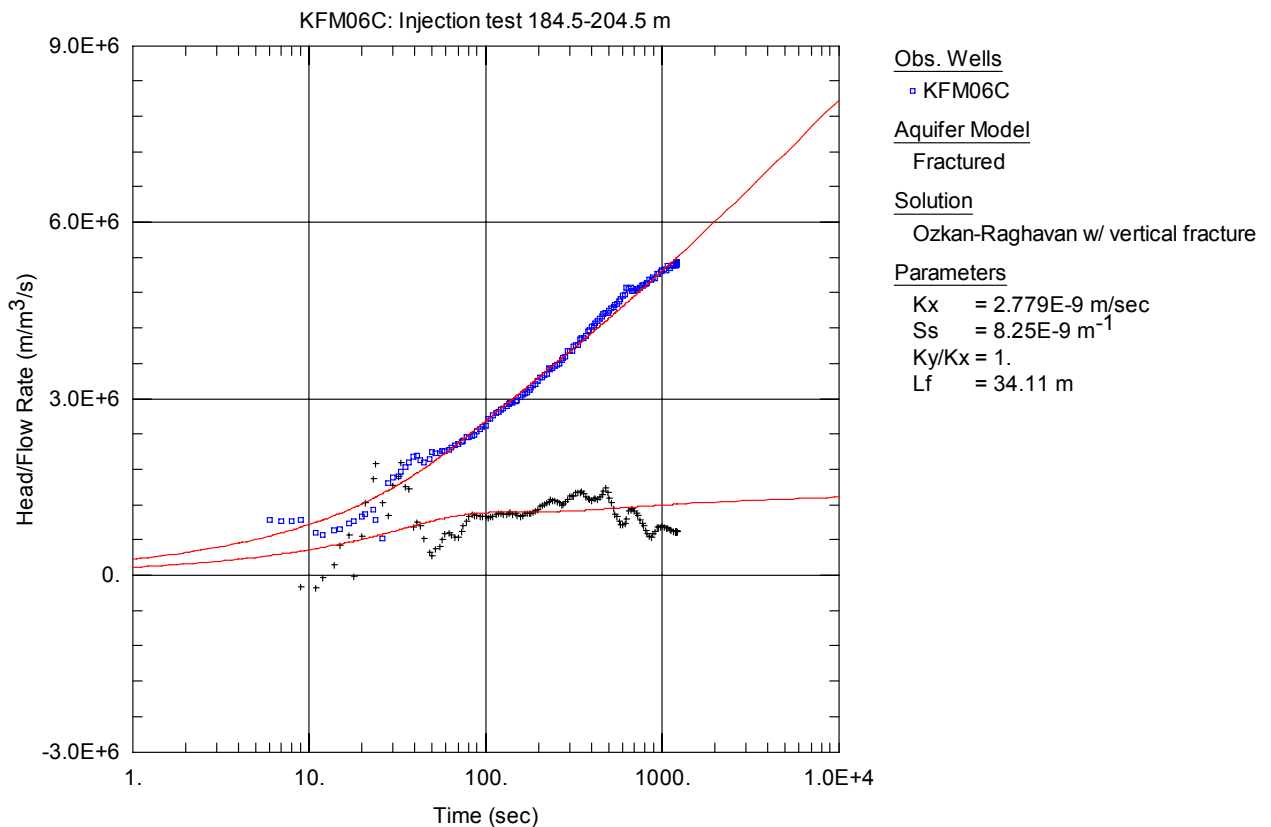
**Figure A3-71.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 184.5-204.5 m in KFM06C.



**Figure A3-72.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 184.5-204.5 m in KFM06C.

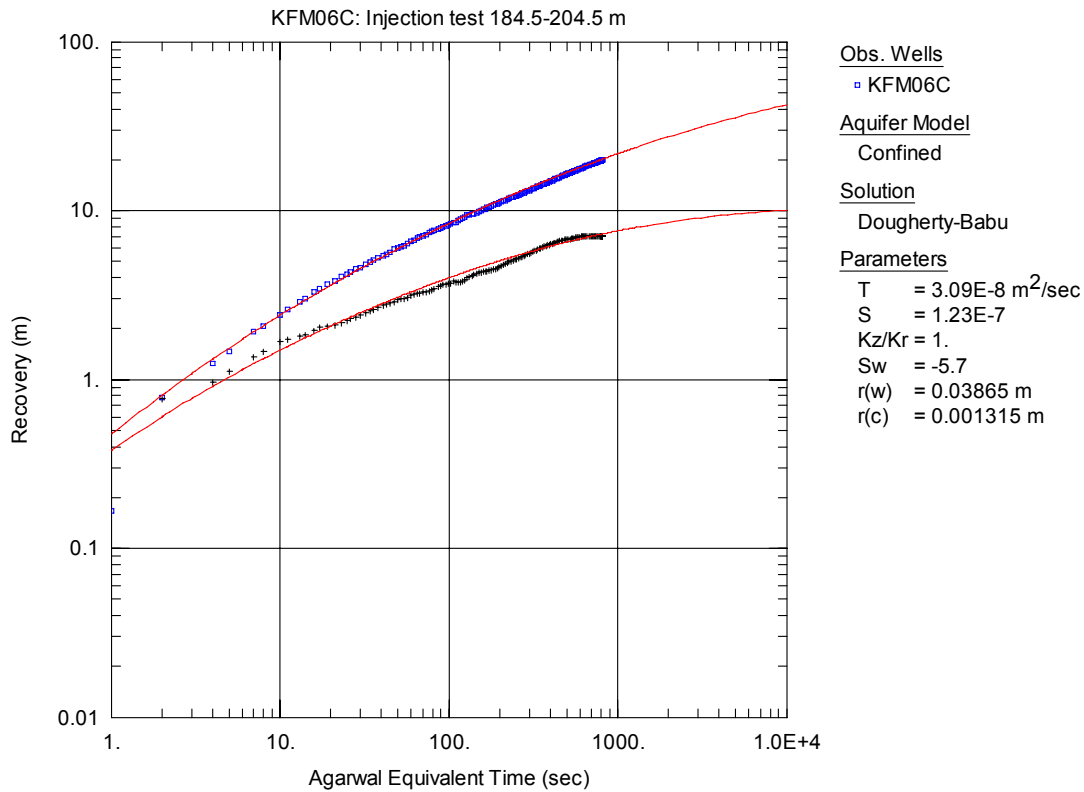


**Figure A3-73.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 184.5-204.5 m in KFM06C.

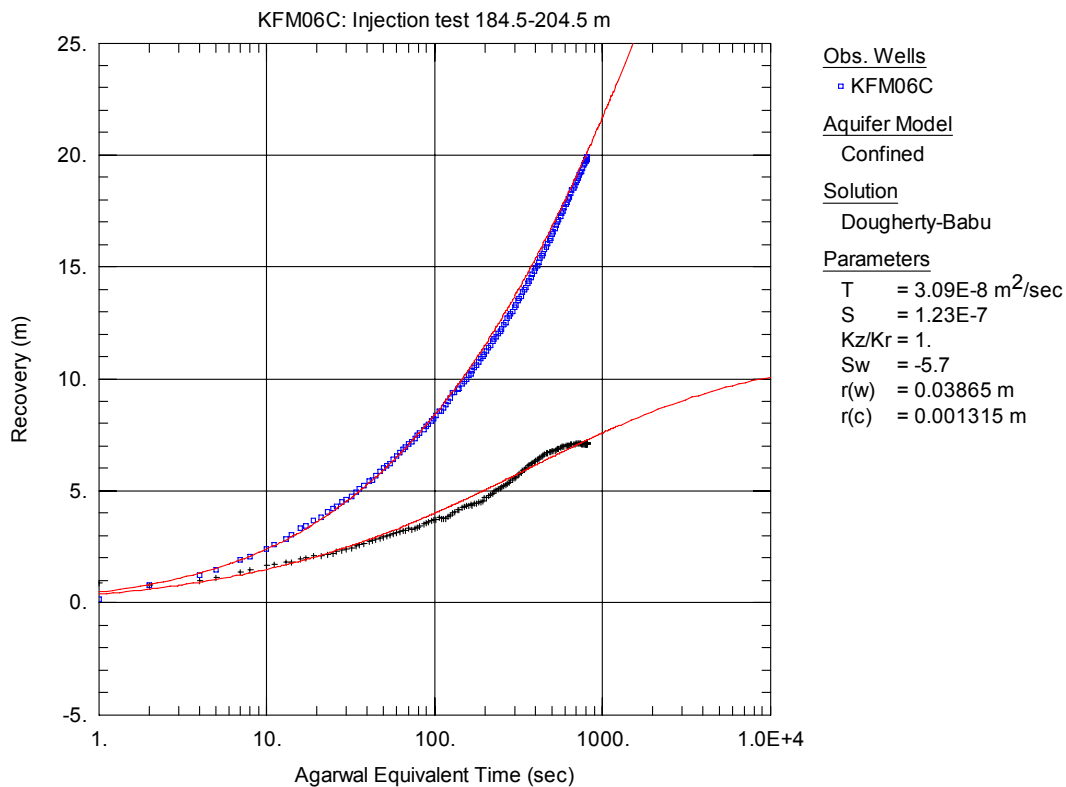


**Figure A3-74.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 184.5-204.5 m in KFM06C.

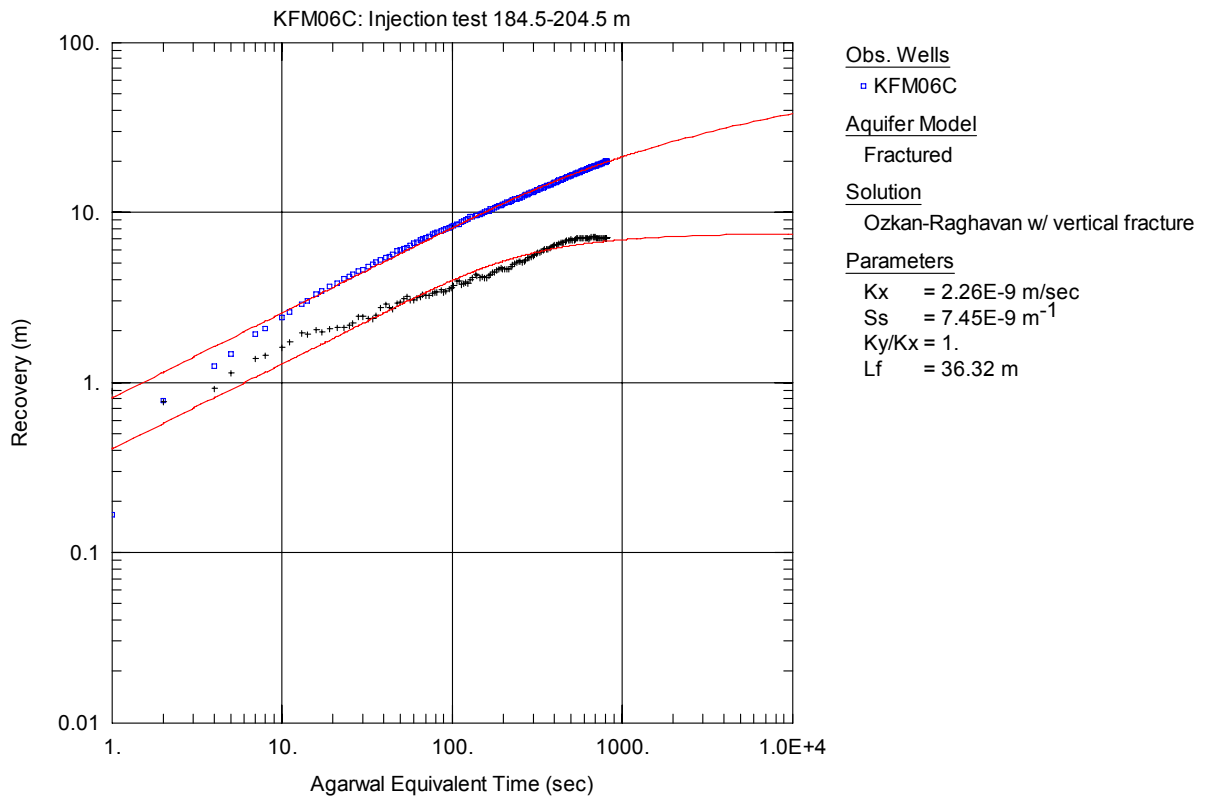




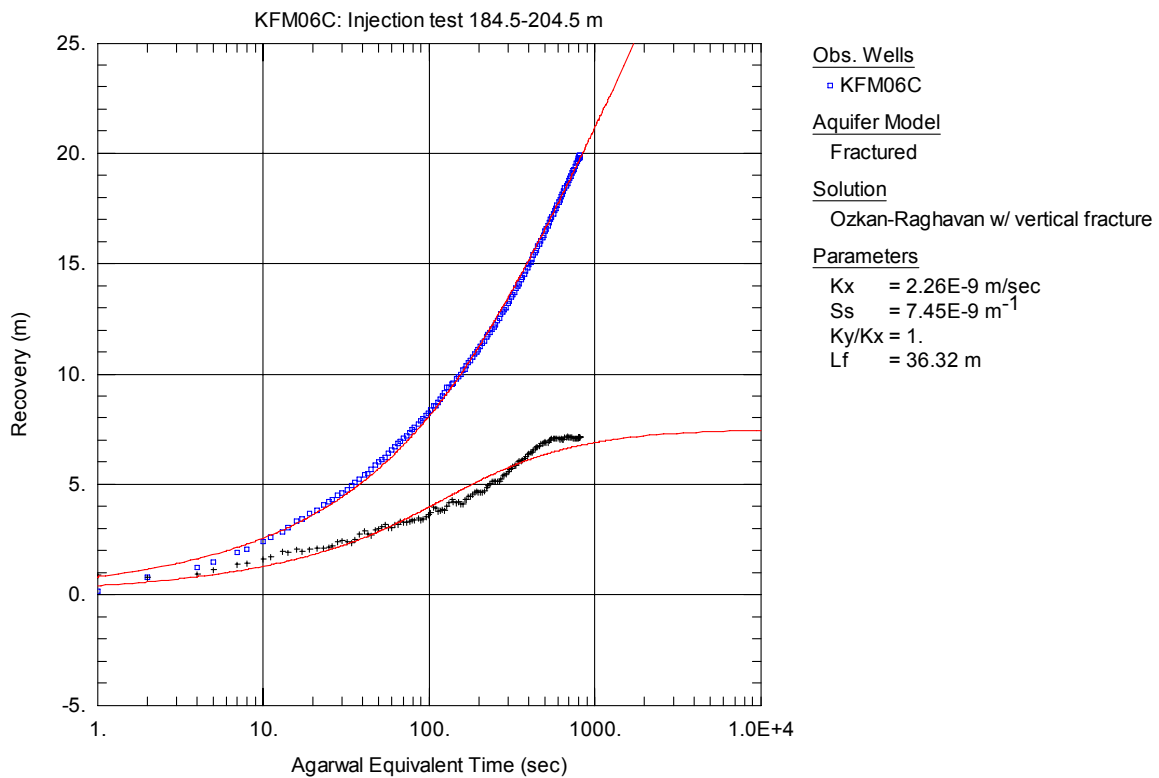
**Figure A3-75.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 184.5-204.5 m in KFM06C.



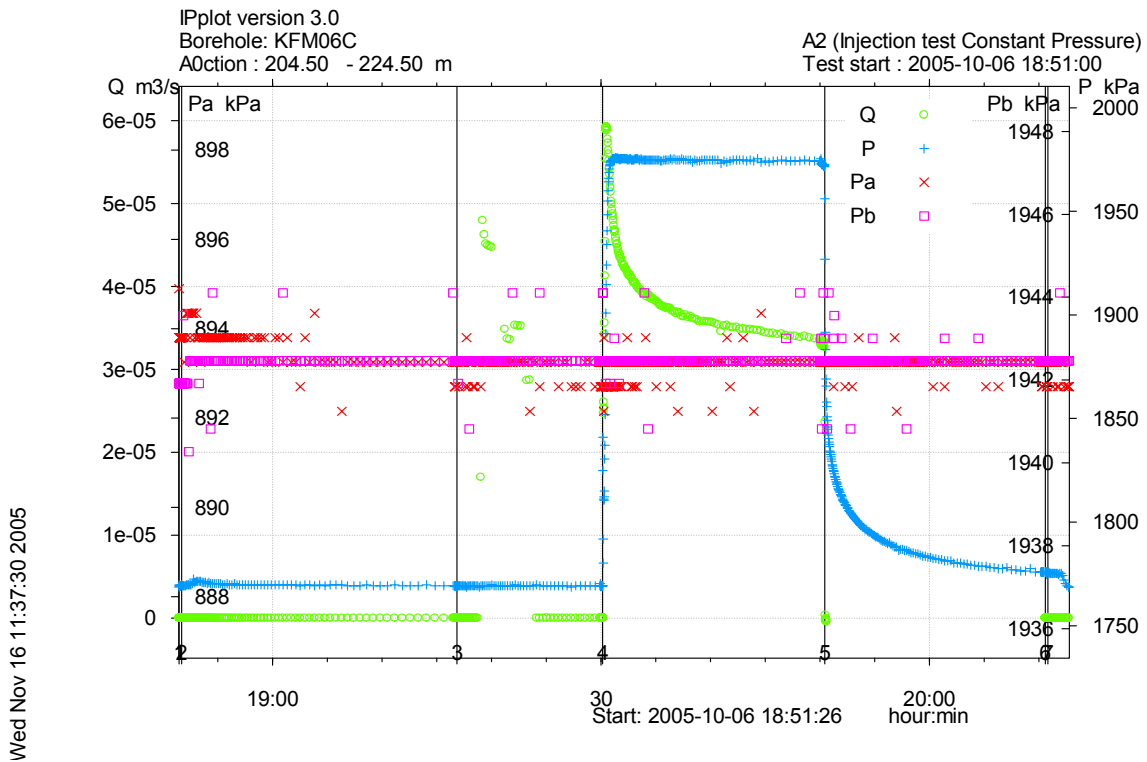
**Figure A3-76.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 184.5-204.5 m in KFM06C.



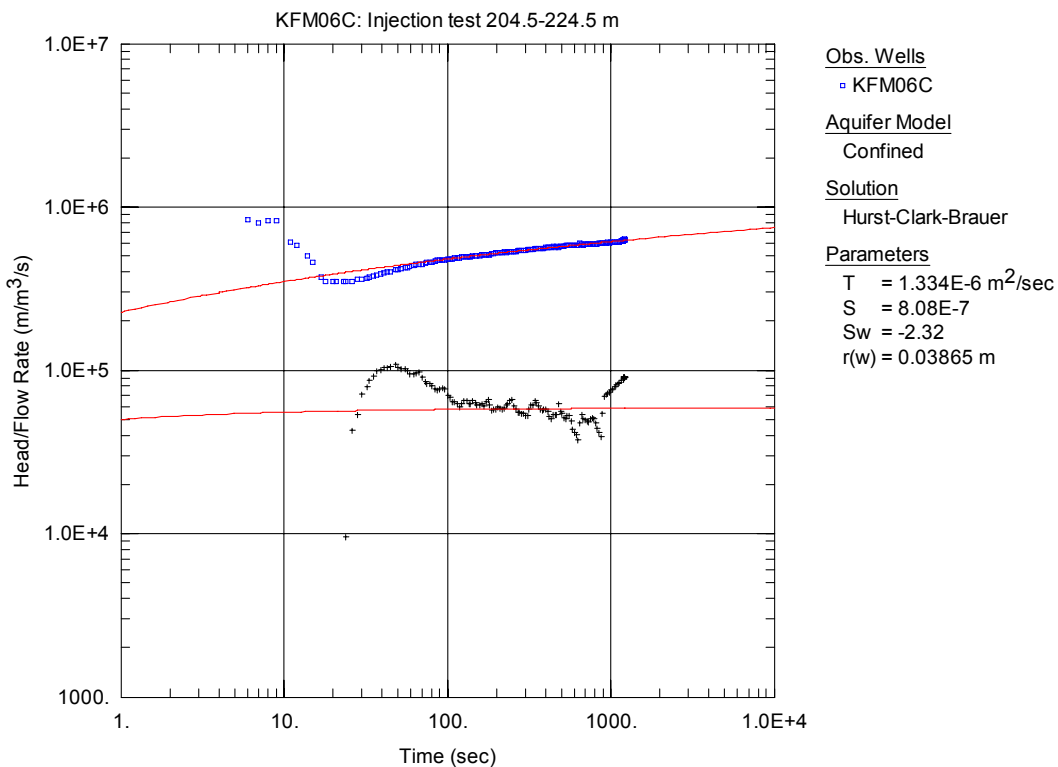
**Figure A3-77.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 184.5-204.5 m in KFM06C.



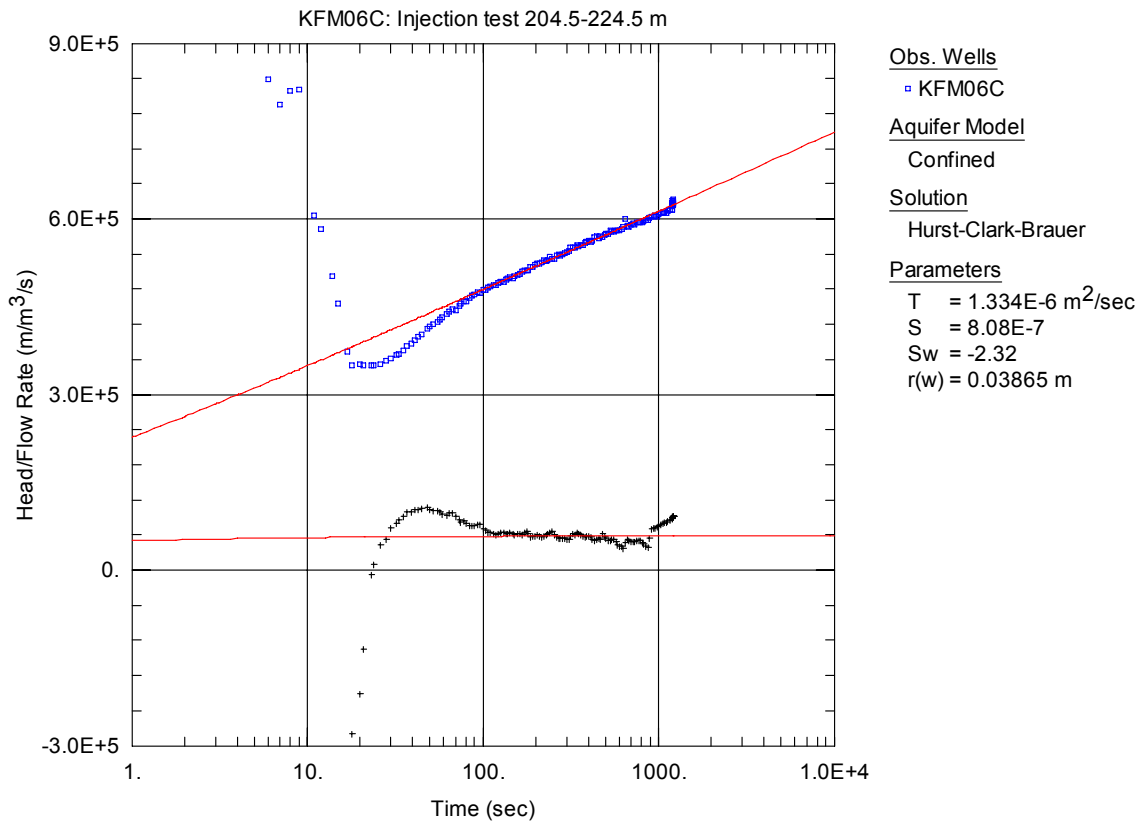
**Figure A3-78.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 184.5-204.5 m in KFM06C.



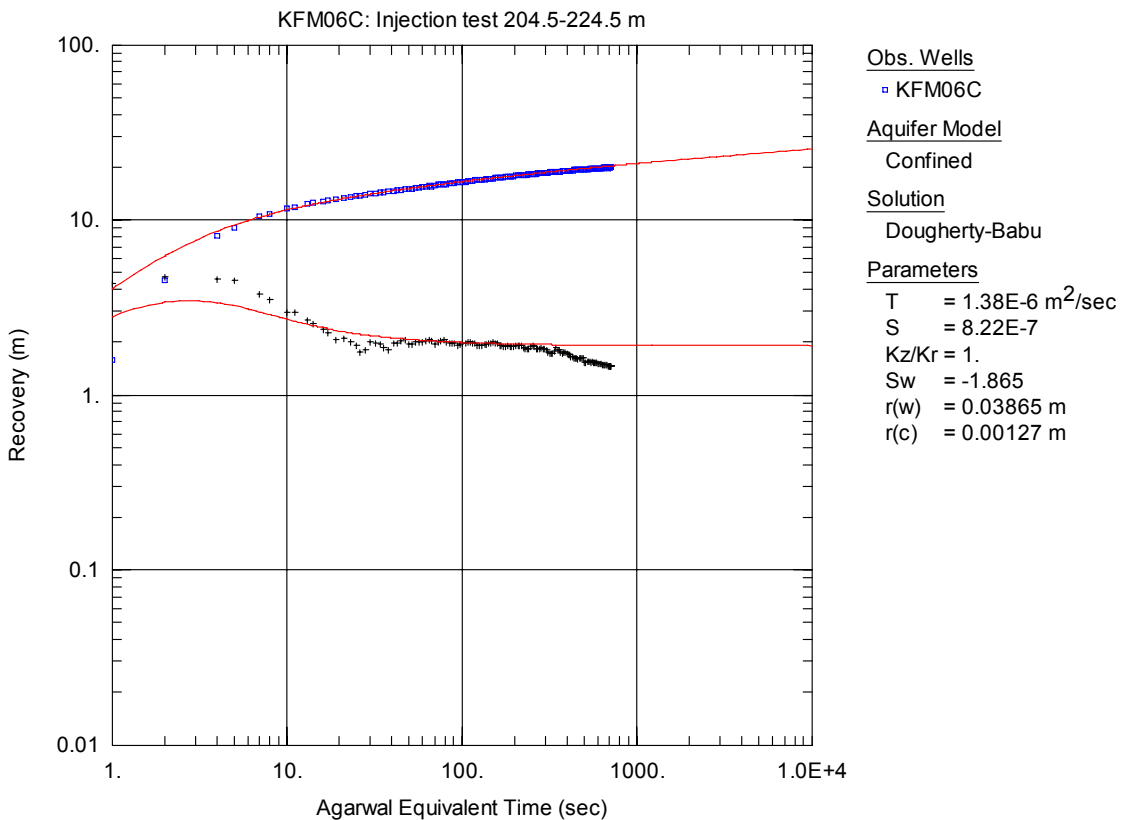
**Figure A3-79.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 204.5-224.5 m in borehole KFM06C.



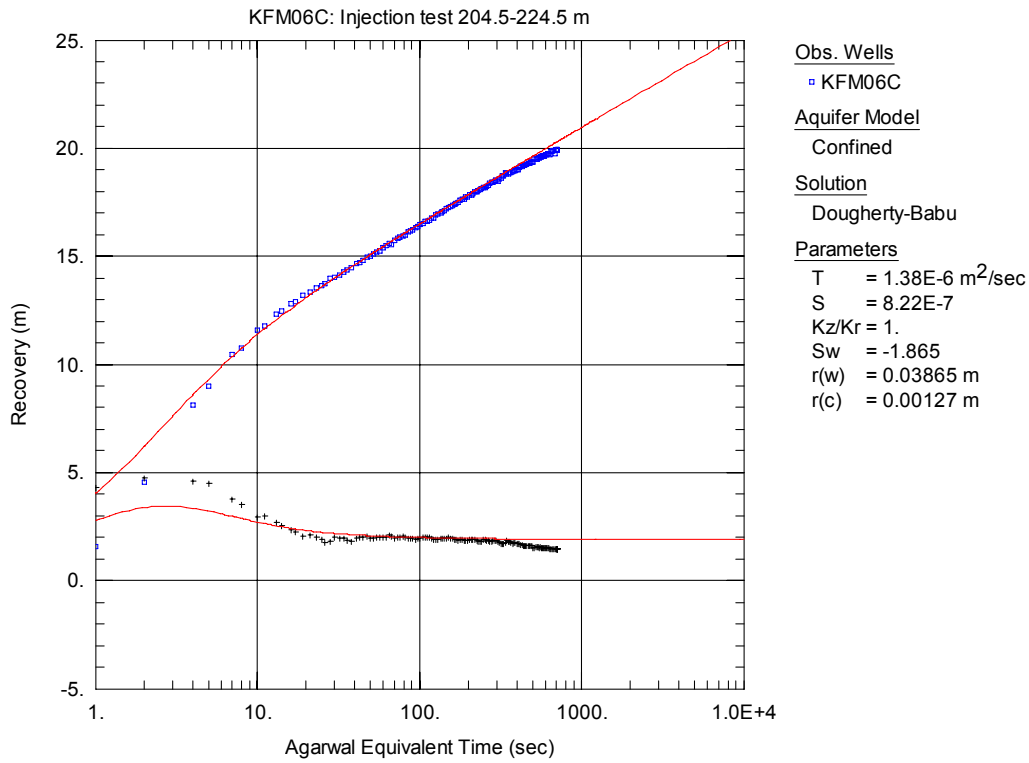
**Figure A3-80.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 204.5-224.5 m in KFM06C.



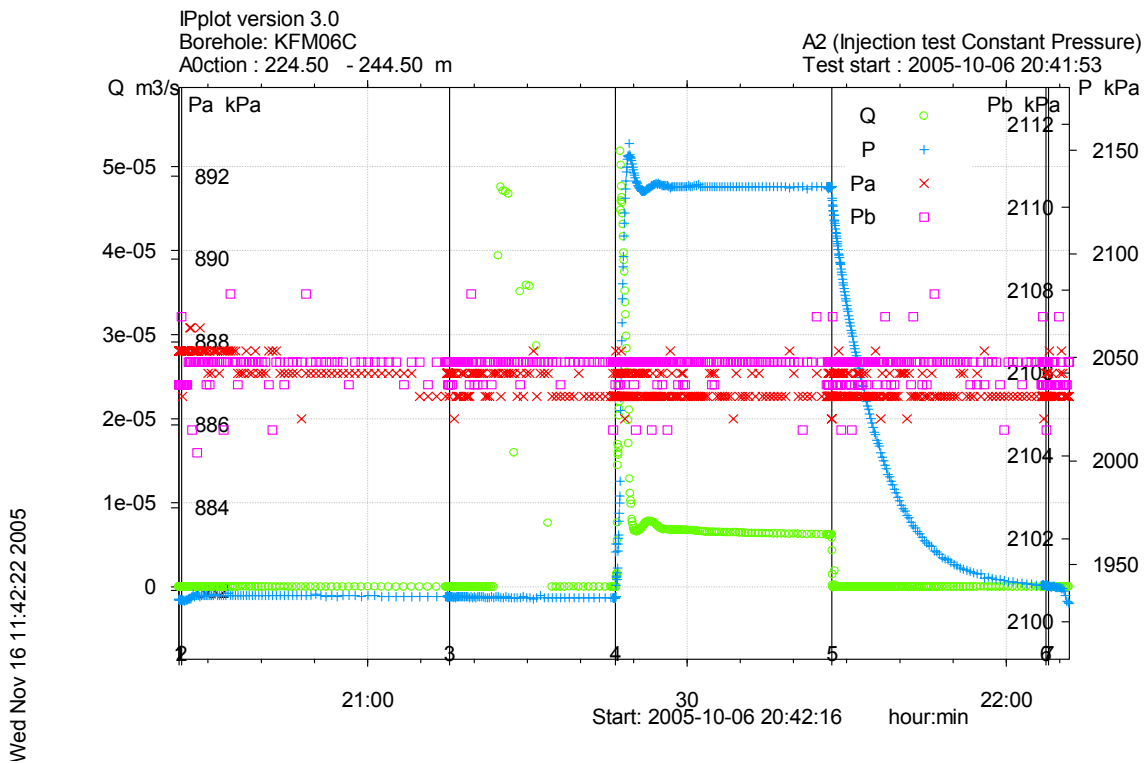
**Figure A3-81.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 204.5-224.5 m in KFM06C.



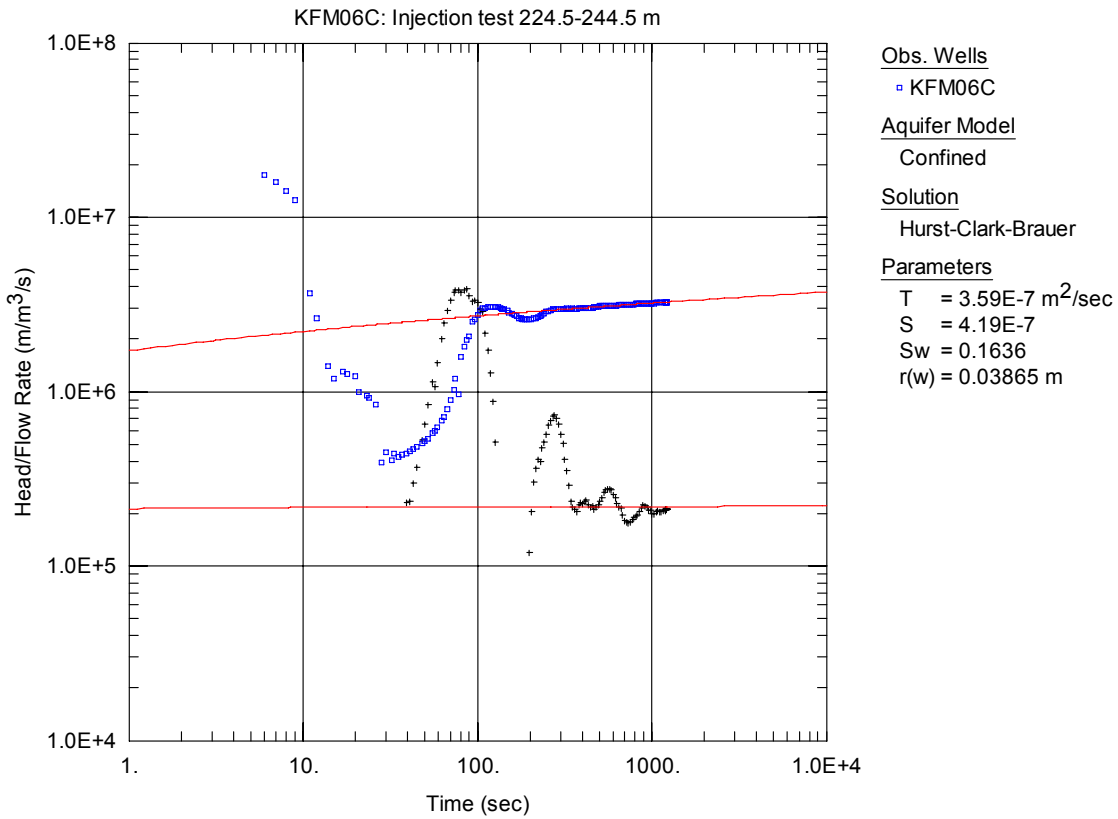
**Figure A3-82.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 204.5-224.5 m in KFM06C.



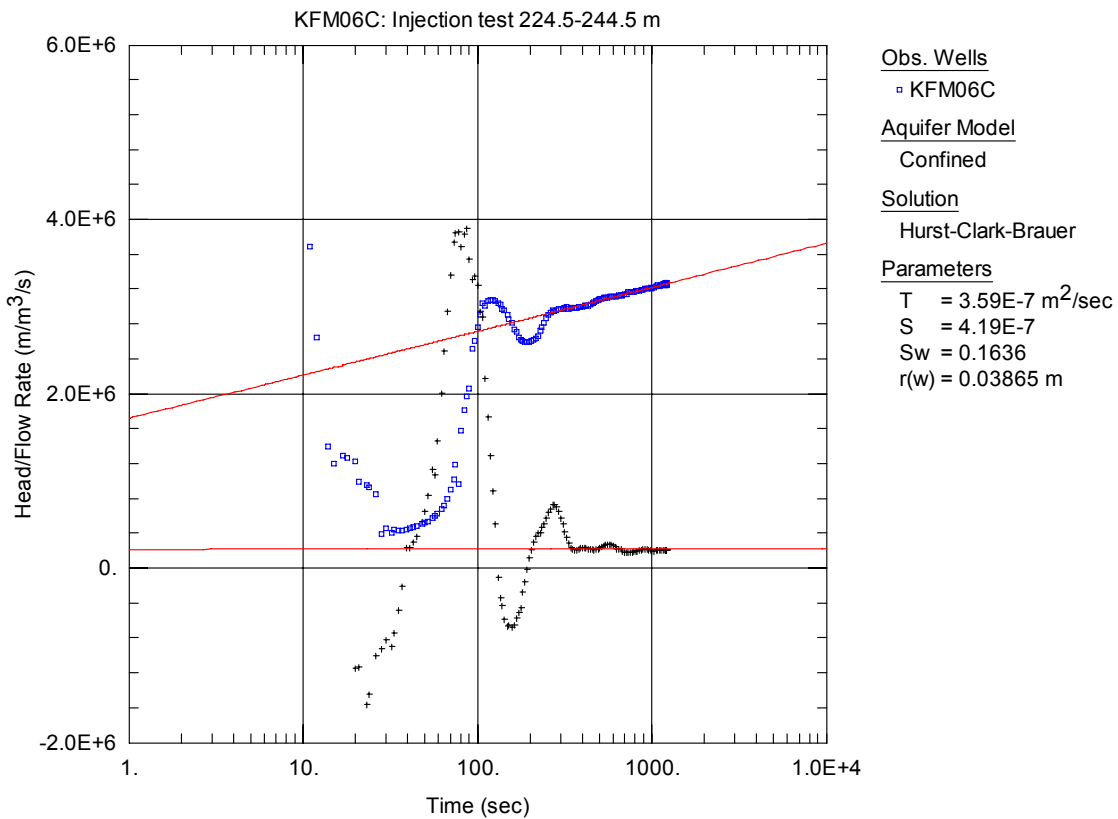
**Figure A3-83.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 204.5-224.5 m in KFM06C.



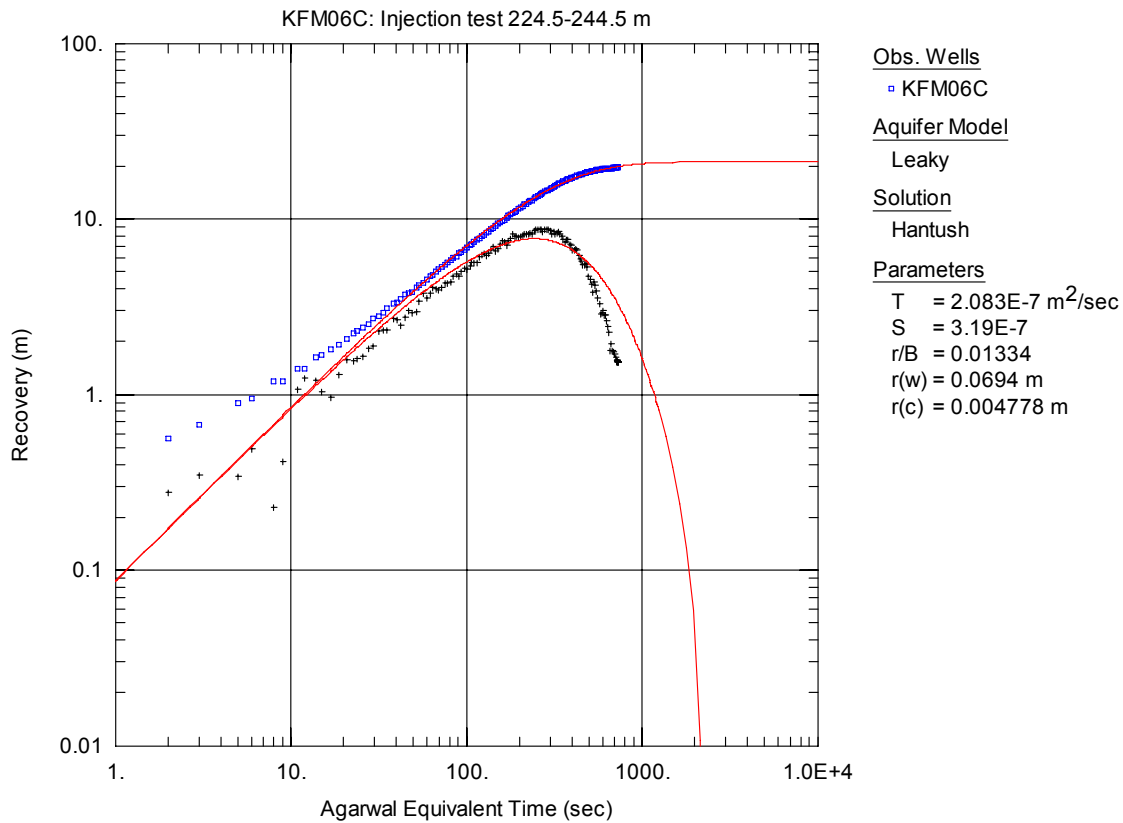
**Figure A3-84.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 224.5-244.5 m in borehole KFM06C.



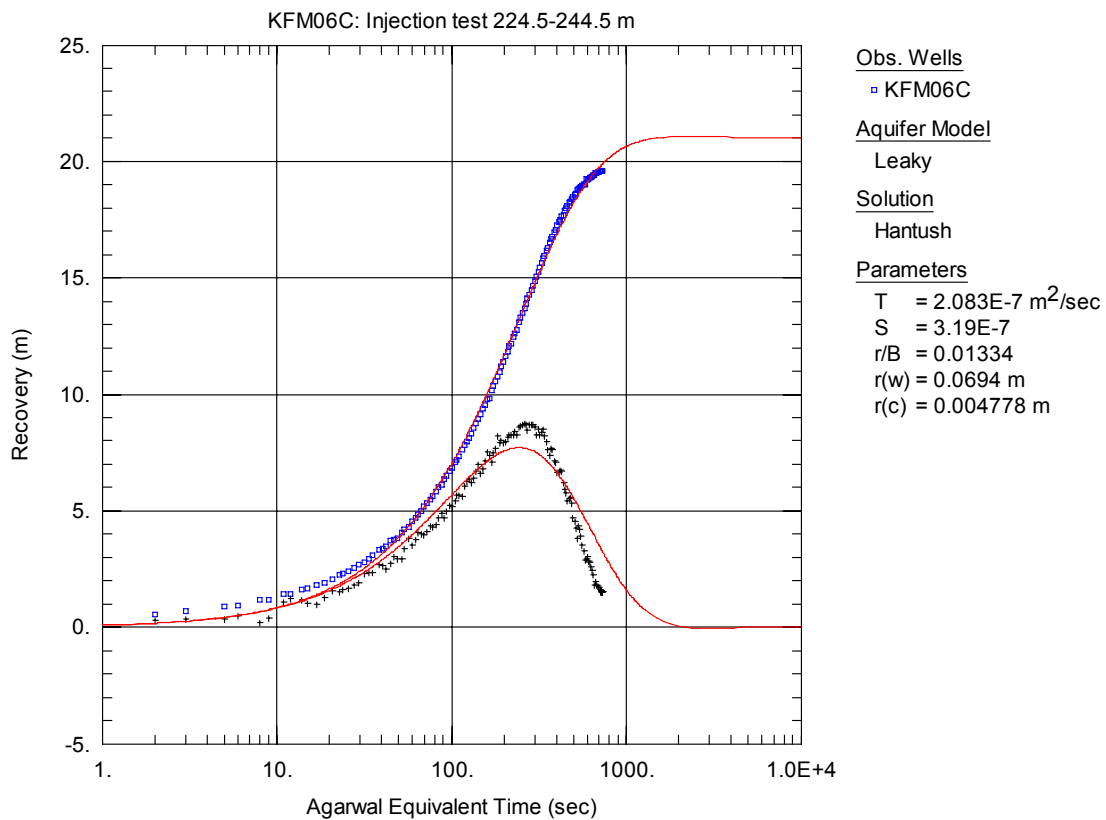
**Figure A3-85.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 224.5-244.5 m in KFM06C.



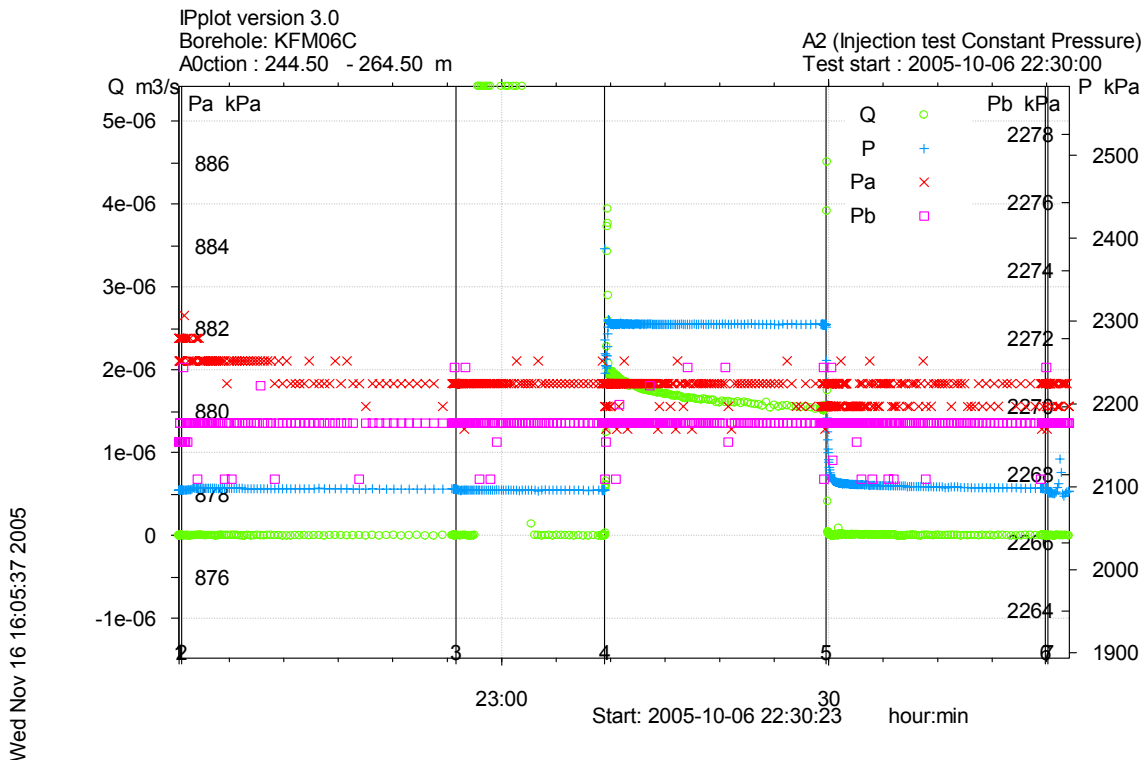
**Figure A3-86.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 224.5-244.5 m in KFM06C.



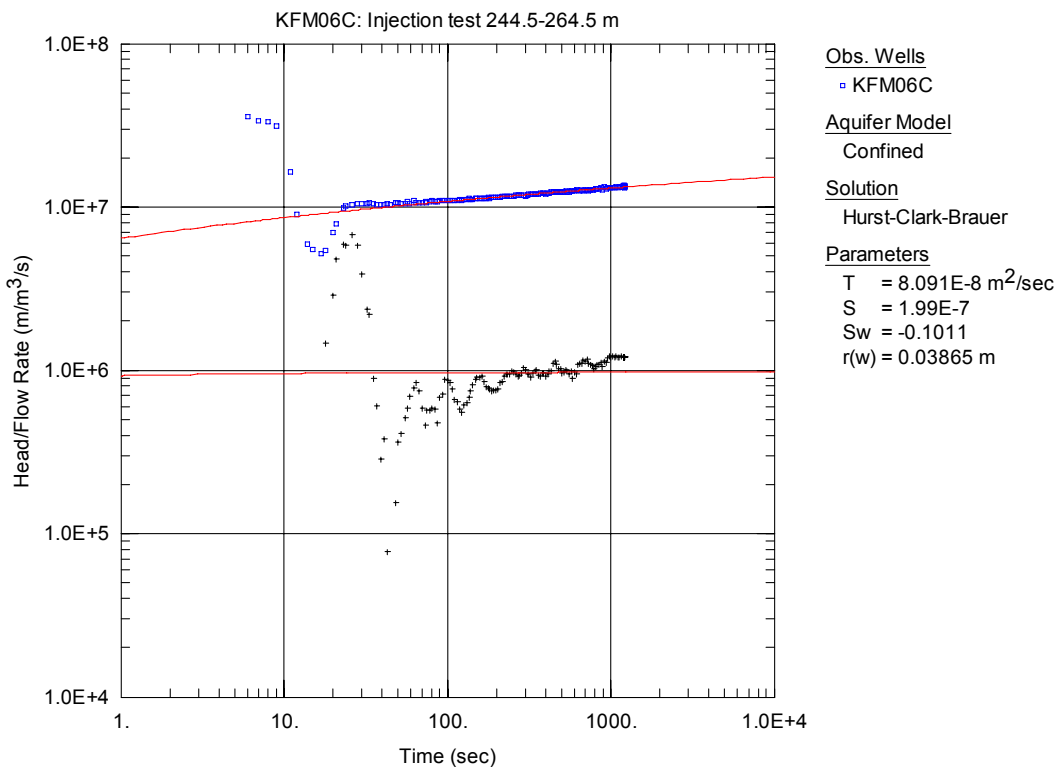
**Figure A3-87.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 224.5-244.5 m in KFM06C.



**Figure A3-88.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 224.5-244.5 m in KFM06C.

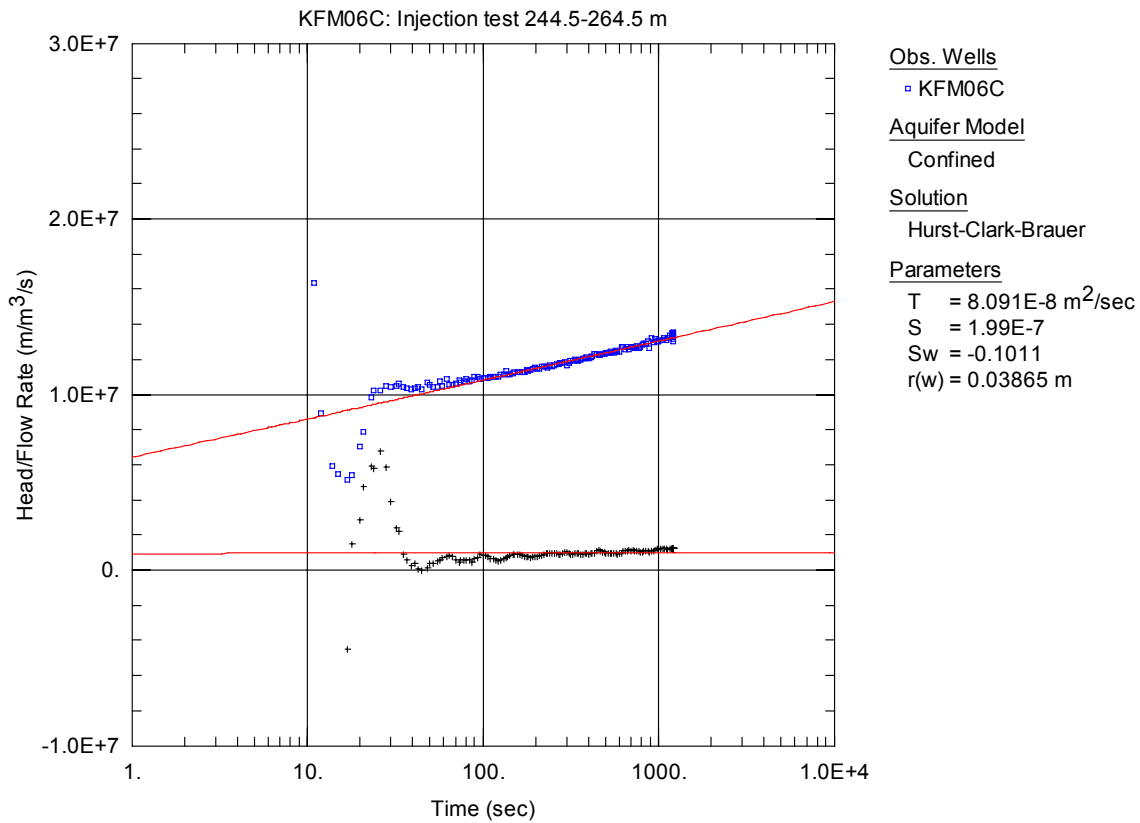


**Figure A3-89.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 244.5-264.5 m in borehole KFM06C.

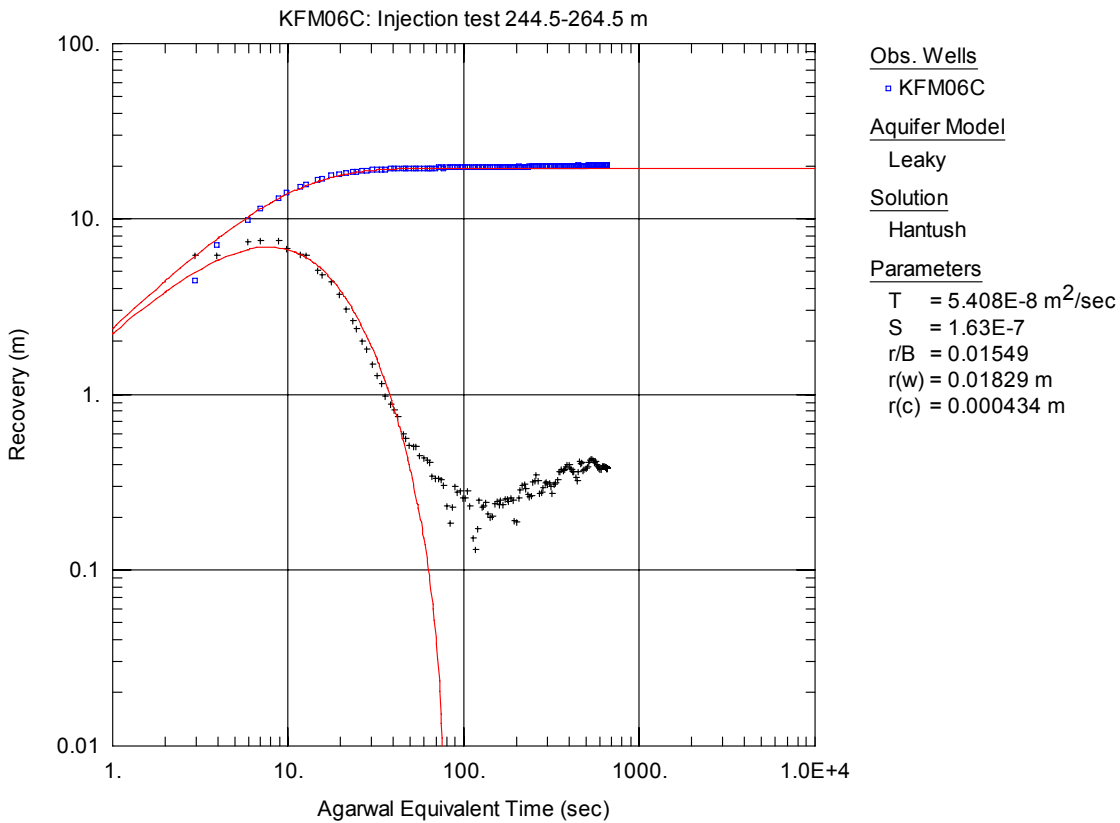


**Figure A3-90.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 244.5-264.5 m in KFM06C.

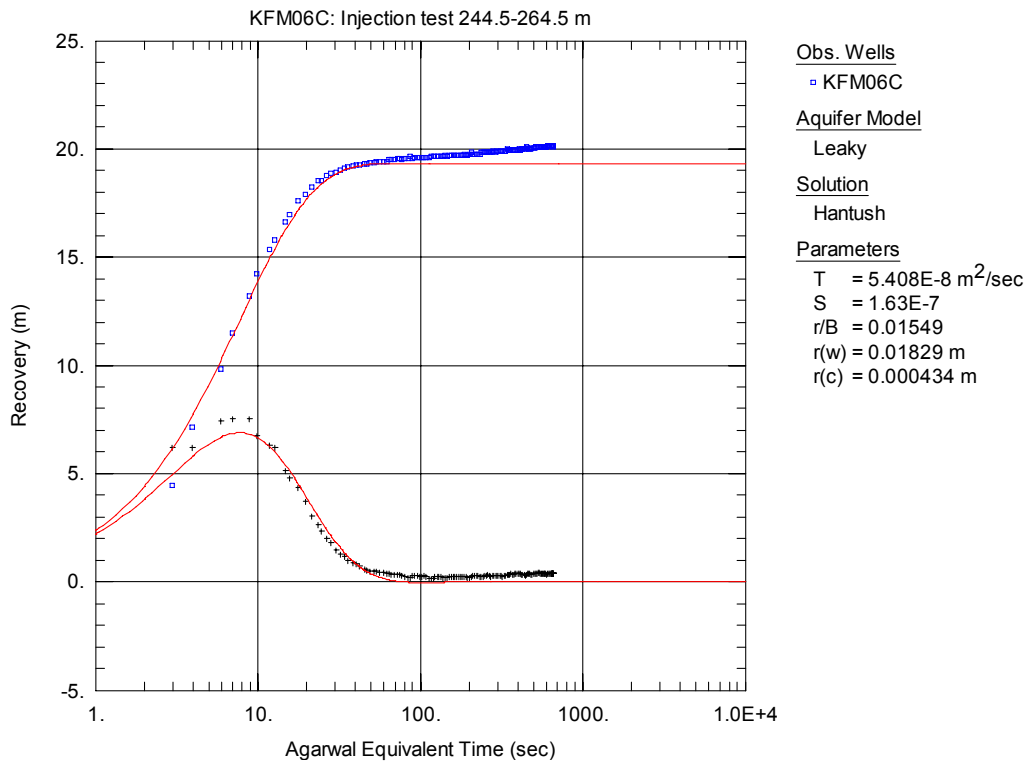




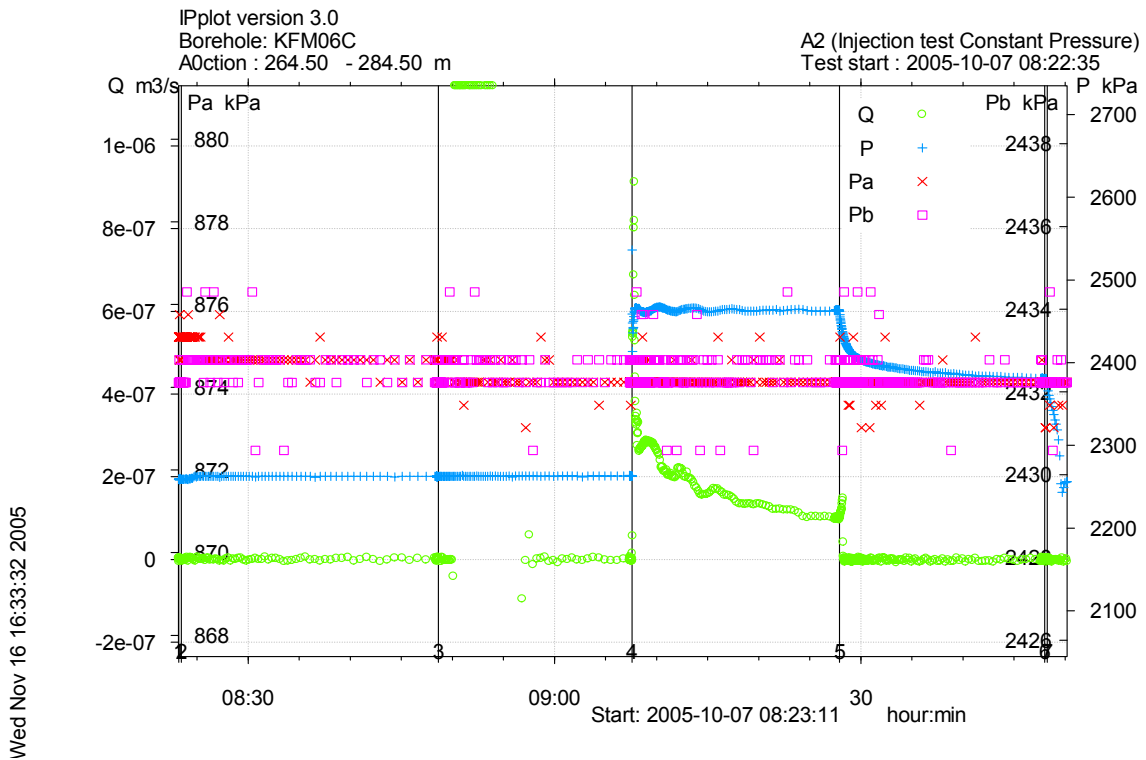
**Figure A3-91.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 244.5-264.5 m in KFM06C.



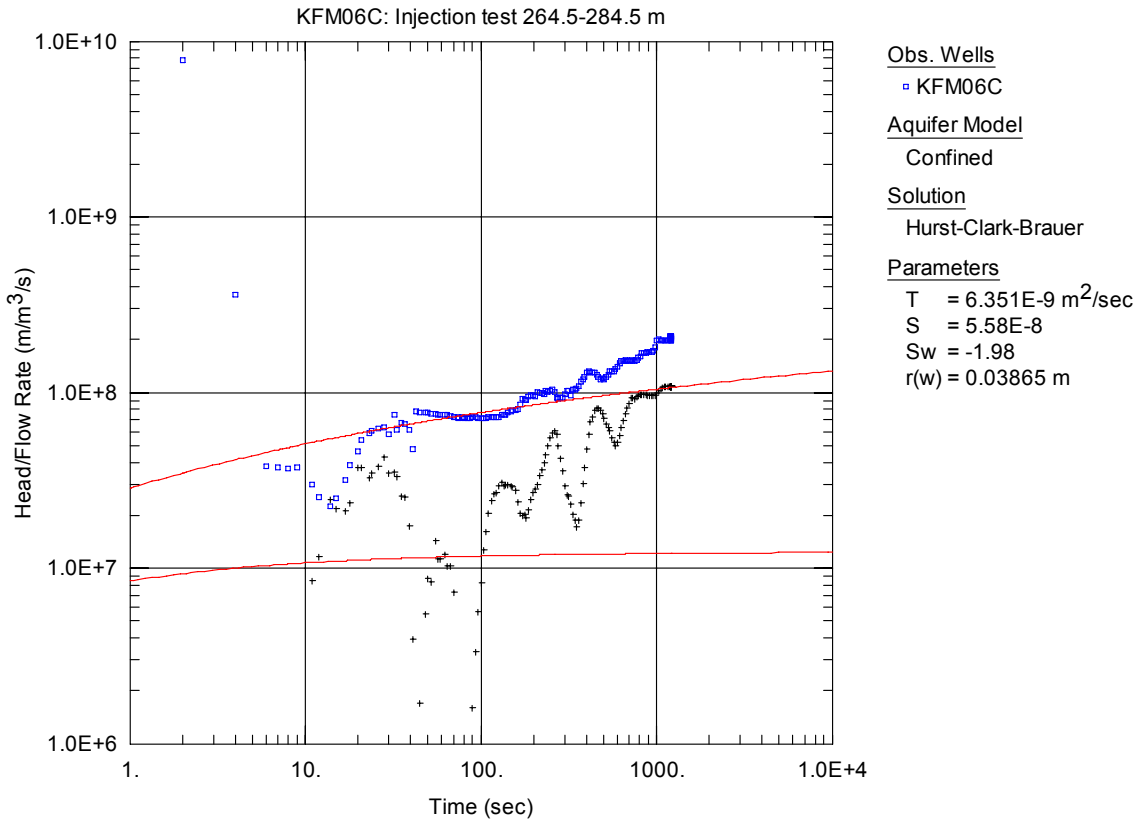
**Figure A3-92.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 244.5-264.5 m in KFM06C.



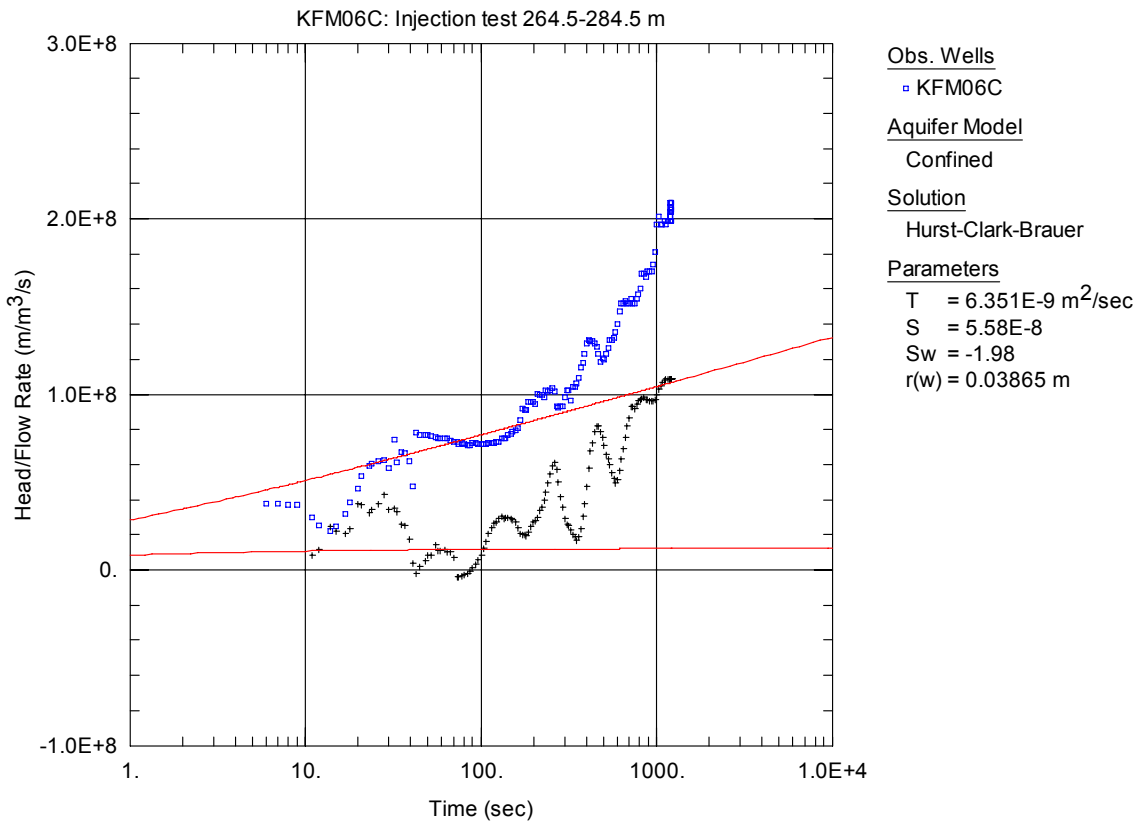
**Figure A3-93.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 244.5-264.5 m in KFM06C.



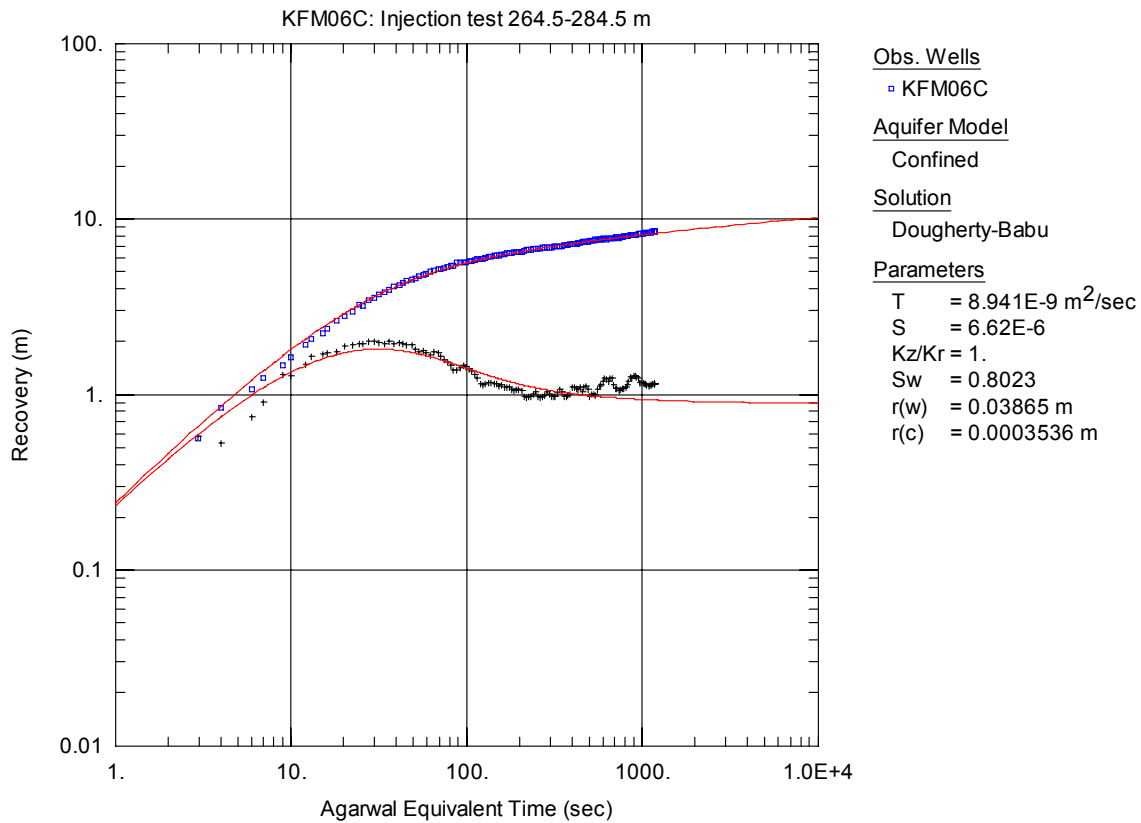
**Figure A3-94.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 264.5-284.5 m in borehole KFM06C.



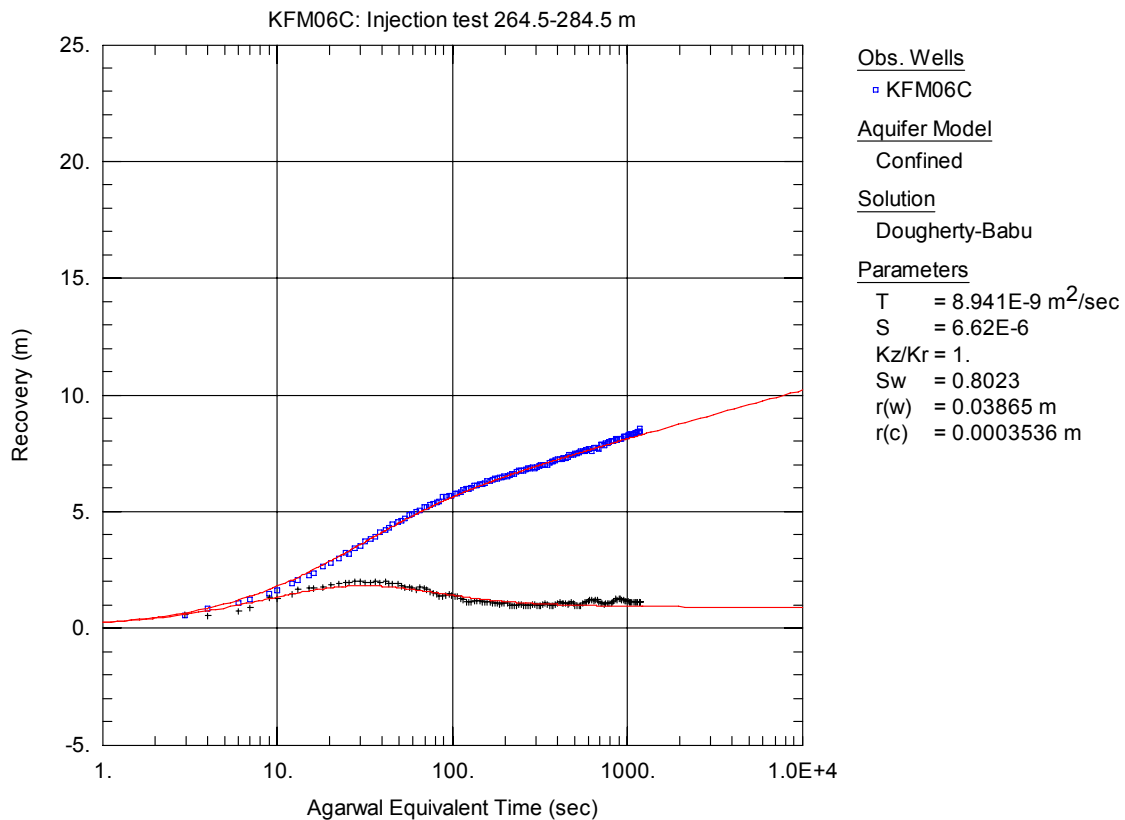
**Figure A3-95.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 264.5-284.5 m in KFM06C.



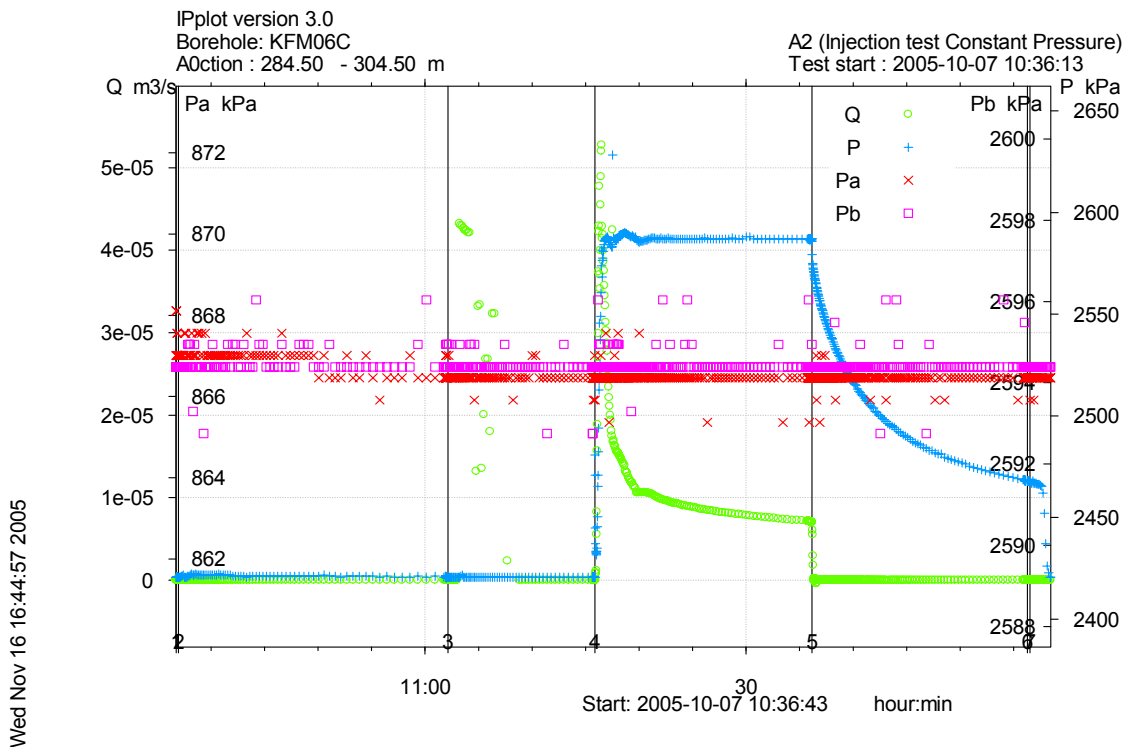
**Figure A3-96.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 264.5-284.5 m in KFM06C.



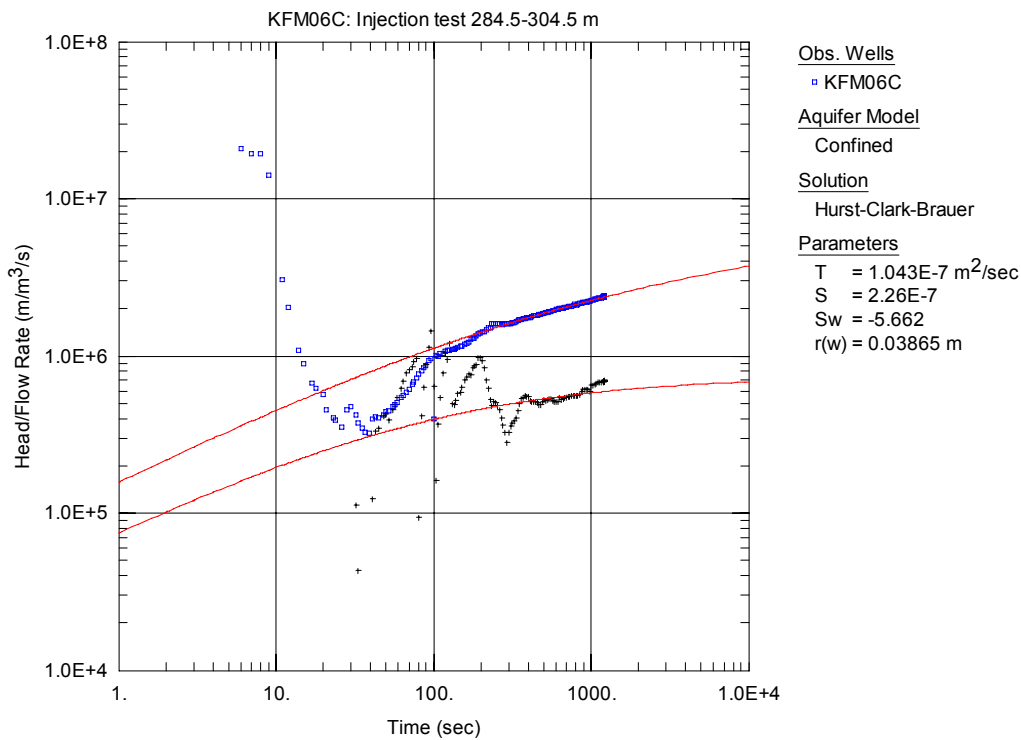
**Figure A3-97.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 264.5-284.5 m in KFM06C.



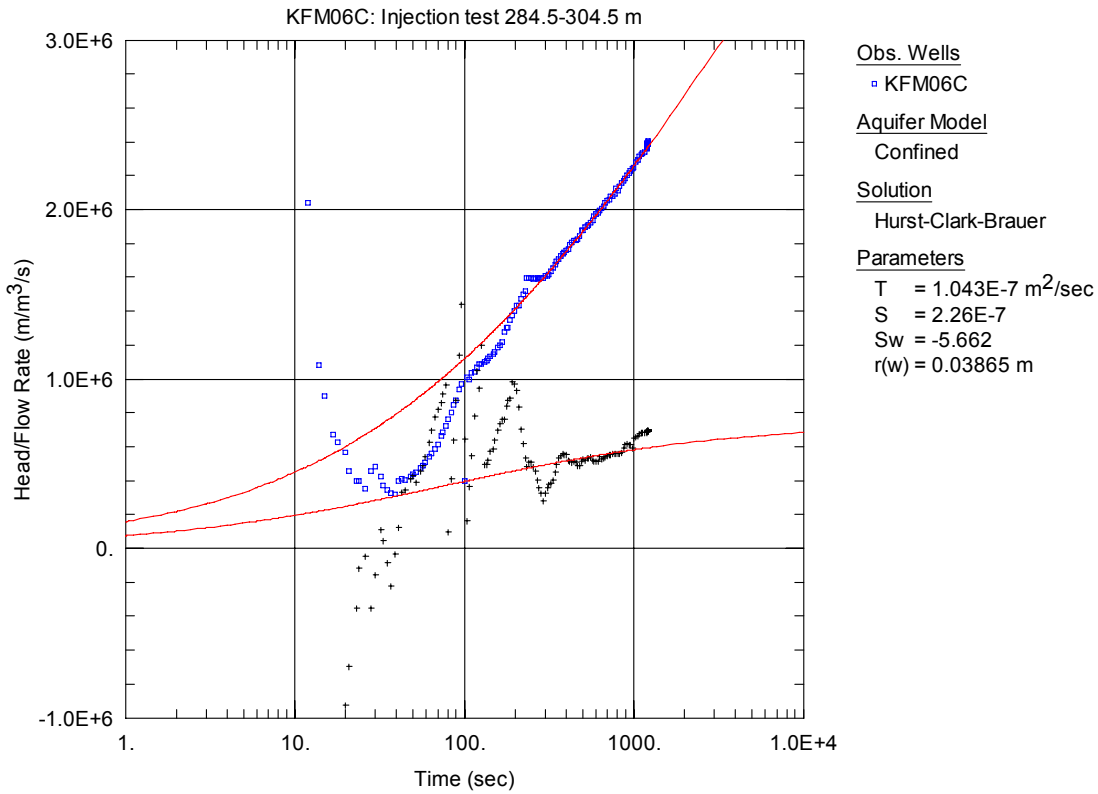
**Figure A3-98.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 264.5-284.5 m in KFM06C.



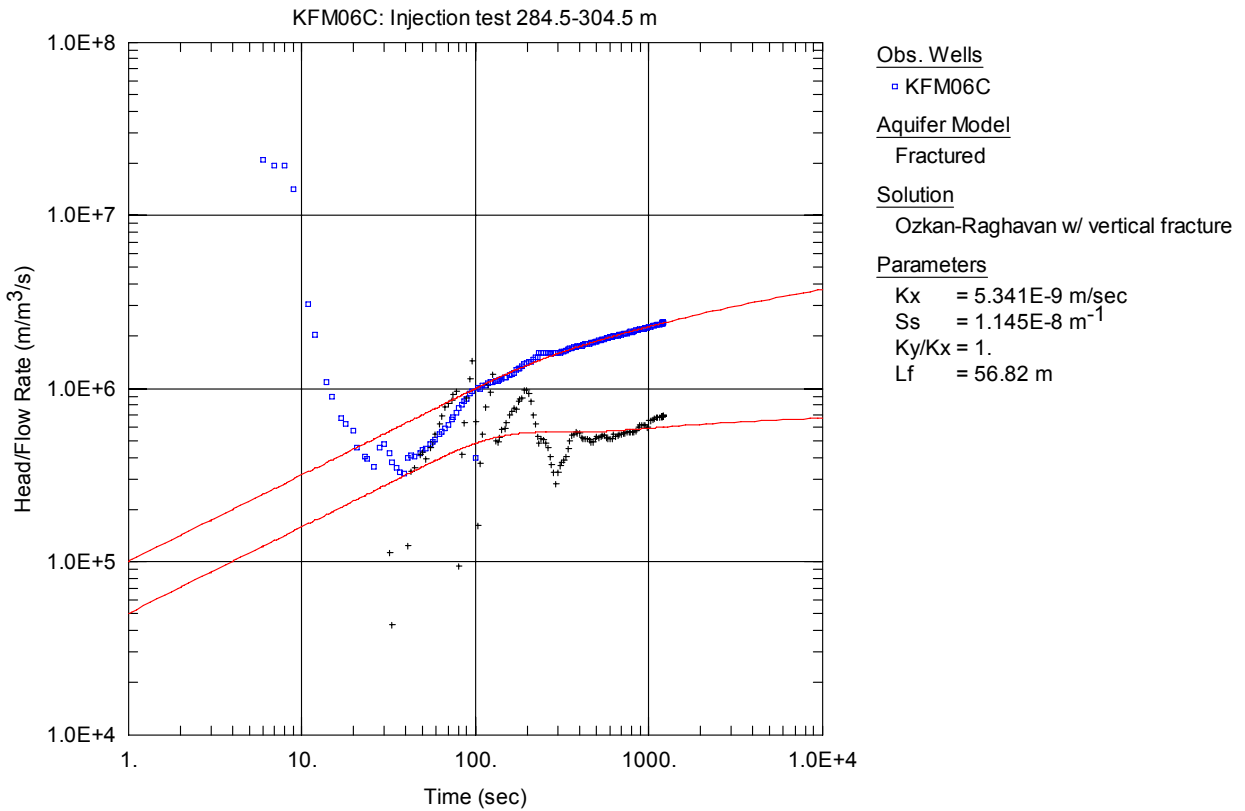
**Figure A3-99.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 284.5-304.5 m in borehole KFM06C.



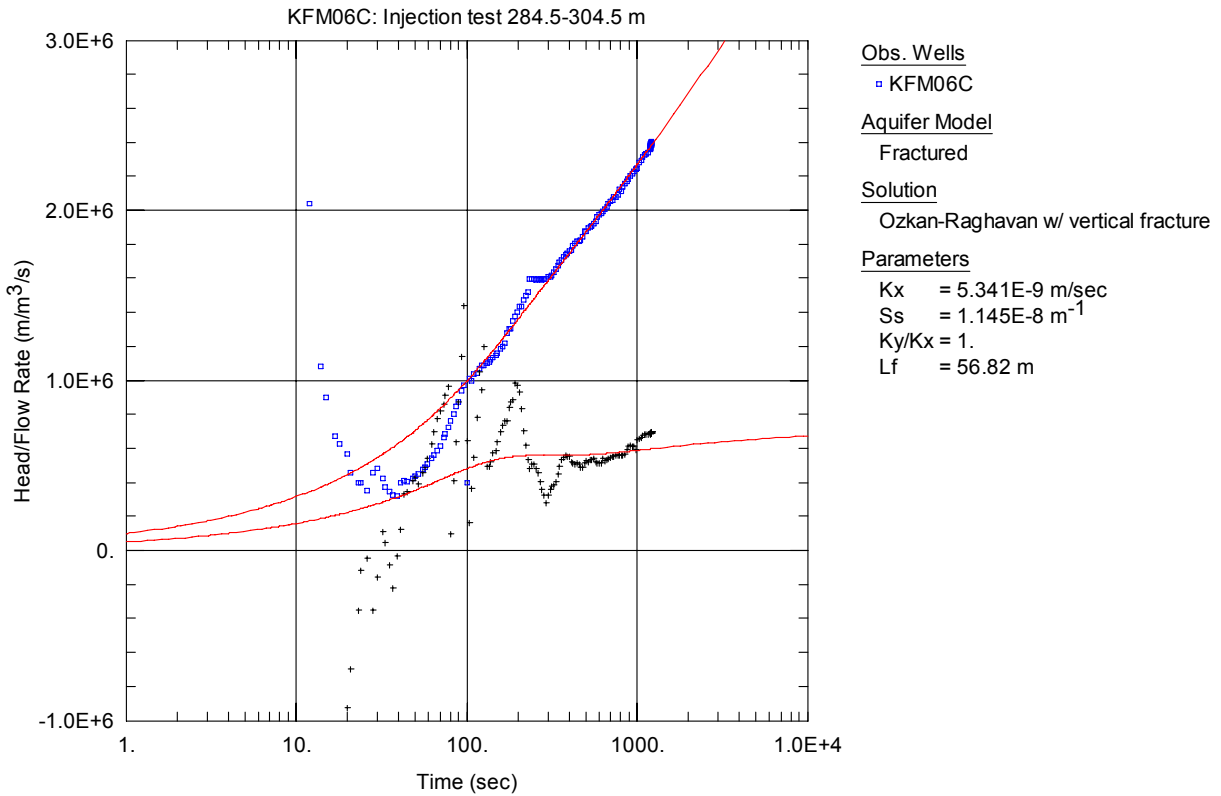
**Figure A3-100.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 284.5-304.5 m in KFM06C.



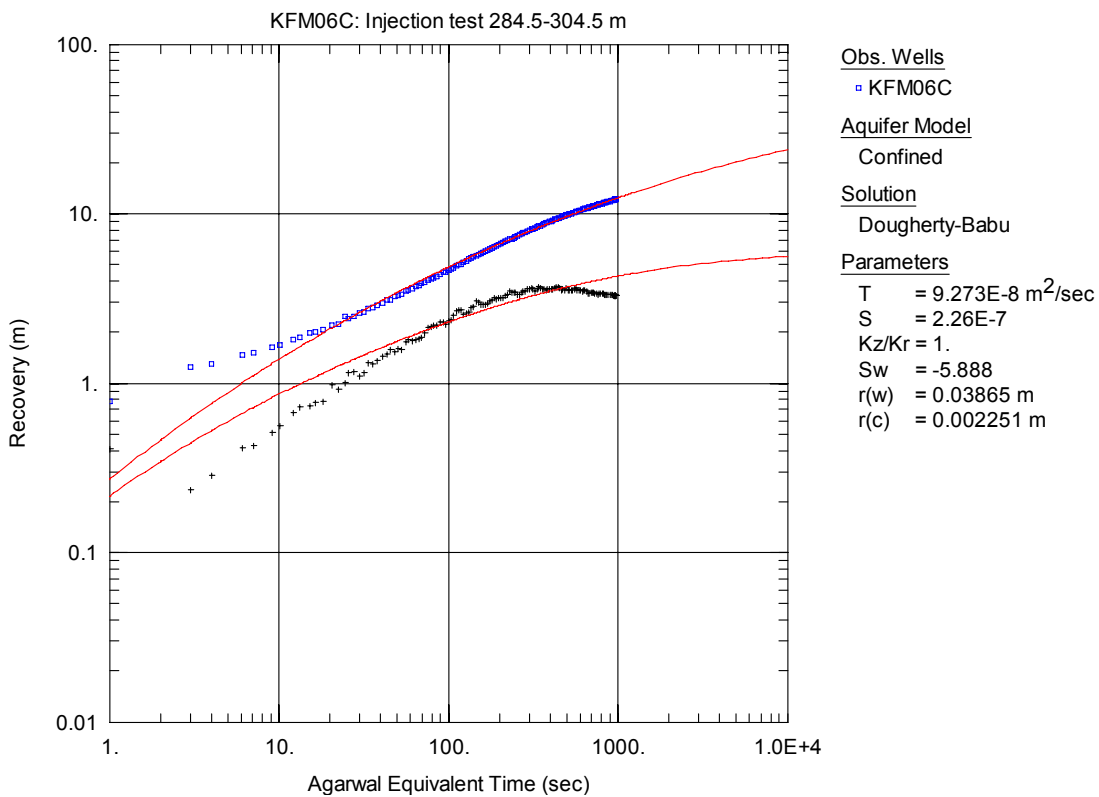
**Figure A3-101.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 284.5-304.5 m in KFM06C.



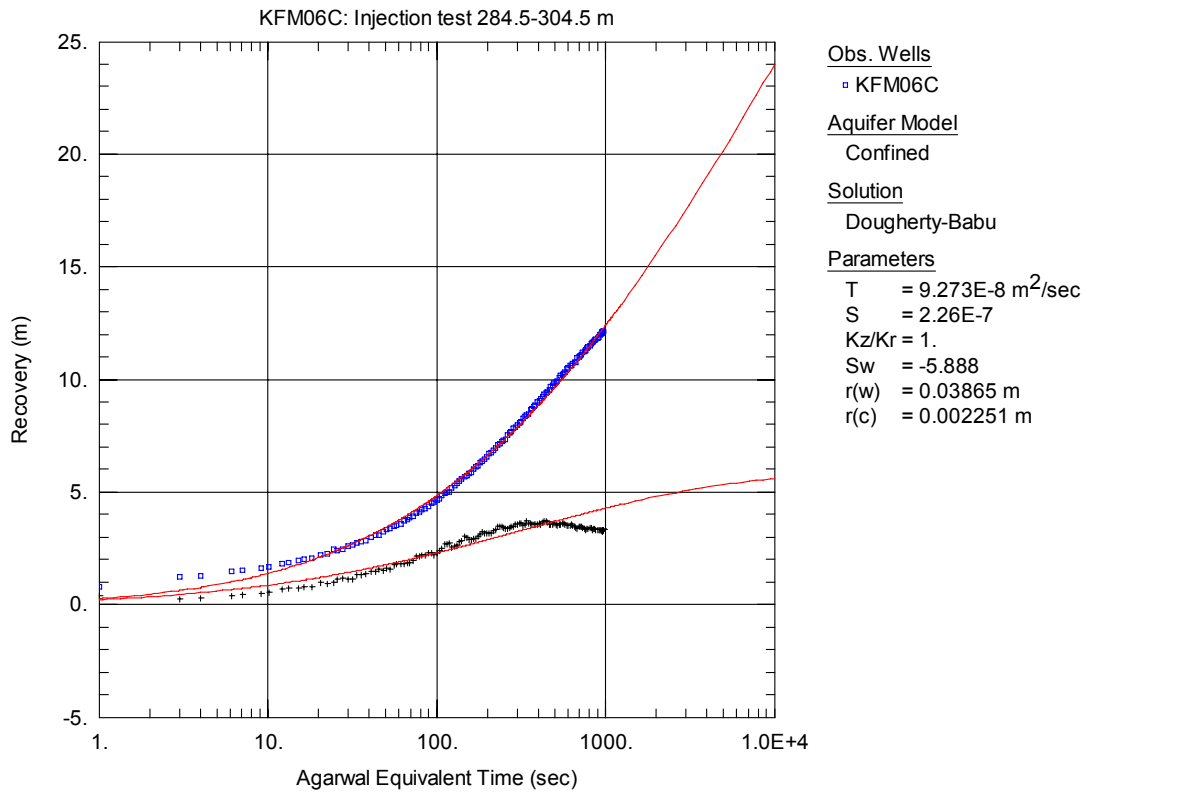
**Figure A3-102.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 284.5-304.5 m in KFM06C.



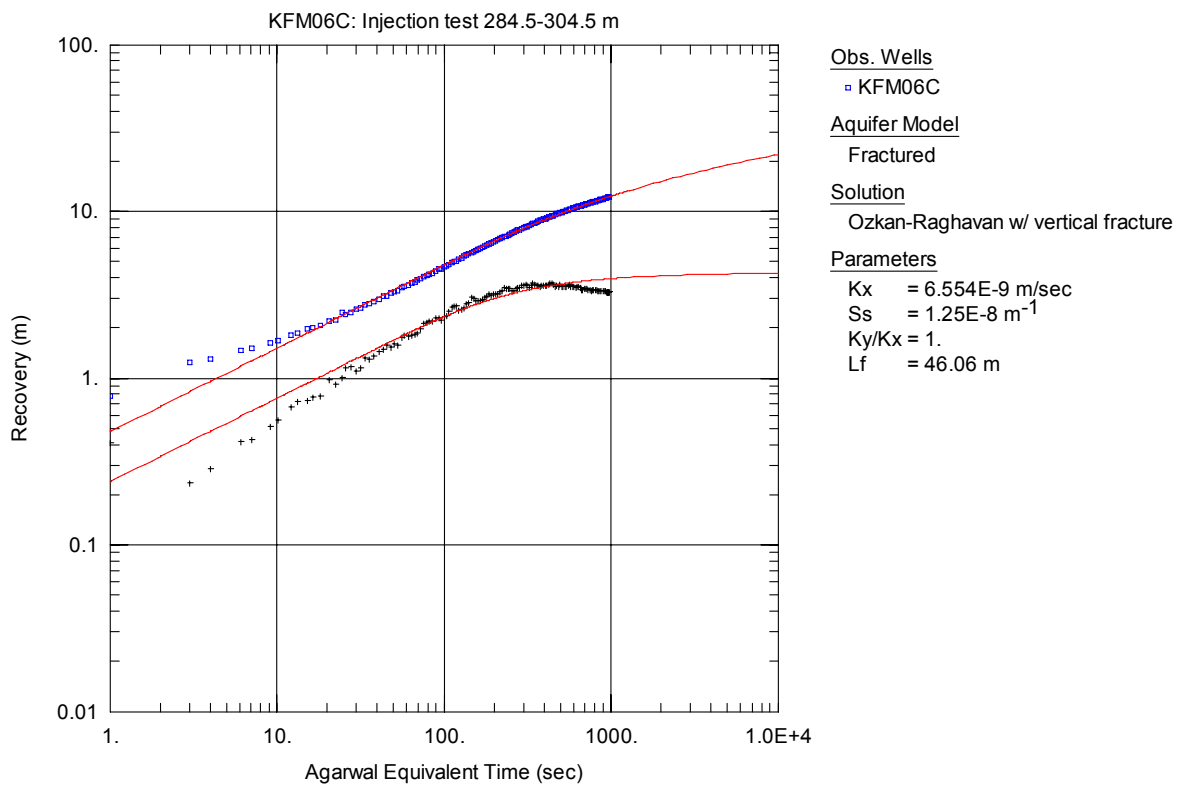
**Figure A3-103.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 284.5-304.5 m in KFM06C.



**Figure A3-104.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 284.5-304.5 m in KFM06C.

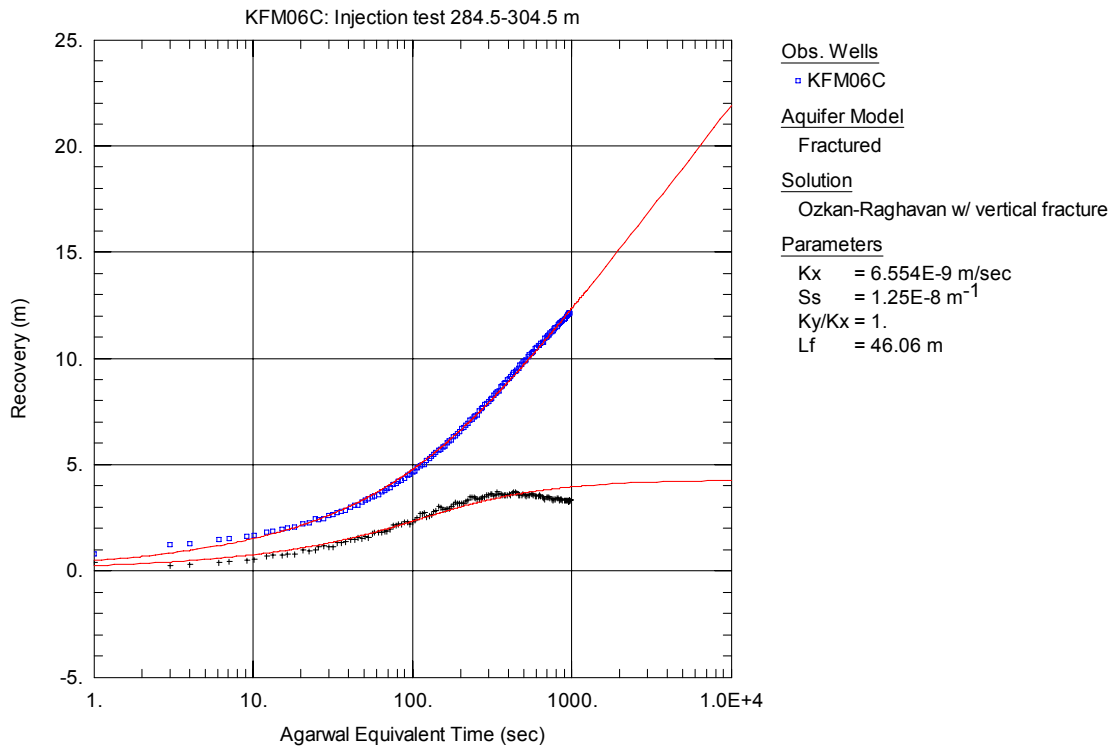


**Figure A3-105.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 284.5-304.5 m in KFM06C.

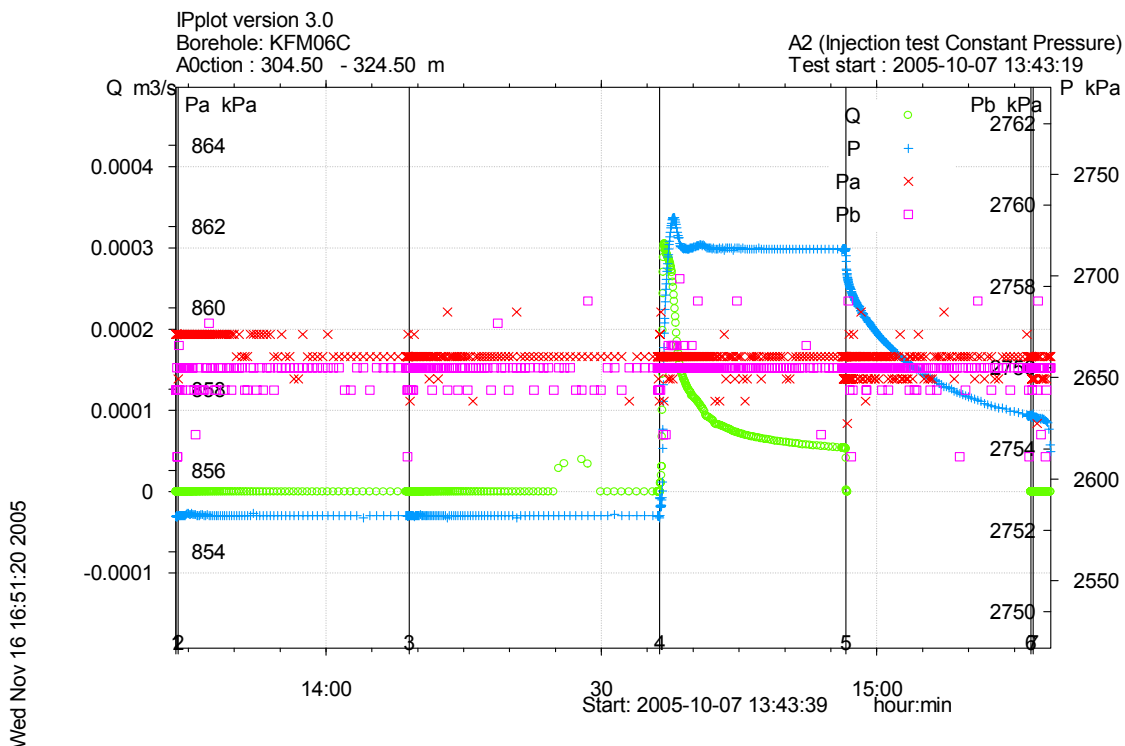


**Figure A3-106.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 284.5-304.5 m in KFM06C.

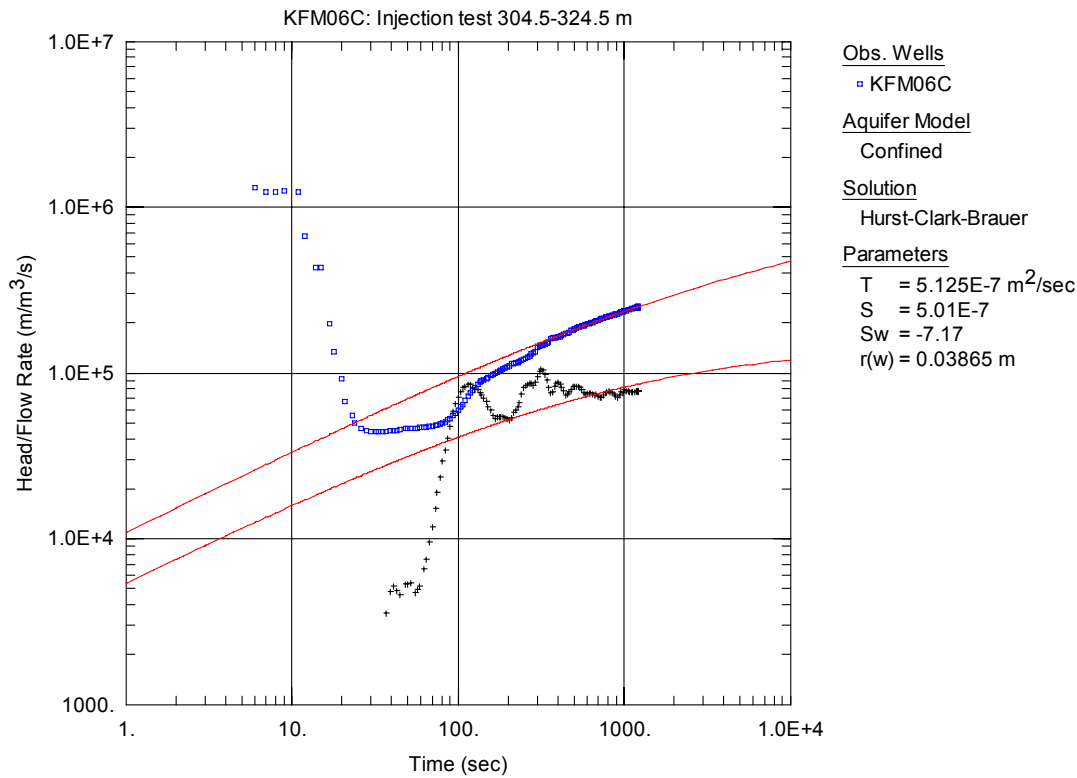




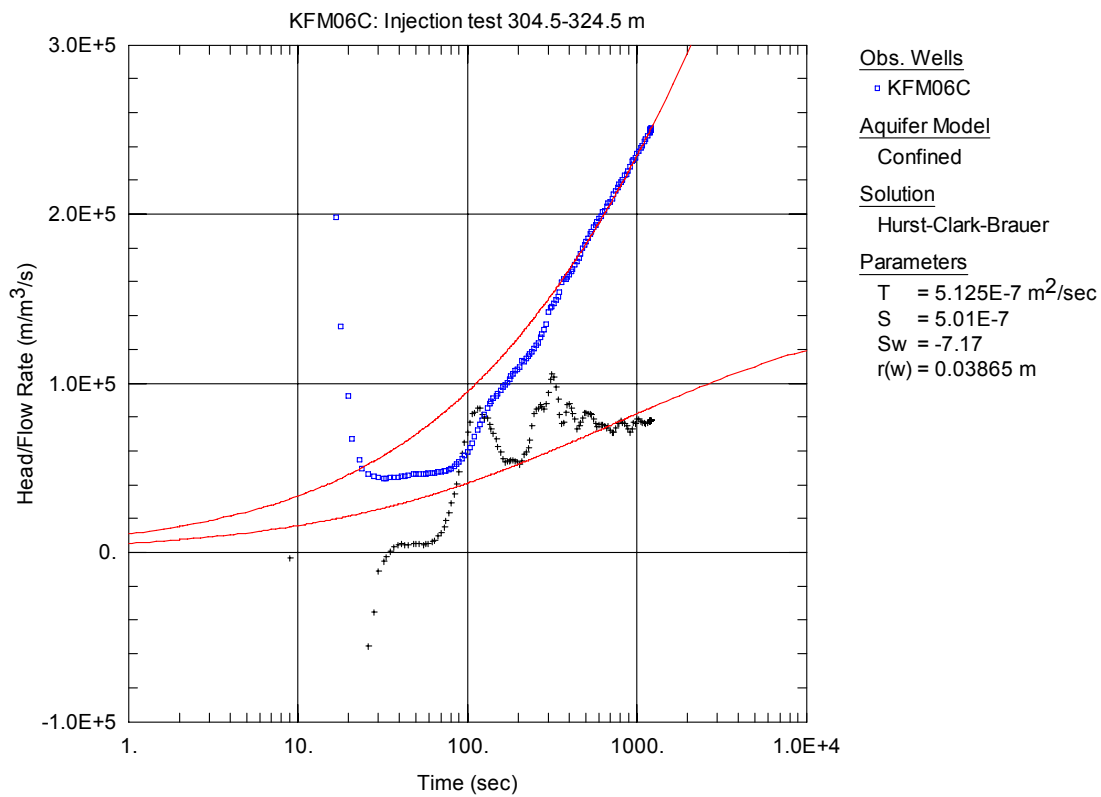
**Figure A3-107.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 284.5-304.5 m in KFM06C.



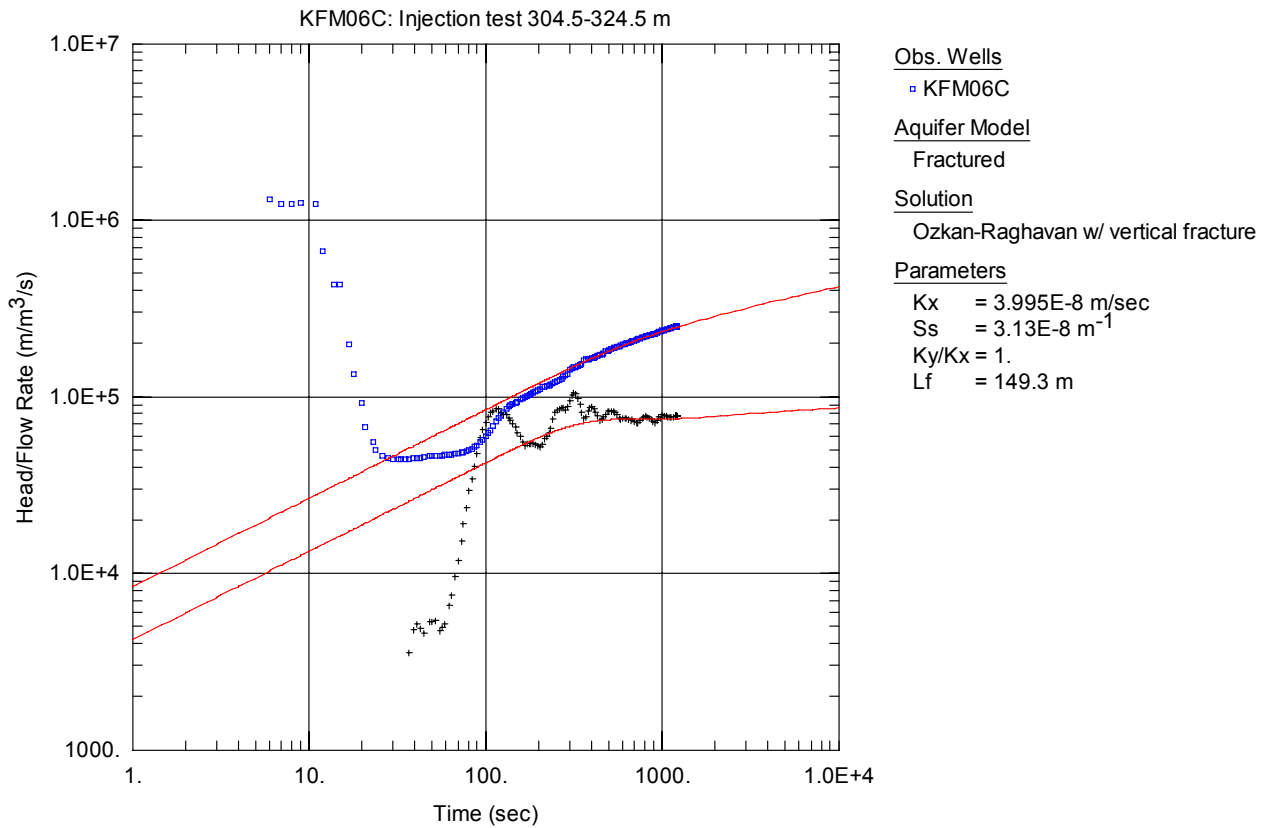
**Figure A3-108.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 304.5-324.5 m in borehole KFM06C.



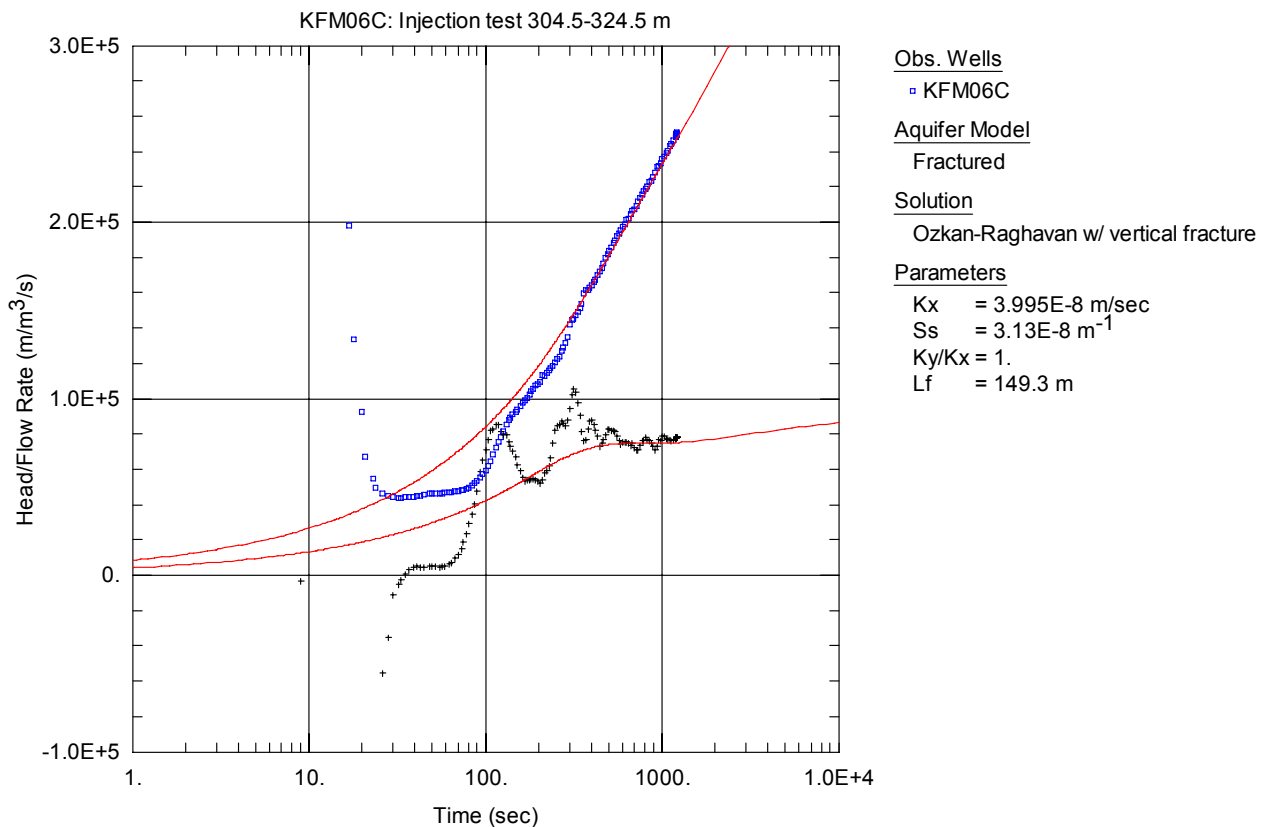
**Figure A3-109.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 304.5-324.5 m in KFM06C.



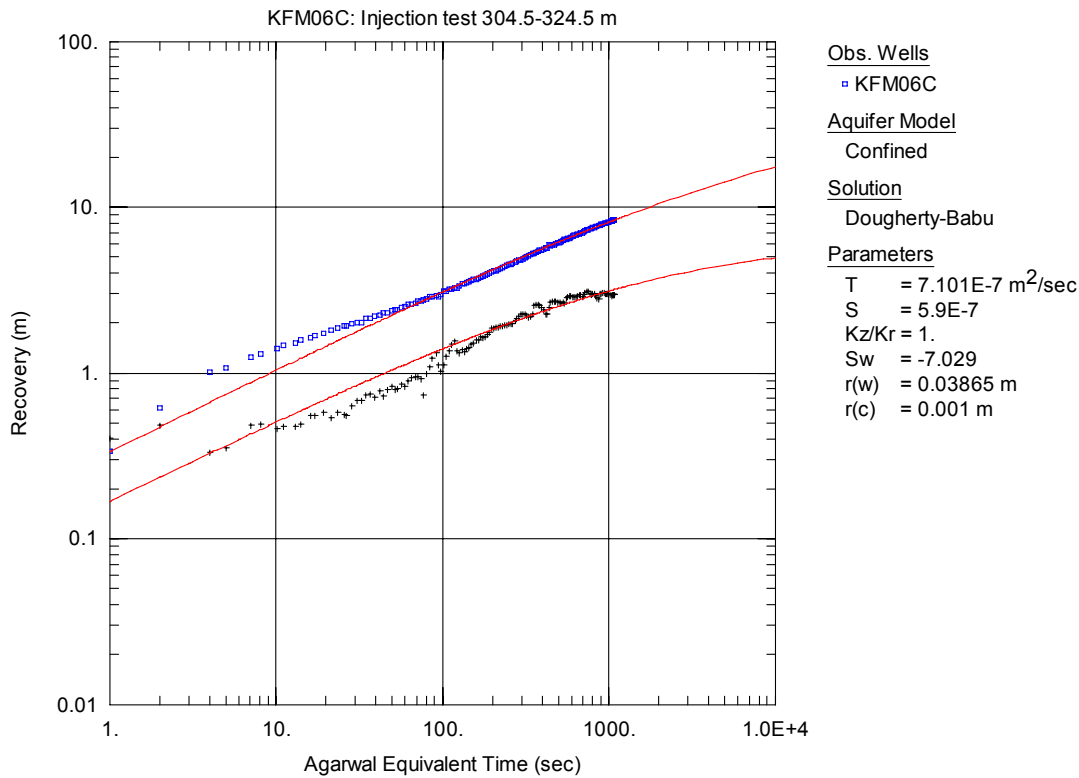
**Figure A3-110.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 304.5-324.5 m in KFM06C.



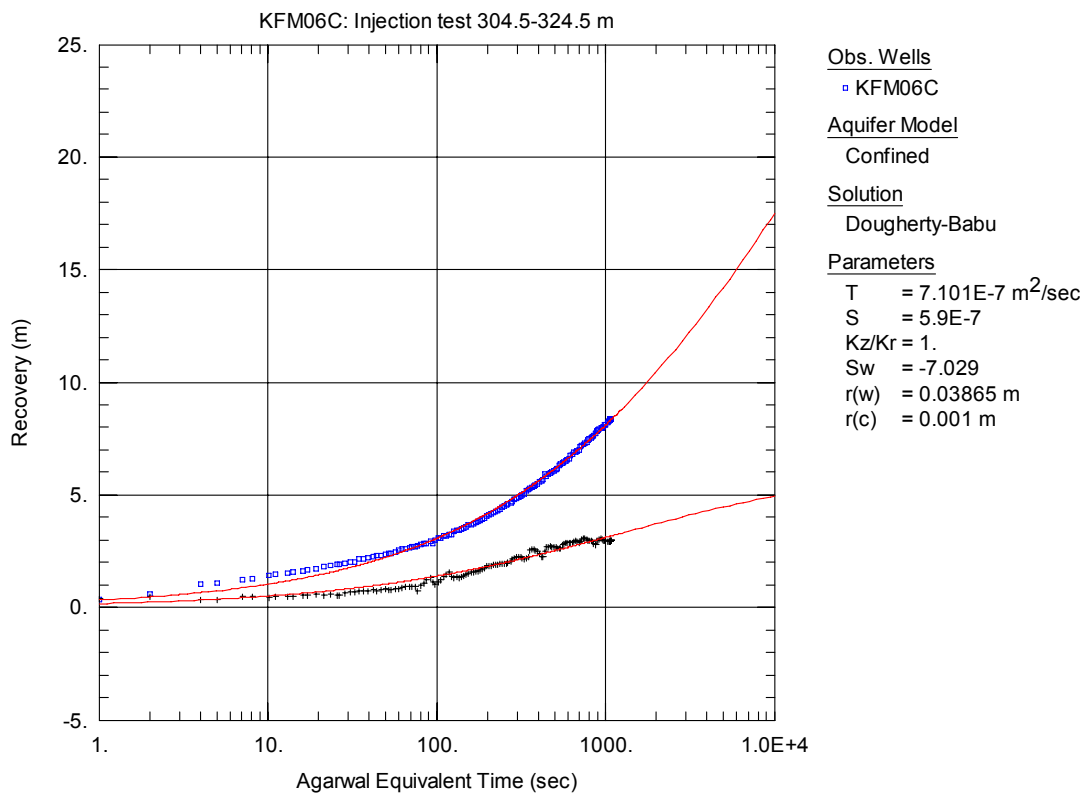
**Figure A3-111.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 304.5-324.5 m in KFM06C.



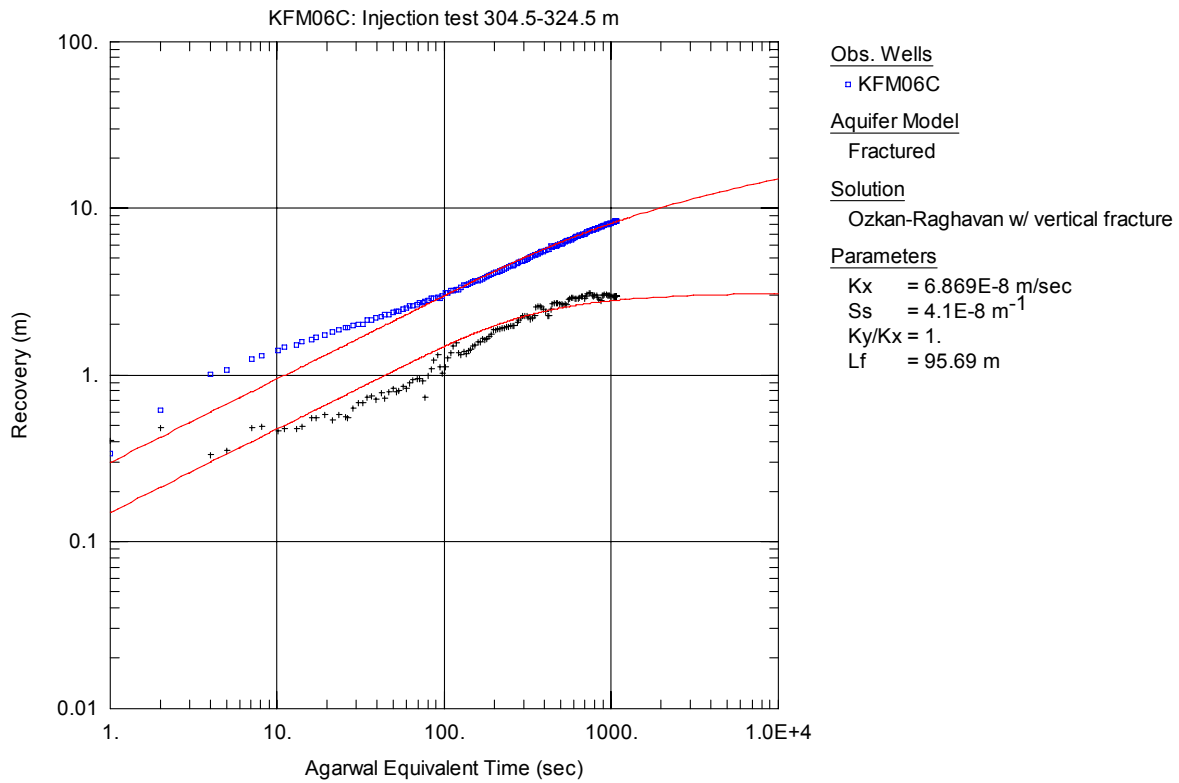
**Figure A3-112.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 304.5-324.5 m in KFM06C.



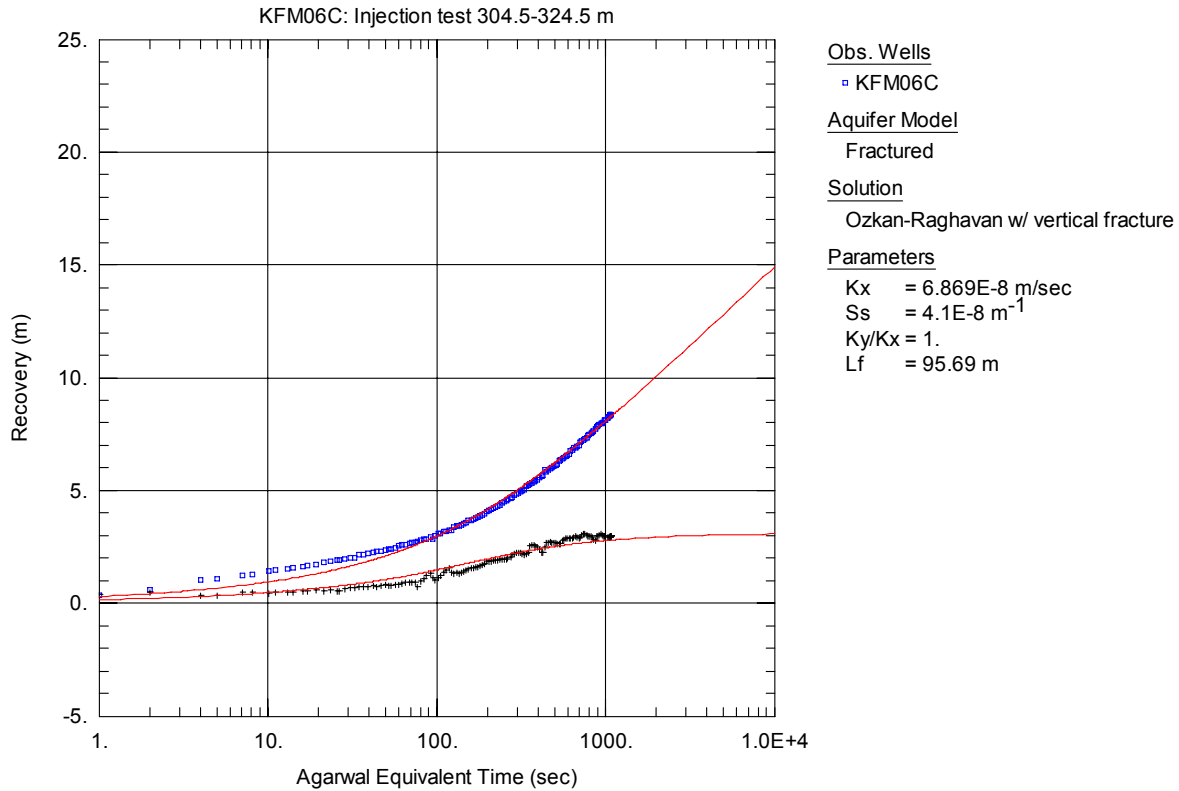
**Figure A3-113.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 304.5-324.5 m in KFM06C.



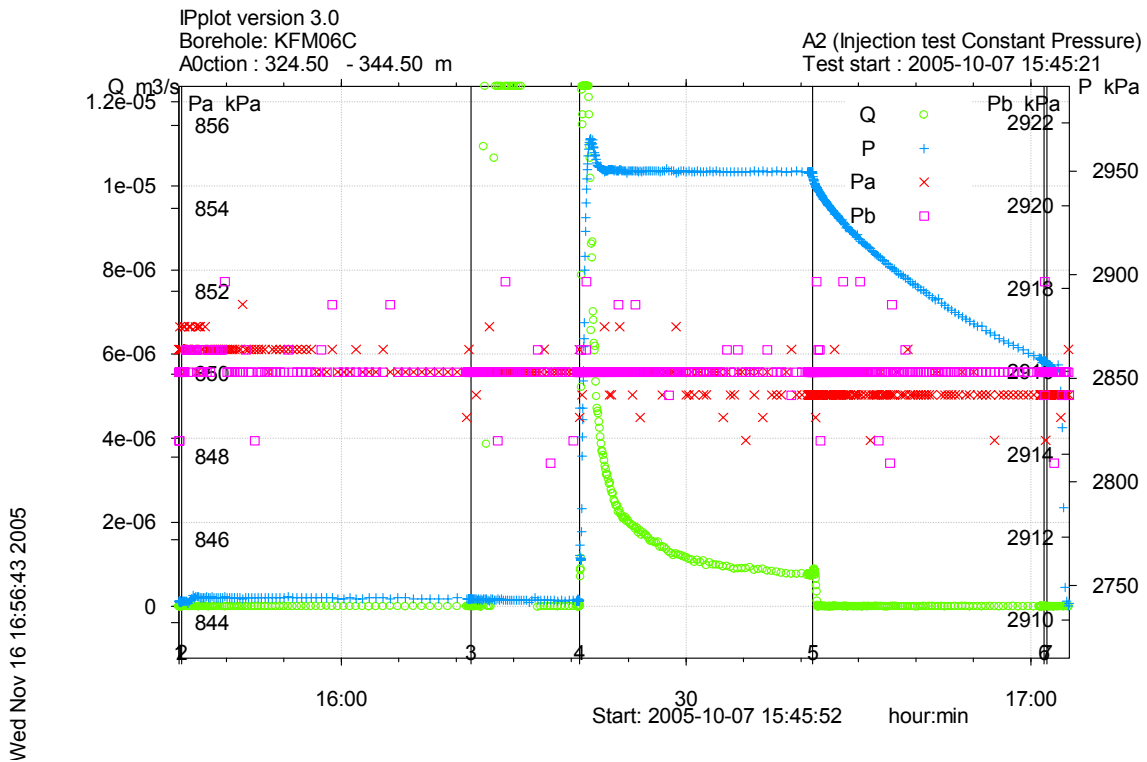
**Figure A3-114.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 304.5-324.5 m in KFM06C.



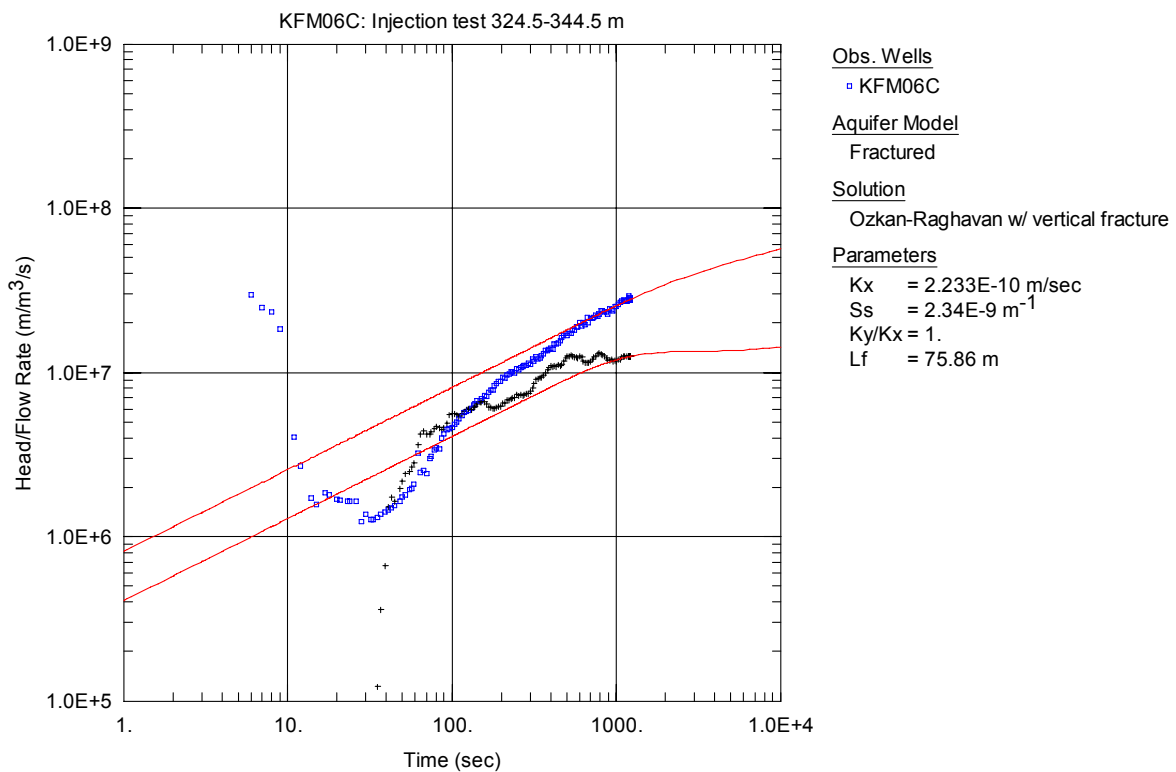
**Figure A3-115.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 304.5-324.5 m in KFM06C.



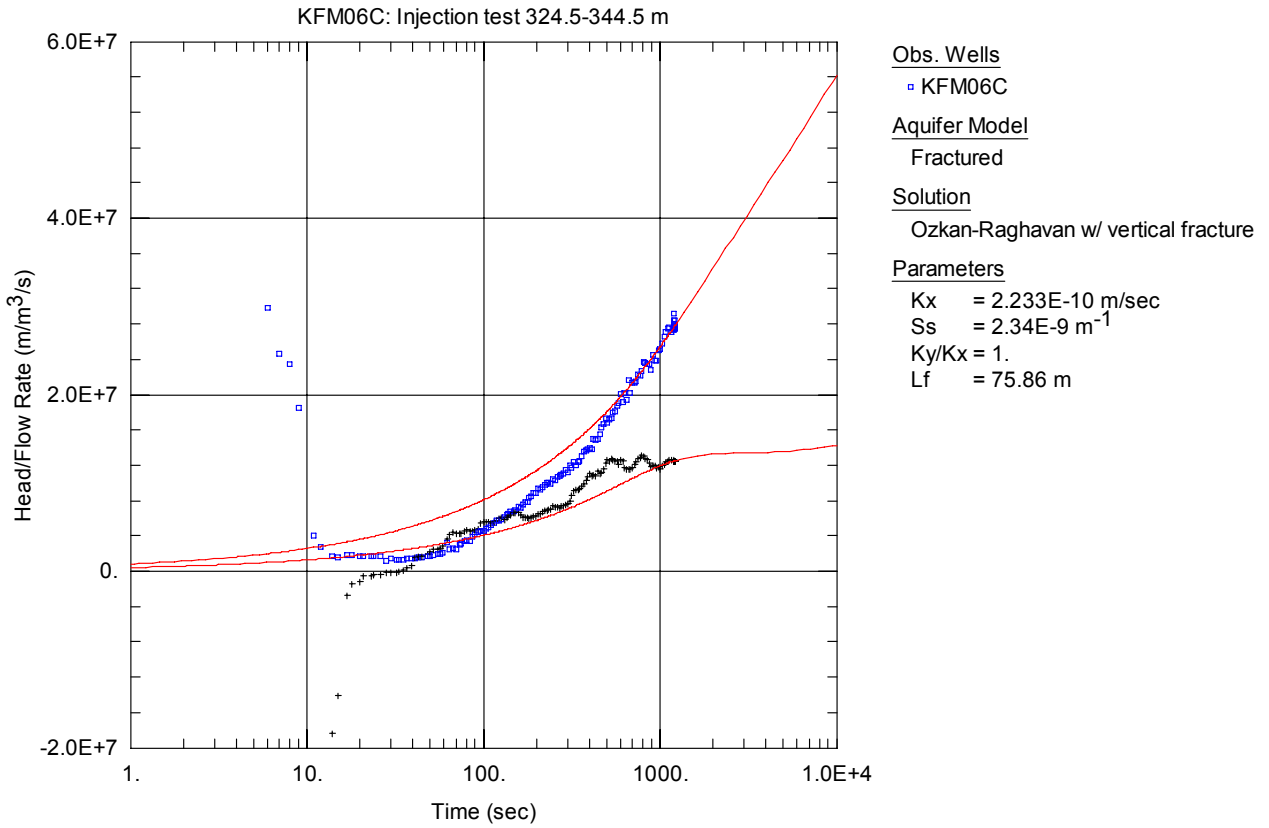
**Figure A3-116.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 304.5-324.5 m in KFM06C.



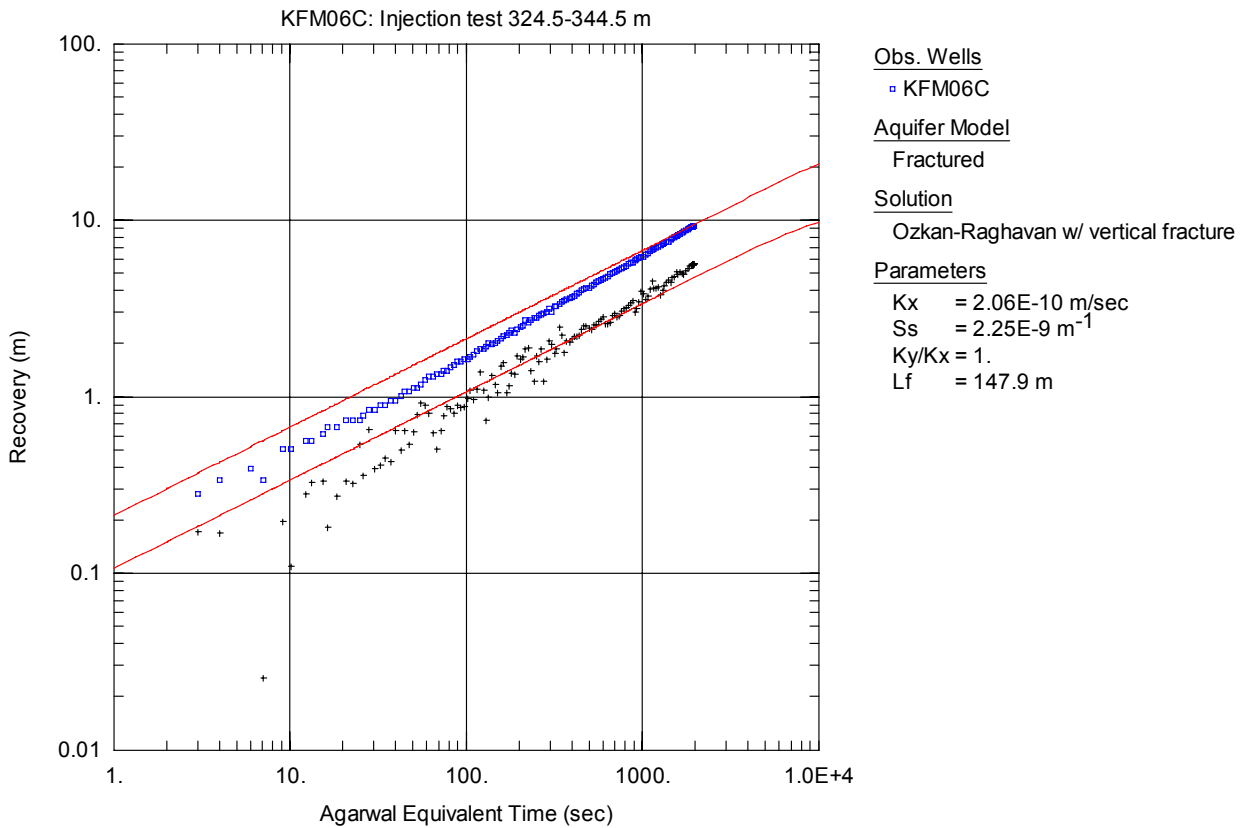
**Figure A3-117.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 324.5-344.5 m in borehole KFM06C.



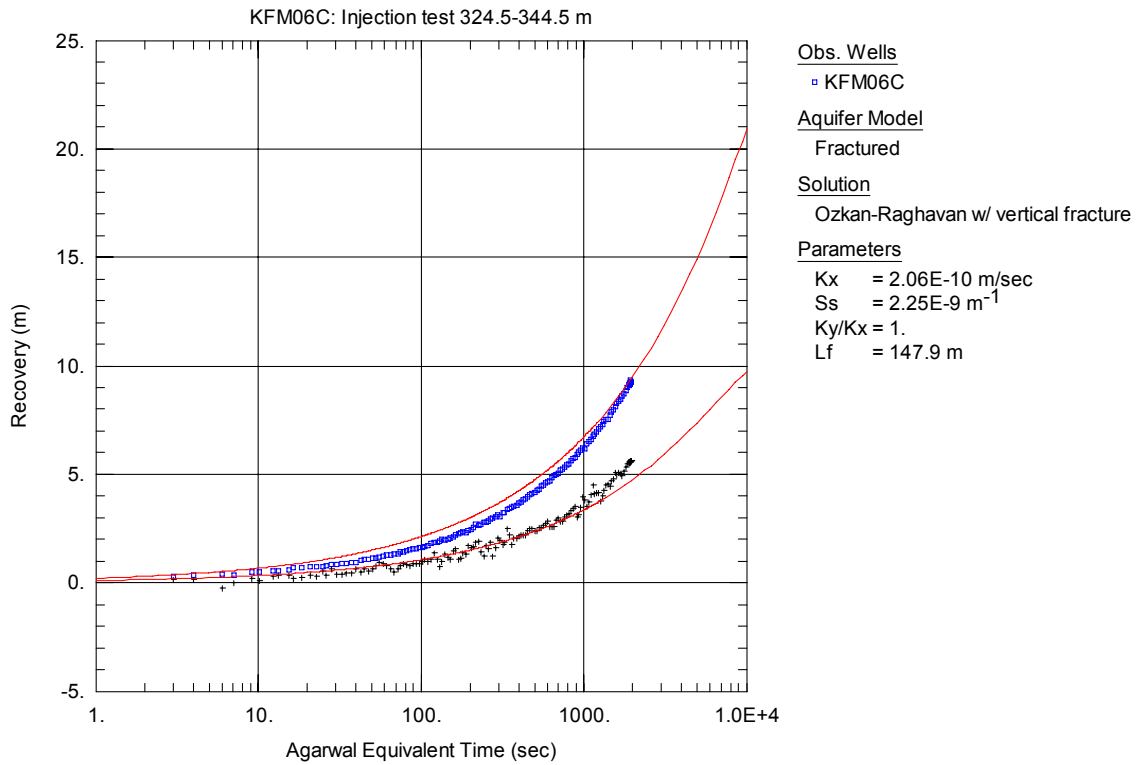
**Figure A3-118.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 324.5-344.5 m in KFM06C.



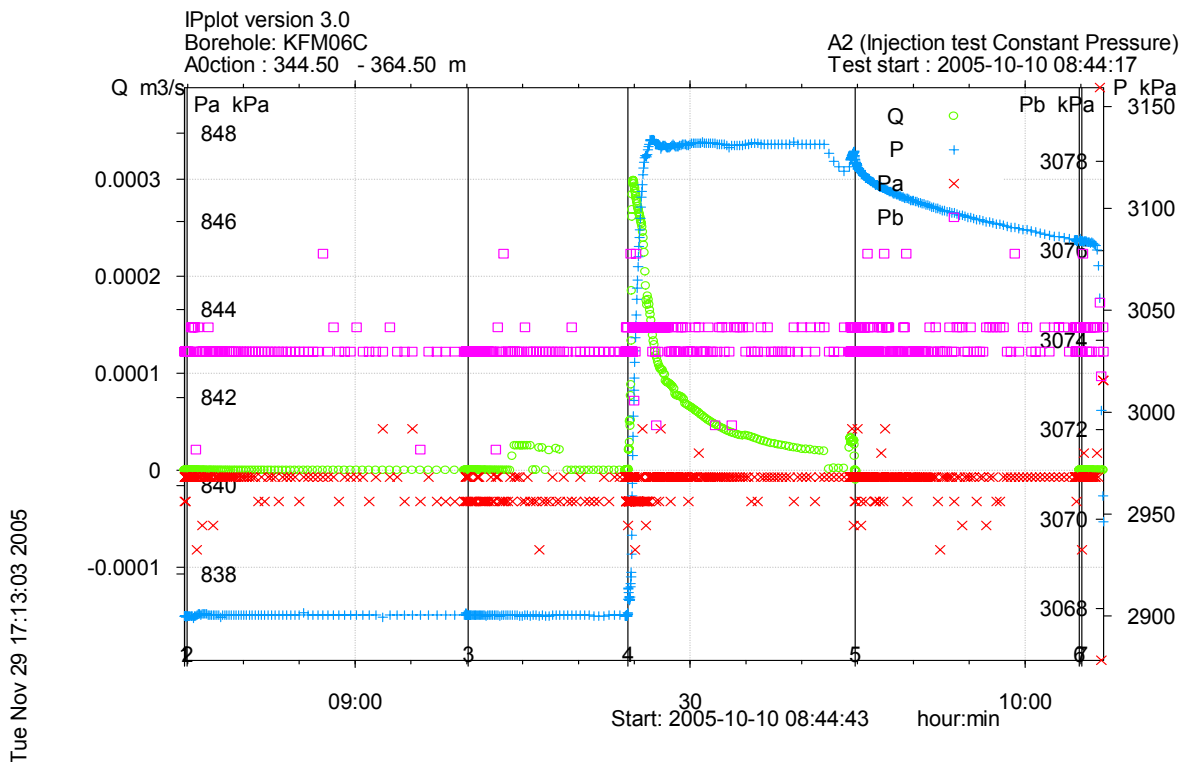
**Figure A3-119.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 324.5-344.5 m in KFM06C.



**Figure A3-120.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 324.5-344.5 m in KFM06C.

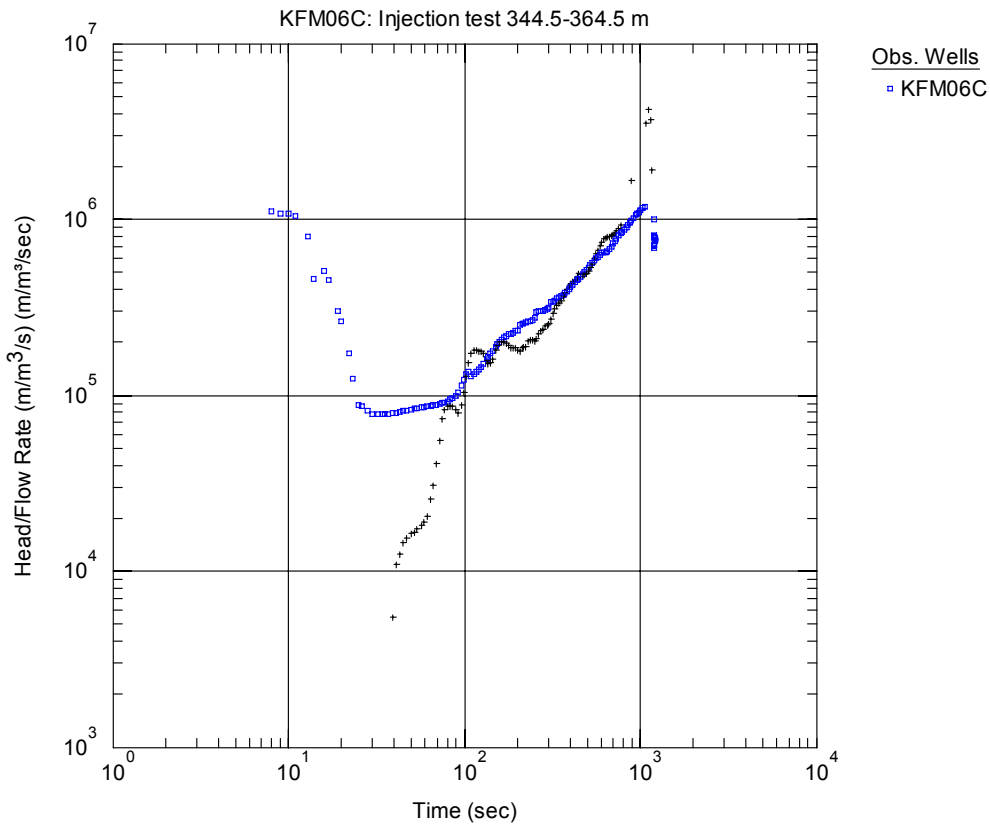


**Figure A3-121.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 324.5-344.5 m in KFM06C.

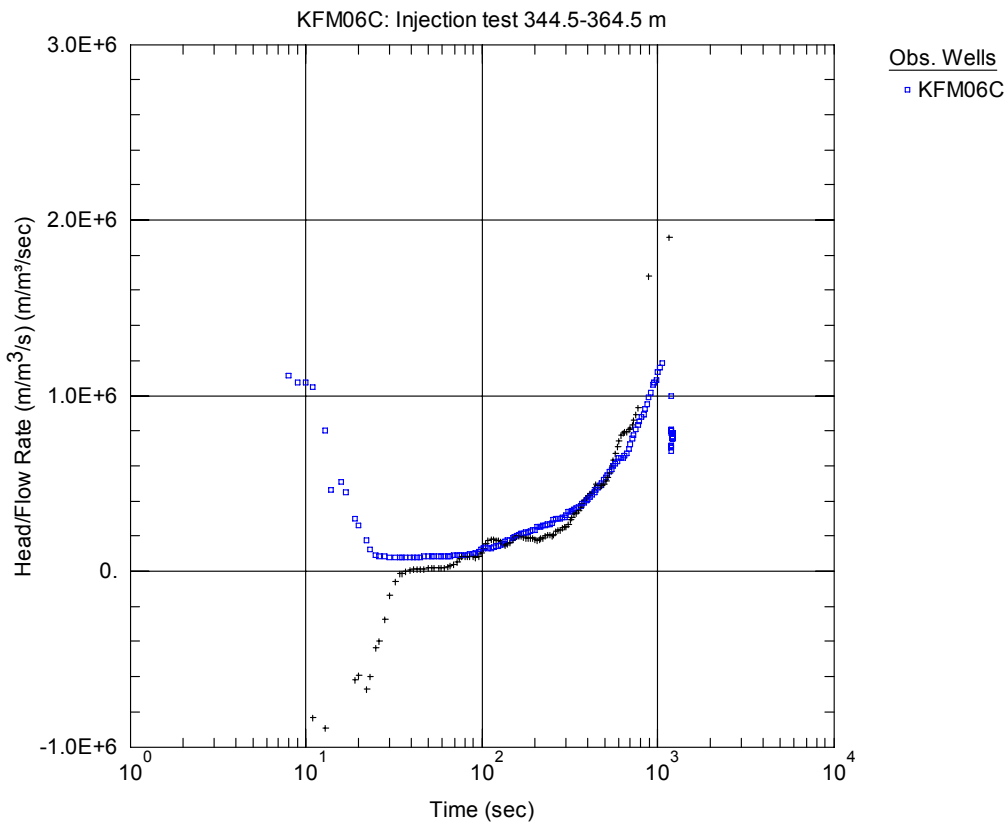


**Figure A3-122.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 344.5-364.5 m in borehole KFM06C.

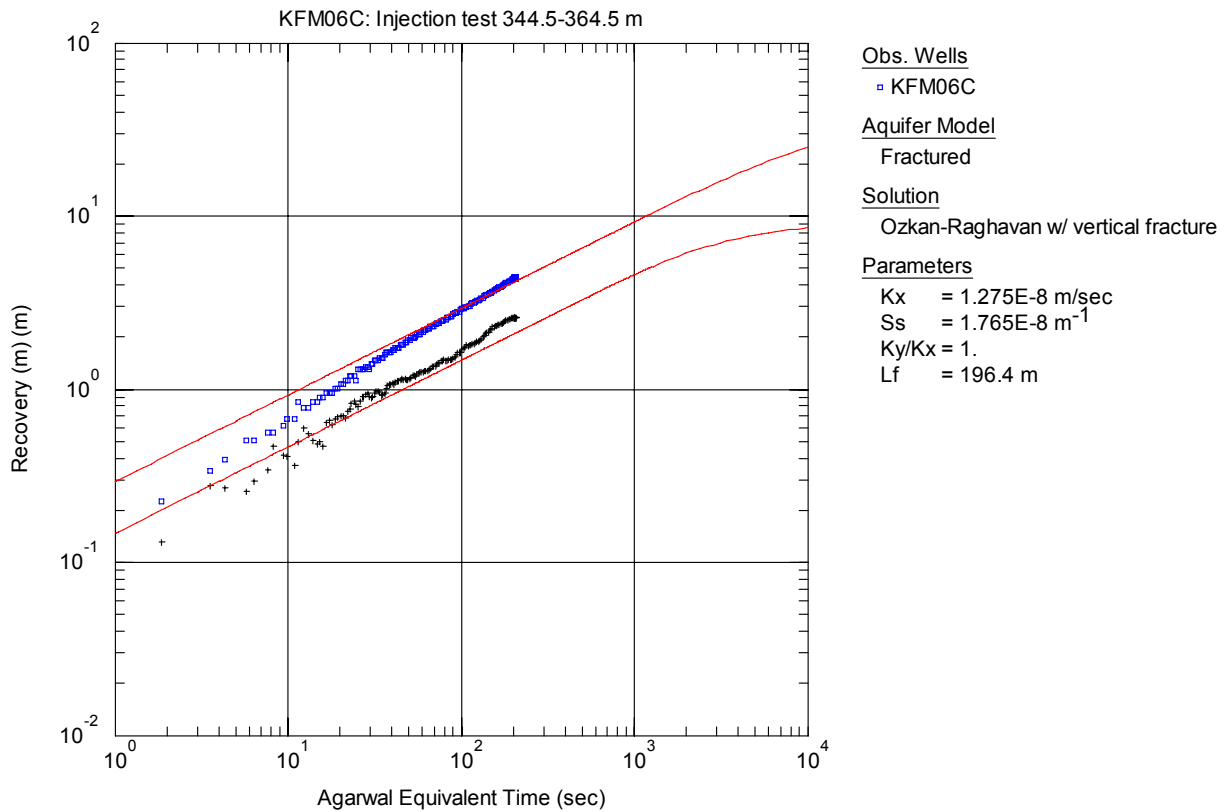




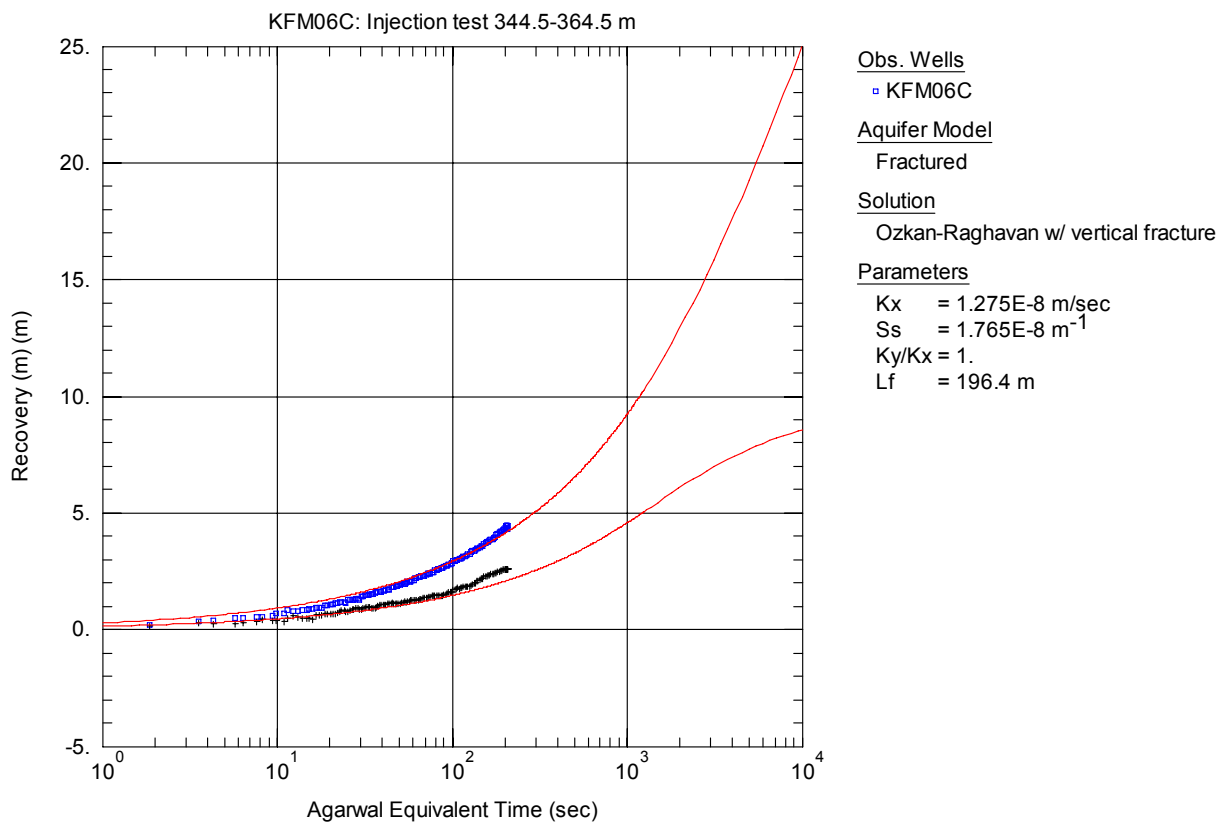
**Figure A3-123.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 344.5-364.5 m in KFM06C.



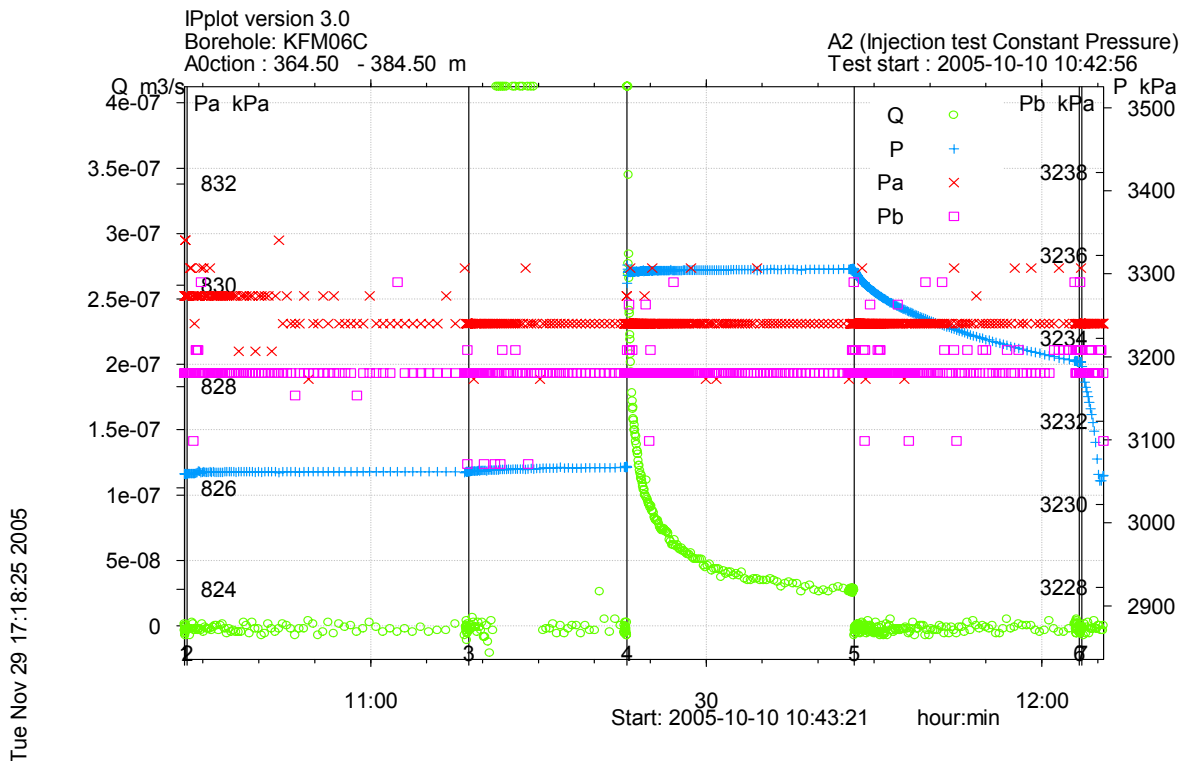
**Figure A3-124.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 344.5-364.5 m in KFM06C.



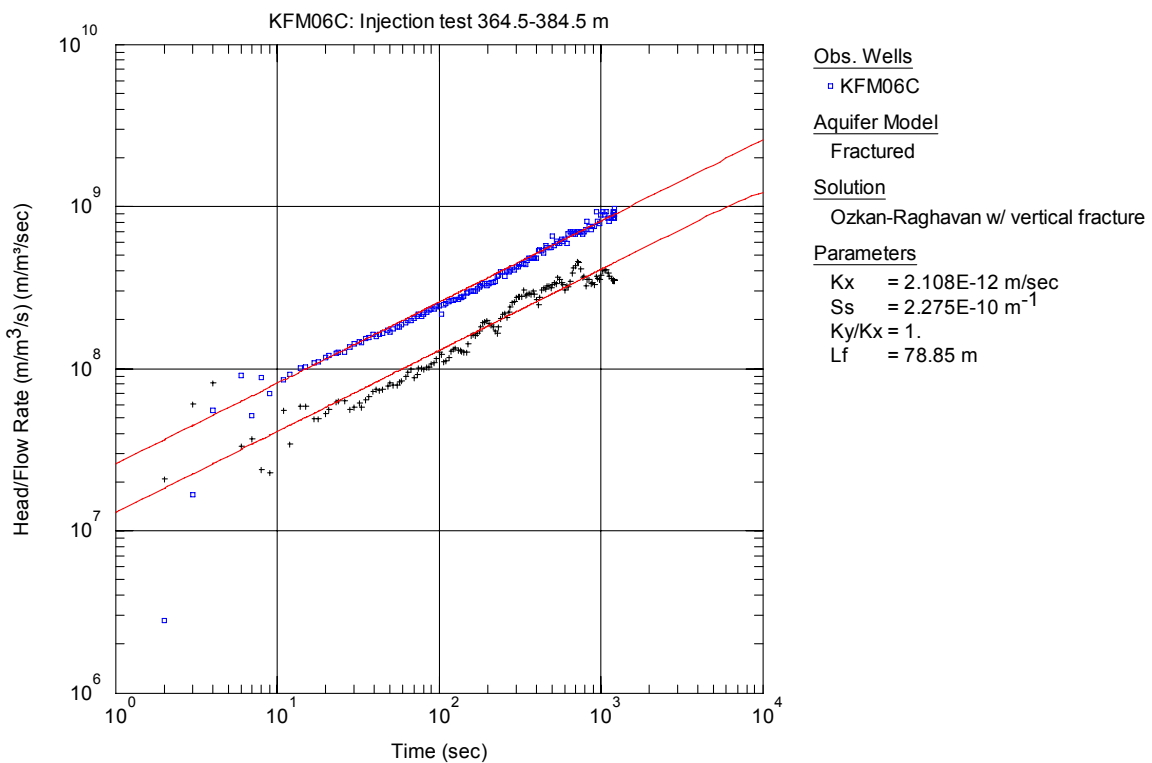
**Figure A3-125.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 344.5-364.5 m in KFM06C.



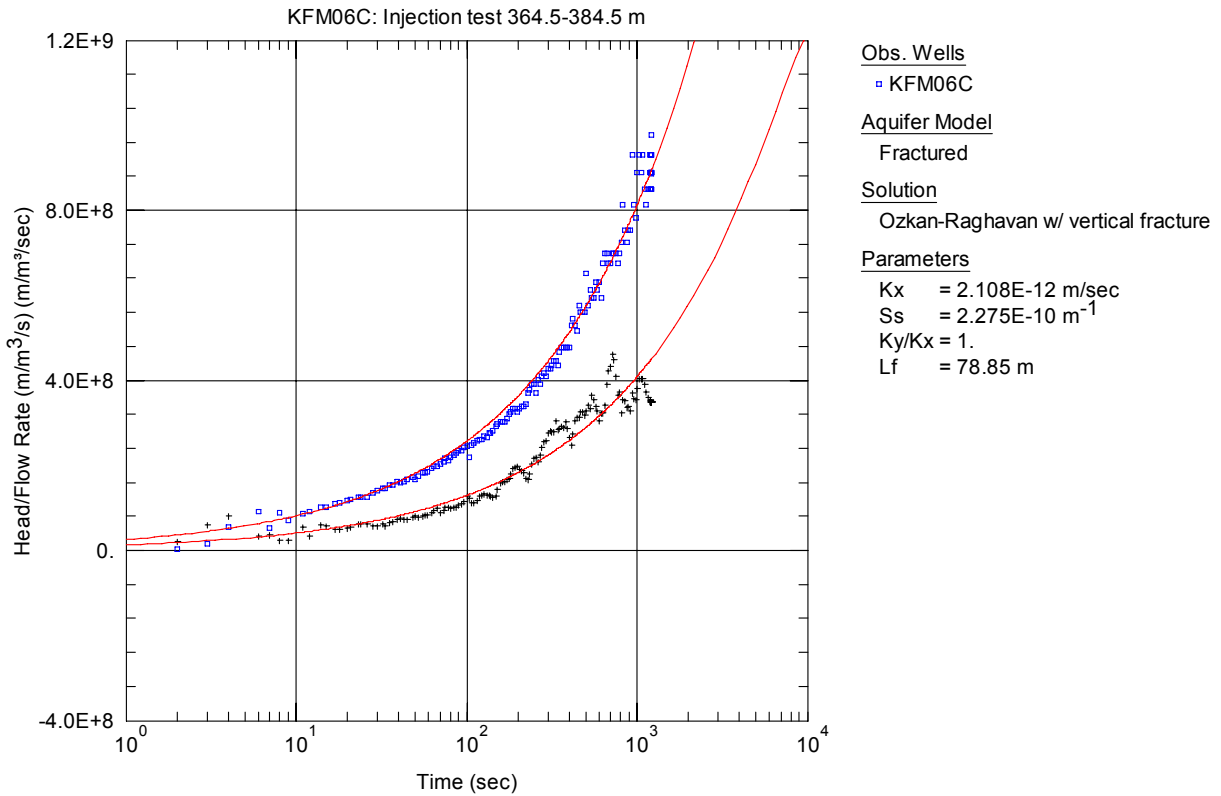
**Figure A3-126.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 344.5-364.5 m in KFM06C.



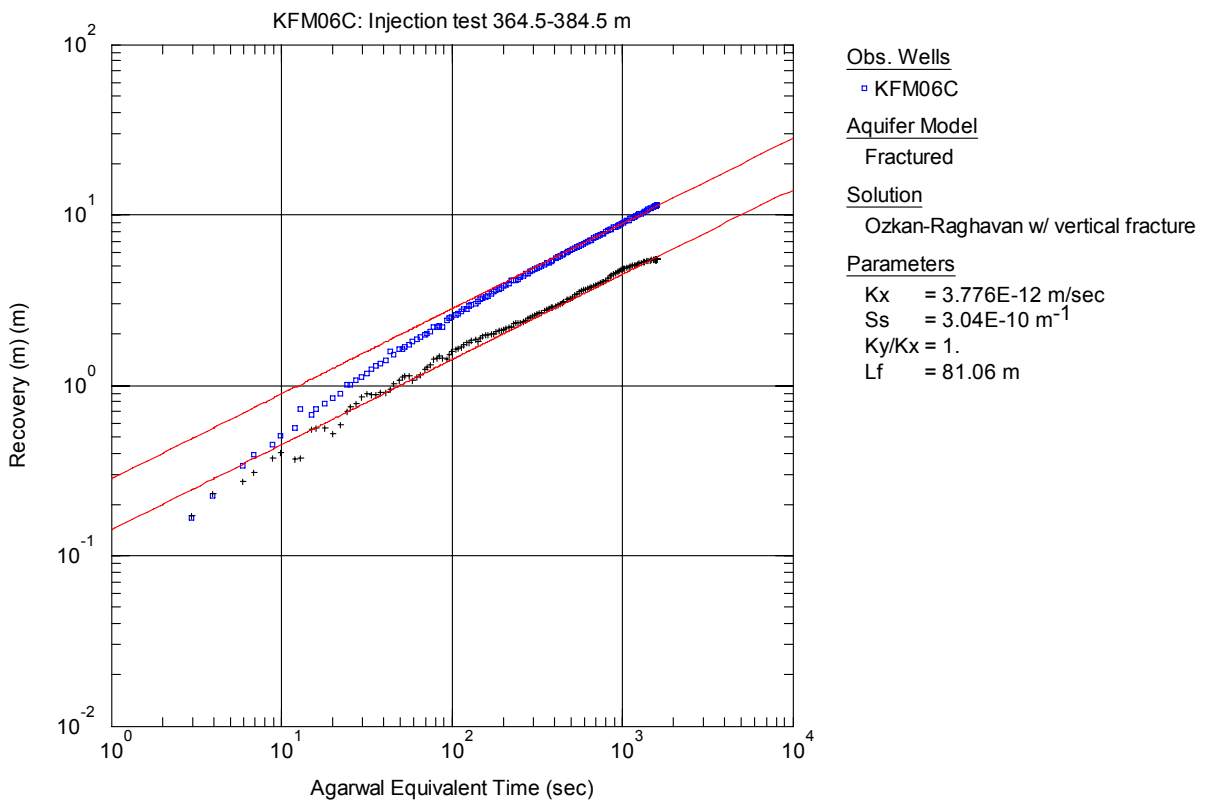
**Figure A3-127.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 364.5-384.5 m in borehole KFM06C.



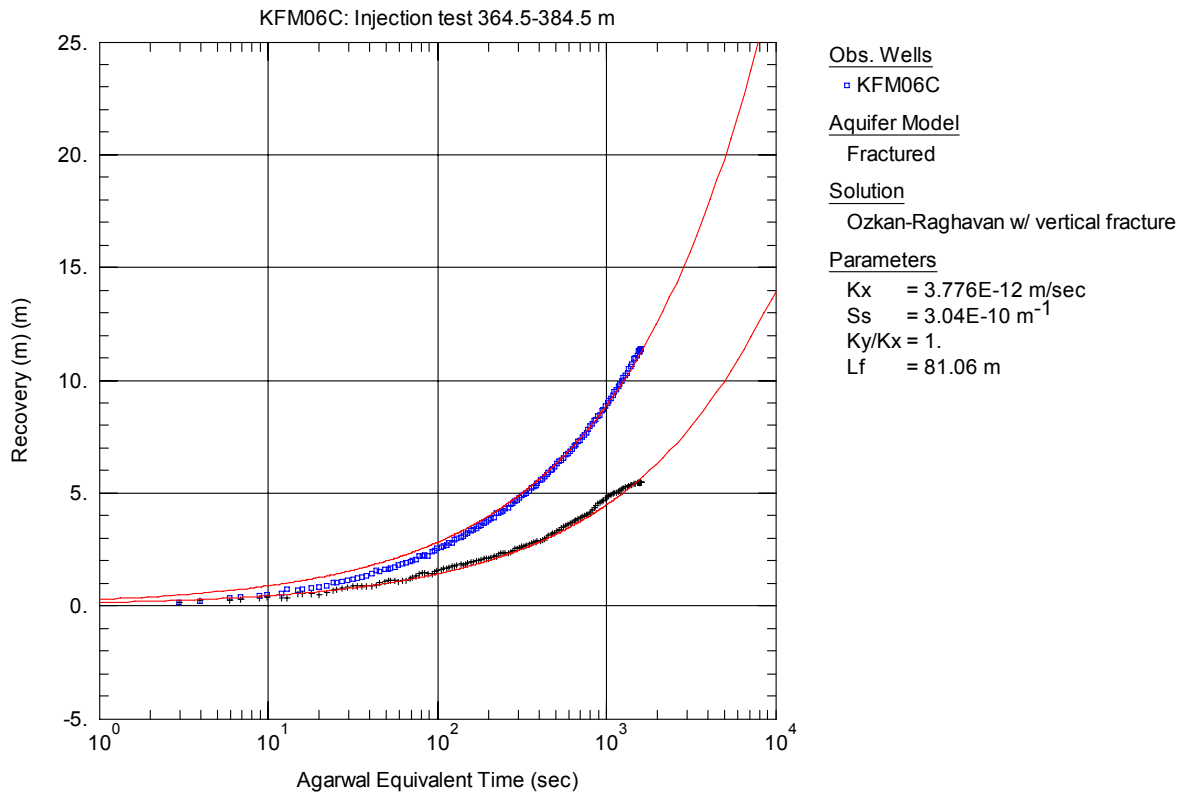
**Figure A3-128.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 364.5-384.5 m in KFM06C.



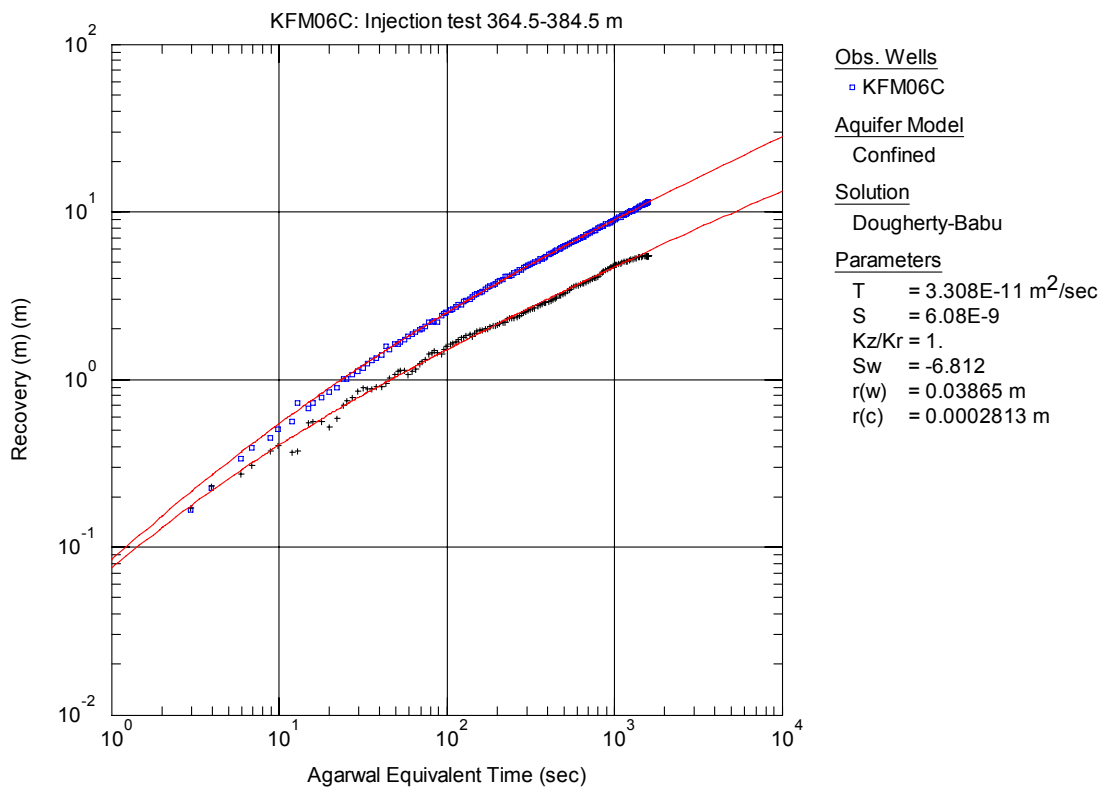
**Figure A3-129.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 364.5-384.5 m in KFM06C.



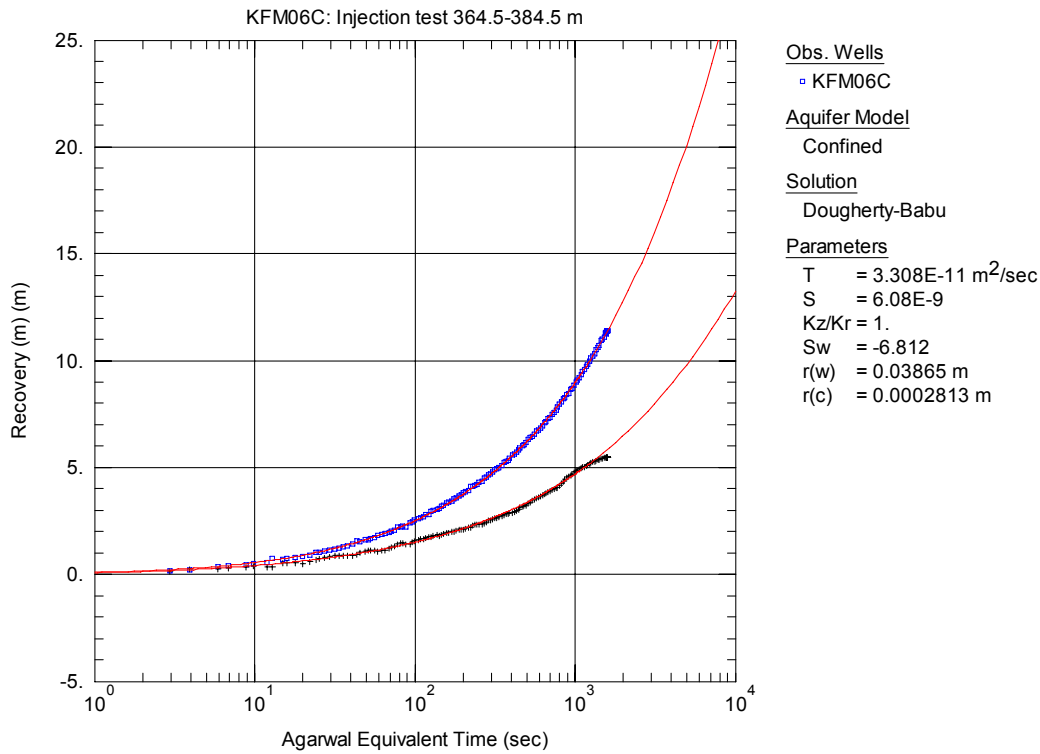
**Figure A3-130.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 364.5-384.5 m in KFM06C.



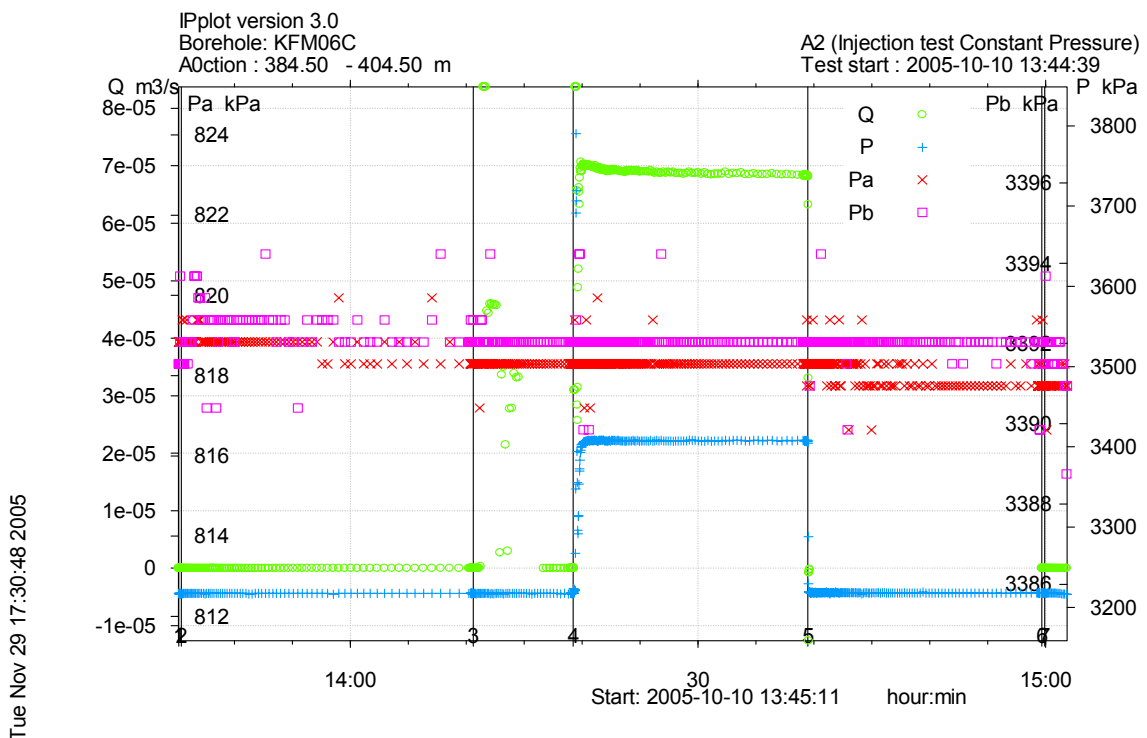
**Figure A3-131.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 364.5-384.5 m in KFM06C.



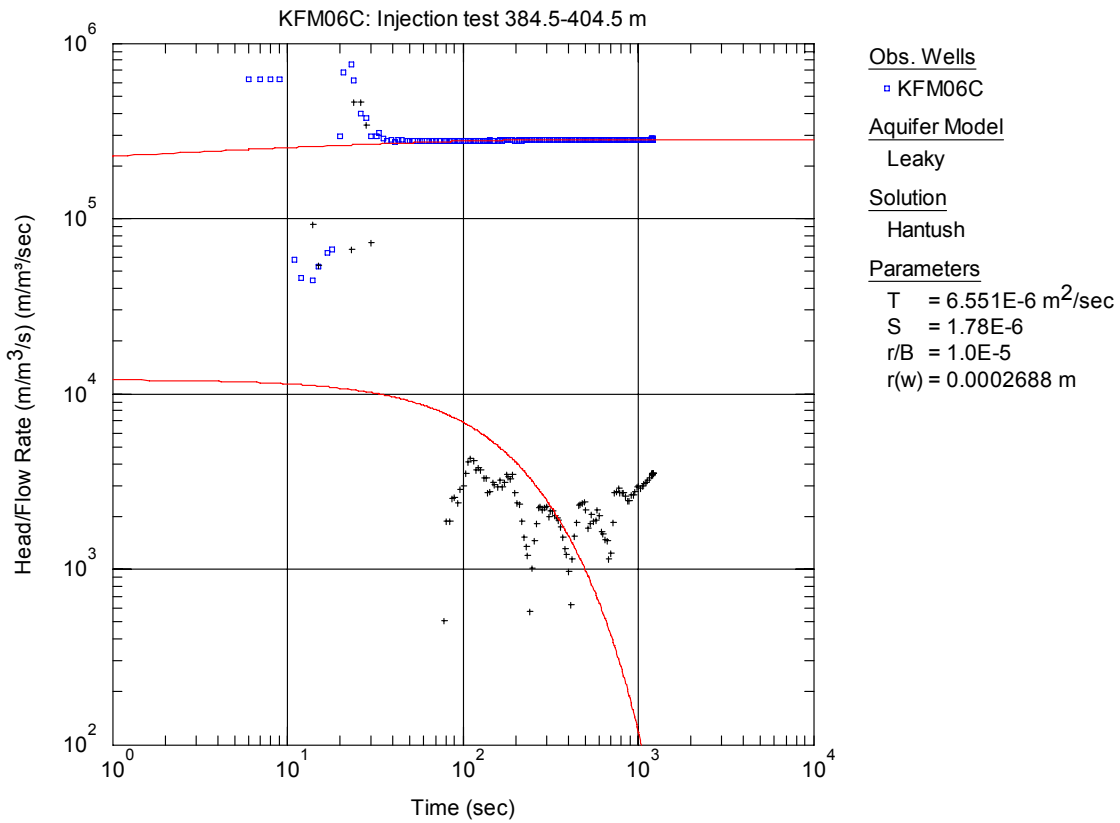
**Figure A3-132.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 364.5-384.5 m in KFM06C.



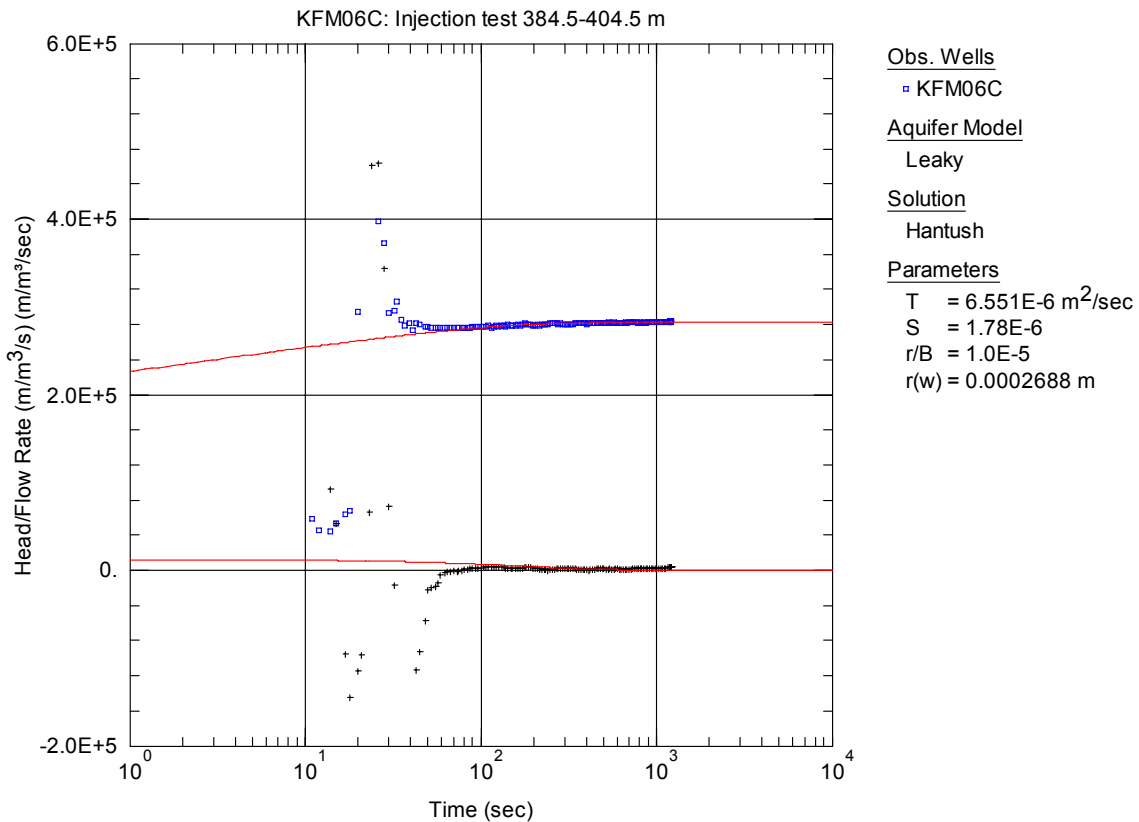
**Figure A3-133.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 364.5-384.5 m in KFM06C.



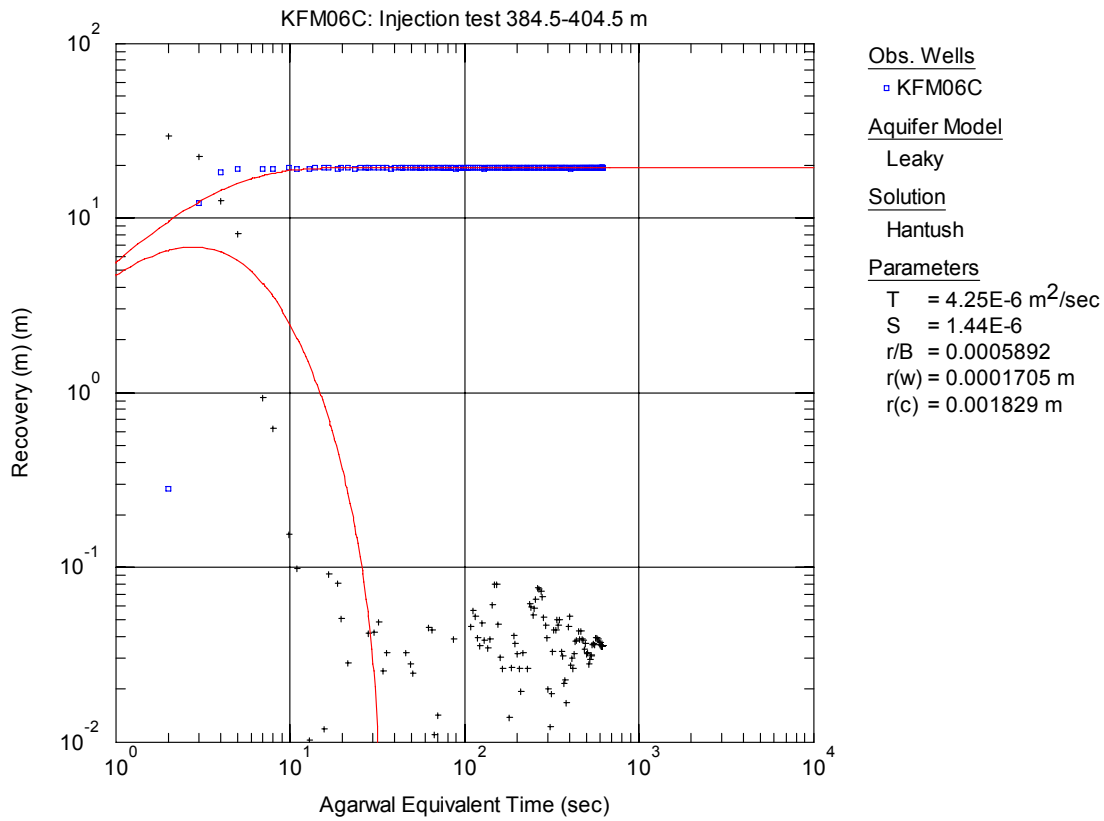
**Figure A3-134.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 384.5-404.5 m in borehole KFM06C.



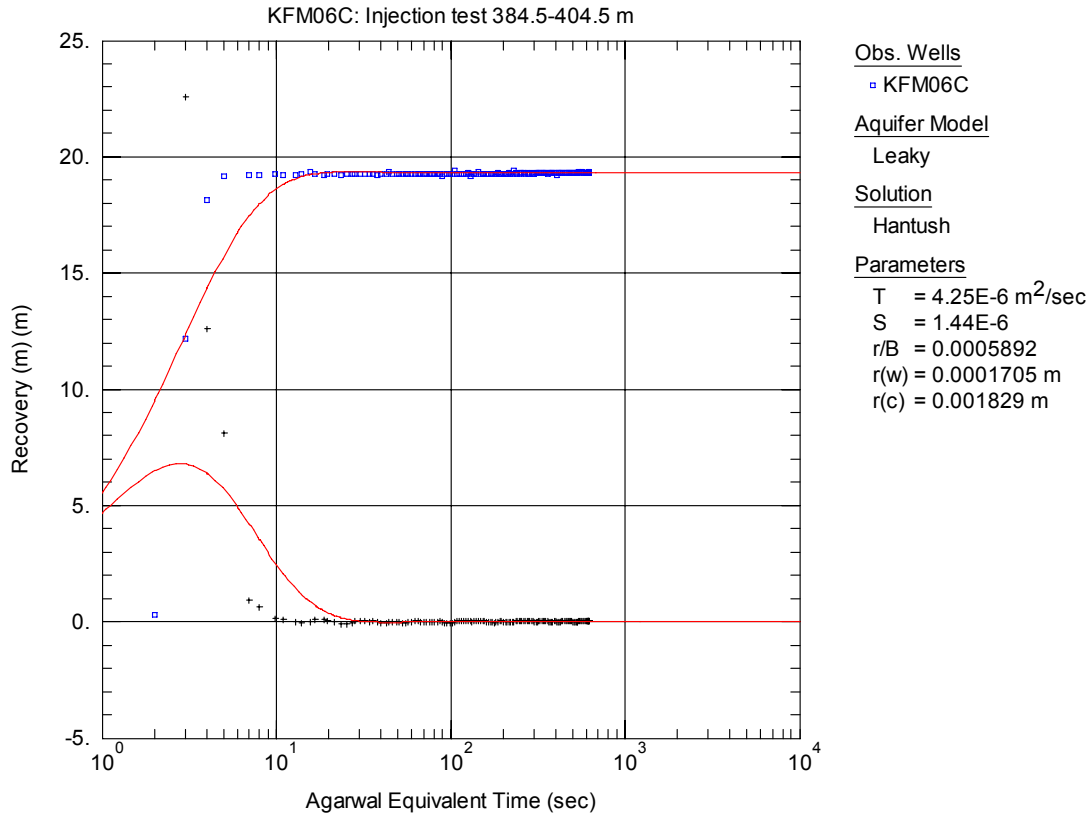
**Figure A3-135.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 384.5-404.5 m in KFM06C.



**Figure A3-136.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 384.5-404.5 m in KFM06C.

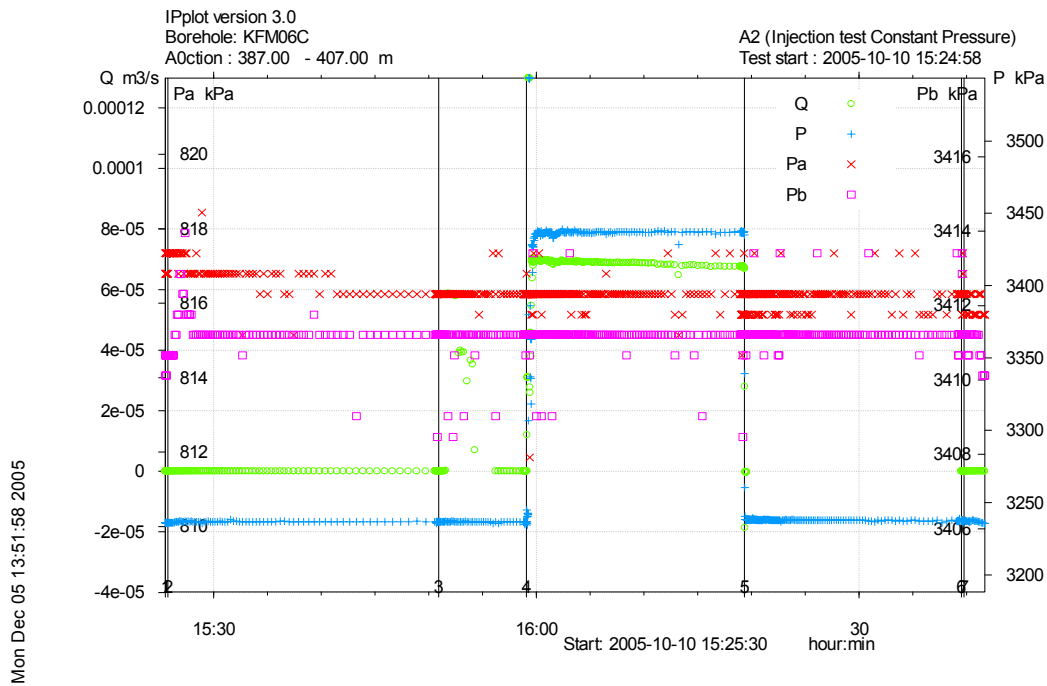


**Figure A3-137.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 384.5-404.5 m in KFM06C.

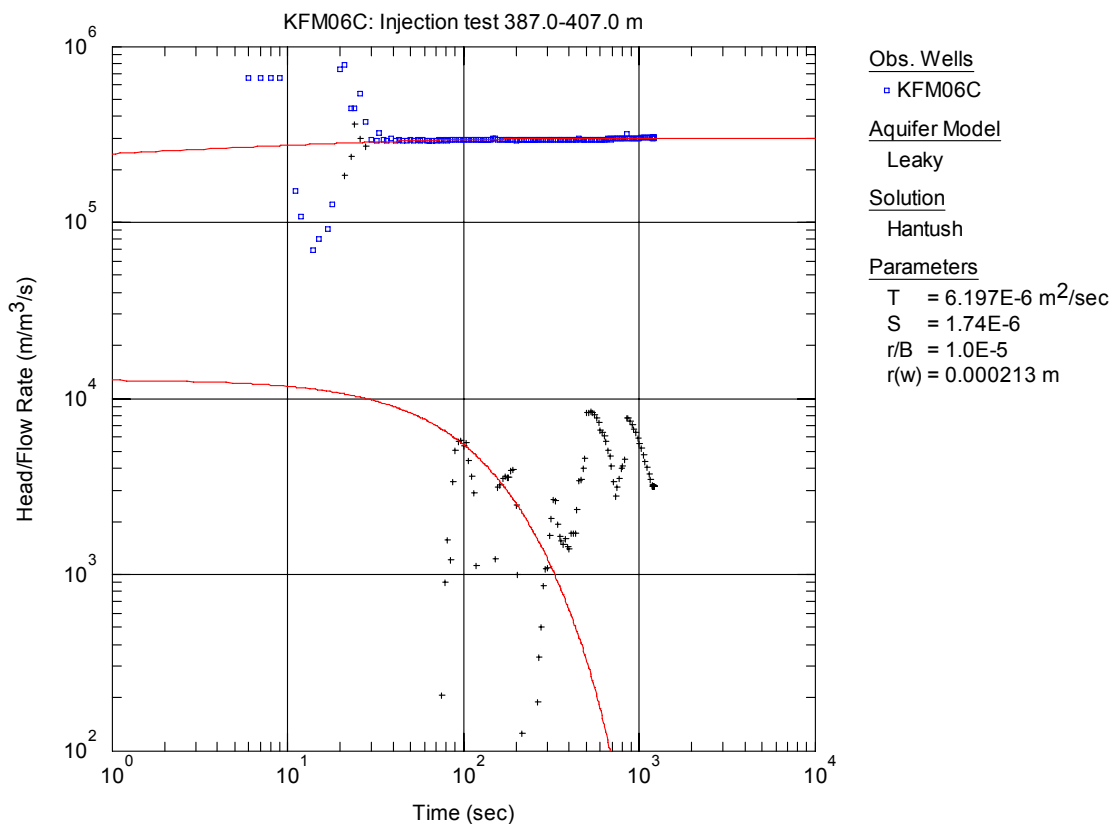


**Figure A3-138.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 384.5-404.5 m in KFM06C.

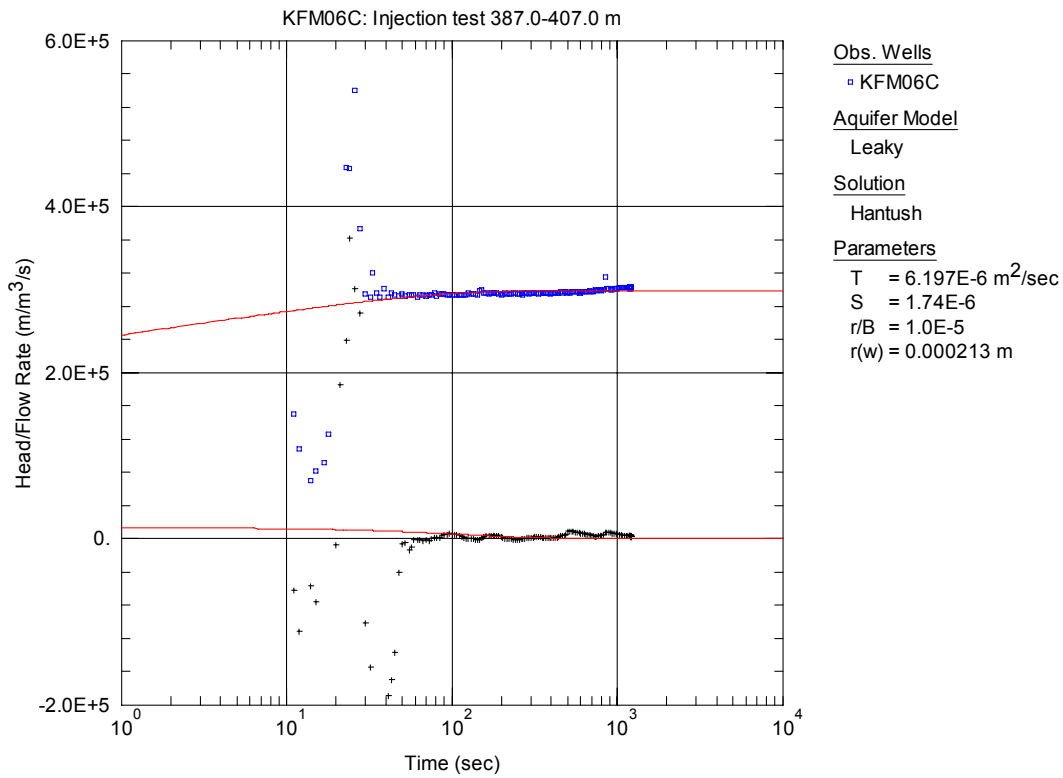




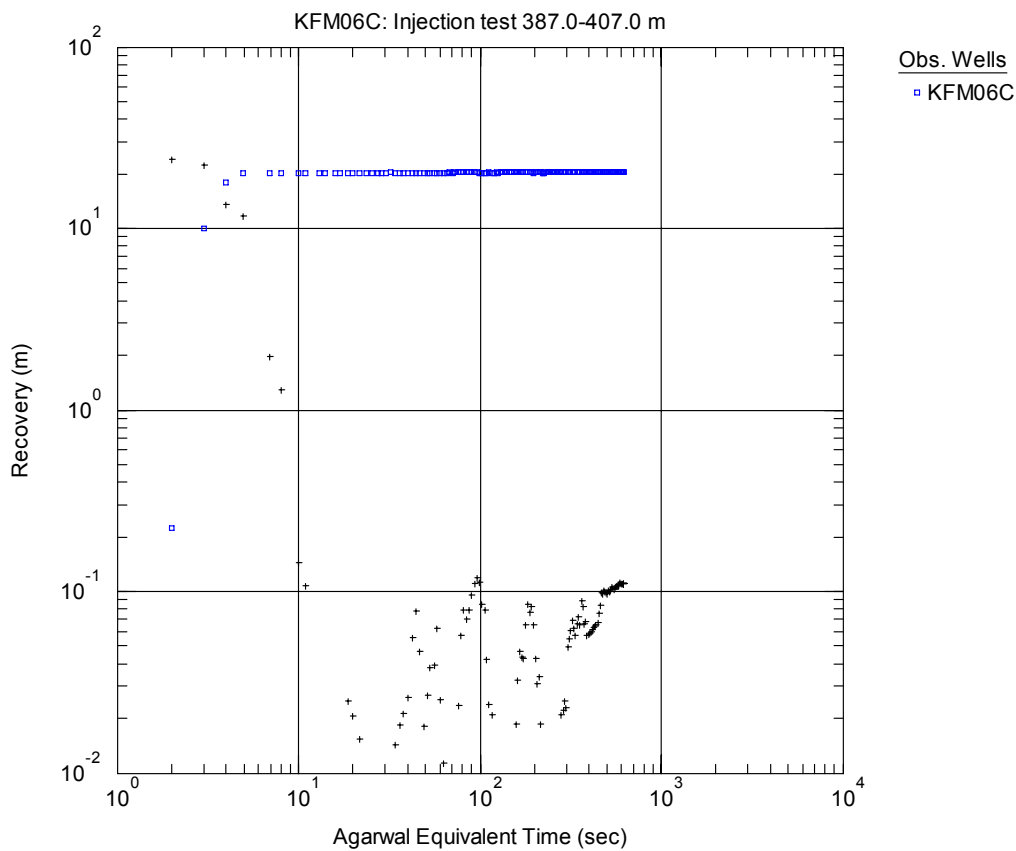
**Figure A3-139.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 387.0-407.0 m in borehole KFM06C.



