

ANNEX IX: APPENDIX B

FACTUAL MEMORANDUM ON 2014 HYDROGEOLOGICAL TESTING PROGRAM – JAY PROJECT

DATE July 17, 2014**REFERENCE No.** 1313280041-E14054-TM-Rev0-2010**TO** Ermanno Rambelli
Golder Associates Ltd.**FROM** Nick Gorski, Mike Dob and Don Chorley**EMAIL** Nick_Gorski@golder.com;
Michal_Dobr@golder.com**FACTUAL MEMORANDUM ON 2014 HYDROGEOLOGICAL TESTING PROGRAM – JAY PROJECT**

1.0 INTRODUCTION

A hydrogeological testing program was conducted in the area of the proposed Jay open pit and dike alignments as part of the 2014 Jay Project geotechnical and hydrogeological field investigations carried out in support of the Jay Project.

This technical memorandum provides a summary and interpretation of the hydrogeological data collected during the program.

2.0 HYDROGEOLOGICAL TESTING PROGRAM

Hydrogeological testing was undertaken over a period of February 18 to May 26, 2014, and consisted of the following:

- single-well response testing in 6 boreholes drilled by Major Drilling Group International Inc. (Major Drilling) in the area of the proposed open pit that were cored with a nominal diameter of 96 millimetres (mm) (HQ) using a diamond drill rig (2 boreholes used to support installation of a Westbay multi-level well system);
- single-well response testing in 16 boreholes drilled by Major Drilling along the proposed dike alignments that were cored with a nominal diameter of 96 mm (HQ) using a diamond drill rig;
- single-well response testing in 26 vertical boreholes drilled by Major Drilling along the proposed dike alignments with a nominal diameter of 152 mm using an LS600 sonic drill rig with a core barrel; and,
- two pumping tests carried out during development of two of the intervals of a Westbay multi-level monitoring well installation.

Detailed borehole information such as collar coordinates, borehole azimuth and inclination, top of lake sediment and bedrock, and total drilled depth is presented in Table 2.0-1.



Table 2.0-1: Test Borehole Details

Borehole ID	Drilling Location	Drill Type	Easting (m) ^(a,b)	Northing (m) ^(a,b)	Elevation (m) ^(a,b,c)	Depth (m) ^(d)		Total Drilled Depth (m) ^(d)	Azimuth (°) ^(e)	Inclination (°) ^(f)
						Top of Lake Sediment	Top of Bedrock			
JGT-01 ^(g)	pit, thermistor	diamond	543,130.8	7,165,638.9	419.4	0.8	5.4	247.2	200	80
JGT-02	pit	diamond	542,458.5	7,166,092.8	415.8	17.2	20.2	423.0	25	70
JGT-03	pit	diamond	542,166.9	7,165,991.4	415.8	31.5	44.4	422.4	310	70
JGT-04	pit	diamond	542,015.9	7,165,679.1	415.9	10.1	28.6	329.5	70	70
JGT-05	pit	diamond	542,576.8	7,165,750.0	415.9	8.3	11.9	425.5	110	70
JGT-06 ^(g)	pit, Westbay	diamond	543,163.3	7,165,609.9	419.6	0	5.8	454.3	200	80
JP5-SD-01	dike	sonic	541,323.3	7,168,002.0	415.8	4.0	14.0	29.7	0	90
JP5-SD-02	dike	sonic	541,644.5	7,167,575.9	415.8	4.3	9.8	21.8	0	90
JP5-SD-03	dike	sonic	542,008.9	7,167,184.3	415.6	5.9	13.1	30.0	0	90
JP5-SD-04	dike	sonic	542,301.8	7,166,798.5	415.7	3.4	4.0	23.4	0	90
JP5-SD-05	dike	sonic	542,652.8	7,165,297.8	416.1	8.1	14.0	35.6	0	90
JP5-SD-06	dike	sonic	542,164.0	7,164,940.6	415.9	12.5	15.8	38.6	0	90
JP5-SD-07	dike	sonic	541,857.9	7,164,582.8	415.9	8.5	13.1	35.7	0	90
JP5-SD-08	dike	sonic	541,307.7	7,166,462.7	415.9	8.2	22.9	44.8	0	90
JP5-SD-09	dike	sonic	541,766.4	7,166,642.5	416.0	1.2	12.5	32.6	0	90
JP5-SD-10	dike	sonic	542,006.9	7,166,707.9	415.8	7.0	17.1	41.4	0	90
JP5-GT-01	dike	diamond	542,218.9	7,164,927.7	416.1	10.3	13.7	53.9	70	80
JP5-GT-02	dike	diamond	542,670.6	7,165,252.6	415.8	8.0	16.9	50.9	245	80
JP5-GT-03	dike	diamond	543,178.0	7,166,017.7	415.9	3.0	6.2	31.7	225	80

Borehole ID	Drilling Location	Drill Type	Easting (m) ^(a,b)	Northing (m) ^(a,b)	Elevation (m) ^(a,b,c)	Depth (m) ^(d)		Total Drilled Depth (m) ^(d)	Azimuth (°) ^(e)	Inclination (°) ^(f)
						Top of Lake Sediment	Top of Bedrock			
JP5-GT-04	dike	diamond	542,702.9	7,166,595.1	416.1	3.9	15.6	45.0	155	80
JP5-GT-05	dike	diamond	541,485.1	7,167,778.1	415.9	4.4	11.5	32.0	0	90
JP1-SD-01	dike	sonic	538,396.9	7,169,469.4	415.9	11.3	40.2	50.9	0	90
JP1-SD-02	dike	sonic	538,487.0	7,169,575.0	415.8	11.1	27.4	31.1	0	90
JP1-SD-03	dike	sonic	538,565.8	7,169,666.2	415.8	9.6	20.3	23.3	0	90
JP1-GT-01	dike	diamond	538,263.2	7,169,310.0	418.3	1.5	18.9	30.4	220	85
JP1-GT-04	dike	diamond	538,732.8	7,169,883.5	419.6	2.7	10.1	23.3	40	85
JP2-SD-01	dike	sonic	543,099.8	7,171,740.3	416.2	1.1	18.7	20.3	0	90
JP2-GT-04	dike	diamond	543,114.9	7,171,755.1	416.1	1.5	16.0	29.0	0	90
JP4N-SD-01	dike	sonic	546,353.3	7,162,199.2	415.9	3.4	9.4	13.1	0	90
JP4N-SD-02	dike	sonic	546,315.3	7,162,691.0	415.9	3.5	9.8	13.7	0	90
JP4N-SD-03	dike	sonic	546,284.3	7,162,909.1	415.9	6.4	16.8	20.4	0	90
JP4N-SD-04	dike	sonic	546,428.9	7,163,006.9	415.9	6.1	14.6	17.7	0	90
JP4N-SD-05	dike	sonic	546,603.2	7,163,101.4	415.9	9.4	13.0	15.8	0	90
JP4N-SD-06	dike	sonic	546,779.9	7,163,198.5	415.9	7.0	10.4	13.4	0	90
JP4N-SD-07	dike	sonic	546,947.1	7,163,423.0	415.9	8.5	11.4	15.3	0	90
JP4N-SD-08	dike	sonic	547,001.1	7,163,614.9	415.9	7.2	11.7	14.9	0	90
JP4N-GT-02	dike	diamond	546,345.9	7,162,493.1	415.8	5.2	6.2	17.0	0	90
JP4N-GT-03	dike	diamond	546,284.0	7,162,889.4	415.8	9.0	11.4	23.0	0	90
JP4N-GT-04	dike	diamond	546,693.5	7,163,151.6	415.9	14.7	15.2	73.6	0	90

Borehole ID	Drilling Location	Drill Type	Easting (m) ^(a,b)	Northing (m) ^(a,b)	Elevation (m) ^(a,b,c)	Depth (m) ^(d)		Total Drilled Depth (m) ^(d)	Azimuth (°) ^(e)	Inclination (°) ^(f)
						Top of Lake Sediment	Top of Bedrock			
JP4N-GT-05	dike	diamond	546,939.8	7,163,398.8	415.9	12.0	15.0	26.0	0	90
JP4N-GT-06	dike	diamond	547,029.1	7,163,711.7	415.8	10.2	13.8	30.6	0	90
JP4N-GT-07	dike	diamond	547,084.4	7,163,908.2	420.8	0.2	21.4	31.3	15	85
JP4S-SD-01	dike	sonic	545,408.8	7,161,386.9	415.9	6.7	28.0	31.1	0	90
JP4S-SD-02	dike	sonic	545,421.3	7,161,487.3	416.0	18.0	29.9	35.7	0	90
JP4S-SD-03	dike	sonic	545,435.1	7,161,606.0	415.9	8.5	12.5	15.5	0	90
JP4S-SD-04	dike	sonic	545,444.2	7,161,685.0	416.0	5.5	9.9	12.5	0	90
JP4S-GT-03	dike	diamond	545,439.2	7,161,645.3	415.9	5.5	7.7	16.9	0	90
JP4S-GT-04	dike	diamond	545,513.7	7,161,849.0	418.1	0.0	5.0	20.3	65	85

a) Collar coordinates are referenced to UTM NAD 83, Zone 12N.

b) Collar survey data provided by Dominion Diamond Ekati Corporation.

c) Metres above sea level.

d) Vertical distance in metres relative to ground (or ice) surface. Measurements in inclined holes have been projected vertically.

e) All azimuths are with respect to true north. All angles are in degrees.

f) Inclination is measured from the horizontal; i.e., 90 degrees = a vertical hole.

g) For additional information on the Westbay multi-level well system, please refer to Golder 2014.

m = metres; ° = degrees.

2.1 Testing Approach

Single-well pressure response tests were carried out in the selected boreholes to obtain information on the bulk hydraulic conductivity of the soil and rock mass. Testing was conducted using two different testing methods:

- a pneumatic packer system in a single packer wireline configuration in the bedrock; and,
- temporary standpipe piezometers, due to poor borehole stability in the soil.

In addition, two pumping tests were carried out within the intervals of the Westbay multi-level monitoring well.

Detailed description of the testing methods is provided in the following sections.

2.1.1 Pneumatic Packer System

The pneumatic single-packer wireline system consists of two packers connected by a seating cone that keeps one packer inside the core barrel with the second packer extending into the open hole below the core bit. A schematic diagram of the tool assembly is shown in Figure 1-1 (Attachment 1). To perform a test, the drill string was pulled up to expose a section of the borehole selected for testing, and the tool was lowered on a wireline through the drill string into the borehole. When the packers were seated, they were inflated with nitrogen gas, isolating the section of the borehole between the lower packer and the bottom of the borehole at that time. After the test was completed, the packers were deflated and removed from the borehole.

To monitor the progress of the individual test sequences in real time, an RST Instruments vibrating wire piezometer connected to a datalogger was lowered in the drill rods below the water table and was programmed to collect data every five seconds. A LevelTROLL 700 memory gauge was also placed directly in the test interval to obtain more accurate pressure response data. The transducer/logger was programmed to collect data between one and five second intervals. The data from the LevelTROLL were used for the analysis. The calibration certificates for the RST Instruments vibrating wire piezometer and the LevelTROLL 700 memory gauge are provided in Attachment 2.

Prior to testing, the core recovered from the boreholes was reviewed in detail to assess the borehole stability, and to identify suitable locations for placement of the testing equipment.

2.1.2 Temporary Standpipe Piezometers

As a result of poor borehole stability encountered in the sediments, temporary standpipe piezometers were used to carry out hydrogeological testing instead of pneumatic packers. The procedure below was followed for testing using these temporary installations:

- 1) After reaching the depth selected for testing the drill string was pulled out, the core barrel was removed, and the casing was lowered back into the hole.
- 2) A 50 mm diameter PVC standpipe with a slotted section at the bottom was lowered into the hole through the casing (length of the slotted section varied based on the length of the test interval) and a filter sand was placed in the annulus between the casing and the PVC to above the top of the screen.
- 3) The casing was pulled up above the top of sand pack, and approximately 1 metre (m) of bentonite pellets was placed on top of the sand pack and hydrated to create a seal.
- 4) The casing was pulled up above the top of bentonite seal.
- 5) If additional temporary standpipe piezometers were installed within the same borehole, steps 2 to 6 were repeated.

Once a temporary standpipe piezometer was installed, the bentonite seal was allowed to hydrate for at least 1.5 hours. Prior to testing, the temporary standpipe piezometer was developed by airlifting. After the test was completed, the temporary installation was pulled out of the borehole and the borehole was backfilled with bentonite pellets. If the sediment layer was too thin to conduct a dedicated test, the test interval straddled the contact between the sediments and bedrock.

To monitor the progress of the individual test sequences in real time, an RST Instruments vibrating wire piezometer connected to a datalogger was lowered in the piezometer below the water table and programmed to collect data every five seconds. A backup set of pressure response data was collected with a LevelTROLL 700 memory gauge at a 0.5 second interval directly from the screened interval. The data from the LevelTROLL were used for the analysis. The calibration certificates for the RST Instruments vibrating wire piezometer and the LevelTROLL 700 memory gauge are provided in Attachment 2.

2.1.3 Westbay Multi-level Monitoring Well

Sustained airlifting rates during development of two of the Westbay Intervals (Intervals 7 and 9) at approximately 378 metres below ground surface (mbgs), and 439 mbgs were also used to estimate hydraulic conductivity of bedrock.

2.1.4 Hydrogeological Testing Summary

A summary of the tests carried out in the boreholes is presented in Table 2.1-1.

2.2 Testing Method - Single Well Response Testing

The following method was used for single well response testing:

- pressure static recovery (PSR) sequence;
- slug injection (SI) sequence or slug withdrawal (SW) sequence; and,
- constant rate injection (RI) sequence.

The following provides detailed description of the individual test sequences.

2.2.1 Pressure Static Recovery

Following packer inflation or development of the temporary standpipe piezometer, a pressure transducer was lowered below the water table to monitor the pressure response of the aquifer during the test in real time. The pressure static recovery (PSR) sequence was carried out to allow the aquifer within the isolated interval to reach static conditions after the changed conditions due to the packer inflation or piezometer development. This sequence lasted between 30 minutes and approximately 1 hour. After this time, the next test sequence was initiated, even if full hydrostatic conditions were not achieved in the test interval.

Table 2.1-1: Summary of Hydrogeological Tests

Borehole ID	Depth Range Tested (m) ^(a)	Number of Tests Conducted	Type of Testing	Date Started	Date Ended
JGT-01	147.1 to 247.2	2	PP	March 11, 2014	March 13, 2014
JGT-02	54.4 to 423.0	5	PP	March 15, 2014	March 23, 2014
JGT-03	51.4 to 422.4	4	PP	April 17, 2014	April 21, 2014
JGT-04	88.2 to 329.5	3	PP	April 6, 2014	April 11, 2014
JGT-05	46.1 to 425.5	7	PP	March 19, 2014	March 31, 2014
JGT-06	141.8 to 454.3	8	PP	March 28, 2014	April 5, 2014
JP5-SD-01	11.0 to 29.7	3	PP, TSP	April 3, 2014	April 3, 2014
JP5-SD-02	7.3 to 21.8	2	PP, TSP	March 31, 2014	March 31, 2014
JP5-SD-03	12.5 to 30.0	2	PP, TSP	March 29, 2014	March 29, 2014
JP5-SD-04	12.8 to 23.4	1	PP	March 26, 2014	March 26, 2014
JP5-SD-05	9.8 to 35.6	3	PP, TSP	March 24, 2014	March 24, 2014
JP5-SD-06	13.7 to 38.6	2	PP, TSP	March 22, 2014	March 22, 2014
JP5-SD-07	12.0 to 35.7	3	PP, TSP	March 19, 2014	March 20, 2014
JP5-SD-08	12.8 to 44.8	3	PP, TSP	April 9, 2014	April 10, 2014
JP5-SD-09	7.9 to 32.6	3	PP, TSP	April 7, 2014	April 7, 2014
JP5-SD-10	24.3 to 41.4	1	PP	April 5, 2014	April 5, 2014
JP5-GT-01	19.7 to 53.9	1	PP	April 2, 2014	April 2, 2014
JP5-GT-02	24.1 to 50.9	1	PP	March 24, 2014	March 24, 2014
JP5-GT-03	12.3 to 31.7	1	PP	March 23, 2014	March 23, 2014
JP5-GT-04	21.2 to 45.0	1	PP	March 22, 2014	March 22, 2014
JP5-GT-05	16.8 to 32.0	1	PP	March 20, 2014	March 20, 2014
JP1-SD-01	21.3 to 41.8	4	TSP	March 11, 2014	March 12, 2014
JP1-SD-02	19.5 to 27.6	2	TSP	April 9, 2014	April 9, 2014
JP1-SD-03	17.2 to 20.4	2	TSP	March 15, 2014	March 15, 2014
JP1-GT-01	22.7 to 30.4	1	PP	March 14, 2014	March 14, 2014
JP1-GT-04	14.1 to 23.3	1	PP	March 18, 2014	March 28, 2014
JP2-SD-01	11.0 to 16.5	2	TSP	March 16, 2014	March 16, 2014
JP2-GT-04	19.6 to 29.0	1	PP	March 16, 2014	March 16, 2014
JP4N-SD-01	8.8 to 13.1	2	TSP	February 21, 2014	February 21, 2014
JP4N-SD-02	8.5 to 12.8	2	TSP	February 23, 2014	February 23, 2014
JP4N-SD-03	14.9 to 20.1	2	TSP	February 25, 2014	February 25, 2014
JP4N-SD-04	12.5 to 17.7	3	TSP	February 26, 2014	February 27, 2014
JP4N-SD-05	12.2 to 15.9	2	TSP	February 28, 2014	February 28, 2014
JP4N-SD-06	9.8 to 10.7	1	TSP	March 1, 2014	March 1, 2014
JP4N-SD-07	11.1 to 15.3	2	TSP	March 2, 2014	March 2, 2014
JP4N-SD-08	11.6 to 13.0	1	TSP	March 6, 2014	March 7, 2014
JP4N-GT-02	7.8 to 17.0	1	PP	March 6, 2014	March 6, 2014
JP4N-GT-03	13.8 to 23.0	1	PP	March 5, 2014	March 6, 2014
JP4N-GT-04	19.8 to 73.6	3	PP	March 1, 2014	March 2, 2014
JP4N-GT-05	16.8 to 26.0	1	PP	February 27, 2014	February 27, 2014
JP4N-GT-06	16.7 to 30.6	2	PP	February 24, 2014	February 25, 2014

Borehole ID	Depth Range Tested (m) ^(a)	Number of Tests Conducted	Type of Testing	Date Started	Date Ended
JP4N-GT-07	24.2 to 31.3	1	PP	March 12, 2014	March 12, 2014
JP4S-SD-01	27.1 to 29.4	1	TSP	February 18, 2014	February 18, 2014
JP4S-SD-02	22.0 to 27.4	2	TSP	March 8, 2014	March 8, 2014
JP4S-SD-03	11.0 to 13.2	2	TSP	March 7, 2014	March 7, 2014
JP4S-SD-04	10.4 to 11.9	1	TSP	February 22, 2014	February 22, 2014
JP4S-GT-03	9.3 to 17.0	1	PP	March 10, 2014	March 10, 2014
JP4S-GT-04	8.2 to 20.3	1	PP	March 8, 2014	March 8, 2014
JGT-06-Interval 7	363.8 to 392.3	1	PT	May 1, 2014	May 26, 2014
JGT-06-Interval 9	424.0 to 453.5	1	PT	April 16, 2014	April 28, 2014

a) Vertical distance in metres relative to ground (or ice) surface. Measurements in inclined holes have been projected vertically.
PP = pneumatic packers; TSP = temporary standpipe piezometers; PT = pumping test.

2.2.2 Slug Injection Test; Slug Withdrawal Test

After the PSR sequence, a slug injection (SI) test or slug withdrawal (SW) test was carried out. This test sequence consists of adding or removing an instantaneous slug of water into (or out of) the test rods or the temporary standpipe piezometer, and monitoring the recovery of the water level after the slug displacement. If the water level fully recovered to the pre-test level within a 30 minute period, the slug test was followed by a constant rate injection (RI) test sequence. If full recovery was not reached within 30 minutes, the slug recovery monitoring continued for another 15 to 30 minutes. After this time, the slug test was terminated even if full recovery was not reached.

2.2.3 Constant Rate Injection Test

A constant rate injection (RI) test consists of injecting water into the test interval at a constant rate for a minimum of 30 minutes. A surface water injection assembly including a pump, flow control valves, flowmeter, pressure transducer, and a header that connects the water injection assembly to the top of the test rods is required to perform a constant rate injection test. Flow rate and injection pressure are recorded during the test with the surface monitoring equipment. Additional data are collected by a downhole memory gauge that is attached to the lower packer and records the pressure changes directly within the test interval during the test. The constant rate injection tests were conducted only in bedrock when testing with pneumatic packers. Hydrogeological testing in the standpipe piezometers was limited to slug tests due to the temporary nature of the installations.