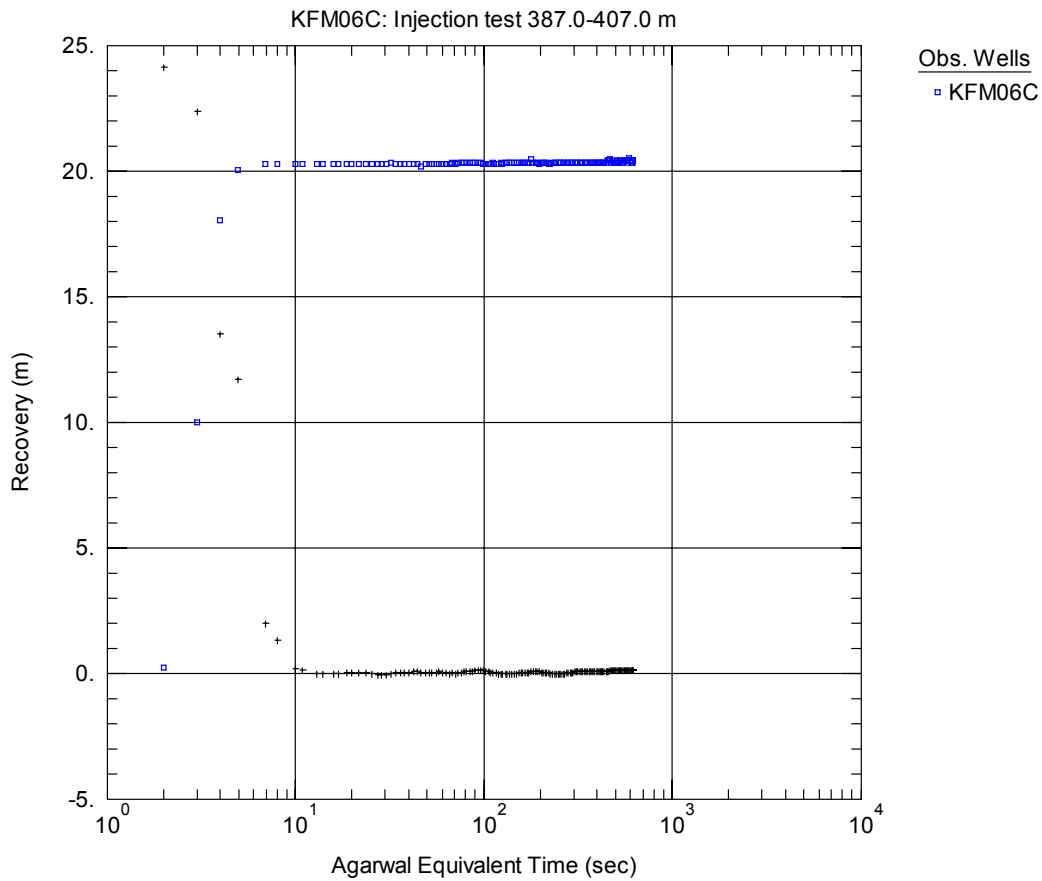
**Figure A3-140.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 387.0-407.0 m in KFM06C.



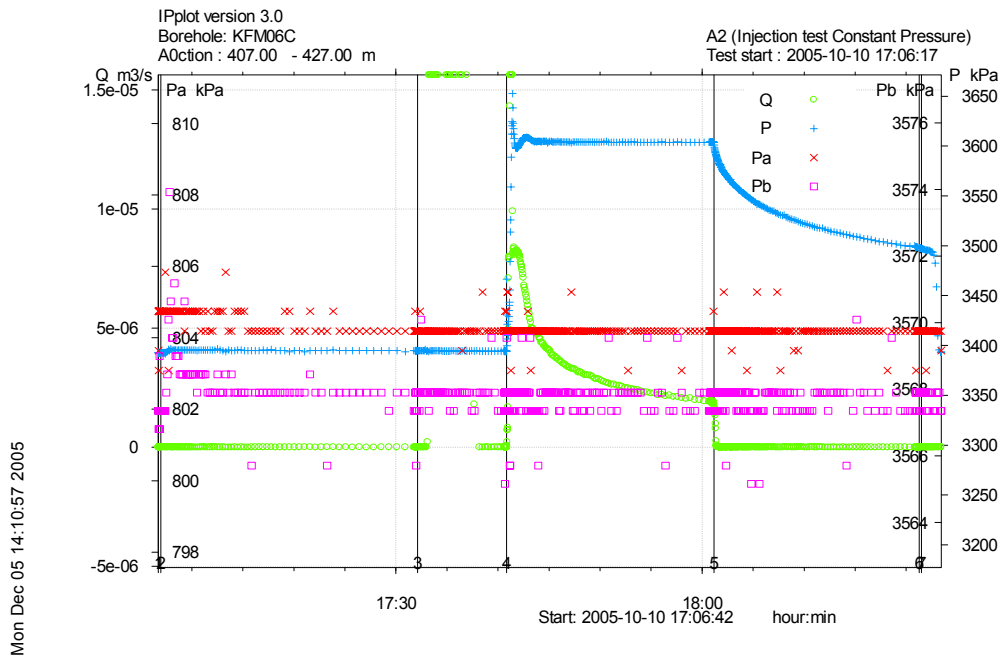
**Figure A3-141.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 387.0-407.0 m in KFM06C.



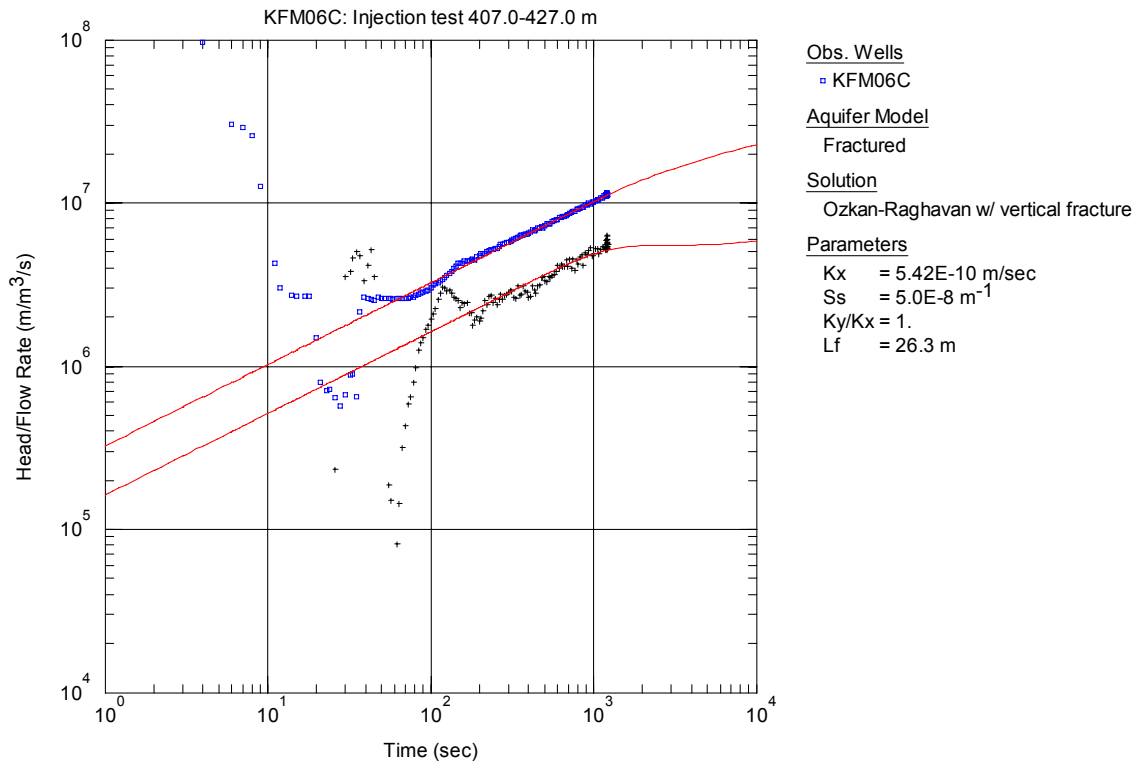
**Figure A3-142.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 387.0-407.0 m in KFM06C.



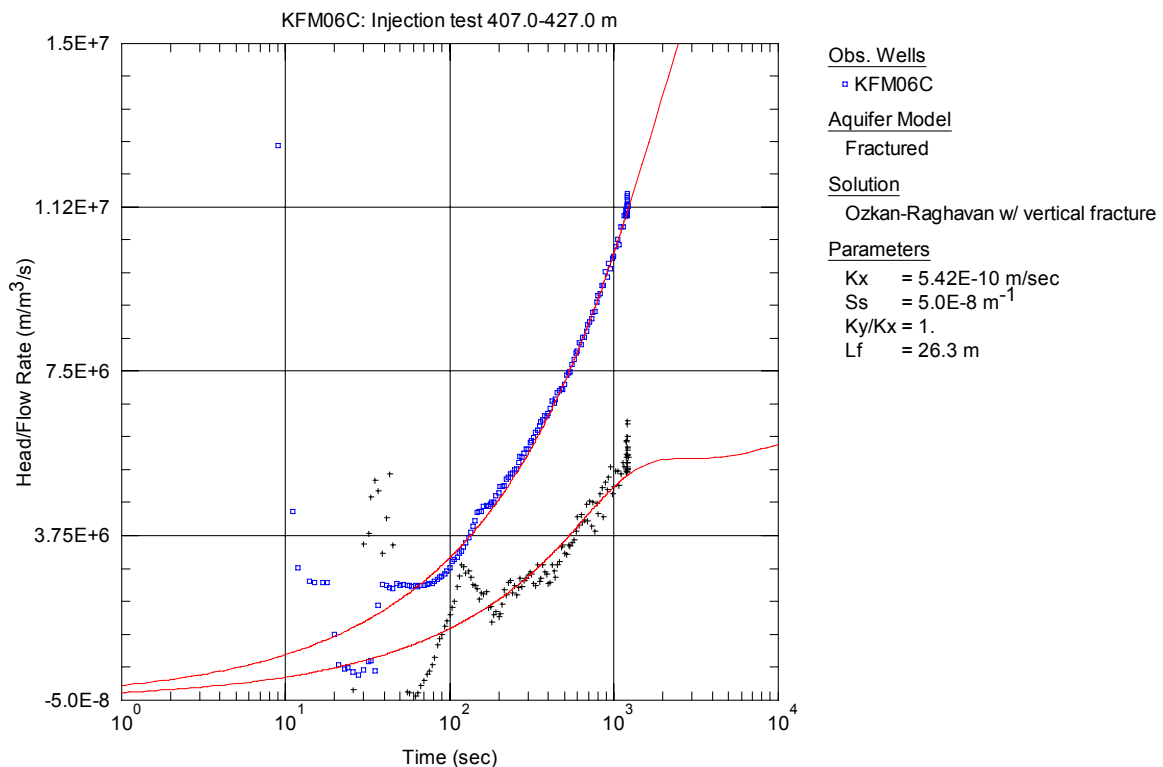
**Figure A3-143.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 387.0-407.0 m in KFM06C.



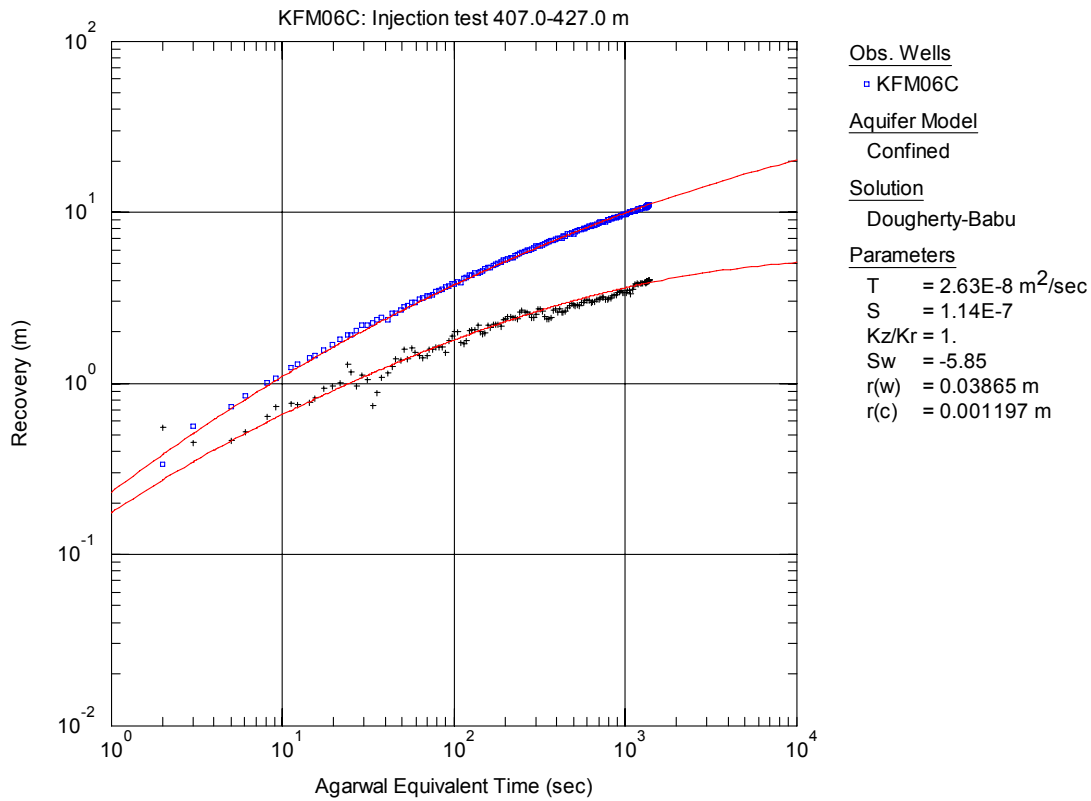
**Figure A3-144.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 407.0-427.0 m in borehole KFM06C.



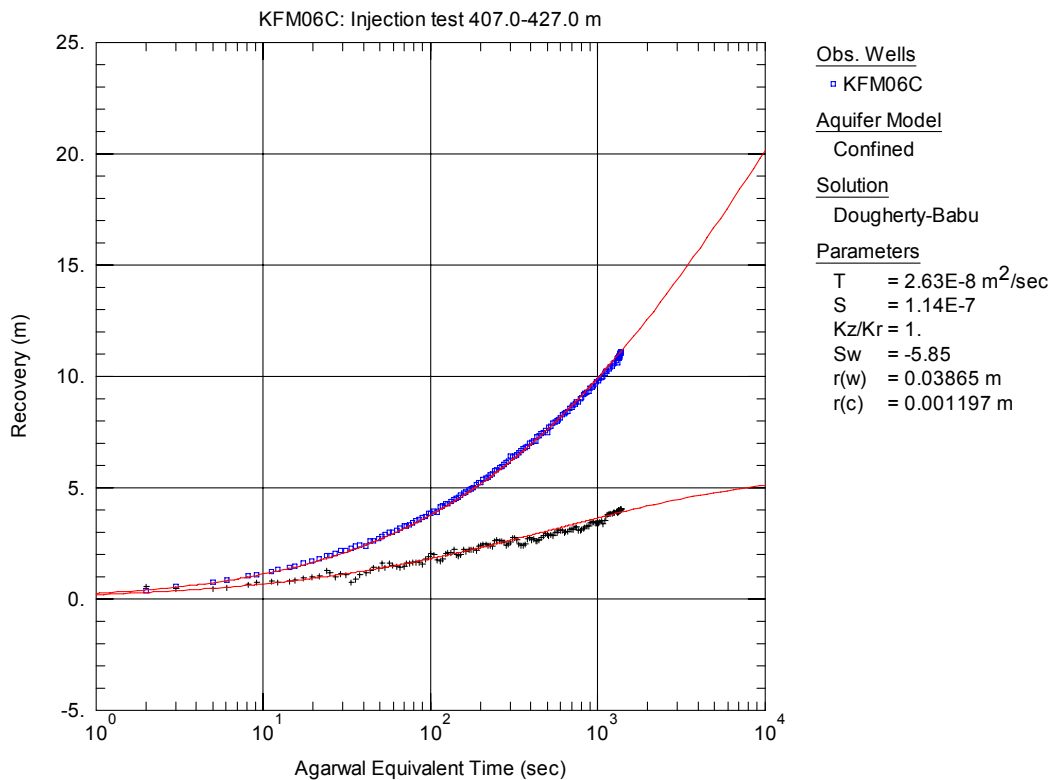
**Figure A3-145.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 407.0-427.0 m in KFM06C.



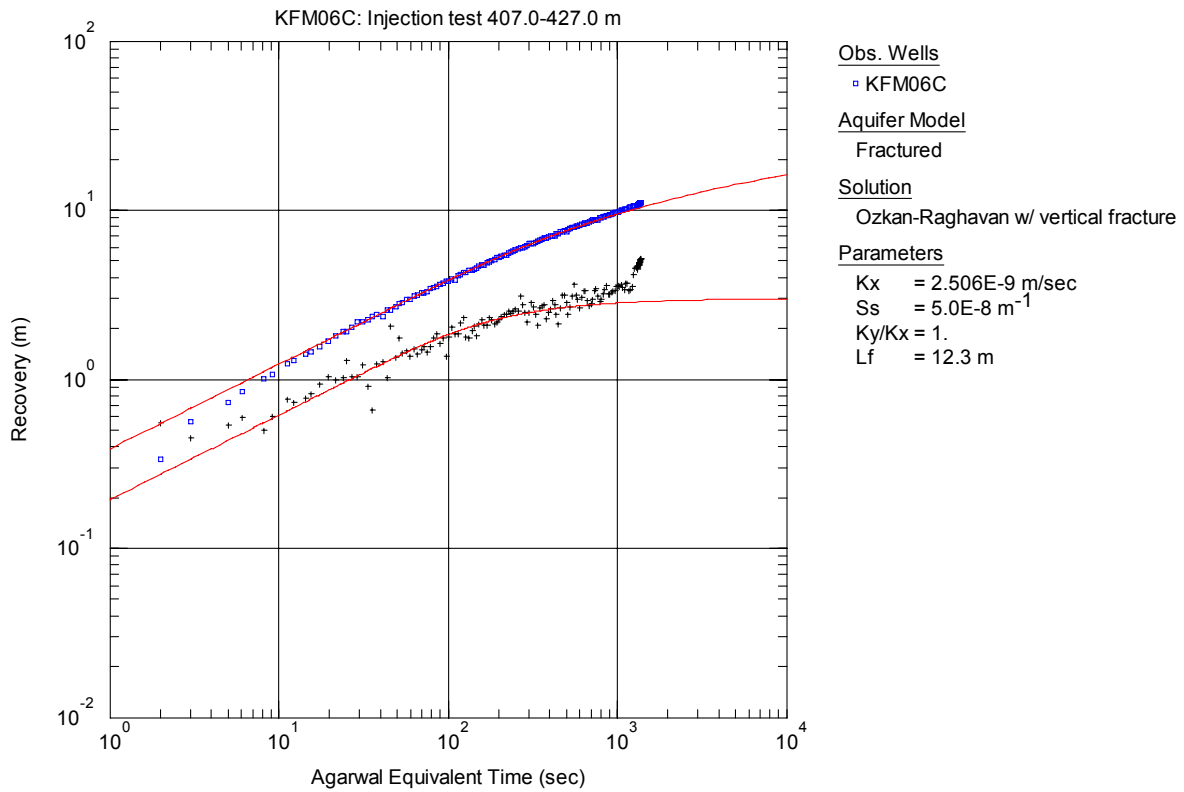
**Figure A3-146.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 407.0-427.0 m in KFM06C.



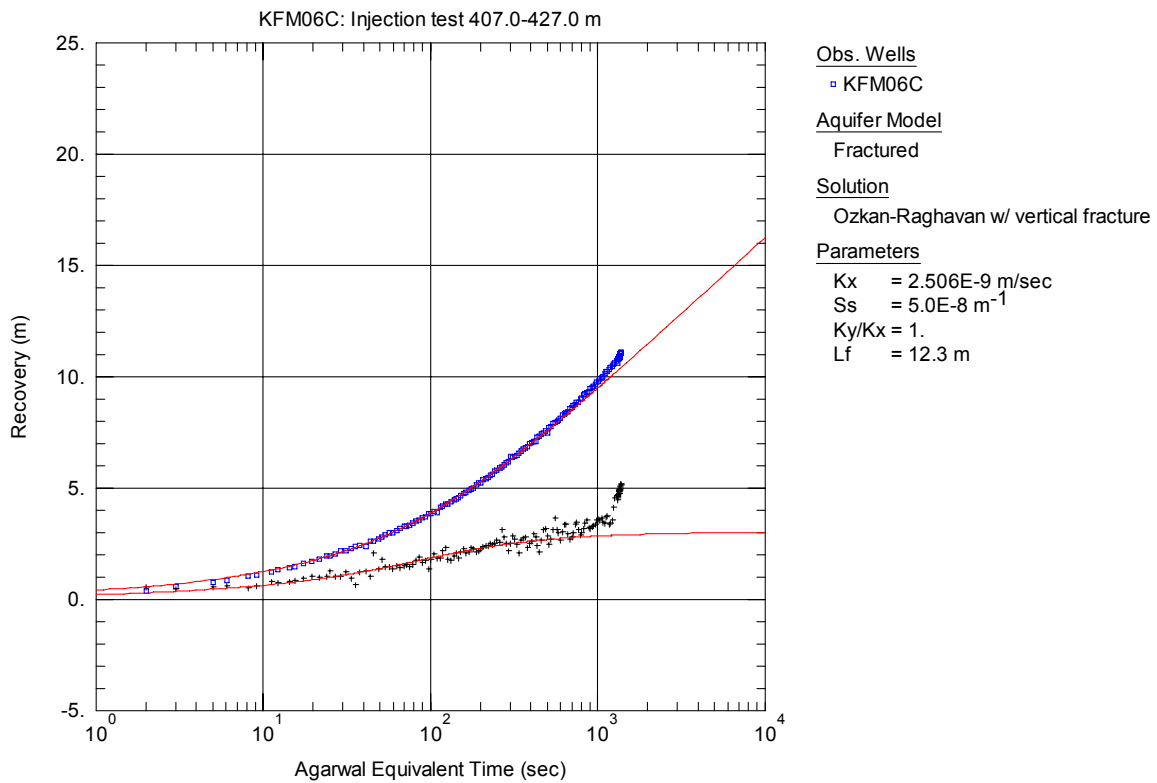
**Figure A3-147.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 407.0-427.0 m in KFM06C.



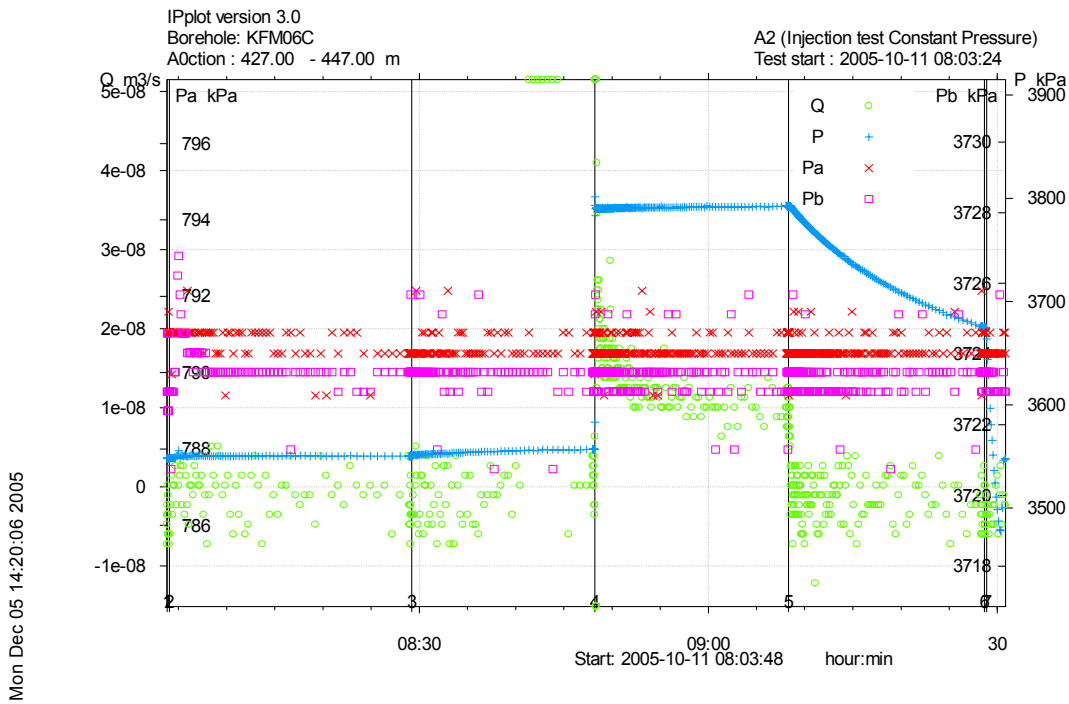
**Figure A3-148.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 407.0-427.0 m in KFM06C.



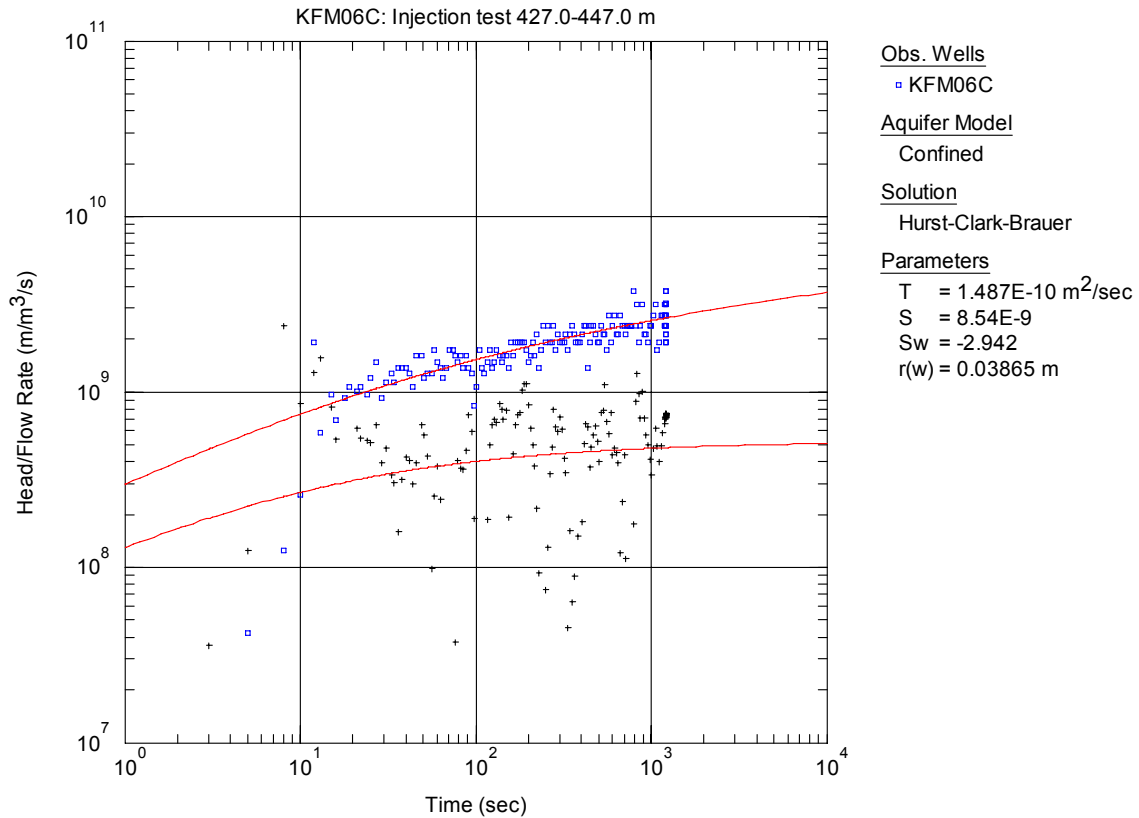
**Figure A3-149.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 407.0-427.0 m in KFM06C.



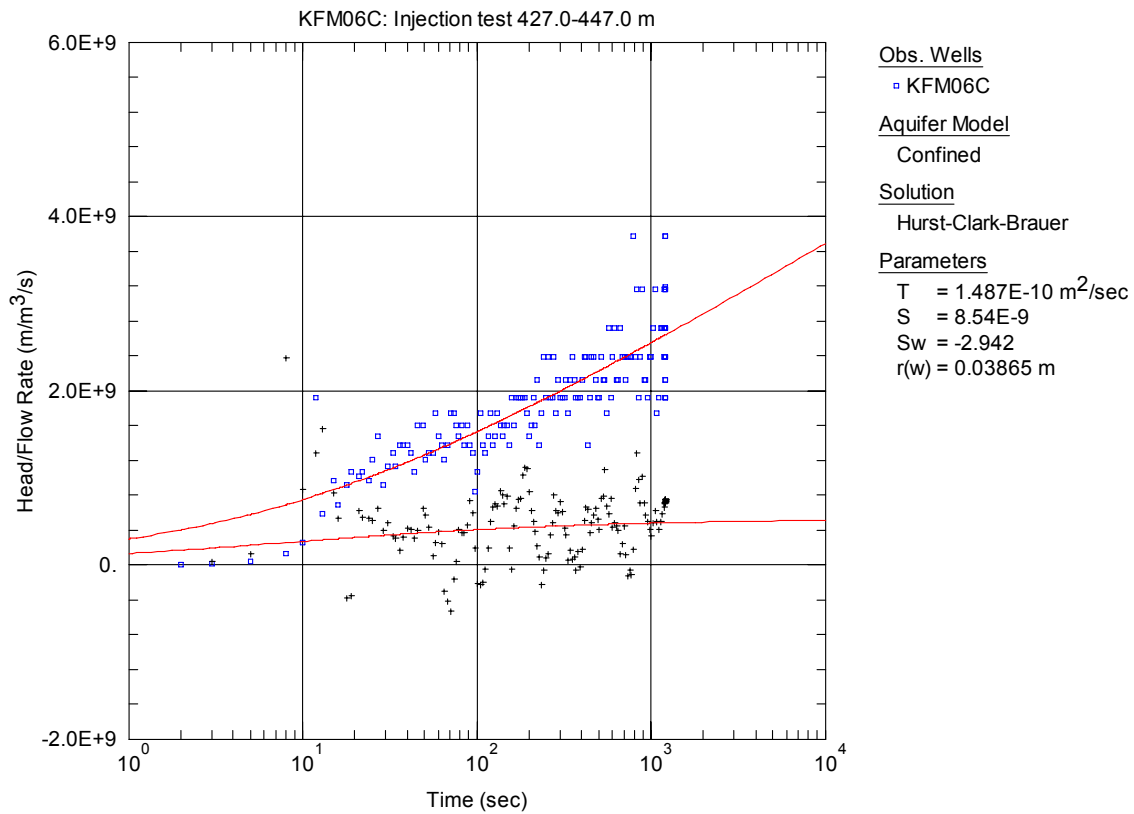
**Figure A3-150.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 407.0-427.0 m in KFM06C.



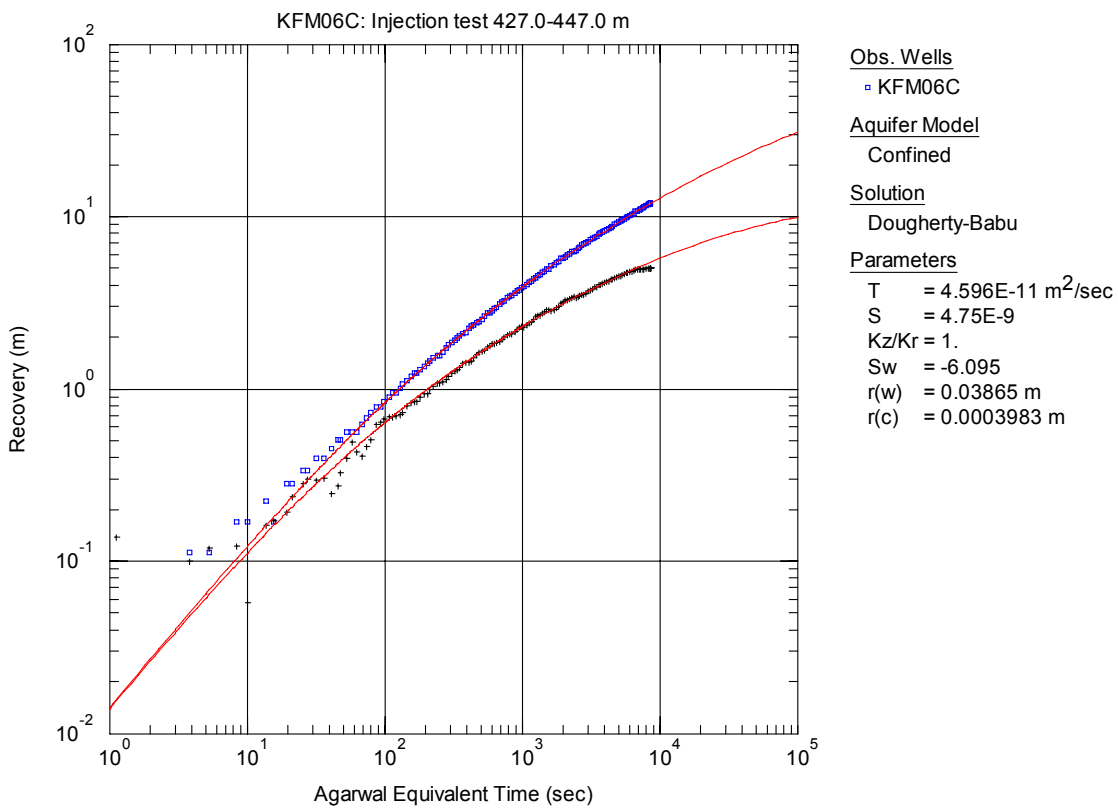
**Figure A3-151.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 427.0-447.0 m in borehole KFM06C.



**Figure A3-152.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 427.0-447.0 m in KFM06C.

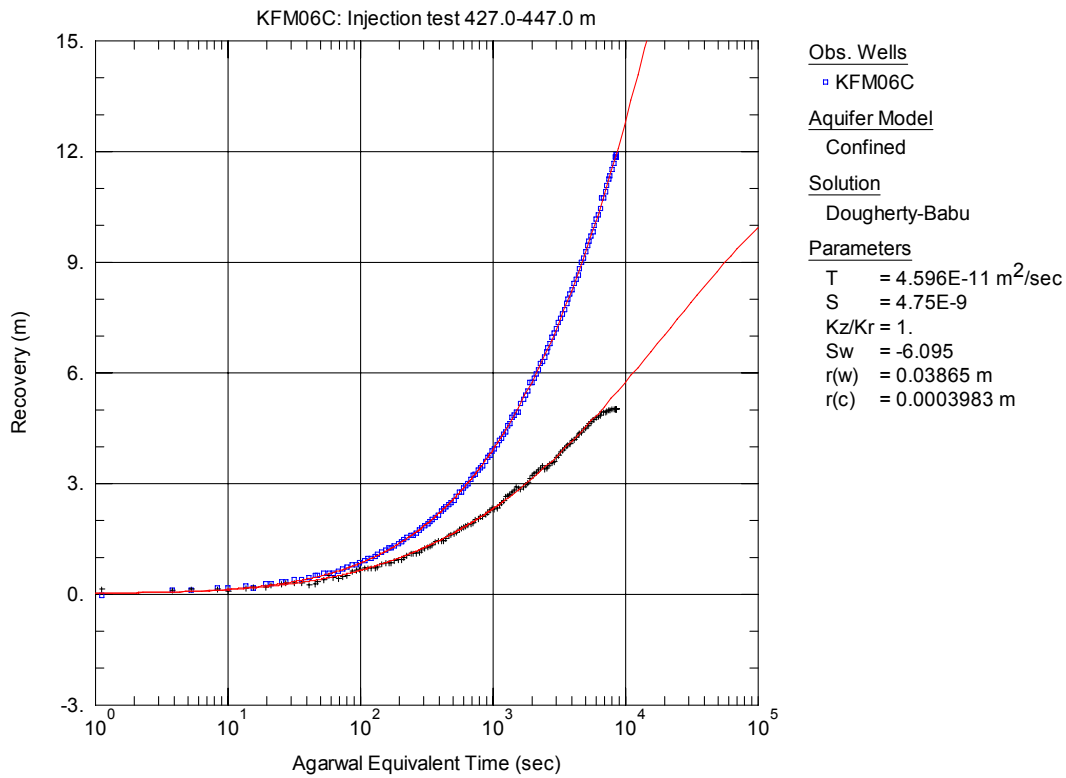


**Figure A3-153.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 427.0-447.0 m in KFM06C.

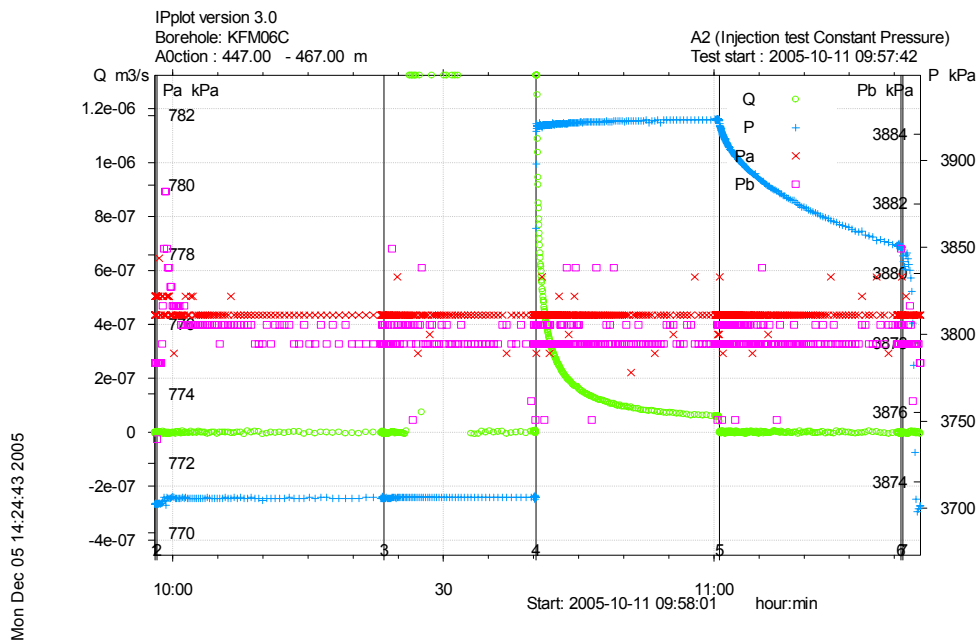


**Figure A3-154.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 427.0-447.0 m in KFM06C.

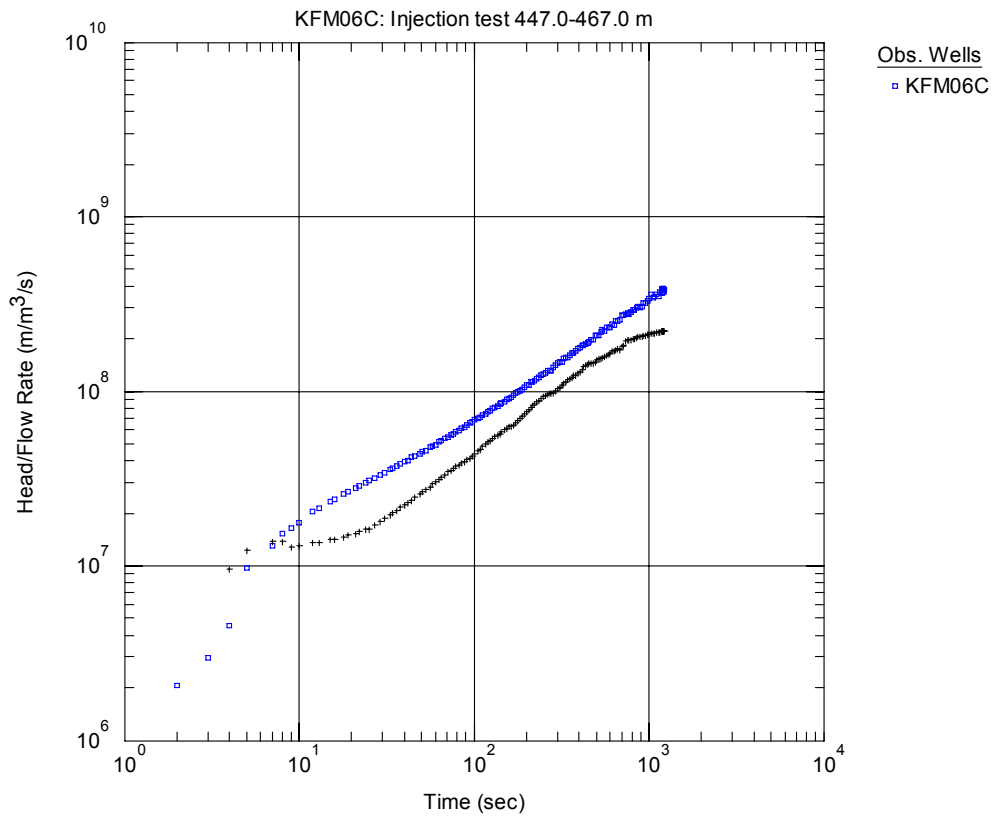




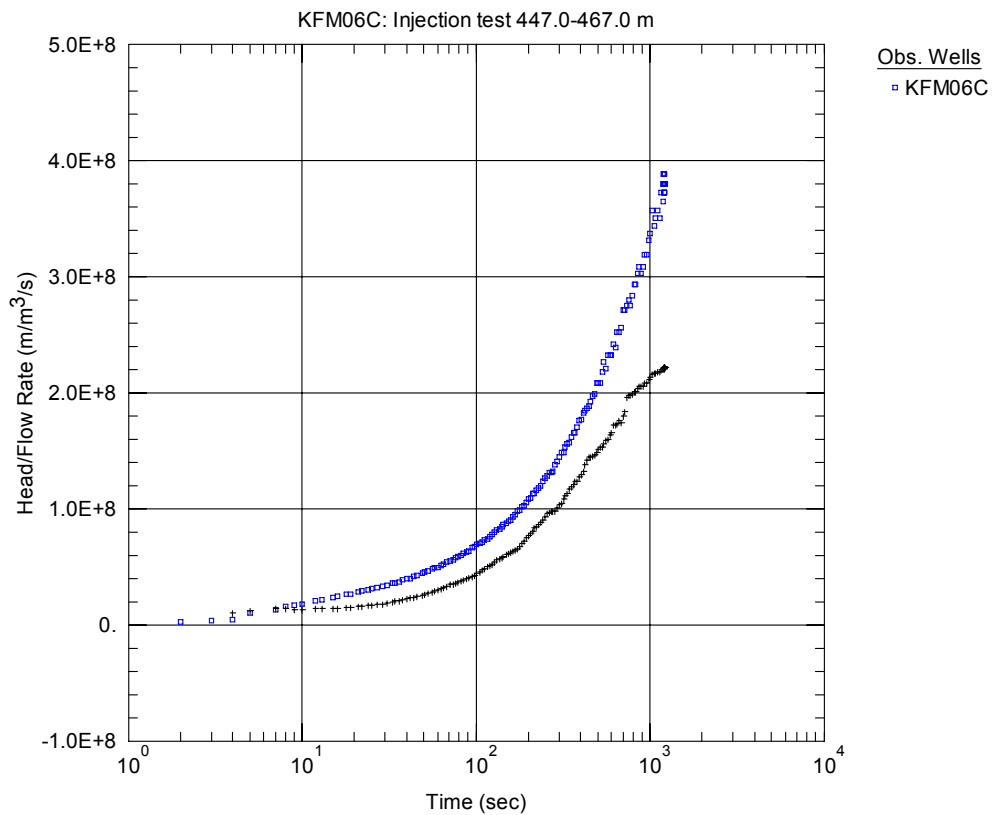
**Figure A3-155.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 427.0-447.0 m in KFM06C.



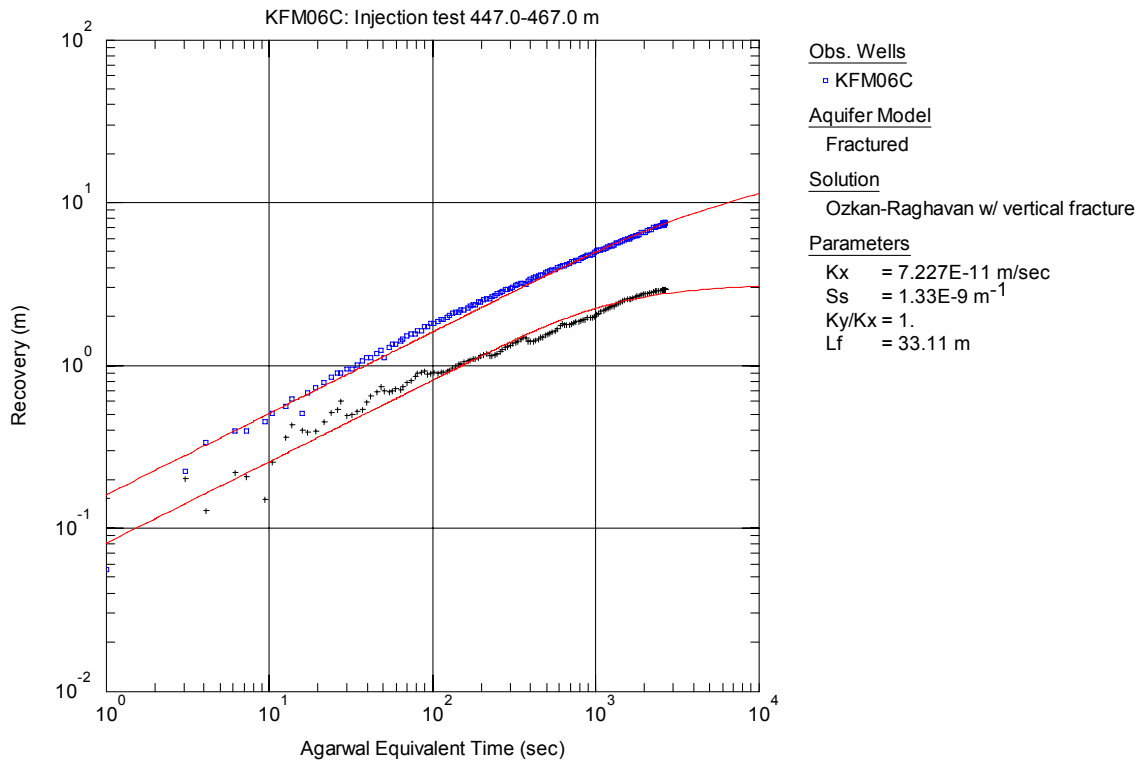
**Figure A3-156.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 447.0-467.0 m in borehole KFM06C.



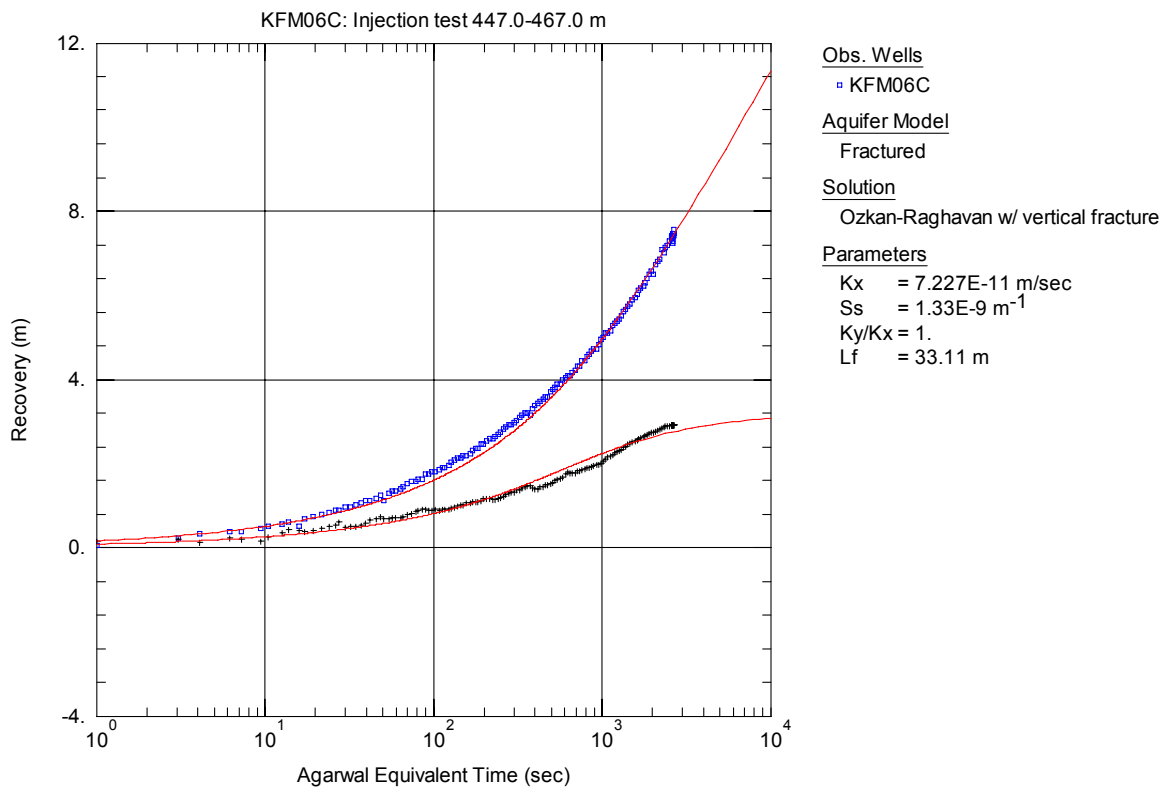
**Figure A3-157.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 447.0-467.0 m in KFM06C.



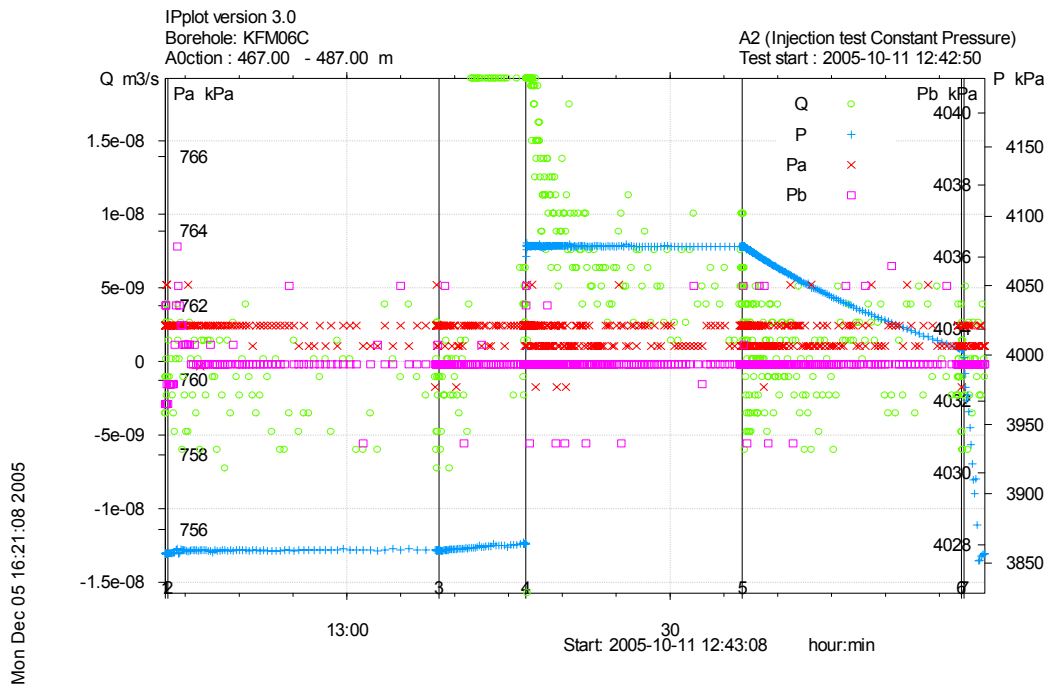
**Figure A3-158.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 447.0-467.0 m in KFM06C.



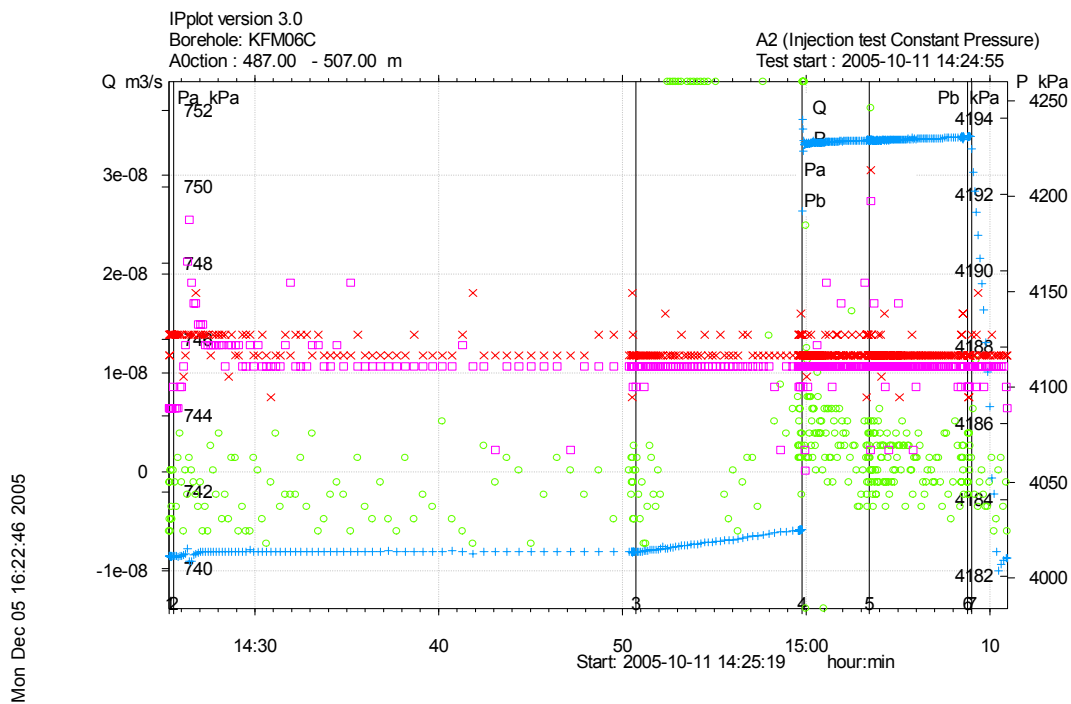
**Figure A3-159.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 447.0-467.0 m in KFM06C.



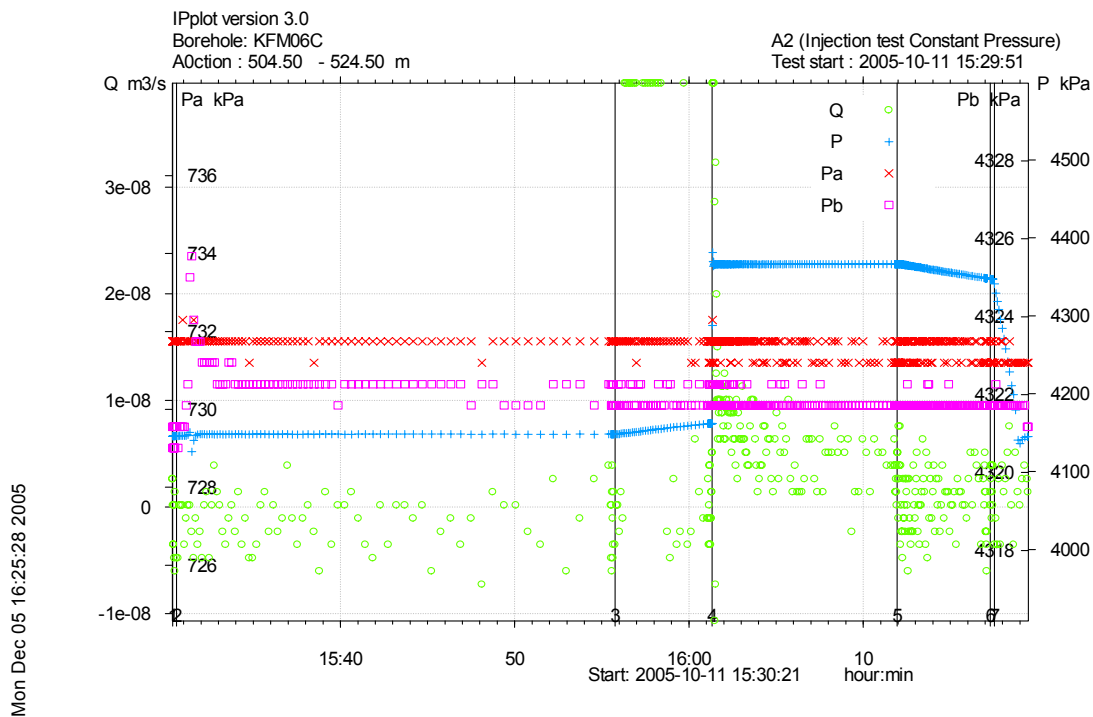
**Figure A3-160.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 447.0-467.0 m in KFM06C.



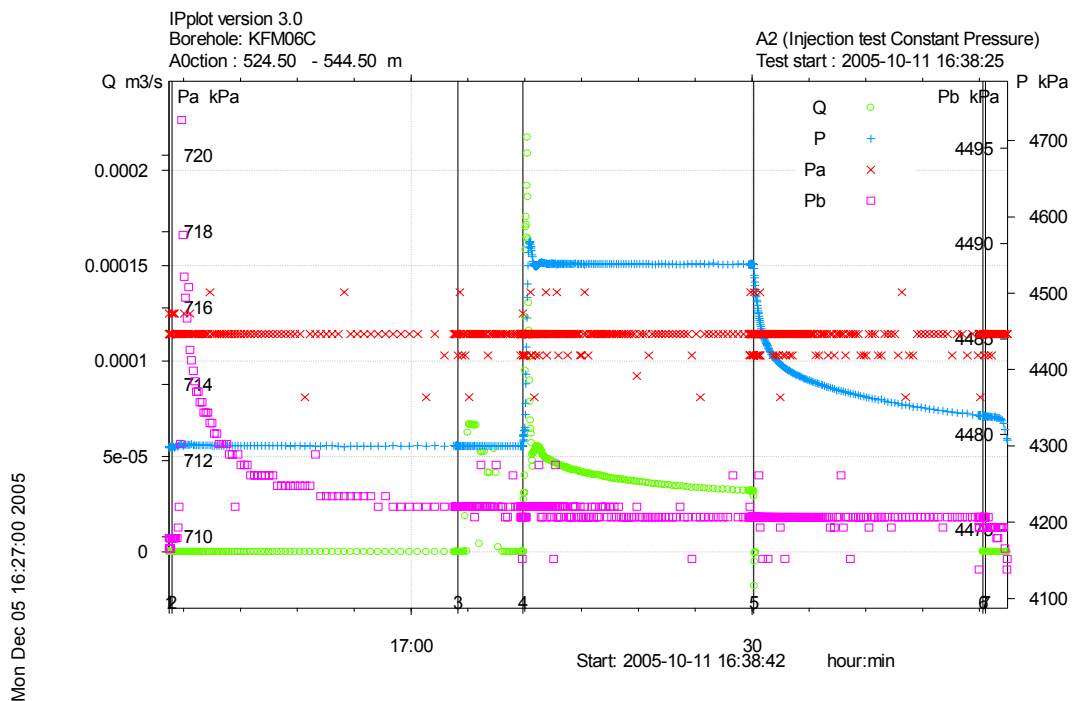
**Figure A3-161.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 467.0-487.0 m in borehole KFM06C.



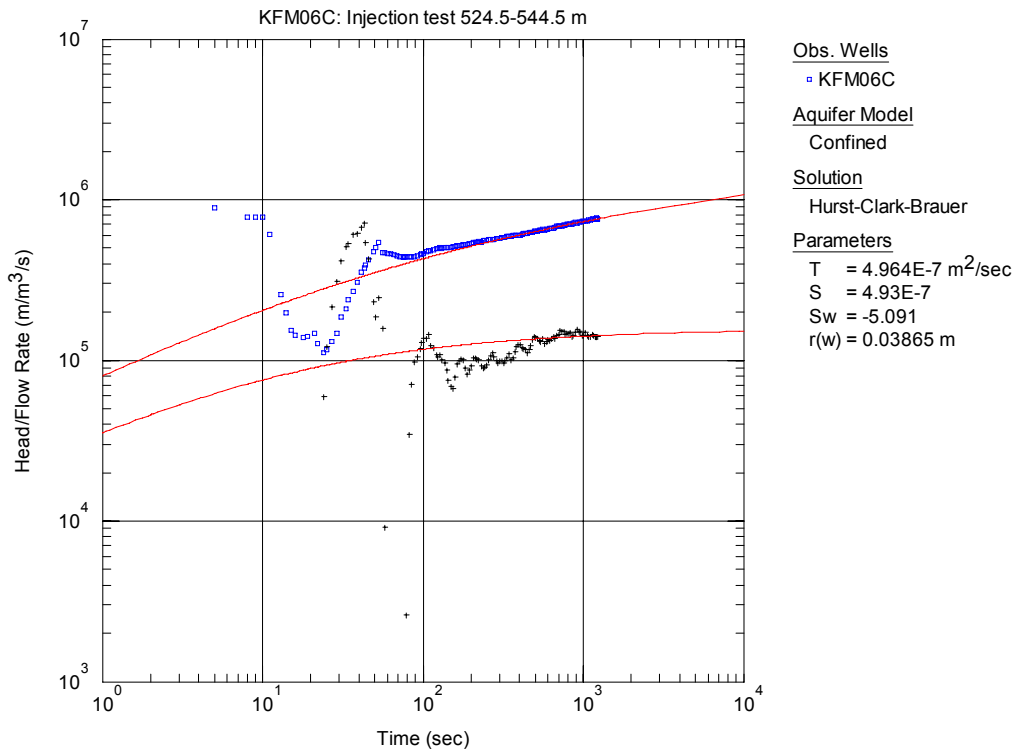
**Figure A3-162.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 487.0-507.0 m in borehole KFM06C.



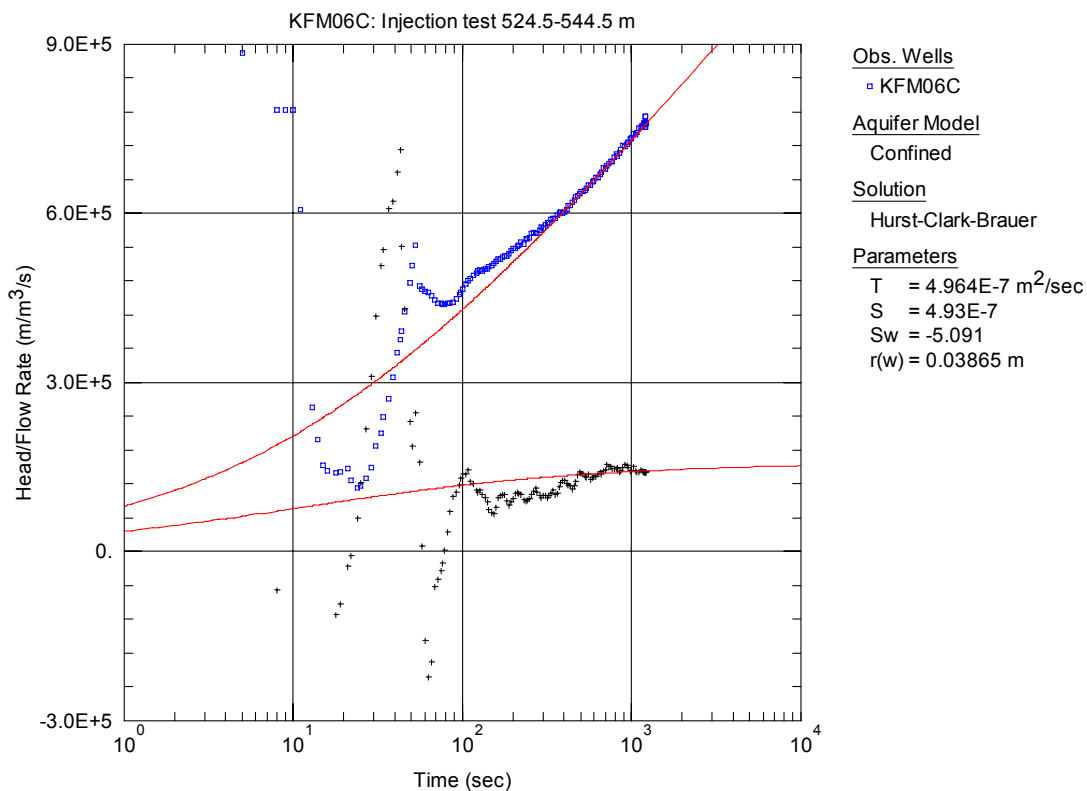
**Figure A3-163.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 504.5-524.5 m in borehole KFM06C.



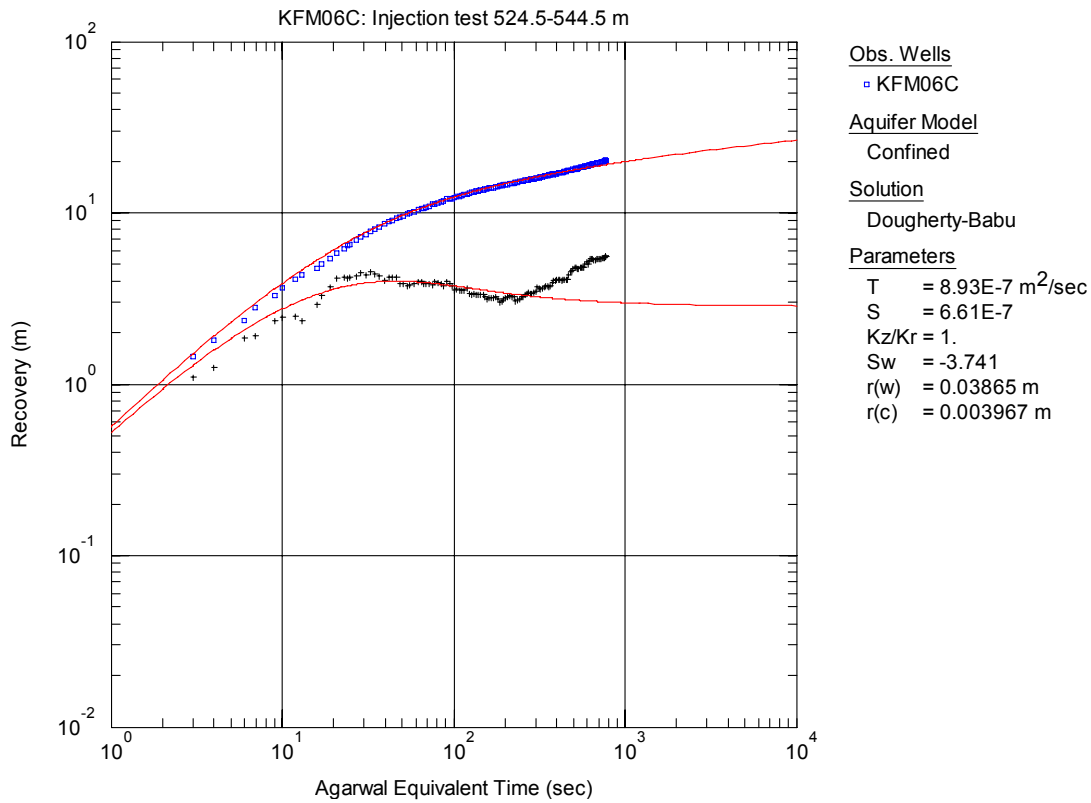
**Figure A3-164.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 524.5-544.5 m in borehole KFM06C.



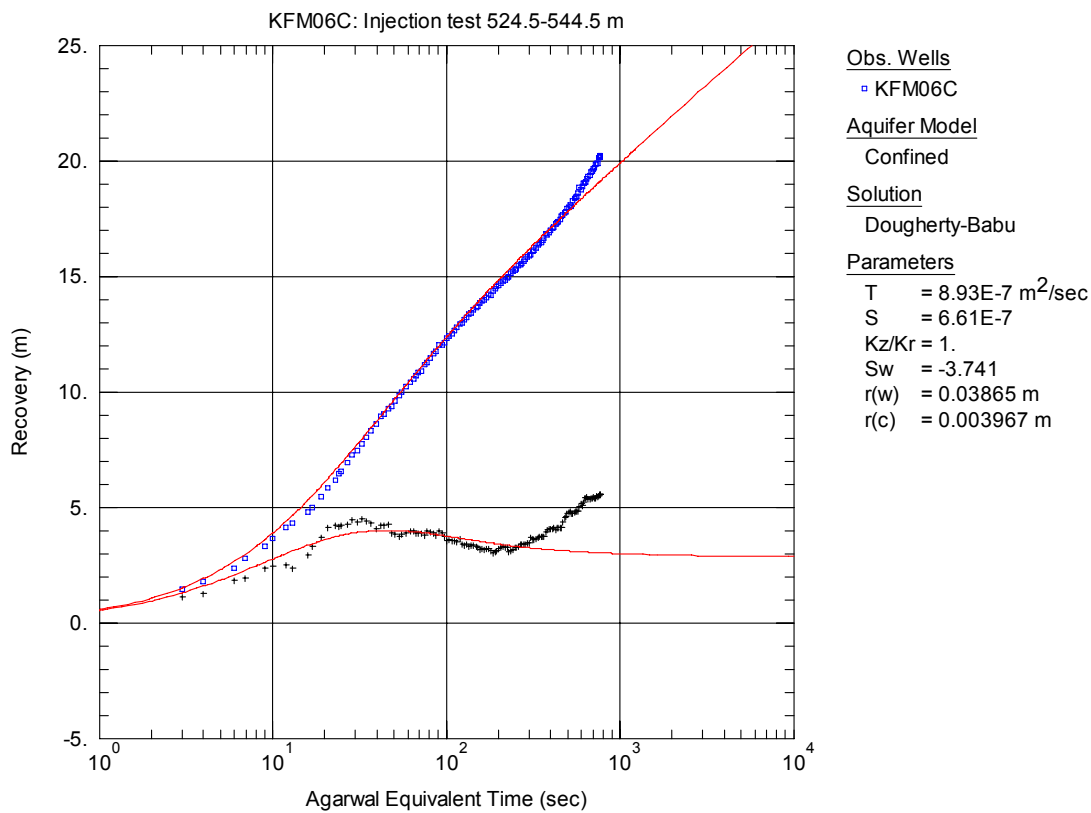
**Figure A3-165.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 524.5-544.5 m in KFM06C.



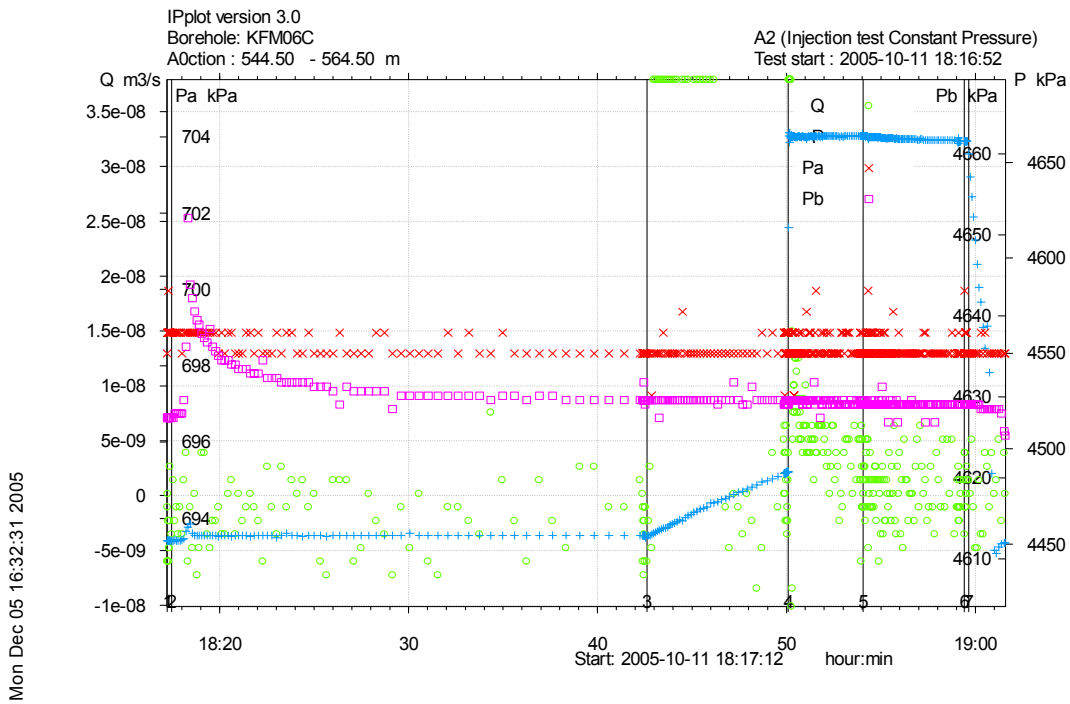
**Figure A3-166.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 524.5-544.5 m in KFM06C.



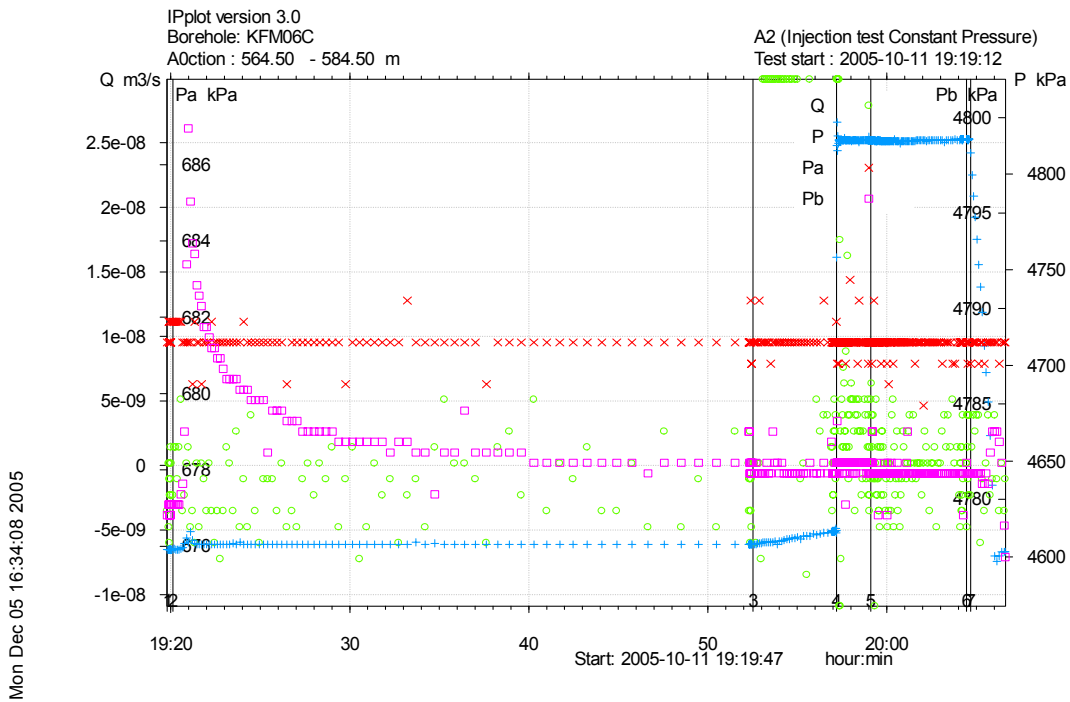
**Figure A3-167.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 524.5-544.5 m in KFM06C.



**Figure A3-168.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 524.5-544.5 m in KFM06C.

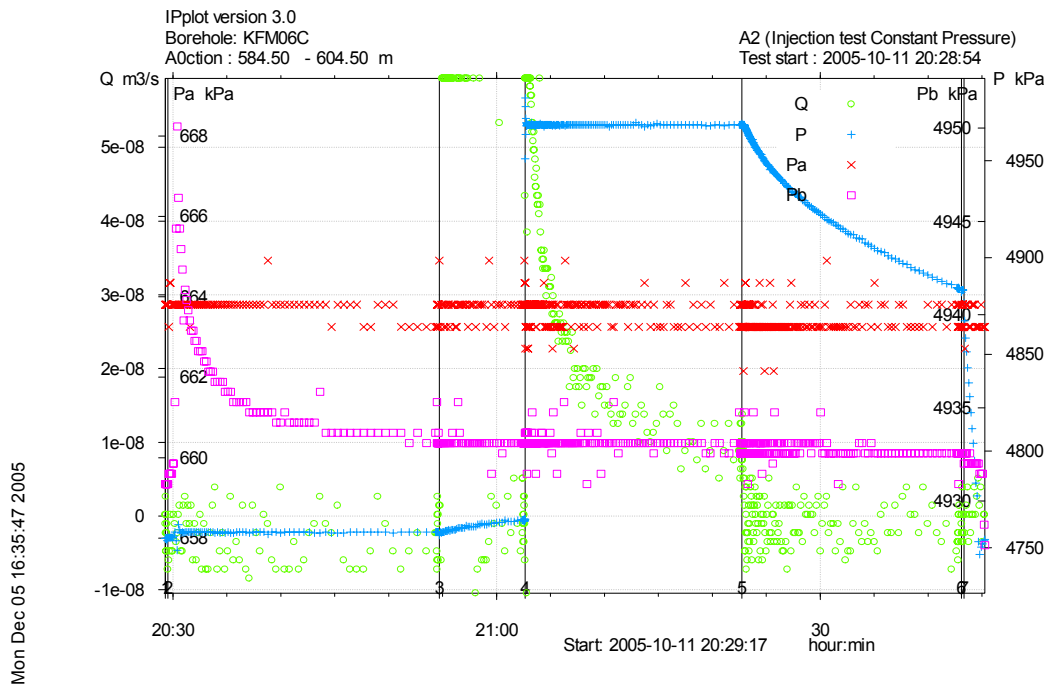


**Figure A3-169.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 544.5-564.5 m in borehole KFM06C.

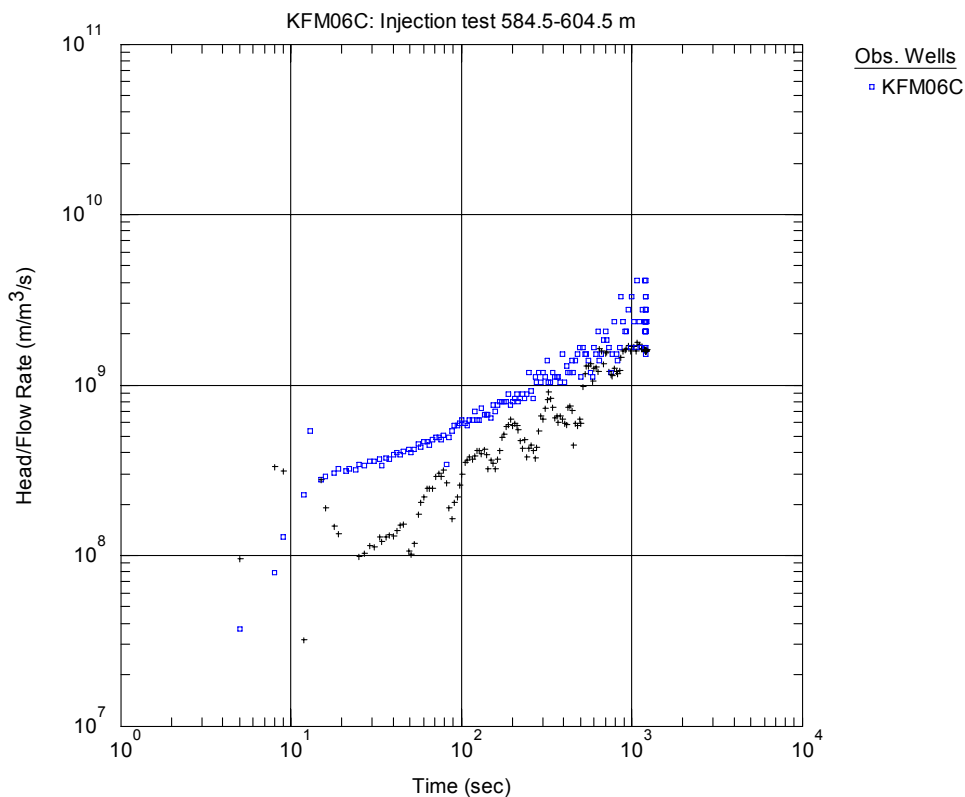


**Figure A3-170.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 564.5-584.5 m in borehole KFM06C.

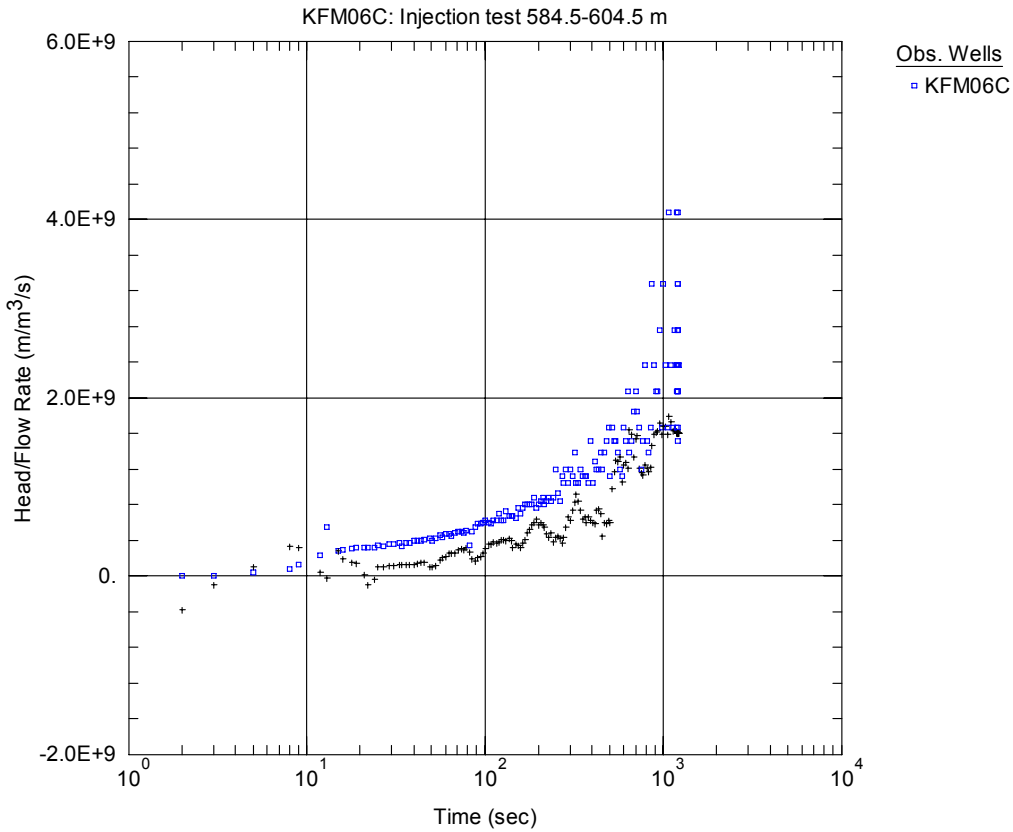




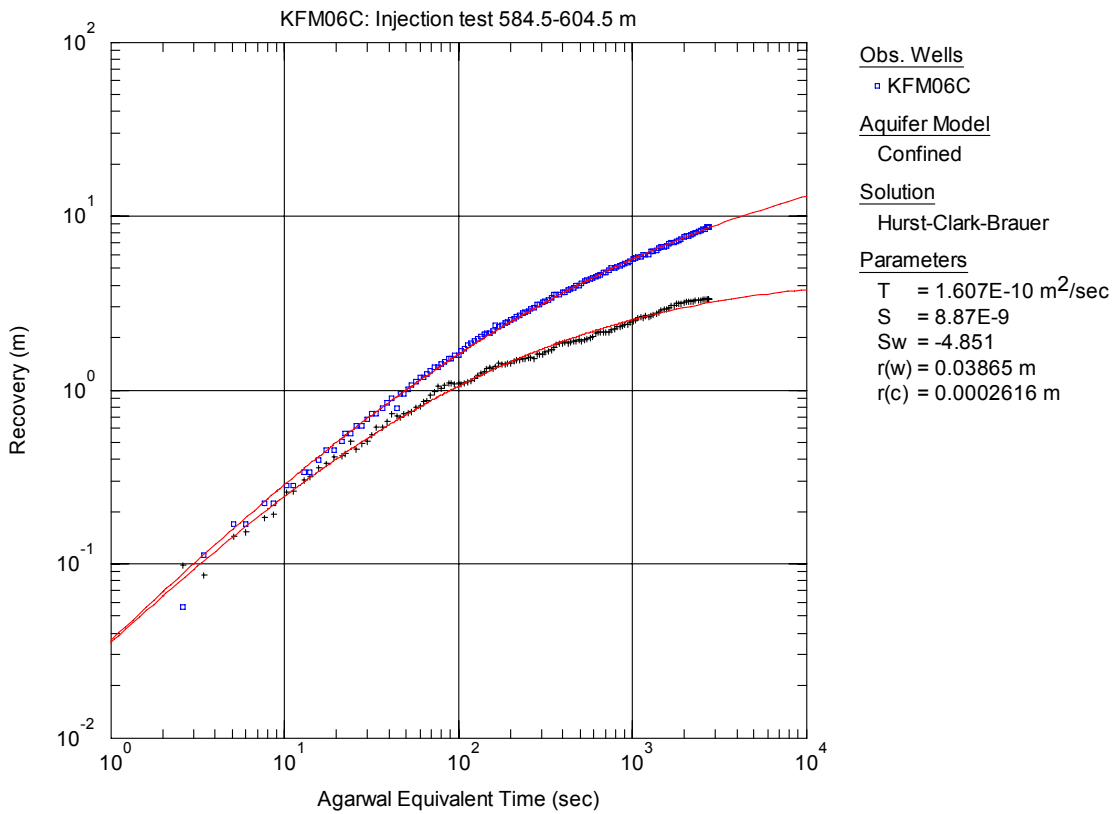
**Figure A3-171.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 584.5-604.5 m in borehole KFM06C.



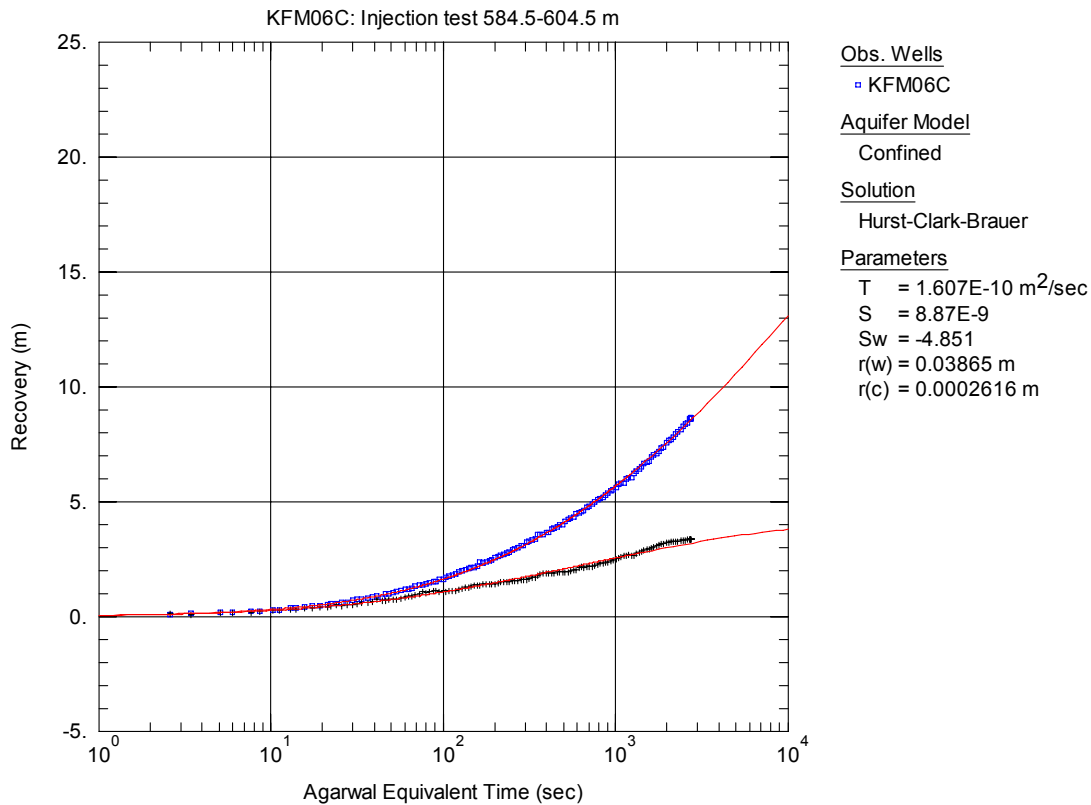
**Figure A3-172.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 584.5-604.5 m in KFM06C.



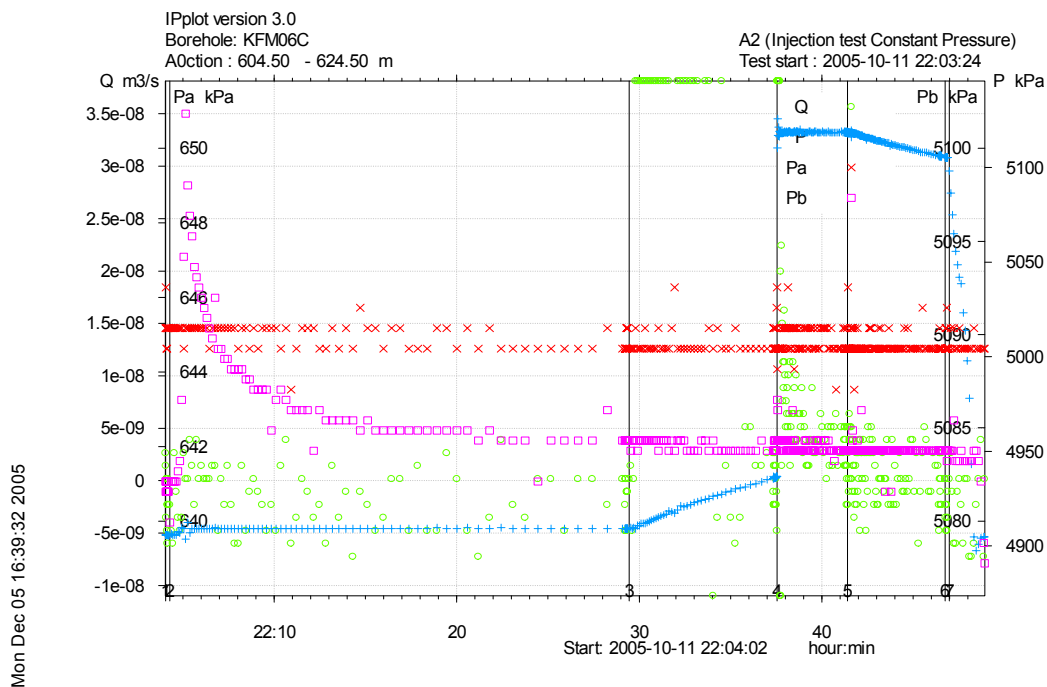
**Figure A3-173.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 584.5-604.5 m in KFM06C.



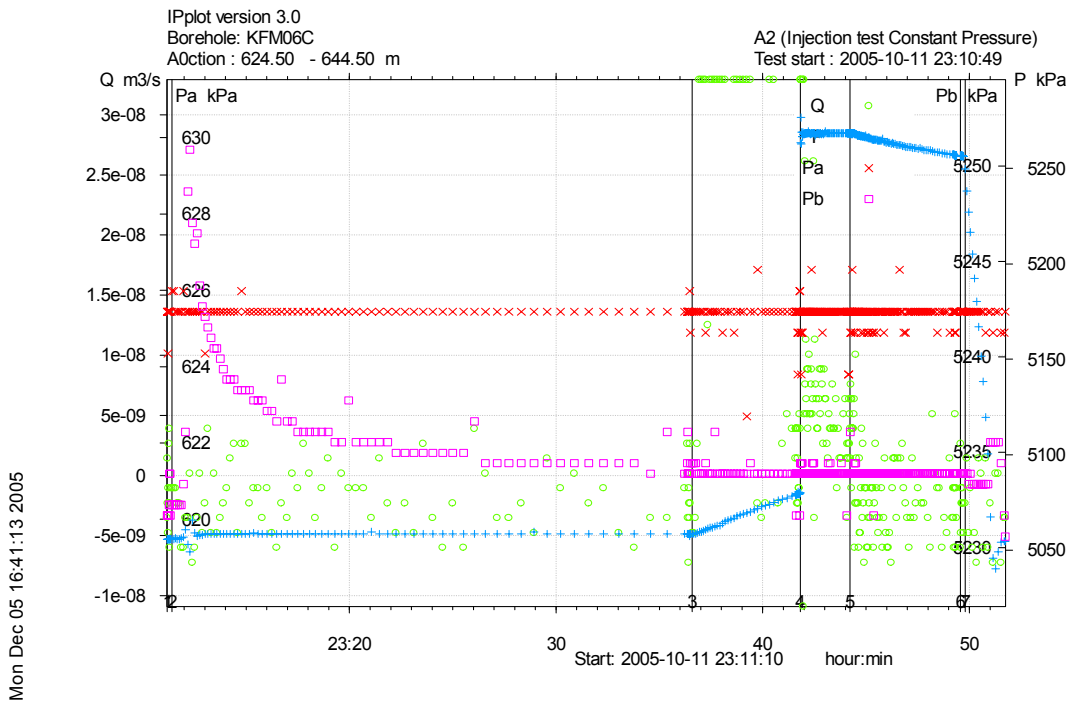
**Figure A3-174.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 584.5-604.5 m in KFM06C.



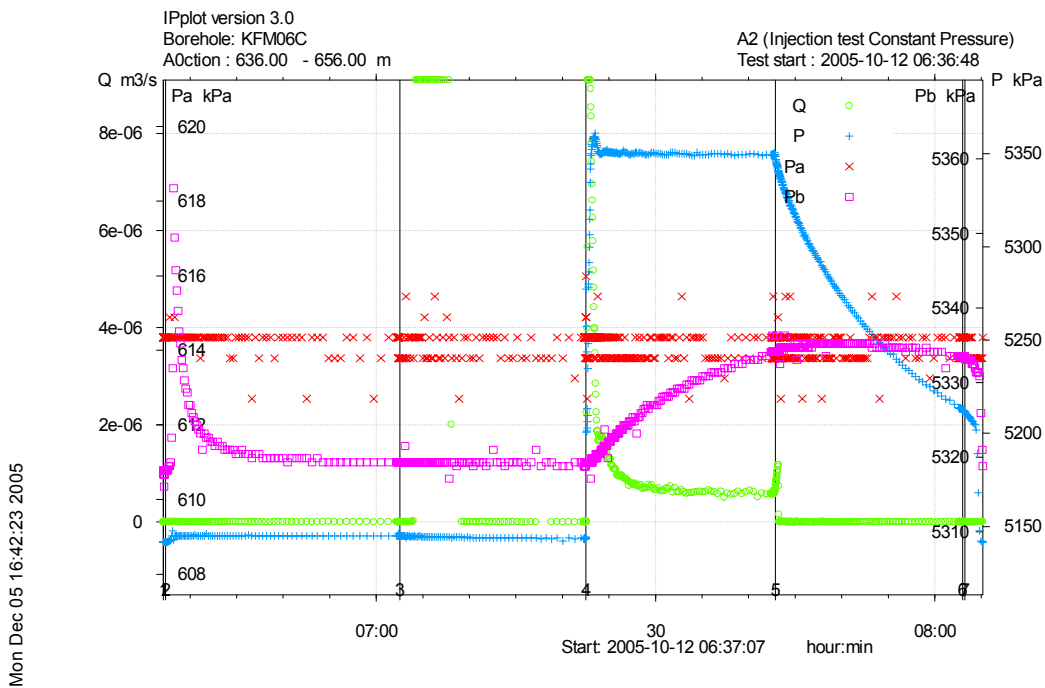
**Figure A3-175.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 584.5-604.5 m in KFM06C.



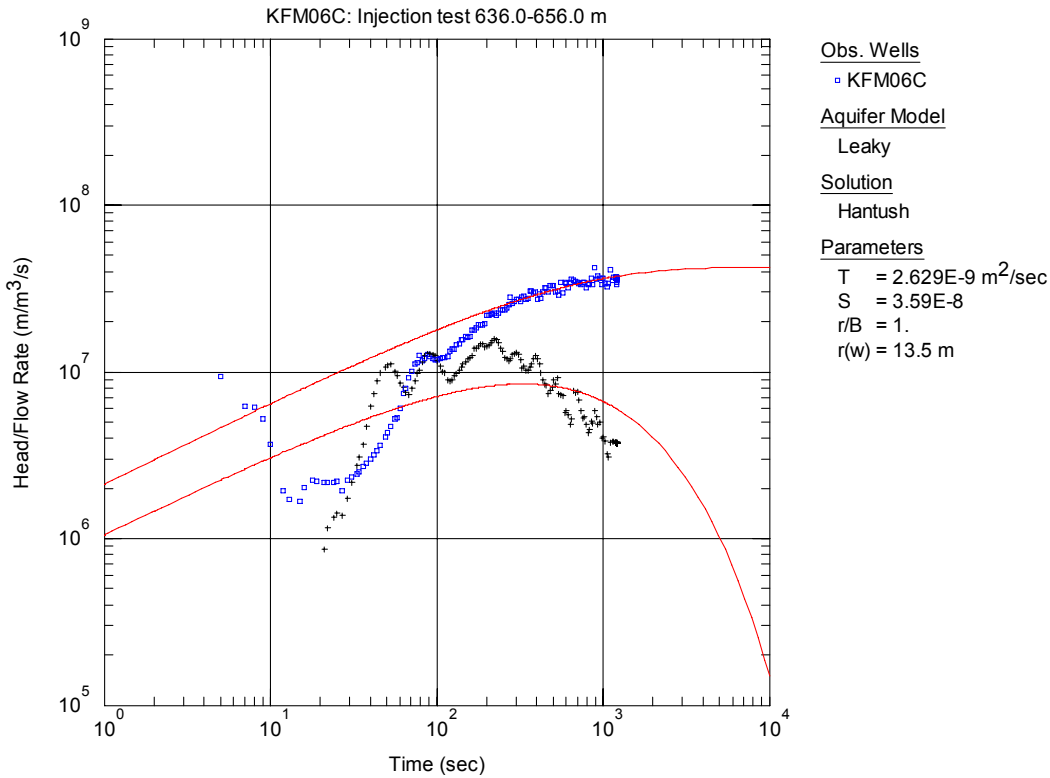
**Figure A3-176.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 604.5-624.5 m in borehole KFM06C.



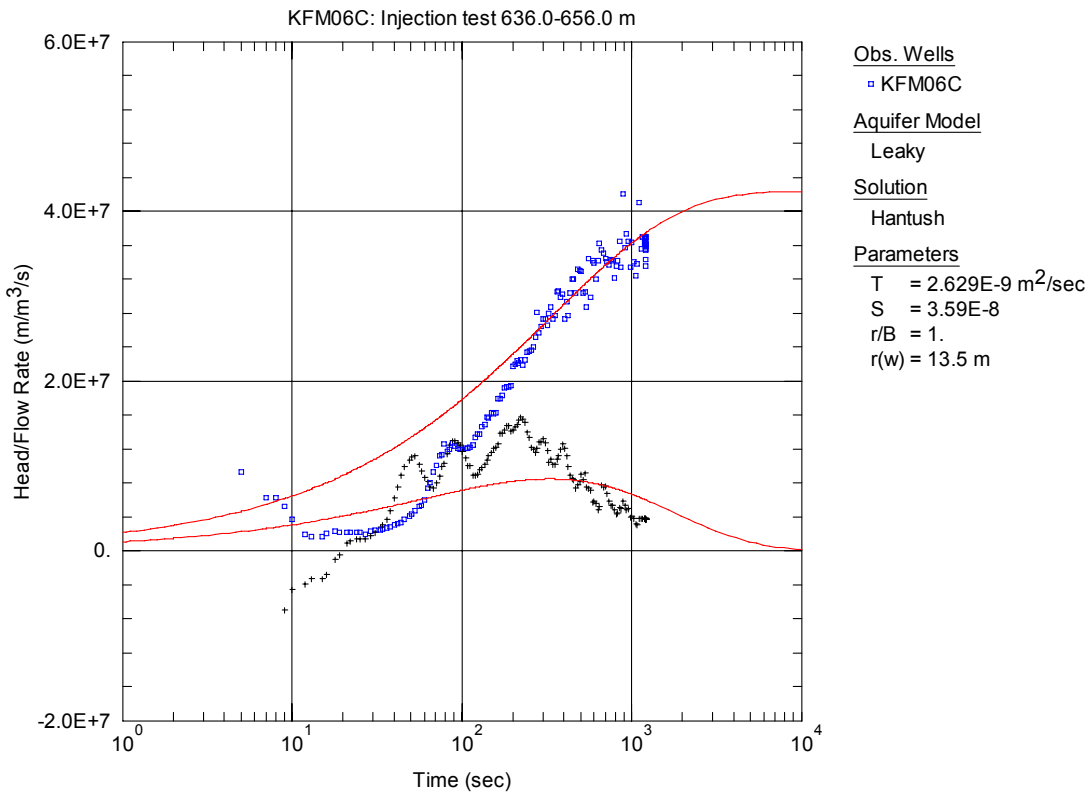
**Figure A3-177.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 624.5-644.5 m in borehole KFM06C.



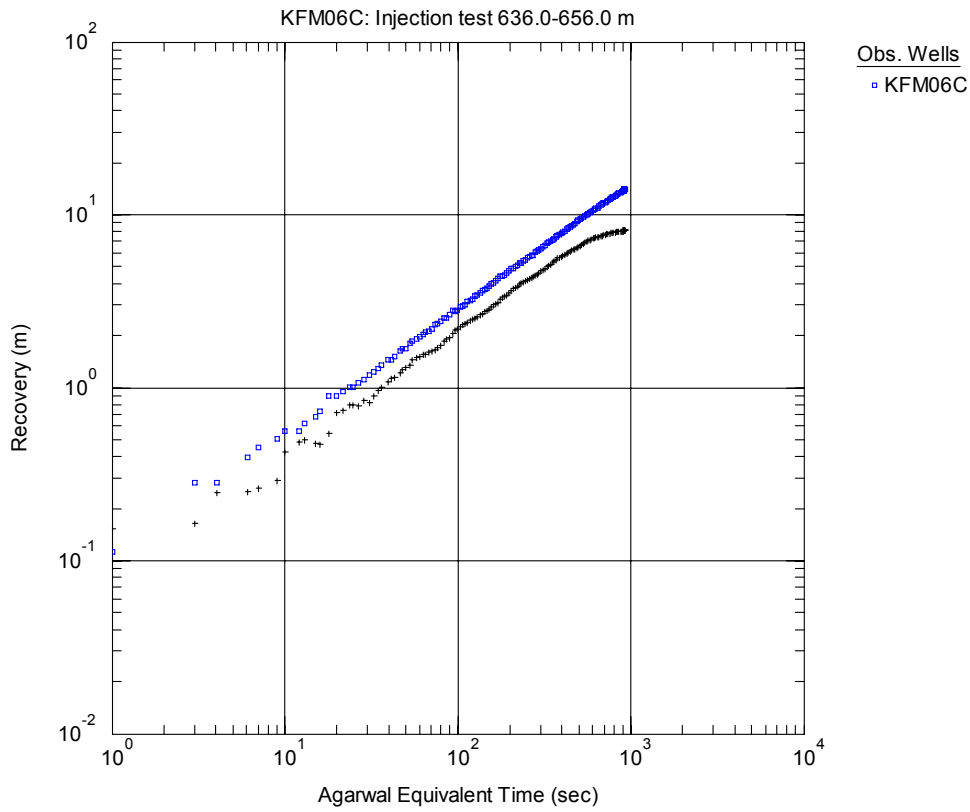
**Figure A3-178.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 636.0-656.0 m in borehole KFM06C.



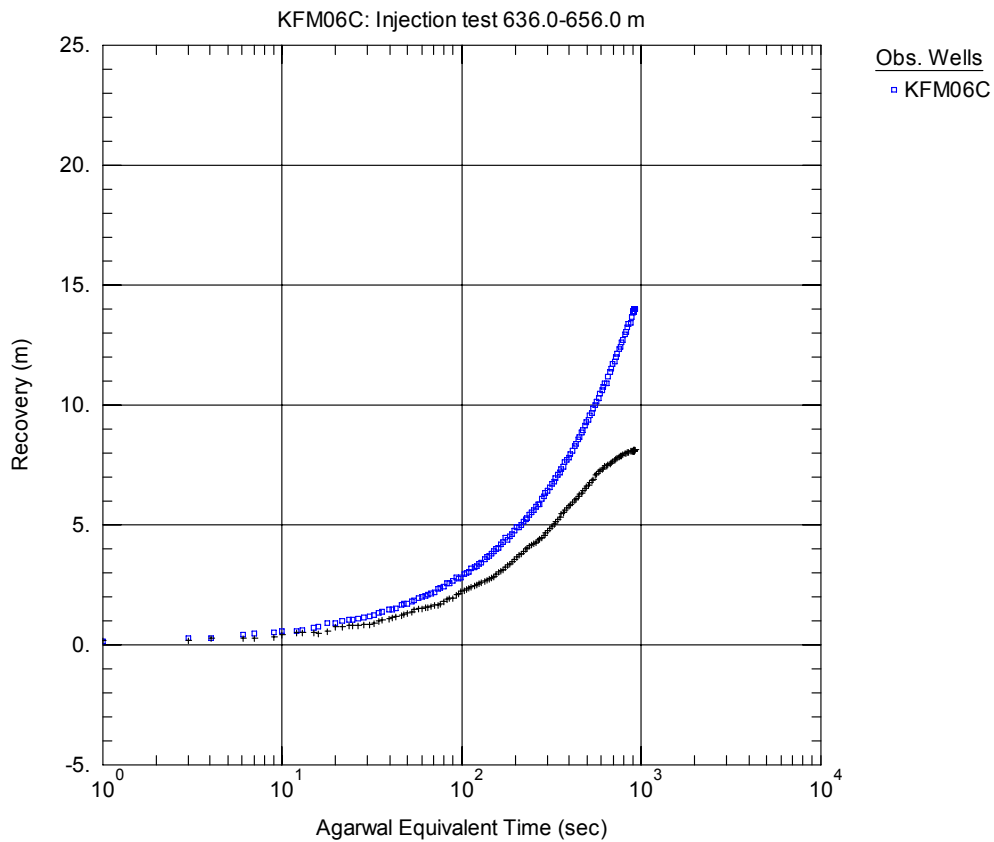
**Figure A3-179.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 636.0-656.0 m in KFM06C. These values are not chosen as representative, since the model does not converge.



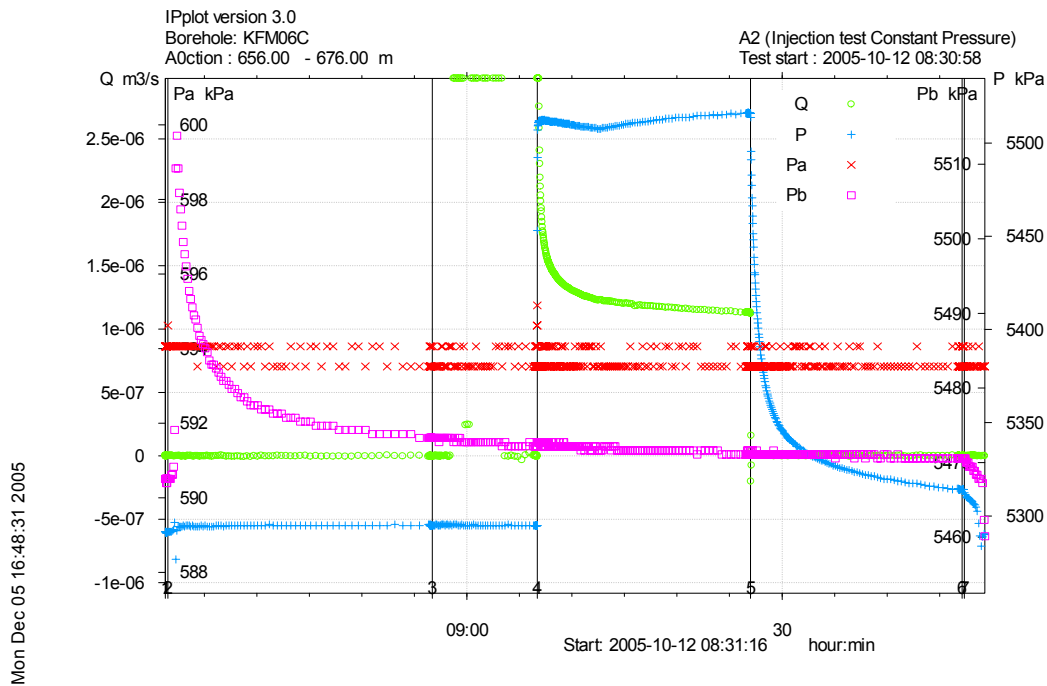
**Figure A3-180.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 636.0-656.0 m in KFM06C. These values are not chosen as representative, since the model does not converge.



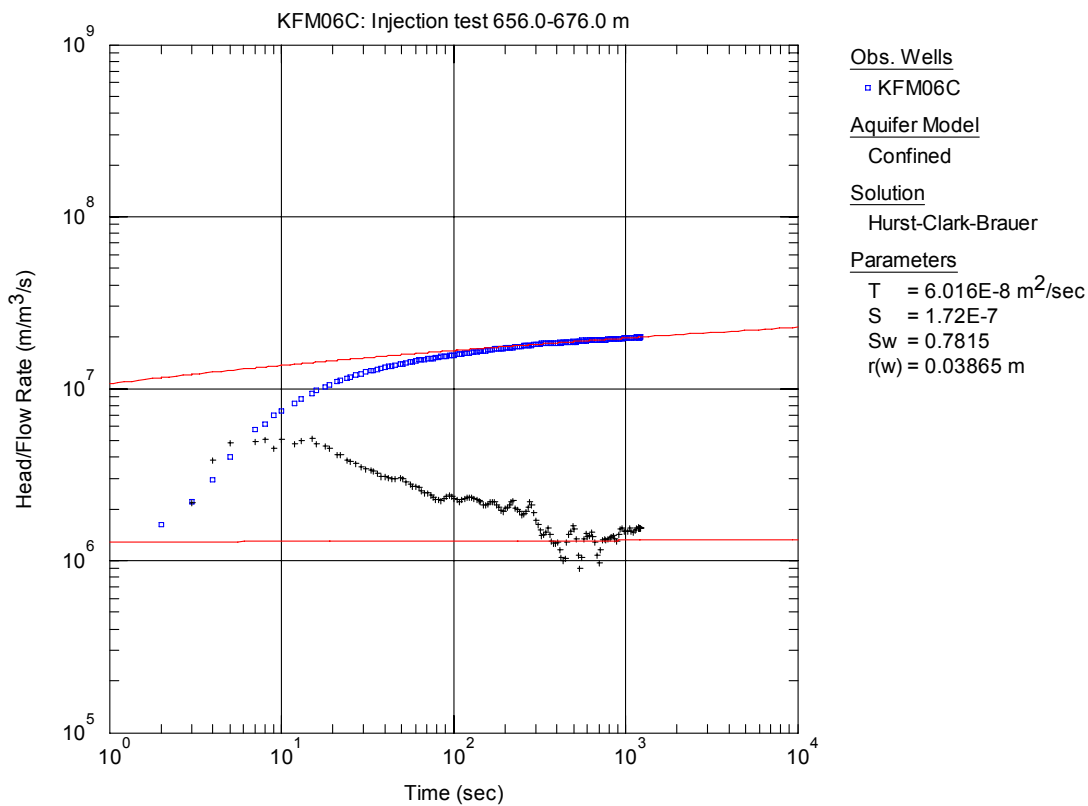
**Figure A3-181.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 636.0-656.0 m in KFM06C.



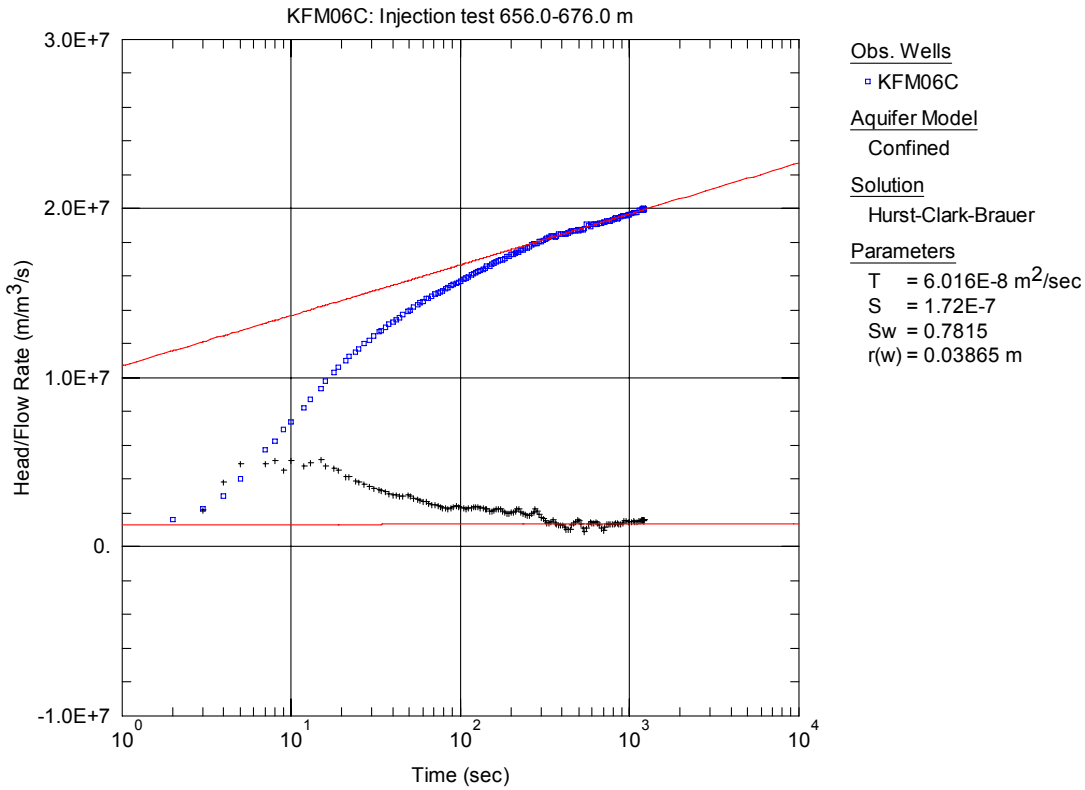
**Figure A3-182.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 636.0-656.0 m in KFM06C.



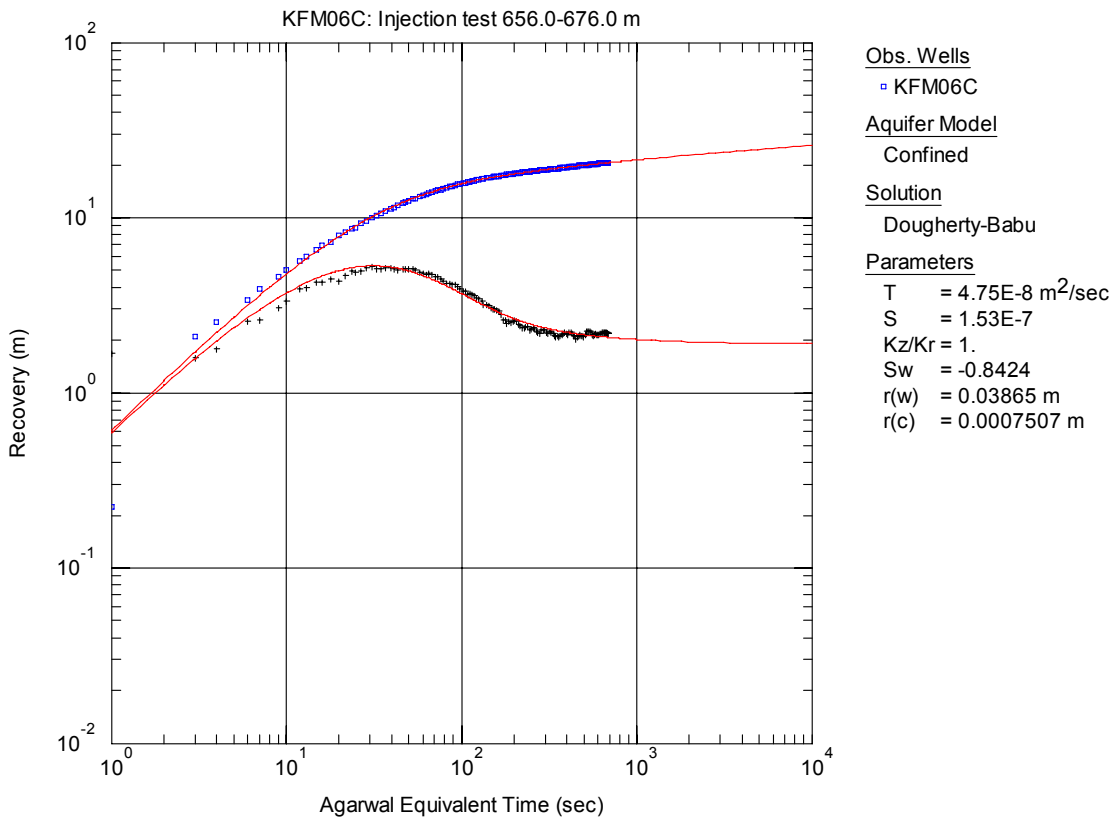
**Figure A3-183.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 656.0-676.0 m in borehole KFM06C.



**Figure A3-184.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 656.0-676.0 m in KFM06C.

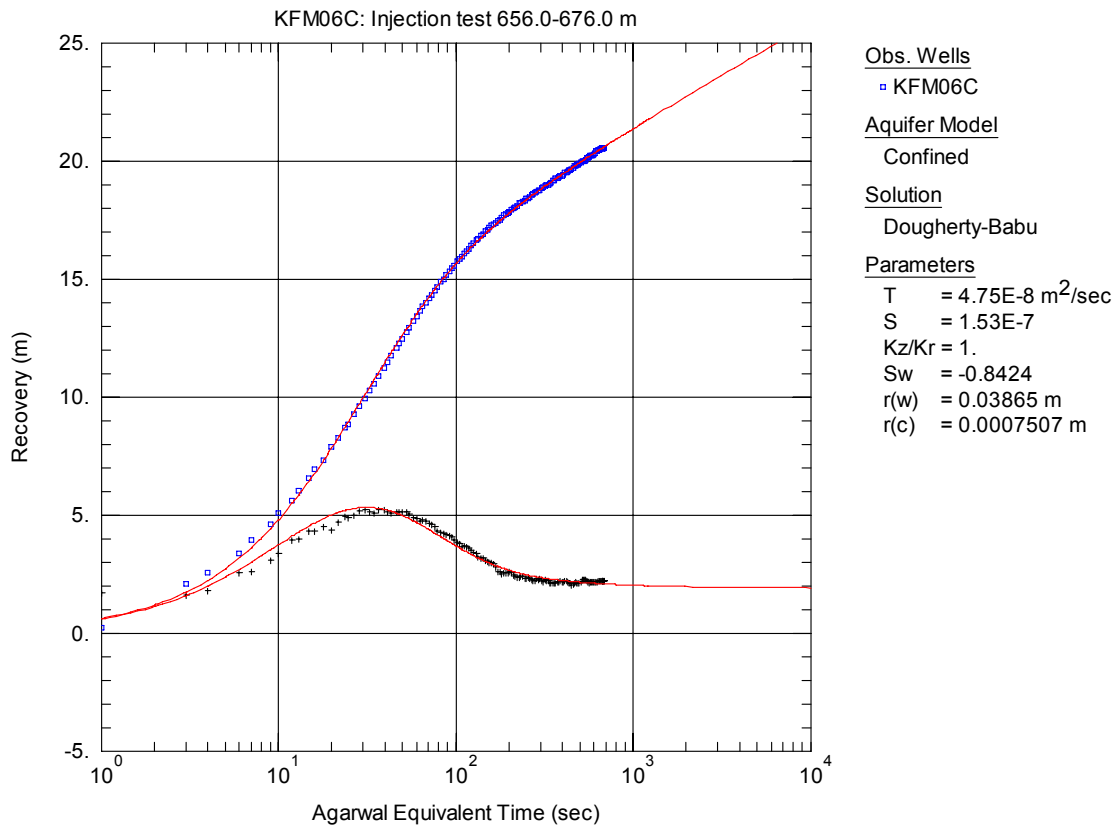


**Figure A3-185.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 656.0-676.0 m in KFM06C.

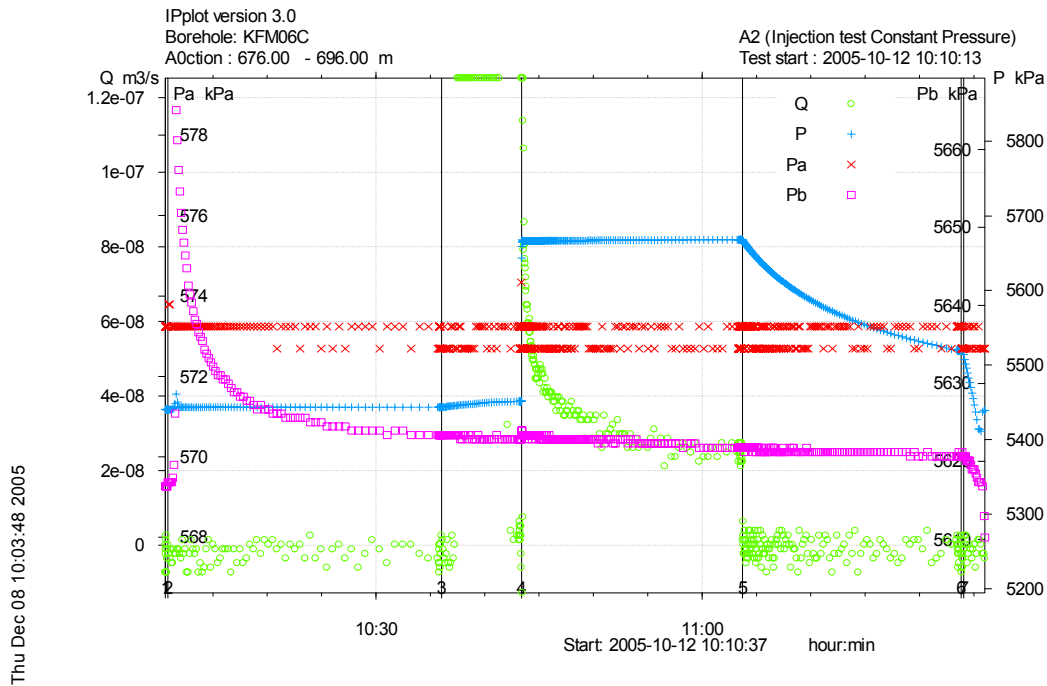


**Figure A3-186.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 656.0-676.0 m in KFM06C.

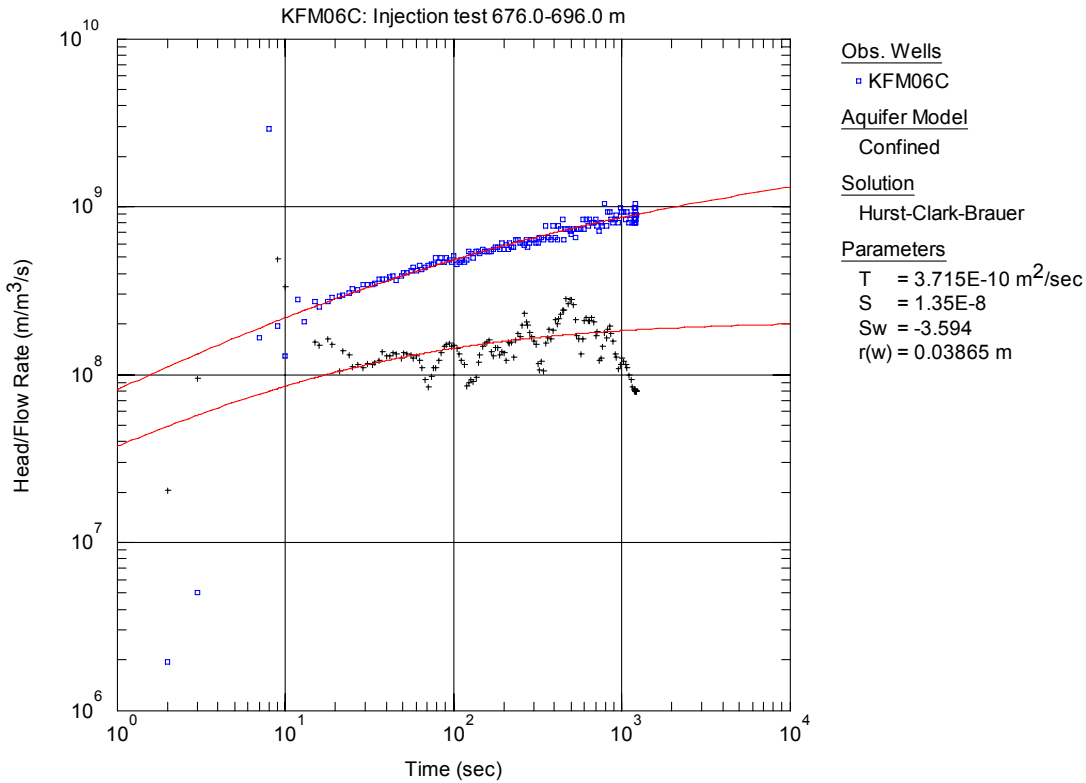




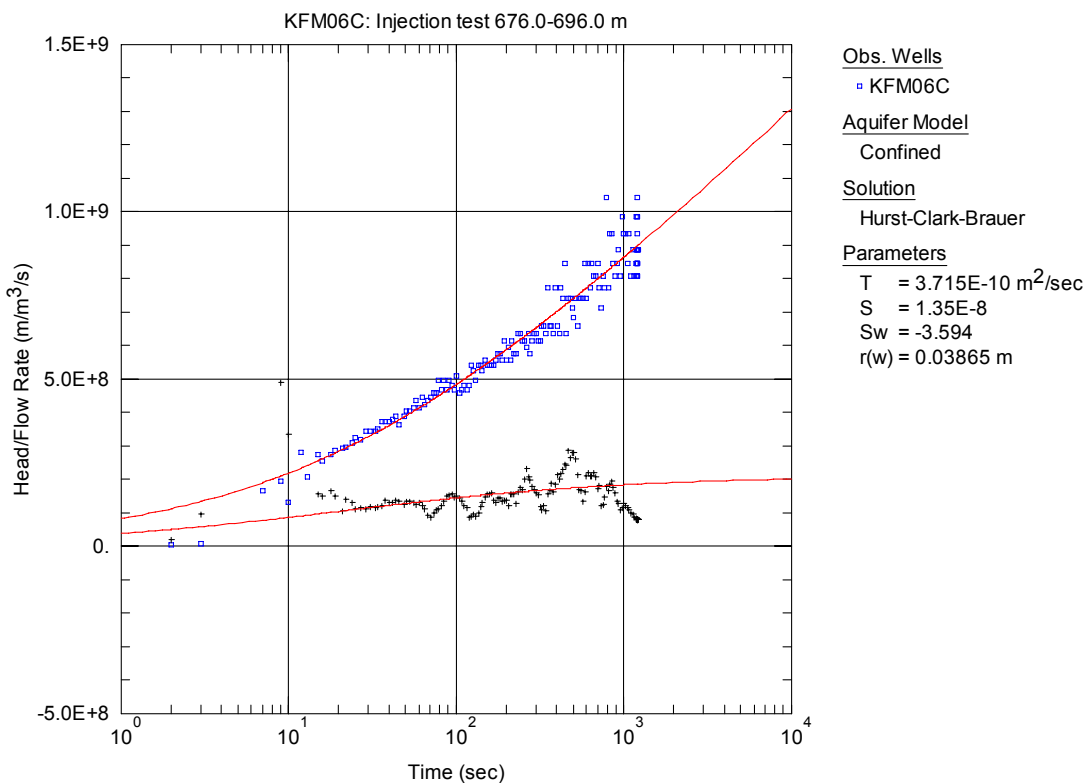
**Figure A3-187.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 656.0-676.0 m in KFM06C.



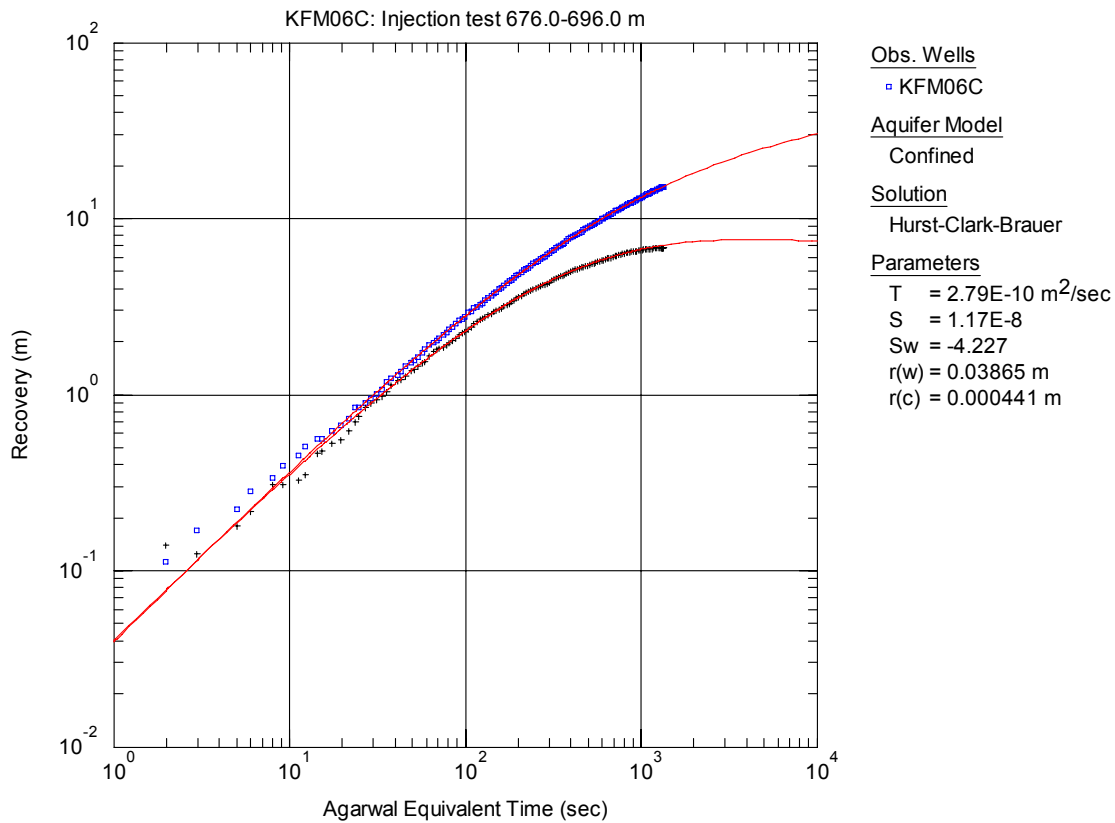
**Figure A3-188.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 676.0-686.0 m in borehole KFM06C.



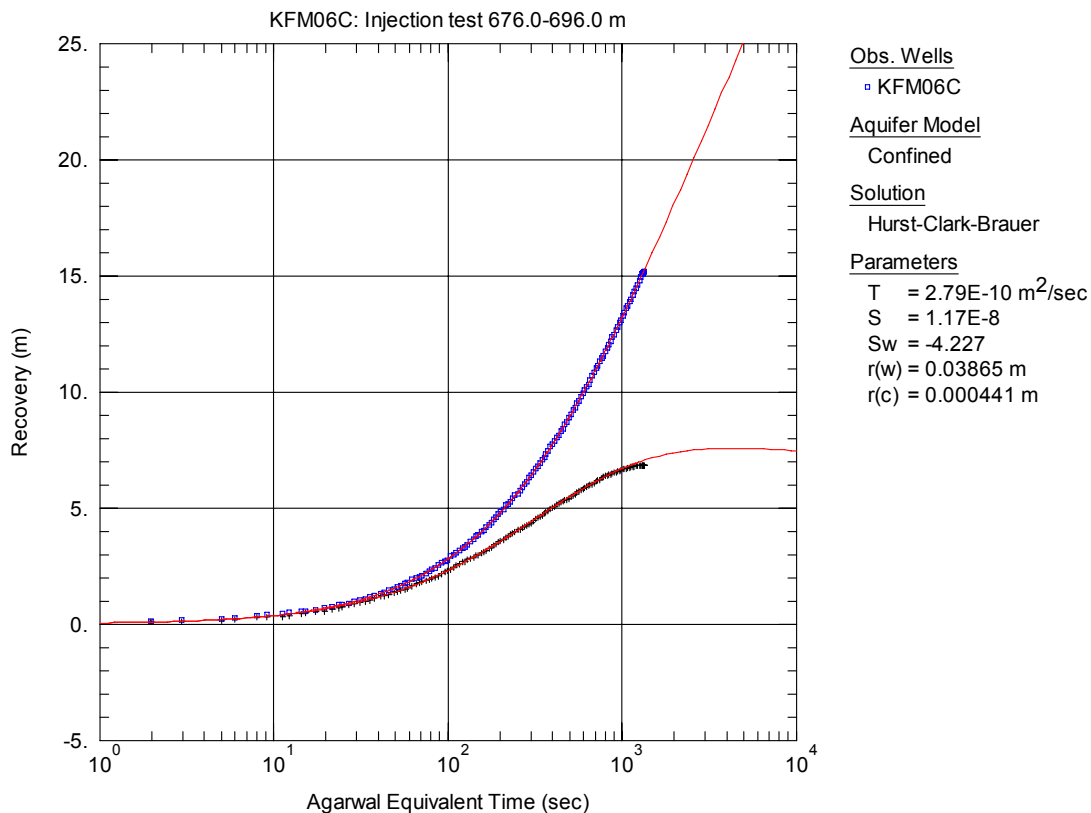
**Figure A3-189.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 676.0-686.0 m in KFM06C.



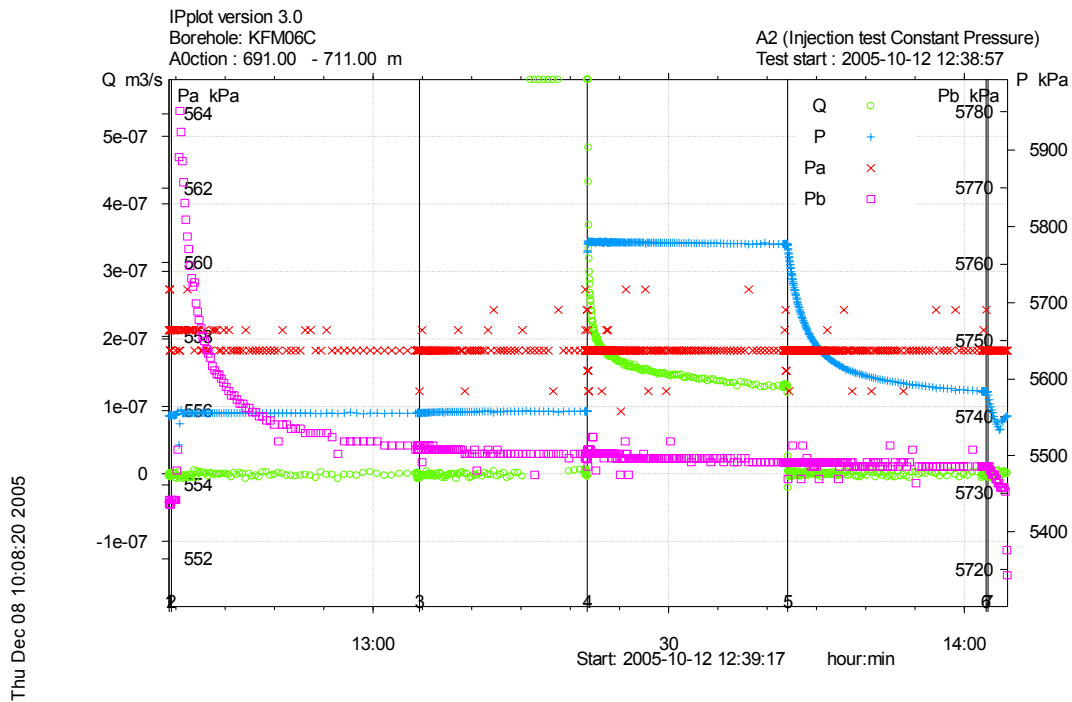
**Figure A3-190.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 676.0-686.0 m in KFM06C.



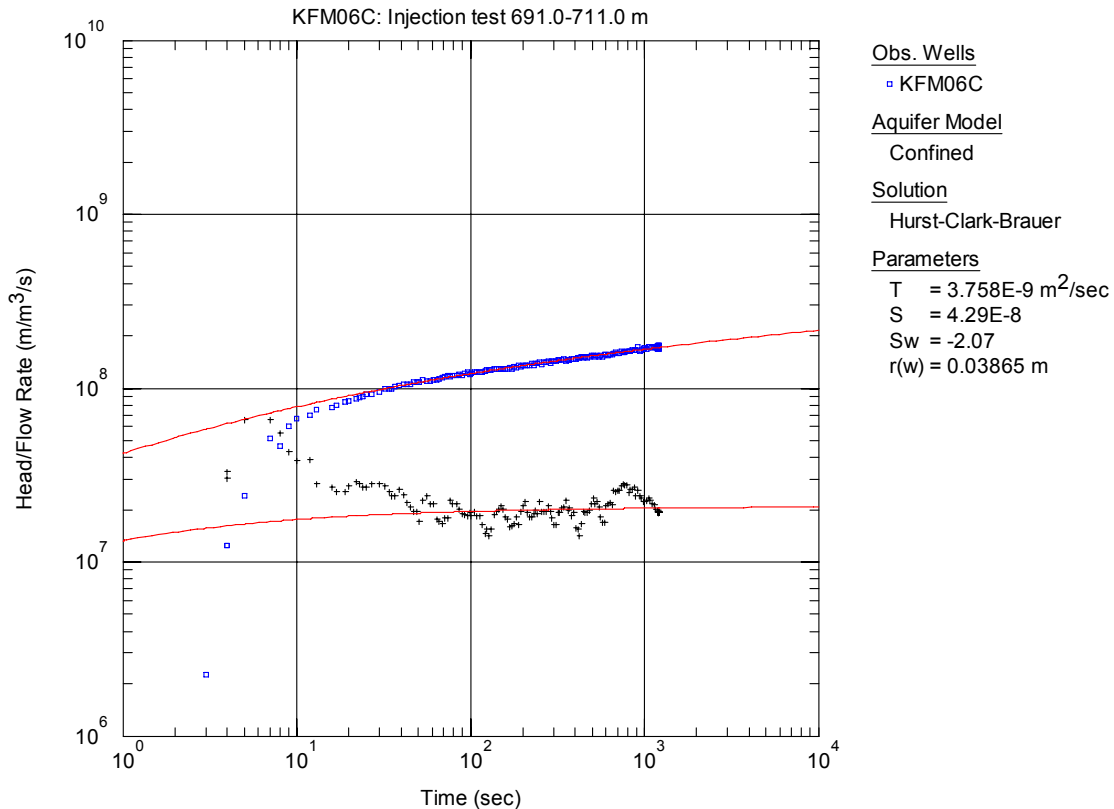
**Figure A3-191.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 676.0-686.0 m in KFM06C.



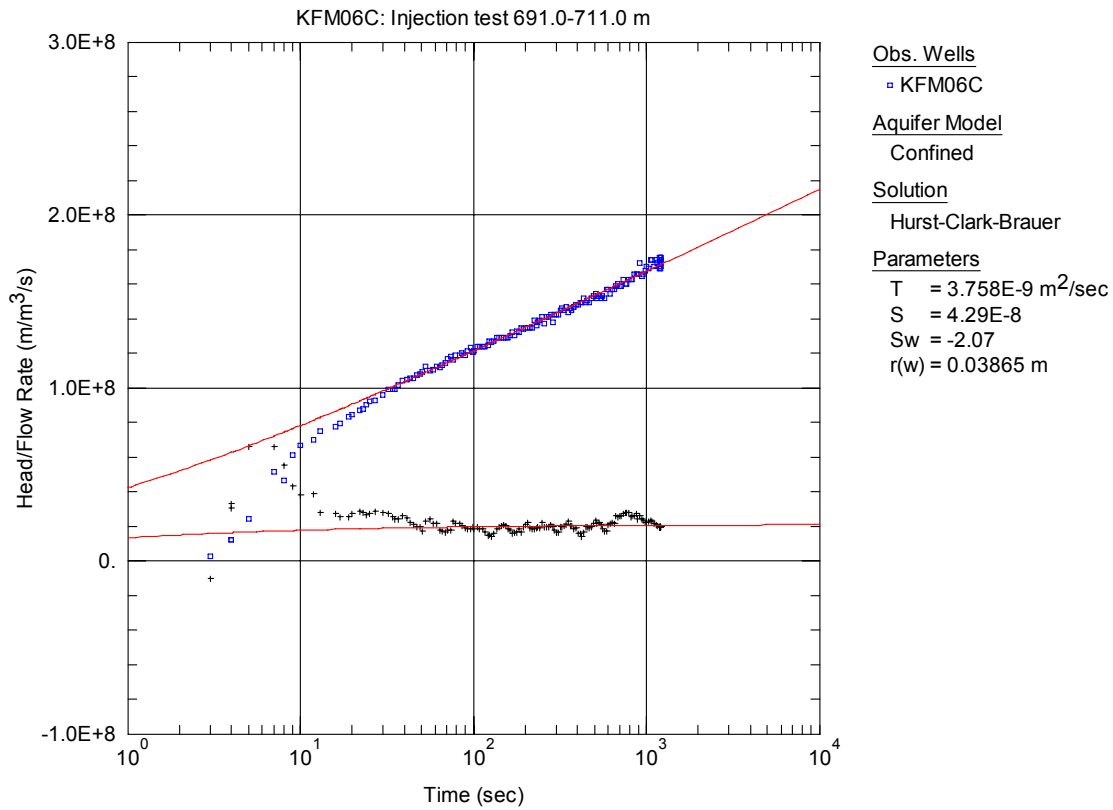
**Figure A3-192.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 676.0-686.0 m in KFM06C.



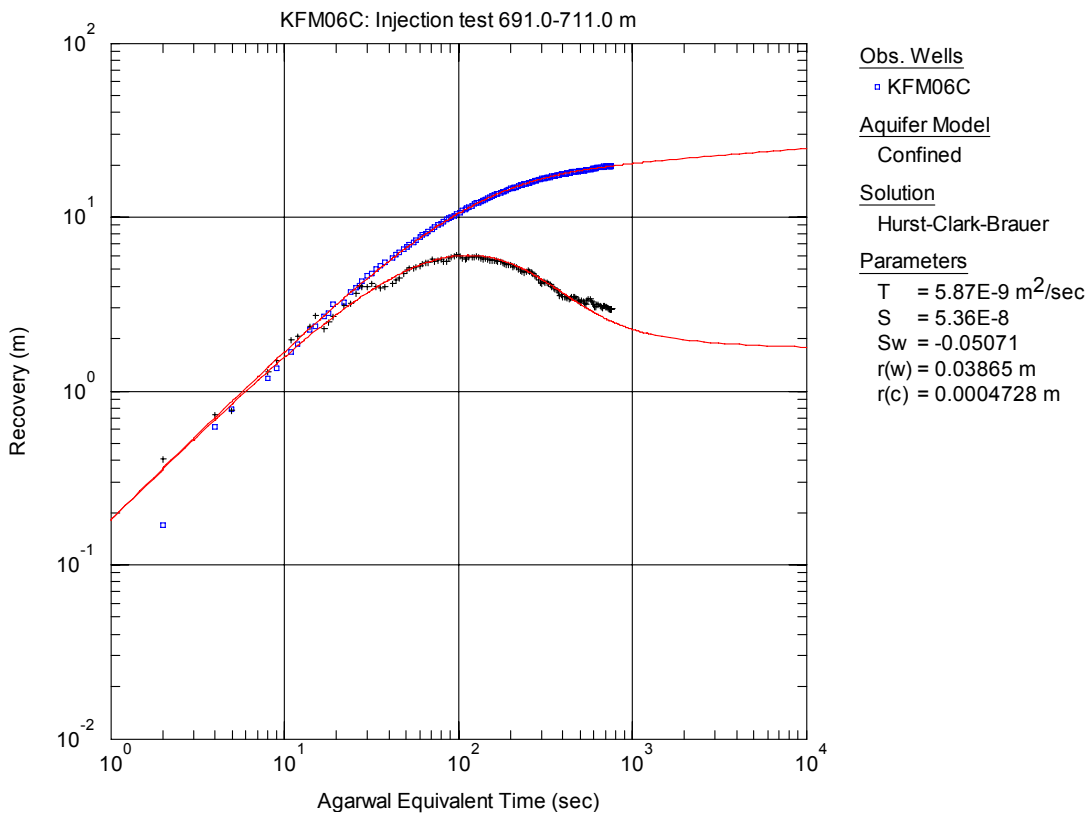
**Figure A3-193.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 691.0-711.0 m in borehole KFM06C.



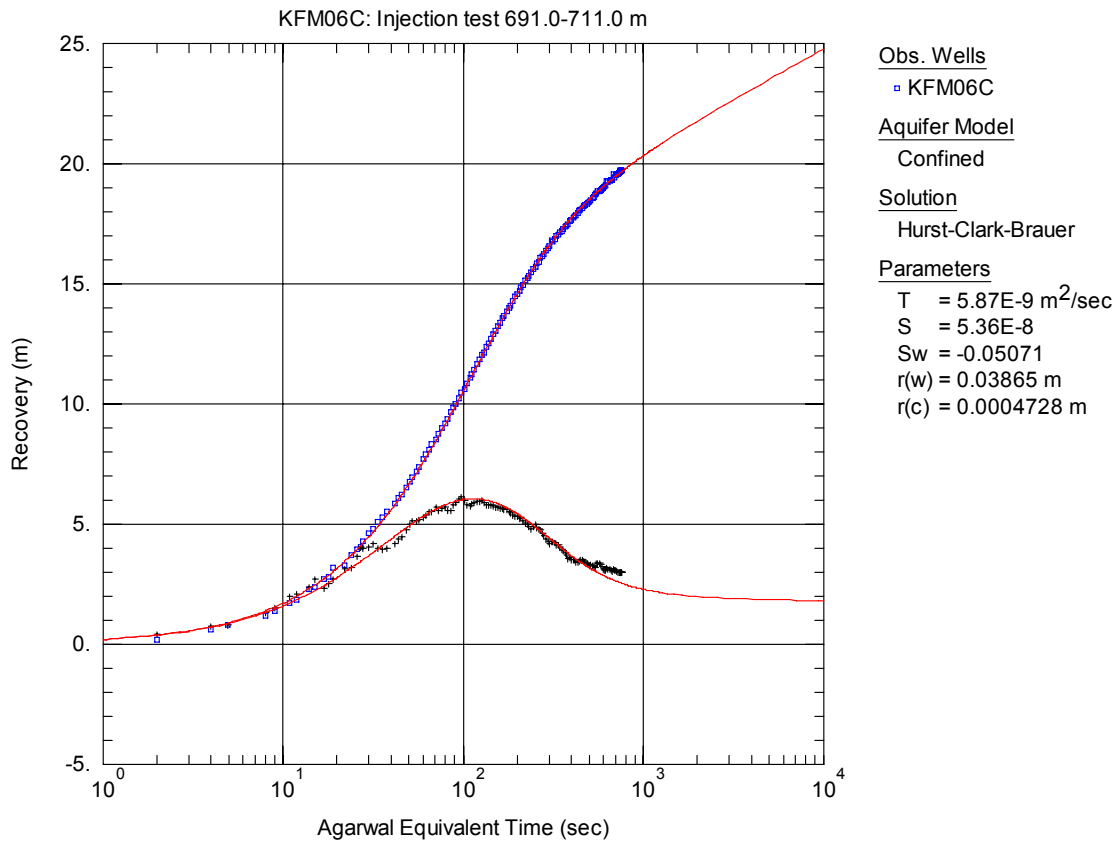
**Figure A3-194.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 691.0-711.0 m in KFM06C.



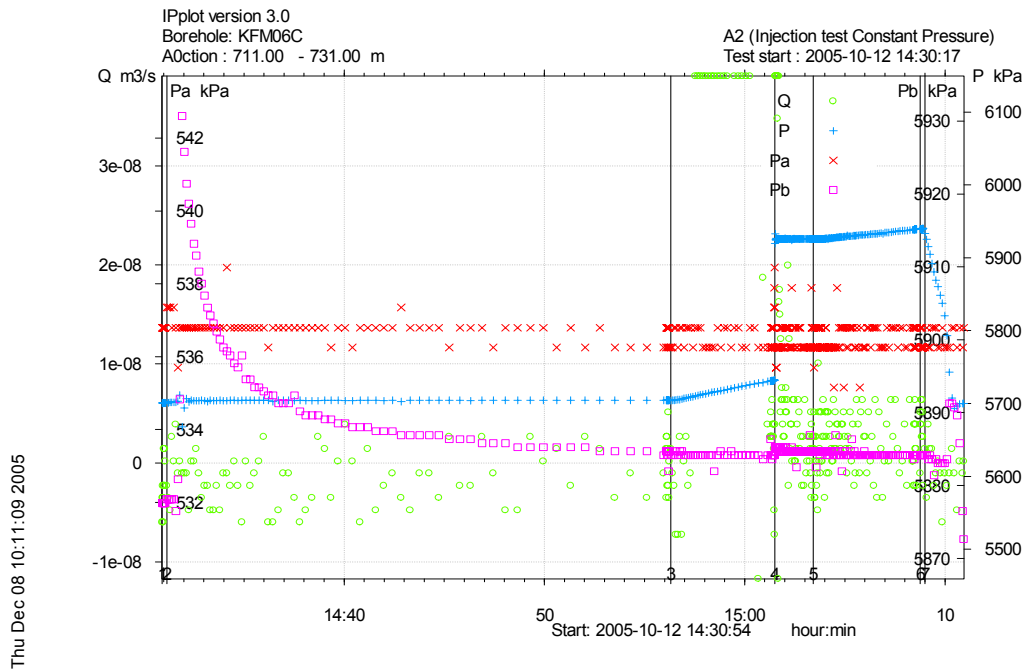
**Figure A3-195.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 691.0-711.0 m in KFM06C.



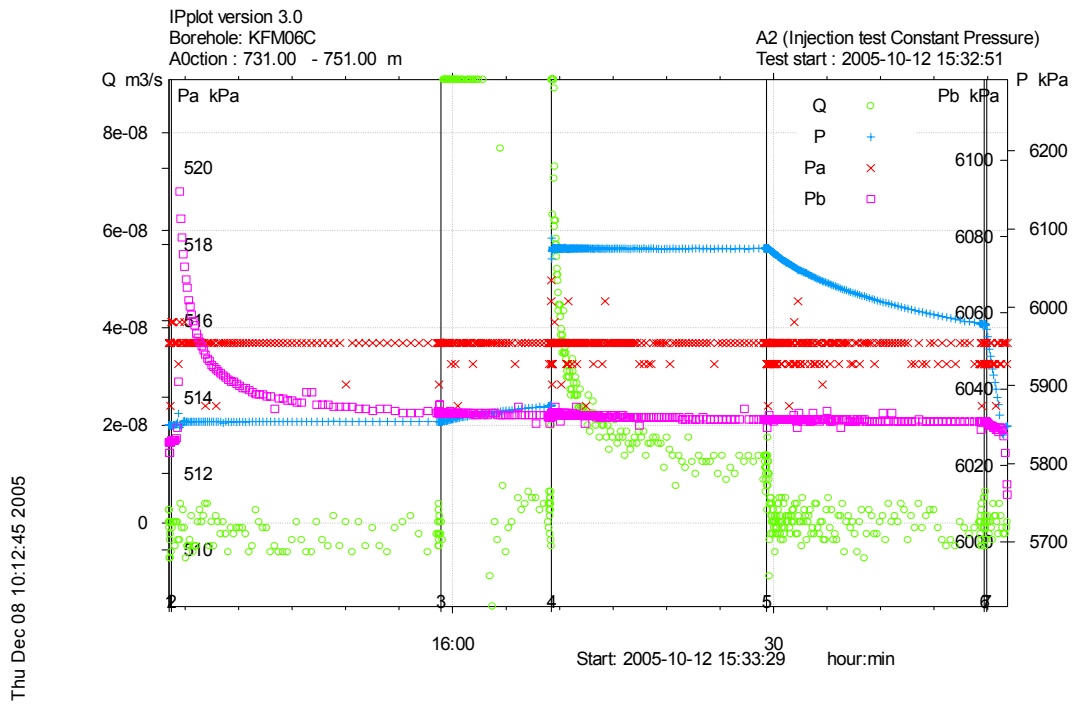
**Figure A3-196.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 691.0-711.0 m in KFM06C.



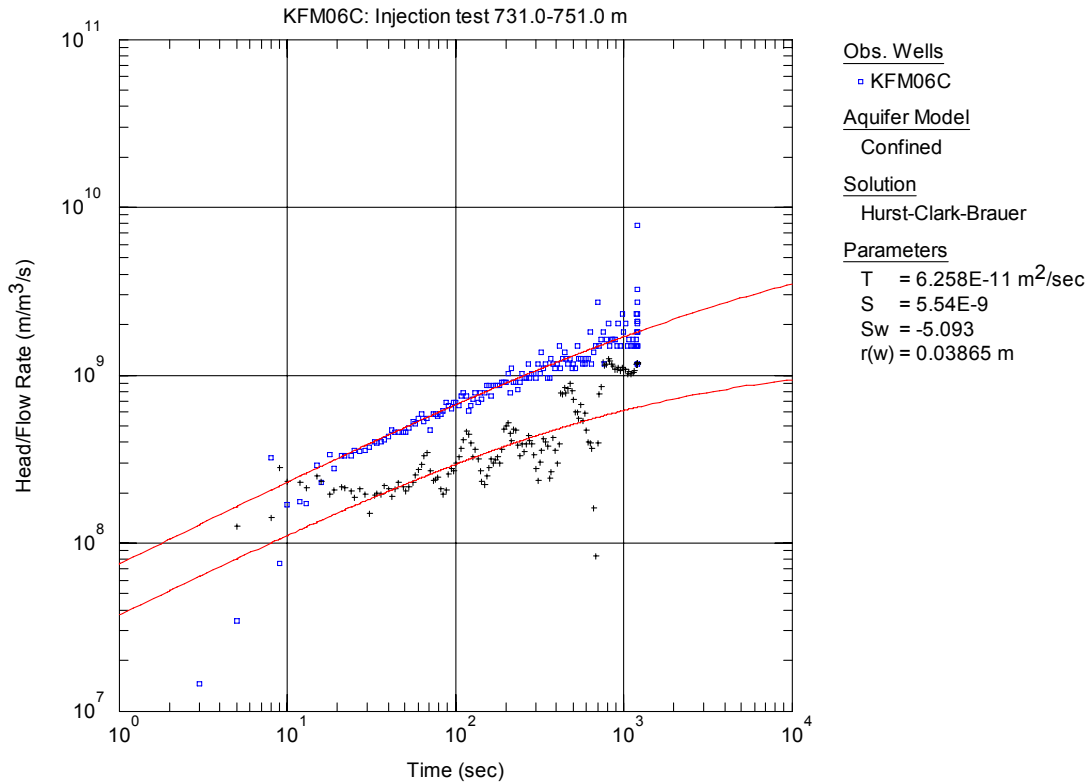
**Figure A3-197.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 691.0-711.0 m in KFM06C.



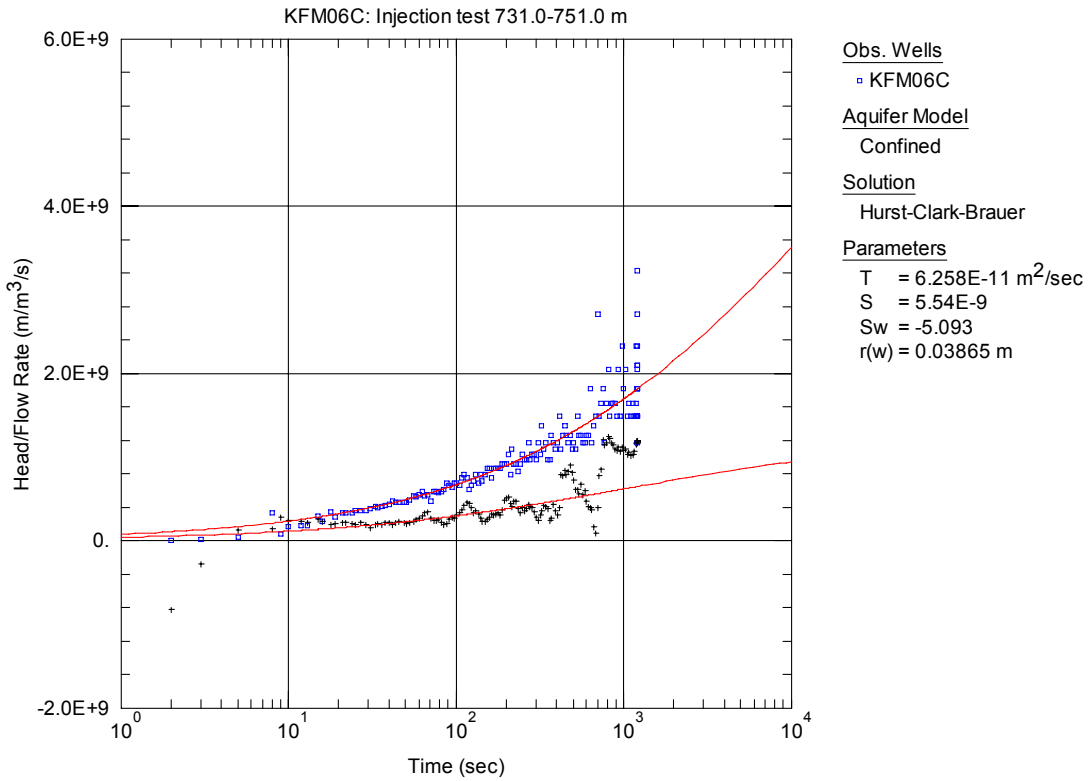
**Figure A3-198.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 711.0-731.0 m in borehole KFM06C.



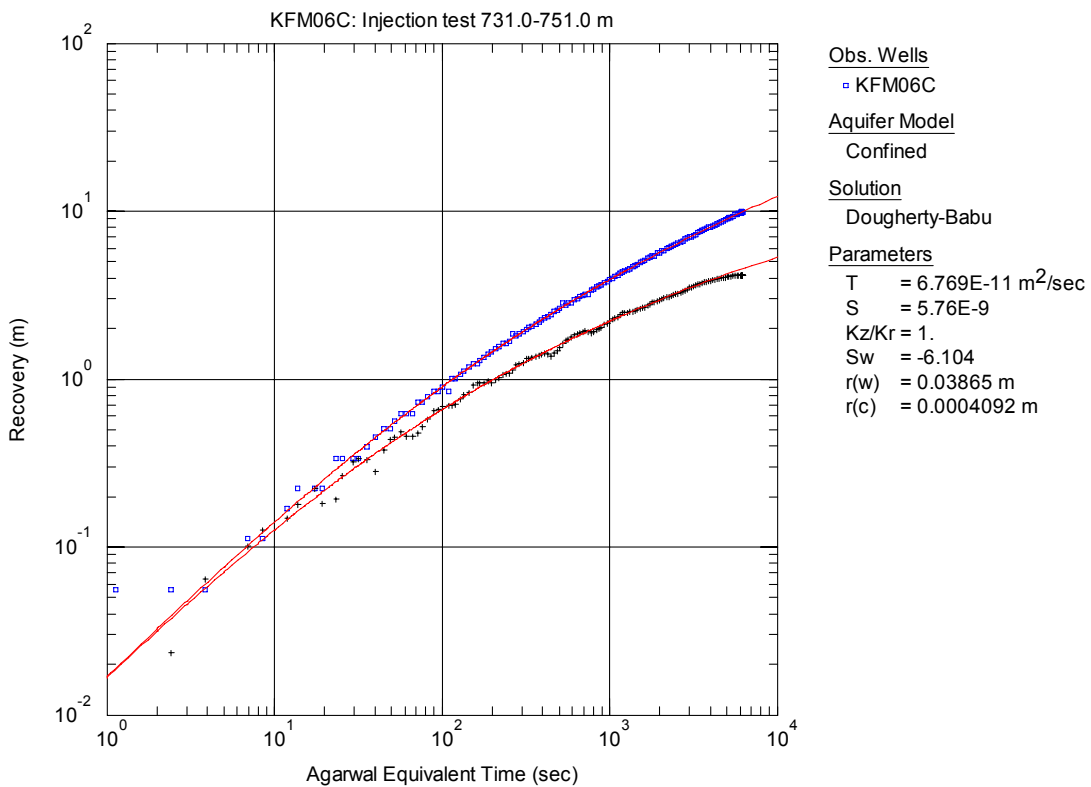
**Figure A3-199.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 731.0-751.0 m in borehole KFM06C.



**Figure A3-200.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 731.0-751.0 m in KFM06C.

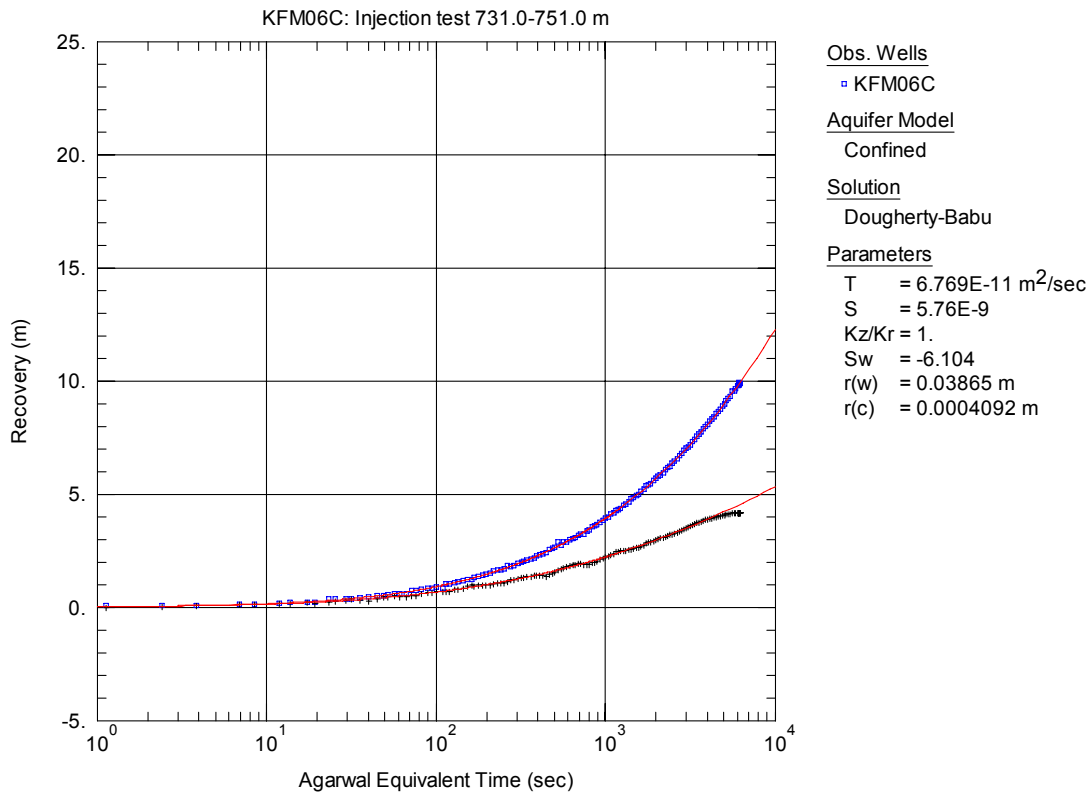


**Figure A3-201.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 731.0-751.0 m in KFM06C.

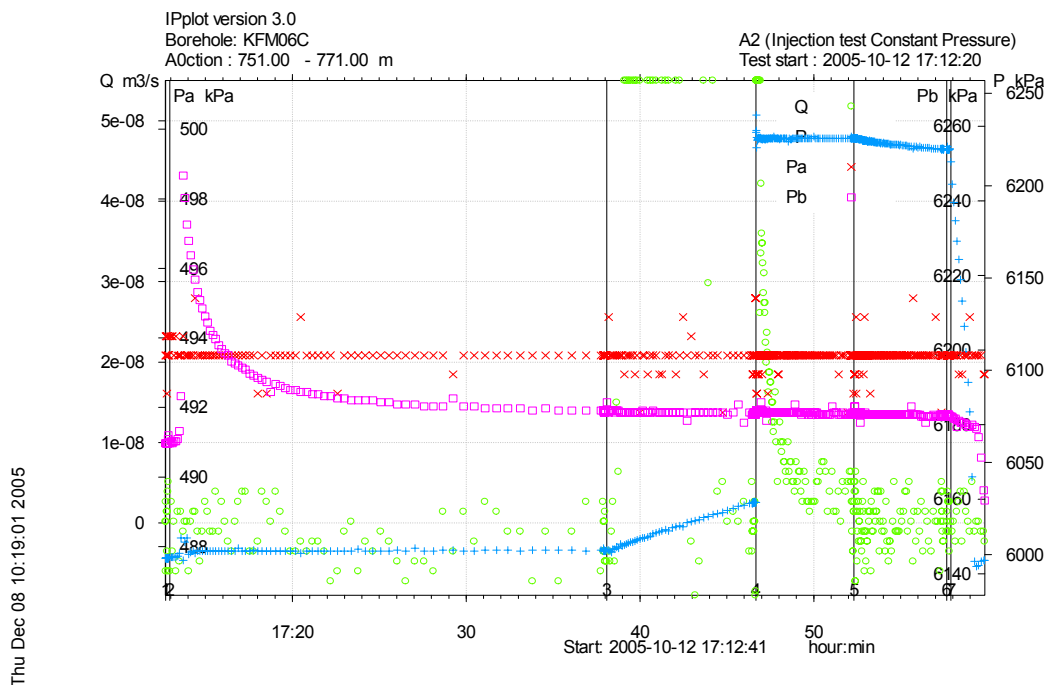


**Figure A3-202.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 731.0-751.0 m in KFM06C.

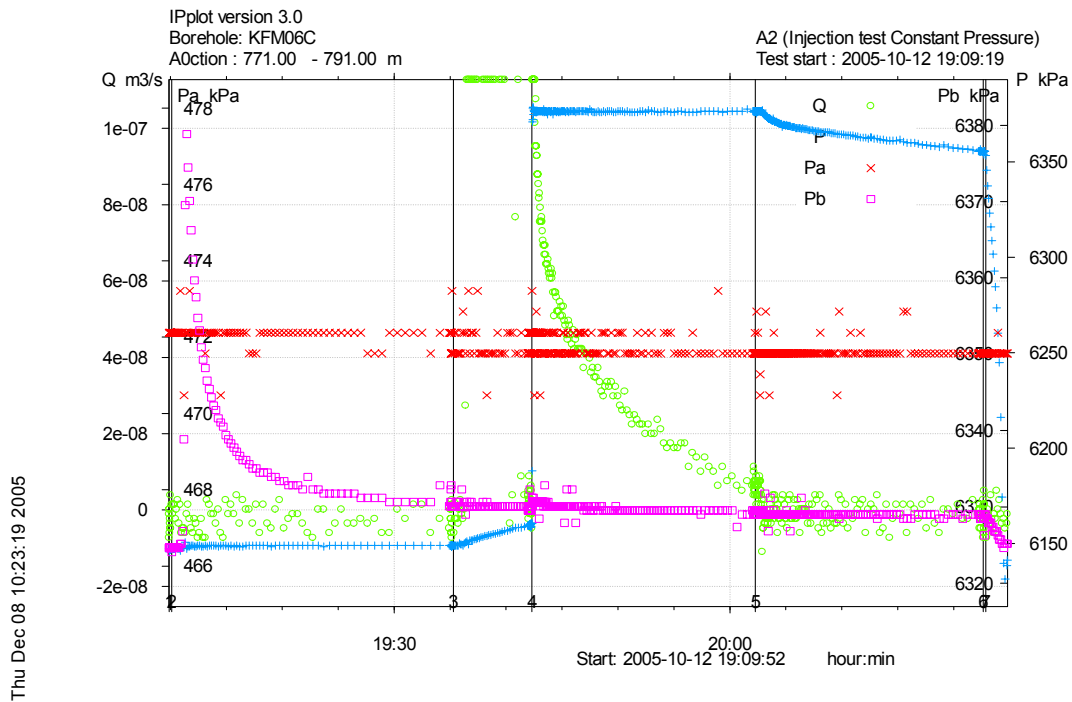




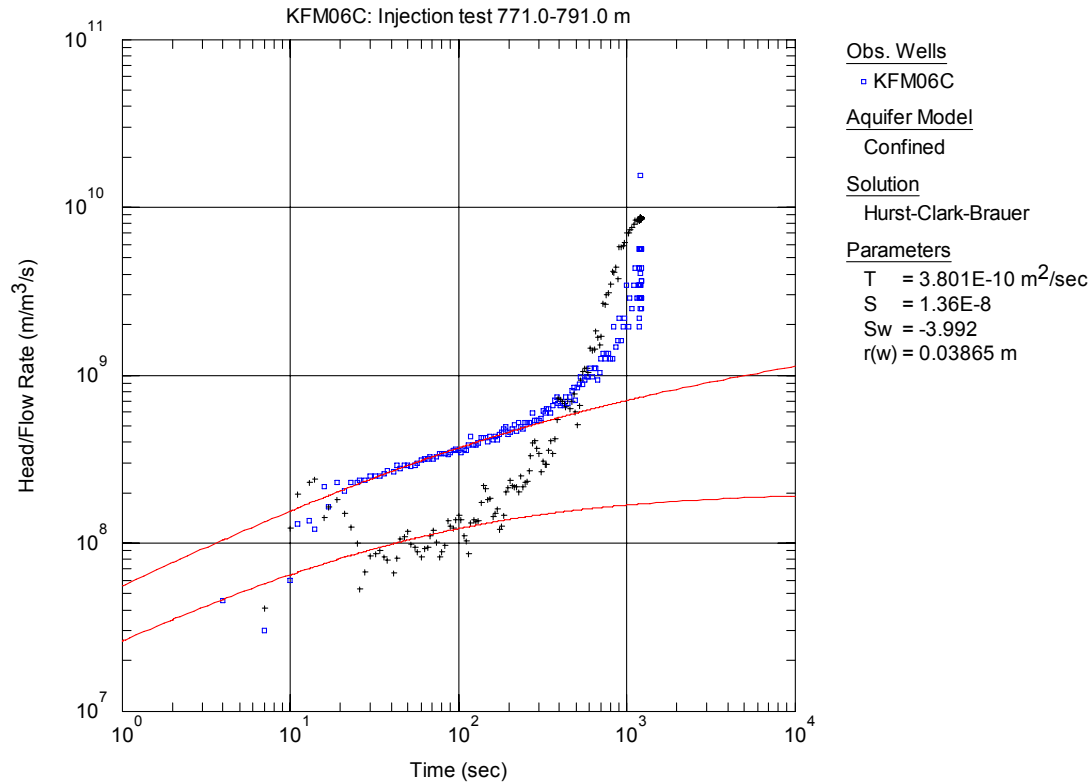
**Figure A3-203.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 731.0-751.0 m in KFM06C.



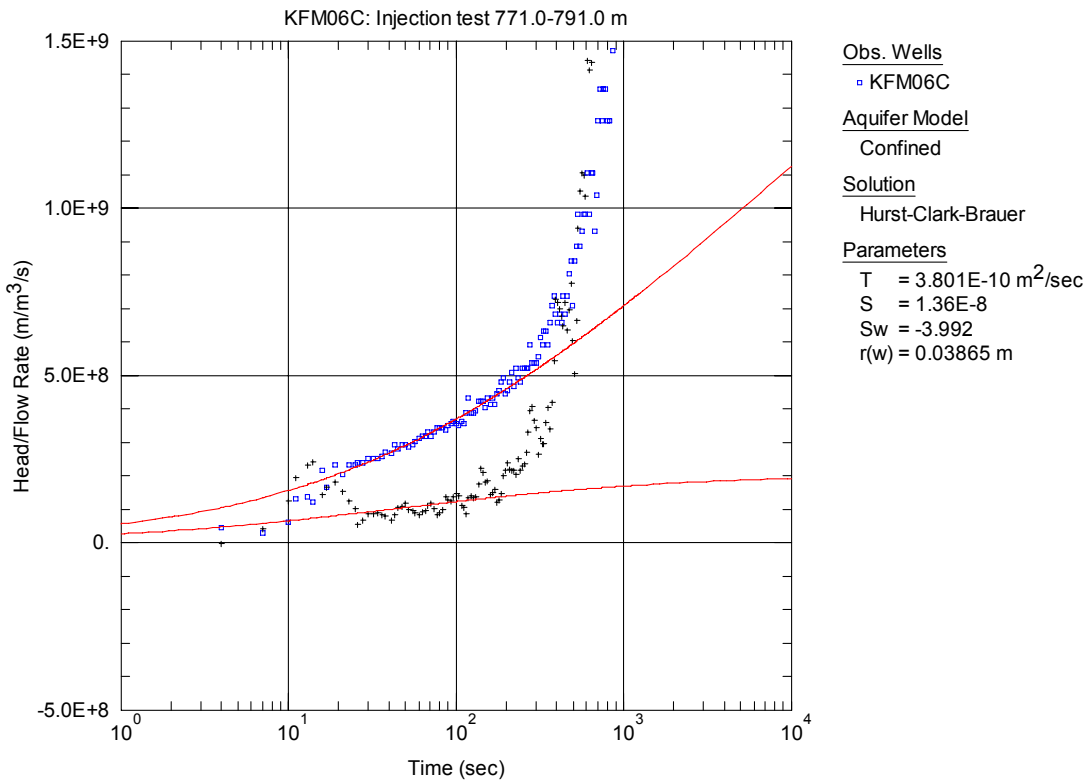
**Figure A3-204.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 751.0-771.0 m in borehole KFM06C.



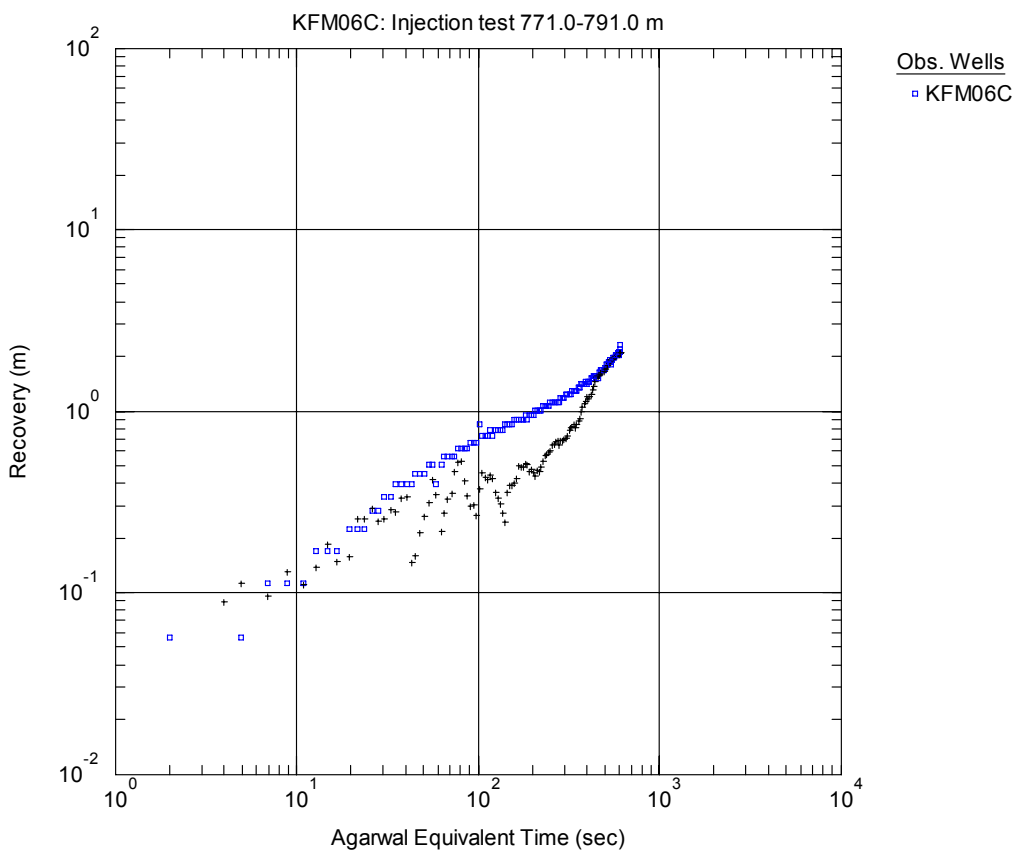
**Figure A3-205.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 771.0-791.0 m in borehole KFM06C.



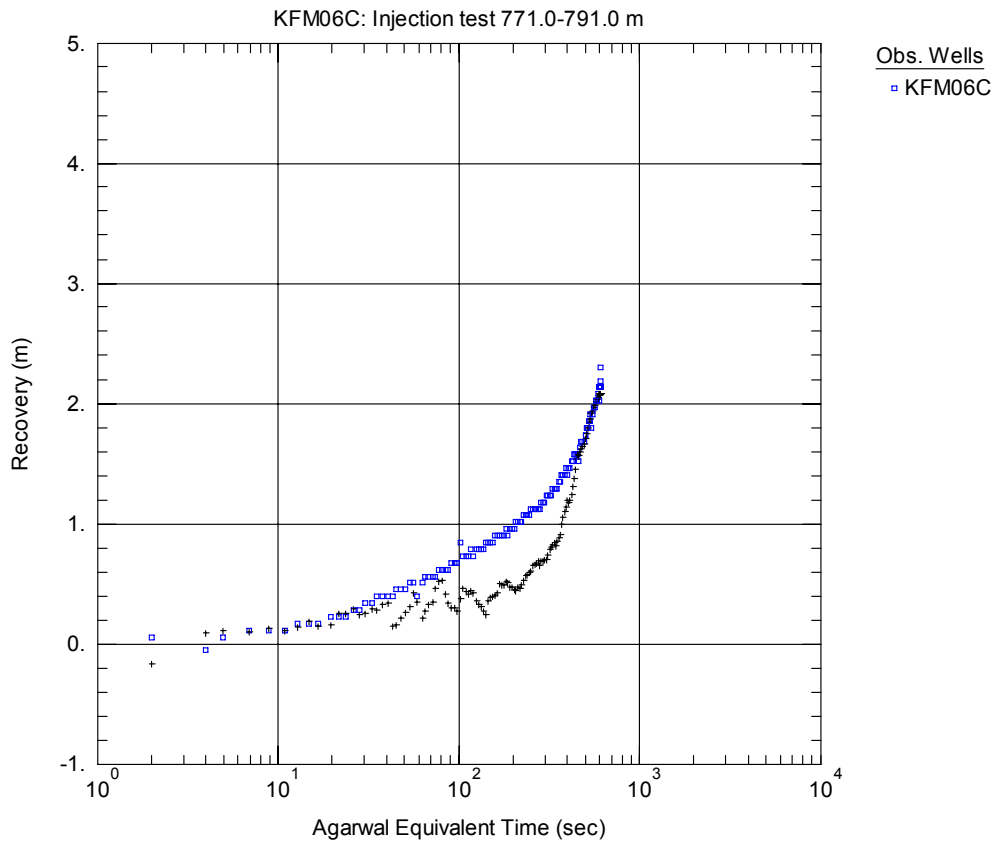
**Figure A3-206.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 771.0-791.0 m in KFM06C.



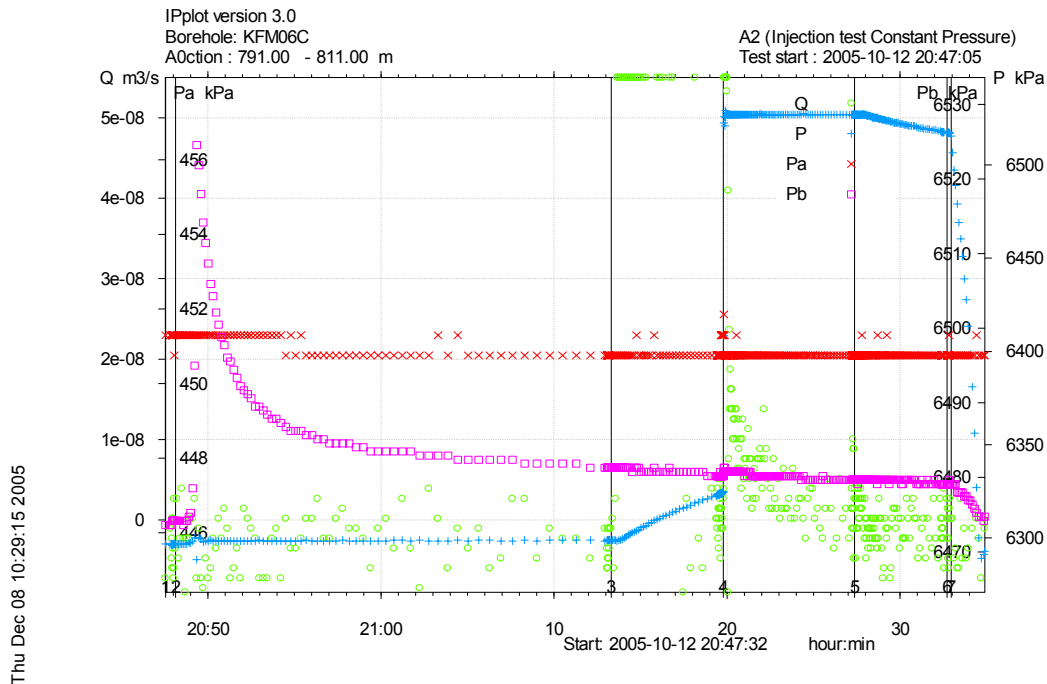
**Figure A3-207.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 771.0-791.0 m in KFM06C.



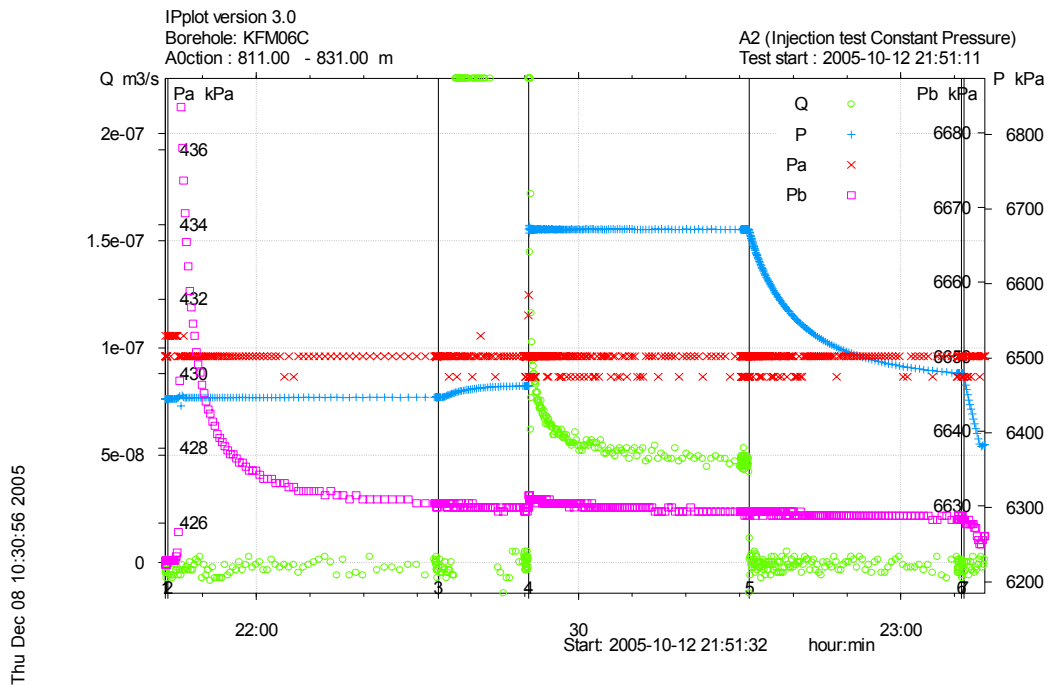
**Figure A3-208.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 771.0-791.0 m in KFM06C.



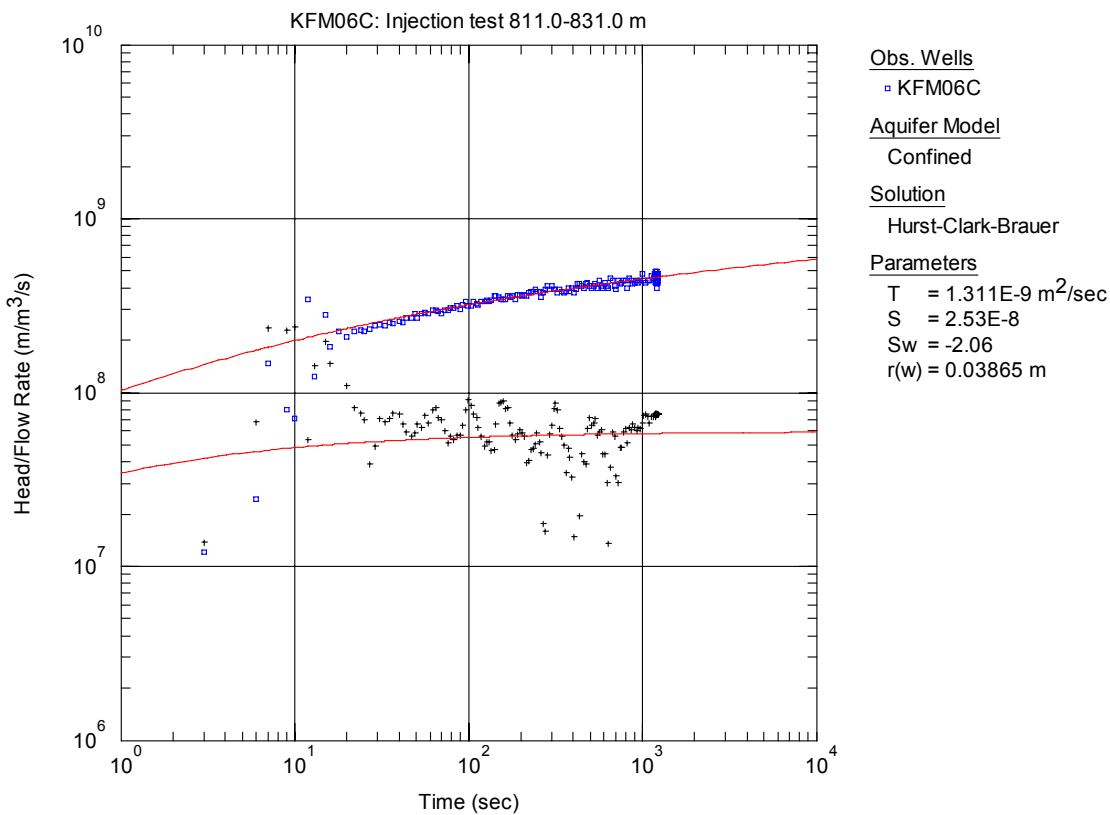
**Figure A3-209.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 771.0-791.0 m in KFM06C.



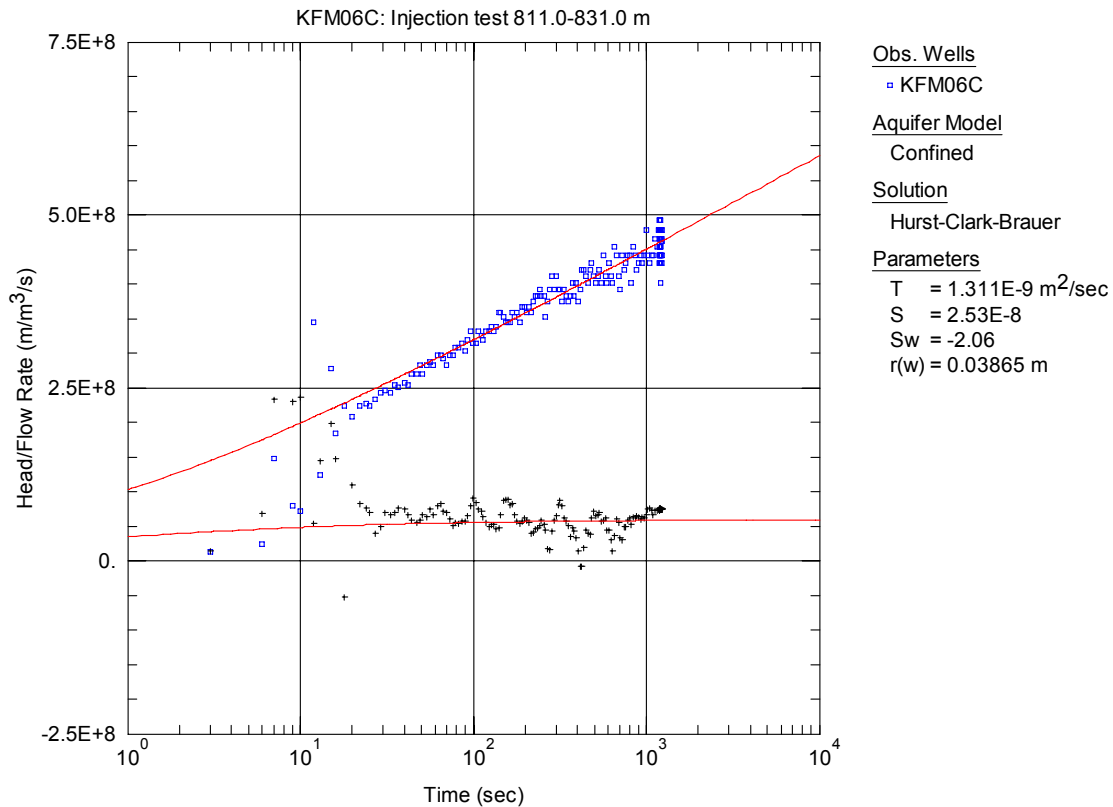
**Figure A3-210.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 791.0-811.0 m in borehole KFM06C.



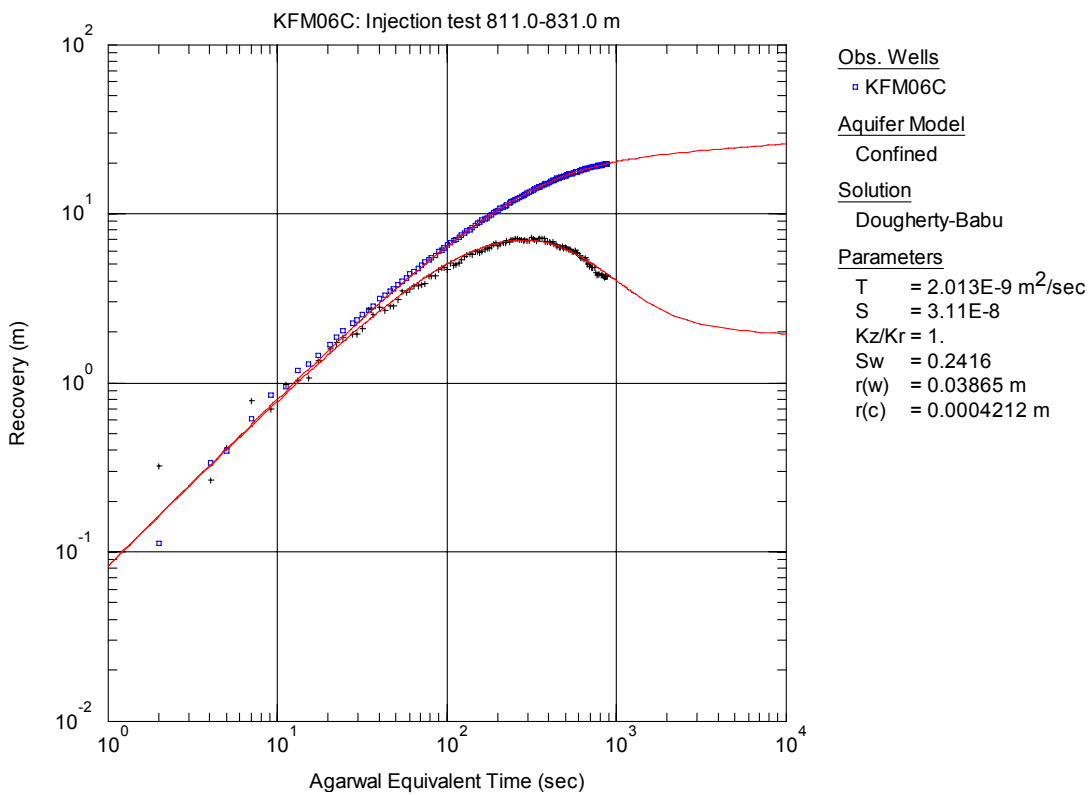
**Figure A3-211.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 811.0-831.0 m in borehole KFM06C.