2.3 Testing Method – Westbay Multi-level Monitoring Well Intervals

During development of Intervals 7 and 9, sustained airlifting rates of about 36 litres per minute (L/min) and 27 L/min, respectively, were maintained for long periods of time. These rates were used together with other information such as the diameter of the Westbay multi-level monitoring well, hydraulic head in the Westbay multi-level monitoring well interval prior to testing and during airlifting, and the effective testing interval were used to estimate a large-scale hydraulic conductivity for both of these intervals.

2.4 Test Analysis

2.4.1 Software

The test analyses were carried out with HydroBench® (Version 3.6.4.3), a Golder Associates Ltd. (Golder) internally developed software package designed to analyze different types of hydrogeological tests. HydroBench is a pressure transient interpretation package using the Bourdet Derivative method (e.g., Gringarten 2008) coupled with a library of analytical reservoir models. Further information on the HydroBench software, including detailed documentation of the verification of the software, is available on request.

2.4.2 Westbay Multi-level Monitoring Well Installation

The hydraulic conductivity was estimated using the Theim Equation for steady-state conditions, as follows:

$$Q = 2\pi T \frac{H - h}{2.3 \log \frac{R}{r}}$$

Where:

Q is the rate of airlifting (m^3/s);

r is the radius of the Westbay well (m);

R is the radius of influence (m);

H is the hydraulic head in the well prior to airlifting (and in this case at the radius of influence) (m); and,

T is the transmissivity which is the hydraulic conductivity (K) times the effective tested interval (b) (m^2/s).

Based on the above, the transmissivity for both Intervals 7 and 9 was estimated. Although the packer spacing for Intervals 7 and 9 is about 30 m, the port opening is about 0.02 m; therefore, an effective test interval was estimated to be 2 m.

2.4.3 Results

A summary of the transmissivity and hydraulic conductivity values calculated for the tested intervals is presented in Tables 2.4-1 and 2.4-2 with the tests being divided into the following groups:

- tests carried out in the Jay pipe area including the Westbay multi-level groundwater monitoring well (Table 2.4-1); and,
- tests carried out along the proposed Jay dike alignments (Table 2.4-2).

The hydraulic conductivity values were calculated by dividing the transmissivity value by the length of the corresponding test interval. The table shows the test sequences carried out in each interval such as PSR, SI, SW, and RI. For each test interval, the test sequence with the most reliable pressure response data set was selected for analyses. The hydraulic conductivity values derived from the single-well pressure response tests conducted in the Jay pit and Westbay system area varied between 2×10^{-10} metres per second (m/s) and 5×10^{-5} m/s

Table 2.4-1: Summary of Single-Well Test Results Associated with the Proposed Jay Pit Area and Westbay System

Borehole ID	Test Number	Interval Top (m) ^(a)	Interval Bottom (m) ^(a)	Interval Length (m) ^(a)	Test Sequences Conducted	Test Sequence Analyzed	Rock Type	Structural Feature ^(b)	T (m ² /s)	K (m/s)
JGT-01	1	149.4	199.1	49.7	PSR, SW, RI	SW	GR	none	5E-08	1E-09
JGT-01	2	200.6	251.0	50.4	PSR, SW, RI	SW	GR	none	2E-07	5E-09
JGT-02	1	57.9	77.6	19.7	PSR, SW	SW	GR	fault	1E-05	7E-07
JGT-02	2	75.9	173.6	97.7	PSR, SW	SW	GR	none	2E-05	2E-07
JGT-02	3	174.9	275.6	100.7	PSR, SW, RI	RI	GR	none	7E-06	7E-08
JGT-02	4	273.9	374.6	100.7	PSR, SW, RI	RI	GR, PEG	none	8E-06	7E-08
JGT-02	5	372.9	450.1	77.3	PSR, SW	SW	GR, DB	none	1E-06	2E-08
JGT-03	1	54.7	152.5	97.8	PSR, SW, RI	RI	DB, GR, PEG	none	9E-04	9E-06
JGT-03	2	147.7	251.5	103.8	PSR, SW	SW	GR	none	4E-07	3E-09
JGT-03	3	246.7	350.5	103.8	PSR, SW, RI	RI	GR, PEG	fault	3E-05	3E-07
JGT-03	4	348.7	449.5	100.8	PSR, SW, RI	RI	DB, GR	none	1E-04	1E-06
JGT-04	1	93.9	146.6	52.7	PSR, SW, RI	SW	MTSD	fault	5E-05	9E-07
JGT-04	2	144.9	251.6	106.7	PSR, SW, RI	SW	MTSD, GR,	fault	3E-05	3E-07
JGT-04	3	243.9	350.6	106.7	PSR, SW, RI	RI	MTSD, PEG, GR	none	2E-06	2E-08
JGT-05	1	22.1	47.8	25.7	PSR, SW, RI	SW	GR	none	1E-05	4E-07
JGT-05	2	49.1	101.8	52.7	PSR, SW, RI	SW	GR, MTSD	fault	2E-05	5E-07
JGT-05	3	103.1	152.8	49.7	PSR, SW, RI	SW	GR	none	9E-06	2E-07
JGT-05	4	151.1	200.8	49.7	PSR, SW	SW	GR, PEG	none	2E-06	5E-08
JGT-05	5	199.1	275.8	76.7	PSR, SW	SW	GR	none	8E-08	1E-09
JGT-05	6	274.1	326.8	52.7	PSR, SW	SW	GR, MTSD	none	5E-08	1E-09
JGT-05	7	436.1	452.8	16.7	PSR, SW, RI	RI	GR	none	8E-04	5E-05
JGT-06	1	144.0	195.4	51.4	PSR, SW	SW	GR	none	2.E-07	3E-09
JGT-06	2	198.0	251.3	53.3	PSR, SW	SW	GR	none	3.E-06	6E-08
JGT-06	3	246.0	299.3	53.3	PSR, SW	SW	GR	none	8.E-09	2E-10
JGT-06	4	297.0	350.3	53.3	PSR, SW	SW	GR	none	6.E-07	1E-08
JGT-06	5	348.0	380.3	32.3	PSR, SW, RI	SW	GR	fault	2.E-04	5E-06
JGT-06	6	345.0	398.3	53.3	PSR, SW, RI	SW	GR	fault	4.E-04	7E-06
JGT-06	7	396.0	461.3	65.3	PSR, SW	n/a	GR	fault	test not analyzed ^(c)	
JGT-06	8	396.0	461.3	65.3	PSR, SW, RI	RI	GR	fault	3.E-04	4E-06
JGT-06-Interval 7	Westbay Int. 1	363.8	392.3	28.5 (equivalent length = 2)	CR	CR	GR	fault	2E-5	1E-5
JGT-06 Interval 9	Westbay Int. 2	424.0	453.5	29.5 (equivalent length = 2)	CR	CR	GR	fault	2E-5	1E-5

a) Metres along hole, relative to ground (or ice) surface.

b) Structural features are taken from the geotechnical logging of the borehole and may not be indicative of a hydraulically conductive feature.

c) Fast recovery during SW, test repeated (JGT-06 Test 8).

m = metres; m/s = metres per second; m²/s = square metres per second; T = transmissivity; K = hydraulic conductivity; PSR = pressure static recovery sequence; SW = slug withdrawal sequence (rising head test); RI = constant rate injection sequence; CR = constant rate; GR = granitoid; PEG = pegmatite; DB = diabase; MTSD = metasediments; n/a = not applicable.

Table 2.4-2: Summary of Single-Well Test Results Associated with the Proposed Jay Dike Alignments

Borehole ID	Test Number / Type	Interval Top (m) ^(a)	Interval Bottom (m) ^(a)	Interval Length (m)	Test Sequences Conducted	Test Sequence Analyzed	Material Tested	Rock Type	T (m ² /s)	K (m/s)
JP5-SD-01	Piezometer 1	14.3	16.2	1.8	PSR, SW	SW	till / competent soil	n/a	5.E-06	3.E-06
JP5-SD-01	Piezometer 2	11.0	13.4	2.4	PSR, SW	SW	rock	GR	3.E-07	1.E-07
JP5-SD-01	Packer 1	18.4	29.7	11.2	PSR, SW	SW	rock	GR	2.E-06	2.E-07
JP5-SD-02	Piezometer 1	7.3	9.4	2.1	PSR, SW	SW	till / competent soil	n/a	4.E-07	2.E-07
JP5-SD-02	Packer 1	14.1	21.8	7.7	PSR, SW	SW	rock	GR	1.E-06	2.E-07
JP5-SD-03	Piezometer 1	12.5	14.6	2.1	PSR, SW	SW	soil / bedrock contact	n/a	2.E-04	9.E-05
JP5-SD-03	Packer 1	22.3	30.0	7.7	PSR, SW	SW	rock	GR	6.E-06	8.E-07
JP5-SD-04	Packer 1	12.8	23.4	10.6	PSR, SW	SW	rock	GR	5.E-06	5.E-07
JP5-SD-05	Piezometer 1	9.8	11.9	2.1	PSR, SW	SW	lakebed sediments	n/a	2.E-07	7.E-08
JP5-SD-05	Piezometer 2	12.8	14.6	1.8	PSR, SW	SW	soil / bedrock contact	n/a	7.E-08	4.E-08
JP5-SD-05	Packer 1	25.0	35.6	10.6	PSR, SW	SW	rock	GR	8.E-06	8.E-07
JP5-SD-06	Piezometer 1	13.7	15.8	2.1	PSR, SW	SW	till / competent soil	n/a	1.E-06	6.E-07
JP5-SD-06	Packer 1	21.9	38.6	16.7	PSR, SW	SW	rock	MTSD	1.E-05	9.E-07
JP5-SD-07	Piezometer 1	12.0	13.3	1.2	PSR, SW	SW	soil / bedrock contact	n/a	5.E-07	4.E-07
JP5-SD-07	Piezometer 2	14.5	15.8	1.4	PSR, SW	SW	rock	MTSD	7.E-07	4.E-07
JP5-SD-07	Packer 1	22.0	35.7	13.8	PSR, SW	SW	rock	MTSD	9.E-07	6.E-08
JP5-SD-08	Piezometer 1	22.3	24.4	2.1	PSR, SW	SW	soil / bedrock contact	n/a	5.E-05	2.E-05
JP5-SD-08	Piezometer 2	12.8	15.2	2.4	PSR, SI	SI	till / competent soil	n/a	4.E-05	2.E-05
JP5-SD-08	Packer 1	30.1	44.8	14.7	PSR, SW, RI	SW	rock	MTSD	6.E-06	4.E-07
JP5-SD-09	Piezometer 1	11.0	13.7	2.7	PSR, SW	SW	soil / bedrock contact	n/a	3.E-04	1.E-04
JP5-SD-09	Piezometer 2	7.9	10.1	2.1	PSR, SW	SW	till / competent soil	n/a	9.E-04	4.E-04
JP5-SD-09	Packer 1	23.5	32.6	9.1	PSR, SW	SW	rock	GR, MTSD	9.E-07	9.E-08
JP5-SD-10	Packer 1	24.3	41.4	17.0	PSR, SW	SW	rock	GR	8.E-06	5.E-07
JP5-GT-01	Packer 1	19.7	53.9	34.2	PSR, SW, RI	SW	rock	MTSD	6.E-05	2.E-06
JP5-GT-02	Packer 1	24.1	50.9	26.8	PSR, SW, RI	SW	rock	GR	5.E-05	2.E-06
JP5-GT-03	Packer 1	12.3	31.7	19.4	PSR, SW, RI	SW	rock	GR, MTSD	3.E-05	1.E-06
JP5-GT-04	Packer 1	21.2	45.0	23.8	PSR, SW, RI	SW	rock	GR	6.E-05	3.E-06
JP5-GT-05	Packer 1	16.8	32.0	15.2	PSR, SW, RI	SW	rock	GR	4.E-05	2.E-06
JP1-SD-01	Piezometer 1	26.2	27.1	0.9	PSR, SW	SW	till / competent soil	n/a	3.E-05	3.E-05
JP1-SD-01	Piezometer 2	21.3	25.6	4.3	PSR, SI	n/a	till / competent soil	n/a	test not analyzed ^(b)	
JP1-SD-01	Piezometer 3	39.6	41.8	2.1	PSR, SW	SW	soil / bedrock contact	n/a	6.E-07	3.E-07
JP1-SD-01	Piezometer 4	33.5	38.4	4.9	PSR, SW	SW	till / competent soil	n/a	2.E-08	4.E-09
JP1-SD-02	Piezometer 1	24.4	27.6	3.2	PSR, SW	SW	soil / bedrock contact	n/a	4.E-07	1.E-07
JP1-SD-02	Piezometer 2	19.5	22.1	2.6	PSR, SW	SW	till / competent soil	n/a	2.E-06	8.E-07
JP1-SD-03	Piezometer 1	19.2	20.4	1.2	PSR, SW	n/a	soil / bedrock contact	n/a	leakage ^(c)	
JP1-SD-03	Piezometer 2	17.2	18.3	1.1	PSR, SW	n/a	till / competent soil	n/a	leakage ^(c)	
JP1-GT-01	Packer 1	22.7	30.4	7.7	PSR, SW	SW	rock	MTSD	4.E-10	1.E-10 ^(d)
JP1-GT-04	Packer 1	14.1	23.3	9.2	PSR, SW	SW	rock	MTSD	2.E-10	1.E-10 ^(d)
JP2-SD-01	Piezometer 1	11.0	13.1	2.1	PSR, SW	SW	till / competent soil	n/a	5.E-07	2.E-07
JP2-SD-01	Piezometer 2	14.3	16.5	2.1	PSR, SW	SW	till / competent soil	n/a	6.E-07	3.E-07
JP2-GT-04	Packer 1	19.6	29.0	9.4	PSR, SW	SW	rock	MTSD	3.E-07	3.E-08
JP4N-SD-01	Piezometer 1	11.0	13.1	2.1	PSR, SW	SW	till / competent soil	n/a	6.E-06	3.E-06
JP4N-SD-01	Piezometer 2	8.8	10.1	1.2	PSR, SW	n/a	till / competent soil	n/a	leakage ^(c)	
JP4N-SD-02	Piezometer 1	11.6	12.8	1.2	PSR, SW	SW	rock	GR	5.E-06	4.E-06
JP4N-SD-02	Piezometer 2	8.5	10.7	2.1	PSR, SW	SW	soil / bedrock contact	n/a	2.E-06	8.E-07
JP4N-SD-03	Piezometer 1	18.0	20.1	2.1	PSR, SW	SW	rock	GR	8.E-04	4.E-04
JP4N-SD-03	Piezometer 2	14.9	17.1	2.1	PSR, SW	SW	soil / bedrock contact	n/a	5.E-07	3.E-07
JP4N-SD-04	Piezometer 1	12.5	14.6	2.1	PSR, SW	SW	till / competent soil	n/a	7.E-06	3.E-06
JP4N-SD-04	Piezometer 2	16.5	17.7	1.2	PSR, SW	SW	rock	GR	5.E-06	4.E-06
JP4N-SD-04	Piezometer 3	13.7	15.9	2.1	PSR, SW	SW	soil / bedrock contact	n/a	6.E-06	3.E-06
JP4N-SD-05	Piezometer 1	14.3	15.9	1.5	PSR, SW	SW	rock	GR	2.E-05	1.E-05
JP4N-SD-05	Piezometer 2	12.2	13.4	1.2	PSR, SW	SW	soil / bedrock contact	n/a	2.E-06	1.E-06
JP4N-SD-06	Piezometer 1	9.8	10.7	0.9	PSR, SW	SW	soil / bedrock contact	n/a	5.E-07	5.E-07
JP4N-SD-07	Piezometer 1	13.1	15.3	2.2	PSR, SW	SW	rock	GR	5.E-03	2.E-03
JP4N-SD-07	Piezometer 2	11.1	12.2	1.1	PSR, SW	SW	soil / bedrock contact	n/a	9.E-07	8.E-07
JP4N-SD-08	Piezometer 1	11.6	13.0	1.4	PSR, SW	SW	soil / bedrock contact	n/a	1.E-09	9.E-10
JP4N-GT-02	Packer 1	7.8	17.0	9.2	PSR, SW	SW	rock	MTSD	2.E-08	2.E-09
JP4N-GT-03	Packer 1	13.8	23.0	9.2	PSR, SW, RI	RI	rock	GR, MTSD	1.E-04	2.E-05
JP4N-GT-04	Packer 1	19.8	35.0	15.2	PSR, SW	SW	rock	GR	7.E-06	5.E-07
JP4N-GT-04	Packer 2	34.7	73.6	38.9	PSR, SW	SW	rock	GR	2.E-04	5.E-06
JP4N-GT-04	Packer 3	52.8	73.6	20.8	PSR, SW	SW	rock	GR	2.E-05	8.E-07
JP4N-GT-05	Packer 1	16.8	26.0	9.2	PSR, SW, RI	SW	rock	GR	3.E-04	3.E-05
JP4N-GT-06	Packer 1	16.7	30.6	13.9	PSR, SW	SW	rock	GR, MTSD	5.E-05	3.E-06
JP4N-GT-06	Packer 2	19.7	30.6	10.9	PSR, SW, RI	RI	rock	GR	5.E-05	4.E-06
JP4N-GT-07	Packer 1	24.2	31.3	7.1	PSR, SW	SW	rock	GR	1.E-10	1.E-10 ^(d)

Borehole ID	Test Number / Type	Interval Top (m) ^(a)	Interval Bottom (m) ^(a)	Interval Length (m)	Test Sequences Conducted	Test Sequence Analyzed	Material Tested	Rock Type	T (m ² /s)	K (m/s)
JP4S-SD-01	Piezometer 1	27.1	29.4	2.3	PSR, SI	SI	soil / bedrock contact	n/a	2.E-05	9.E-06
JP4S-SD-02	Piezometer 1	24.1	27.4	3.4	PSR, SW	SW	till / competent soil	n/a	6.E-04	2.E-04
JP4S-SD-02	Piezometer 2	22.0	23.2	1.2	PSR, SW	n/a	till / competent soil	n/a	no data ^(e)	
JP4S-SD-03	Piezometer 1	11.0	13.2	2.2	PSR, SW	n/a	soil / bedrock contact	n/a	leakage ^(c)	
JP4S-SD-03	Piezometer 2	11.3	12.5	1.2	PSR, SW	SW	till / competent soil	n/a	4.E-06	3.E-06
JP4S-SD-04	Piezometer 1	10.4	11.9	1.5	PSR, SW	SW	rock	MTSD	3.E-06	2.E-06
JP4S-GT-03	Packer 1	9.3	17.0	7.7	PSR, SW, RI	RI	rock	MTSD	1.E-04	1.E-05
JP4S-GT-04	Packer 1	8.2	20.3	12.2	PSR, SW, RI	SW	rock	MTSD	5.E-10	1.E-10 ^(d)

(a) Vertical distance in metres relative to ground (or ice) surface. Measurements in inclined holes have been projected vertically.

(b) Irregular pressure response, pressure continued to rise after SI test

(c) Irregular recovery during SW, seal leak suspected.

(d) K estimated at less than 1 x 10⁻¹⁰ m/s based on very slow response during the SW. This test may be conducted in the permafrost and the K might not be representative of the bulk rock mass.

(e) LevelTroll 700 memory gauge failed, insufficient manual readings to conduct analysis

m = metres; m/s = metres per second; m²/s = square metres per second; T = transmissivity; K = hydraulic conductivity; PSR = pressure static recovery sequence; SW = slug withdrawal sequence (rising head test); SI = slug injection sequence (falling head test); GR = granitoid; MTSD = metasediments; n/a = not applicable.

The hydraulic conductivity values derived from the single-well pressure response tests conducted along the Jay dike alignments were as follows:

- between 4×10^{-9} m/s and 4×10^{-4} m/s for tests conducted in soil (lake sediment and till / competent soil);
- between 4×10^{-8} m/s and 1×10^{-4} m/s for tests conducted across the soil / bedrock contact; and,
- between 1×10^{-10} m/s and 2×10^{-3} m/s for tests conducted in the bedrock.

The results of the individual tests are presented along with the elevation of the corresponding test interval (below ground/ice surface) in the following figures:

- Figure 3-1 (Attachment 3) – for tests at the Jay pipe and Westbay system area; and,
- Figures 4-1 to 4-3 (Attachment 4) – for tests conducted along the proposed Jay dike alignments in soil, across the soil/bedrock contact, and rock, respectively.

Detailed analytical test reports are presented in Attachment 5. These reports are computer generated protocols, and some values in these documents might differ from values discussed within the text section of this document.