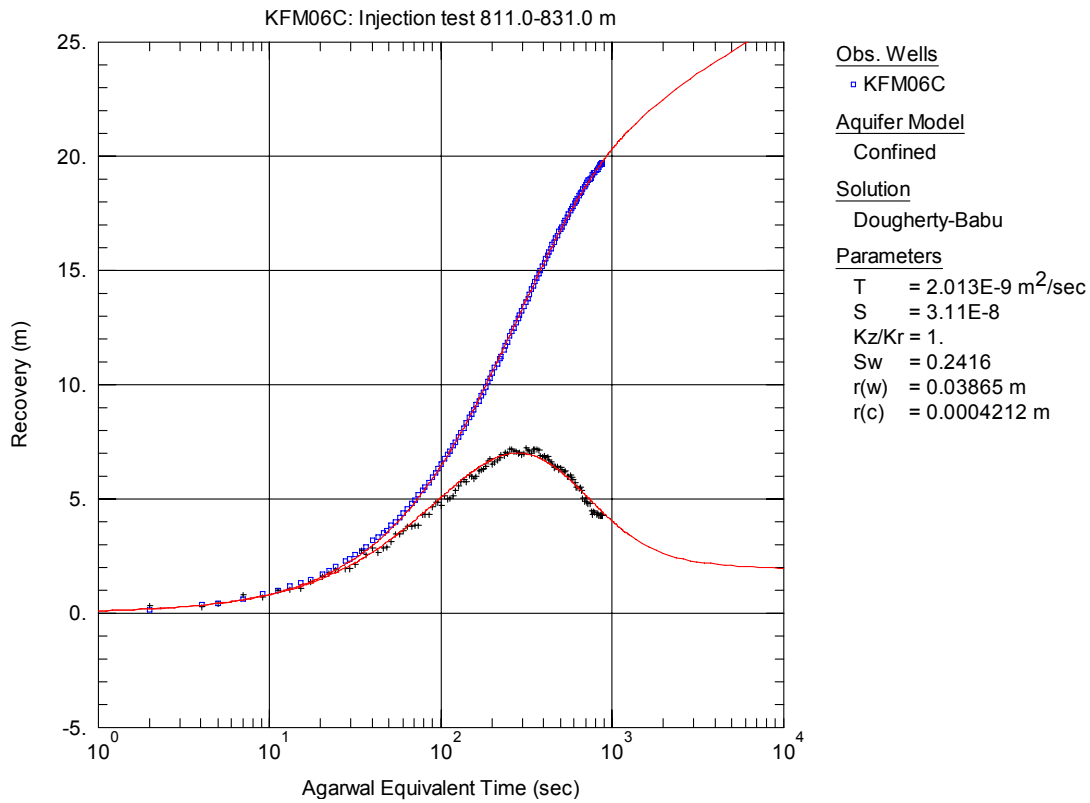
**Figure A3-212.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 811.0-831.0 m in KFM06C.



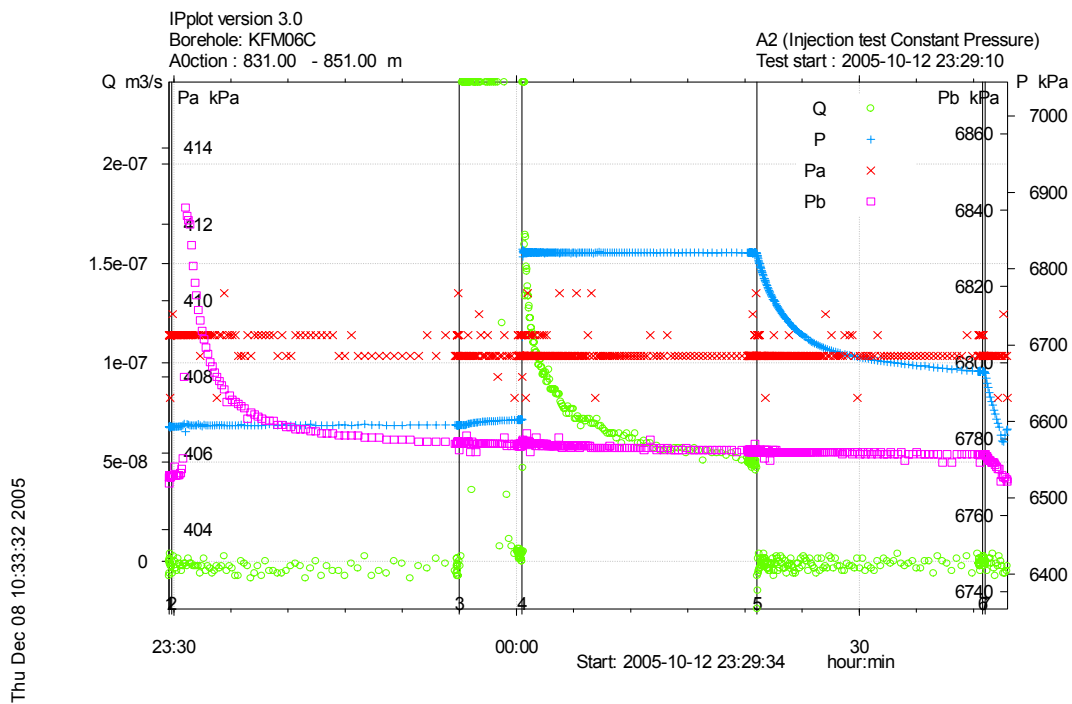
**Figure A3-213.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 811.0-831.0 m in KFM06C.



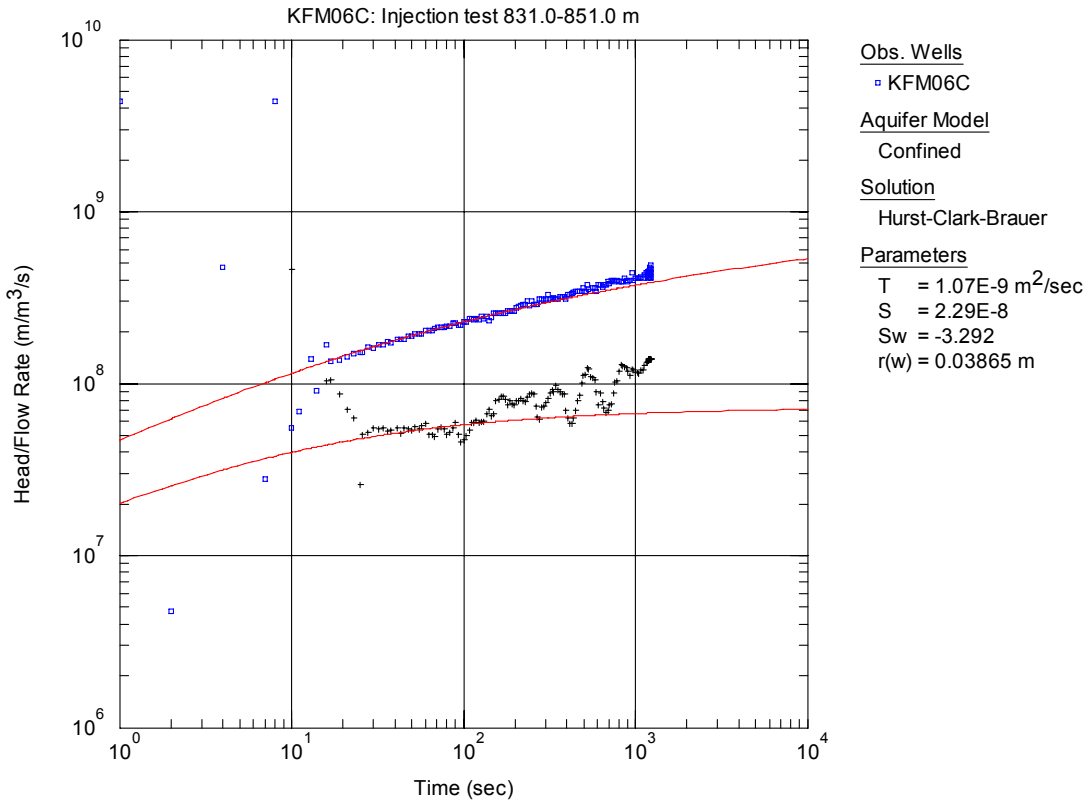
**Figure A3-214.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 811.0-831.0 m in KFM06C.



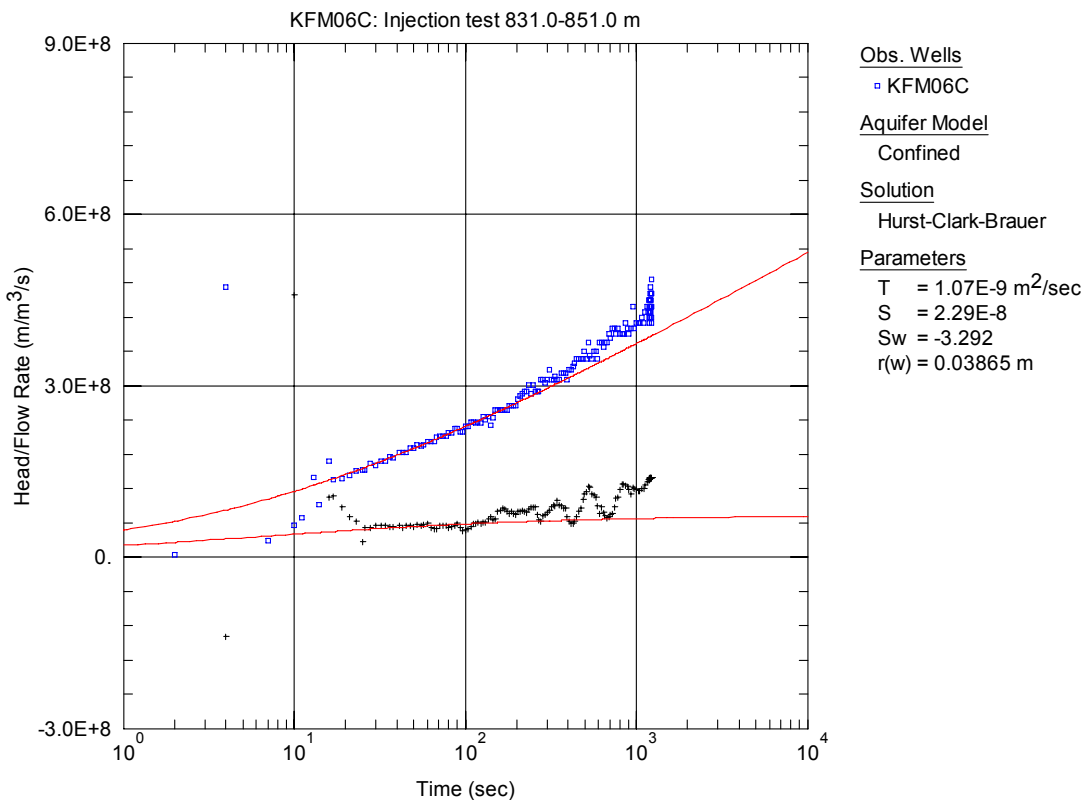
**Figure A3-215.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 811.0-831.0 m in KFM06C.



**Figure A3-216.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 831.0-851.0 m in borehole KFM06C.

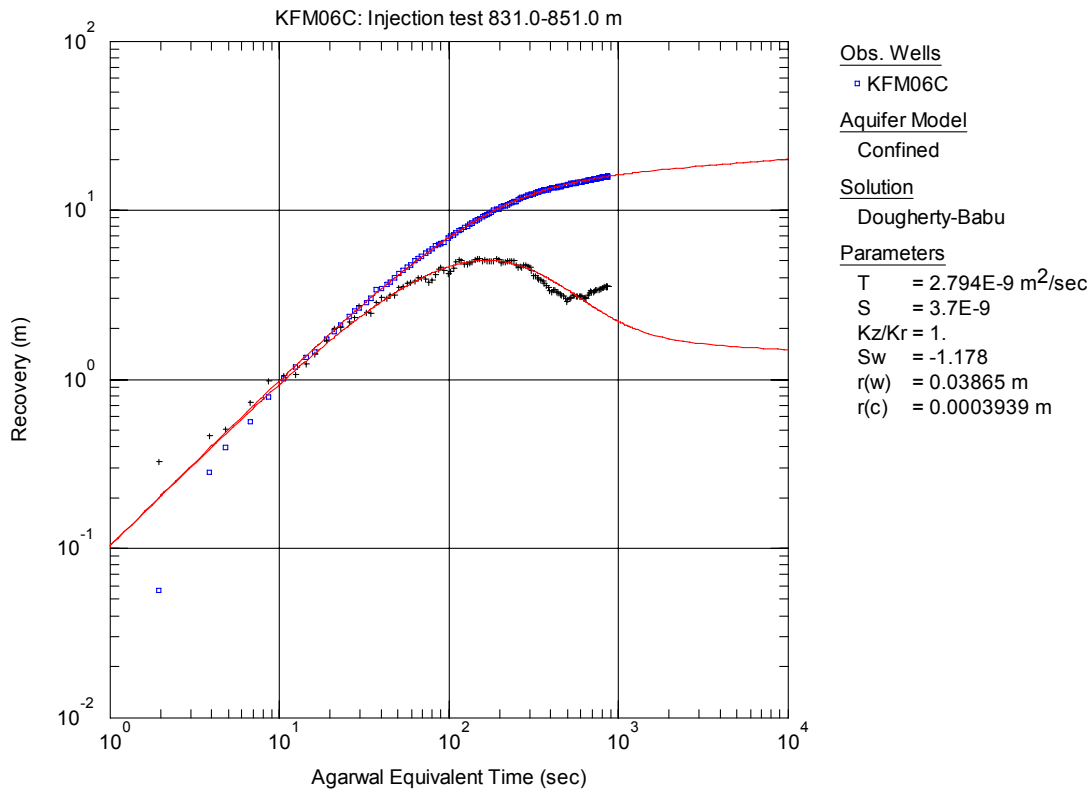


**Figure A3-217.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 831.0-851.0 m in KFM06C.

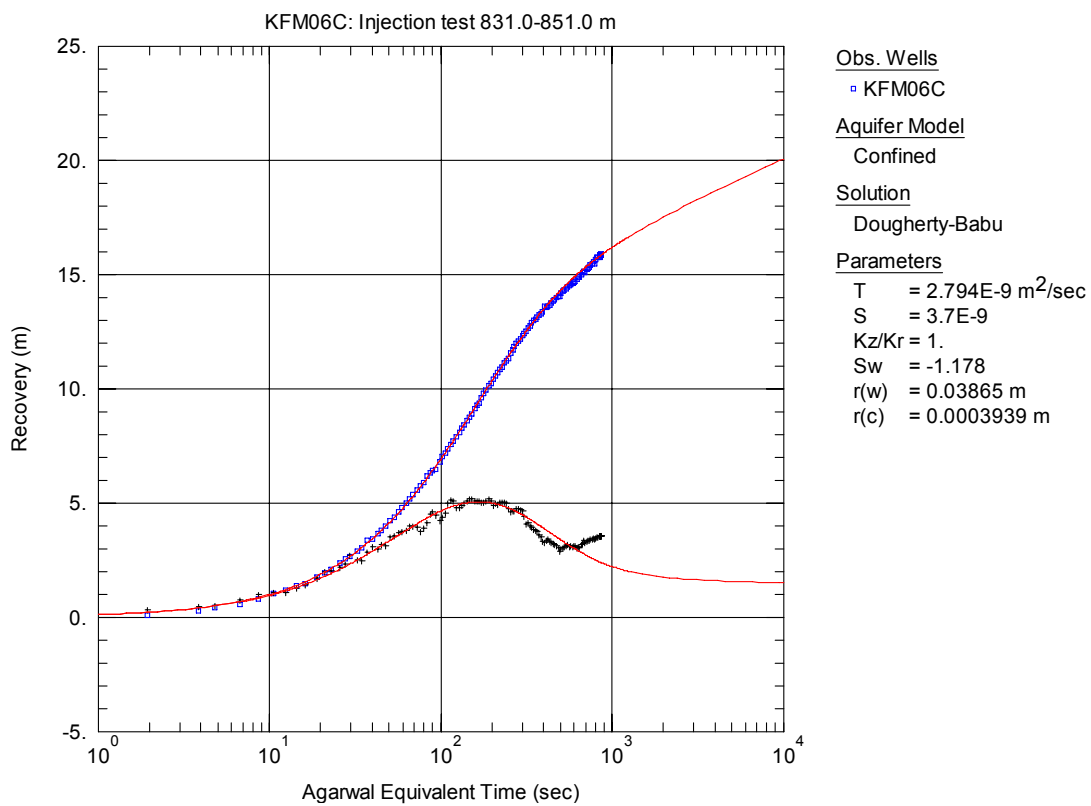


**Figure A3-218.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 831.0-851.0 m in KFM06C.

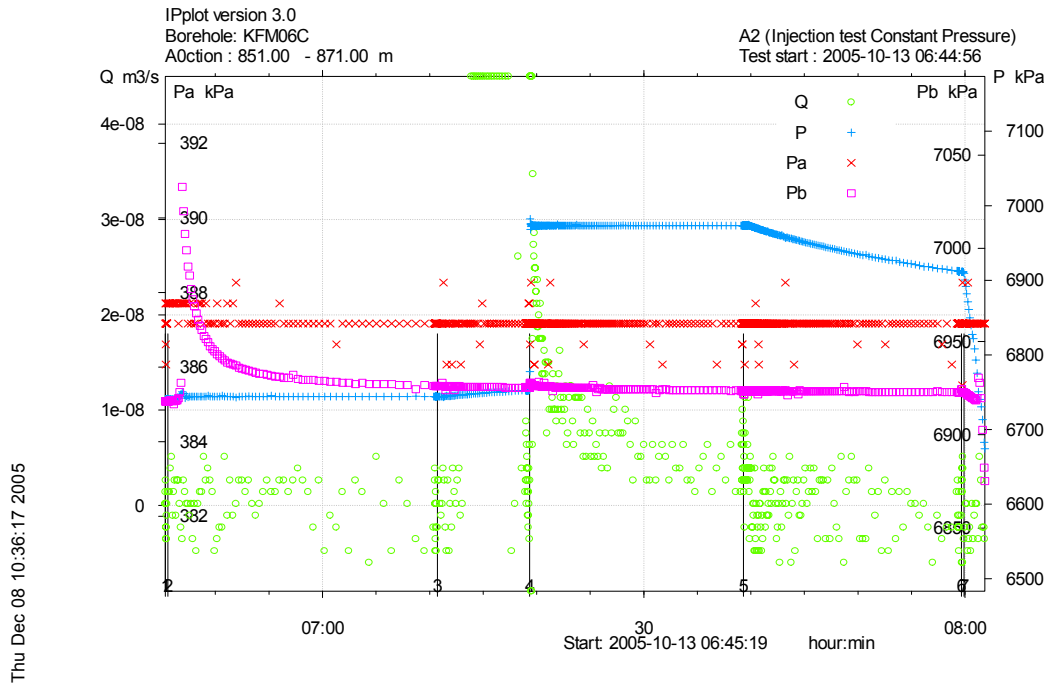




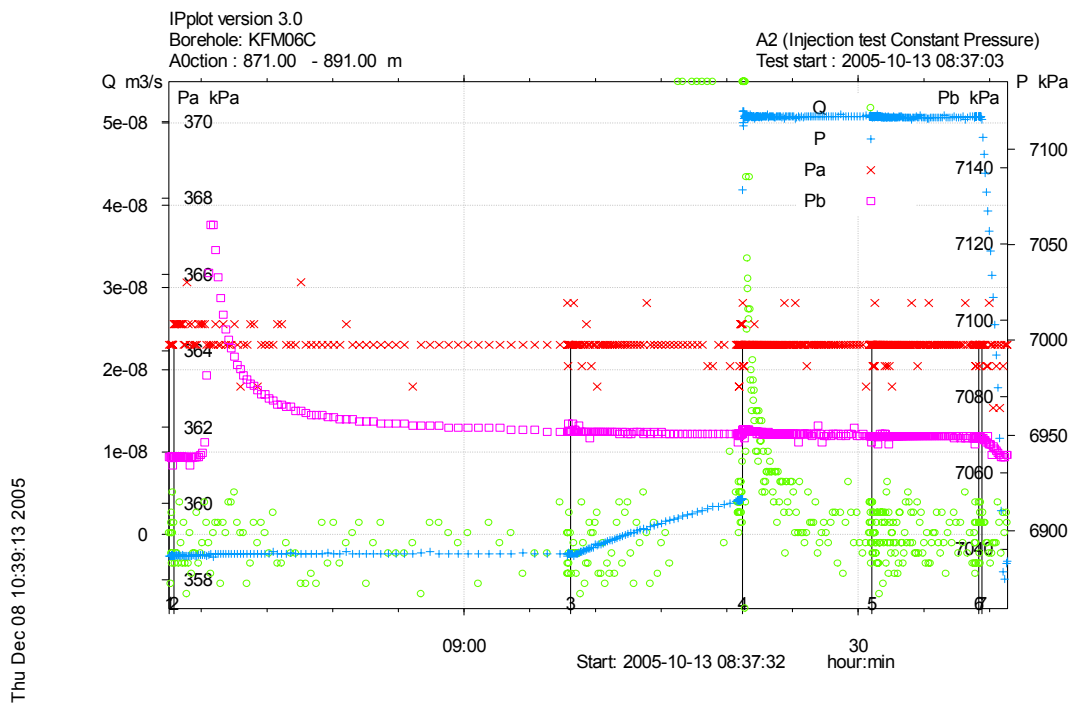
**Figure A3-219.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 831.0-851.0 m in KFM06C.



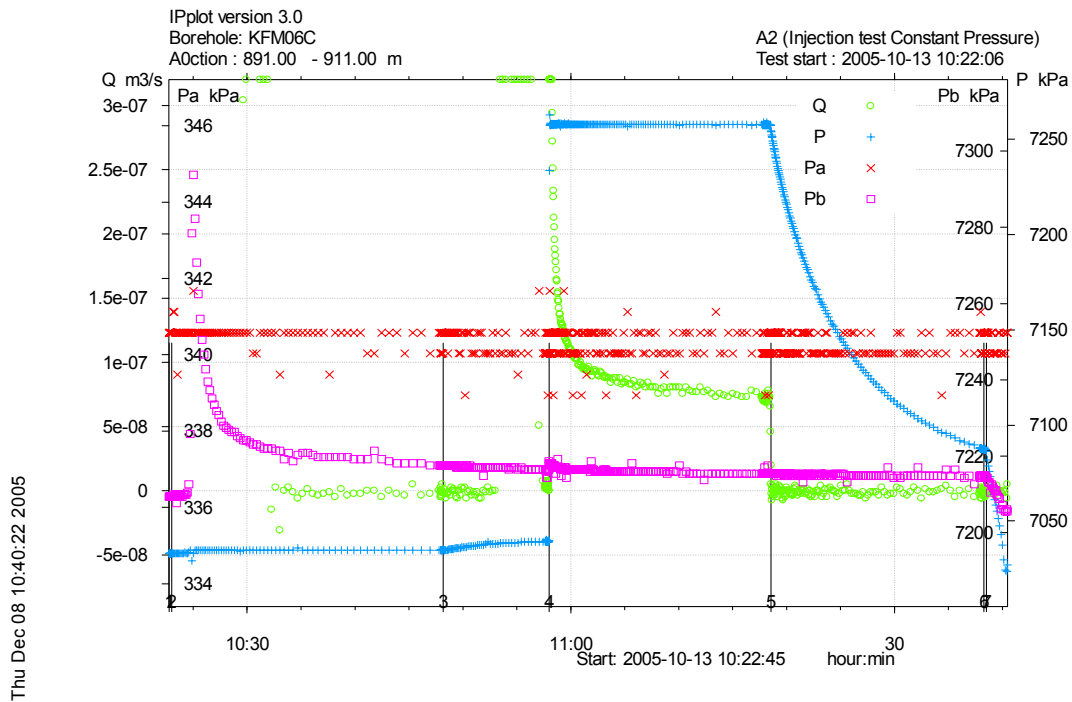
**Figure A3-220.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 831.0-851.0 m in KFM06C.



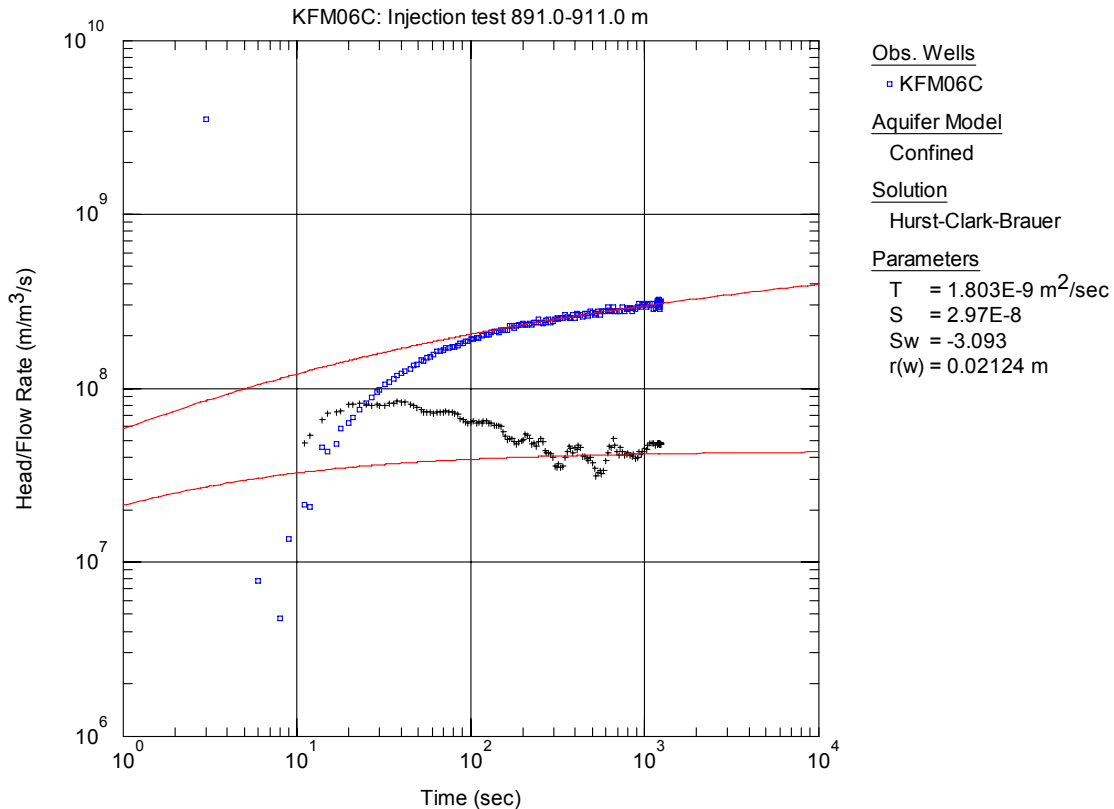
**Figure A3-221.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 851.0-871.0 m in borehole KFM06C.



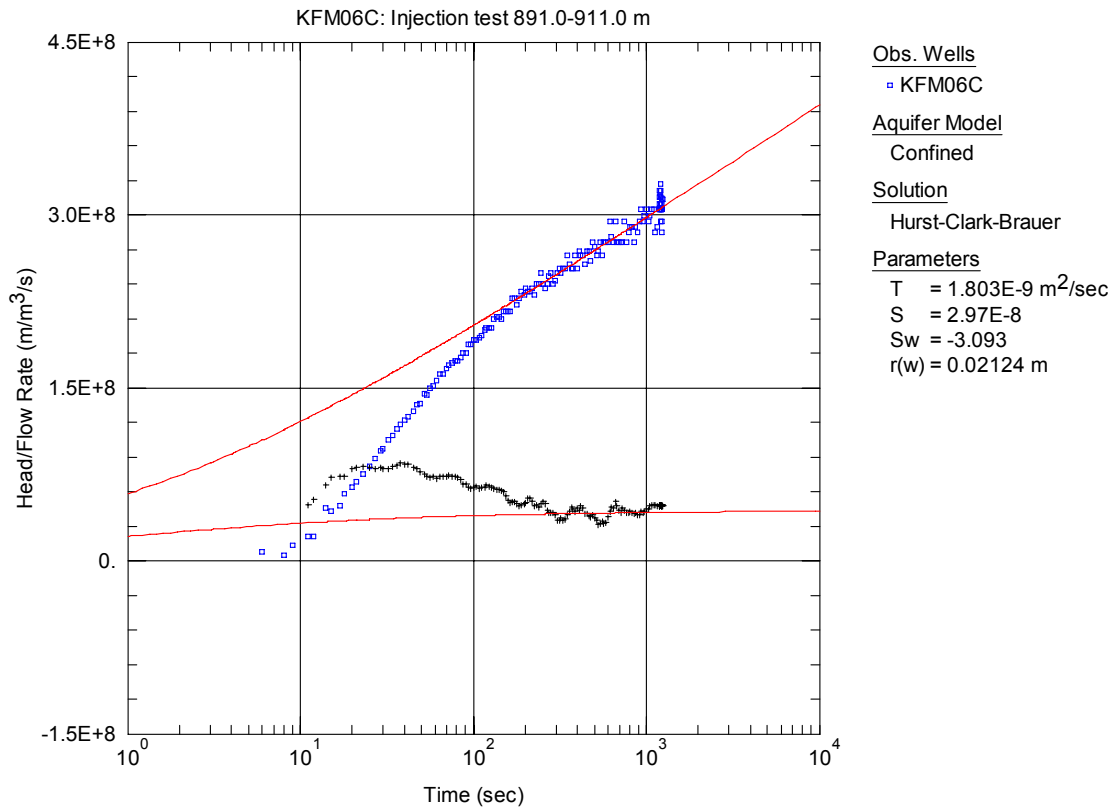
**Figure A3-222.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 871.0-891.0 m in borehole KFM06C.



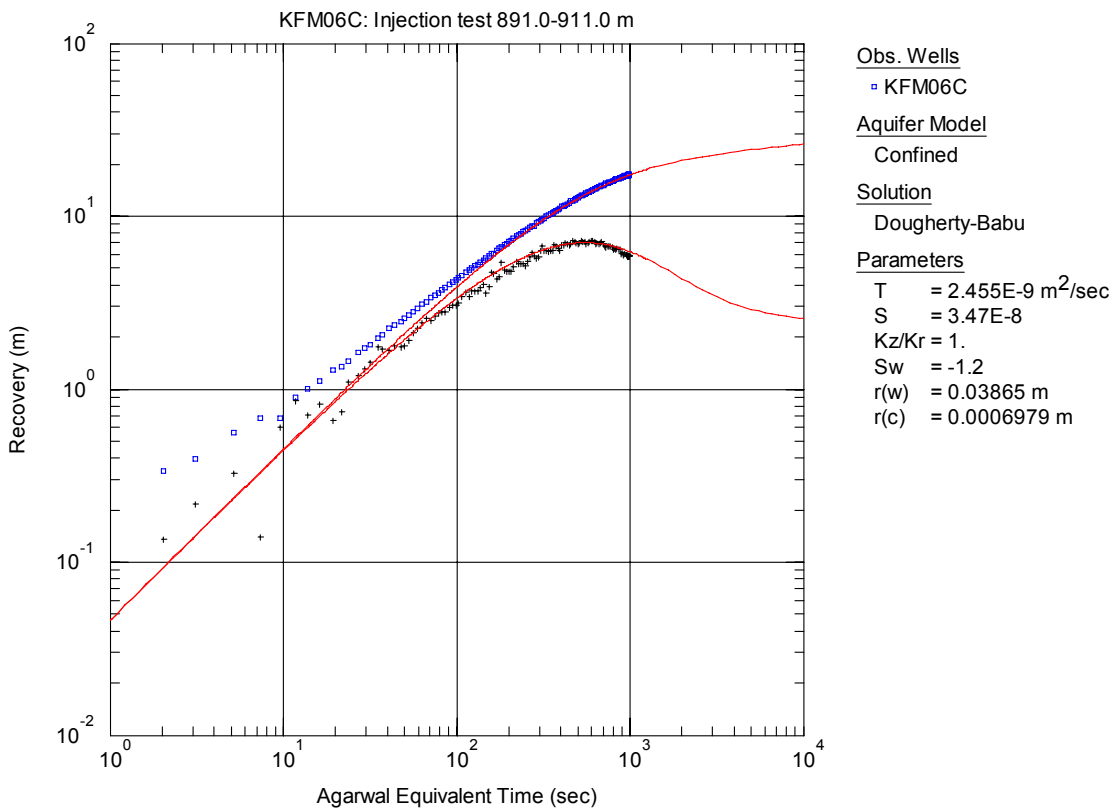
**Figure A3-223.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 891.0-911.0 m in borehole KFM06C.



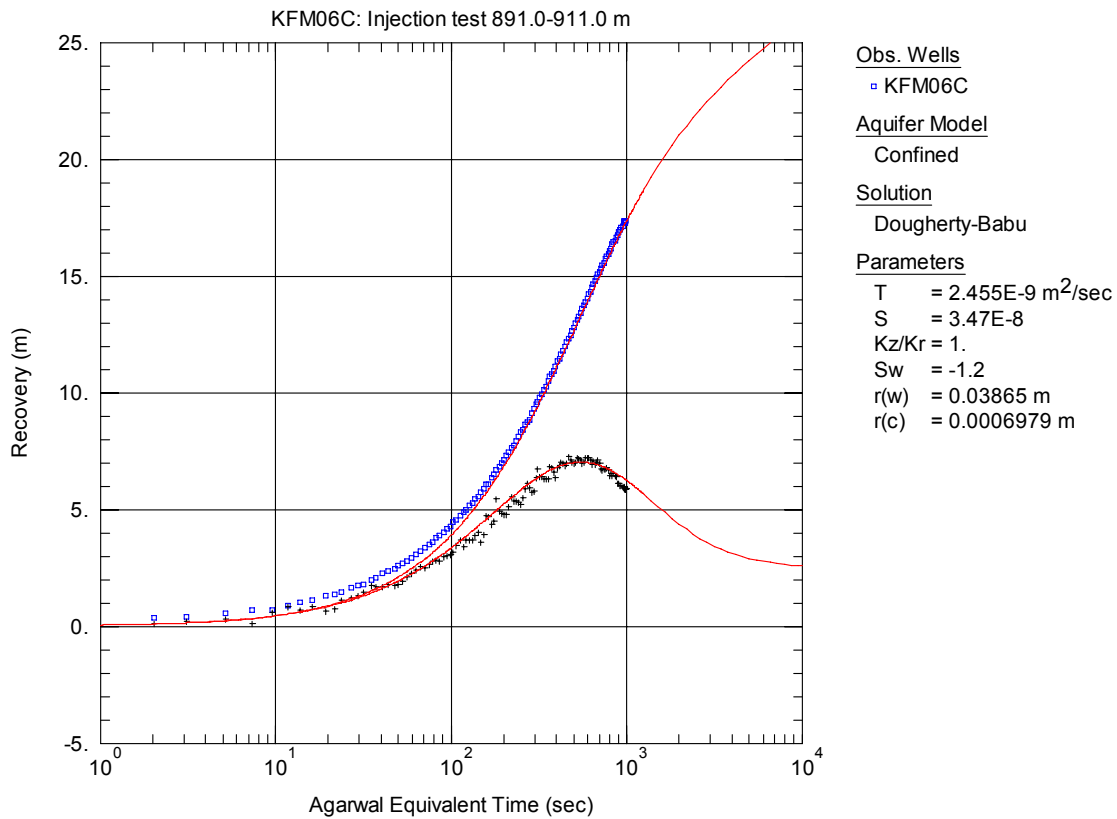
**Figure A3-224.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 891.0-911.0 m in KFM06C.



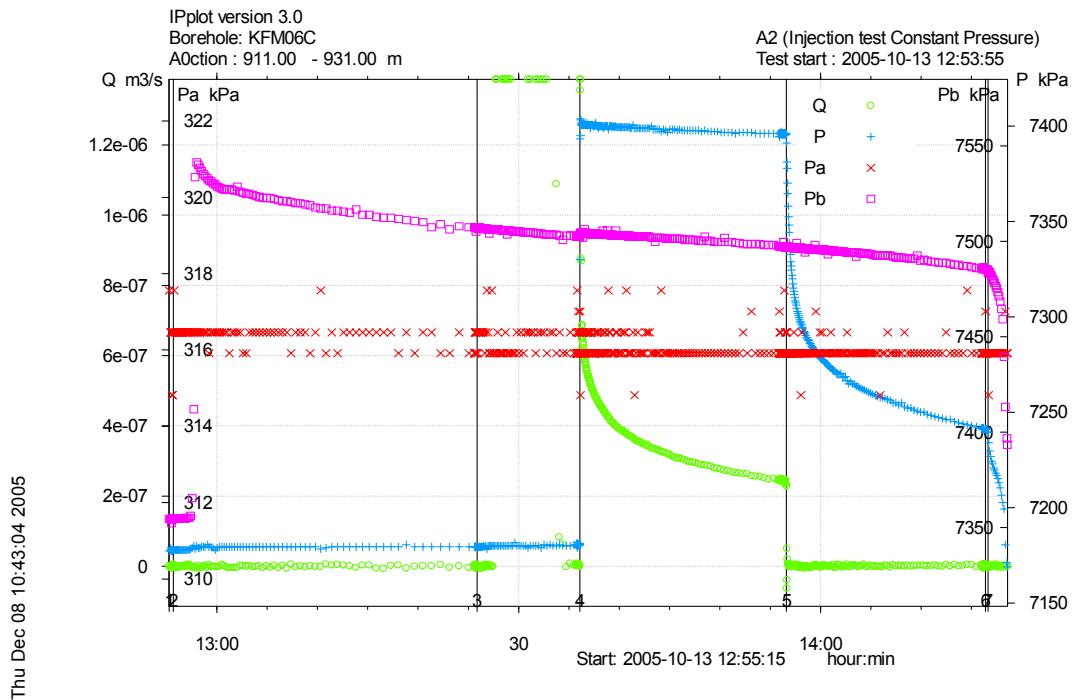
**Figure A3-225.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 891.0-911.0 m in KFM06C.



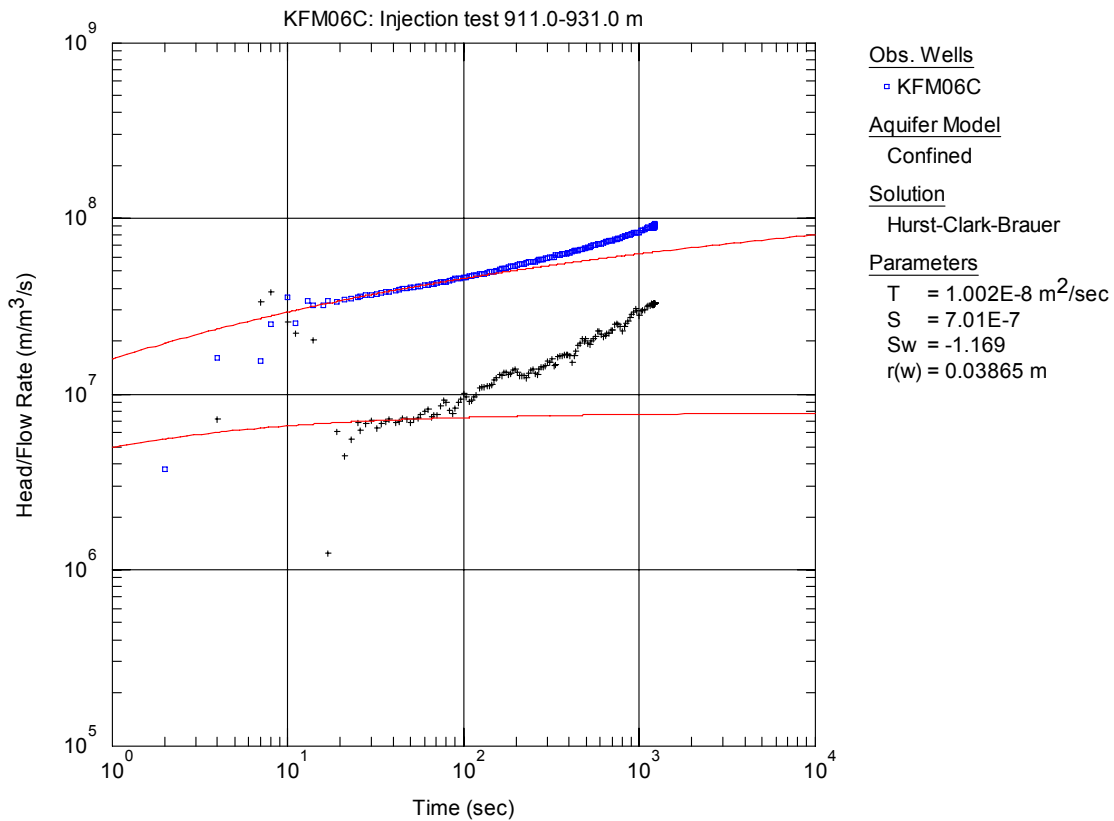
**Figure A3-226.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 891.0-911.0 m in KFM06C.



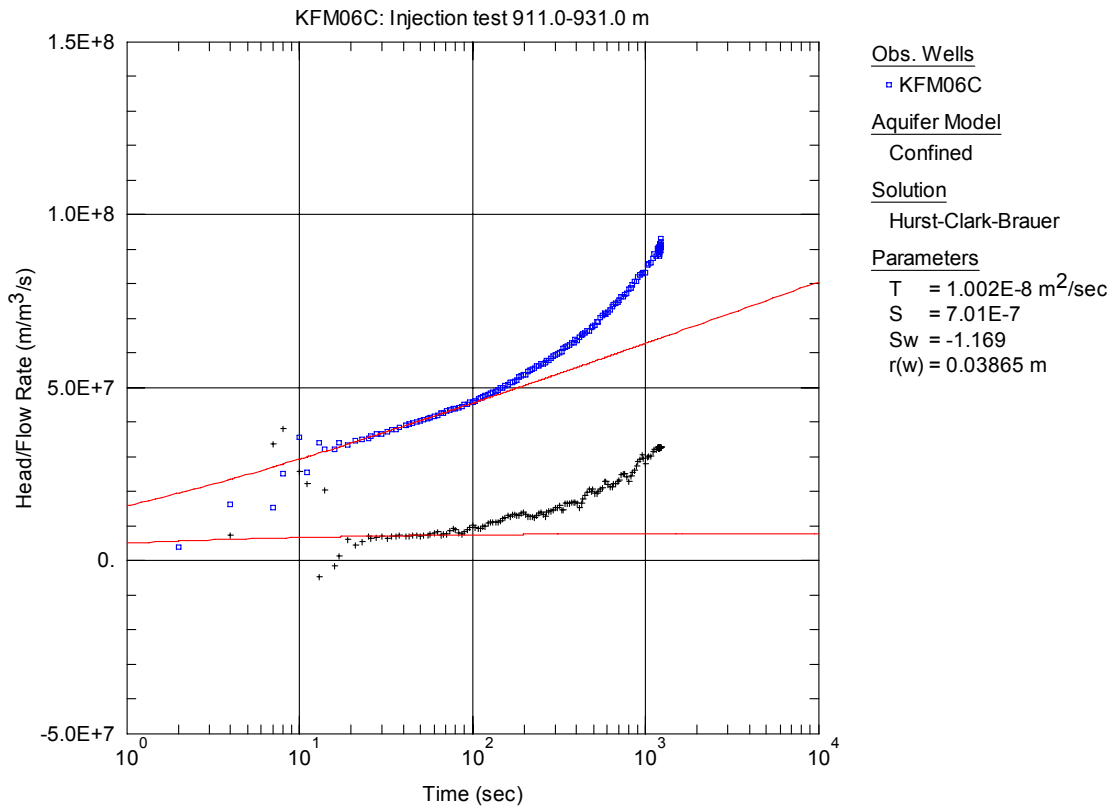
**Figure A3-227.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 891.0-911.0 m in KFM06C.



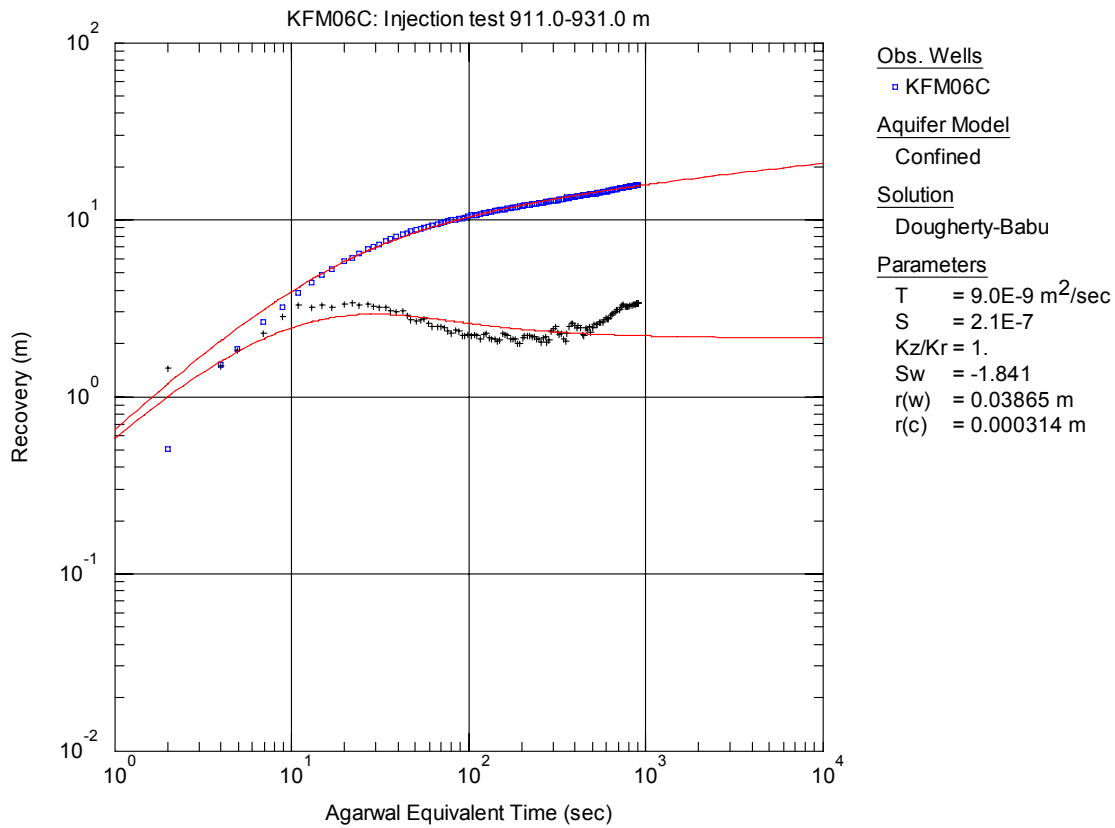
**Figure A3-228.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 911.0-931.0 m in borehole KFM06C.



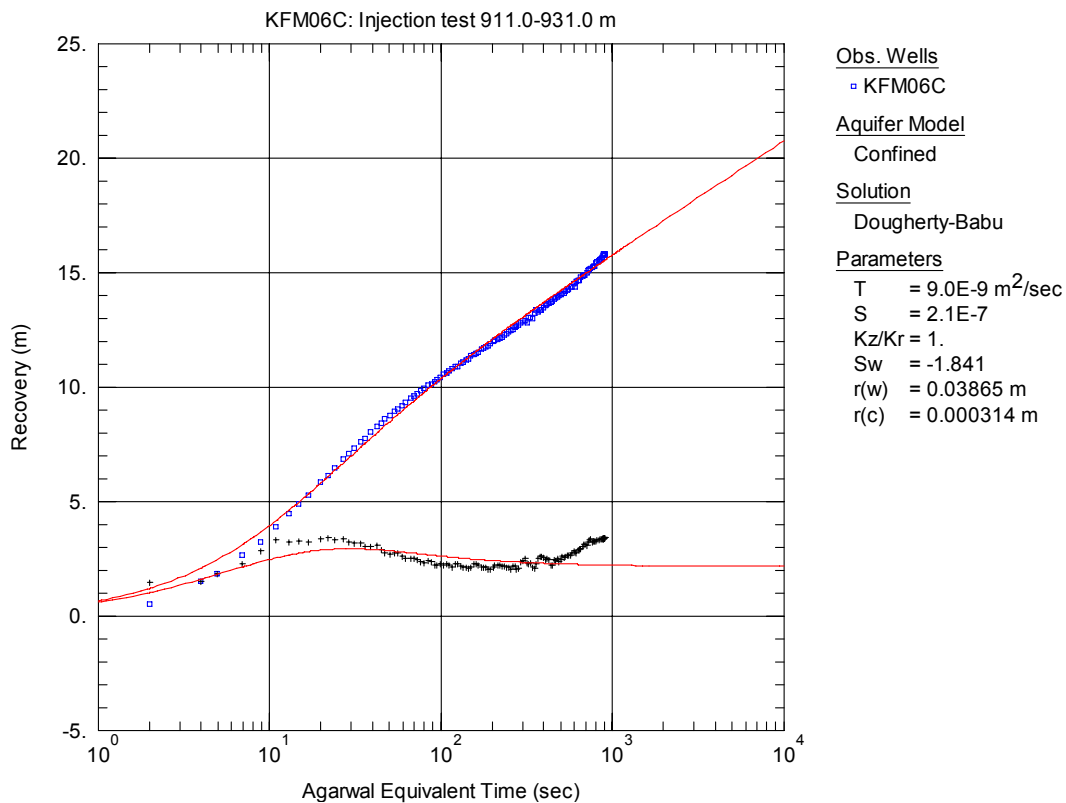
**Figure A3-229.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 911.0-931.0 m in KFM06C.



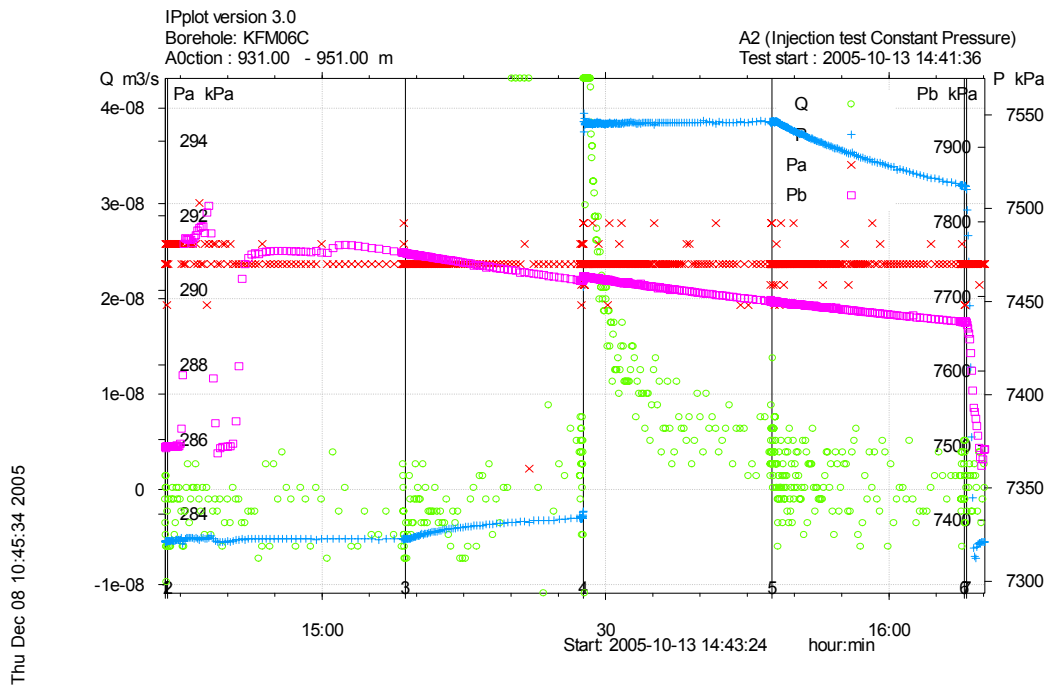
**Figure A3-230.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 911.0-931.0 m in KFM06C.



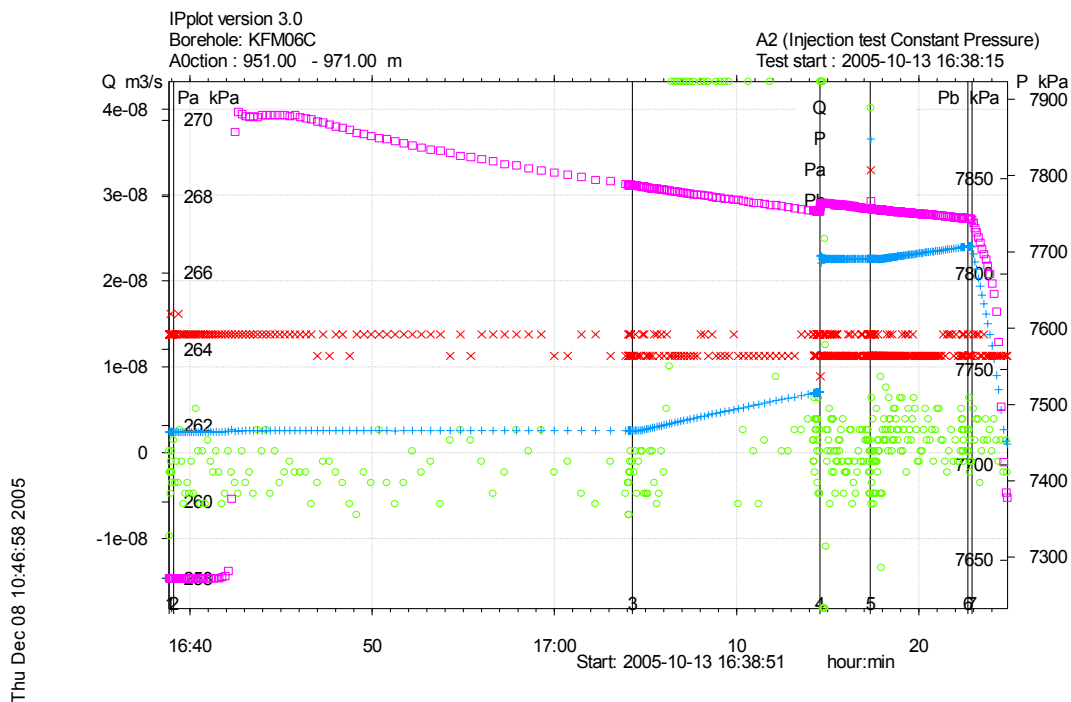
**Figure A3-231.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 911.0-931.0 m in KFM06C.



**Figure A3-232.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 911.0-931.0 m in KFM06C.

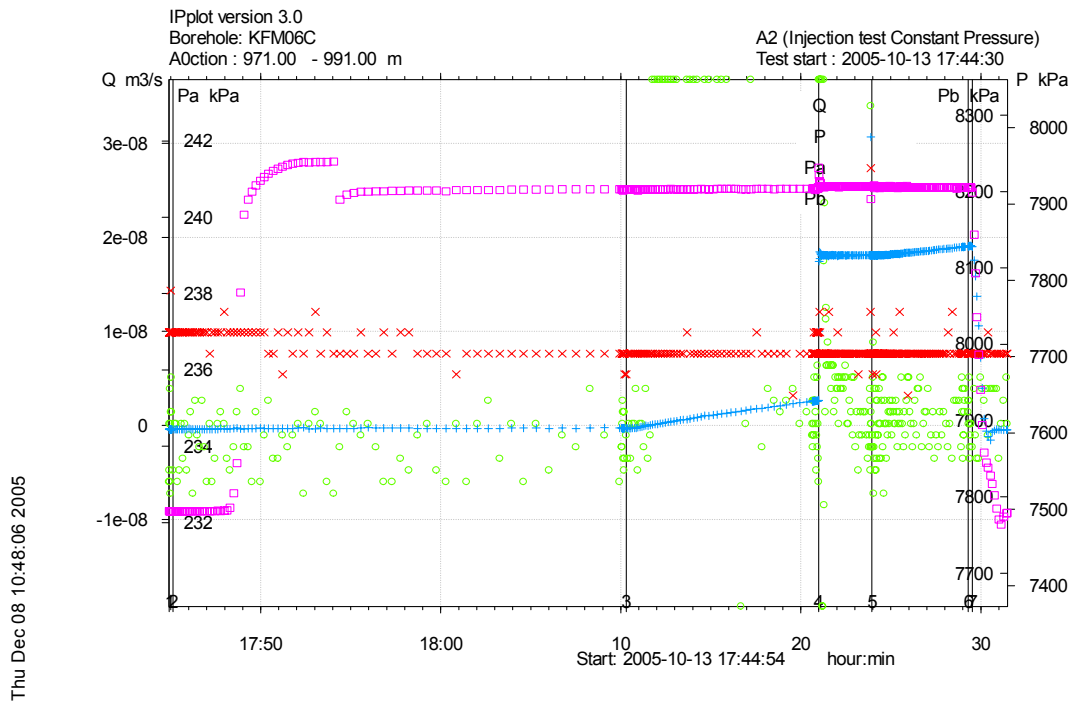


**Figure A3-233.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 931.0-951.0 m in borehole KFM06C.

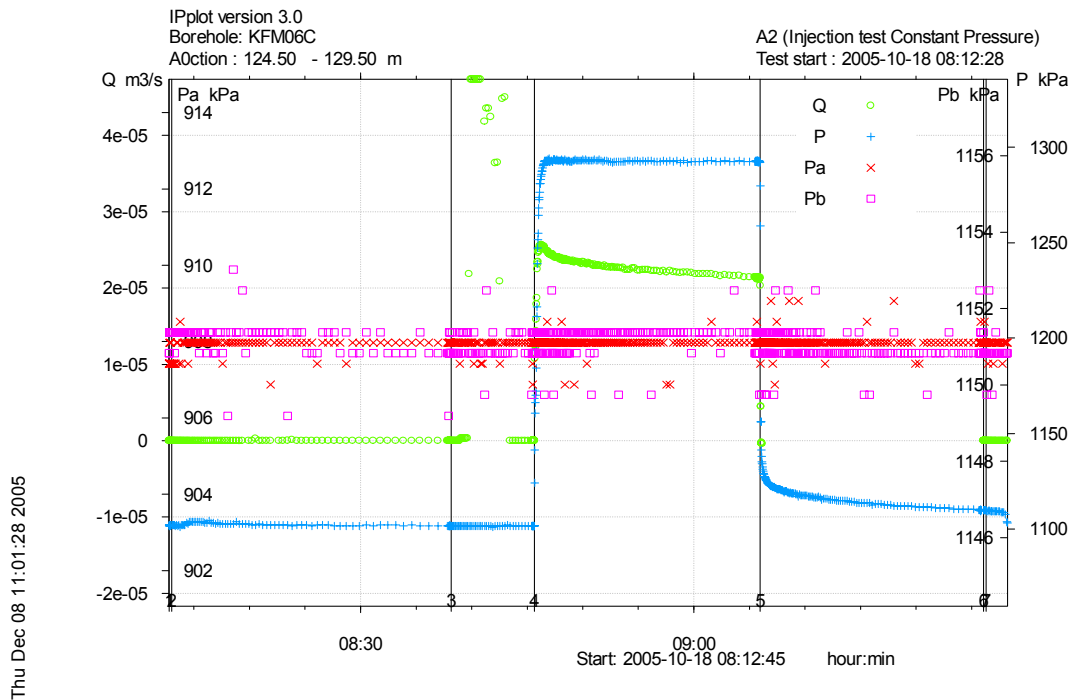


**Figure A3-234.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 951.0-971.0 m in borehole KFM06C.

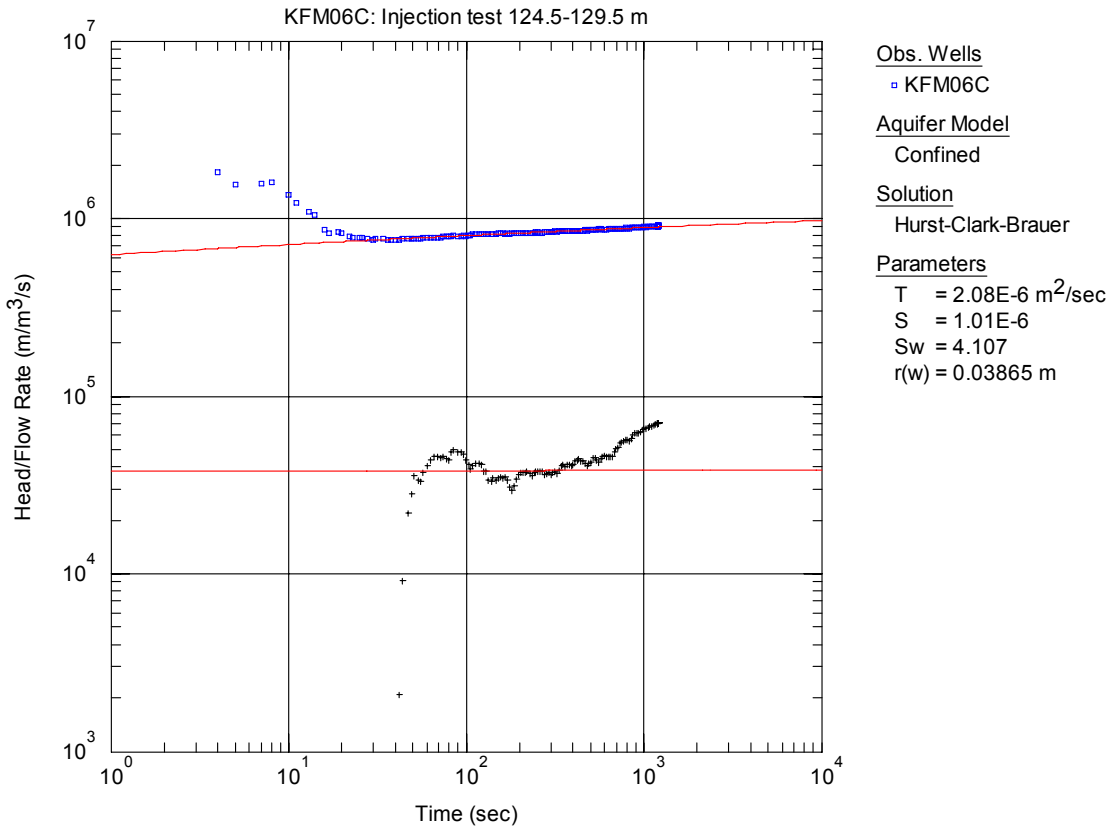




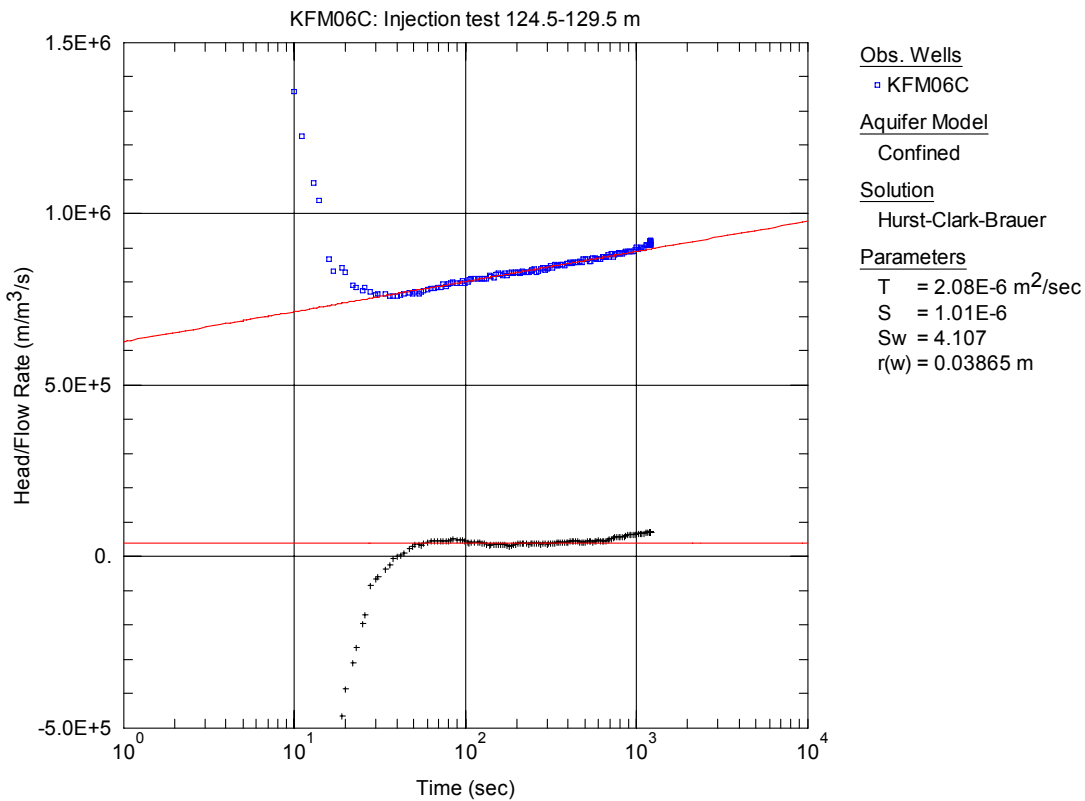
**Figure A3-235.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 971.0-991.0 m in borehole KFM06C.



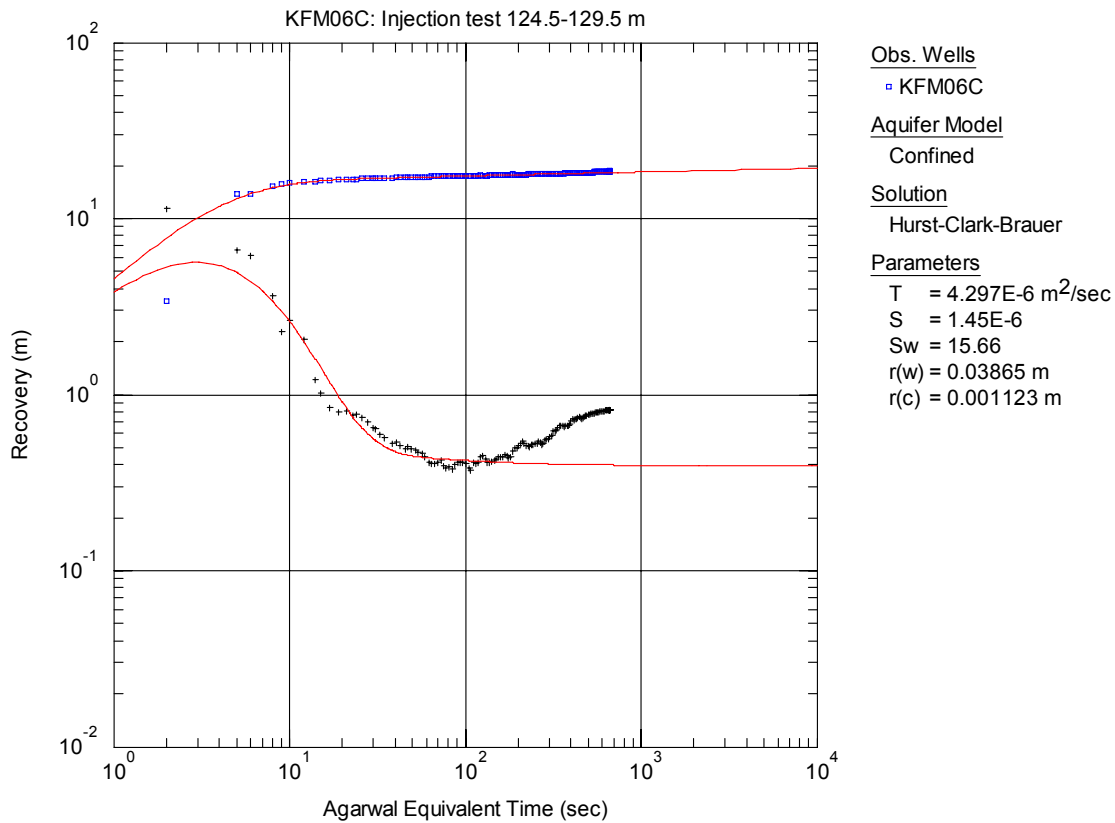
**Figure A3-236.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 124.5-129.5 m in borehole KFM06C.



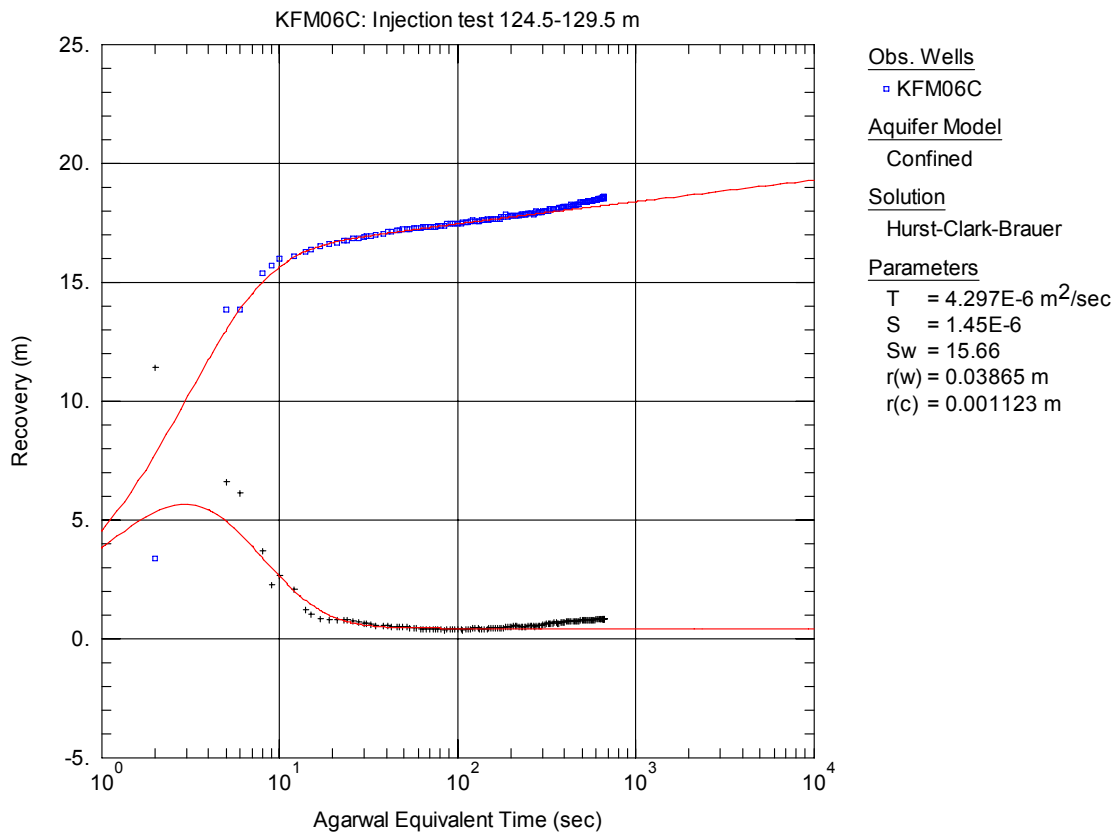
**Figure A3-237.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 124.5-129.5 m in KFM06C.



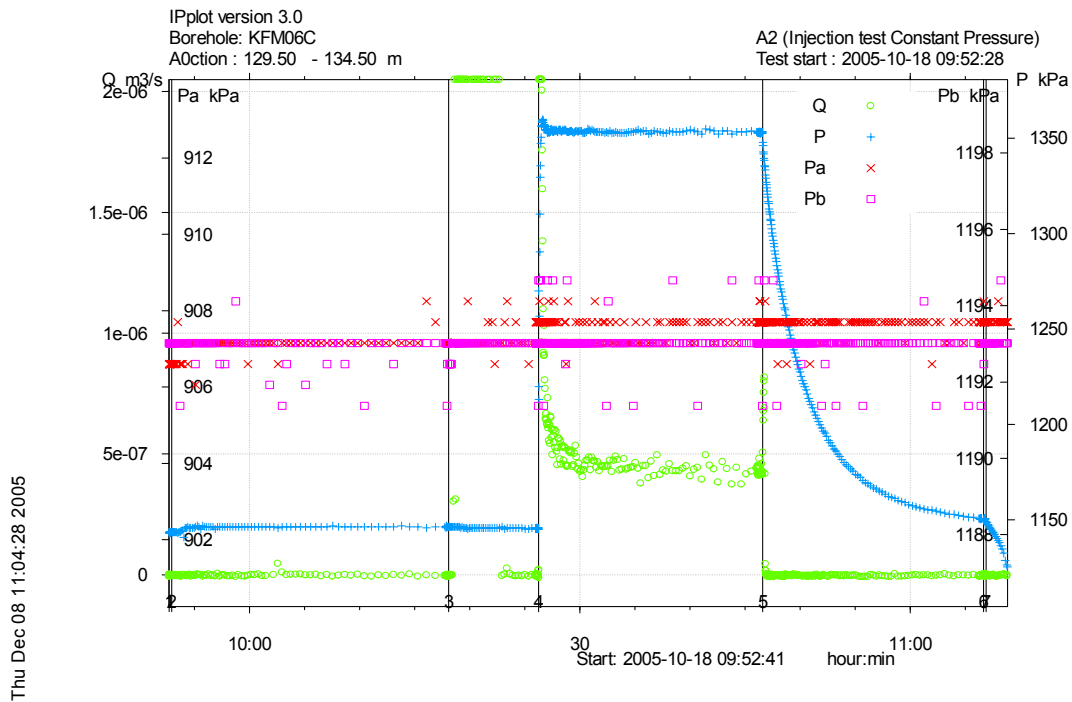
**Figure A3-238.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 124.5-129.5 m in KFM06C.



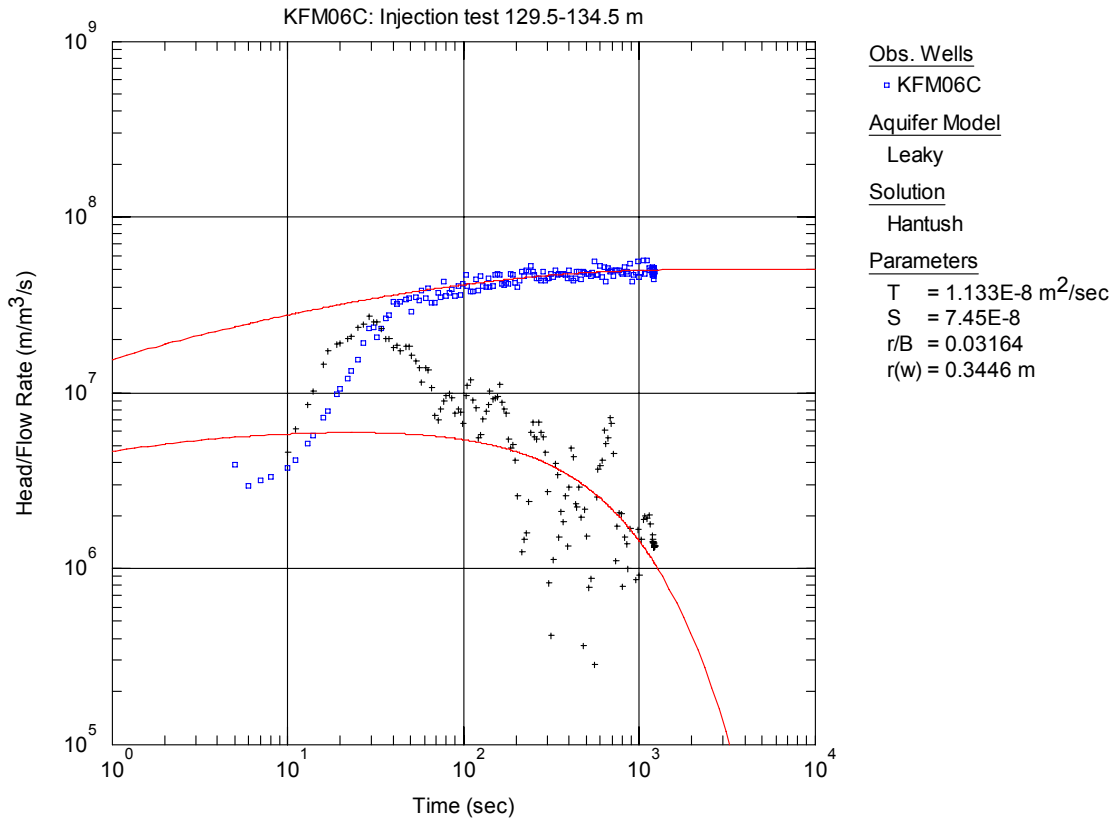
**Figure A3-239.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 124.5-129.5 m in KFM06C.



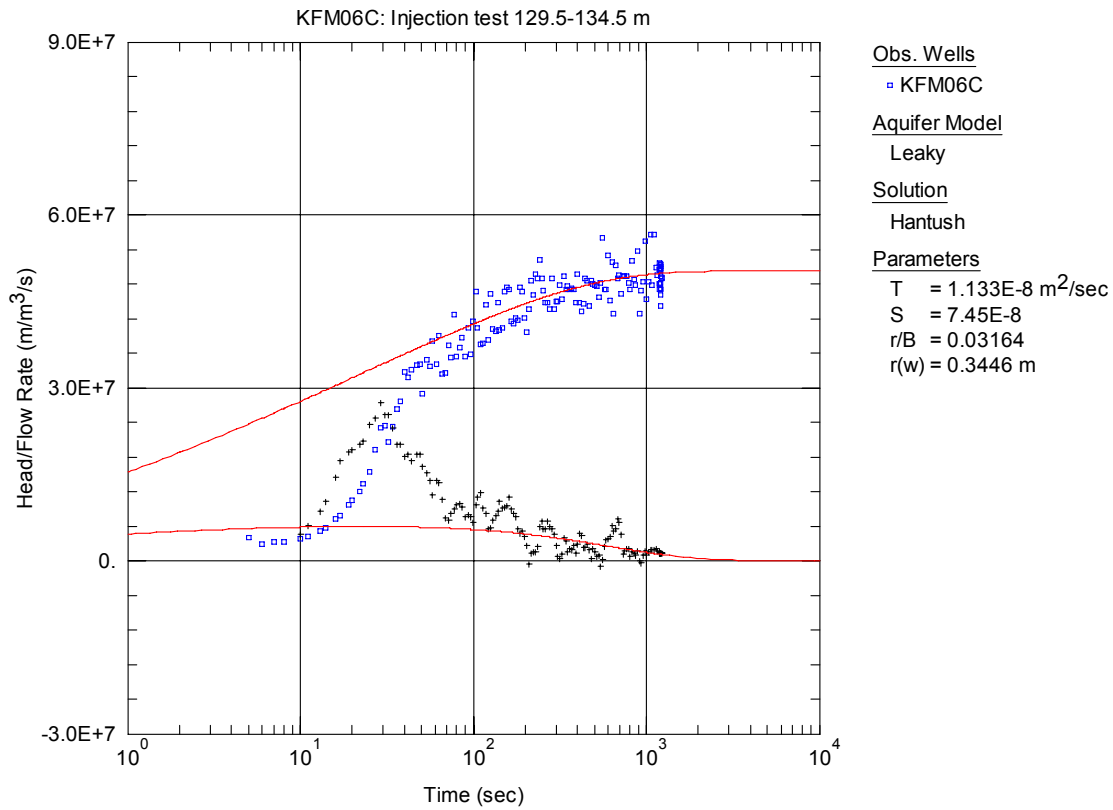
**Figure A3-240.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 124.5-129.5 m in KFM06C.



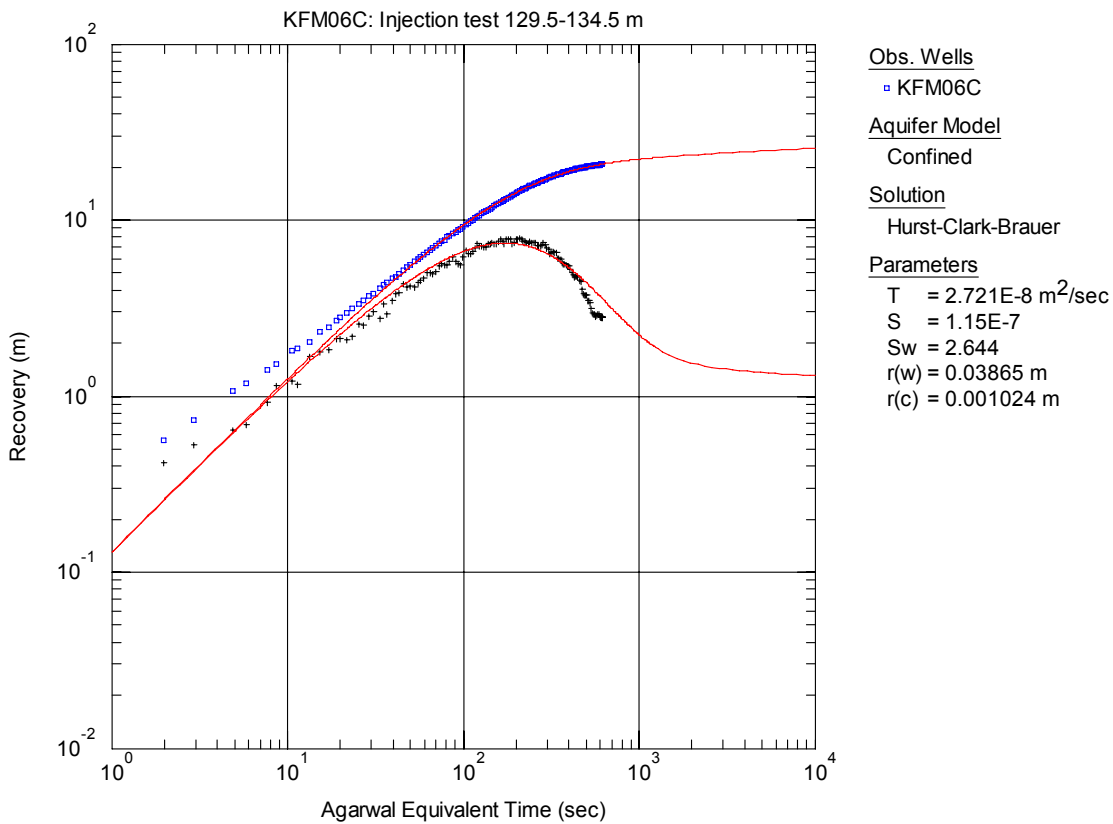
**Figure A3-241.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 129.5-134.5 m in borehole KFM06C.



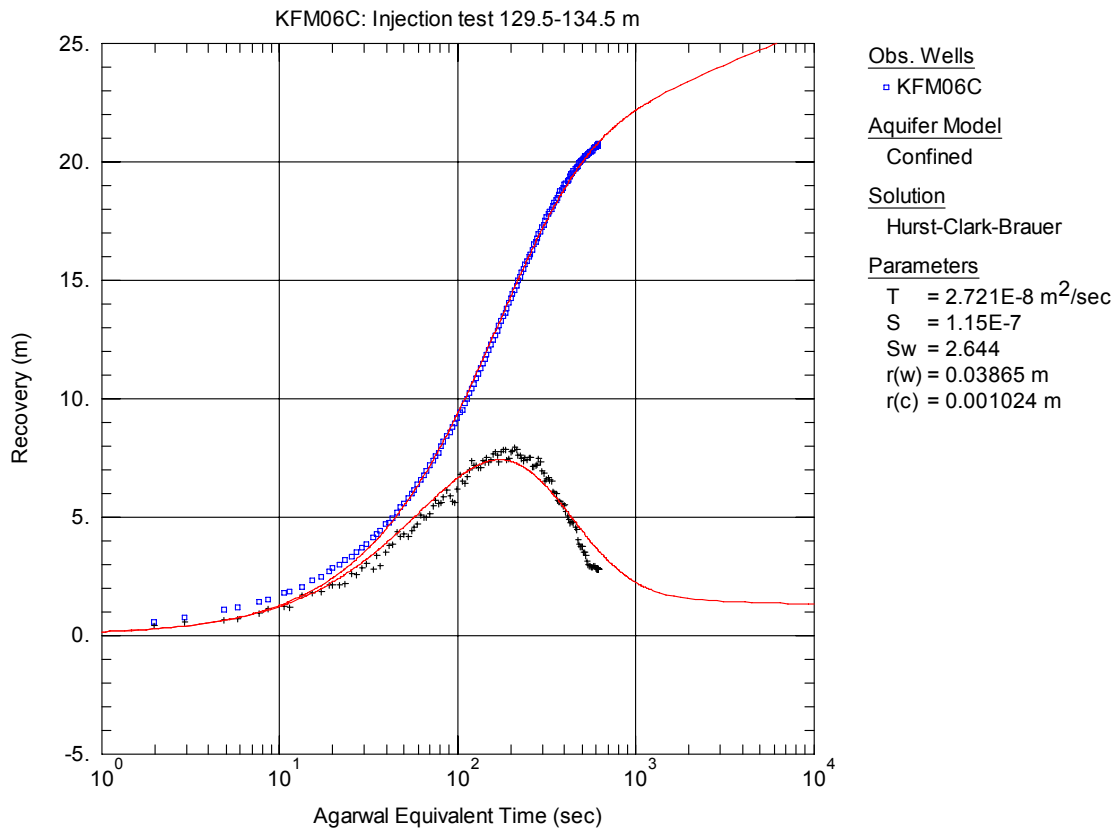
**Figure A3-242.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 129.5-134.5 m in KFM06C.



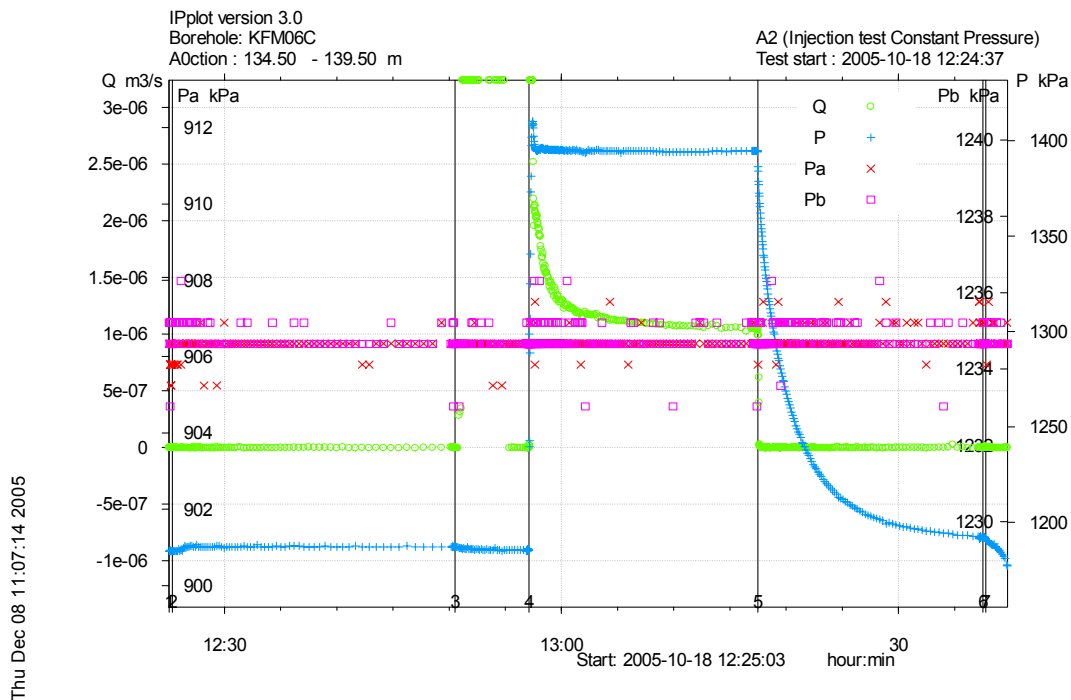
**Figure A3-243.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 129.5-134.5 m in KFM06C.



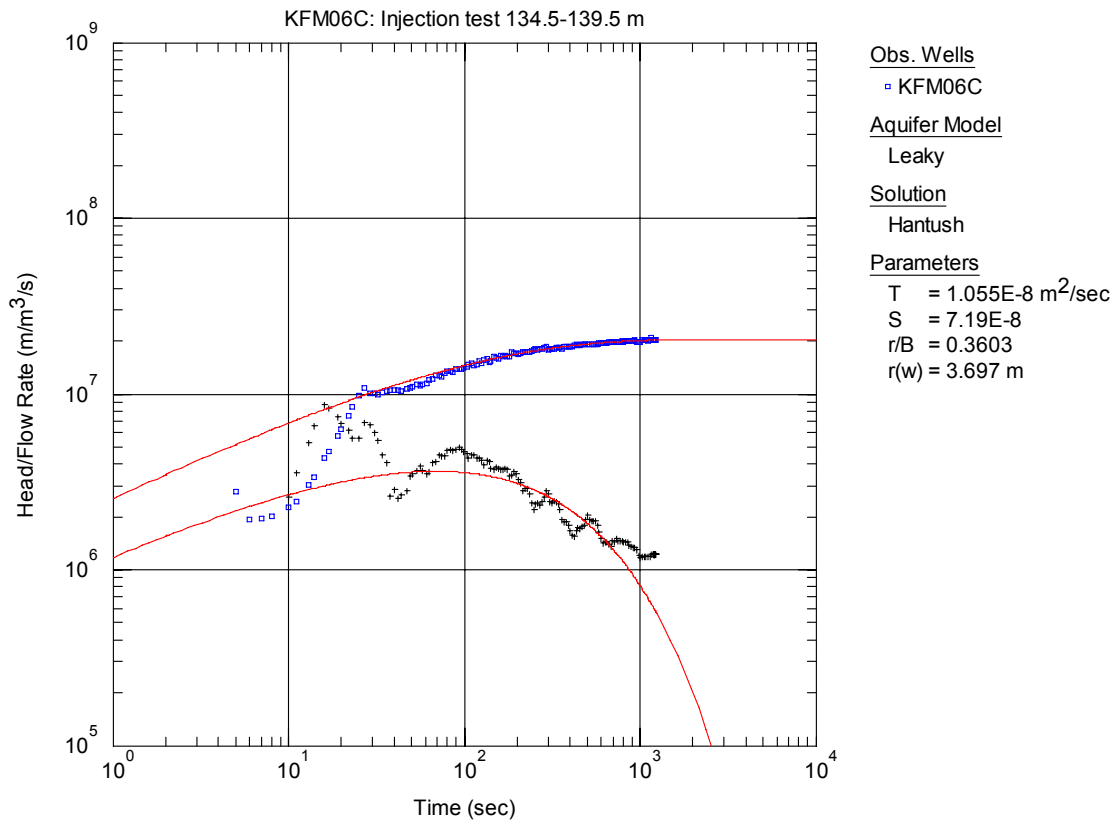
**Figure A3-244.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 129.5-134.5 m in KFM06C.



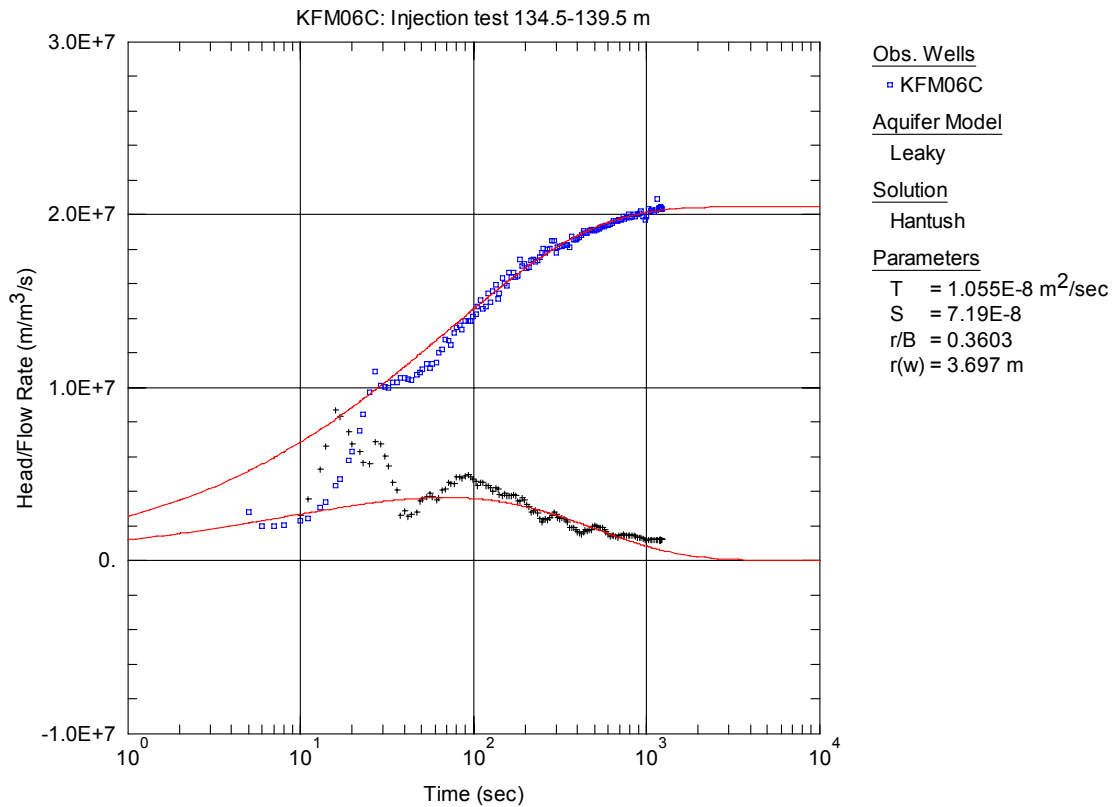
**Figure A3-245.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 129.5-134.5 m in KFM06C.



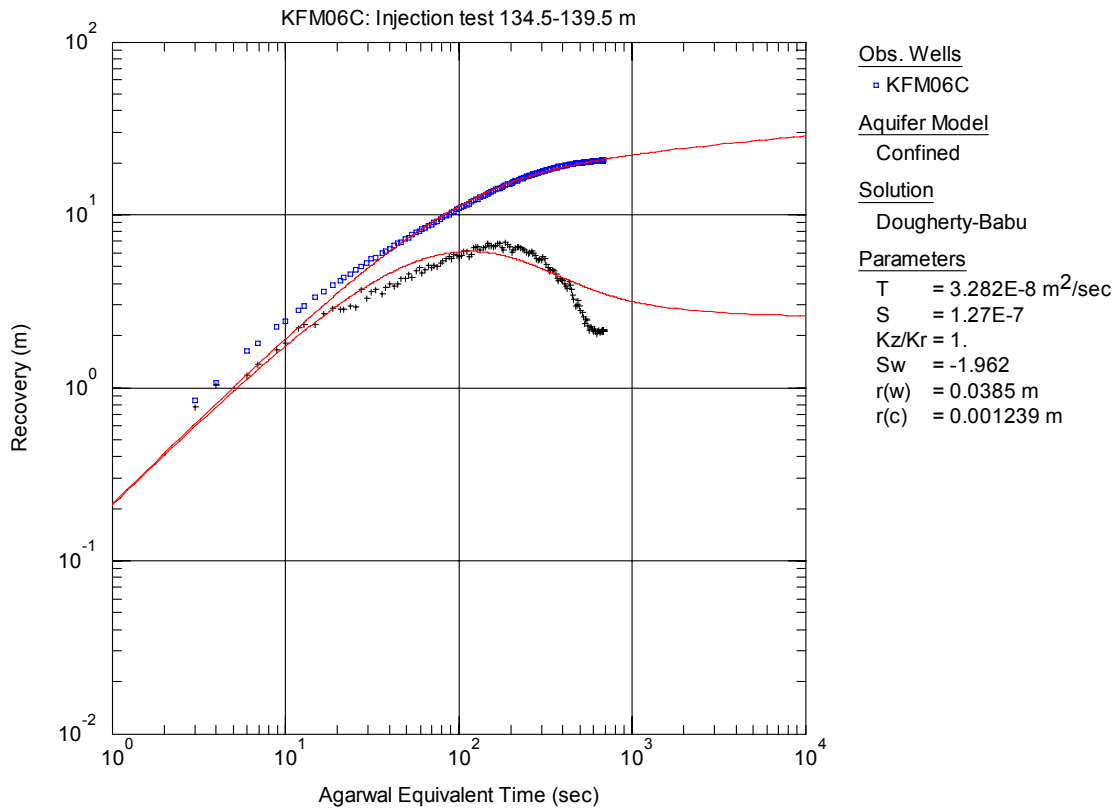
**Figure A3-246.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 134.5-139.5 m in borehole KFM06C.



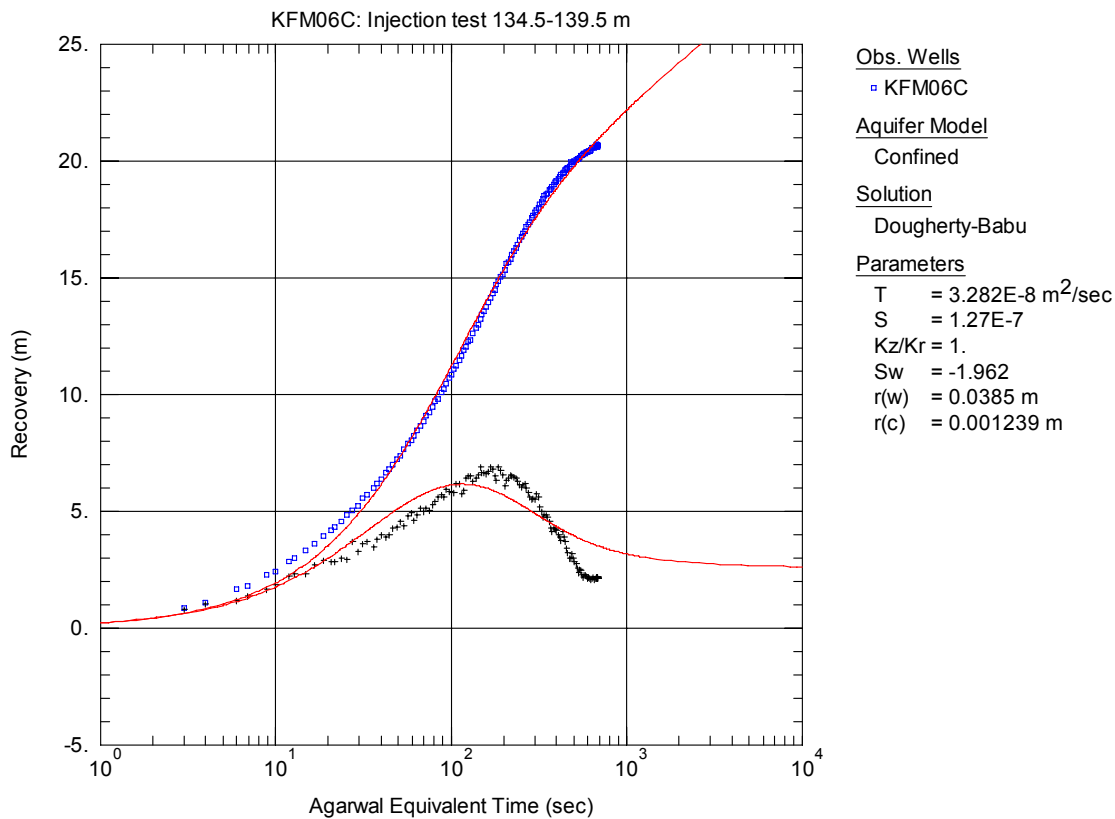
**Figure A3-247.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 134.5-139.5 m in KFM06C.



**Figure A3-248.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 134.5-139.5 m in KFM06C.

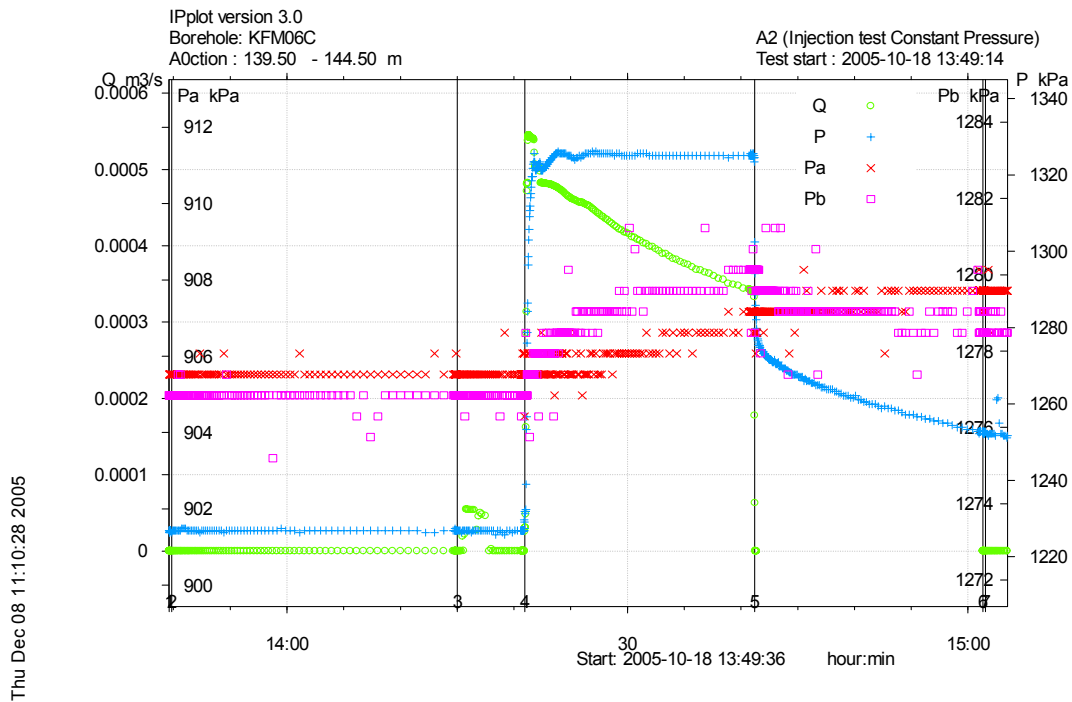


**Figure A3-249.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 134.5-139.5 m in KFM06C.

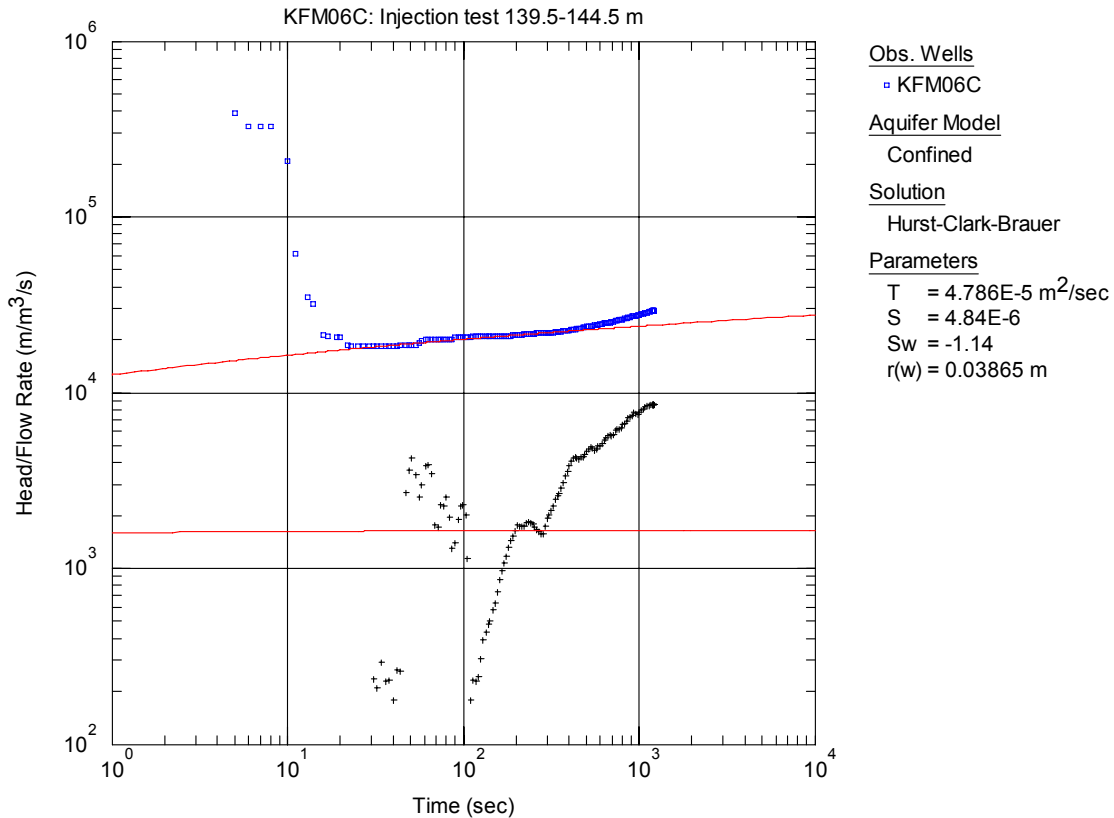


**Figure A3-250.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 134.5-139.5 m in KFM06C.

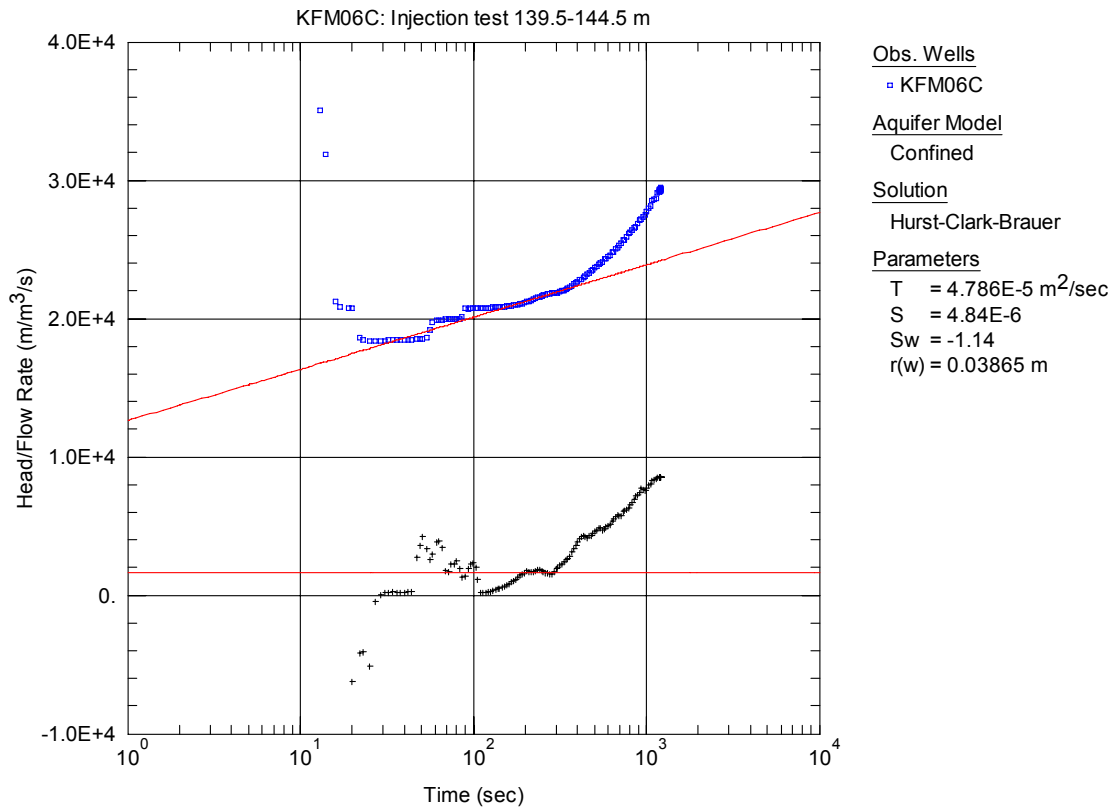




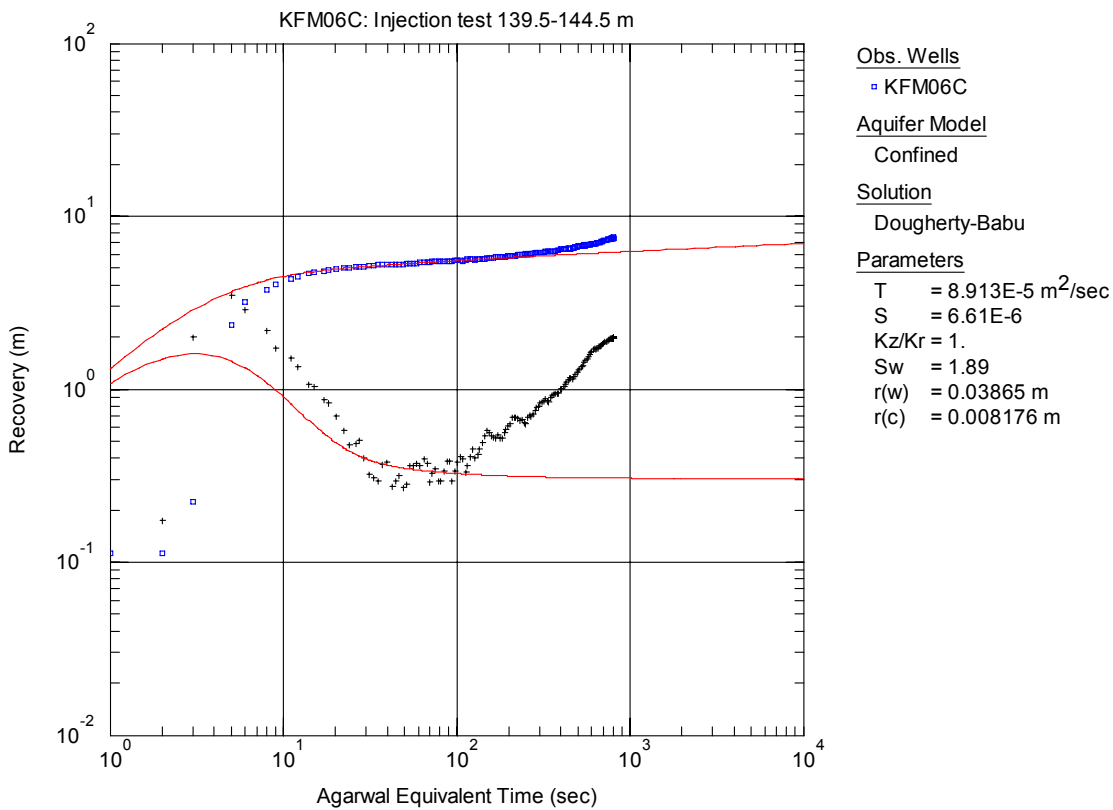
**Figure A3-251.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 139.5-144.5 m in borehole KFM06C.



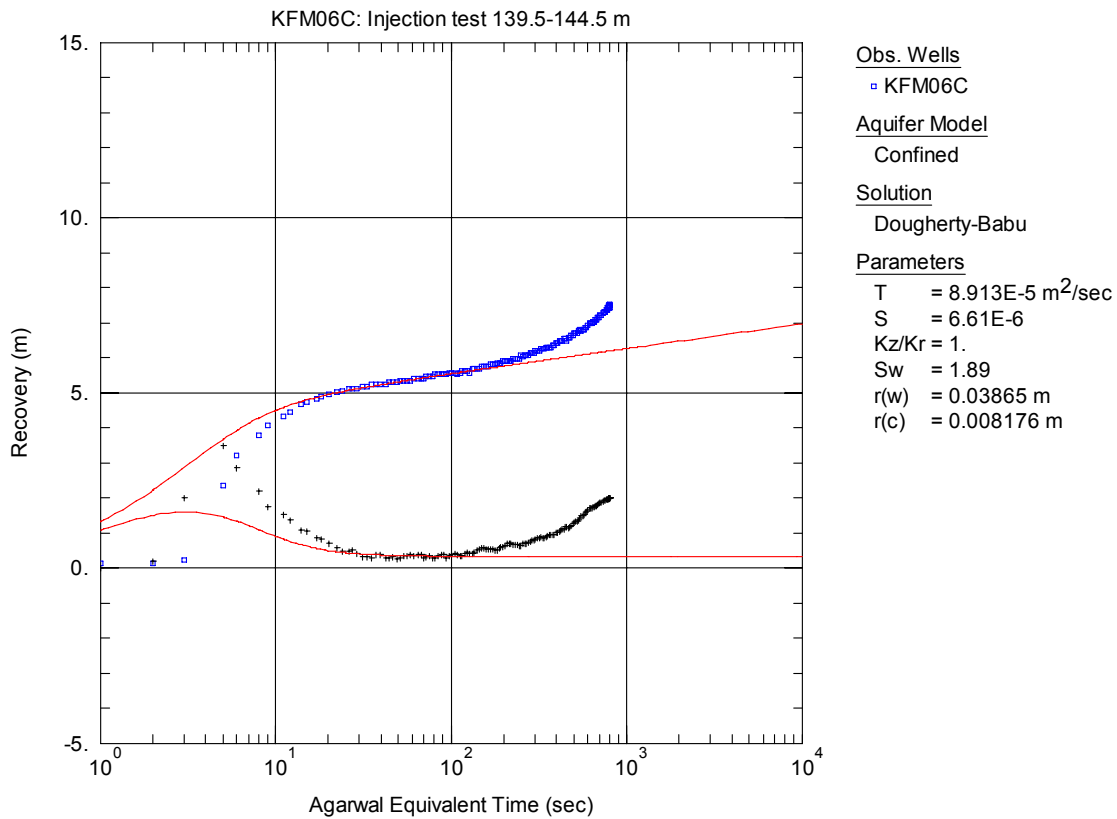
**Figure A3-252.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 139.5-144.5 m in KFM06C.



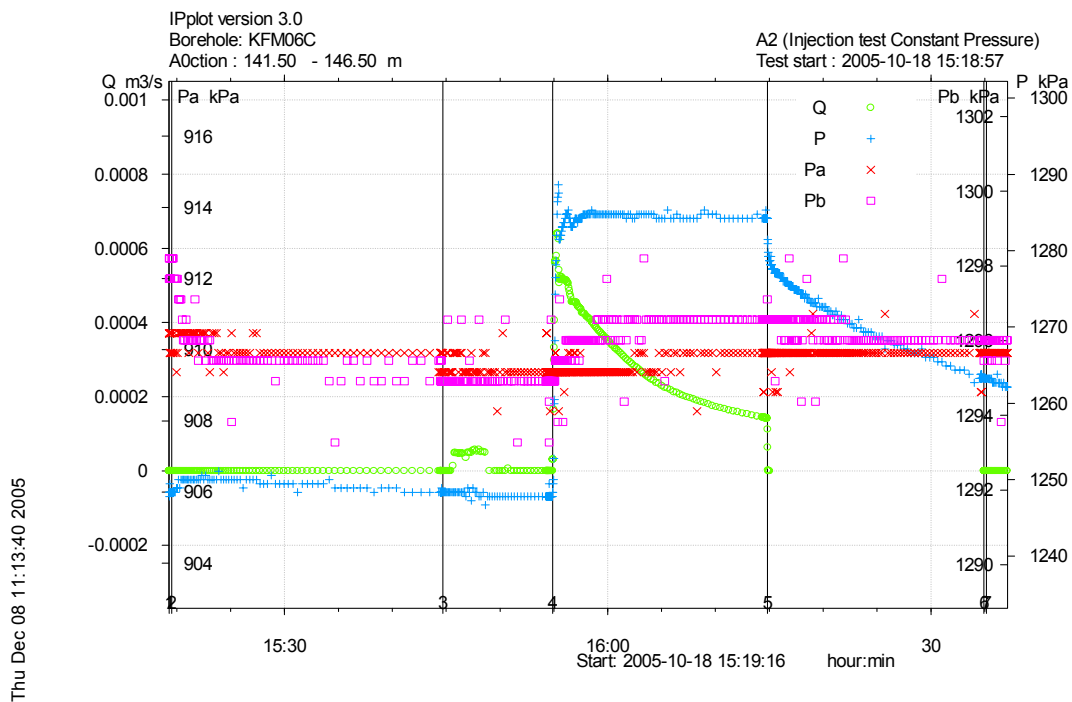
**Figure A3-253.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 139.5-144.5 m in KFM06C.



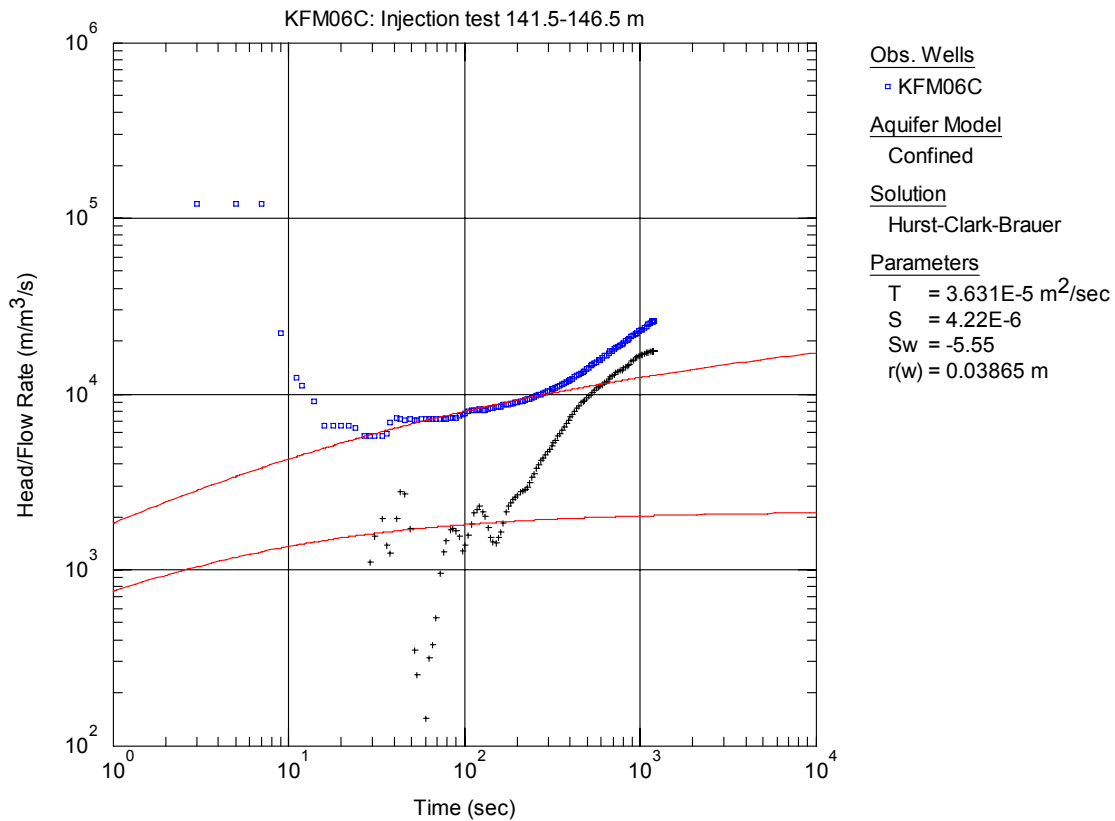
**Figure A3-254.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 139.5-144.5 m in KFM06C.



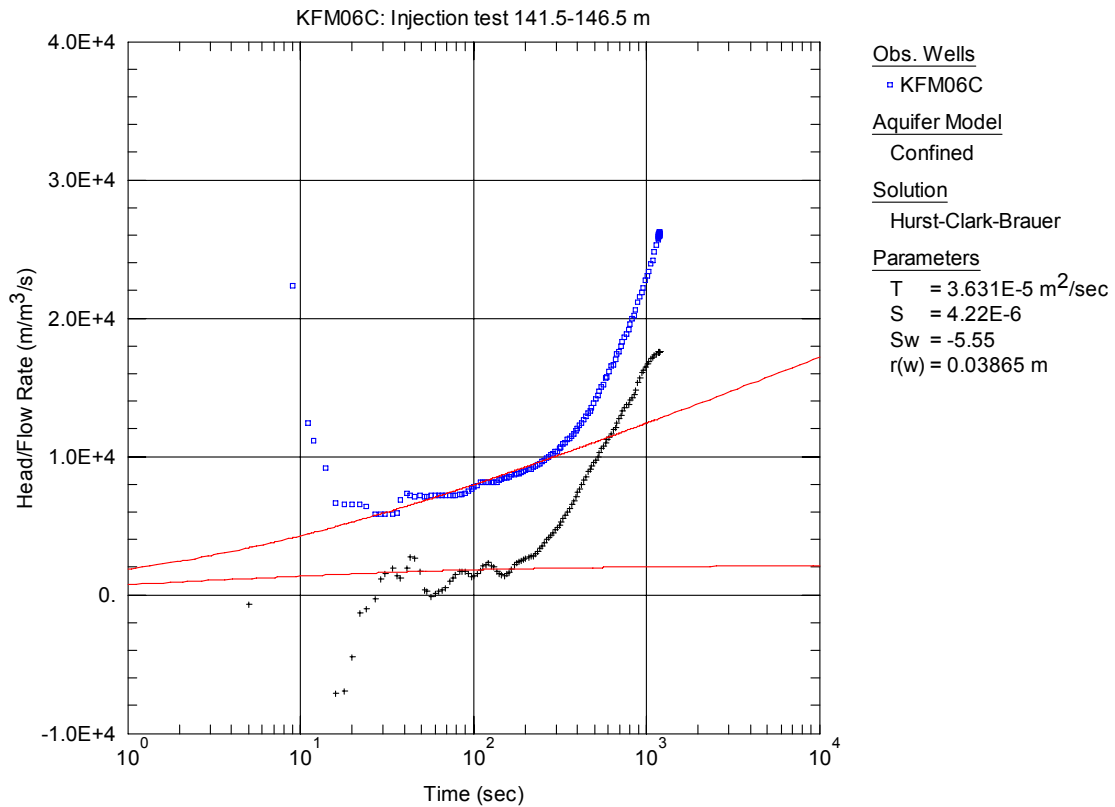
**Figure A3-255.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 139.5-144.5 m in KFM06C.



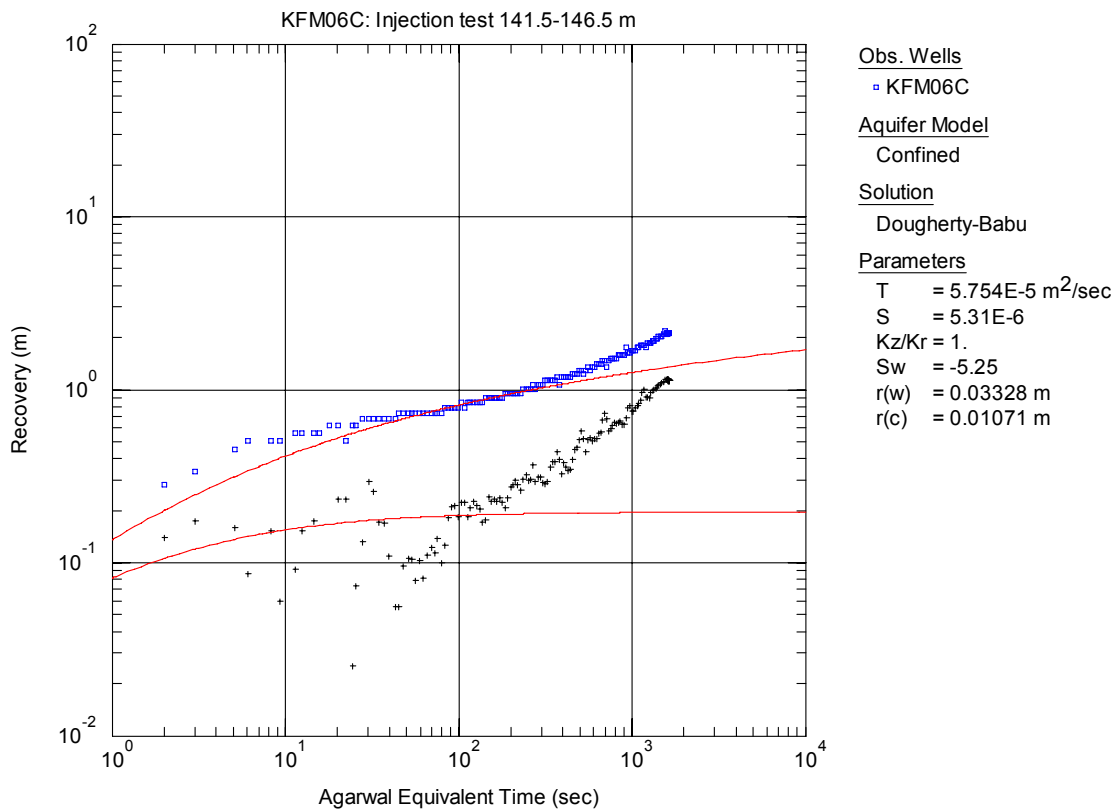
**Figure A3-256.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 141.5-146.5 m in borehole KFM06C.



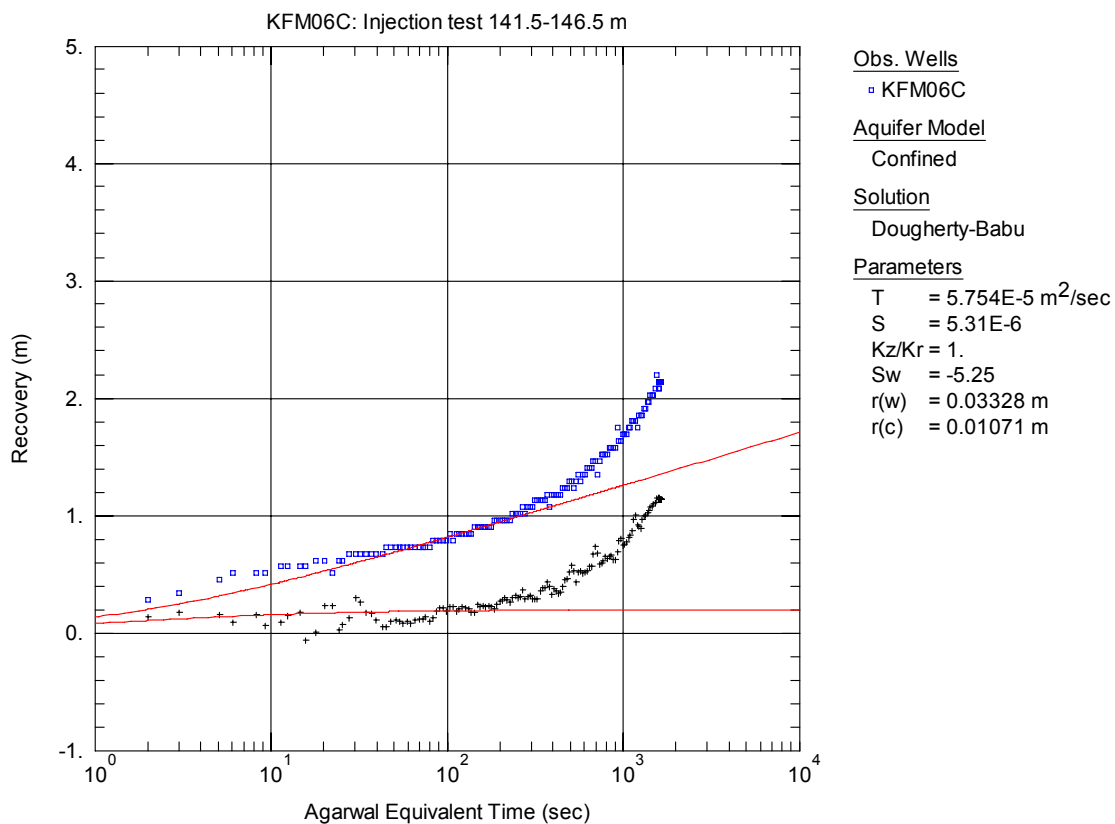
**Figure A3-257.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 141.5-146.5 m in KFM06C.



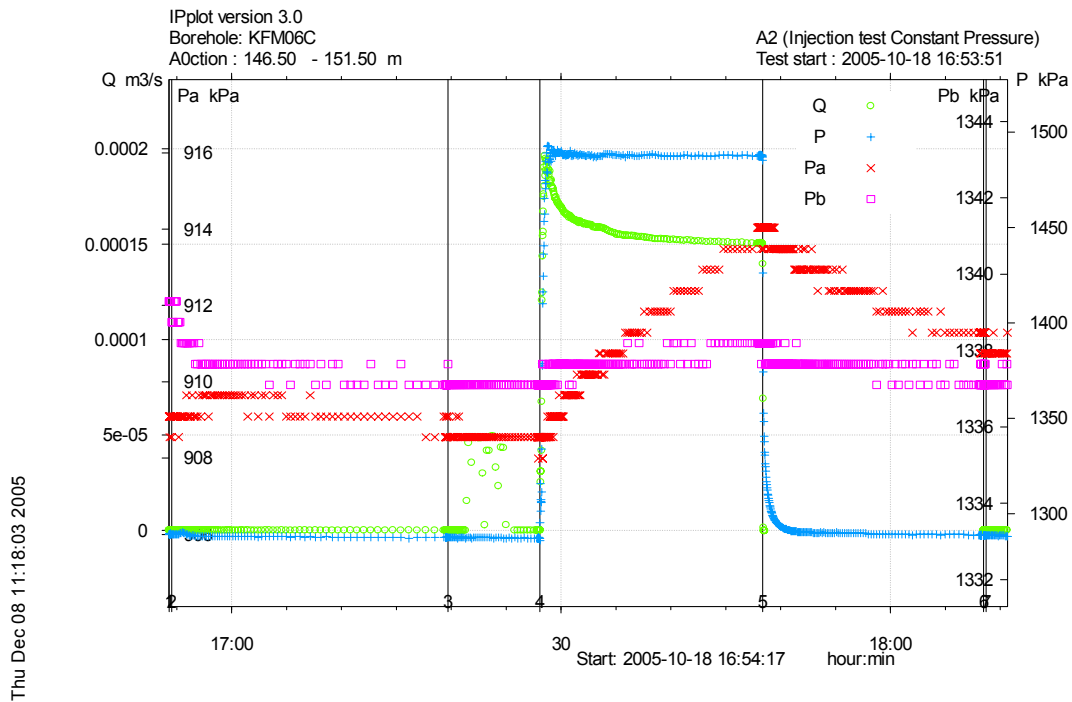
**Figure A3-258.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 141.5-146.5 m in KFM06C.



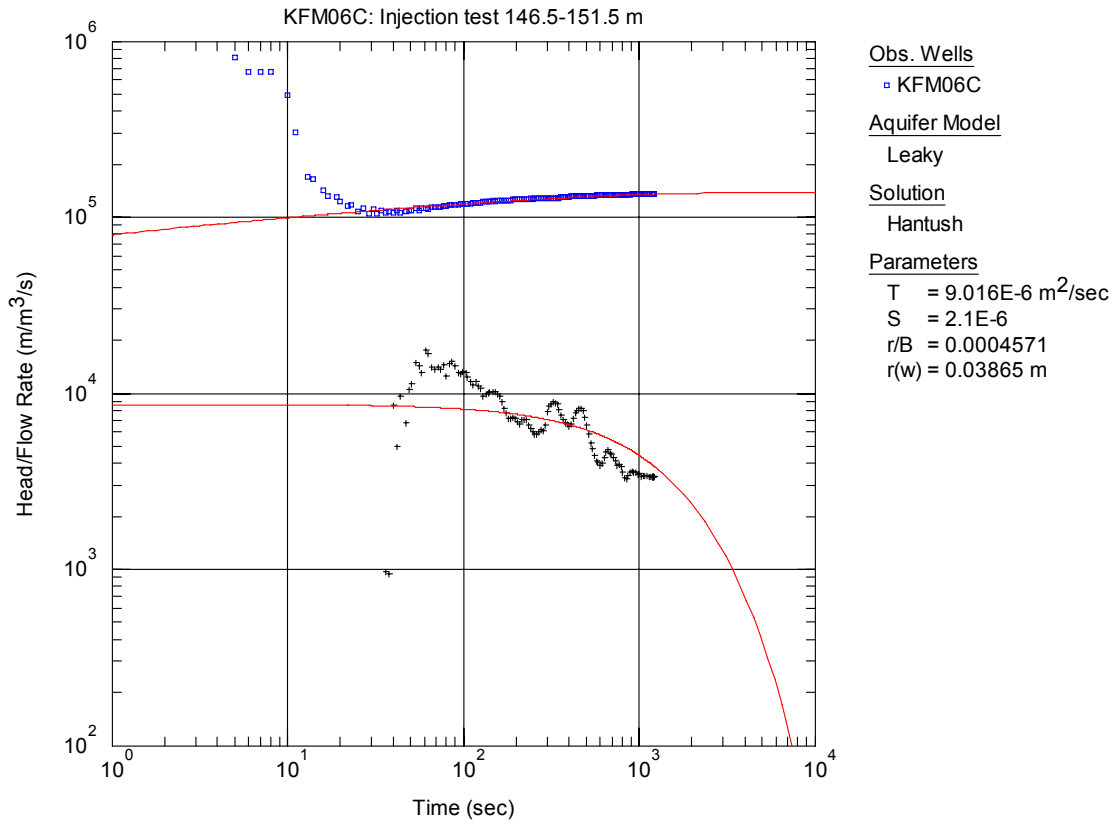
**Figure A3-259.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 141.5-146.5 m in KFM06C.



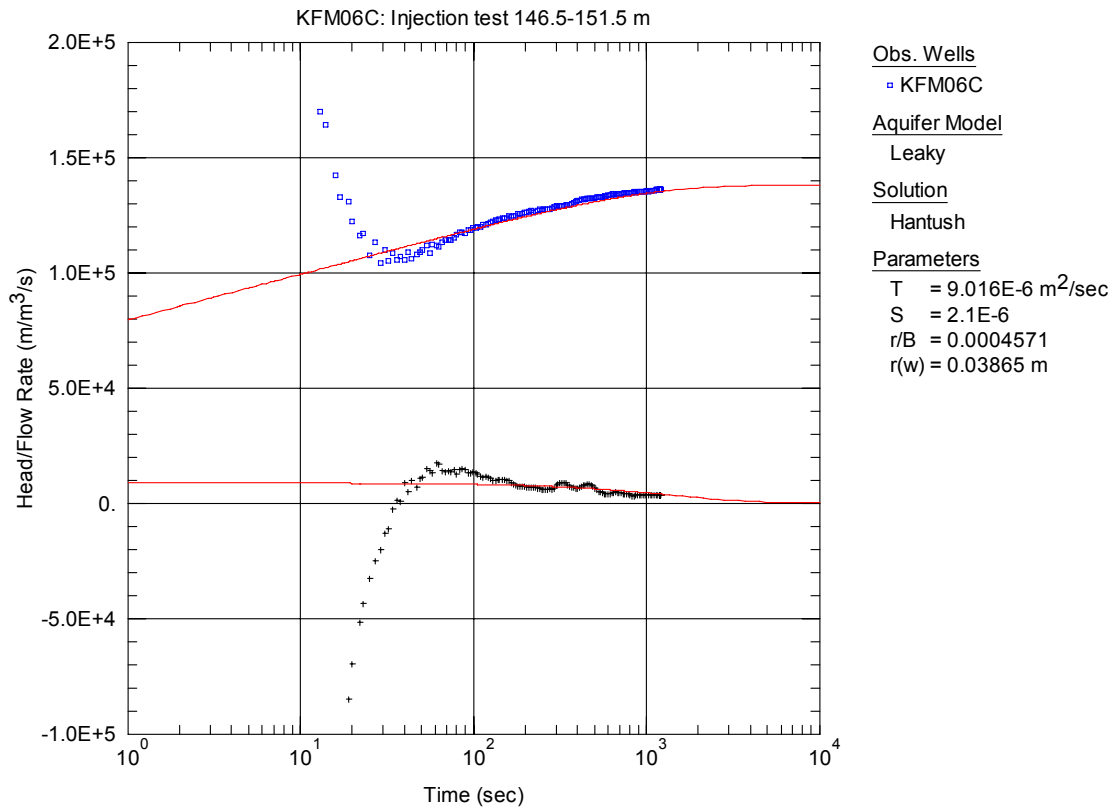
**Figure A3-260.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 141.5-146.5 m in KFM06C.



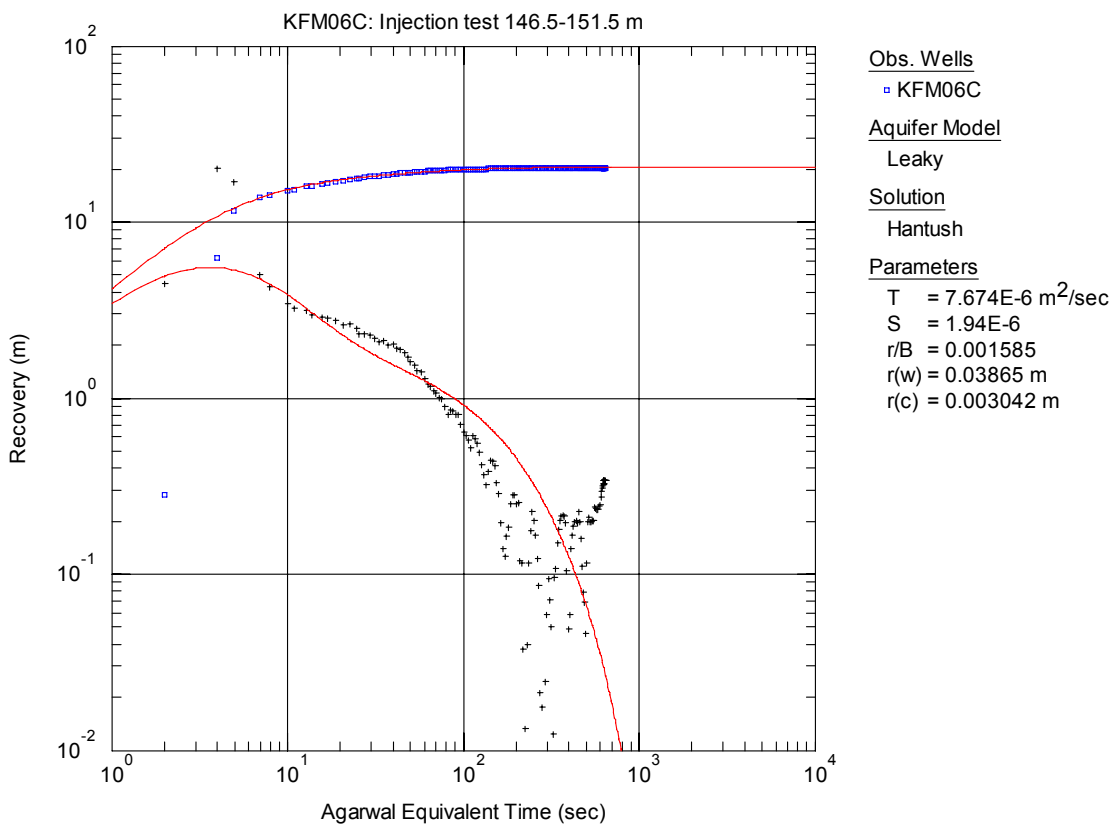
**Figure A3-261.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 146.5-151.5 m in borehole KFM06C.



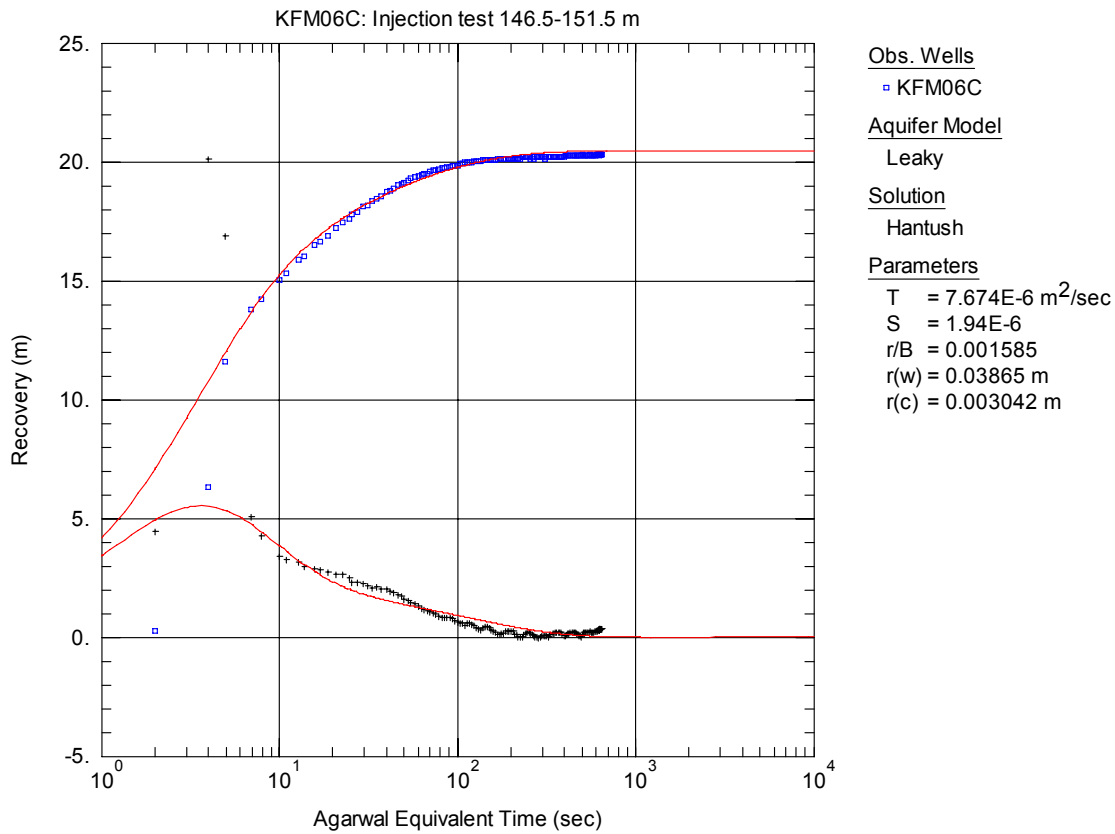
**Figure A3-262.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 146.5-151.5 m in KFM06C.



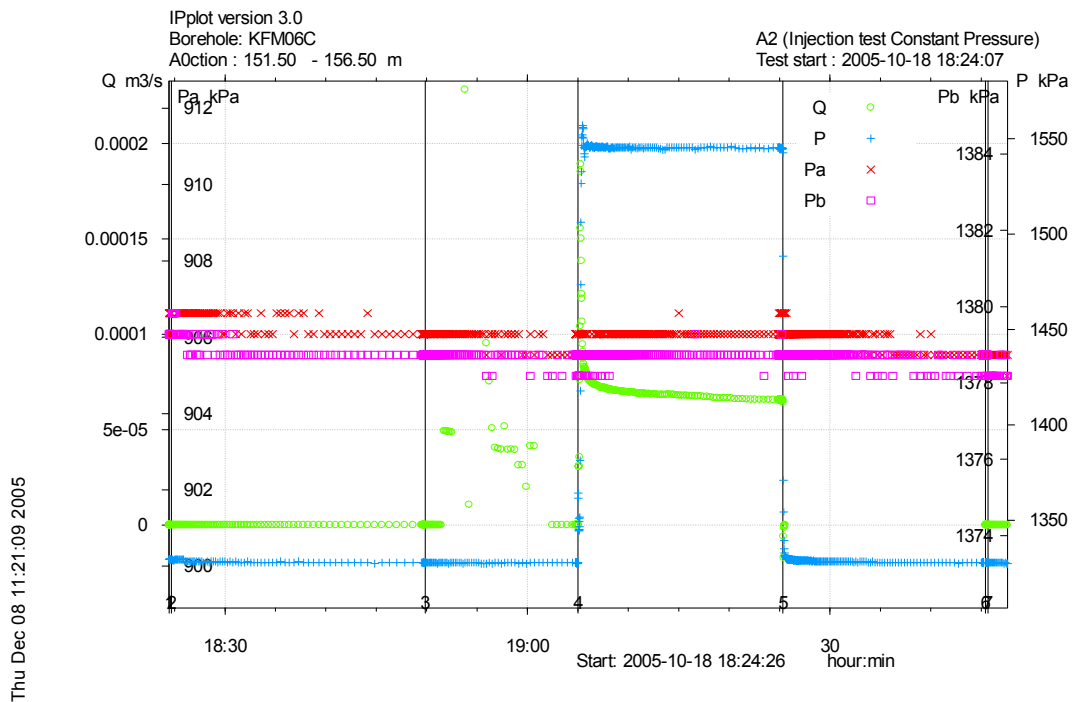
**Figure A3-263.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 146.5-151.5 m in KFM06C.



**Figure A3-264.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 146.5-151.5 m in KFM06C.

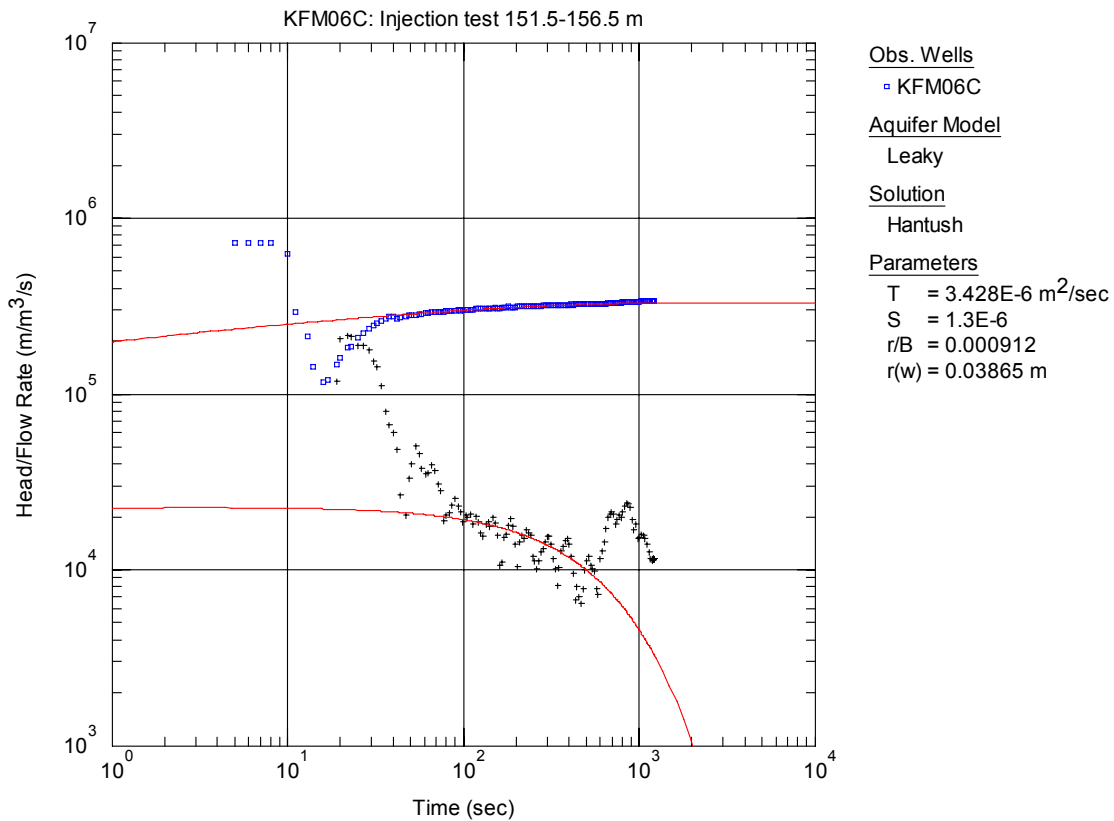


**Figure A3-265.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 146.5-151.5 m in KFM06C.

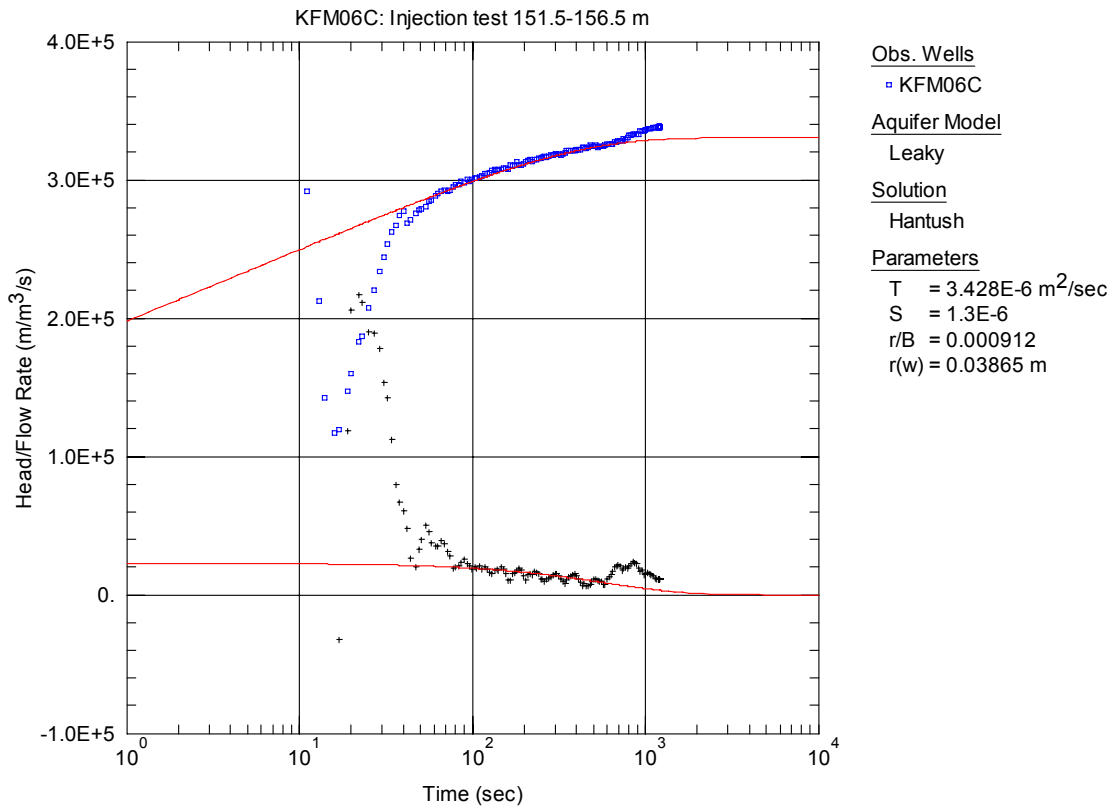


**Figure A3-266.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 151.5-156.5 m in borehole KFM06C.

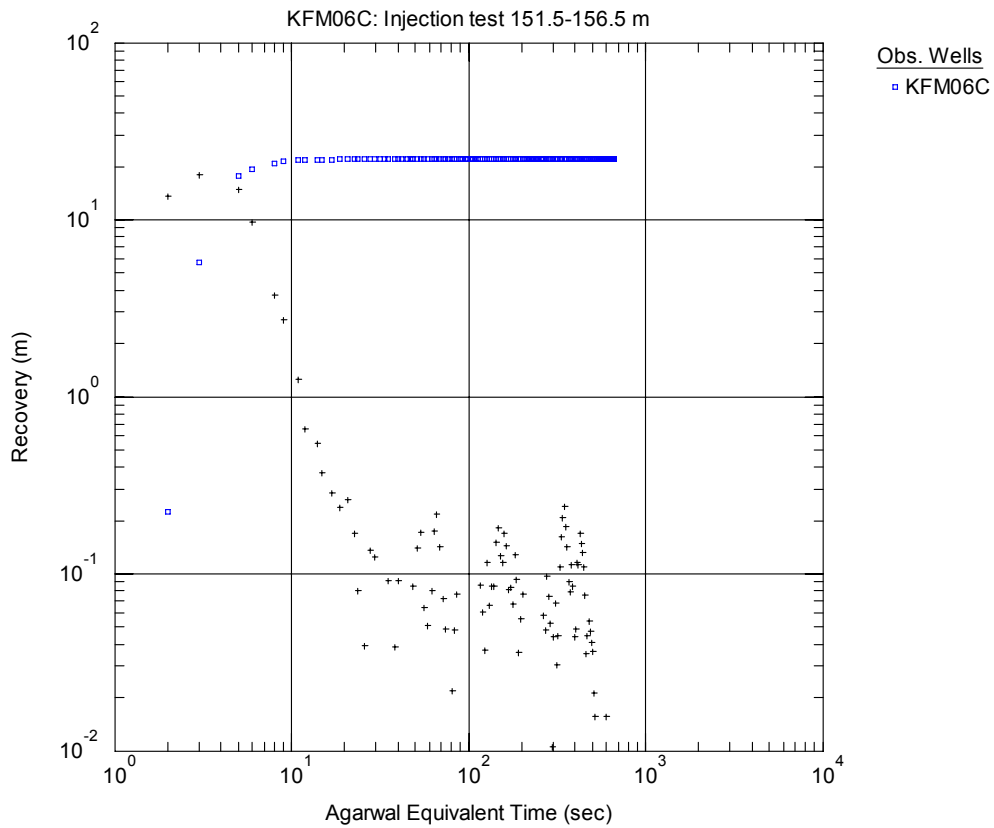




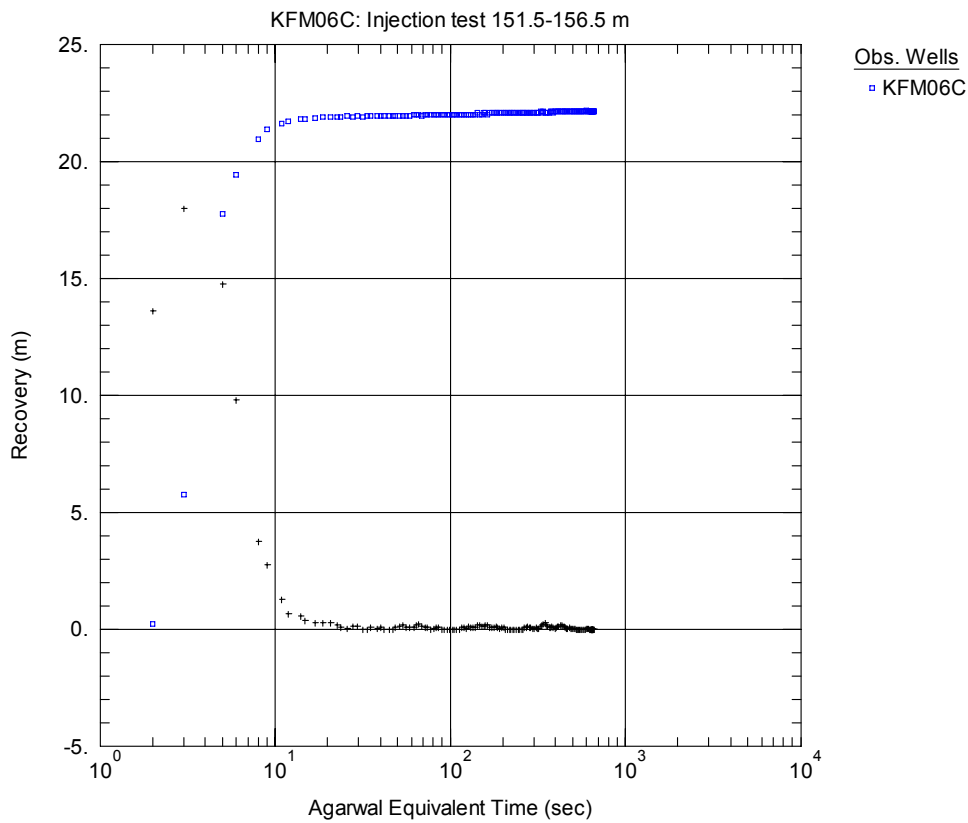
**Figure A3-267.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 151.5-156.5 m in KFM06C.



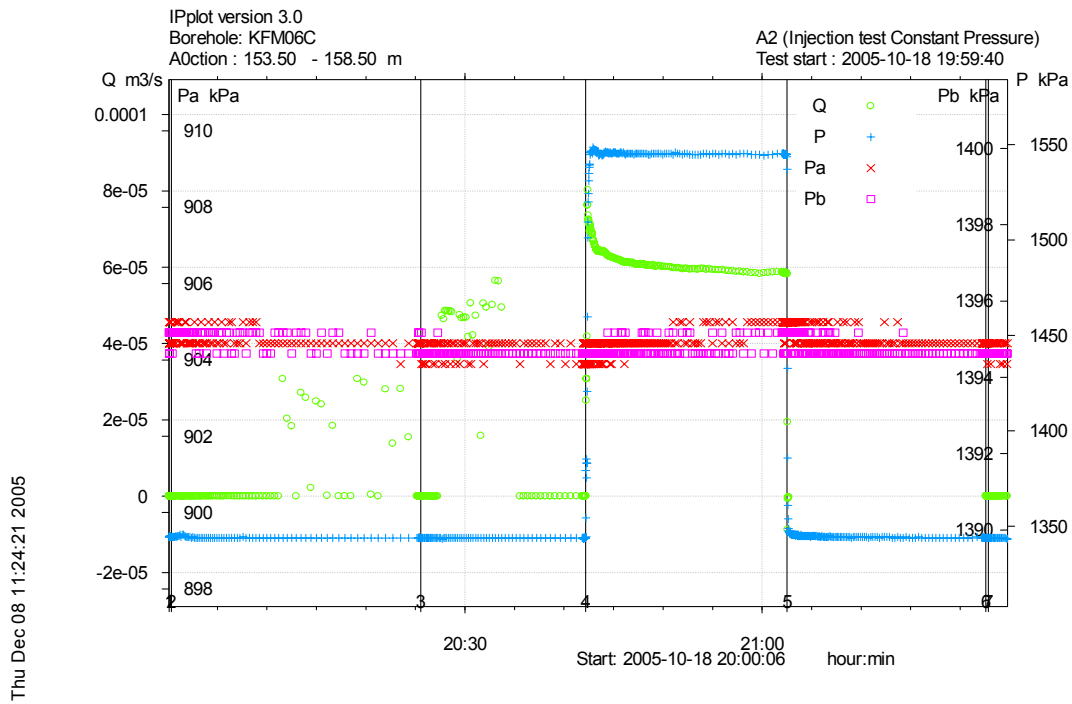
**Figure A3-268.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 151.5-156.5 m in KFM06C.



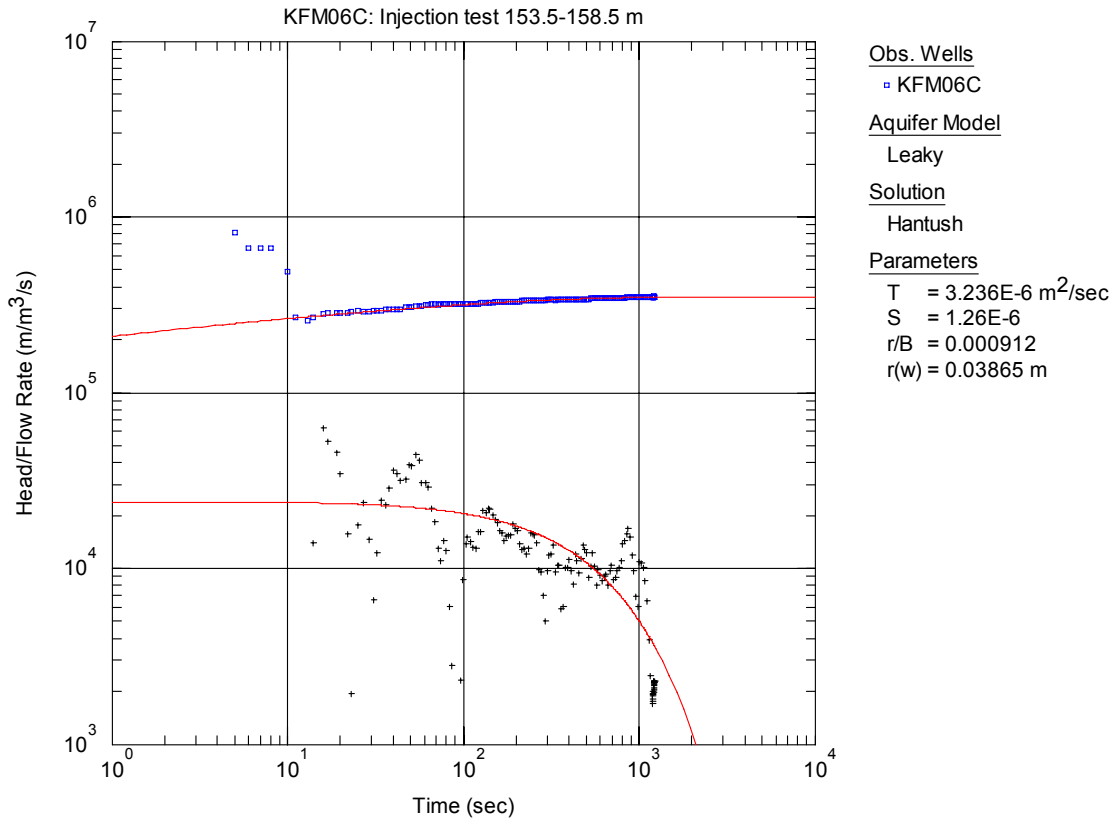
**Figure A3-269.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 151.5-156.5 m in KFM06C.



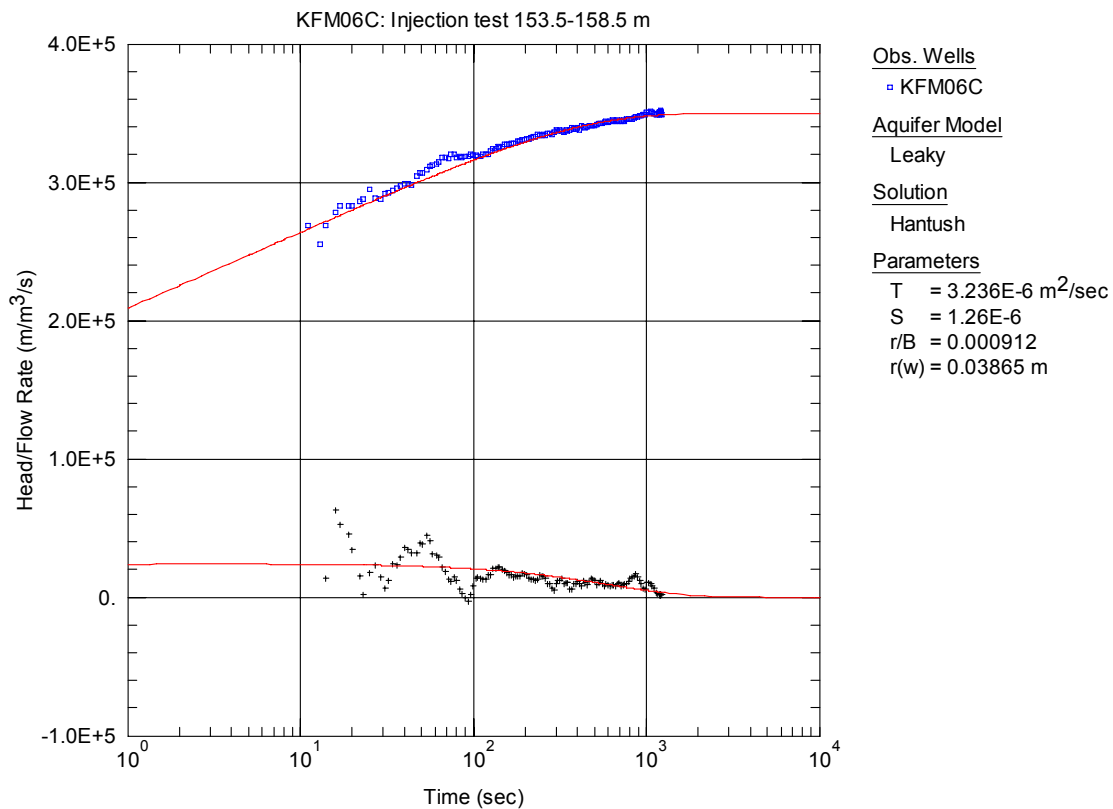
**Figure A3-270.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 151.5-156.5 m in KFM06C.



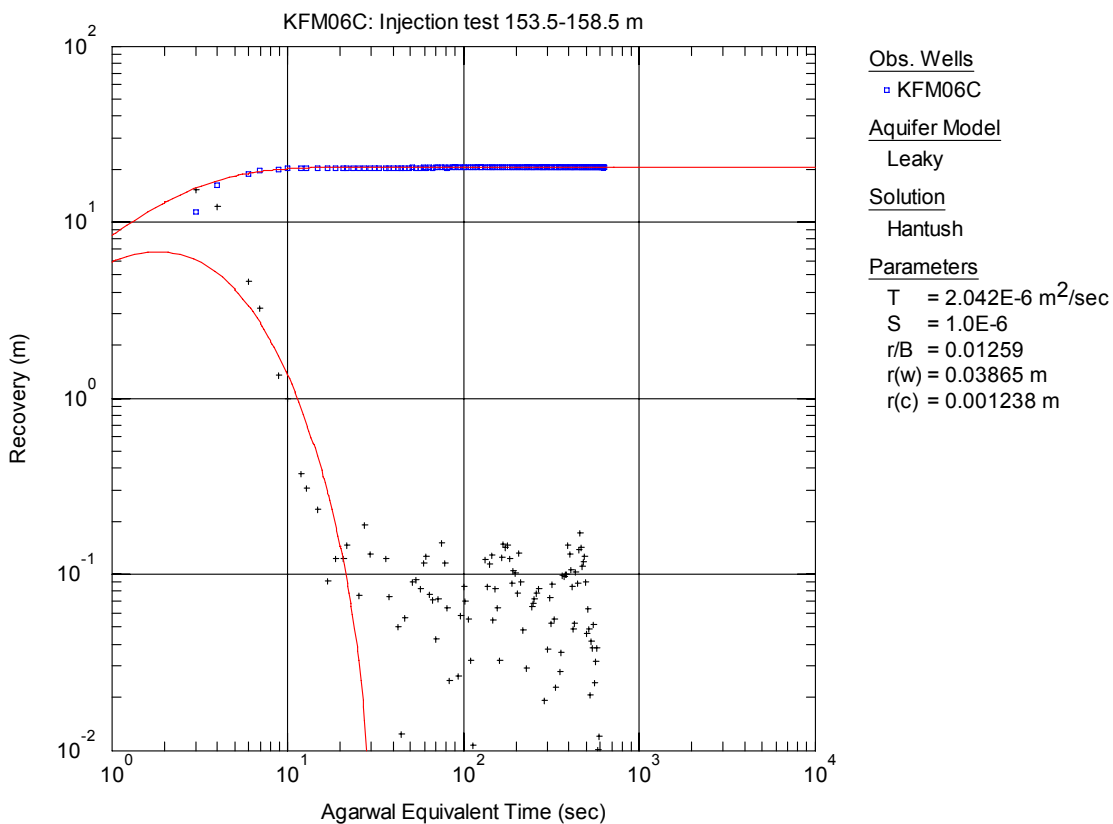
**Figure A3-271.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 153.5-158.5 m in borehole KFM06C.



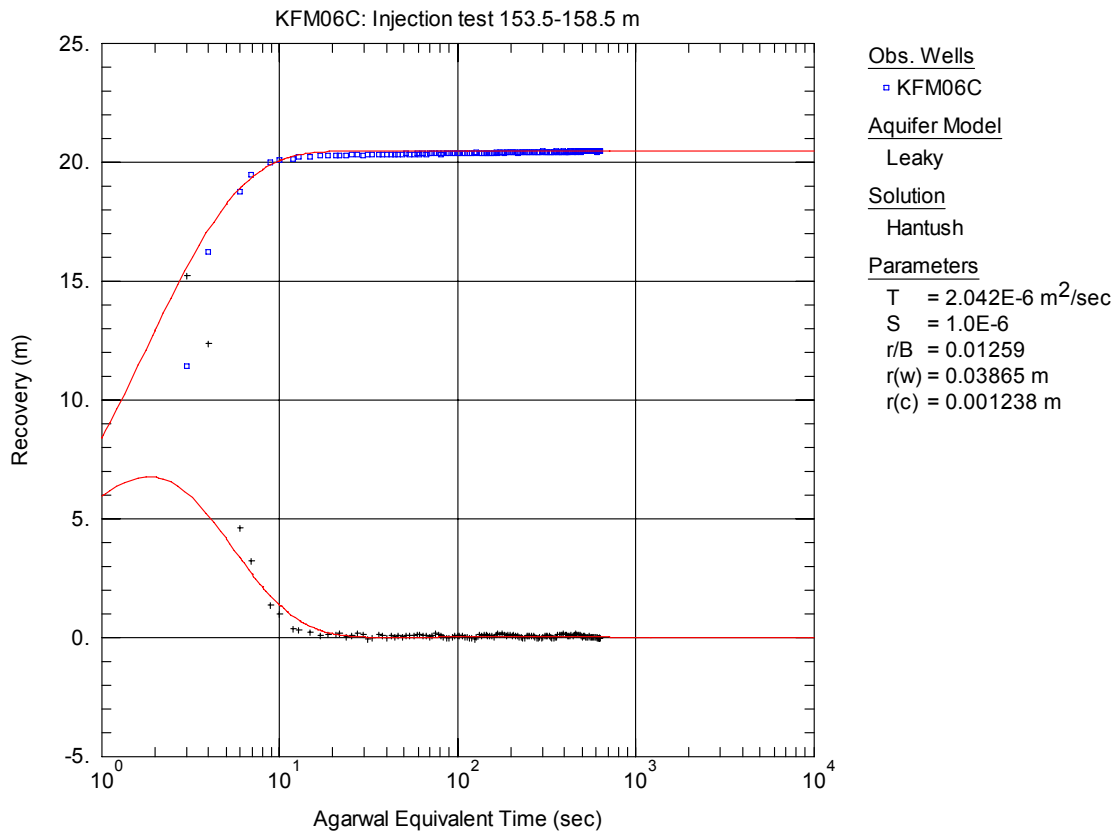
**Figure A3-272.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 153.5-158.5 m in KFM06C.



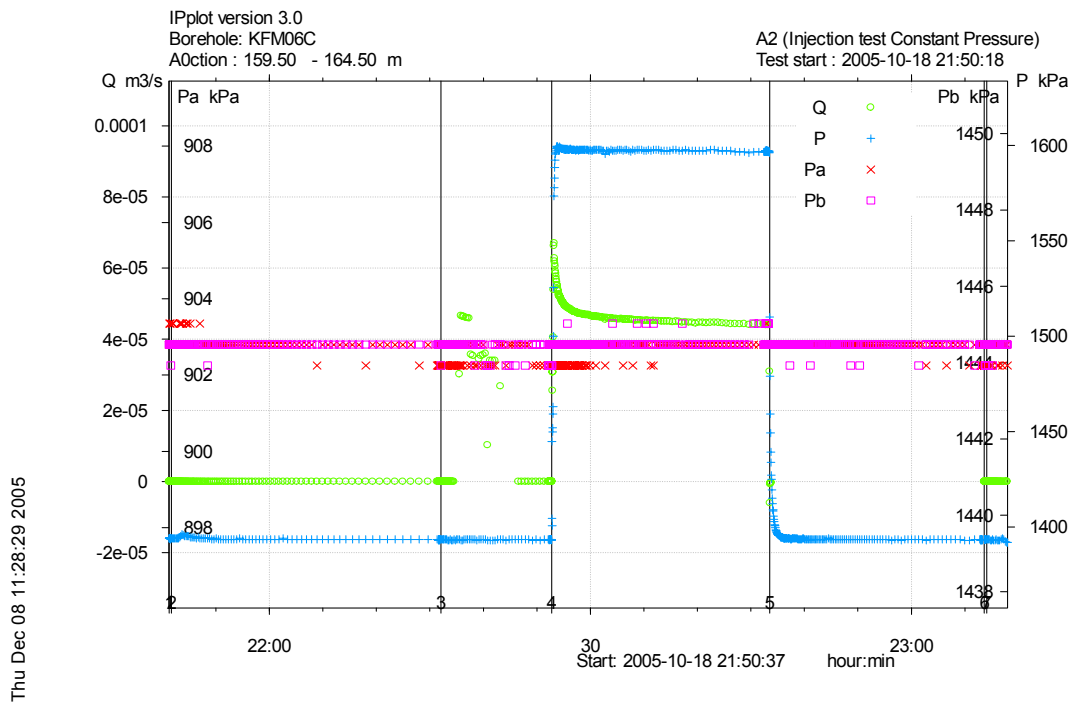
**Figure A3-273.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 153.5-158.5 m in KFM06C.



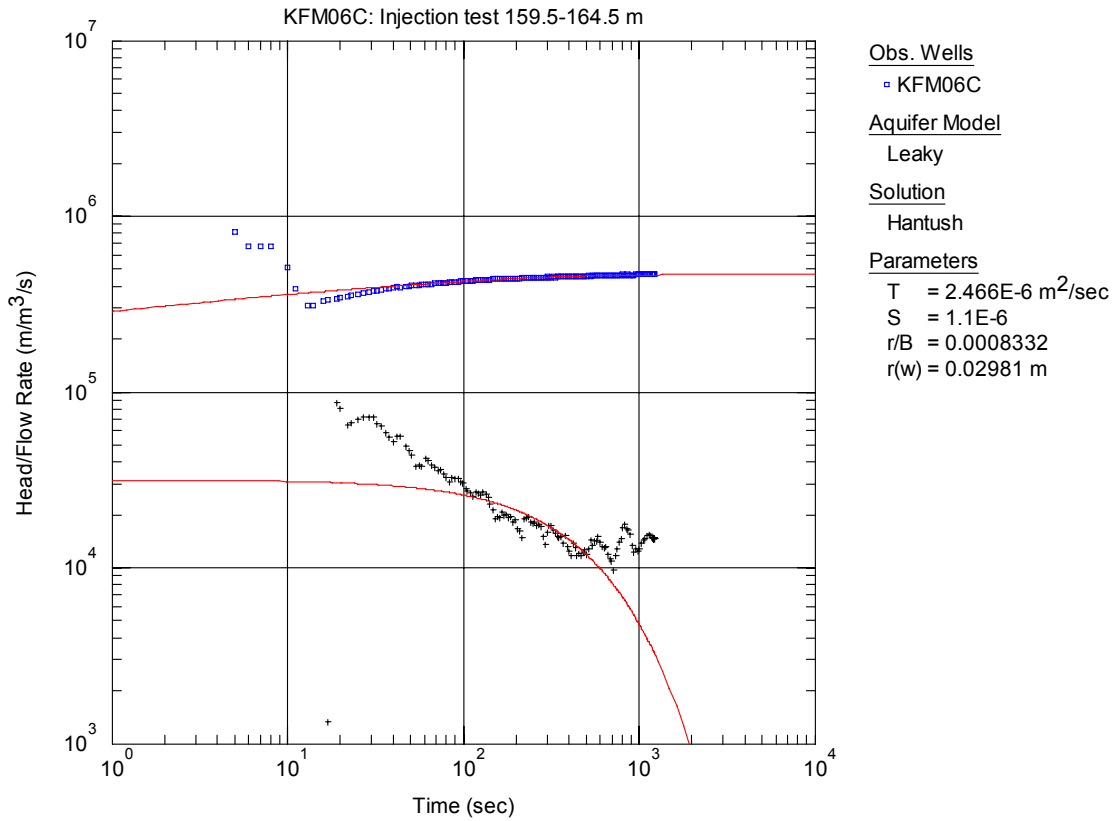
**Figure A3-274.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 153.5-158.5 m in KFM06C.



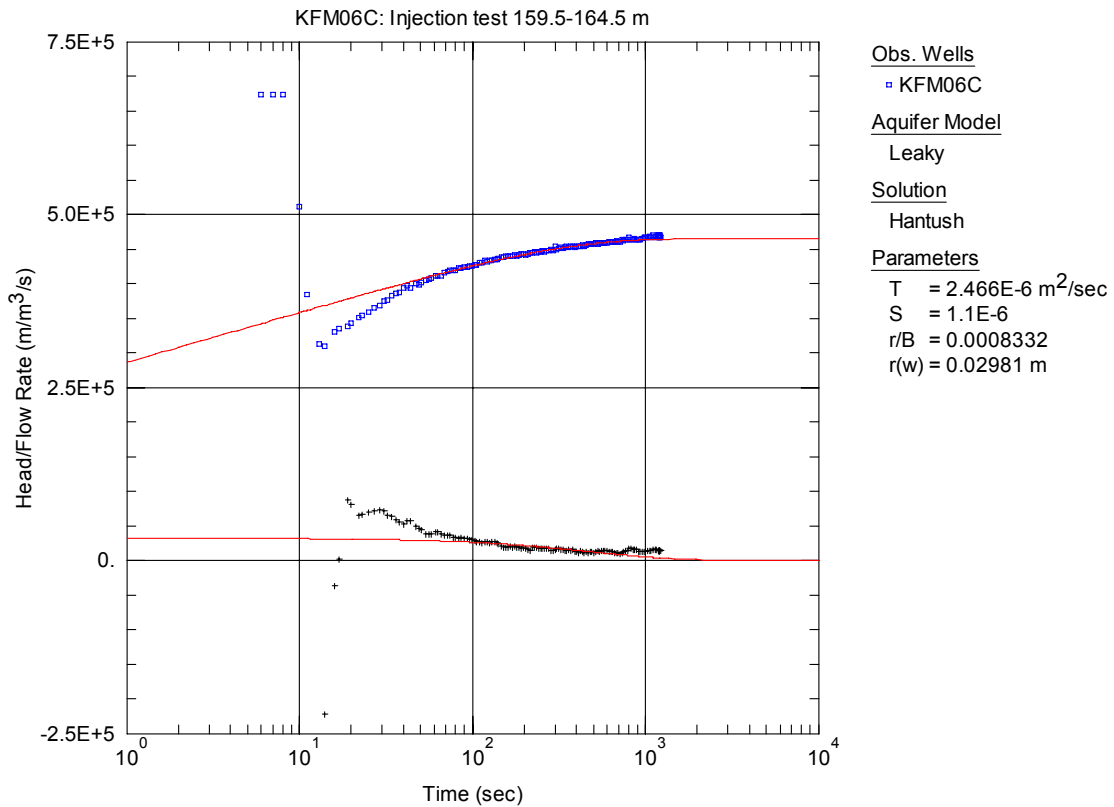
**Figure A3-275.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 153.5-158.5 m in KFM06C.



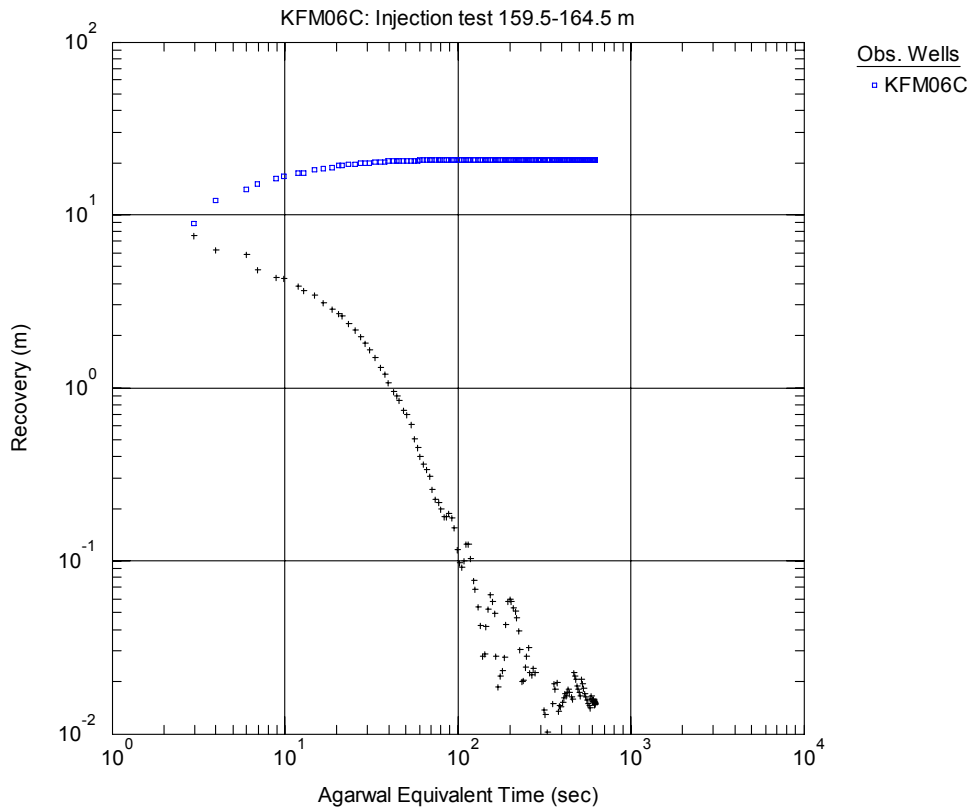
**Figure A3-276.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 159.5-164.5 m in borehole KFM06C.



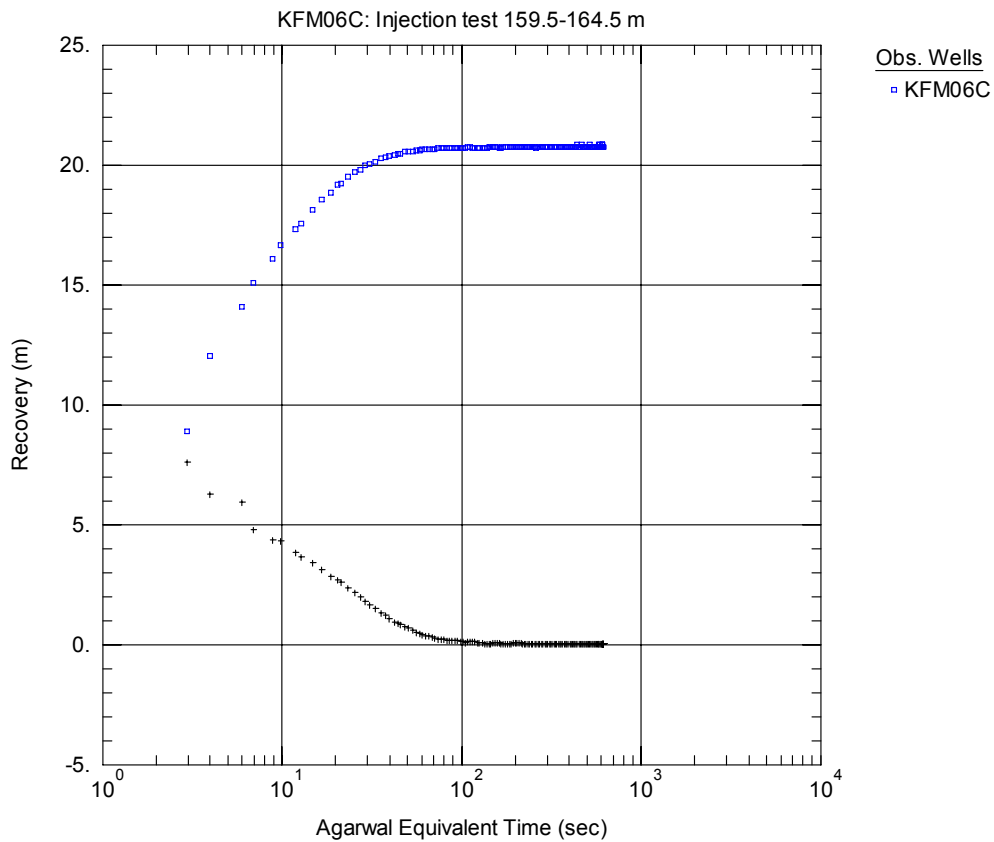
**Figure A3-277.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 159.5-164.5 m in KFM06C.



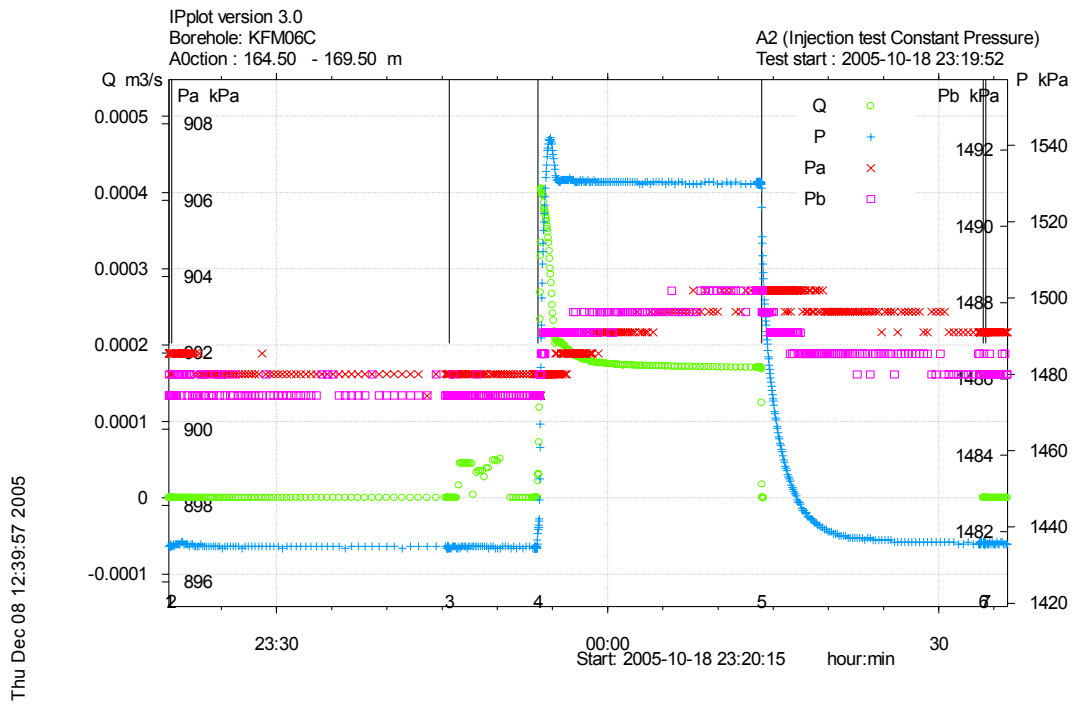
**Figure A3-278.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 159.5-164.5 m in KFM06C.



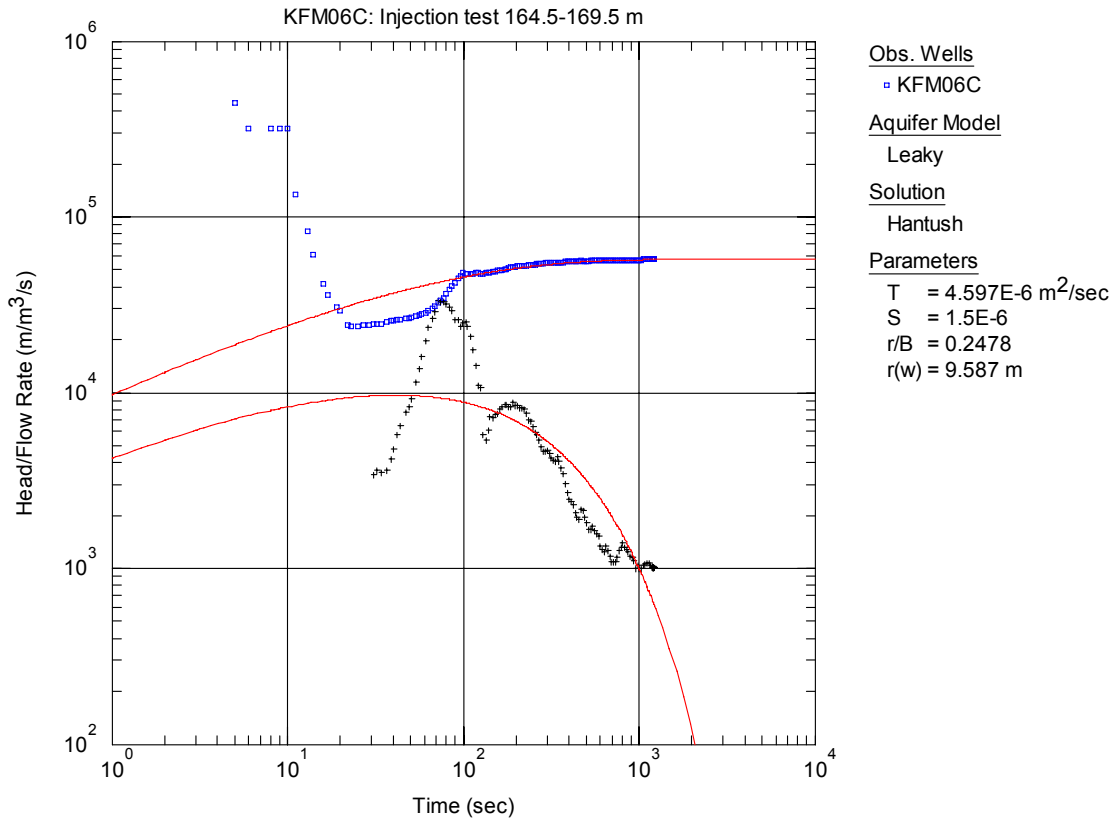
**Figure A3-279.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 159.5-164.5 m in KFM06C.



**Figure A3-280.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 159.5-164.5 m in KFM06C.

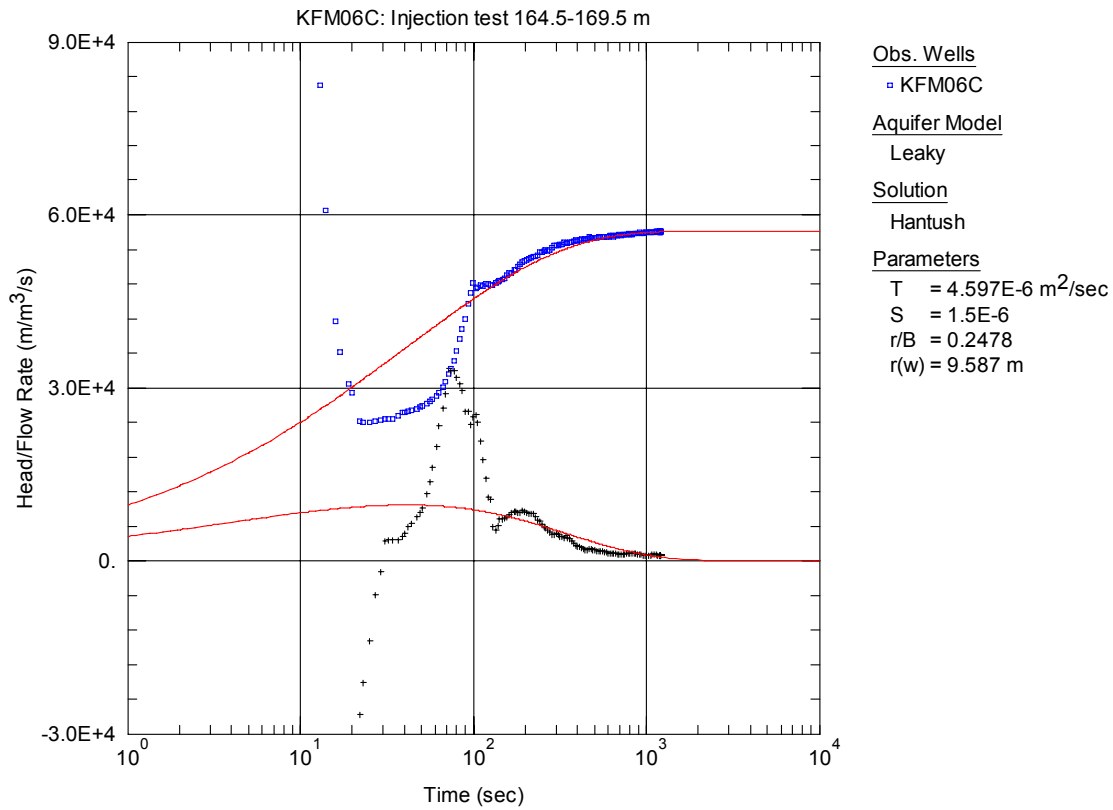


**Figure A3-281.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 164.5-169.5 m in borehole KFM06C.

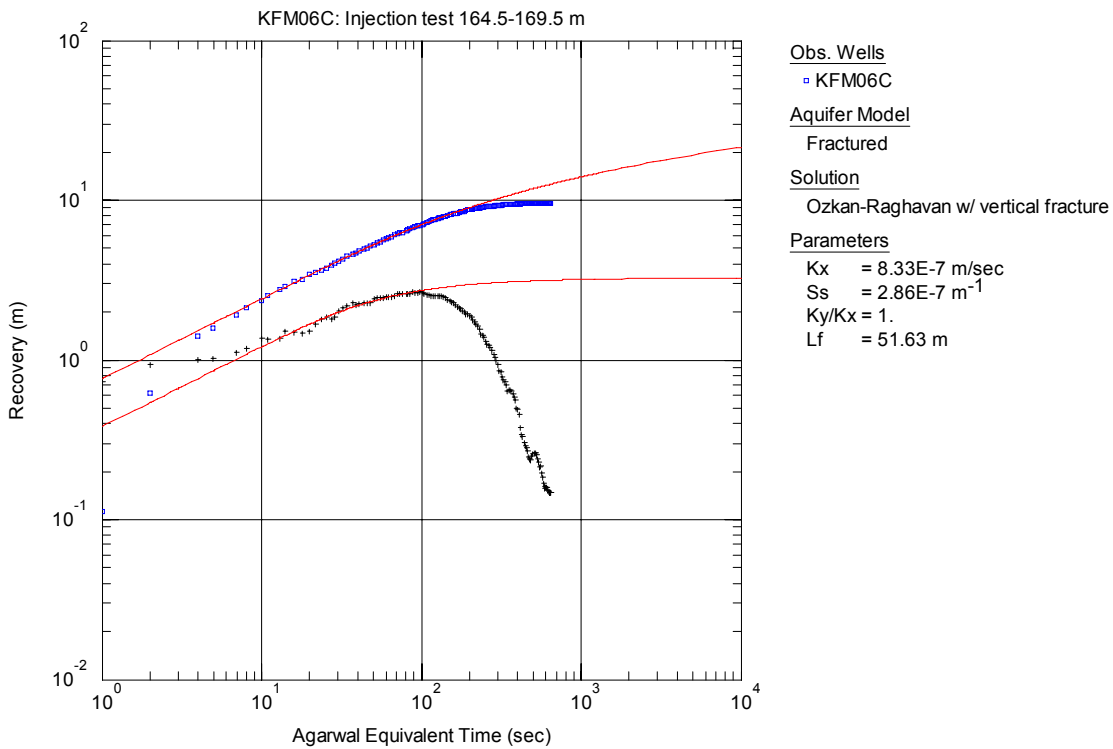


**Figure A3-282.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 164.5-169.5 m in KFM06C.

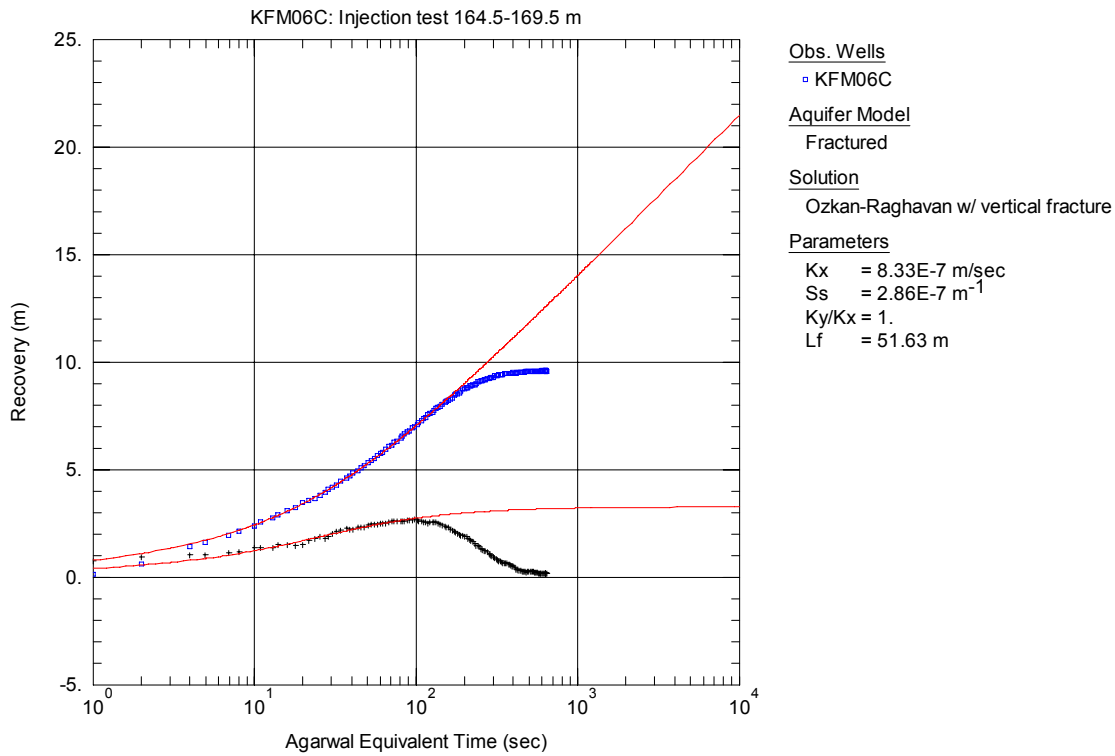




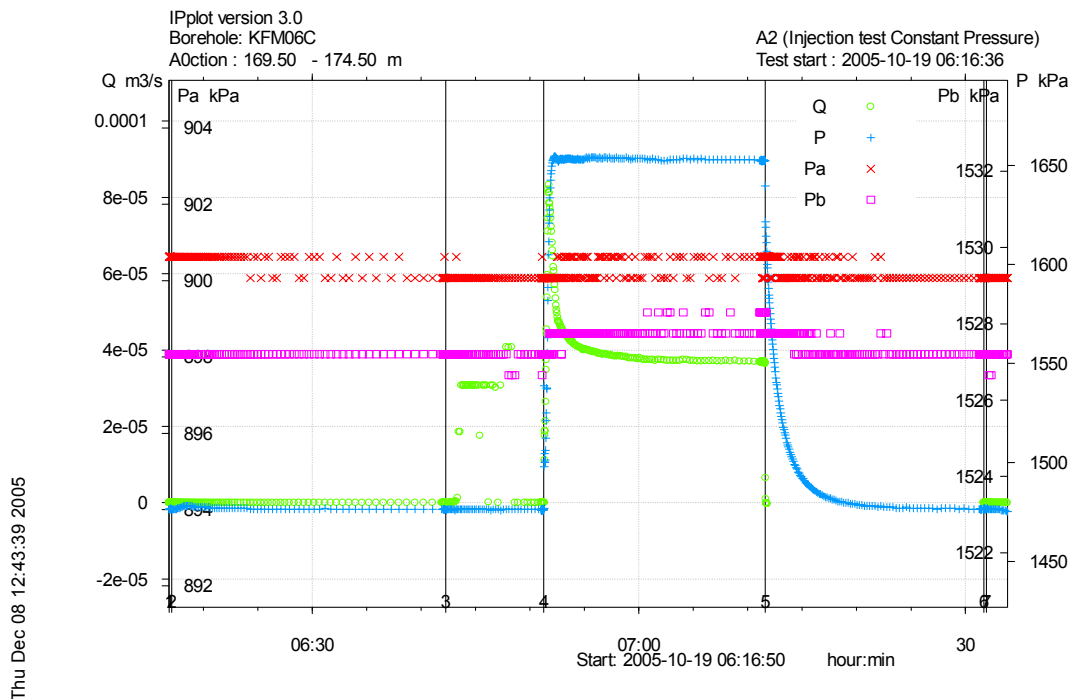
**Figure A3-283.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 164.5-169.5 m in KFM06C.



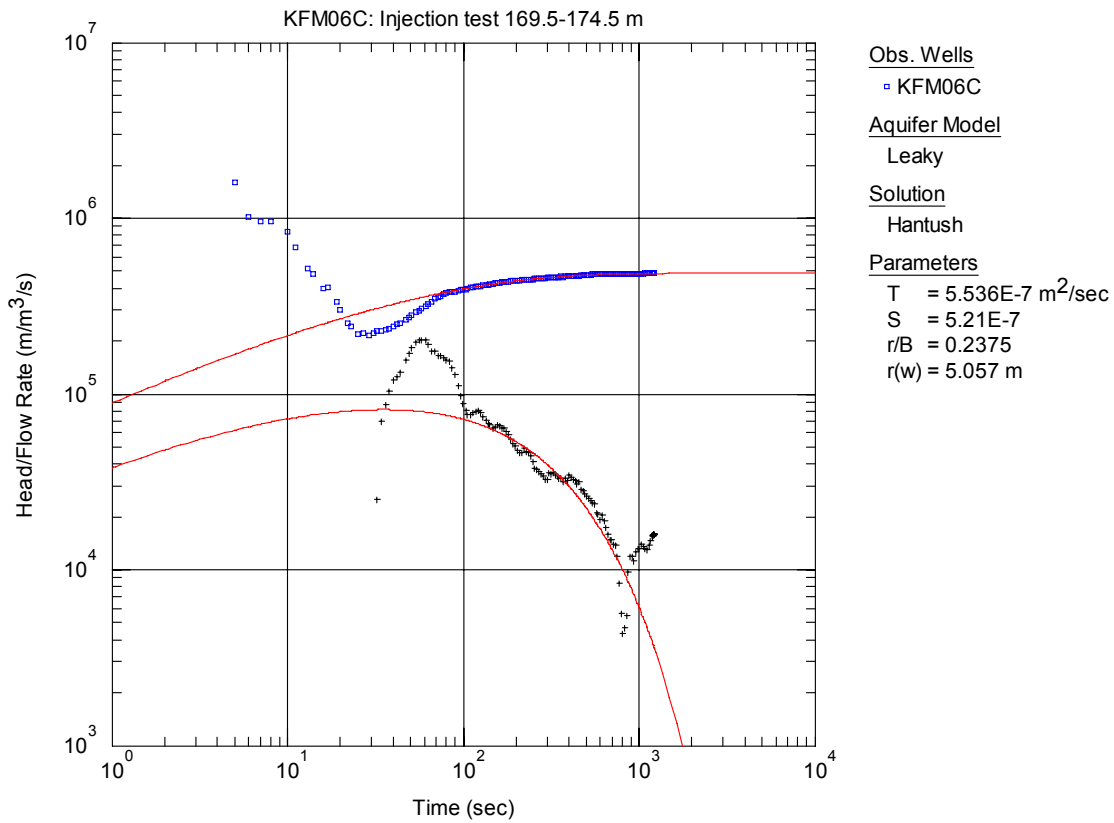
**Figure A3-284.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 164.5-169.5 m in KFM06C.



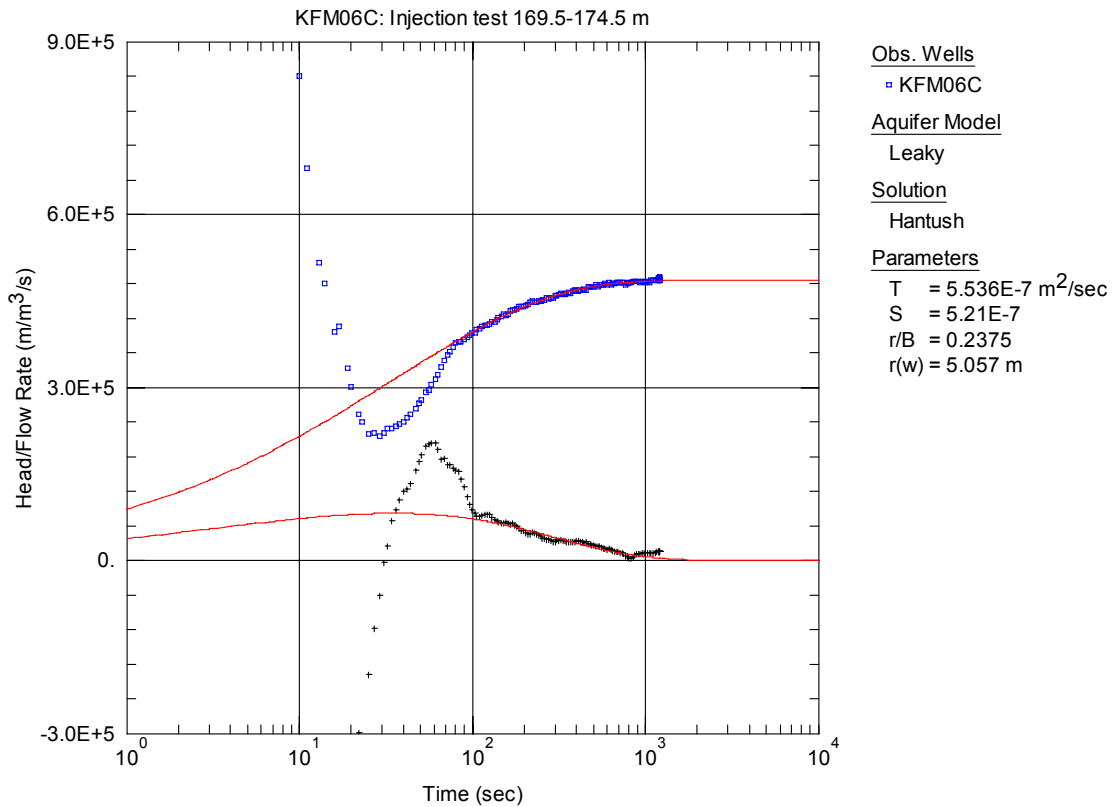
**Figure A3-285.** Lin-log plot of recovery ( $\square$ ) and derivative ( $+$ ) versus equivalent time, from the injection test in section 164.5-169.5 m in KFM06C.



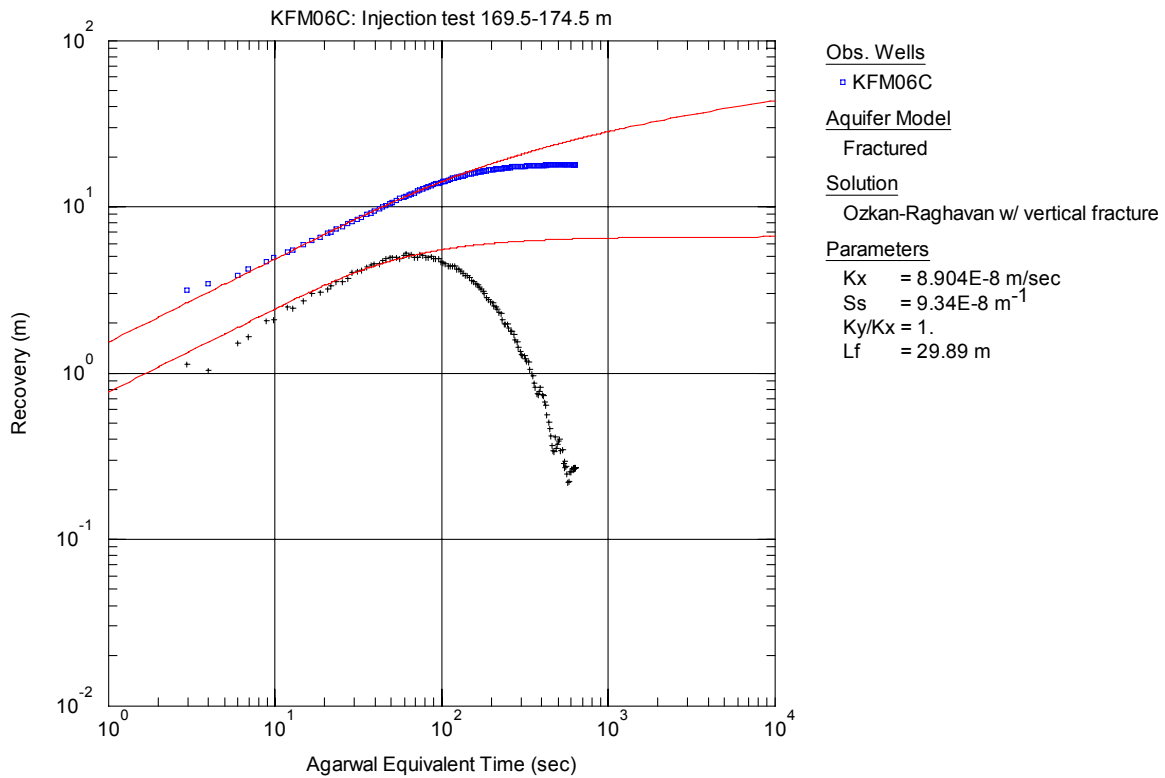
**Figure A3-286.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 169.5-174.5 m in borehole KFM06C.



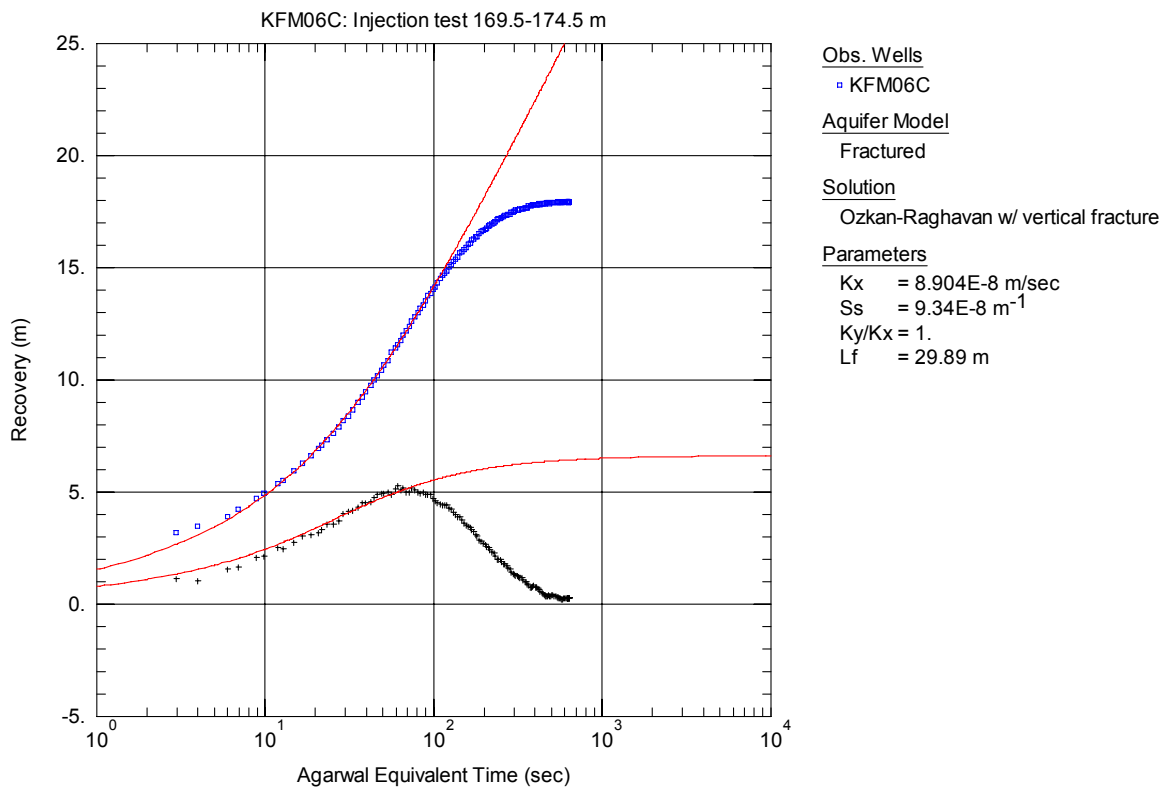
**Figure A3-287.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 169.5-174.5 m in KFM06C.



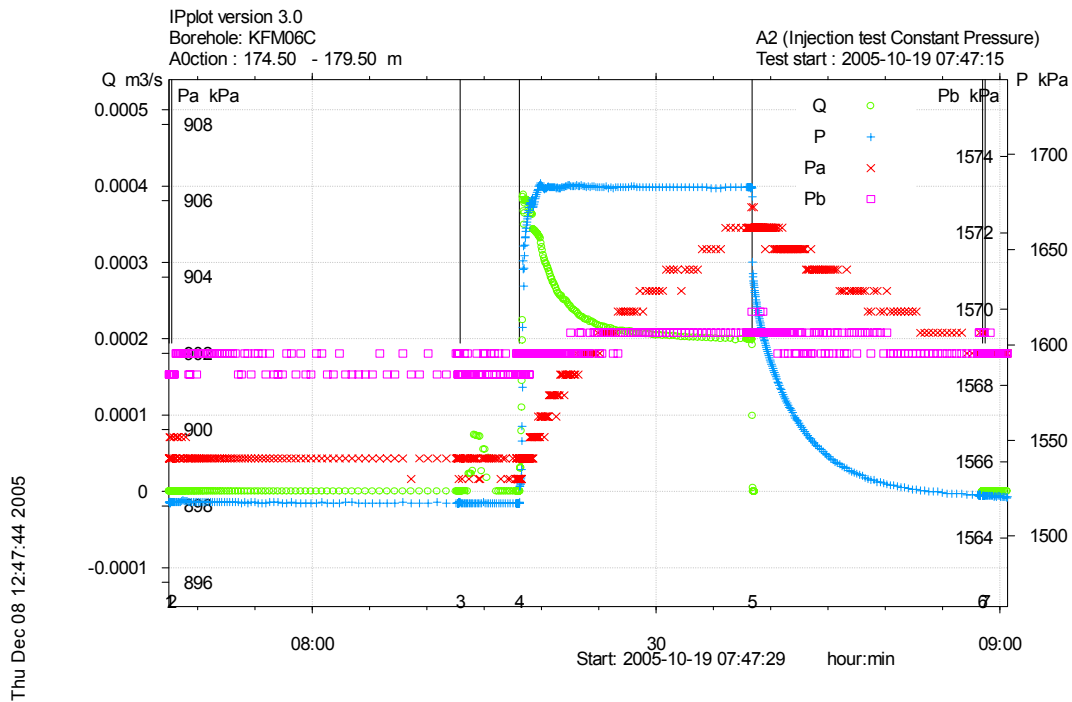
**Figure A3-288.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 169.5-174.5 m in KFM06C.



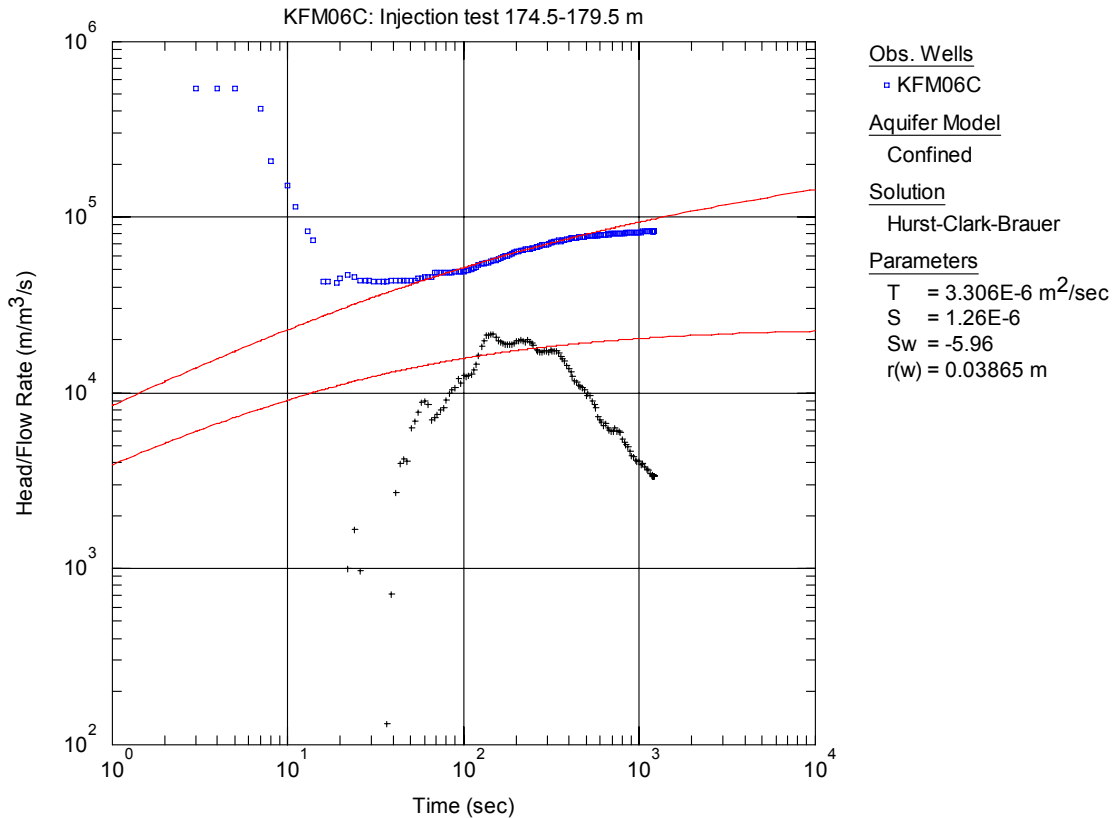
**Figure A3-289.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 169.5-174.5 m in KFM06C.



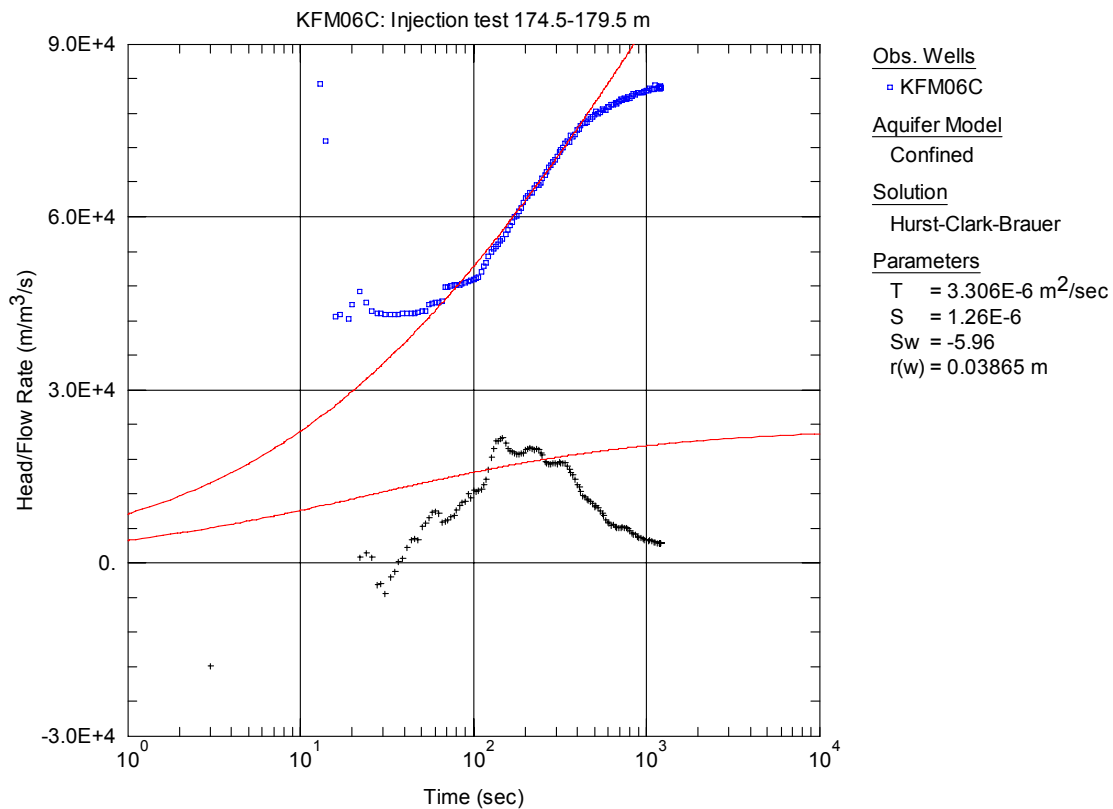
**Figure A3-290.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 169.5-174.5 m in KFM06C.



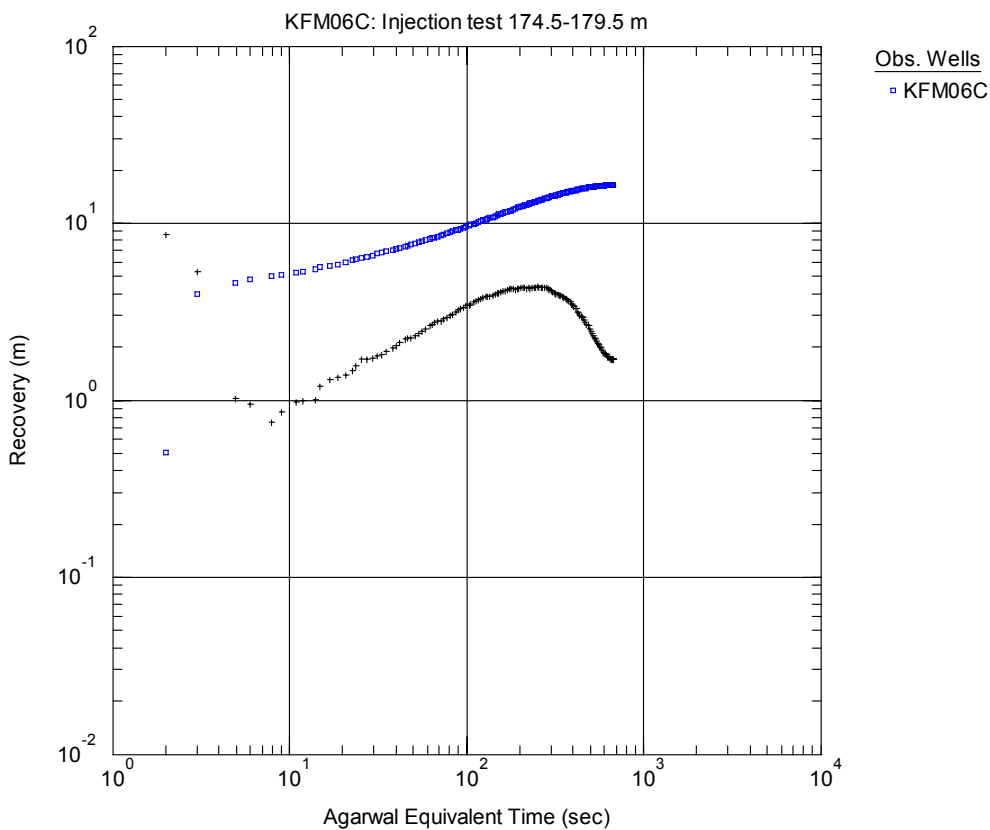
**Figure A3-291.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 174.5-179.5 m in borehole KFM06C.



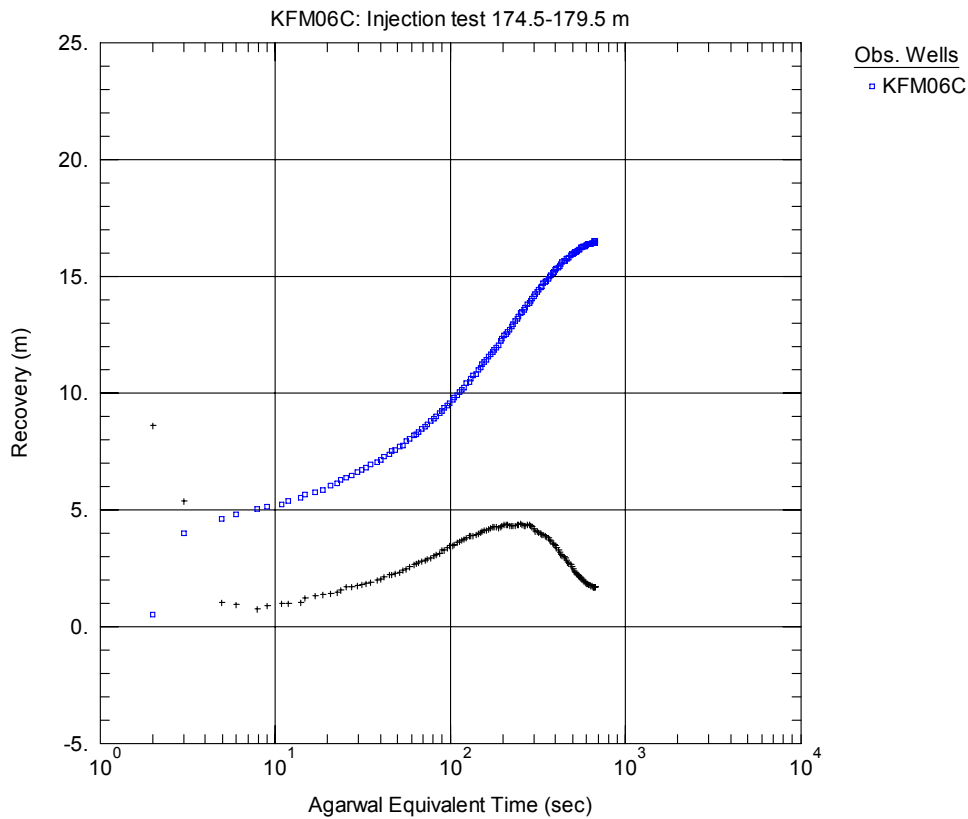
**Figure A3-292.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 174.5-179.5 m in KFM06C.



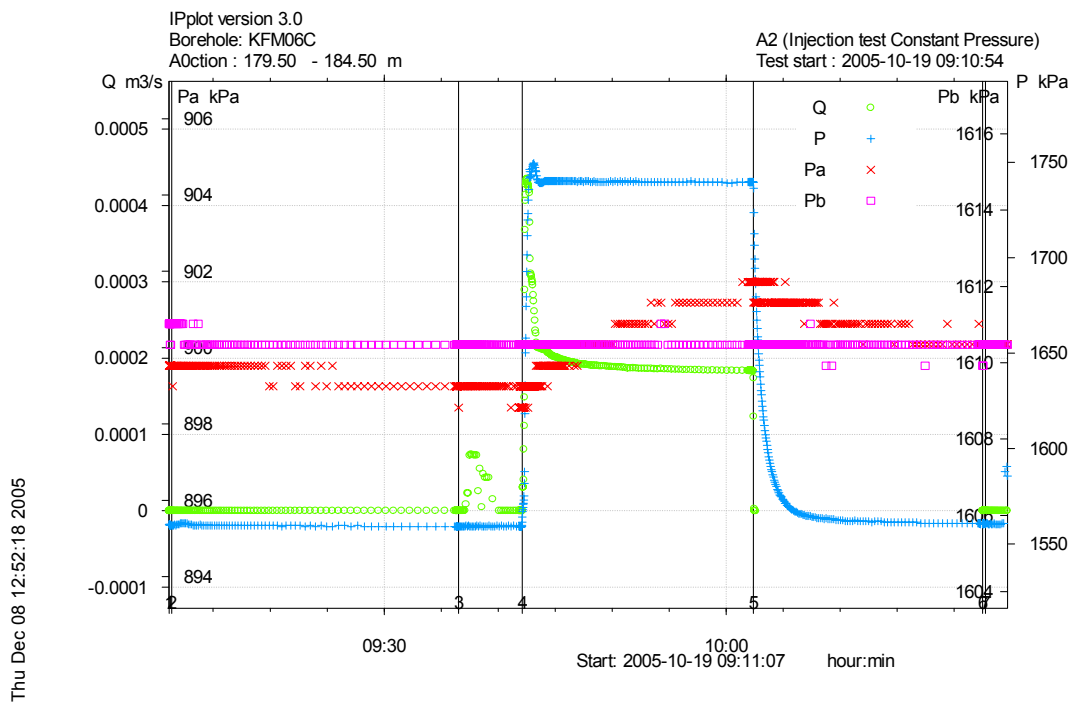
**Figure A3-293.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 174.5-179.5 m in KFM06C.



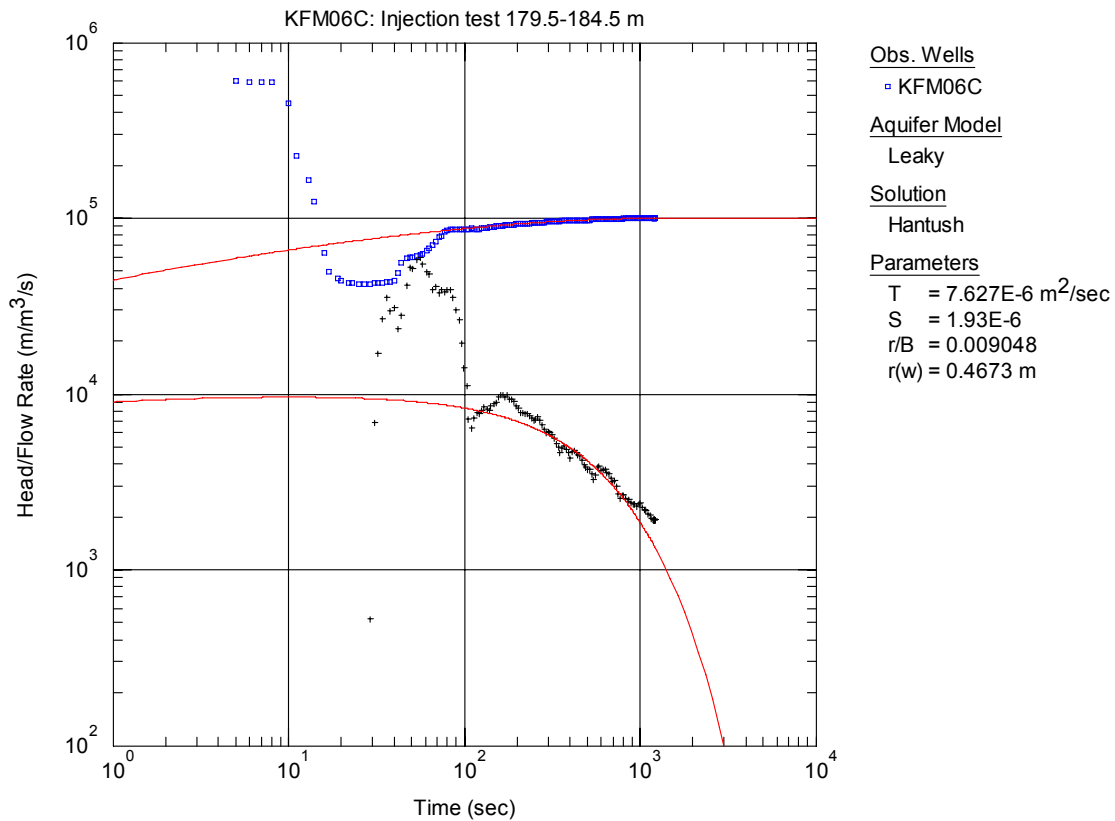
**Figure A3-294.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 174.5-179.5 m in KFM06C.



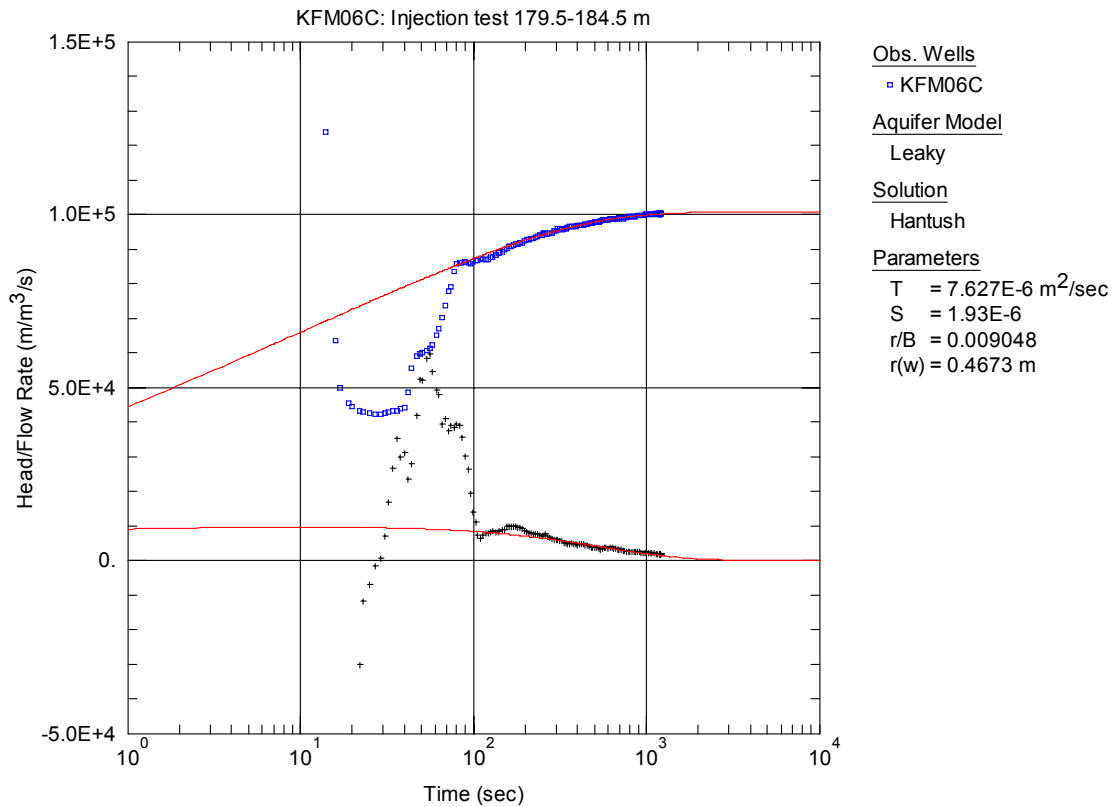
**Figure A3-295.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 174.5-179.5 m in KFM06C.



**Figure A3-296.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 179.5-184.5 m in borehole KFM06C.

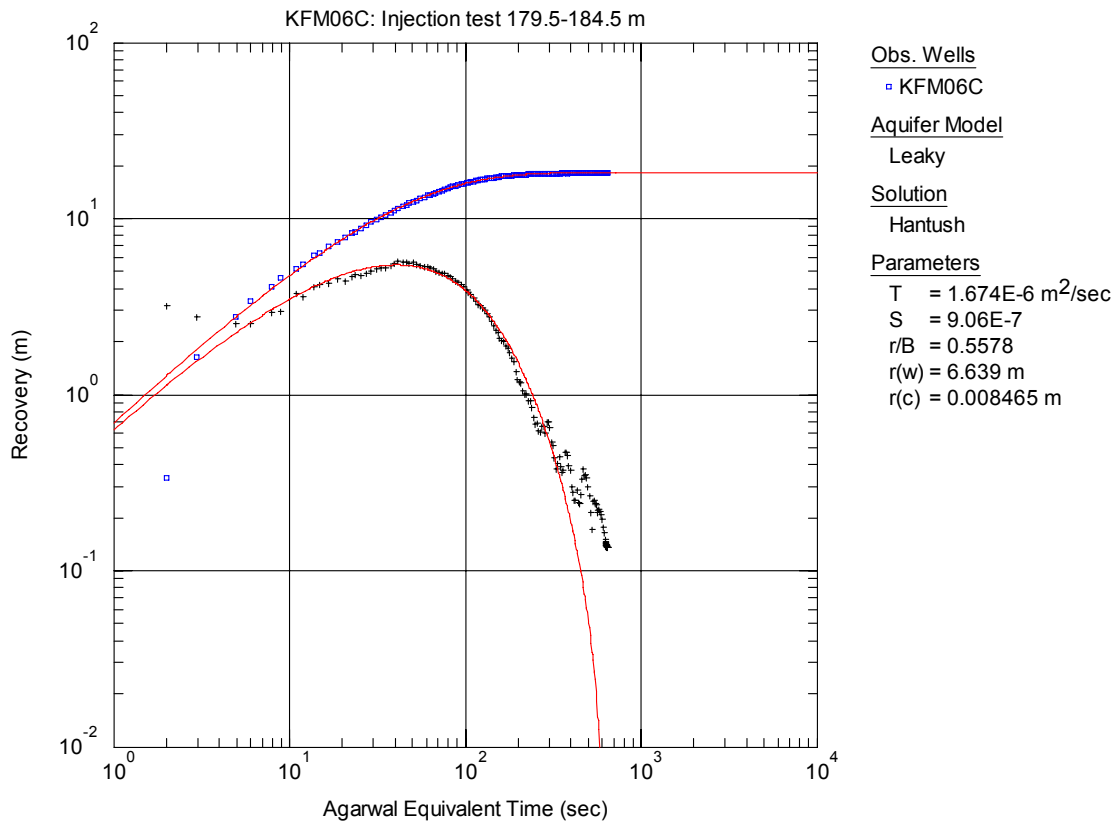


**Figure A3-297.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 179.5-184.5 m in KFM06C.

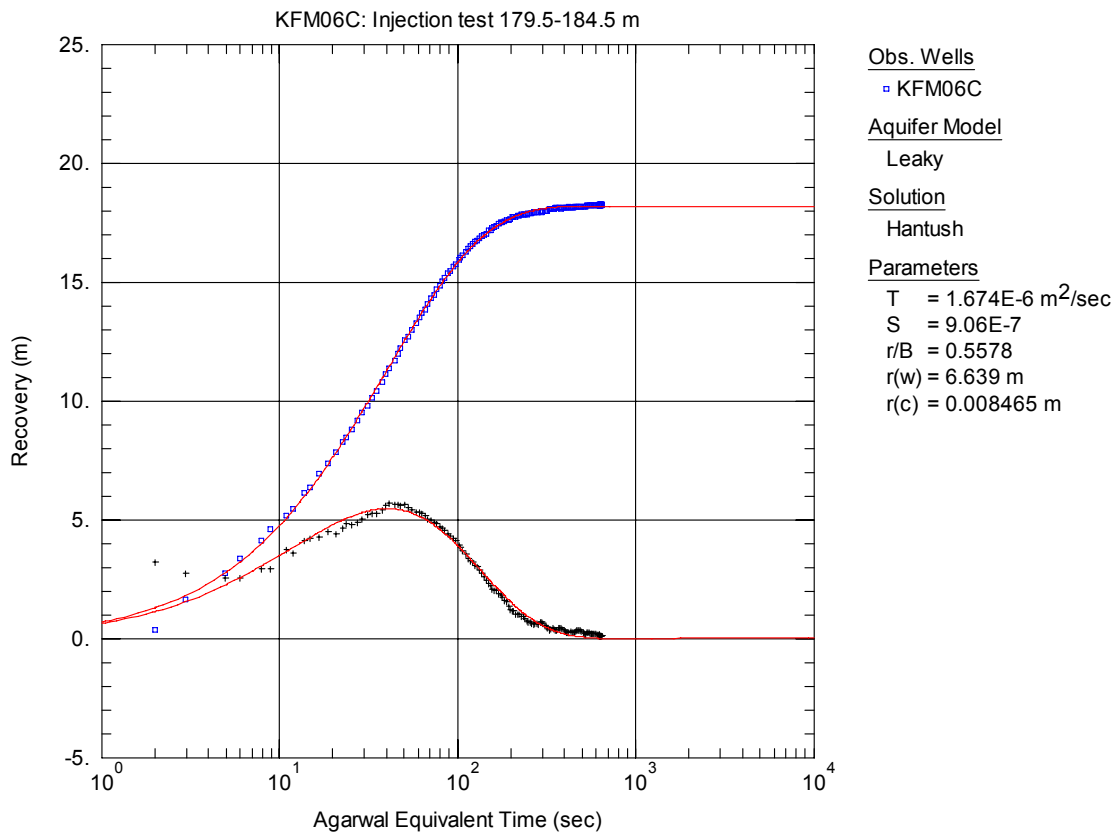


**Figure A3-298.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 179.5-184.5 m in KFM06C.

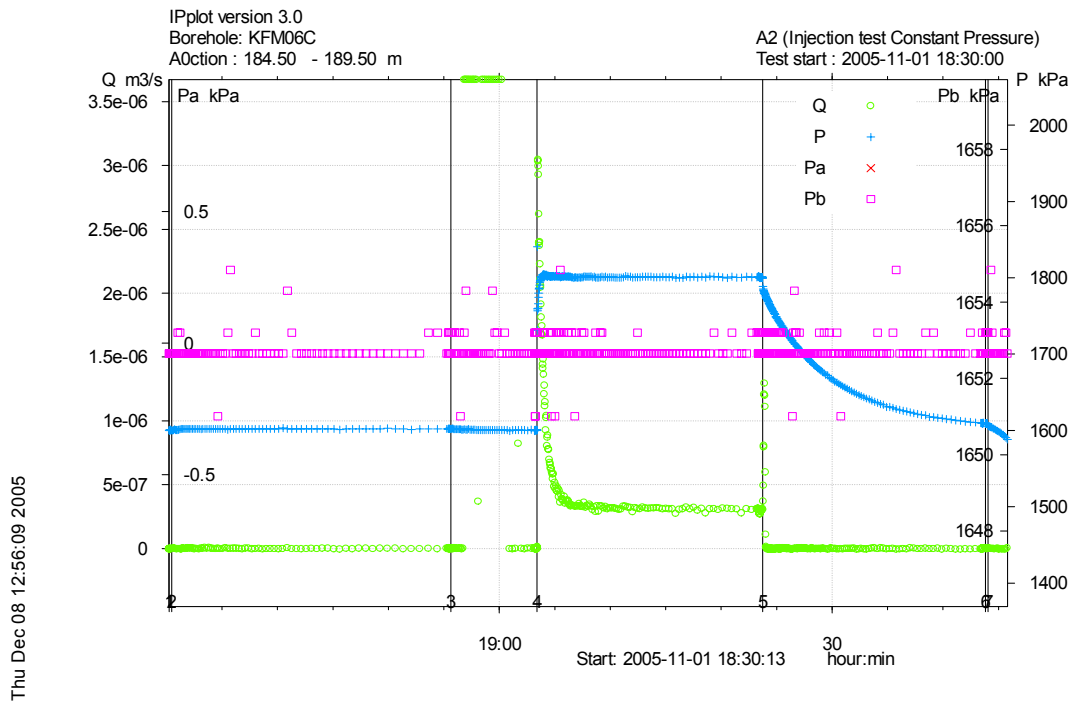




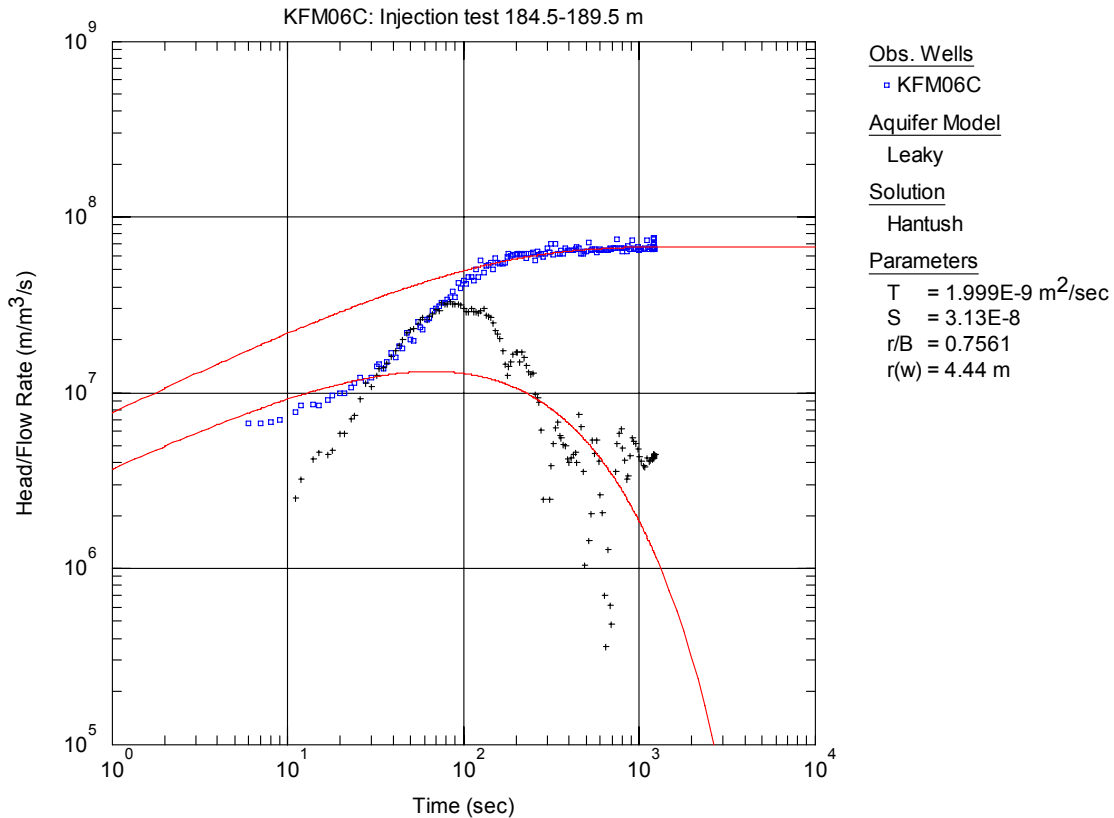
**Figure A3-299.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 179.5-184.5 m in KFM06C.



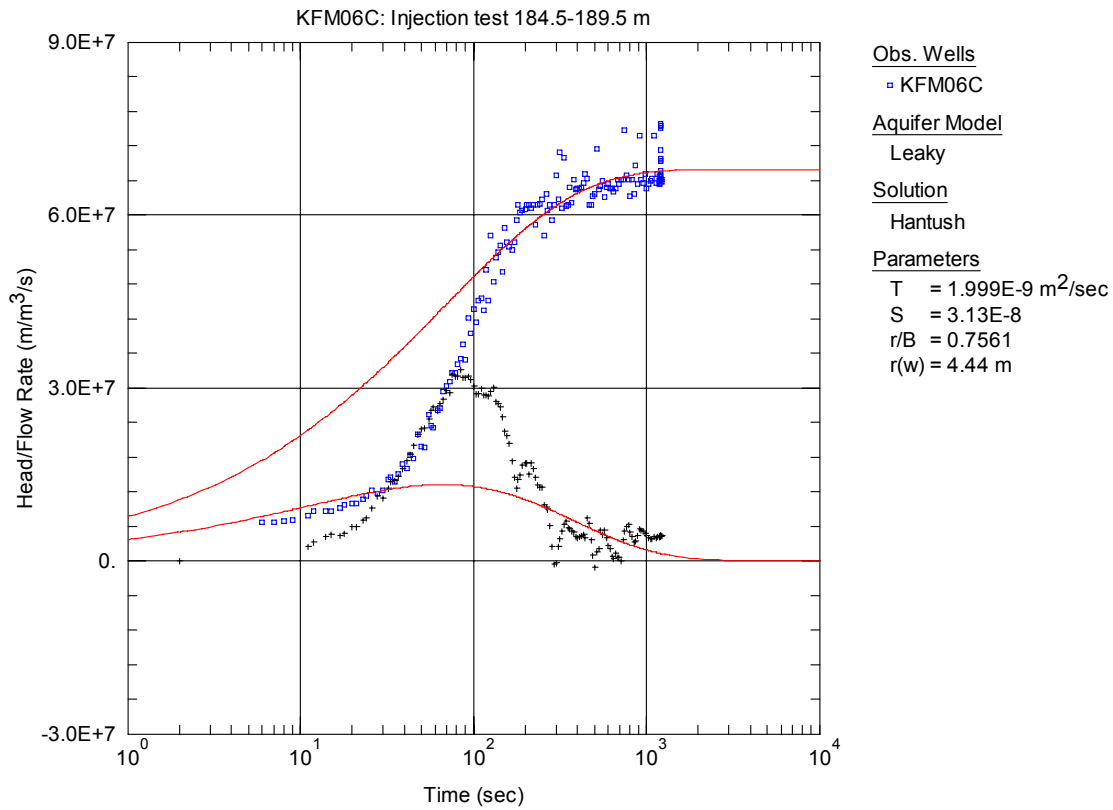
**Figure A3-300.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 179.5-184.5 m in KFM06C.



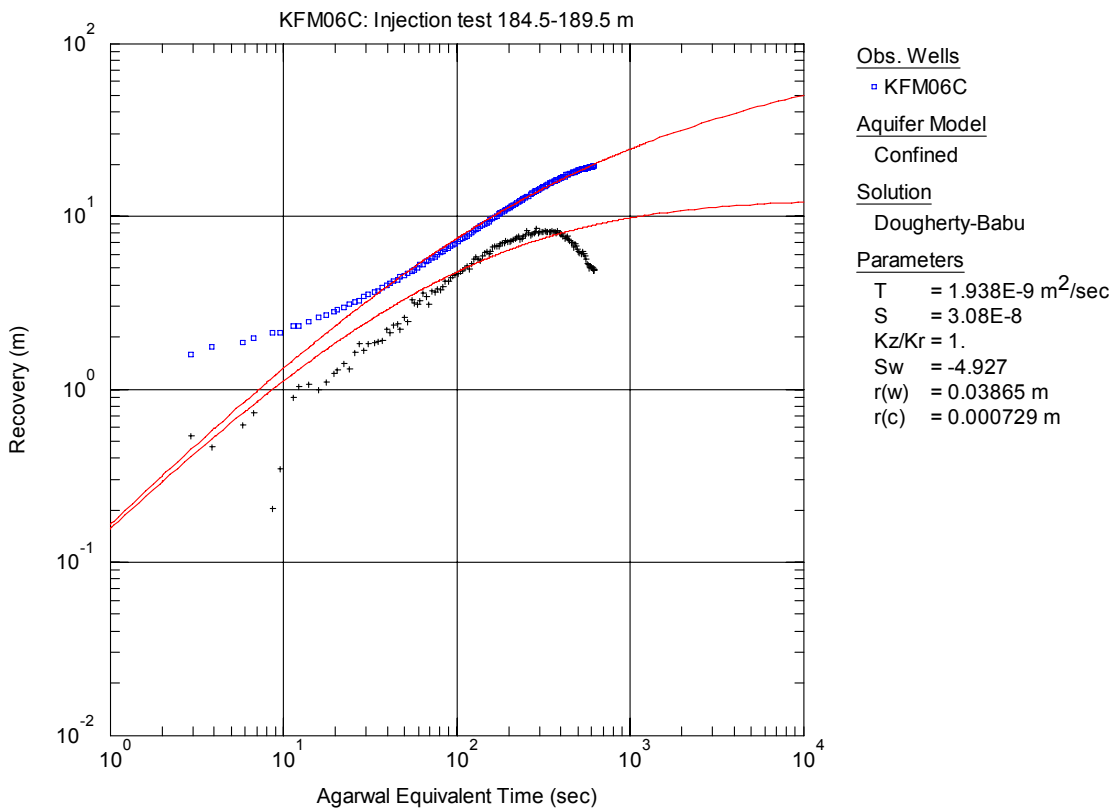
**Figure A3-301.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 184.5-189.5 m in borehole KFM06C.



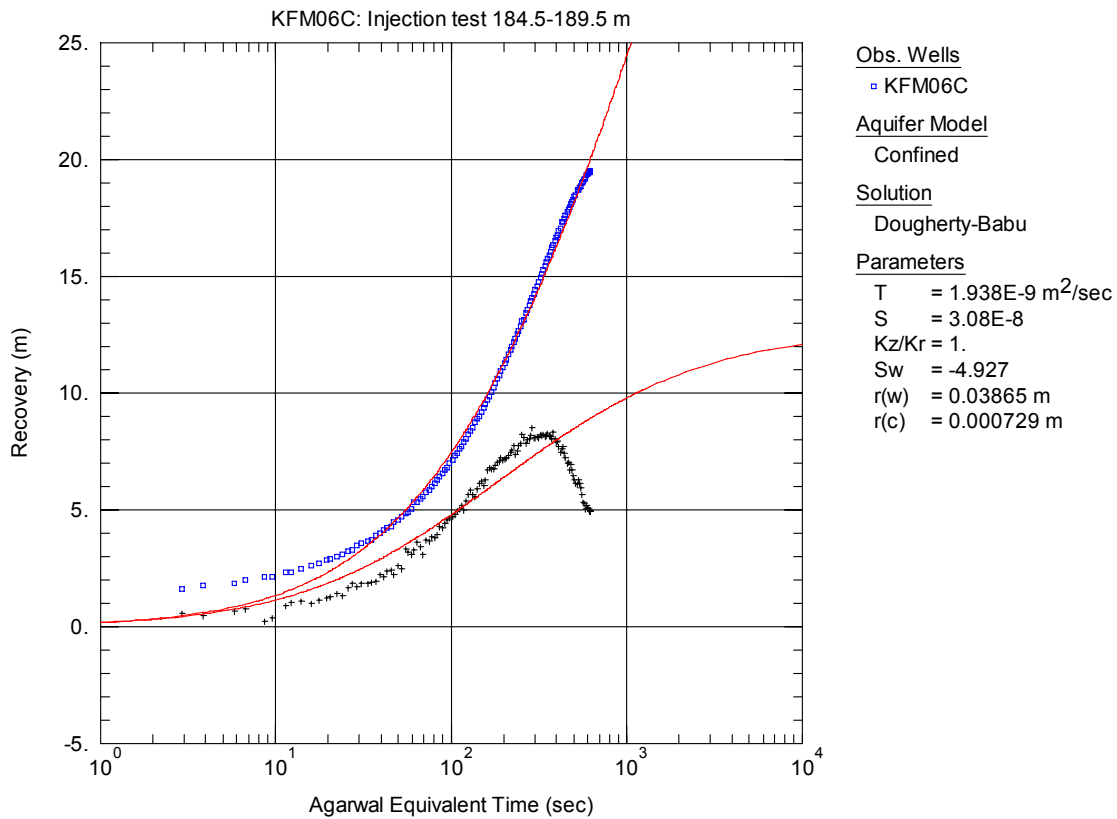
**Figure A3-302.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 184.5-189.5 m in KFM06C.



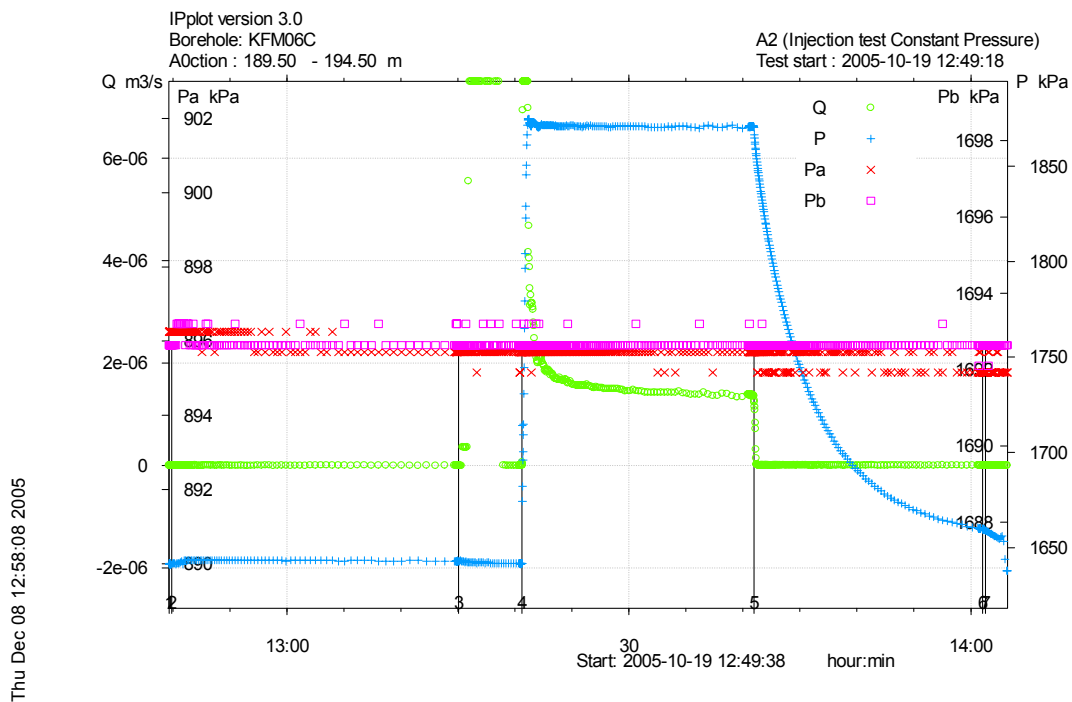
**Figure A3-303.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 184.5-189.5 m in KFM06C.



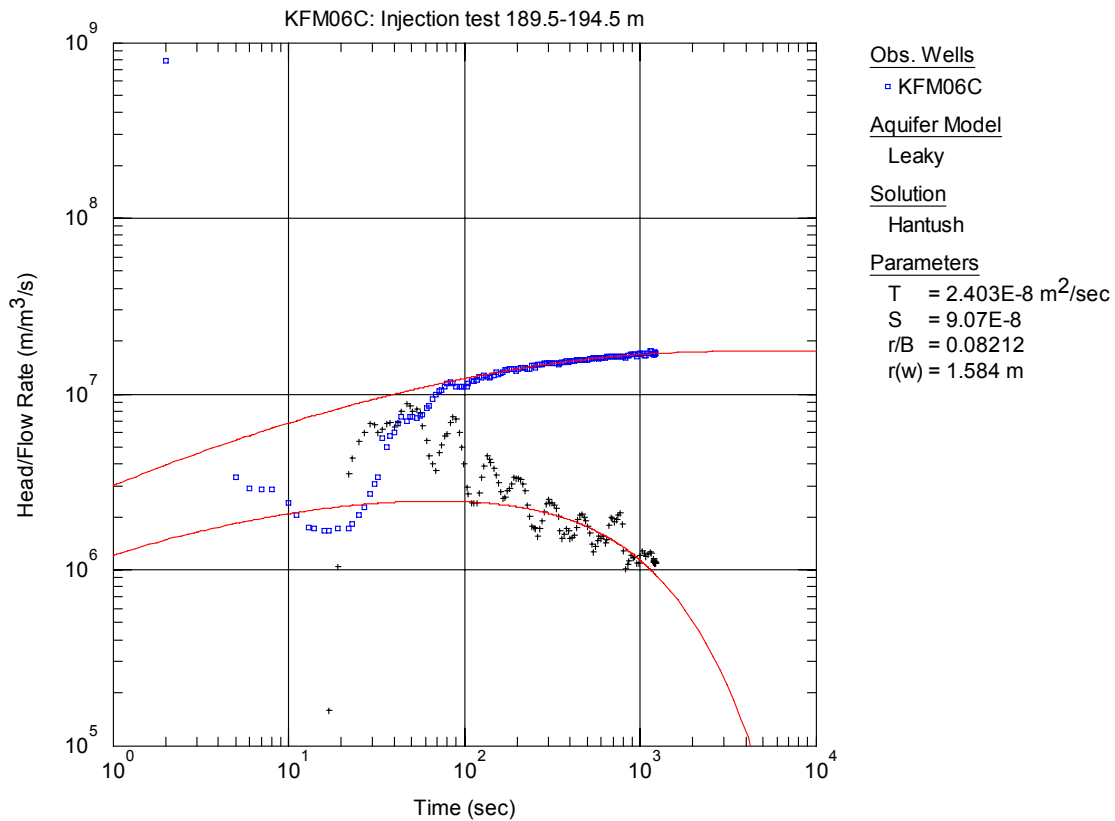
**Figure A3-304.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 184.5-189.5 m in KFM06C.



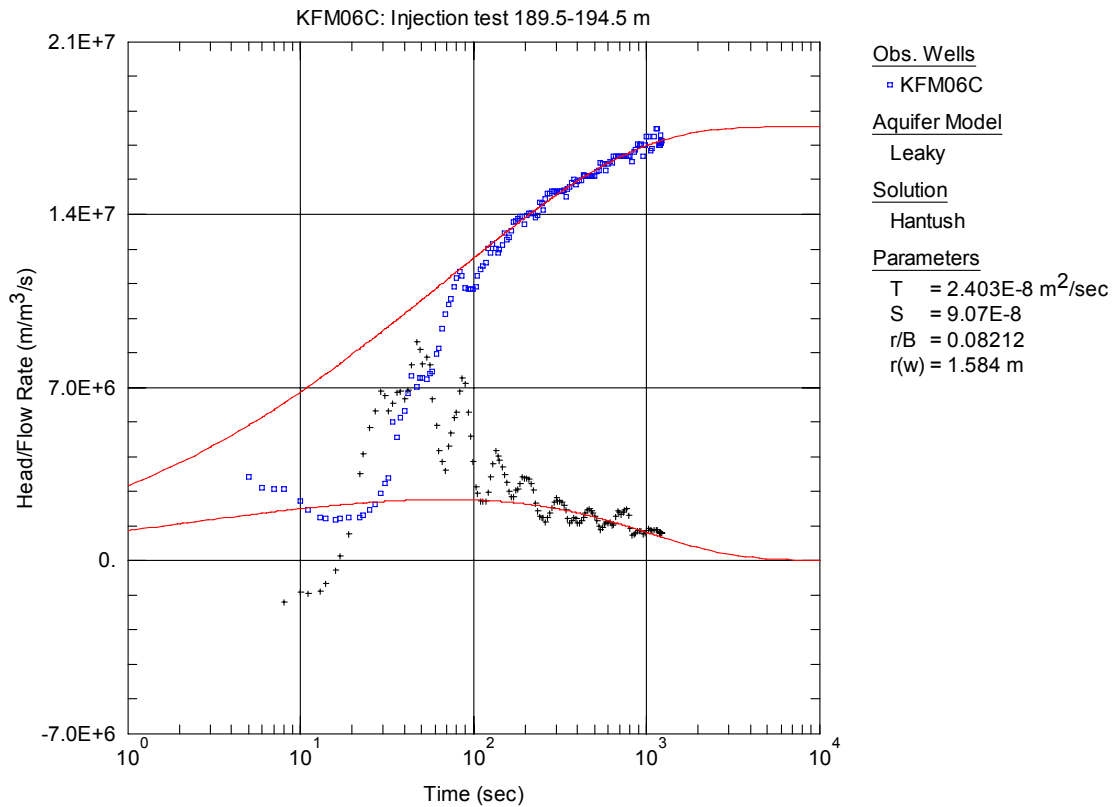
**Figure A3-305.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 184.5-189.5 m in KFM06C.



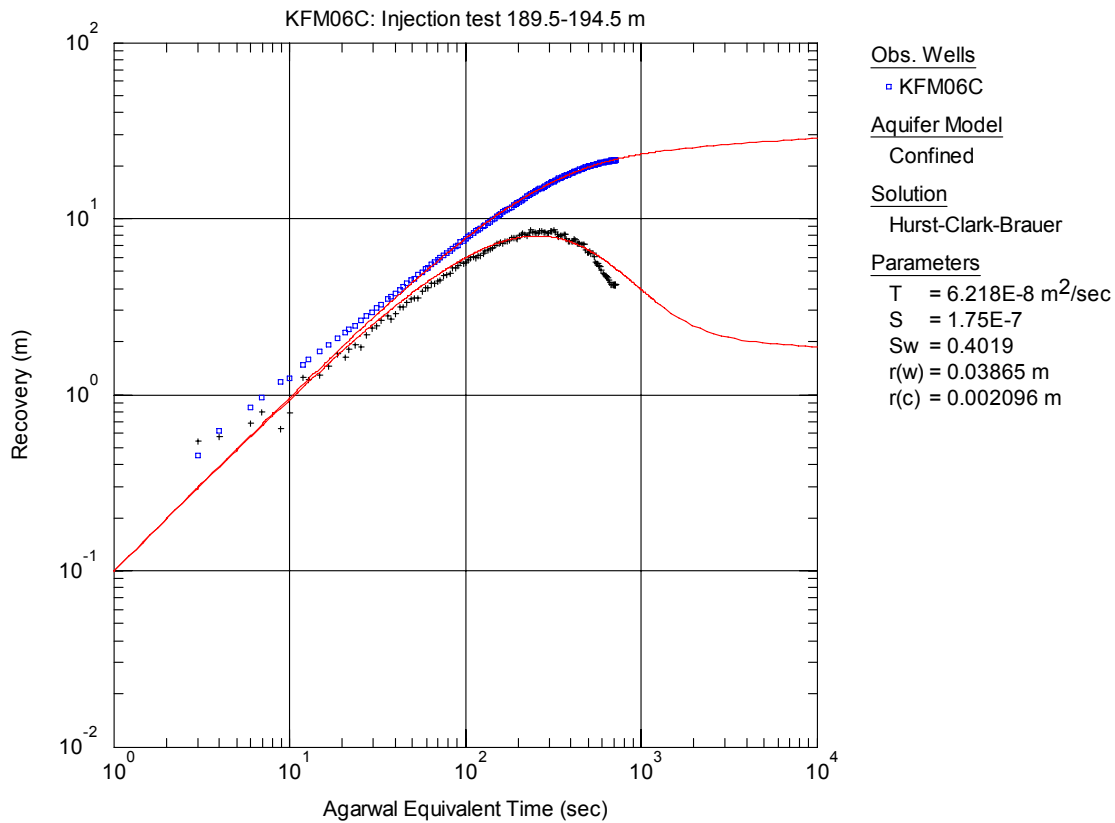
**Figure A3-306.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 189.5-194.5 m in borehole KFM06C.



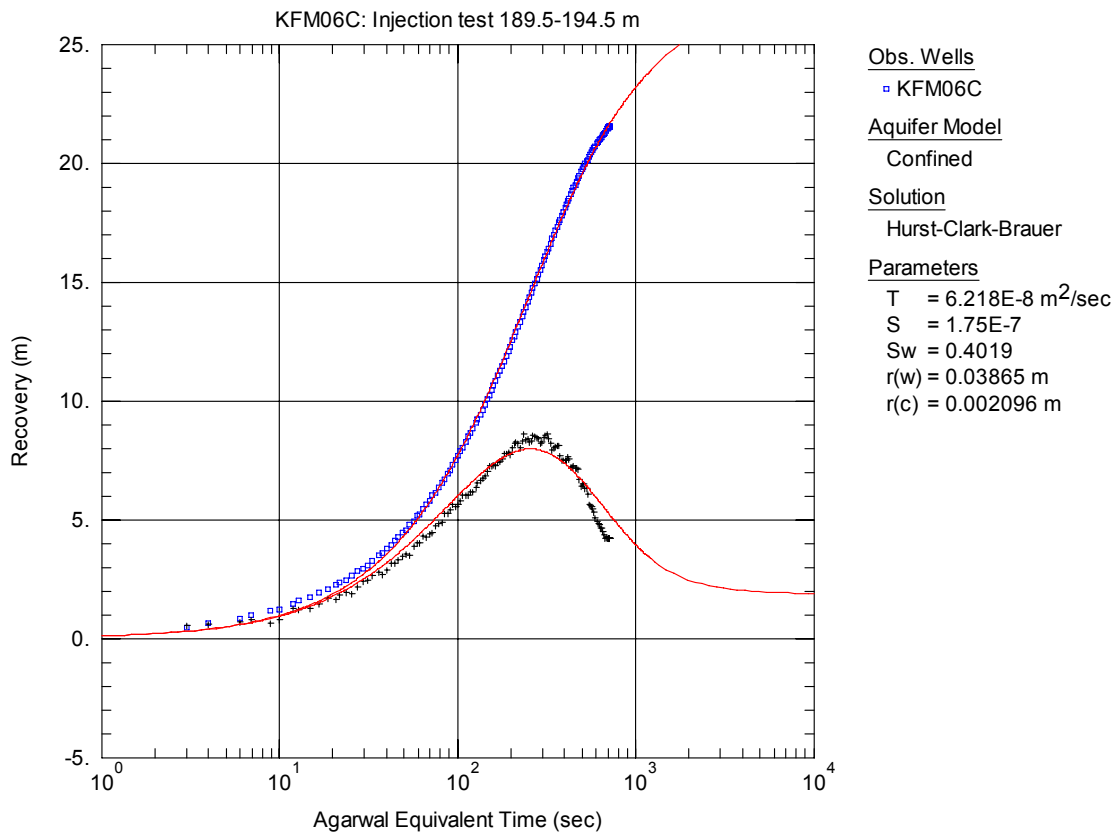
**Figure A3-307.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 189.5-194.5 m in KFM06C.



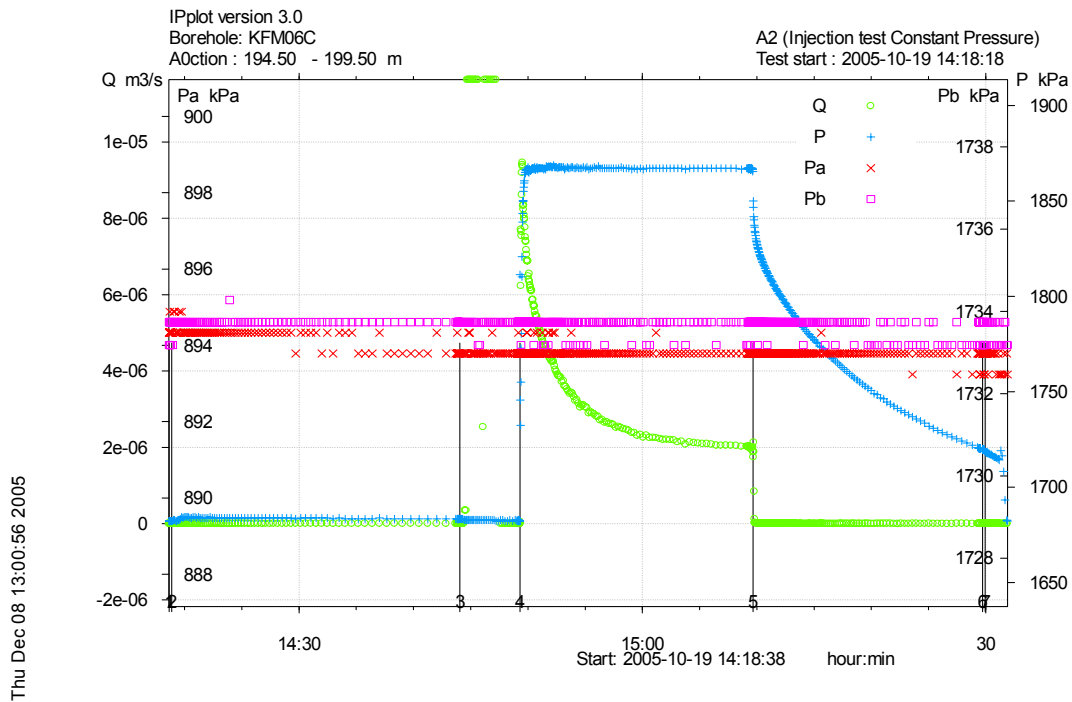
**Figure A3-308.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 189.5-194.5 m in KFM06C.



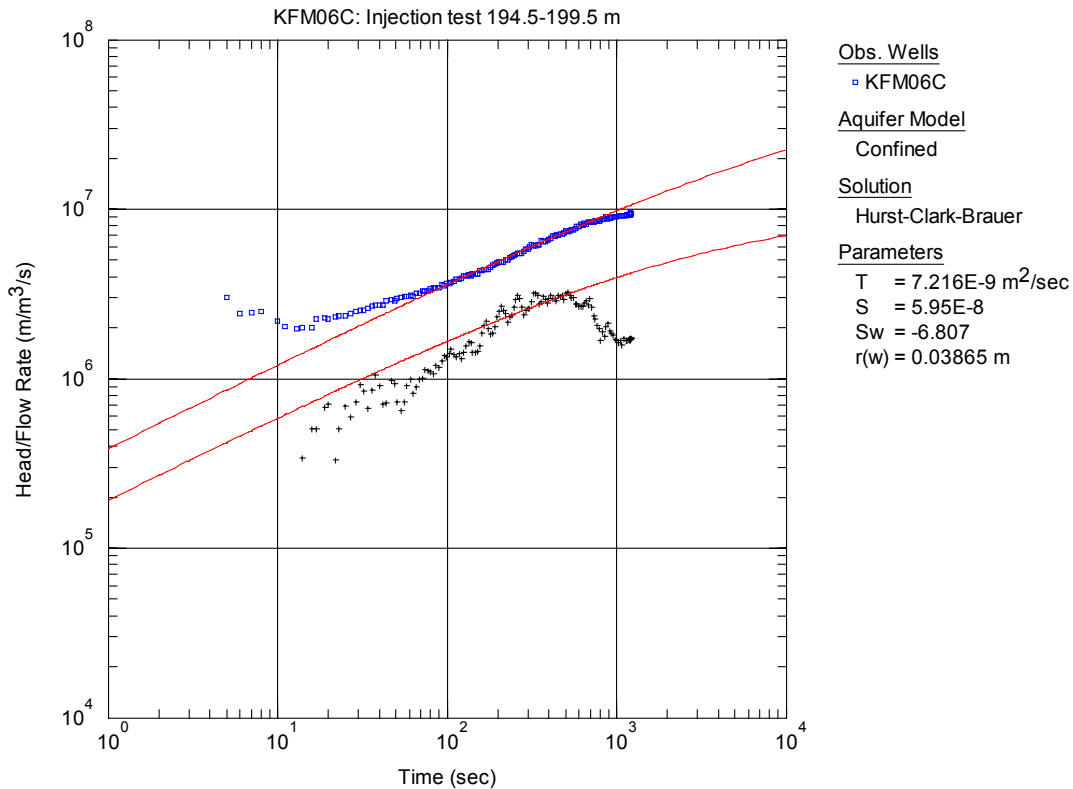
**Figure A3-309.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 189.5-194.5 m in KFM06C.



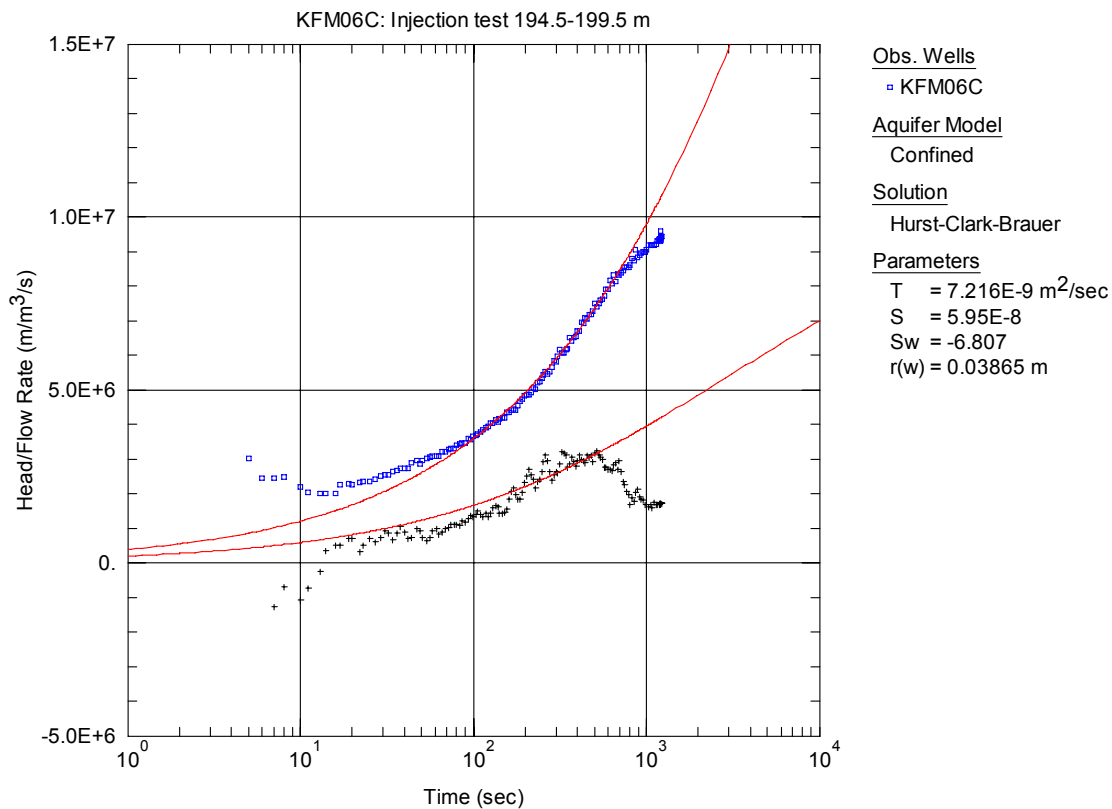
**Figure A3-310.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 189.5-194.5 m in KFM06C.



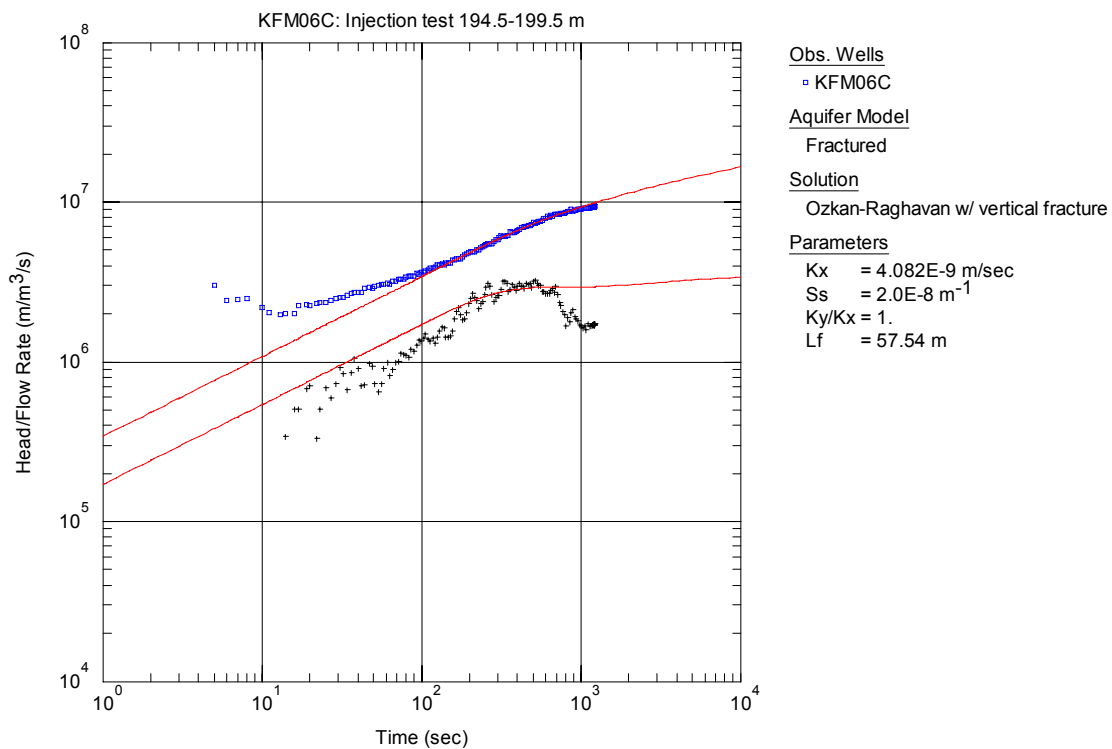
**Figure A3-311.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 194.5-199.5 m in borehole KFM06C.



**Figure A3-312.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 194.5-199.5 m in KFM06C.

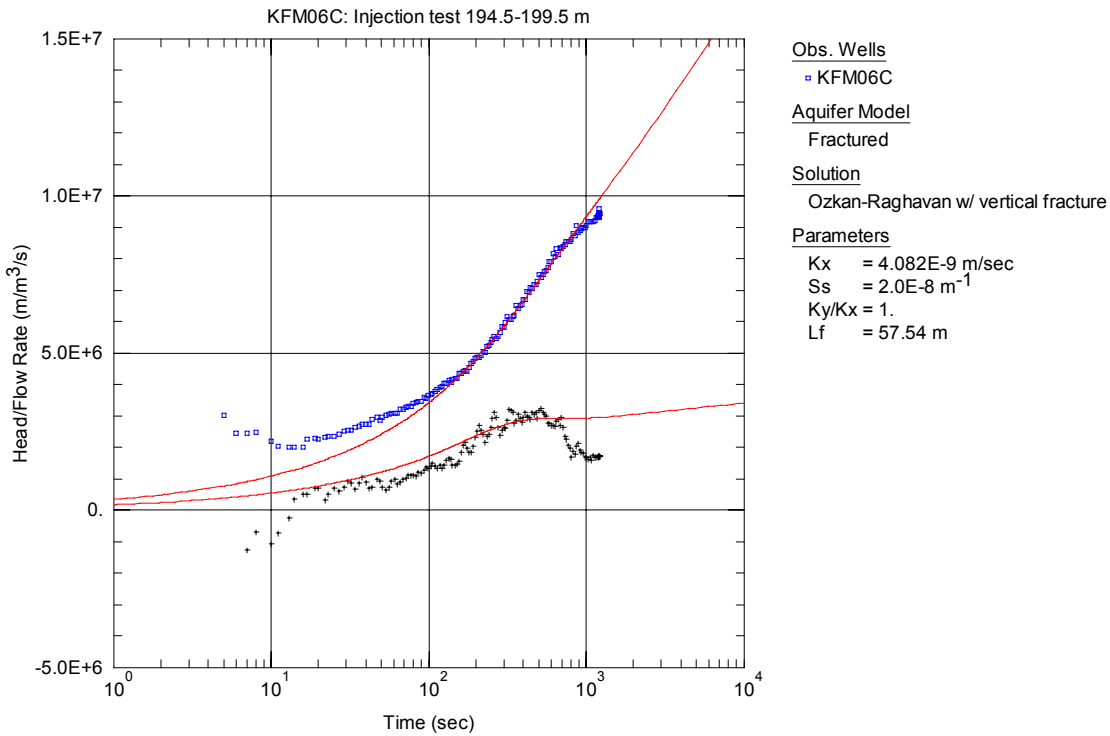


**Figure A3-313.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 194.5-199.5 m in KFM06C.

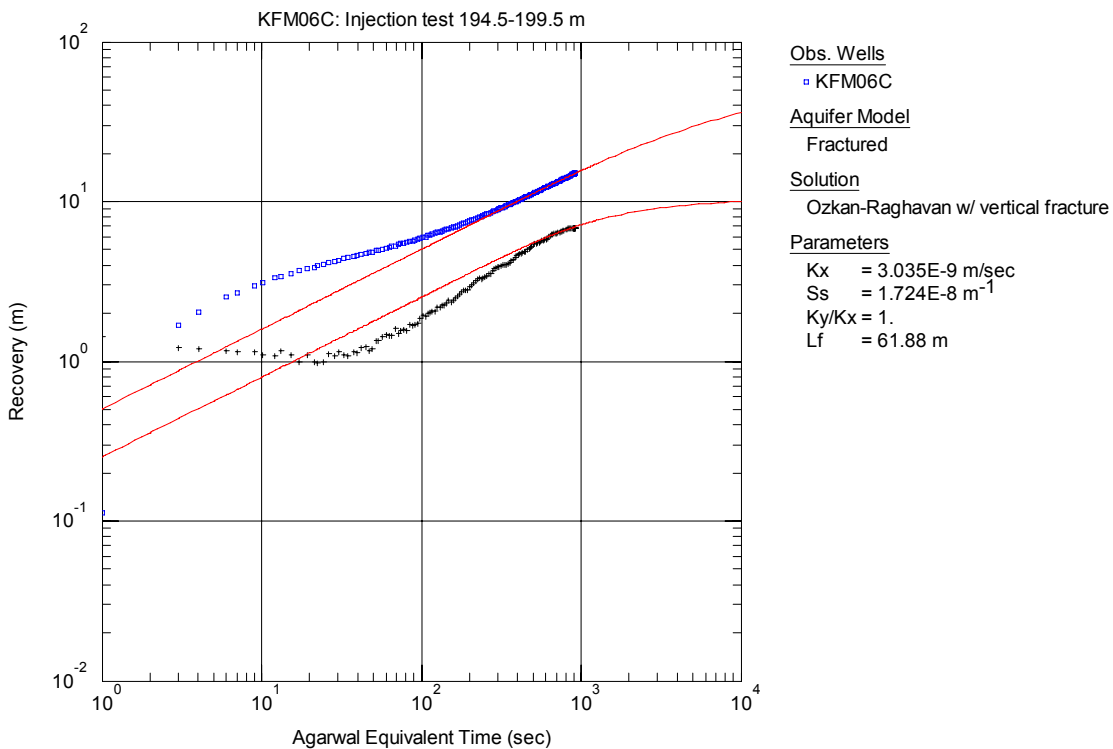


**Figure A3-314.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 194.5-199.5 m in KFM06C.

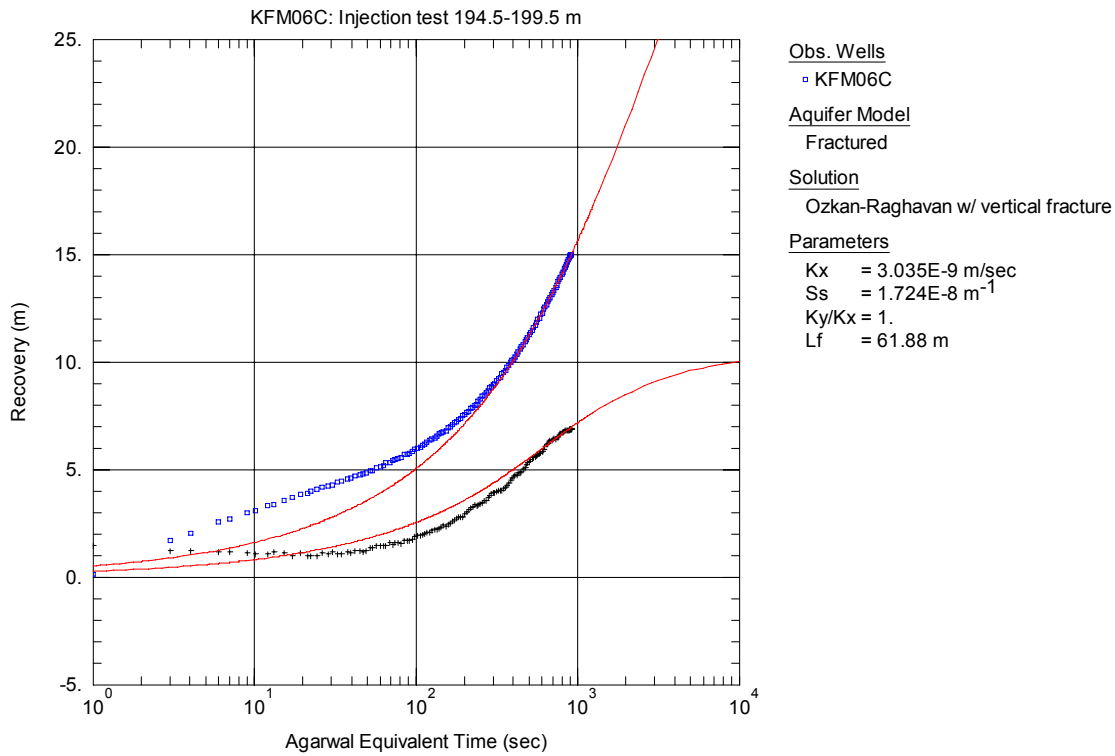




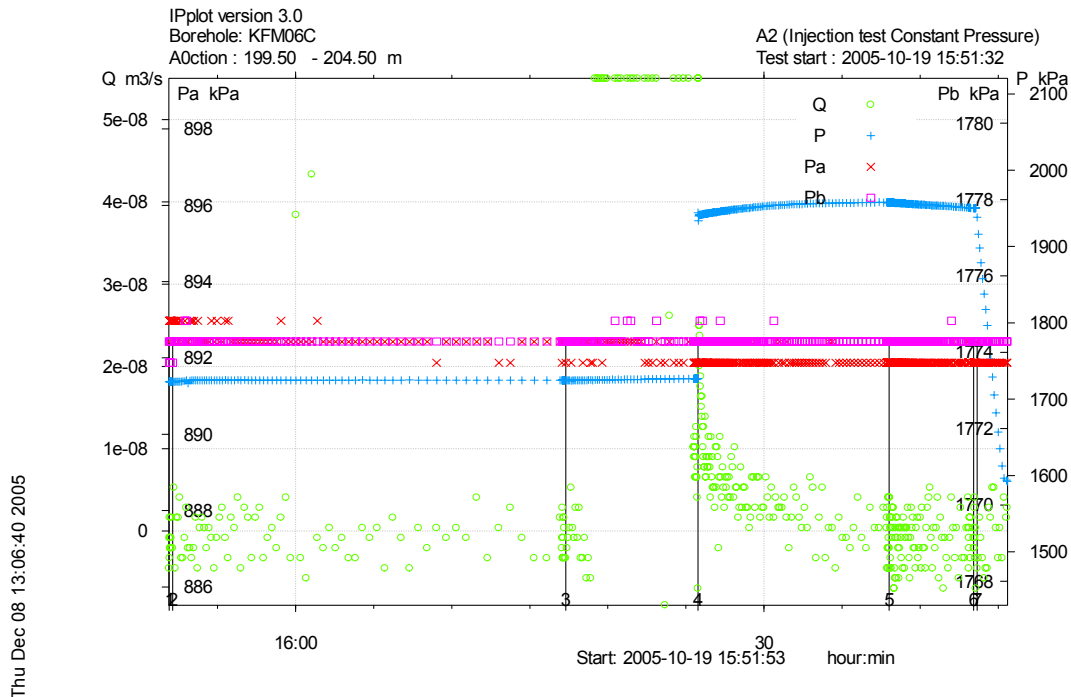
**Figure A3-315.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 194.5-199.5 m in KFM06C.



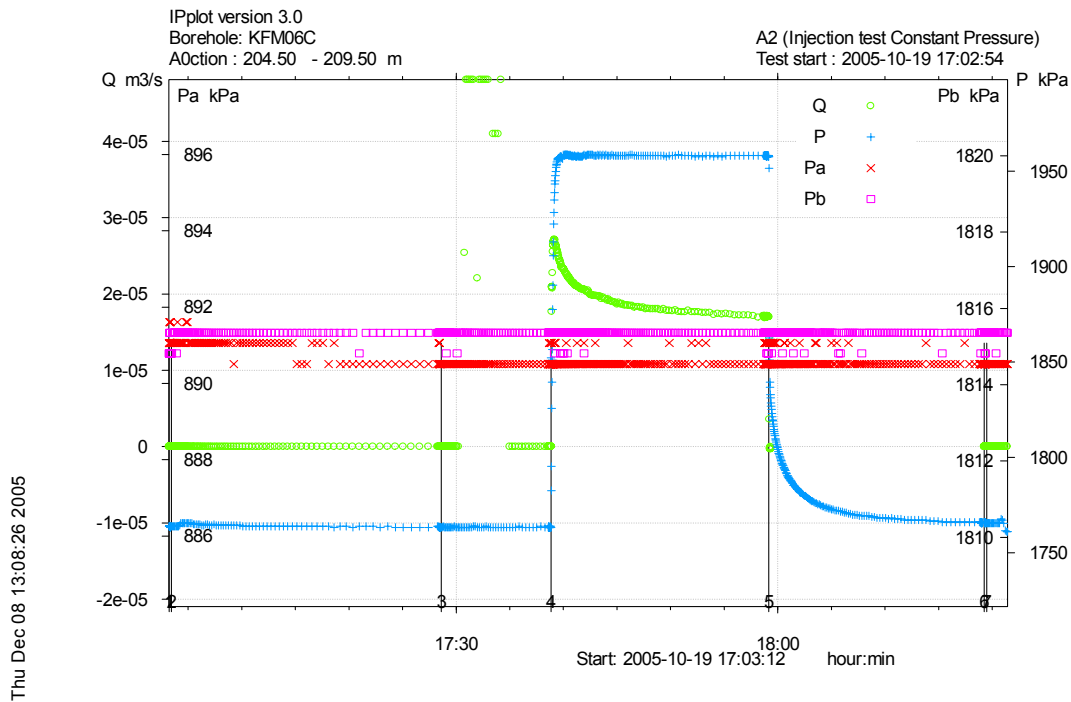
**Figure A3-316.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 194.5-199.5 m in KFM06C.



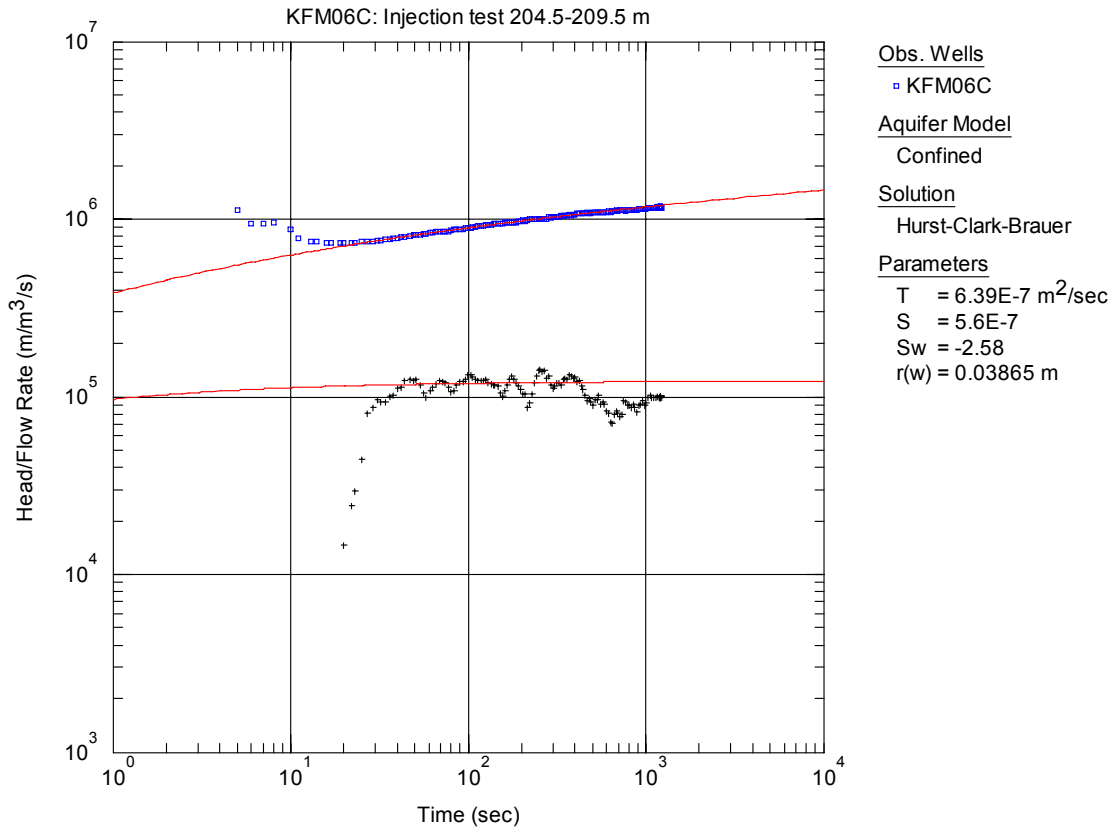
**Figure A3-317.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 194.5-199.5 m in KFM06C.



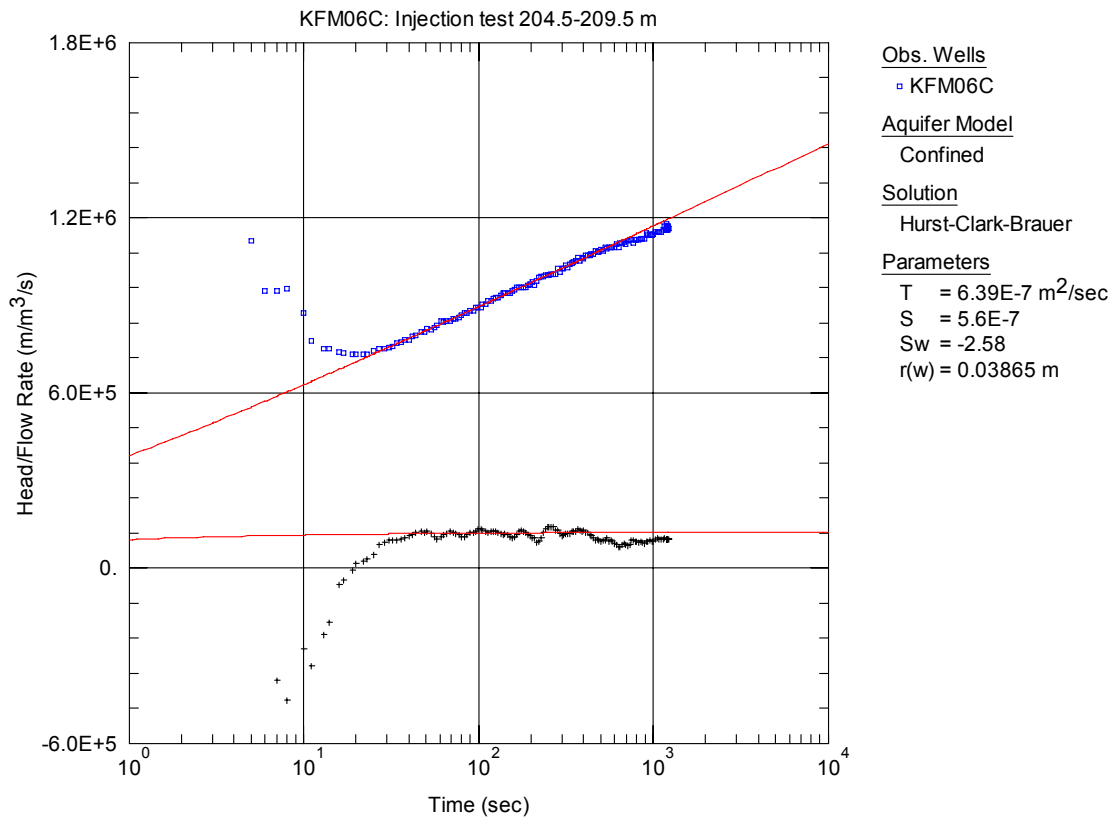
**Figure A3-318.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 199.5-204.5 m in borehole KFM06C.



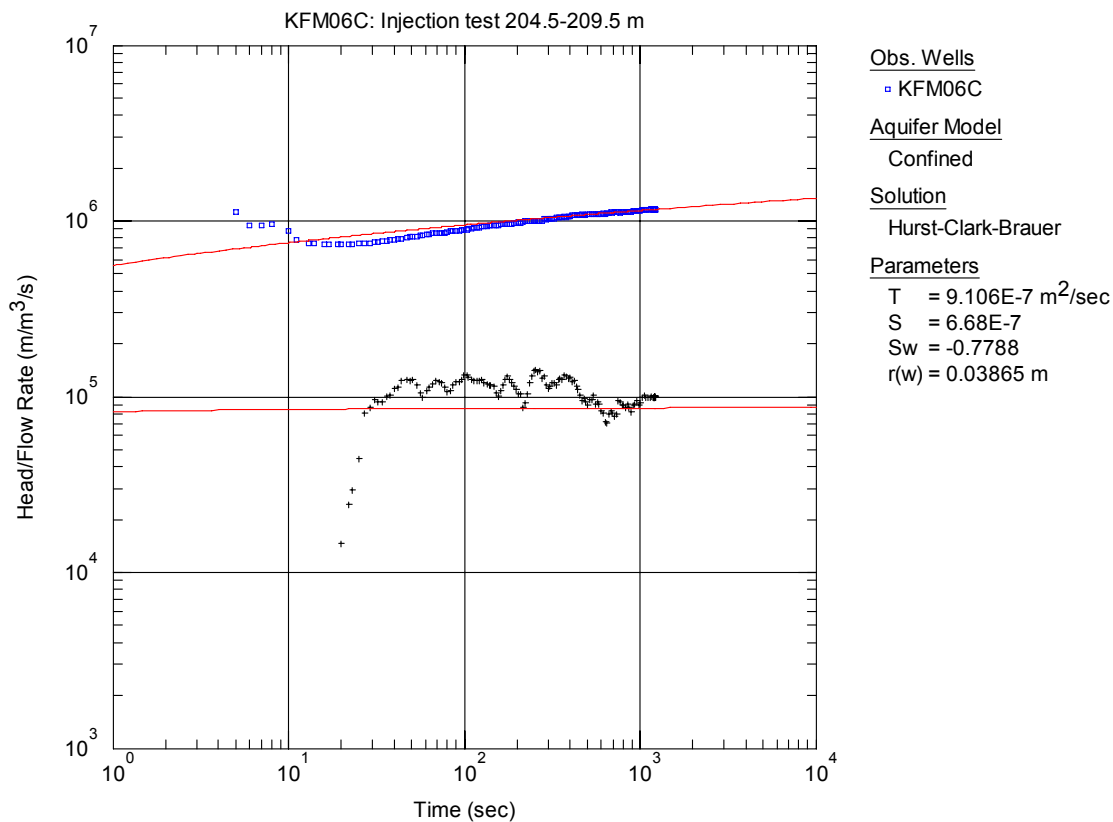
**Figure A3-319.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 204.5-209.5 m in borehole KFM06C.



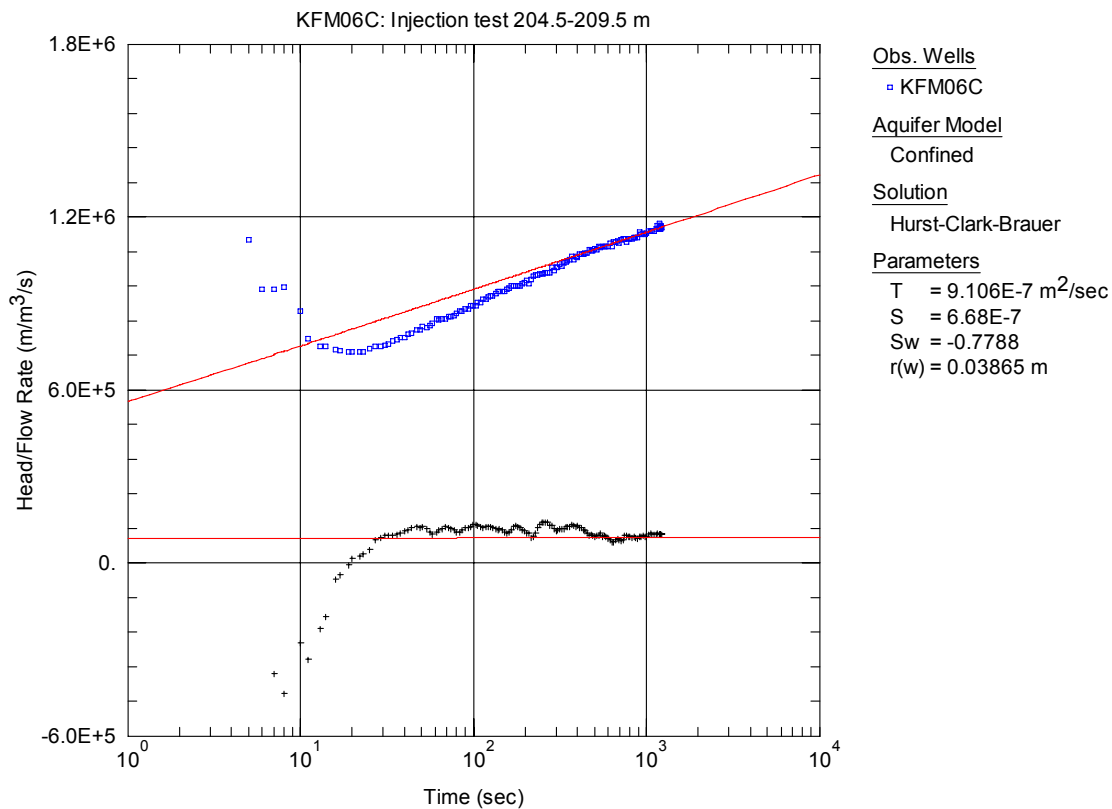
**Figure A3-320.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time showing fit to early PRF, from the injection test in section 204.5-209.5 m in KFM06C.



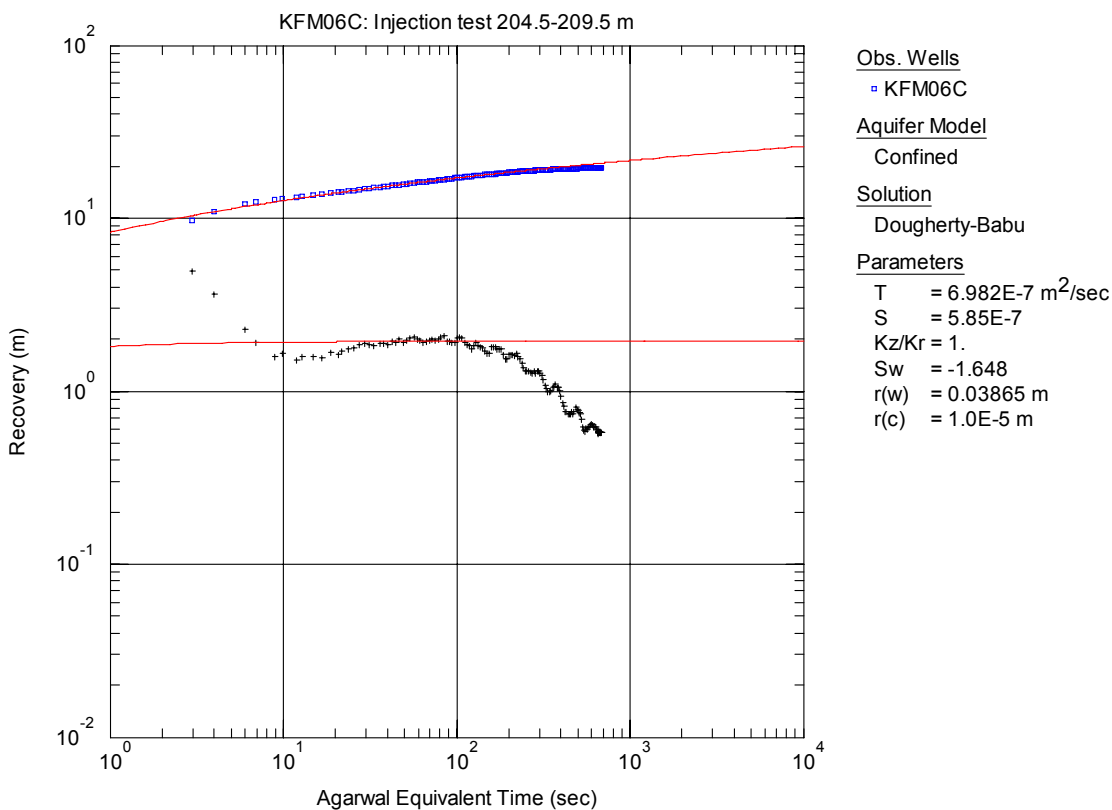
**Figure A3-321.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to early PRF, from the injection test in section 204.5-209.5 m in KFM06C.



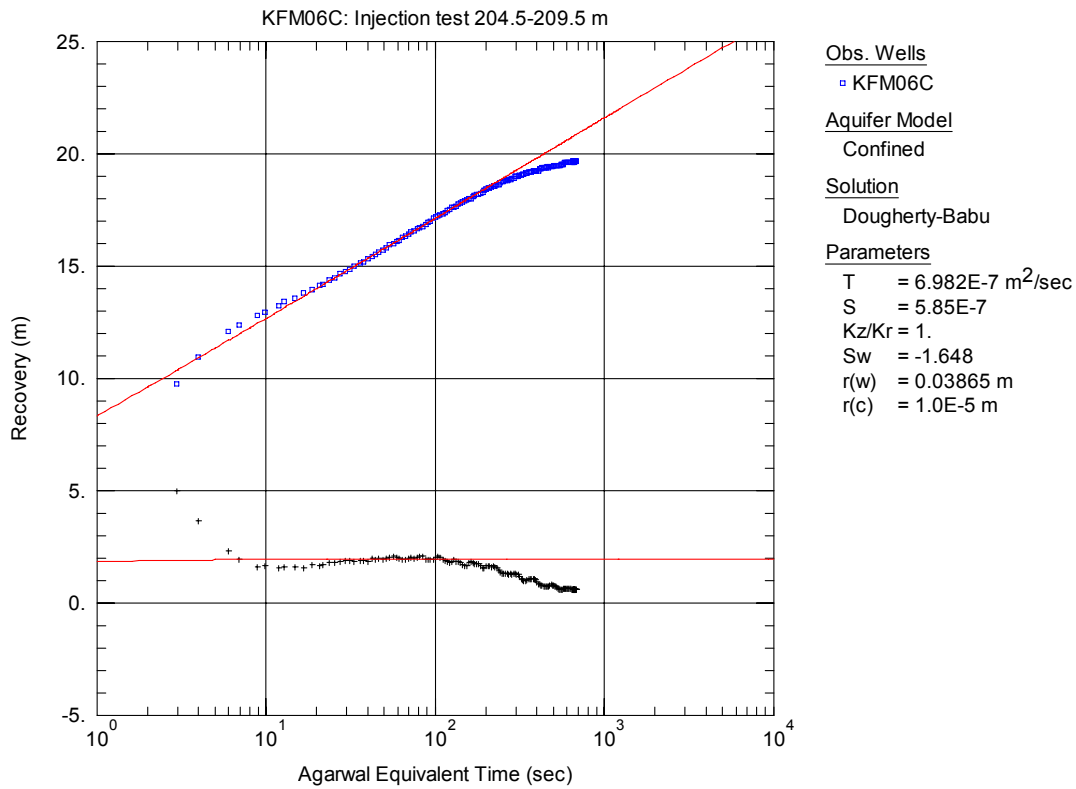
**Figure A3-322.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the late PRF, from the injection test in section 204.5-209.5 m in KFM06C.



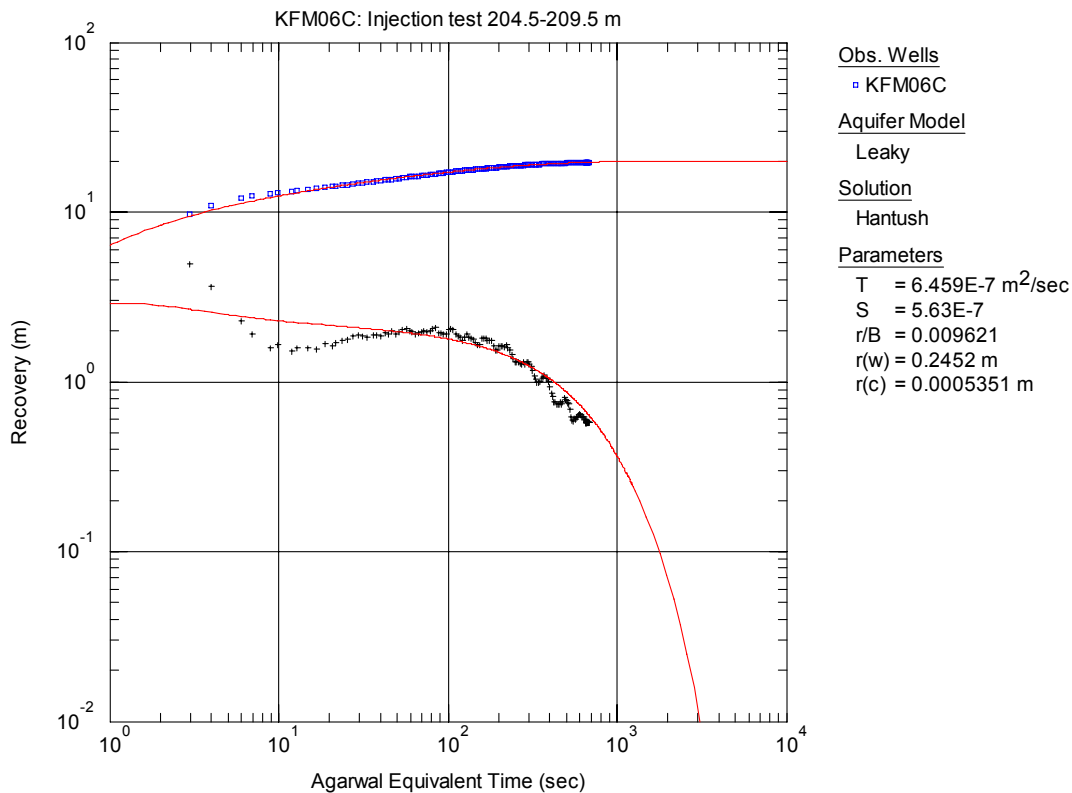
**Figure A3-323.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the late PRF, from the injection test in section 204.5-209.5 m in KFM06C.



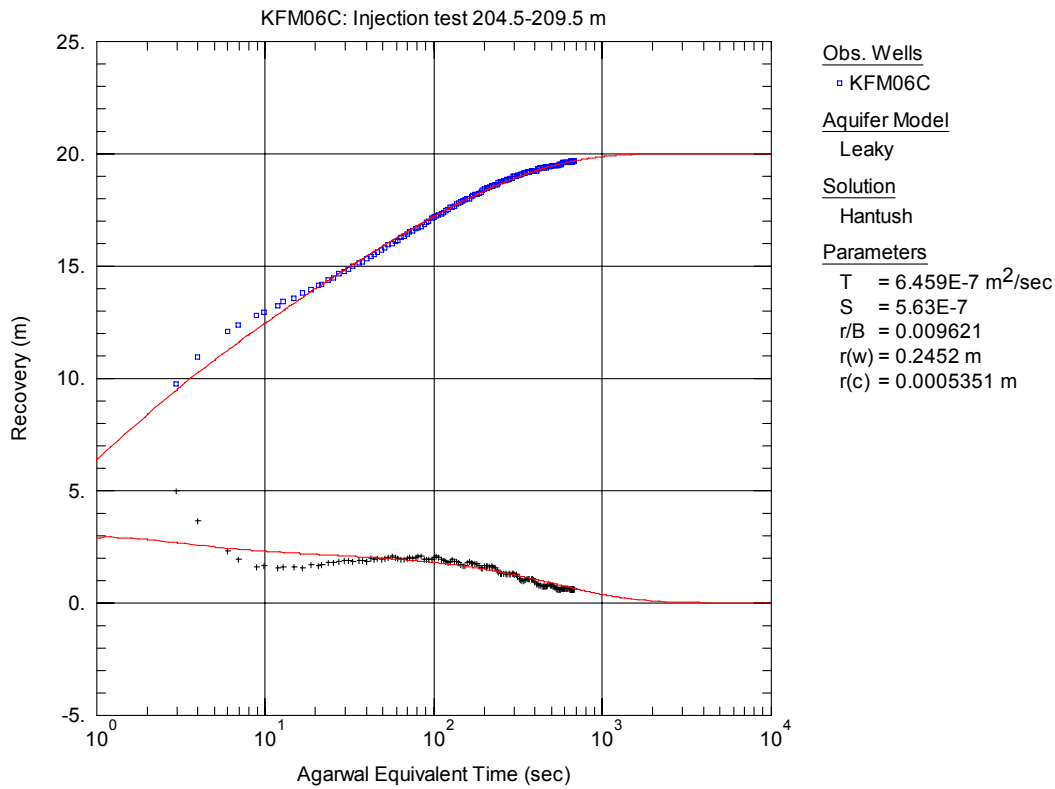
**Figure A3-324.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 204.5-209.5 m in KFM06C.



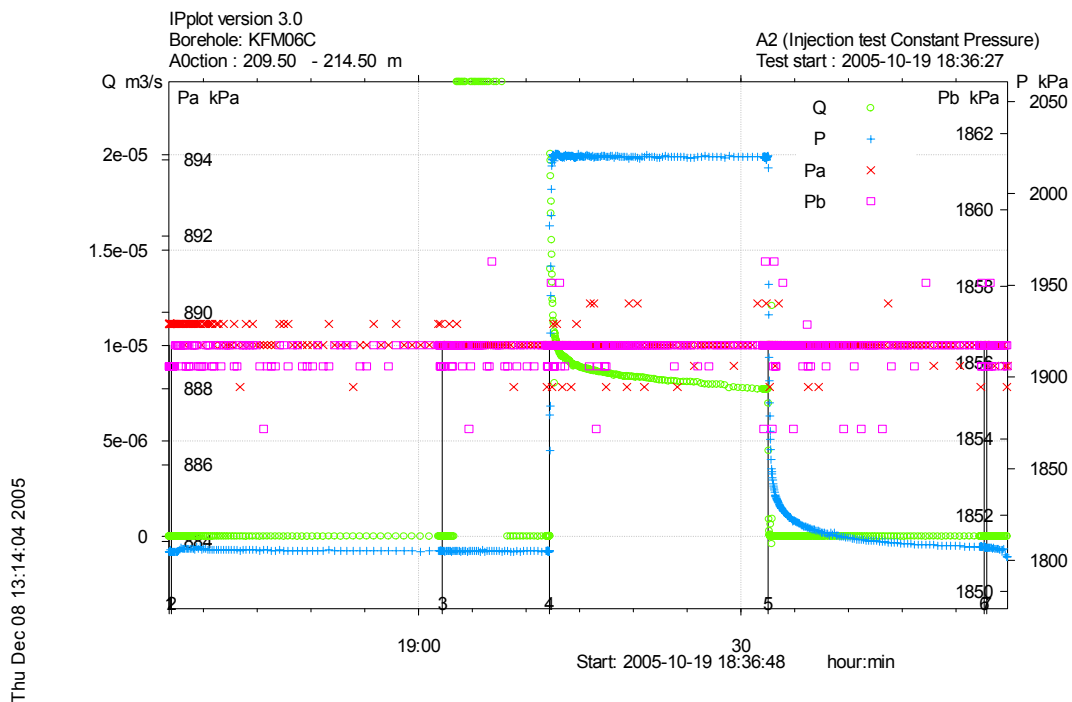
**Figure A3-325.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Dougherty-Babu solution, from the injection test in section 204.5-209.5 m in KFM06C.



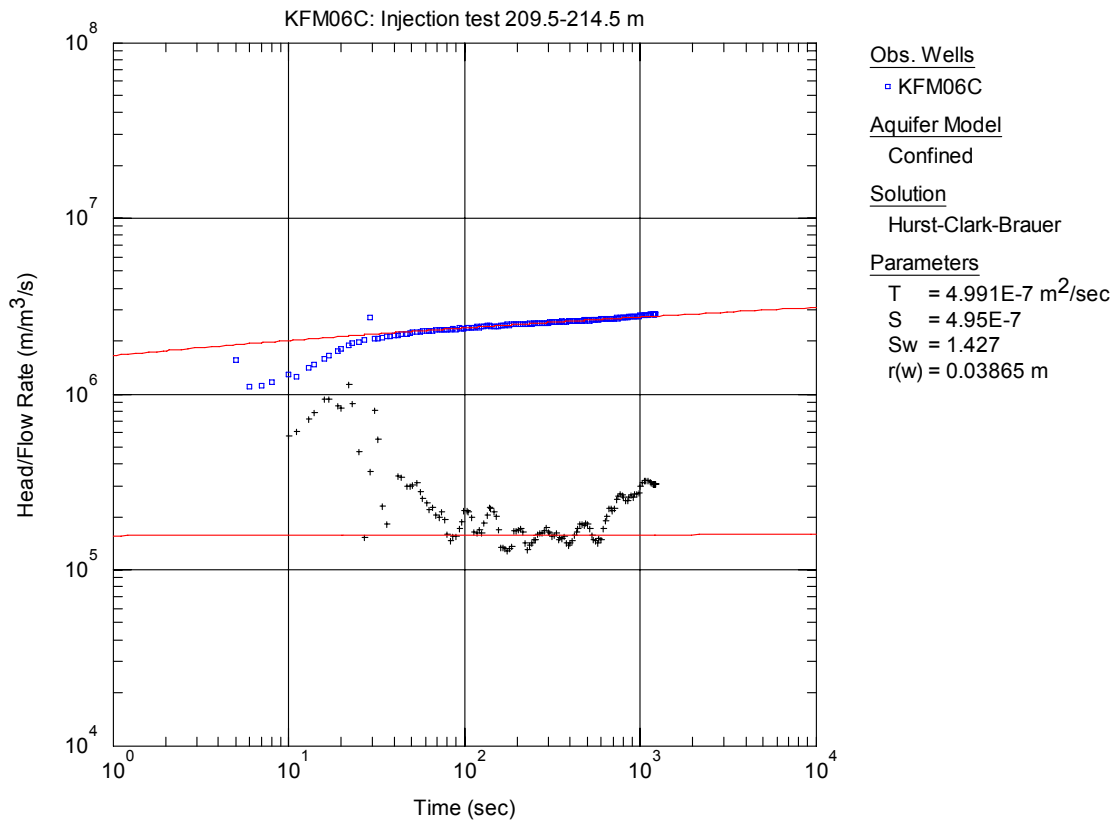
**Figure A3-326.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, showing fit to the Hantush solution, from the injection test in section 204.5-209.5 m in KFM06C.



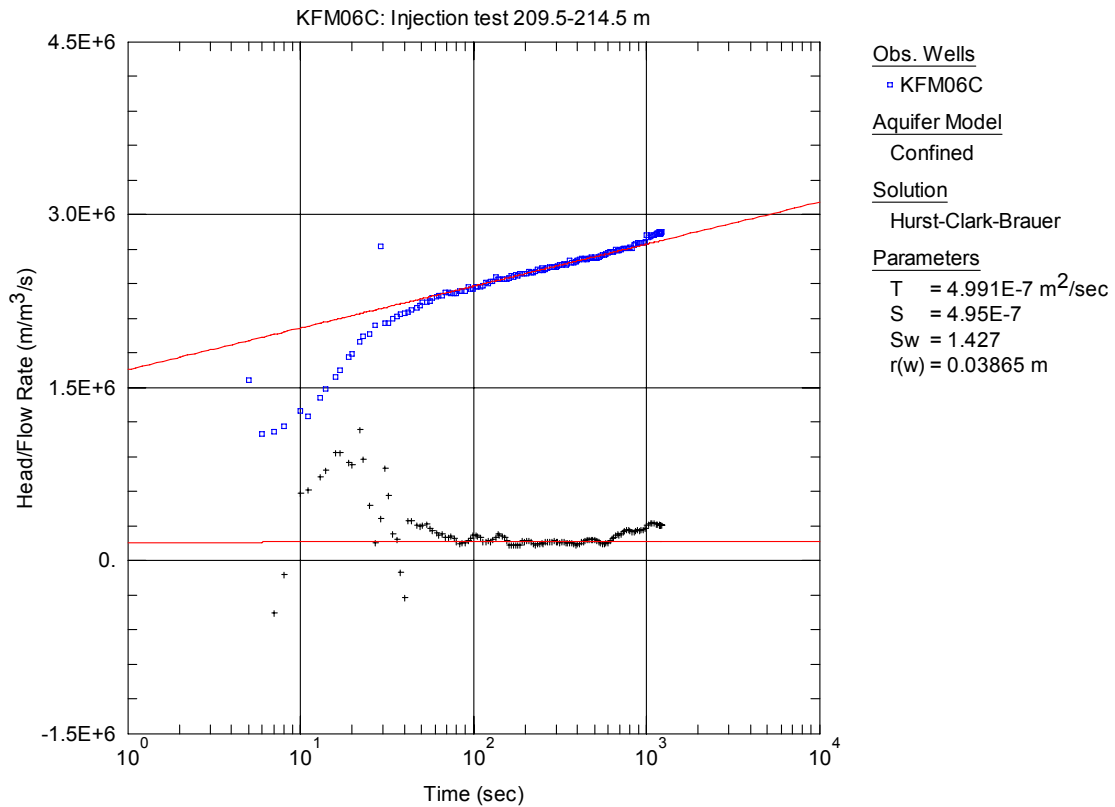
**Figure A3-327.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, showing fit to the Hantush solution, from the injection test in section 204.5-209.5 m in KFM06C.



**Figure A3-328.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 209.5-214.5 m in borehole KFM06C.

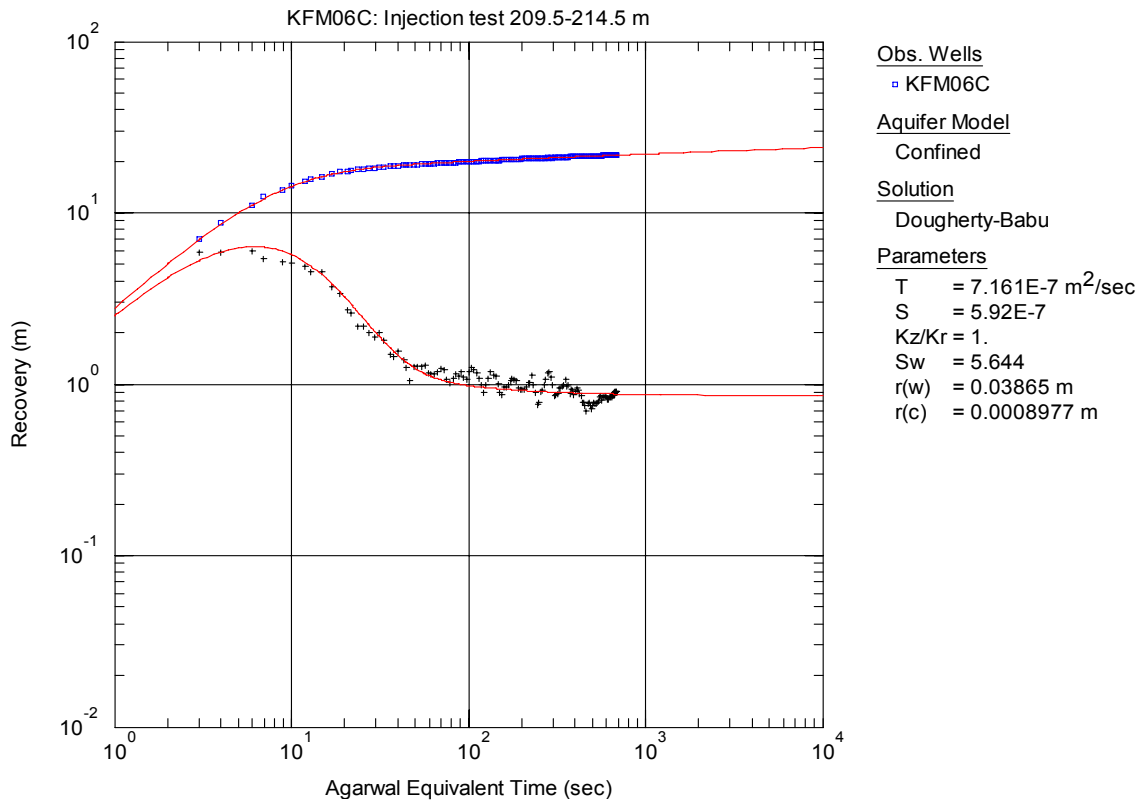


**Figure A3-329.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 209.5-214.5 m in KFM06C.

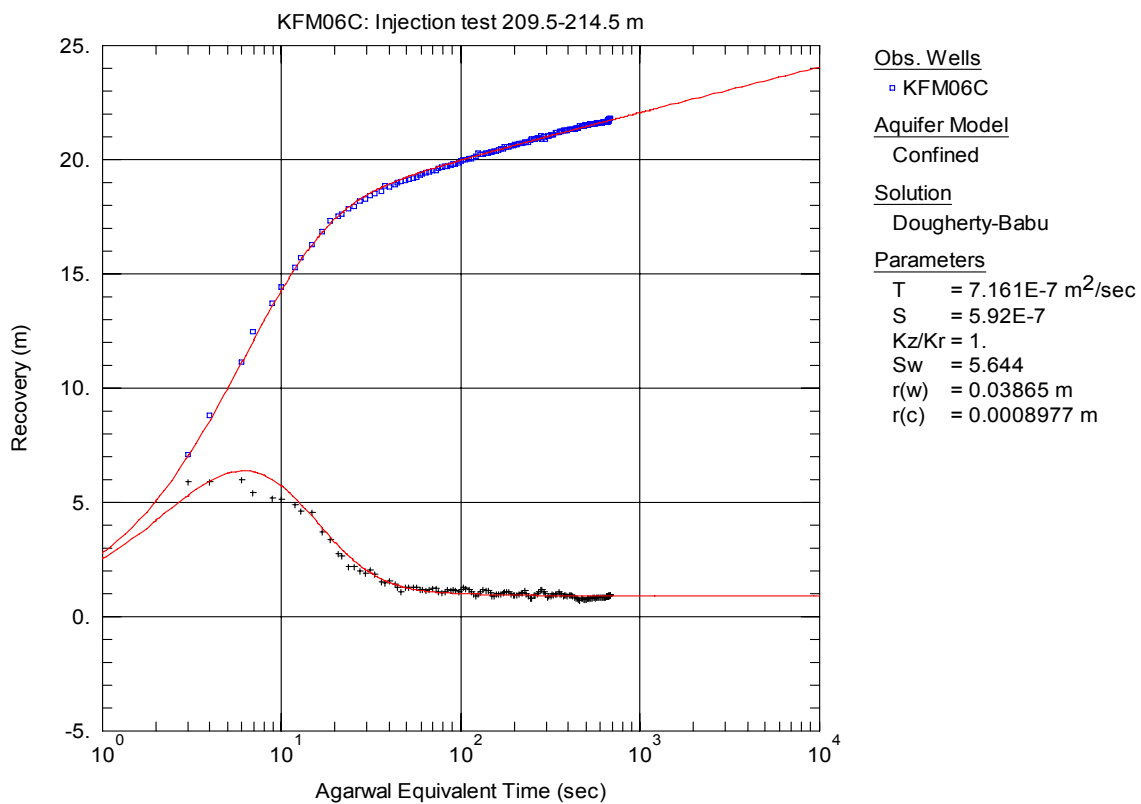


**Figure A3-330.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 209.5-214.5 m in KFM06C.

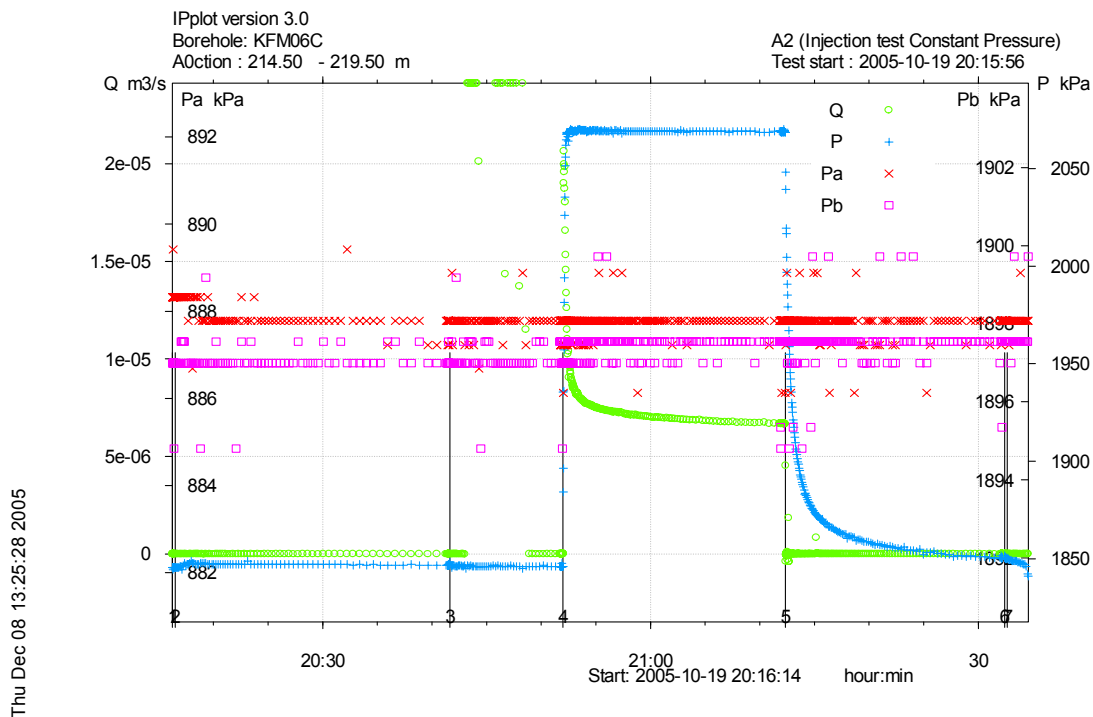




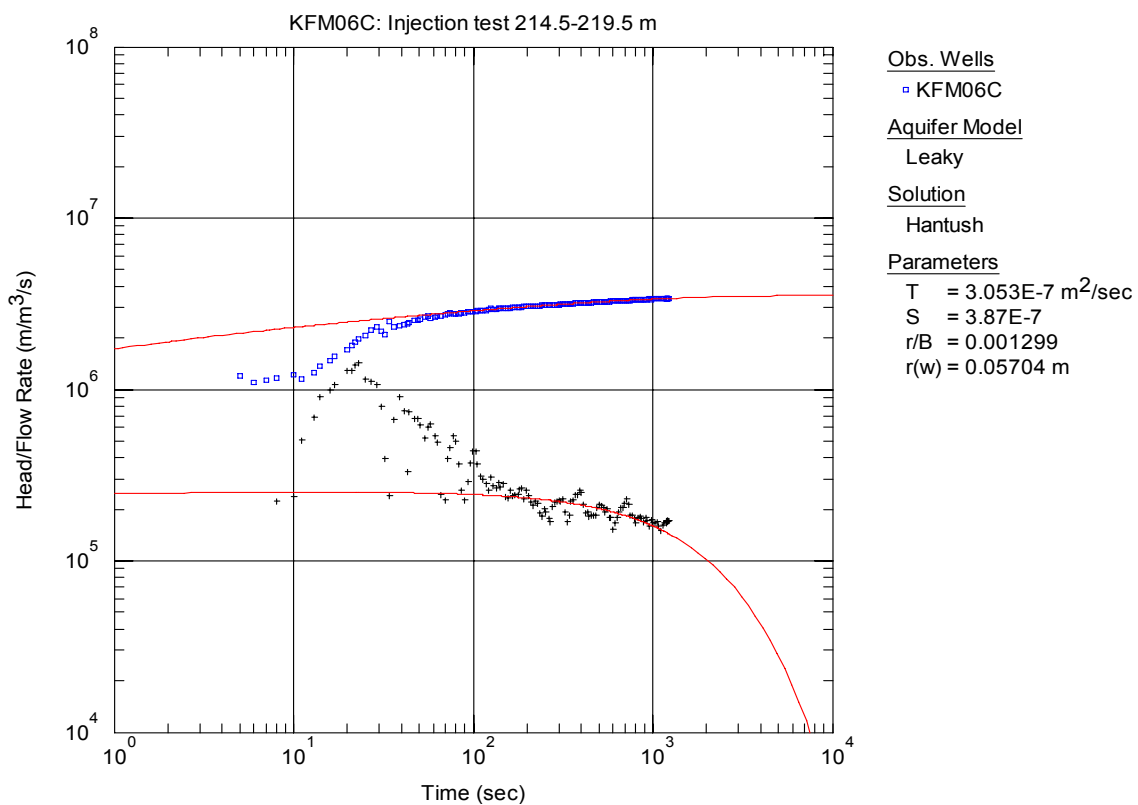
**Figure A3-331.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 209.5-214.5 m in KFM06C.



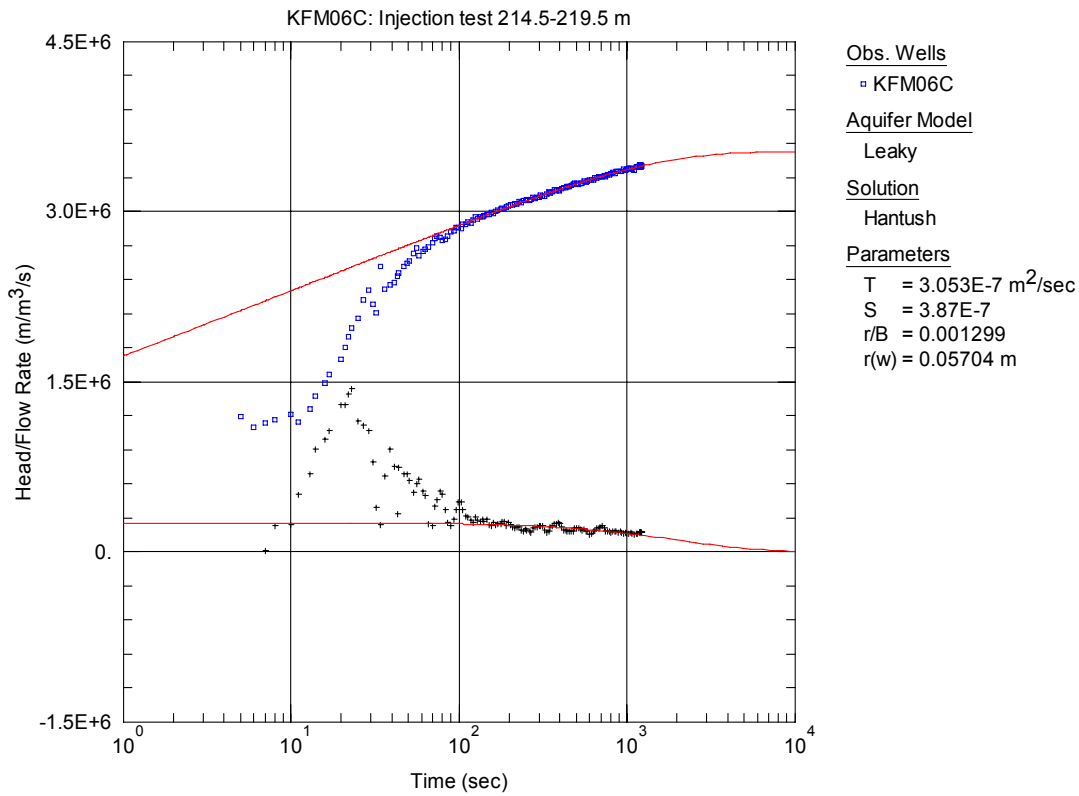
**Figure A3-332.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 209.5-214.5 m in KFM06C.



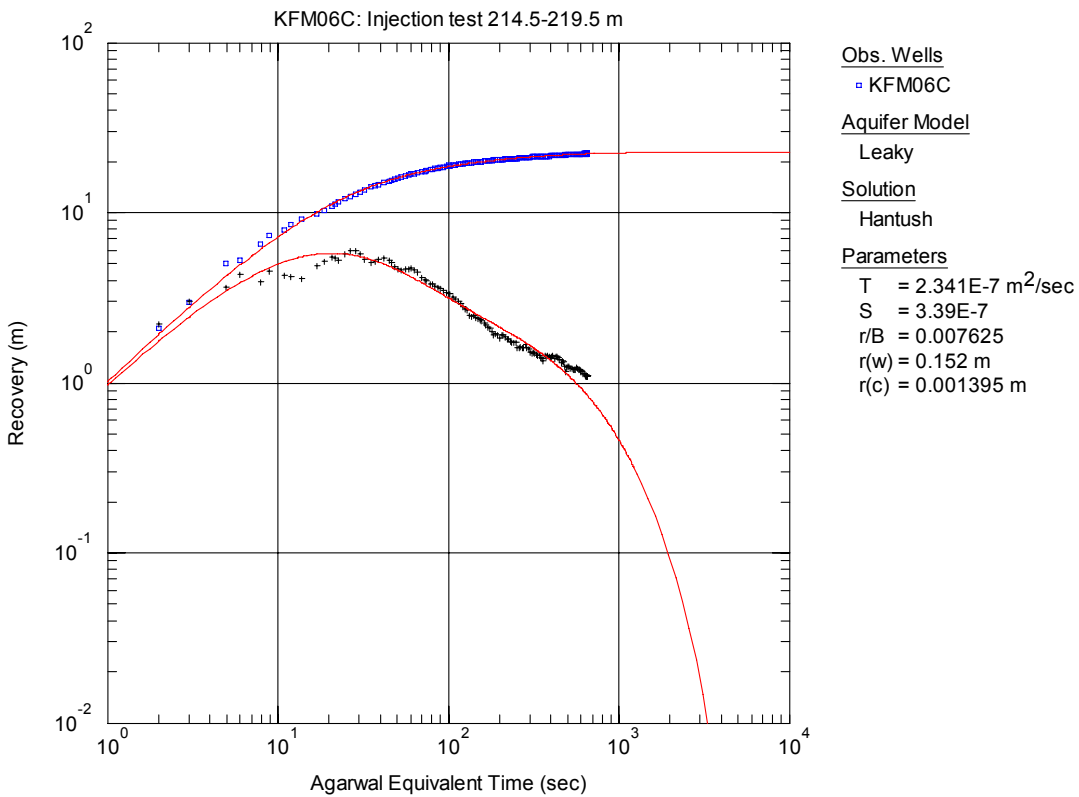
**Figure A3-333.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 214.5-219.5 m in borehole KFM06C.



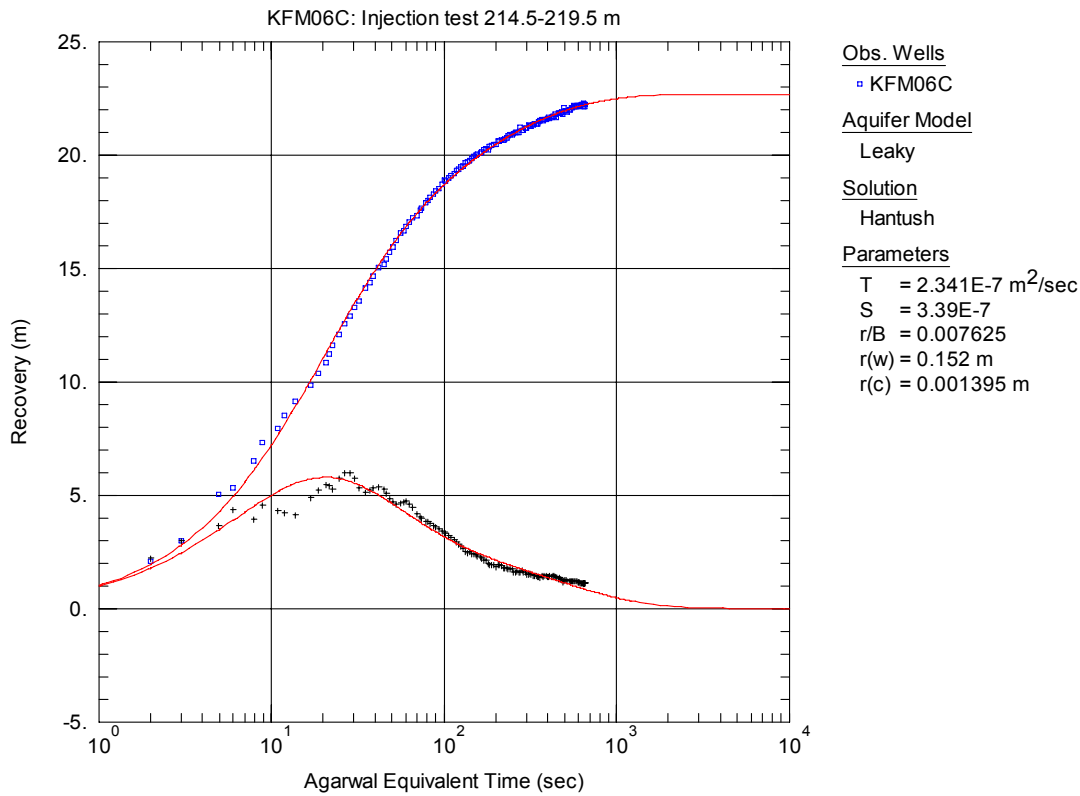
**Figure A3-334.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 214.5-219.5 m in KFM06C.



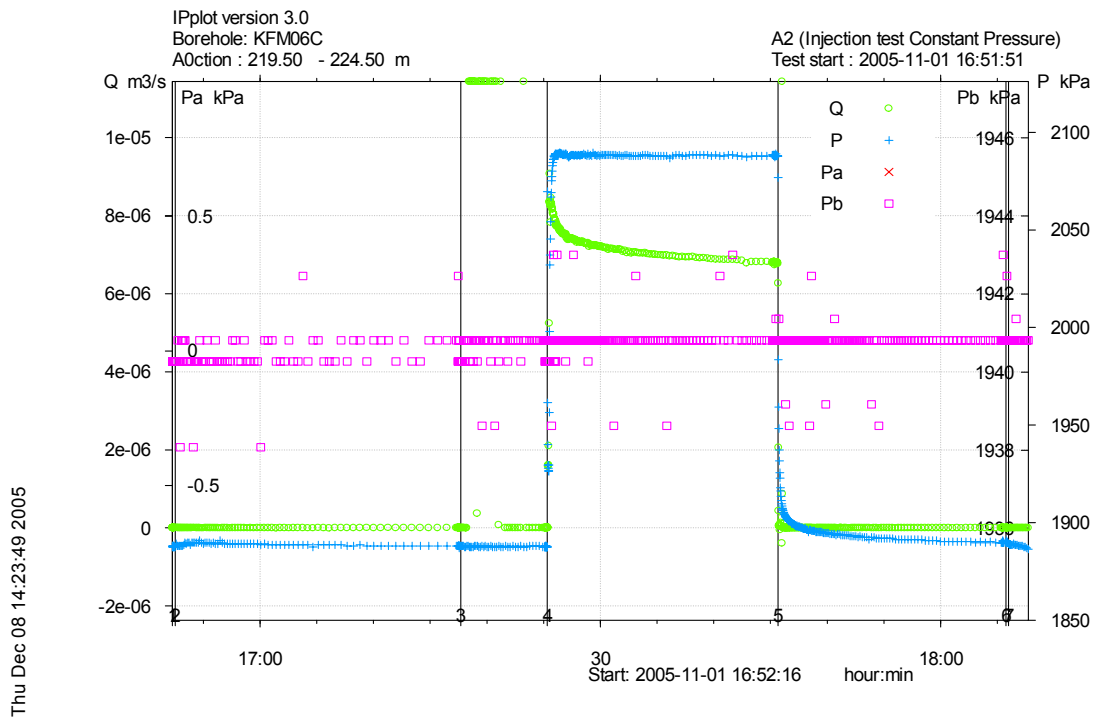
**Figure A3-335.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 214.5-219.5 m in KFM06C.



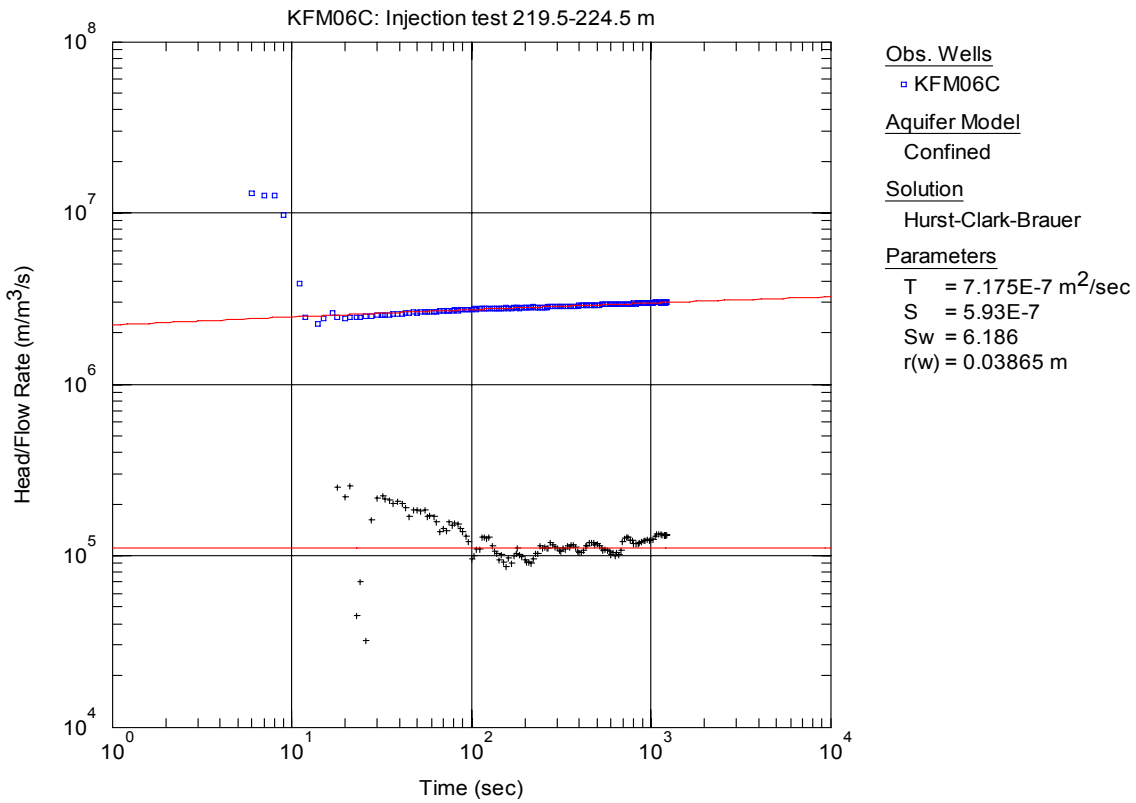
**Figure A3-336.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 214.5-219.5 m in KFM06C.



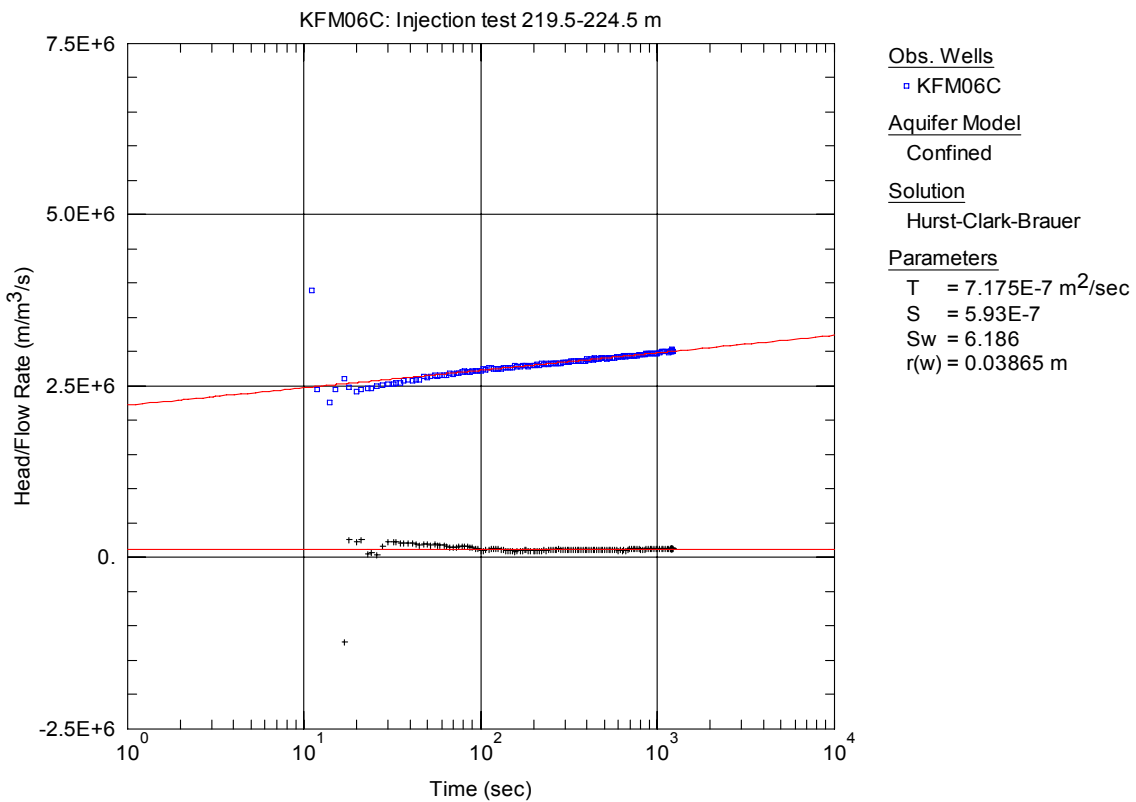
**Figure A3-337.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 214.5-219.5 m in KFM06C.



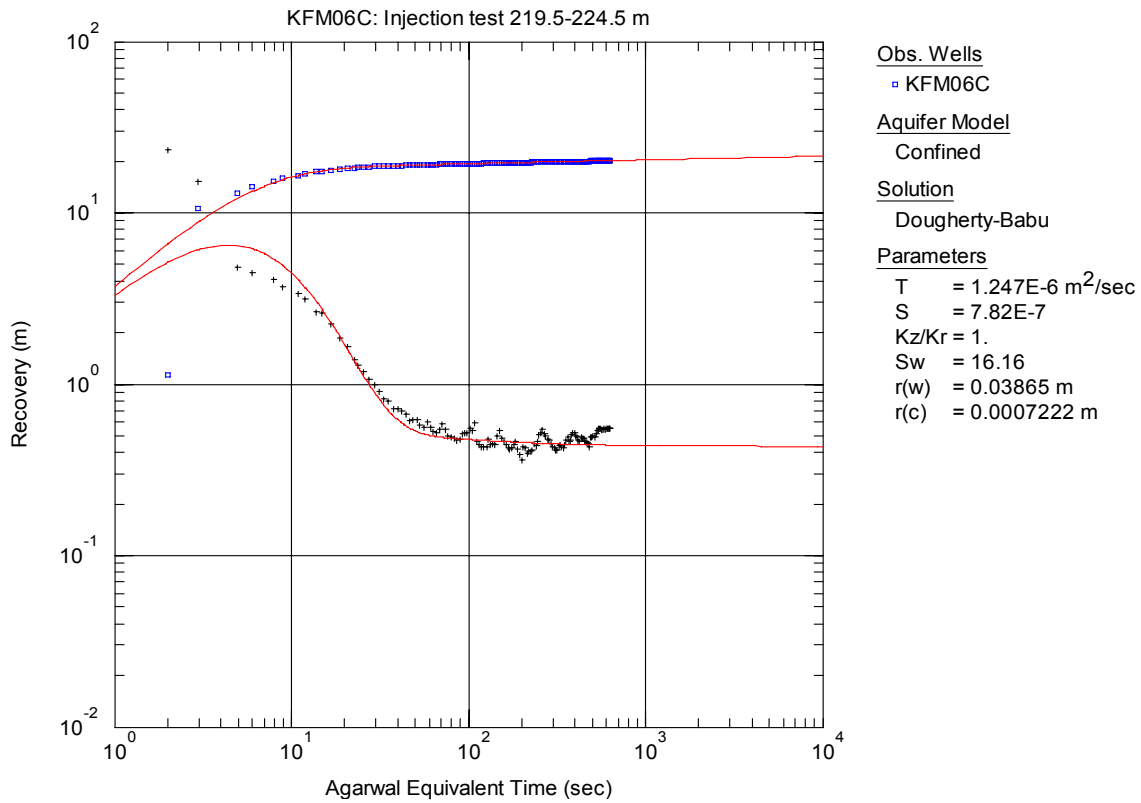
**Figure A3-338.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 219.5-224.5 m in borehole KFM06C.



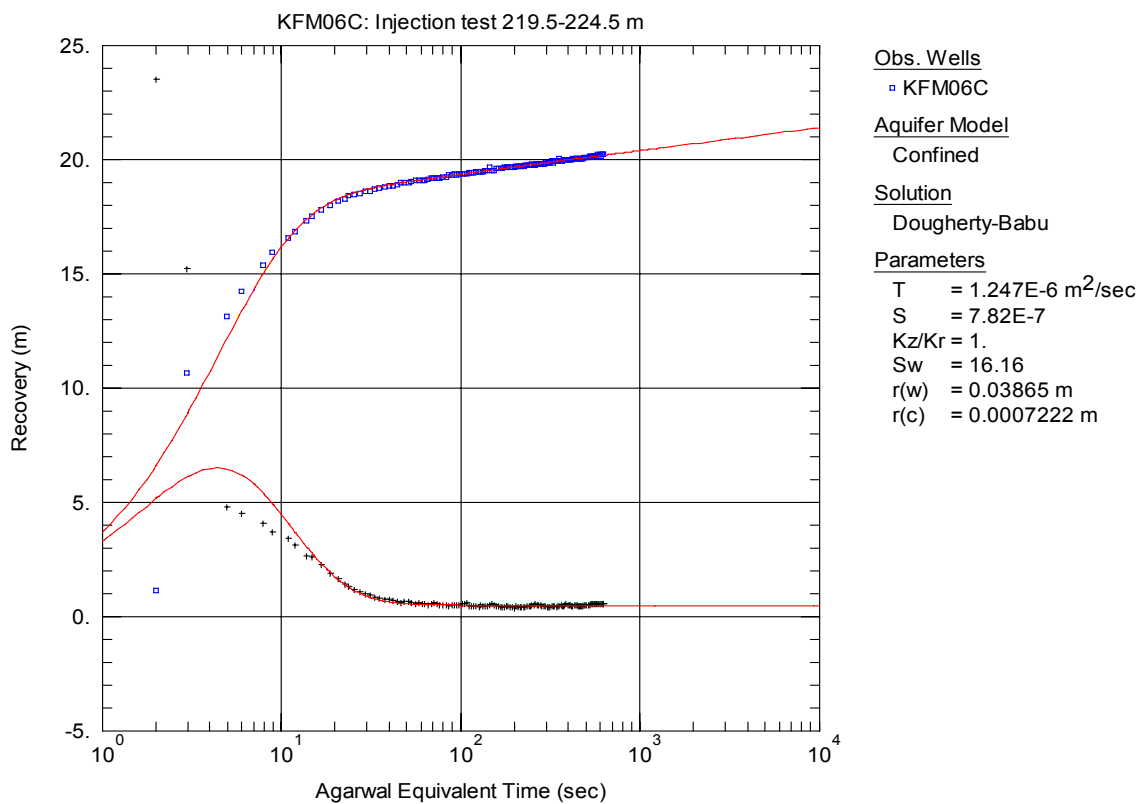
**Figure A3-339.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 219.5-224.5 m in KFM06C.



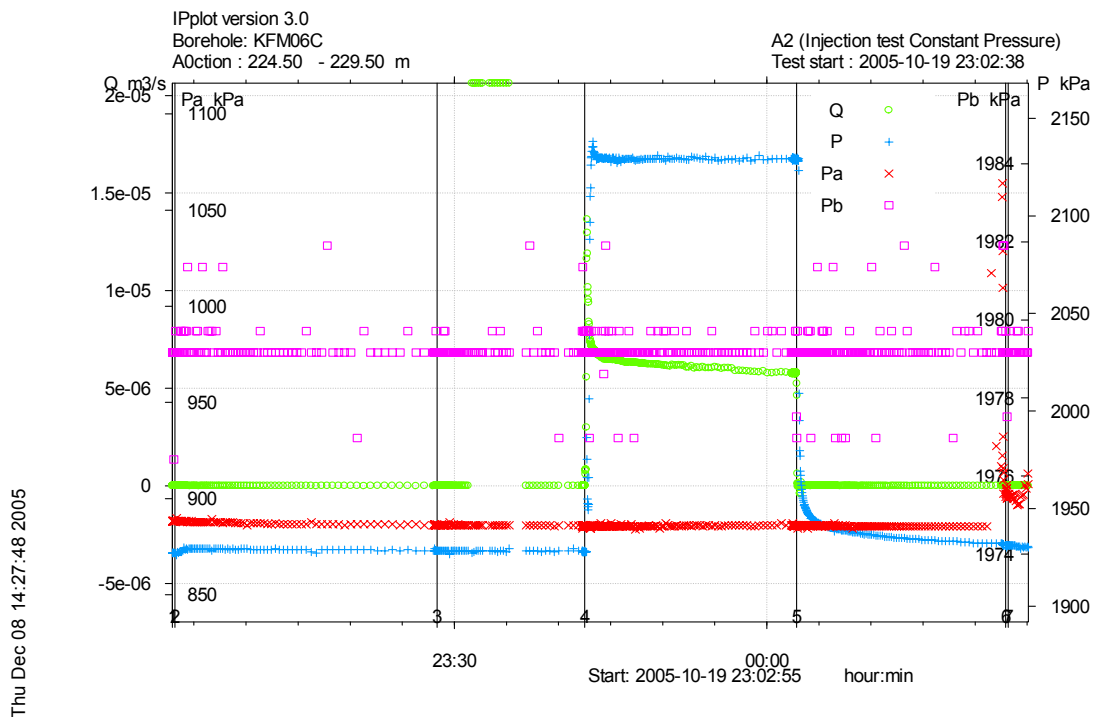
**Figure A3-340.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 219.5-224.5 m in KFM06C.



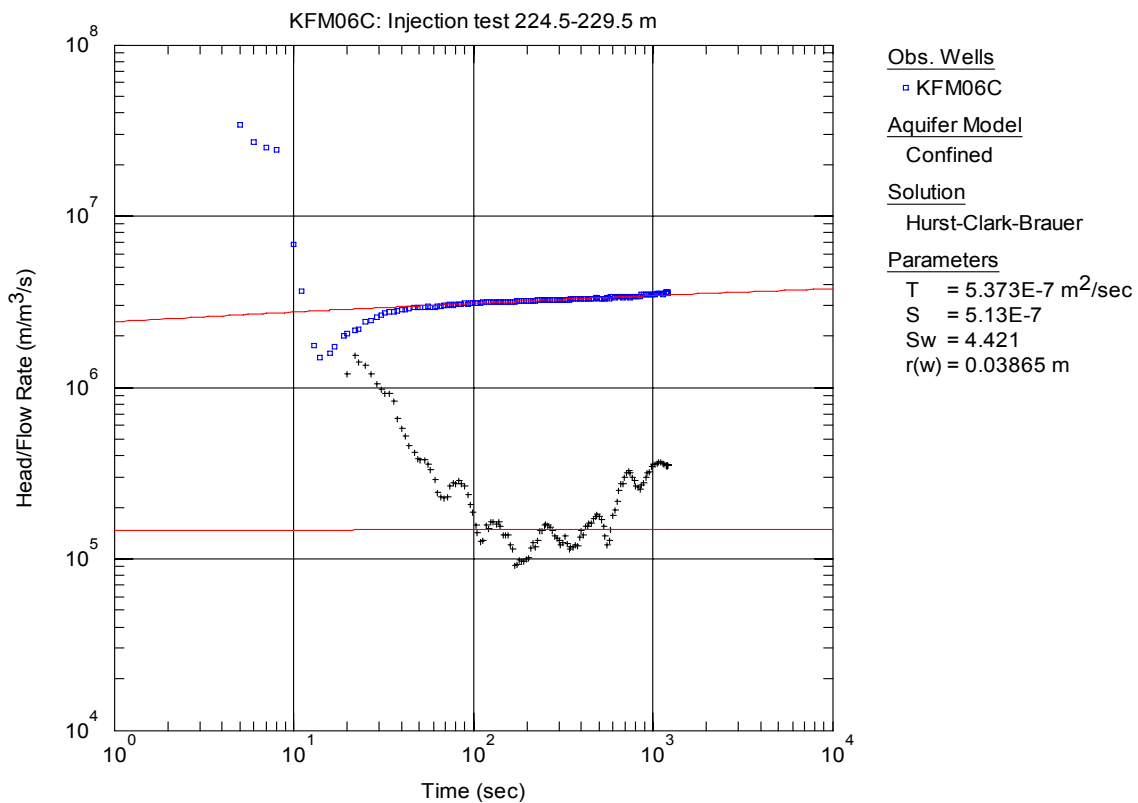
**Figure A3-341.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 219.5-224.5 m in KFM06C.



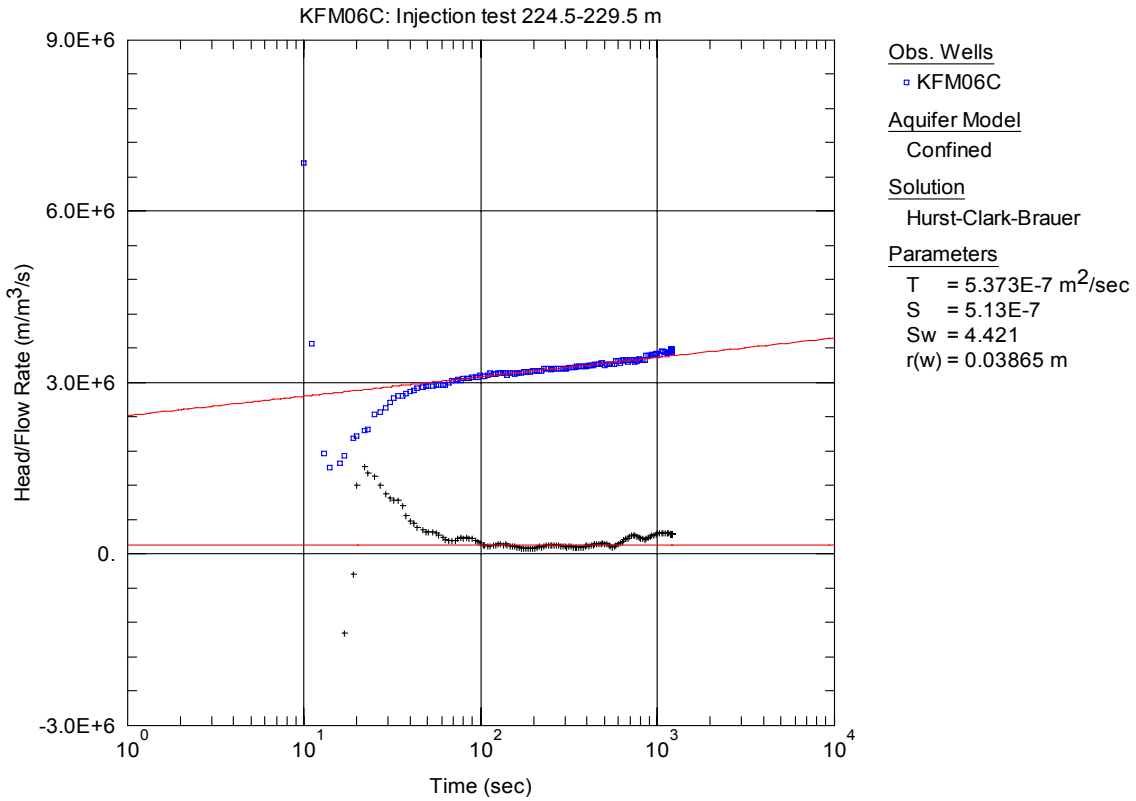
**Figure A3-342.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 219.5-224.5 m in KFM06C.



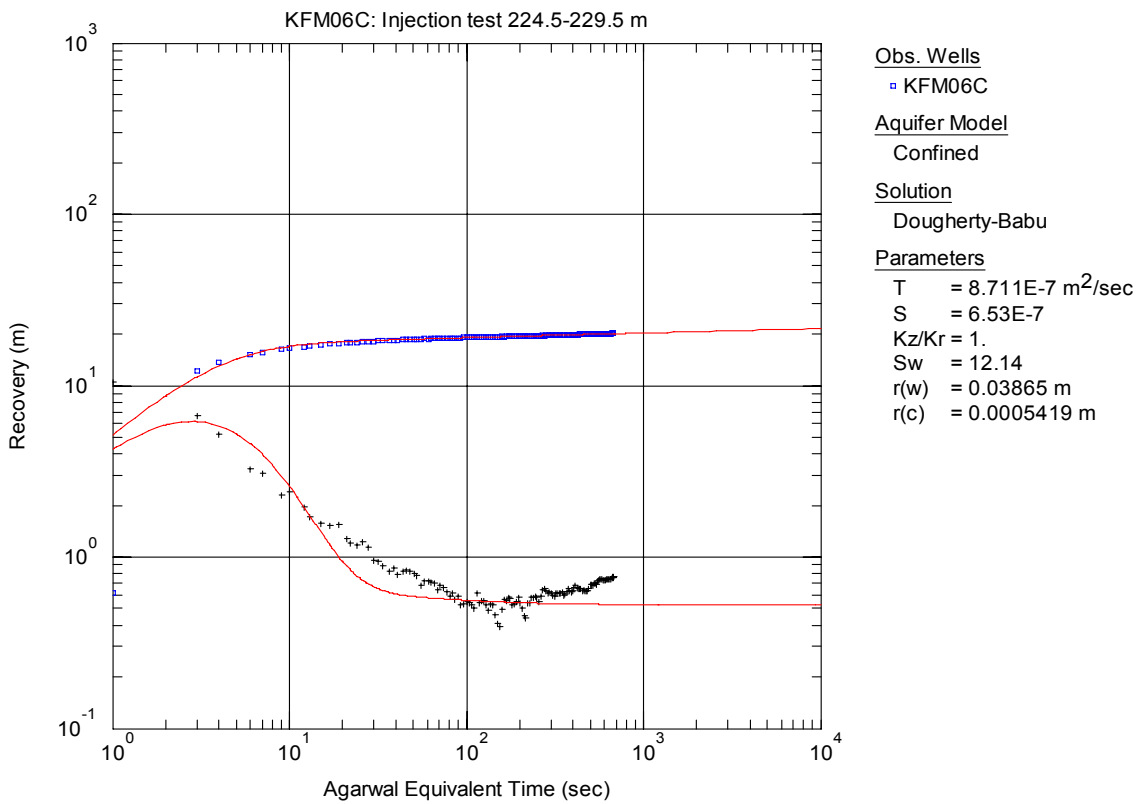
**Figure A3-343.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 224.5-229.5 m in borehole KFM06C.



**Figure A3-344.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 224.5-229.5 m in KFM06C.

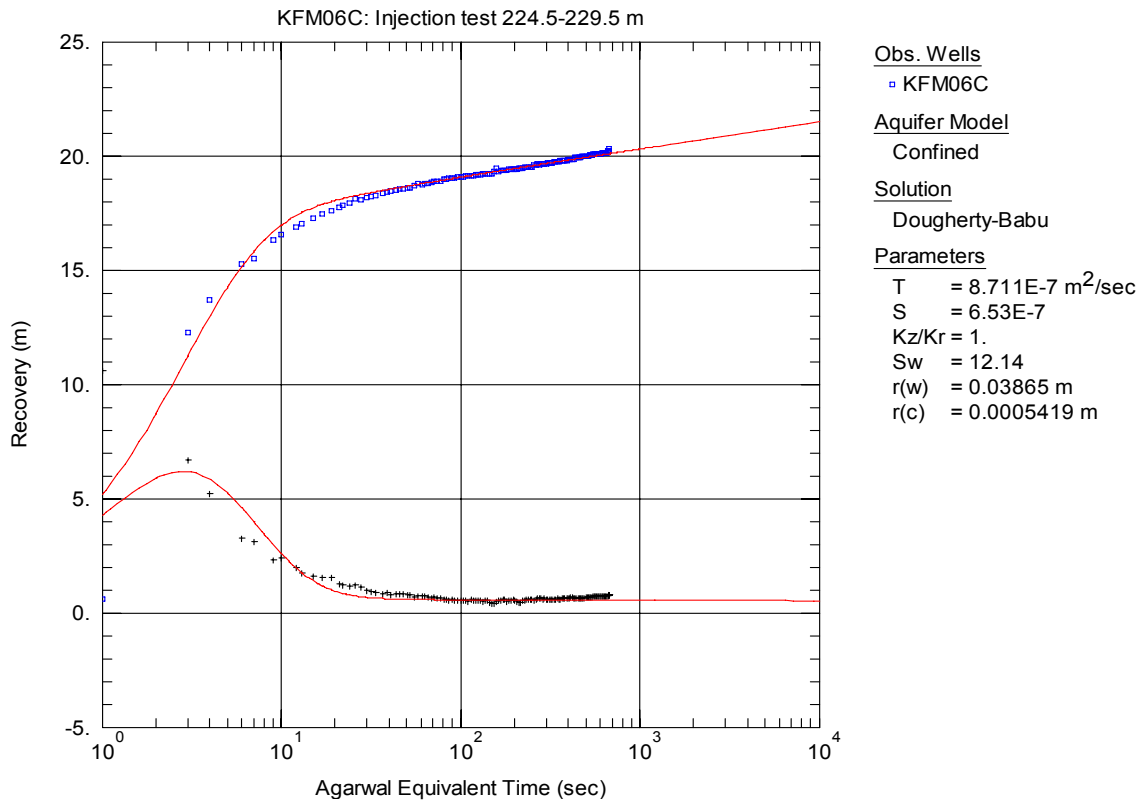


**Figure A3-345.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 224.5-229.5 m in KFM06C.

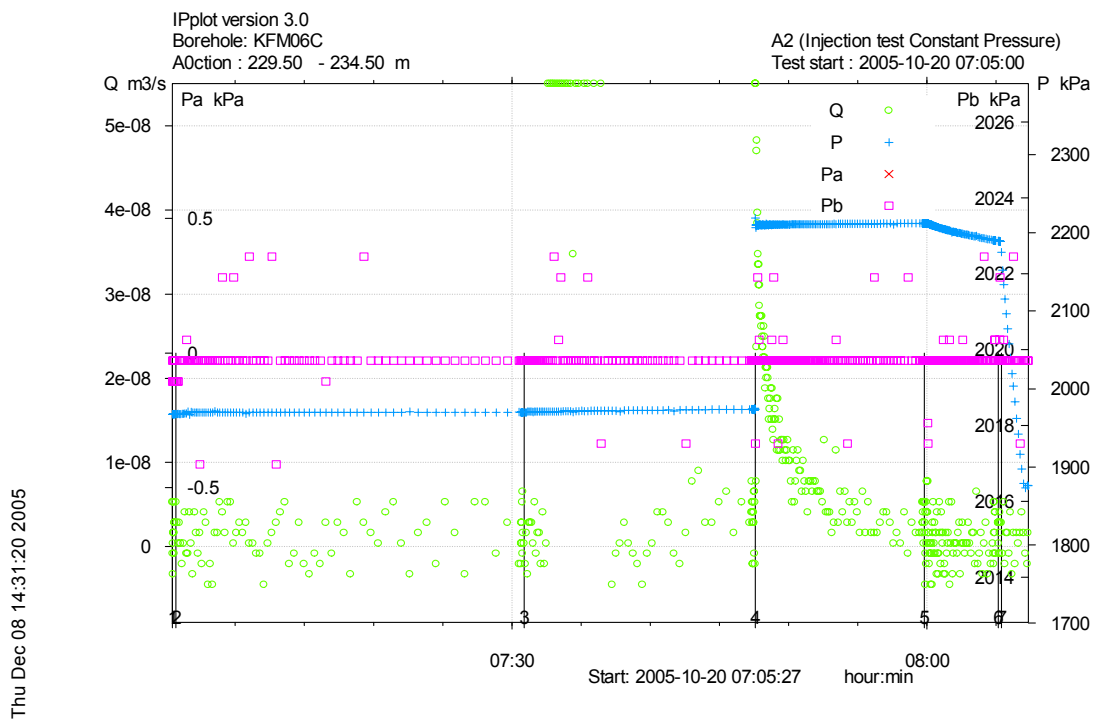


**Figure A3-346.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 224.5-229.5 m in KFM06C.

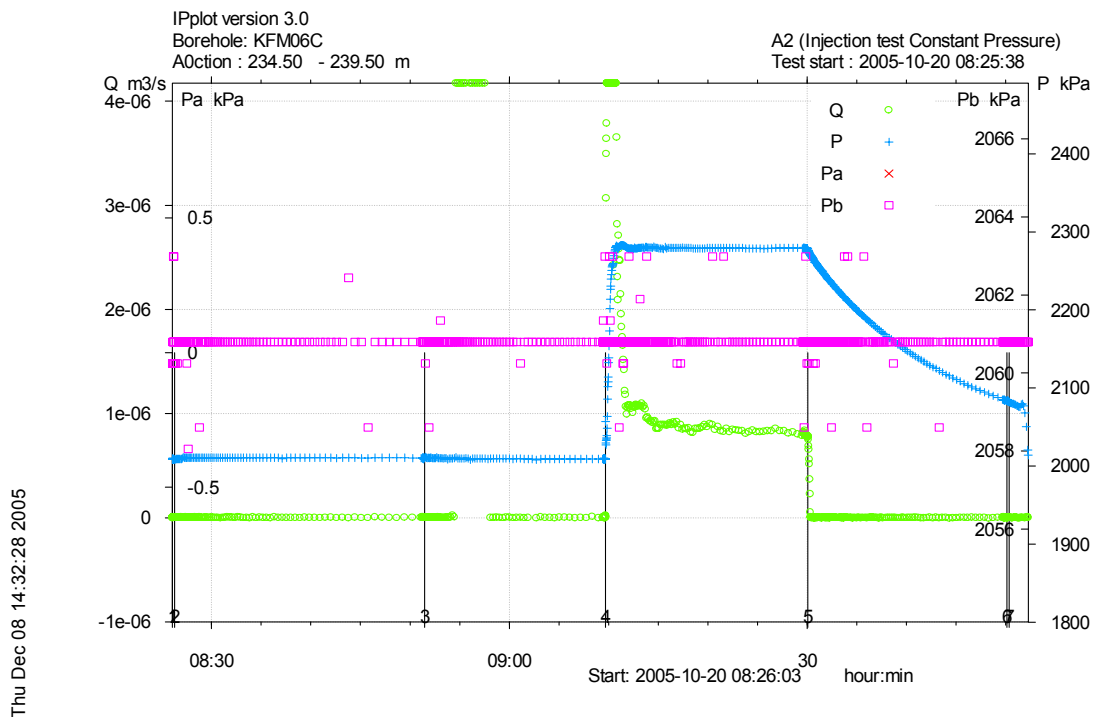




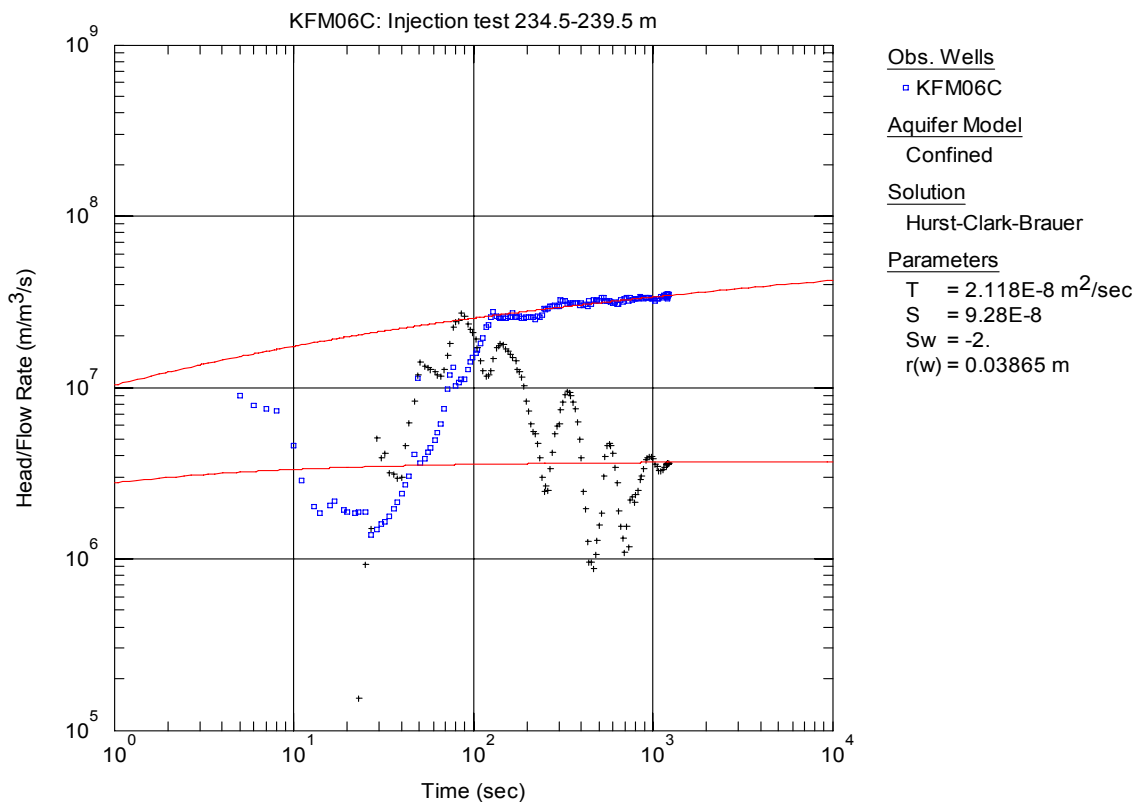
**Figure A3-347.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 224.5-229.5 m in KFM06C.



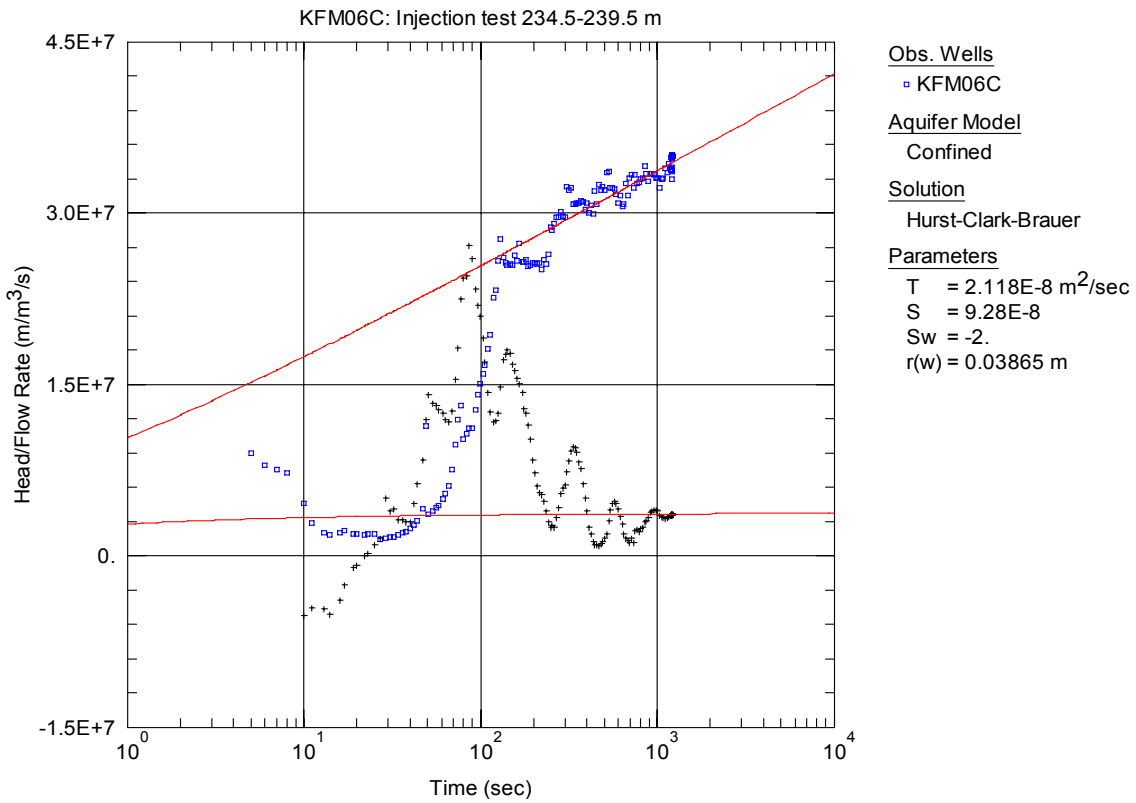
**Figure A3-348.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 229.5-234.5 m in borehole KFM06C.



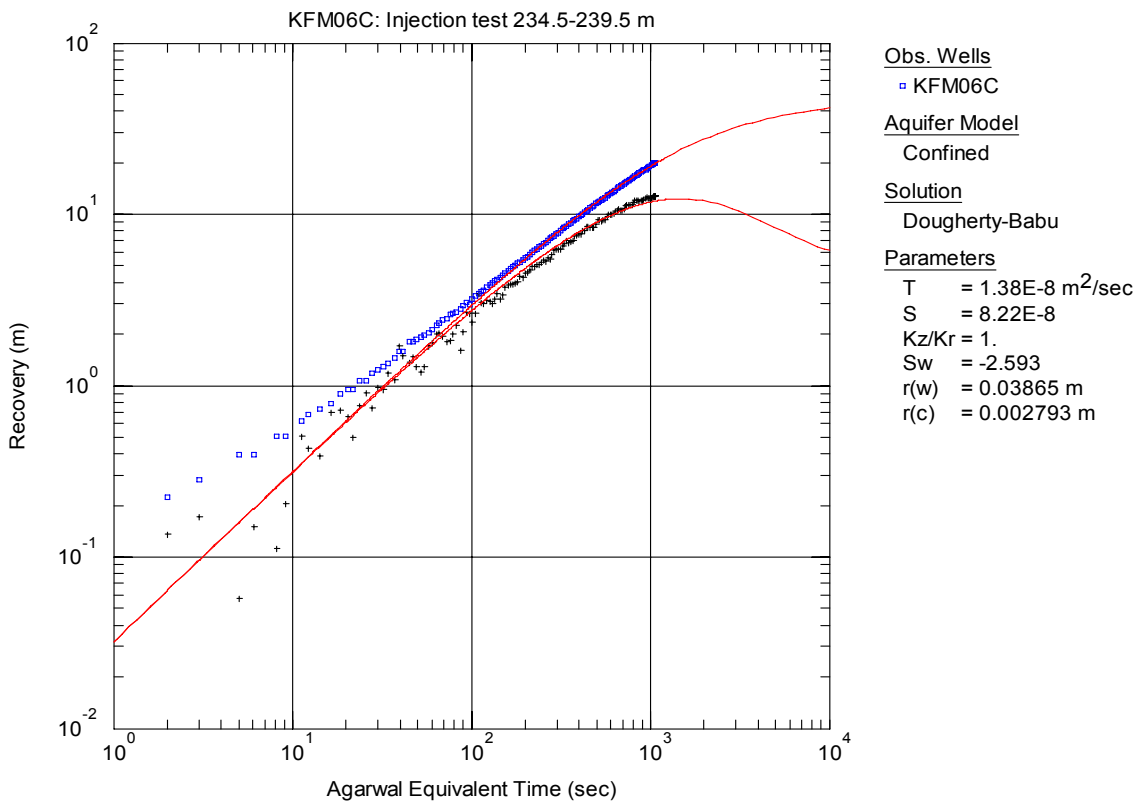
**Figure A3-349.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 234.5-239.5 m in borehole KFM06C.



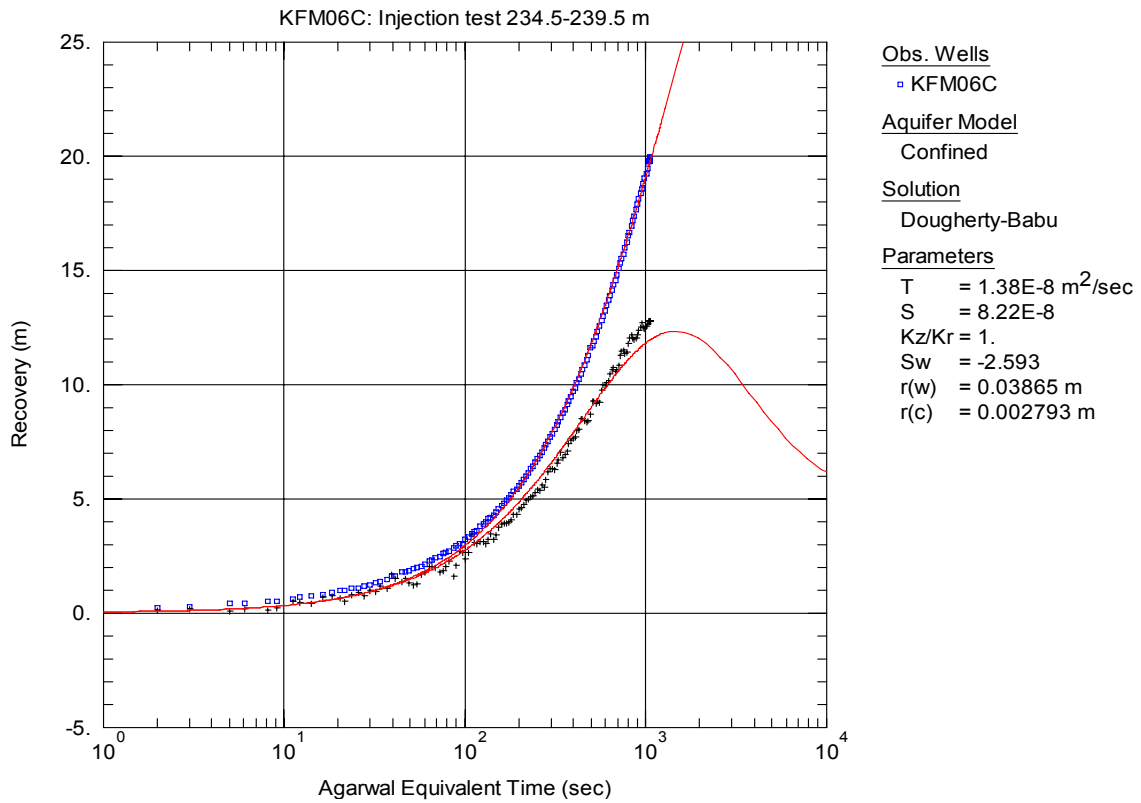
**Figure A3-350.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 234.5-239.5 m in KFM06C.



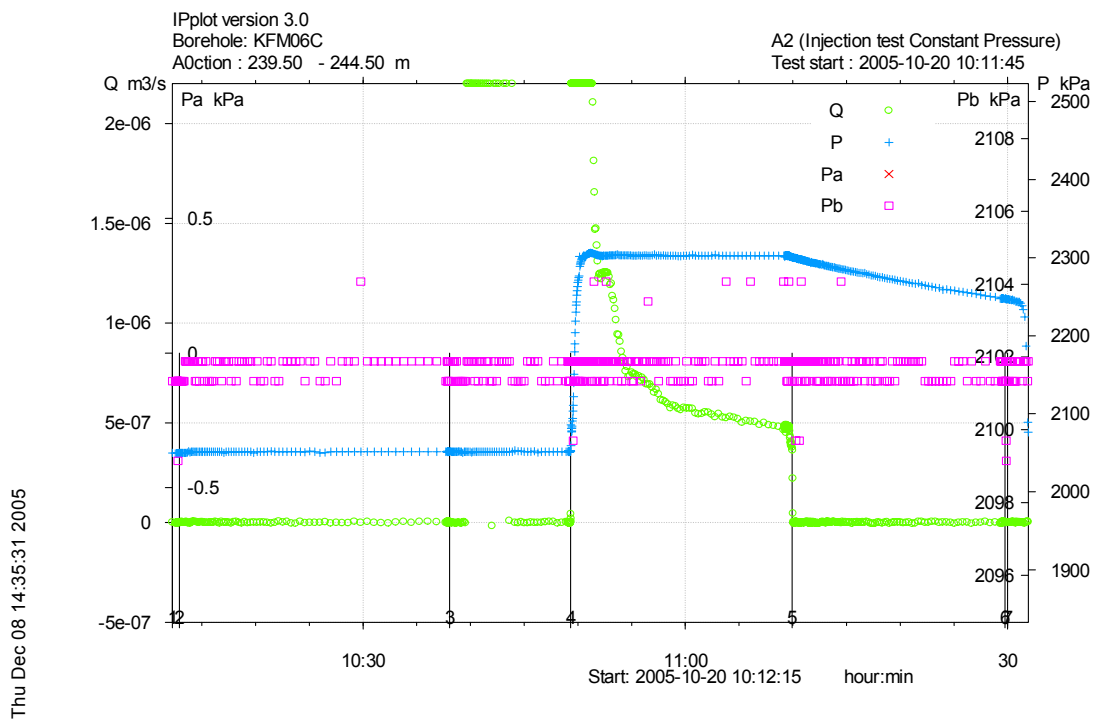
**Figure A3-351.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 234.5-239.5 m in KFM06C.



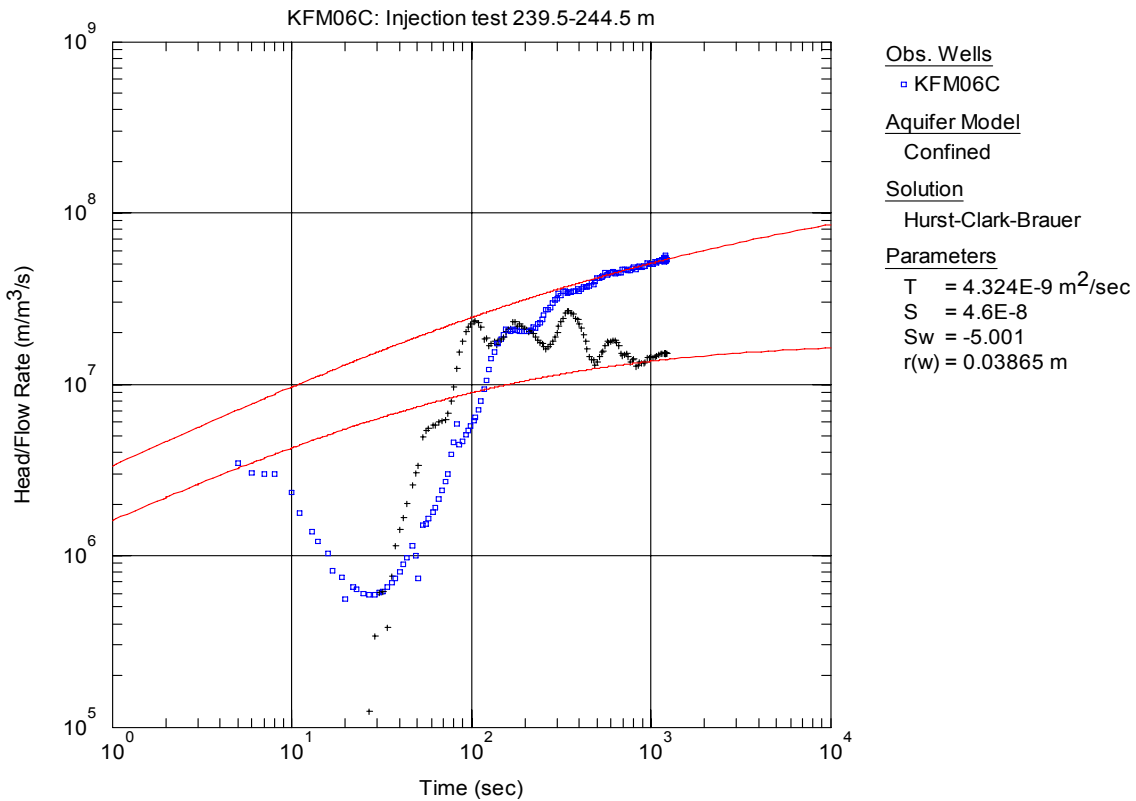
**Figure A3-352.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 234.5-239.5 m in KFM06C.



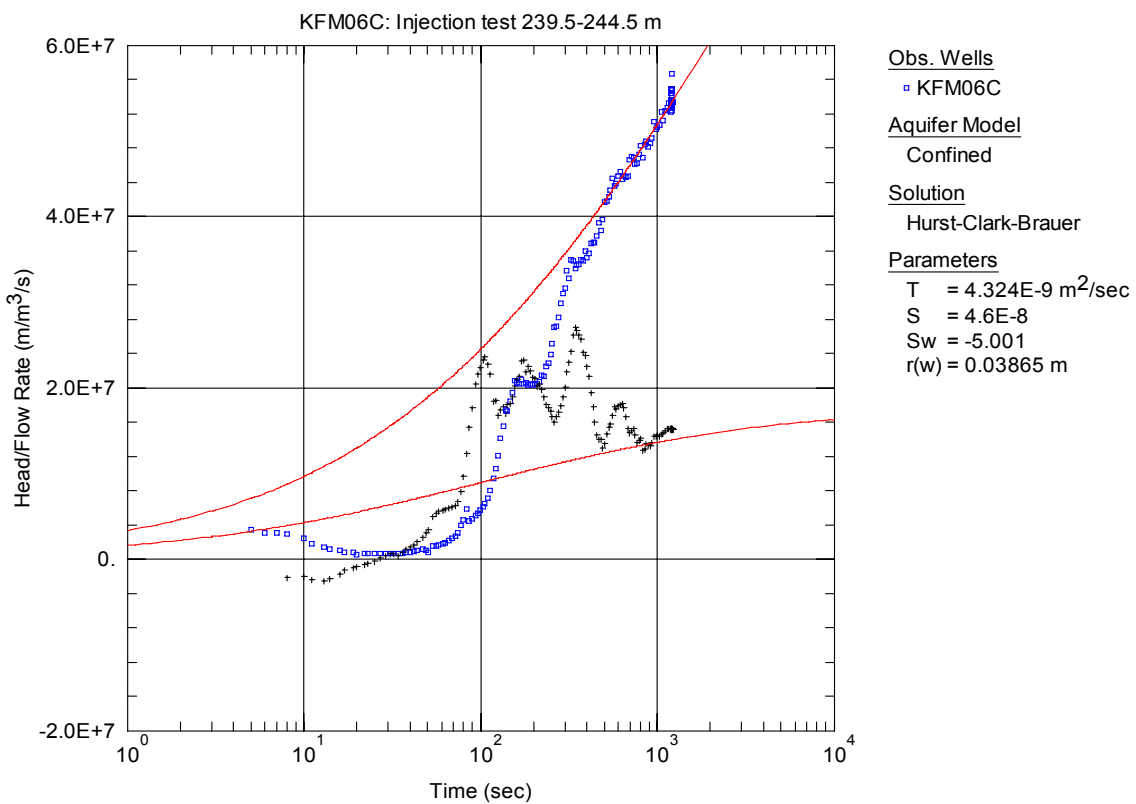
**Figure A3-353.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 234.5-239.5 m in KFM06C.