2.4.4 Discussion of Testing Results

The following observations were made with respect to the derived hydrogeological testing results:

- A general decrease in hydraulic conductivity was observed with increasing depth with tests in the upper 30 m generally having greater hydraulic conductivity.
- A wide range of the hydraulic conductivity values obtained from the upper bedrock was observed.
- Several tests conducted along the dike alignments that have a low hydraulic conductivity results (JP1-GT-01, JP1-GT-04, JP4N-GT-07, and JP4S-GT-04) may be measuring permafrost and not the bulk hydraulic conductivity of the rock.

The testing method utilizing the temporary standpipe piezometers in the sediments and shallow bedrock has been selected as a backup method because the poor borehole stability prevented use of pneumatic packers. As such, the results derived from data collected from these tests should be treated as approximate only.

3.0 CLOSING

We trust that the information provided above satisfies your current project requirements. If you have any questions or concerns, please do not hesitate to contact us at your convenience.

GOLDER ASSOCIATES LTD.



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Principal, Senior Hydrogeologist

DV/NGG/jc/lis

Attachments: Attachment 1: Figure 1-1: Single Packer Downhole Wireline Assembly Schematic
Attachment 2: Transducer Calibration Certificates
Attachment 3: Figure 3-1: Summary of Hydraulic Conductivity Results at Jay Pit and Westbay System Area
Attachment 4: Figures 4-1 to 4-3: Summary of Hydraulic Conductivity Results Along Proposed Jay Dike Alignments
Attachment 5: *HydroBench*[®] Analysis Reports

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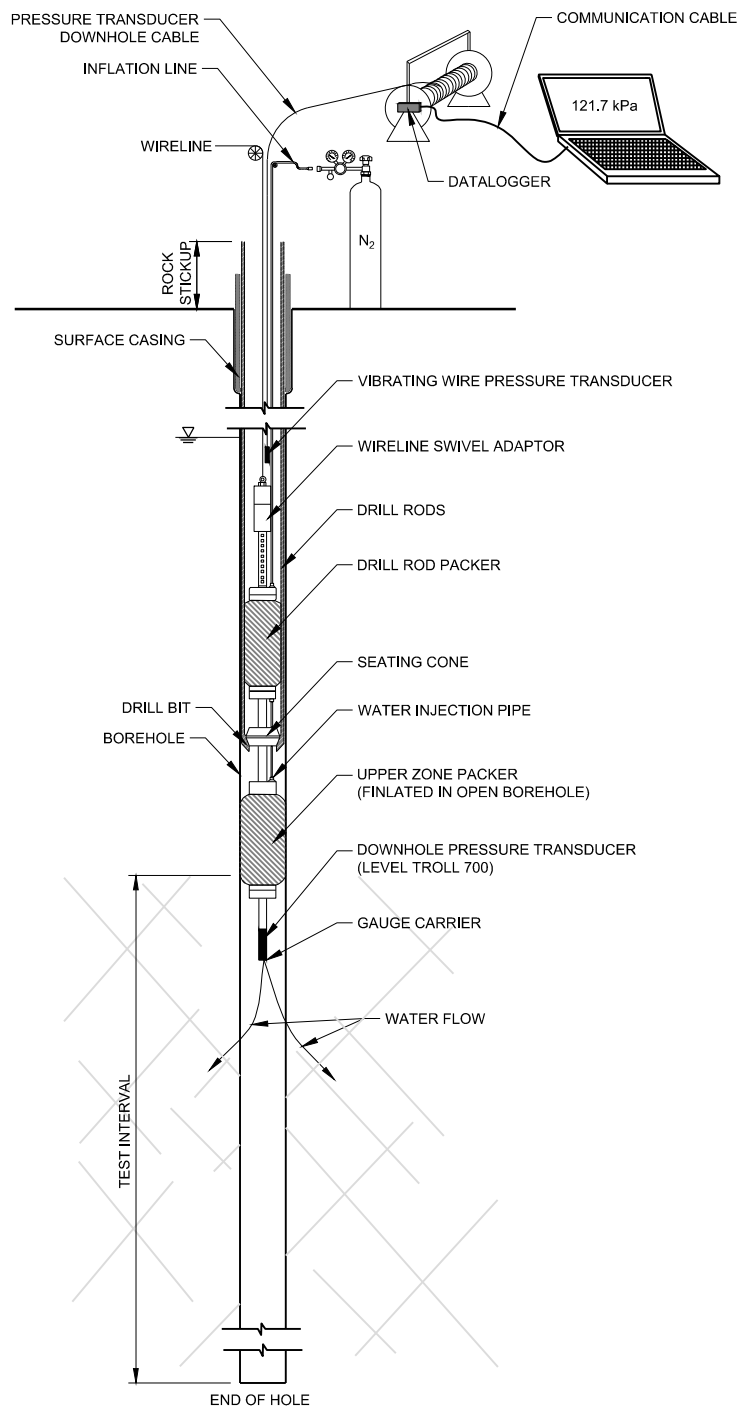
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ATTACHMENT 1

Figure 1-1: Single Packer Downhole Wireline Assembly Schematic

N:\Client\Dominion Diamond\Jay-Cardinal Project\99_ PROJECT\99-1328-3050\2_ PRODUCTION\1313283050_20-01.dwg | Layout: Layout1-ANSI_A_BASIC_PORT | Modified: marioberstein 07/11/2014 4:52 PM | Plotted: jled 07/16/2014



SCHEMATIC ONLY
NOT TO SCALE

PROJECT

DOMINION
DIAMOND

JAY-CARDINAL PROJECT
NORTHWEST TERRITORIES, CANADA

TITLE

SINGLE PACKER WIRELINE
DOWNHOLE ASSEMBLY SCHEMATIC

Golder
Associates

PROJECT No.		13-1328-3050/20	FILE No.		1313283050_20-01
DESIGN	N.G.	2014-07-10	SCALE	AS SHOWN	
CADD	M.R.	2014-07-11	FIGURE	1-1	
CHECK	-	-			
REVIEW	-	-			



ATTACHMENT 2

Transducer Calibration Certificates

Instrument Details:

Instrument Model: **Level TROLL 700**
Full Scale Pressure Range: **6894.76 KPa (1000 PSI) non-vented**
Serial Number: **318995**

Calibration Details:

Calibration Result: **PASS**
Calibration Date: **2012-08-07 20:44:58 (UTC)**
Nominal Range of Applied Temperature: **-5 C to +50 C**
Temperature Accuracy Specification: **+/- 0.1 C From 0 C to +50 C**
Nominal Range of Applied Pressure: **48.3 KPa to 6894.8 KPa (7.0 PSI to 1000.0 PSI)**
Pressure Accuracy Specification: **+/- 0.1 %FS from -5 C to +50 C, +/- 0.05 %FS at +15 C**

Post-Calibration Check:

Parameter	Applied	Reported	Deviation
Pressure	1000.0000	1000.2340	0.0234
Pressure	424.0600	424.0975	0.0038
Pressure	7.0000	7.0579	0.0058
Temperature	24.6810	24.6943	0.0133

Calibration Procedures and Equipment Used:

Automated calibration procedures used.
Manu Agilent Model 34980A SerialNo MY44001931
Manu Instrulab Model 4312A-15 SerialNo 30117
Manu Instrulab Model 832-151-01 SerialNo 809
Manu Mensor Model PCS-400 SerialNo 180695
Manu Mensor Model PCS-400 SerialNo 180695
Manu Ruska Model 7215xi SerialNo 55556
Manu Agilent Model 53131A-010 SerialNo MY47002282
Manu MENSOR Model 600 SerialNo 620225

Notes:

1. Standards used in this calibration are traceable to the National Institute of Standards and Technology.
2. This calibration report shall not be reproduced, except in full, without the written approval of In-Situ, Inc.
3. A calibration interval of 12 to 18 months is recommended.
4. The post-calibration data is collected at nominal +20 C.
5. 1.0 PSI = 6.894757 KPa

Performed By: FM

Instrument Details:

Instrument Model: **Level TROLL 700**
Full Scale Pressure Range: **6894.76 KPa (1000 PSI) non-vented**
Serial Number: **334788**

Calibration Details:

Calibration Result: **PASS**
Calibration Date: **2013-03-19 17:36:52 (UTC)**
Nominal Range of Applied Temperature: **-5 C to +50 C**
Temperature Accuracy Specification: **+/- 0.1 C From 0 C to +50 C**
Nominal Range of Applied Pressure: **48.3 KPa to 6894.8 KPa (7.0 PSI to 1000.0 PSI)**
Pressure Accuracy Specification: **+/- 0.1 %FS from -5 C to +50 C, +/- 0.05 %FS at +15 C**

Post-Calibration Check:

Parameter	Applied	Reported	Deviation
Pressure	1000.0050	999.9681	-0.0037
Pressure	424.0600	424.1859	0.0126
Pressure	7.0000	7.0374	0.0037
Temperature	24.6820	24.6938	0.0118

Calibration Procedures and Equipment Used:

Automated calibration procedures used.
Manu Agilent Model 34980A SerialNo MY44003951
Manu Instrulab Model 4312A-15 SerialNo 30117
Manu Instrulab Model 832-151-01 SerialNo 809
Manu Mensor Model PCS-400 SerialNo 180695
Manu Mensor Model PCS-400 SerialNo 180695
Manu Agilent Model 53131A-010 SerialNo MY47002282
Manu MENSOR Model 600 SerialNo 620699

Notes:

1. Standards used in this calibration are traceable to the National Institute of Standards and Technology.
2. This calibration report shall not be reproduced, except in full, without the written approval of In-Situ, Inc.
3. A calibration interval of 12 to 18 months is recommended.
4. The post-calibration data is collected at nominal +20 C.
5. 1.0 PSI = 6.894757 KPa

Performed By: FM

Instrument Details:

Instrument Model: **Level TROLL 700**
Full Scale Pressure Range: **6894.76 KPa (1000 PSI) non-vented**
Serial Number: **335363**

Calibration Details:

Calibration Result: **PASS**
Calibration Date: **2013-03-19 17:36:52 (UTC)**
Nominal Range of Applied Temperature: **-5 C to +50 C**
Temperature Accuracy Specification: **+/- 0.1 C From 0 C to +50 C**
Nominal Range of Applied Pressure: **48.3 KPa to 6894.8 KPa (7.0 PSI to 1000.0 PSI)**
Pressure Accuracy Specification: **+/- 0.1 %FS from -5 C to +50 C, +/- 0.05 %FS at +15 C**

Post-Calibration Check:

Parameter	Applied	Reported	Deviation
Pressure	1000.0000	1000.1200	0.0120
Pressure	424.0600	424.0735	0.0013
Pressure	7.0000	7.0594	0.0059
Temperature	24.6860	24.6910	0.0050

Calibration Procedures and Equipment Used:

Automated calibration procedures used.

Manu Agilent Model 34980A SerialNo MY44003951

Manu Instrulab Model 4312A-15 SerialNo 30117

Manu Instrulab Model 832-151-01 SerialNo 809

Manu Mensor Model PCS-400 SerialNo 180695

Manu Mensor Model PCS-400 SerialNo 180695

Manu Agilent Model 53131A-010 SerialNo MY47002282

Manu MENSOR Model 600 SerialNo 620699

Notes:

- Standards used in this calibration are traceable to the National Institute of Standards and Technology.
- This calibration report shall not be reproduced, except in full, without the written approval of In-Situ, Inc.
- A calibration interval of 12 to 18 months is recommended.
- 1.0 KPa = 6.894757 PSI

Performed By: FM

Instrument Details:

Instrument Model: **Level TROLL 700**
Full Scale Pressure Range: **6894.76 KPa (1000 PSI) non-vented**
Serial Number: **335396**

Calibration Details:

Calibration Result: **PASS**
Calibration Date: **2013-03-19 17:36:52 (UTC)**
Nominal Range of Applied Temperature: **-5 C to +50 C**
Temperature Accuracy Specification: **+/- 0.1 C From 0 C to +50 C**
Nominal Range of Applied Pressure: **48.3 KPa to 6894.8 KPa (7.0 PSI to 1000.0 PSI)**
Pressure Accuracy Specification: **+/- 0.1 %FS from -5 C to +50 C, +/- 0.05 %FS at +15 C**

Post-Calibration Check:

Parameter	Applied	Reported	Deviation
Pressure	1000.0000	1000.1450	0.0145
Pressure	424.0600	424.0537	-0.0006
Pressure	7.0000	7.0113	0.0011
Temperature	24.6860	24.6843	-0.0017

Calibration Procedures and Equipment Used:

Automated calibration procedures used.

Manu Agilent Model 34980A SerialNo MY44003951

Manu Instrulab Model 4312A-15 SerialNo 30117

Manu Instrulab Model 832-151-01 SerialNo 809

Manu Mensor Model PCS-400 SerialNo 180695

Manu Mensor Model PCS-400 SerialNo 180695

Manu Agilent Model 53131A-010 SerialNo MY47002282

Manu MENSOR Model 600 SerialNo 620699

Notes:

- Standards used in this calibration are traceable to the National Institute of Standards and Technology.
- This calibration report shall not be reproduced, except in full, without the written approval of In-Situ, Inc.
- A calibration interval of 12 to 18 months is recommended.
- 1.0 KPa = 6.894757 PSI

Performed By: FM



innovation in
geotechnical
instrumentation

Calibration Record

RST Instruments Ltd., 11545 Kingston St., Maple Ridge, British Columbia, Canada V2X 0Z5
Tel: 604 540 1100 • Fax: 604 540 1005 • Toll Free: 1 800 665 5599 (North America only)
e-mail: info@rstinstruments.com • Website: www.rstinstruments.com

Vibrating Wire Pressure Transducer

Customer: GOLDER CONSTRUCTION - VANCOUVER
Model: VWWL2100-1.0
Serial Number: VW7541
Mfg Number: 07-14632
Range: 1.0 MPa
Date of Calibration: May 1, 2013
Temperature: 22.8 °C
Barometric Pressure: 1037 millibars
W.O. Number: 200738
Cable Length: 100 meters
Cable Colour Code: red / black (coil) green / white (thermistor)
Cable Type: EL380004K
Thermistor type: 3 Kohms

Applied Pressure (MPa)	First Reading (B units)	Applied Pressure (MPa)	Second Reading (B units)	Average Pressure (MPa)	Average Readings (B units)	Calculated Linear (MPa)	Linearity F.S. Error (%)	Polynomial Fit (% FS)
0.000	8864	0.000	8865	0.000	8865	0.002	0.18	0.00
0.200	8119	0.200	8118	0.200	8119	0.200	-0.03	0.00
0.400	7369	0.400	7369	0.400	7369	0.399	-0.15	0.00
0.600	6615	0.600	6615	0.600	6615	0.599	-0.14	0.00
0.800	5857	0.800	5858	0.800	5858	0.800	-0.05	-0.01
1.000	5095	1.000	5095	1.000	5095	1.002	0.18	0.00
Max. Error (%):							0.18	0.01

Linear Calibration Factor: C.F. = 0.00026530 MPa/B unit
Regression Zero: At Calibration Bi = 8871.2 B unit
Temperature Correction Factor: Tk = -0.0002699 MPa/°C rise

Polynomial Gage Factors (MPa) A: -9.5454E-10 B: -0.00025198 C: 2.3086

Pressure is calculated with the following equations:

Linear, $P(\text{MPa}) = C.F. \times (Li - Lc) - [Tk \times (Ti - Tc)] + [0.00010 \times (Bi - Bc)]$

Polynomial: $P(\text{MPa}) = A(Lc)^2 + BLc + C + Tk(Tc - Ti) - [0.00010 \times (Bc - Bi)]$

	Date (dd/mm/yr)	VW Readout Pos. B (Li)	Temp °C (Ti)	Baro (Bi)
Factory Zero Readings:	6-Aug-07	8824	24.4	990.1
Shipped Zero Readings:	May 1, 2013	8863	22.8	1037.0

Li, Lc = initial (at installation) and current readings

Ti, Tc = initial (at installation) and current temperature, in °C

Bi, Bc = initial (at installation) and current barometric pressure readings, in millibars

B units = B scale output of VW 2102, VW 2104, VW 2106 and DT 2011 readouts

B units = $\text{Hz}^2 / 1000$ ie: $1700\text{Hz} = 2890$ B units

Technician: K.Hicks

Date: May 1, 2013

This instrument has been calibrated using standards traceable to the NIST in compliance with ANSI Z540-1

Document Number: ELL0143E



MIG0106B

CALIBRATION REPORT

Instrument type VW transducer with data logger
 Calibration Date 12-Dec-13 Due date: 12-Dec-14
 Model Number VW2100-1.0-HD
 Pressure Range 1.0 MPa or 145.04MPa
 Manufacturer RST instruments
 Serial number VW8102

Pressure Test Data Sheet

GOLDER	INSTRUMENT		
STANDARD	CALCULATED	deviation	Polynomial Fits
Reading	Polynomial		FS Error
psi	psi	psi	%
0	0.0	0.0	0.01
30	30.5	0.5	0.34
60	60.5	0.5	0.34
90	90.7	0.7	0.48
120	120.7	0.7	0.48
145	145.9	0.8	0.58
		0.0	0.00
		0.0	0.00
		0.0	0.00
		0.8	0.6

End of calibration data

Performed by A.Brugger

Calibration and Equipment used:

Instrument type DPG1001B-1KG

Calibration Date 15-Feb-13

Manufacturer Omega

Equipment used are traceable to the National Institute of Standard a pressure range 0-1000 psi

Accuracy 1%

Serial number 5225903001

CALIBRATION REPORT

Instrument type VW transducer with data logger
 Calibration Date 4-Dec-13 Due date: 4-Dec-14
 Model Number VW2100-1.0-HD
 Pressure Range 1.0 MPa or 145.04MPa
 Manufacturer RST instruments
 Serial number VW19228

Pressure Test Data Sheet

GOLDER	INSTRUMENT		
STANDARD	CALCULATED	deviation	Polynomial Fits
Reading	Polynomial		FS Error
psi	psi	psi	%
0	0.0	0.0	0.03
30	30.2	0.1	0.10
60	60.2	0.2	0.14
90	90.3	0.3	0.21
120	120.3	0.3	0.21
145	145.3	0.3	0.21
		0.0	0.00
		0.0	0.00
		0.0	0.00
		0.3	0.2

End of calibration data

Performed by A.Brugger

Calibration and Equipment used:

Instrument type DPG1001B-1KG

Calibration Date 15-Feb-13

Manufacturer Omega

Equipment used are traceable to the National Institute of Standard a pressure range 0-1000 psi

Accuracy 1%

Serial number 5225903001

CALIBRATION REPORT

Instrument type VW transducer with data logger
 Calibration Date 19-Dec-13 Due date: 19-Dec-14
 Model Number VW2100-1.0-HD
 Pressure Range 1.0 MPa or 145.04MPa
 Manufacturer RST instruments
 Serial number VW25704

Pressure Test Data Sheet

GOLDER	INSTRUMENT		
STANDARD	CALCULATED	deviation	Polynomial Fits
Reading	Polynomial		FS Error
psi	psi	psi	%
0	0.0	0.0	-0.01
30	30.6	0.6	0.38
60	60.5	0.5	0.34
90	90.6	0.5	0.38
120	125.5	5.5	3.78
145	145.6	0.6	0.41
		0.0	0.00
		0.0	0.00
		0.0	0.00
		5.5	3.8

End of calibration data

Performed by A.Brugger

Calibration and Equipment used:

Instrument type DPG1001B-1KG

Calibration Date 15-Feb-13

Manufacturer Omega

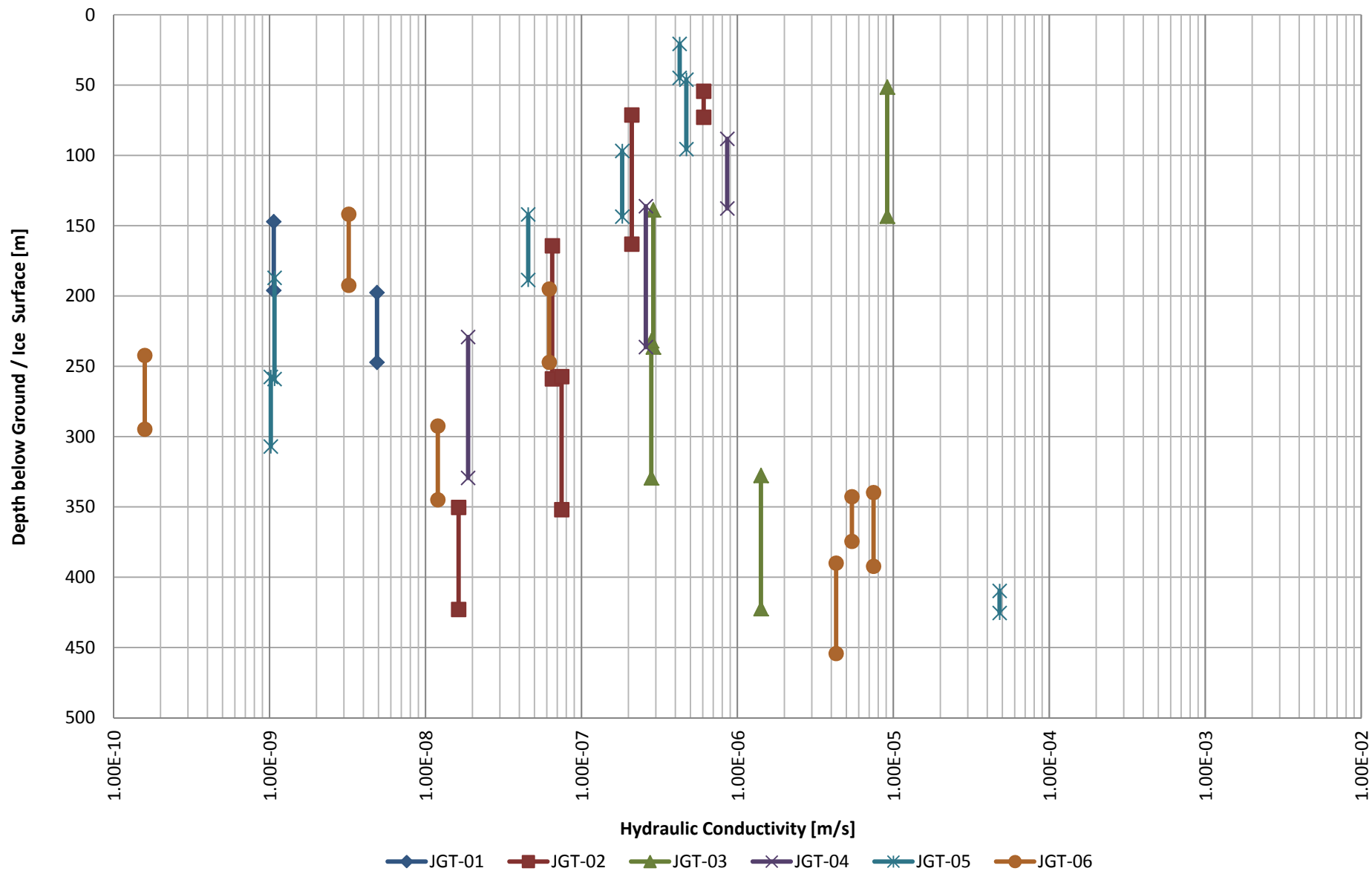
Equipment used are traceable to the National Institute of Standard a pressure range 0-1000 psi

Accuracy 1%

Serial number 5225903001

ATTACHMENT 3

Figure 3-1: Summary of Hydraulic Conductivity Results at Jay Pit and Westbay System Area



CLIENT
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YYYY-MM-DD	2014-07-16
PREPARED	DV
DESIGN	NGG
REVIEW	MD
APPROVED	-

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY RESULTS AT
JAY PIT AND WESTBAY SYSTEM AREA**

PROJECT No.
13-1328-0041

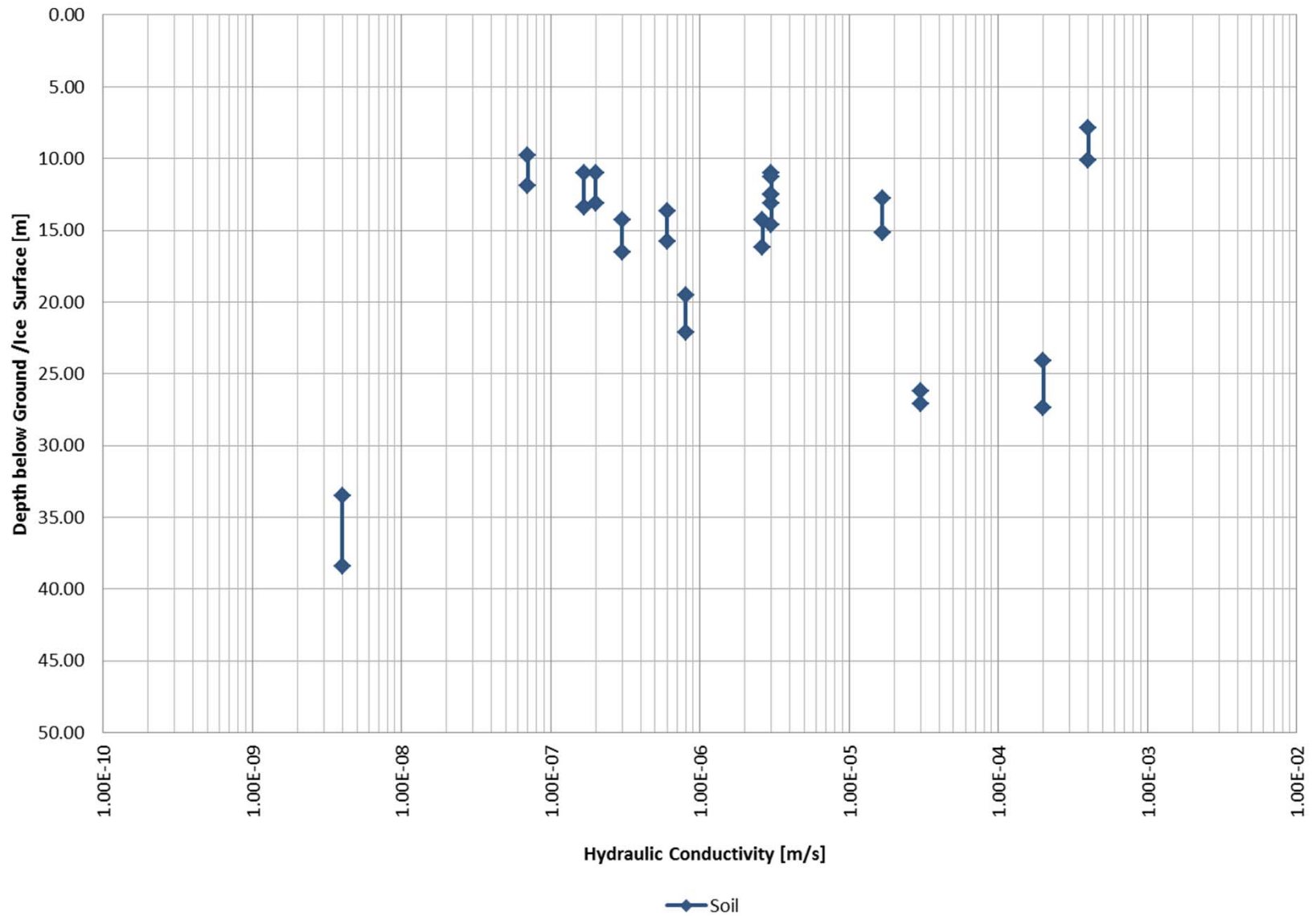
Phase.
2010

Rev.
0

Fig.
3-1

ATTACHMENT 4

**Figures 4-1 to 4-3: Summary of Hydraulic Conductivity
Results Along Proposed Jay Dike Alignments**



DOMINION DIAMOND

CONSULTANT

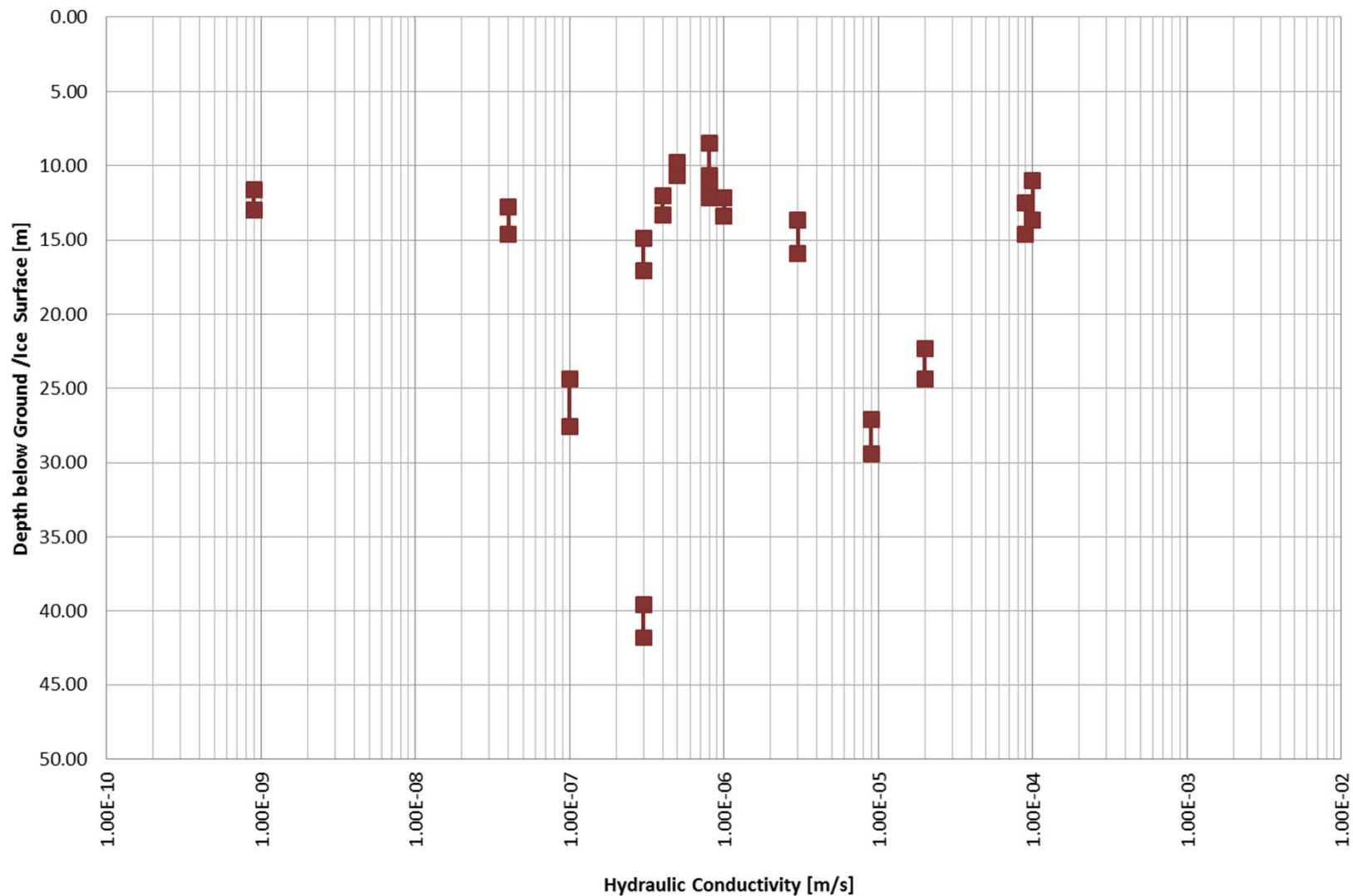


YYYY-MM-DD	2014-07-16
PREPARED	DV
DESIGN	NGG
REVIEW	MD
APPROVED	-

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY RESULTS IN SOIL
ALONG PROPOSED JAY DIKE ALIGNMENTS**

PROJECT No.	Phase.	Rev.	Fig.
13-1328-0041	2010	0	4-1



DOMINION DIAMOND

CONSULTANT



YYYY-MM-DD	2014-07-16
PREPARED	DV
DESIGN	NGG
REVIEW	MD
APPROVED	-

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

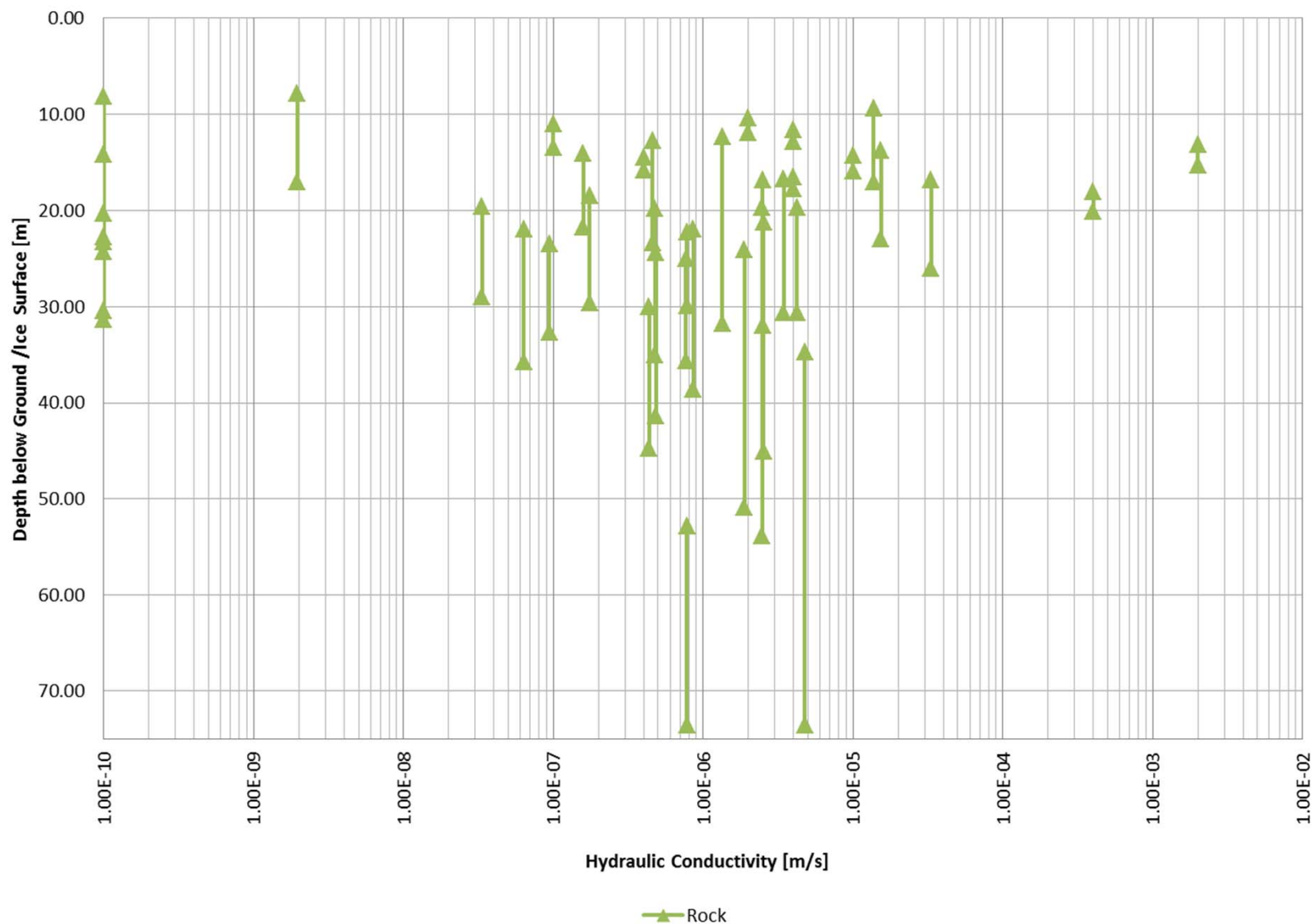
TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY RESULTS
ACROSS THE SOIL / BEDROCK CONTACT ALONG THE
PROPOSED JAY DIKE ALIGNMENTS**

PROJECT No.
13-1328-0041

Phase.
2010

Rev.
0

Fig.
4-2



CLIENT
DOMINION DIAMOND

CONSULTANT



YYYY-MM-DD	2014-07-16
PREPARED	DV
DESIGN	NGG
REVIEW	MD
APPROVED	-

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY RESULTS IN
ROCK ALONG THE PROPOSED JAY DIKE ALIGNMENTS**

PROJECT No.
13-1328-0041

Phase.
2010

Rev.
0

Fig.
4-3

ATTACHMENT 5

***HydroBench*[®] Analysis Reports**

These reports are computer generated protocols, and some values in these documents might differ from values discussed within the text section of this document.

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-01
Test Name Test 1
Test Date/Time
Interval top: 149.42 m bottom: 199.10 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 49.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 359.595 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1462.11			4.9e-07
PSR	Recovery	0.10833	1467.86			4.9e-07
SW-Init	dP-Event	0.25417	1468.55	71.4 *		4.9e-07
SW	Slug	0.26111	1397.16	1468.6		4.9e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 1468.57 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.3e-08	9.7e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	4.9e-05	0.0
PSR	4.9e-05	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

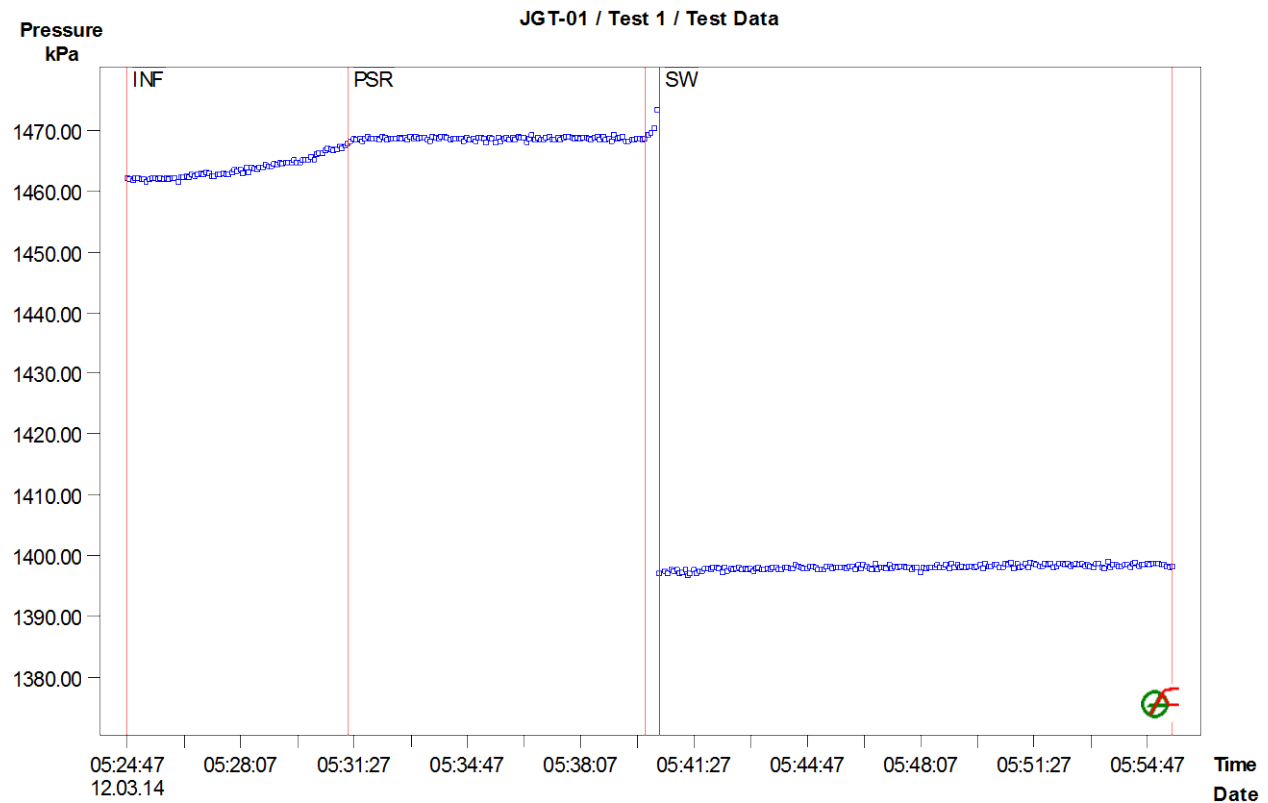


Figure 1: Pressure response and sequence definition

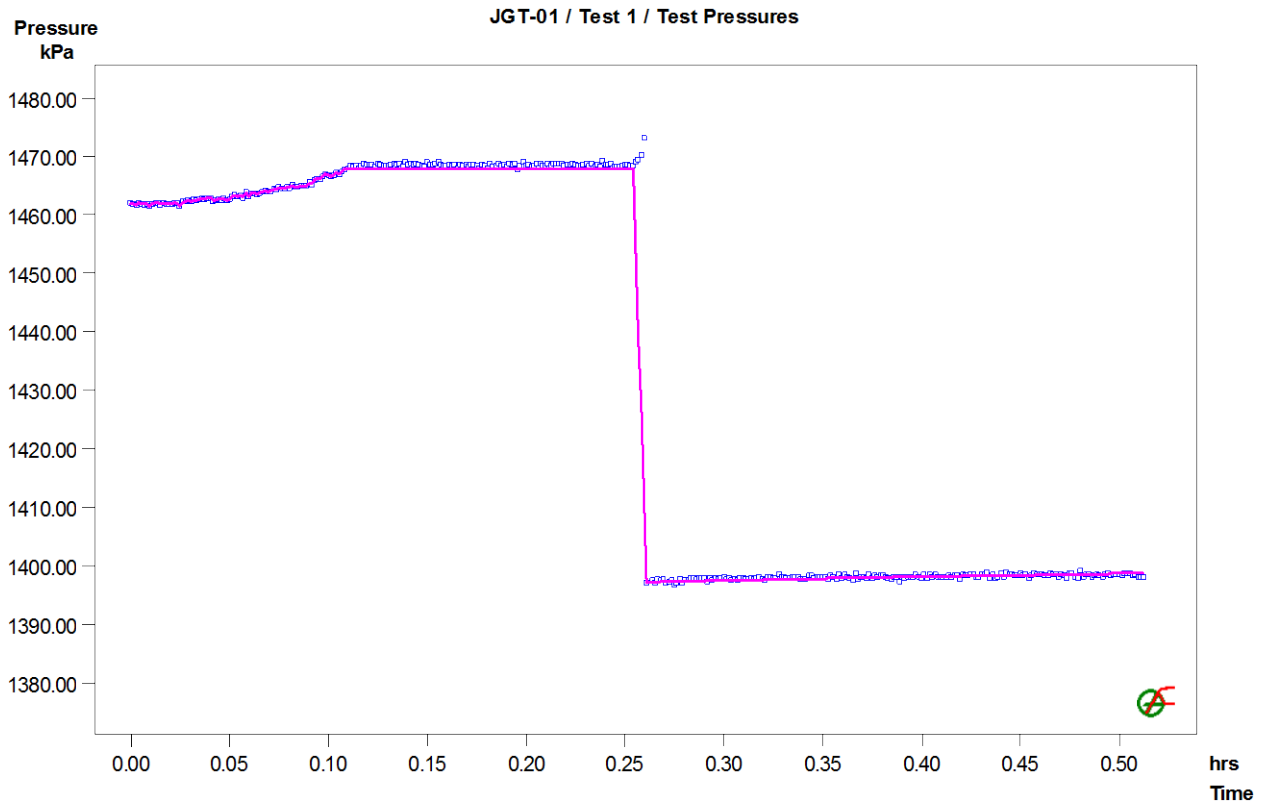


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-01 / Test 1 / SW: LogLog Plot, variable P(i)