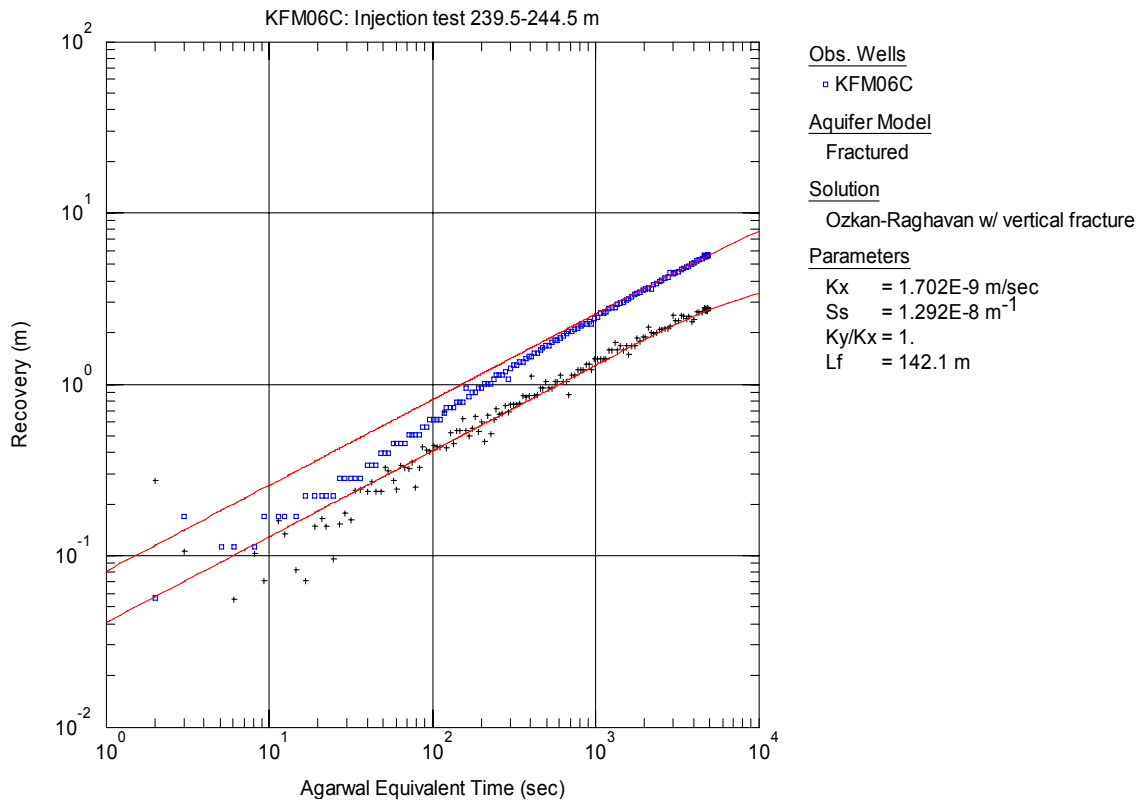
**Figure A3-354.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 239.5-244.5 m in borehole KFM06C.



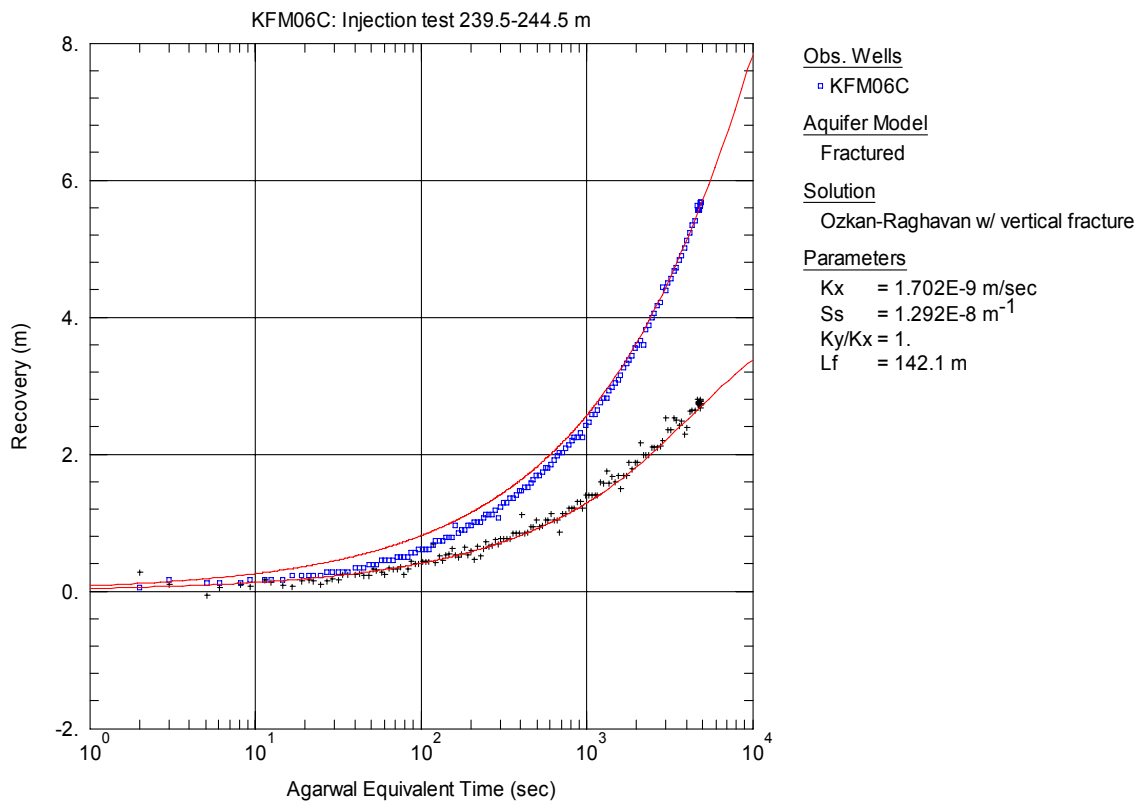
**Figure A3-355.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 239.5-244.5 m in KFM06C.



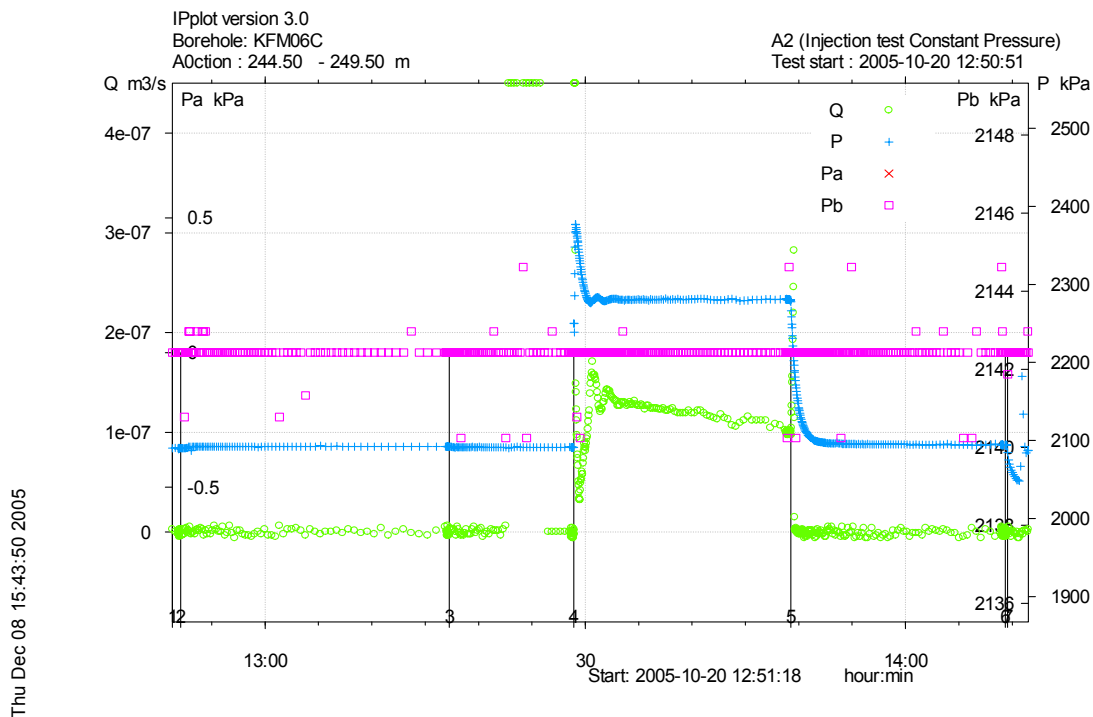
**Figure A3-356.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 239.5-244.5 m in KFM06C.



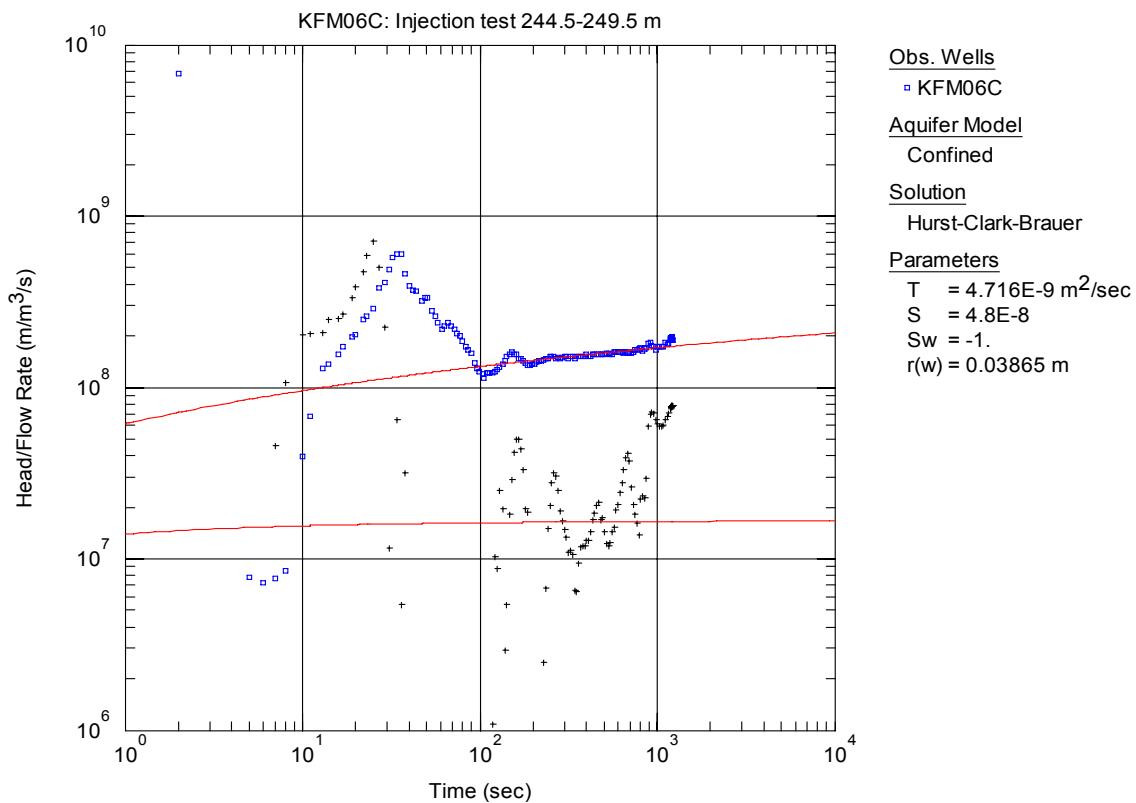
**Figure A3-357.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 239.5-244.5 m in KFM06C.



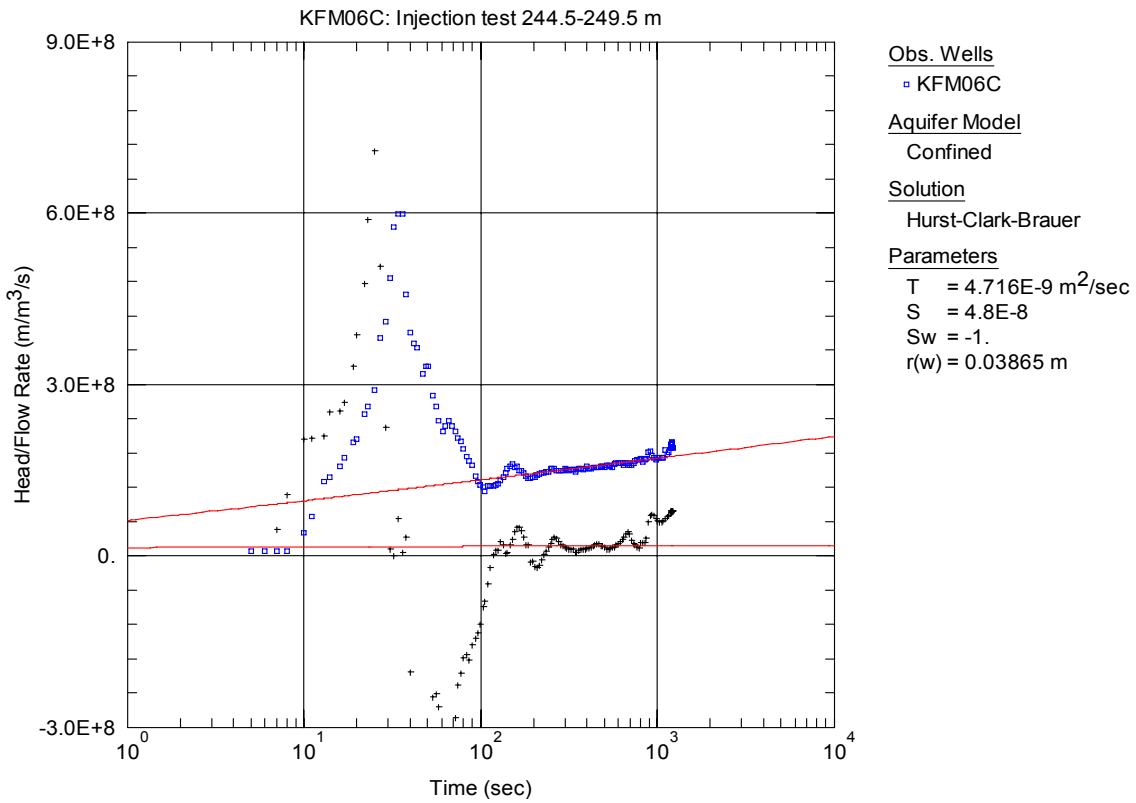
**Figure A3-358.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 239.5-244.5 m in KFM06C.



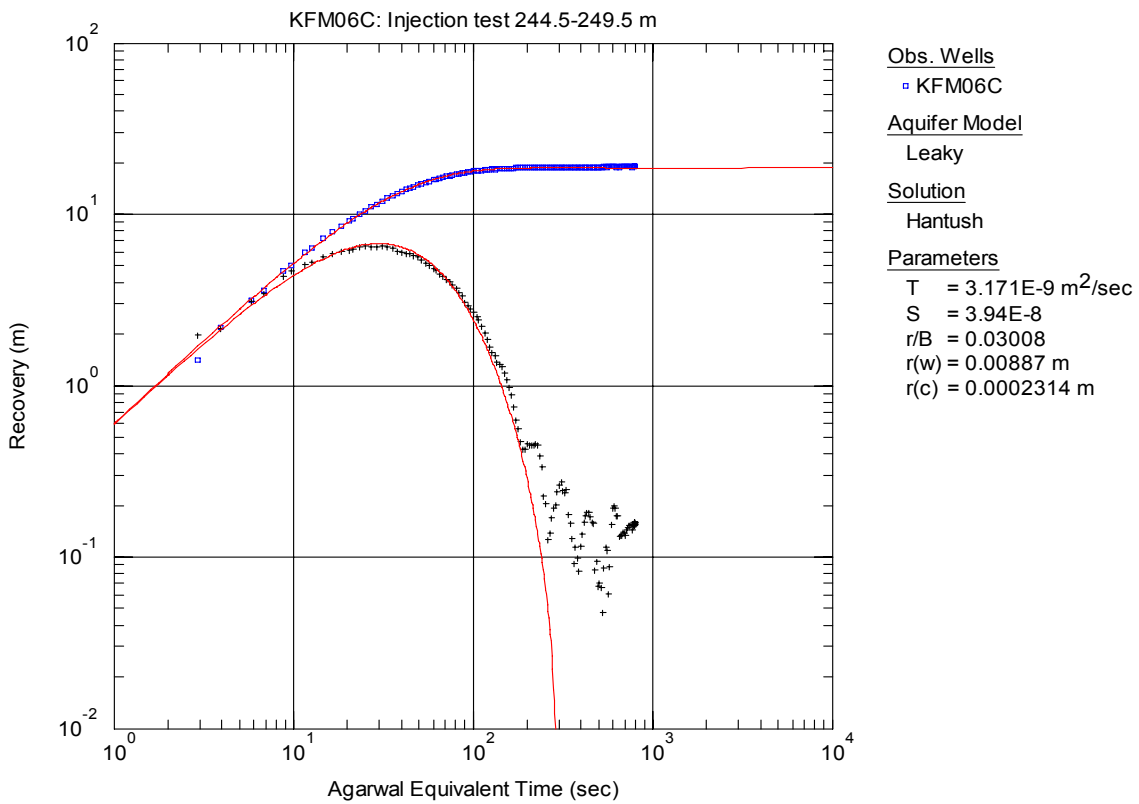
**Figure A3-359.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 244.5-249.5 m in borehole KFM06C.



**Figure A3-360.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 244.5-249.5 m in KFM06C.

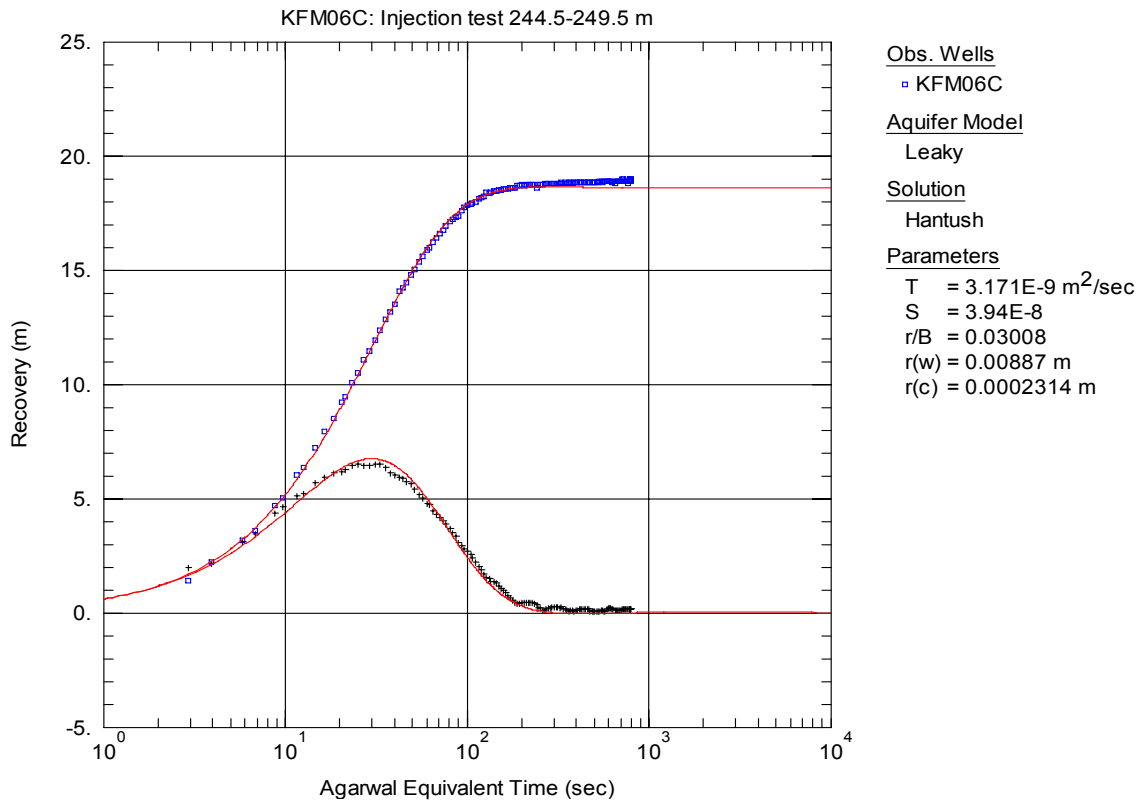


**Figure A3-361.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 244.5-249.5 m in KFM06C.

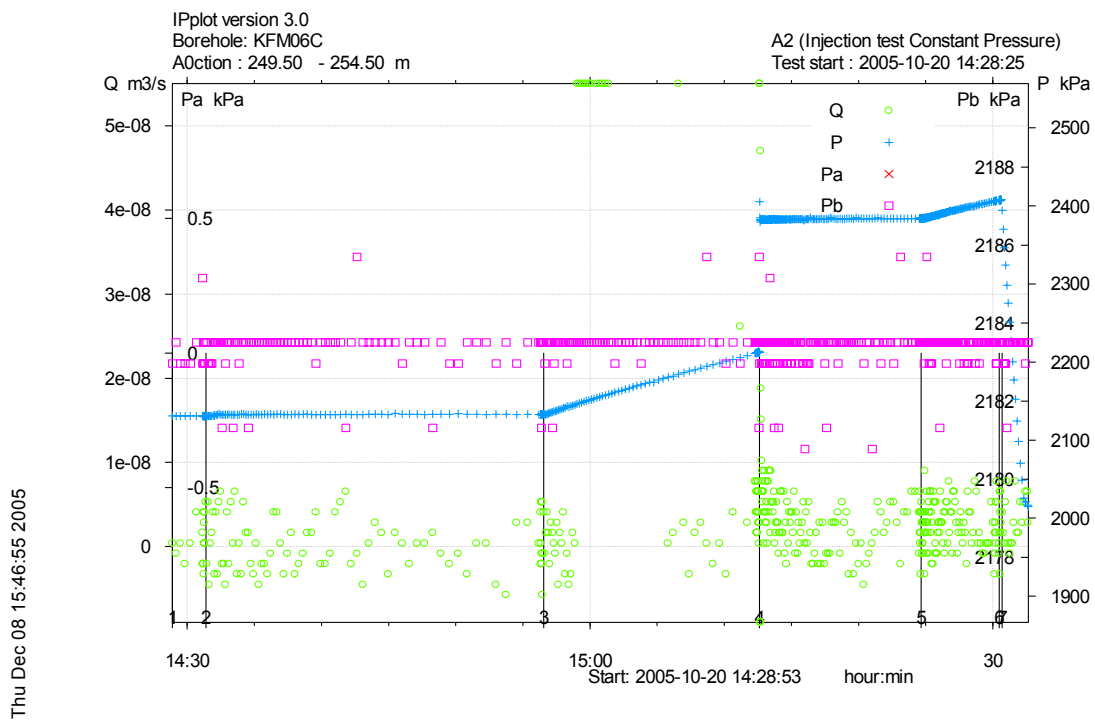


**Figure A3-362.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 244.5-249.5 m in KFM06C.

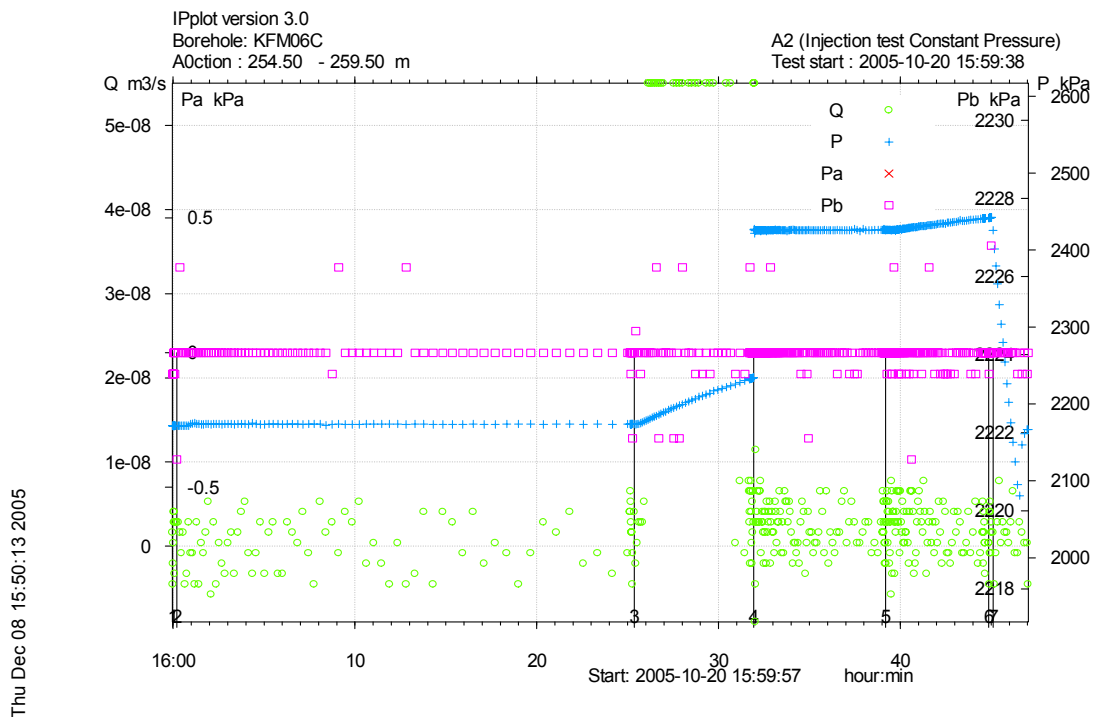




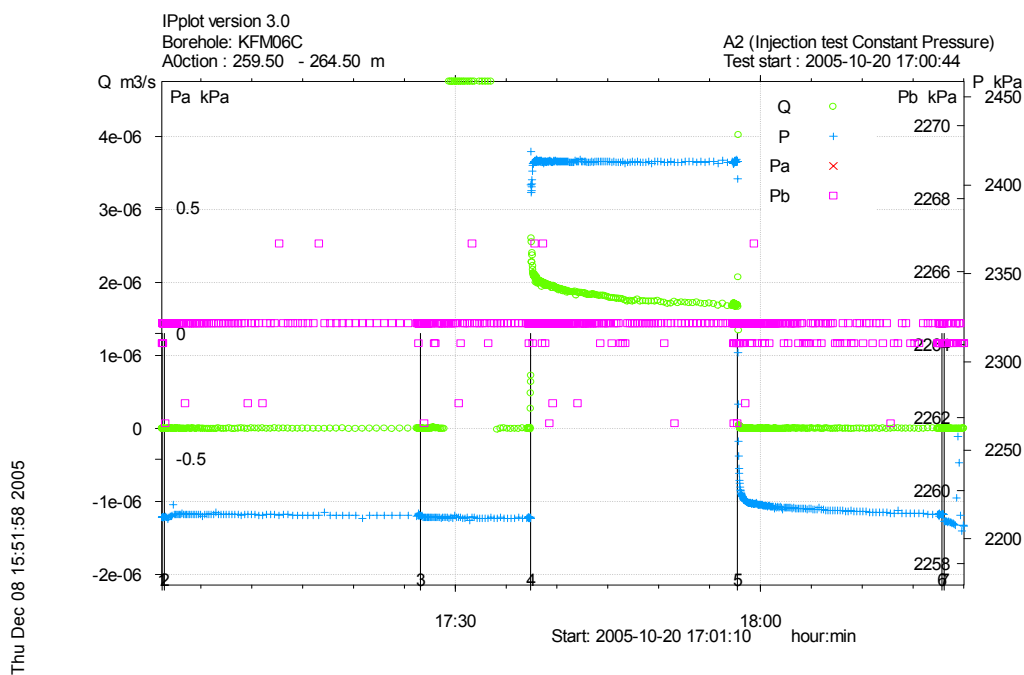
**Figure A3-363.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 244.5-249.5 m in KFM06C.



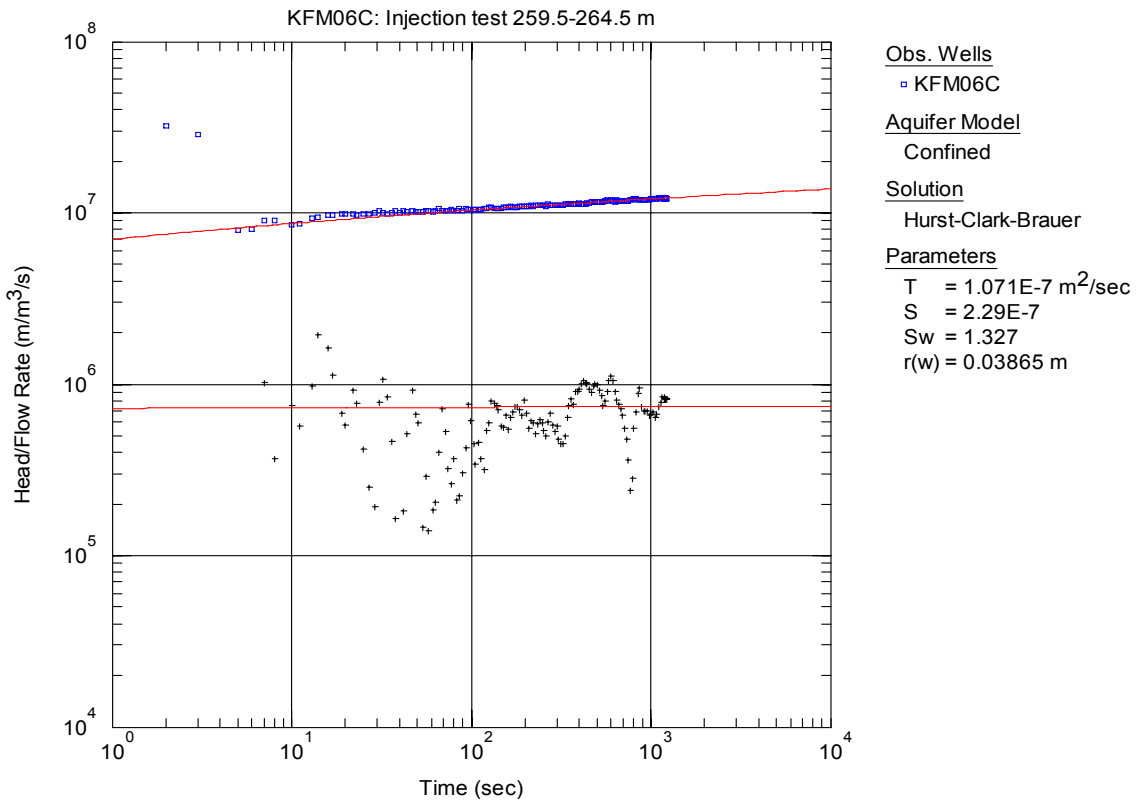
**Figure A3-364.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 249.5-254.5 m in borehole KFM06C.



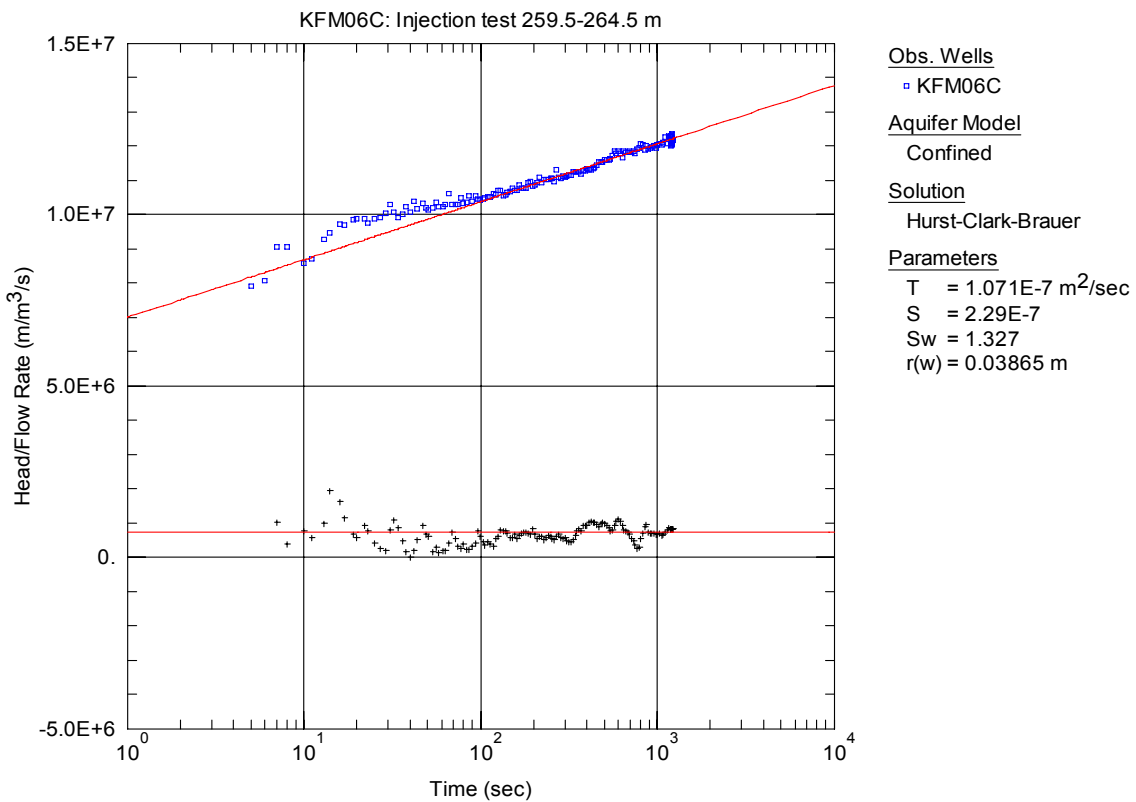
**Figure A3-365.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 254.5-259.5 m in borehole KFM06C.



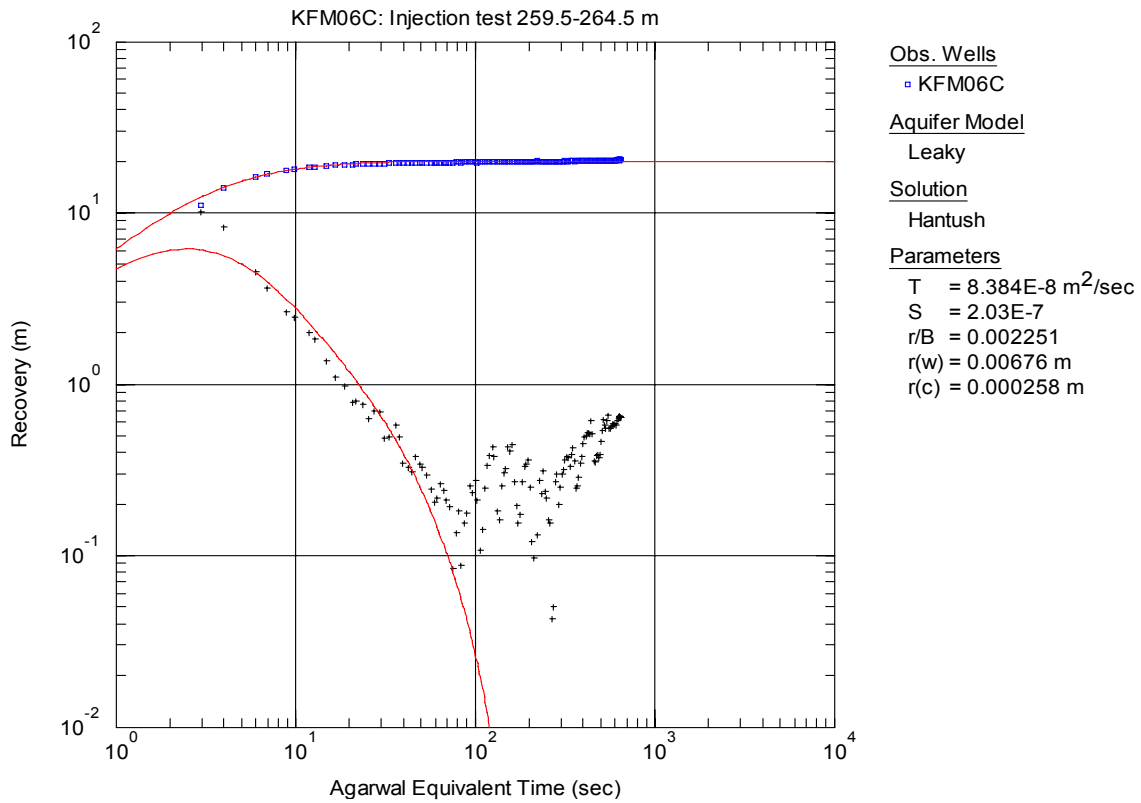
**Figure A3-366.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 259.5-264.5 m in borehole KFM06C.



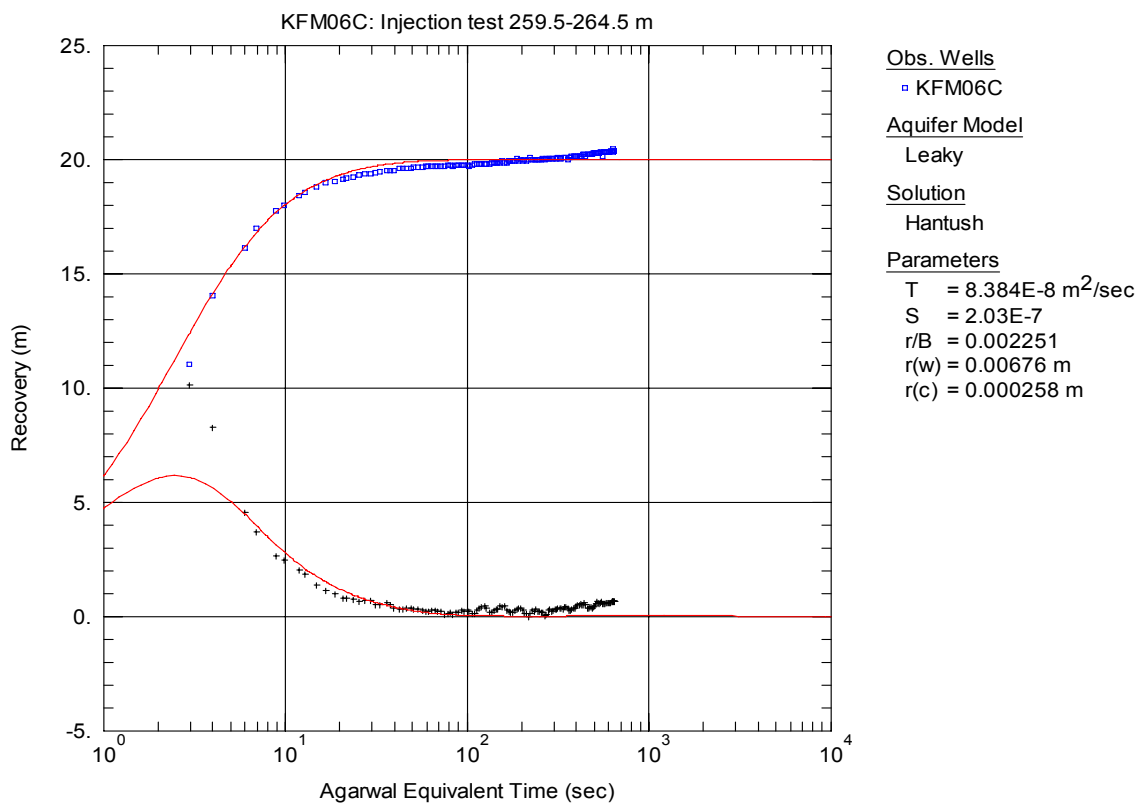
**Figure A3-367.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 259.5-264.5 m in KFM06C.



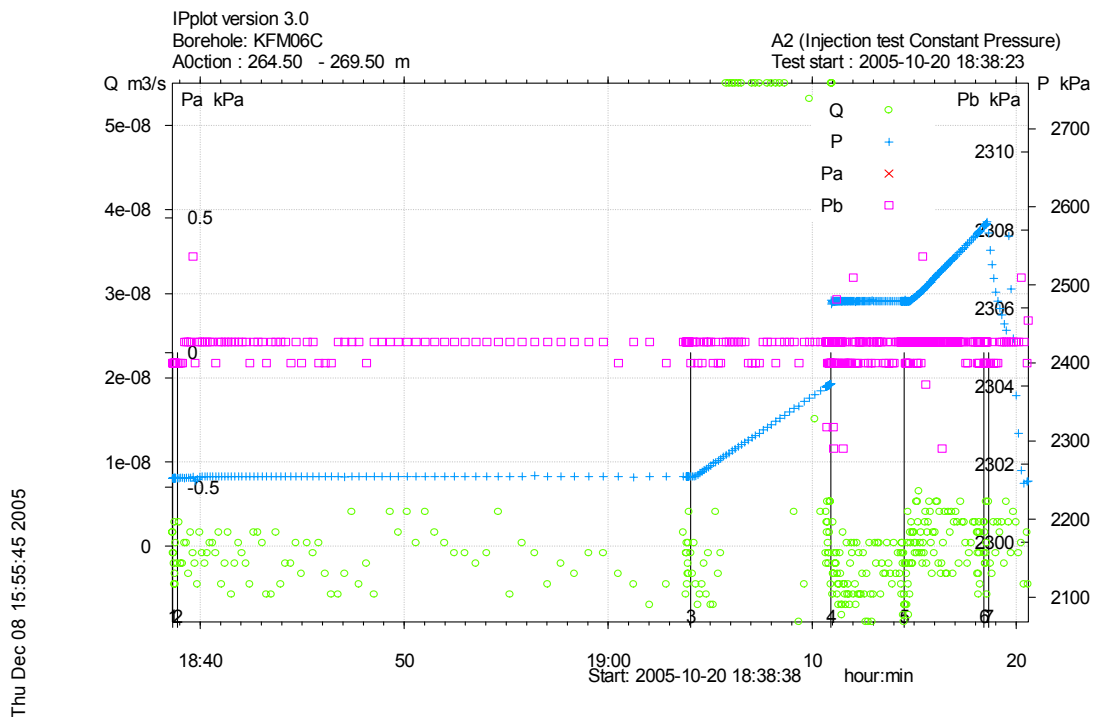
**Figure A3-368.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 259.5-264.5 m in KFM06C.



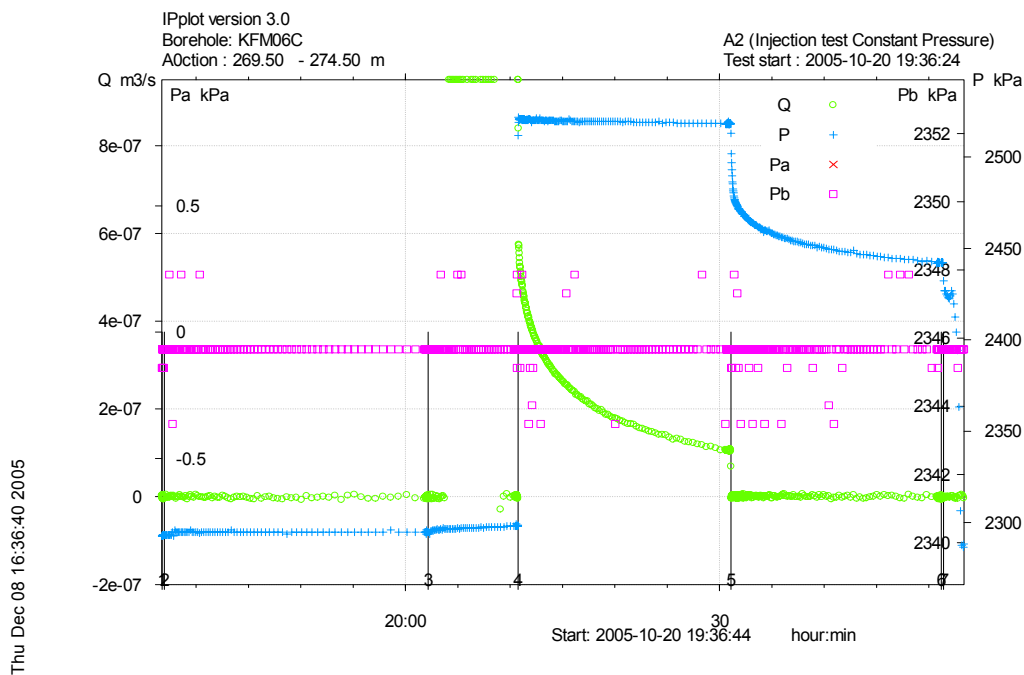
**Figure A3-369.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 259.5-264.5 m in KFM06C.



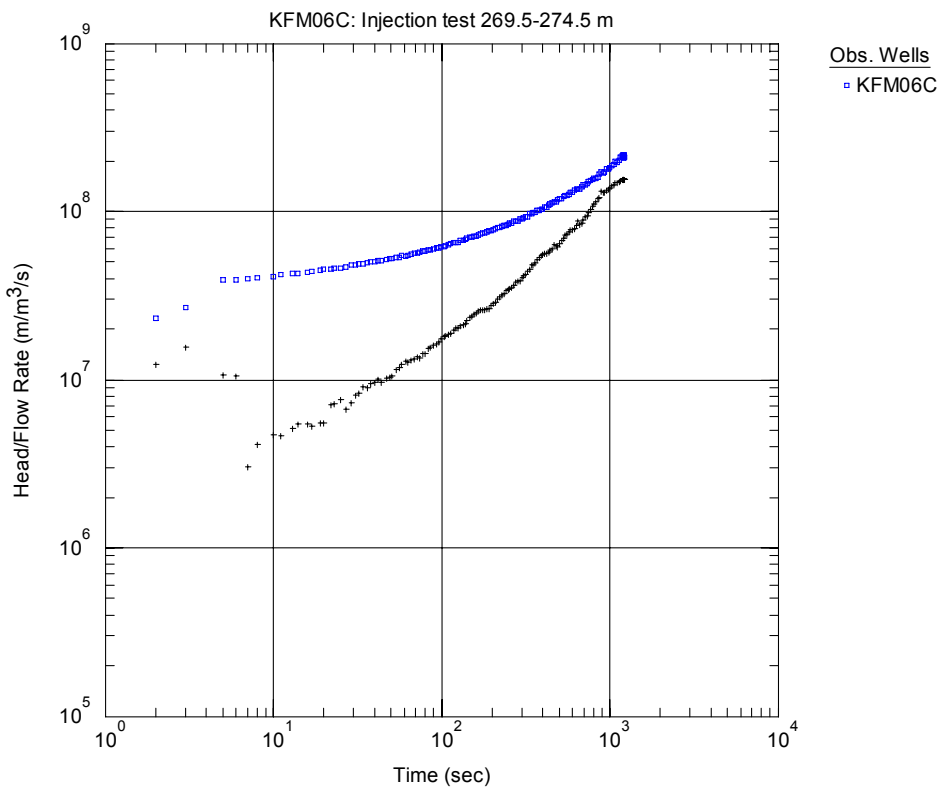
**Figure A3-370.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 259.5-264.5 m in KFM06C.



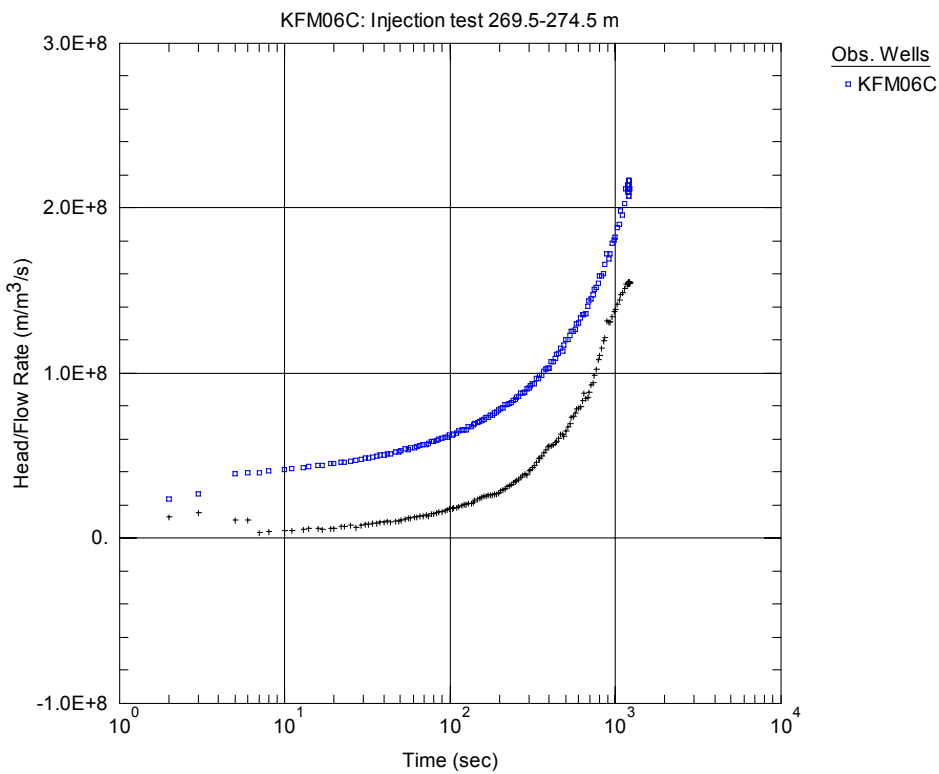
**Figure A3-371.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 264.5-269.5 m in borehole KFM06C.



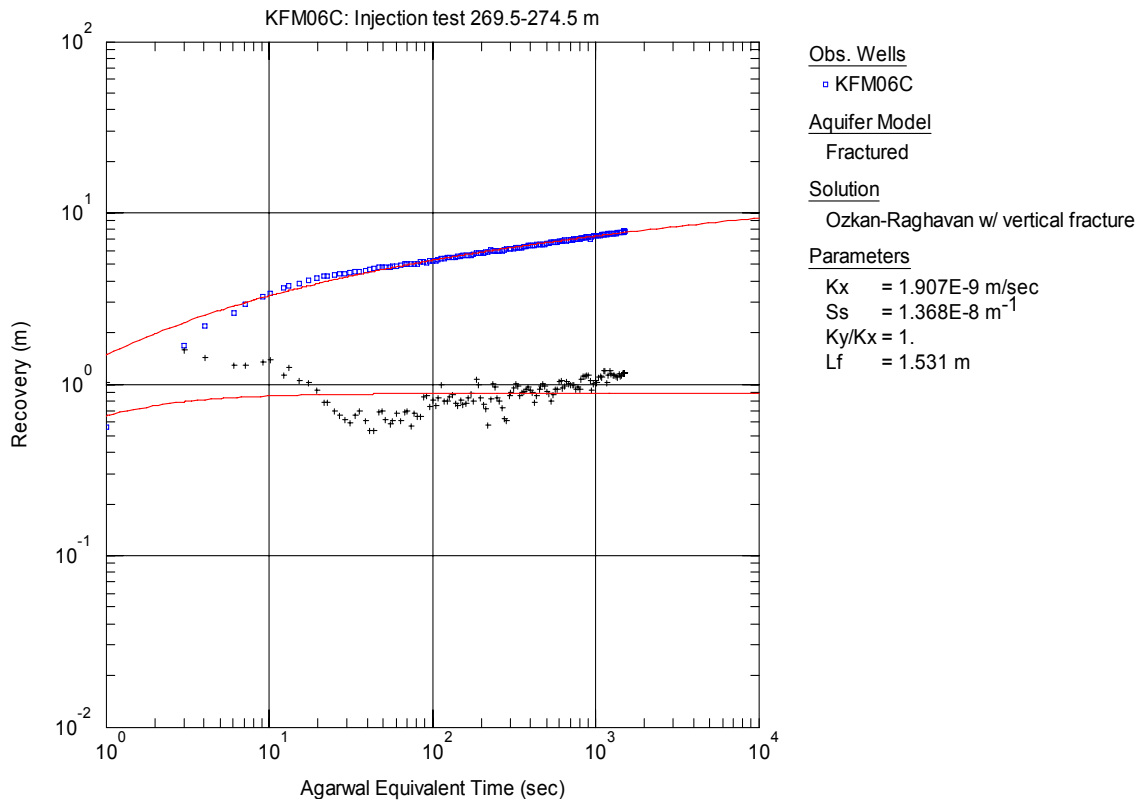
**Figure A3-372.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 269.5-274.5 m in borehole KFM06C.



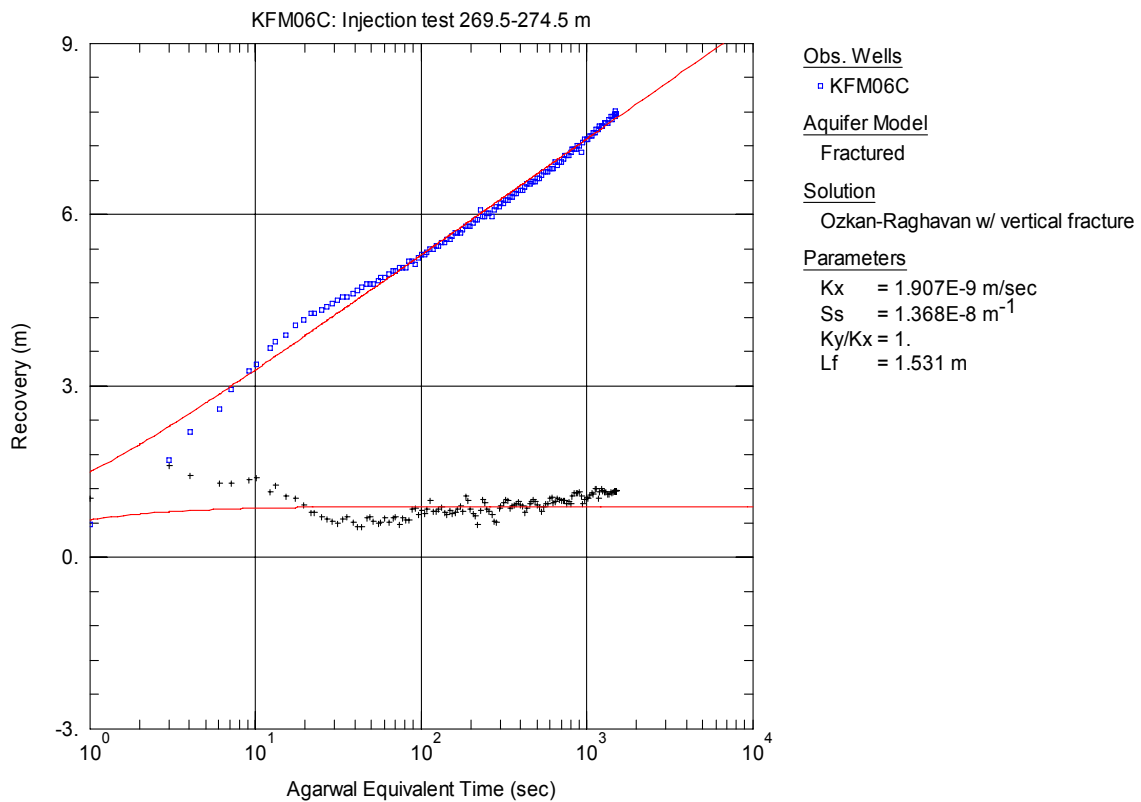
**Figure A3-373.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 269.5-274.5 m in KFM06C.



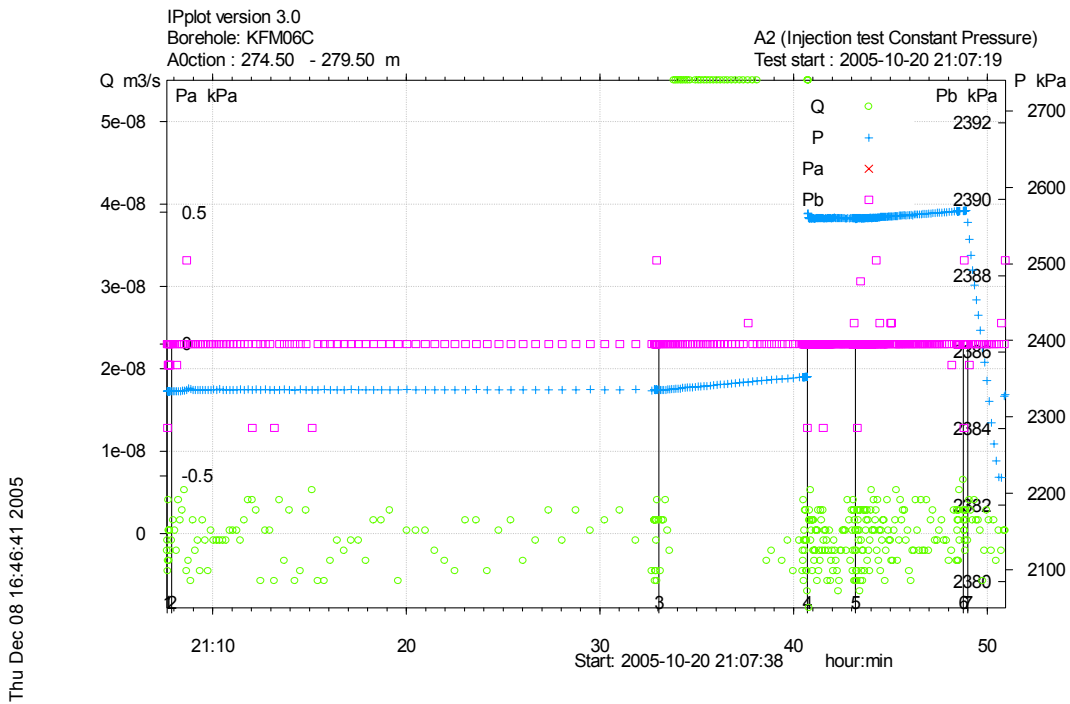
**Figure A3-374.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 269.5-274.5 m in KFM06C.



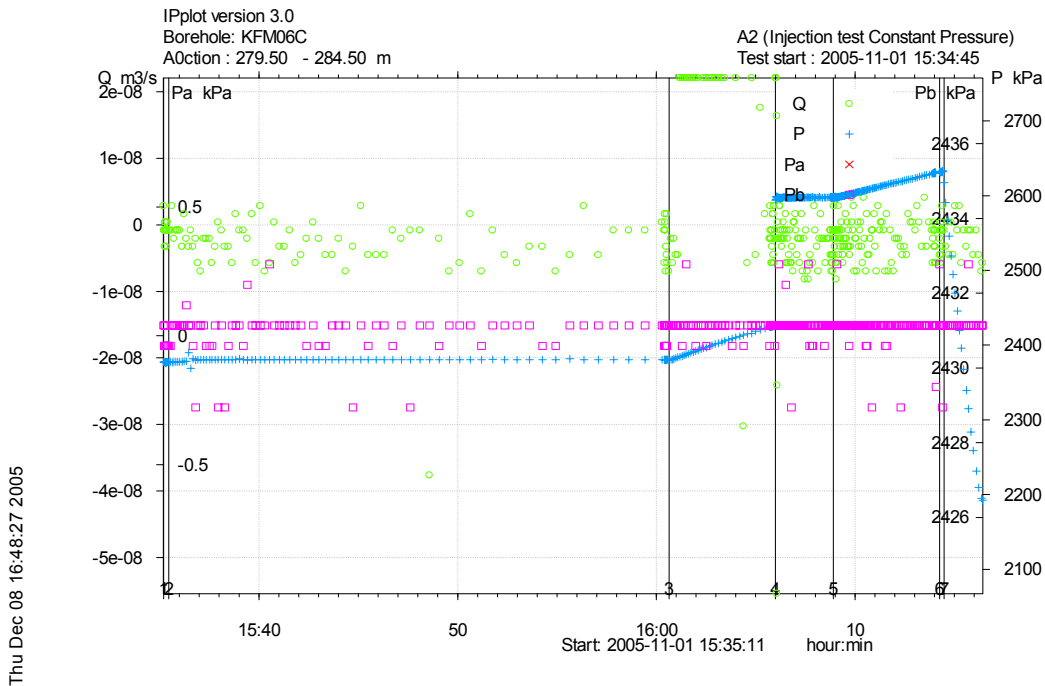
**Figure A3-375.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 269.5-274.5 m in KFM06C.



**Figure A3-376.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 269.5-274.5 m in KFM06C.

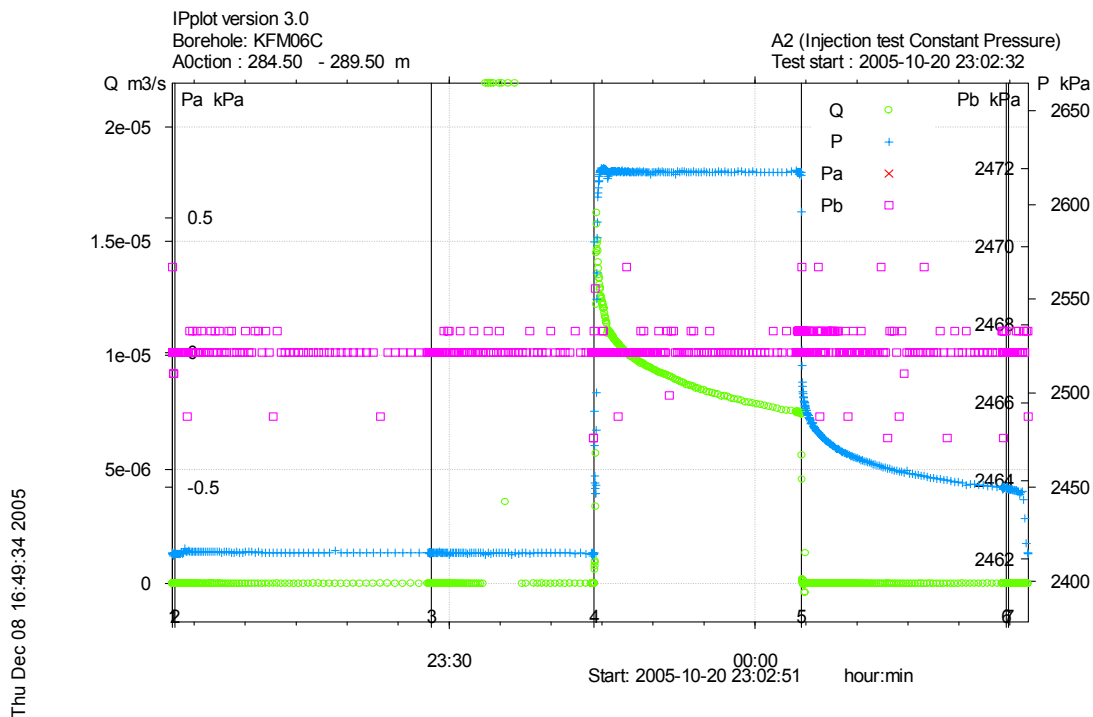


**Figure A3-377.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 274.5-279.5 m in borehole KFM06C.

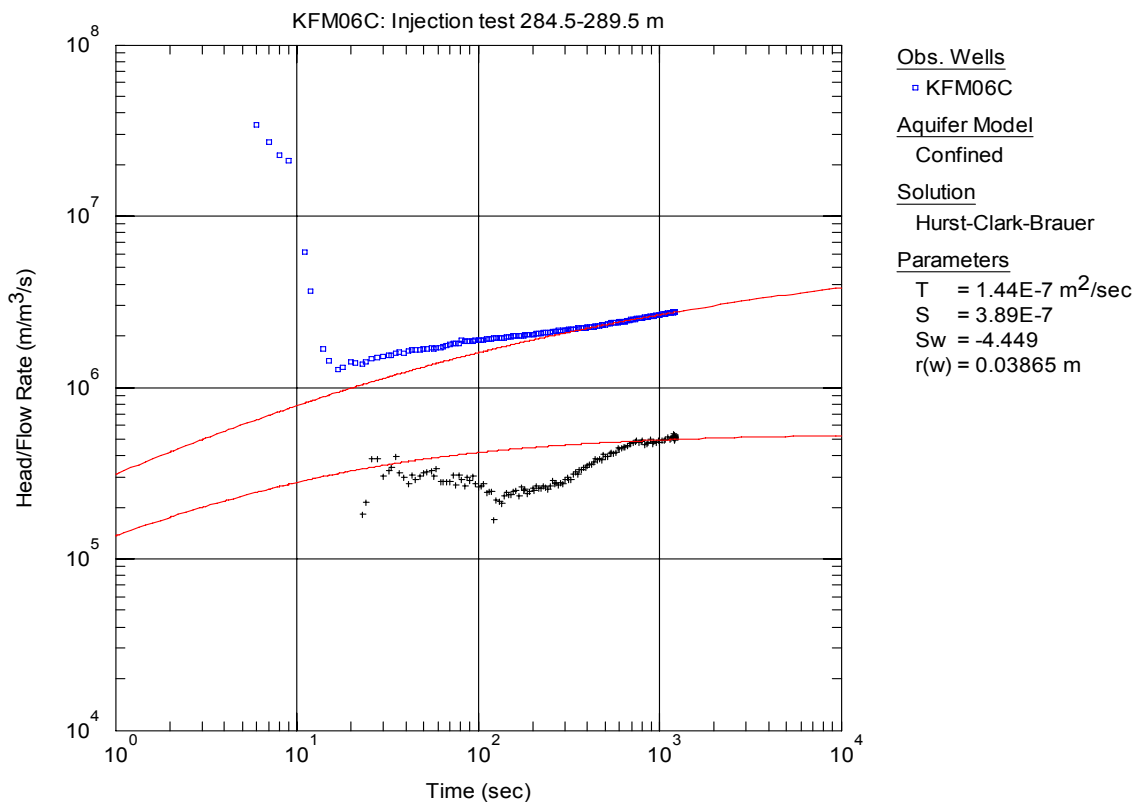


**Figure A3-378.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 279.5-284.5 m in borehole KFM06C.

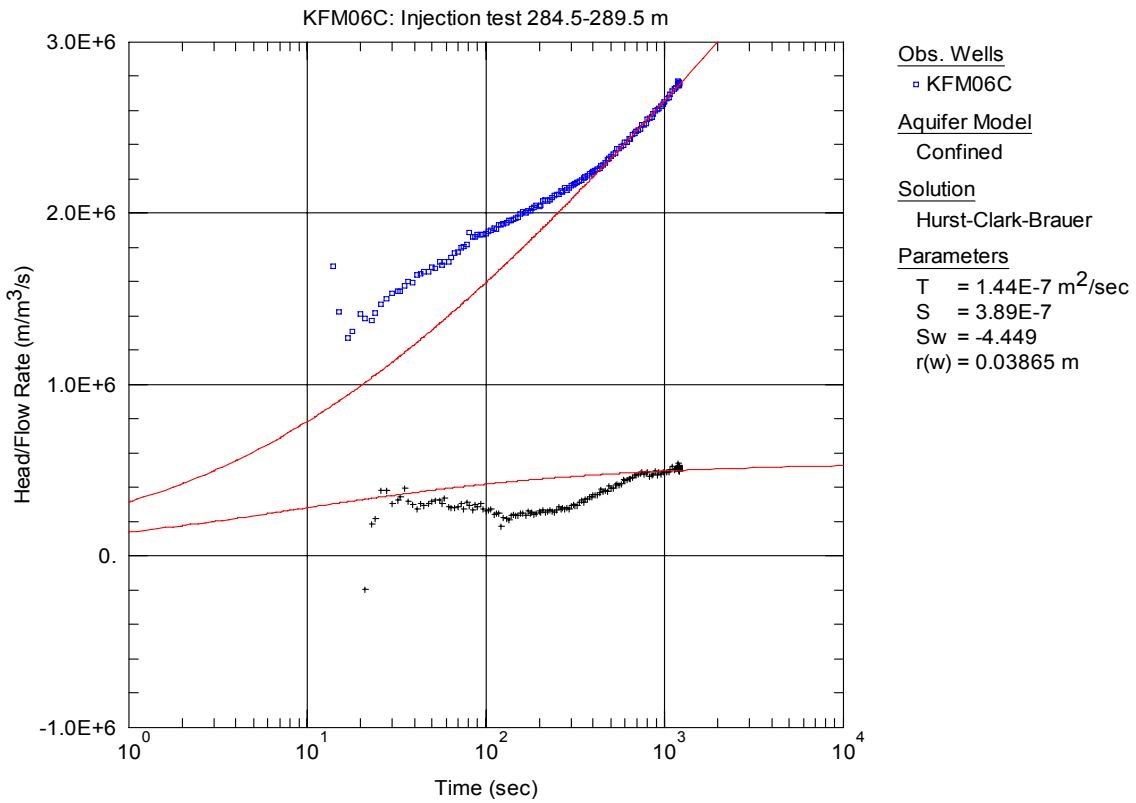




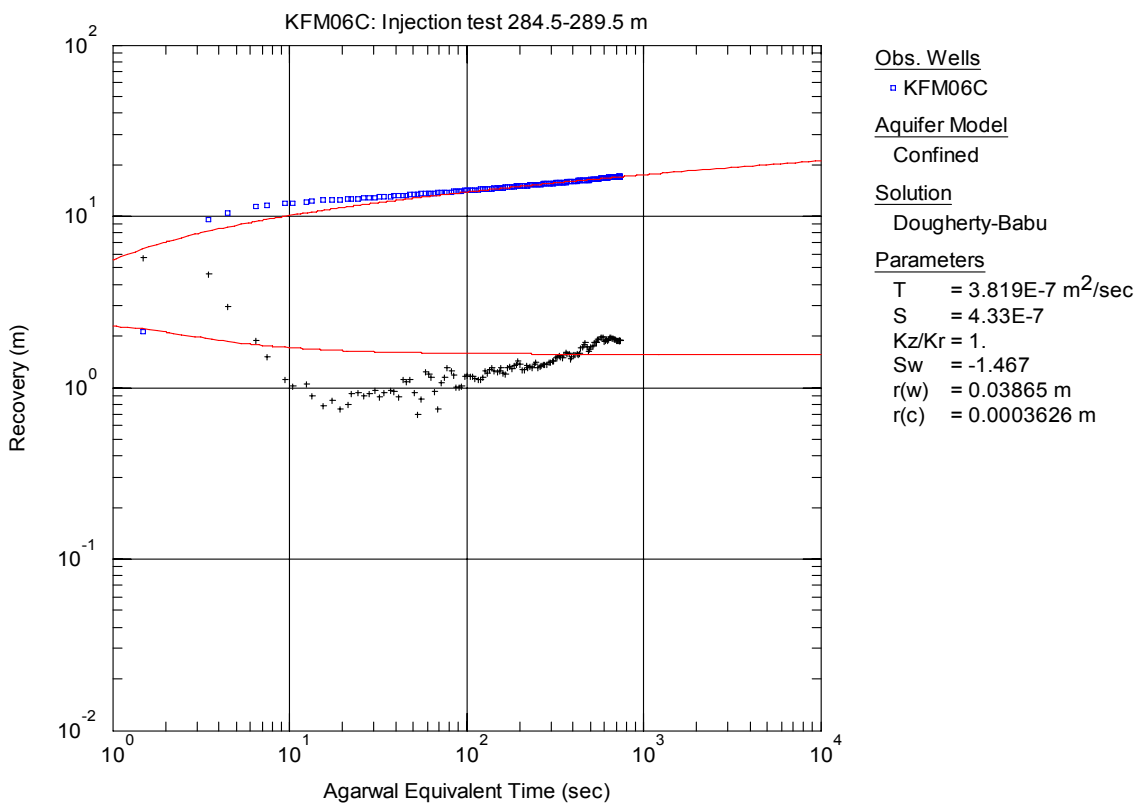
**Figure A3-379.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 284.5-289.5 m in borehole KFM06C.



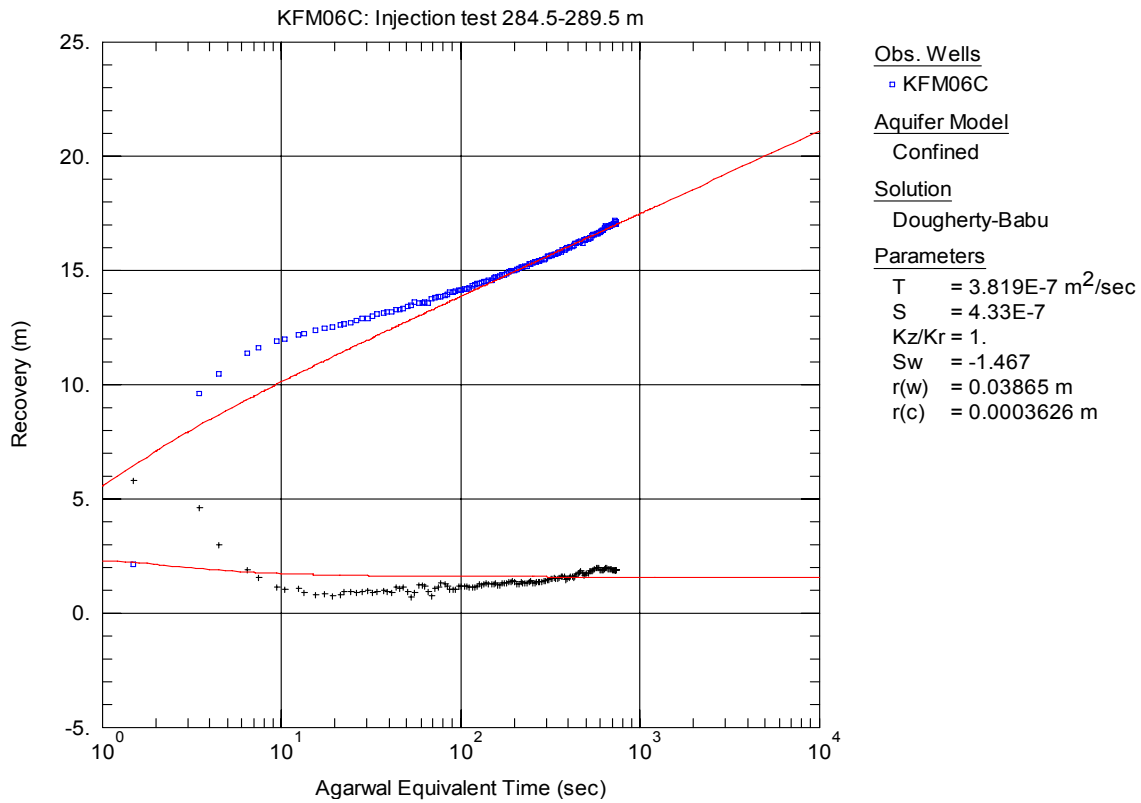
**Figure A3-380.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 284.5-289.5 m in KFM06C.



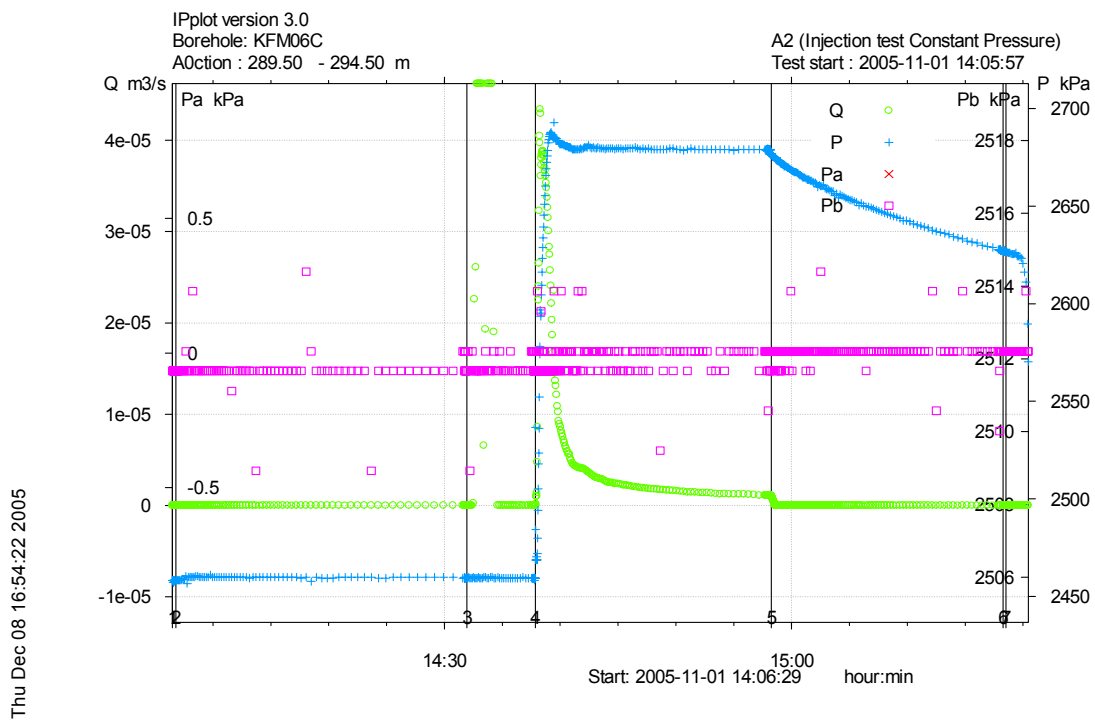
**Figure A3-381.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 284.5-289.5 m in KFM06C.



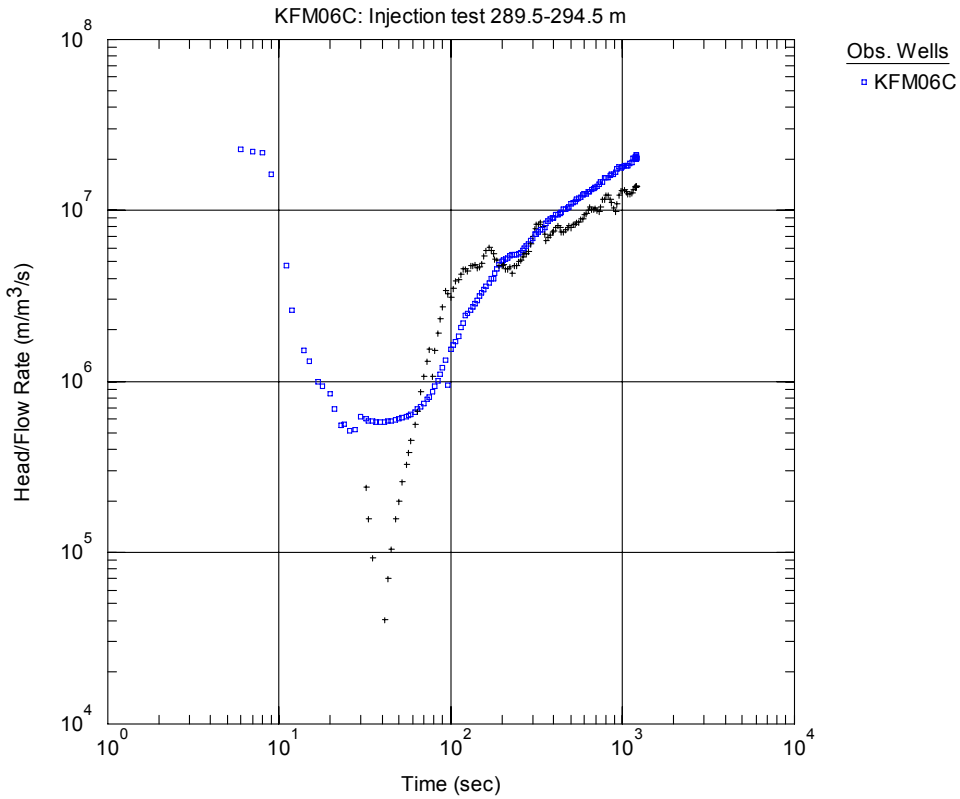
**Figure A3-382.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 284.5-289.5 m in KFM06C.



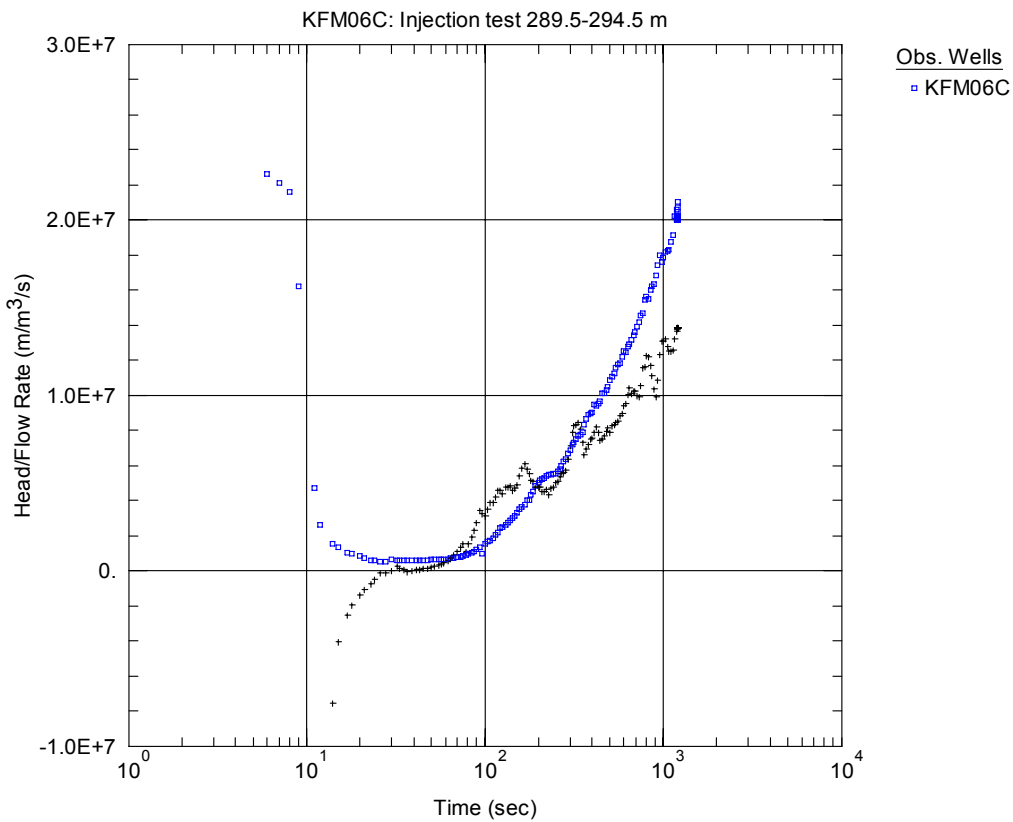
**Figure A3-383.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 284.5-289.5 m in KFM06C.



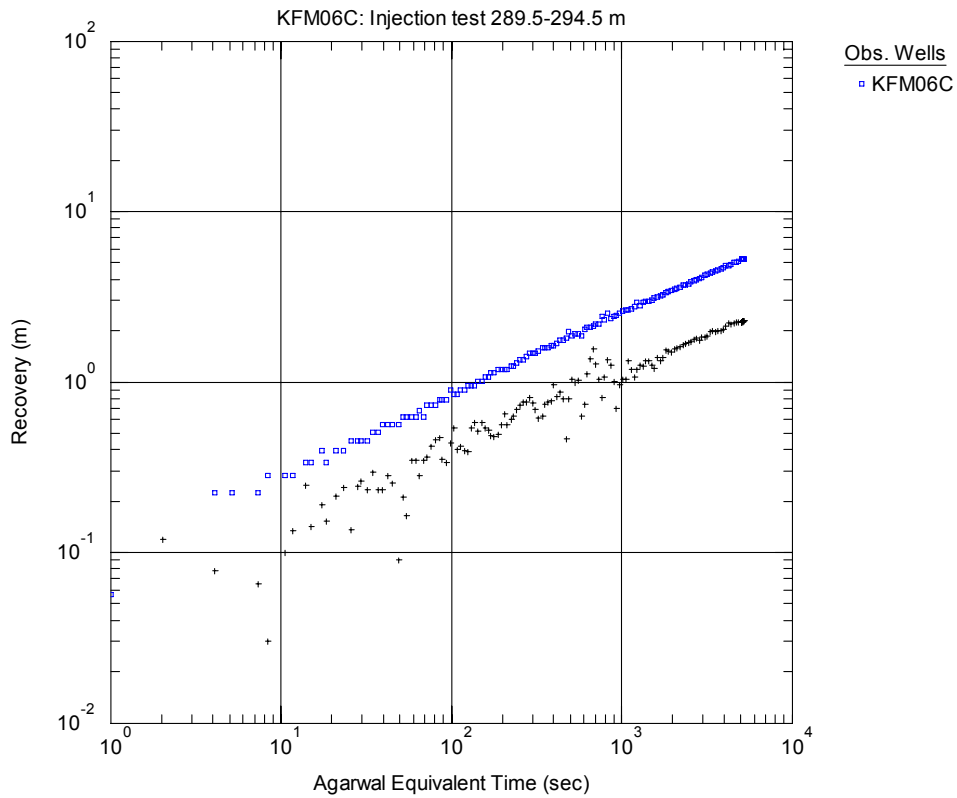
**Figure A3-384.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 289.5-294.5 m in borehole KFM06C.



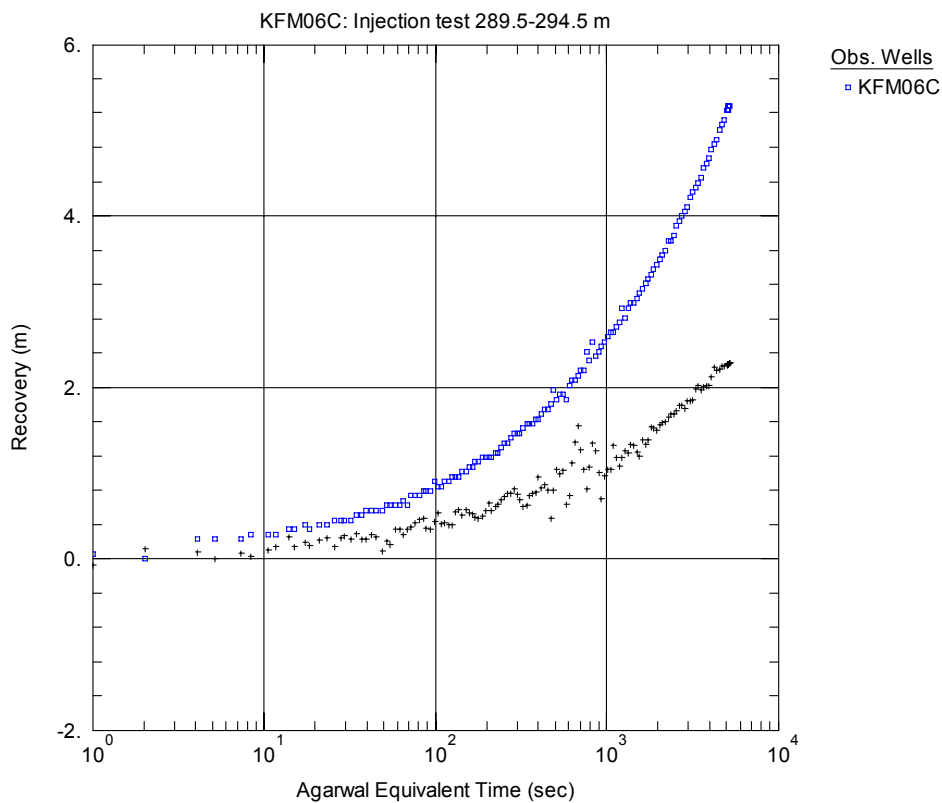
**Figure A3-385.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 289.5-294.5 m in KFM06C.



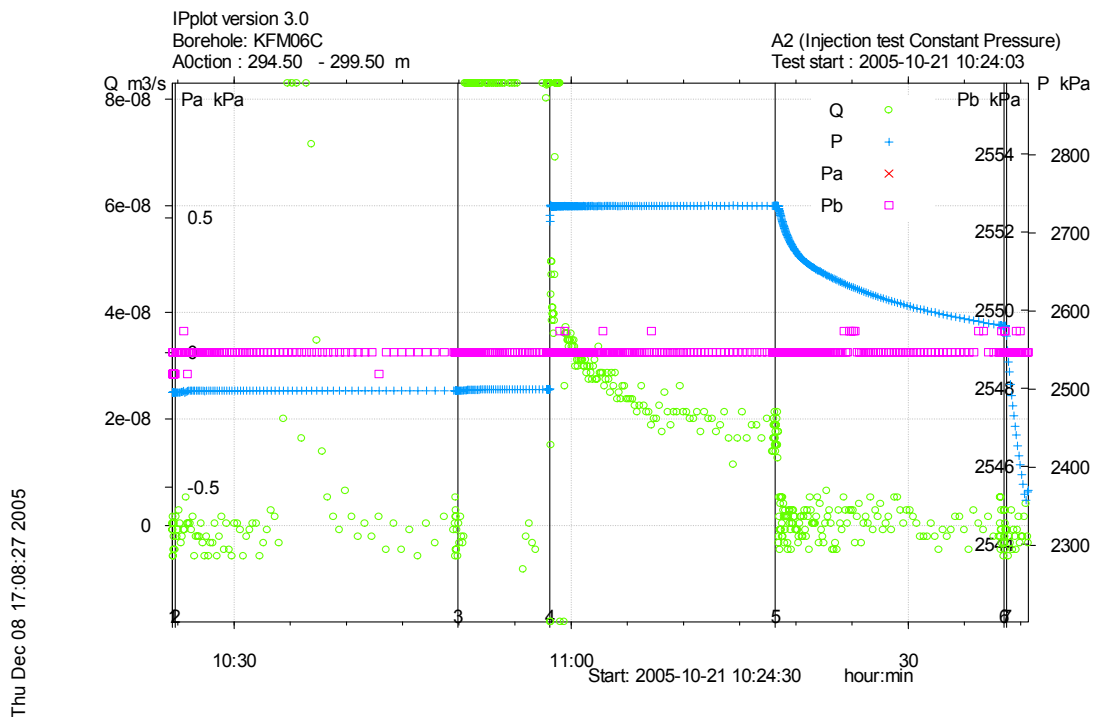
**Figure A3-386.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 289.5-294.5 m in KFM06C.



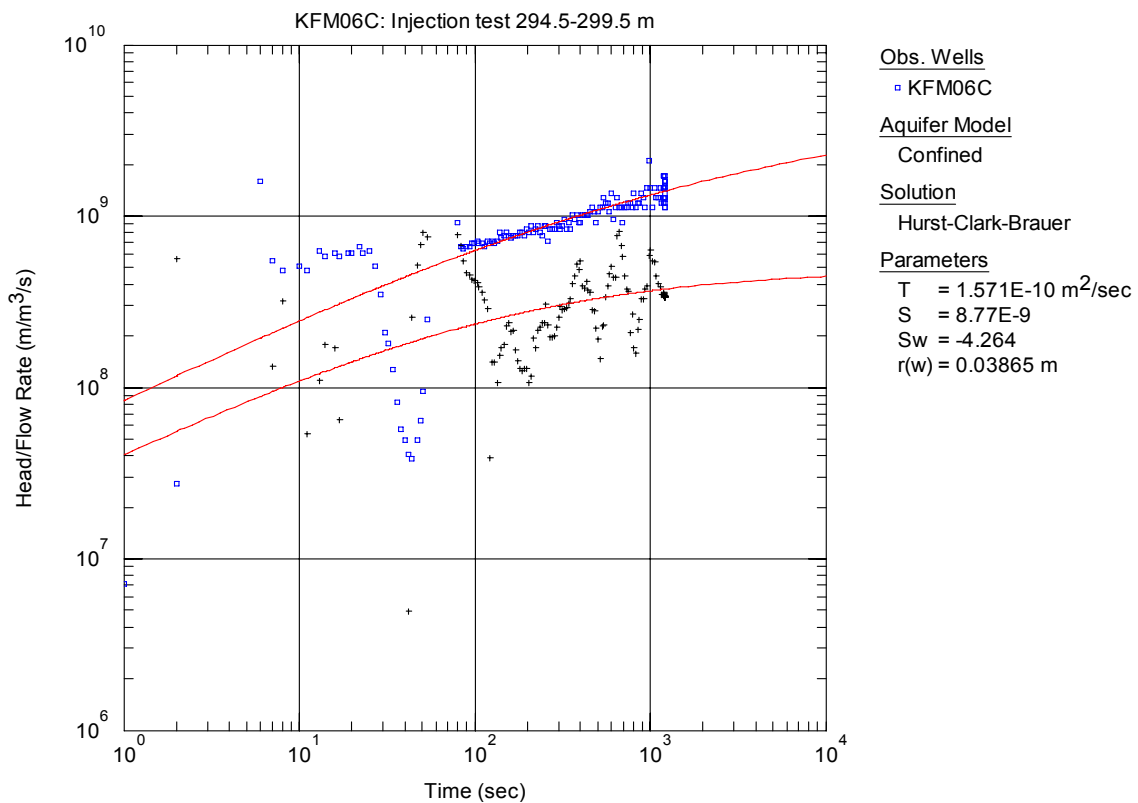
**Figure A3-387.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 289.5-294.5 m in KFM06C.



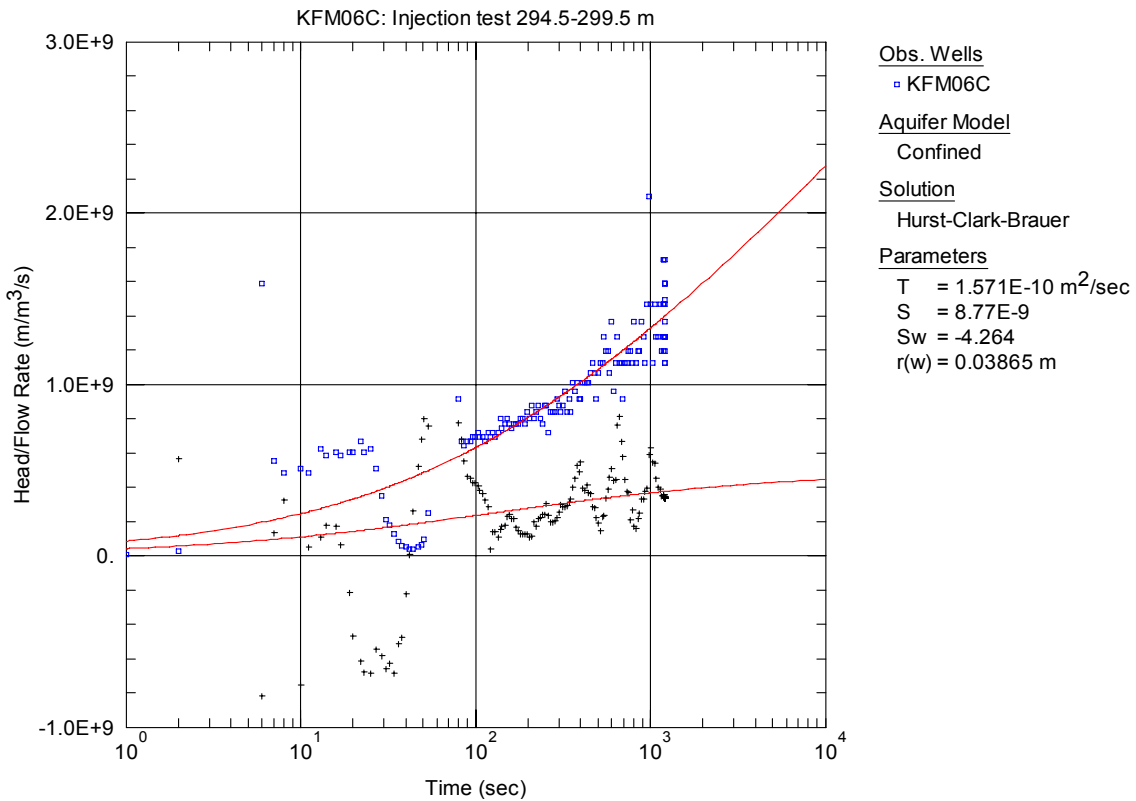
**Figure A3-388.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 289.5-294.5 m in KFM06C.



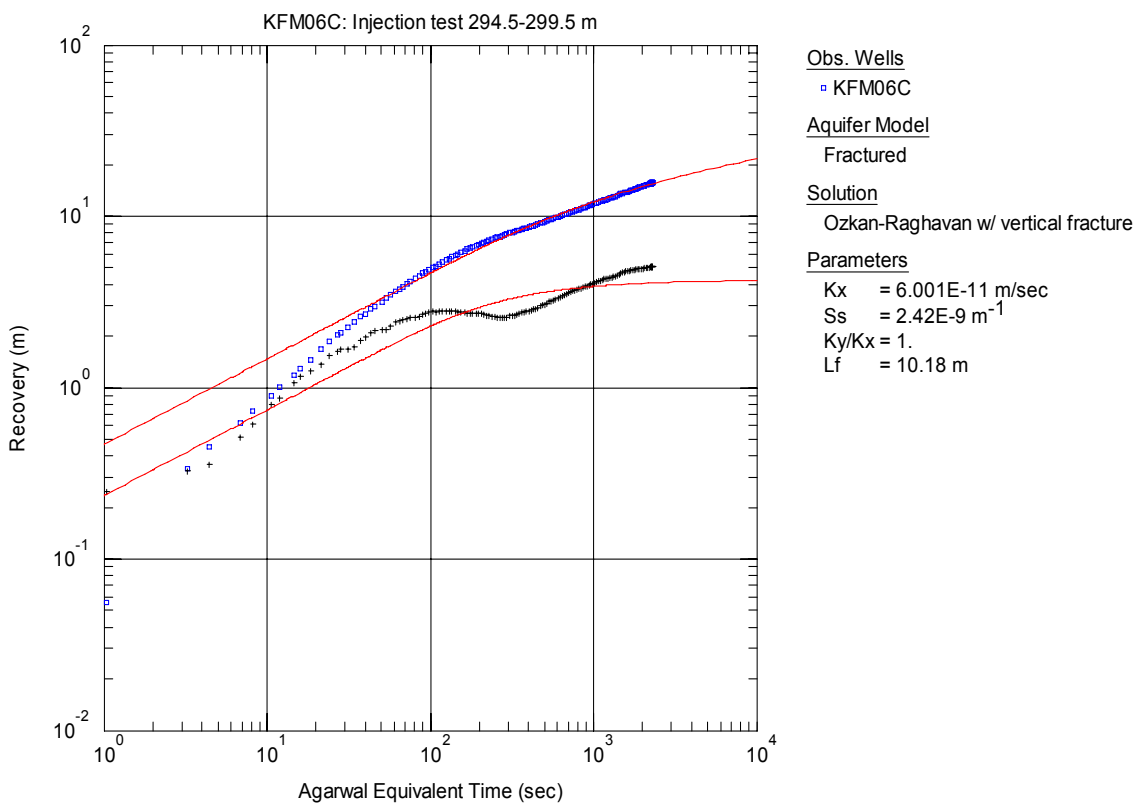
**Figure A3-389.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 294.5-299.5 m in borehole KFM06C.



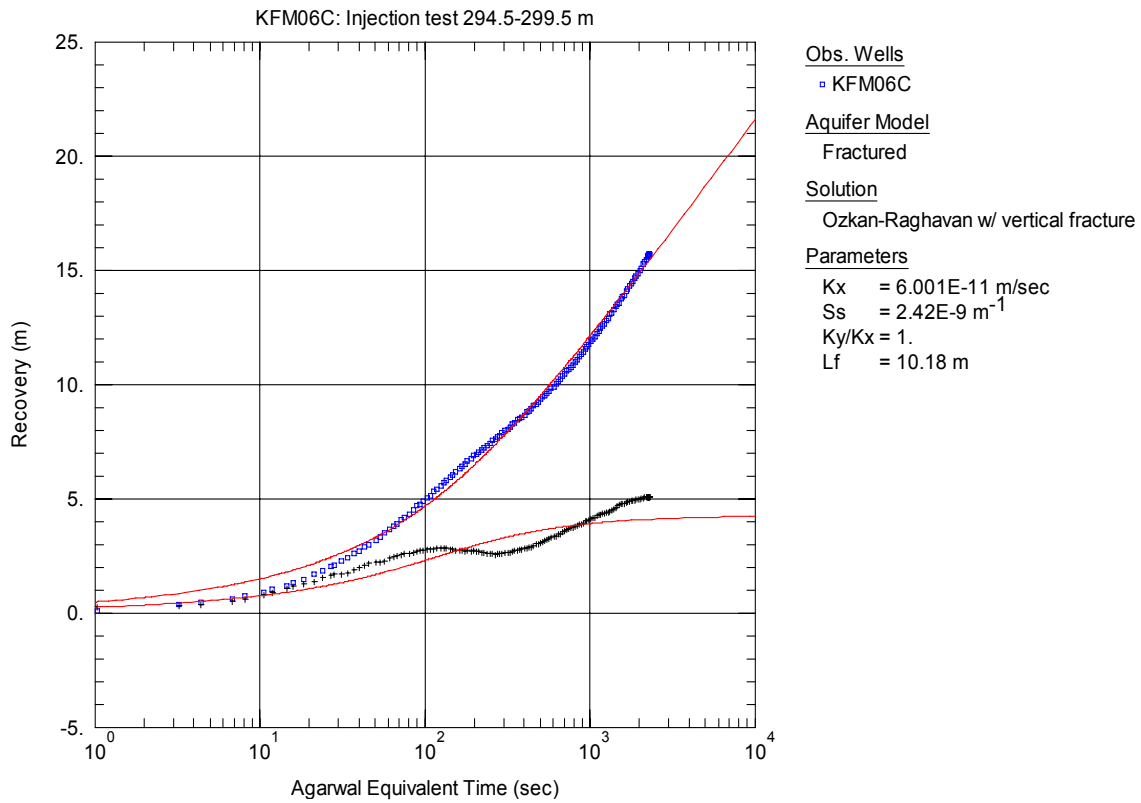
**Figure A3-390.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 294.5-299.5 m in KFM06C.



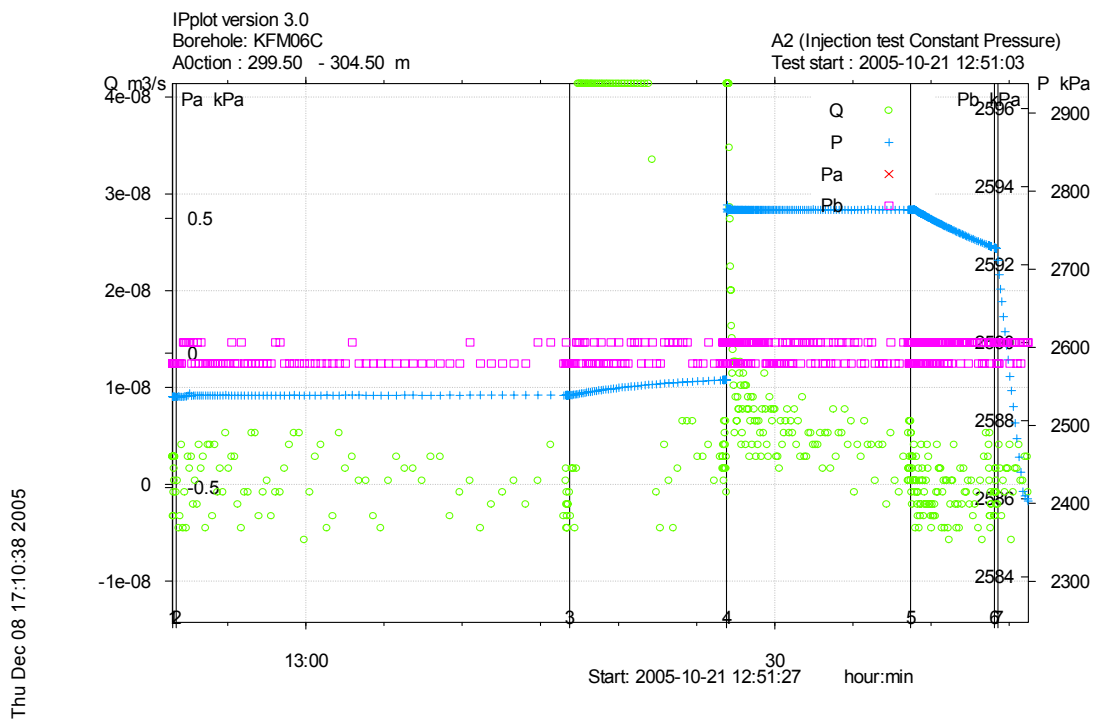
**Figure A3-391.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 294.5-299.5 m in KFM06C.



**Figure A3-392.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 294.5-299.5 m in KFM06C.

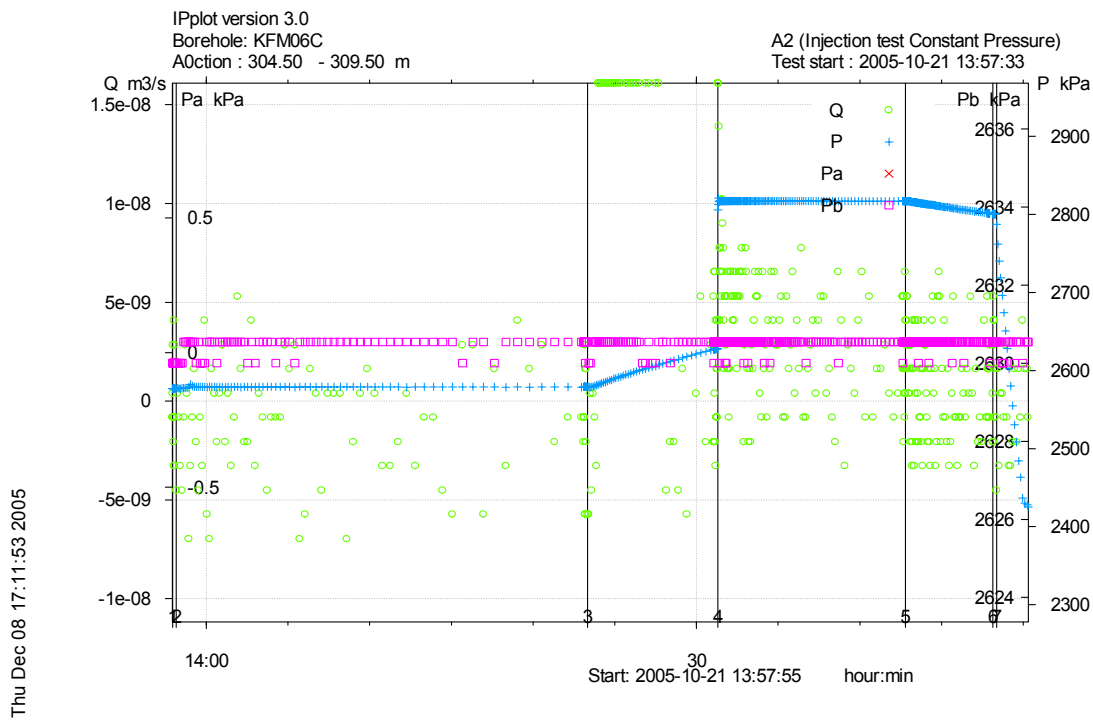


**Figure A3-393.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 294.5-299.5 m in KFM06C.

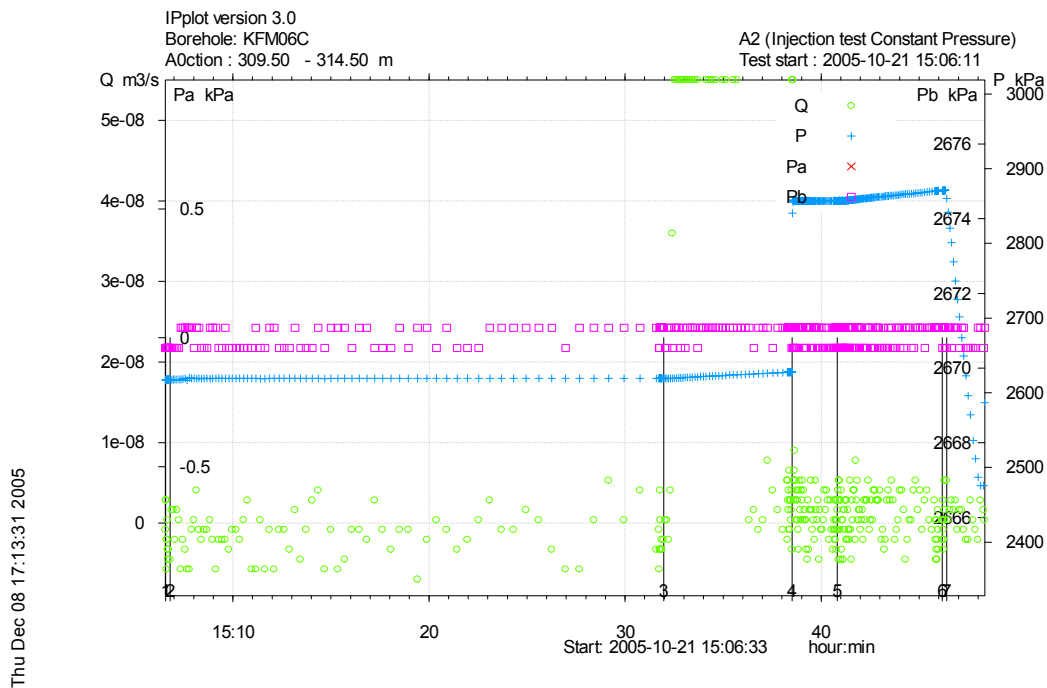


**Figure A3-394.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 299.5-304.5 m in borehole KFM06C.

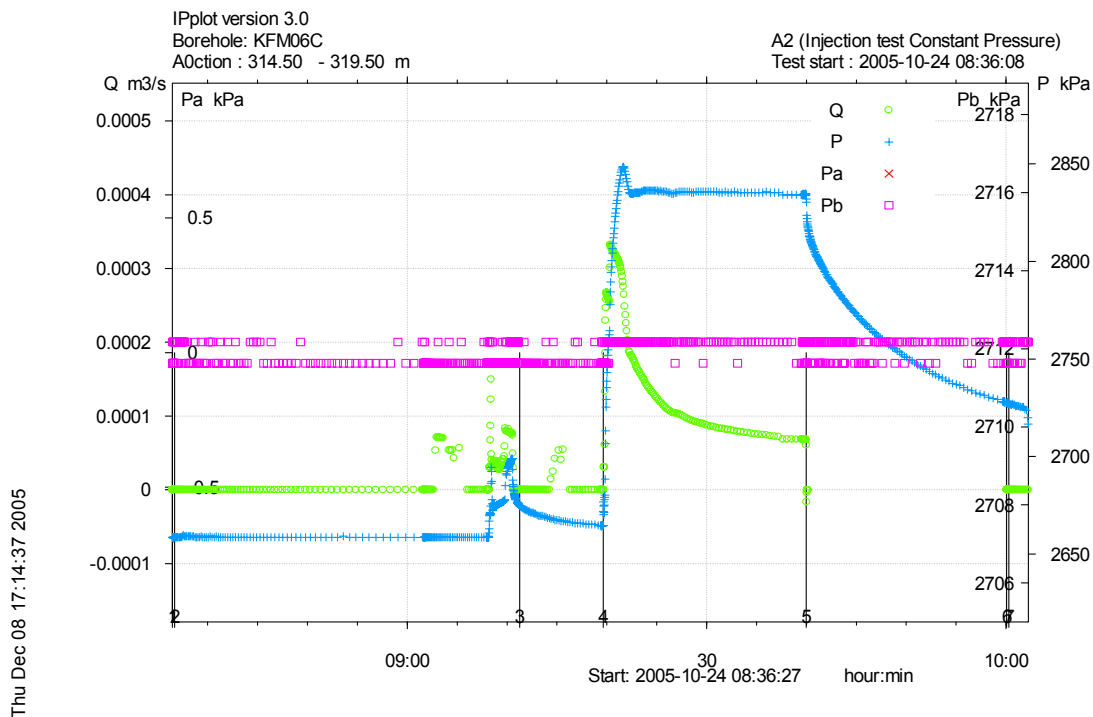




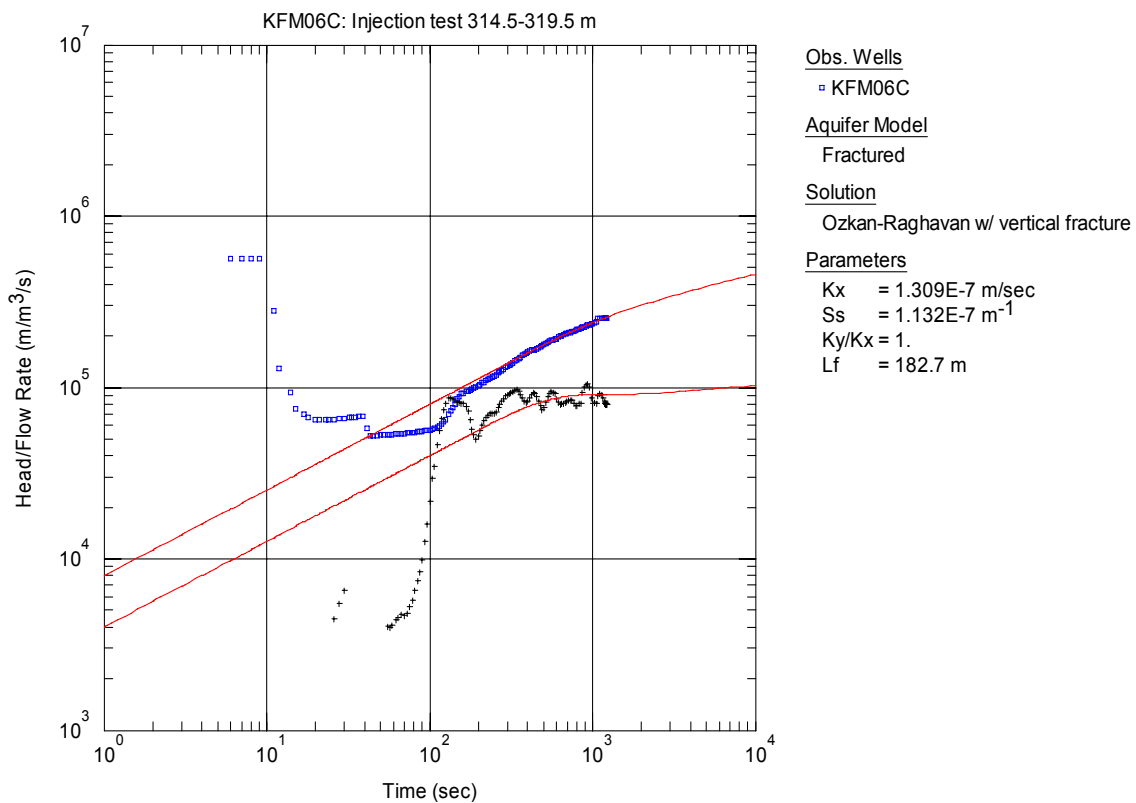
**Figure A3-395.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 304.5-309.5 m in borehole KFM06C.



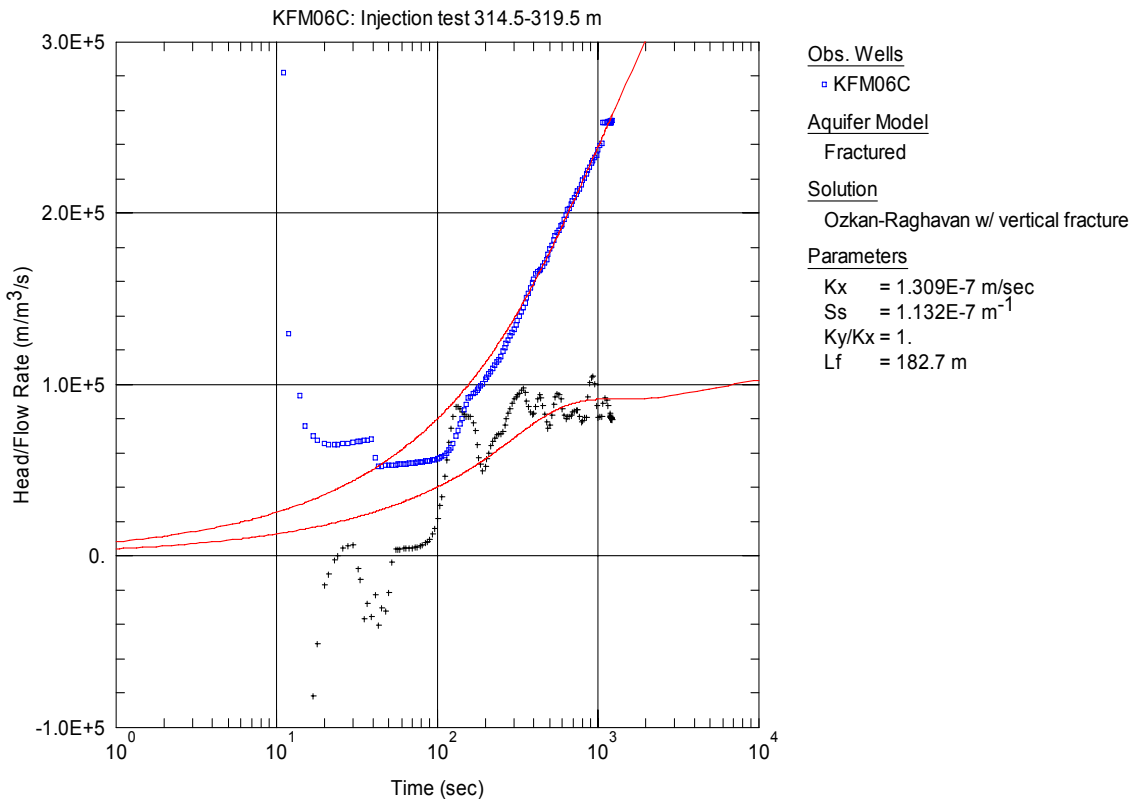
**Figure A3-396.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 309.5-314.5 m in borehole KFM06C.



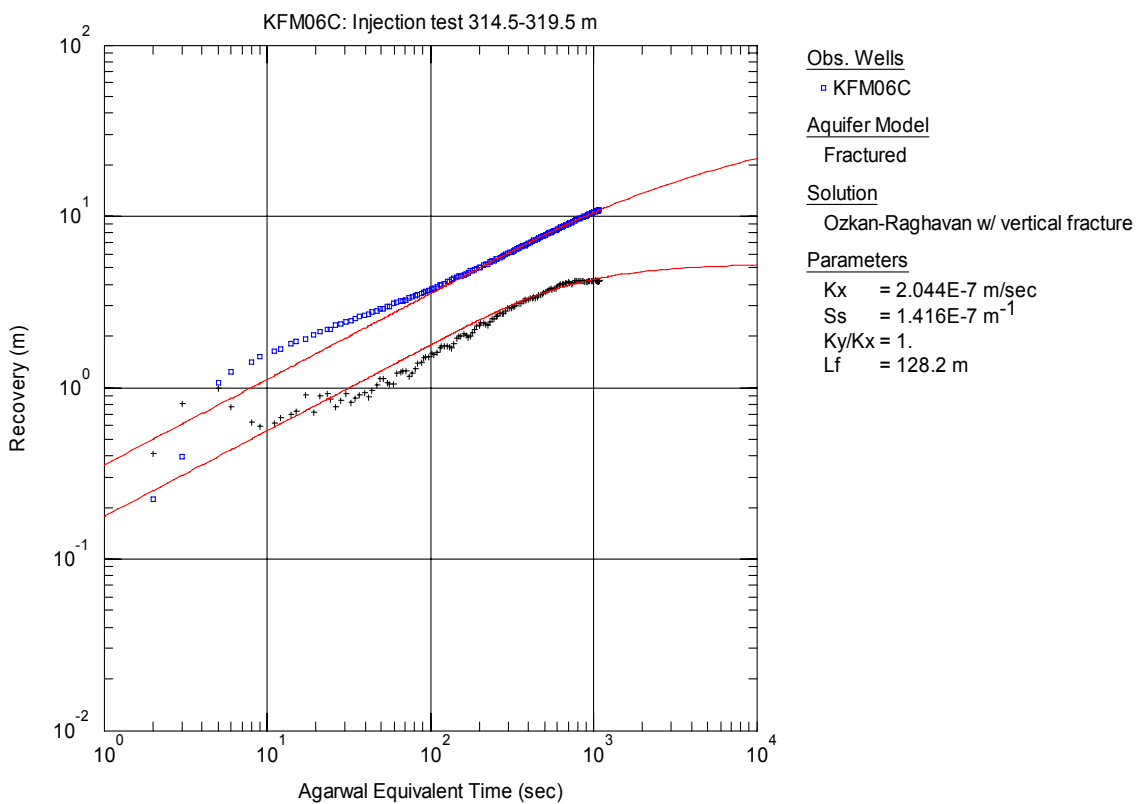
**Figure A3-397.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 314.5-319.5 m in borehole KFM06C.



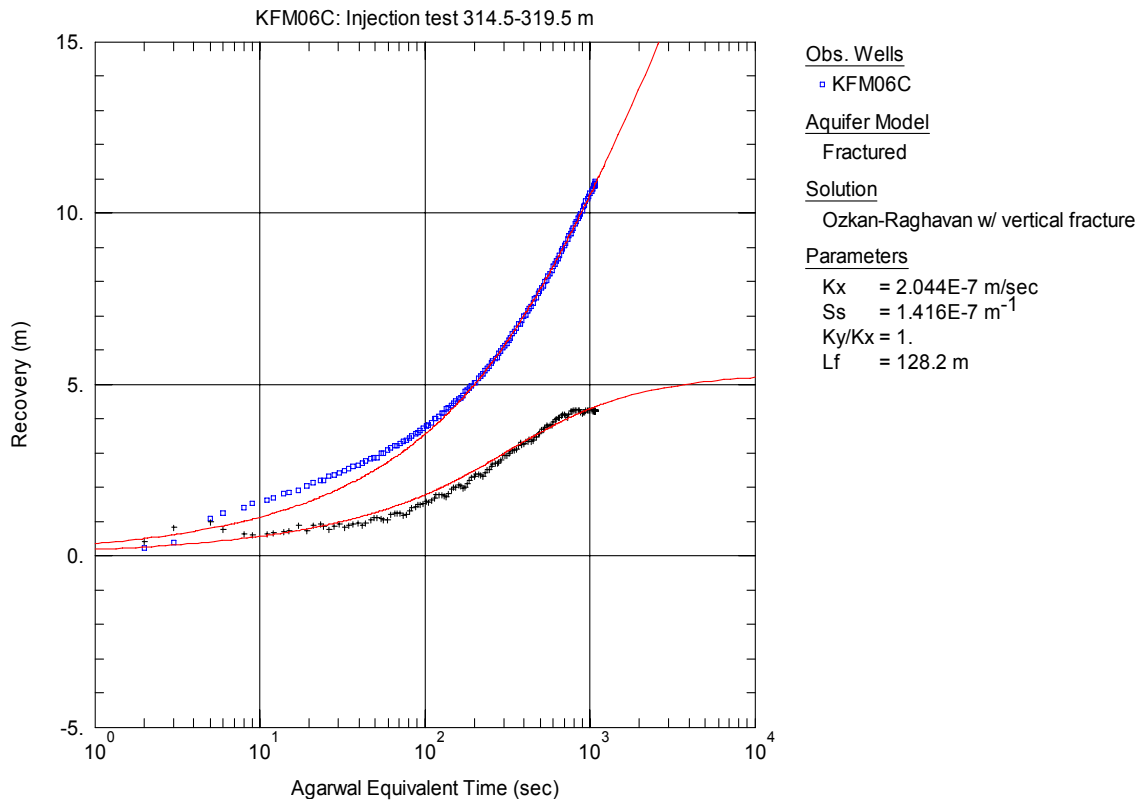
**Figure A3-398.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 314.5-319.5 m in KFM06C.



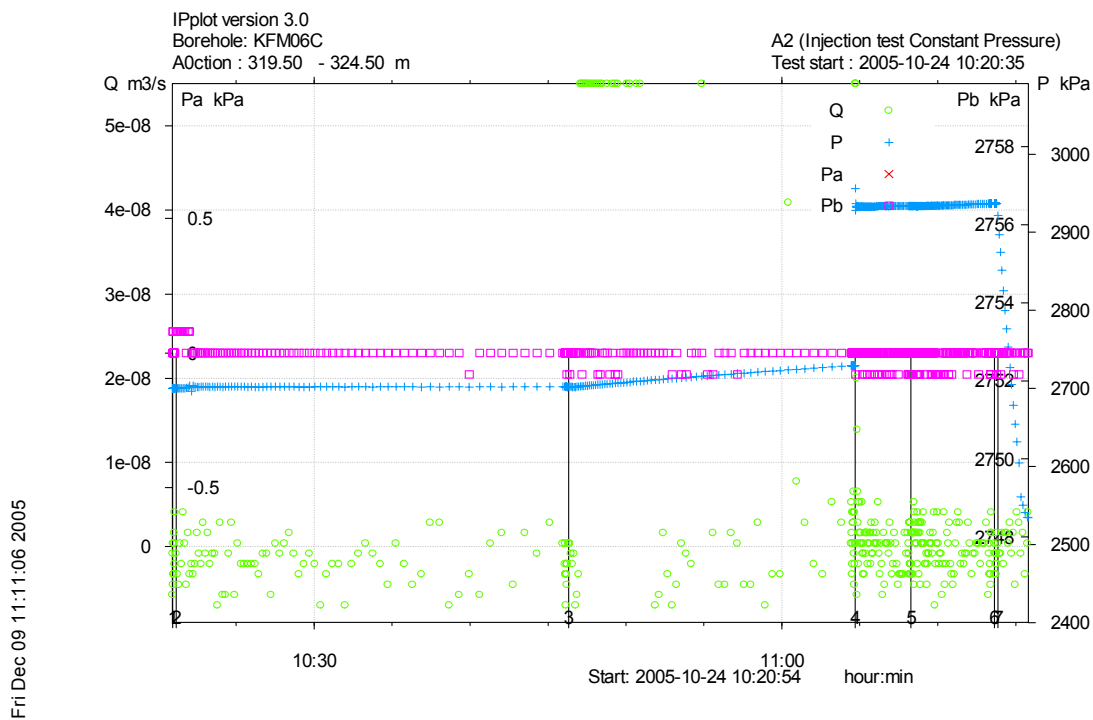
**Figure A3-399.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 314.5-319.5 m in KFM06C.



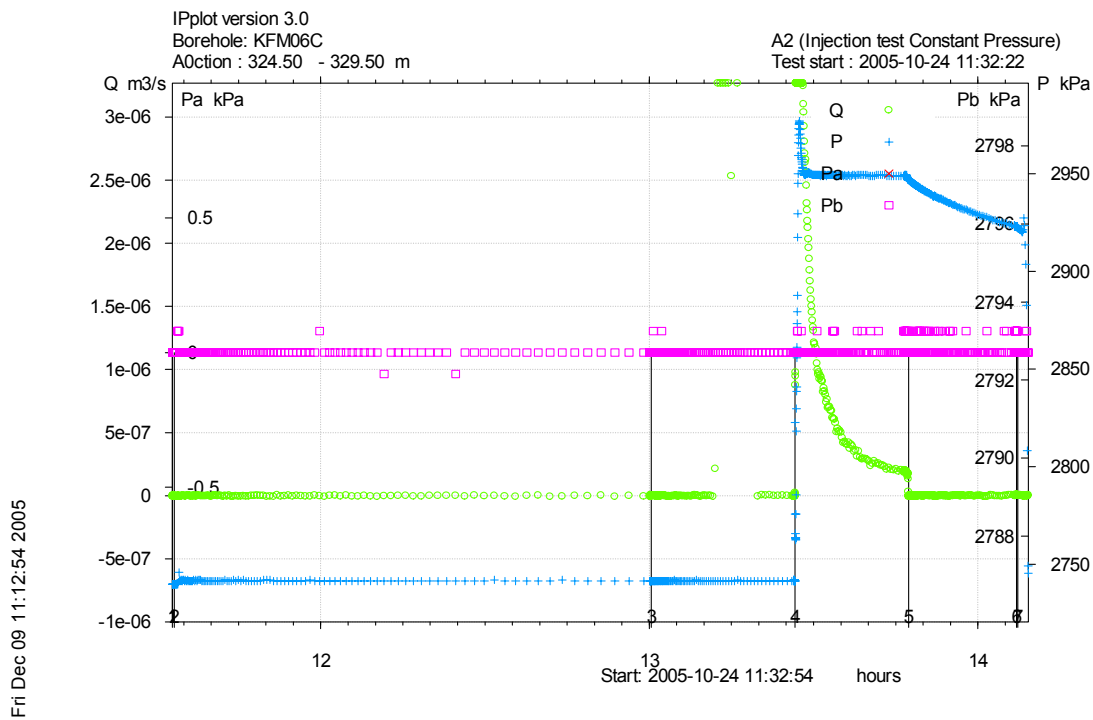
**Figure A3-400.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 314.5-319.5 m in KFM06C.



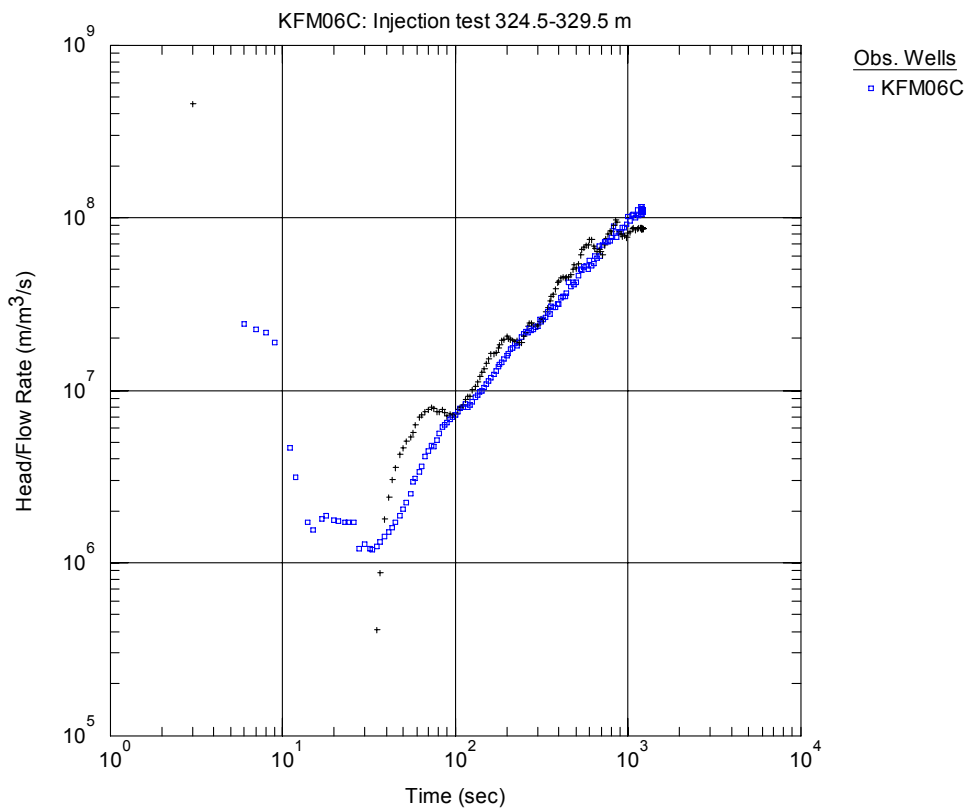
**Figure A3-401.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 314.5-319.5 m in KFM06C.



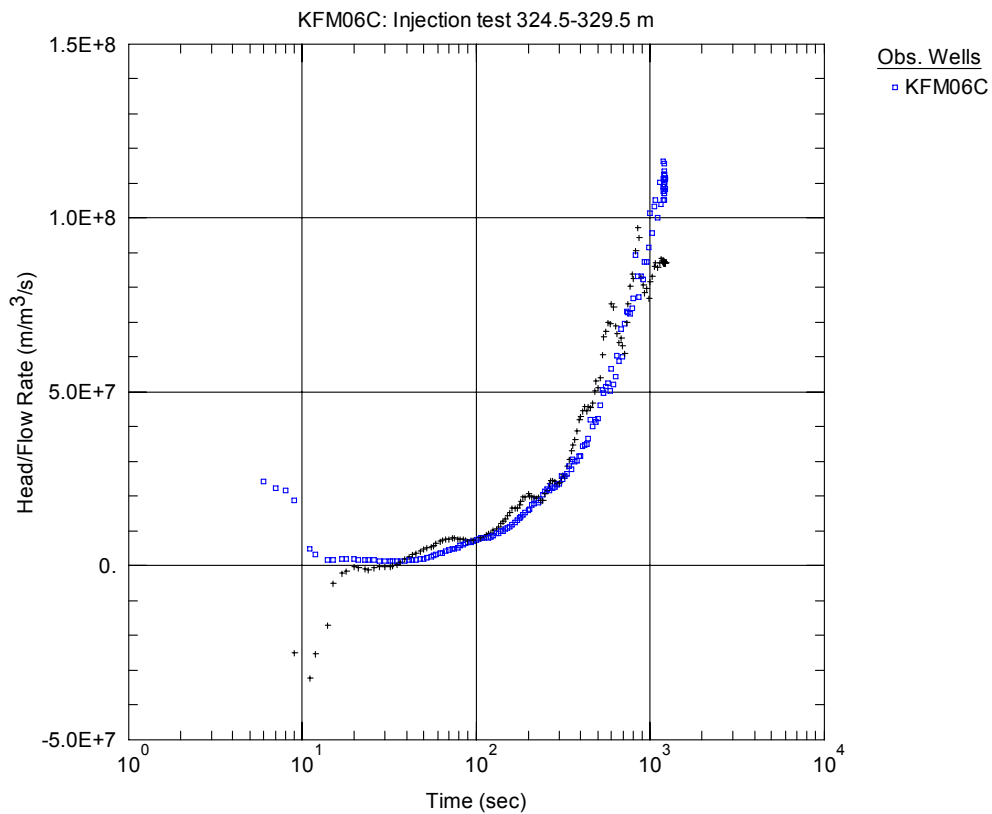
**Figure A3-402.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 319.5-324.5 m in borehole KFM06C.



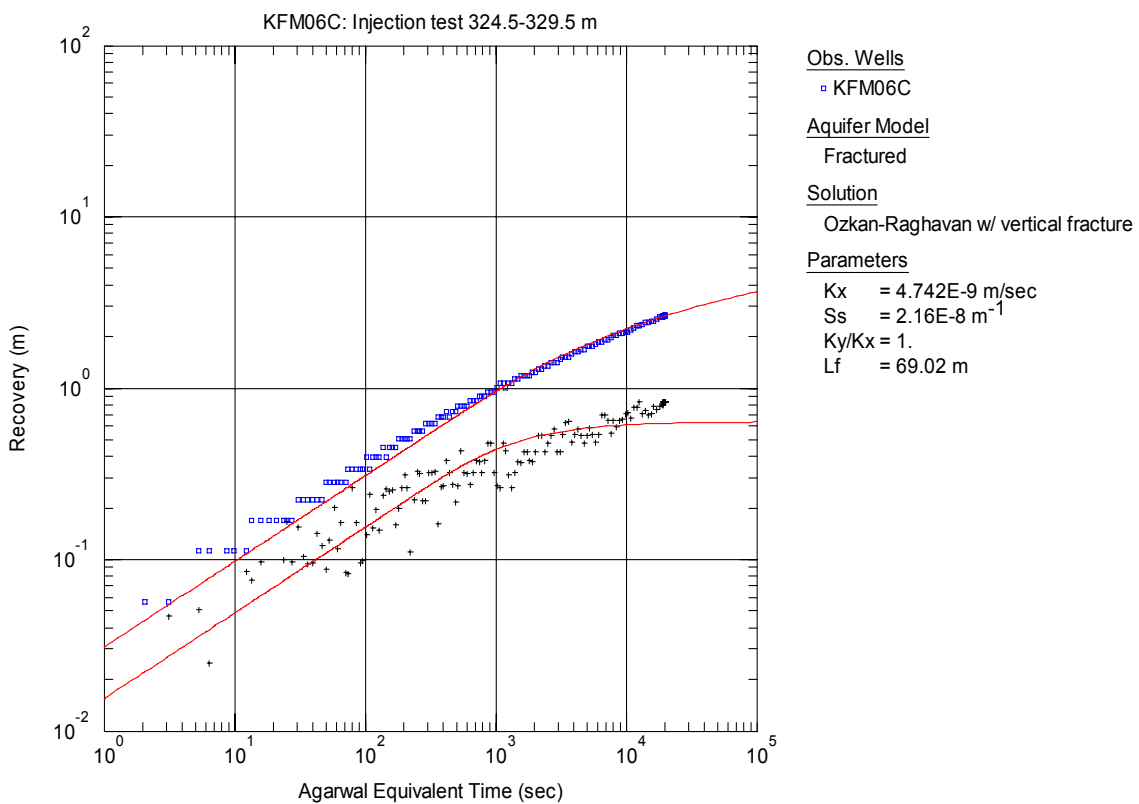
**Figure A3-403.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 324.5-329.5 m in borehole KFM06C.



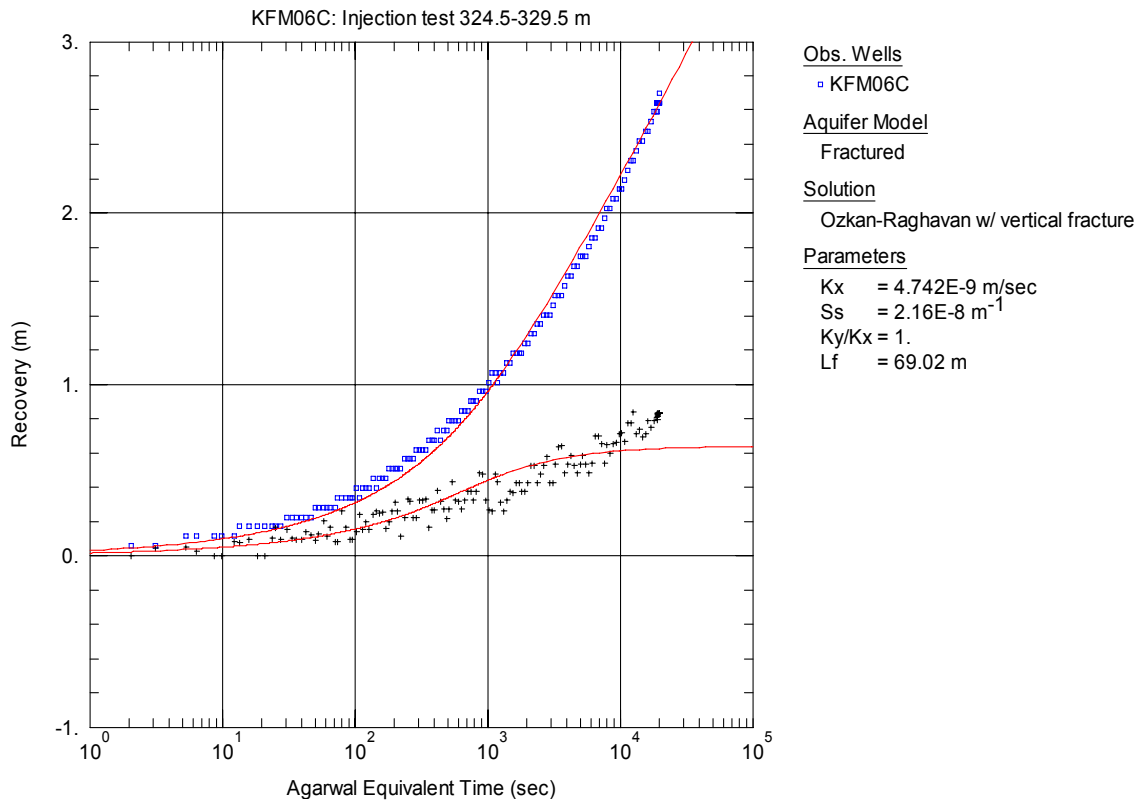
**Figure A3-404.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 324.5-329.5 m in KFM06C.



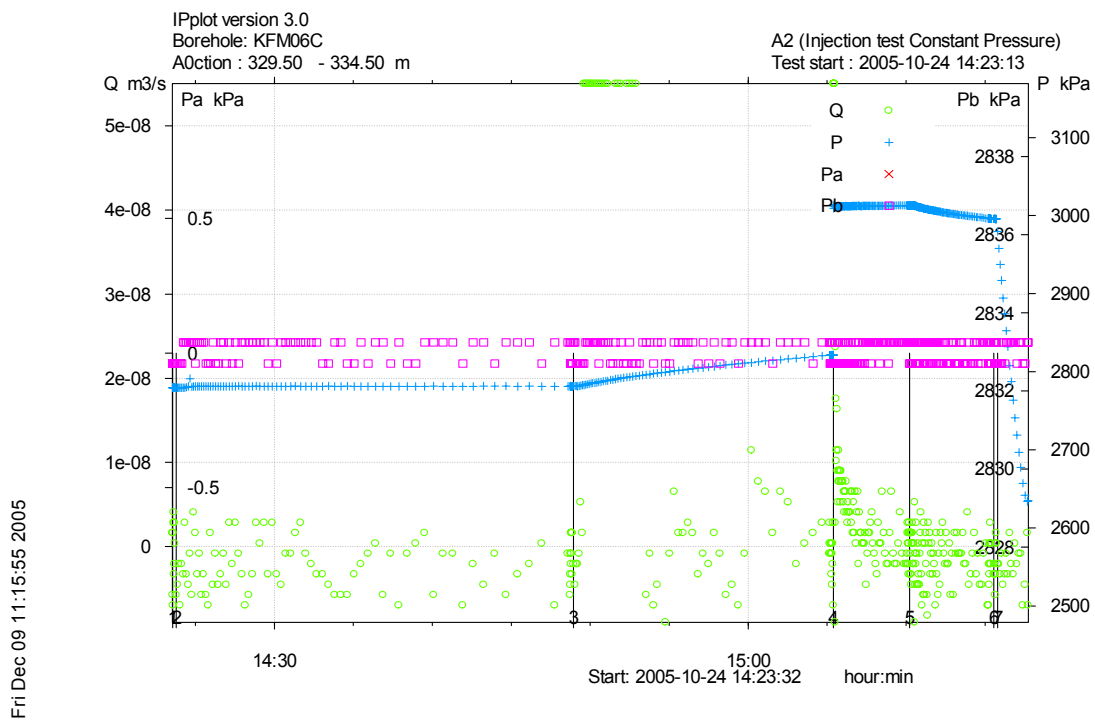
**Figure A3-405.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 324.5-329.5 m in KFM06C.



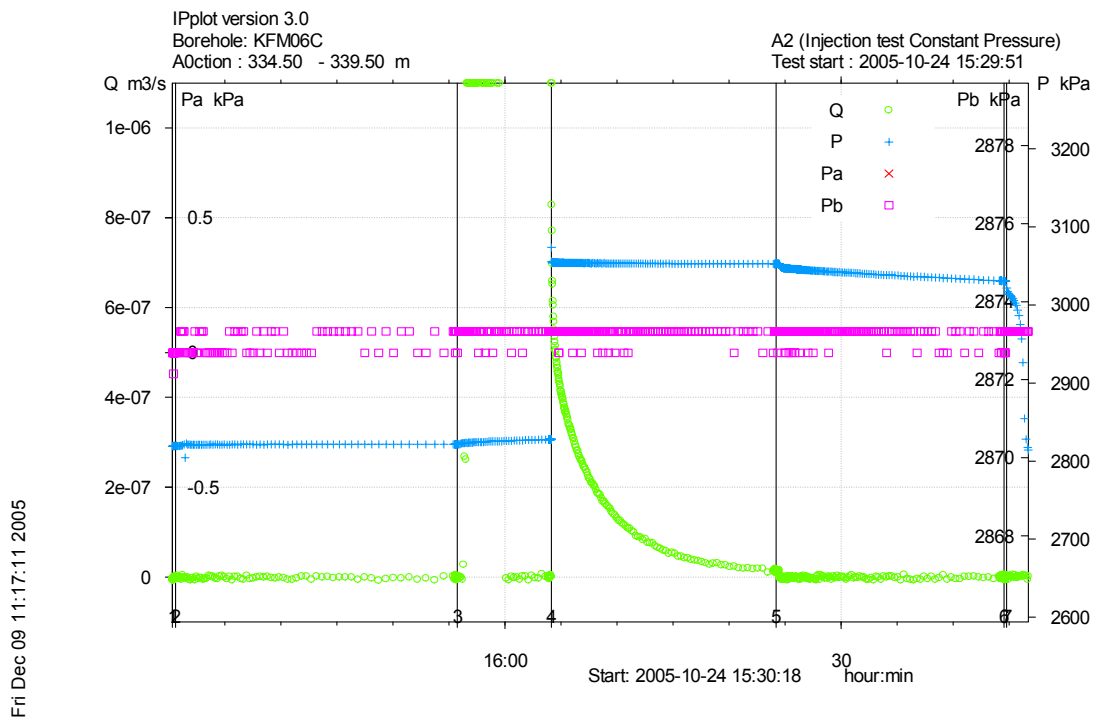
**Figure A3-406.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 324.5-329.5 m in KFM06C.



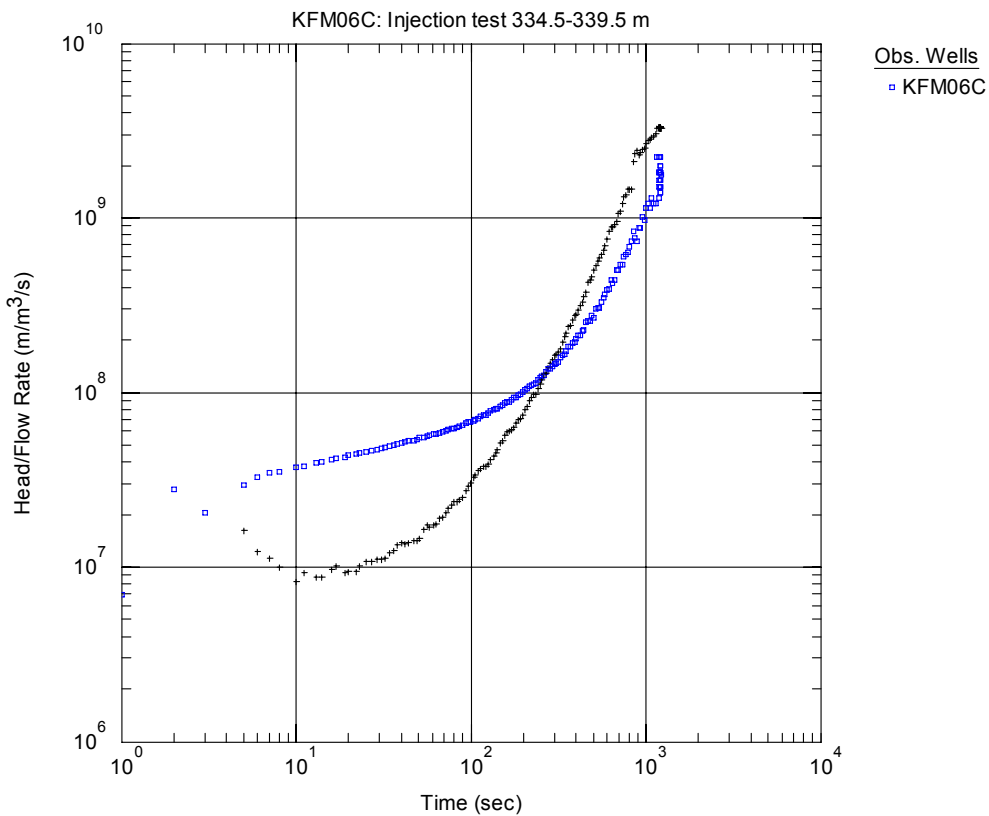
**Figure A3-407.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 324.5-329.5 m in KFM06C.



**Figure A3-408.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 329.5-334.5 m in borehole KFM06C.

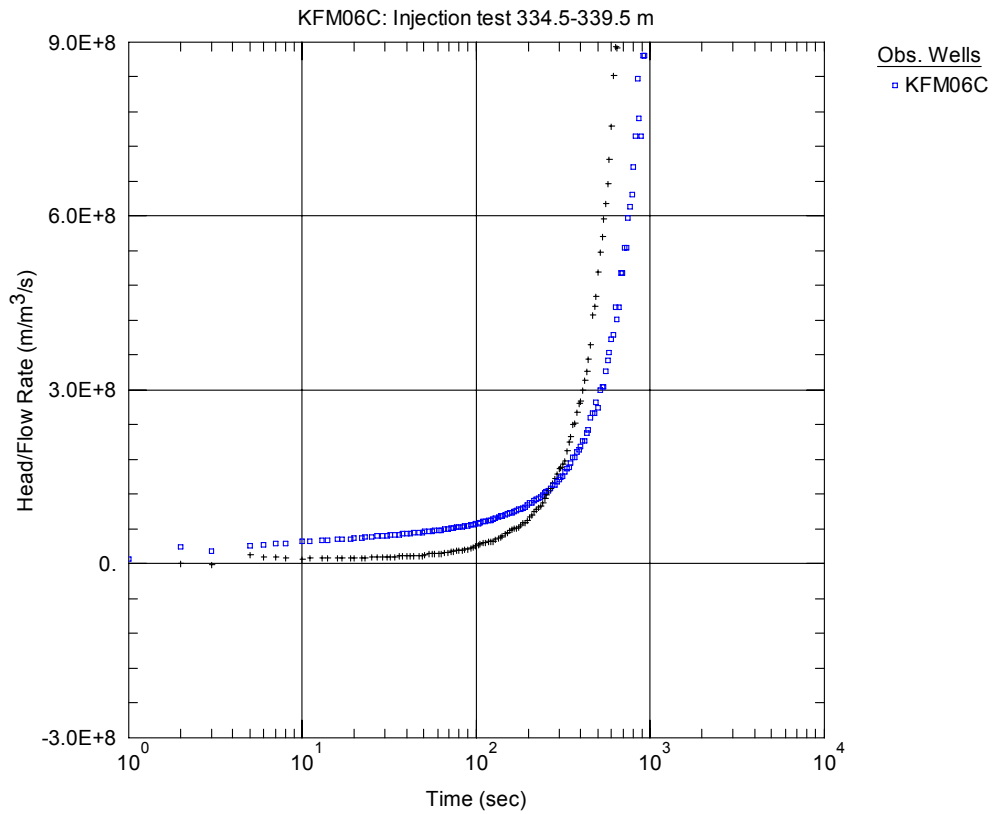


**Figure A3-409.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 334.5-339.5 m in borehole KFM06C.

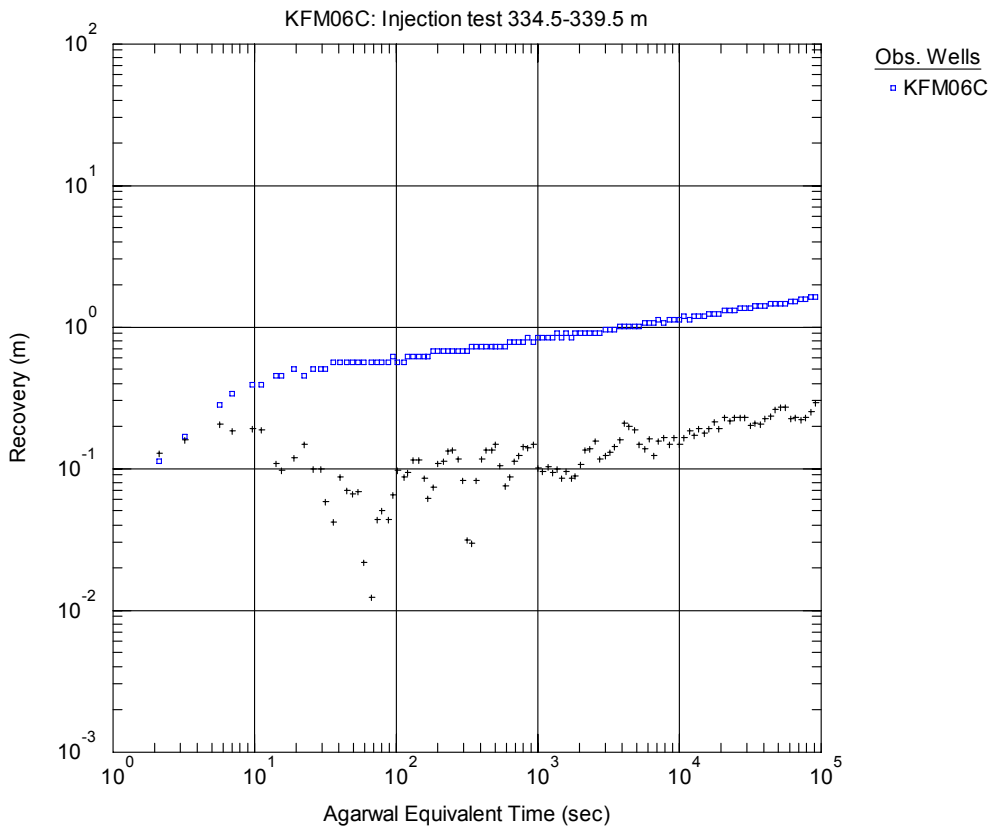


**Figure A3-410.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 334.5-339.5 m in KFM06C.

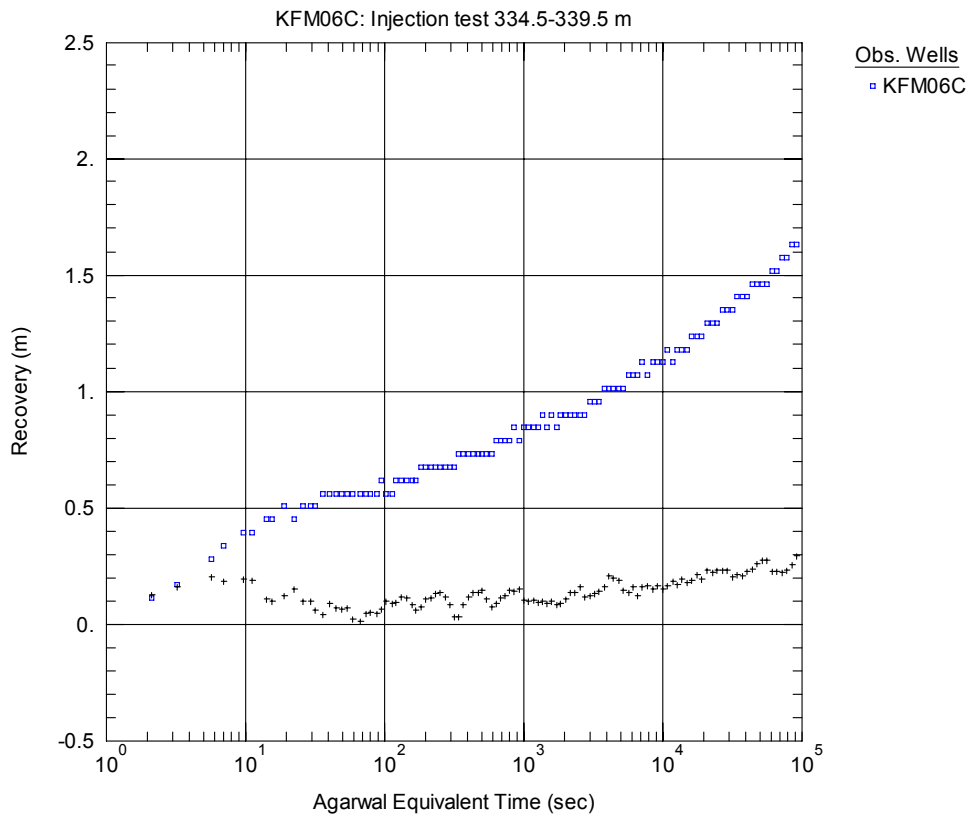




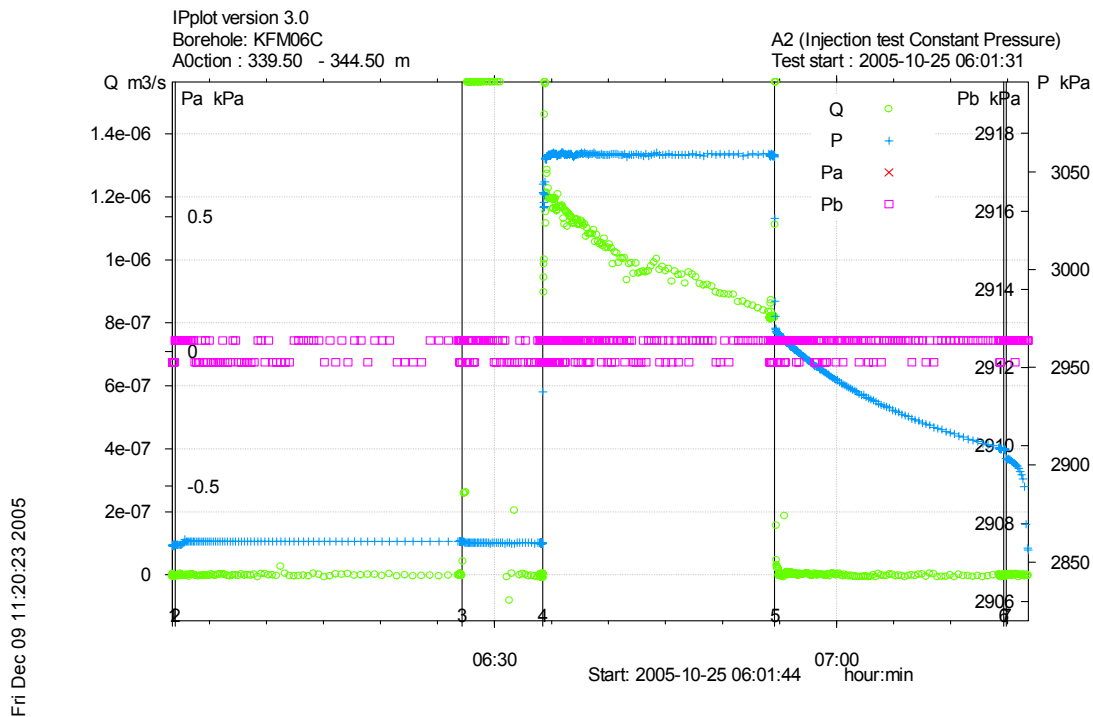
**Figure A3-411.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 334.5-339.5 m in KFM06C.



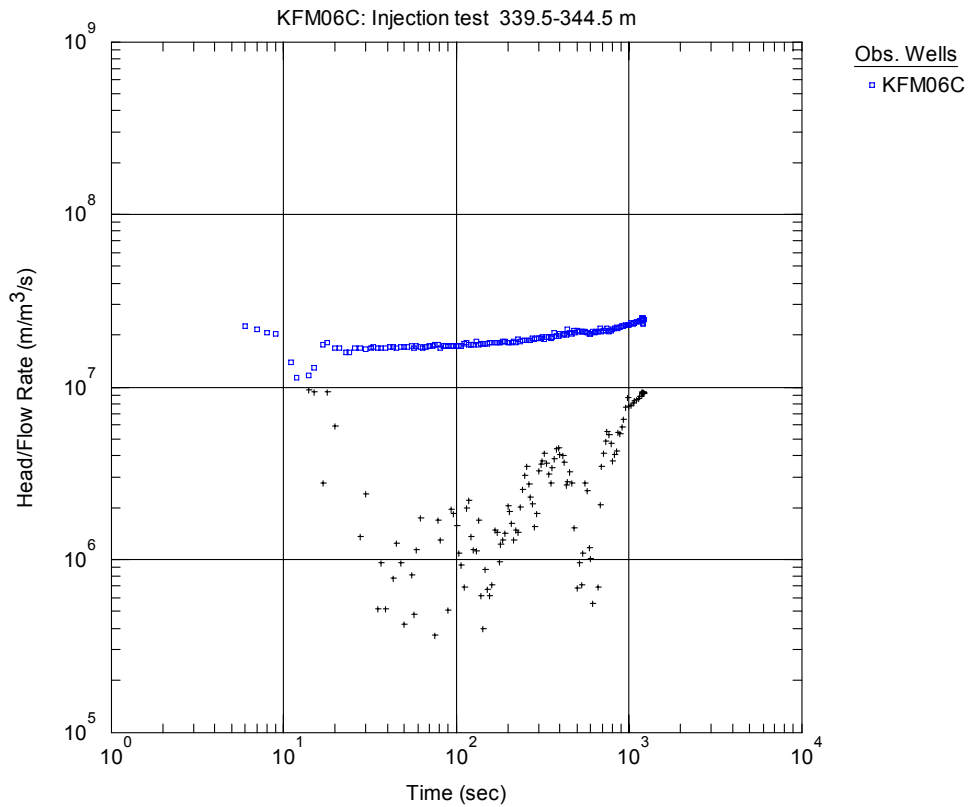
**Figure A3-412.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 334.5-339.5 m in KFM06C.



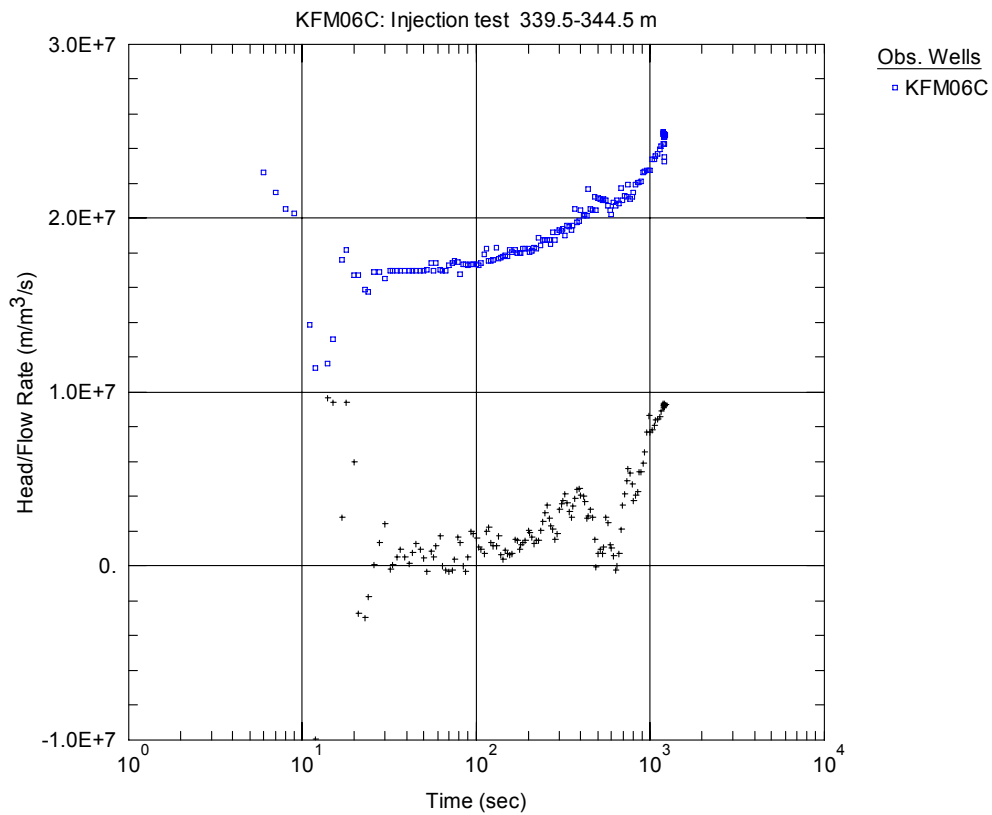
**Figure A3-413.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 334.5-339.5 m in KFM06C.



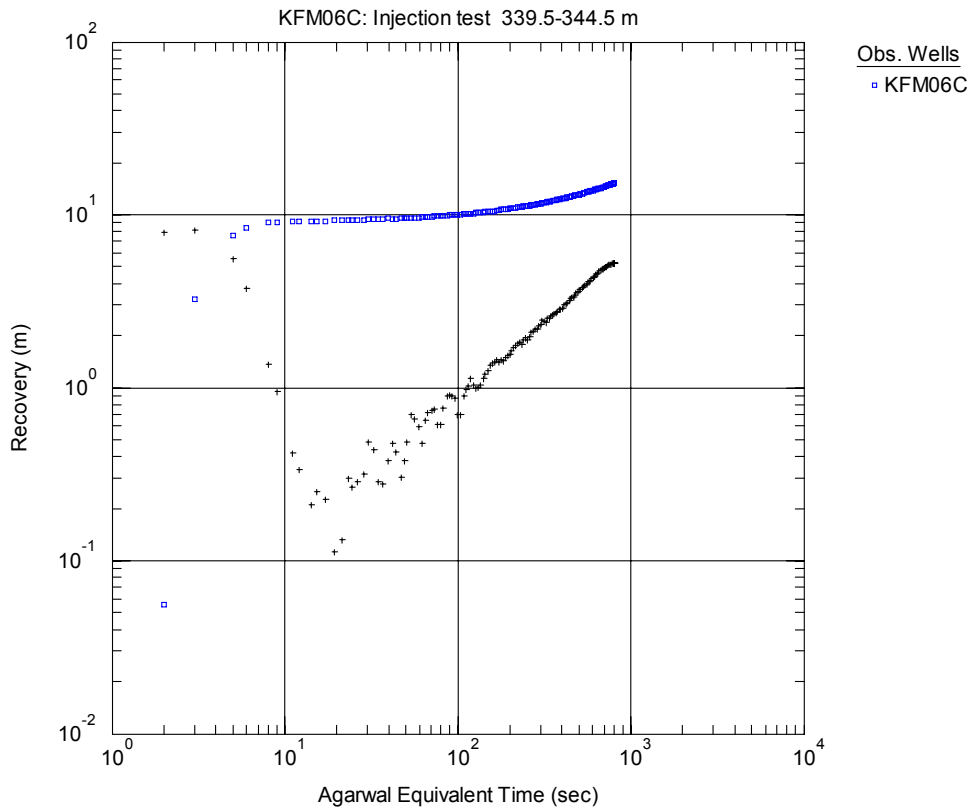
**Figure A3-414.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 339.5-344.5 m in borehole KFM06C.



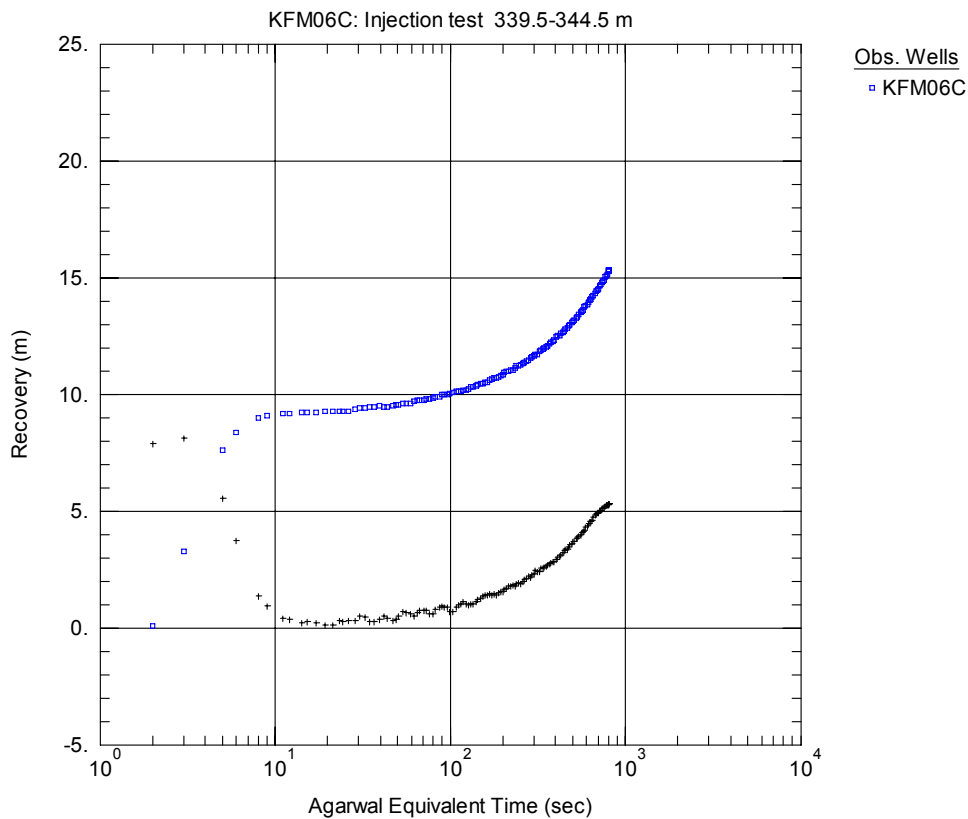
**Figure A3-415.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 339.5-344.5 m in KFM06C.



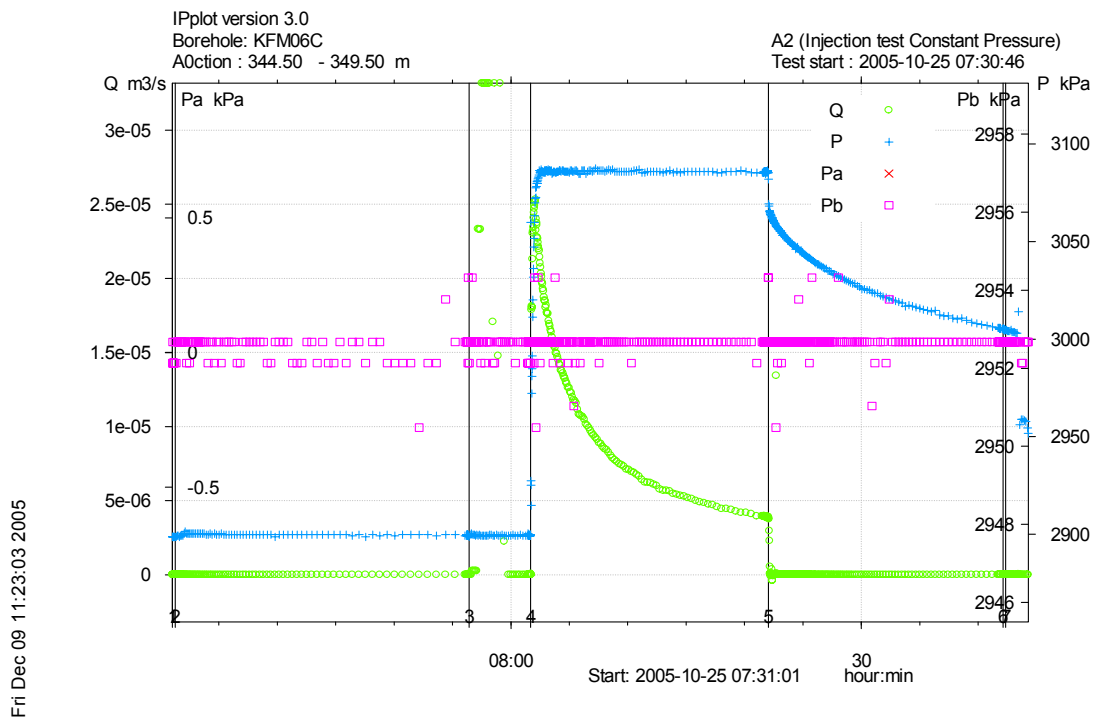
**Figure A3-416.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 339.5-344.5 m in KFM06C.



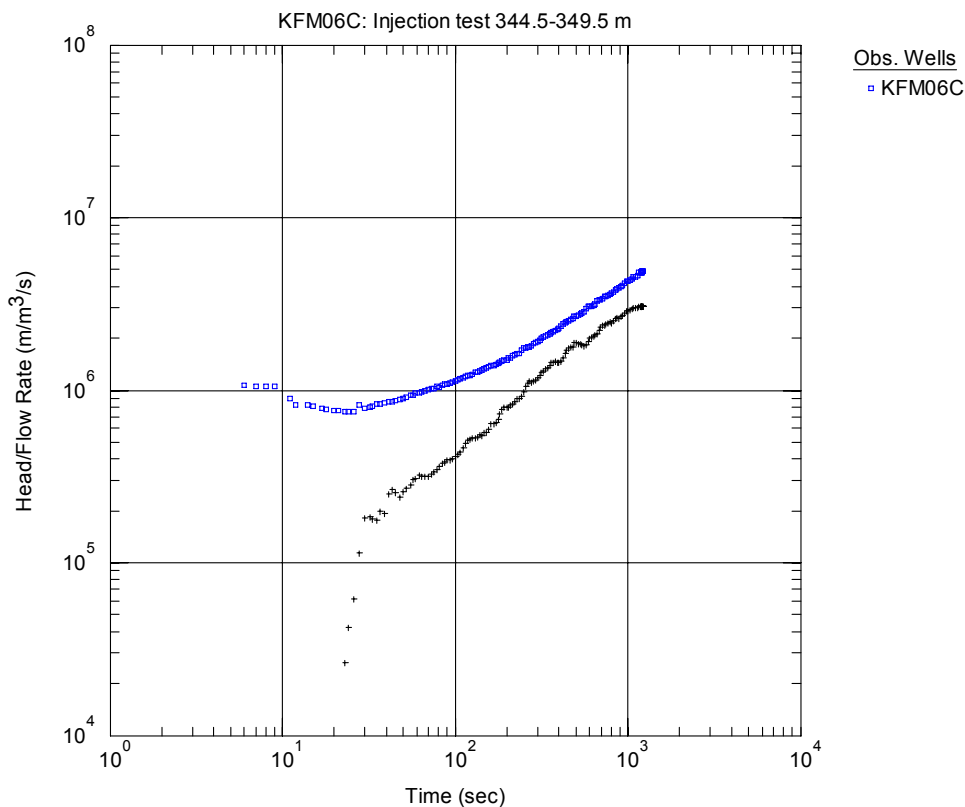
**Figure A3-417.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 339.5-344.5 m in KFM06C.



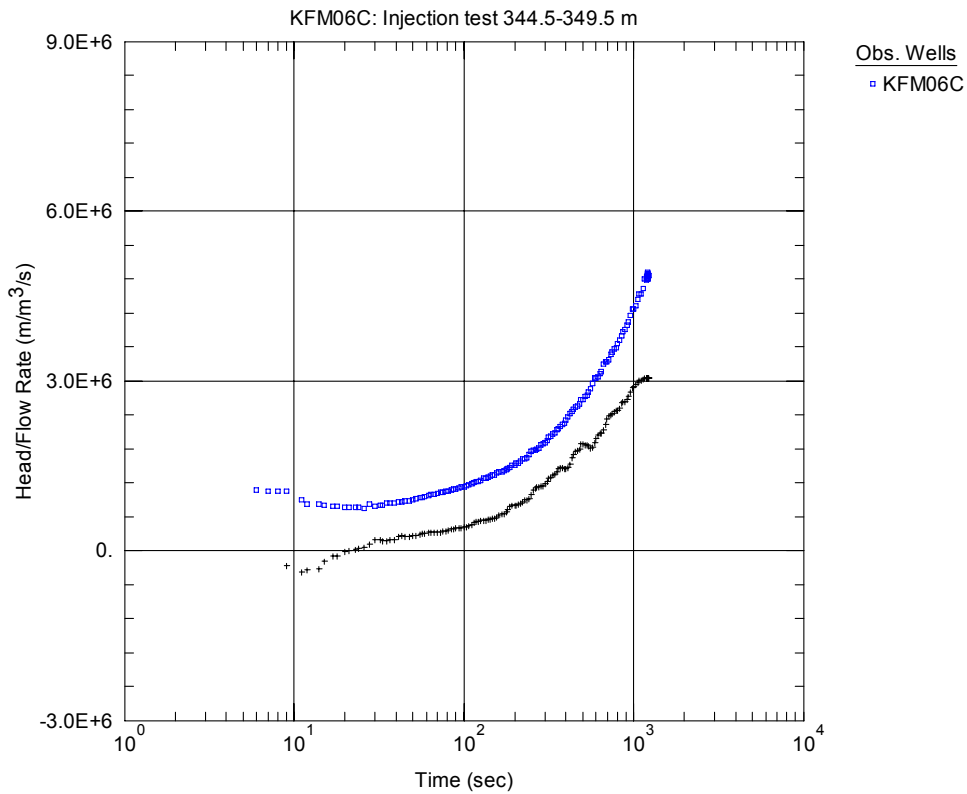
**Figure A3-418.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 339.5-344.5 m in KFM06C.



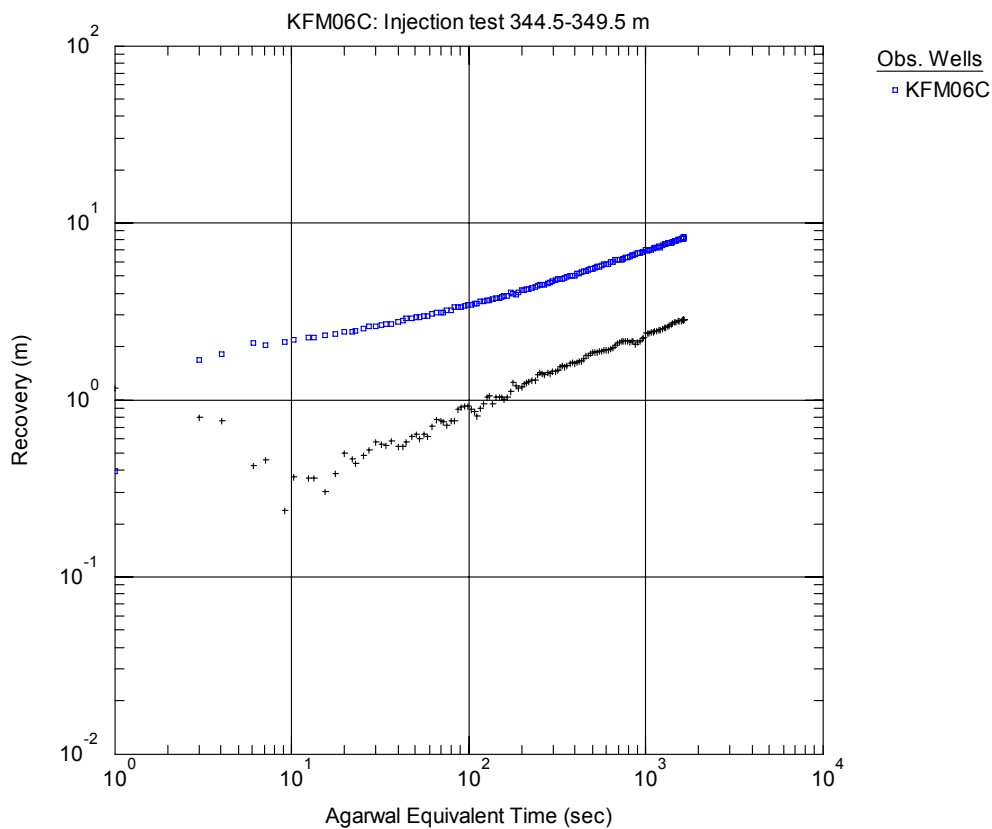
**Figure A3-419.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 344.5-349.5 m in borehole KFM06C.



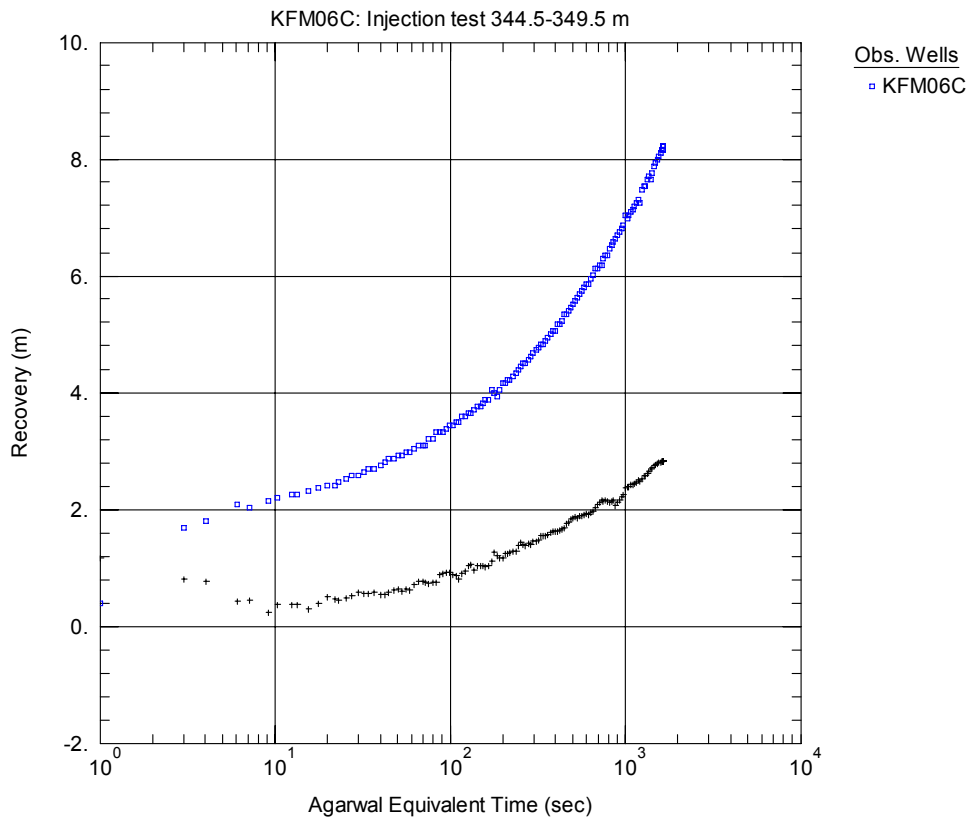
**Figure A3-420.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 344.5-349.5 m in KFM06C.



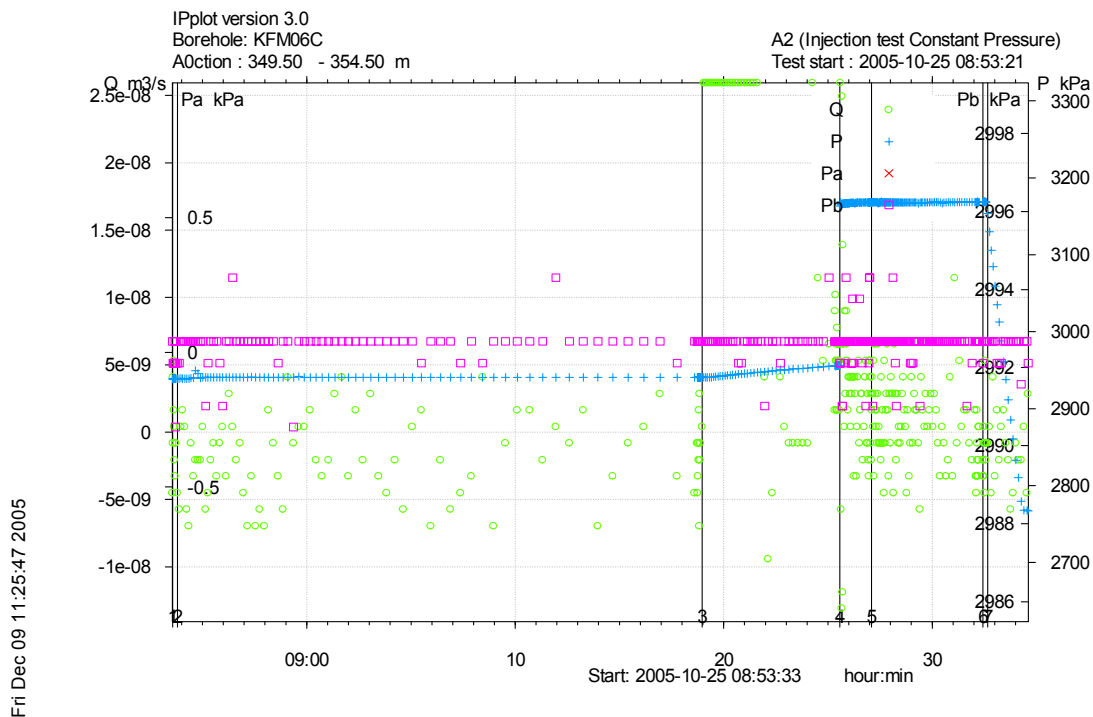
**Figure A3-421.** Lin-log plot of head/flow rate ( $\square$ ) and derivative (+) versus time, from the injection test in section 344.5-349.5 m in KFM06C.



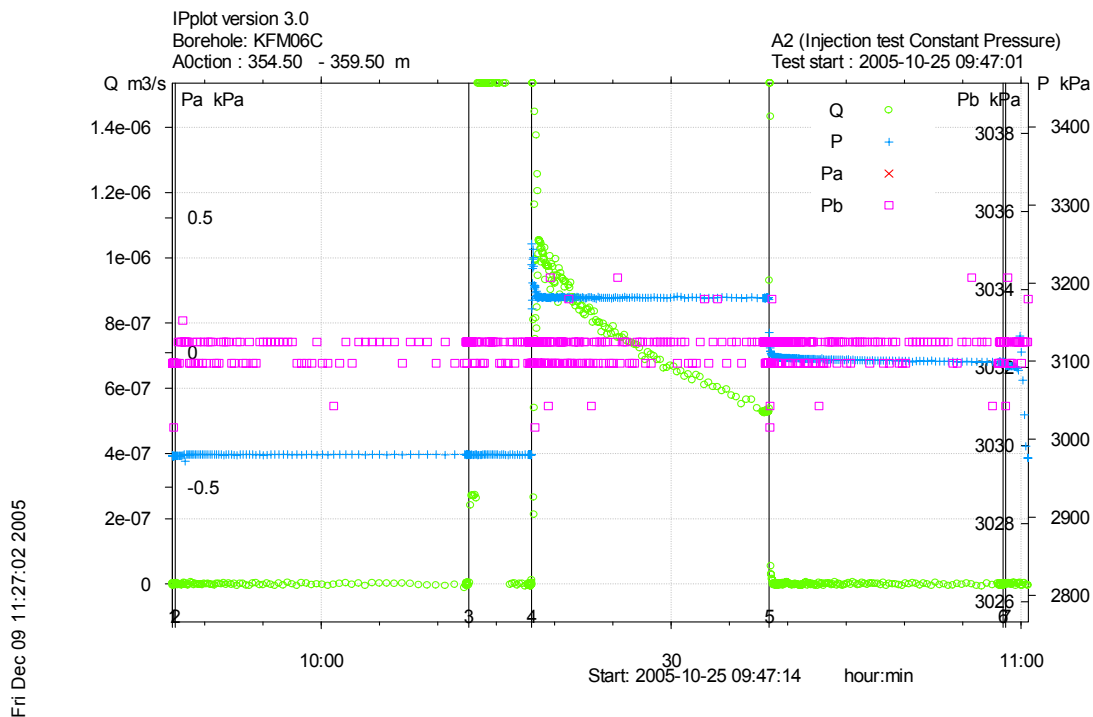
**Figure A3-422.** Log-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 344.5-349.5 m in KFM06C.



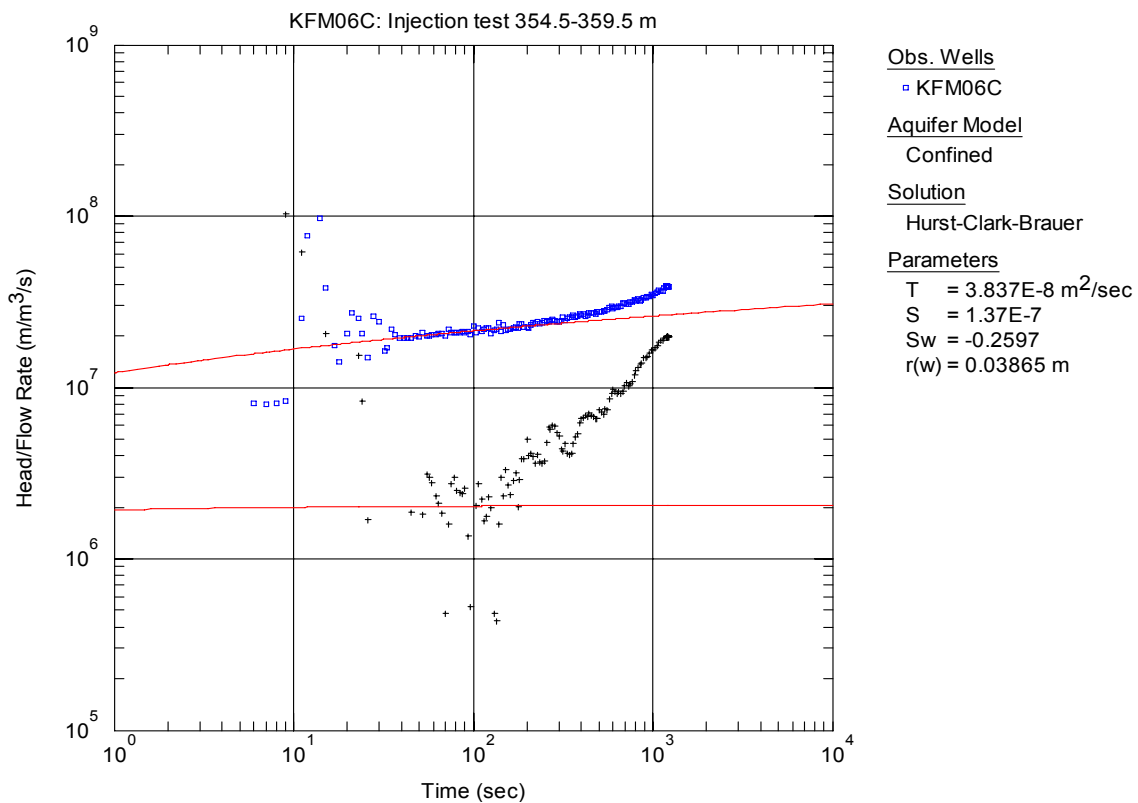
**Figure A3-423.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 344.5-349.5 m in KFM06C.



**Figure A3-424.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 349.5-354.5 m in borehole KFM06C.

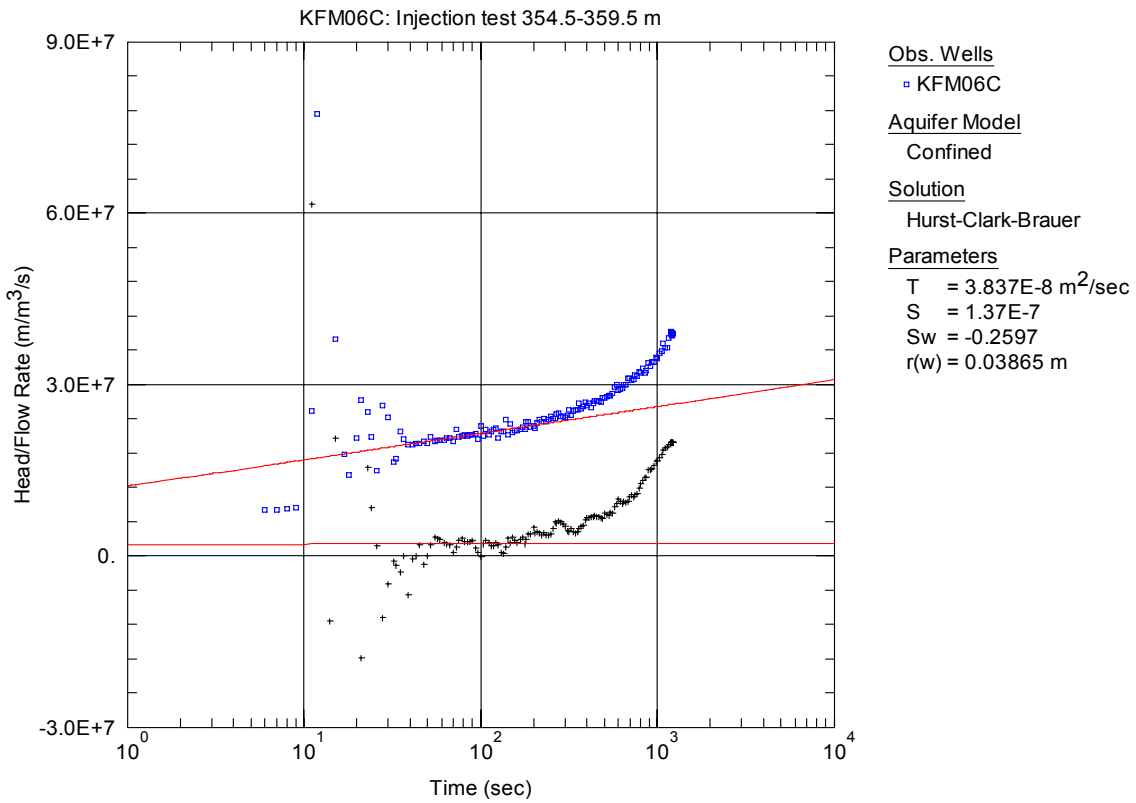


**Figure A3-425.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 354.5-359.5 m in borehole KFM06C.

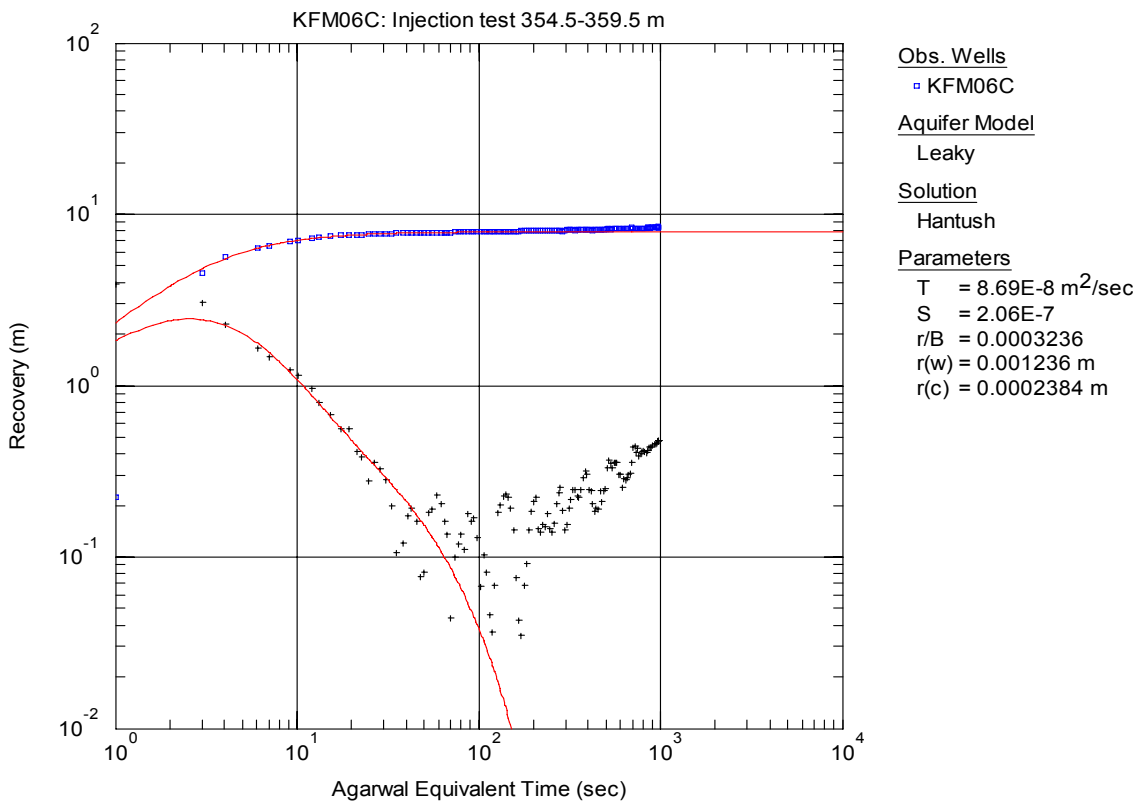


**Figure A3-426.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 354.5-359.5 m in KFM06C.

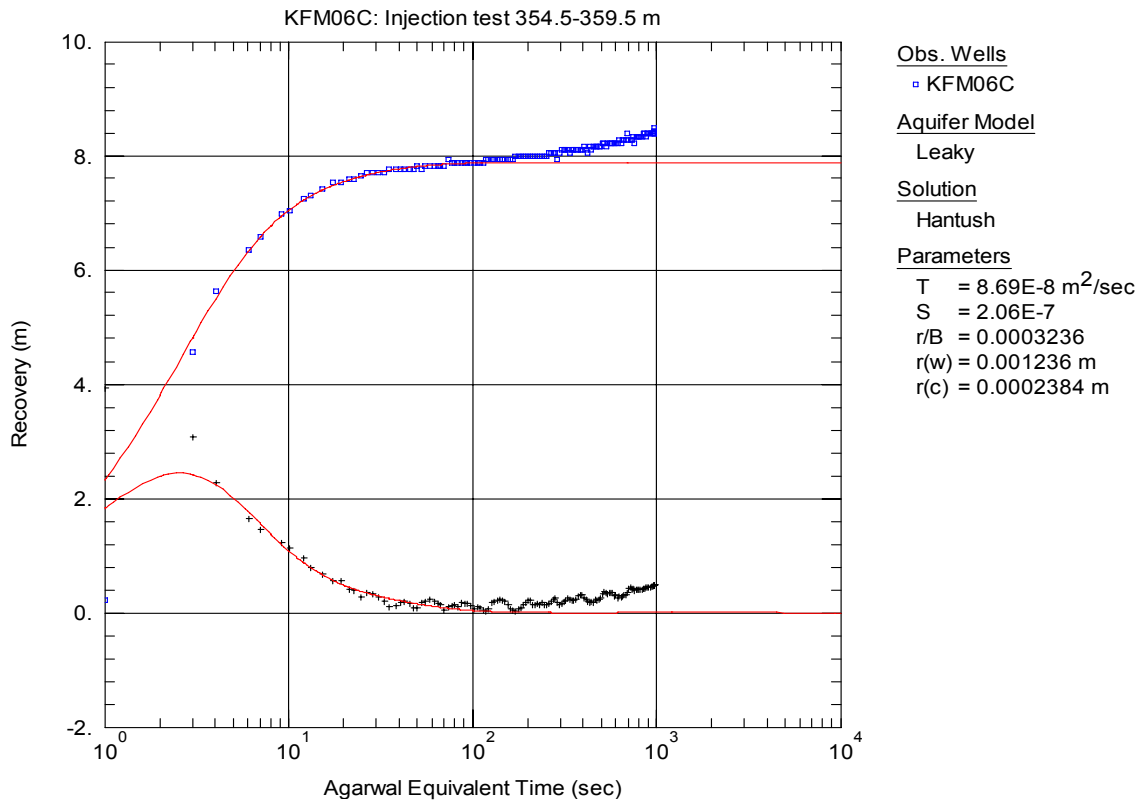




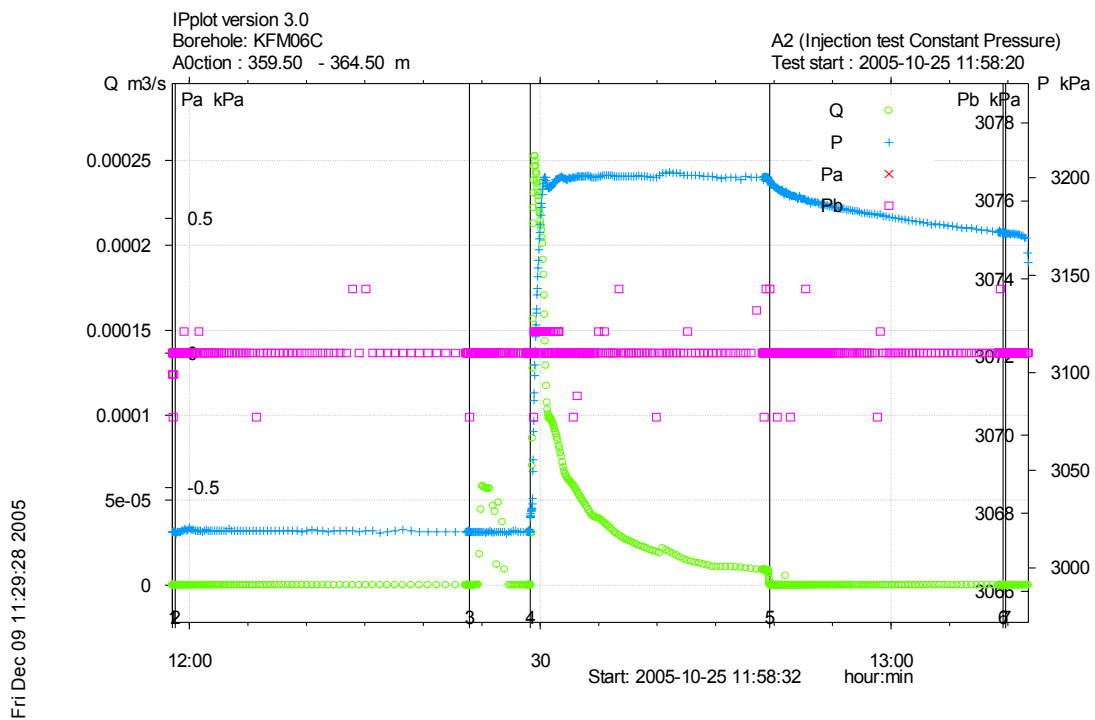
**Figure A3-427.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 354.5-359.5 m in KFM06C.