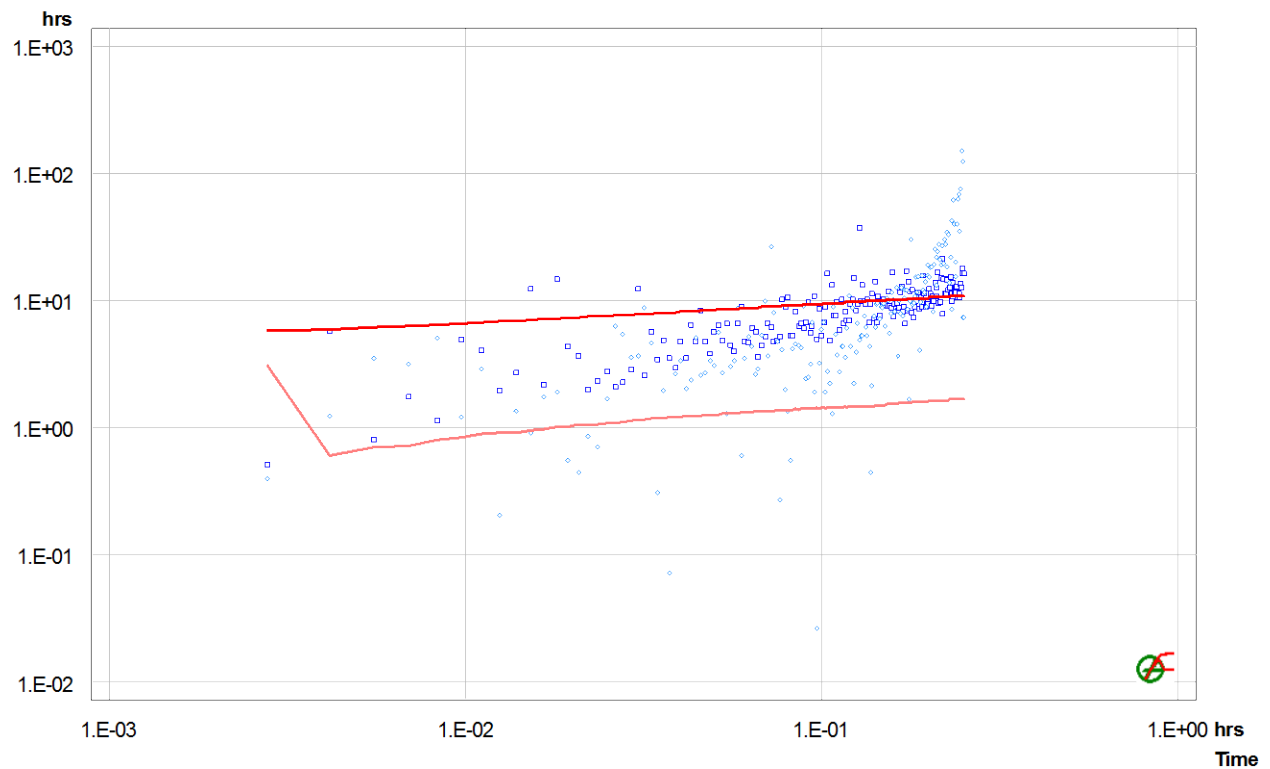


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-01
Test Name Test 2
Test Date/Time
Interval top: 200.62 m bottom: 251.00 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 50.38 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 364.662 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1936.60			4.9e-07
PSR	Recovery	0.52778	1946.71			4.9e-07
SW-Init	dP-Event	0.86389	1944.67	86.1 *		4.9e-07
SW	Slug	0.88056	1858.53	1944.7		4.9e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 1938.67 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.5e-07	9.9e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.1e-07	0.0
PSR	2.1e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

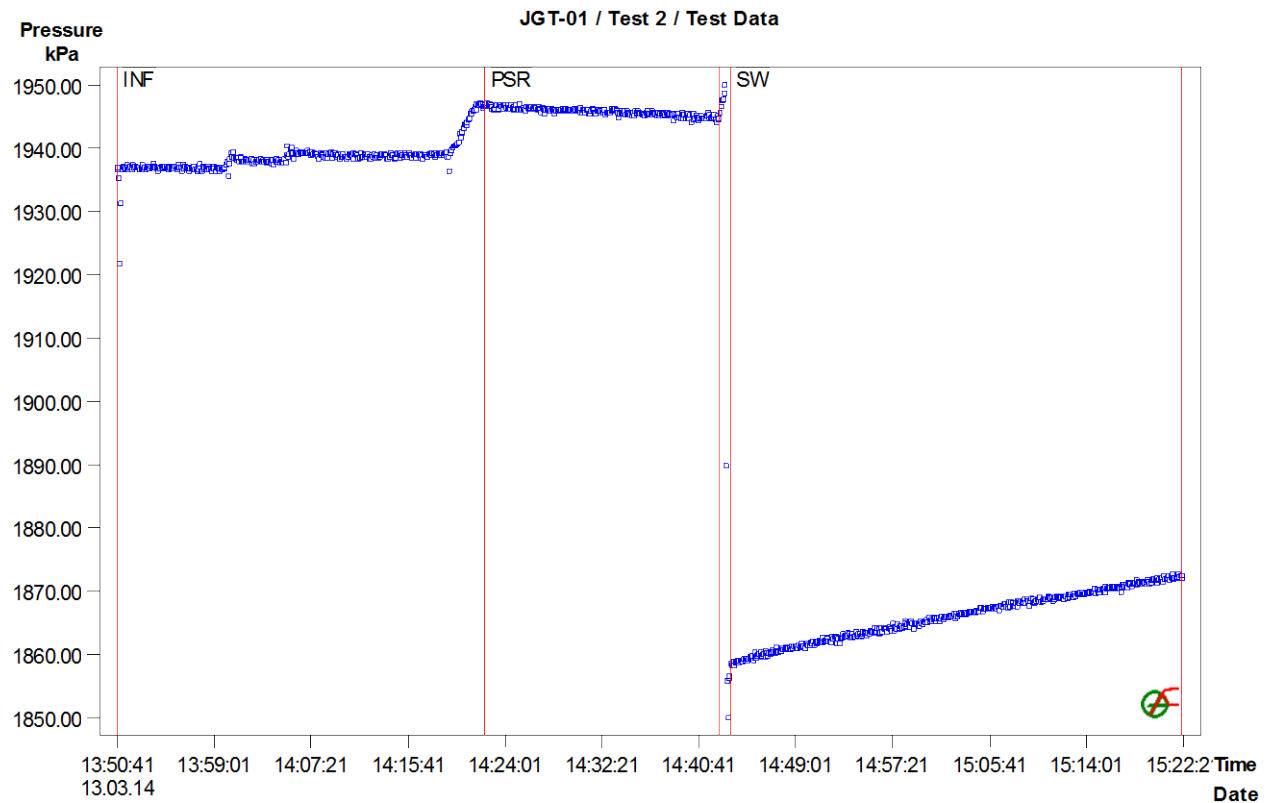


Figure 1: Pressure response and sequence definition

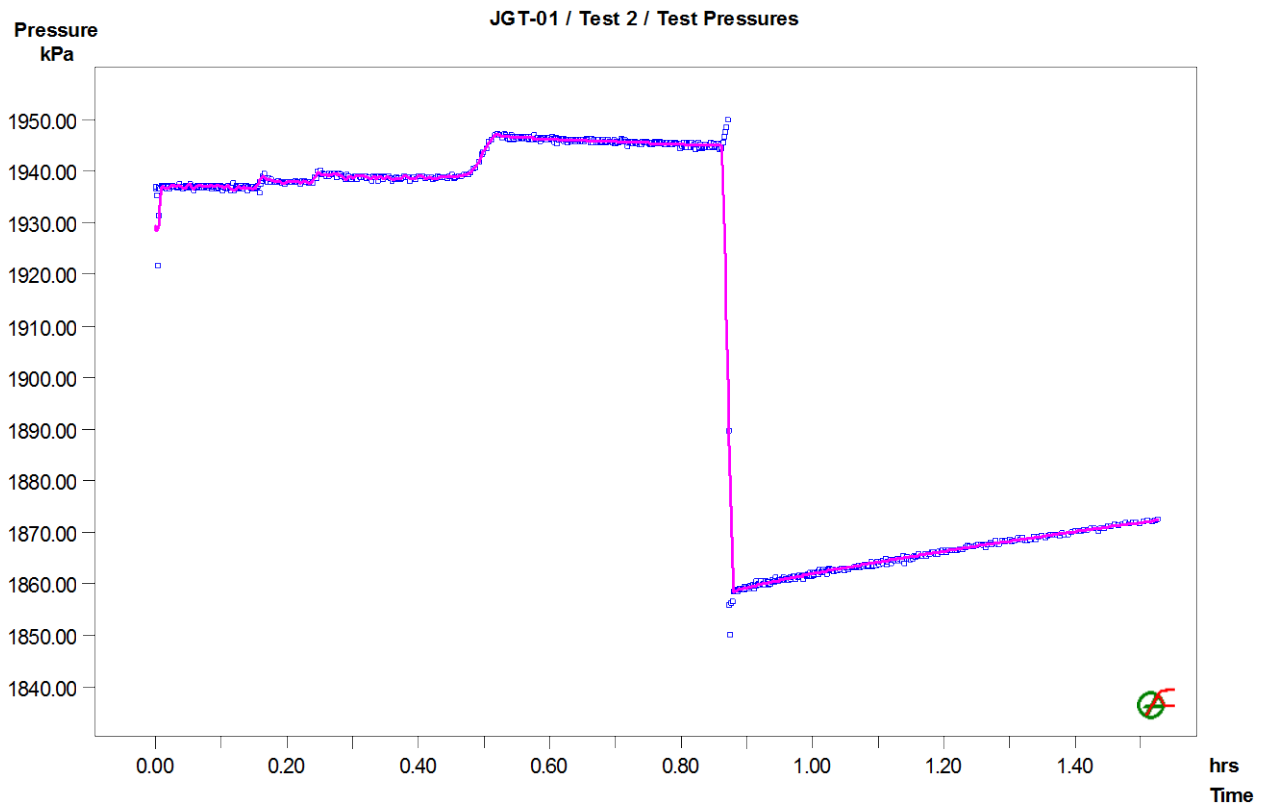


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-01 / Test 2 / SW: LogLog Plot, variable P(i)

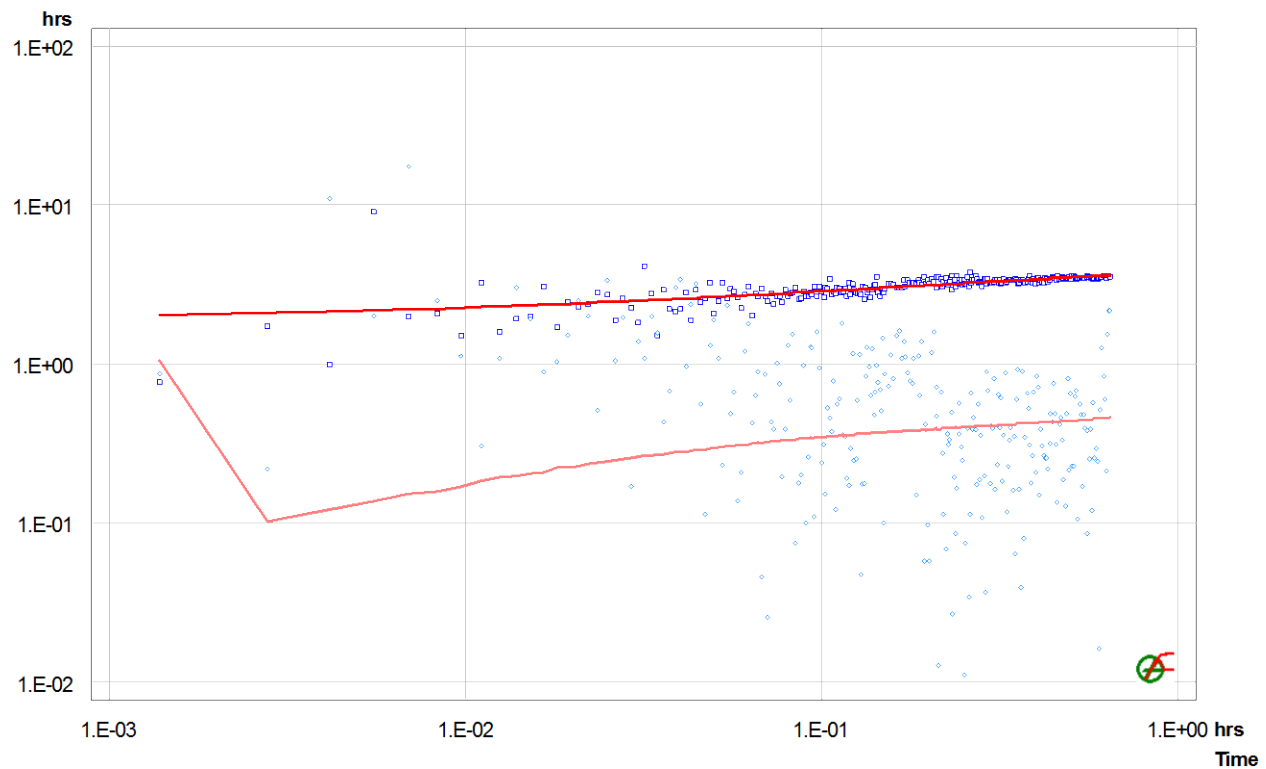


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-02
Test Name Test 1
Test Date/Time April 15, 2014 , 17:00
Interval top: 57.85 m bottom: 77.55 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 19.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 18.2 deg
Test Volume 142.593 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable Pressure	0.00000	545.42			5.1e-07
PSR	Recovery	0.55333	544.05			2.9e-10
SW-Init 1	dP-Event	0.91583	543.96	64.3 *		5.1e-07
SW	Slug	0.92333	479.66	544.0		5.1e-07
SW-Init 2	dP-Event	1.54000	543.50	59.8 *		5.1e-07
SW2	Slug	1.54833	483.66	543.5		5.1e-07

Analysis Results

Analysis "SW-2 shell-FINAL"

Static Pressure: 543.91 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.2e-05	3.9e-05	6.42	2.0
Shell 2	2.6e-04	3.9e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	5.1e-07	0.0
PSR	5.2e-07	0.0
SW-Init 1	5.1e-07	0.0
SW	5.1e-07	0.0
SW-Init 2	5.1e-07	0.0
SW2	5.1e-07	0.0

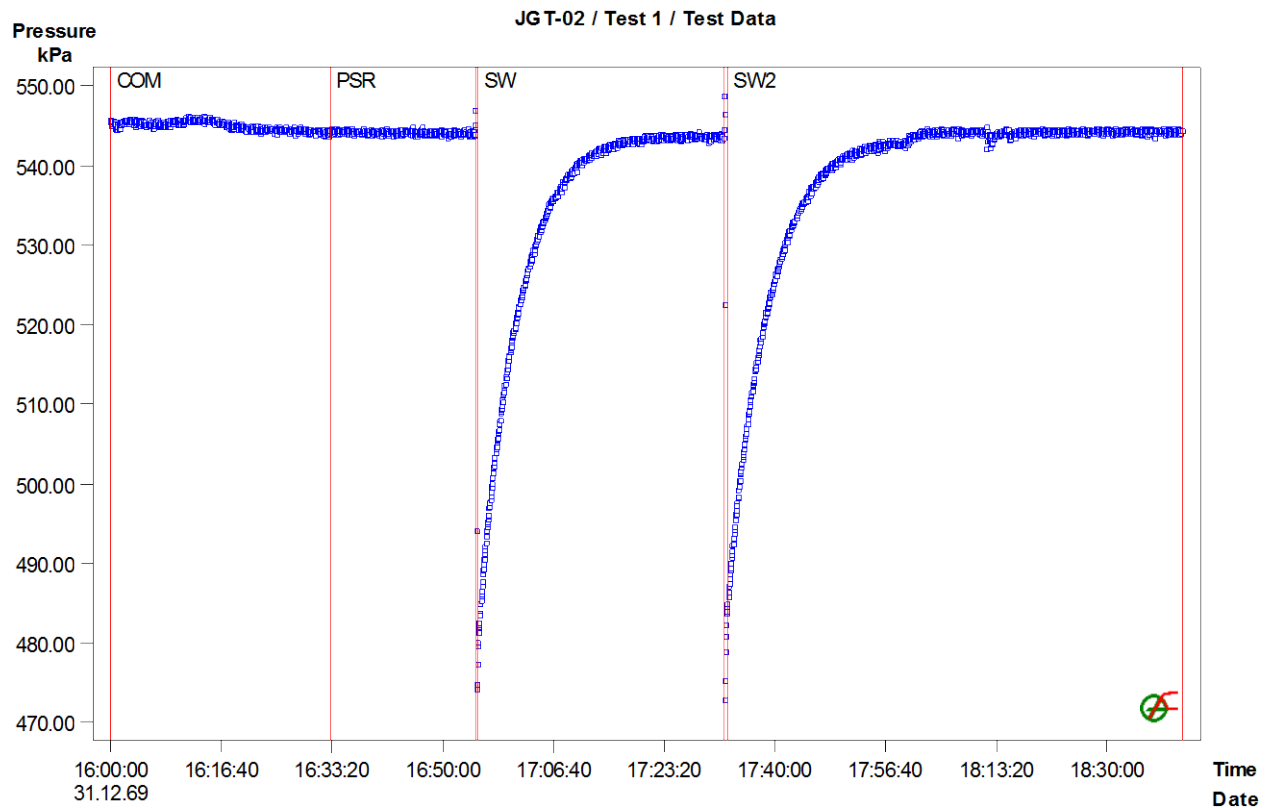


Figure 1: Pressure response and sequence definition

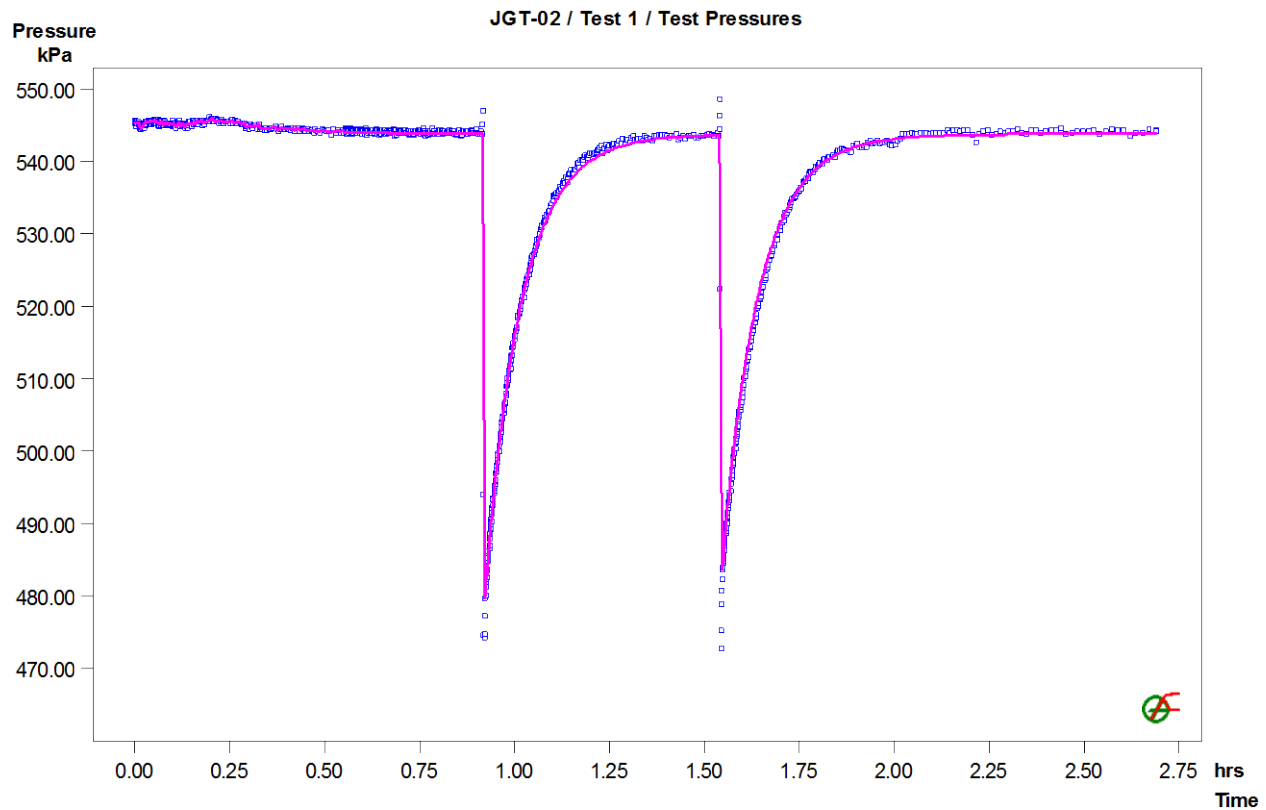


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-02 / Test 1 / SW2: LogLog Plot, constant P(i)