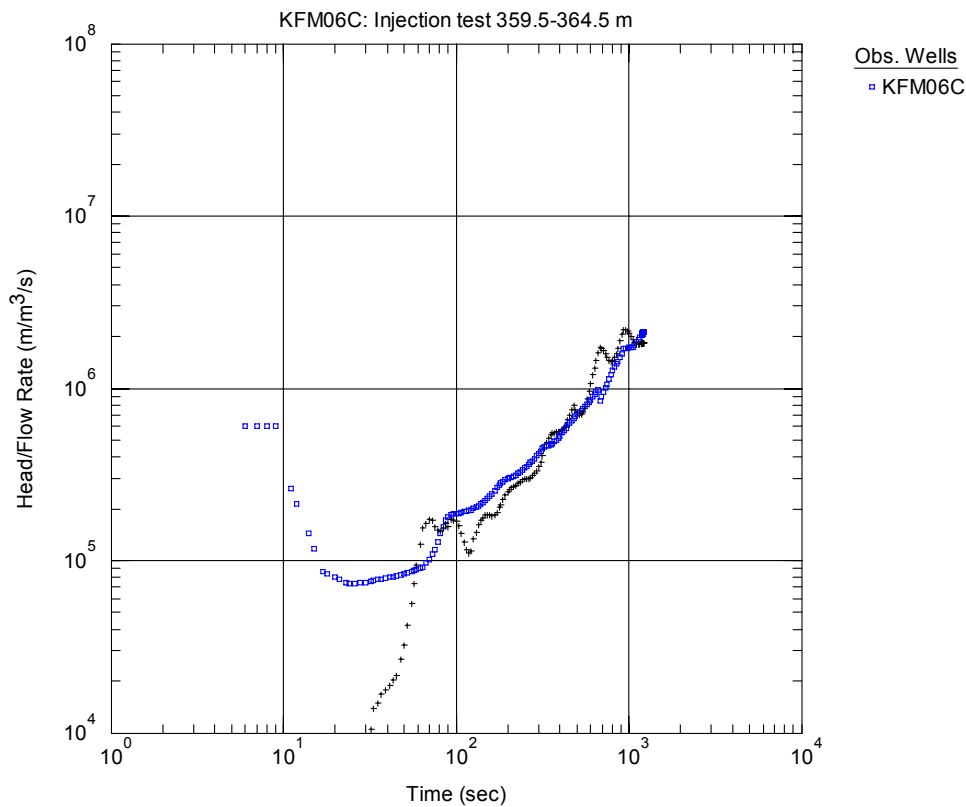
**Figure A3-428.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 354.5-359.5 m in KFM06C.



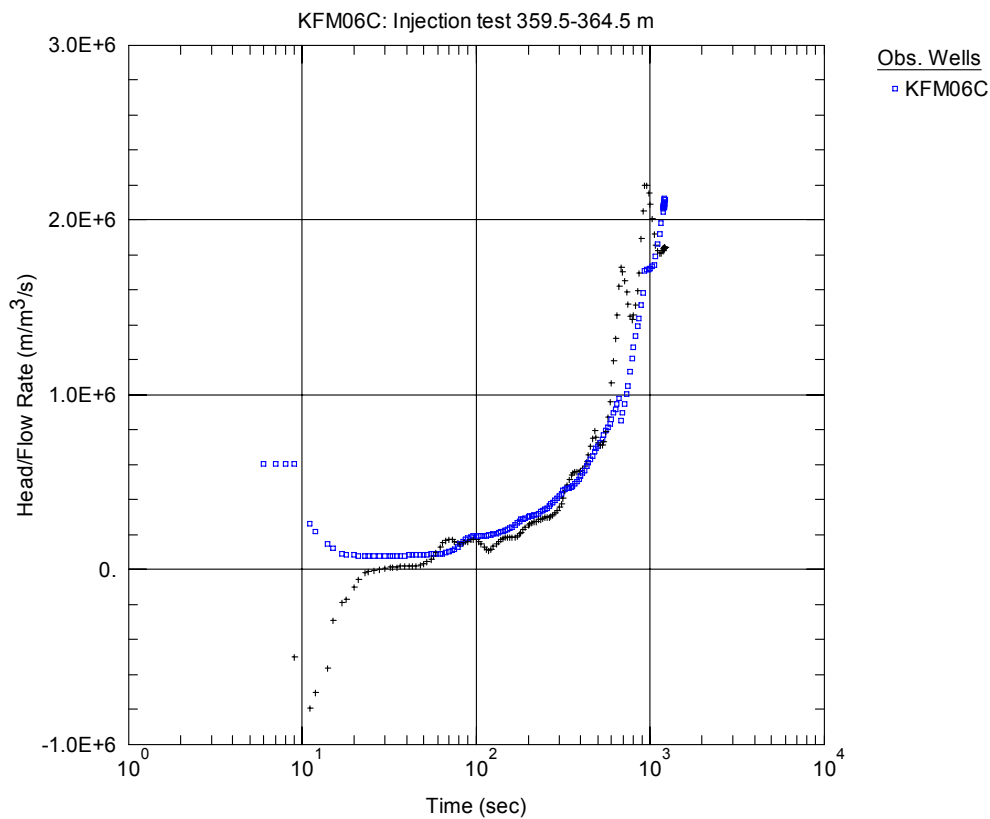
**Figure A3-429.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 354.5-359.5 m in KFM06C.



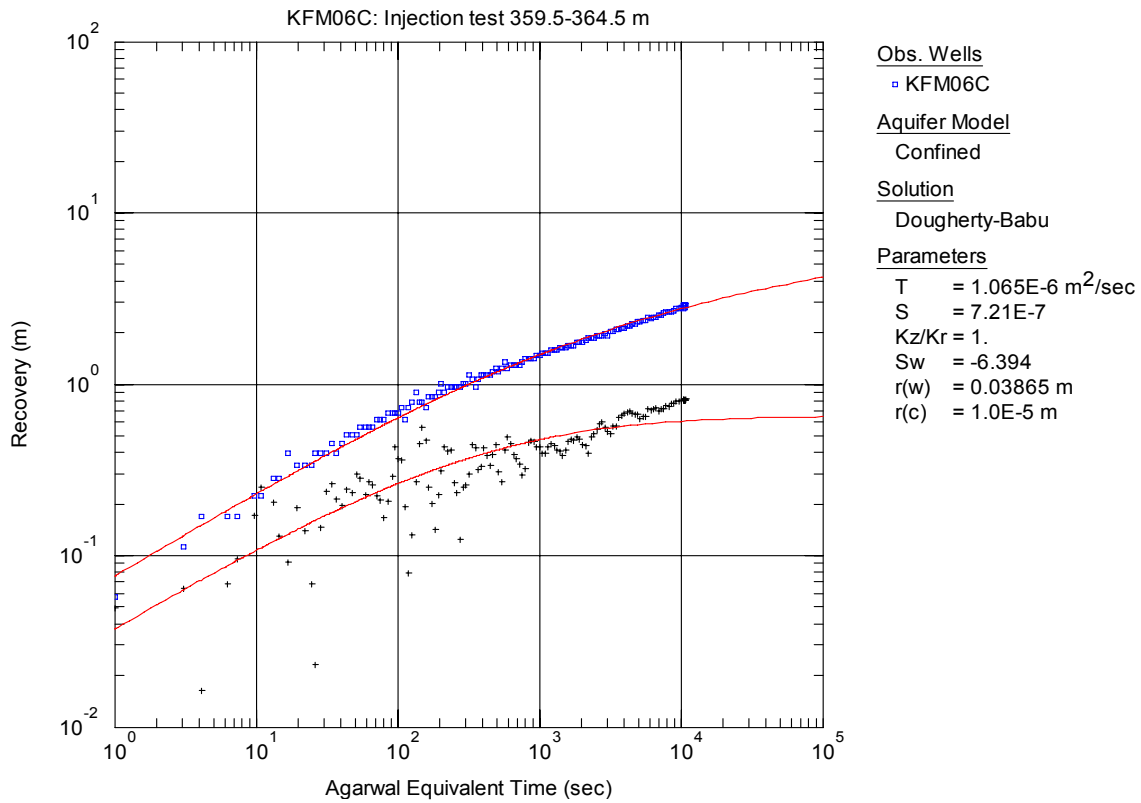
**Figure A3-430.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 359.5-364.5 m in borehole KFM06C.



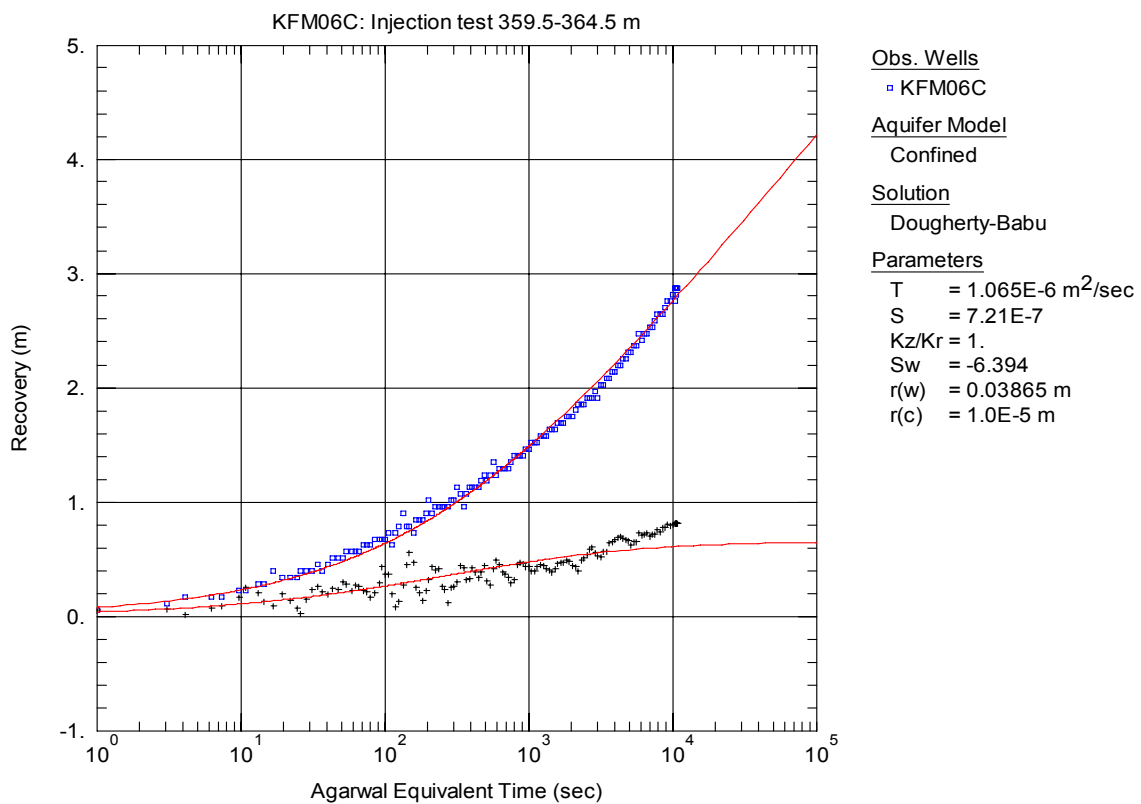
**Figure A3-431.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 359.5-364.5 m in KFM06C.



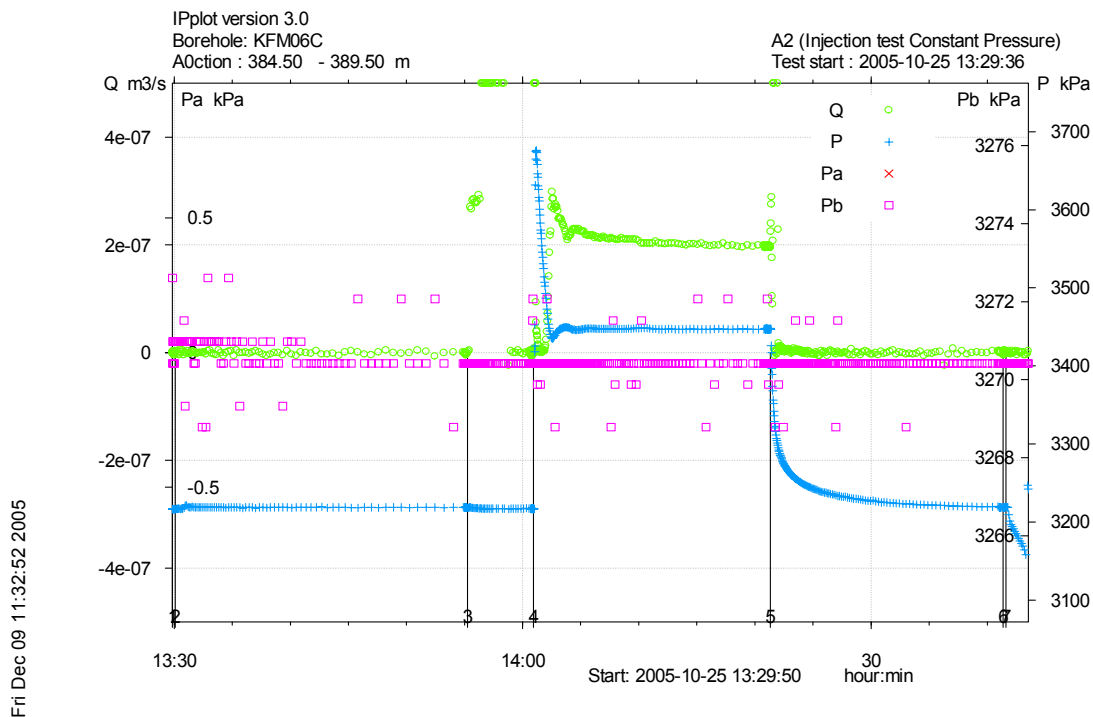
**Figure A3-432.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 359.5-364.5 m in KFM06C.



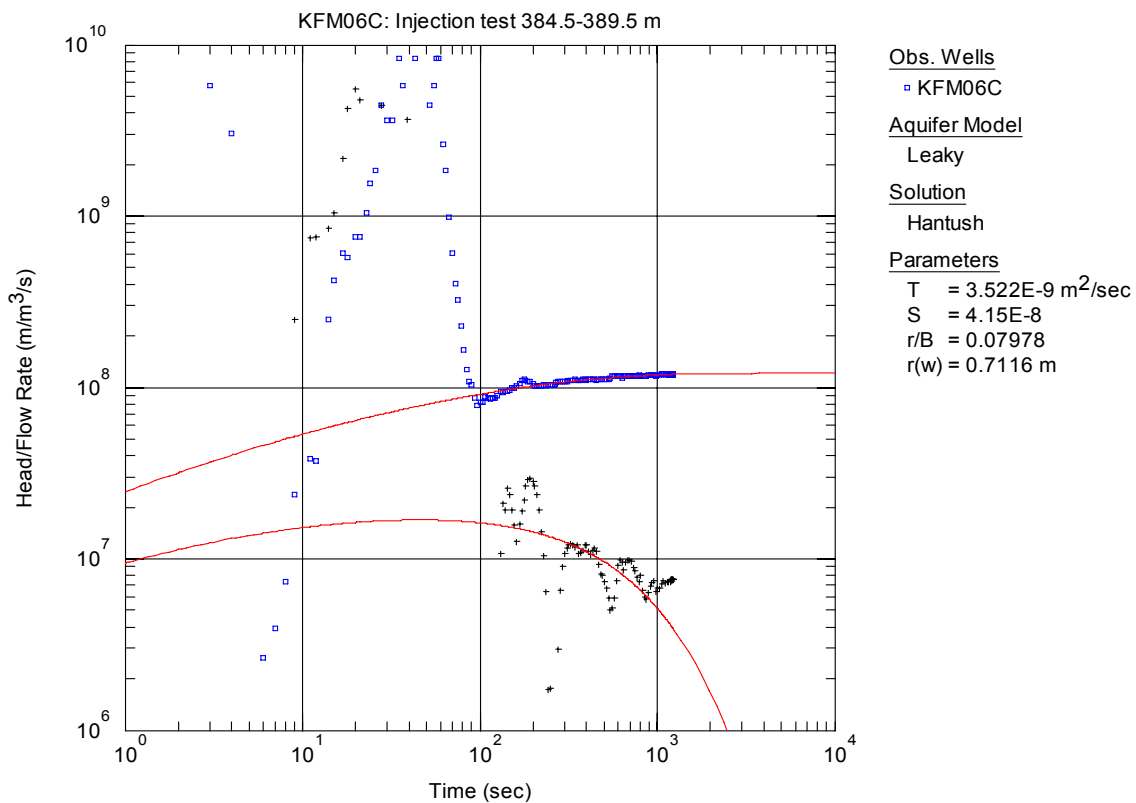
**Figure A3-433.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 359.5-364.5 m in KFM06C.



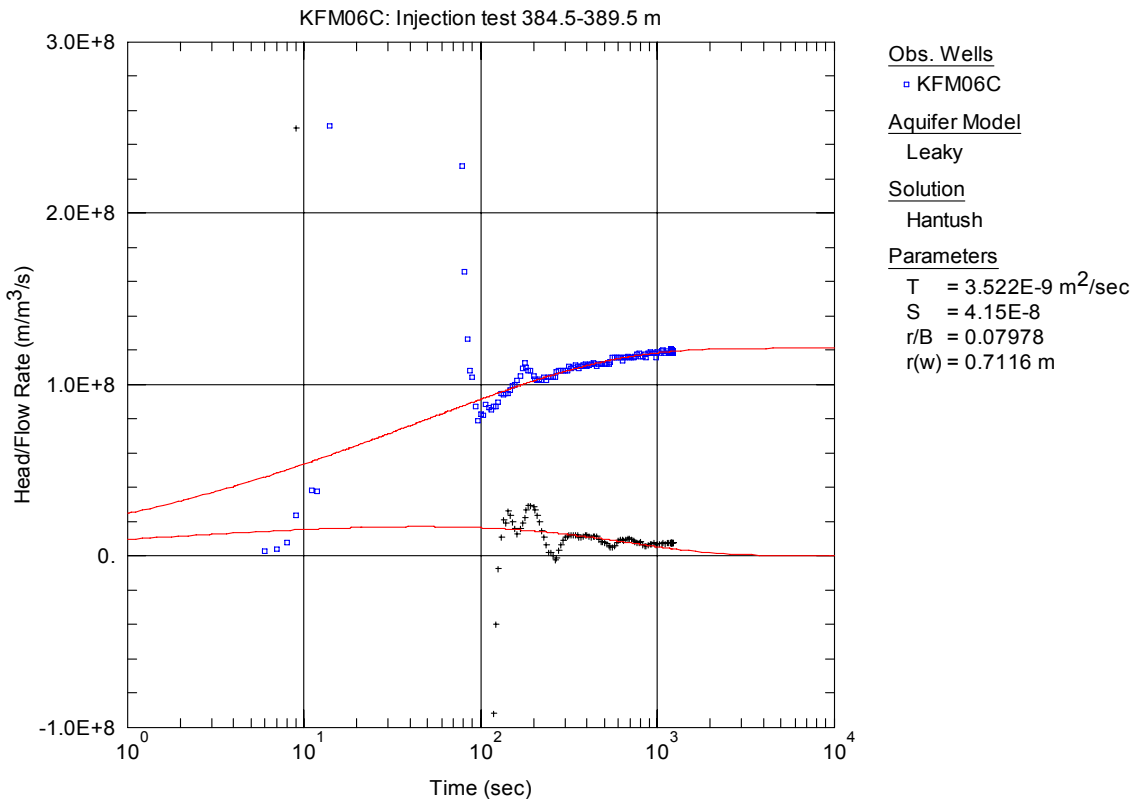
**Figure A3-434.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 359.5-364.5 m in KFM06C.



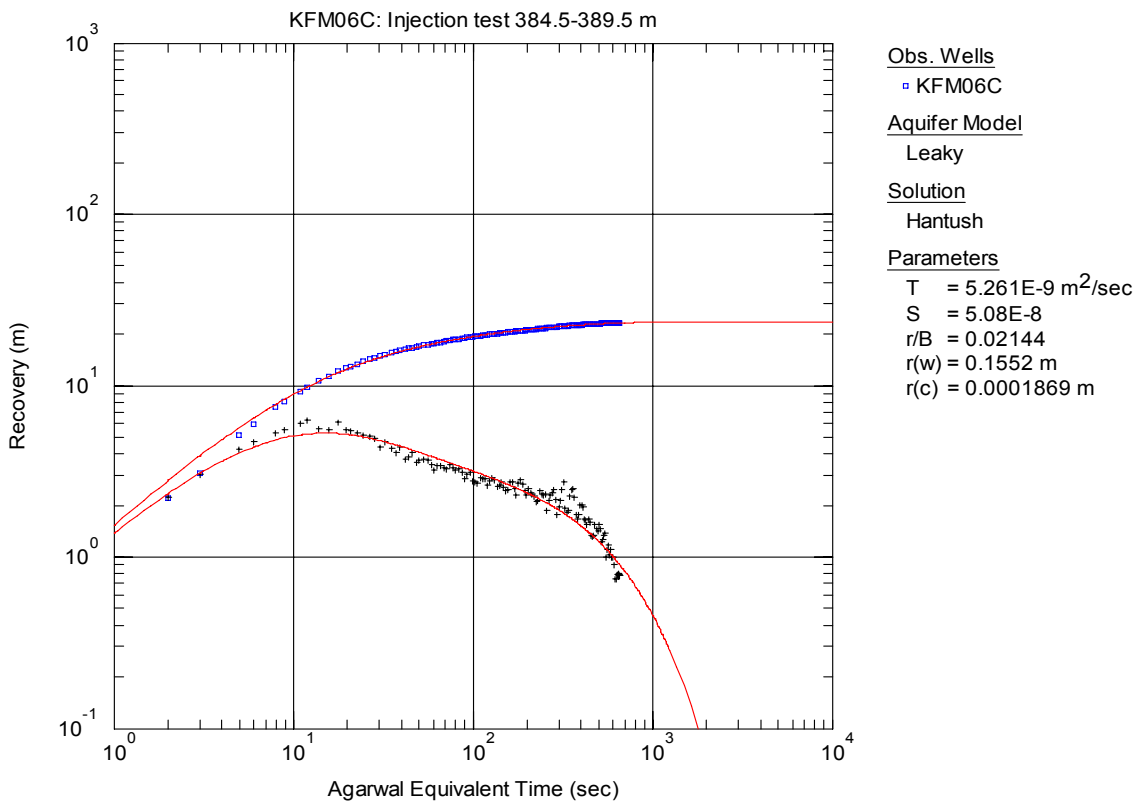
**Figure A3-435.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 384.5-389.5 m in borehole KFM06C.



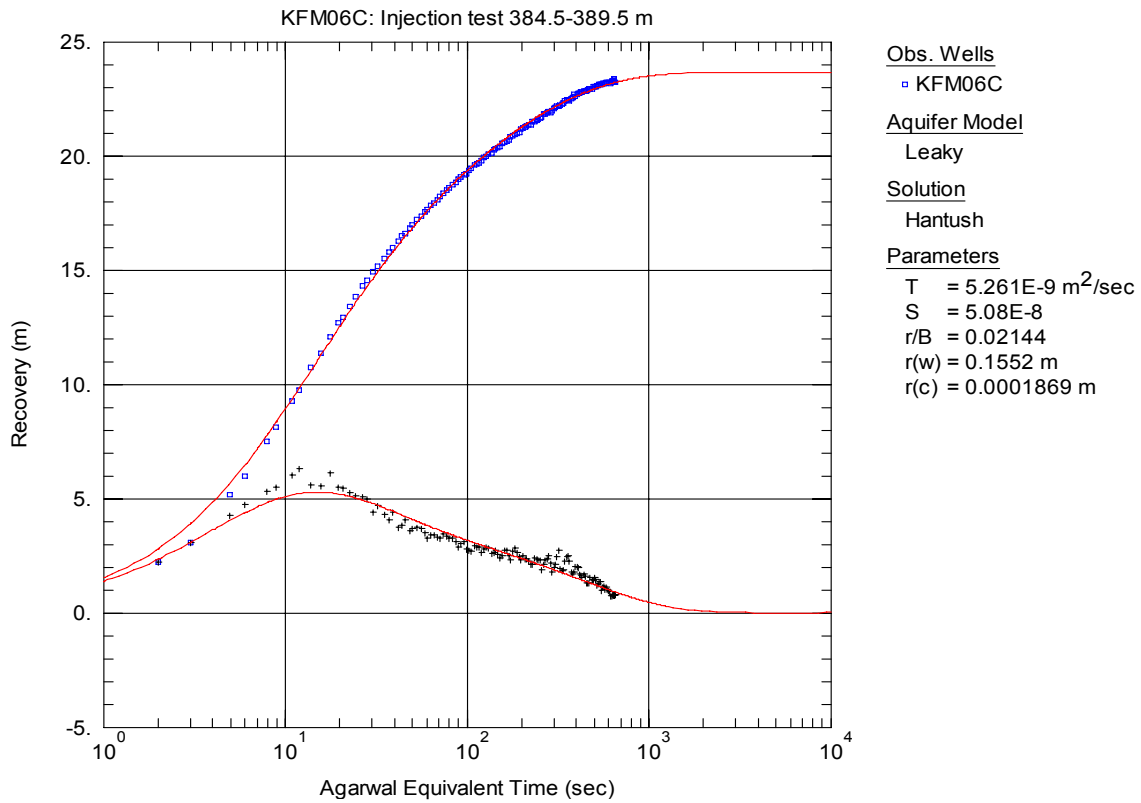
**Figure A3-436.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 384.5-389.5 m in KFM06C.



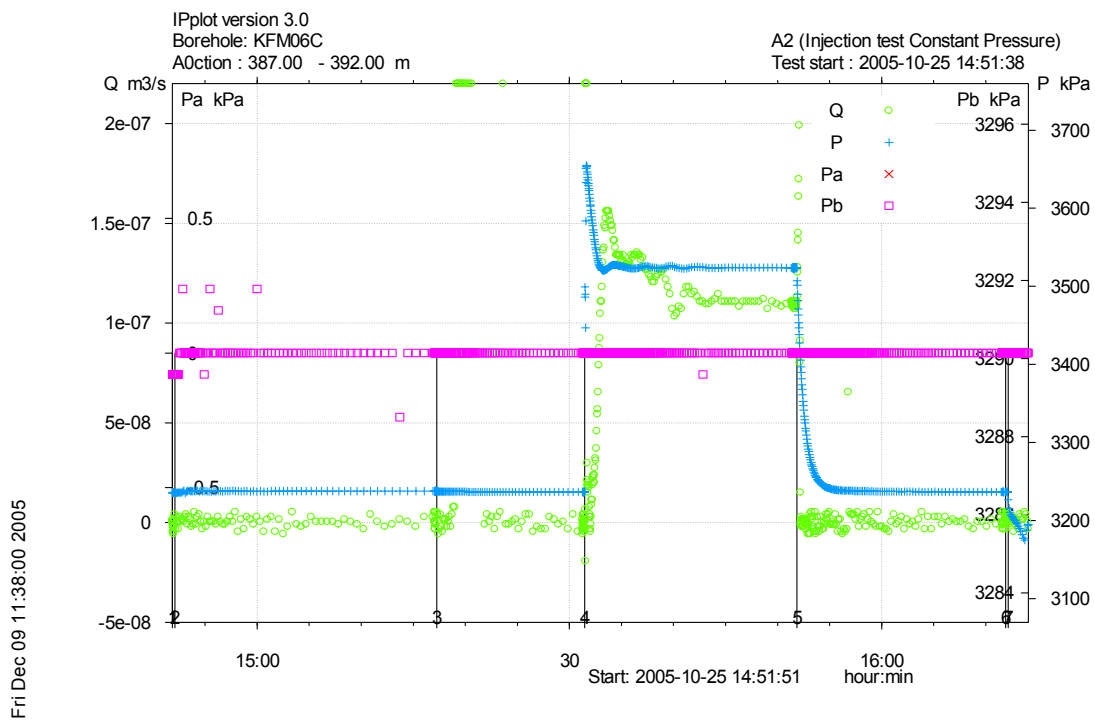
**Figure A3-437.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 384.5-389.5 m in KFM06C.



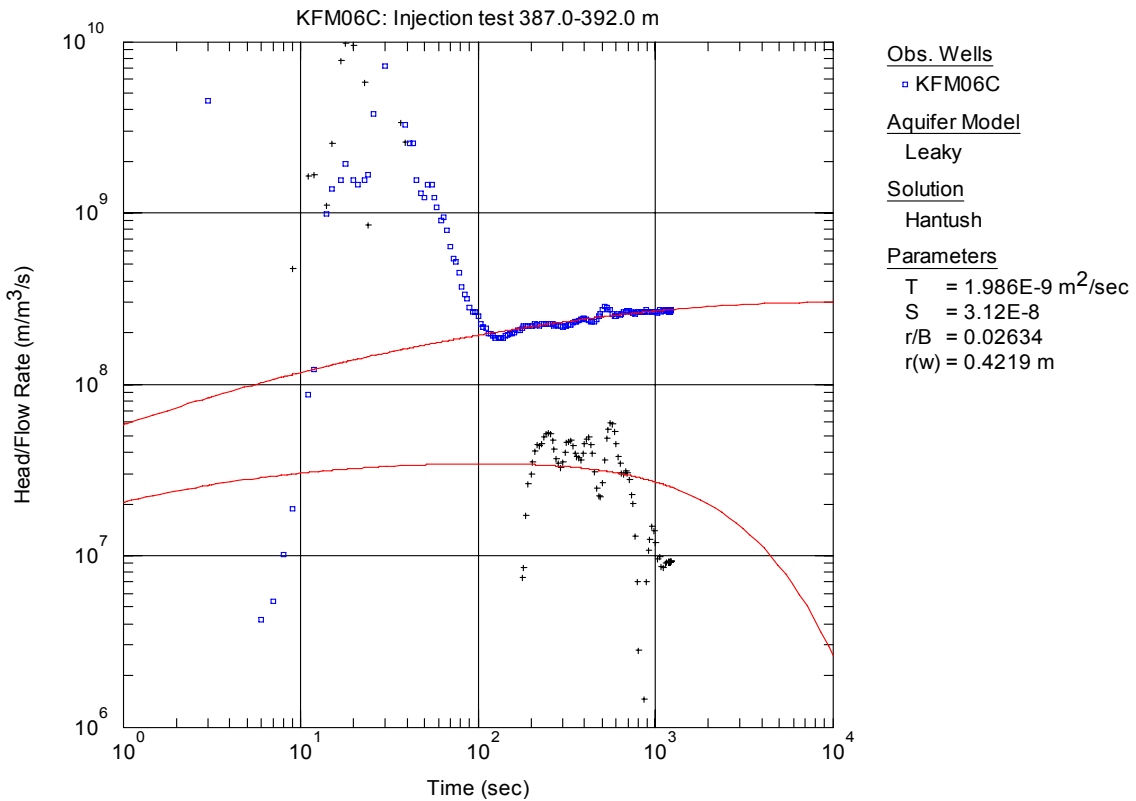
**Figure A3-438.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 384.5-389.5 m in KFM06C.



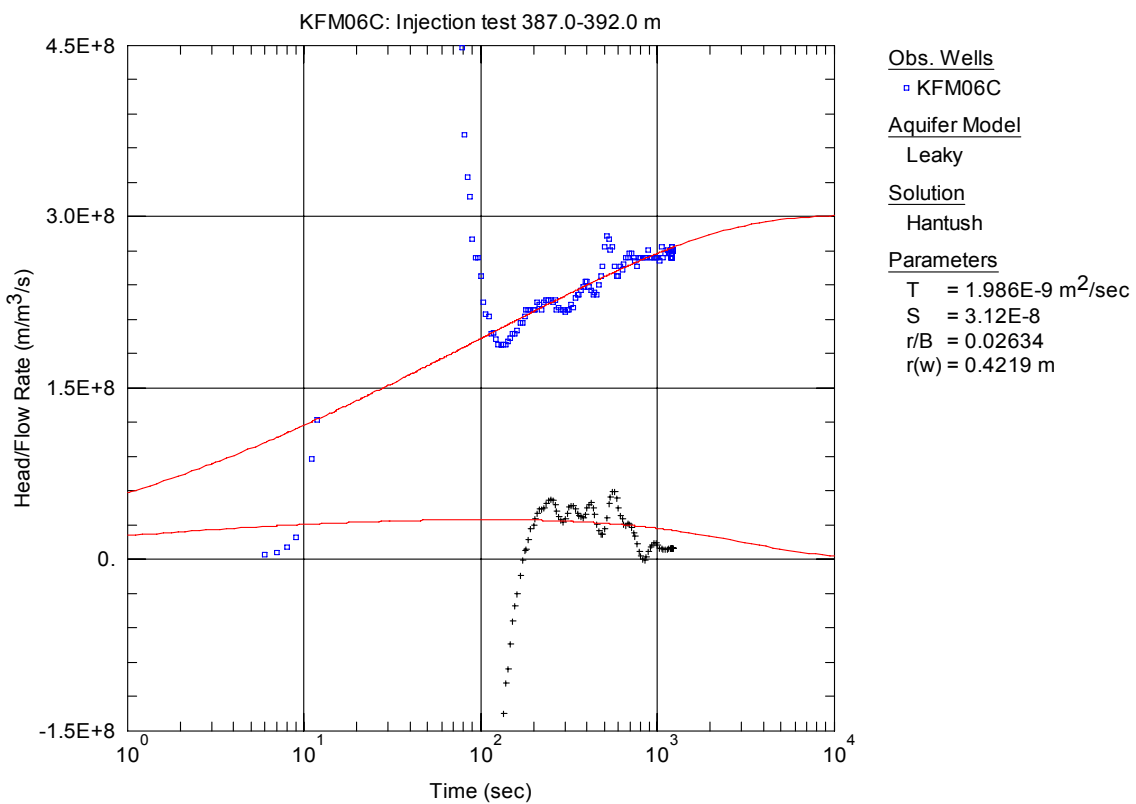
**Figure A3-439.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 384.5-389.5 m in KFM06C.



**Figure A3-440.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 387.0-392.0 m in borehole KFM06C.

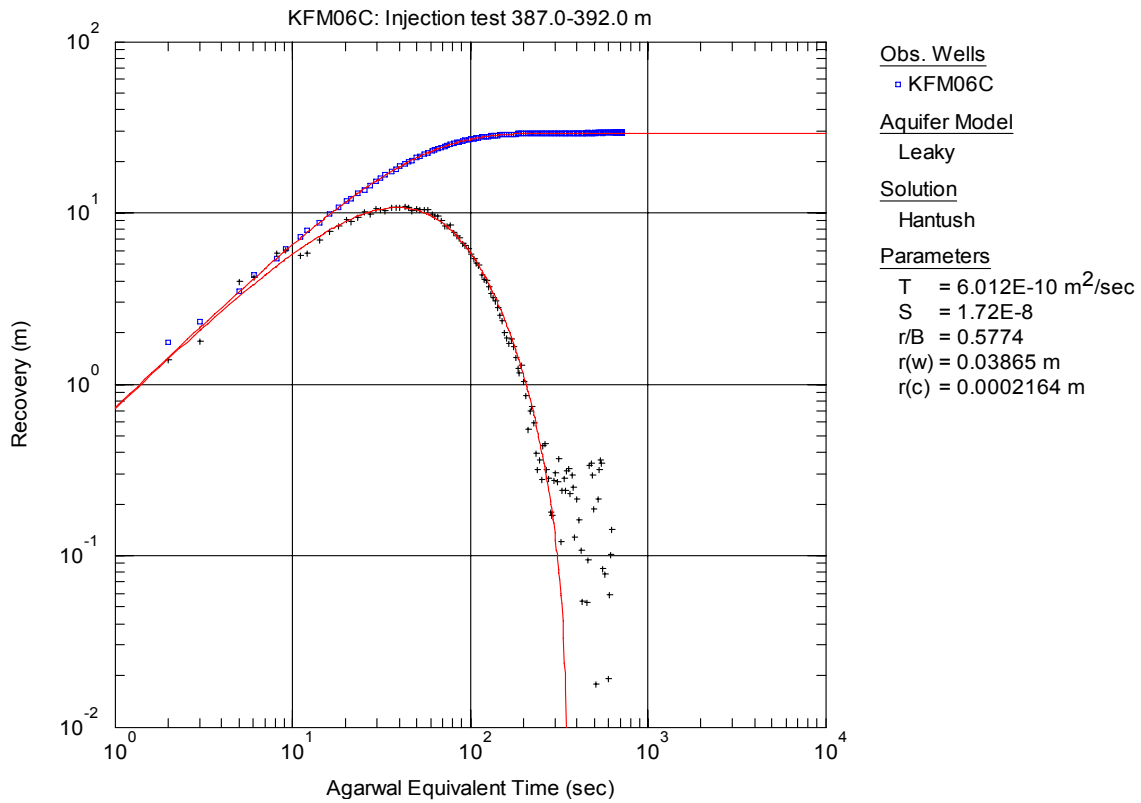


**Figure A3-441.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 387.0-392.0 m in KFM06C.

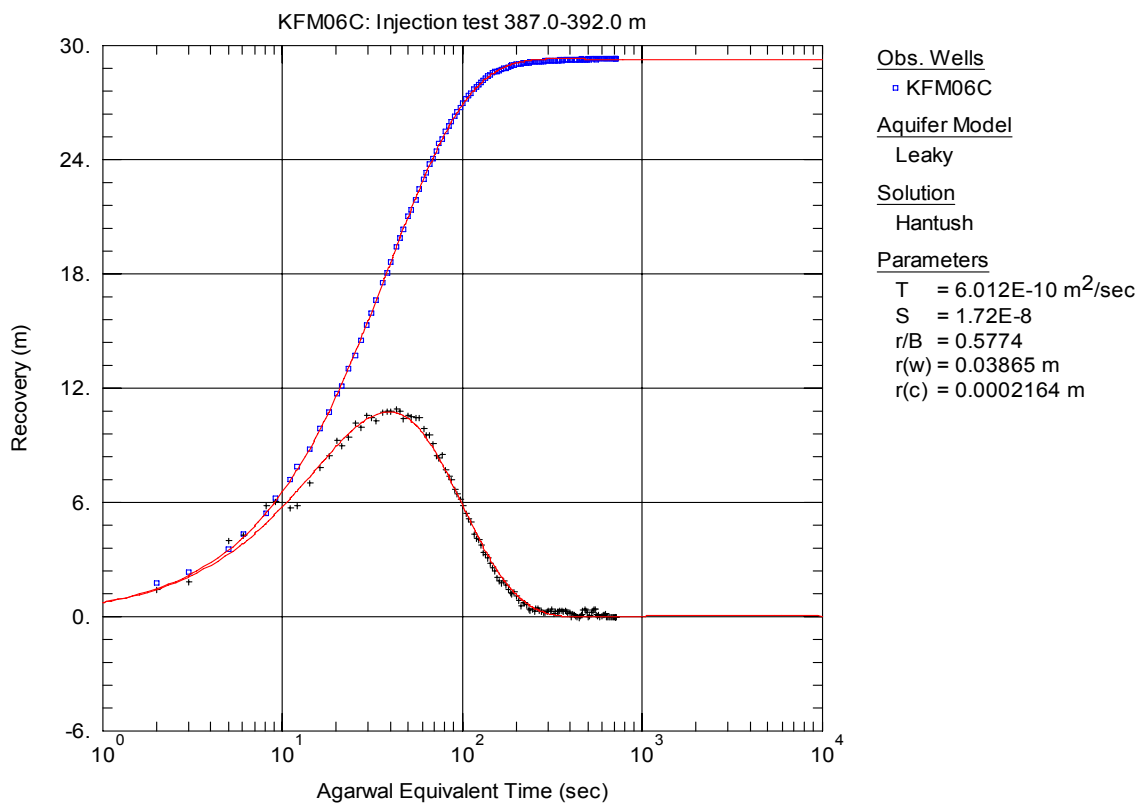


**Figure A3-442.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 387.0-392.0 m in KFM06C.

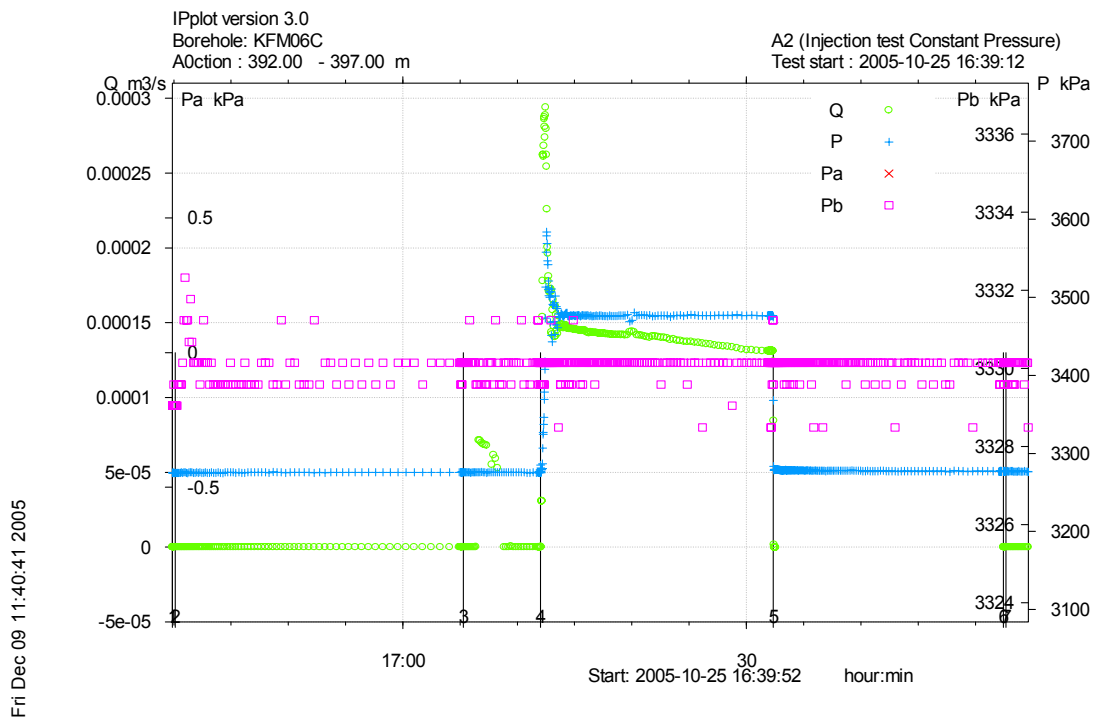




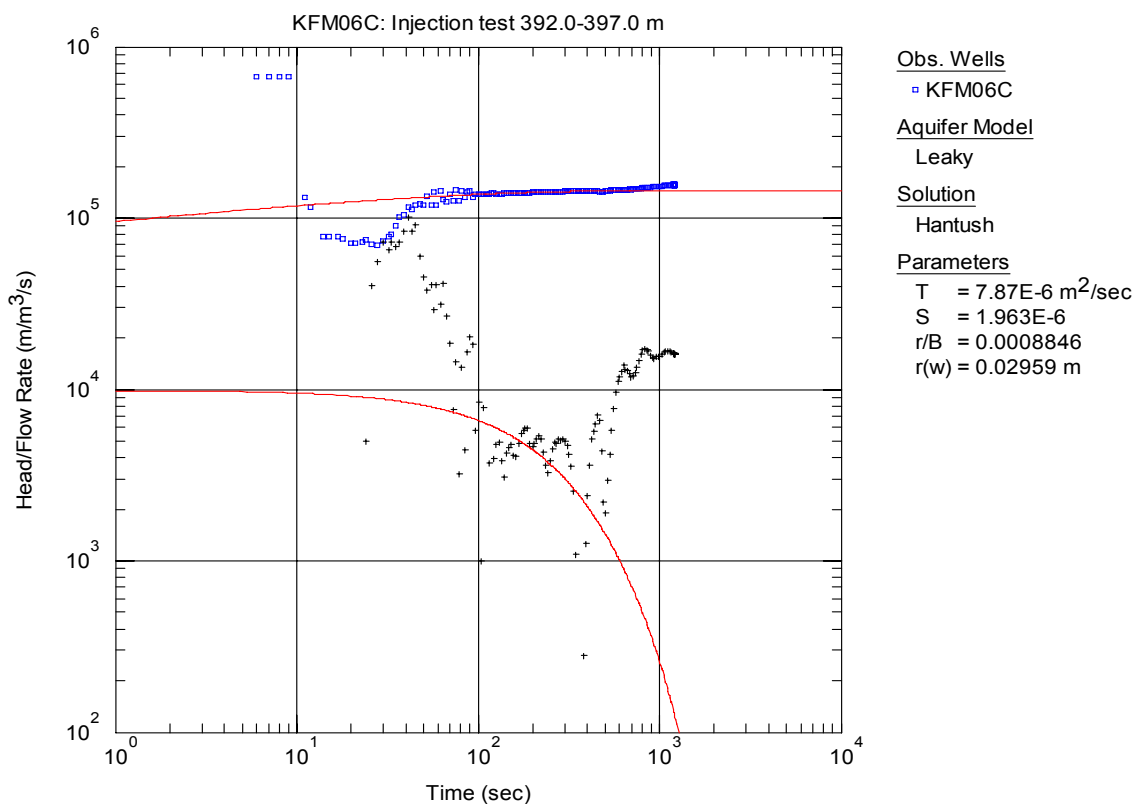
**Figure A3-443.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 387.0-392.0 m in KFM06C.



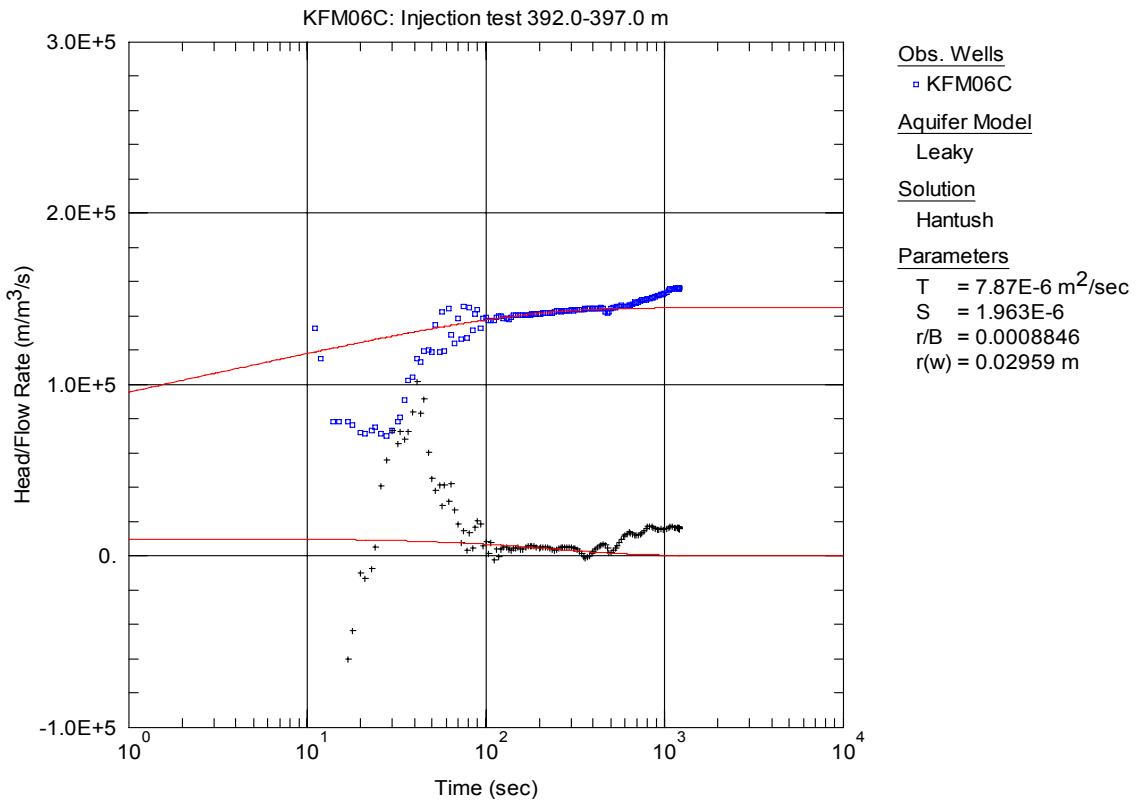
**Figure A3-444.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 387.0-392.0 m in KFM06C.



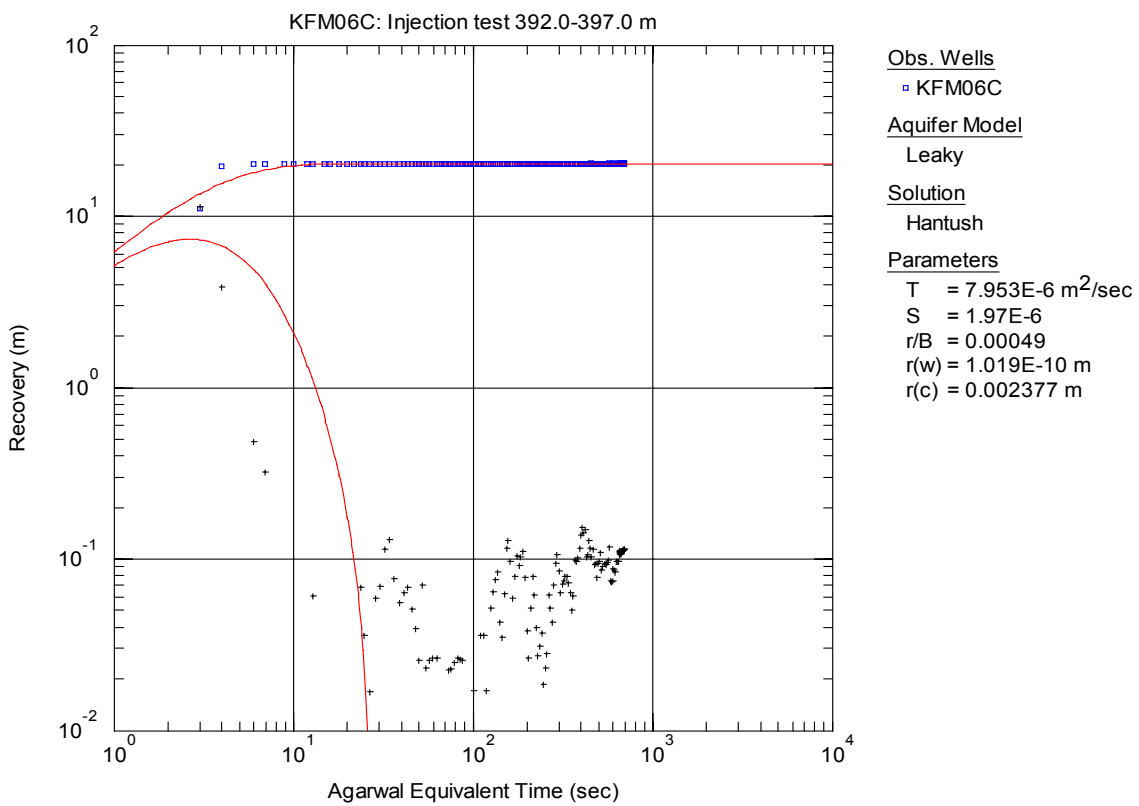
**Figure A3-445.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 392.0-397.0 m in borehole KFM06C.



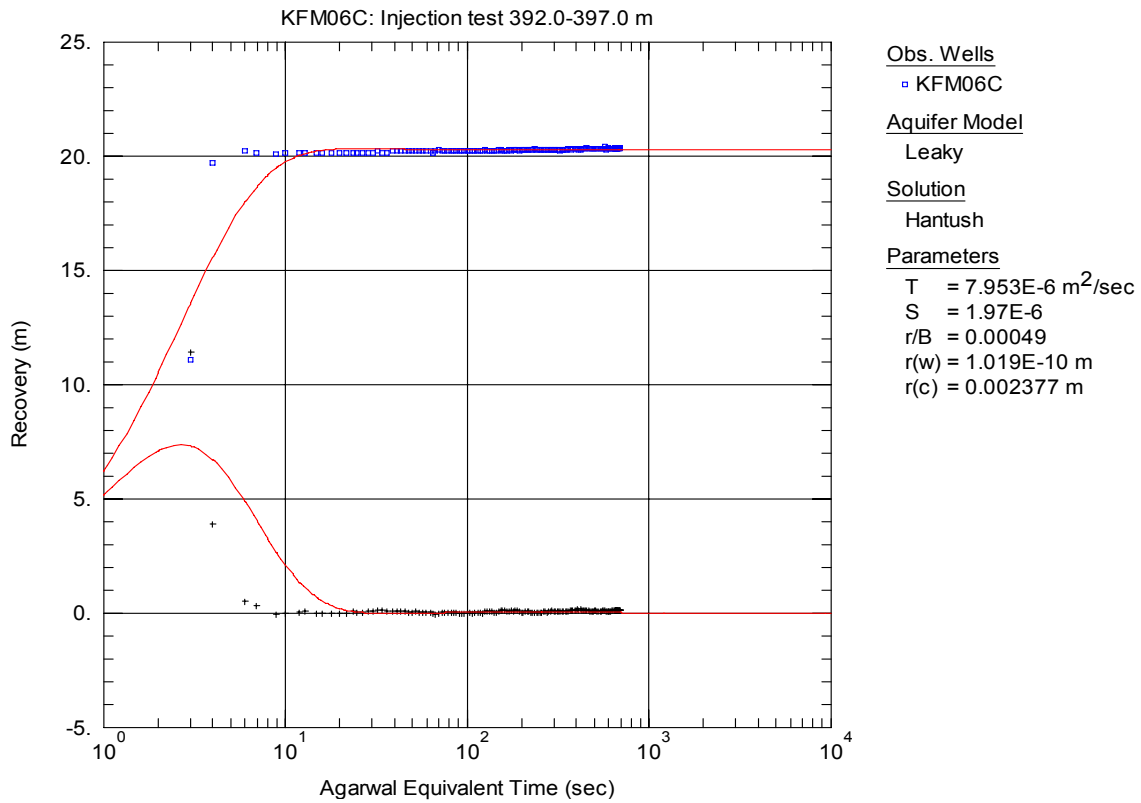
**Figure A3-446.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 392.0-397.0 m in KFM06C.



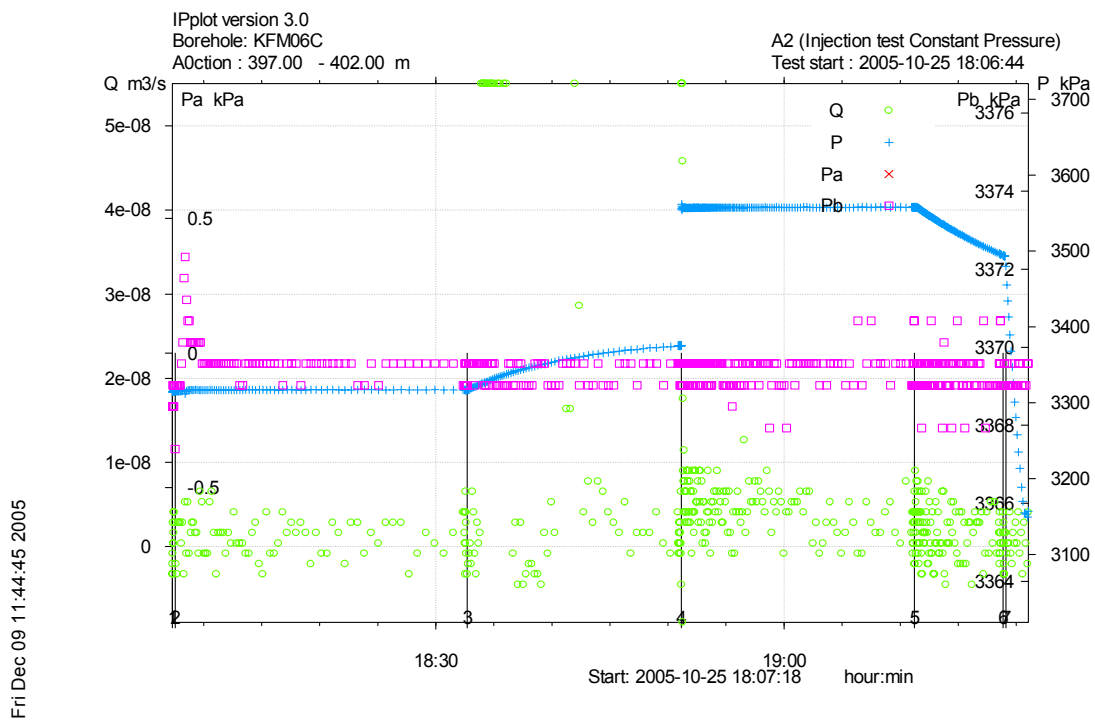
**Figure A3-447.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 392.0-397.0 m in KFM06C.



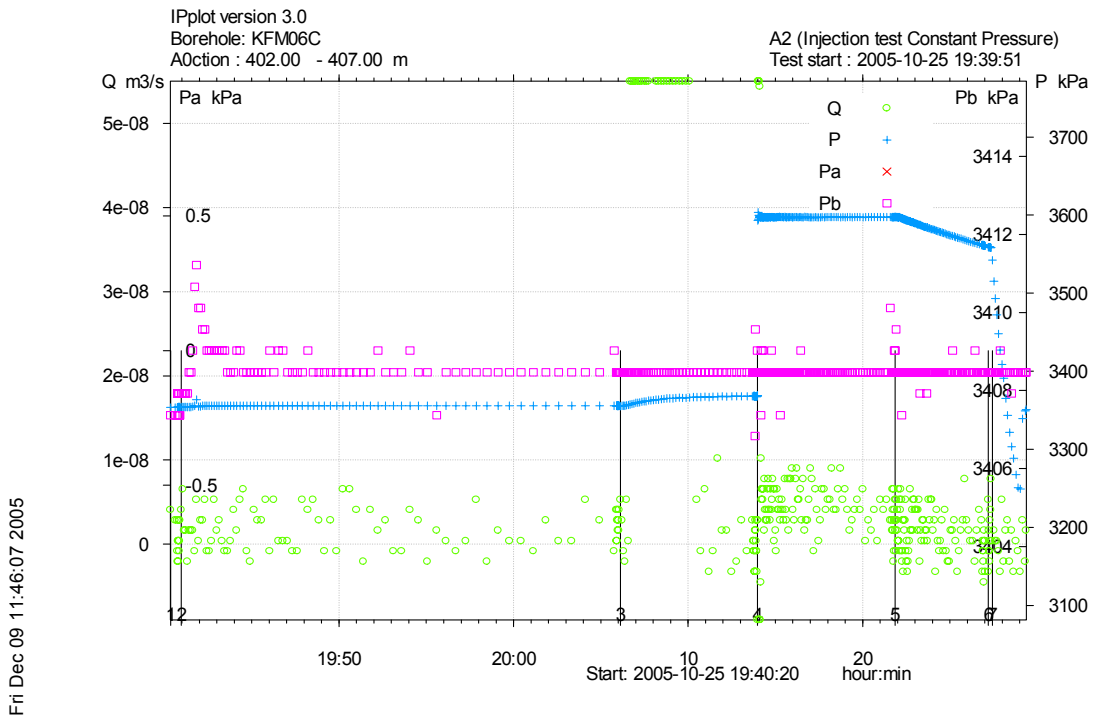
**Figure A3-448.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 392.0-397.0 m in KFM06C.



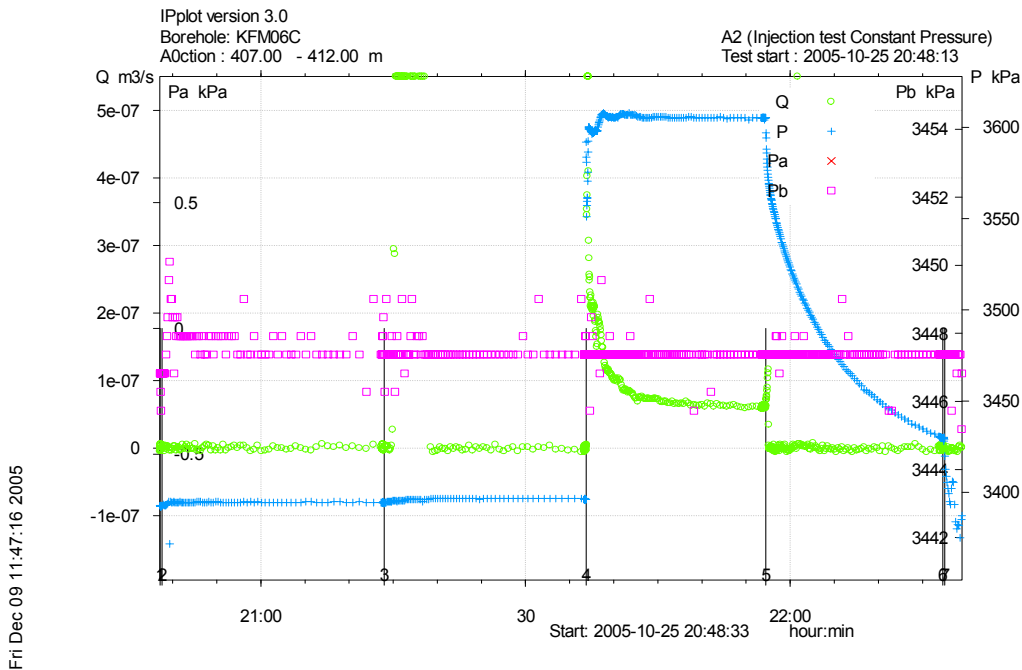
**Figure A3-449.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 392.0-397.0 m in KFM06C.



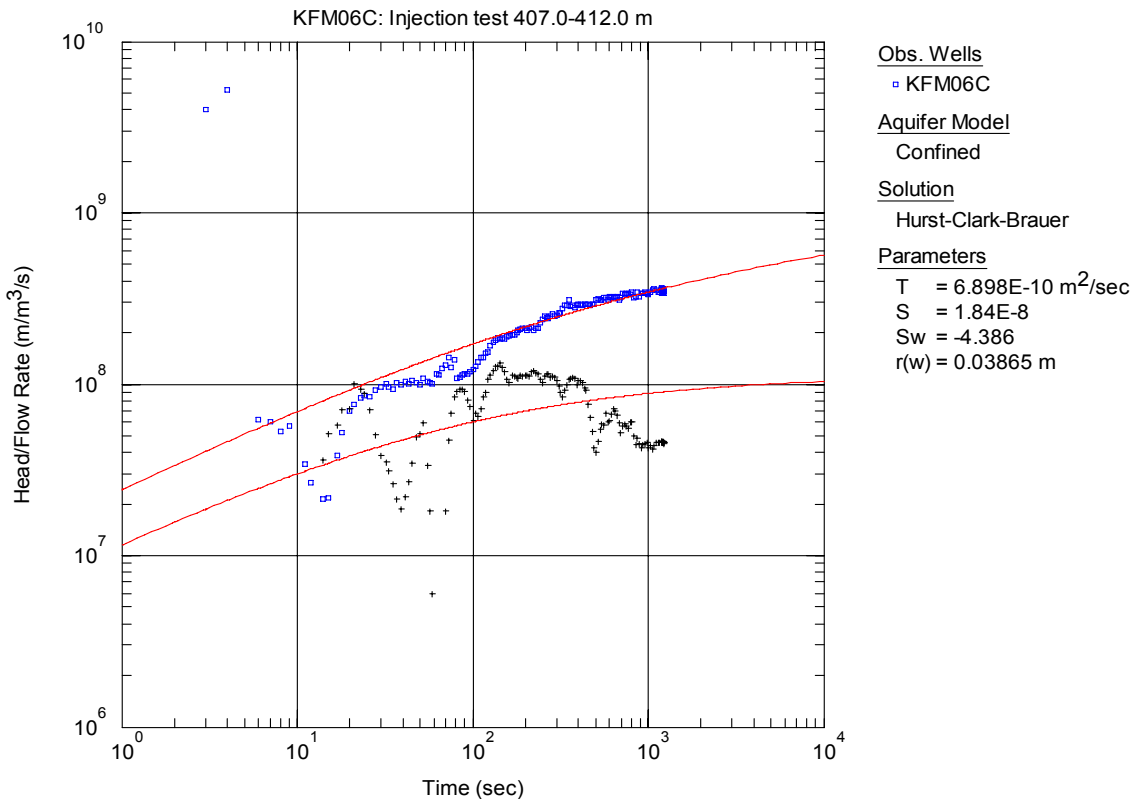
**Figure A3-450.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 397.0-402.0 m in borehole KFM06C.



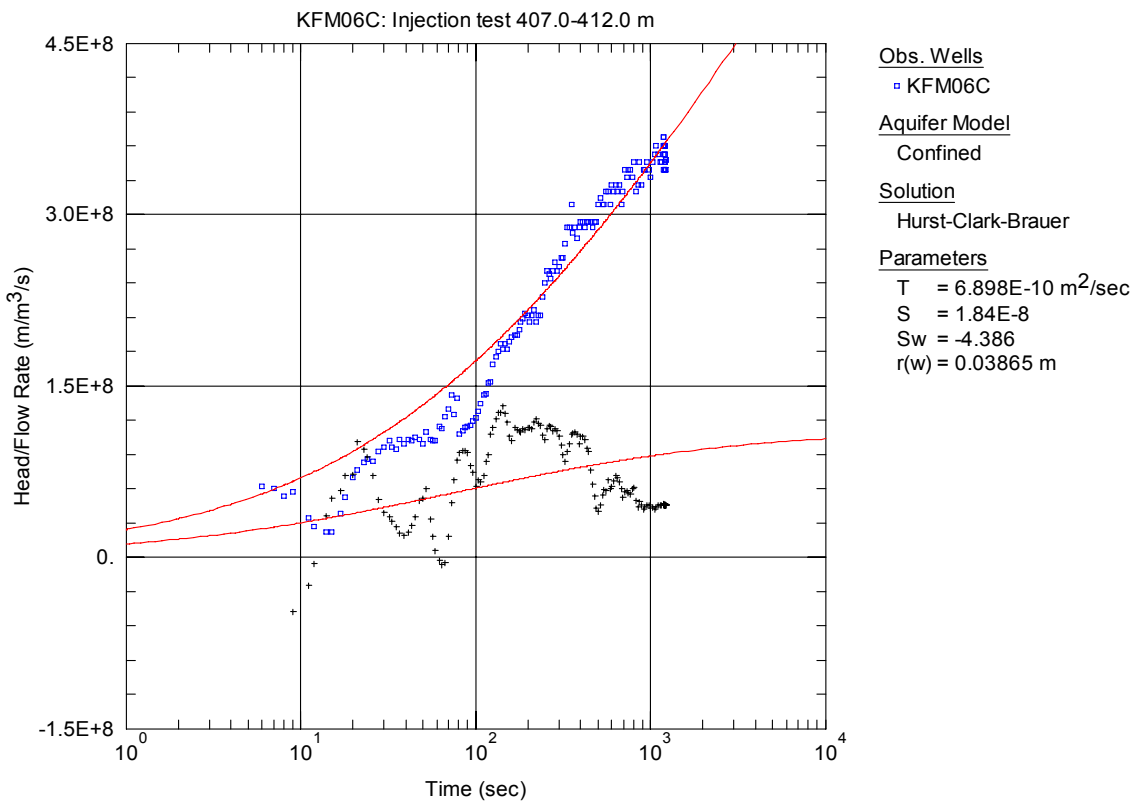
**Figure A3-451.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 402.0-407.0 m in borehole KFM06C.



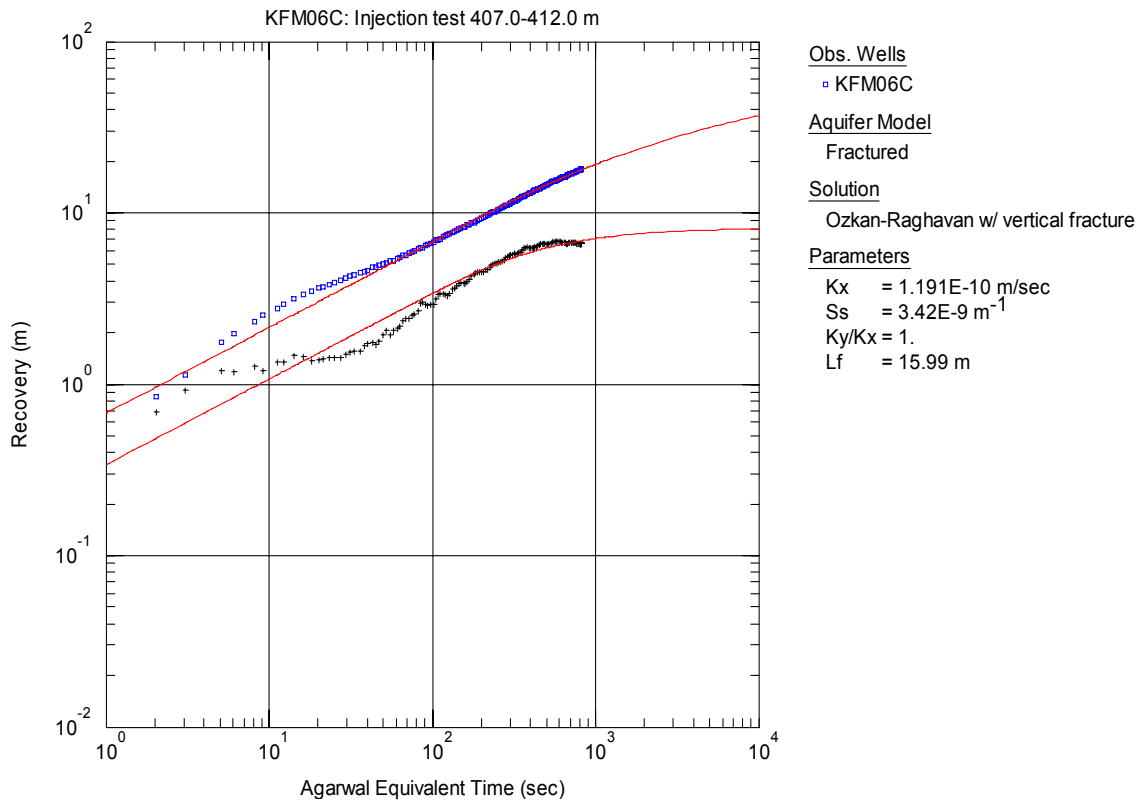
**Figure A3-452.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 407.0-412.0 m in borehole KFM06C.



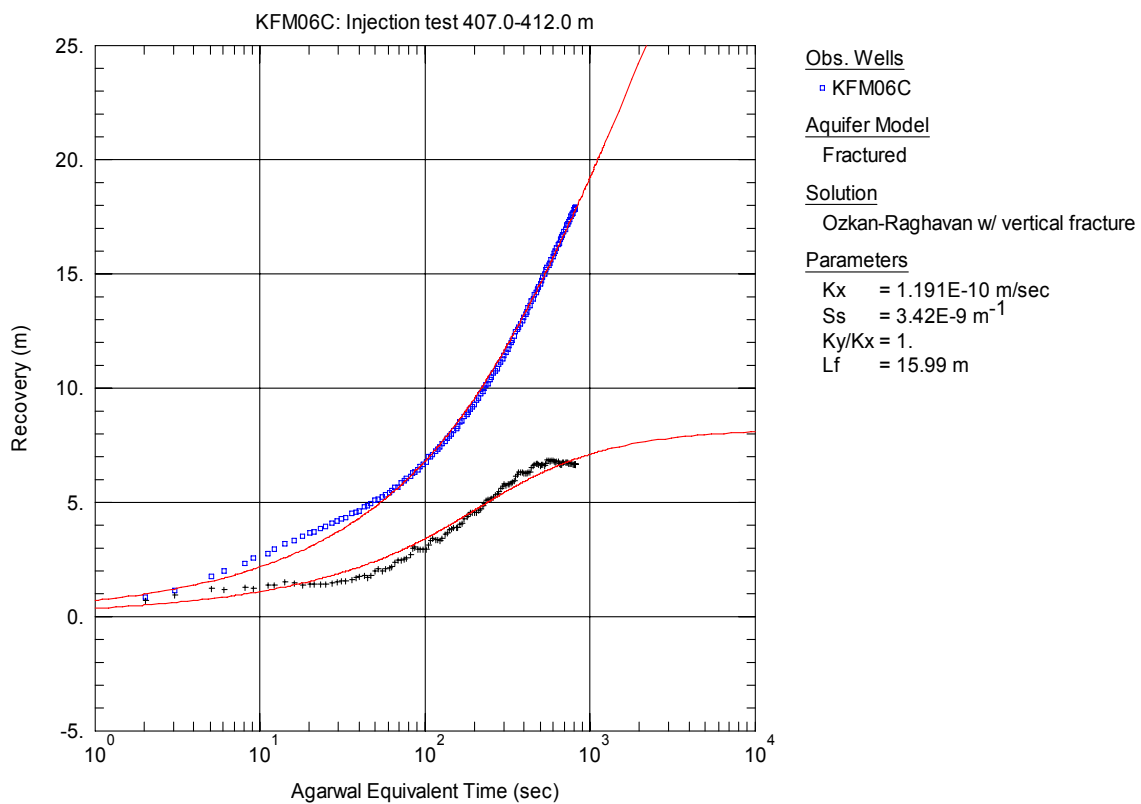
**Figure A3-453.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 407.0-412.0 m in KFM06C.



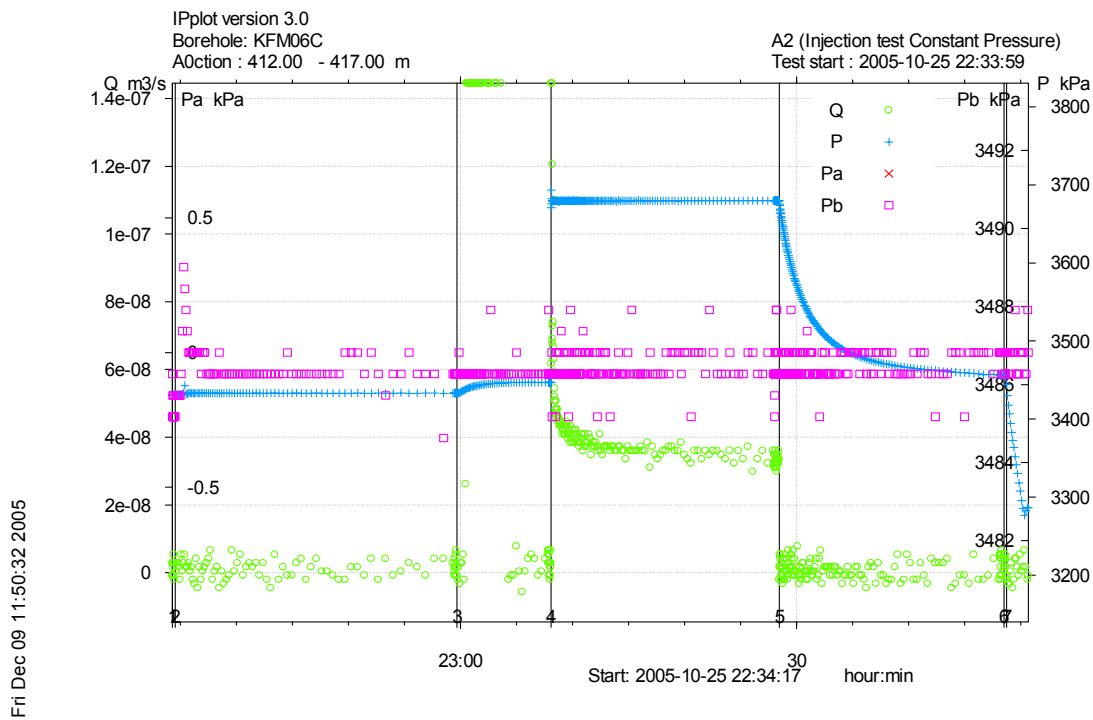
**Figure A3-454.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 407.0-412.0 m in KFM06C.



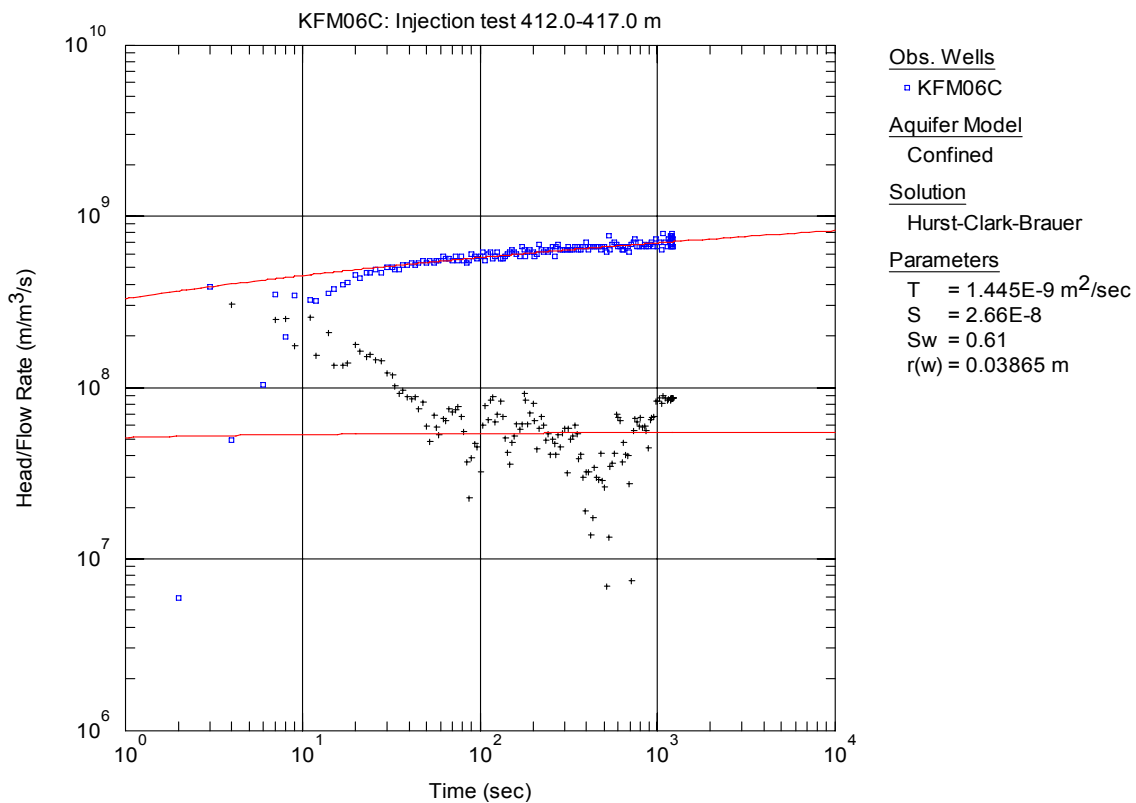
**Figure A3-455.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 407.0-412.0 m in KFM06C.



**Figure A3-456.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 407.0-412.0 m in KFM06C.

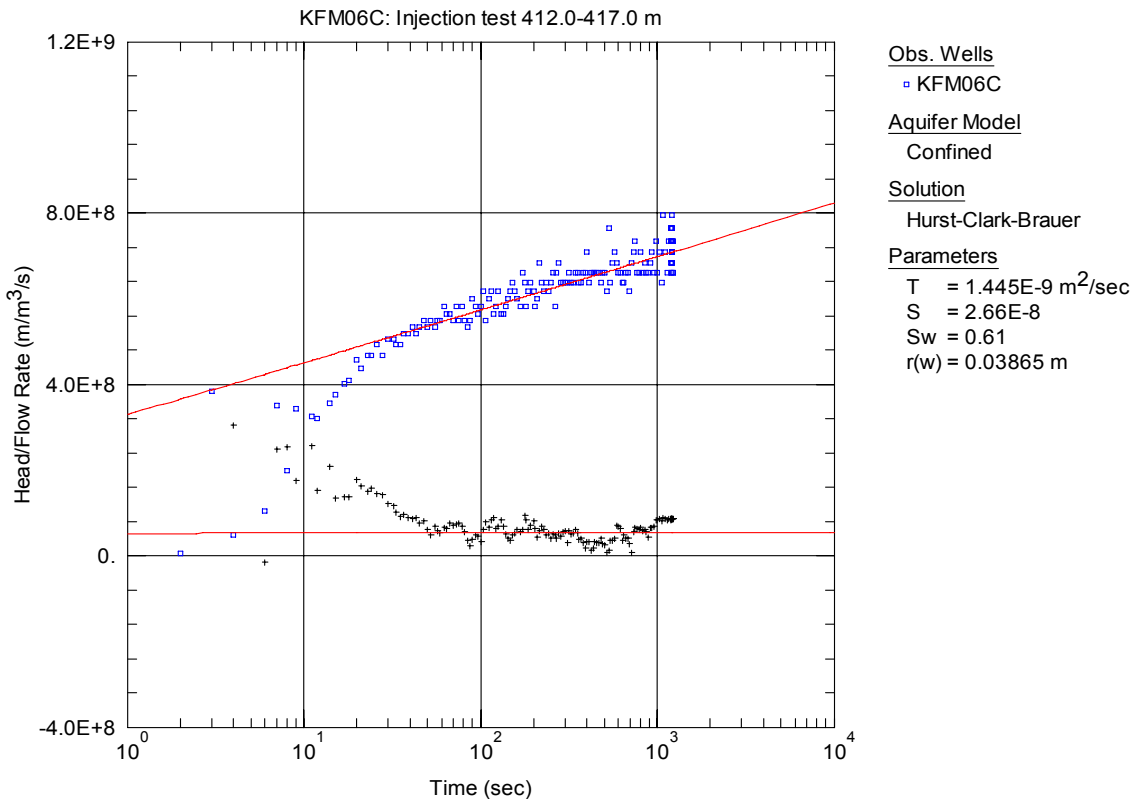


**Figure A3-457.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 412.0-417.0 m in borehole KFM06C.

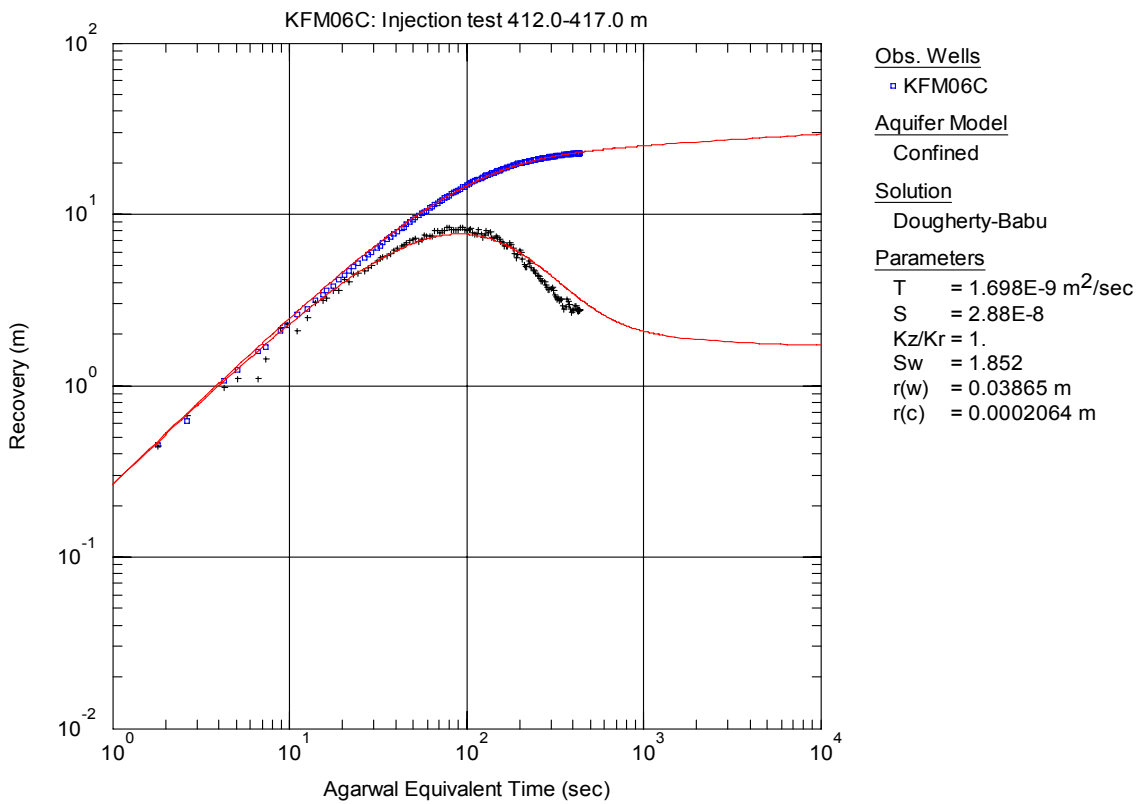


**Figure A3-458.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 412.0-417.0 m in KFM06C.

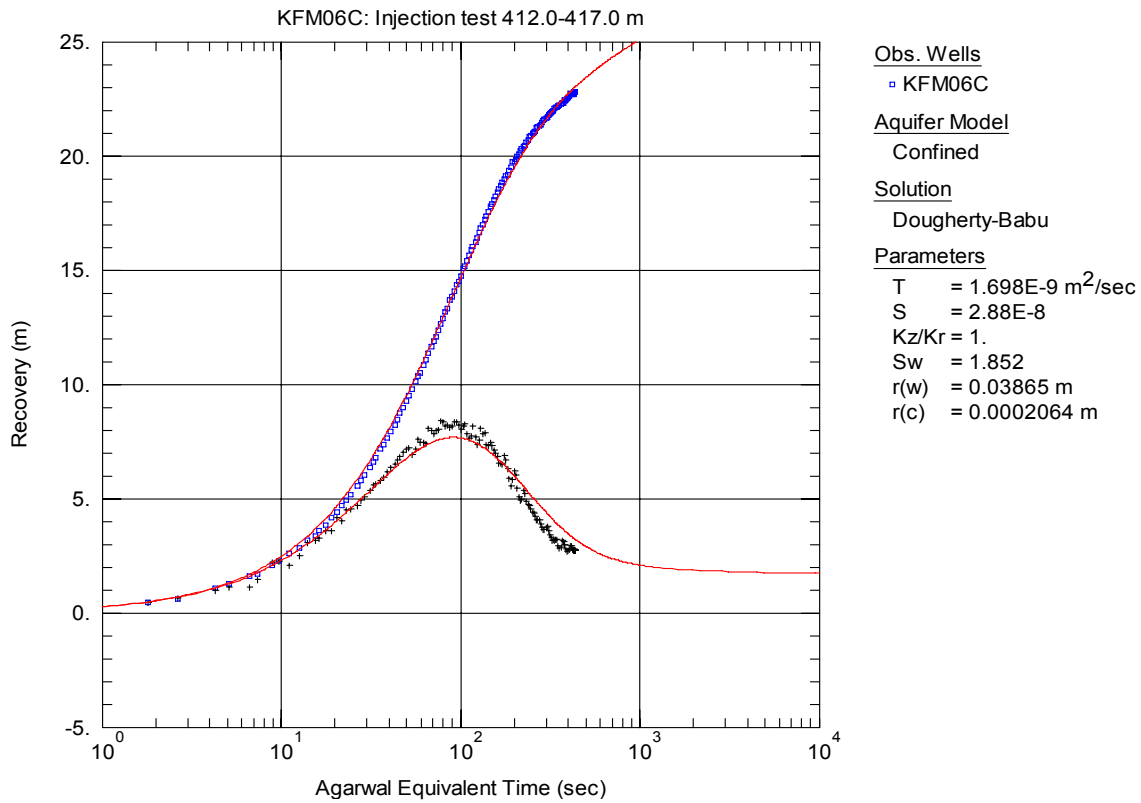




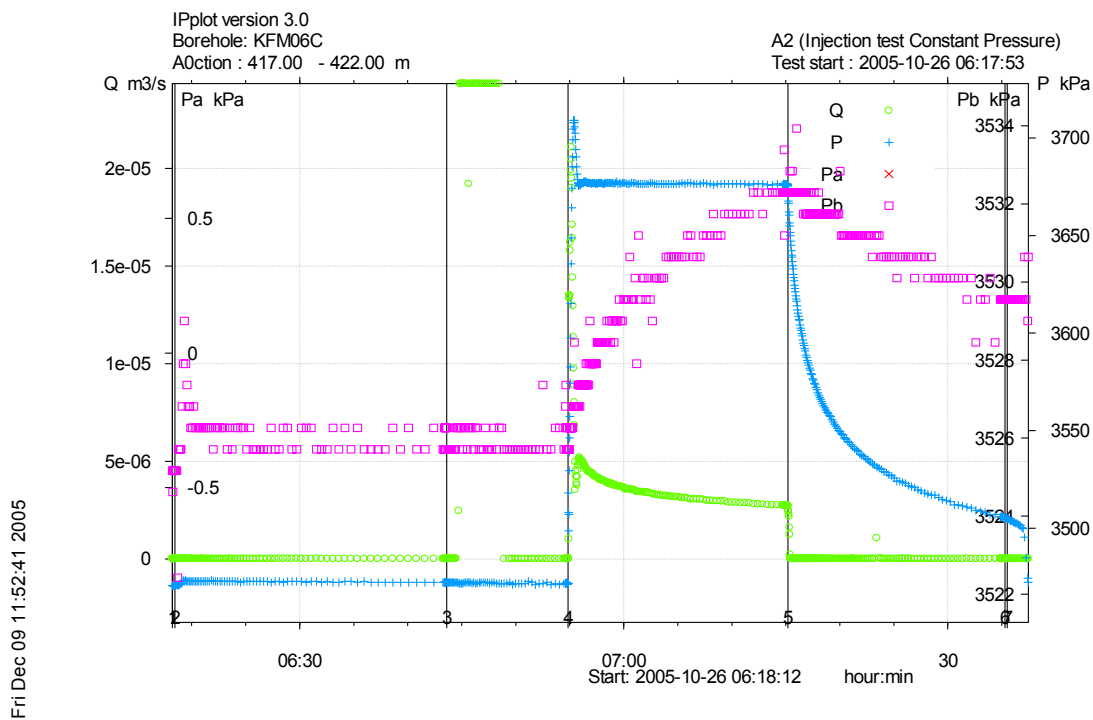
**Figure A3-459.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 412.0-417.0 m in KFM06C.



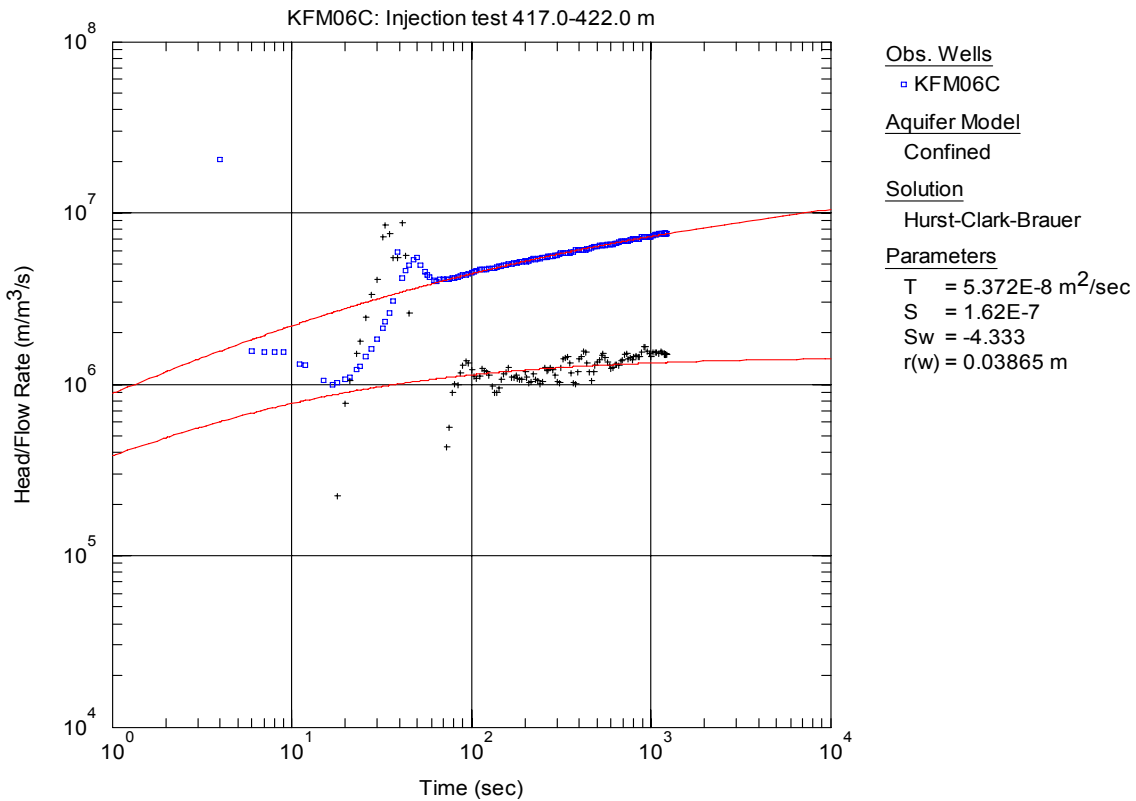
**Figure A3-460.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 412.0-417.0 m in KFM06C.



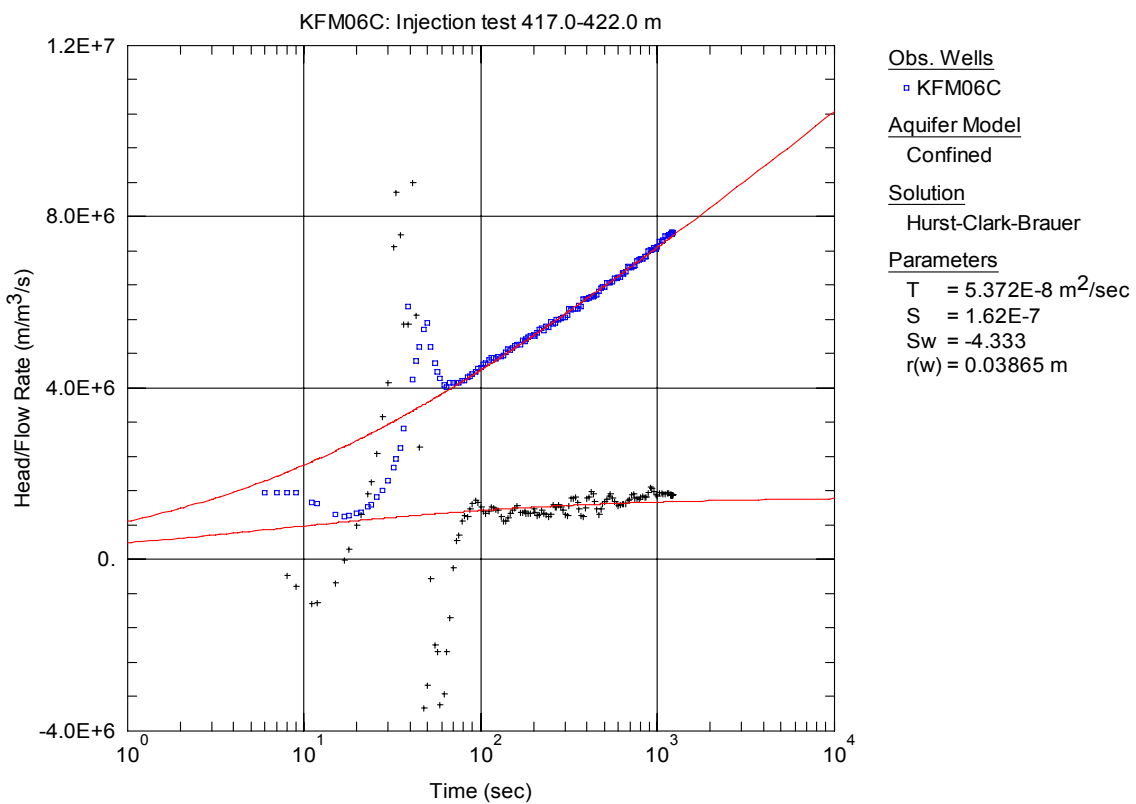
**Figure A3-461.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 412.0-417.0 m in KFM06C.



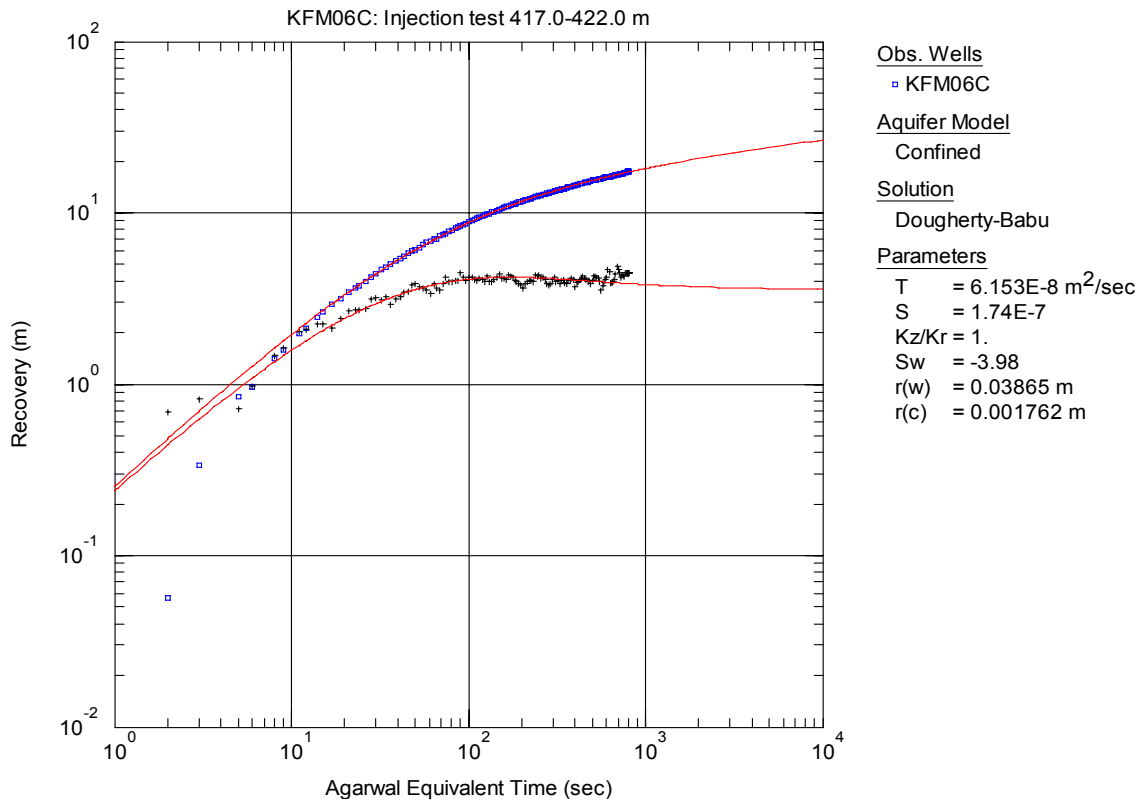
**Figure A3-462.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 417.0-422.0 m in borehole KFM06C.



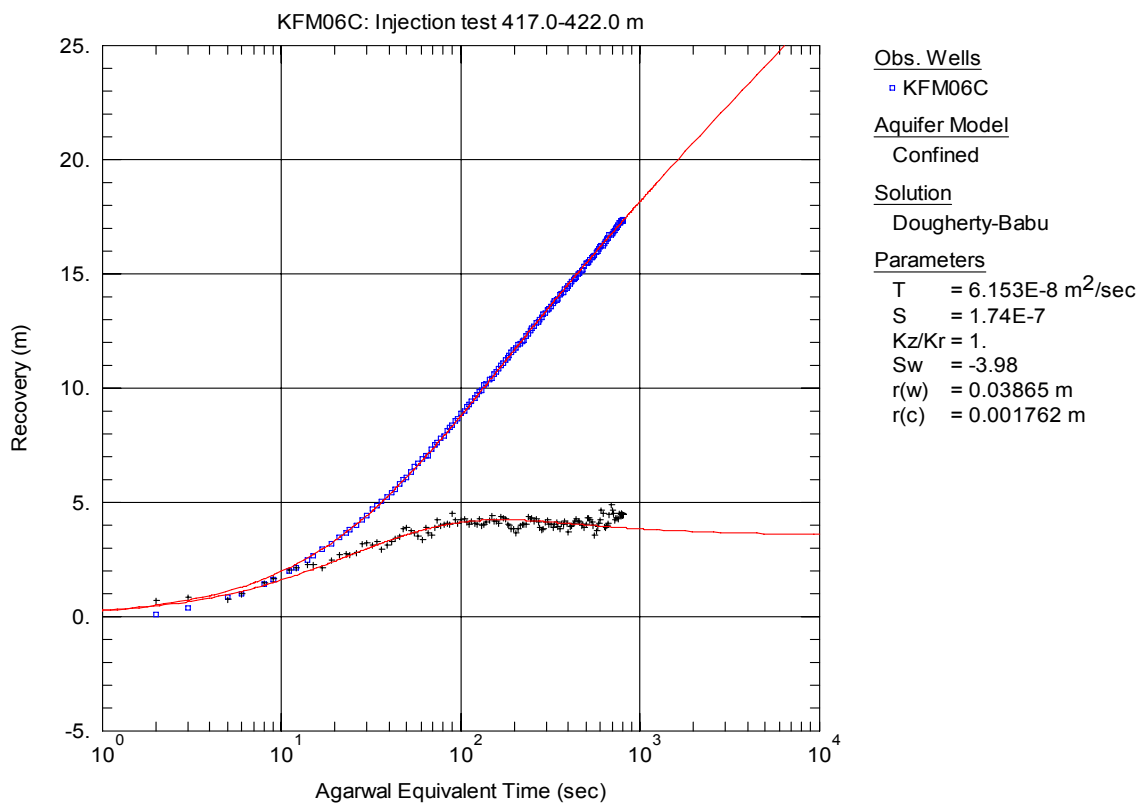
**Figure A3-463.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 417.0-422.0 m in KFM06C.



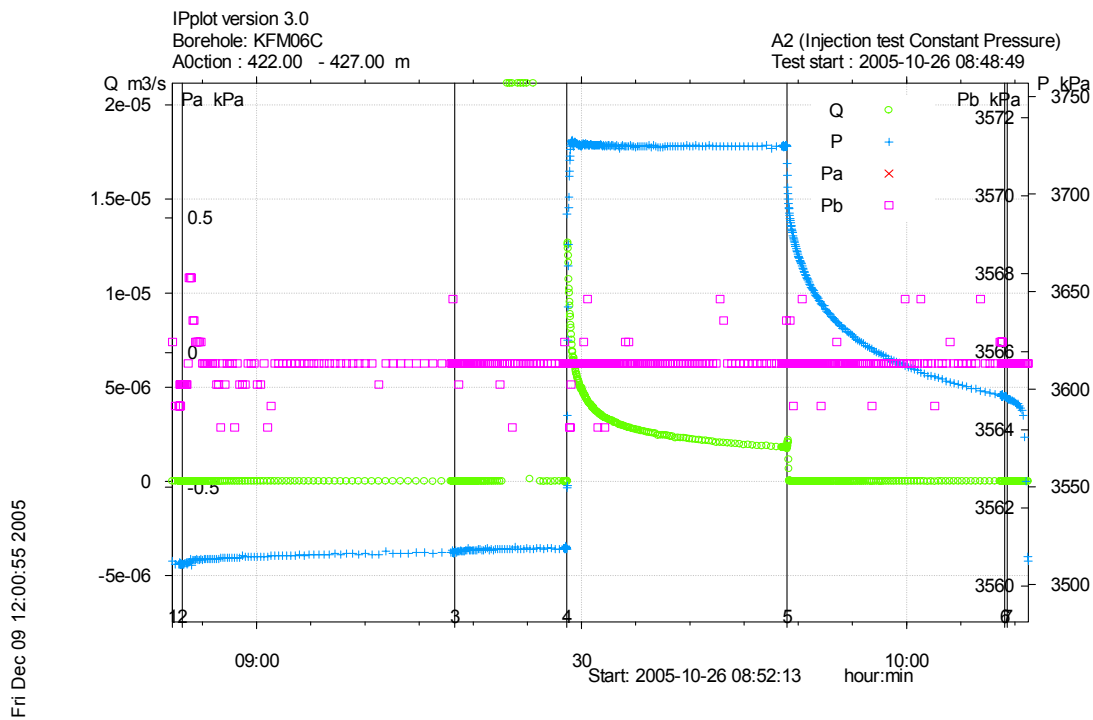
**Figure A3-464.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 417.0-422.0 m in KFM06C.



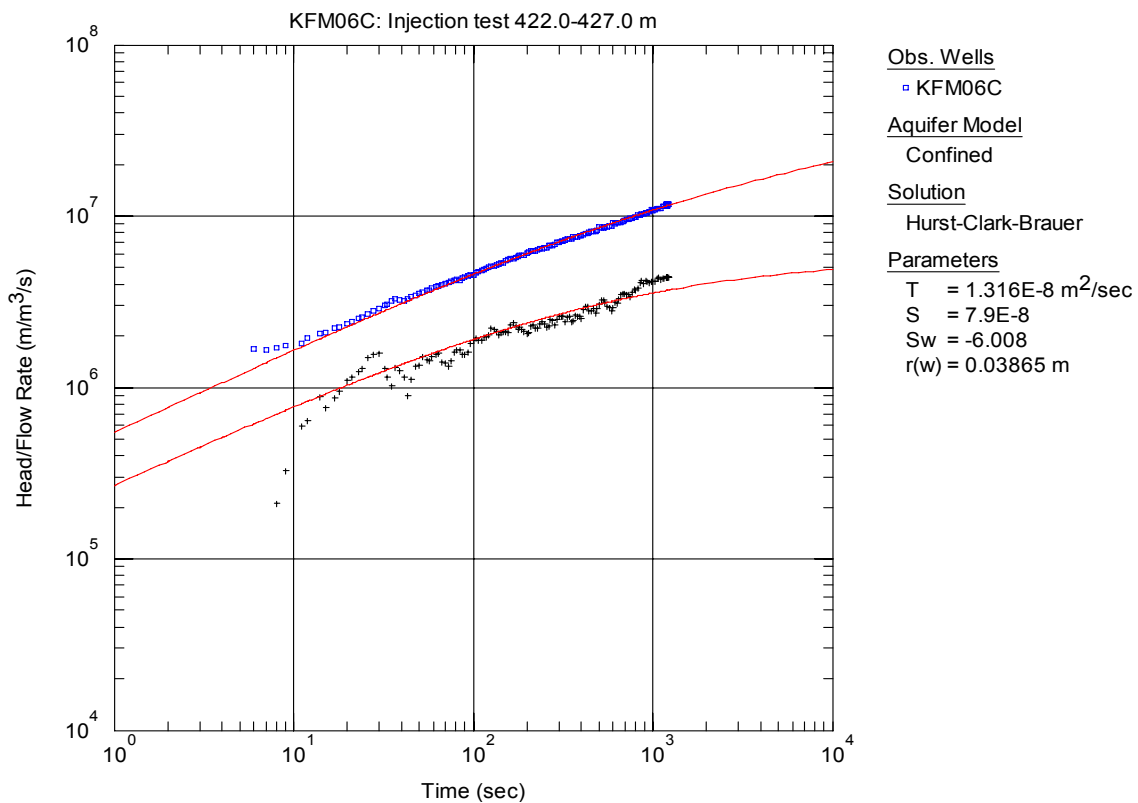
**Figure A3-465.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 417.0-422.0 m in KFM06C.



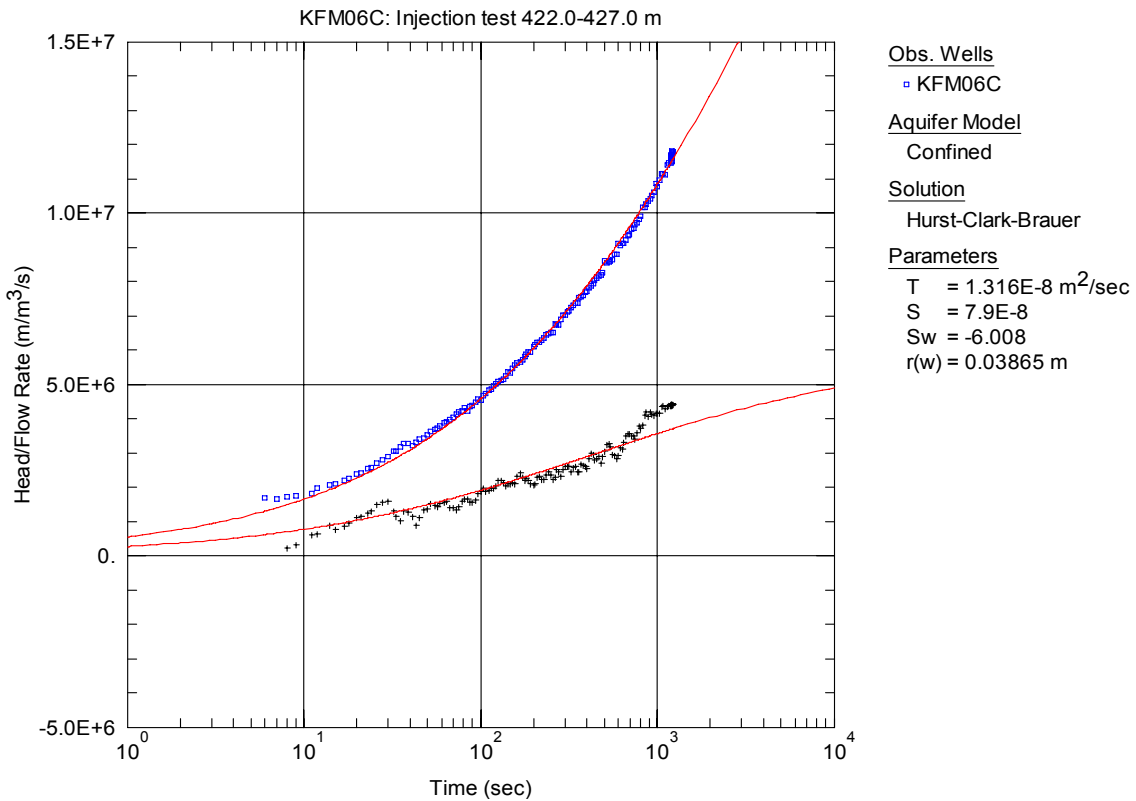
**Figure A3-466.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 417.0-422.0 m in KFM06C.



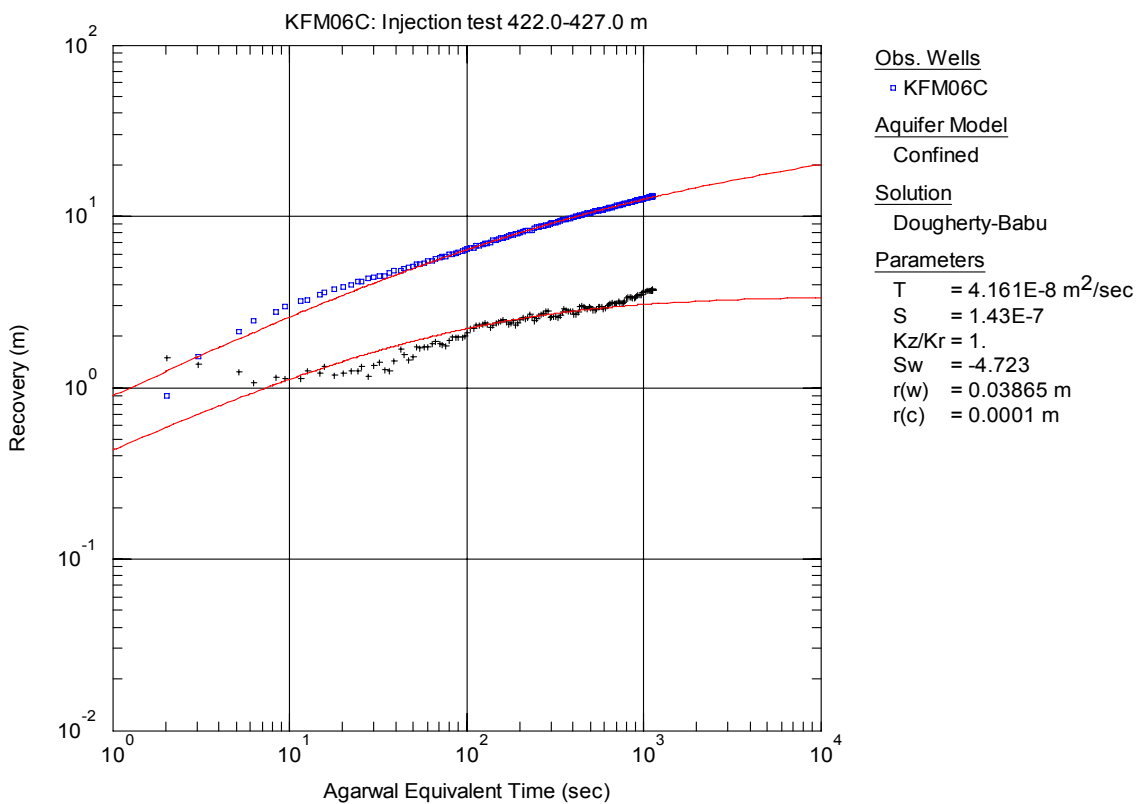
**Figure A3-467.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 422.0-427.0 m in borehole KFM06C.



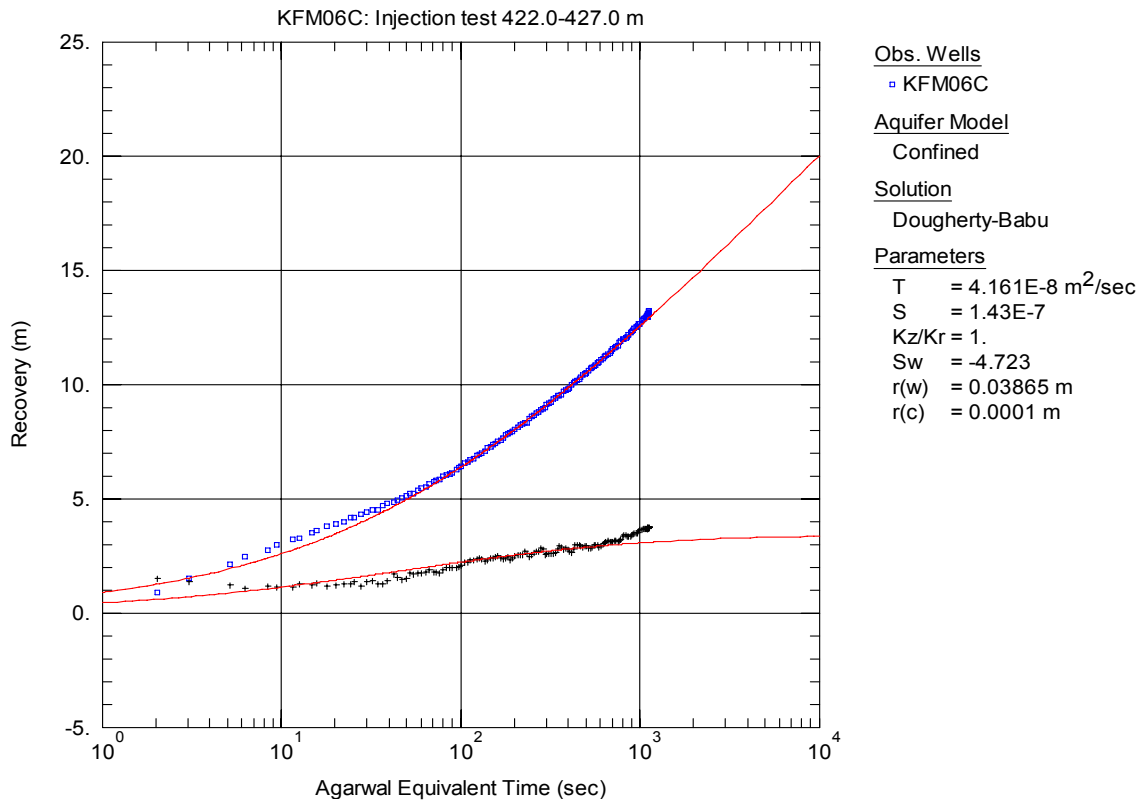
**Figure A3-468.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 422.0-427.0 m in KFM06C.



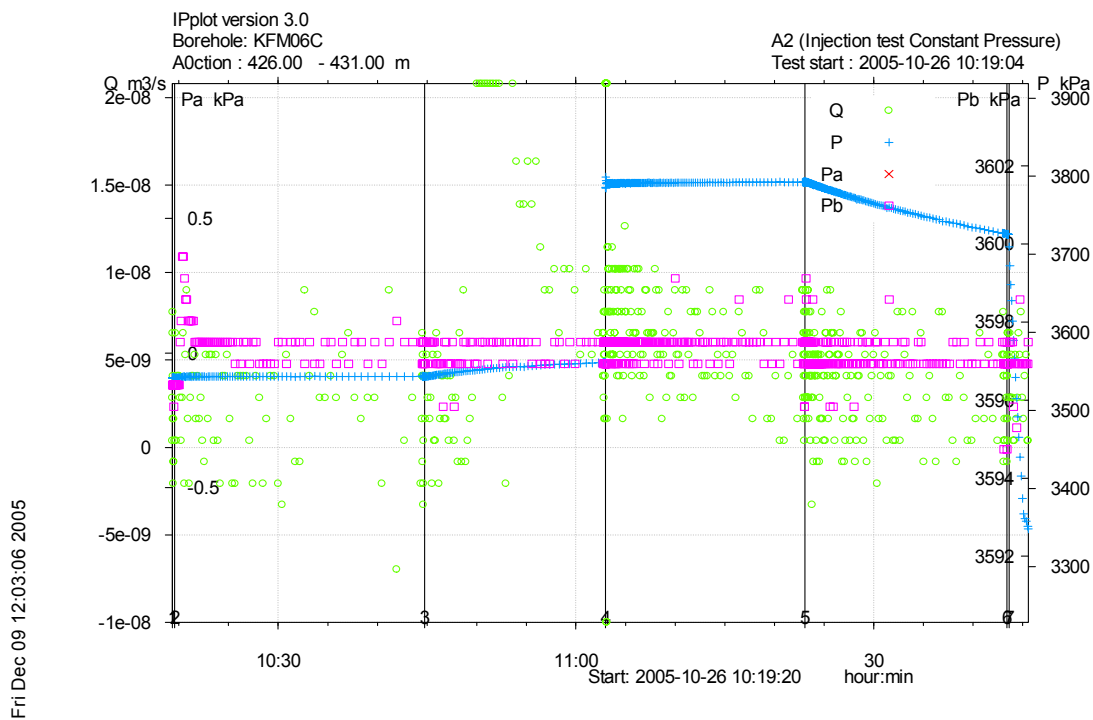
**Figure A3-469.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 422.0-427.0 m in KFM06C.



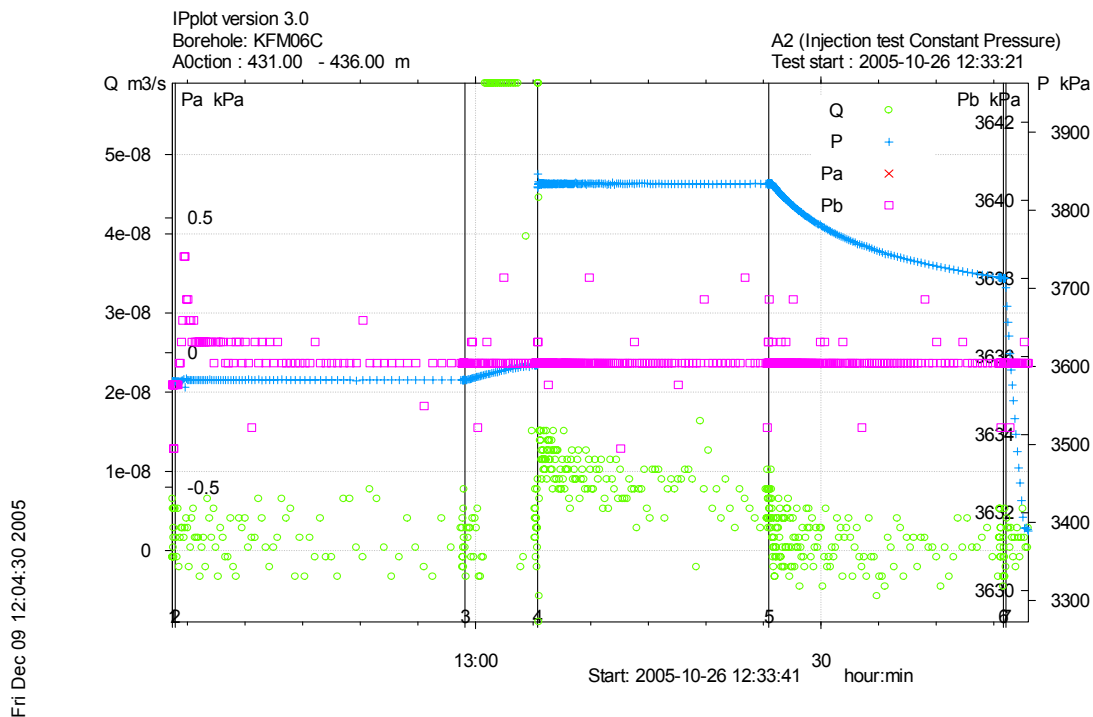
**Figure A3-470.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 422.0-427.0 m in KFM06C.



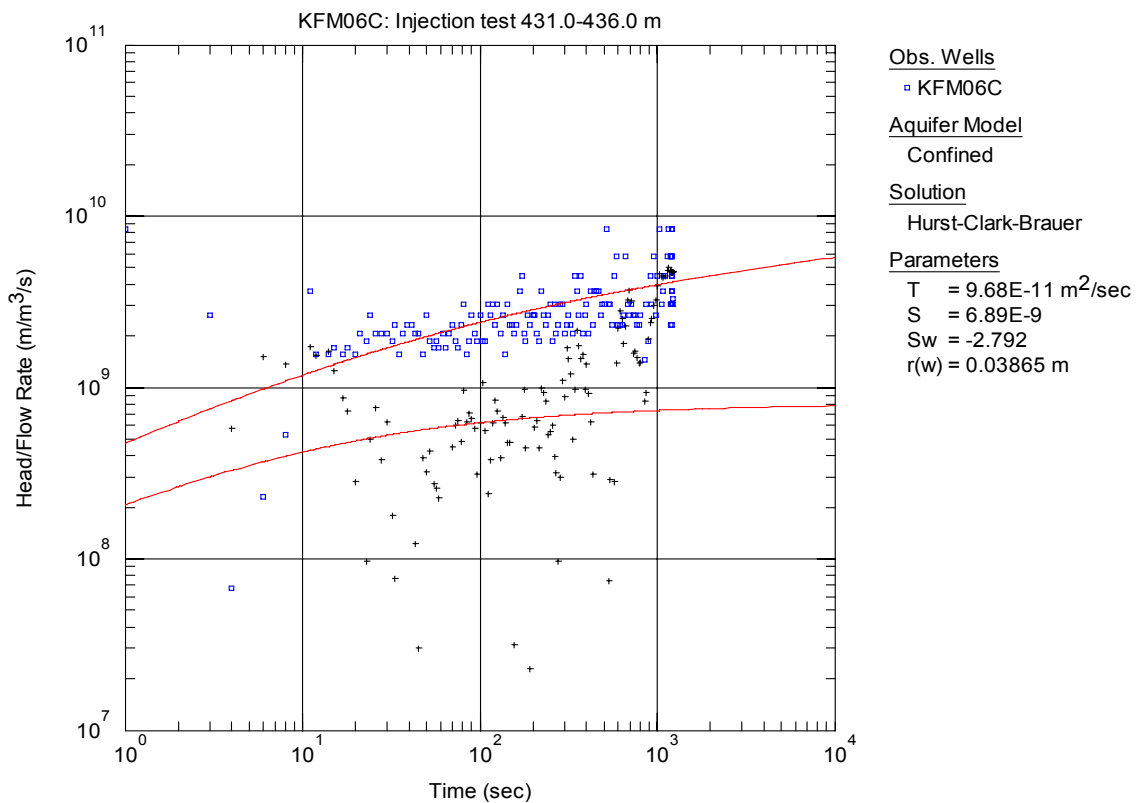
**Figure A3-471.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 422.0-427.0 m in KFM06C.



**Figure A3-472.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 426.0-431.0 m in borehole KFM06C.

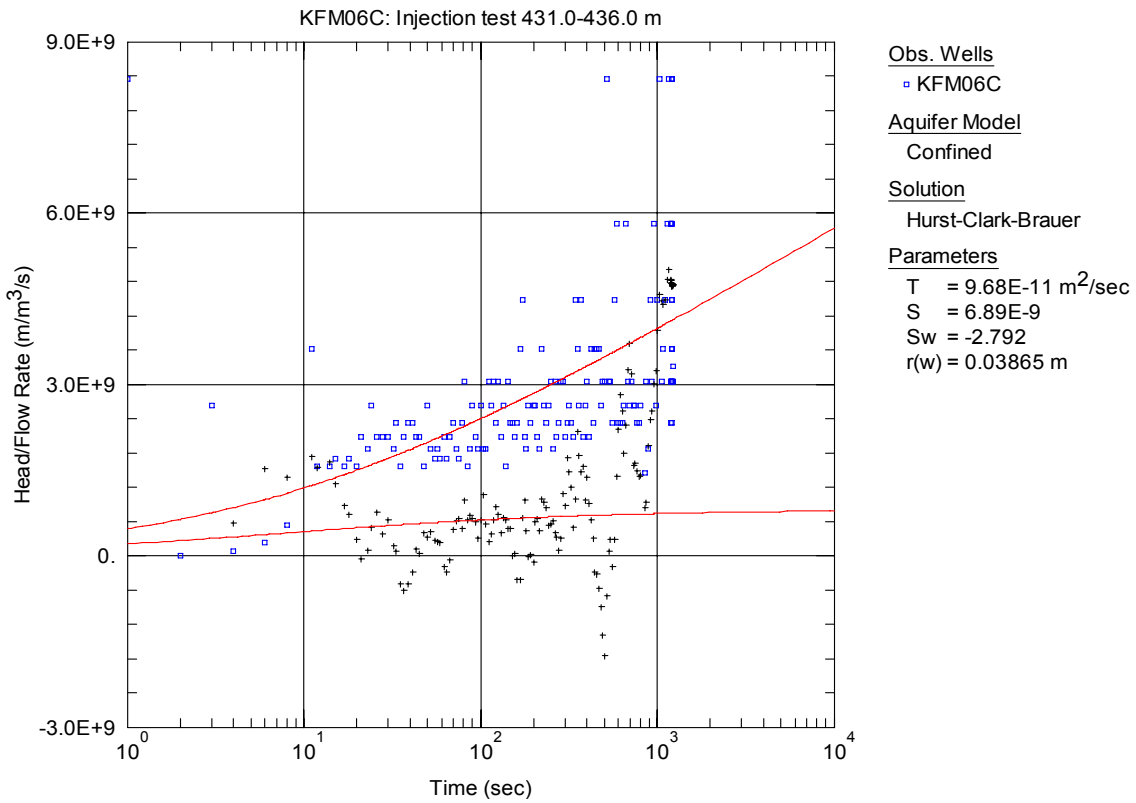


**Figure A3-473.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 431.0-436.0 m in borehole KFM06C.

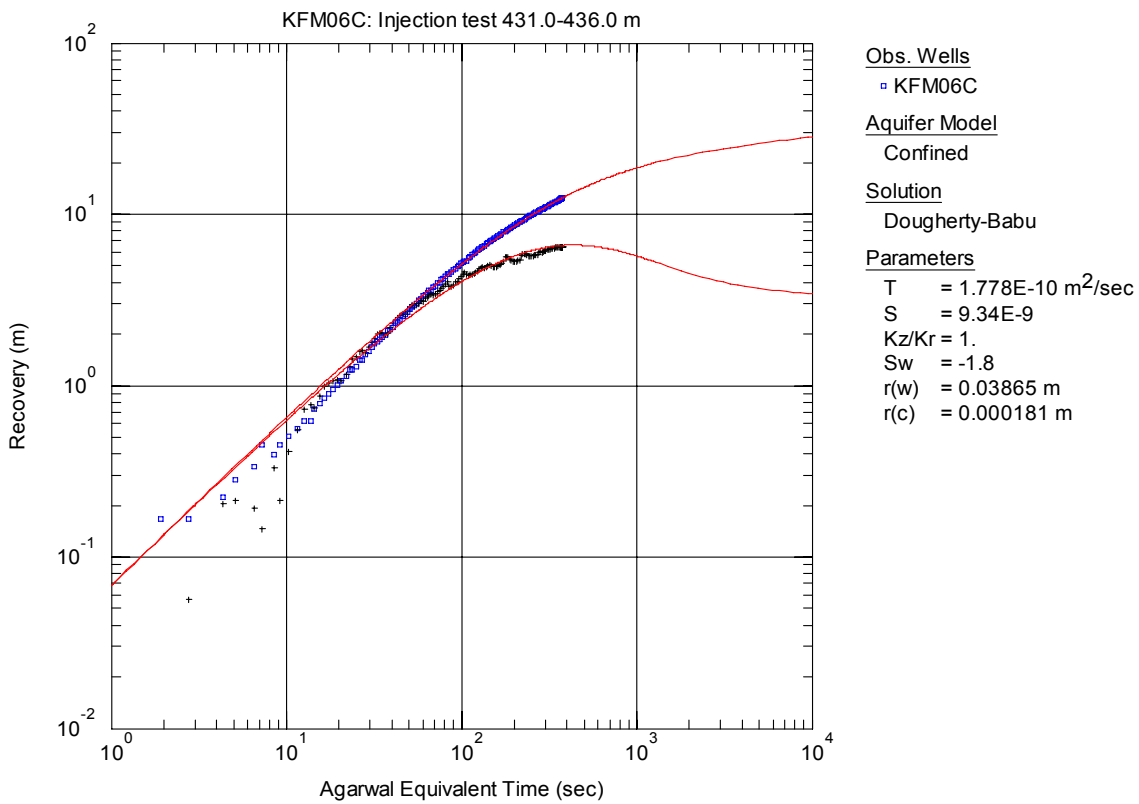


**Figure A3-474.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 431.0-436.0 m in KFM06C.

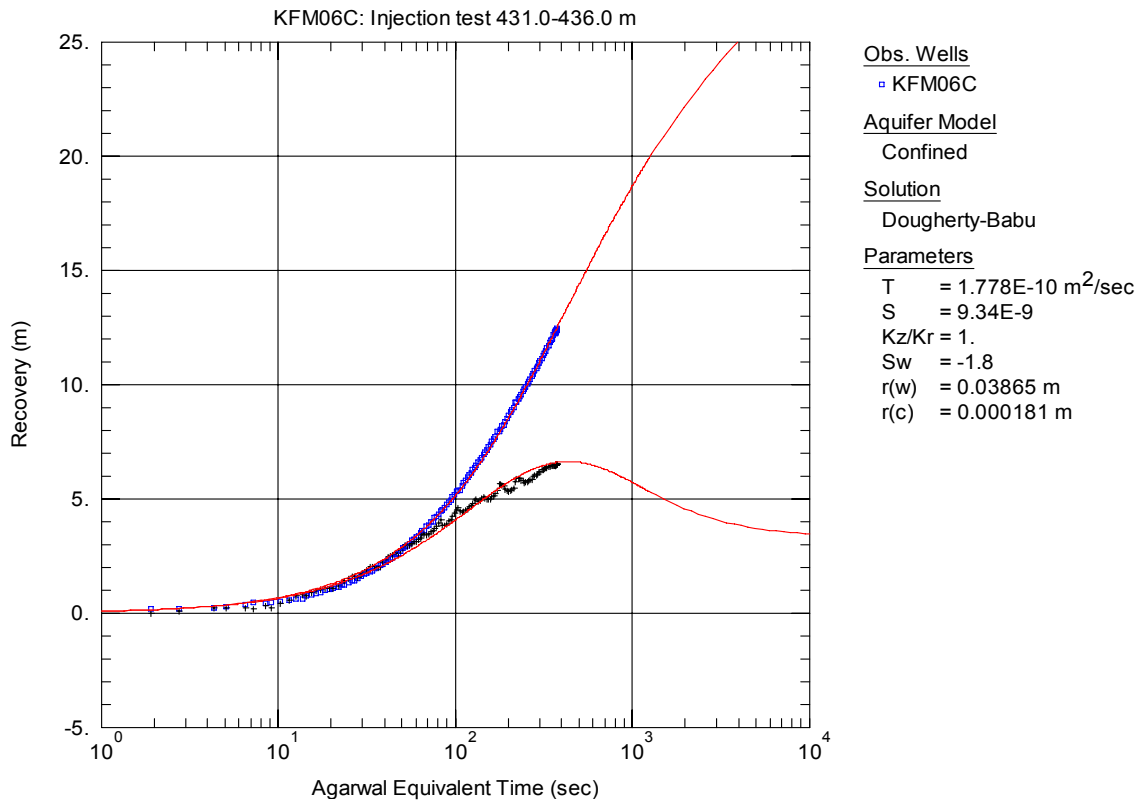




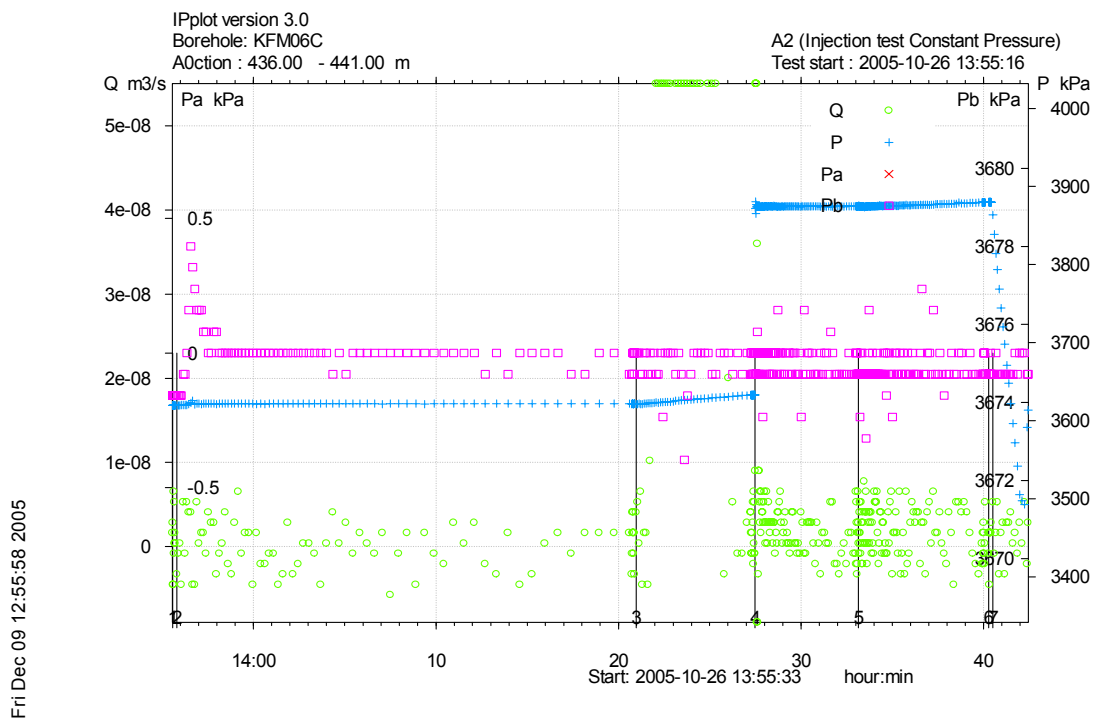
**Figure A3-475.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 431.0-436.0 m in KFM06C.



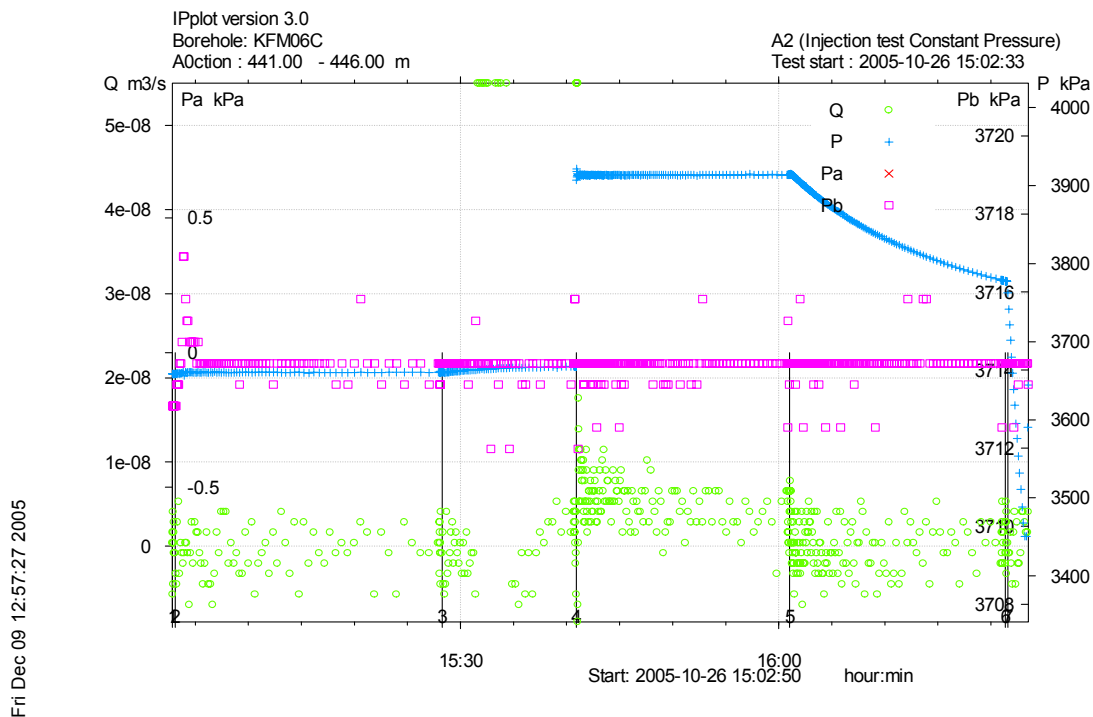
**Figure A3-476.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 431.0-436.0 m in KFM06C.



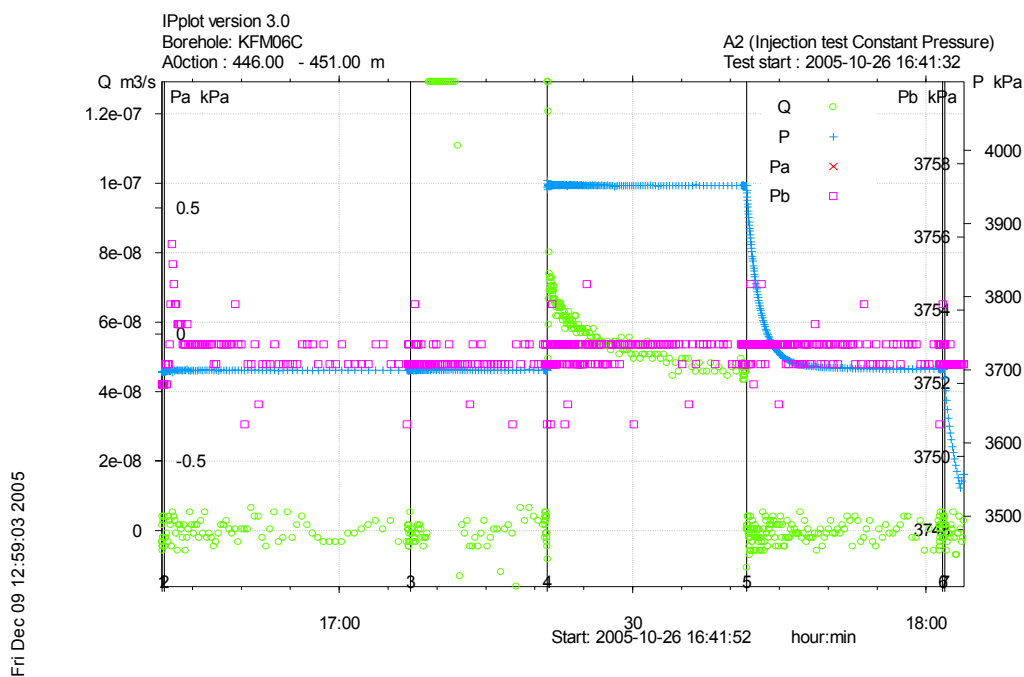
**Figure A3-477.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 431.0-436.0 m in KFM06C.



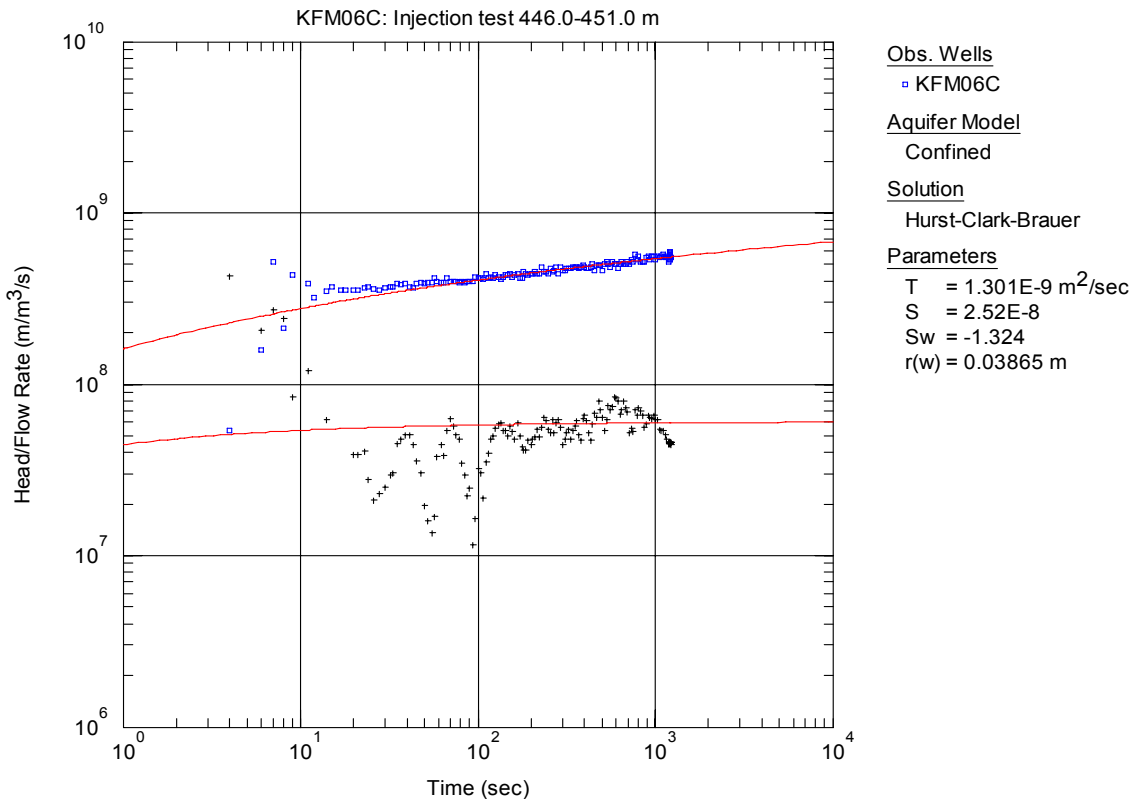
**Figure A3-478.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 436.0-441.0 m in borehole KFM06C.



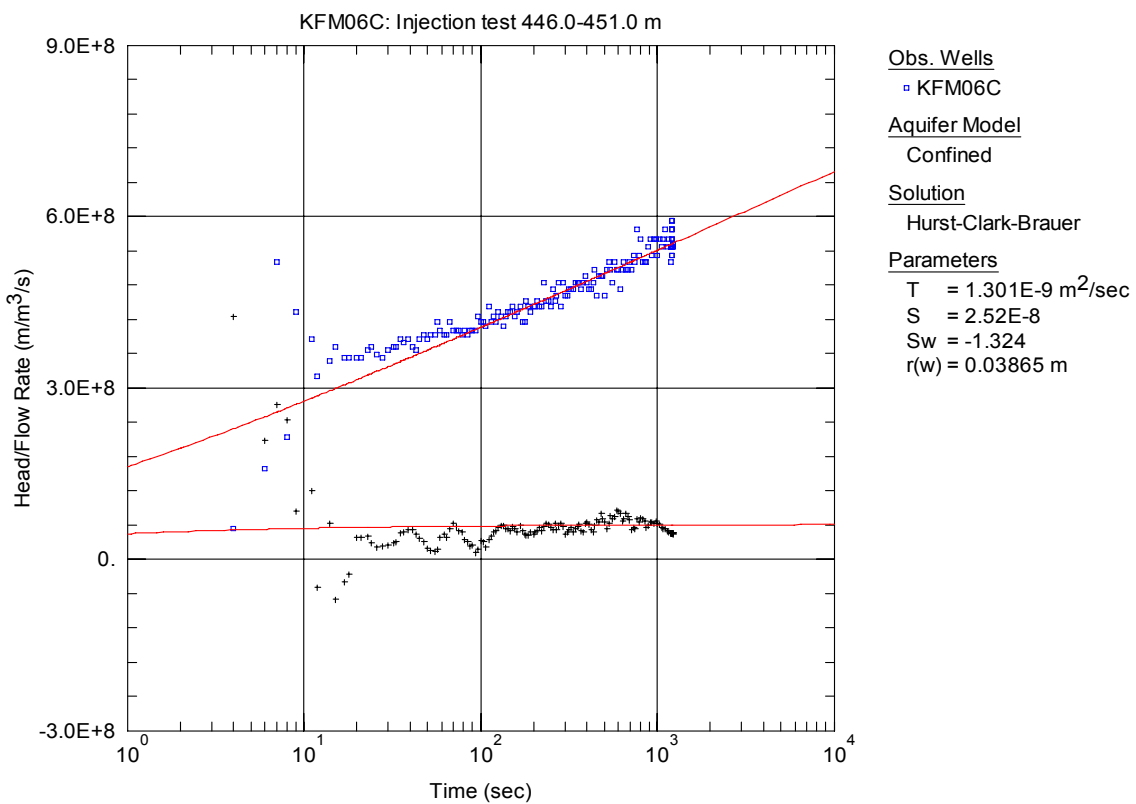
**Figure A3-479.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 441.0-446.0 m in borehole KFM06C.



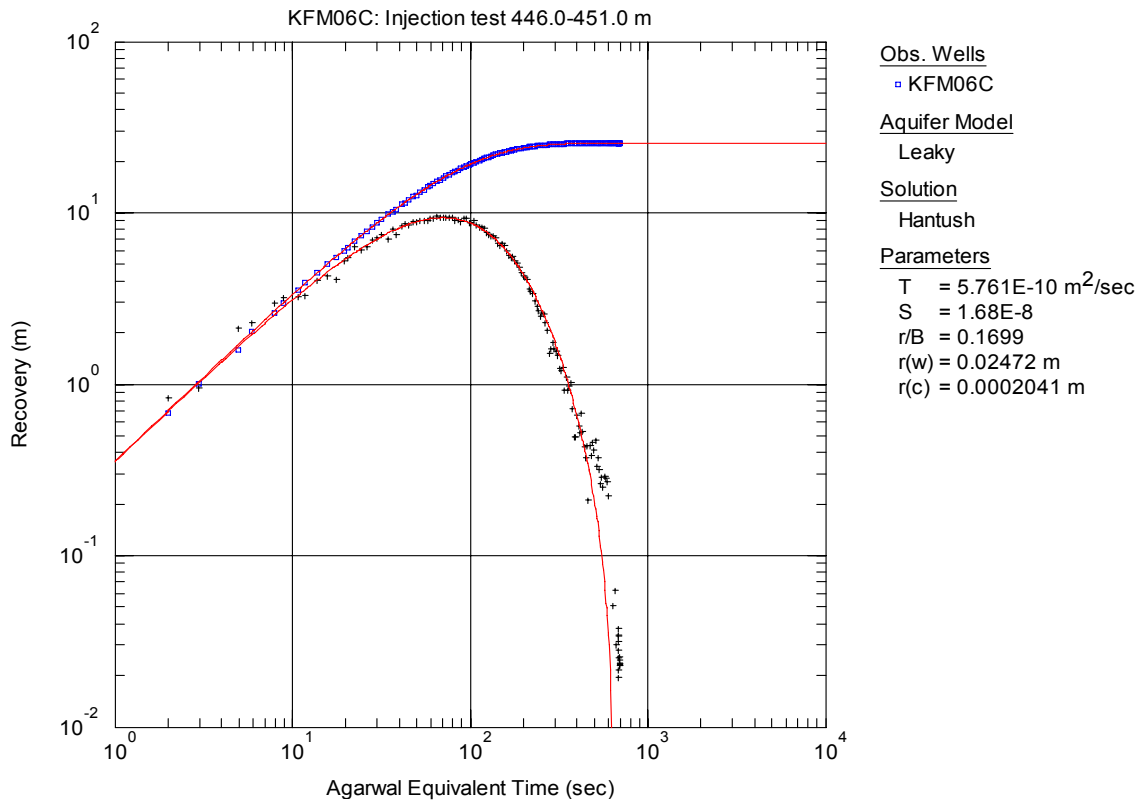
**Figure A3-480.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 446.0-451.0 m in borehole KFM06C.



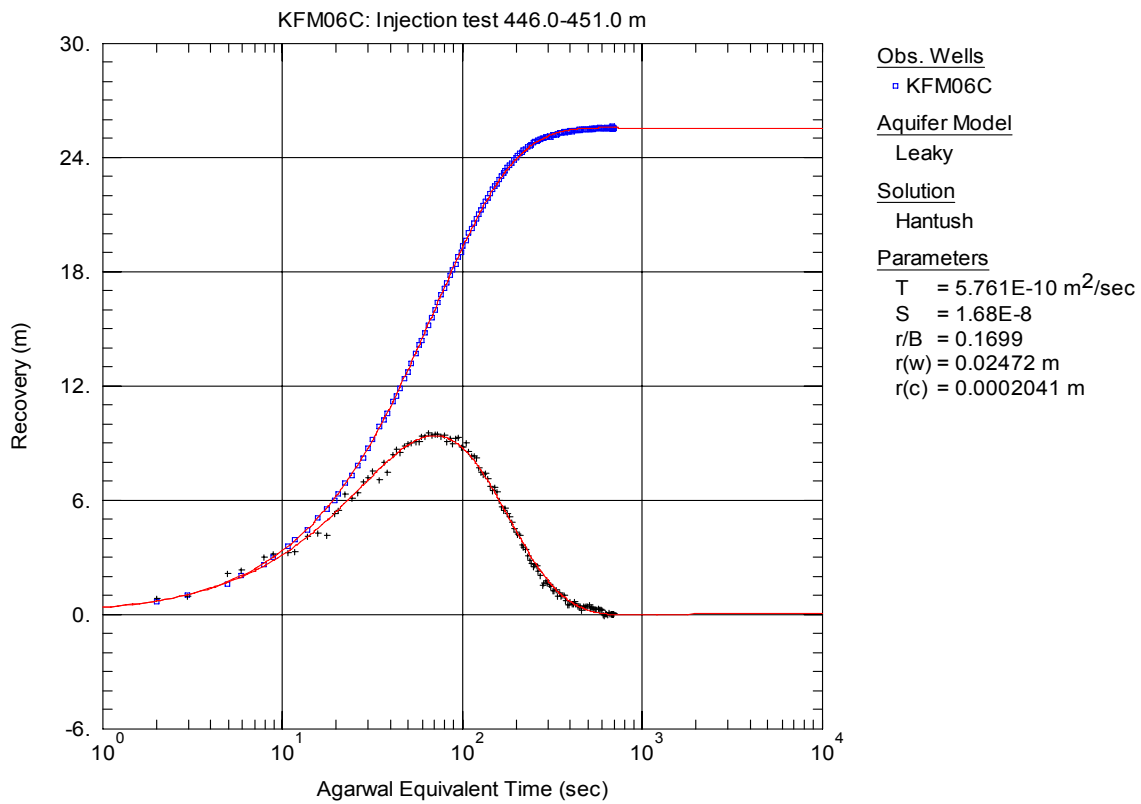
**Figure A3-481.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 446.0-451.0 m in KFM06C.



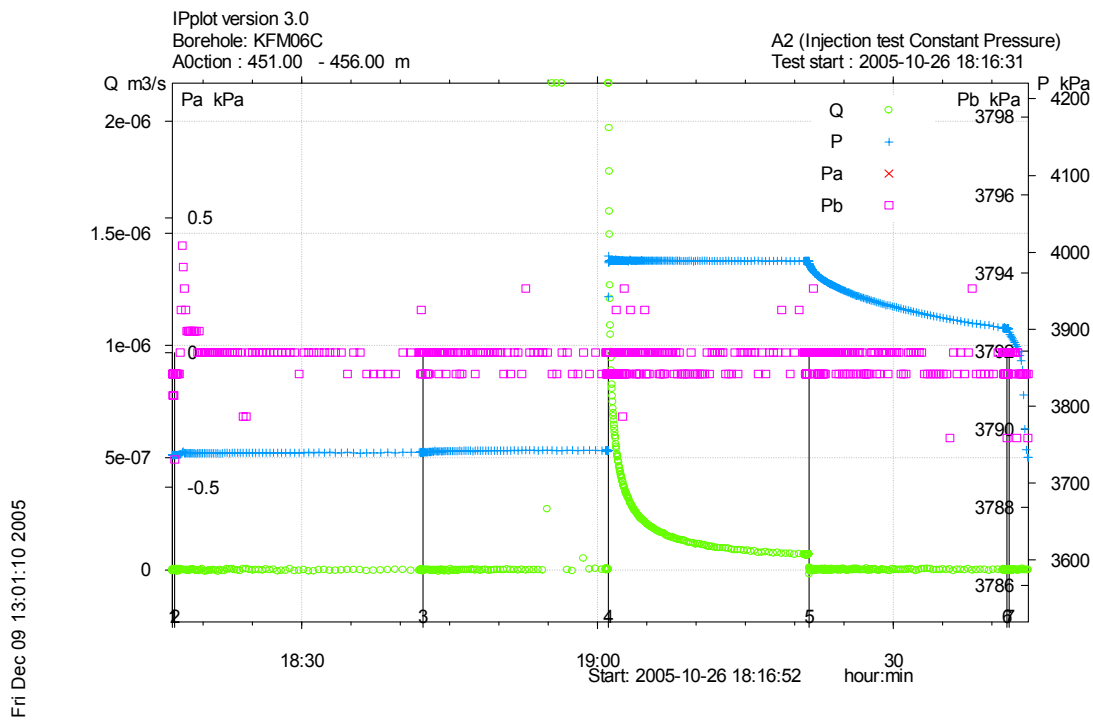
**Figure A3-482.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 446.0-451.0 m in KFM06C.



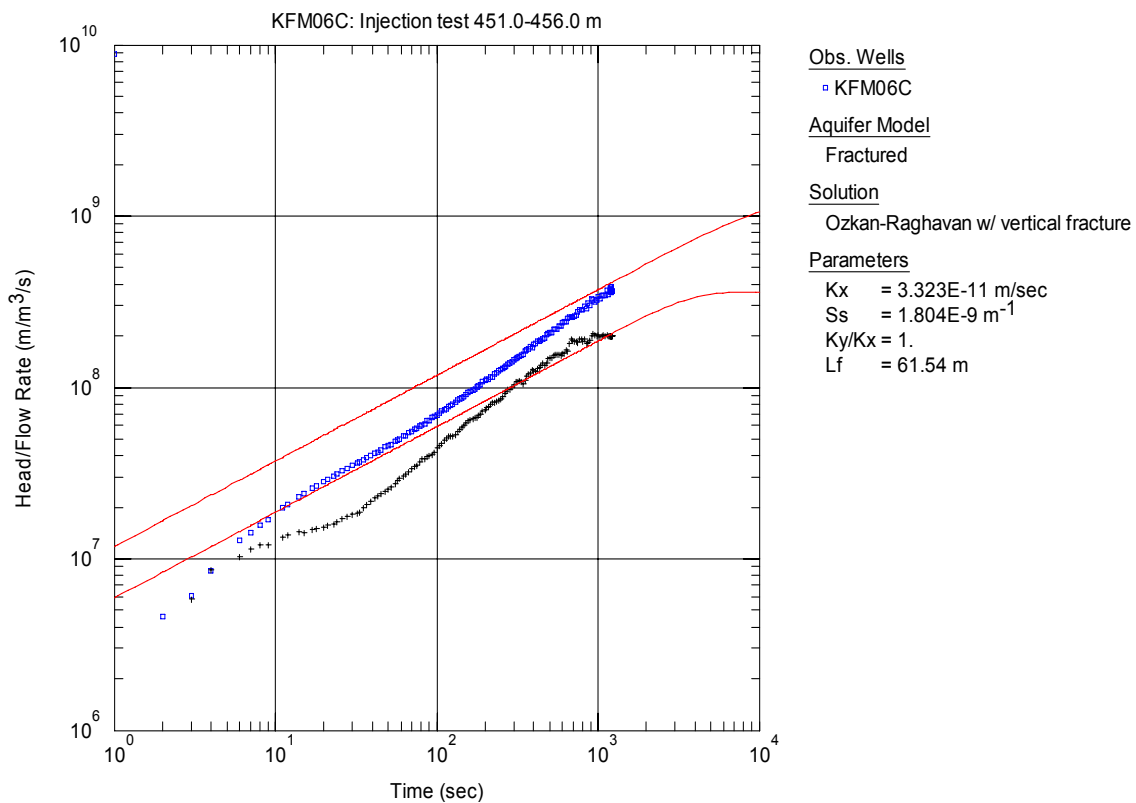
**Figure A3-483.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 446.0-451.0 m in KFM06C.



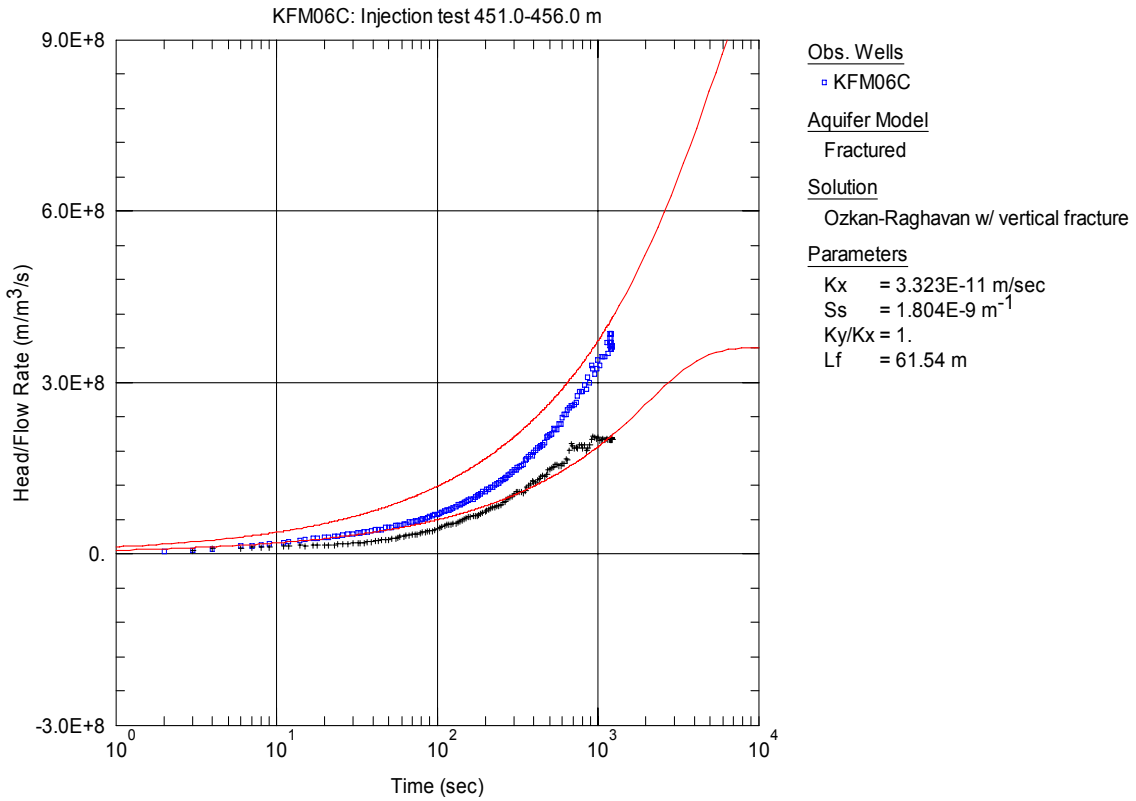
**Figure A3-484.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 446.0-451.0 m in KFM06C.



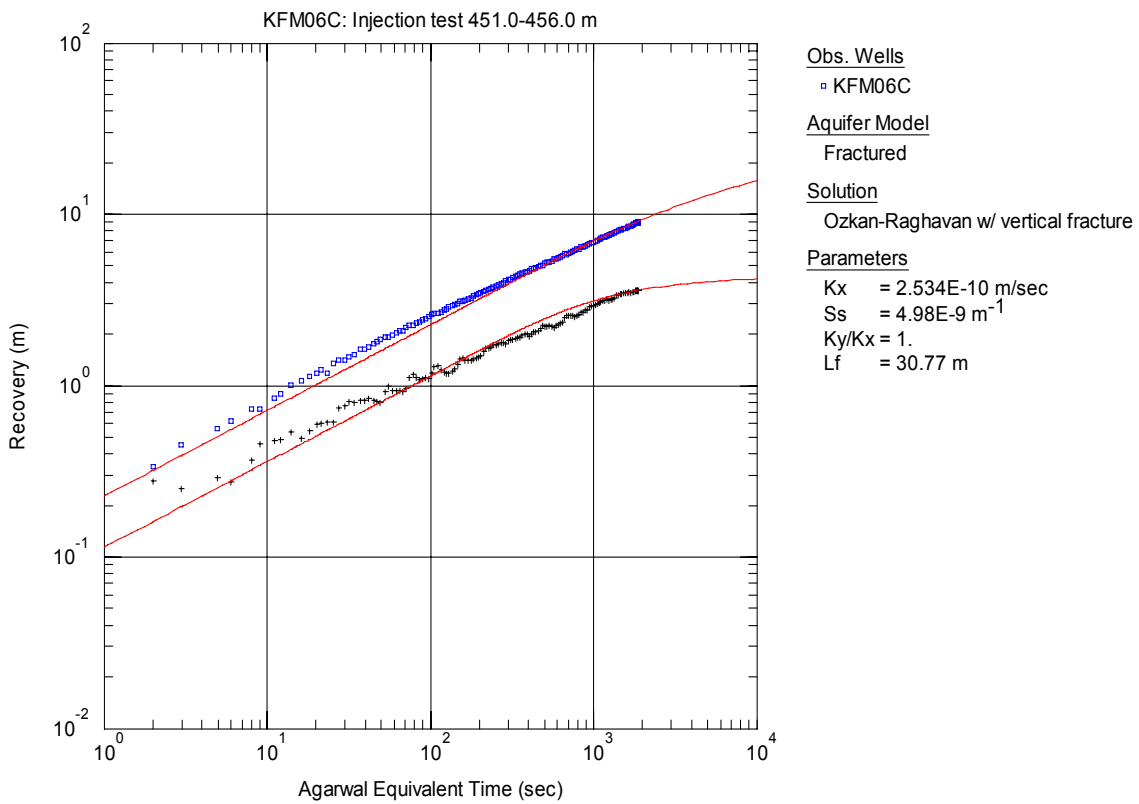
**Figure A3-485.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 451.0-456.0 m in borehole KFM06C.



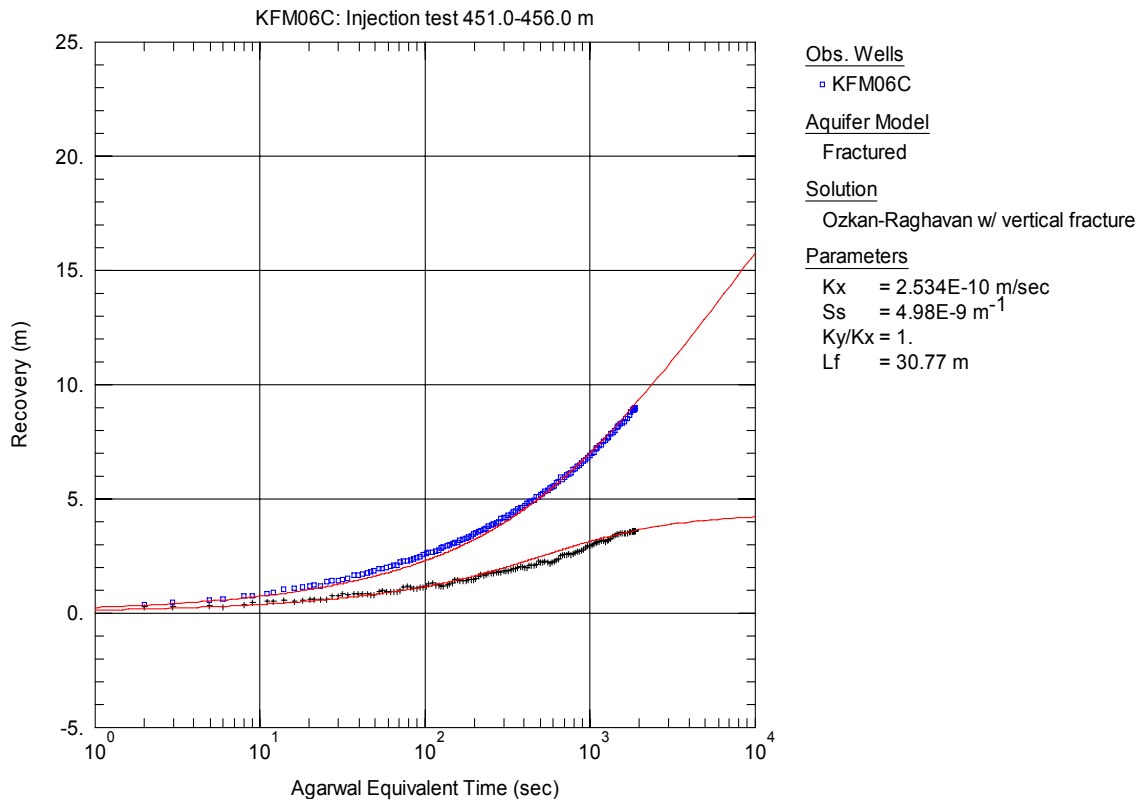
**Figure A3-486.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 451.0-456.0 m in KFM06C.



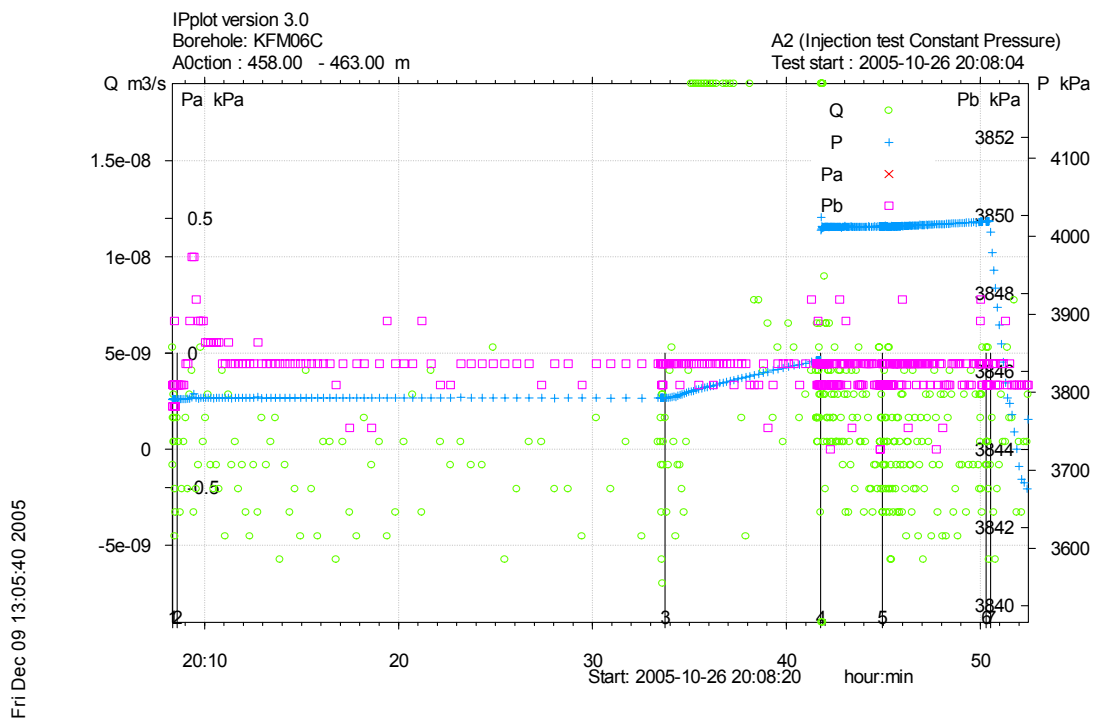
**Figure A3-487.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 451.0-456.0 m in KFM06C.



**Figure A3-488.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 451.0-456.0 m in KFM06C.

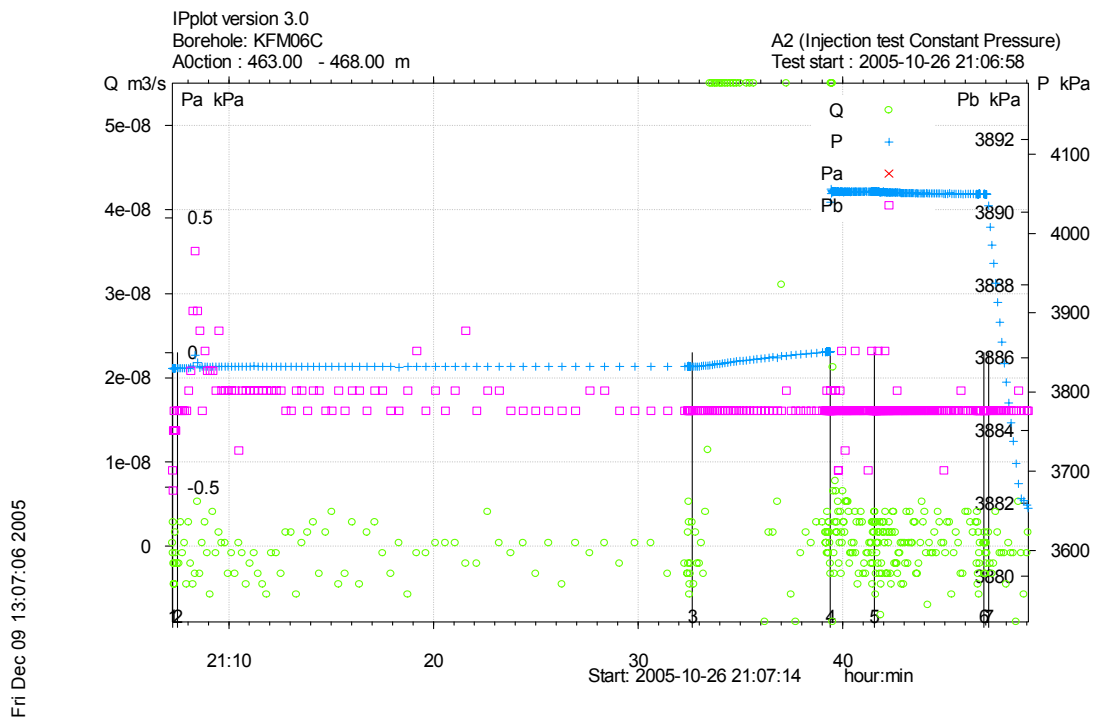


**Figure A3-489.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 451.0-456.0 m in KFM06C.

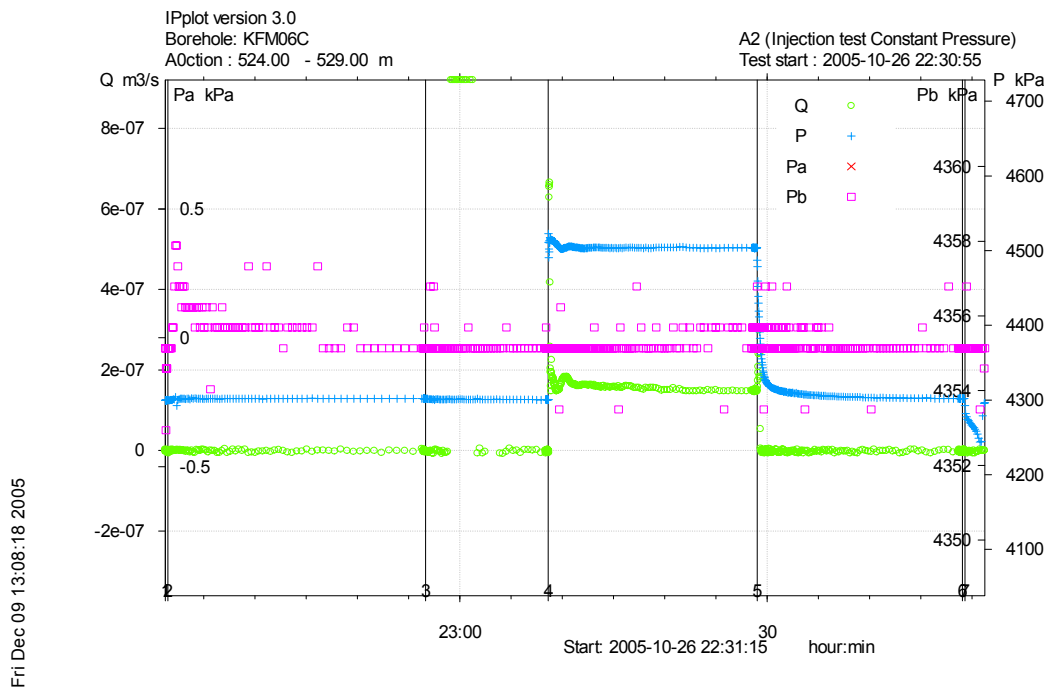


**Figure A3-490.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 458.0-463.0 m in borehole KFM06C.

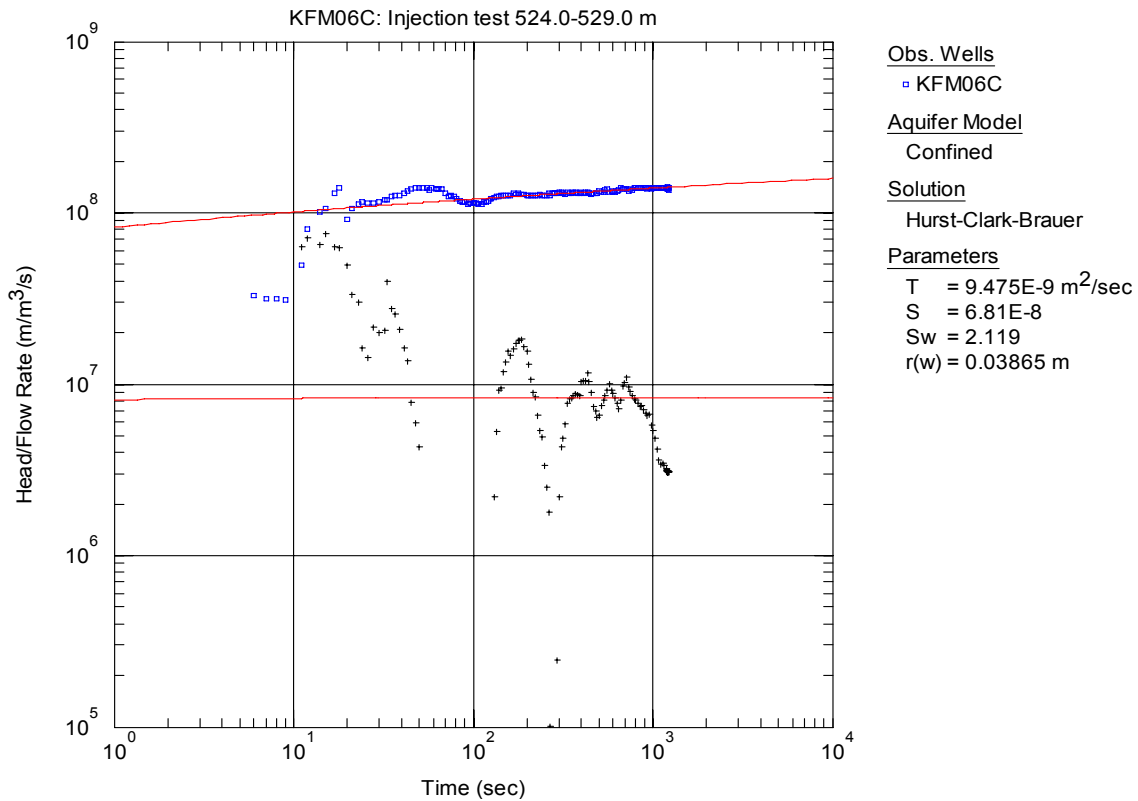




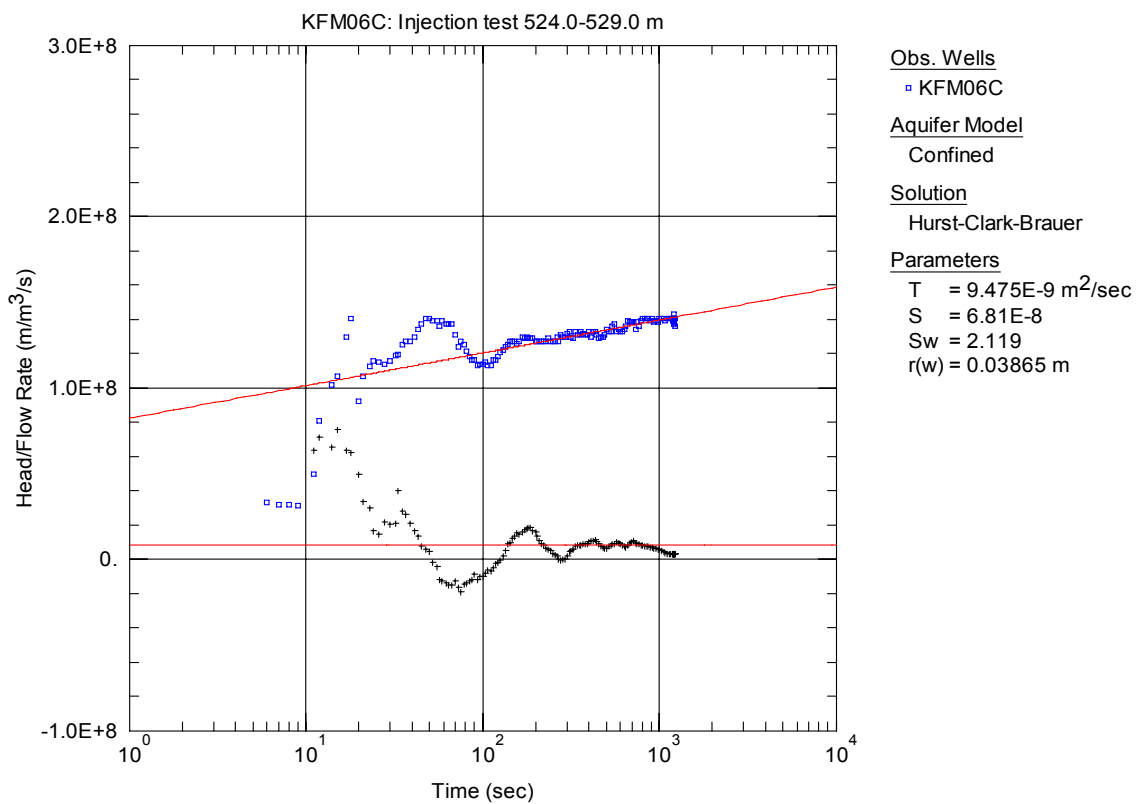
**Figure A3-491.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 463.0-468.0 m in borehole KFM06C.



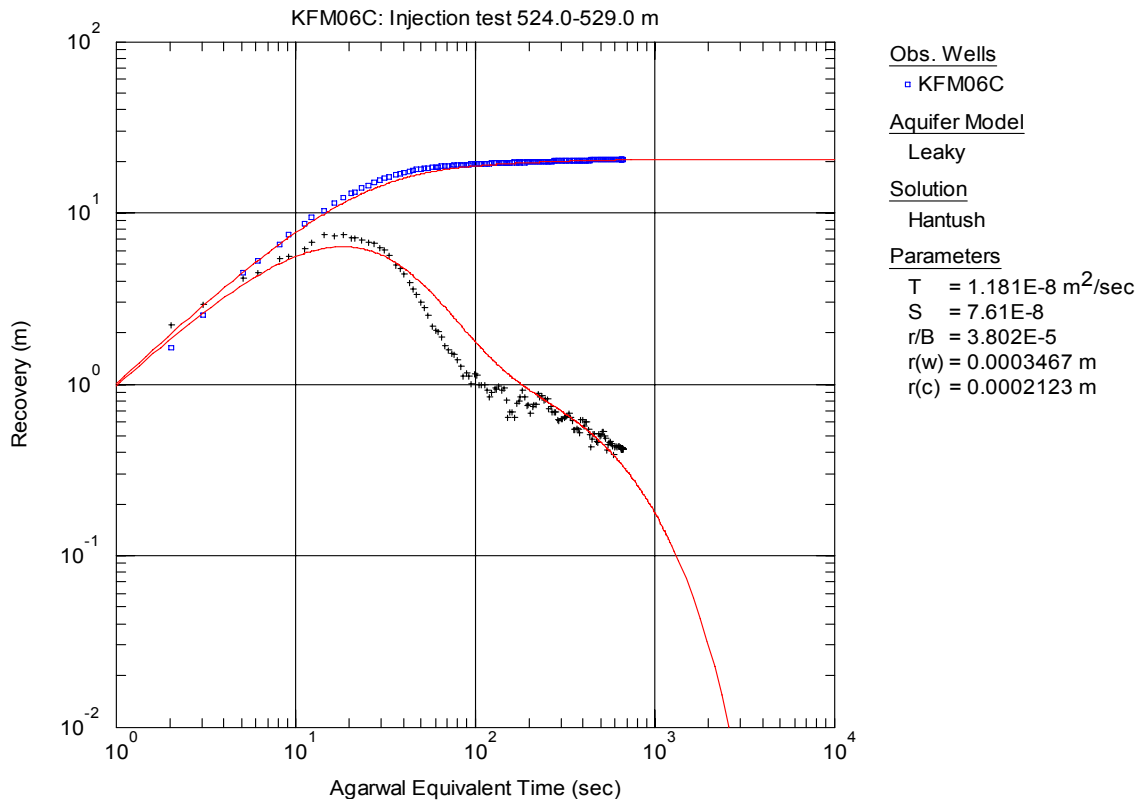
**Figure A3-492.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 524.0-529.0 m in borehole KFM06C.



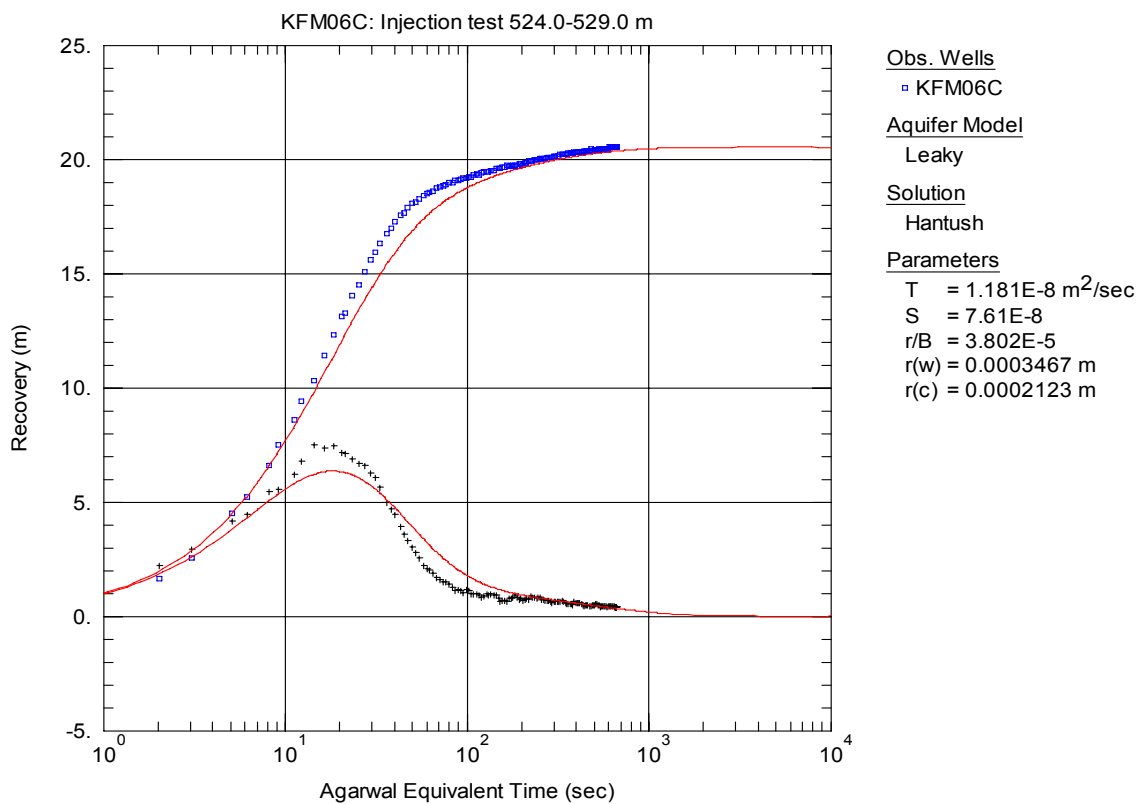
**Figure A3-493.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 524.0-529.0 m in KFM06C.



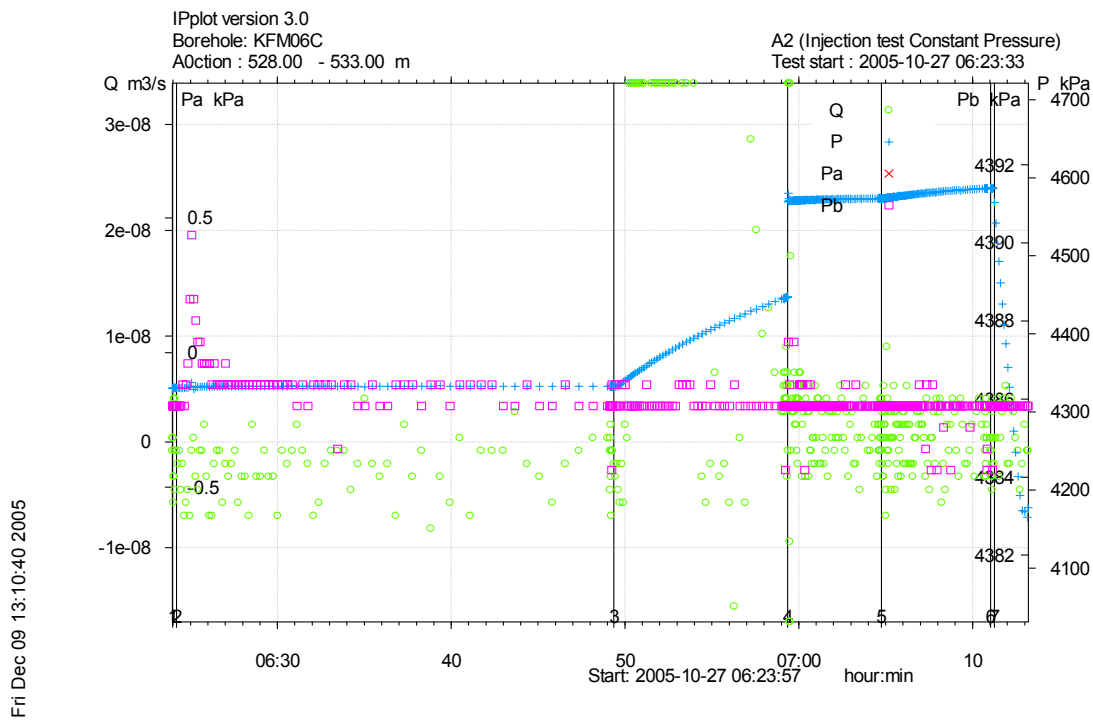
**Figure A3-494.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 524.0-529.0 m in KFM06C.



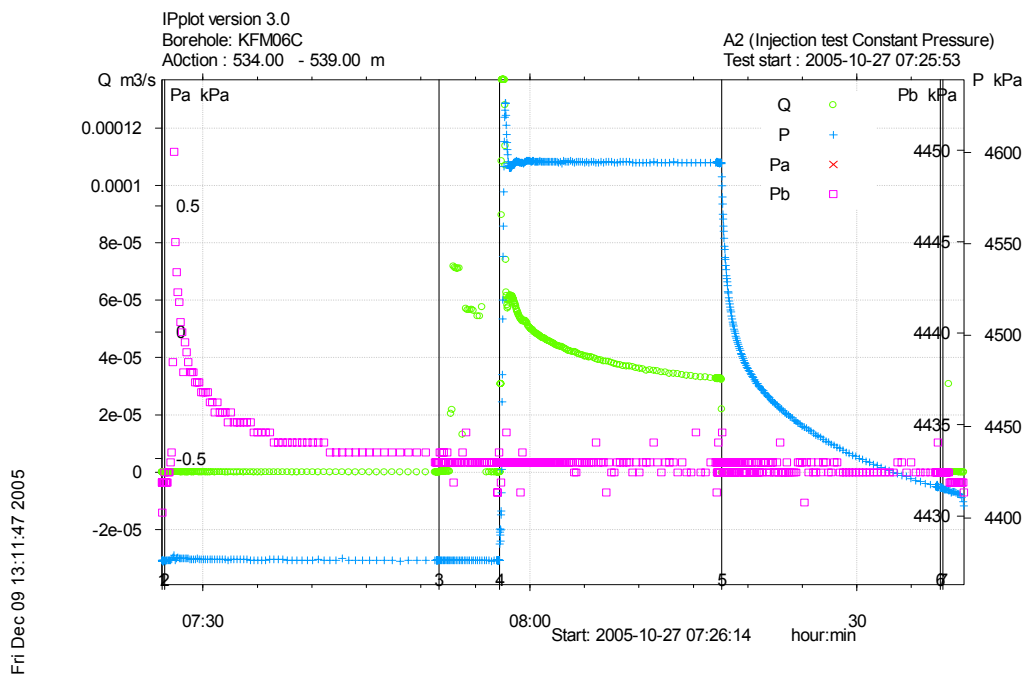
**Figure A3-495.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 524.0-529.0 m in KFM06C.



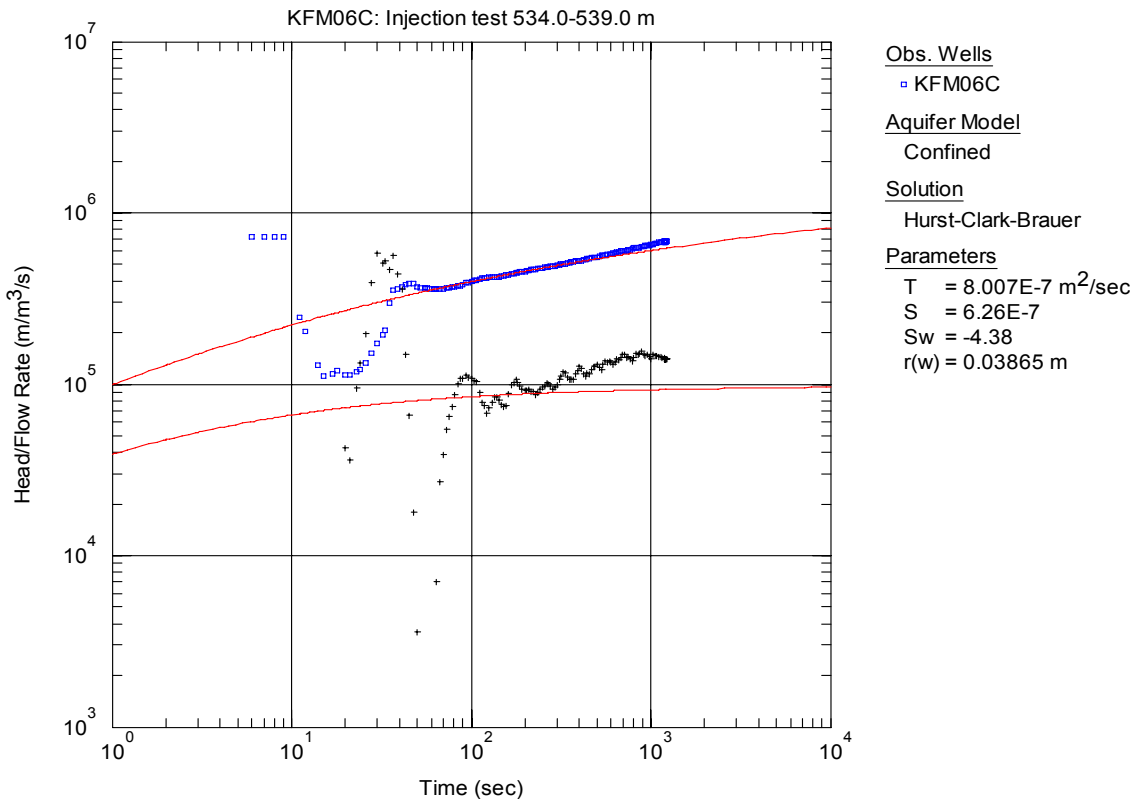
**Figure A3-496.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 524.0-529.0 m in KFM06C.



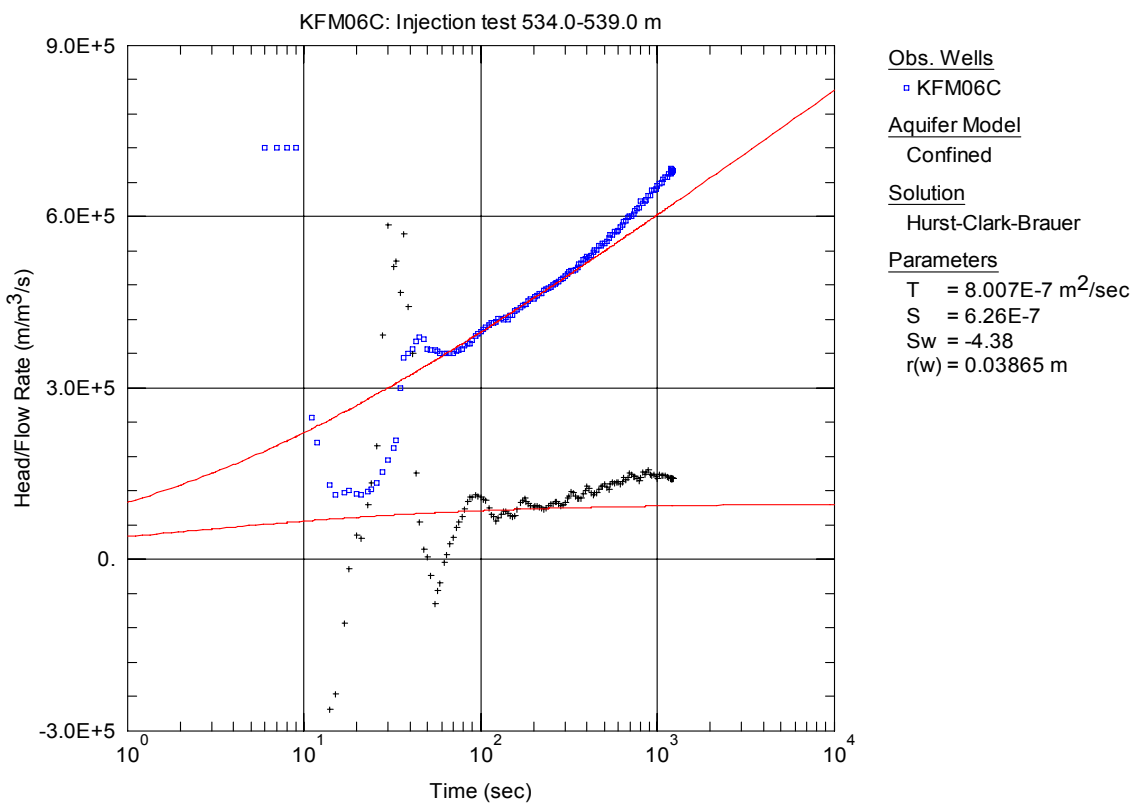
**Figure A3-497.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 528.0-533.0 m in borehole KFM06C.



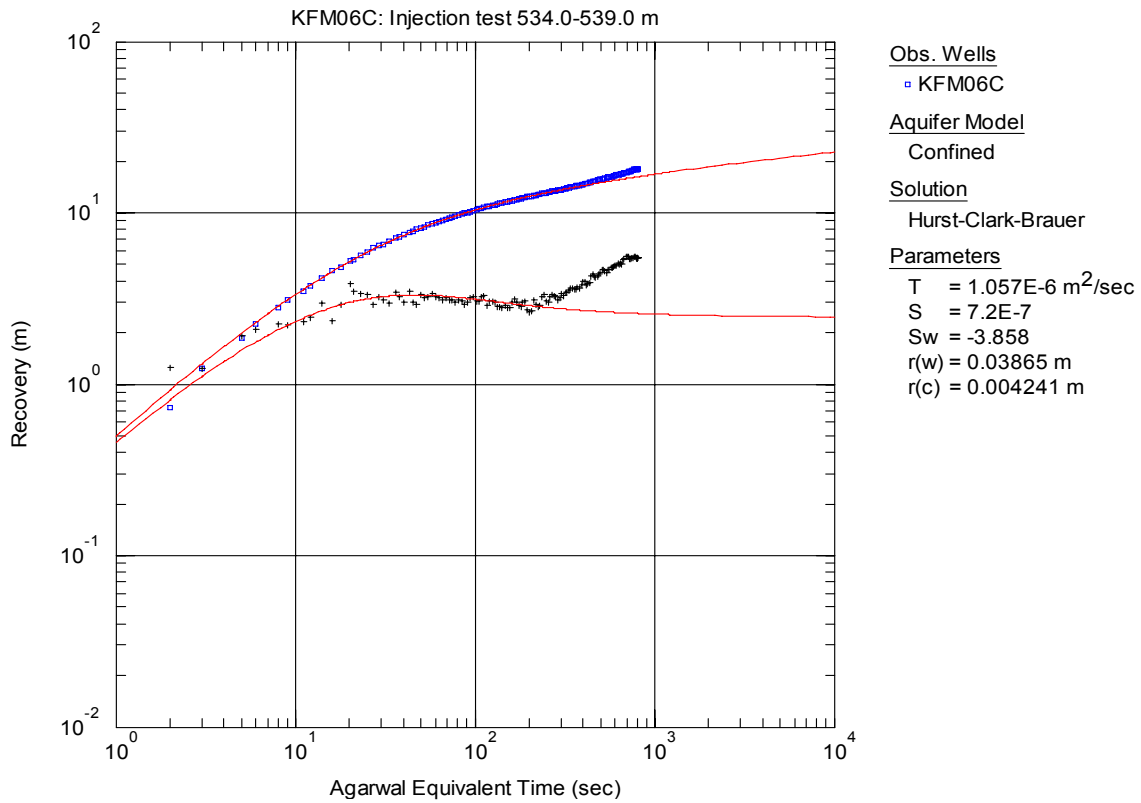
**Figure A3-498.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 534.0-539.0 m in borehole KFM06C.



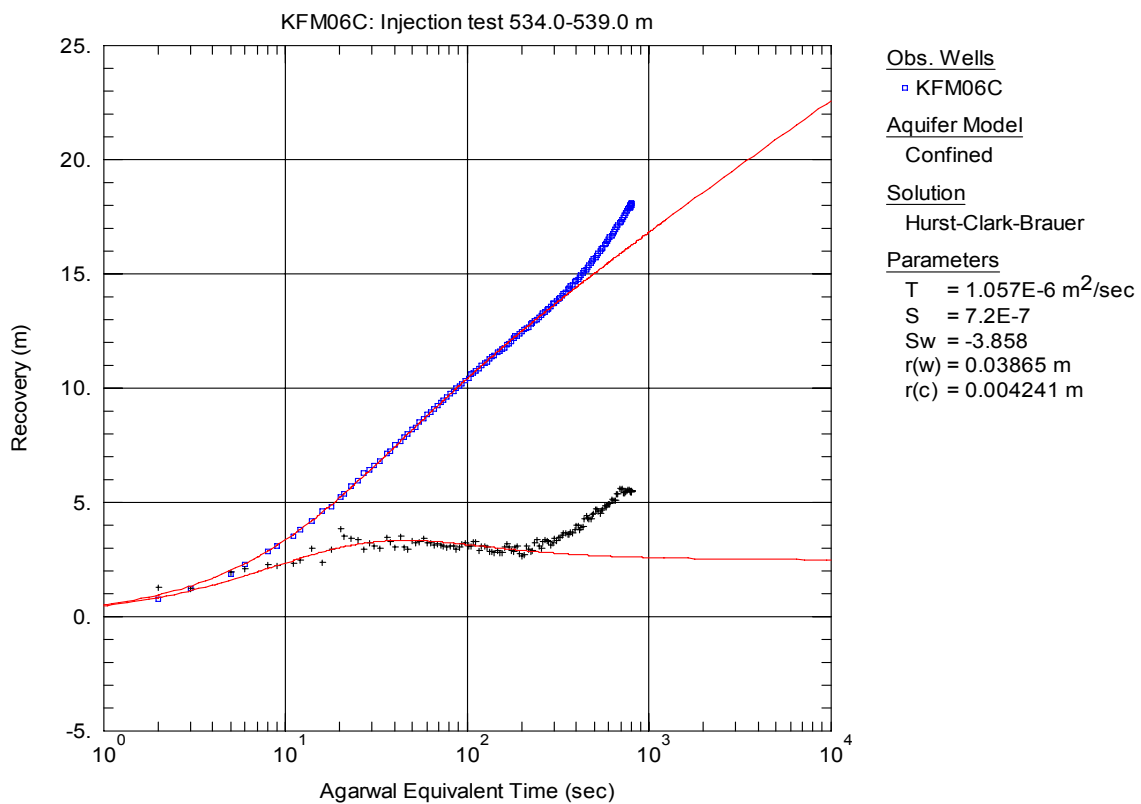
**Figure A3-499.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 534.0-539.0 m in KFM06C.



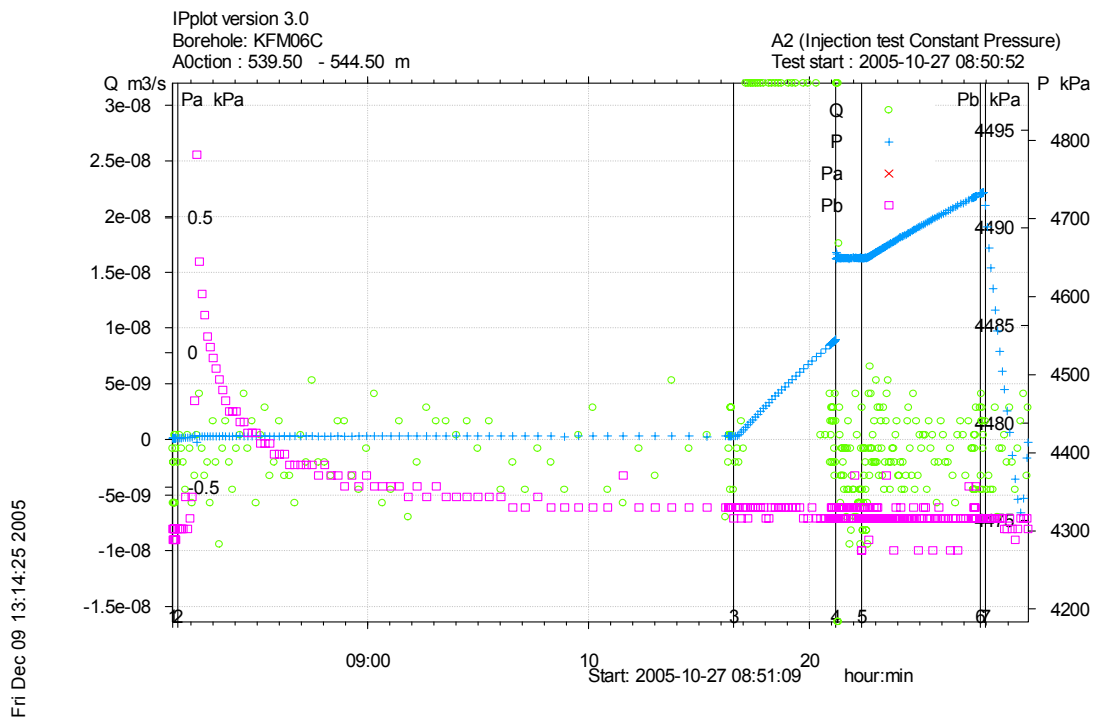
**Figure A3-500.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 534.0-539.0 m in KFM06C.



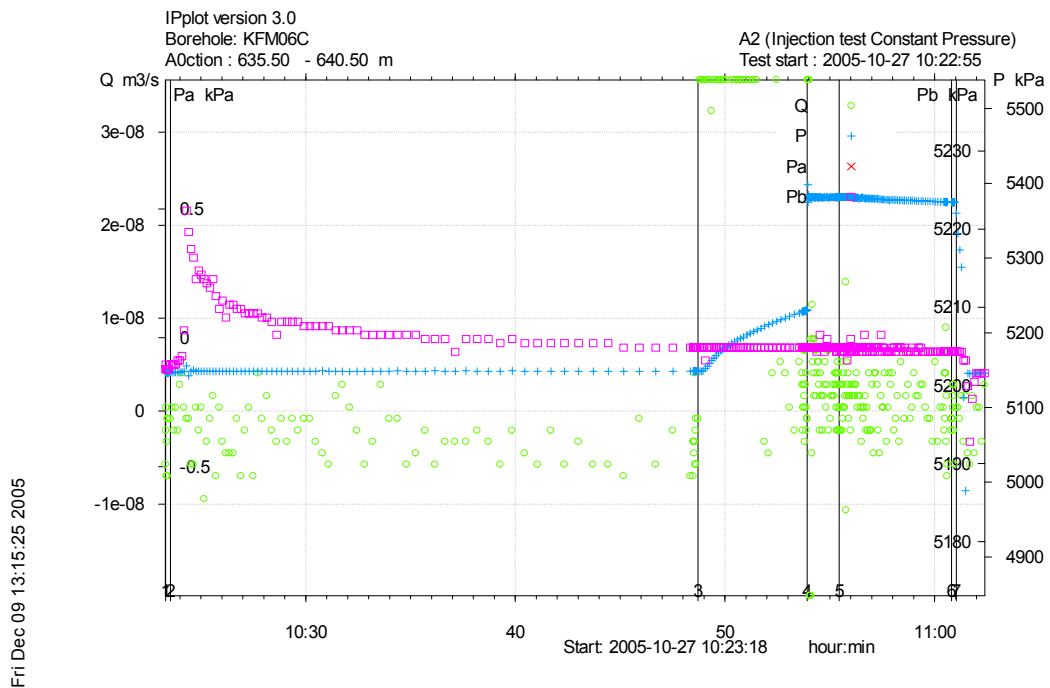
**Figure A3-501.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 534.0-539.0 m in KFM06C.



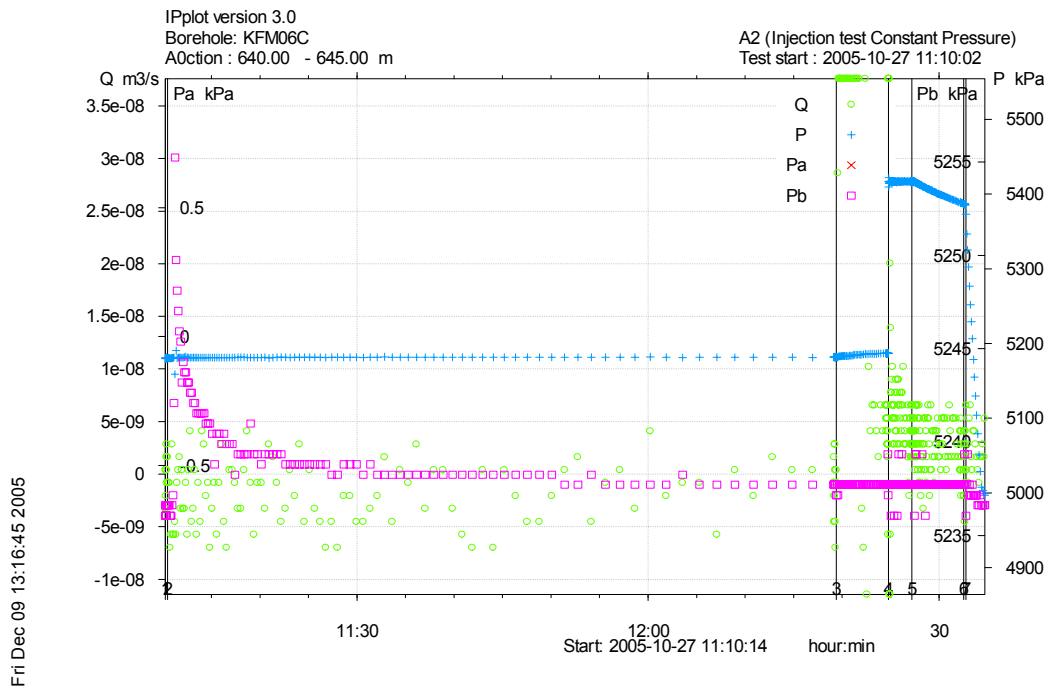
**Figure A3-502.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 534.0-539.0 m in KFM06C.



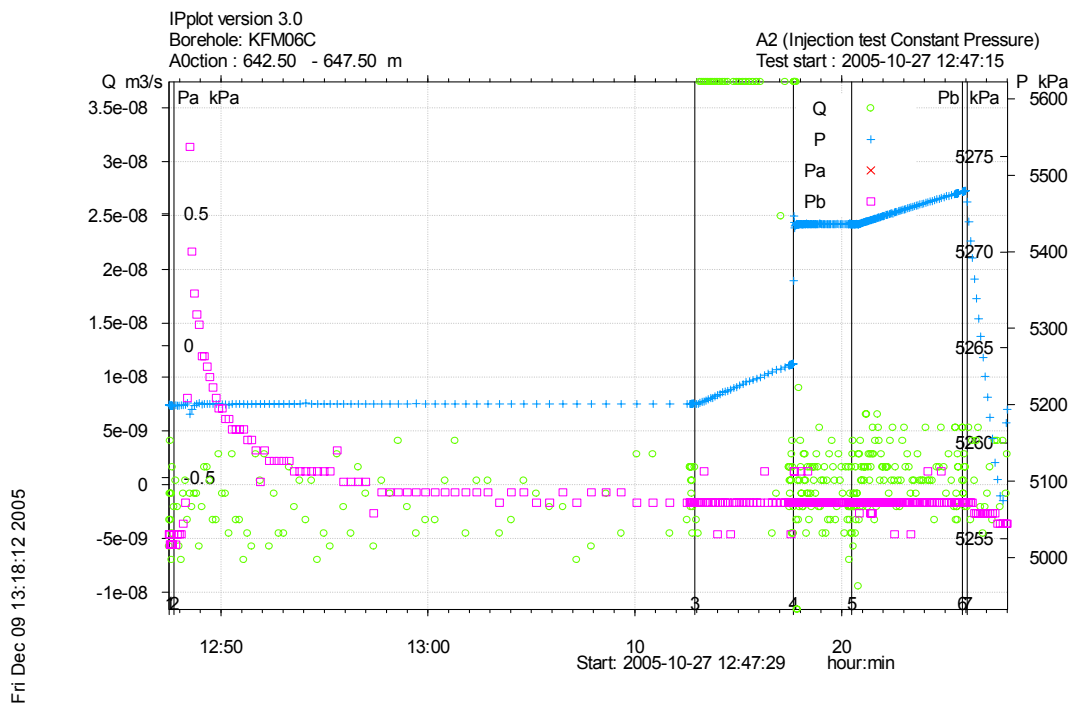
**Figure A3-503.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 539.5-544.5 m in borehole KFM06C.



**Figure A3-504.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 635.5-640.5 m in borehole KFM06C.

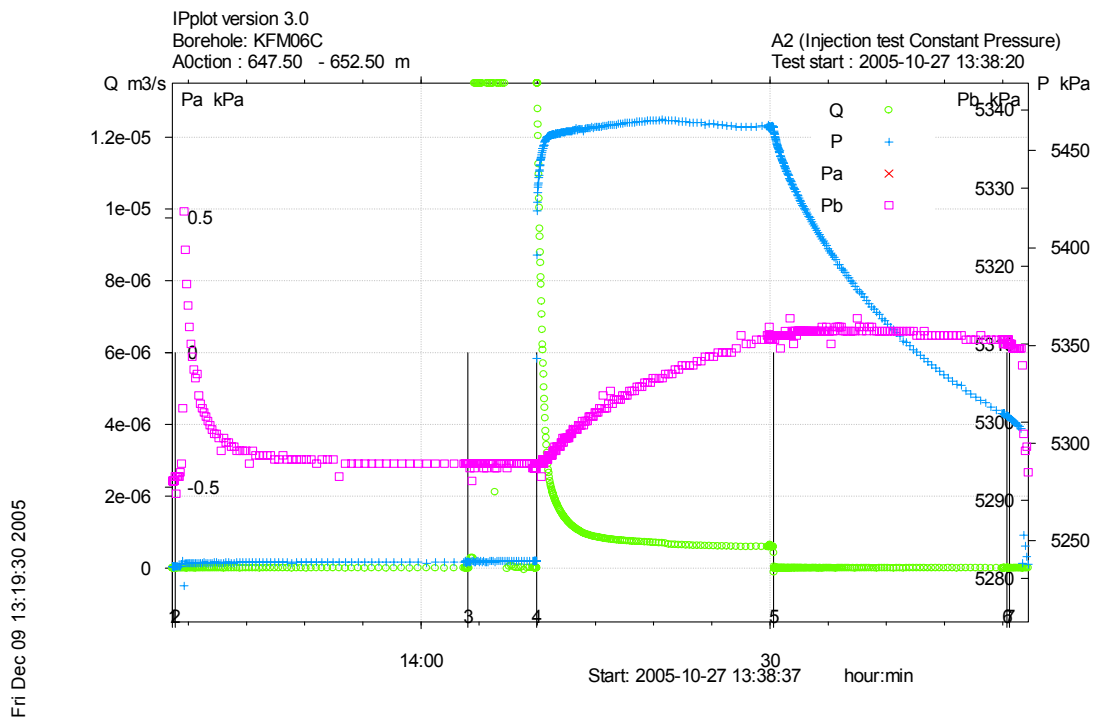


**Figure A3-505.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 640.0-645.0 m in borehole KFM06C.

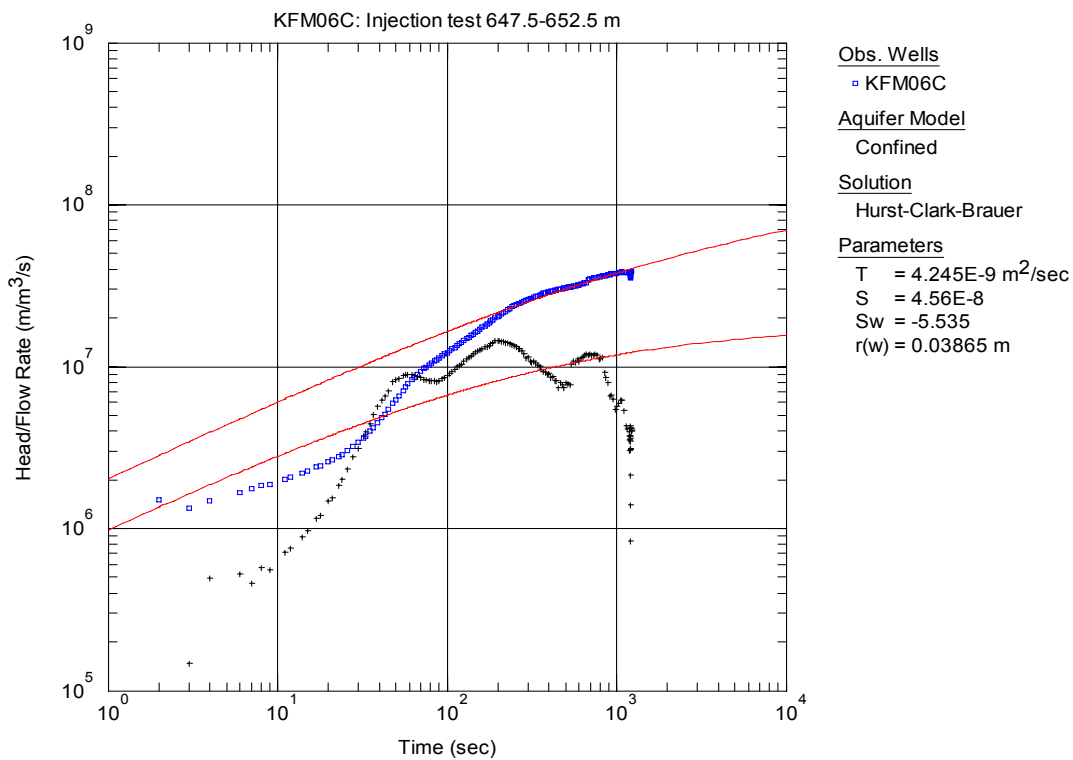


**Figure A3-506.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 642.5-647.5 m in borehole KFM06C.

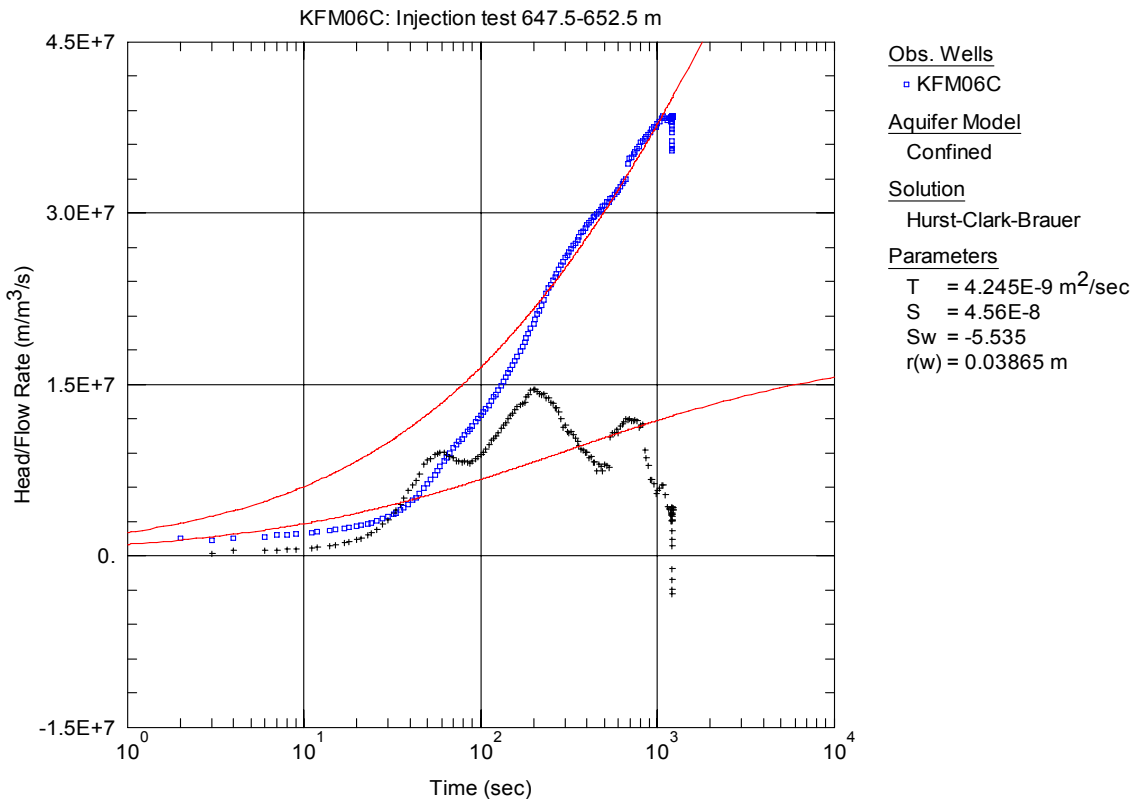




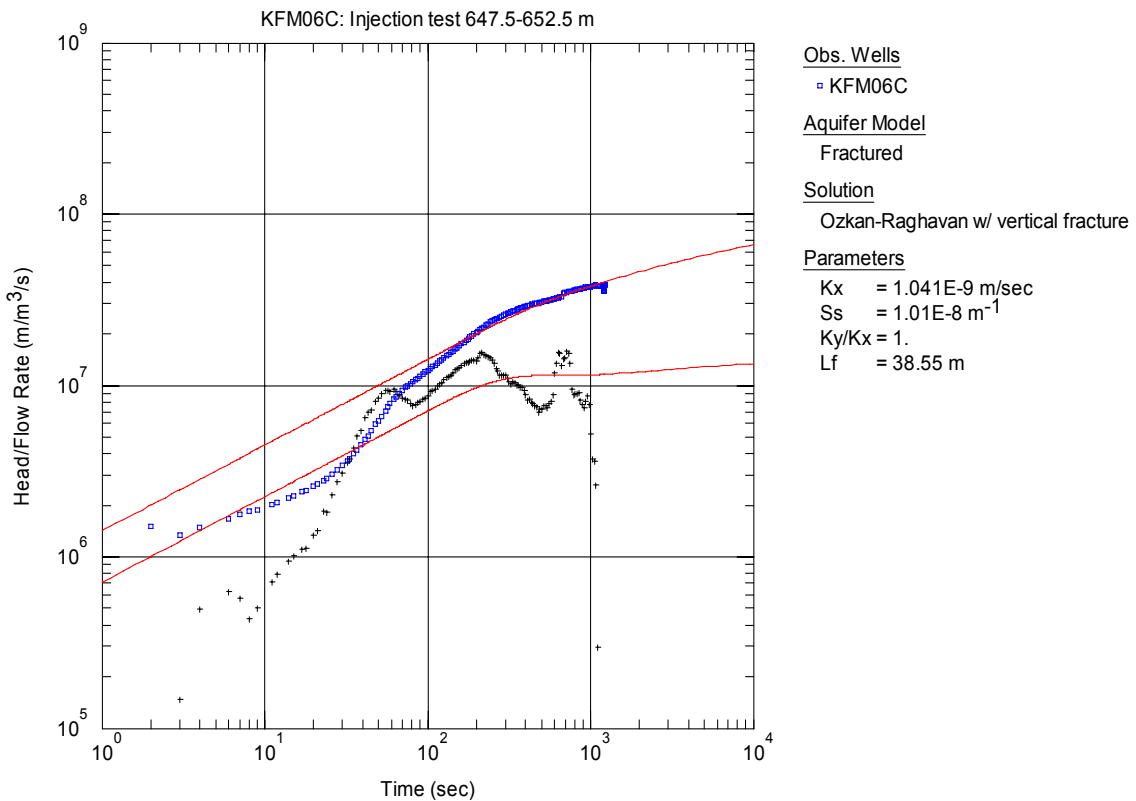
**Figure A3-507.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 647.5-652.5 m in borehole KFM06C.



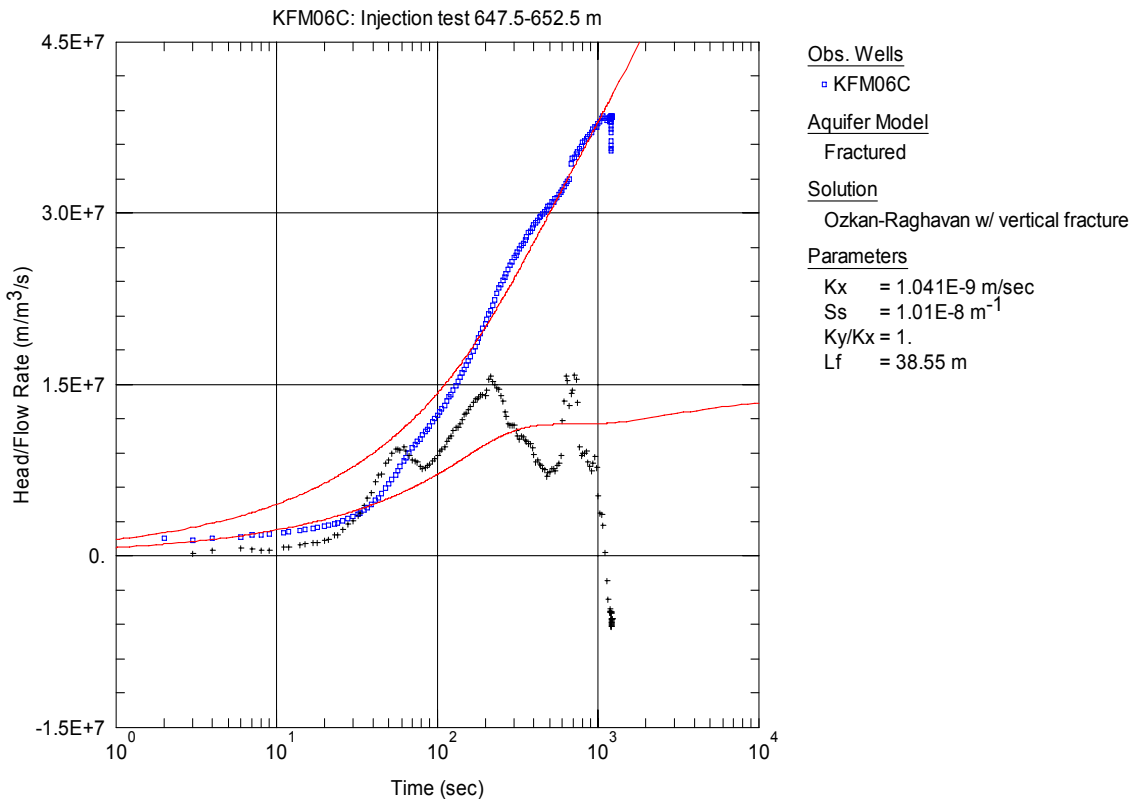
**Figure A3-508.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 647.5-652.5 m in KFM06C.



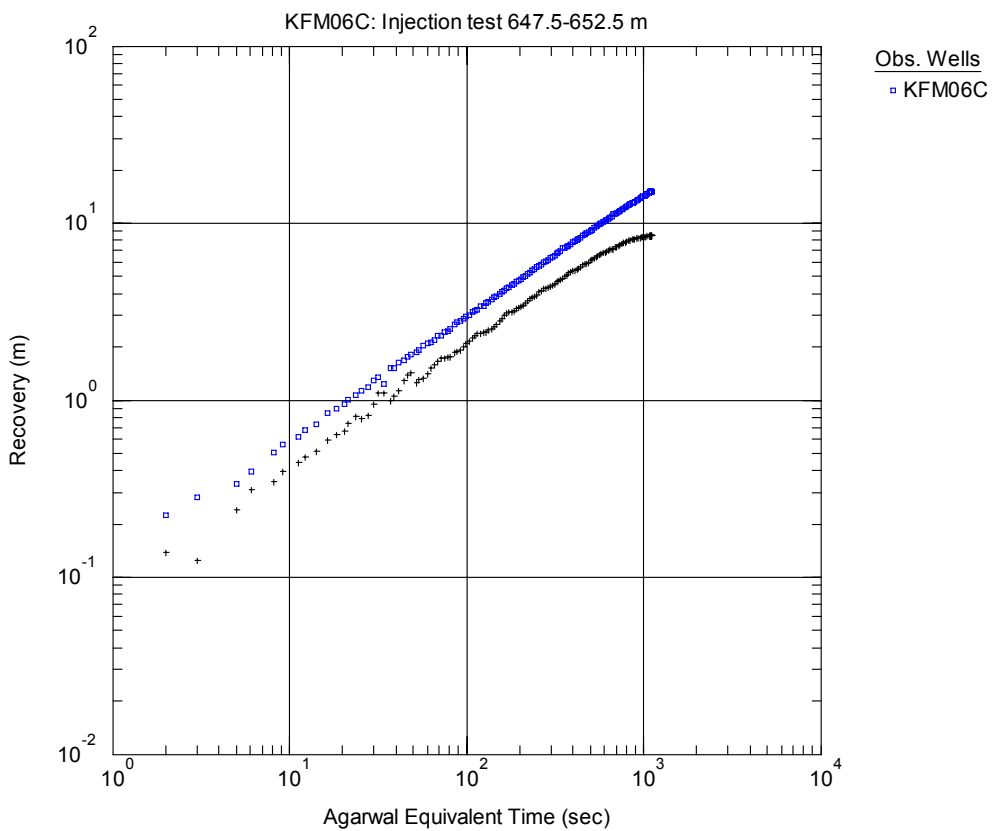
**Figure A3-509.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Hurst-Clark-Brauer solution, from the injection test in section 647.5-652.5 m in KFM06C.



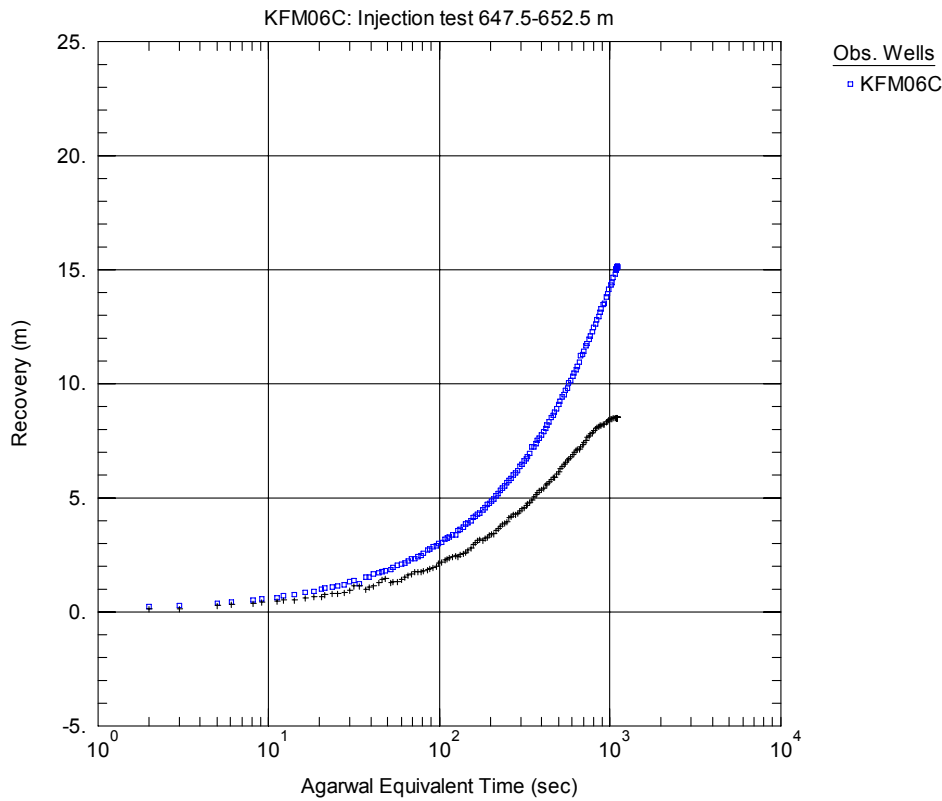
**Figure A3-510.** Log-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 647.5-652.5 m in KFM06C.



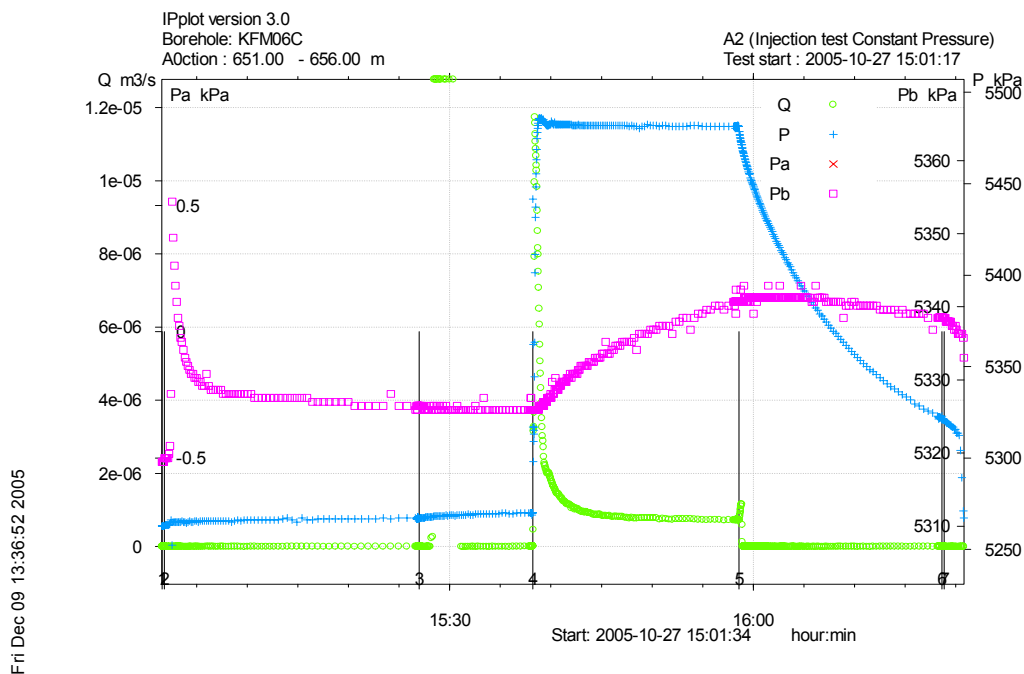
**Figure A3-511.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, showing fit to the Ozkan-Raghavan solution, from the injection test in section 647.5-652.5 m in KFM06C.



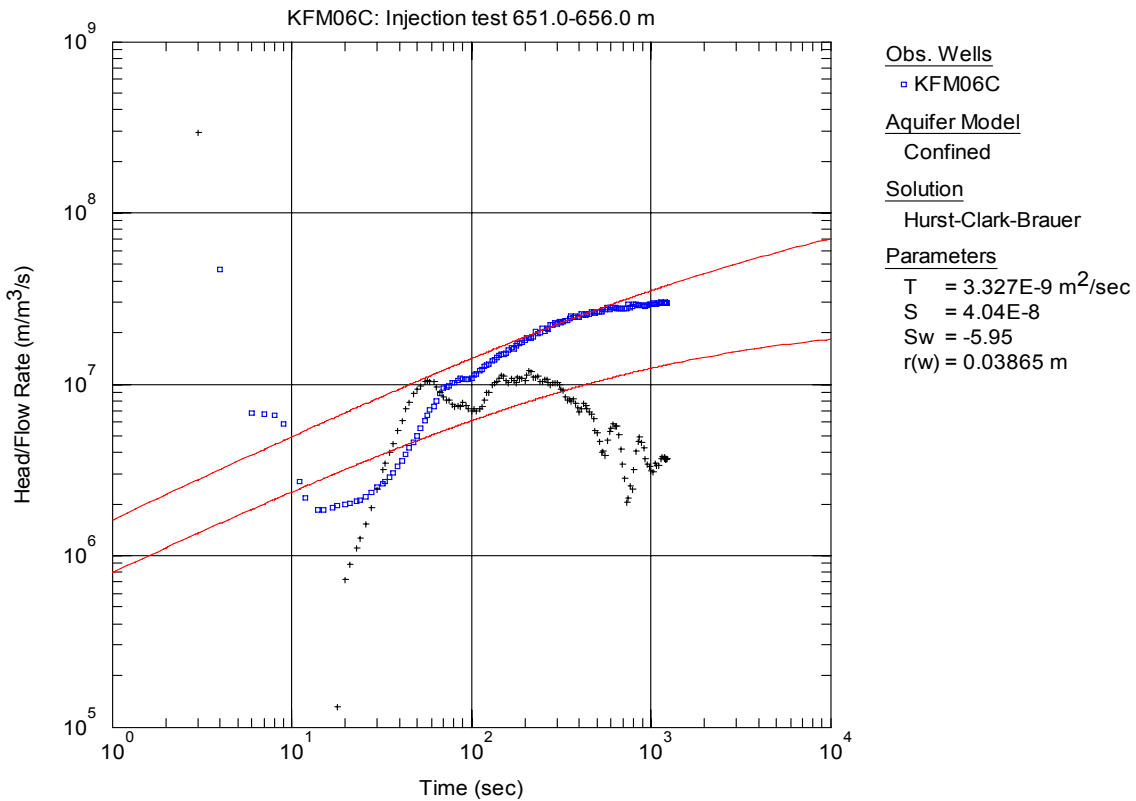
**Figure A3-512.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 647.5-652.5 m in KFM06C.



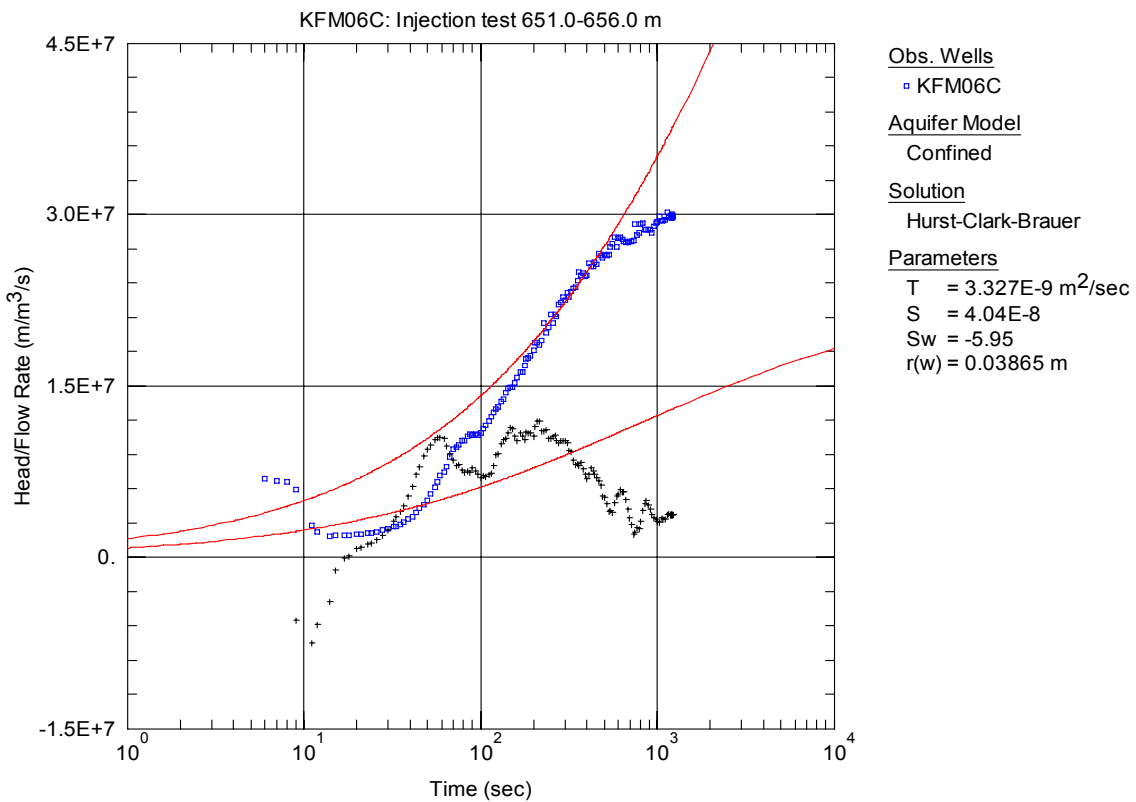
**Figure A3-513.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 647.5-652.5 m in KFM06C.



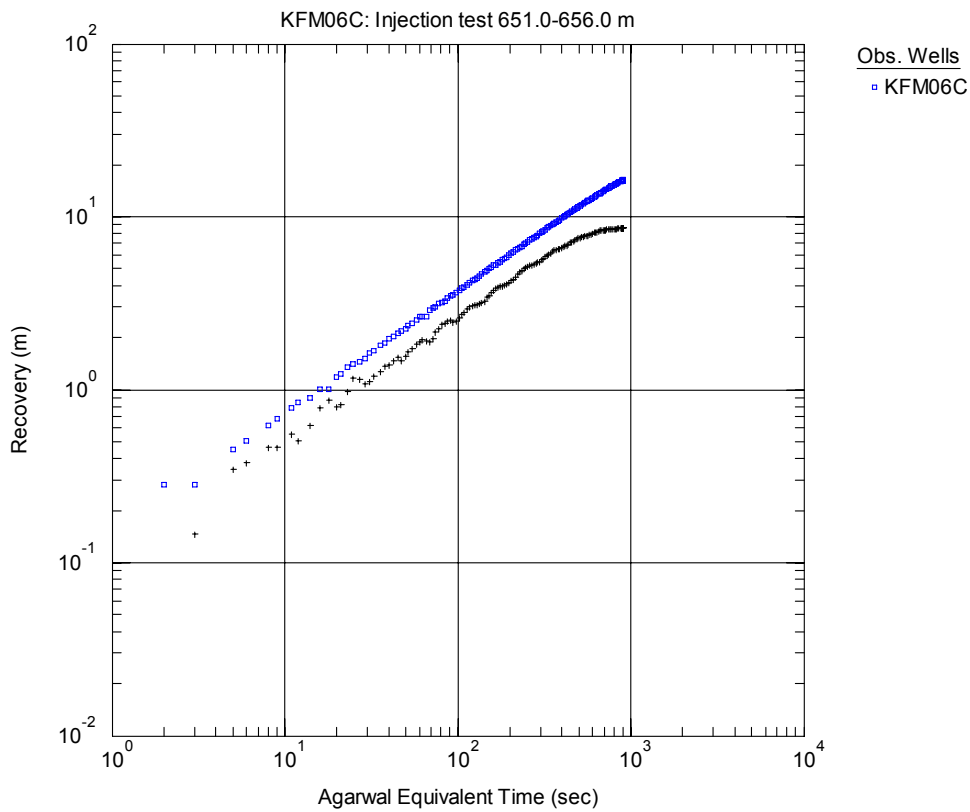
**Figure A3-514.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 651.0-656.0 m in borehole KFM06C.



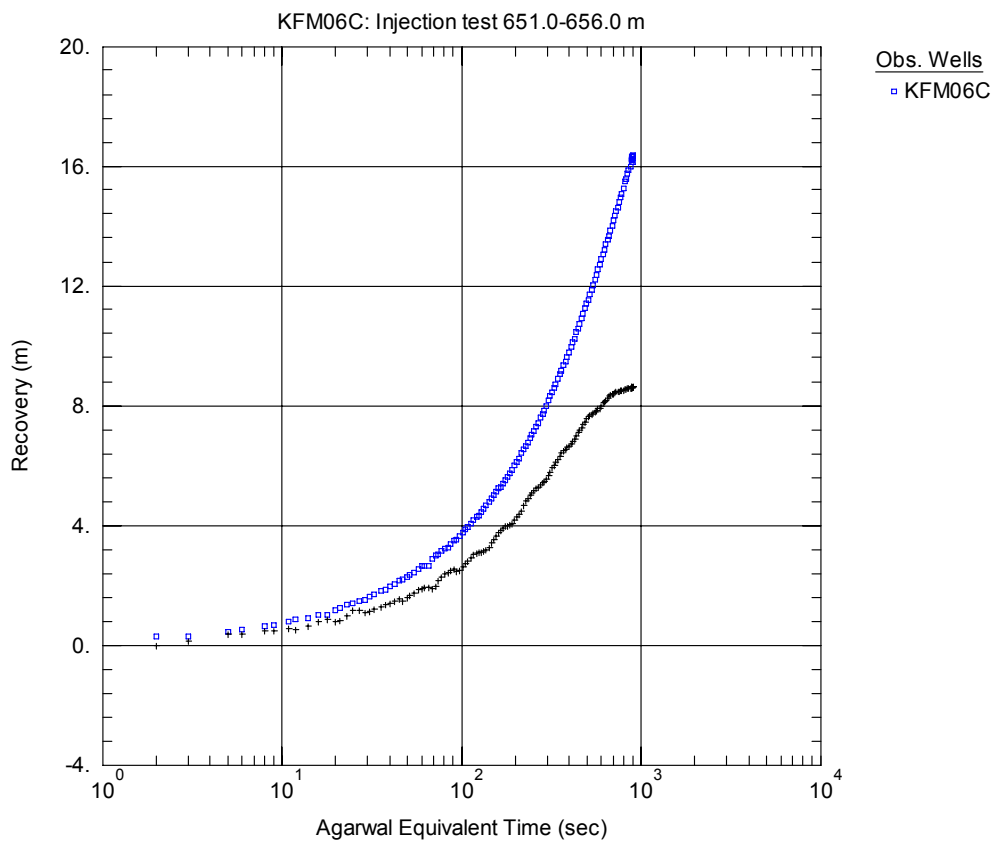
**Figure A3-515.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 651.0-656.0 m in KFM06C.



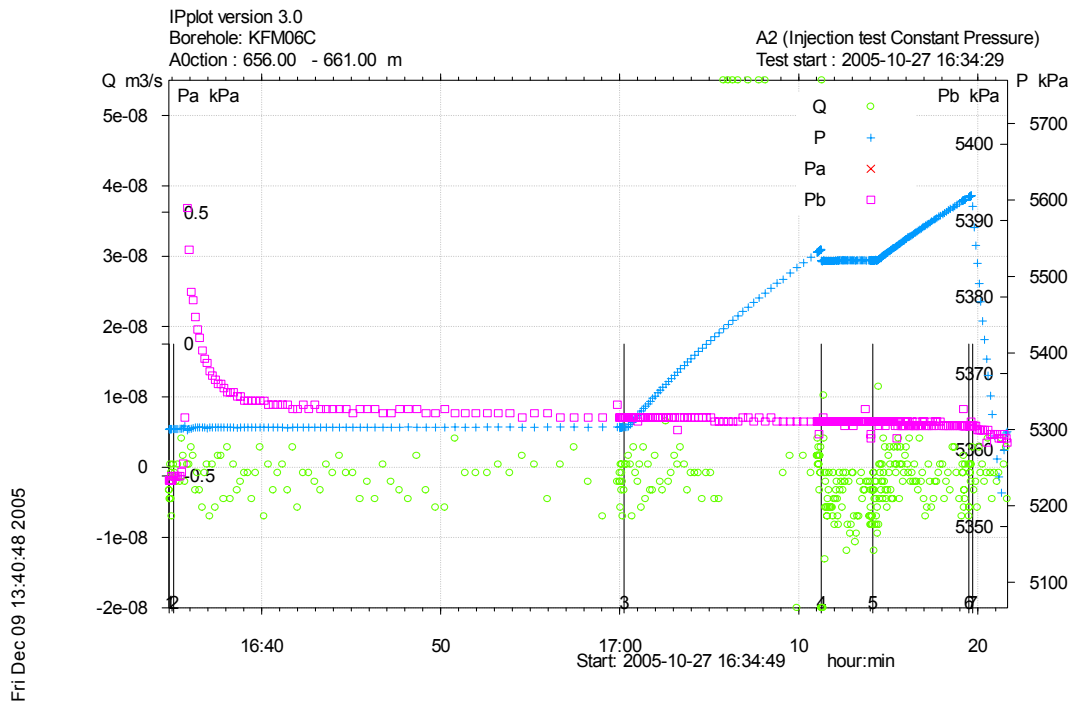
**Figure A3-516.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 651.0-656.0 m in KFM06C.



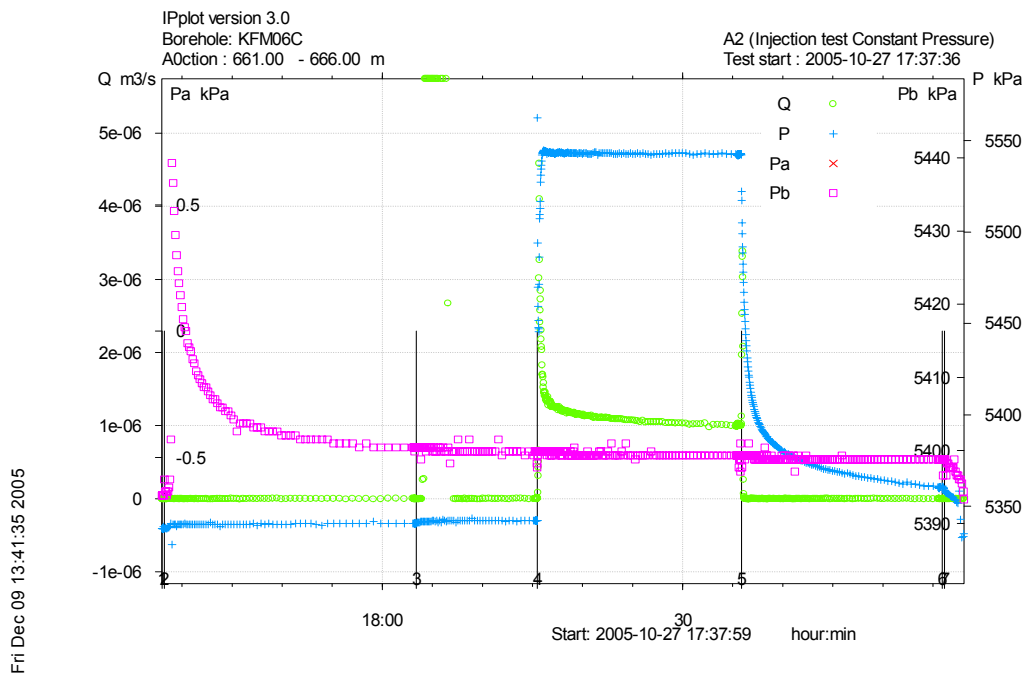
**Figure A3-517.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 651.0-656.0 m in KFM06C.



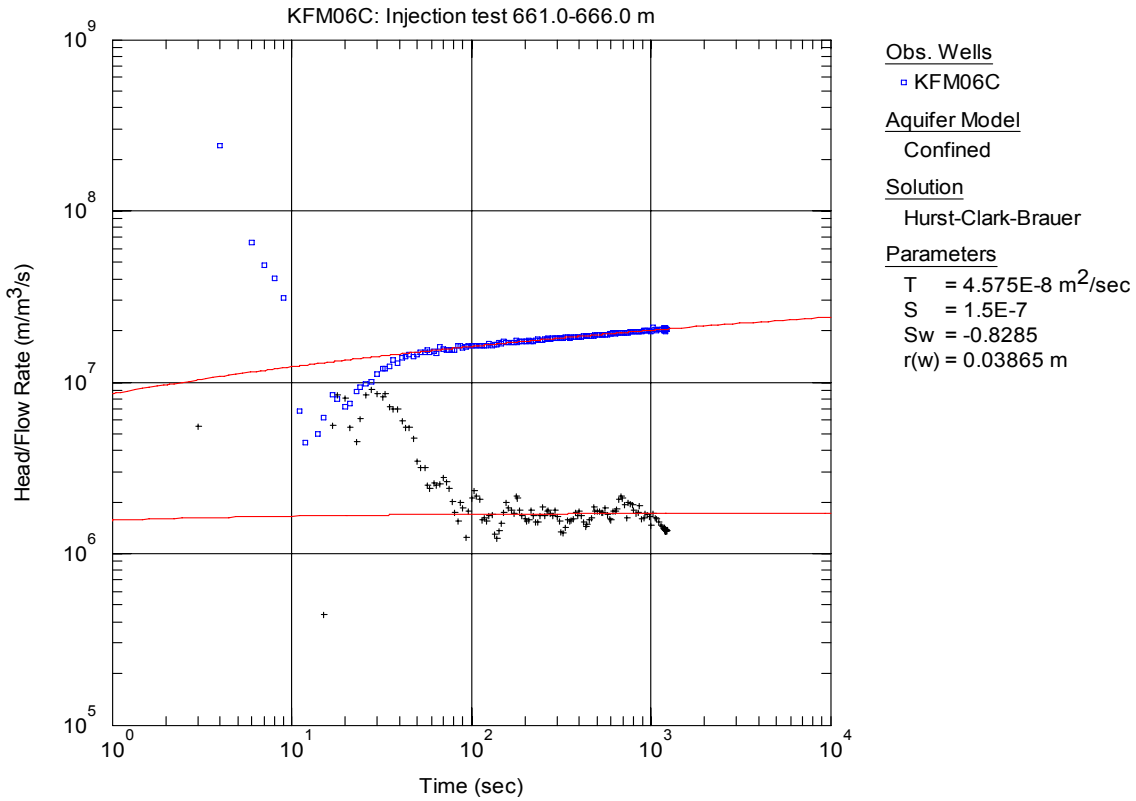
**Figure A3-518.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 651.0-656.0 m in KFM06C.



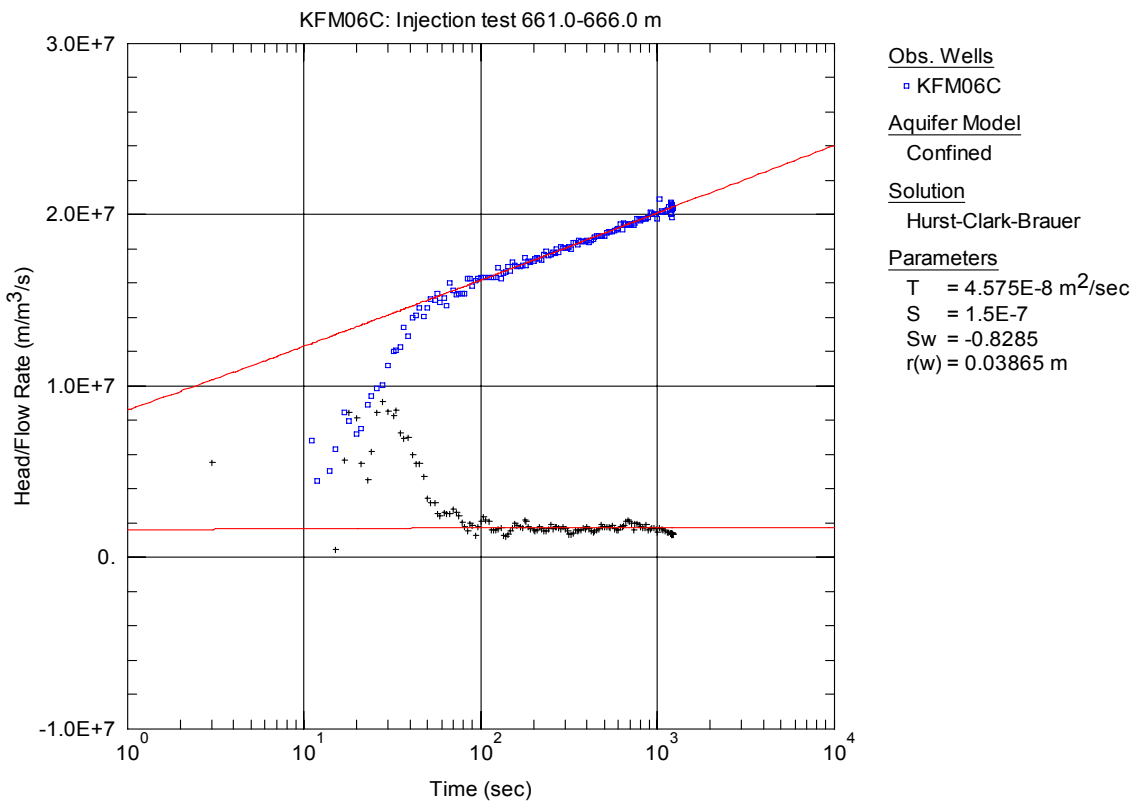
**Figure A3-519.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 656.0-661.0 m in borehole KFM06C.



**Figure A3-520.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 661.0-666.0 m in borehole KFM06C.

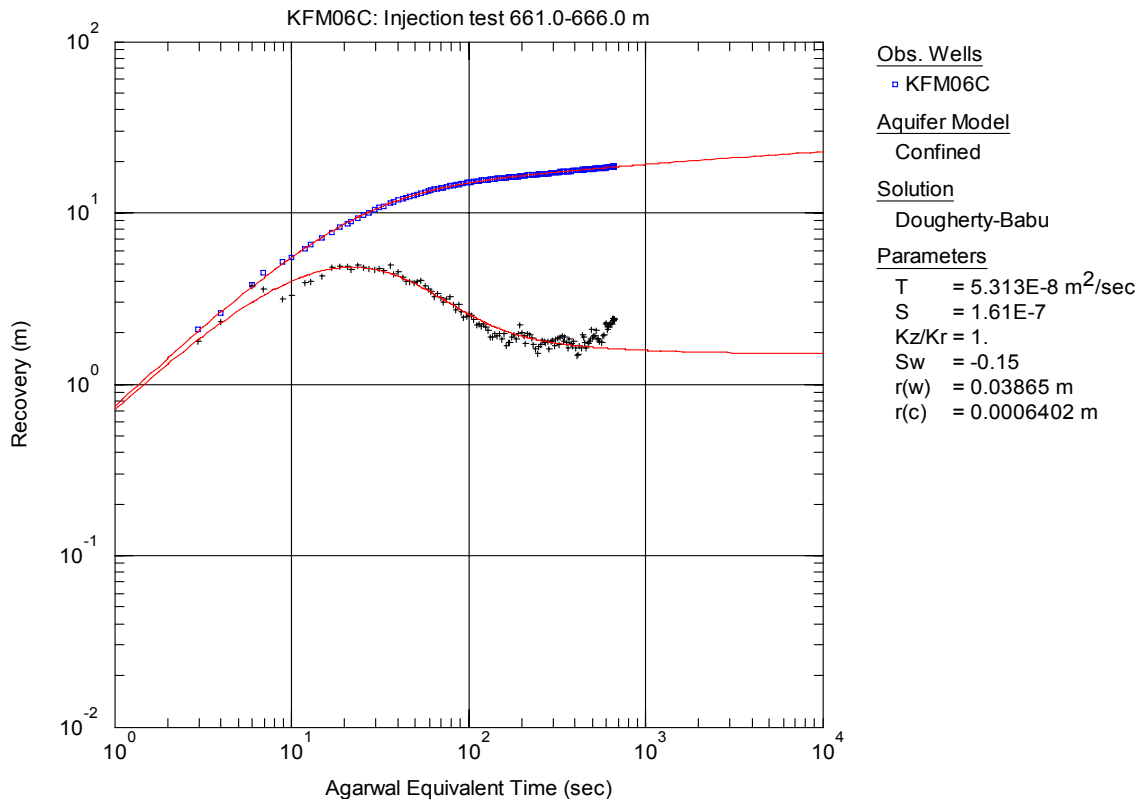


**Figure A3-521.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 661.0-666.0 m in KFM06C.

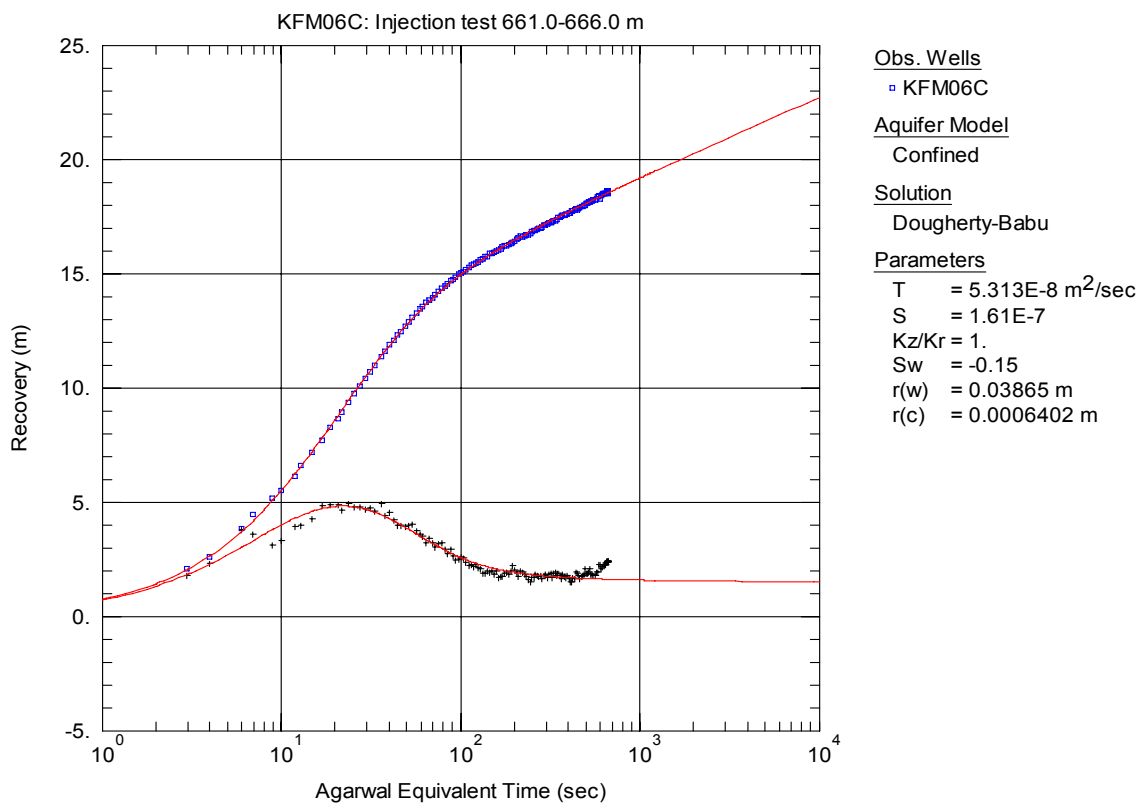


**Figure A3-522.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 661.0-666.0 m in KFM06C.

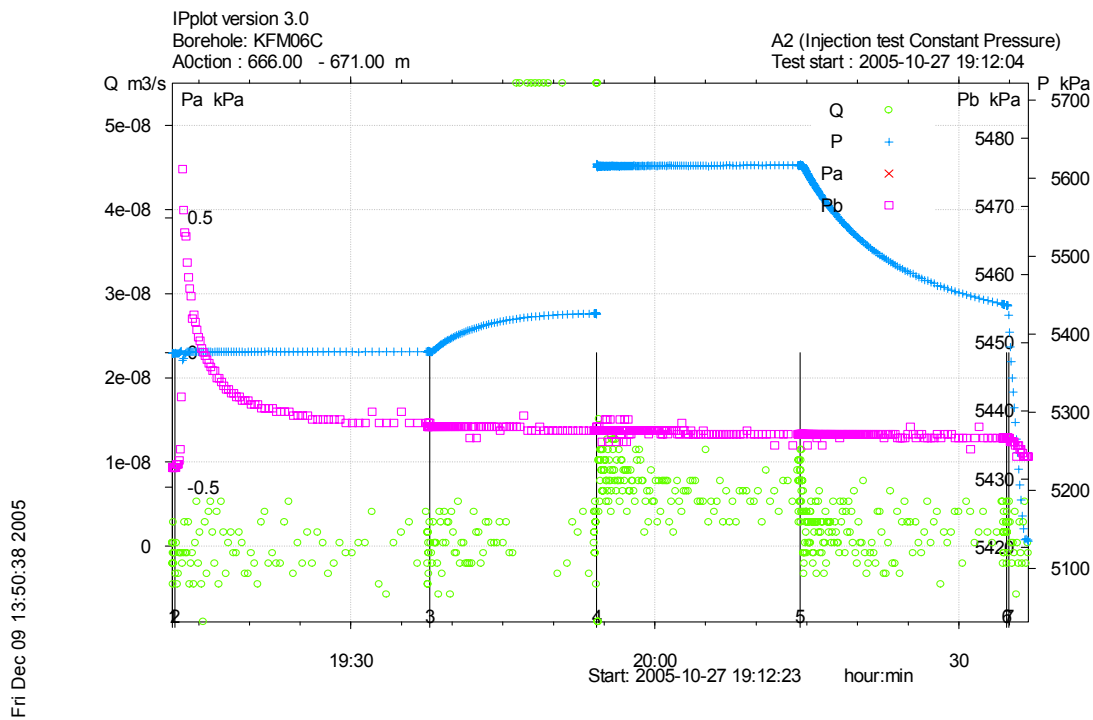




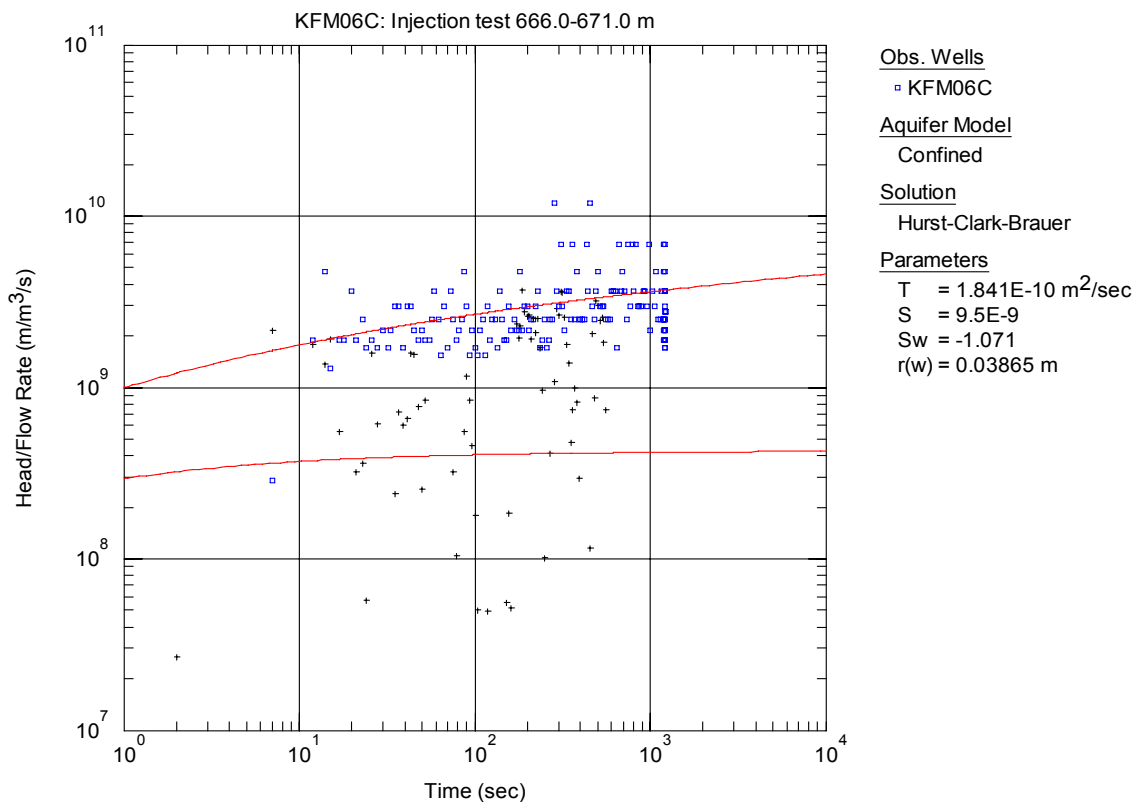
**Figure A3-523.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 661.0-666.0 m in KFM06C.



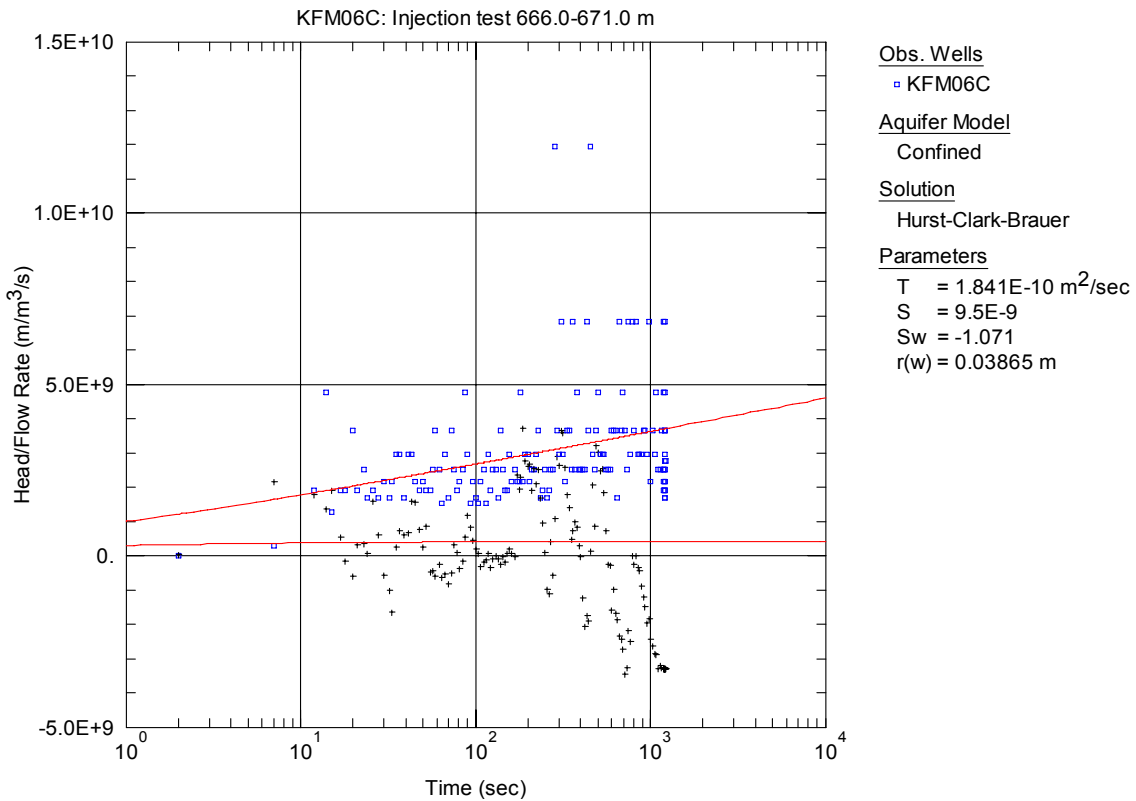
**Figure A3-524.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 661.0-666.0 m in KFM06C.



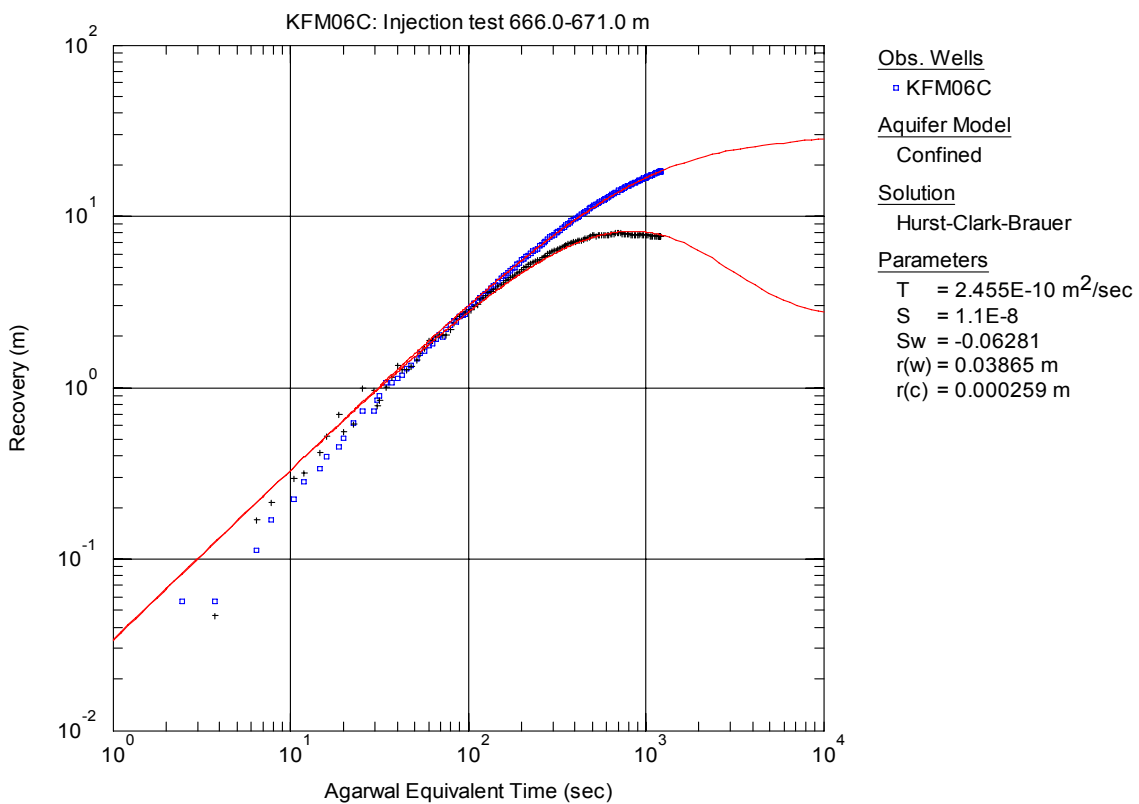
**Figure A3-525.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 666.0-671.0 m in borehole KFM06C.



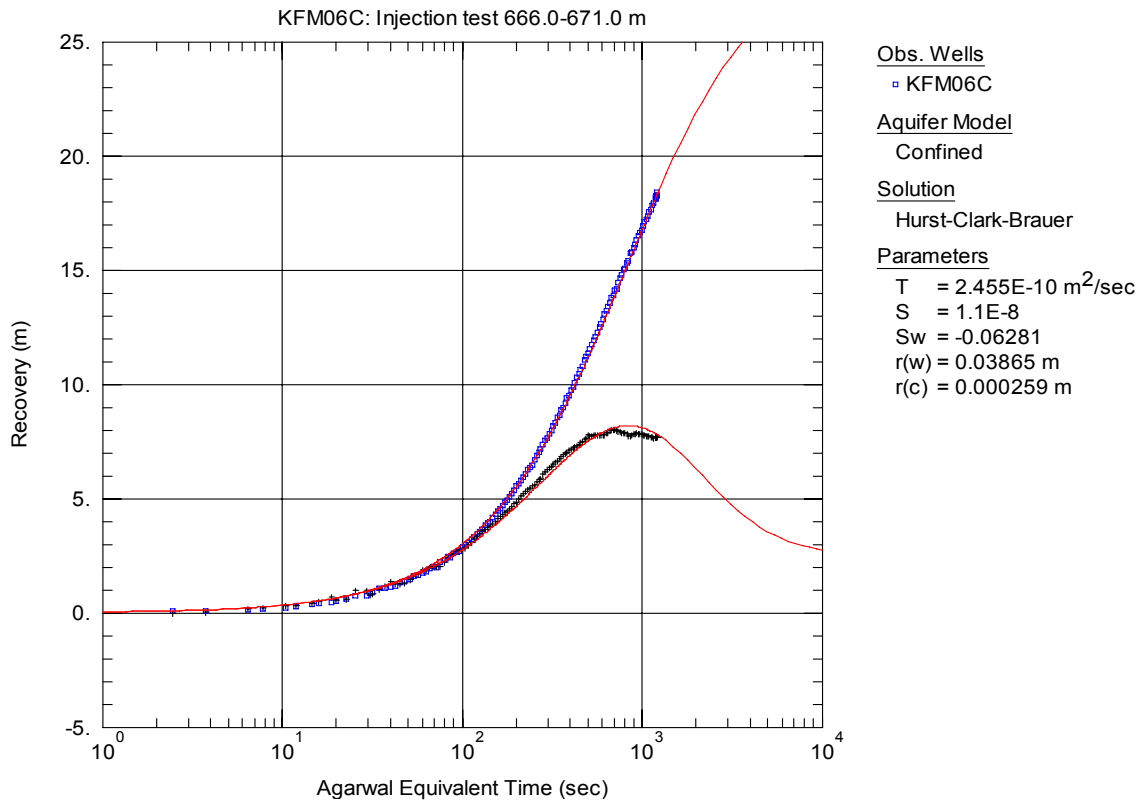
**Figure A3-526.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 666.0-671.0 m in KFM06C.



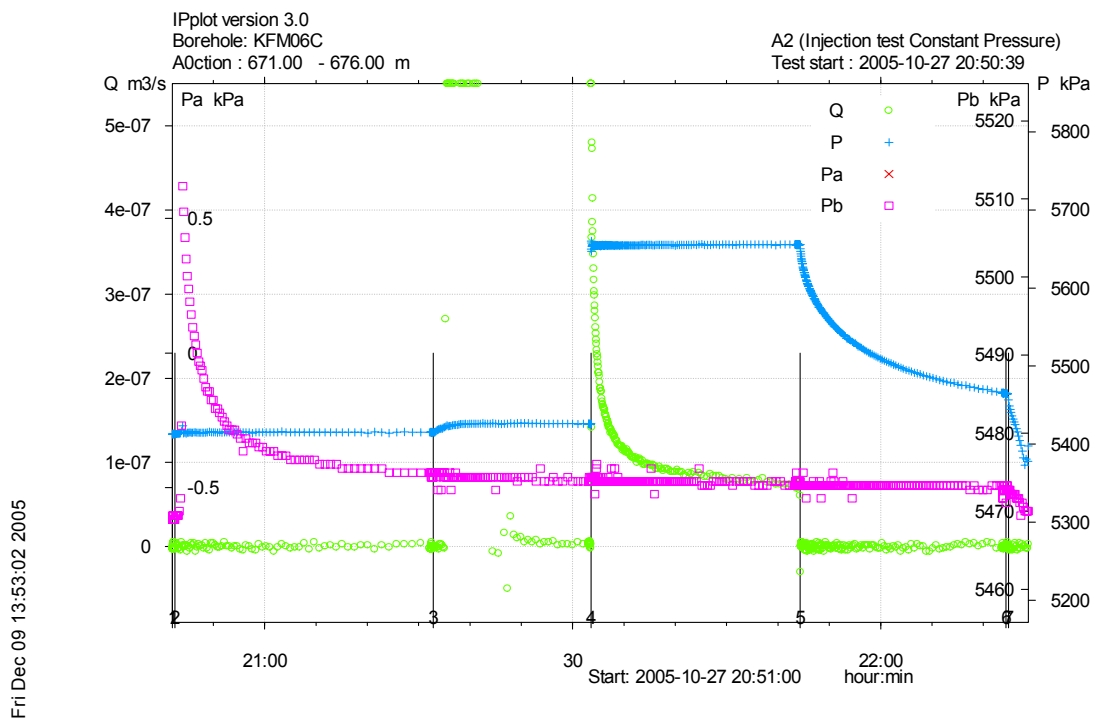
**Figure A3-527.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 666.0-671.0 m in KFM06C.



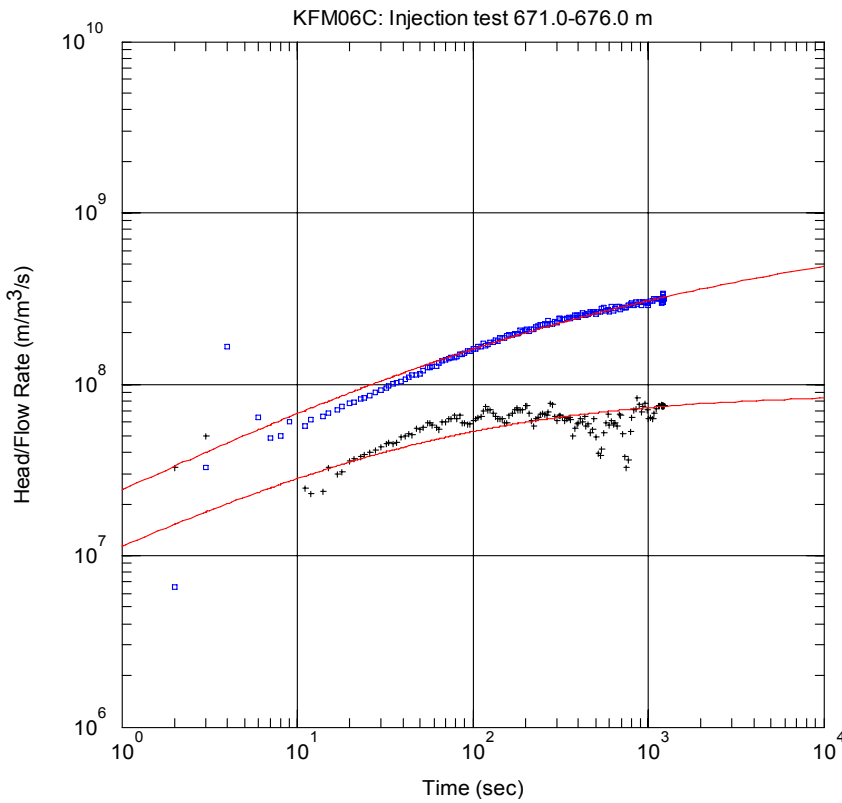
**Figure A3-528.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 666.0-671.0 m in KFM06C.



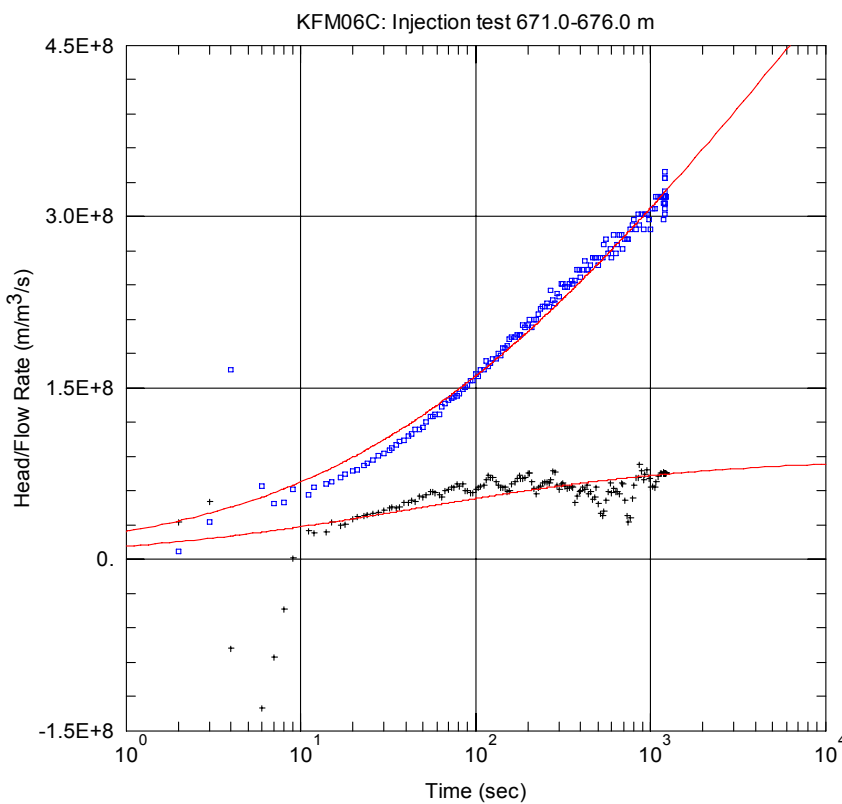
**Figure A3-529.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 666.0-671.0 m in KFM06C.



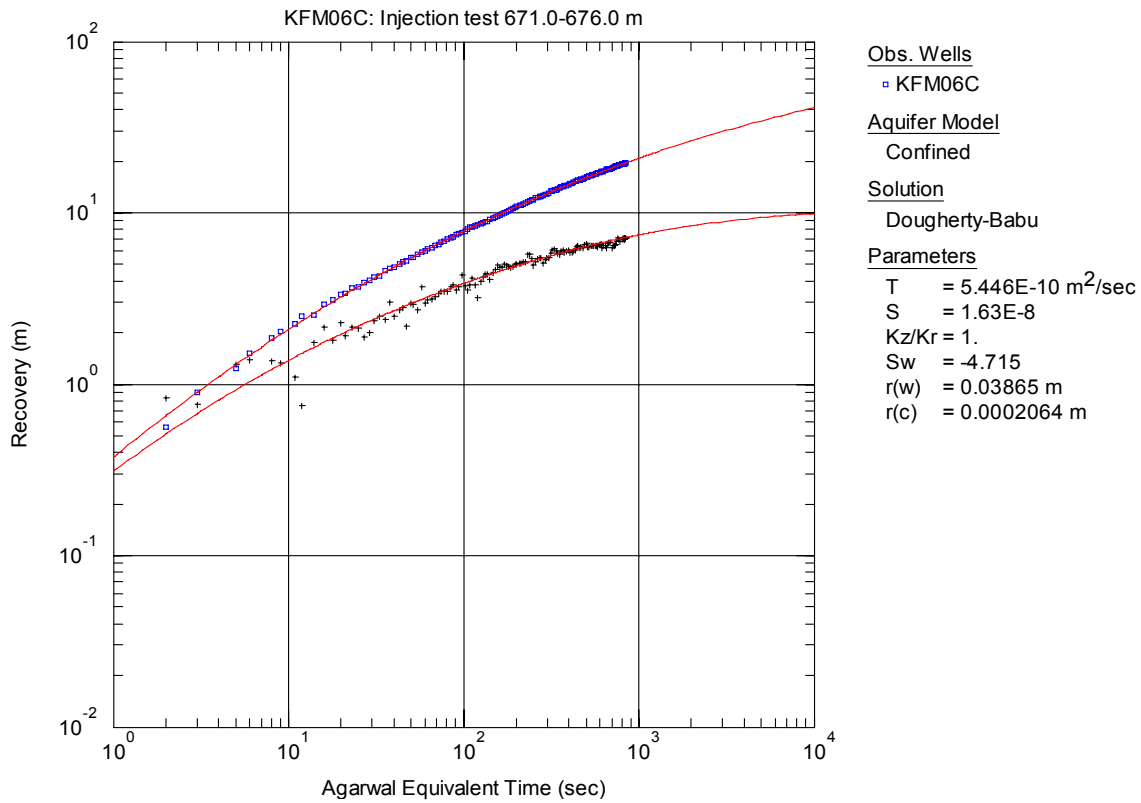
**Figure A3-530.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 671.0-676.0 m in borehole KFM06C.



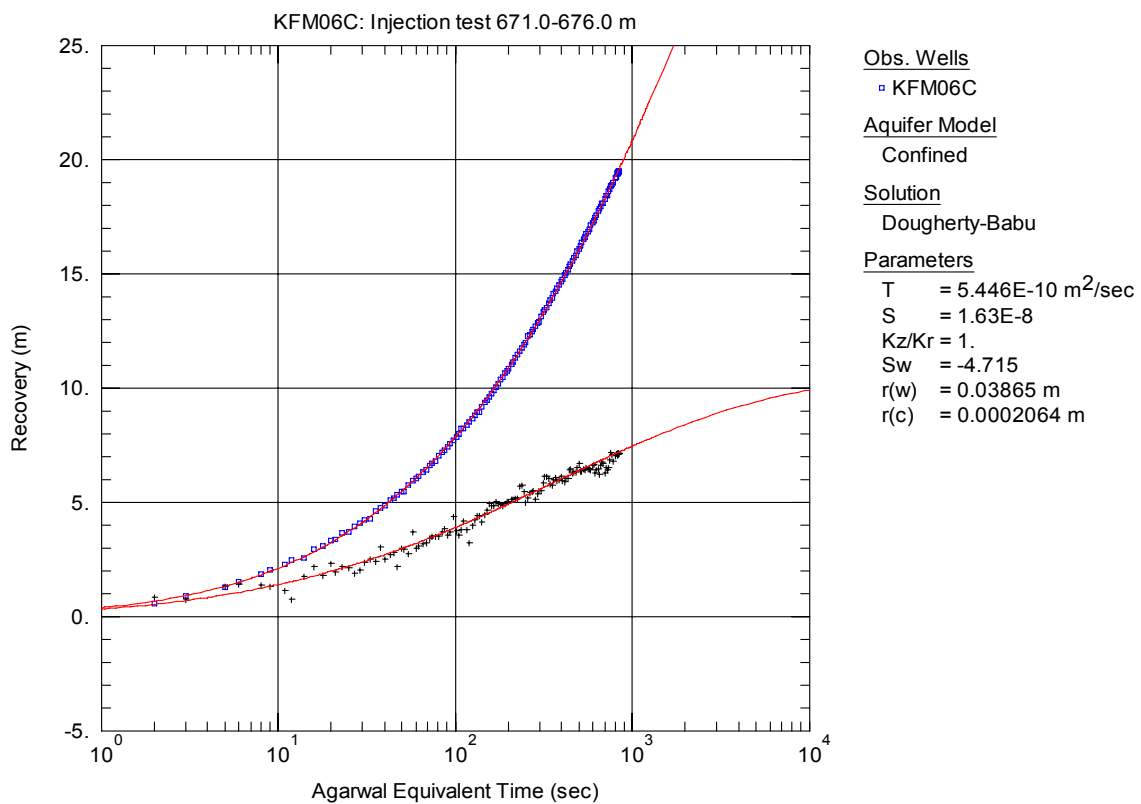
**Figure A3-531.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 671.0-676.0 m in KFM06C.



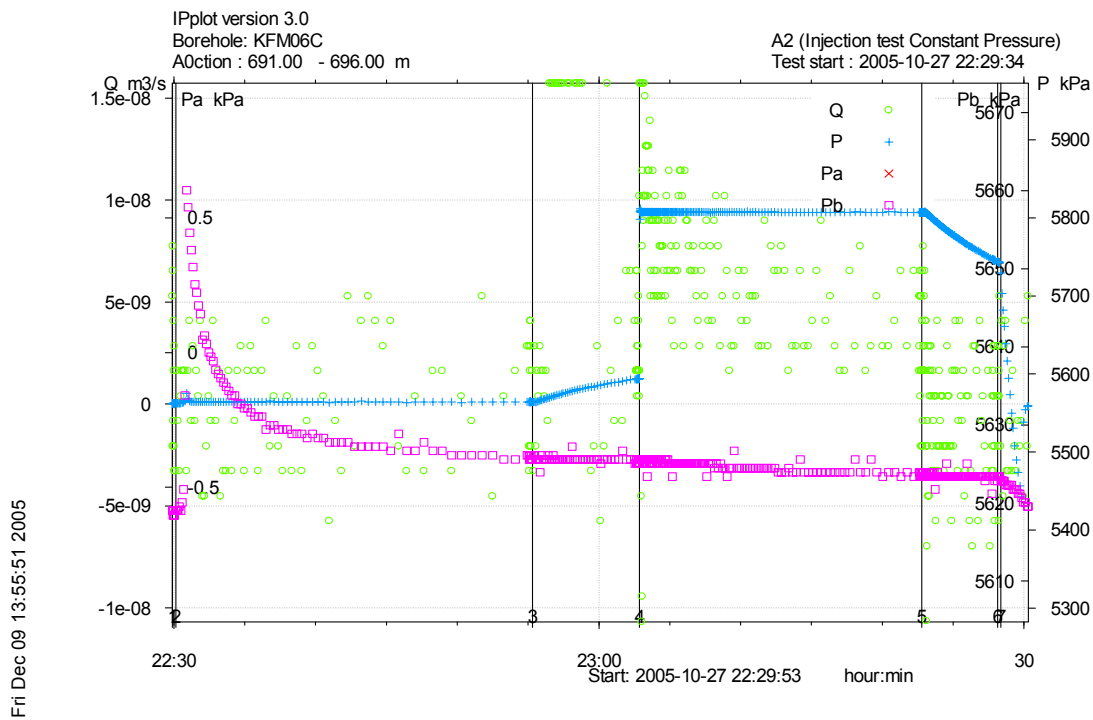
**Figure A3-532.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 671.0-676.0 m in KFM06C.



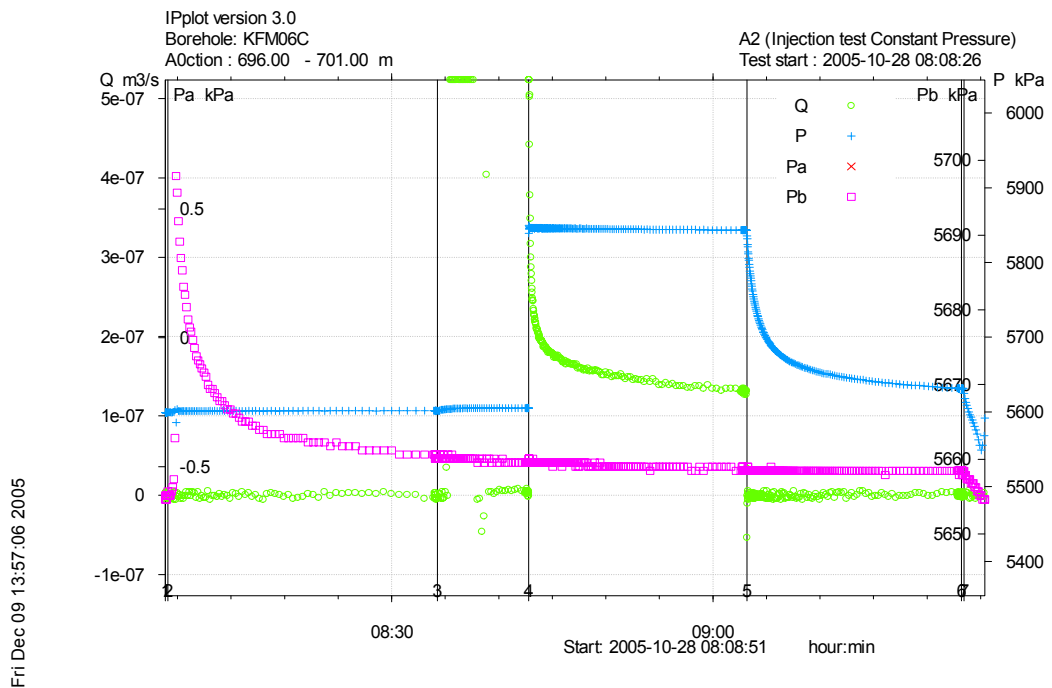
**Figure A3-533.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 671.0-676.0 m in KFM06C.



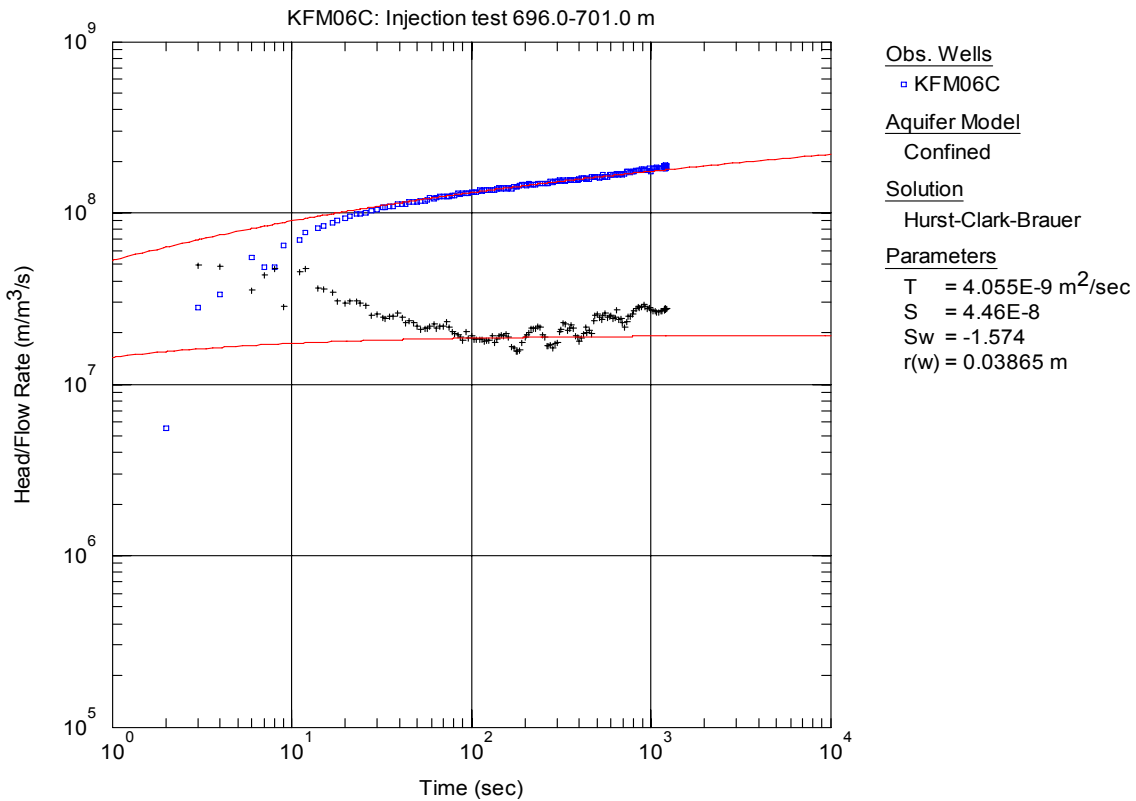
**Figure A3-534.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 671.0-676.0 m in KFM06C.



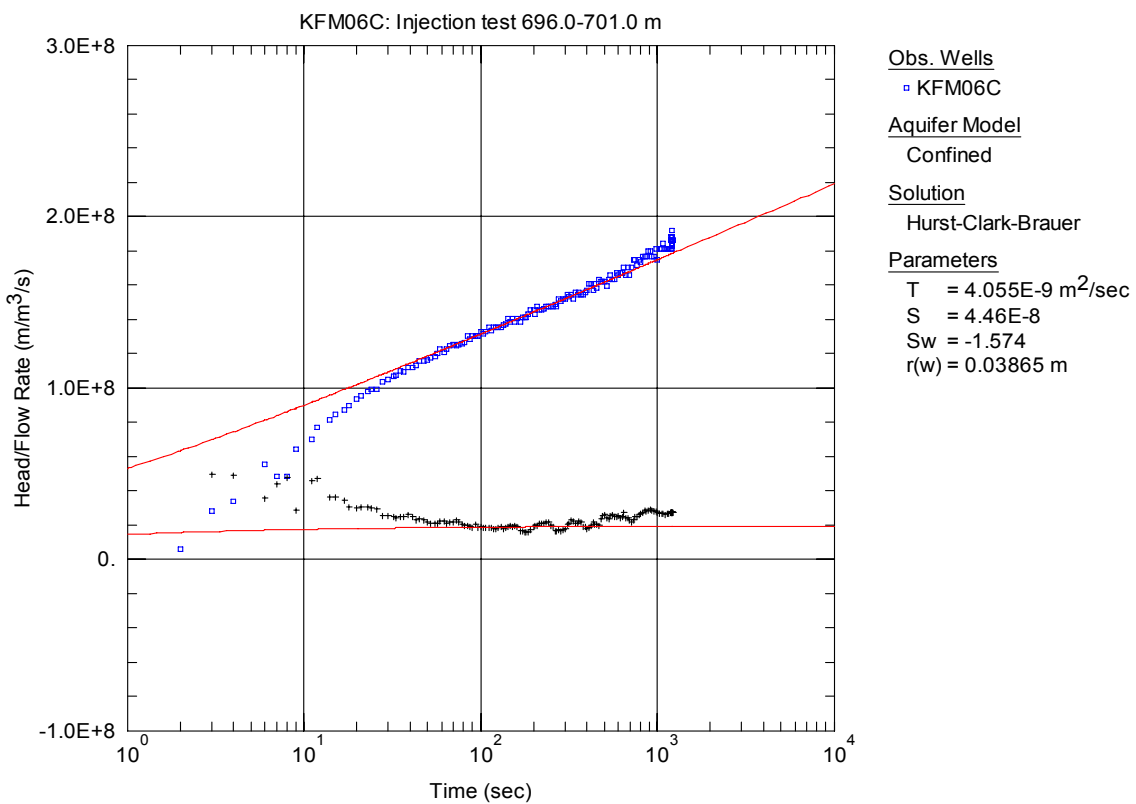
**Figure A3-535.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 691.0-696.0 m in borehole KFM06C.



**Figure A3-536.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 696.0-701.0 m in borehole KFM06C.

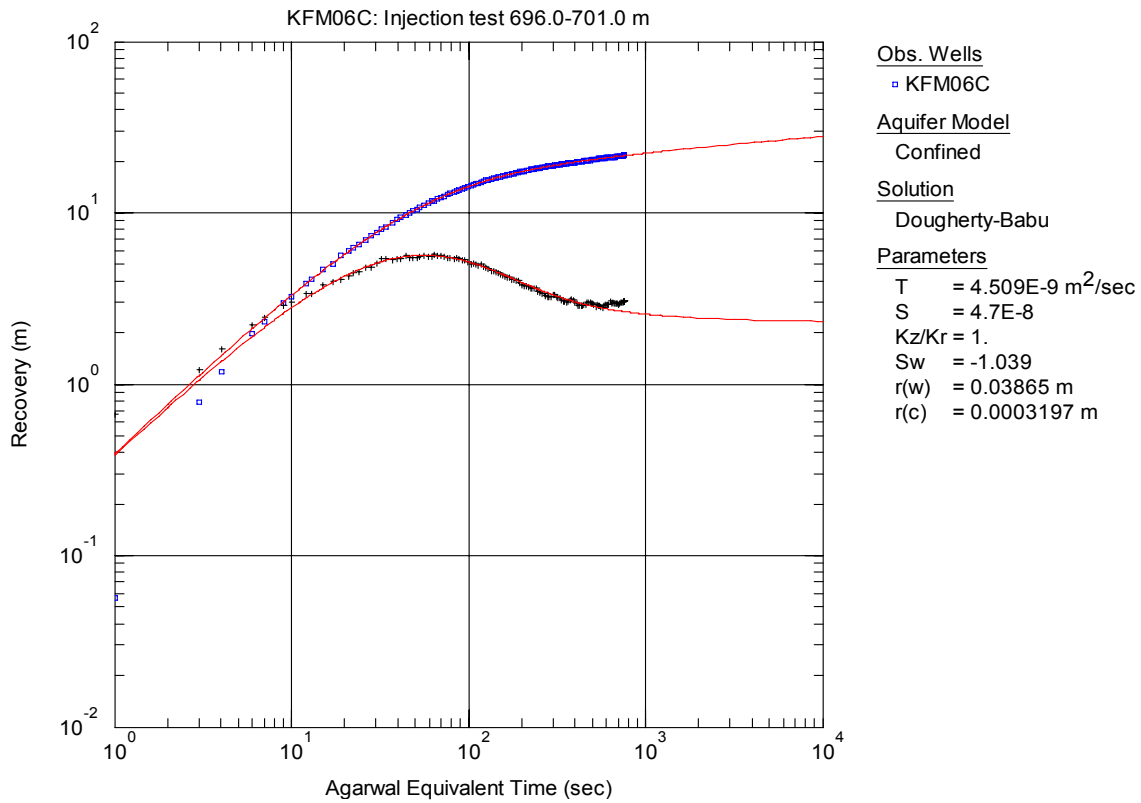


**Figure A3-537.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 696.0-701.0 m in KFM06C.

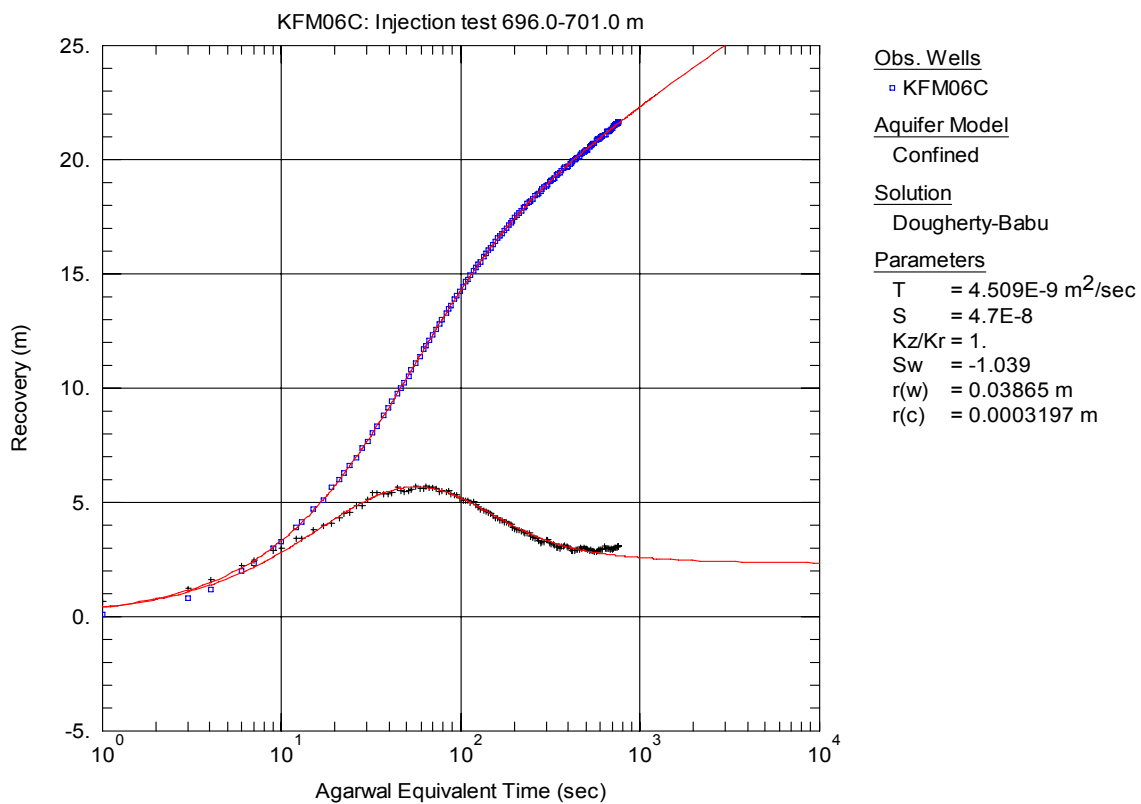


**Figure A3-538.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 696.0-701.0 m in KFM06C.

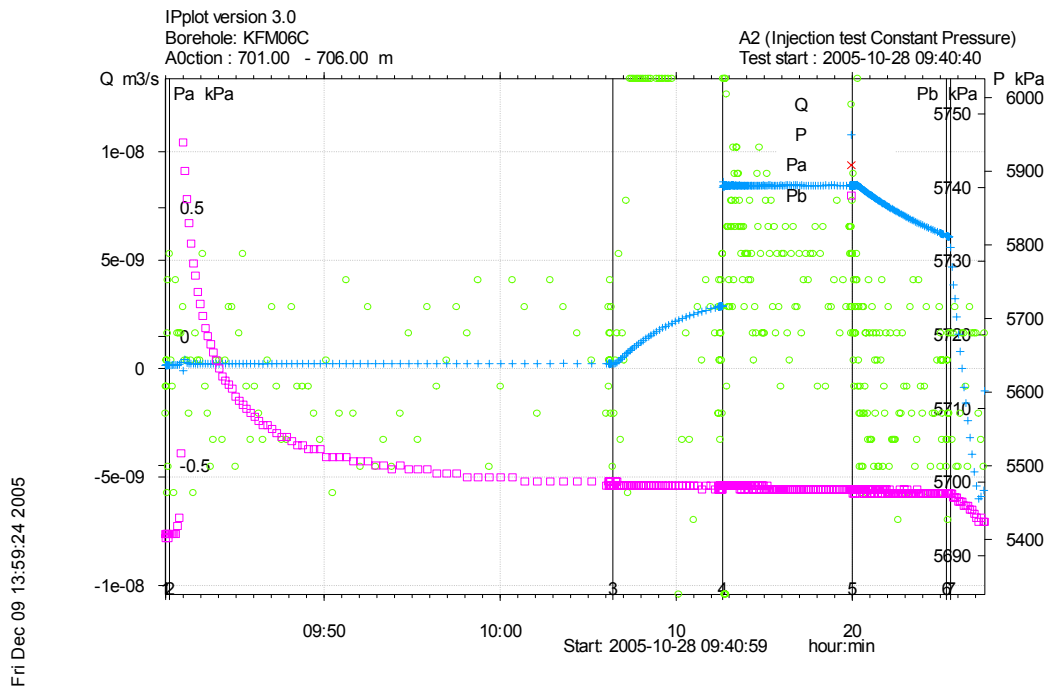




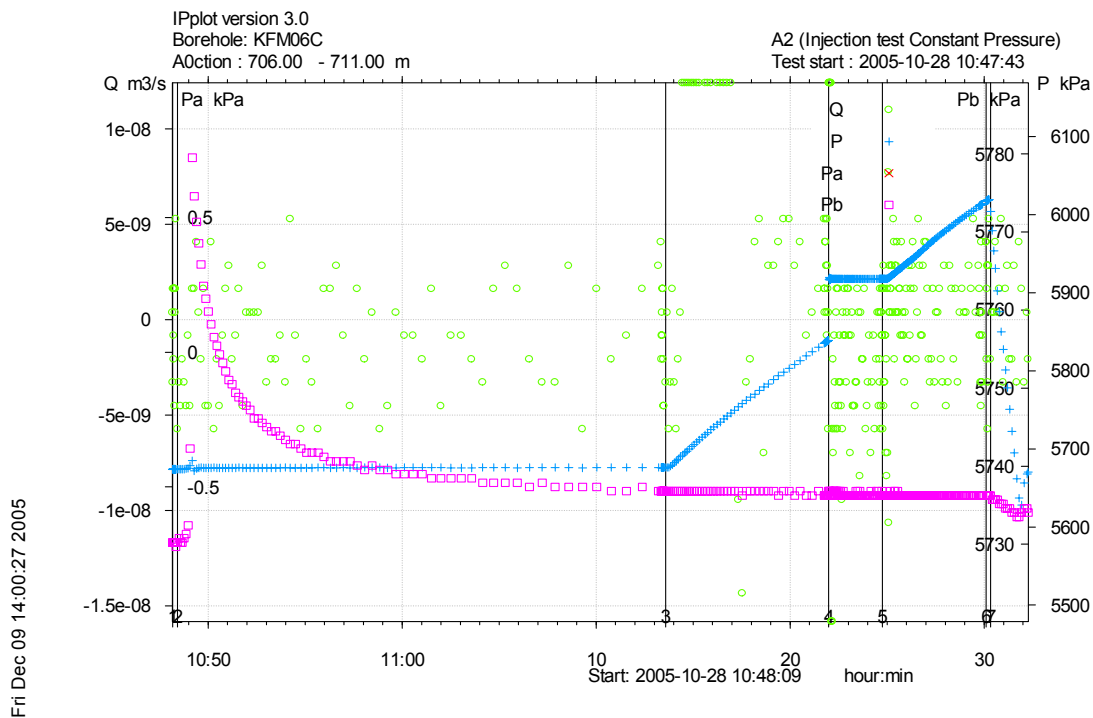
**Figure A3-539.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 696.0-701.0 m in KFM06C.



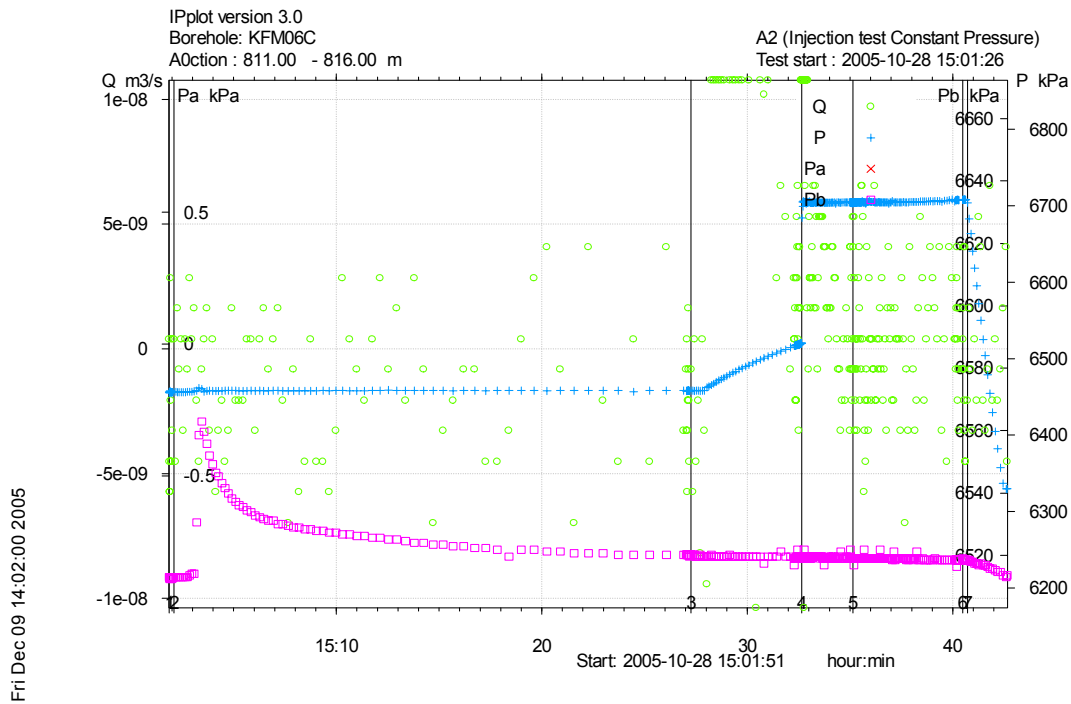
**Figure A3-540.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 696.0-701.0 m in KFM06C.



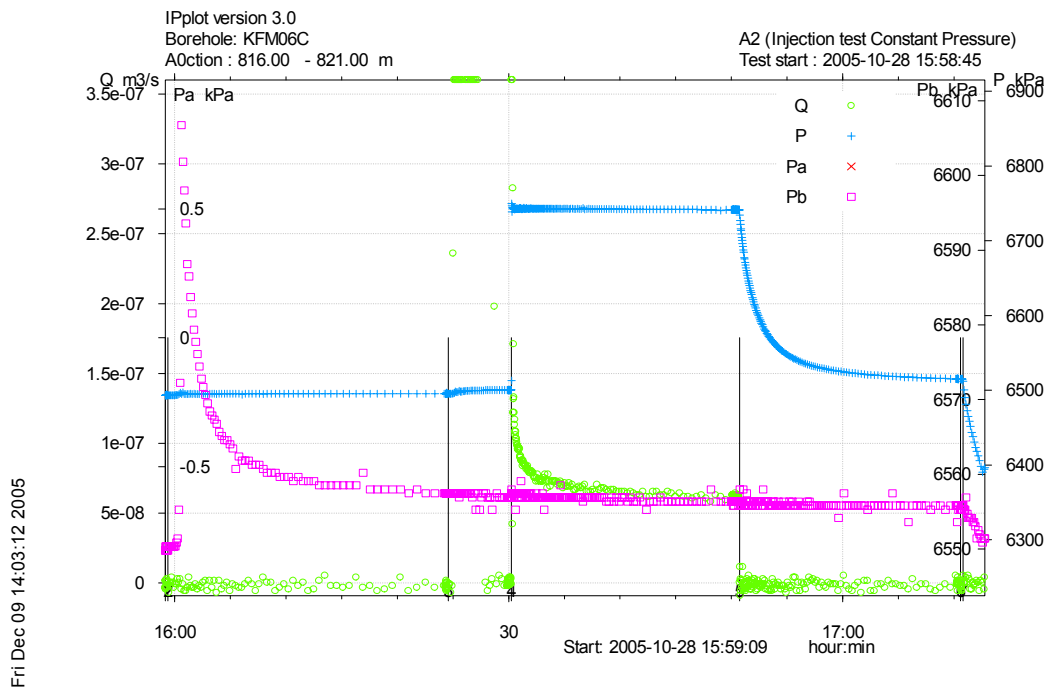
**Figure A3-541.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 701.0-706.0 m in borehole KFM06C.



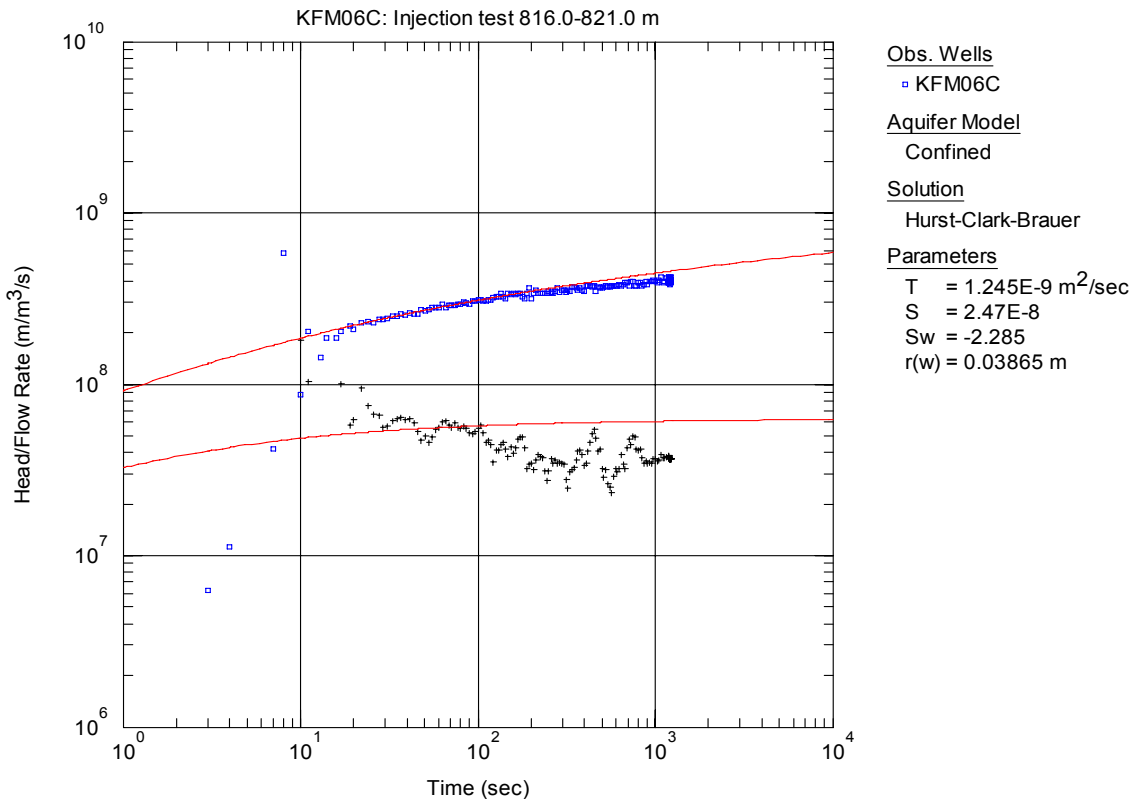
**Figure A3-542.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 706.0-711.0 m in borehole KFM06C.



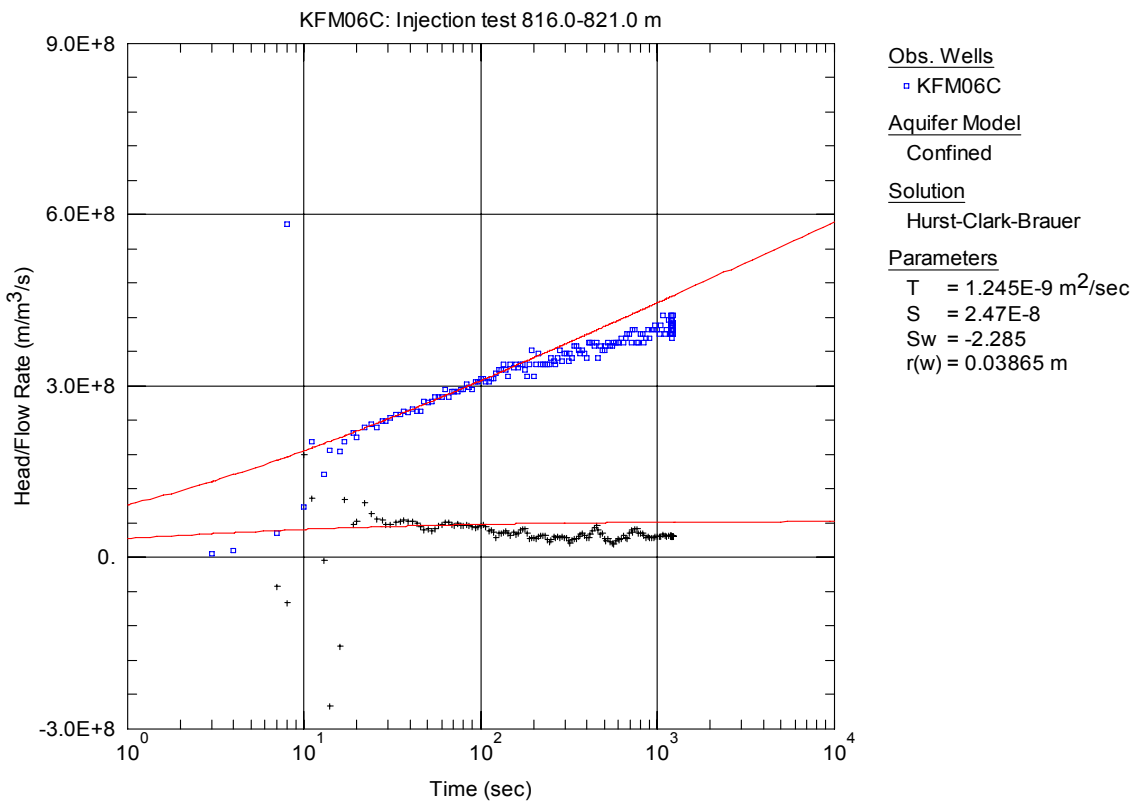
**Figure A3-543.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 811.0-816.0 m in borehole KFM06C.



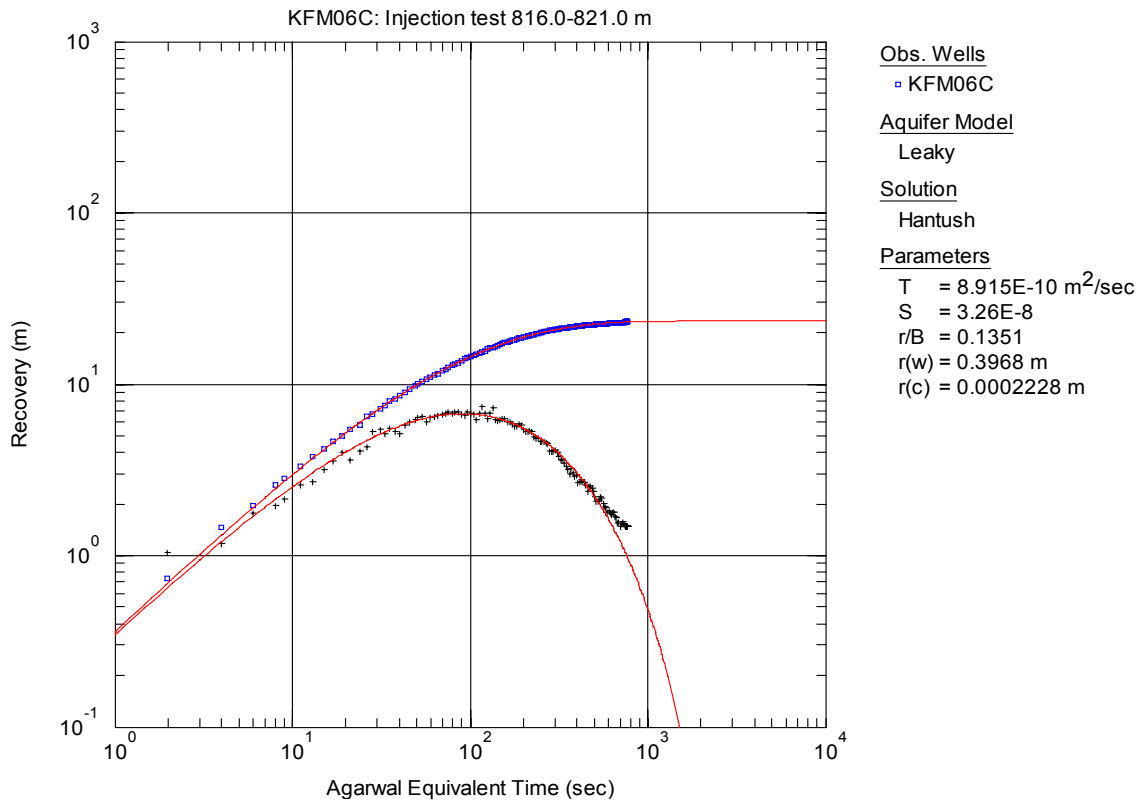
**Figure A3-544.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $Pa$ ) and pressure below section ( $Pb$ ) versus time from the injection test in section 816.0-821.0 m in borehole KFM06C.



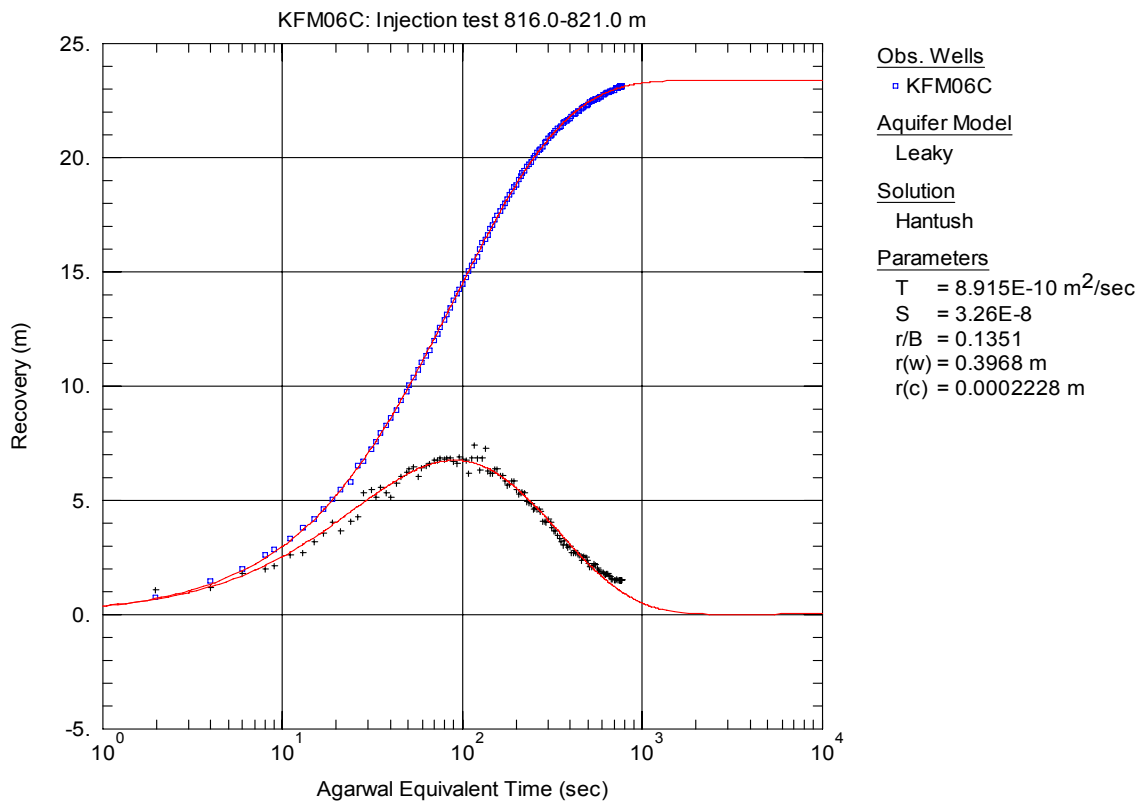
**Figure A3-545.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 816.0-821.0 m in KFM06C.



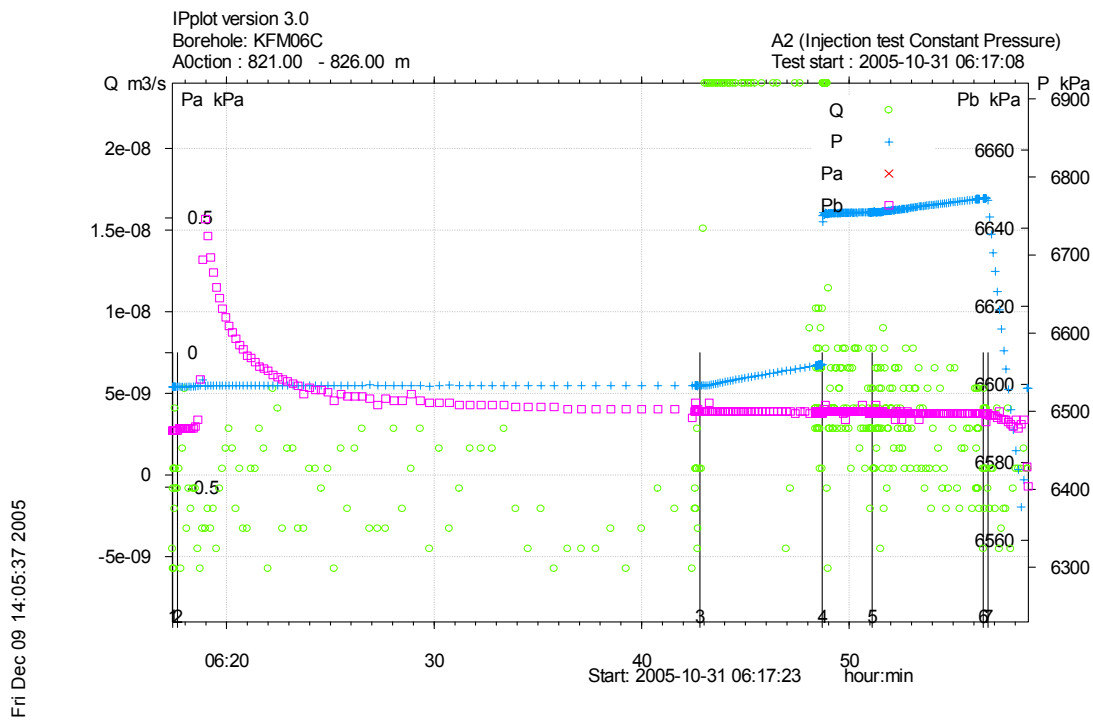
**Figure A3-546.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 816.0-821.0 m in KFM06C.



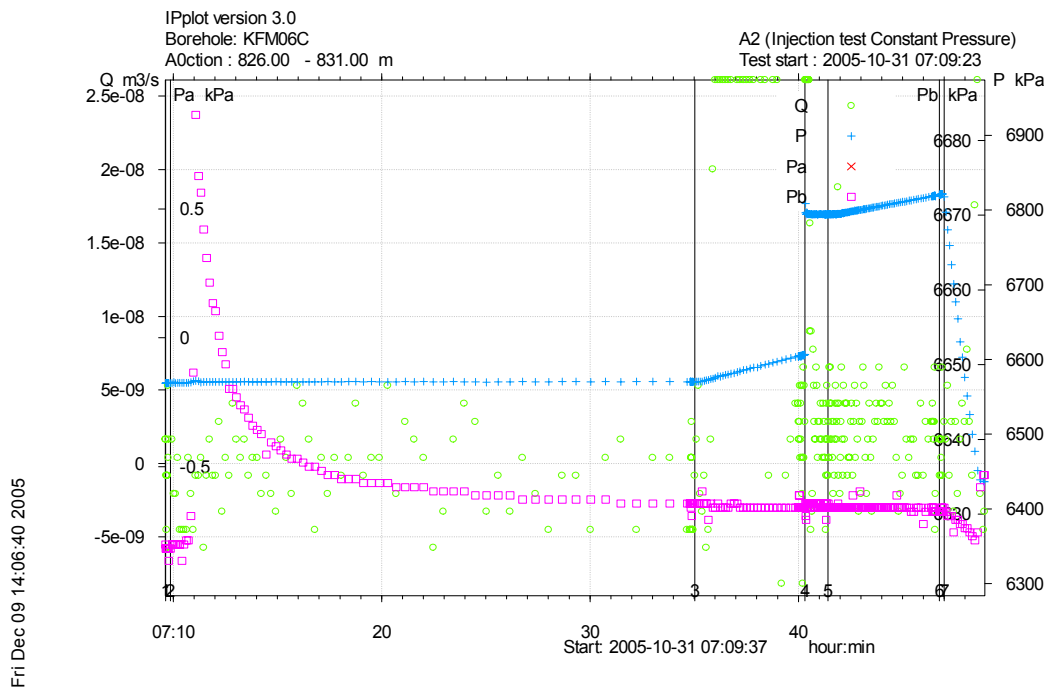
**Figure A3-547.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 816.0-821.0 m in KFM06C.



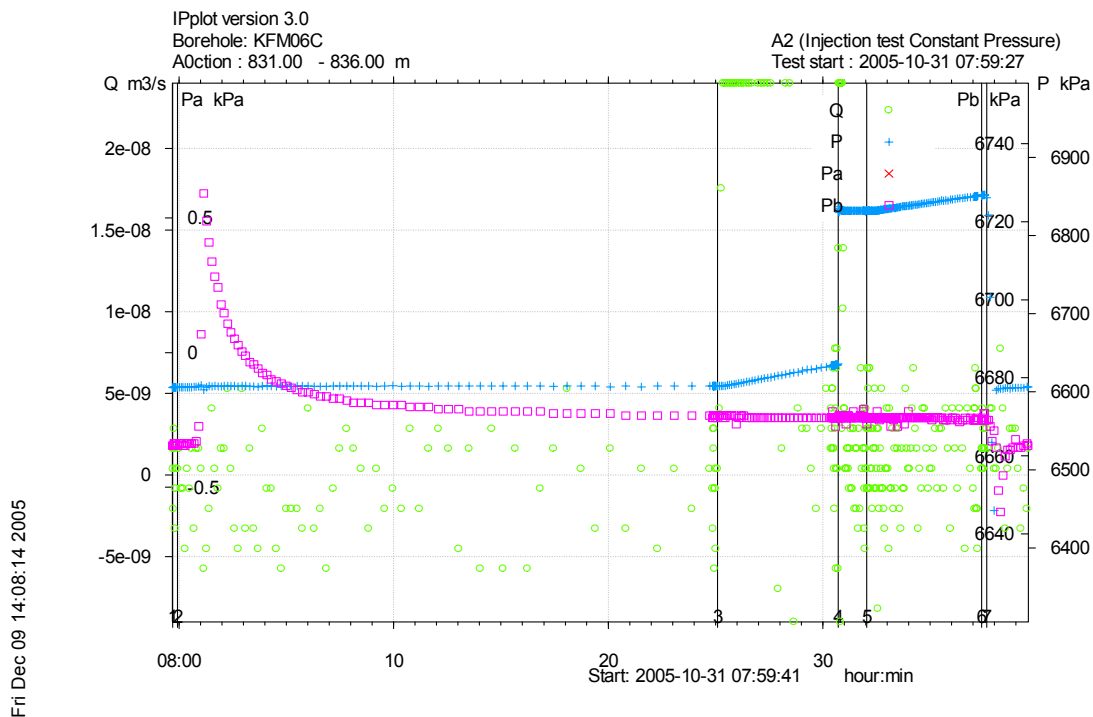
**Figure A3-548.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 816.0-821.0 m in KFM06C.



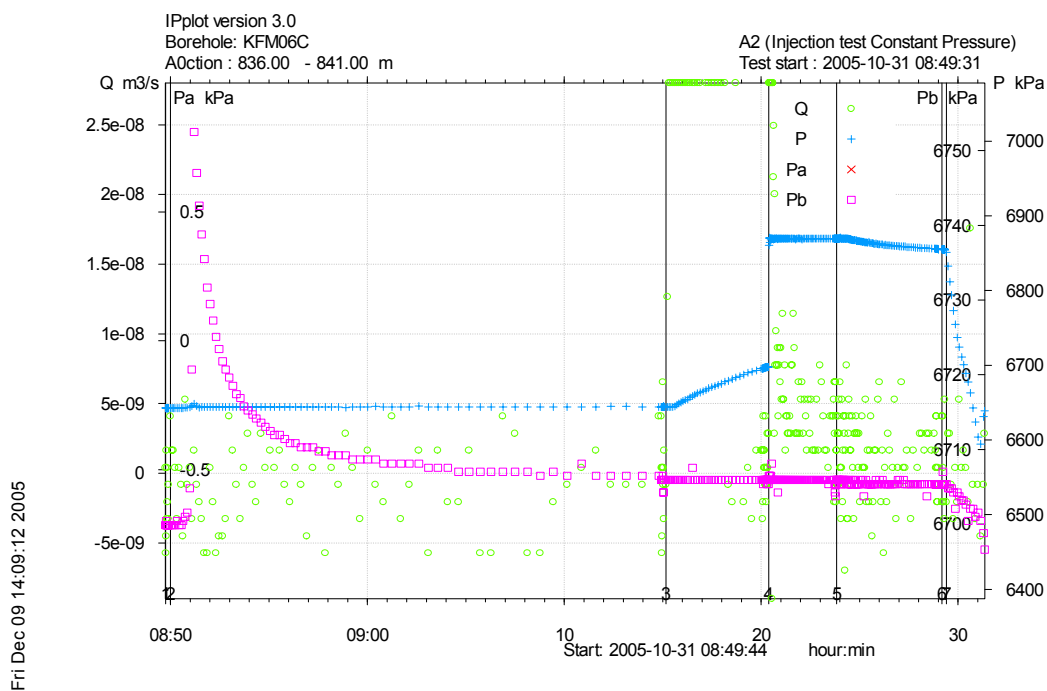
**Figure A3-549.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 821.0-826.0 m in borehole KFM06C.



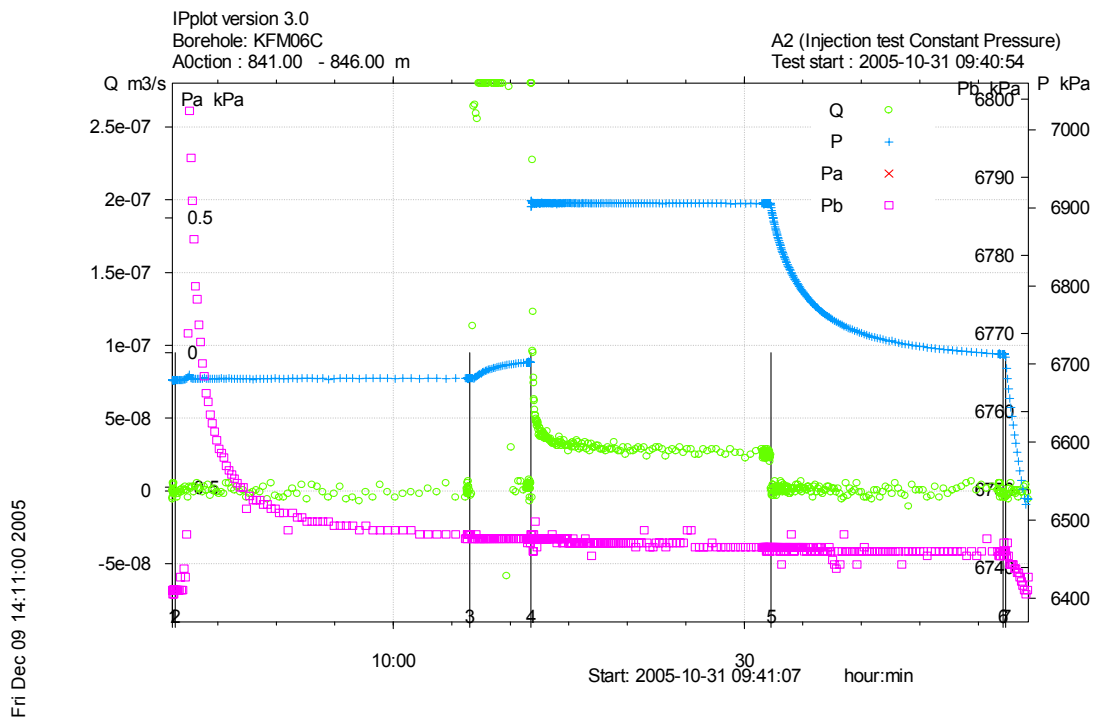
**Figure A3-550.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 826.0-831.0 m in borehole KFM06C.



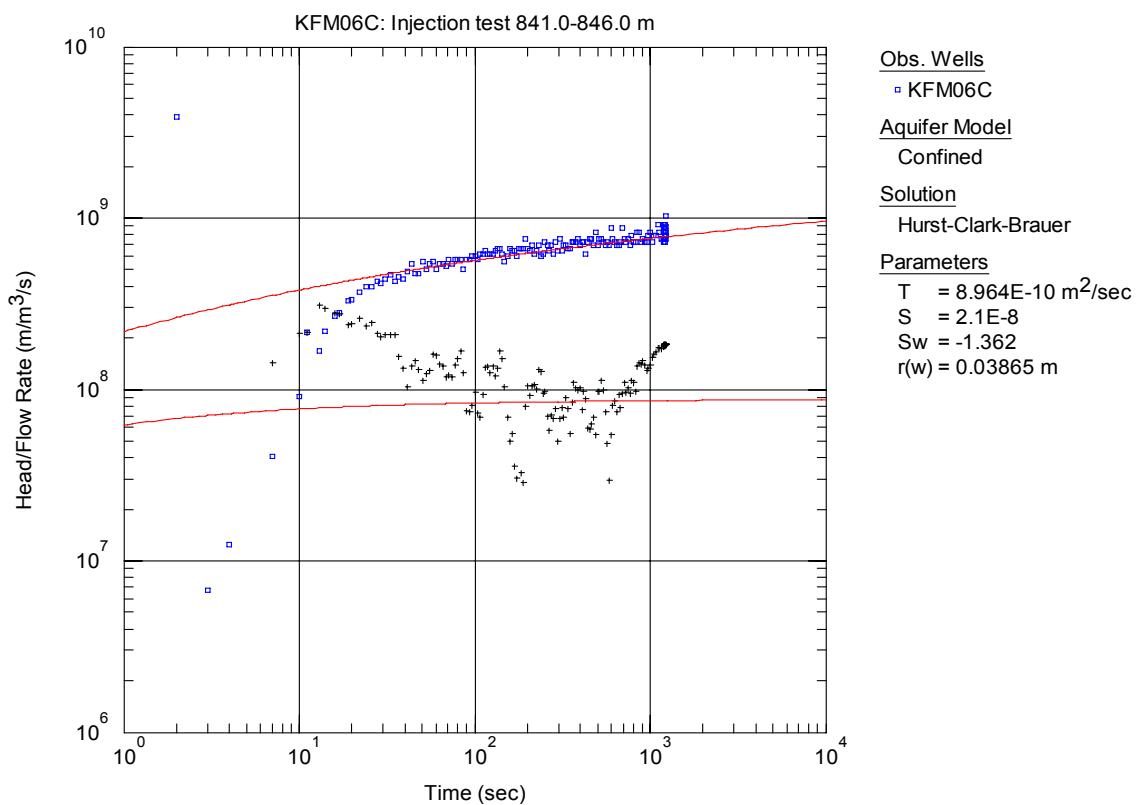
**Figure A3-551.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 831.0-836.0 m in borehole KFM06C.



**Figure A3-552.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 836.0-841.0 m in borehole KFM06C.

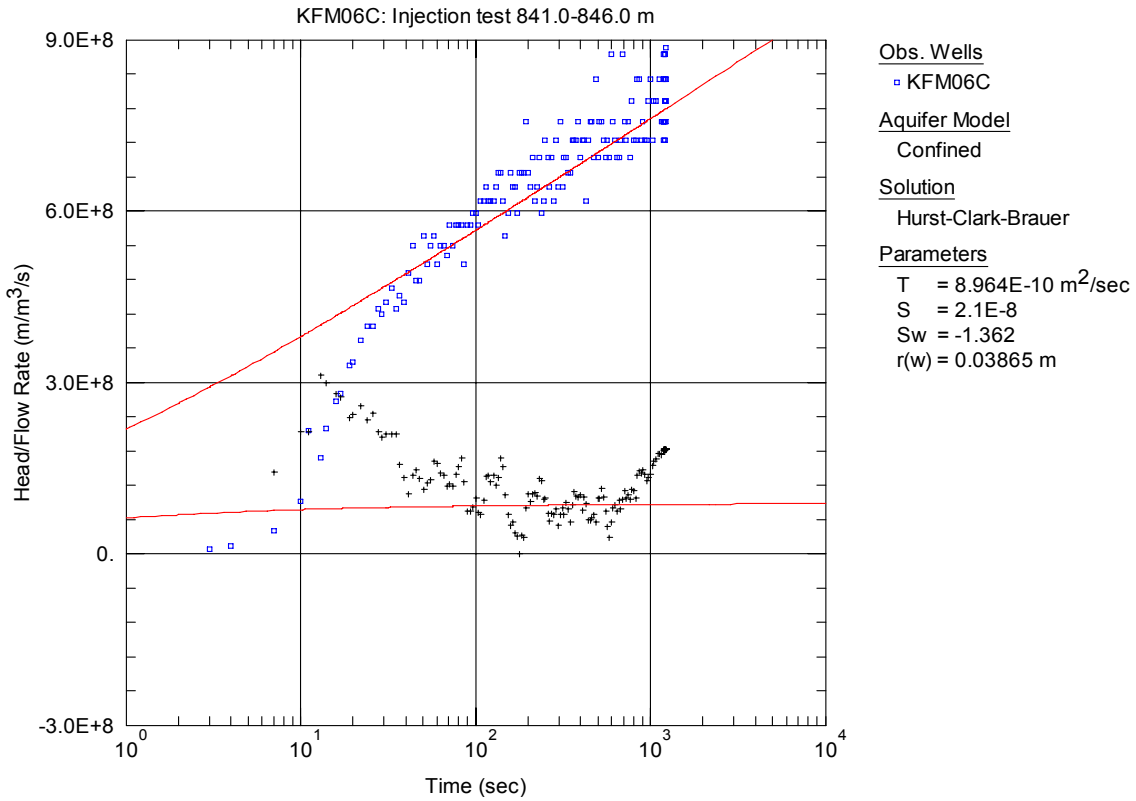


**Figure A3-553.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 841.0-846.0 m in borehole KFM06C.

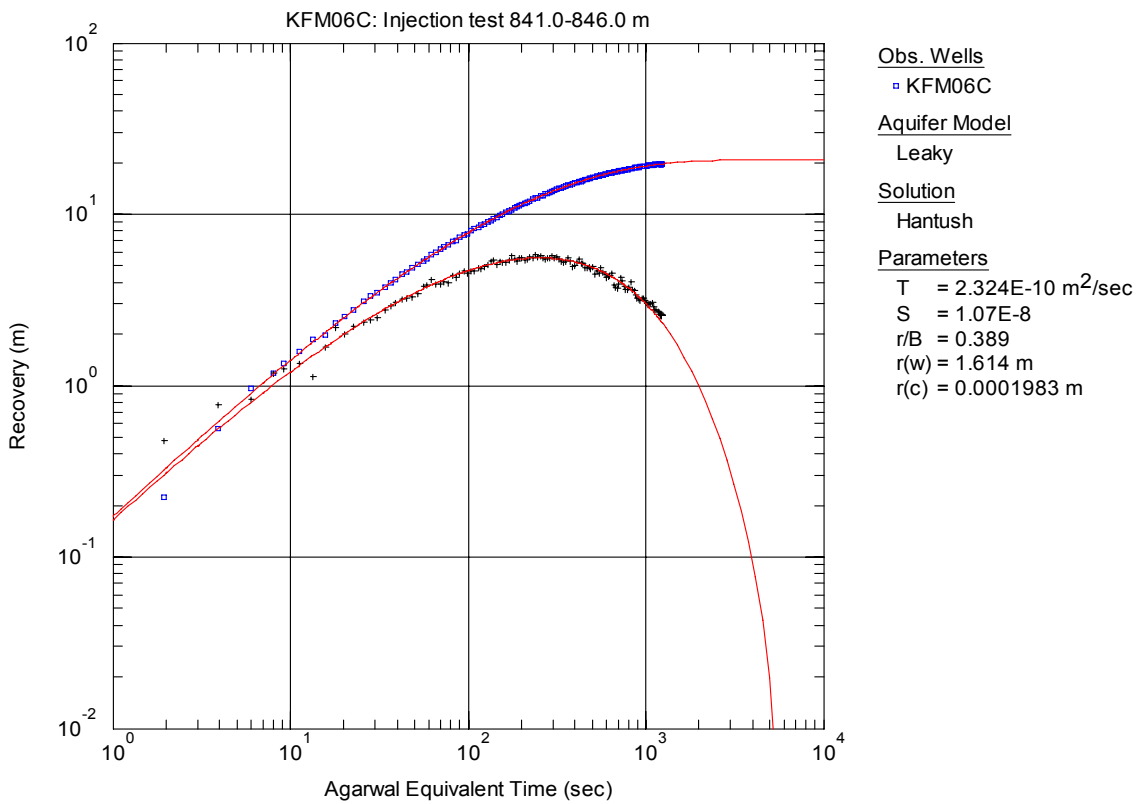


**Figure A3-554.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 841.0-846.0 m in KFM06C.

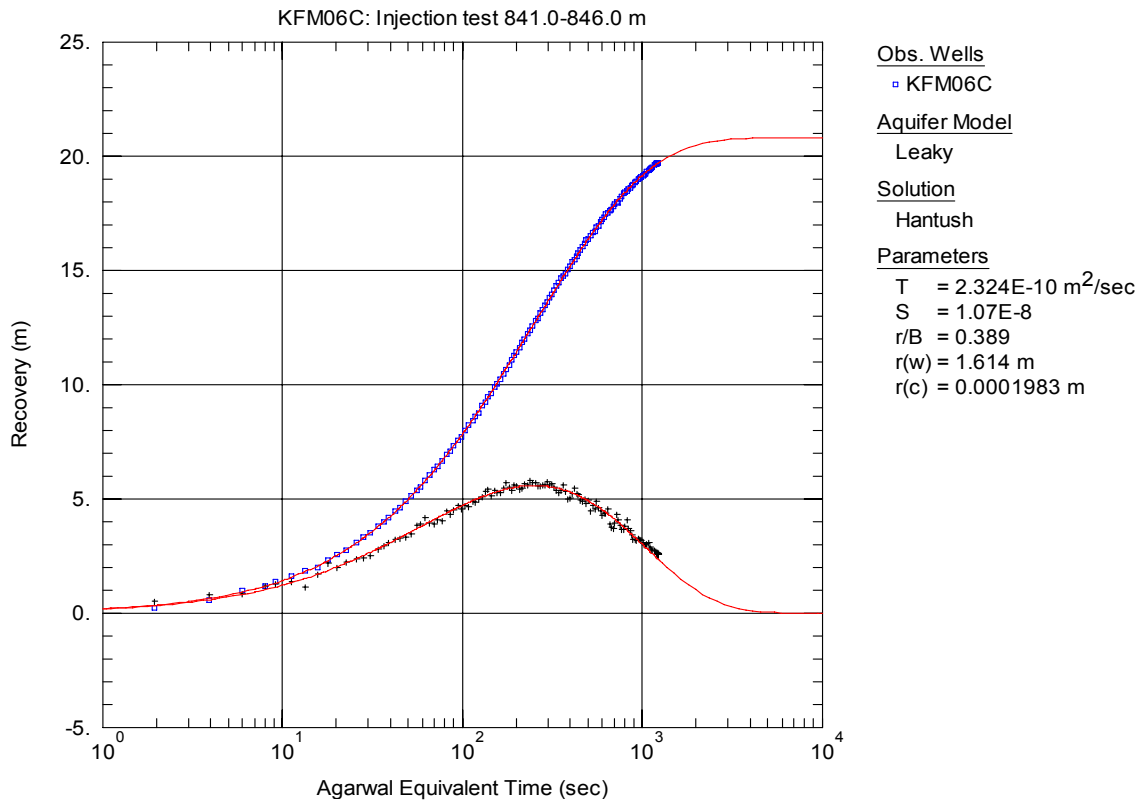




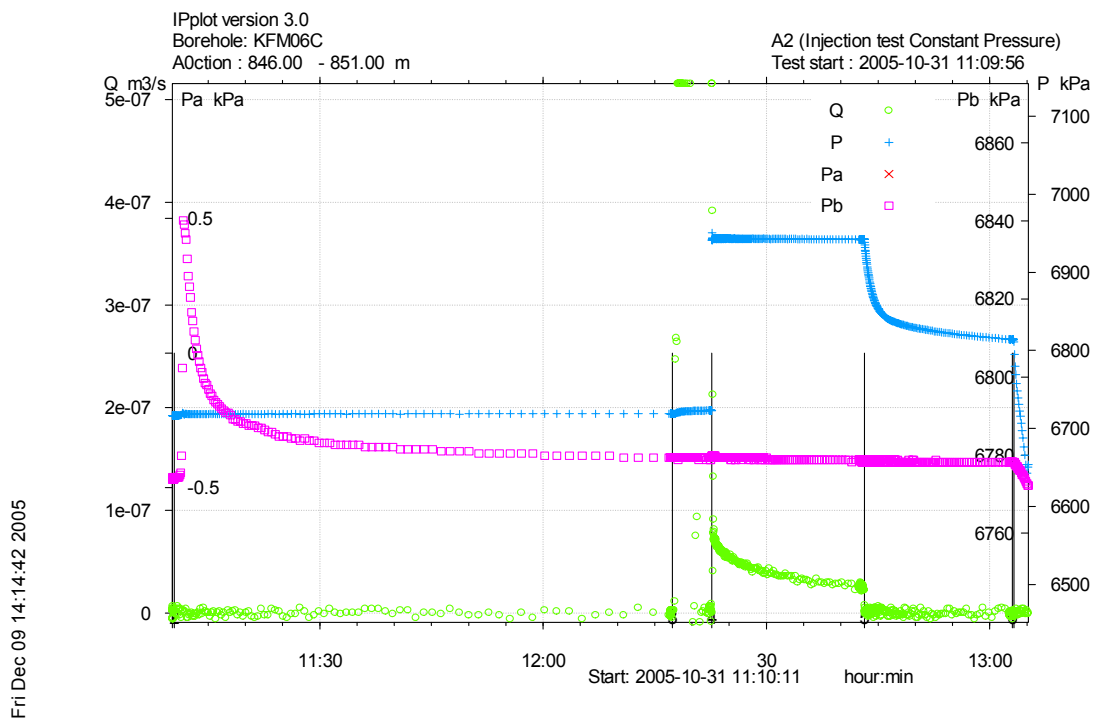
**Figure A3-555.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 841.0-846.0 m in KFM06C.



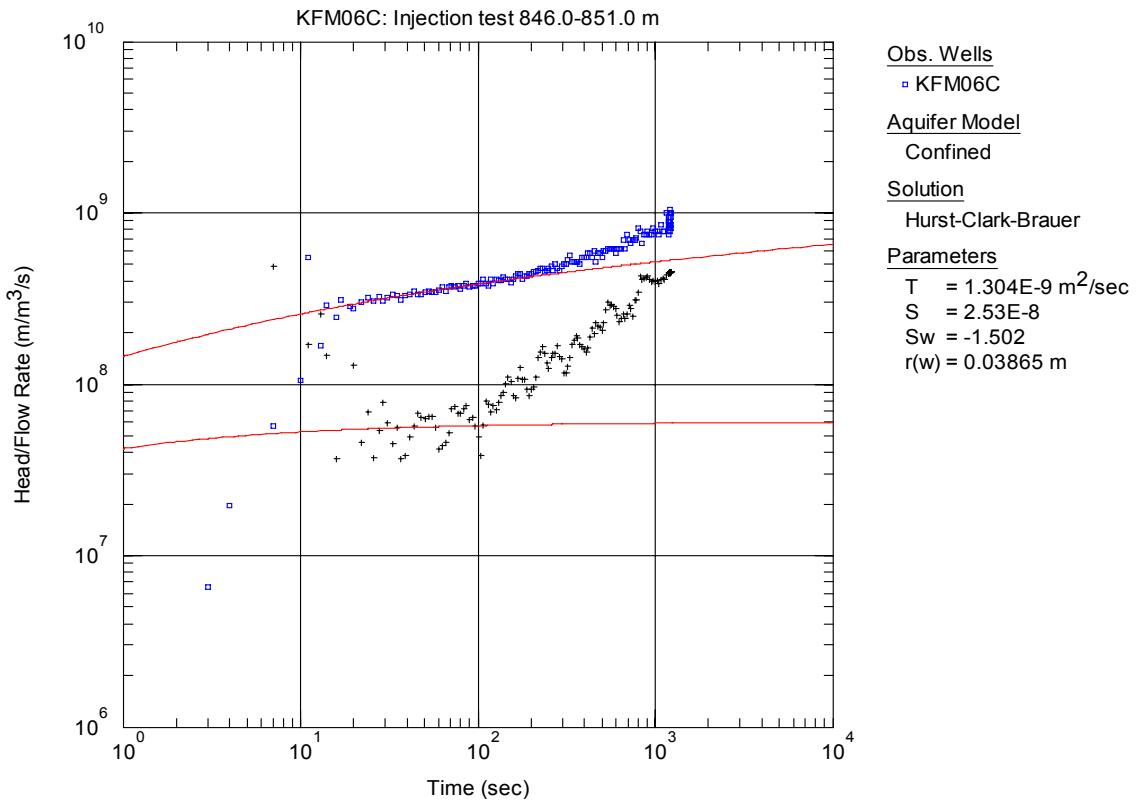
**Figure A3-556.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 841.0-846.0 m in KFM06C.



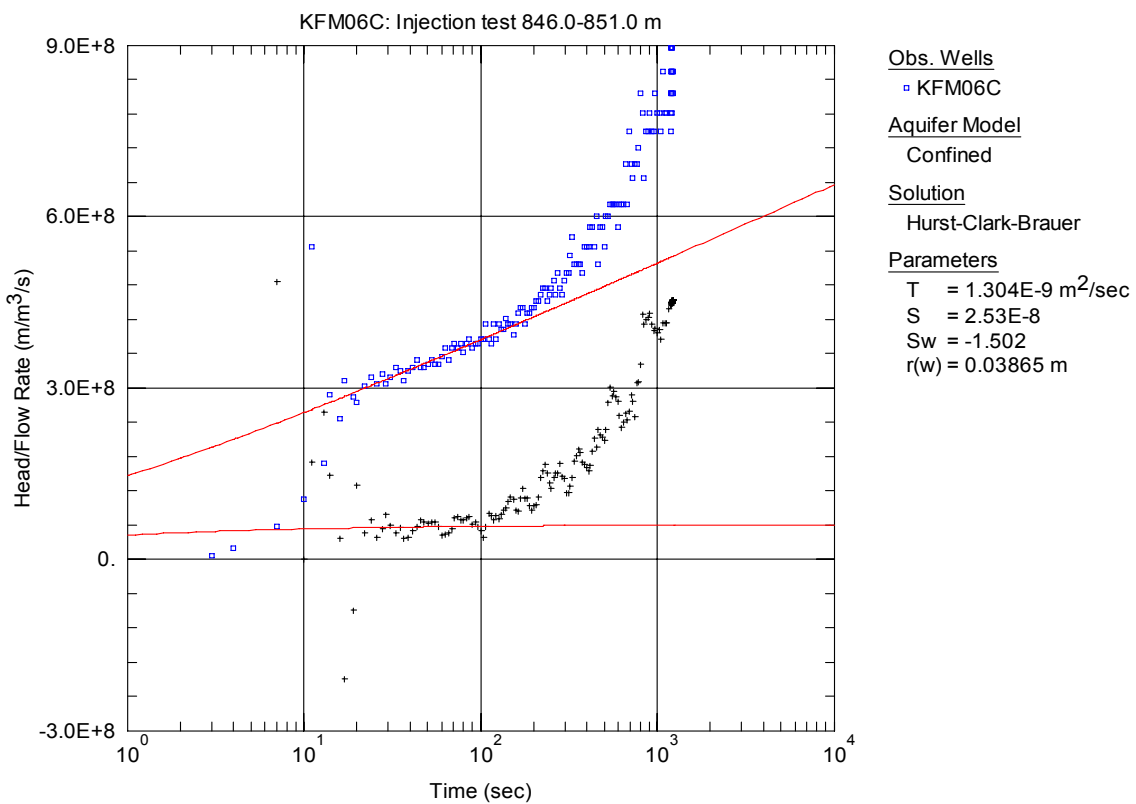
**Figure A3-557.** Lin-log plot of recovery ( $\square$ ) and derivative (+) versus equivalent time, from the injection test in section 841.0-846.0 m in KFM06C.



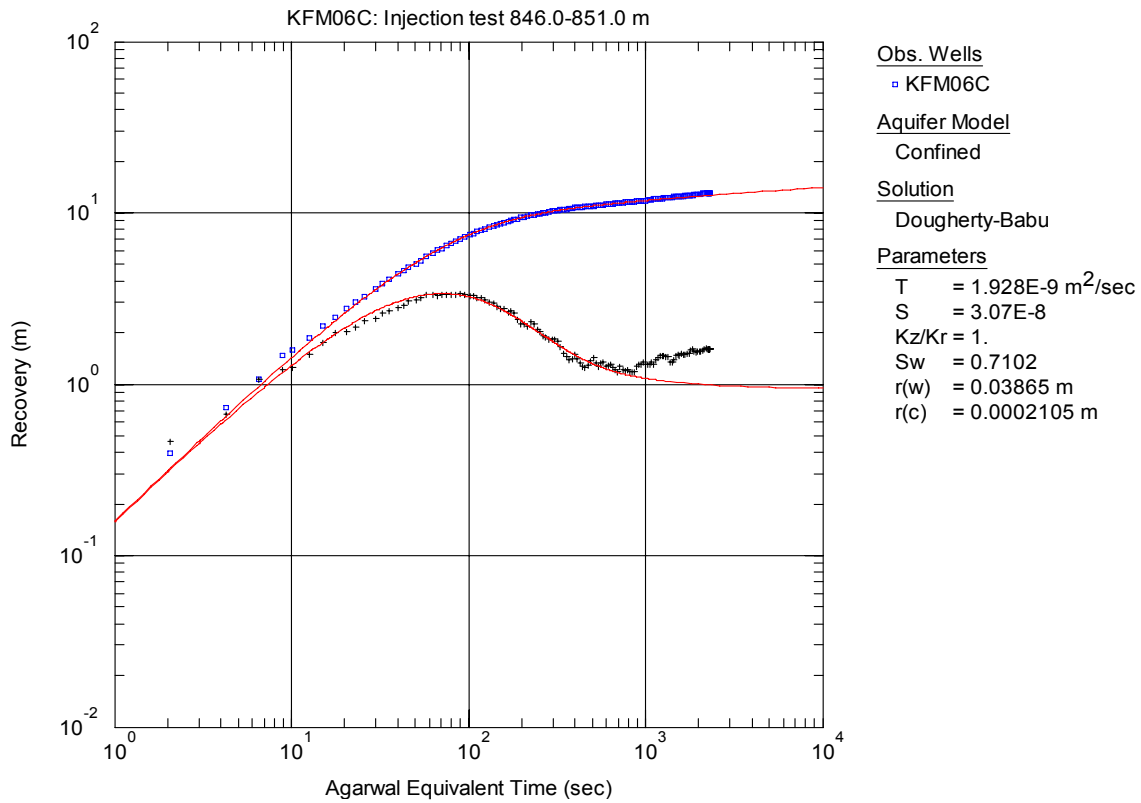
**Figure A3-558.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 846.0-851.0 m in borehole KFM06C.



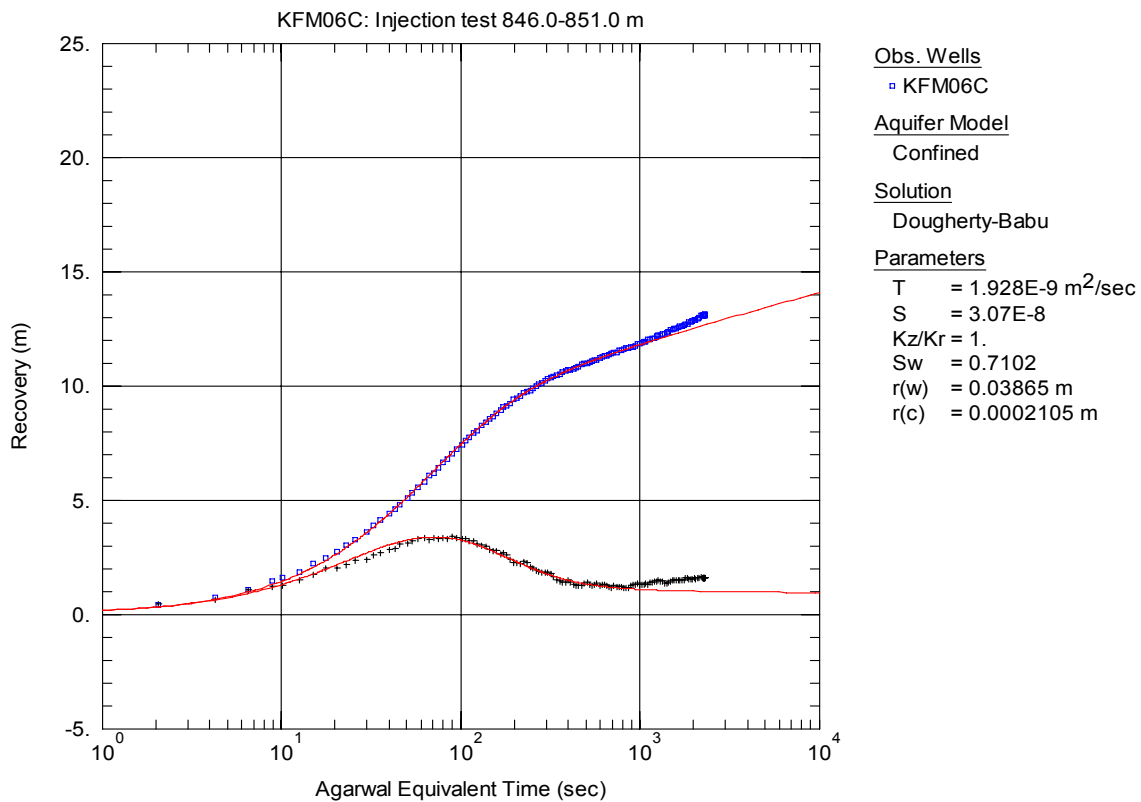
**Figure A3-559.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 846.0-851.0 m in KFM06C.



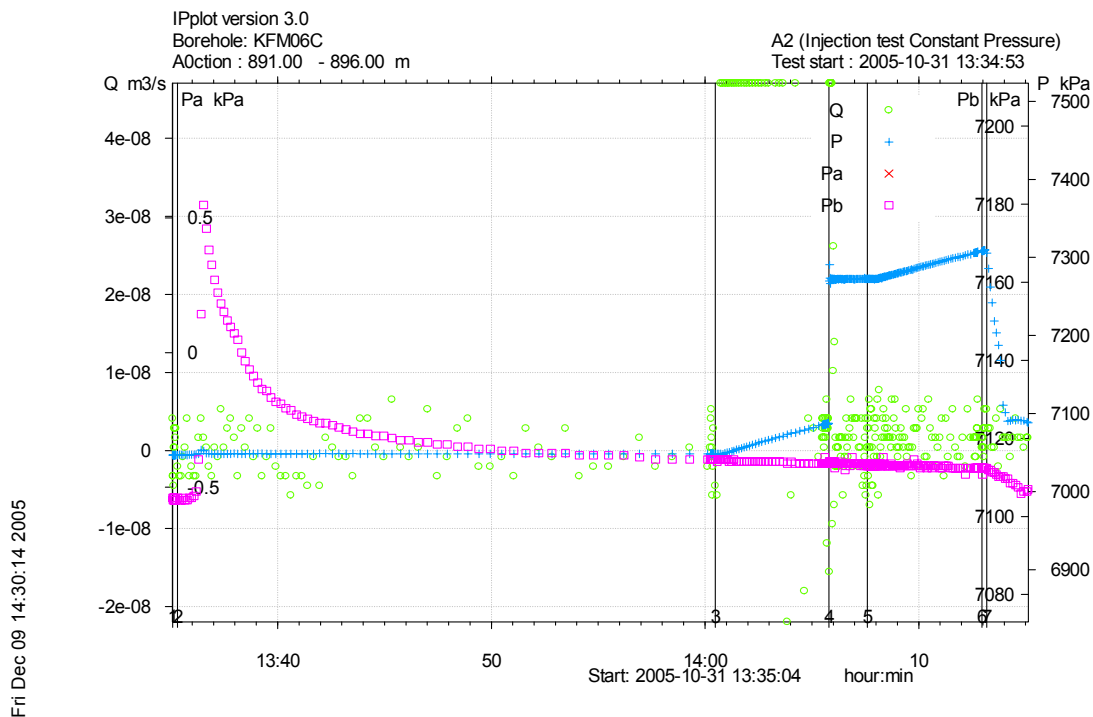
**Figure A3-560.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 846.0-851.0 m in KFM06C.



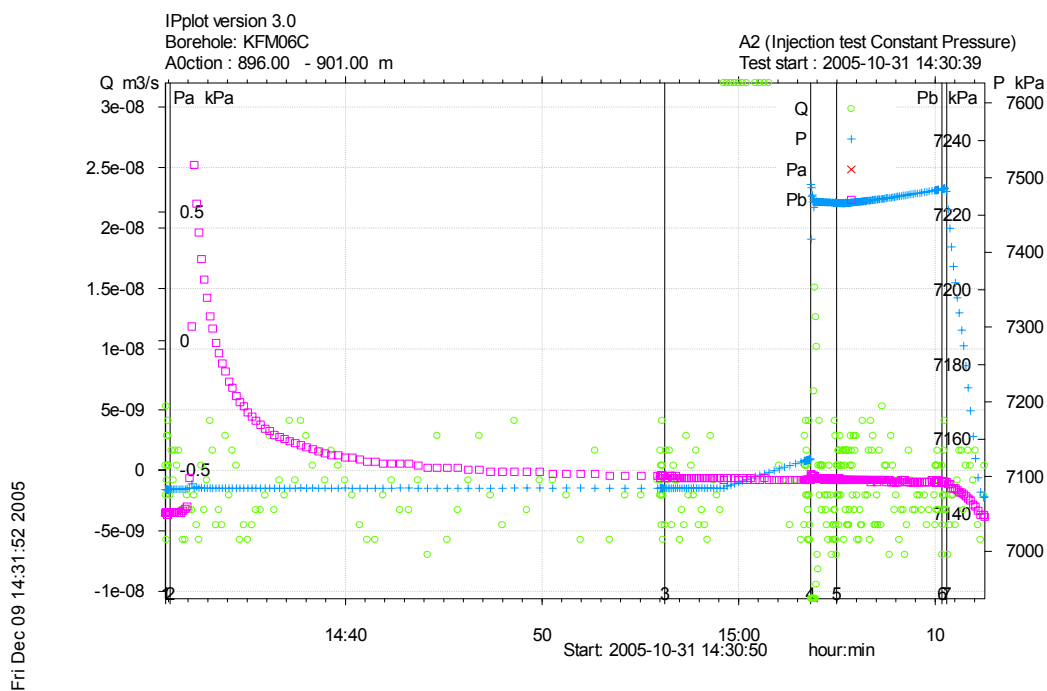
**Figure A3-561.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 846.0-851.0 m in KFM06C.



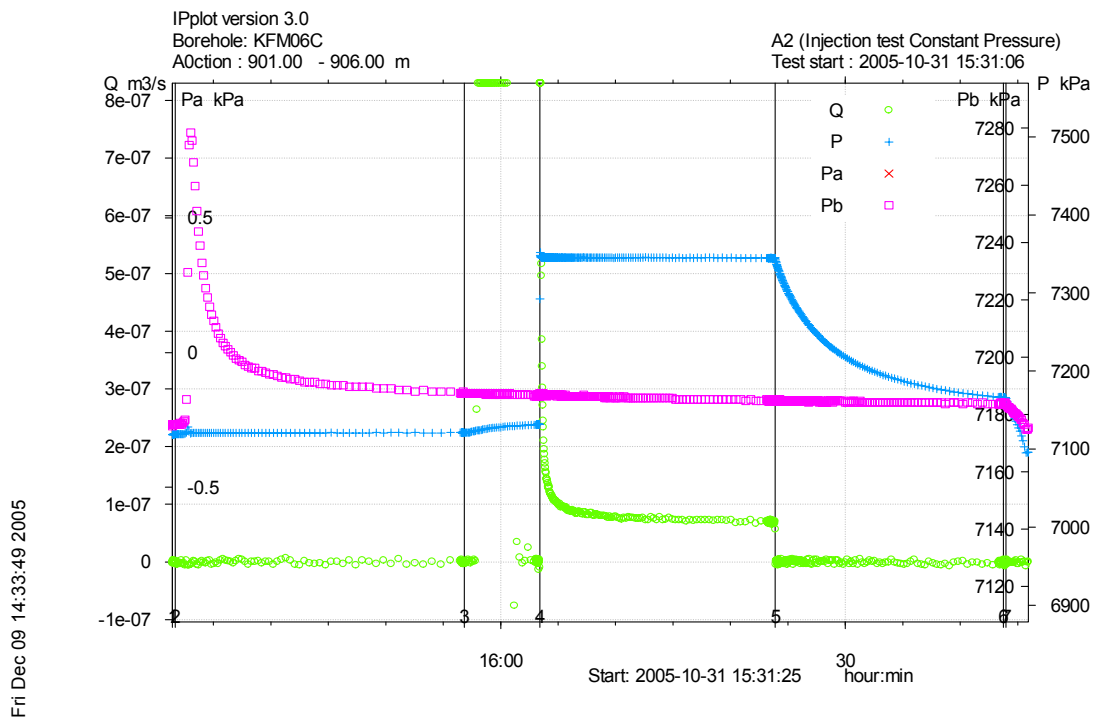
**Figure A3-562.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 846.0-851.0 m in KFM06C.



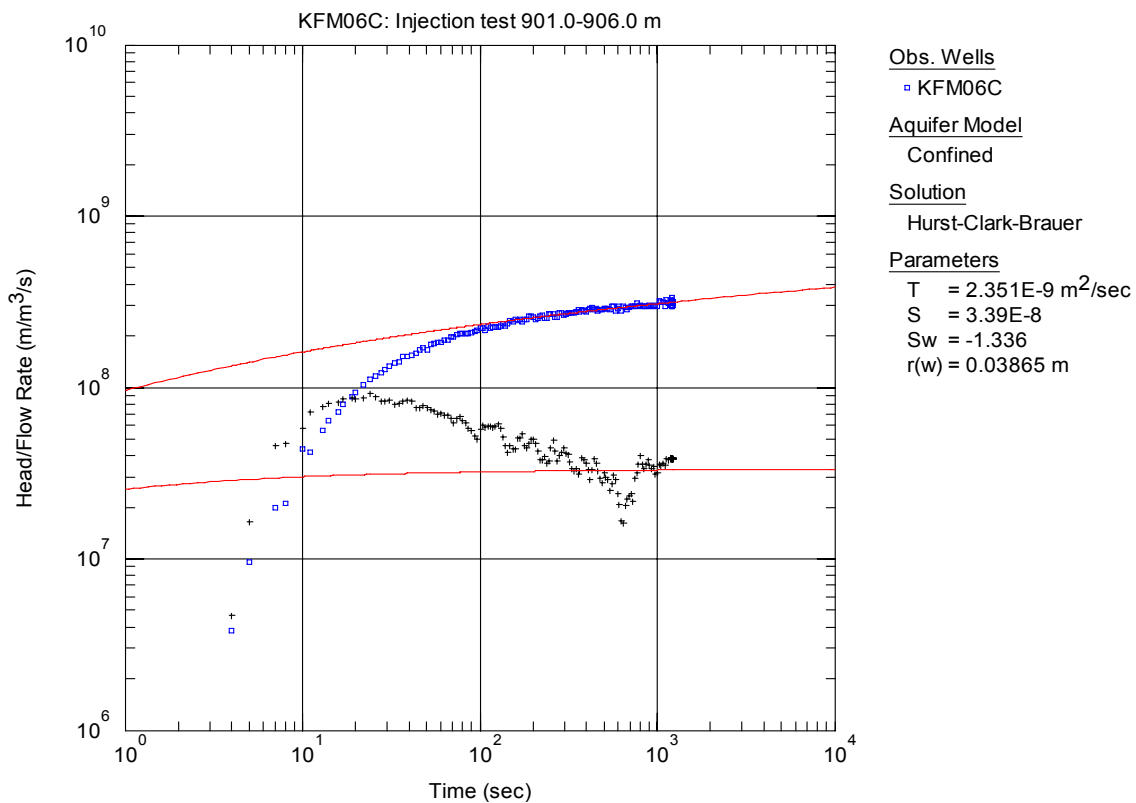
**Figure A3-563.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 891.0-896.0 m in borehole KFM06C.



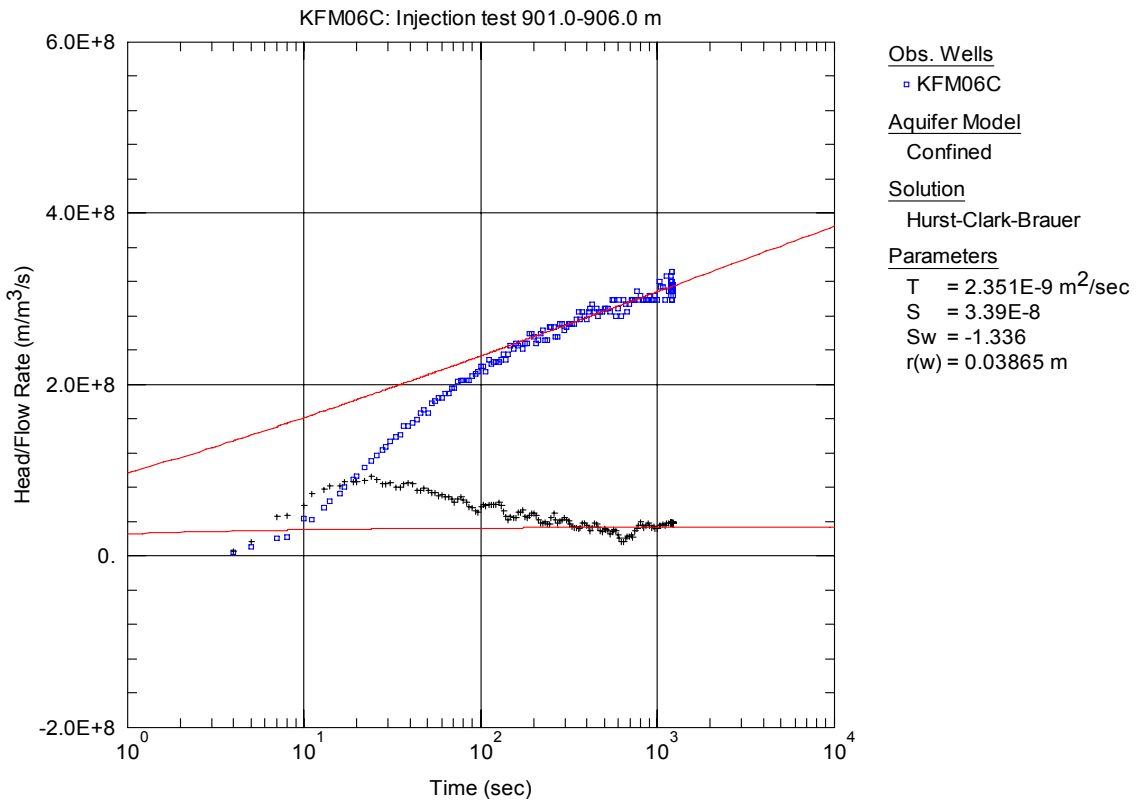
**Figure A3-564.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 896.0-901.0 m in borehole KFM06C.



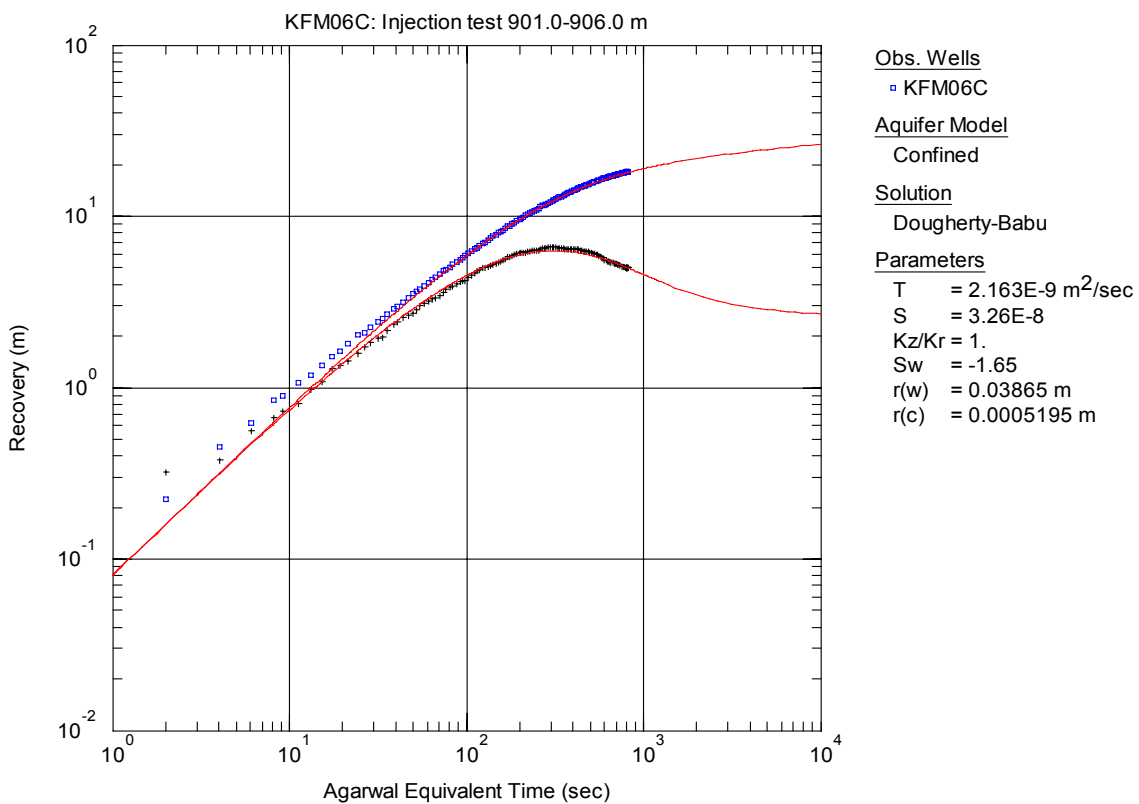
**Figure A3-565.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 901.0-906.0 m in borehole KFM06C.



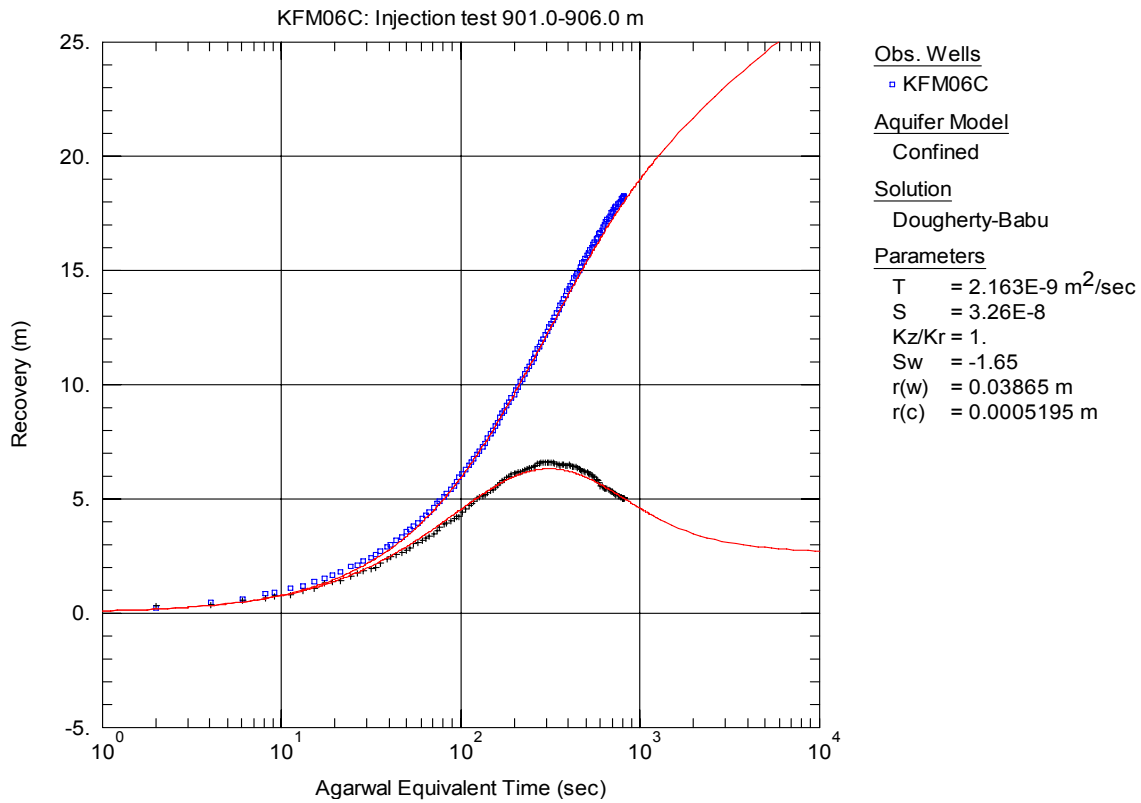
**Figure A3-566.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 901.0-906.0 m in KFM06C.



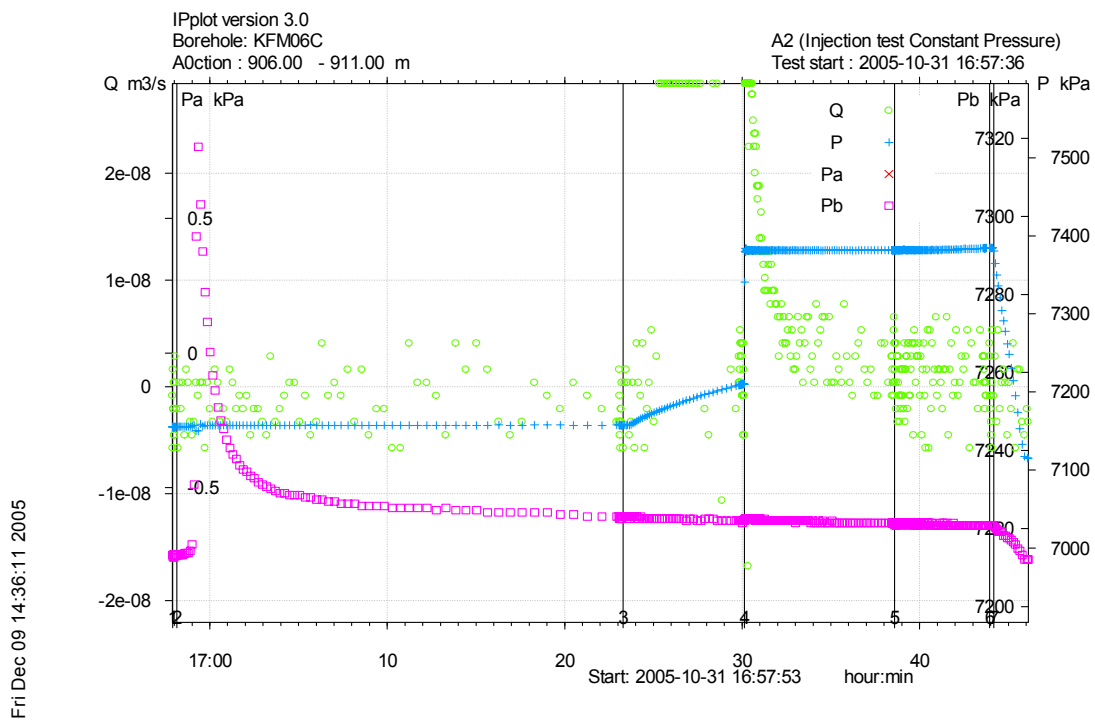
**Figure A3-567.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 901.0-906.0 m in KFM06C.