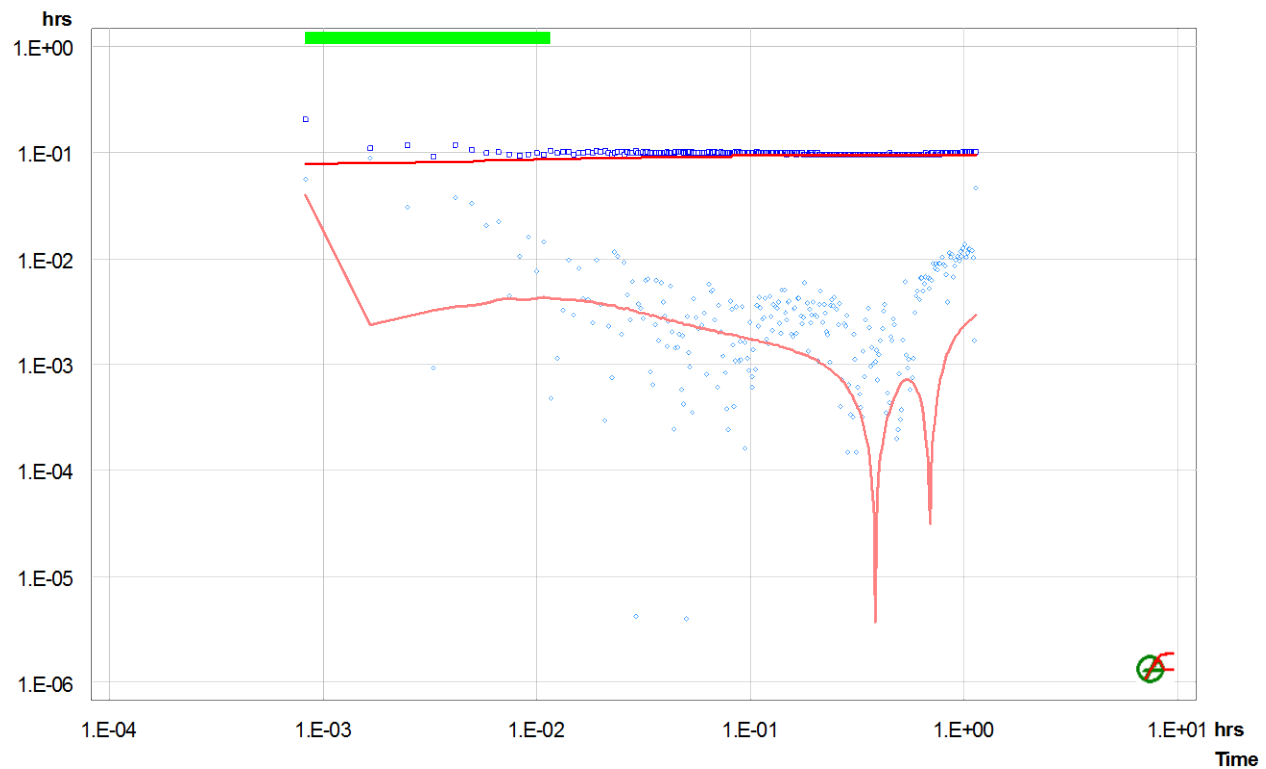


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-02
Test Name Test 2
Test Date/Time April 17, 2014, 16:30
Interval top: 75.85 m bottom: 173.55 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 97.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 18.2 deg
Test Volume 707.175 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	716.97			5.1e-07
PSR	Recovery	0.74583	716.96			3.3e-07
SW-1 Init	dP-Event	1.06083	717.37	60.7 *		5.1e-07
SW-1	Slug	1.06833	656.66	717.4		5.1e-07
SW-2 Init	dP-Event	1.59083	717.35	63.0 *		5.1e-07
SW-2	Slug	1.59750	654.39	717.4		5.1e-07

Analysis Results

Analysis "SW-1-2shell FINAL"

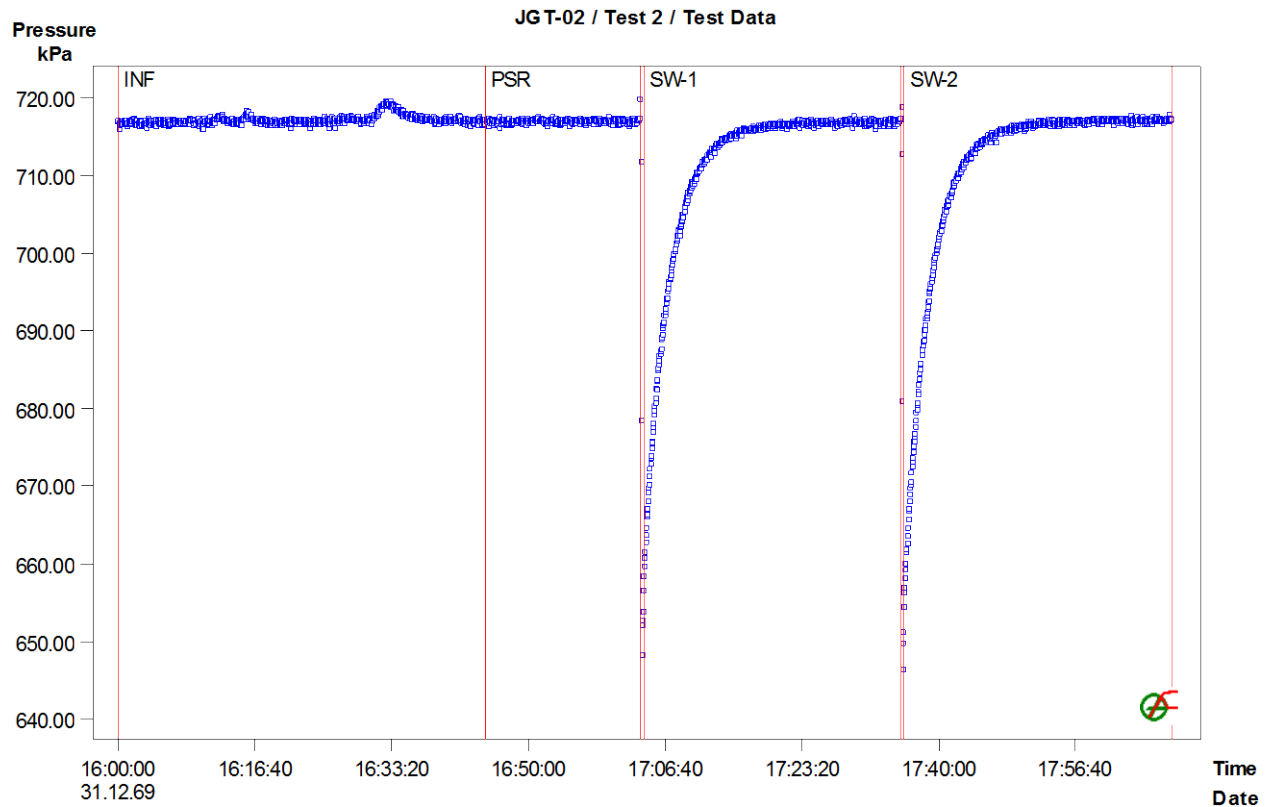
Static Pressure: 716.69 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.1e-05	1.9e-04	3.40	2.0
Shell 2	3.9e-04	1.9e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.1e-07	0.0
PSR	1.5e-06	0.0
SW-1 Init	5.1e-07	0.0
SW-1	5.1e-07	0.0
SW-2 Init	5.1e-07	0.0
SW-2	5.1e-07	0.0



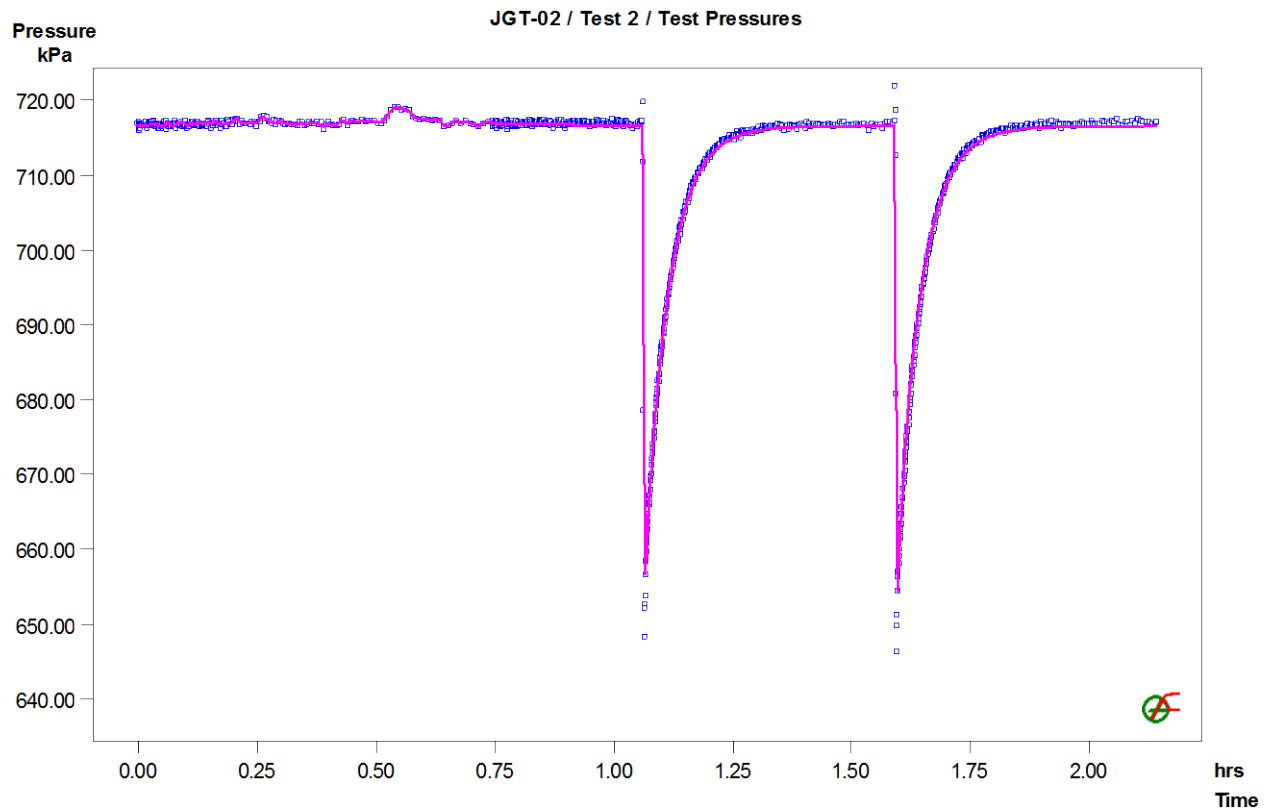


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-02 / Test 2 / SW-1: LogLog Plot, variable P(i)

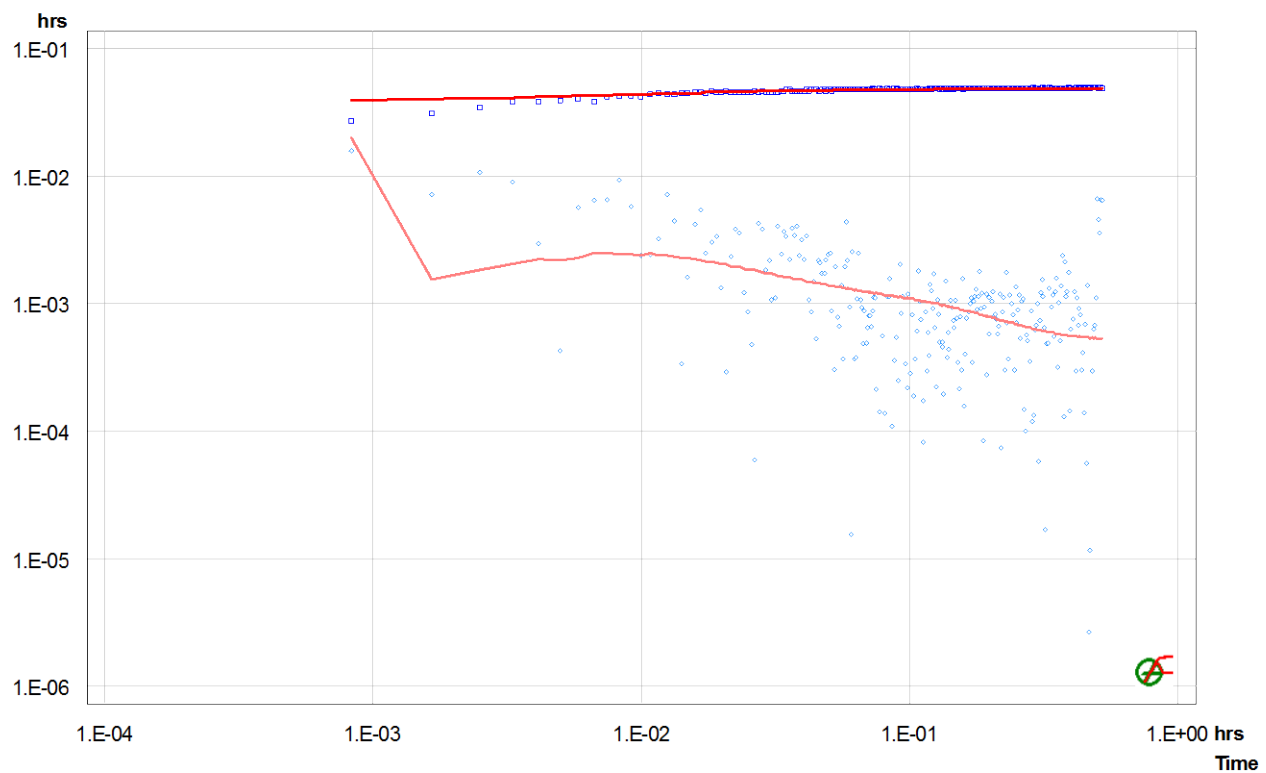


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-02
Test Name Test 3
Test Date/Time April 19, 2014, 13:00
Interval top: 174.85 m bottom: 275.55 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 100.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 18.2 deg
Test Volume 728.890 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1740.71			5.1e-07
PSR	Variable Pressure	0.59861	1741.50			3.2e-08
SW-Init	dP-Event	1.11806	1741.51	94.2 *		5.1e-07
SW	Slug	1.12194	1647.29	1741.5		5.1e-07
VAR	Variable Pressure	1.61278	1741.09			5.1e-07
RI	Constant Rate	1.76667	1739.51		-1.24e+01	2.7e-07
DEF	Variable Pressure	2.29806	2017.53			3.2e-08

Analysis Results

Analysis "RI-Final"

Static Pressure: 1769.68 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.5e-06	2.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.1e-07	0.0
PSR	1.2e-07	0.0
SW-Init	5.1e-07	0.0
SW	5.1e-07	0.0
VAR	5.1e-07	0.0
RI	5.9e-08	0.0
DEF	1.2e-07	0.0

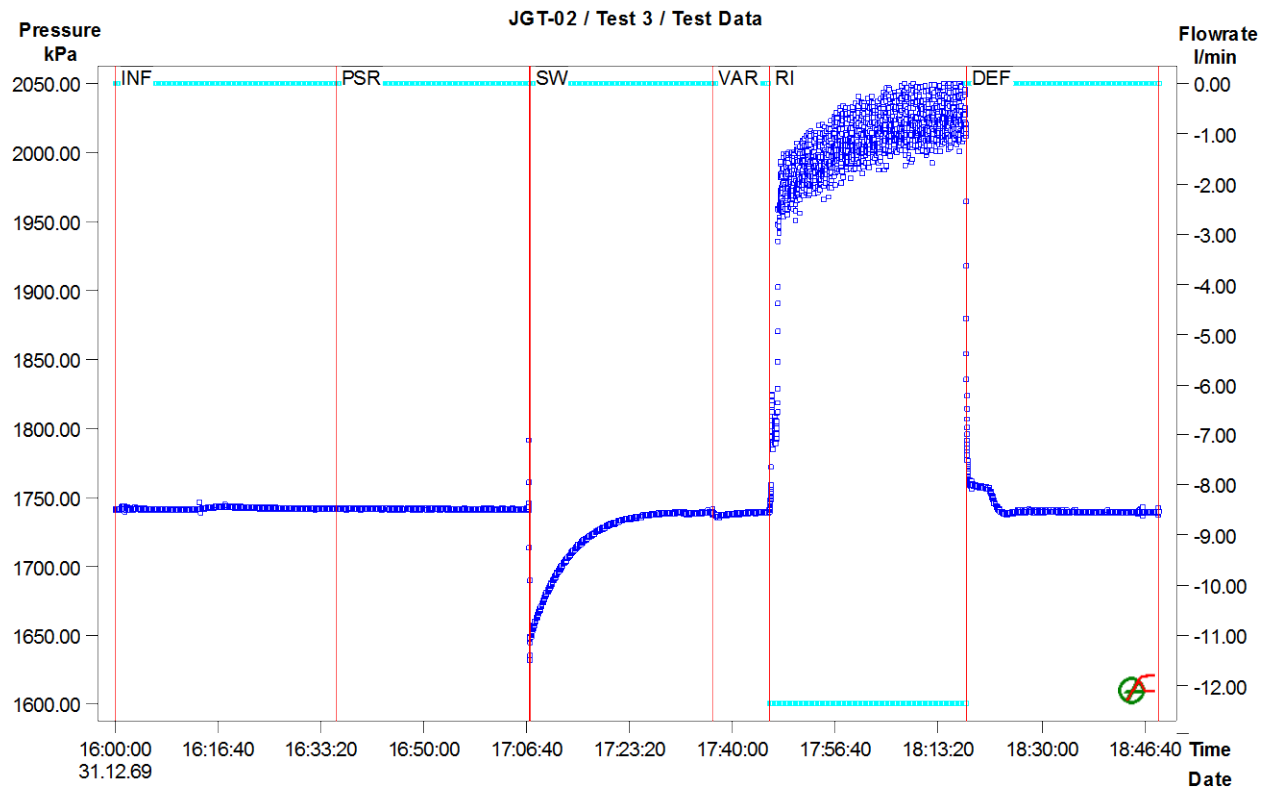
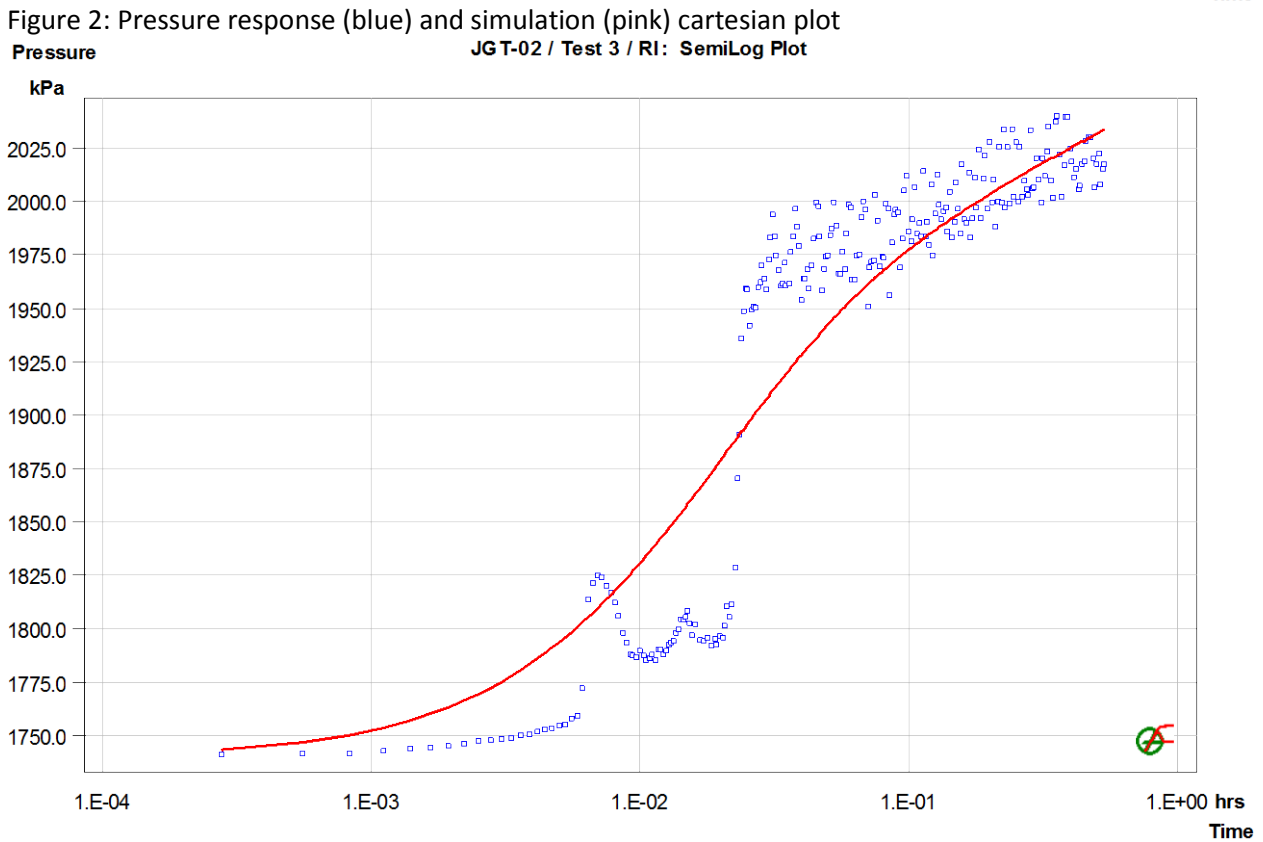
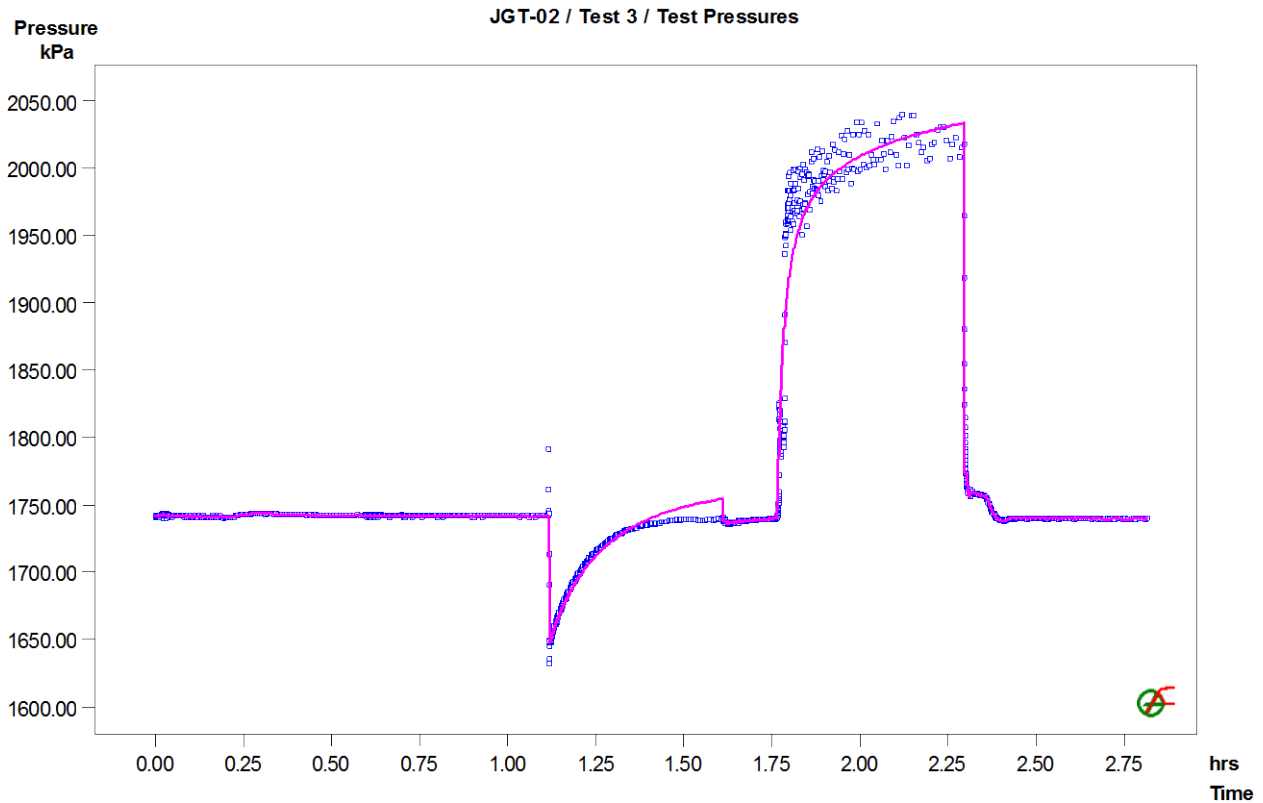


Figure 1: Pressure response and sequence definition



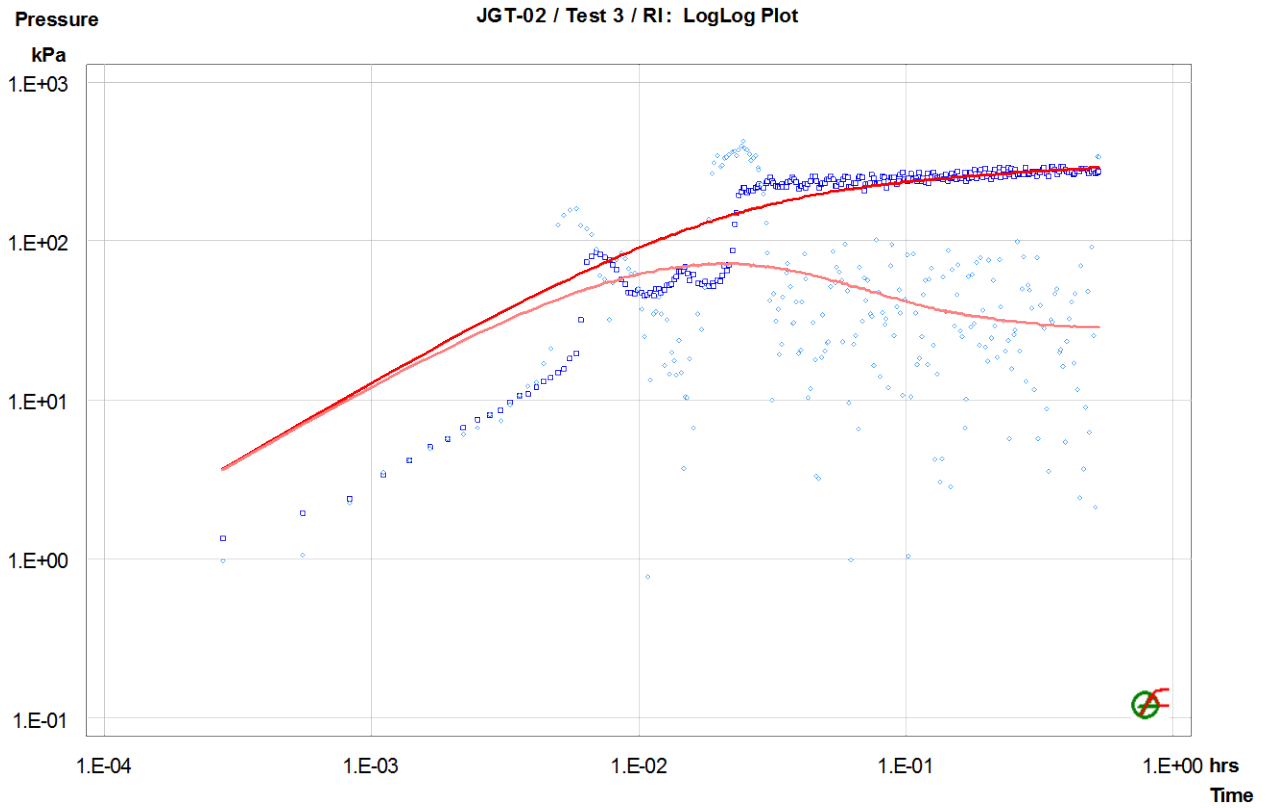


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-02
Test Name Test 4
Test Date/Time
Interval top: 273.85 m bottom: 374.55 m
Description Analyzed by : DV
Reviewed by: DSL

Basic Data

Test Interval 100.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 18.2 deg
Test Volume 728.890 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	2561.48			5.2e-07
Sw-Init	dP-Event	0.82417	2563.18	96.0 *		5.2e-07
SW	Slug	0.82694	2467.22	2563.2		5.2e-07
COM	Variable Pressure	1.11750	2556.37			5.2e-07
RI	Constant Rate	1.52472	2578.70		-2.18e+01	1.0e-07
RIR	Recovery	2.04861	3041.10			1.0e-07

Analysis Results

Analysis "RI- 2 shell- final"

Static Pressure: 2564.00 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	7.5e-06	2.0e-04	54.20	2.0
Shell 2	6.6e-06	2.0e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.0e-07	0.0
Sw-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	1.0e-07	0.0
RI	8.2e-08	0.0
RIR	8.2e-08	0.0

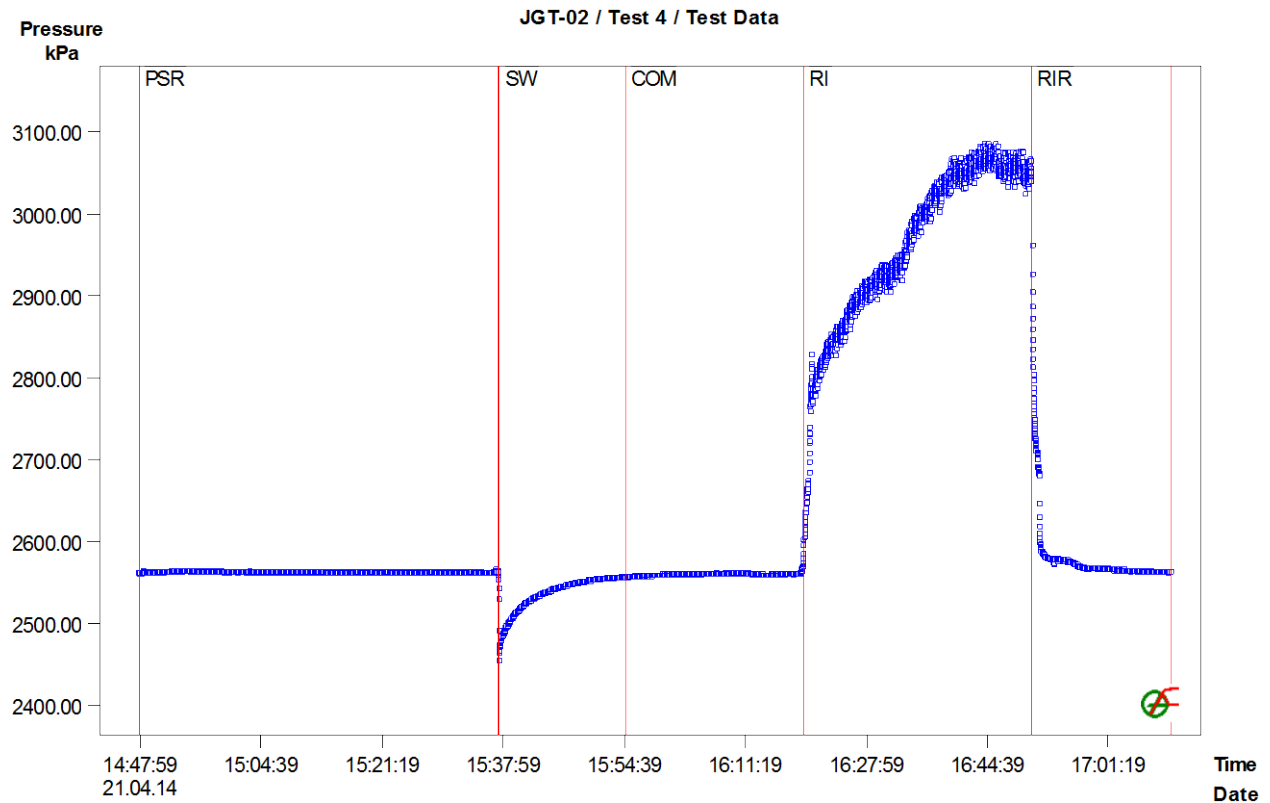


Figure 1: Pressure response and sequence definition

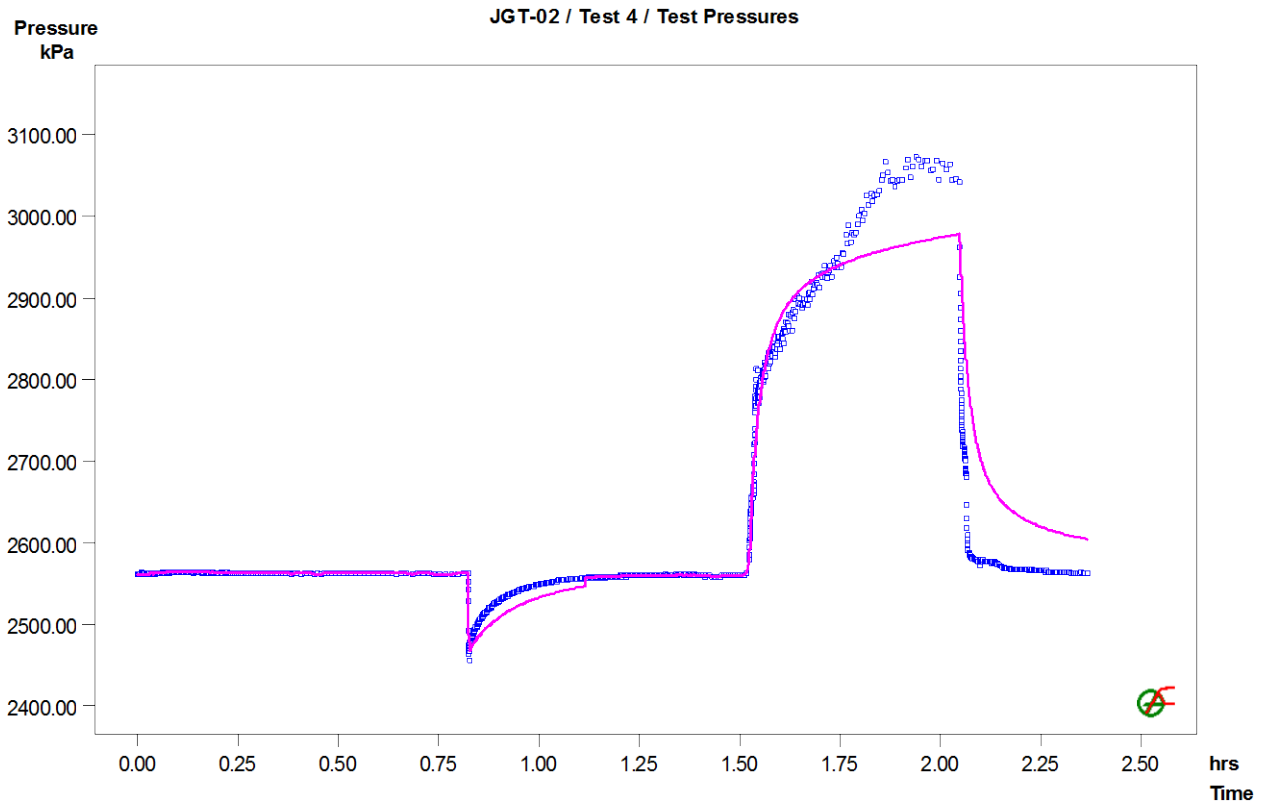


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

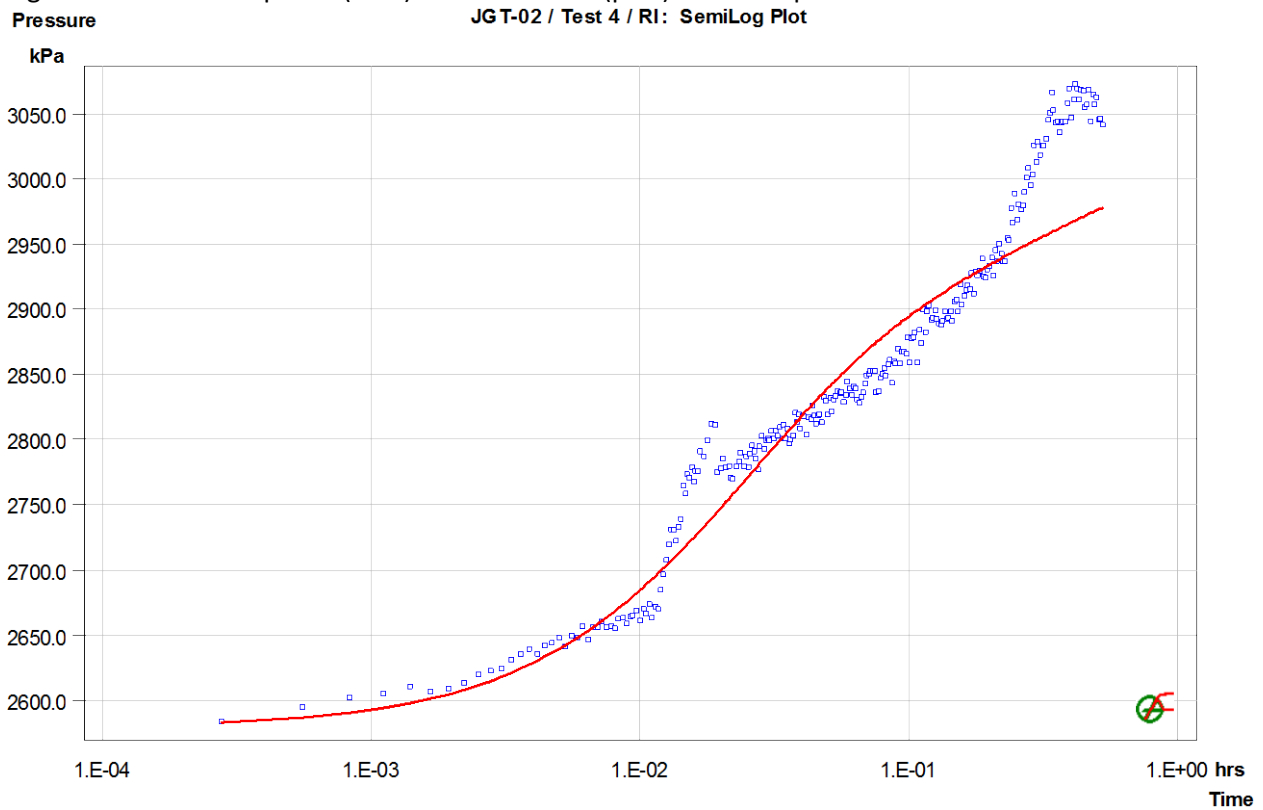


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

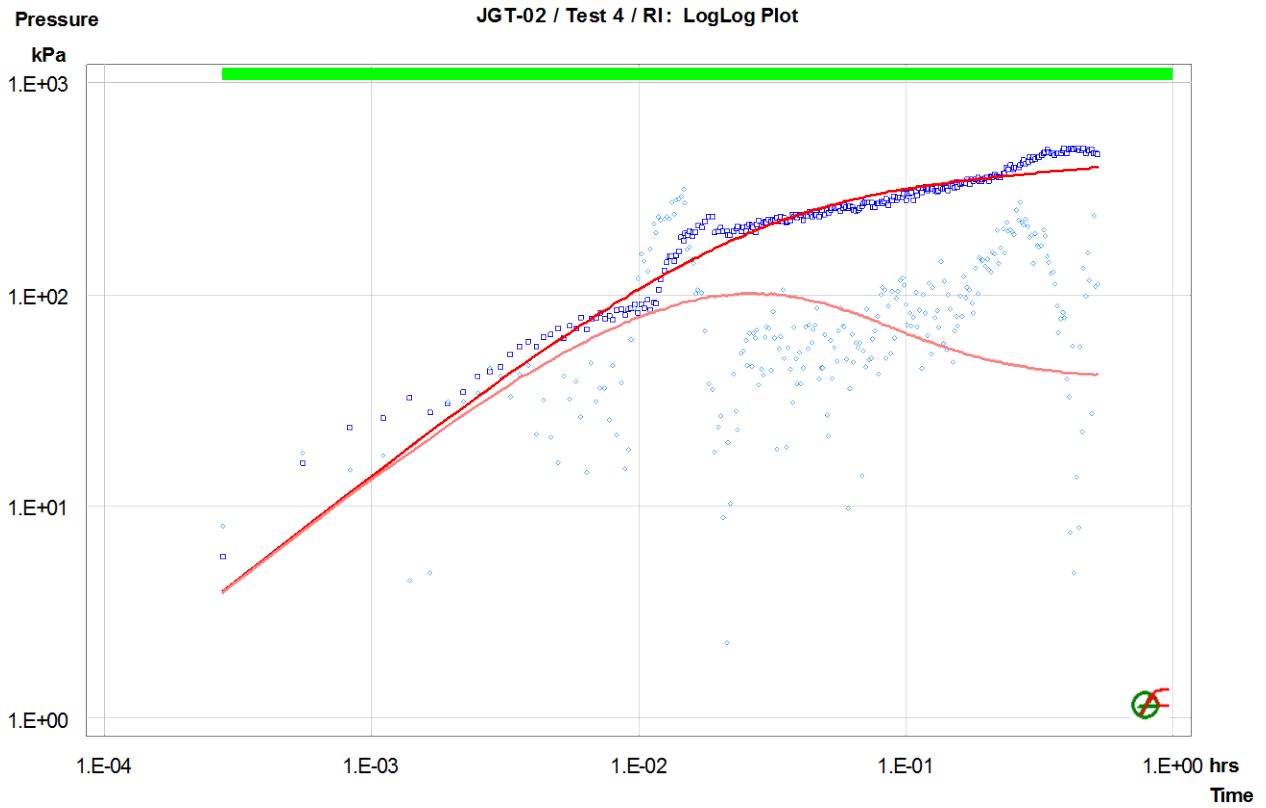


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JGT-02	
Test Name	Test 5	
Test Date/Time		
Interval	top: 372.85 m	bottom: 450.13 m
Description	Analyzed by: DV	
	Reviewed by: DSL	