**Figure A3-568.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 901.0-906.0 m in KFM06C.

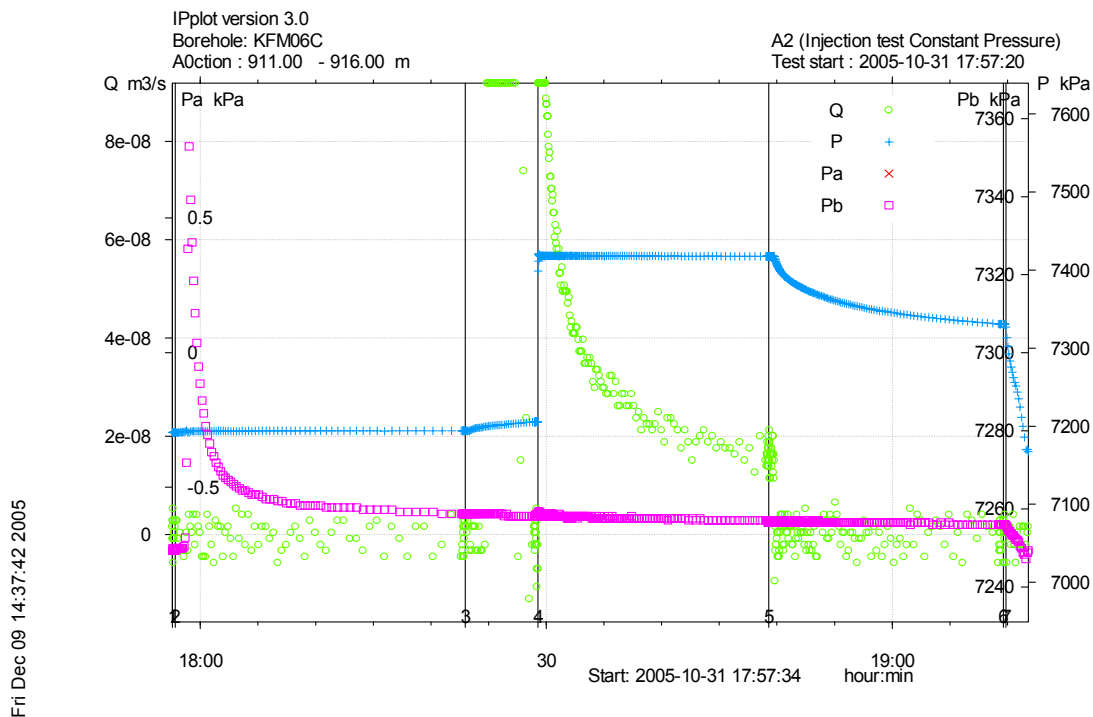


**Figure A3-569.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 901.0-906.0 m in KFM06C.

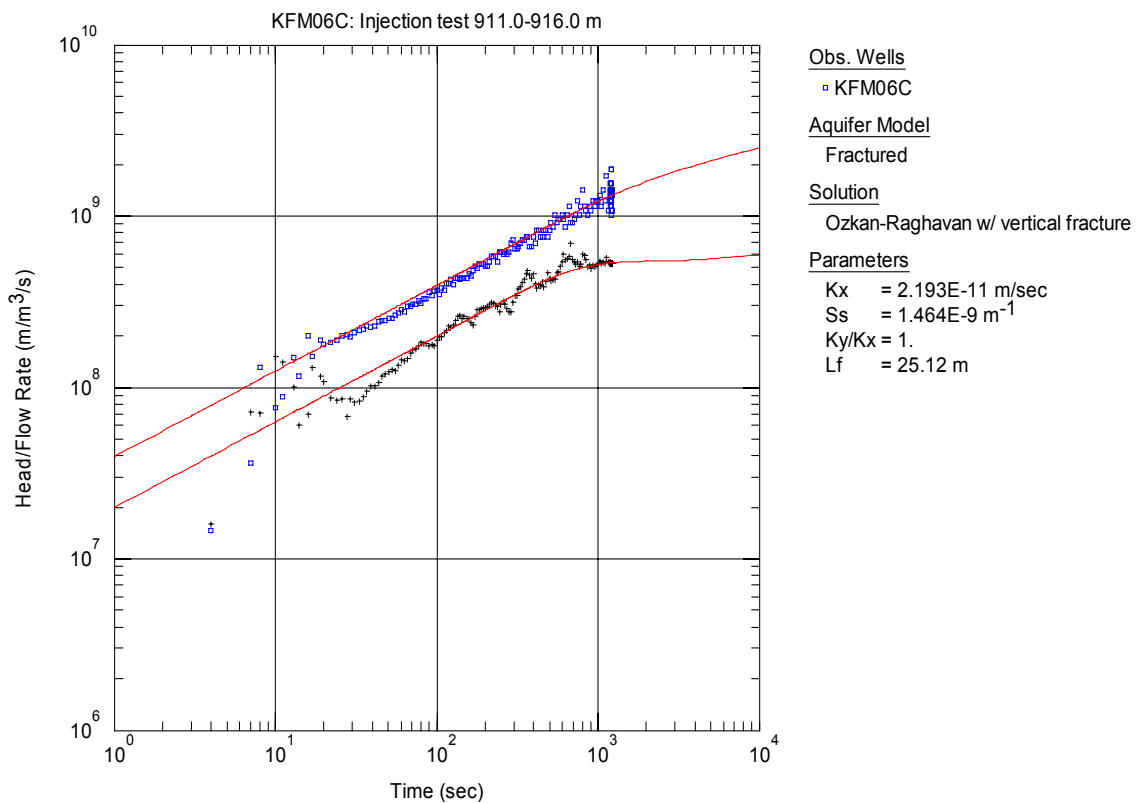


**Figure A3-570.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 906.0-911.0 m in borehole KFM06C.

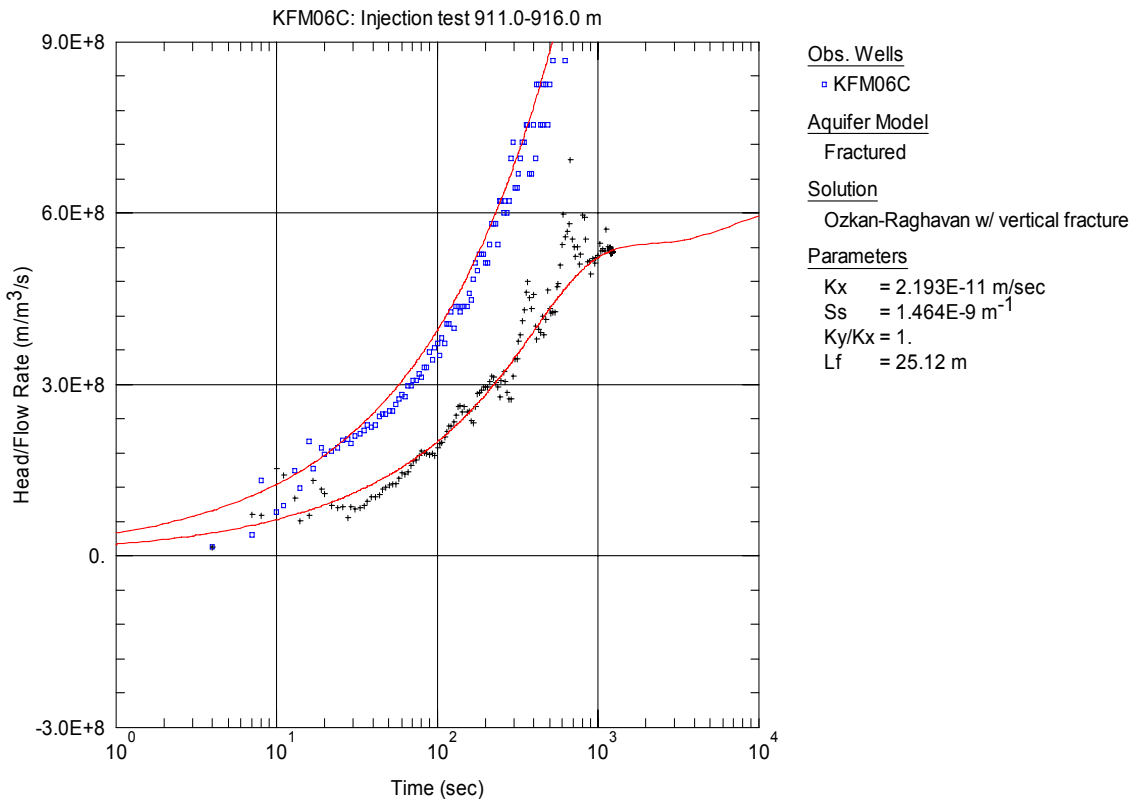




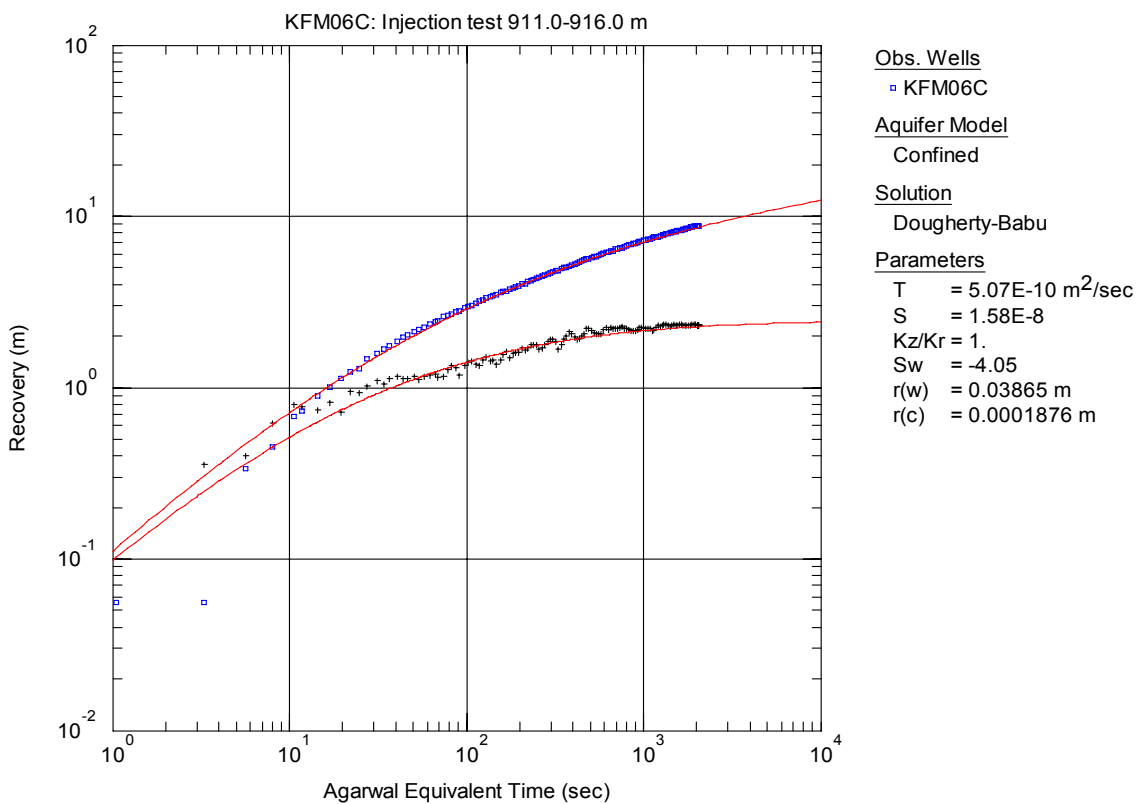
**Figure A3-571.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 911.0-916.0 m in borehole KFM06C.



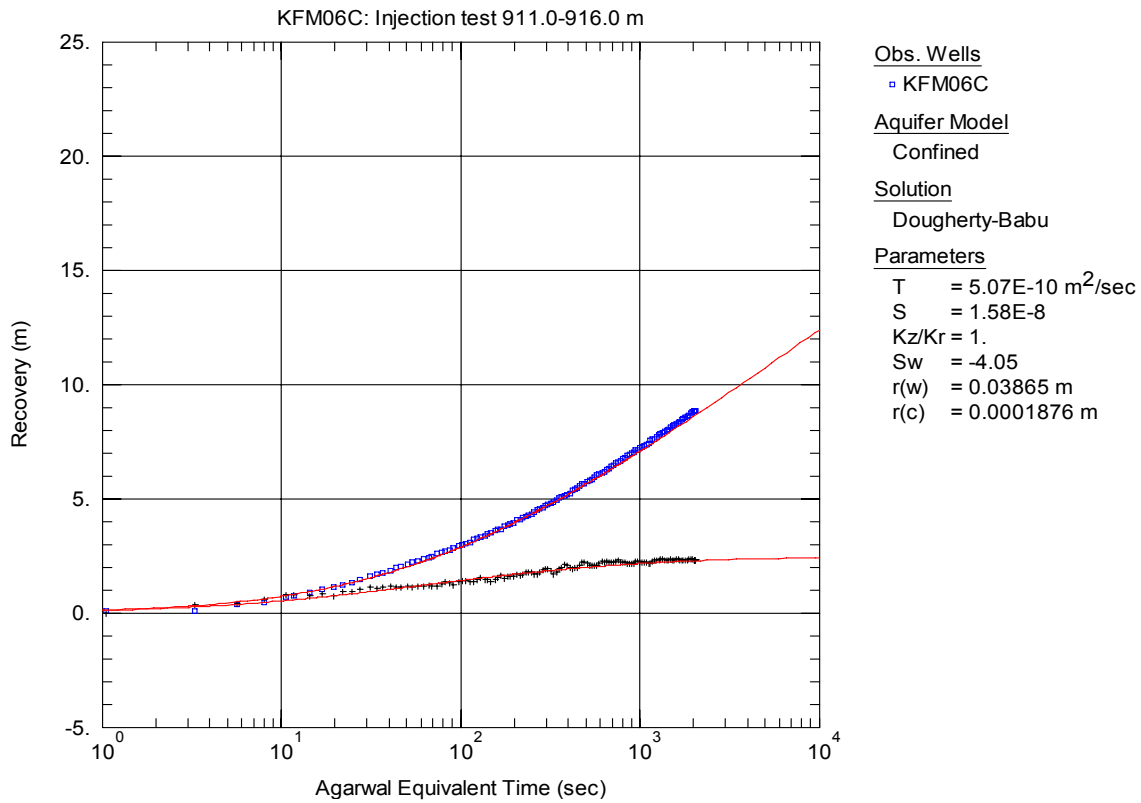
**Figure A3-572.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 911.0-916.0 m in KFM06C.



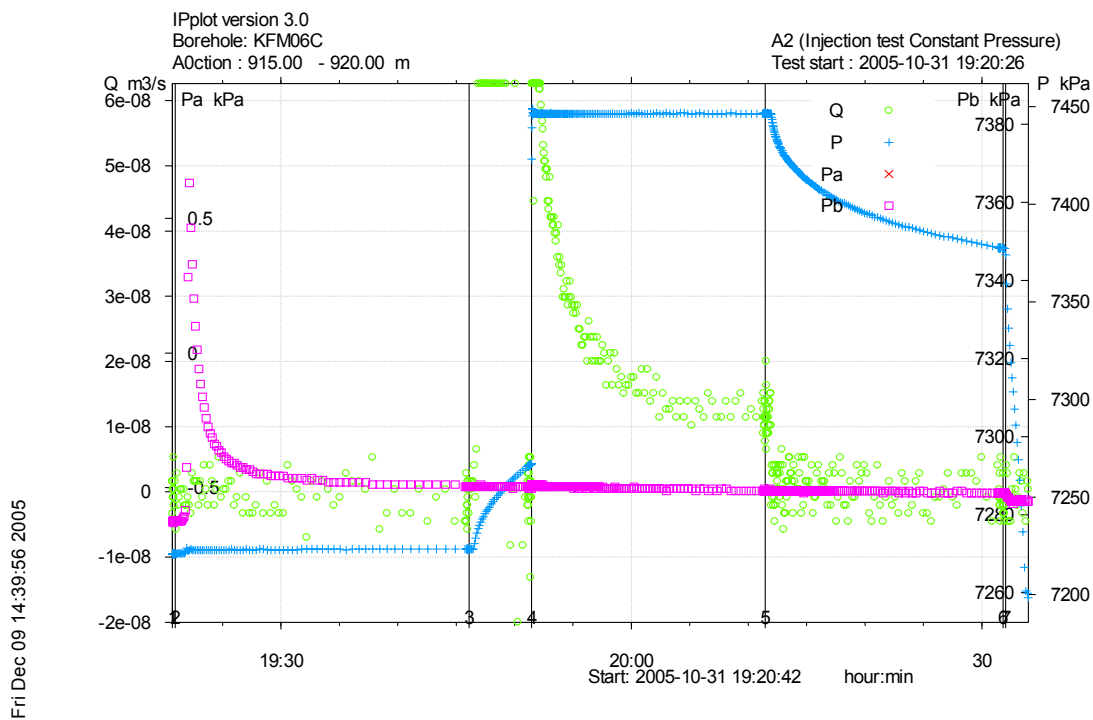
**Figure A3-573.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 911.0-916.0 m in KFM06C.



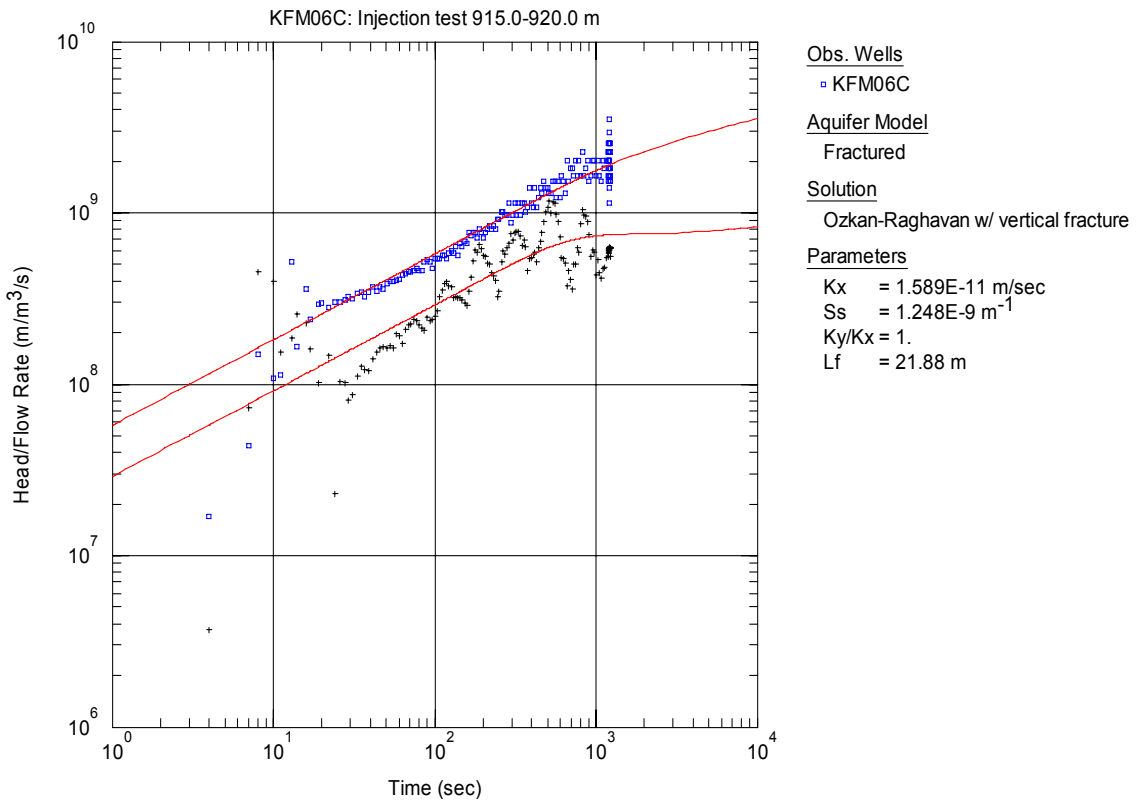
**Figure A3-574.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 911.0-916.0 m in KFM06C.



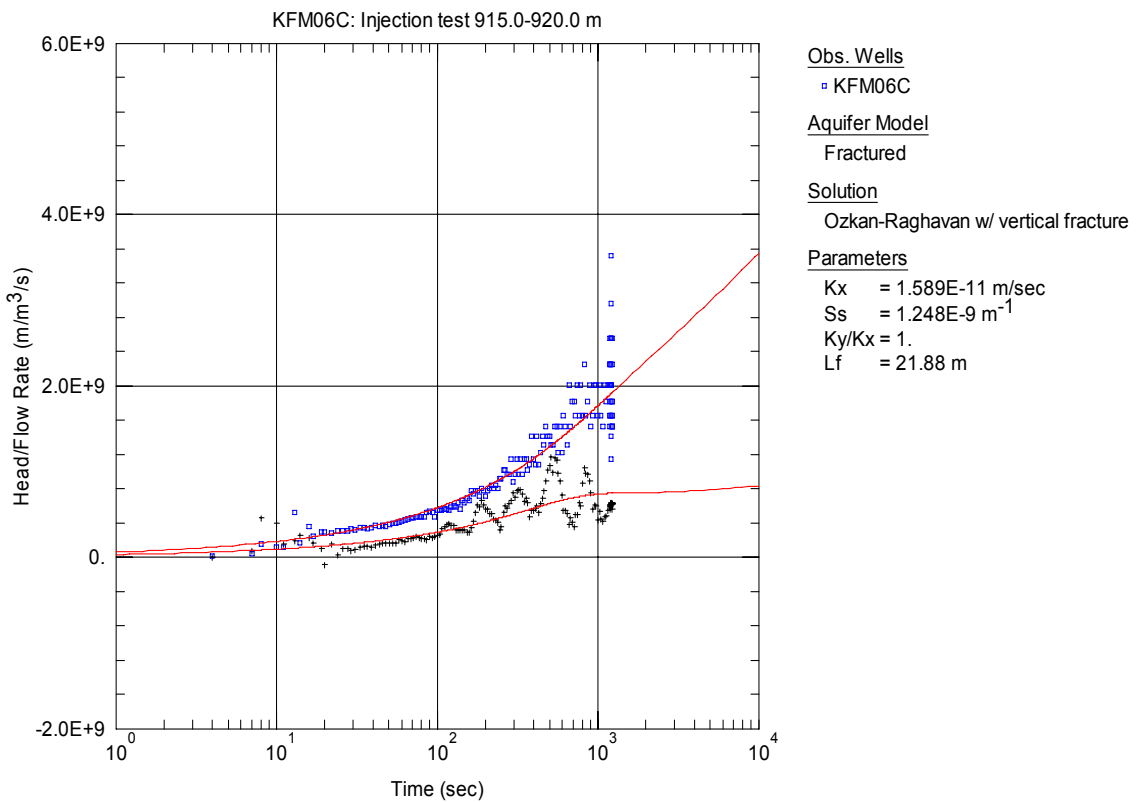
**Figure A3-575.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 911.0-916.0 m in KFM06C.



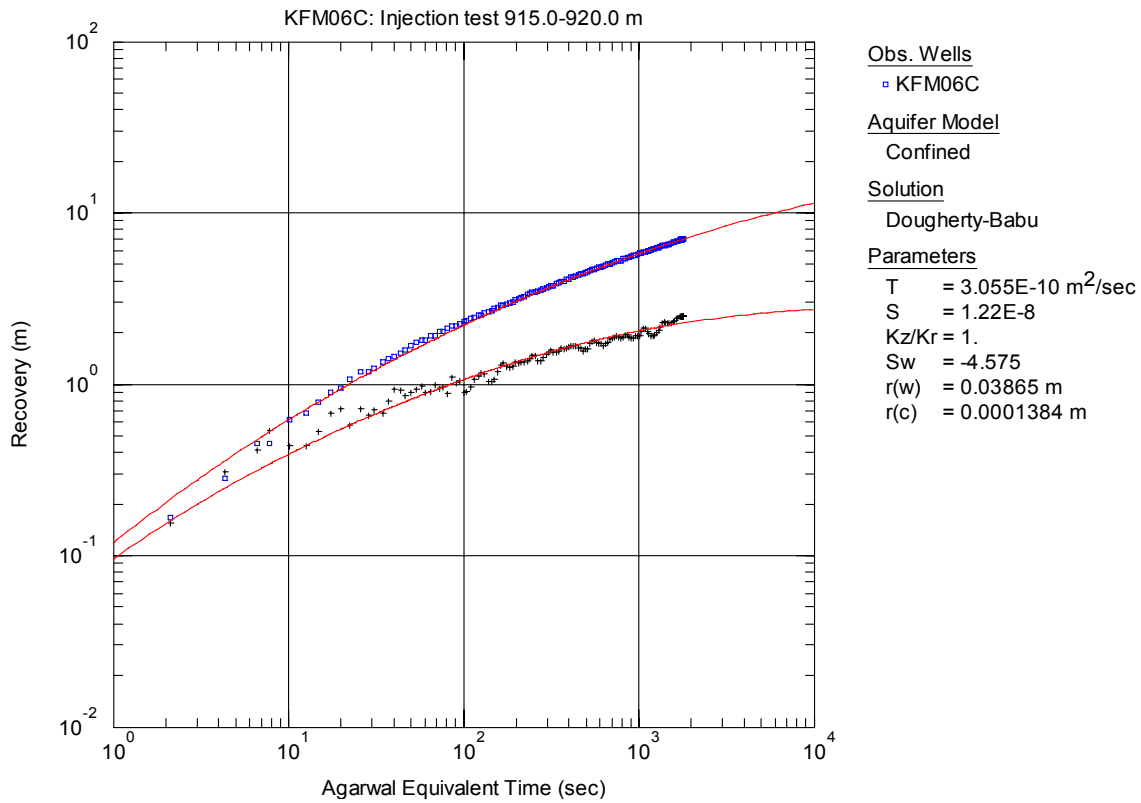
**Figure A3-576.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 915.0-920.0 m in borehole KFM06C.



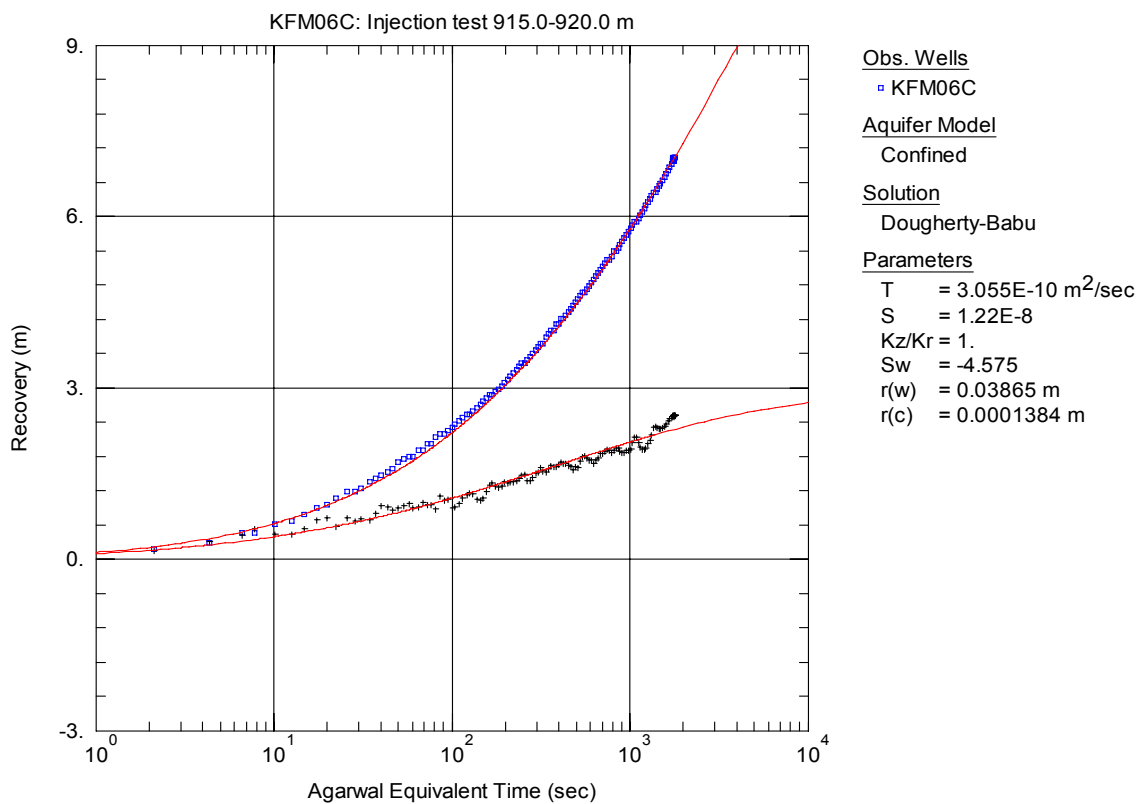
**Figure A3-577.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 915.0-920.0 m in KFM06C.



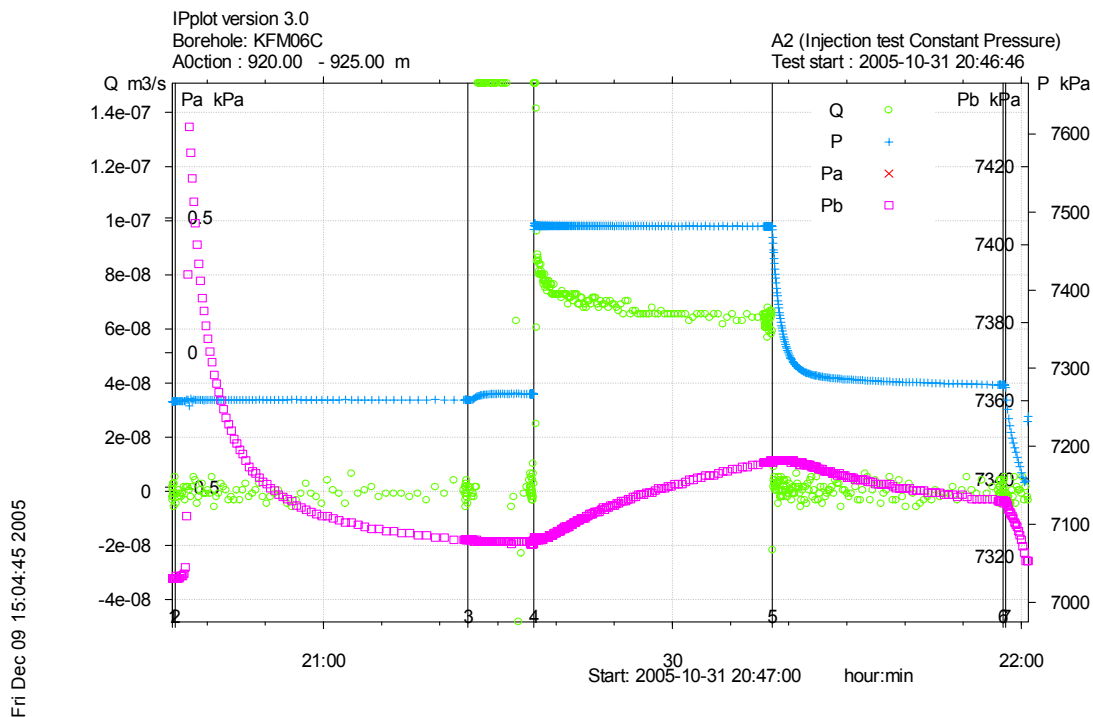
**Figure A3-578.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 915.0-920.0 m in KFM06C.



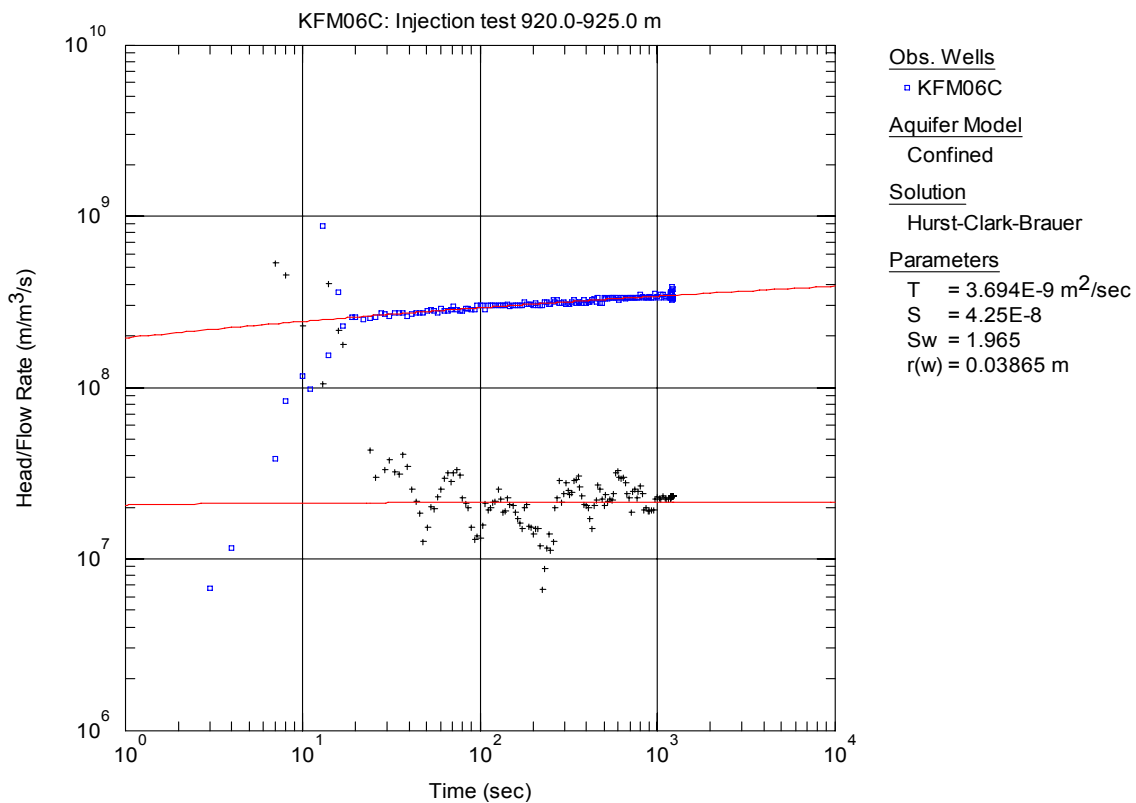
**Figure A3-579.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 915.0-920.0 m in KFM06C.



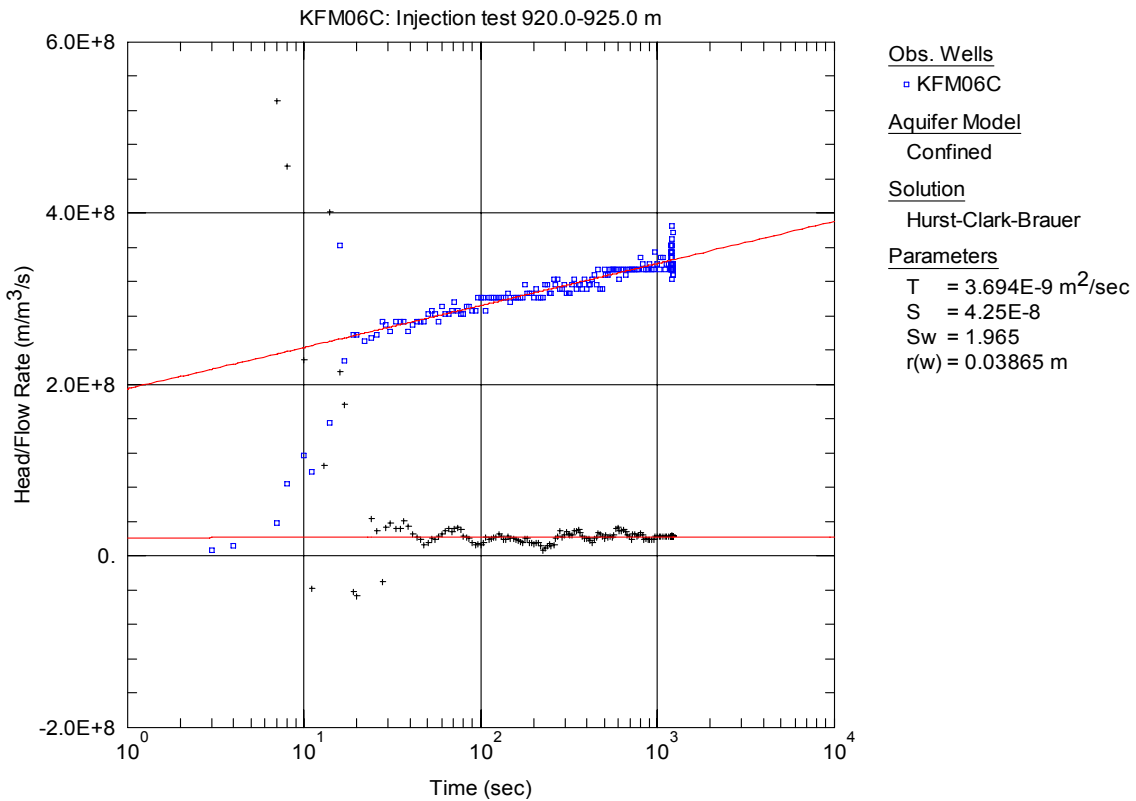
**Figure A3-580.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 915.0-920.0 m in KFM06C.



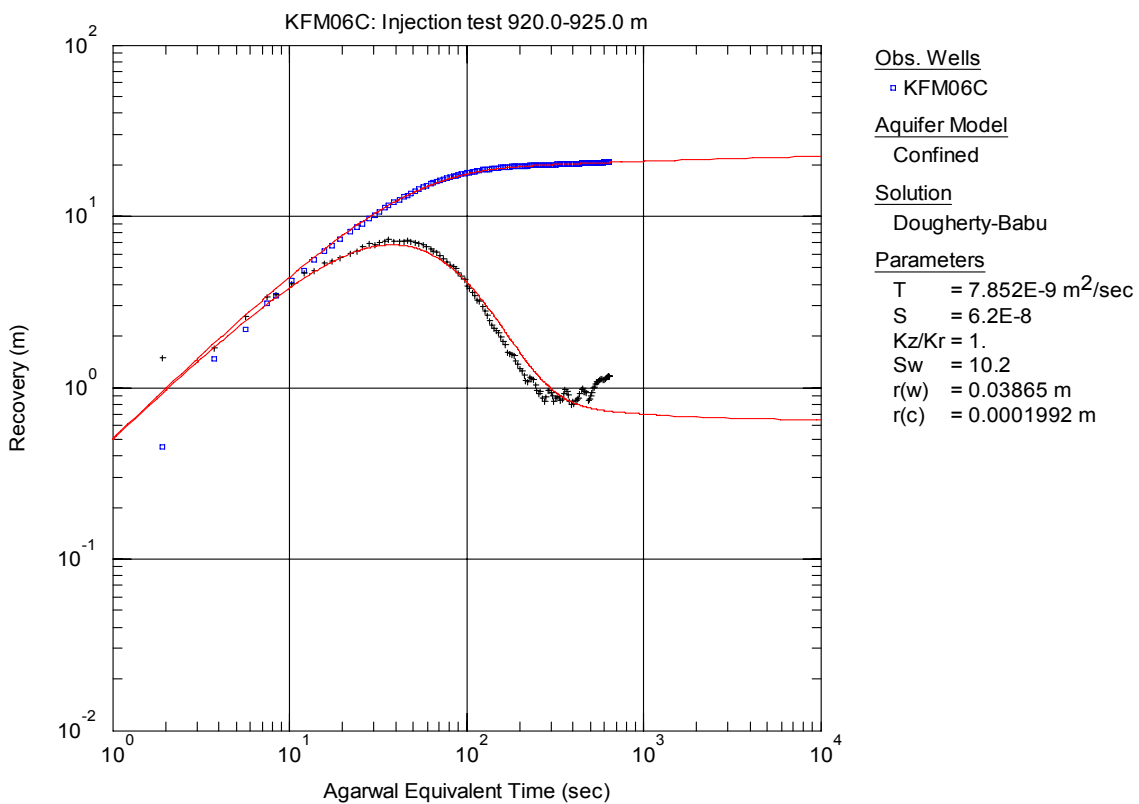
**Figure A3-581.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 920.0-925.0 m in borehole KFM06C.



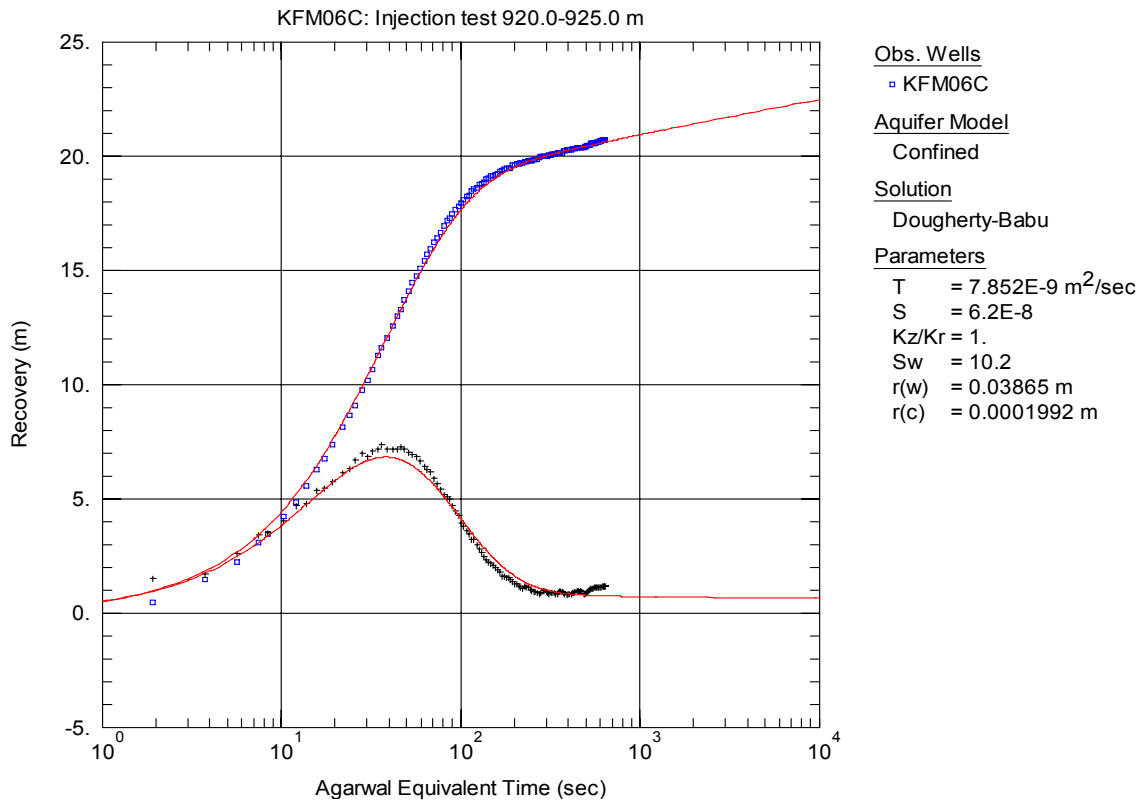
**Figure A3-582.** Log-log plot of head/flow rate ( $\square$ ) and derivative ( $+$ ) versus time, from the injection test in section 920.0-925.0 m in KFM06C.



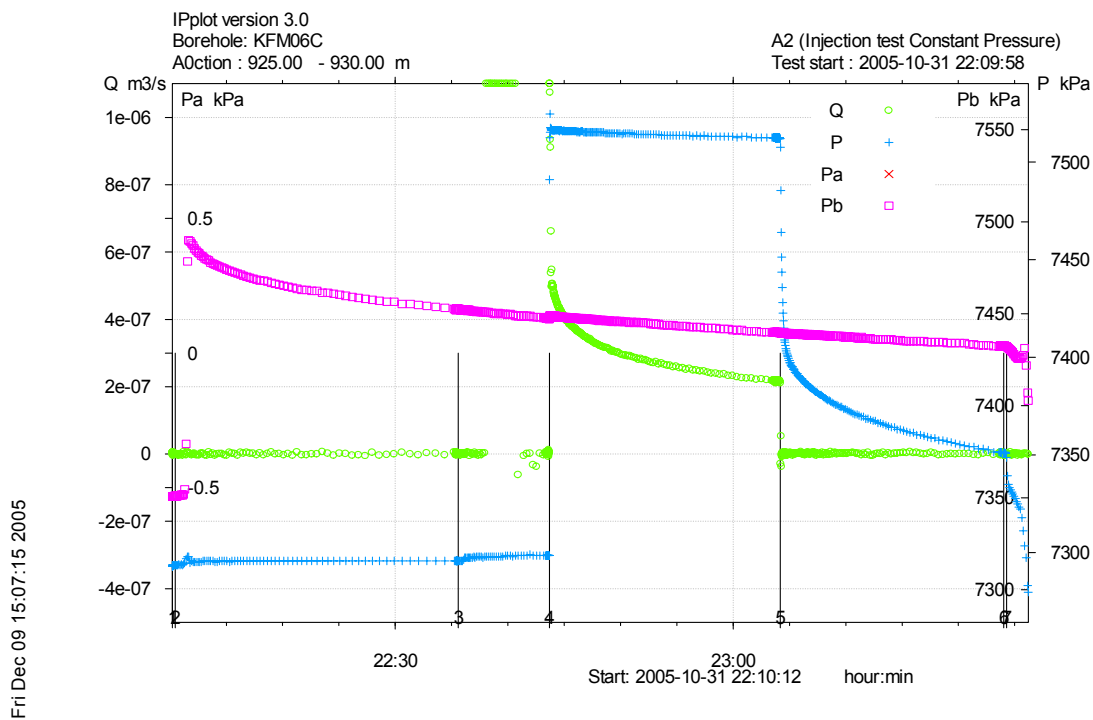
**Figure A3-583.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 920.0-925.0 m in KFM06C.



**Figure A3-584.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 920.0-925.0 m in KFM06C.

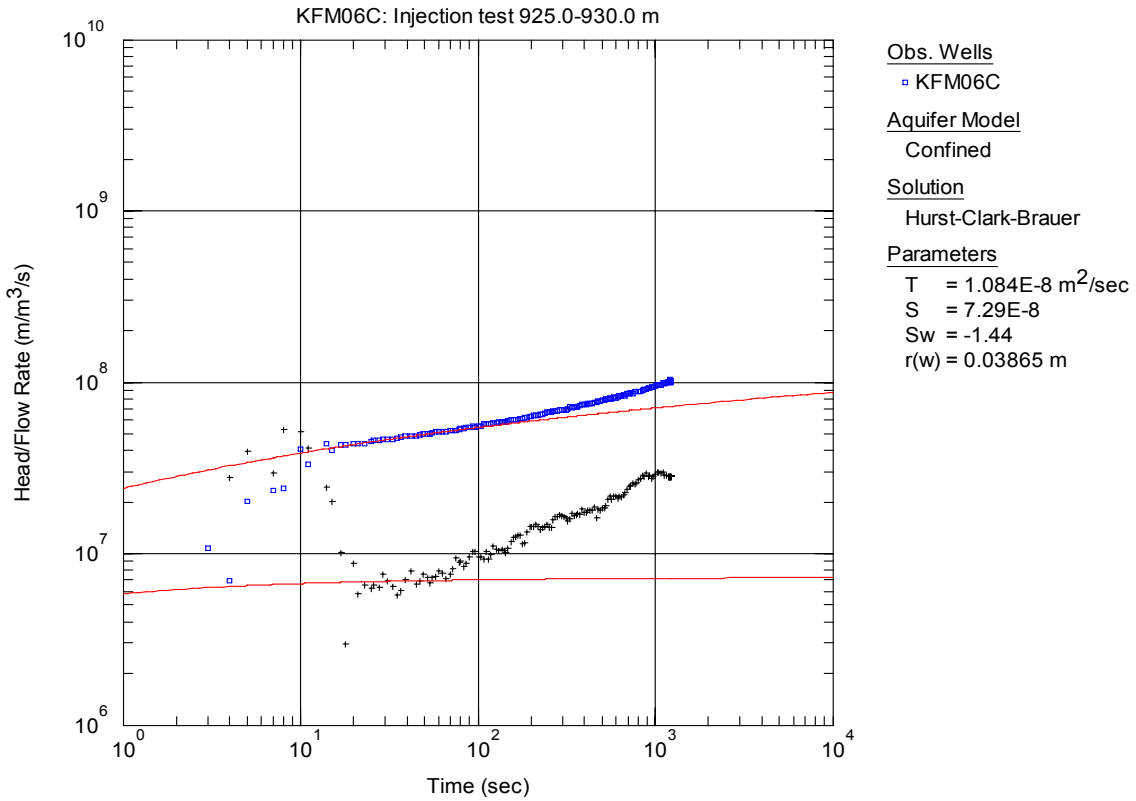


**Figure A3-585.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 920.0-925.0 m in KFM06C.

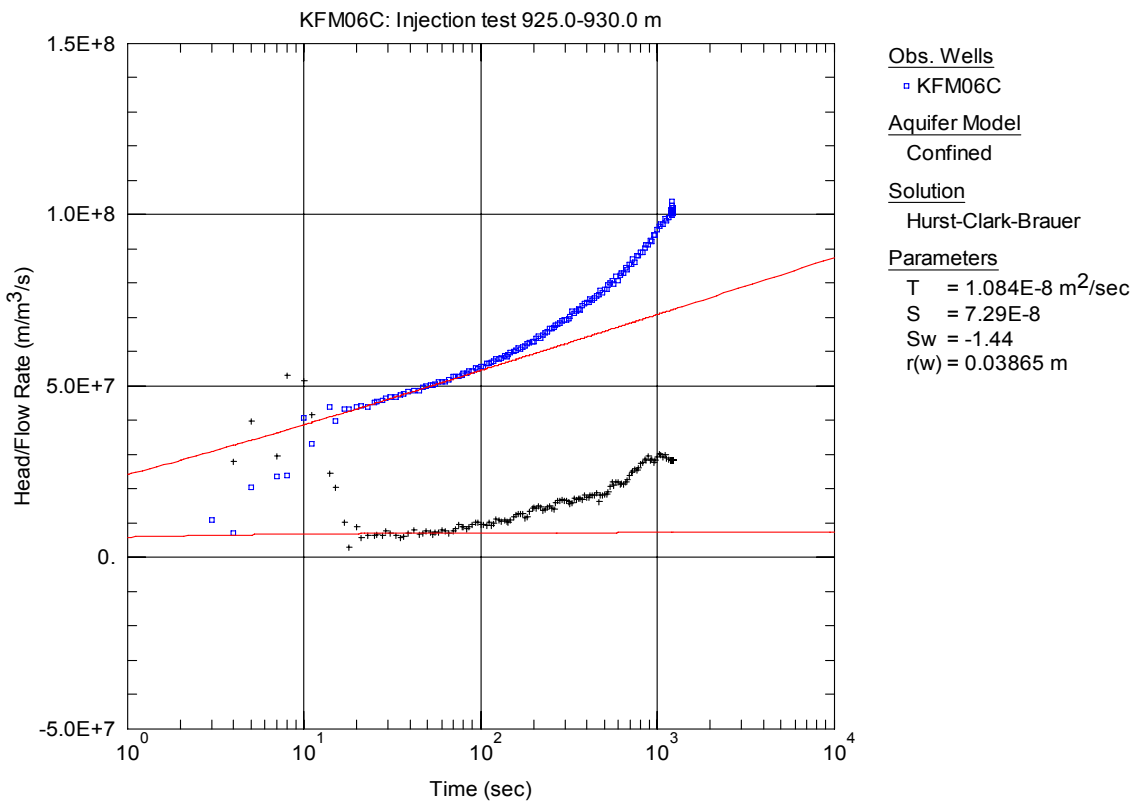


**Figure A3-586.** Linear plot of flow rate (Q), pressure (P), pressure above section (Pa) and pressure below section (Pb) versus time from the injection test in section 925.0-930.0 m in borehole KFM06C.

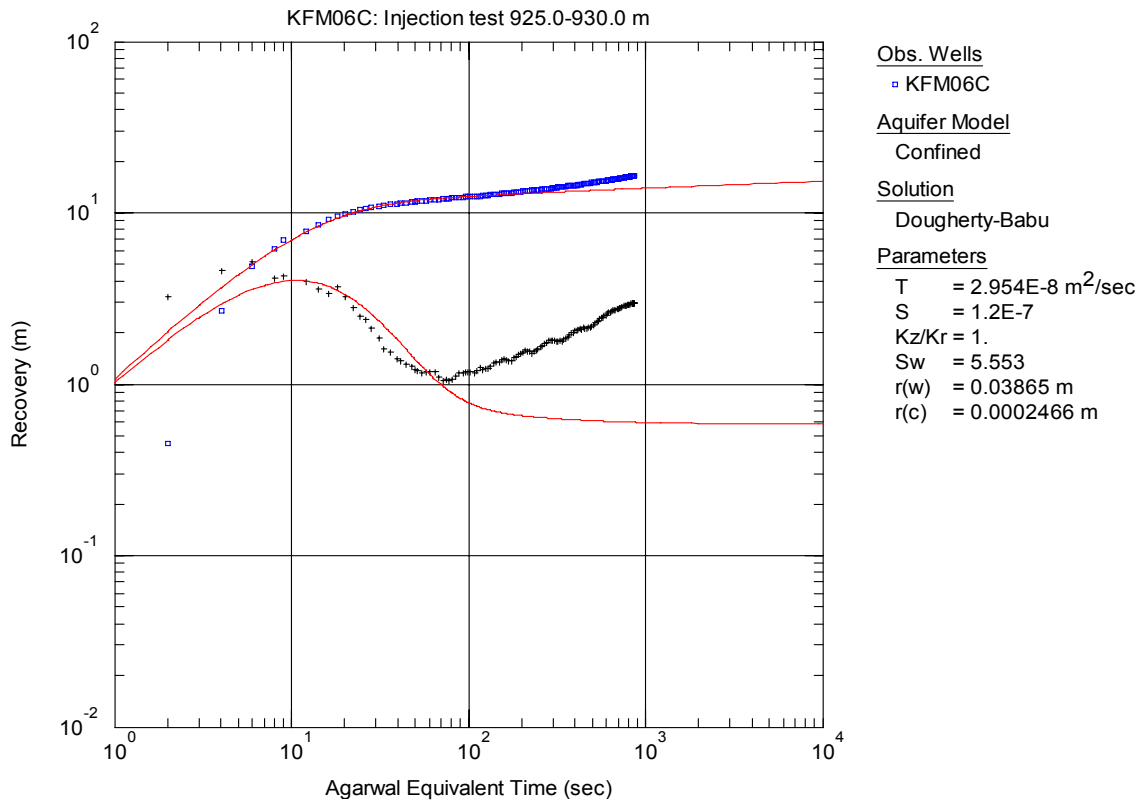




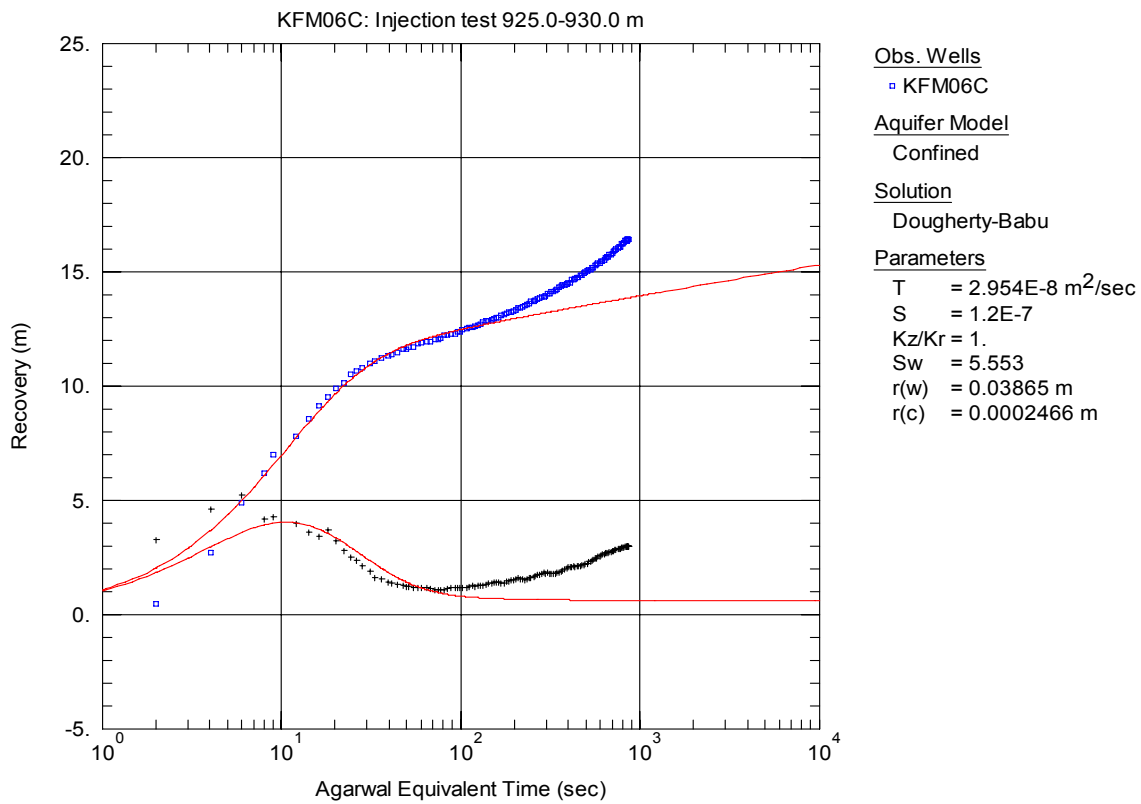
**Figure A3-587.** Log-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 925.0-930.0 m in KFM06C.



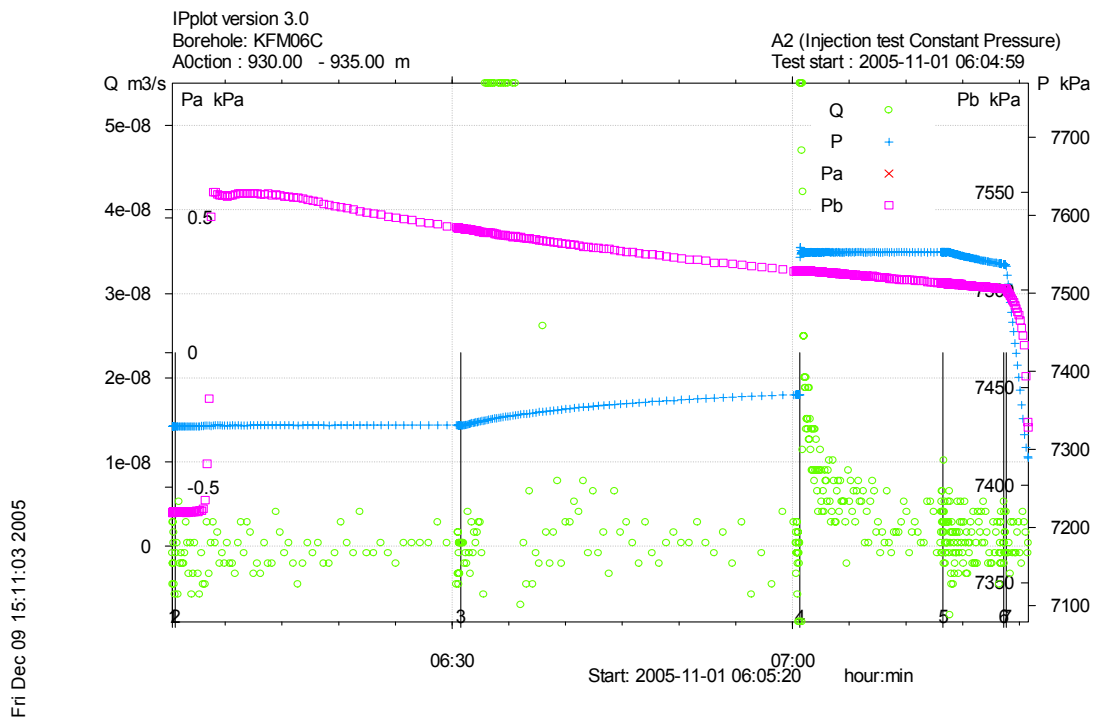
**Figure A3-588.** Lin-log plot of head/flow rate (□) and derivative (+) versus time, from the injection test in section 925.0-930.0 m in KFM06C.



**Figure A3-589.** Log-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 925.0-930.0 m in KFM06C.



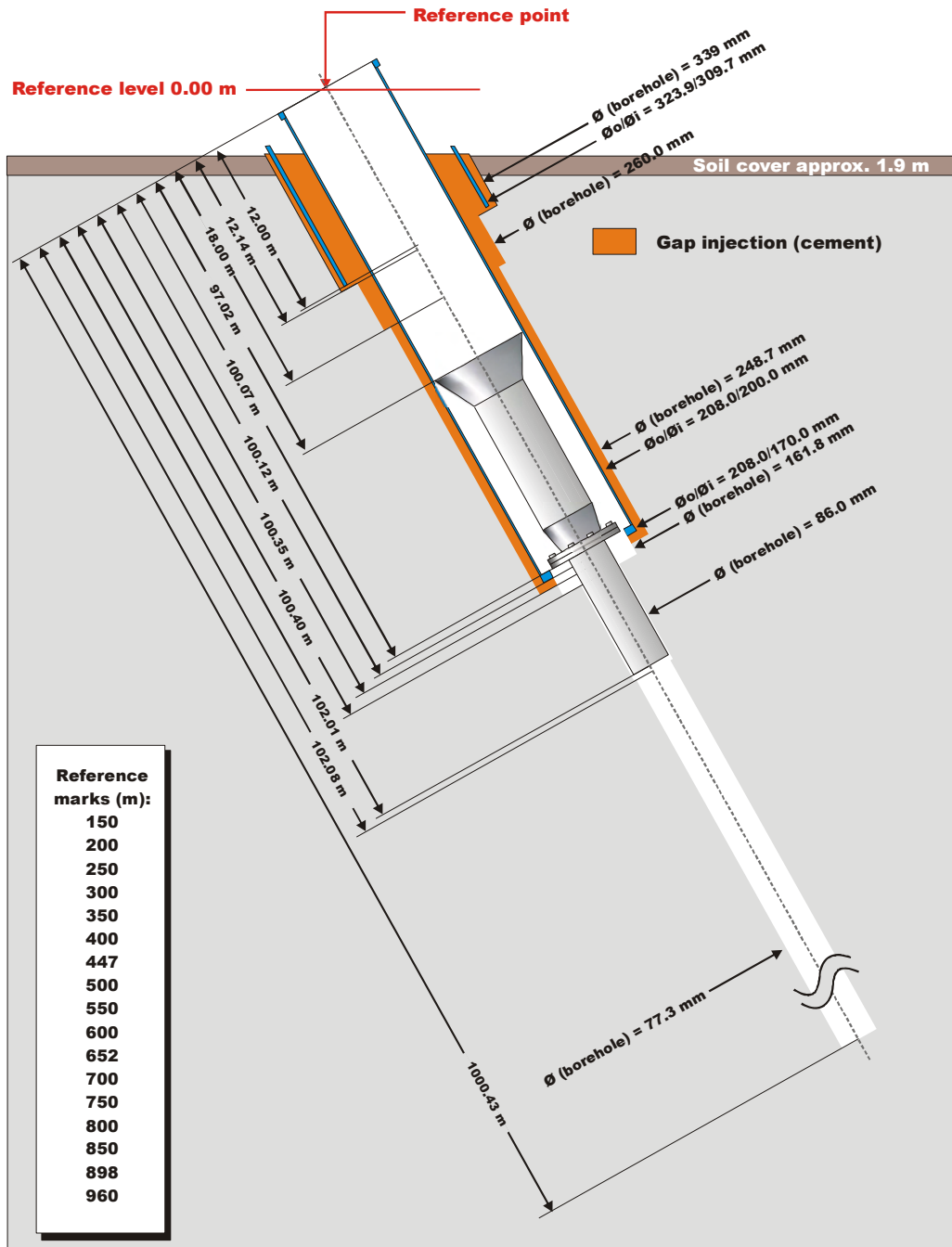
**Figure A3-590.** Lin-log plot of recovery (□) and derivative (+) versus equivalent time, from the injection test in section 925.0-930.0 m in KFM06C.



**Figure A3-591.** Linear plot of flow rate ( $Q$ ), pressure ( $P$ ), pressure above section ( $P_a$ ) and pressure below section ( $P_b$ ) versus time from the injection test in section 930.0-935.0 m in borehole KFM06C.

## Appendix 4. Borehole technical data

### Technical data Borehole KFM06C



#### Drilling reference point

**Northing:** 6699740.96 (m), RT90 2,5 gon V 0:-15  
**Easting:** 1632437.03 (m), RT90 2,5 gon V 0:-15  
**Elevation:** 4.09 (m), RHB 70

#### Orientation

**Bearing (degrees):** 26.07°  
**Inclination (degrees):** -60.12°

#### Borehole

**Length:** 1000.43 m

#### Percussion drilling period

**Drilling start date:** 2005-03-09  
**Drilling stop date:** 2005-04-13

#### Core drilling period

**Drilling start date:** 2005-04-27  
**Drilling stop date:** 2005-06-29

Rev. 2005-08-11

## Appendix 5. Sicada tables

### Nomenclature plu\_s\_hole\_test\_d

Column	Datatype	Unit	Column Description	Alt. Symbol
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	yymmdd	Date & time of pumping/injection start (YYYY-MM-DD hh:mm:ss)	
stop_flow_period	DATE	yymmdd	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-L
q_measl_u	FLOAT	m**3/s	Estimated upper measurement limit of flow rate	Q-measl-U
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_hp	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_pp	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_tds	FLOAT	mg/l	Total salinity of section fluid based on EC,see table descr.	
fluid_salinity_tds	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 ackknowledge (QA - OK)	
lp	FLOAT	m	Hydraulic point of application	

### Nomenclature plu\_s\_hole\_test\_ed1

Column	Datatype	Unit	Column Description	Alt. Symbol
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	

Column	Datatype	Unit	Column Description	Alt. Symbol
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.	Q/s
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)	T <sub>M</sub>
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 <sub>M</sub> : Hydraulic conductivity based on Moye (1967)	K <sub>M</sub>
formation_width_b	FLOAT	m	b:Aquifer thickness repr. for T(generally b=Lw) ,see descr.	b
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...	T <sub>T</sub>
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	Q/s-measl-L
u_measl_q_s	FLOAT	m**2/s	Estimated upper meas. limit for evaluated TT,see description	Q/s-measl-U
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	C
cd	FLOAT		CD: Dimensionless wellbore storage coefficient	
skin	FLOAT		Skin factor;best estimate of flow/recovery period,see descr.	ξ
dt1	FLOAT	s	Estimated start time of evaluation, see table description	
dt2	FLOAT	s	Estimated stop time of evaluation. see table description	
t1	FLOAT	s	Start time for evaluated parameter from start flow period	t <sub>1</sub>
t2	FLOAT	s	Stop time for evaluated parameter from start of flow period	t <sub>2</sub>
dte1	FLOAT	s	Start time for evaluated parameter from start of recovery	dte <sub>1</sub>
dte2	FLOAT	s	Stop time for evaluated parameter from start of recovery	dte <sub>2</sub>
p_horner	FLOAT	kPa	p*:Horner extrapolated pressure, see table description	
transmissivity_t_nlr	FLOAT	m**2/s	T_NLR Transmissivity based on None Linear Regression...	
storativity_s_nlr	FLOAT		S_NLR=storativity based on None Linear Regression,see..	

Column	Datatype	Unit	Column Description	Alt. Symbol
value_type_t_nlr	CHAR		0:true value,-1:T_NLR<lower meas.limit,1:>upper meas.limit	
bc_t_nlr	CHAR		Best choice code. 1 means T_NLR is best choice of T, else 0	
c_nlr	FLOAT	m**3/pa	Wellbore storage coefficient, based on NLR, see descr.	
cd_nlr	FLOAT		Dimensionless wellbore storage constant, see table descrip.	
skin_nlr	FLOAT		Skin factor based on Non Linear Regression,see desc.	
transmissivity_t_grf	FLOAT	m**2/s	T_GRF:Transmissivity based on Genelized Radial Flow,see...	
value_type_t_grf	CHAR		0:true value,-1:T_GRF<lower meas.limit,1:>upper meas.limit	
bc_t_grf	CHAR		Best choice code. 1 means T_GRF is best choice of T, else 0	
storativity_s_grf	FLOAT		S_GRF:Storativity based on Generalized Radial Flow, see des.	
flow_dim_grf	FLOAT		Inferred flow dimesion based on Generalized Rad. Flow model	
comment	VARCHAR	no_unit	Short comment to the evaluated parameters	
error_flag	CHAR		If error_flag = "*" then an error ocured and an error	
in_use	CHAR		If in_use = "*" then the activity has been selected as	
sign	CHAR		Signature for QA data ackknowledge (QA - OK)	

### Nomenclature plu\_s\_hole\_test\_obs

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)

**KFM06C plu\_s\_hole\_test\_d. Left (This result table to SICADA includes more columns which are empty, these columns are not presented here.)**

idcode	start_date	stop_date	secup	seclo	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20050929 15:44	20050929 17:39	104.50	204.50	3	1	20050929 16:36:38	20050929 17:06:47	1.37E-04	0	1.78E-04
KFM06C	20050930 10:33	20050930 12:46	204.50	304.50	3	1	20050930 11:44:07	20050930 12:14:24	2.71E-05	0	3.45E-05
KFM06C	20050930 15:13	20050930 17:03	304.50	404.50	3	1	20050930 16:01:14	20050930 16:31:31	2.10E-04	0	2.59E-04
KFM06C	20051005 09:32	20051005 11:24	404.50	504.50	3	1	20051005 10:22:25	20051005 10:52:50	1.55E-06	0	3.05E-06
KFM06C	20051003 13:30	20051003 15:27	504.50	604.50	3	1	20051003 14:25:14	20051003 14:55:31	2.70E-05	0	3.45E-05
KFM06C	20051004 06:23	20051004 08:17	604.50	704.50	3	1	20051004 07:15:02	20051004 07:45:20	1.66E-06	0	2.35E-06
KFM06C	20051004 09:24	20051004 11:19	691.00	791.00	3	1	20051004 10:16:29	20051004 10:46:48	1.31E-07	0	1.73E-07
KFM06C	20051004 15:03	20051004 17:14	791.00	891.00	3	1	20051004 16:12:10	20051004 16:42:35	9.28E-08	0	1.36E-07
KFM06C <sup>1)</sup>	20051004 18:39	20051004 20:45	891.00	991.00	3	1	20051004 19:36:47	20051004 20:13:06	2.40E-07	0	3.48E-07
KFM06C	20051006 09:01	20051006 10:58	104.50	124.50	3	1	20051006 10:16:20	20051006 10:36:36	1.76E-05	0	1.86E-05
KFM06C	20051006 11:18	20051006 13:32	124.50	144.50	3	1	20051006 12:50:18	20051006 13:10:32	3.51E-04	0	4.16E-04
KFM06C	20051006 13:57	20051006 15:12	144.50	164.50	3	1	20051006 14:29:49	20051006 14:50:05	3.13E-04	0	4.30E-04
KFM06C	20051014 13:50	20051014 15:09	164.50	184.50	3	1	20051014 14:27:17	20051014 14:47:13	3.39E-04	0	3.80E-04
KFM06C	20051006 17:05	20051006 18:24	184.50	204.50	3	1	20051006 17:41:34	20051006 18:01:51	4.27E-06	0	5.83E-06
KFM06C	20051006 18:51	20051006 20:12	204.50	224.50	3	1	20051006 19:30:09	20051006 19:50:26	3.30E-05	0	3.68E-05
KFM06C	20051006 20:41	20051006 22:05	224.50	244.50	3	1	20051006 21:23:17	20051006 21:43:36	6.21E-06	0	7.93E-06
KFM06C	20051006 22:30	20051006 23:52	244.50	264.50	3	1	20051006 23:09:27	20051006 23:29:45	1.53E-06	0	1.65E-06
KFM06C	20051007 08:22	20051007 09:50	264.50	284.50	3	1	20051007 09:07:35	20051007 09:27:53	9.95E-08	0	1.67E-07
KFM06C	20051007 10:36	20051007 11:58	284.50	304.50	3	1	20051007 11:15:52	20051007 11:36:10	7.06E-06	0	1.07E-05
KFM06C	20051007 13:43	20051007 15:18	304.50	324.50	3	1	20051007 14:36:21	20051007 14:56:38	5.35E-05	0	8.95E-05
KFM06C	20051007 15:45	20051007 17:03	324.50	344.50	3	1	20051007 16:20:43	20051007 16:41:01	7.58E-07	0	1.97E-06
KFM06C	20051010 08:44	20051010 10:07	344.50	364.50	3	1	20051010 09:24:24	20051010 09:44:43	3.05E-05	0	5.87E-05
KFM06C	20051010 10:42	20051010 12:05	364.50	384.50	3	1	20051010 11:22:55	20051010 11:43:13	2.74E-08	0	6.29E-08
KFM06C	20051010 13:44	20051010 15:01	384.50	404.50	3	1	20051010 14:19:14	20051010 14:39:28	6.83E-05	0	7.02E-05
KFM06C	20051010 15:24	20051010 16:41	387.00	407.00	3	1	20051010 15:59:05	20051010 16:19:19	6.75E-05	0	6.88E-05
KFM06C	20051010 17:06	20051010 18:23	407.00	427.00	3	1	20051010 17:40:50	20051010 18:01:09	1.89E-06	0	3.56E-06
KFM06C	20051011 08:03	20051011 09:30	427.00	447.00	3	1	20051011 08:48:13	20051011 09:08:20	7.52E-09	0	2.32E-08



idcode	start_date	stop_date	secup	seclow	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20051011 09:57	20051011 11:22	447.00	467.00	3	1	20051011 10:40:16	20051011 11:00:35	5.82E-08	0	1.67E-07
KFM06C	20051011 12:42	20051011 13:59	467.00	487.00	3	1	20051011 13:16:37	20051011 13:36:43		-1	
KFM06C	20051011 14:24	20051011 15:10	487.00	507.00	3	1	20051011 14:59:47	20051011 15:03:27		-1	
KFM06C	20051011 15:29	20051011 16:19	504.50	524.50	3	1	20051011 16:01:20	20051011 16:11:58		-1	
KFM06C	20051011 16:38	20051011 17:52	524.50	544.50	3	1	20051011 17:09:50	20051011 17:30:09	3.19E-05	0	4.06E-05
KFM06C	20051011 18:16	20051011 19:01	544.50	564.50	3	1	20051011 18:50:06	20051011 18:54:05		-1	
KFM06C	20051011 19:19	20051011 20:06	564.50	584.50	3	1	20051011 19:57:11	20051011 19:59:07		-1	
KFM06C	20051011 20:28	20051011 21:45	584.50	604.50	3	1	20051011 21:02:38	20051011 21:22:57	8.82E-09	0	3.09E-08
KFM06C	20051011 22:03	20051011 22:48	604.50	624.50	3	1	20051011 22:37:33	20051011 22:41:25		-1	
KFM06C	20051011 23:10	20051011 23:51	624.50	644.50	3	1	20051011 23:41:49	20051011 23:44:14		-1	
KFM06C	20051012 06:36	20051012 08:05	636.00	656.00	3	1	20051012 07:22:32	20051012 07:42:51	5.90E-07	0	1.05E-06
KFM06C	20051012 08:30	20051012 09:49	656.00	676.00	3	1	20051012 09:06:41	20051012 09:27:00	1.13E-06	0	1.27E-06
KFM06C	20051012 10:10	20051012 11:26	676.00	696.00	3	1	20051012 10:43:23	20051012 11:03:43	2.49E-08	0	4.50E-08
KFM06C	20051012 12:38	20051012 14:04	691.00	711.00	3	1	20051012 13:21:44	20051012 13:42:02	1.29E-07	0	1.61E-07
KFM06C	20051012 14:30	20051012 15:10	711.00	731.00	3	1	20051012 15:01:30	20051012 15:03:26		-1	
KFM06C	20051012 15:32	20051012 16:51	731.00	751.00	3	1	20051012 16:09:14	20051012 16:29:31	9.75E-09	0	2.68E-08
KFM06C	20051012 17:12	20051012 17:59	751.00	771.00	3	1	20051012 17:46:40	20051012 17:52:20		-1	
KFM06C	20051012 19:09	20051012 20:24	771.00	791.00	3	1	20051012 19:42:19	20051012 20:02:50	6.03E-09	0	3.26E-08
KFM06C	20051012 20:47	20051012 21:34	791.00	811.00	3	1	20051012 21:19:47	20051012 21:27:23		-1	
KFM06C	20051012 21:51	20051012 23:07	811.00	831.00	3	1	20051012 22:25:21	20051012 22:45:51	4.62E-08	0	6.36E-08
KFM06C	20051012 23:29	20051013 00:42	831.00	851.00	3	1	20051013 00:00:29	20051013 00:21:00	5.16E-08	0	7.44E-08
KFM06C	20051013 06:44	20051013 08:01	851.00	871.00	3	1	20051013 07:19:21	20051013 07:39:20		-1	
KFM06C	20051013 08:37	20051013 09:41	871.00	891.00	3	1	20051013 09:21:11	20051013 09:31:03		-1	
KFM06C	20051013 10:22	20051013 11:40	891.00	911.00	3	1	20051013 10:57:55	20051013 11:18:32	7.09E-08	0	1.03E-07
KFM06C	20051013 12:53	20051013 14:18	911.00	931.00	3	1	20051013 13:36:05	20051013 13:56:36	2.42E-07	0	3.41E-07
KFM06C	20051013 14:41	20051013 16:10	931.00	951.00	3	1	20051013 15:27:39	20051013 15:47:38		-1	
KFM06C	20051013 16:38	20051013 17:24	951.00	971.00	3	1	20051013 17:14:34	20051013 17:17:21		-1	
KFM06C	20051013 17:44	20051013 18:31	971.00	991.00	3	1	20051013 18:20:59	20051013 18:23:58		-1	
KFM06C	20051018 08:12	20051018 09:28	124.50	129.50	3	1	20051018 08:45:39	20051018 09:05:57	2.13E-05	0	2.24E-05
KFM06C	20051018 09:52	20051018 11:08	129.50	134.50	3	1	20051018 10:26:15	20051018 10:46:36	4.31E-07	0	5.13E-07
KFM06C	20051018 12:24	20051018 13:39	134.50	139.50	3	1	20051018 12:57:07	20051018 13:17:27	1.05E-06	0	1.25E-06

idcode	start_date	stop_date	secup	seclow	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20051018 13:49	20051018 15:03	139.50	144.50	3	1	20051018 14:20:53	20051018 14:41:08	3.40E-04	0	4.10E-04
KFM06C	20051018 15:18	20051018 16:37	141.50	146.50	3	1	20051018 15:54:51	20051018 16:14:49	1.42E-04	0	2.71E-04
KFM06C	20051018 16:53	20051018 18:10	146.50	151.50	3	1	20051018 17:28:04	20051018 17:48:20	1.50E-04	0	1.55E-04
KFM06C	20051018 18:24	20051018 19:47	151.50	156.50	3	1	20051018 19:05:01	20051018 19:25:19	6.55E-05	0	6.89E-05
KFM06C	20051018 19:59	20051018 21:24	153.50	158.50	3	1	20051018 20:42:11	20051018 21:02:31	5.84E-05	0	6.00E-05
KFM06C	20051018 21:50	20051018 23:08	159.50	164.50	3	1	20051018 22:26:23	20051018 22:46:43	4.42E-05	0	4.55E-05
KFM06C	20051018 23:19	20051019 00:36	164.50	169.50	3	1	20051018 23:53:37	20051019 00:13:56	1.70E-04	0	1.85E-04
KFM06C	20051019 06:16	20051019 07:33	169.50	174.50	3	1	20051019 06:51:16	20051019 07:11:36	3.70E-05	0	3.94E-05
KFM06C	20051019 07:47	20051019 09:00	174.50	179.50	3	1	20051019 08:18:07	20051019 08:38:22	1.99E-04	0	2.26E-04
KFM06C	20051019 09:10	20051019 10:24	179.50	184.50	3	1	20051019 09:42:05	20051019 10:02:23	1.84E-04	0	1.95E-04
KFM06C	20051101 18:30	20051101 19:45	184.50	189.50	3	1	20051101 19:03:24	20051101 19:23:45	3.08E-07	0	3.86E-07
KFM06C	20051019 12:49	20051019 14:03	189.50	194.50	3	1	20051019 13:20:37	20051019 13:40:57	1.38E-06	0	1.77E-06
KFM06C	20051019 14:18	20051019 15:31	194.50	199.50	3	1	20051019 14:49:18	20051019 15:09:38	2.00E-06	0	2.92E-06
KFM06C	20051019 15:51	20051019 16:45	199.50	204.50	3	1	20051019 16:25:46	20051019 16:38:02		-1	
KFM06C	20051019 17:02	20051019 18:21	204.50	209.50	3	1	20051019 17:38:50	20051019 17:59:10	1.70E-05	0	1.87E-05
KFM06C	20051019 18:36	20051019 19:54	209.50	214.50	3	1	20051019 19:12:11	20051019 19:32:31	7.72E-06	0	8.39E-06
KFM06C	20051019 20:15	20051019 21:34	214.50	219.50	3	1	20051019 20:51:59	20051019 21:12:20	6.67E-06	0	7.22E-06
KFM06C	20051101 16:51	20051101 18:07	219.50	224.50	3	1	20051101 17:25:19	20051101 17:45:38	6.80E-06	0	7.00E-06
KFM06C	20051019 23:02	20051020 00:25	224.50	229.50	3	1	20051019 23:42:31	20051020 00:02:51	5.73E-06	0	6.14E-06
KFM06C	20051020 07:05	20051020 08:07	229.50	234.50	3	1	20051020 07:47:35	20051020 07:59:49	3.76E-09	-1	
KFM06C	20051020 08:25	20051020 09:52	234.50	239.50	3	1	20051020 09:09:41	20051020 09:30:04	7.86E-07	0	1.41E-06
KFM06C	20051020 10:11	20051020 11:31	239.50	244.50	3	1	20051020 10:49:20	20051020 11:09:57	3.97E-07	0	2.18E-06
KFM06C	20051020 12:50	20051020 14:11	244.50	249.50	3	1	20051020 13:28:55	20051020 13:49:15	1.00E-07	0	1.27E-07
KFM06C	20051020 14:28	20051020 15:32	249.50	254.50	3	1	20051020 15:12:37	20051020 15:24:41		-1	
KFM06C	20051020 15:59	20051020 16:47	254.50	259.50	3	1	20051020 16:31:56	20051020 16:39:12		-1	
KFM06C	20051020 17:00	20051020 18:20	259.50	264.50	3	1	20051020 17:37:25	20051020 17:57:46	1.69E-06	0	1.79E-06
KFM06C	20051020 18:38	20051020 19:20	264.50	269.50	3	1	20051020 19:10:55	20051020 19:14:31		-1	
KFM06C	20051020 19:36	20051020 20:53	269.50	274.50	3	1	20051020 20:10:45	20051020 20:31:06	1.06E-07	0	2.03E-07
KFM06C	20051020 21:07	20051020 21:50	274.50	279.50	3	1	20051020 21:40:43	20051020 21:43:13		-1	
KFM06C	20051101 15:34	20051101 16:16	279.50	284.50	3	1	20051101 16:05:59	20051101 16:08:55		-1	
KFM06C	20051020 23:02	20051021 00:26	284.50	289.50	3	1	20051020 23:44:12	20051021 00:04:31	7.51E-06	0	8.83E-06
KFM06C	20051101 14:05	20051101 15:20	289.50	294.50	3	1	20051101 14:37:51	20051101 14:58:08	1.10E-06	0	4.41E-06

idcode	start_date	stop_date	secup	seclow	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20051021 10:24	20051021 11:40	294.50	299.50	3	1	20051021 10:58:06	20051021 11:18:26	1.60E-08	0	3.06E-08
KFM06C	20051021 12:51	20051021 13:46	299.50	304.50	3	1	20051021 13:26:55	20051021 13:38:43		-1	
KFM06C	20051021 13:57	20051021 14:50	304.50	309.50	3	1	20051021 14:31:18	20051021 14:42:48		-1	
KFM06C	20051021 15:06	20051021 15:48	309.50	314.50	3	1	20051021 15:38:31	20051021 15:40:50		-1	
KFM06C	20051024 08:36	20051024 10:02	314.50	319.50	3	1	20051024 09:19:38	20051024 09:39:57	6.83E-05	0	1.16E-04
KFM06C	20051024 10:20	20051024 11:15	319.50	324.50	3	1	20051024 11:04:42	20051024 11:08:18		-1	
KFM06C	20051024 11:32	20051024 14:09	324.50	329.50	3	1	20051024 13:26:37	20051024 13:46:59	1.90E-07	0	1.15E-06
KFM06C	20051024 14:23	20051024 15:17	329.50	334.50	3	1	20051024 15:05:24	20051024 15:10:14		-1	
KFM06C	20051024 15:29	20051024 16:46	334.50	339.50	3	1	20051024 16:04:08	20051024 16:24:29	1.30E-08	0	1.17E-07
KFM06C	20051025 06:01	20051025 07:16	339.50	344.50	3	1	20051025 06:34:13	20051025 06:54:32	8.20E-07	0	9.79E-07
KFM06C	20051025 07:30	20051025 08:44	344.50	349.50	3	1	20051025 08:01:41	20051025 08:22:02	3.90E-06	0	8.05E-06
KFM06C	20051025 08:53	20051025 09:34	349.50	354.50	3	1	20051025 09:25:34	20051025 09:27:06		-1	
KFM06C	20051025 09:47	20051025 11:00	354.50	359.50	3	1	20051025 10:18:01	20051025 10:38:22	5.28E-07	0	7.26E-07
KFM06C	20051025 11:58	20051025 13:11	359.50	364.50	3	1	20051025 12:29:08	20051025 12:49:29	8.74E-06	0	3.89E-05
KFM06C	20051025 13:29	20051025 14:43	384.50	389.50	3	1	20051025 14:00:56	20051025 14:21:19	1.97E-07	0	2.17E-07
KFM06C	20051025 14:51	20051025 16:14	387.00	392.00	3	1	20051025 15:31:29	20051025 15:51:51	1.08E-07	0	1.29E-07
KFM06C	20051025 16:39	20051025 17:54	392.00	397.00	3	1	20051025 17:12:01	20051025 17:32:19	1.31E-04	0	1.41E-04
KFM06C	20051025 18:06	20051025 19:21	397.00	402.00	3	1	20051025 18:51:09	20051025 19:11:15		-1	
KFM06C	20051025 19:39	20051025 20:29	402.00	407.00	3	1	20051025 20:13:59	20051025 20:21:52		-1	
KFM06C	20051025 20:48	20051025 22:19	407.00	412.00	3	1	20051025 21:36:52	20051025 21:57:14	6.13E-08	0	8.74E-08
KFM06C	20051025 22:33	20051025 23:50	412.00	417.00	3	1	20051025 23:08:05	20051025 23:28:27	3.35E-08	0	4.06E-08
KFM06C	20051026 06:17	20051026 07:37	417.00	422.00	3	1	20051026 06:54:51	20051026 07:15:10	2.74E-06	0	3.60E-06
KFM06C	20051026 08:48	20051026 10:11	422.00	427.00	3	1	20051026 09:28:38	20051026 09:48:57	1.81E-06	0	2.78E-06
KFM06C	20051026 10:19	20051026 11:45	426.00	431.00	3	1	20051026 11:02:59	20051026 11:23:05		-1	
KFM06C	20051026 12:33	20051026 13:47	431.00	436.00	3	1	20051026 13:05:23	20051026 13:25:45	7.14E-09	0	1.17E-08
KFM06C	20051026 13:55	20051026 14:42	436.00	441.00	3	1	20051026 14:27:29	20051026 14:33:10		-1	
KFM06C	20051026 15:02	20051026 16:23	441.00	446.00	3	1	20051026 15:40:55	20051026 16:01:02		-1	
KFM06C	20051026 16:41	20051026 18:03	446.00	451.00	3	1	20051026 17:21:16	20051026 17:41:38	4.67E-08	0	5.56E-08
KFM06C	20051026 18:16	20051026 19:43	451.00	456.00	3	1	20051026 19:01:05	20051026 19:21:27	6.94E-08	0	1.76E-07
KFM06C	20051026 20:08	20051026 20:52	458.00	463.00	3	1	20051026 20:41:46	20051026 20:44:58		-1	
KFM06C	20051026 21:06	20051026 21:49	463.00	468.00	3	1	20051026 21:39:24	20051026 21:41:34		-1	
KFM06C	20051026 22:30	20051026 23:51	524.00	529.00	3	1	20051026 23:08:38	20051026 23:29:00	1.48E-07	0	1.57E-07

idcode	start_date	stop_date	secup	seclow	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20051027 06:23	20051027 07:13	528.00	533.00	3	1	20051027 06:59:22	20051027 07:04:46		-1	
KFM06C	20051027 07:25	20051027 08:39	534.00	539.00	3	1	20051027 07:57:13	20051027 08:17:35	3.26E-05	0	4.23E-05
KFM06C	20051027 08:50	20051027 09:29	539.50	544.50	3	1	20051027 09:21:11	20051027 09:22:23		-1	
KFM06C	20051027 10:22	20051027 11:02	635.50	640.50	3	1	20051027 10:53:55	20051027 10:55:28		-1	
KFM06C	20051027 11:10	20051027 12:34	640.00	645.00	3	1	20051027 12:24:46	20051027 12:27:12		-1	
KFM06C	20051027 12:47	20051027 13:28	642.50	647.50	3	1	20051027 13:17:40	20051027 13:20:30		-1	
KFM06C	20051027 13:38	20051027 14:52	647.50	652.50	3	1	20051027 14:09:56	20051027 14:30:18	5.90E-07	0	1.12E-06
KFM06C	20051027 15:01	20051027 16:20	651.00	656.00	3	1	20051027 15:38:12	20051027 15:58:34	7.23E-07	0	1.18E-06
KFM06C	20051027 16:34	20051027 17:21	656.00	661.00	3	1	20051027 17:11:16	20051027 17:14:09		-1	
KFM06C	20051027 17:37	20051027 18:58	661.00	666.00	3	1	20051027 18:15:29	20051027 18:35:50	1.00E-06	0	1.11E-06
KFM06C	20051027 19:12	20051027 20:36	666.00	671.00	3	1	20051027 19:54:15	20051027 20:14:34	7.05E-09	0	1.20E-08
KFM06C	20051027 20:50	20051027 22:14	671.00	676.00	3	1	20051027 21:31:47	20051027 21:52:09	7.40E-08	0	1.03E-07
KFM06C	20051027 22:29	20051027 23:30	691.00	696.00	3	1	20051027 23:02:52	20051027 23:22:48		-1	
KFM06C	20051028 08:08	20051028 09:25	696.00	701.00	3	1	20051028 08:42:47	20051028 09:03:08	1.30E-07	0	1.58E-07
KFM06C	20051028 09:40	20051028 10:27	701.00	706.00	3	1	20051028 10:12:38	20051028 10:20:01		-1	
KFM06C	20051028 10:47	20051028 11:32	706.00	711.00	3	1	20051028 11:21:59	20051028 11:24:46		-1	
KFM06C	20051028 15:01	20051028 15:42	811.00	816.00	3	1	20051028 15:32:39	20051028 15:35:09		-1	
KFM06C	20051028 15:58	20051028 17:12	816.00	821.00	3	1	20051028 16:30:13	20051028 16:50:43	5.99E-08	0	7.52E-08
KFM06C	20051031 06:17	20051031 06:58	821.00	826.00	3	1	20051031 06:48:42	20051031 06:51:07		-1	
KFM06C	20051031 07:09	20051031 07:48	826.00	831.00	3	1	20051031 07:40:19	20051031 07:41:26		-1	
KFM06C	20051031 07:59	20051031 08:39	831.00	836.00	3	1	20051031 08:30:43	20051031 08:32:04		-1	
KFM06C	20051031 08:49	20051031 09:31	836.00	841.00	3	1	20051031 09:20:23	20051031 09:23:51		-1	
KFM06C	20051031 09:40	20051031 10:54	841.00	846.00	3	1	20051031 10:11:44	20051031 10:32:14	2.34E-08	0	3.56E-08
KFM06C	20051031 11:09	20051031 13:05	846.00	851.00	3	1	20051031 12:22:39	20051031 12:43:09	2.25E-08	0	4.39E-08
KFM06C	20051031 13:34	20051031 14:15	891.00	896.00	3	1	20051031 14:05:48	20051031 14:07:37		-1	
KFM06C	20051031 14:30	20051031 15:12	896.00	901.00	3	1	20051031 15:03:40	20051031 15:05:00		-1	
KFM06C	20051031 15:31	20051031 16:45	901.00	906.00	3	1	20051031 16:03:23	20051031 16:23:53	6.88E-08	0	9.40E-08
KFM06C	20051031 16:57	20051031 17:46	906.00	911.00	3	1	20051031 17:30:08	20051031 17:38:36		-1	
KFM06C	20051031 17:57	20051031 19:11	911.00	916.00	3	1	20051031 18:29:16	20051031 18:49:45	1.57E-08	0	3.53E-08
KFM06C	20051031 19:20	20051031 20:33	915.00	920.00	3	1	20051031 19:51:26	20051031 20:11:58	1.15E-08	0	2.53E-08
KFM06C	20051031 20:46	20051031 22:00	920.00	925.00	3	1	20051031 21:18:04	20051031 21:38:34	6.36E-08	0	7.44E-08
KFM06C	20051031 22:09	20051031 23:26	925.00	930.00	3	1	20051031 22:43:41	20051031 23:04:11	2.16E-07	0	2.89E-07

idcode	start_date	stop_date	secup	seclow	test_type	Formation_type	start_flow_period	stop_flow_period	flow_rate_end_qp	Value_type_qp	mean_flow_rate_qm
KFM06C	20051101 06:04	20051101 07:20	930.00	935.00	3	1	20051101 07:00:39	20051101 07:13:17		-1	
KFM06C <sup>2)</sup>	20051003 09:27	20051003 10:32	404.50	504.50	3	1	20051003 10:19:16	20051003 10:29:16			
KFM06C <sup>2)</sup>	20051006 15:38	20051006 16:35	164.50	184.50	3	1	20051006 16:26:05	20051006 16:32:38			
KFM06C <sup>2)</sup>	20051014 11:02	20051014 13:48	164.50	184.50	3	1	20051014 13:05:31	20051014 13:25:51			
KFM06C <sup>2)</sup>	20051019 10:33	20051019 11:47	184.50	189.50	3	1	20051019 11:04:34	20051019 11:24:57			
KFM06C <sup>2)</sup>	20051019 21:49	20051019 22:40	219.50	224.50	3	1	20051019 22:27:25	20051019 22:37:24			
KFM06C <sup>2)</sup>	20051020 22:06	20051020 22:21	279.50	284.50	3	1	20051020 22:18:00	20051020 22:18:30			
KFM06C <sup>2)</sup>	20051021 08:31	20051021 09:49	289.50	294.50	3	1	20051021 09:07:18	20051021 09:27:39			
KFM06C <sup>2)</sup>	20051026 07:53	20051026 08:34	422.00	427.00	3	1	20051026 08:25:00	20051026 08:30:45			
KFM06C <sup>2)</sup>	20051031 22:09	20051031 23:26	925.00	930.00	3	1	20050929 16:36:38	20050929 17:06:47	1.37E-04	0	1.78E-04
KFM06C <sup>2)</sup>	20051101 06:04	20051101 07:20	930.00	935.00	3	1	20050930 11:44:07	20050930 12:14:24	2.71E-05	0	3.45E-05

<sup>1)</sup> The injection period is longer than usual.

<sup>2)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later.

**KFM06C plu\_s\_hole\_test\_d. Right (This result table to SICADA includes more columns which are empty, these columns are not presented here.)**

idcode	secup	seclow	q_measl_l	q_measl_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	104.50	204.50	1.7E-08	1.0E-03	3.23E-01	1809	1806	922.83	935.78	924.21	8.27
KFM06C	204.50	304.50	1.7E-08	1.0E-03	6.27E-02	1817	1808	1761.80	1956.87	1787.16	7.85
KFM06C	304.50	404.50	1.7E-08	1.0E-03	4.70E-01	1817	1809	2535.48	2645.28	2540.44	8.41
KFM06C	404.50	504.50	1.7E-08	1.0E-03	5.57E-03	1825	1799	3312.74	3517.93	3415.51	9.59
KFM06C	504.50	604.50	1.7E-08	1.0E-03	6.28E-02	1817	1808	4074.02	4282.32	4102.67	10.10
KFM06C	604.50	704.50	1.7E-08	1.0E-03	4.27E-03	1818	1809	4824.82	5067.28	4875.80	11.22
KFM06C	691.00	791.00	1.7E-08	1.0E-03	3.16E-04	1819	1805	5474.79	5672.60	5510.61	11.97
KFM06C	791.00	891.00	1.7E-08	1.0E-03	2.49E-04	1825	1791	6205.48	6429.70	6250.12	12.92
KFM06C <sup>1)</sup>	891.00	991.00	1.7E-08	1.0E-03	7.59E-04	2179	1791	6925.16	7123.50	6980.81	13.90
KFM06C	104.50	124.50	1.7E-08	1.0E-03	2.26E-02	1216	1210	941.42	1104.12	945.41	7.14
KFM06C	124.50	144.50	1.7E-08	1.0E-03	5.04E-01	1214	1211	1107.97	1206.48	1132.78	10.74
KFM06C	144.50	164.50	1.7E-08	1.0E-03	5.20E-01	1211	1211	1276.05	1326.70	1289.82	10.48
KFM06C	164.50	184.50	1.7E-08	1.0E-03	4.56E-01	1196	1203	1441.09	1532.30	1442.46	9.28
KFM06C	184.50	204.50	1.7E-08	1.0E-03	7.11E-03	1217	1208	1605.58	1827.64	1633.13	7.90
KFM06C	204.50	224.50	1.7E-08	1.0E-03	4.48E-02	1217	1209	1769.24	1972.60	1775.85	7.87
KFM06C	224.50	244.50	1.7E-08	1.0E-03	9.68E-03	1219	1206	1934.01	2132.39	1940.06	8.20
KFM06C	244.50	264.50	1.7E-08	1.0E-03	2.02E-03	1218	1208	2096.01	2295.60	2098.21	8.39
KFM06C	264.50	284.50	1.7E-08	1.0E-03	2.04E-04	1218	1206	2262.98	2463.50	2380.90	8.53
KFM06C	284.50	304.50	1.7E-08	1.0E-03	1.30E-02	1218	1208	2420.58	2586.72	2467.97	8.70
KFM06C	304.50	324.50	1.7E-08	1.0E-03	1.09E-01	1217	1209	2581.76	2713.05	2631.08	8.52
KFM06C	324.50	344.50	1.7E-08	1.0E-03	2.40E-03	1218	1208	2742.67	2949.45	2857.56	9.00
KFM06C	344.50	364.50	1.7E-08	1.0E-03	7.17E-02	1219	1205	2900.50	3127.60	3084.05	8.86
KFM06C	364.50	384.50	1.7E-08	1.0E-03	7.67E-05	1218	1208	3067.52	3305.85	3194.26	9.24
KFM06C	384.50	404.50	1.7E-08	1.0E-03	8.54E-02	1214	1211	3217.40	3407.51	3217.96	9.13
KFM06C	387.00	407.00	1.7E-08	1.0E-03	8.38E-02	1214	1210	3236.69	3437.13	3238.89	9.17
KFM06C	407.00	427.00	1.7E-08	1.0E-03	4.34E-03	1219	1206	3394.29	3603.97	3498.43	9.57
KFM06C	427.00	447.00	5.0E-09	1.0E-03	2.80E-05	1207	1219	3556.85	3792.13	3675.32	9.73

idcode	secup	seclow	q_meas_l	q_meas_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	447.00	467.00	1.7E-08	1.0E-03	2.04E-04	1219	1206	3706.19	3923.30	3850.57	9.88
KFM06C	467.00	487.00	5.1E-09	1.0E-03		1206	1221	3864.06	4078.14	4004.85	10.04
KFM06C	487.00	507.00	5.1E-09	1.0E-03		220	321	4025.24	4229.41	4230.79	10.21
KFM06C	504.50	524.50	5.1E-09	1.0E-03		638	321	4161.63	4366.34	4348.15	10.37
KFM06C	524.50	544.50	1.7E-08	1.0E-03	4.96E-02	1219	1209	4299.66	4537.72	4339.34	10.25
KFM06C	544.50	564.50	6.4E-09	1.0E-03		239	321	4487.85	4664.19	4661.16	10.72
KFM06C	564.50	584.50	5.1E-09	1.0E-03		116	321	4613.77	4817.65	4818.21	10.87
KFM06C	584.50	604.50	3.9E-09	1.0E-03	3.73E-05	1219	1221	4764.34	4968.65	4883.78	11.04
KFM06C	604.50	624.50	5.1E-09	1.0E-03		232	321	4936.54	5118.66	5105.86	11.20
KFM06C	624.50	644.50	5.1E-09	1.0E-03		145	321	5079.82	5268.28	5256.85	11.37
KFM06C	636.00	656.00	1.7E-08	1.0E-03	1.28E-03	1219	1206	5143.88	5349.50	5213.30	11.49
KFM06C	656.00	676.00	1.7E-08	1.0E-03	1.55E-03	1219	1208	5294.87	5515.83	5314.16	11.64
KFM06C	676.00	696.00	1.7E-08	1.0E-03	5.50E-05	1220	1206	5451.50	5667.93	5519.70	11.82
KFM06C	691.00	711.00	1.7E-08	1.0E-03	1.96E-04	1218	1207	5557.72	5777.10	5583.62	11.96
KFM06C	711.00	731.00	6.4E-09	1.0E-03		116	321	5731.85	5925.82	5939.05	12.14
KFM06C	731.00	751.00	5.1E-09	1.0E-03	3.23E-05	1217	1221	5874.30	6075.20	5977.62	12.32
KFM06C	751.00	771.00	5.1E-09	1.0E-03		340	320	6028.32	6225.73	6220.09	12.51
KFM06C	771.00	791.00	4.0E-09	1.0E-03	3.91E-05	1231	1221	6160.57	6376.58	6355.64	12.71
KFM06C	791.00	811.00	4.0E-09	1.0E-03		456	321	6324.51	6527.02	6517.65	12.92
KFM06C	811.00	831.00	1.7E-08	1.0E-03	7.85E-05	1230	1185	6462.96	6672.63	6479.63	13.13
KFM06C	831.00	851.00	1.7E-08	1.0E-03	9.19E-05	1231	1185	6602.51	6821.21	6665.34	13.31
KFM06C	851.00	871.00	5.0E-09	1.0E-03		1199	1221	6753.23	6973.37	6912.20	13.51
KFM06C	871.00	891.00	5.5E-09	1.0E-03		592	489	6916.61	7117.19	7117.19	13.71
KFM06C	891.00	911.00	1.7E-08	1.0E-03	1.27E-04	1237	1185	7038.95	7257.30	7087.44	13.90
KFM06C	911.00	931.00	1.7E-08	1.0E-03	4.20E-04	1231	1187	7180.70	7395.89	7241.18	14.09
KFM06C	931.00	951.00	6.4E-09	1.0E-03		1199	1221	7336.24	7546.19	7512.30	14.28
KFM06C	951.00	971.00	6.4E-09	1.0E-03		167	321	7516.29	7690.83	7706.27	14.49
KFM06C	971.00	991.00	5.1E-09	1.0E-03		179	321	7642.48	7833.01	7844.03	14.68
KFM06C	124.50	129.50	1.7E-08	1.0E-03	2.73E-02	1218	1206	1101.54	1292.50	1109.81	7.20
KFM06C	129.50	134.50	1.7E-08	1.0E-03	6.27E-04	1221	1203	1145.28	1353.09	1150.66	7.39
KFM06C	134.50	139.50	1.7E-08	1.0E-03	1.53E-03	1220	1203	1185.44	1394.62	1192.05	7.43

idcode	secup	seclow	q_measl_l	q_measl_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	139.50	144.50	1.7E-08	1.0E-03	4.99E-01	1215	1206	1226.83	1324.94	1252.77	9.89
KFM06C	141.50	146.50	1.7E-08	1.0E-03	3.24E-01	1198	1206	1247.80	1284.23	1263.25	8.27
KFM06C	146.50	151.50	1.7E-08	1.0E-03	1.89E-01	1216	1208	1286.99	1487.50	1288.65	7.98
KFM06C	151.50	156.50	5.0E-09	1.0E-03	8.40E-02	1218	1206	1327.56	1544.90	1327.84	7.48
KFM06C	153.50	158.50	4.0E-09	1.0E-03	7.33E-02	1220	1205	1343.84	1544.90	1343.84	7.43
KFM06C	159.50	164.50	4.0E-09	1.0E-03	5.56E-02	1220	1203	1393.52	1596.78	1392.97	7.45
KFM06C	164.50	169.50	1.7E-08	1.0E-03	2.25E-01	1219	1205	1434.60	1530.10	1436.03	8.12
KFM06C	169.50	174.50	1.7E-08	1.0E-03	4.81E-02	1220	1205	1476.18	1652.40	1476.32	7.51
KFM06C	174.50	179.50	1.7E-08	1.0E-03	2.75E-01	1215	1206	1521.50	1682.74	1521.03	8.16
KFM06C	179.50	184.50	1.7E-08	1.0E-03	2.38E-01	1218	1206	1559.20	1739.60	1560.76	8.09
KFM06C	184.50	189.50	1.7E-08	1.0E-03	4.72E-04	1221	1205	1600.37	1800.32	1609.89	7.88
KFM06C	189.50	194.50	1.7E-08	1.0E-03	2.17E-03	1220	1203	1641.90	1870.97	1660.12	8.00
KFM06C	194.50	199.50	1.7E-08	1.0E-03	3.58E-03	1220	1203	1682.20	1866.69	1720.28	8.02
KFM06C	199.50	204.50	5.0E-09	1.0E-03		736	324	1726.91	1957.76	1950.45	8.00
KFM06C	204.50	209.50	1.7E-08	1.0E-03	2.28E-02	1220	1205	1763.35	1957.90	1766.10	7.95
KFM06C	209.50	214.50	1.7E-08	1.0E-03	1.03E-02	1220	1205	1805.15	2020.00	1807.50	8.04
KFM06C	214.50	219.50	1.7E-08	1.0E-03	8.83E-03	1221	1203	1846.13	2068.85	1850.55	8.09
KFM06C	219.50	224.50	1.7E-08	1.0E-03	8.55E-03	1219	1206	1887.66	2087.89	1889.73	8.15
KFM06C	224.50	229.50	1.7E-08	1.0E-03	7.50E-03	1220	1205	1927.82	2128.46	1931.13	8.19
KFM06C	229.50	234.50	1.7E-08	1.0E-03		734	321	1973.91	2212.08	2190.01	8.26
KFM06C	234.50	239.50	1.7E-08	1.0E-03	1.72E-03	1223	1203	2008.97	2278.59	2084.03	8.30
KFM06C	239.50	244.50	1.7E-08	1.0E-03	2.69E-03	1237	1189	2051.88	2301.09	2247.95	8.37
KFM06C	244.50	249.50	1.7E-08	1.0E-03	1.56E-04	1220	1205	2091.20	2279.98	2093.97	8.37
KFM06C	249.50	254.50	7.6E-09	1.0E-03		724	348	2212.63	2383.88	2406.93	8.40
KFM06C	254.50	259.50	7.6E-09	1.0E-03		436	341	2234.02	2426.25	2441.70	8.43
KFM06C	259.50	264.50	1.7E-08	1.0E-03	2.19E-03	1221	1205	2211.67	2413.82	2213.74	8.49
KFM06C	264.50	269.50	5.5E-09	1.0E-03		216	235	2372.98	2479.23	2569.20	8.50
KFM06C	269.50	274.50	1.7E-08	1.0E-03	2.48E-04	1221	1205	2298.33	2518.42	2442.25	8.54
KFM06C	274.50	279.50	5.5E-09	1.0E-03		150	334	2352.28	2559.83	2569.20	8.57
KFM06C	279.50	284.50	4.0E-09	1.0E-03		176	321	2425.83	2597.77	2630.47	8.61
KFM06C	284.50	289.50	1.7E-08	1.0E-03	1.08E-02	1219	1205	2414.65	2617.23	2449.98	8.72
KFM06C	289.50	294.50	1.7E-08	1.0E-03	5.41E-03	1217	1202	2459.36	2679.10	2627.16	8.73



idcode	secup	seclo	q_meas_l	q_meas_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	294.50	299.50	5.0E-09	1.0E-03	3.69E-05	1220	1221	2499.79	2734.79	2581.35	8.72
KFM06C	299.50	304.50	5.5E-09	1.0E-03		708	321	2558.16	2776.19	2728.72	8.76
KFM06C	304.50	309.50	6.4E-09	1.0E-03		690	321	2628.13	2817.03	2801.58	8.80
KFM06C	309.50	314.50	5.0E-09	1.0E-03		139	321	2627.71	2856.78	2870.57	8.84
KFM06C	314.50	319.50	1.7E-08	1.0E-03	1.42E-01	1219	1206	2664.69	2834.29	2727.62	8.48
KFM06C	319.50	324.50	4.5E-09	1.0E-03		216	321	2729.27	2933.50	2936.81	8.93
KFM06C	324.50	329.50	1.7E-08	1.0E-03	1.43E-03	1222	1182	2741.41	2948.95	2923.02	8.98
KFM06C	329.50	334.50	4.5E-09	1.0E-03		290	321	2821.31	3012.98	2995.87	8.97
KFM06C	334.50	339.50	1.0E-08	1.0E-03	1.41E-04	1221	1221	2827.94	3052.71	3030.64	9.00
KFM06C	339.50	344.50	1.7E-08	1.0E-03	1.20E-03	1219	1205	2859.82	3058.52	2908.11	9.06
KFM06C	344.50	349.50	1.7E-08	1.0E-03	9.83E-03	1221	1205	2899.56	3085.77	3005.25	9.06
KFM06C	349.50	354.50	7.0E-09	1.0E-03		92	321	2956.13	3168.36	3168.64	9.12
KFM06C	354.50	359.50	1.7E-08	1.0E-03	8.88E-04	1221	1203	2980.00	3181.33	3099.08	9.16
KFM06C	359.50	364.50	1.7E-08	1.0E-03	4.79E-02	1221	1197	3018.50	3200.01	3171.95	9.03
KFM06C	384.50	389.50	1.7E-08	1.0E-03	2.66E-04	1223	1203	3216.93	3447.38	3218.86	9.39
KFM06C	387.00	392.00	1.7E-08	1.0E-03	1.58E-04	1222	1203	3236.53	3523.83	3236.53	9.42
KFM06C	392.00	397.00	1.7E-08	1.0E-03	1.72E-01	1218	1206	3275.72	3476.49	3277.37	8.92
KFM06C	397.00	402.00	6.0E-09	1.0E-03		1206	458	3375.20	3557.35	3495.40	9.49
KFM06C	402.00	407.00	6.5E-09	1.0E-03		473	321	3368.17	3597.51	3560.52	9.53
KFM06C	407.00	412.00	1.7E-08	1.0E-03	1.07E-04	1222	1203	3396.05	3605.24	3429.72	9.55
KFM06C	412.00	417.00	1.7E-08	1.0E-03	4.97E-05	1222	1203	3446.83	3679.76	3457.32	9.59
KFM06C	417.00	422.00	1.7E-08	1.0E-03	4.40E-03	1219	1205	3471.67	3676.03	3505.89	9.68
KFM06C	422.00	427.00	1.7E-08	1.0E-03	3.39E-03	1219	1206	3518.58	3724.74	3596.41	9.76
KFM06C	426.00	431.00	9.0E-09	1.0E-03		1206	1221	3561.63	3792.63	3726.67	9.70
KFM06C	431.00	436.00	5.0E-09	1.0E-03	1.41E-05	1222	1221	3602.06	3834.21	3713.43	9.74
KFM06C	436.00	441.00	6.3E-09	1.0E-03		341	428	3632.97	3874.60	3879.56	9.78
KFM06C	441.00	446.00	5.0E-09	1.0E-03		1207	1221	3668.17	3913.78	3778.01	9.81
KFM06C	446.00	451.00	1.7E-08	1.0E-03	6.80E-05	1222	1203	3699.90	3951.87	3700.73	9.85
KFM06C	451.00	456.00	1.7E-08	1.0E-03	2.16E-04	1222	1203	3742.27	3988.85	3901.64	9.89
KFM06C	458.00	463.00	4.0E-09	1.0E-03		192	321	3841.34	4012.59	4018.66	9.95
KFM06C	463.00	468.00	4.0E-09	1.0E-03		130	321	3850.86	4052.88	4050.12	9.99
KFM06C	524.00	529.00	1.7E-08	1.0E-03	1.92E-04	1222	1203	4300.44	4503.83	4301.82	10.50

idcode	secup	seclow	q_meas_l	q_meas_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	528.00	533.00	5.3E-09	1.0E-03		324	377	4447.25	4573.39	4586.08	10.56
KFM06C	534.00	539.00	1.7E-08	1.0E-03	5.18E-02	1222	1203	4376.89	4594.36	4417.18	10.35
KFM06C	539.50	544.50	5.3E-09	1.0E-03		72	322	4544.13	4649.83	4729.03	10.66
KFM06C	635.50	640.50	6.5E-09	1.0E-03		93	321	5230.08	5381.46	5374.84	11.45
KFM06C	640.00	645.00	6.5E-09	1.0E-03		146	321	5186.75	5416.78	5387.53	11.48
KFM06C	642.50	647.50	6.5E-09	1.0E-03		170	321	5253.26	5436.10	5476.94	11.52
KFM06C	647.50	652.50	1.7E-08	1.0E-03	1.37E-03	1222	1203	5239.60	5462.04	5314.66	11.56
KFM06C	651.00	656.00	1.7E-08	1.0E-03	1.45E-03	1222	1203	5269.97	5481.50	5322.39	11.58
KFM06C	656.00	661.00	4.5E-09	1.0E-03		173	322	5531.45	5521.24	5601.14	11.64
KFM06C	661.00	666.00	1.7E-08	1.0E-03	1.36E-03	1221	1203	5342.27	5542.64	5360.48	11.68
KFM06C	666.00	671.00	6.0E-09	1.0E-03	1.45E-05	1219	1222	5426.45	5616.59	5437.76	11.72
KFM06C	671.00	676.00	1.7E-08	1.0E-03	1.26E-04	1222	1203	5425.76	5655.79	5465.36	11.77
KFM06C	691.00	696.00	5.0E-09	1.0E-03		1196	321	5593.82	5807.02	5745.75	11.94
KFM06C	696.00	701.00	1.7E-08	1.0E-03	1.93E-04	1221	1203	5605.14	5843.45	5630.95	11.97
KFM06C	701.00	706.00	5.1E-09	1.0E-03		443	321	5716.92	5880.71	5814.20	12.03
KFM06C	706.00	711.00	5.1E-09	1.0E-03		167	321	5838.90	5917.96	6014.01	12.07
KFM06C	811.00	816.00	5.2E-09	1.0E-03		150	321	6519.89	6704.10	6707.27	13.11
KFM06C	816.00	821.00	1.7E-08	1.0E-03	9.26E-05	1230	1191	6500.29	6741.49	6514.64	13.16
KFM06C	821.00	826.00	6.5E-09	1.0E-03		145	321	6559.90	6754.60	6771.85	13.23
KFM06C	826.00	831.00	5.3E-09	1.0E-03		67	321	6606.13	6794.07	6818.22	13.26
KFM06C	831.00	836.00	4.1E-09	1.0E-03		81	321	6634.69	6831.74	6850.79	13.31
KFM06C	836.00	841.00	4.1E-09	1.0E-03		208	321	6697.89	6869.56	6854.64	13.36
KFM06C	841.00	846.00	1.7E-08	1.0E-03	4.40E-05	1230	1189	6702.30	6905.56	6712.79	13.40
KFM06C	846.00	851.00	1.7E-08	1.0E-03	5.40E-05	1230	1191	6723.14	6942.41	6814.36	13.45
KFM06C	891.00	896.00	6.6E-09	1.0E-03		109	321	7087.17	7272.49	7307.81	13.89
KFM06C	896.00	901.00	5.3E-09	1.0E-03		80	322	7123.04	7466.36	7483.89	13.94
KFM06C	901.00	906.00	1.7E-08	1.0E-03	1.16E-04	1230	1191	7131.73	7344.79	7166.51	13.99
KFM06C	906.00	911.00	6.6E-09	1.0E-03		508	322	7210.11	7381.77	7384.53	14.04
KFM06C	911.00	916.00	5.0E-09	1.0E-03	4.24E-05	1229	1220	7205.70	7417.65	7330.99	14.09
KFM06C	915.00	920.00	5.0E-09	1.0E-03	3.04E-05	1232	1221	7266.97	7446.35	7377.91	14.12
KFM06C	920.00	925.00	1.7E-08	1.0E-03	9.15E-05	1230	1191	7267.10	7481.68	7278.55	14.18
KFM06C	925.00	930.00	1.7E-08	1.0E-03	3.56E-04	1230	1191	7298.42	7512.45	7350.87	14.23

idcode	secup	seclow	q_measl_l	q_measl_u	tot_volume_vp	dur_flow_phase_tp	dur_rec_phase_tf	initial_press_pi	press_at_flow_end_pp	final_press_pf	fluid_temp_tew
KFM06C	930.00	935.00	5.5E-09	1.0E-03		758	321	7370.05	7552.88	7537.98	14.27
KFM06C <sup>2)</sup>	404.50	504.50				600	35	3313.01	3381.76	3377.48	9.57
KFM06C <sup>2)</sup>	164.50	184.50				393	24	1442.33	1446.87	1446.32	7.78
KFM06C <sup>2)</sup>	164.50	184.50				1220	1200	1440.26	1458.30	1439.16	7.40
KFM06C <sup>2)</sup>	184.50	189.50				1223	1203	1600.92	1804.18	1606.02	7.89
KFM06C <sup>2)</sup>	219.50	224.50				599	30	1886.97	1912.22	1898.02	8.13
KFM06C <sup>2)</sup>	279.50	284.50				30	30	2412.00	2422.00	2422.00	
KFM06C <sup>2)</sup>	289.50	294.50				1221	1205	2456.46	2684.97	2626.61	8.72
KFM06C <sup>2)</sup>	422.00	427.00				345	90	3517.07	3755.24	3653.25	9.67

<sup>1)</sup> The injection period is longer than usual.

<sup>2)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later

**KFM06C plu\_s\_hole\_test\_ed1. Left (This result table to SICADA includes more columns which are empty, these columns are not presented here.)**

idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C	20050929 15:44	20050929 17:39	104.50	204.50	3	1	1.03E-04	0	1.34E-04	0	0	1.34E-06	100.00
KFM06C	20050930 10:33	20050930 12:46	204.50	304.50	3	1	1.36E-06	0	1.77E-06	0	0	1.77E-08	100.00
KFM06C	20050930 15:13	20050930 17:03	304.50	404.50	3	1	1.88E-05	0	2.44E-05	0	0	2.44E-07	100.00
KFM06C	20051005 09:32	20051005 11:24	404.50	504.50	3	1	7.40E-08	0	9.61E-08	0	0	9.61E-10	100.00
KFM06C	20051003 13:30	20051003 15:27	504.50	604.50	3	1	1.27E-06	0	1.65E-06	0	0	1.65E-08	100.00
KFM06C	20051004 06:23	20051004 08:17	604.50	704.50	3	1	6.71E-08	0	8.73E-08	0	0	8.73E-10	100.00
KFM06C	20051004 09:24	20051004 11:19	691.00	791.00	3	1	6.47E-09	0	8.41E-09	0	0	8.41E-11	100.00
KFM06C	20051004 15:03	20051004 17:14	791.00	891.00	3	1	4.06E-09	0	5.28E-09	0	0	5.28E-11	100.00
KFM06C	20051004 18:39	20051004 20:45	891.00	991.00	3	1	1.19E-08	0	1.54E-08	0	0	1.54E-10	100.00
KFM06C	20051006 09:01	20051006 10:58	104.50	124.50	3	1	1.06E-06	0	1.11E-06	0	0	5.53E-08	20.00
KFM06C	20051006 11:18	20051006 13:32	124.50	144.50	3	1	3.50E-05	0	3.65E-05	0	0	1.82E-06	20.00
KFM06C	20051006 13:57	20051006 15:12	144.50	164.50	3	1	6.07E-05	0	6.33E-05	0	0	3.16E-06	20.00
KFM06C	20051014 13:50	20051014 15:09	164.50	184.50	3	1	3.65E-05	0	3.81E-05	0	0	1.91E-06	20.00
KFM06C	20051006 17:05	20051006 18:24	184.50	204.50	3	1	1.89E-07	0	1.97E-07	0	0	9.85E-09	20.00
KFM06C	20051006 18:51	20051006 20:12	204.50	224.50	3	1	1.59E-06	0	1.66E-06	0	0	8.32E-08	20.00
KFM06C	20051006 20:41	20051006 22:05	224.50	244.50	3	1	3.07E-07	0	3.20E-07	0	0	1.60E-08	20.00
KFM06C	20051006 22:30	20051006 23:52	244.50	264.50	3	1	7.53E-08	0	7.85E-08	0	0	3.93E-09	20.00
KFM06C	20051007 08:22	20051007 09:50	264.50	284.50	3	1	4.87E-09	0	5.08E-09	0	0	2.54E-10	20.00
KFM06C	20051007 10:36	20051007 11:58	284.50	304.50	3	1	4.17E-07	0	4.35E-07	0	0	2.18E-08	20.00
KFM06C	20051007 13:43	20051007 15:18	304.50	324.50	3	1	4.00E-06	0	4.17E-06	0	0	2.09E-07	20.00
KFM06C	20051007 15:45	20051007 17:03	324.50	344.50	3	1	3.60E-08	0	3.75E-08	1	0	1.88E-09	20.00
KFM06C	20051010 08:44	20051010 10:07	344.50	364.50	3	1	1.32E-06	0	1.38E-06	1	0	6.88E-08	20.00
KFM06C	20051010 10:42	20051010 12:05	364.50	384.50	3	1	1.13E-09	0	1.18E-09	0	0	5.88E-11	20.00
KFM06C	20051010 13:44	20051010 15:01	384.50	404.50	3	1	3.53E-06	0	3.68E-06	1	0	1.84E-07	20.00
KFM06C	20051010 15:24	20051010 16:41	387.00	407.00	3	1	3.30E-06	0	3.45E-06	1	0	1.72E-07	20.00
KFM06C	20051010 17:06	20051010 18:23	407.00	427.00	3	1	8.86E-08	0	9.24E-08	0	0	4.62E-09	20.00
KFM06C	20051011 08:03	20051011 09:30	427.00	447.00	3	1	3.14E-10	0	3.27E-10	0	0	1.64E-11	20.00
KFM06C	20051011 09:57	20051011 11:22	447.00	467.00	3	1	2.63E-09	0	2.75E-09	0	0	1.37E-10	20.00
KFM06C	20051011 12:42	20051011 13:59	467.00	487.00	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00

idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C	20051011 14:24	20051011 15:10	487.00	507.00	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051011 15:29	20051011 16:19	504.50	524.50	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051011 16:38	20051011 17:52	524.50	544.50	3	1	1.32E-06	0	1.37E-06	0	0	6.87E-08	20.00
KFM06C	20051011 18:16	20051011 19:01	544.50	564.50	3	1	3.18E-10	-1	3.32E-10	0	-1	1.66E-11	20.00
KFM06C	20051011 19:19	20051011 20:06	564.50	584.50	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051011 20:28	20051011 21:45	584.50	604.50	3	1	4.23E-10	0	4.42E-10	0	0	2.21E-11	20.00
KFM06C	20051011 22:03	20051011 22:48	604.50	624.50	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051011 23:10	20051011 23:51	624.50	644.50	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051012 06:36	20051012 08:05	636.00	656.00	3	1	2.82E-08	0	2.94E-08	1	0	1.47E-09	20.00
KFM06C	20051012 08:30	20051012 09:49	656.00	676.00	3	1	5.01E-08	0	5.23E-08	0	0	2.62E-09	20.00
KFM06C	20051012 10:10	20051012 11:26	676.00	696.00	3	1	1.13E-09	0	1.18E-09	0	0	5.89E-11	20.00
KFM06C	20051012 12:38	20051012 14:04	691.00	711.00	3	1	5.75E-09	0	6.00E-09	0	0	3.00E-10	20.00
KFM06C	20051012 14:30	20051012 15:10	711.00	731.00	3	1	3.18E-10	-1	3.32E-10	0	-1	1.66E-11	20.00
KFM06C	20051012 15:32	20051012 16:51	731.00	751.00	3	1	4.76E-10	0	4.97E-10	0	0	2.48E-11	20.00
KFM06C	20051012 17:12	20051012 17:59	751.00	771.00	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051012 19:09	20051012 20:24	771.00	791.00	3	1	2.74E-10	0	2.86E-10	1	0	1.43E-11	20.00
KFM06C	20051012 20:47	20051012 21:34	791.00	811.00	3	1	2.00E-10	-1	2.09E-10	0	-1	1.04E-11	20.00
KFM06C	20051012 21:51	20051012 23:07	811.00	831.00	3	1	2.16E-09	0	2.26E-09	0	0	1.13E-10	20.00
KFM06C	20051012 23:29	20051013 00:42	831.00	851.00	3	1	2.32E-09	0	2.42E-09	0	0	1.21E-10	20.00
KFM06C	20051013 06:44	20051013 08:01	851.00	871.00	3	1	2.50E-10	-1	2.61E-10	0	-1	1.30E-11	20.00
KFM06C	20051013 08:37	20051013 09:41	871.00	891.00	3	1	2.75E-10	-1	2.87E-10	0	-1	1.43E-11	20.00
KFM06C	20051013 10:22	20051013 11:40	891.00	911.00	3	1	3.19E-09	0	3.32E-09	0	0	1.66E-10	20.00
KFM06C	20051013 12:53	20051013 14:18	911.00	931.00	3	1	1.10E-08	0	1.15E-08	0	0	5.76E-10	20.00
KFM06C	20051013 14:41	20051013 16:10	931.00	951.00	3	1	3.18E-10	-1	3.32E-10	0	-1	1.66E-11	20.00
KFM06C	20051013 16:38	20051013 17:24	951.00	971.00	3	1	3.18E-10	-1	3.32E-10	0	-1	1.66E-11	20.00
KFM06C	20051013 17:44	20051013 18:31	971.00	991.00	3	1	2.55E-10	-1	2.66E-10	0	-1	1.33E-11	20.00
KFM06C	20051018 08:12	20051018 09:28	124.50	129.50	3	1	1.09E-06	0	9.00E-07	0	0	1.80E-07	5.00
KFM06C	20051018 09:52	20051018 11:08	129.50	134.50	3	1	2.03E-08	0	1.67E-08	0	0	3.35E-09	5.00
KFM06C	20051018 12:24	20051018 13:39	134.50	139.50	3	1	4.92E-08	0	4.05E-08	0	0	8.09E-09	5.00
KFM06C	20051018 13:49	20051018 15:03	139.50	144.50	3	1	3.40E-05	0	2.80E-05	1	0	5.60E-06	5.00
KFM06C	20051018 15:18	20051018 16:37	141.50	146.50	3	1	3.82E-05	0	3.14E-05	1	0	6.28E-06	5.00
KFM06C	20051018 16:53	20051018 18:10	146.50	151.50	3	1	7.36E-06	0	6.05E-06	1	0	1.21E-06	5.00
KFM06C	20051018 18:24	20051018 19:47	151.50	156.50	3	1	2.96E-06	0	2.43E-06	0	0	4.86E-07	5.00

idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C	20051018 19:59	20051018 21:24	153.50	158.50	3	1	2.85E-06	0	2.35E-06	0	0	4.69E-07	5.00
KFM06C	20051018 21:50	20051018 23:08	159.50	164.50	3	1	2.13E-06	0	1.76E-06	0	0	3.51E-07	5.00
KFM06C	20051018 23:19	20051019 00:36	164.50	169.50	3	1	1.75E-05	0	1.44E-05	0	0	2.88E-06	5.00
KFM06C	20051019 06:16	20051019 07:33	169.50	174.50	3	1	2.06E-06	0	1.69E-06	0	0	3.39E-07	5.00
KFM06C	20051019 07:47	20051019 09:00	174.50	179.50	3	1	1.21E-05	0	9.97E-06	0	0	1.99E-06	5.00
KFM06C	20051019 09:10	20051019 10:24	179.50	184.50	3	1	9.98E-06	0	8.21E-06	0	0	1.64E-06	5.00
KFM06C	20051101 18:30	20051101 19:45	184.50	189.50	3	1	1.51E-08	0	1.24E-08	0	0	2.49E-09	5.00
KFM06C	20051019 12:49	20051019 14:03	189.50	194.50	3	1	5.89E-08	0	4.85E-08	0	0	9.70E-09	5.00
KFM06C	20051019 14:18	20051019 15:31	194.50	199.50	3	1	1.06E-07	0	8.73E-08	0	0	1.75E-08	5.00
KFM06C	20051019 15:51	20051019 16:45	199.50	204.50	3	1	2.50E-10	-1	2.06E-10	0	-1	4.11E-11	5.00
KFM06C	20051019 17:02	20051019 18:21	204.50	209.50	3	1	8.60E-07	0	7.07E-07	0	0	1.41E-07	5.00
KFM06C	20051019 18:36	20051019 19:54	209.50	214.50	3	1	3.53E-07	0	2.90E-07	0	0	5.80E-08	5.00
KFM06C	20051019 20:15	20051019 21:34	214.50	219.50	3	1	2.94E-07	0	2.42E-07	0	0	4.84E-08	5.00
KFM06C	20051101 16:51	20051101 18:07	219.50	224.50	3	1	3.33E-07	0	2.74E-07	0	0	5.48E-08	5.00
KFM06C	20051019 23:02	20051020 00:25	224.50	229.50	3	1	2.80E-07	0	2.31E-07	0	0	4.61E-08	5.00
KFM06C	20051020 07:05	20051020 08:07	229.50	234.50	3	1	8.33E-10	-1	6.86E-10	0	-1	1.37E-10	5.00
KFM06C	20051020 08:25	20051020 09:52	234.50	239.50	3	1	2.86E-08	0	2.35E-08	0	0	4.71E-09	5.00
KFM06C	20051020 10:11	20051020 11:31	239.50	244.50	3	1	1.56E-08	0	1.29E-08	0	0	2.57E-09	5.00
KFM06C	20051020 12:50	20051020 14:11	244.50	249.50	3	1	5.20E-09	0	4.28E-09	0	0	8.56E-10	5.00
KFM06C	20051020 14:28	20051020 15:32	249.50	254.50	3	1	3.80E-10	-1	3.13E-10	0	-1	6.25E-11	5.00
KFM06C	20051020 15:59	20051020 16:47	254.50	259.50	3	1	3.80E-10	-1	3.13E-10	0	-1	6.25E-11	5.00
KFM06C	20051020 17:00	20051020 18:20	259.50	264.50	3	1	8.22E-08	0	6.76E-08	0	0	1.35E-08	5.00
KFM06C	20051020 18:38	20051020 19:20	264.50	269.50	3	1	2.75E-10	-1	2.26E-10	0	-1	4.53E-11	5.00
KFM06C	20051020 19:36	20051020 20:53	269.50	274.50	3	1	4.72E-09	0	3.88E-09	0	0	7.77E-10	5.00
KFM06C	20051020 21:07	20051020 21:50	274.50	279.50	3	1	2.75E-10	-1	2.26E-10	0	-1	4.53E-11	5.00
KFM06C	20051101 15:34	20051101 16:16	279.50	284.50	3	1	2.00E-10	-1	1.65E-10	0	-1	3.29E-11	5.00
KFM06C	20051020 23:02	20051021 00:26	284.50	289.50	3	1	3.64E-07	0	2.99E-07	0	0	5.98E-08	5.00
KFM06C	20051101 14:05	20051101 15:20	289.50	294.50	3	1	4.91E-08	0	4.04E-08	1	0	8.08E-09	5.00
KFM06C	20051021 10:24	20051021 11:40	294.50	299.50	3	1	6.69E-10	0	5.51E-10	0	0	1.10E-10	5.00
KFM06C	20051021 12:51	20051021 13:46	299.50	304.50	3	1	2.77E-10	-1	2.28E-10	0	-1	4.56E-11	5.00
KFM06C	20051021 13:57	20051021 14:50	304.50	309.50	3	1	3.20E-10	-1	2.63E-10	0	-1	5.27E-11	5.00
KFM06C	20051021 15:06	20051021 15:48	309.50	314.50	3	1	2.50E-10	-1	2.06E-10	0	-1	4.11E-11	5.00
KFM06C	20051024 08:36	20051024 10:02	314.50	319.50	3	1	3.95E-06	0	3.25E-06	0	0	6.50E-07	5.00
KFM06C	20051024 10:20	20051024 11:15	319.50	324.50	3	1	2.25E-10	-1	1.85E-10	0	-1	3.70E-11	5.00

idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C	20051024 11:32	20051024 14:09	324.50	329.50	3	1	9.00E-09	0	7.40E-09	1	0	1.48E-09	5.00
KFM06C	20051024 14:23	20051024 15:17	329.50	334.50	3	1	2.25E-10	-1	1.85E-10	0	-1	3.70E-11	5.00
KFM06C	20051024 15:29	20051024 16:46	334.50	339.50	3	1	5.66E-10	0	4.66E-10	1	0	9.31E-11	5.00
KFM06C	20051025 06:01	20051025 07:16	339.50	344.50	3	1	4.05E-08	0	3.33E-08	1	0	6.66E-09	5.00
KFM06C	20051025 07:30	20051025 08:44	344.50	349.50	3	1	2.06E-07	0	1.69E-07	1	0	3.38E-08	5.00
KFM06C	20051025 08:53	20051025 09:34	349.50	354.50	3	1	3.50E-10	-1	2.88E-10	0	-1	5.76E-11	5.00
KFM06C	20051025 09:47	20051025 11:00	354.50	359.50	3	1	2.57E-08	0	2.12E-08	0	0	4.23E-09	5.00
KFM06C	20051025 11:58	20051025 13:11	359.50	364.50	3	1	4.72E-07	0	3.89E-07	1	0	7.77E-08	5.00
KFM06C	20051025 13:29	20051025 14:43	384.50	389.50	3	1	8.40E-09	0	6.91E-09	0	0	1.38E-09	5.00
KFM06C	20051025 14:51	20051025 16:14	387.00	392.00	3	1	3.70E-09	0	3.04E-09	0	0	6.09E-10	5.00
KFM06C	20051025 16:39	20051025 17:54	392.00	397.00	3	1	6.40E-06	0	5.27E-06	0	0	1.05E-06	5.00
KFM06C	20051025 18:06	20051025 19:21	397.00	402.00	3	1	3.00E-10	-1	2.47E-10	0	-1	4.94E-11	5.00
KFM06C	20051025 19:39	20051025 20:29	402.00	407.00	3	1	3.25E-10	-1	2.67E-10	0	-1	5.35E-11	5.00
KFM06C	20051025 20:48	20051025 22:19	407.00	412.00	3	1	2.87E-09	0	2.36E-09	0	0	4.73E-10	5.00
KFM06C	20051025 22:33	20051025 23:50	412.00	417.00	3	1	1.41E-09	0	1.16E-09	0	0	2.32E-10	5.00
KFM06C	20051026 06:17	20051026 07:37	417.00	422.00	3	1	1.31E-07	0	1.08E-07	0	0	2.16E-08	5.00
KFM06C	20051026 08:48	20051026 10:11	422.00	427.00	3	1	8.62E-08	0	7.09E-08	0	0	1.42E-08	5.00
KFM06C	20051026 10:19	20051026 11:45	426.00	431.00	3	1	4.50E-10	-1	3.70E-10	0	-1	7.40E-11	5.00
KFM06C	20051026 12:33	20051026 13:47	431.00	436.00	3	1	3.02E-10	0	2.48E-10	1	0	4.97E-11	5.00
KFM06C	20051026 13:55	20051026 14:42	436.00	441.00	3	1	3.13E-10	-1	2.57E-10	0	-1	5.14E-11	5.00
KFM06C	20051026 15:02	20051026 16:23	441.00	446.00	3	1	2.50E-10	-1	2.06E-10	0	-1	4.11E-11	5.00
KFM06C	20051026 16:41	20051026 18:03	446.00	451.00	3	1	1.82E-09	0	1.50E-09	0	0	2.99E-10	5.00
KFM06C	20051026 18:16	20051026 19:43	451.00	456.00	3	1	2.76E-09	0	2.27E-09	0	0	4.54E-10	5.00
KFM06C	20051026 20:08	20051026 20:52	458.00	463.00	3	1	2.00E-10	-1	1.65E-10	0	-1	3.29E-11	5.00
KFM06C	20051026 21:06	20051026 21:49	463.00	468.00	3	1	2.00E-10	-1	1.65E-10	0	-1	3.29E-11	5.00
KFM06C	20051026 22:30	20051026 23:51	524.00	529.00	3	1	7.14E-09	0	5.88E-09	0	0	1.18E-09	5.00
KFM06C	20051027 06:23	20051027 07:13	528.00	533.00	3	1	2.64E-10	-1	2.17E-10	0	-1	4.35E-11	5.00
KFM06C	20051027 07:25	20051027 08:39	534.00	539.00	3	1	1.47E-06	0	1.21E-06	0	0	2.42E-07	5.00
KFM06C	20051027 08:50	20051027 09:29	539.50	544.50	3	1	2.64E-10	-1	2.17E-10	0	-1	4.35E-11	5.00
KFM06C	20051027 10:22	20051027 11:02	635.50	640.50	3	1	3.27E-10	-1	2.69E-10	0	-1	5.37E-11	5.00
KFM06C	20051027 11:10	20051027 12:34	640.00	645.00	3	1	3.27E-10	-1	2.69E-10	0	-1	5.37E-11	5.00
KFM06C	20051027 12:47	20051027 13:28	642.50	647.50	3	1	3.27E-10	-1	2.69E-10	0	-1	5.37E-11	5.00
KFM06C	20051027 13:38	20051027 14:52	647.50	652.50	3	1	2.60E-08	0	2.14E-08	1	0	4.28E-09	5.00
KFM06C	20051027 15:01	20051027 16:20	651.00	656.00	3	1	3.35E-08	0	2.76E-08	1	0	5.52E-09	5.00

idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C	20051027 16:34	20051027 17:21	656.00	661.00	3	1	2.25E-10	-1	1.85E-10	0	-1	3.70E-11	5.00
KFM06C	20051027 17:37	20051027 18:58	661.00	666.00	3	1	4.91E-08	0	4.04E-08	0	0	8.08E-09	5.00
KFM06C	20051027 19:12	20051027 20:36	666.00	671.00	3	1	3.64E-10	0	2.99E-10	0	0	5.99E-11	5.00
KFM06C	20051027 20:50	20051027 22:14	671.00	676.00	3	1	3.16E-09	0	2.60E-09	0	0	5.19E-10	5.00
KFM06C	20051027 22:29	20051027 23:30	691.00	696.00	3	1	2.50E-10	-1	2.06E-10	0	-1	4.11E-11	5.00
KFM06C	20051028 08:08	20051028 09:25	696.00	701.00	3	1	5.37E-09	0	4.42E-09	0	0	8.84E-10	5.00
KFM06C	20051028 09:40	20051028 10:27	701.00	706.00	3	1	2.55E-10	-1	2.10E-10	0	-1	4.20E-11	5.00
KFM06C	20051028 10:47	20051028 11:32	706.00	711.00	3	1	2.55E-10	-1	2.10E-10	0	-1	4.20E-11	5.00
KFM06C	20051028 15:01	20051028 15:42	811.00	816.00	3	1	2.60E-10	-1	2.14E-10	0	-1	4.28E-11	5.00
KFM06C	20051028 15:58	20051028 17:12	816.00	821.00	3	1	2.44E-09	0	2.01E-09	0	0	4.01E-10	5.00
KFM06C	20051031 06:17	20051031 06:58	821.00	826.00	3	1	3.27E-10	-1	2.69E-10	0	-1	5.37E-11	5.00
KFM06C	20051031 07:09	20051031 07:48	826.00	831.00	3	1	2.65E-10	-1	2.18E-10	0	-1	4.35E-11	5.00
KFM06C	20051031 07:59	20051031 08:39	831.00	836.00	3	1	2.04E-10	-1	1.67E-10	0	-1	3.35E-11	5.00
KFM06C	20051031 08:49	20051031 09:31	836.00	841.00	3	1	2.04E-10	-1	1.67E-10	0	-1	3.35E-11	5.00
KFM06C	20051031 09:40	20051031 10:54	841.00	846.00	3	1	1.13E-09	0	9.30E-10	0	0	1.86E-10	5.00
KFM06C	20051031 11:09	20051031 13:05	846.00	851.00	3	1	1.01E-09	0	8.28E-10	0	0	1.66E-10	5.00
KFM06C	20051031 13:34	20051031 14:15	891.00	896.00	3	1	3.30E-10	-1	2.72E-10	0	-1	5.43E-11	5.00
KFM06C	20051031 14:30	20051031 15:12	896.00	901.00	3	1	2.63E-10	-1	2.16E-10	0	-1	4.32E-11	5.00
KFM06C	20051031 15:31	20051031 16:45	901.00	906.00	3	1	3.17E-09	0	2.61E-09	0	0	5.21E-10	5.00
KFM06C	20051031 16:57	20051031 17:46	906.00	911.00	3	1	3.30E-10	-1	2.72E-10	0	-1	5.43E-11	5.00
KFM06C	20051031 17:57	20051031 19:11	911.00	916.00	3	1	7.28E-10	0	5.99E-10	0	0	1.20E-10	5.00
KFM06C	20051031 19:20	20051031 20:33	915.00	920.00	3	1	5.01E-10	0	4.12E-10	0	0	8.25E-11	5.00
KFM06C	20051031 20:46	20051031 22:00	920.00	925.00	3	1	2.91E-09	0	2.39E-09	0	0	4.78E-10	5.00
KFM06C	20051031 22:09	20051031 23:26	925.00	930.00	3	1	9.92E-09	0	8.16E-09	0	0	1.63E-09	5.00
KFM06C	20051101 06:04	20051101 07:20	930.00	935.00	3	1	2.75E-10	-1	2.26E-10	0	-1	4.53E-11	5.00
KFM06C <sup>1)</sup>	20051003 09:27	20051003 10:32	404.50	504.50	3	1							100.00
KFM06C <sup>1)</sup>	20051006 15:38	20051006 16:35	164.50	184.50	3	1							20.00
KFM06C <sup>1)</sup>	20051014 11:02	20051014 13:48	164.50	184.50	3	1							20.00
KFM06C <sup>1)</sup>	20051019 10:33	20051019 11:47	184.50	189.50	3	1							5.00
KFM06C <sup>1)</sup>	20051019 21:49	20051019 22:40	219.50	224.50	3	1							5.00
KFM06C <sup>1)</sup>	20051020 22:06	20051020 22:21	279.50	284.50	3	1							5.00
KFM06C <sup>1)</sup>	20051021 08:31	20051021 09:49	289.50	294.50	3	1							5.00



idcode	start_date	stop_date	secup	seclow	test_type	formation_type	spec_capacity_q_s	value_type_q_s	transmissivity_moye	bc_tm	value_type_tm	hydr_cond_moye	formation_width_b
KFM06C <sup>1)</sup>	20051026 07:53	20051026 08:34	422.00	427.00	3	1							5.00

<sup>1)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later

**KFM06C plu\_s\_hole\_test\_ed1. Right (This result table to SICADA includes more columns which are empty, these columns are not presented here.)**

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_ft	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	104.50	204.50	2.21E-05	0	1	1.3E-08	5.0E-04	3.29E-06	3.29E-06	164.92	0		-7.44	100	1800		
KFM06C	204.50	304.50	7.29E-07	0	1	8.4E-10	5.0E-04	5.98E-07	5.98E-07	70.28	0		-4.32	100	1800		
KFM06C	304.50	404.50	1.04E-05	0	1	1.5E-09	5.0E-04	2.26E-06	2.26E-06	136.73	0		-4.82	400	1800		
KFM06C	404.50	504.50	4.23E-08	0	1	8.0E-10	5.0E-04	1.44E-07	1.44E-07	34.48	1						
KFM06C	504.50	604.50	4.80E-07	0	1	7.9E-10	5.0E-04	4.85E-07	4.85E-07	63.32	0		-5.29	300	1800		
KFM06C	604.50	704.50	3.06E-08	0	1	6.7E-10	5.0E-04	1.22E-07	1.22E-07	31.81	0		-4.05	500	1800		
KFM06C	691.00	791.00	3.94E-09	0	1	8.3E-10	5.0E-04	4.39E-08	4.39E-08	19.06	0	2.66E-10	-2.53	500	1800		
KFM06C	791.00	891.00	1.84E-09	0	1	7.3E-10	5.0E-04	3.00E-08	3.00E-08	15.76	0	2.84E-10	-3.24	200	1800		
KFM06C	891.00	991.00	8.48E-09	0	1	8.2E-10	5.0E-04	6.45E-08	6.45E-08	17.20	1	3.49E-10	-3.03			200	1000
KFM06C	104.50	124.50	4.92E-07	0	1	1.0E-09	5.0E-04	4.91E-07	4.91E-07	15.01	0		-3.73	30	100		
KFM06C	124.50	144.50	3.07E-05	0	1	1.7E-09	5.0E-04	3.88E-06	3.88E-06	84.38	1		-3.01	200	400		
KFM06C	144.50	164.50	2.60E-05	0	1	3.2E-09	5.0E-04	3.57E-06	3.57E-06	90.53	1		-6.22	200	500		
KFM06C	164.50	184.50	8.73E-06	0	1	1.8E-09	5.0E-04	2.07E-06	2.07E-06	43.59	-1		-6.33	80	200		
KFM06C	184.50	204.50	2.62E-08	0	1	7.4E-10	5.0E-04	1.13E-07	1.13E-07	25.16	-1		-6.88				
KFM06C	204.50	224.50	1.33E-06	0	1	8.0E-10	5.0E-04	8.08E-07	8.08E-07	54.50	1		-2.32	100	800		
KFM06C	224.50	244.50	3.59E-07	0	1	8.2E-10	5.0E-04	4.19E-07	4.19E-07	48.07	0		0.16	300	1200		
KFM06C	244.50	264.50	8.09E-08	0	1	8.2E-10	5.0E-04	1.99E-07	1.99E-07	33.12	0		-0.10	100	1200		
KFM06C	264.50	284.50	8.94E-09	0	1	8.2E-10	5.0E-04	6.62E-08	6.62E-08	19.10	0	5.96E-11	0.80			200	1200
KFM06C	284.50	304.50	1.07E-07	0	1	9.8E-10	5.0E-04	2.29E-07	2.29E-07	35.77	1						
KFM06C	304.50	324.50	7.99E-07	0	1	1.2E-09	5.0E-04	6.26E-07	6.26E-07	59.13	0						
KFM06C	324.50	344.50	4.47E-09	0	0	7.9E-10	5.0E-04	1.36E-07	1.36E-07	27.54	1						
KFM06C	344.50	364.50	2.54E-07	0	0	7.2E-10	5.0E-04	8.21E-07	8.21E-07	67.78	1						
KFM06C	364.50	384.50	4.22E-11	0	1	6.9E-10	5.0E-04	4.55E-09	4.55E-09	5.04	1						
KFM06C	384.50	404.50	4.25E-06	0	0	8.6E-10	5.0E-04	1.34E-06	1.34E-06	86.52	-1		5.42				
KFM06C	387.00	407.00	6.20E-06	0	0	8.2E-10	5.0E-04	1.30E-06	1.30E-06	85.11	-1		5.20				
KFM06C	407.00	427.00	2.63E-08	0	1	7.8E-10	5.0E-04	1.14E-07	1.14E-07	25.07	1		-5.85				
KFM06C	427.00	447.00	1.49E-10	0	1	2.1E-10	5.0E-04	8.54E-09	8.54E-09	6.86	0		-2.94	200	1200		

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_tt	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	447.00	467.00	1.45E-09	0	1	7.5E-10	5.0E-04	2.66E-08	2.66E-08	12.14	1						
KFM06C	467.00	487.00		-1	0	2.6E-10	5.0E-04										
KFM06C	487.00	507.00		-1	0	2.6E-10	5.0E-04										
KFM06C	504.50	524.50		-1	0	2.6E-10	5.0E-04										
KFM06C	524.50	544.50	4.96E-07	0	1	6.9E-10	5.0E-04	4.93E-07	4.93E-07	52.13	0		-5.09	700	1200		
KFM06C	544.50	564.50		-1	0	3.2E-10	5.0E-04										
KFM06C	564.50	584.50		-1	0	2.6E-10	5.0E-04										
KFM06C	584.50	604.50	1.61E-10	0	1	1.9E-10	5.0E-04	8.87E-09	8.87E-09	7.05	1	4.49E-11	-4.85				
KFM06C	604.50	624.50		-1	0	2.6E-10	5.0E-04										
KFM06C	624.50	644.50		-1	0	2.6E-10	5.0E-04										
KFM06C	636.00	656.00		0	0	8.0E-10	5.0E-04	1.20E-07	1.20E-07	25.92	-1						
KFM06C	656.00	676.00	4.75E-08	0	1	7.4E-10	5.0E-04	1.53E-07	1.53E-07	22.14	0		-0.84			300	700
KFM06C	676.00	696.00	3.72E-10	0	1	7.6E-10	5.0E-04	1.35E-08	1.35E-08	8.62	0	6.08E-11	-3.59	10	1200		
KFM06C	691.00	711.00	3.76E-09	0	1	7.5E-10	5.0E-04	4.29E-08	4.29E-08	15.38	0	8.54E-11	-2.07	30	1200		
KFM06C	711.00	731.00		-1	0	3.2E-10	5.0E-04										
KFM06C	731.00	751.00	6.26E-11	0	1	2.5E-10	5.0E-04	5.54E-09	5.54E-09	5.56	1	9.93E-11	-5.09				
KFM06C	751.00	771.00		-1	0	2.6E-10	5.0E-04										
KFM06C	771.00	791.00	3.80E-10	0	0	1.8E-10	5.0E-04	1.18E-08	1.18E-08	8.18	1		-3.99				
KFM06C	791.00	811.00		-1	0	2.0E-10	5.0E-04										
KFM06C	811.00	831.00	1.31E-09	0	1	7.8E-10	5.0E-04	2.53E-08	2.53E-08	11.82	0	1.88E-11	-2.06	30	1200		
KFM06C	831.00	851.00	1.07E-09	0	1	7.5E-10	5.0E-04	2.29E-08	2.29E-08	3.24	1	6.19E-11	-3.29	30	100		
KFM06C	851.00	871.00		-1	0	2.5E-10	5.0E-04										
KFM06C	871.00	891.00		-1	0	2.8E-10	5.0E-04										
KFM06C	891.00	911.00	1.80E-09	0	1	7.5E-10	5.0E-04	2.97E-08	2.97E-08	12.80	0		-3.09	250	1200		
KFM06C	911.00	931.00	1.00E-08	0	1	7.6E-10	5.0E-04	7.01E-08	7.01E-08	5.07	1	7.04E-11	-1.17	20	80		
KFM06C	931.00	951.00		-1	0	3.2E-10	5.0E-04										
KFM06C	951.00	971.00		-1	0	3.2E-10	5.0E-04										
KFM06C	971.00	991.00		-1	0	2.6E-10	5.0E-04										
KFM06C	124.50	129.50	2.08E-06	0	1	8.6E-10	5.0E-04	1.01E-06	1.01E-06	52.74	1		4.11	60	600		
KFM06C	129.50	134.50	1.13E-08	0	1	7.9E-10	5.0E-04	7.45E-08	7.45E-08	20.44	-1		-2.19				
KFM06C	134.50	139.50	1.06E-08	0	1	7.8E-10	5.0E-04	7.19E-08	7.19E-08	20.07	-1		-4.56				

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_tt	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	139.50	144.50	4.79E-05	0	0	1.7E-09	5.0E-04	3.70E-06	3.70E-06	143.75	1		-1.14	150	300		
KFM06C	141.50	146.50	3.63E-05	0	0	4.5E-09	5.0E-04	3.92E-06	3.92E-06	146.90	1		-5.55	80	200		
KFM06C	146.50	151.50	9.02E-06	0	0	8.2E-10	5.0E-04	1.72E-06	1.72E-06	98.06	-1						
KFM06C	151.50	156.50	3.43E-06	0	1	2.3E-10	5.0E-04	1.30E-06	1.30E-06	85.14	-1						
KFM06C	153.50	158.50	3.24E-06	0	1	2.0E-10	5.0E-04	1.26E-06	1.26E-06	83.99	-1						
KFM06C	159.50	164.50	2.47E-06	0	1	1.9E-10	5.0E-04	1.10E-06	1.10E-06	78.47	-1		0.26				
KFM06C	164.50	169.50	4.60E-06	0	1	1.7E-09	5.0E-04	1.50E-06	1.50E-06	91.66	-1		-5.51				
KFM06C	169.50	174.50	5.54E-07	0	1	9.3E-10	5.0E-04	5.21E-07	5.21E-07	54.02	1		-4.87				
KFM06C	174.50	179.50	3.31E-06	0	1	1.0E-09	5.0E-04	1.27E-06	1.27E-06	84.27	-1		-5.96				
KFM06C	179.50	184.50	7.63E-06	0	1	9.1E-10	5.0E-04	1.93E-06	1.93E-06	103.98	-1		-2.49				
KFM06C	184.50	189.50	2.00E-09	0	1	8.2E-10	5.0E-04	3.13E-08	3.13E-08	13.25	-1		-4.74				
KFM06C	189.50	194.50	2.40E-08	0	1	7.1E-10	5.0E-04	1.08E-07	1.08E-07	24.65	-1		-3.63				
KFM06C	194.50	199.50	2.04E-08	0	1	8.9E-10	5.0E-04	1.00E-07	1.00E-07	23.67	-1						
KFM06C	199.50	204.50		-1	0	2.5E-10	5.0E-04										
KFM06C	204.50	209.50	6.39E-07	0	1	8.4E-10	5.0E-04	5.60E-07	5.60E-07	32.06	0		-2.58	40	400		
KFM06C	209.50	214.50	4.99E-07	0	1	7.6E-10	5.0E-04	4.95E-07	4.95E-07	36.91	1		1.43	100	600		
KFM06C	214.50	219.50	3.05E-07	0	1	7.3E-10	5.0E-04	3.87E-07	3.87E-07	46.57	-1		-0.39				
KFM06C	219.50	224.50	7.18E-07	0	1	8.2E-10	5.0E-04	5.93E-07	5.93E-07	57.16	0		6.19	100	1200		
KFM06C	224.50	229.50	5.37E-07	0	1	8.2E-10	5.0E-04	5.13E-07	5.13E-07	39.13	1		4.42	100	650		
KFM06C	229.50	234.50		-1	0	8.3E-10	5.0E-04										
KFM06C	234.50	239.50	2.12E-08	0	1	6.1E-10	5.0E-04	1.02E-07	1.02E-07	23.69	0		-2.00	200	1200		
KFM06C	239.50	244.50	4.32E-09	0	1	6.6E-10	5.0E-04	4.60E-08	4.60E-08	15.93	0		-5.00	500	1200		
KFM06C	244.50	249.50	4.71E-09	0	1	8.7E-10	5.0E-04	4.80E-08	4.80E-08	16.27	0	2.04E-11	-1.00	200	1200		
KFM06C	249.50	254.50		-1	0	3.8E-10	5.0E-04										
KFM06C	254.50	259.50		-1	0	3.8E-10	5.0E-04										
KFM06C	259.50	264.50	1.07E-07	0	1	8.1E-10	5.0E-04	2.29E-07	2.29E-07	35.53	0		1.33	150	1200		
KFM06C	264.50	269.50		-1	0	2.8E-10	5.0E-04										
KFM06C	269.50	274.50	9.54E-09	0	1	7.4E-10	5.0E-04	6.84E-08	6.84E-08	19.45	1						
KFM06C	274.50	279.50		-1	0	2.8E-10	5.0E-04										
KFM06C	279.50	284.50		-1	0	2.0E-10	5.0E-04										
KFM06C	284.50	289.50	1.44E-07	0	1	8.1E-10	5.0E-04	2.66E-07	2.66E-07	38.26	0		-4.64	400	1200		
KFM06C	289.50	294.50		0	0	7.4E-10	5.0E-04	1.41E-07	1.41E-07	28.04	1						

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_tt	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	294.50	299.50	3.00E-10	0	1	2.1E-10	5.0E-04	1.21E-08	1.21E-08	8.24	1	1.90E-11					
KFM06C	299.50	304.50		-1	0	2.8E-10	5.0E-04										
KFM06C	304.50	309.50		-1	0	3.2E-10	5.0E-04										
KFM06C	309.50	314.50		-1	0	2.5E-10	5.0E-04										
KFM06C	314.50	319.50	1.02E-06	0	1	9.6E-10	5.0E-04	7.08E-07	7.08E-07	62.60	0						
KFM06C	319.50	324.50		-1	0	2.3E-10	5.0E-04										
KFM06C	324.50	329.50	2.37E-08	0	0	7.9E-10	5.0E-04	6.02E-08	6.02E-08	18.38	1						
KFM06C	329.50	334.50		-1	0	2.3E-10	5.0E-04										
KFM06C	334.50	339.50		0	0	4.4E-10	5.0E-04	1.51E-08	1.51E-08	9.20	1						
KFM06C	339.50	344.50		0	0	8.2E-10	5.0E-04	1.28E-07	1.28E-07	26.74	1						
KFM06C	344.50	349.50		0	0	8.8E-10	5.0E-04	2.88E-07	2.88E-07	40.17	1						
KFM06C	349.50	354.50		-1	0	3.5E-10	5.0E-04										
KFM06C	354.50	359.50	3.84E-08	0	1	8.1E-10	5.0E-04	1.37E-07	1.37E-07	11.22	1		-0.26	40	200		
KFM06C	359.50	364.50	1.06E-06	0	0	9.0E-10	5.0E-04	4.36E-07	4.36E-07	49.47	1		-6.39				
KFM06C	384.50	389.50	3.52E-09	0	1	7.1E-10	5.0E-04	4.15E-08	4.15E-08	15.27	-1		-2.91				
KFM06C	387.00	392.00	1.99E-09	0	1	5.7E-10	5.0E-04	3.12E-08	3.12E-08	13.24	-1		-2.39				
KFM06C	392.00	397.00	7.87E-06	0	1	8.1E-10	5.0E-04	1.96E-06	1.96E-06	104.80	1		0.27				
KFM06C	397.00	402.00		-1	0	3.0E-10	5.0E-04										
KFM06C	402.00	407.00		-1	0	3.3E-10	5.0E-04										
KFM06C	407.00	412.00	6.90E-10	0	1	7.8E-10	5.0E-04	1.84E-08	1.84E-08	10.16	0		-4.39				
KFM06C	412.00	417.00	1.45E-09	0	1	7.0E-10	5.0E-04	2.66E-08	2.66E-08	12.11	0	1.42E-11	0.61	50	1200		
KFM06C	417.00	422.00	5.37E-08	0	1	8.0E-10	5.0E-04	1.62E-07	1.62E-07	22.84	1		-4.33	100	700		
KFM06C	422.00	427.00	1.32E-08	0	1	7.9E-10	5.0E-04	8.03E-08	8.03E-08	21.20	1		-6.00				
KFM06C	426.00	431.00		-1	0	4.5E-10	5.0E-04										
KFM06C	431.00	436.00	1.78E-10	0	0	2.1E-10	5.0E-04	1.10E-08	1.10E-08	7.87	1	1.45E-11	-1.80				
KFM06C	436.00	441.00		-1	0	3.1E-10	5.0E-04										
KFM06C	441.00	446.00		-1	0	2.5E-10	5.0E-04										
KFM06C	446.00	451.00	1.30E-09	0	1	6.5E-10	5.0E-04	2.52E-08	2.52E-08	11.79	0	1.71E-11	-1.32	100	1200		
KFM06C	451.00	456.00	1.27E-09	0	1	6.6E-10	5.0E-04	2.49E-08	2.49E-08	11.73	1						
KFM06C	458.00	463.00		-1	0	2.0E-10	5.0E-04										
KFM06C	463.00	468.00		-1	0	2.0E-10	5.0E-04										
KFM06C	524.00	529.00	9.48E-09	0	1	8.0E-10	5.0E-04	6.81E-08	6.81E-08	19.38	0	1.88E-11	2.12	200	1200		

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_tt	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	528.00	533.00		-1	0	2.6E-10	5.0E-04										
KFM06C	534.00	539.00	1.06E-06	0	1	7.5E-10	5.0E-04	7.20E-07	7.20E-07	31.49	1		-3.86			20	300
KFM06C	539.50	544.50		-1	0	2.6E-10	5.0E-04										
KFM06C	635.50	640.50		-1	0	3.3E-10	5.0E-04										
KFM06C	640.00	645.00		-1	0	3.3E-10	5.0E-04										
KFM06C	642.50	647.50		-1	0	3.3E-10	5.0E-04										
KFM06C	647.50	652.50	4.25E-09	0	0	7.4E-10	5.0E-04	1.02E-07	1.02E-07	23.98	-1		-5.54				
KFM06C	651.00	656.00	3.33E-09	0	0	7.7E-10	5.0E-04	1.16E-07	1.16E-07	25.54	-1		-5.95				
KFM06C	656.00	661.00		-1	0	2.3E-10	5.0E-04										
KFM06C	661.00	666.00	4.58E-08	0	1	8.2E-10	5.0E-04	1.50E-07	1.50E-07	28.72	0		-0.83	100	1200		
KFM06C	666.00	671.00	1.84E-10	0	1	3.1E-10	5.0E-04	9.50E-09	9.50E-09	7.23	0	2.49E-11	-1.07	100	1200		
KFM06C	671.00	676.00	8.76E-10	0	1	7.1E-10	5.0E-04	2.07E-08	2.07E-08	10.69	0	3.19E-11	-4.20	100	1200		
KFM06C	691.00	696.00		-1	0	2.5E-10	5.0E-04										
KFM06C	696.00	701.00	4.06E-09	0	1	6.9E-10	5.0E-04	4.46E-08	4.46E-08	10.12	1	4.09E-11	-1.57	80	500		
KFM06C	701.00	706.00		-1	0	2.6E-10	5.0E-04										
KFM06C	706.00	711.00		-1	0	2.6E-10	5.0E-04										
KFM06C	811.00	816.00		-1	0	2.6E-10	5.0E-04										
KFM06C	816.00	821.00	1.25E-09	0	1	6.8E-10	5.0E-04	2.47E-08	2.47E-08	3.37	0		-2.29	30	100		
KFM06C	821.00	826.00		-1	0	3.3E-10	5.0E-04										
KFM06C	826.00	831.00		-1	0	2.6E-10	5.0E-04										
KFM06C	831.00	836.00		-1	0	2.0E-10	5.0E-04										
KFM06C	836.00	841.00		-1	0	2.0E-10	5.0E-04										
KFM06C	841.00	846.00	8.96E-10	0	1	8.0E-10	5.0E-04	2.10E-08	2.10E-08	8.77	1	2.07E-11	-1.36	200	800		
KFM06C	846.00	851.00	1.30E-09	0	1	7.5E-10	5.0E-04	2.53E-08	2.53E-08	3.41	1		-1.50	20	100		
KFM06C	891.00	896.00		-1	0	3.3E-10	5.0E-04										
KFM06C	896.00	901.00		-1	0	2.6E-10	5.0E-04										
KFM06C	901.00	906.00	2.35E-09	0	1	7.7E-10	5.0E-04	3.39E-08	3.39E-08	13.67	0	7.01E-11	-1.34	300	1200		
KFM06C	906.00	911.00		-1	0	3.3E-10	5.0E-04										
KFM06C	911.00	916.00	5.07E-10	0	1	2.3E-10	5.0E-04	1.58E-08	1.58E-08	10.42	0		-4.05			1000	1500
KFM06C	915.00	920.00	3.06E-10	0	1	2.2E-10	5.0E-04	1.22E-08	1.22E-08	8.28	1		-4.58				
KFM06C	920.00	925.00	3.69E-09	0	1	7.6E-10	5.0E-04	4.25E-08	4.25E-08	15.31	0	1.94E-11	1.97	40	1200		
KFM06C	925.00	930.00	1.08E-08	0	1	7.6E-10	5.0E-04	7.29E-08	7.29E-08	4.48	1	2.65E-11	-1.44	25	60		

idcode	secup	seclow	transmissivity_tt	value_type_tt	bc_tt	l_measl_q_s	u_measl_q_s	assumed_s	bc_s	ri	ri_index	c	skin	t1	t2	dte1	dte2
KFM06C	930.00	935.00		-1	0	2.8E-10	5.0E-04										
KFM06C <sup>1)</sup>	404.50	504.50															
KFM06C <sup>1)</sup>	164.50	184.50															
KFM06C <sup>1)</sup>	164.50	184.50															
KFM06C <sup>1)</sup>	184.50	189.50															
KFM06C <sup>1)</sup>	219.50	224.50															
KFM06C <sup>1)</sup>	279.50	284.50															
KFM06C <sup>1)</sup>	289.50	294.50															
KFM06C <sup>1)</sup>	422.00	427.00															

<sup>1)</sup> The tests were interrupted for various reasons or did not provide satisfying data for the evaluation and were hence re-performed later

**KFM06C plu\_s\_hole\_test\_obs (This result table to SICADA includes more columns which are empty, these columns are not presented here.)**

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20050929 15:44	20050929 17:39	104.50	204.50	100.35	103.50	908.50	908.63	908.49				
KFM06C	20050929 15:44	20050929 17:39	104.50	204.50	205.50	1000.43				1777.15	1777.29	1777.01	
KFM06C	20050930 10:33	20050930 12:46	204.50	304.50	100.35	203.50	915.75	916.02	915.75				
KFM06C	20050930 10:33	20050930 12:46	204.50	304.50	305.50	1000.43				2616.99	2617.68	2617.95	
KFM06C	20050930 15:13	20050930 17:03	304.50	404.50	100.35	303.50	857.57	857.57	857.16				
KFM06C	20050930 15:13	20050930 17:03	304.50	404.50	405.50	1000.43				3392.04	3392.31	3392.04	
KFM06C	20051005 09:32	20051005 11:24	404.50	504.50	100.35	403.50	806.52	806.52	806.25				
KFM06C	20051005 09:32	20051005 11:24	404.50	504.50	505.50	1000.43				4168.33	4168.46	4168.33	
KFM06C	20051003 13:30	20051003 15:27	504.50	604.50	100.35	503.50	730.65	730.37	730.65				
KFM06C	20051003 13:30	20051003 15:27	504.50	604.50	605.50	1000.43				4930.92	4930.92	4930.37	
KFM06C	20051004 06:23	20051004 08:17	604.50	704.50	100.35	603.50	645.03	644.35	645.17				
KFM06C	20051004 06:23	20051004 08:17	604.50	704.50	705.50	1000.43				5682.14	5682.00	5681.46	
KFM06C	20051004 09:24	20051004 11:19	691.00	791.00	100.35	690.00	557.48	557.07	557.07				
KFM06C	20051004 09:24	20051004 11:19	691.00	791.00	792.00	1000.43				6327.35	6327.08	6327.91	
KFM06C	20051004 15:03	20051004 17:14	791.00	891.00	100.35	790.00	450.89	450.34	450.20				
KFM06C	20051004 15:03	20051004 17:14	791.00	891.00	892.00	1000.43				7065.30	7065.57	7065.30	
KFM06C	20051004 18:39	20051004 20:45	891.00	991.00	100.35	890.00	339.07	339.21	338.94				
KFM06C	20051004 18:39	20051004 20:45	891.00	991.00	992.00	1000.43				8473.38	8506.66	8497.89	
KFM06C	20051006 09:01	20051006 10:58	104.50	124.50	100.35	103.50	910.69	910.69	910.69				
KFM06C	20051006 09:01	20051006 10:58	104.50	124.50	125.50	1000.43				1112.48	1112.48	1112.48	
KFM06C	20051006 11:18	20051006 13:32	124.50	144.50	100.35	123.50	909.20	909.48	910.16				
KFM06C	20051006 11:18	20051006 13:32	124.50	144.50	145.50	1000.43				1279.85	1283.00	1281.77	
KFM06C	20051006 13:57	20051006 15:12	144.50	164.50	100.35	143.50	908.54	919.52	921.71				
KFM06C	20051006 13:57	20051006 15:12	144.50	164.50	165.50	1000.43				1447.76	1449.40	1448.30	
KFM06C	20051014 13:50	20051014 15:09	164.50	184.50	100.35	163.50	901.44	906.37	904.74				
KFM06C	20051014 13:50	20051014 15:09	164.50	184.50	185.50	1000.43				1611.84	1611.02	1611.57	



idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051006 17:05	20051006 18:24	184.50	204.50	100.35	183.50	898.72	898.72	898.17				
KFM06C	20051006 17:05	20051006 18:24	184.50	204.50	205.50	1000.43				1779.07	1778.67	1778.67	
KFM06C	20051006 18:51	20051006 20:12	204.50	224.50	100.35	203.50	893.11	893.25	893.25				
KFM06C	20051006 18:51	20051006 20:12	204.50	224.50	225.50	1000.43				1942.46	1942.60	1942.46	
KFM06C	20051006 20:41	20051006 22:05	224.50	244.50	100.35	223.50	886.82	886.55	886.68				
KFM06C	20051006 20:41	20051006 22:05	224.50	244.50	245.50	1000.43				2106.13	2106.27	2106.27	
KFM06C	20051006 22:30	20051006 23:52	244.50	264.50	100.35	243.50	880.68	880.13	880.68				
KFM06C	20051006 22:30	20051006 23:52	244.50	264.50	265.50	1000.43				2269.52	2269.52	2269.52	
KFM06C	20051007 08:22	20051007 09:50	264.50	284.50	100.35	263.50	874.12	874.12	874.12				
KFM06C	20051007 08:22	20051007 09:50	264.50	284.50	285.50	1000.43				2432.23	2432.64	2432.23	
KFM06C	20051007 10:36	20051007 11:58	284.50	304.50	100.35	283.50	866.60	866.46	866.46				
KFM06C	20051007 10:36	20051007 11:58	284.50	304.50	305.50	1000.43				2594.39	2594.53	2594.39	
KFM06C	20051007 13:43	20051007 15:18	304.50	324.50	100.35	303.50	858.67	858.53	858.80				
KFM06C	20051007 13:43	20051007 15:18	304.50	324.50	325.50	1000.43				2755.86	2756.00	2756.00	
KFM06C	20051007 15:45	20051007 17:03	324.50	344.50	100.35	323.50	850.18	849.64	850.05				
KFM06C	20051007 15:45	20051007 17:03	324.50	344.50	345.50	1000.43				2915.98	2915.98	2915.98	
KFM06C	20051010 08:44	20051010 10:07	344.50	364.50	100.35	343.50	840.19	840.06	840.19				
KFM06C	20051010 08:44	20051010 10:07	344.50	364.50	365.50	1000.43				3073.88	3074.02	3074.29	
KFM06C	20051010 10:42	20051010 12:05	364.50	384.50	100.35	363.50	829.52	829.24	829.24				
KFM06C	20051010 10:42	20051010 12:05	364.50	384.50	385.50	1000.43				3233.30	3233.99	3233.72	
KFM06C	20051010 13:44	20051010 15:01	384.50	404.50	100.35	383.50	818.57	818.57	817.74				
KFM06C	20051010 13:44	20051010 15:01	384.50	404.50	405.50	1000.43				3392.04	3392.04	3389.85	
KFM06C	20051010 15:24	20051010 16:41	387.00	407.00	100.35	386.00	816.38	816.24	816.24				
KFM06C	20051010 15:24	20051010 16:41	387.00	407.00	408.00	1000.43				3411.22	3411.22	3411.22	
KFM06C	20051010 17:06	20051010 18:23	407.00	427.00	100.35	406.00	804.32	804.32	804.18				
KFM06C	20051010 17:06	20051010 18:23	407.00	427.00	428.00	1000.43				3567.90	3567.90	3567.90	
KFM06C	20051011 08:03	20051011 09:30	427.00	447.00	100.35	426.00	790.50	790.91	790.50				
KFM06C	20051011 08:03	20051011 09:30	427.00	447.00	448.00	1000.43				3723.35	3722.80	3723.49	
KFM06C	20051011 09:57	20051011 11:22	447.00	467.00	100.35	446.00	776.26	776.12	776.26				
KFM06C	20051011 09:57	20051011 11:22	447.00	467.00	468.00	1000.43				3877.42	3878.24	3877.97	
KFM06C	20051011 12:42	20051011 13:59	467.00	487.00	100.35	466.00	761.46	761.33	760.91				
KFM06C	20051011 12:42	20051011 13:59	467.00	487.00	488.00	1000.43				4033.02	4033.02	4033.02	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051011 14:24	20051011 15:10	487.00	507.00	100.35	486.00	745.99	745.72	745.58				
KFM06C	20051011 14:24	20051011 15:10	487.00	507.00	508.00	1000.43				4187.50	4187.50	4187.50	
KFM06C	20051011 15:29	20051011 16:19	504.50	524.50	100.35	503.50	731.75	731.47	731.75				
KFM06C	20051011 15:29	20051011 16:19	504.50	524.50	525.50	1000.43				4321.86	4321.73	4321.73	
KFM06C	20051011 16:38	20051011 17:52	524.50	544.50	100.35	523.50	715.45	715.04	715.32				
KFM06C	20051011 16:38	20051011 17:52	524.50	544.50	545.50	1000.43				4475.66	4475.66	4475.66	
KFM06C	20051011 18:16	20051011 19:01	544.50	564.50	100.35	543.50	698.87	698.46	698.32				
KFM06C	20051011 18:16	20051011 19:01	544.50	564.50	565.50	1000.43				4629.33	4629.33	4629.05	
KFM06C	20051011 19:19	20051011 20:06	564.50	584.50	100.35	563.50	681.48	681.34	681.34				
KFM06C	20051011 19:19	20051011 20:06	564.50	584.50	585.50	1000.43				4781.35	4781.63	4779.16	
KFM06C	20051011 20:28	20051011 21:45	584.50	604.50	100.35	583.50	664.08	663.39	663.25				
KFM06C	20051011 20:28	20051011 21:45	584.50	604.50	605.50	1000.43				4933.11	4932.70	4932.56	
KFM06C	20051011 22:03	20051011 22:48	604.50	624.50	100.35	603.50	645.45	644.76	644.62				
KFM06C	20051011 22:03	20051011 22:48	604.50	624.50	625.50	1000.43				5083.90	5083.76	5083.76	
KFM06C	20051011 23:10	20051011 23:51	624.50	644.50	100.35	623.50	625.71	624.62	625.44				
KFM06C	20051011 23:10	20051011 23:51	624.50	644.50	645.50	1000.43				5233.46	5233.87	5233.87	
KFM06C	20051012 06:36	20051012 08:05	636.00	656.00	100.35	635.00	614.89	614.21	614.35				
KFM06C	20051012 06:36	20051012 08:05	636.00	656.00	657.00	1000.43				5319.06	5334.12	5333.57	
KFM06C	20051012 08:30	20051012 09:49	656.00	676.00	100.35	655.00	594.34	593.66	593.52				
KFM06C	20051012 08:30	20051012 09:49	656.00	676.00	677.00	1000.43				5472.32	5471.22	5470.54	
KFM06C	20051012 10:10	20051012 11:26	676.00	696.00	100.35	675.00	573.38	573.24	573.24				
KFM06C	20051012 10:10	20051012 11:26	676.00	696.00	697.00	1000.43				5622.97	5621.74	5620.64	
KFM06C	20051012 12:38	20051012 14:04	691.00	711.00	100.35	690.00	558.17	557.62	557.62				
KFM06C	20051012 12:38	20051012 14:04	691.00	711.00	712.00	1000.43				5734.59	5734.05	5733.50	
KFM06C	20051012 14:30	20051012 15:10	711.00	731.00	100.35	710.00	537.62	536.66	536.79				
KFM06C	20051012 14:30	20051012 15:10	711.00	731.00	732.00	1000.43				5884.15	5884.70	5884.15	
KFM06C	20051012 15:32	20051012 16:51	731.00	751.00	100.35	730.00	515.97	515.42	515.42				
KFM06C	20051012 15:32	20051012 16:51	731.00	751.00	752.00	1000.43				6032.90	6032.07	6031.53	
KFM06C	20051012 17:12	20051012 17:59	751.00	771.00	100.35	750.00	494.73	493.22	493.50				
KFM06C	20051012 17:12	20051012 17:59	751.00	771.00	772.00	1000.43				6182.86	6182.86	6182.18	
KFM06C	20051012 19:09	20051012 20:24	771.00	791.00	100.35	770.00	472.39	471.71	471.57				
KFM06C	20051012 19:09	20051012 20:24	771.00	791.00	792.00	1000.43				6329.96	6329.41	6328.45	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051012 20:47	20051012 21:34	791.00	811.00	100.35	790.00	451.02	450.75	450.75				
KFM06C	20051012 20:47	20051012 21:34	791.00	811.00	812.00	1000.43				6480.20	6479.65	6479.10	
KFM06C	20051012 21:51	20051012 23:07	811.00	831.00	100.35	810.00	431.15	430.33	430.47				
KFM06C	20051012 21:51	20051012 23:07	811.00	831.00	832.00	1000.43				6629.76	6629.08	6628.12	
KFM06C	20051012 23:29	20051013 00:42	831.00	851.00	100.35	830.00	408.82	408.96	409.10				
KFM06C	20051012 23:29	20051013 00:42	831.00	851.00	852.00	1000.43				6778.23	6776.72	6776.04	
KFM06C	20051013 06:44	20051013 08:01	851.00	871.00	100.35	850.00	387.31	387.17	387.17				
KFM06C	20051013 06:44	20051013 08:01	851.00	871.00	872.00	1000.43				6925.05	6923.81	6922.86	
KFM06C	20051013 08:37	20051013 09:41	871.00	891.00	100.35	870.00	364.43	364.15	364.15				
KFM06C	20051013 08:37	20051013 09:41	871.00	891.00	892.00	1000.43				7070.23	7069.27	7069.13	
KFM06C	20051013 10:22	20051013 11:40	891.00	911.00	100.35	890.00	340.57	340.30	340.03				
KFM06C	20051013 10:22	20051013 11:40	891.00	911.00	912.00	1000.43				7217.05	7215.40	7214.85	
KFM06C	20051013 12:53	20051013 14:18	911.00	931.00	100.35	910.00	316.32	316.19	315.91				
KFM06C	20051013 12:53	20051013 14:18	911.00	931.00	932.00	1000.43				7502.47	7497.26	7486.03	
KFM06C	20051013 14:41	20051013 16:10	931.00	951.00	100.35	930.00	290.84	291.25	290.70				
KFM06C	20051013 14:41	20051013 16:10	931.00	951.00	952.00	1000.43				7722.29	7693.26	7665.73	
KFM06C	20051013 16:38	20051013 17:24	951.00	971.00	100.35	950.00	264.39	264.11	263.83				
KFM06C	20051013 16:38	20051013 17:24	951.00	971.00	972.00	1000.43				7832.95	7834.45	7828.98	
KFM06C	20051013 17:44	20051013 18:31	971.00	991.00	100.35	970.00	236.84	236.43	236.43				
KFM06C	20051013 17:44	20051013 18:31	971.00	991.00	992.00	1000.43				8204.53	8206.44	8205.35	
KFM06C	20051018 08:12	20051018 09:28	124.50	129.50	100.35	123.50	907.97	907.97	907.97				
KFM06C	20051018 08:12	20051018 09:28	124.50	129.50	130.50	1000.43				1151.10	1150.83	1150.83	
KFM06C	20051018 09:52	20051018 11:08	129.50	134.50	100.35	128.50	907.29	907.70	907.15				
KFM06C	20051018 09:52	20051018 11:08	129.50	134.50	135.50	1000.43				1193.02	1192.61	1193.02	
KFM06C	20051018 12:24	20051018 13:39	134.50	139.50	100.35	133.50	906.34	906.34	906.34				
KFM06C	20051018 12:24	20051018 13:39	134.50	139.50	140.50	1000.43				1234.65	1234.25	1234.65	
KFM06C	20051018 13:49	20051018 15:03	139.50	144.50	100.35	138.50	905.52	907.17	907.72				
KFM06C	20051018 13:49	20051018 15:03	139.50	144.50	145.50	1000.43				1276.84	1280.13	1279.04	
KFM06C	20051018 15:18	20051018 16:37	141.50	146.50	100.35	140.50	909.37	909.91	909.91				
KFM06C	20051018 15:18	20051018 16:37	141.50	146.50	147.50	1000.43				1294.92	1296.56	1296.01	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051018 16:53	20051018 18:10	146.50	151.50	100.35	145.50	908.55	914.04	911.28				
KFM06C	20051018 16:53	20051018 18:10	146.50	151.50	152.50	1000.43				1337.10	1338.20	1337.10	
KFM06C	20051018 18:24	20051018 19:47	151.50	156.50	100.35	150.50	905.53	906.36	905.53				
KFM06C	20051018 18:24	20051018 19:47	151.50	156.50	157.50	1000.43				1378.46	1378.73	1378.73	
KFM06C	20051018 19:59	20051018 21:24	153.50	158.50	100.35	152.50	904.16	904.99	904.43				
KFM06C	20051018 19:59	20051018 21:24	153.50	158.50	159.50	1000.43				1394.62	1394.76	1394.62	
KFM06C	20051018 21:50	20051018 23:08	159.50	164.50	100.35	158.50	902.52	902.79	902.79				
KFM06C	20051018 21:50	20051018 23:08	159.50	164.50	165.50	1000.43				1444.48	1444.61	1444.48	
KFM06C	20051018 23:19	20051019 00:36	164.50	169.50	100.35	163.50	901.16	903.64	902.54				
KFM06C	20051018 23:19	20051019 00:36	164.50	169.50	170.50	1000.43				1485.57	1488.31	1486.12	
KFM06C	20051019 06:16	20051019 07:33	169.50	174.50	100.35	168.50	900.07	900.48	900.07				
KFM06C	20051019 06:16	20051019 07:33	169.50	174.50	175.50	1000.43				1527.20	1528.16	1527.20	
KFM06C	20051019 07:47	20051019 09:00	174.50	179.50	100.35	173.50	898.98	905.43	902.00				
KFM06C	20051019 07:47	20051019 09:00	174.50	179.50	180.50	1000.43				1568.56	1569.52	1568.84	
KFM06C	20051019 09:10	20051019 10:24	179.50	184.50	100.35	178.50	898.57	901.72	900.08				
KFM06C	20051019 09:10	20051019 10:24	179.50	184.50	185.50	1000.43				1610.47	1610.47	1610.47	
KFM06C	20051101 18:30	20051101 19:45	184.50	189.50	100.35	183.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051101 18:30	20051101 19:45	184.50	189.50	190.50	1000.43				1652.79	1652.79	1652.65	
KFM06C	20051019 12:49	20051019 14:03	189.50	194.50	100.35	188.50	895.70	895.70	895.15				
KFM06C	20051019 12:49	20051019 14:03	189.50	194.50	195.50	1000.43				1692.64	1692.64	1692.64	
KFM06C	20051019 14:18	20051019 15:31	194.50	199.50	100.35	193.50	893.78	893.78	893.24				
KFM06C	20051019 14:18	20051019 15:31	194.50	199.50	200.50	1000.43				1733.74	1733.74	1733.18	
KFM06C	20051019 15:51	20051019 16:45	199.50	204.50	100.35	198.50	892.42	891.88	891.88				
KFM06C	20051019 15:51	20051019 16:45	199.50	204.50	205.50	1000.43				1774.28	1774.28	1774.28	
KFM06C	20051019 17:02	20051019 18:21	204.50	209.50	100.35	203.50	890.51	890.51	890.51				
KFM06C	20051019 17:02	20051019 18:21	204.50	209.50	210.50	1000.43				1815.36	1815.09	1815.36	
KFM06C	20051019 18:36	20051019 19:54	209.50	214.50	100.35	208.50	889.14	889.14	889.14				
KFM06C	20051019 18:36	20051019 19:54	209.50	214.50	215.50	1000.43				1856.45	1856.45	1856.45	
KFM06C	20051019 20:15	20051019 21:34	214.50	219.50	100.35	213.50	887.78	887.78	887.78				
KFM06C	20051019 20:15	20051019 21:34	214.50	219.50	220.50	1000.43				1896.58	1897.54	1897.54	
KFM06C	20051101 16:51	20051101 18:07	219.50	224.50	100.35	218.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051101 16:51	20051101 18:07	219.50	224.50	225.50	1000.43				1940.68	1940.82	1940.82	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051019 23:02	20051020 00:25	224.50	229.50	100.35	223.50	885.73	885.59	906.99				Pa out of order
KFM06C	20051019 23:02	20051020 00:25	224.50	229.50	230.50	1000.43				1979.44	1979.30	1979.16	
KFM06C	20051020 07:05	20051020 08:07	229.50	234.50	100.35	228.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 07:05	20051020 08:07	229.50	234.50	235.50	1000.43				2019.71	2019.71	2019.71	
KFM06C	20051020 08:25	20051020 09:52	234.50	239.50	100.35	233.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 08:25	20051020 09:52	234.50	239.50	240.50	1000.43				2060.80	2060.66	2060.80	
KFM06C	20051020 10:11	20051020 11:31	239.50	244.50	100.35	238.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 10:11	20051020 11:31	239.50	244.50	245.50	1000.43				2101.61	2101.74	2101.33	
KFM06C	20051020 12:50	20051020 14:11	244.50	249.50	100.35	243.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 12:50	20051020 14:11	244.50	249.50	250.50	1000.43				2142.43	2142.43	2142.43	
KFM06C	20051020 14:28	20051020 15:32	249.50	254.50	100.35	248.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 14:28	20051020 15:32	249.50	254.50	255.50	1000.43				2183.37	2183.51	2182.97	
KFM06C	20051020 15:59	20051020 16:47	254.50	259.50	100.35	253.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 15:59	20051020 16:47	254.50	259.50	260.50	1000.43				2224.04	2224.04	2224.04	
KFM06C	20051020 17:00	20051020 18:20	259.50	264.50	100.35	258.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 17:00	20051020 18:20	259.50	264.50	265.50	1000.43				2264.59	2263.77	2264.04	
KFM06C	20051020 18:38	20051020 19:20	264.50	269.50	100.35	263.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 18:38	20051020 19:20	264.50	269.50	270.50	1000.43				2304.59	2305.13	2305.13	
KFM06C	20051020 19:36	20051020 20:53	269.50	274.50	100.35	268.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 19:36	20051020 20:53	269.50	274.50	275.50	1000.43				2345.67	2345.67	2345.67	
KFM06C	20051020 21:07	20051020 21:50	274.50	279.50	100.35	273.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 21:07	20051020 21:50	274.50	279.50	280.50	1000.43				2385.66	2386.35	2386.21	
KFM06C	20051101 15:34	20051101 16:16	279.50	284.50	100.35	278.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051101 15:34	20051101 16:16	279.50	284.50	285.50	1000.43				2431.00	2431.13	2429.49	
KFM06C	20051020 23:02	20051021 00:26	284.50	289.50	100.35	283.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051020 23:02	20051021 00:26	284.50	289.50	290.50	1000.43				2466.88	2467.42	2467.29	
KFM06C	20051101 14:05	20051101 15:20	289.50	294.50	100.35	288.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051101 14:05	20051101 15:20	289.50	294.50	295.50	1000.43				2511.67	2512.21	2512.21	
KFM06C	20051021 10:24	20051021 11:40	294.50	299.50	100.35	293.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051021 10:24	20051021 11:40	294.50	299.50	300.50	1000.43				2548.92	2548.92	2548.92	
KFM06C	20051021 12:51	20051021 13:46	299.50	304.50	100.35	298.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051021 12:51	20051021 13:46	299.50	304.50	305.50	1000.43				2589.74	2589.87	2590.01	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051021 13:57	20051021 14:50	304.50	309.50	100.35	303.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051021 13:57	20051021 14:50	304.50	309.50	310.50	1000.43				2630.54	2630.54	2630.00	
KFM06C	20051021 15:06	20051021 15:48	309.50	314.50	100.35	308.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051021 15:06	20051021 15:48	309.50	314.50	315.50	1000.43				2670.95	2670.68	2671.08	
KFM06C	20051024 08:36	20051024 10:02	314.50	319.50	100.35	313.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051024 08:36	20051024 10:02	314.50	319.50	320.50	1000.43				2711.63	2712.04	2712.18	
KFM06C	20051024 10:20	20051024 11:15	319.50	324.50	100.35	318.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051024 10:20	20051024 11:15	319.50	324.50	325.50	1000.43				2752.71	2752.71	2752.71	
KFM06C	20051024 11:32	20051024 14:09	324.50	329.50	100.35	323.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051024 11:32	20051024 14:09	324.50	329.50	330.50	1000.43				2792.70	2792.84	2792.70	
KFM06C	20051024 14:23	20051024 15:17	329.50	334.50	100.35	328.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051024 14:23	20051024 15:17	329.50	334.50	335.50	1000.43				2832.70	2833.24	2832.70	
KFM06C	20051024 15:29	20051024 16:46	334.50	339.50	100.35	333.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051024 15:29	20051024 16:46	334.50	339.50	340.50	1000.43				2873.24	2873.24	2873.24	
KFM06C	20051025 06:01	20051025 07:16	339.50	344.50	100.35	338.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 06:01	20051025 07:16	339.50	344.50	345.50	1000.43				2912.41	2912.55	2912.69	
KFM06C	20051025 07:30	20051025 08:44	344.50	349.50	100.35	343.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 07:30	20051025 08:44	344.50	349.50	350.50	1000.43				2952.40	2952.67	2952.67	
KFM06C	20051025 08:53	20051025 09:34	349.50	354.50	100.35	348.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 08:53	20051025 09:34	349.50	354.50	355.50	1000.43				2992.53	2992.67	2992.67	
KFM06C	20051025 09:47	20051025 11:00	354.50	359.50	100.35	353.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 09:47	20051025 11:00	354.50	359.50	360.50	1000.43				3032.39	3032.39	3032.66	
KFM06C	20051025 11:58	20051025 13:11	359.50	364.50	100.35	358.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 11:58	20051025 13:11	359.50	364.50	365.50	1000.43				3072.10	3072.10	3072.10	
KFM06C	20051025 13:29	20051025 14:43	384.50	389.50	100.35	383.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 13:29	20051025 14:43	384.50	389.50	390.50	1000.43				3270.42	3270.42	3270.42	
KFM06C	20051025 14:51	20051025 16:14	387.00	392.00	100.35	386.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 14:51	20051025 16:14	387.00	392.00	393.00	1000.43				3290.14	3290.14	3290.14	
KFM06C	20051025 16:39	20051025 17:54	392.00	397.00	100.35	391.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 16:39	20051025 17:54	392.00	397.00	398.00	1000.43				3330.00	3330.41	3330.14	
KFM06C	20051025 18:06	20051025 19:21	397.00	402.00	100.35	396.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 18:06	20051025 19:21	397.00	402.00	403.00	1000.43				3369.44	3369.99	3369.03	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051025 19:39	20051025 20:29	402.00	407.00	100.35	401.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 19:39	20051025 20:29	402.00	407.00	408.00	1000.43				3408.61	3408.61	3408.47	
KFM06C	20051025 20:48	20051025 22:19	407.00	412.00	100.35	406.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 20:48	20051025 22:19	407.00	412.00	413.00	1000.43				3447.51	3447.38	3447.38	
KFM06C	20051025 22:33	20051025 23:50	412.00	417.00	100.35	411.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051025 22:33	20051025 23:50	412.00	417.00	418.00	1000.43				3486.27	3486.27	3486.82	
KFM06C	20051026 06:17	20051026 07:37	417.00	422.00	100.35	416.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 06:17	20051026 07:37	417.00	422.00	423.00	1000.43				3525.71	3532.29	3529.55	
KFM06C	20051026 08:48	20051026 10:11	422.00	427.00	100.35	421.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 08:48	20051026 10:11	422.00	427.00	428.00	1000.43				3565.70	3565.98	3565.70	
KFM06C	20051026 10:19	20051026 11:45	426.00	431.00	100.35	425.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 10:19	20051026 11:45	426.00	431.00	432.00	1000.43				3597.21	3596.52	3596.93	
KFM06C	20051026 12:33	20051026 13:47	431.00	436.00	100.35	430.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 12:33	20051026 13:47	431.00	436.00	437.00	1000.43				3635.83	3636.10	3635.83	
KFM06C	20051026 13:55	20051026 14:42	436.00	441.00	100.35	435.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 13:55	20051026 14:42	436.00	441.00	442.00	1000.43				3675.13	3674.86	3674.72	
KFM06C	20051026 15:02	20051026 16:23	441.00	446.00	100.35	440.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 15:02	20051026 16:23	441.00	446.00	447.00	1000.43				3714.17	3714.03	3714.17	
KFM06C	20051026 16:41	20051026 18:03	446.00	451.00	100.35	445.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 16:41	20051026 18:03	446.00	451.00	452.00	1000.43				3752.25	3752.93	3752.52	
KFM06C	20051026 18:16	20051026 19:43	451.00	456.00	100.35	450.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 18:16	20051026 19:43	451.00	456.00	457.00	1000.43				3791.69	3791.96	3791.42	
KFM06C	20051026 20:08	20051026 20:52	458.00	463.00	100.35	457.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 20:08	20051026 20:52	458.00	463.00	464.00	1000.43				3846.06	3845.93	3845.65	
KFM06C	20051026 21:06	20051026 21:49	463.00	468.00	100.35	462.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 21:06	20051026 21:49	463.00	468.00	469.00	1000.43				3884.54	3884.54	3884.54	
KFM06C	20051026 22:30	20051026 23:51	524.00	529.00	100.35	523.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051026 22:30	20051026 23:51	524.00	529.00	530.00	1000.43				4355.14	4355.27	4355.14	
KFM06C	20051027 06:23	20051027 07:13	528.00	533.00	100.35	527.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 06:23	20051027 07:13	528.00	533.00	534.00	1000.43				4385.82	4385.82	4385.82	
KFM06C	20051027 07:25	20051027 08:39	534.00	539.00	100.35	533.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 07:25	20051027 08:39	534.00	539.00	540.00	1000.43				4433.07	4432.93	4432.38	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051027 08:50	20051027 09:29	539.50	544.50	100.35	538.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 08:50	20051027 09:29	539.50	544.50	545.50	1000.43				4475.25	4474.70	4475.11	
KFM06C	20051027 10:22	20051027 11:02	635.50	640.50	100.35	634.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 10:22	20051027 11:02	635.50	640.50	641.50	1000.43				5204.84	5204.84	5204.29	
KFM06C	20051027 11:10	20051027 12:34	640.00	645.00	100.35	639.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 11:10	20051027 12:34	640.00	645.00	646.00	1000.43				5237.98	5237.71	5237.71	
KFM06C	20051027 12:47	20051027 13:28	642.50	647.50	100.35	641.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 12:47	20051027 13:28	642.50	647.50	648.50	1000.43				5256.88	5256.88	5256.88	
KFM06C	20051027 13:38	20051027 14:52	647.50	652.50	100.35	646.50	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 13:38	20051027 14:52	647.50	652.50	653.50	1000.43				5294.54	5310.98	5310.57	
KFM06C	20051027 15:01	20051027 16:20	651.00	656.00	100.35	650.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 15:01	20051027 16:20	651.00	656.00	657.00	1000.43				5325.90	5340.70	5338.50	
KFM06C	20051027 16:34	20051027 17:21	656.00	661.00	100.35	655.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 16:34	20051027 17:21	656.00	661.00	662.00	1000.43				5363.71	5363.71	5363.15	
KFM06C	20051027 17:37	20051027 18:58	661.00	666.00	100.35	660.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 17:37	20051027 18:58	661.00	666.00	667.00	1000.43				5398.77	5399.18	5398.78	
KFM06C	20051027 19:12	20051027 20:36	666.00	671.00	100.35	665.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 19:12	20051027 20:36	666.00	671.00	672.00	1000.43				5437.12	5436.58	5436.03	
KFM06C	20051027 20:50	20051027 22:14	671.00	676.00	100.35	670.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 20:50	20051027 22:14	671.00	676.00	677.00	1000.43				5473.96	5473.41	5472.73	
KFM06C	20051027 22:29	20051027 23:30	691.00	696.00	100.35	690.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051027 22:29	20051027 23:30	691.00	696.00	697.00	1000.43				5625.16	5623.38	5622.84	
KFM06C	20051028 08:08	20051028 09:25	696.00	701.00	100.35	695.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051028 08:08	20051028 09:25	696.00	701.00	702.00	1000.43				5659.54	5658.44	5658.44	
KFM06C	20051028 09:40	20051028 10:27	701.00	706.00	100.35	700.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051028 09:40	20051028 10:27	701.00	706.00	707.00	1000.43				5699.40	5698.99	5698.44	
KFM06C	20051028 10:47	20051028 11:32	706.00	711.00	100.35	705.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051028 10:47	20051028 11:32	706.00	711.00	712.00	1000.43				5736.52	5736.38	5736.25	
KFM06C	20051028 15:01	20051028 15:42	811.00	816.00	100.35	810.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051028 15:01	20051028 15:42	811.00	816.00	817.00	1000.43				6519.24	6519.10	6518.55	
KFM06C	20051028 15:58	20051028 17:12	816.00	821.00	100.35	815.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051028 15:58	20051028 17:12	816.00	821.00	822.00	1000.43				6556.90	6556.22	6555.26	



idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051031 06:17	20051031 06:58	821.00	826.00	100.35	820.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 06:17	20051031 06:58	821.00	826.00	827.00	1000.43				6592.65	6592.65	6592.51	
KFM06C	20051031 07:09	20051031 07:48	826.00	831.00	100.35	825.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 07:09	20051031 07:48	826.00	831.00	832.00	1000.43				6630.85	6630.99	6630.31	
KFM06C	20051031 07:59	20051031 08:39	831.00	836.00	100.35	830.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 07:59	20051031 08:39	831.00	836.00	837.00	1000.43				6669.76	6669.76	6669.21	
KFM06C	20051031 08:49	20051031 09:31	836.00	841.00	100.35	835.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 08:49	20051031 09:31	836.00	841.00	842.00	1000.43				6705.77	6705.09	6705.36	
KFM06C	20051031 09:40	20051031 10:54	841.00	846.00	100.35	840.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 09:40	20051031 10:54	841.00	846.00	847.00	1000.43				6743.57	6742.48	6742.07	
KFM06C	20051031 11:09	20051031 13:05	846.00	851.00	100.35	845.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 11:09	20051031 13:05	846.00	851.00	852.00	1000.43				6779.32	6778.77	6778.23	
KFM06C	20051031 13:34	20051031 14:15	891.00	896.00	100.35	890.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 13:34	20051031 14:15	891.00	896.00	897.00	1000.43				7113.51	7113.23	7112.41	
KFM06C	20051031 14:30	20051031 15:12	896.00	901.00	100.35	895.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 14:30	20051031 15:12	896.00	901.00	902.00	1000.43				7149.11	7149.25	7149.11	
KFM06C	20051031 15:31	20051031 16:45	901.00	906.00	100.35	900.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 15:31	20051031 16:45	901.00	906.00	907.00	1000.43				7186.36	7184.73	7183.63	
KFM06C	20051031 16:57	20051031 17:46	906.00	911.00	100.35	905.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 16:57	20051031 17:46	906.00	911.00	912.00	1000.43				7221.98	7221.42	7220.88	
KFM06C	20051031 17:57	20051031 19:11	911.00	916.00	100.35	910.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 17:57	20051031 19:11	911.00	916.00	917.00	1000.43				7258.13	7257.04	7255.94	
KFM06C	20051031 19:20	20051031 20:33	915.00	920.00	100.35	914.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 19:20	20051031 20:33	915.00	920.00	921.00	1000.43				7287.03	7286.07	7285.53	
KFM06C	20051031 20:46	20051031 22:00	920.00	925.00	100.35	919.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 20:46	20051031 22:00	920.00	925.00	926.00	1000.43				7323.32	7344.69	7334.28	
KFM06C	20051031 22:09	20051031 23:26	925.00	930.00	100.35	924.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051031 22:09	20051031 23:26	925.00	930.00	931.00	1000.43				7447.41	7439.88	7432.35	
KFM06C	20051101 06:04	20051101 07:20	930.00	935.00	100.35	929.00	0.00	0.00	0.00				Pa out of order
KFM06C	20051101 06:04	20051101 07:20	930.00	935.00	936.00	1000.43				7509.59	7503.57	7500.82	

idcode	start_date	stop_date	secup	seclow	obs_secup	obs_seclow	pi_above	pp_above	pf_above	pi_below	pp_below	pf_below	comments
KFM06C	20051003 09:27	20051003 10:32	404.50	504.50	100.35	403.50	805.56	805.01	805.15				Incomplete test, interrupted and reperfomed later
KFM06C	20051003 09:27	20051003 10:32	404.50	504.50	505.50	1000.43				4167.78	4167.78	4167.78	Incomplete test, interrupted and reperfomed later
KFM06C	20051006 15:38	20051006 16:35	164.50	184.50	100.35	163.50	904.18	904.74	904.74				Incomplete test, interrupted and reperfomed later
KFM06C	20051006 15:38	20051006 16:35	164.50	184.50	185.50	1000.43				1613.76	1614.31	1614.31	Incomplete test, interrupted and reperfomed later
KFM06C	20051014 11:02	20051014 13:48	164.50	184.50	100.35	163.50	900.34	902.12	901.44				Incomplete test, interrupted and reperfomed later
KFM06C	20051014 11:02	20051014 13:48	164.50	184.50	185.50	1000.43				1610.88	1611.02	1611.02	Incomplete test, interrupted and reperfomed later
KFM06C	20051019 10:33	20051019 11:47	184.50	189.50	100.35	183.50	897.62	897.48	897.07				Incomplete test, interrupted and reperfomed later
KFM06C	20051019 10:33	20051019 11:47	184.50	189.50	190.50	1000.43				1651.69	1651.69	1651.56	Incomplete test, interrupted and reperfomed later
KFM06C	20051019 21:49	20051019 22:40	219.50	224.50	100.35	218.50	903.83	902.04	901.77				Incomplete test, interrupted and reperfomed later
KFM06C	20051019 21:49	20051019 22:40	219.50	224.50	225.50	1000.43				1938.49	1938.35	1938.08	Incomplete test, interrupted and reperfomed later
KFM06C	20051020 22:06	20051020 22:21	279.50	284.50	100.35	278.50	0.00	0.00	0.00				Incomplete test, interrupted and reperfomed later. Pa out of order
KFM06C	20051020 22:06	20051020 22:21	279.50	284.50	285.50	1000.43				2435.00	0.00	0.00	Incomplete test, interrupted and reperfomed later
KFM06C	20051021 08:31	20051021 09:49	289.50	294.50	100.35	288.50	0.00	0.00	0.00				Incomplete test, interrupted and reperfomed later. Pa out of order
KFM06C	20051021 08:31	20051021 09:49	289.50	294.50	295.50	1000.43				2507.83	2507.42	2507.83	Incomplete test, interrupted and reperfomed later
KFM06C	20051026 07:53	20051026 08:34	422.00	427.00	100.35	421.00	0.00	0.00	0.00				Incomplete test, interrupted and reperfomed later. Pa out of order
KFM06C	20051026 07:53	20051026 08:34	422.00	427.00	428.00	1000.43				3565.70	3565.84	3565.70	Incomplete test, interrupted and reperfomed later