Basic Data

Test Interval	77.28 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	18.2 deg		
Test Volume	559.370 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
COM	Variable Pressure	0.00000	3482.83			5.2e-07
PSR	Recovery	0.39278	3487.42			5.2e-07
SW-Init	dP-Event	1.61806	3483.57	54.7 *		5.2e-07
SW	Slug	1.62417	3428.86	3483.6		5.2e-07
DEF	Variable Pressure	2.39806	3462.10			5.2e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 3483.34 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-06	1.5e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	4.2e-07	0.0
PSR	4.2e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
DEF	4.2e-07	0.0

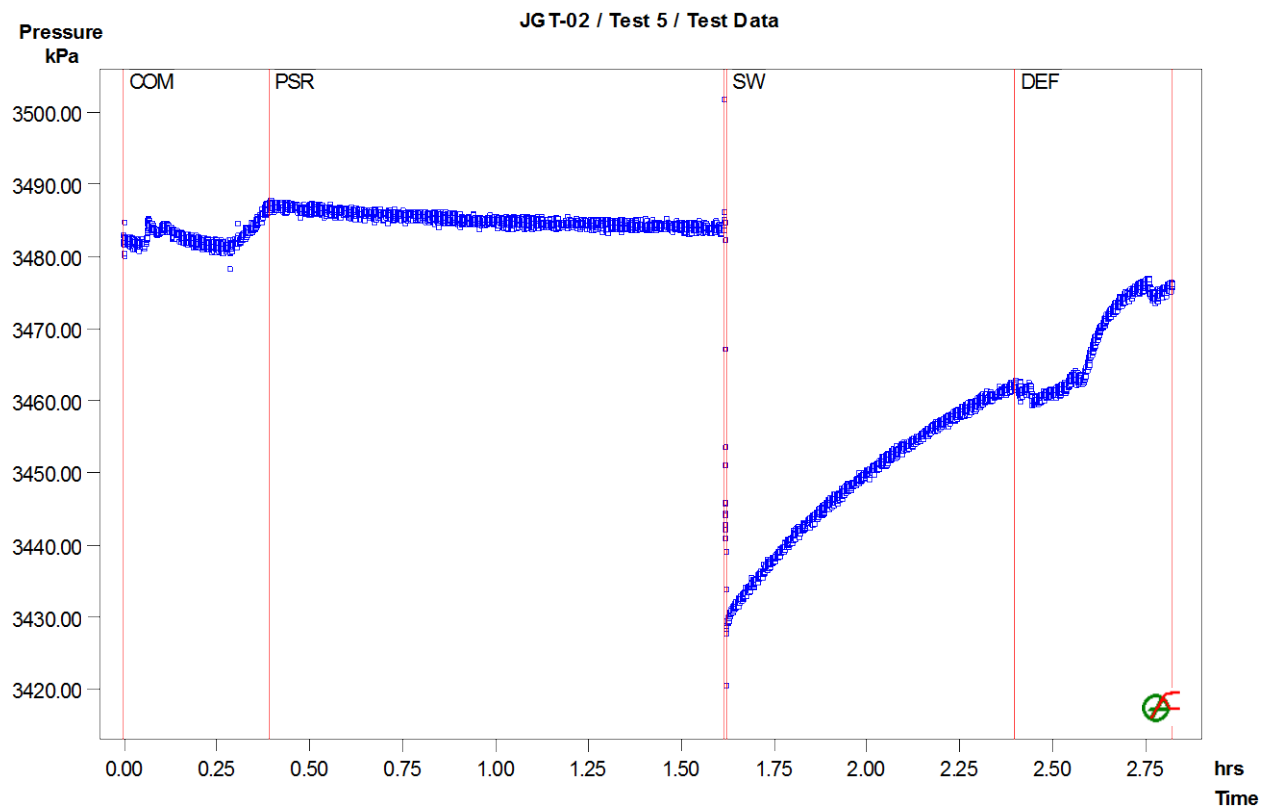


Figure 1: Pressure response and sequence definition

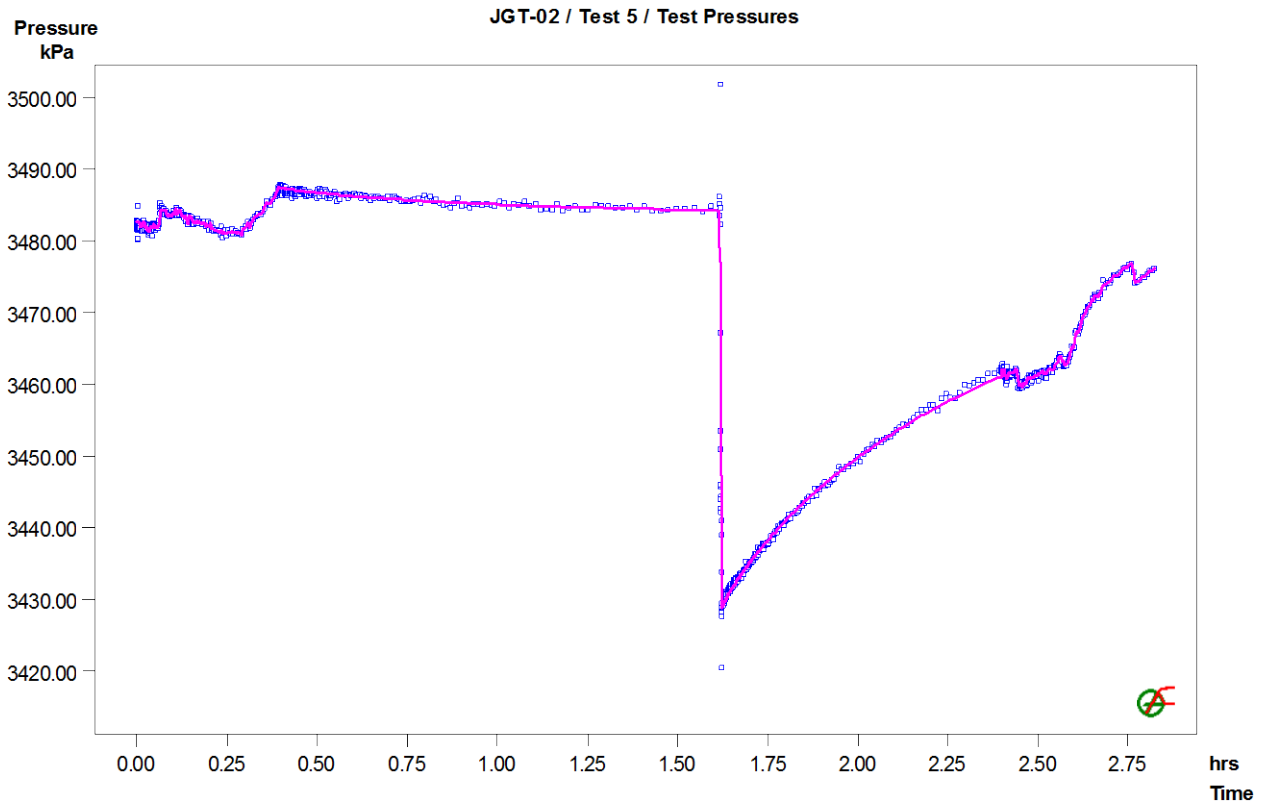


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-02 / Test 5 / SW: LogLog Plot, variable P(i)

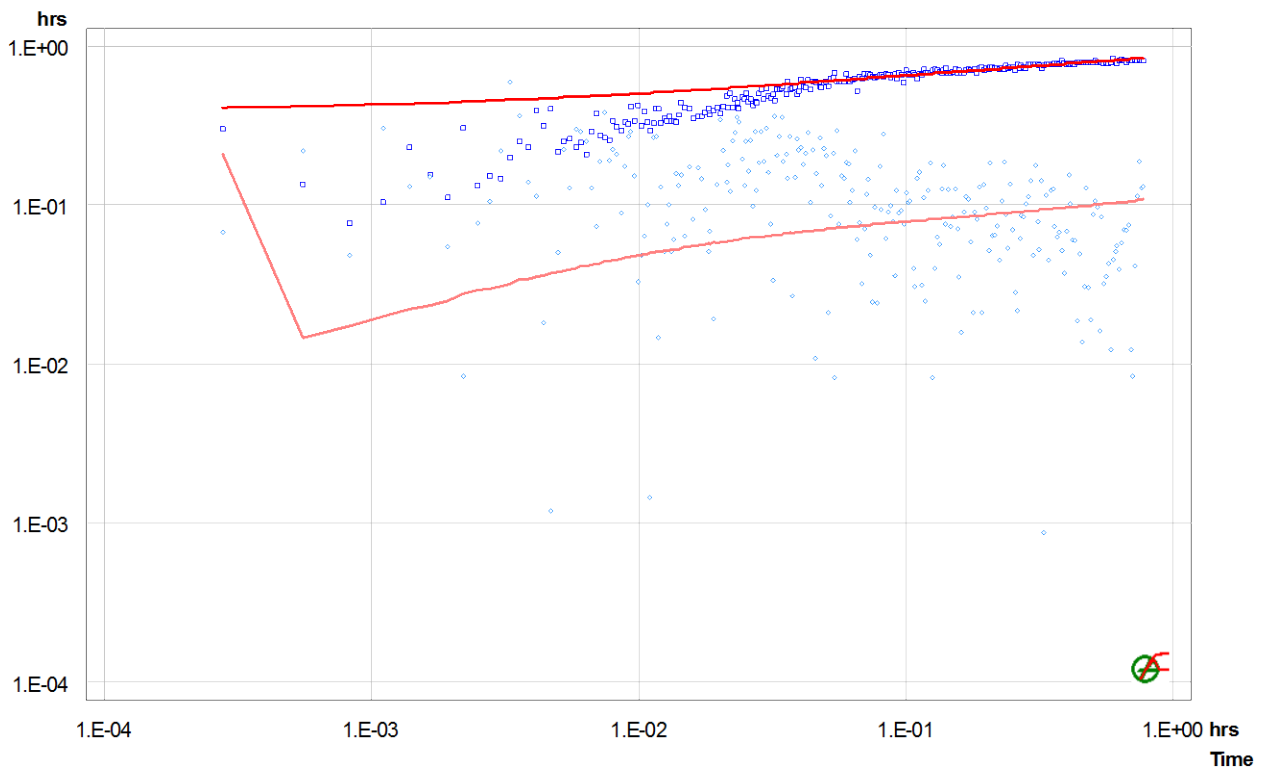


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-03
Test Name Test 1
Test Date/Time
Interval top: 54.68 m bottom: 152.48 m
Description Analysed by: DV only RI-1
Reviewed by: DSL

Basic Data

Test Interval 97.80 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 707.899 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	520.21			1.4e-09
PSR	Variable Pressure	0.28750	520.06			1.4e-09
SW-Init	dP-Event	1.12083	519.80	2.7 *		1.4e-09
SW	Slug	1.12778	517.14	519.8		1.4e-09
RI	Constant Rate	1.83889	519.28		-8.00e+01	5.0e-05
VAR	Variable Pressure	2.15556	534.95			1.4e-09
DEF	Variable Pressure	3.20833	541.42			1.4e-09

Analysis Results

Analysis "RI"

Static Pressure: 519.20 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.9e-04	1.9e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	7.3e-05	0.0
PSR	7.3e-05	0.0
SW-Init	7.3e-05	0.0
SW	7.3e-05	0.0
RI	2.1e-05	0.0
VAR	7.3e-05	0.0
DEF	7.3e-05	0.0

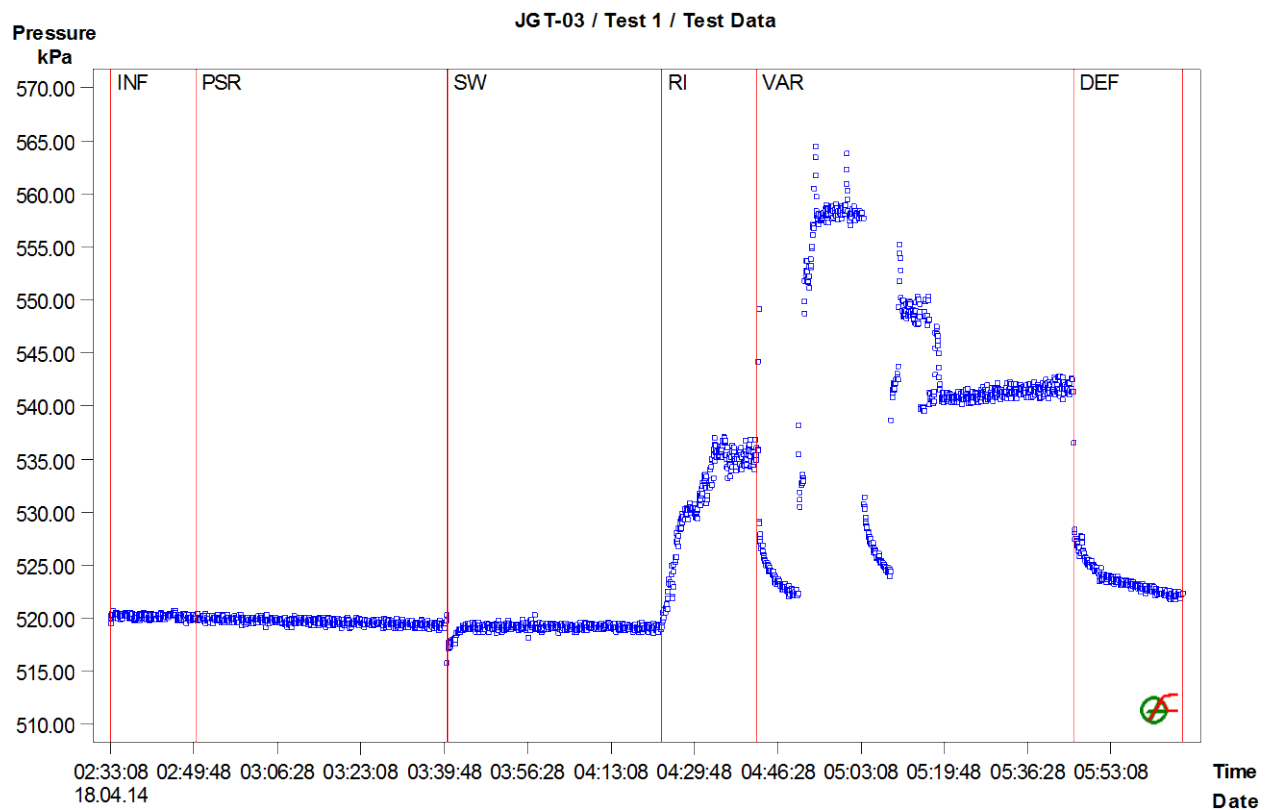


Figure 1: Pressure response and sequence definition

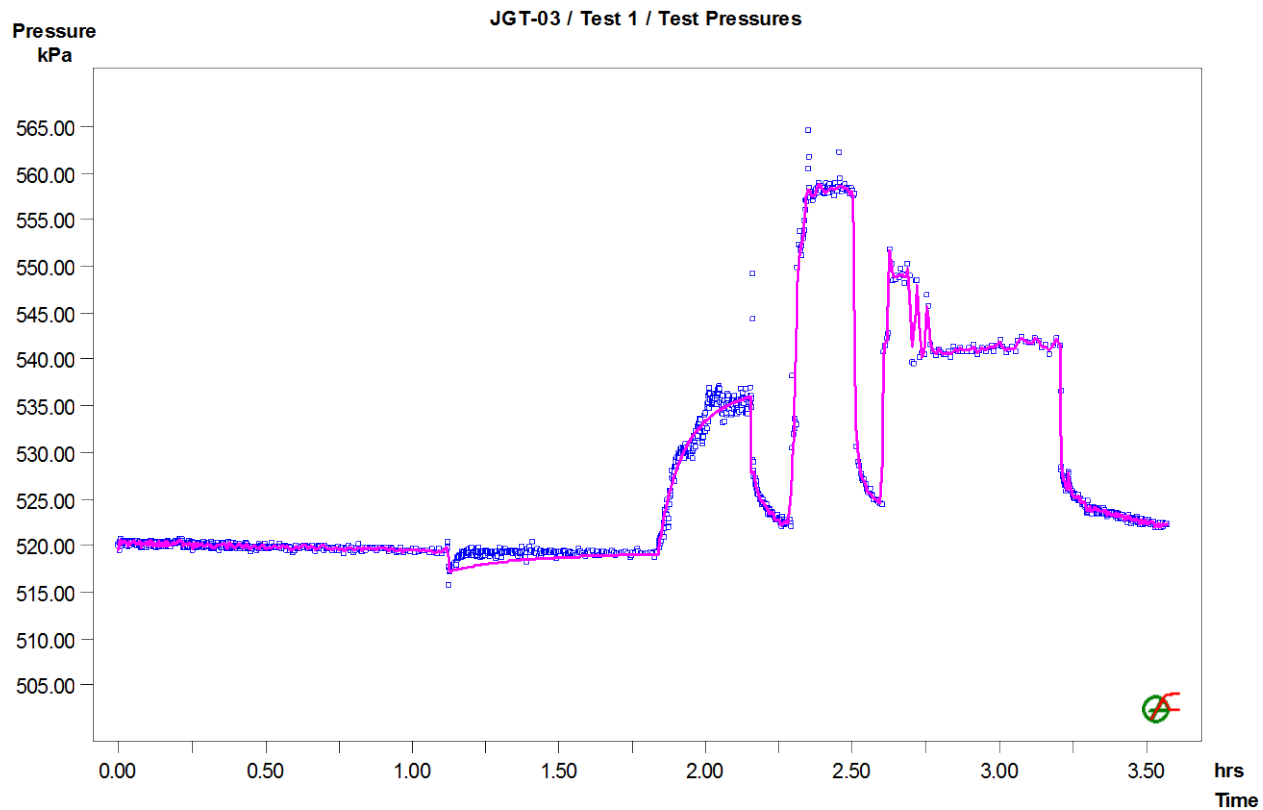


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

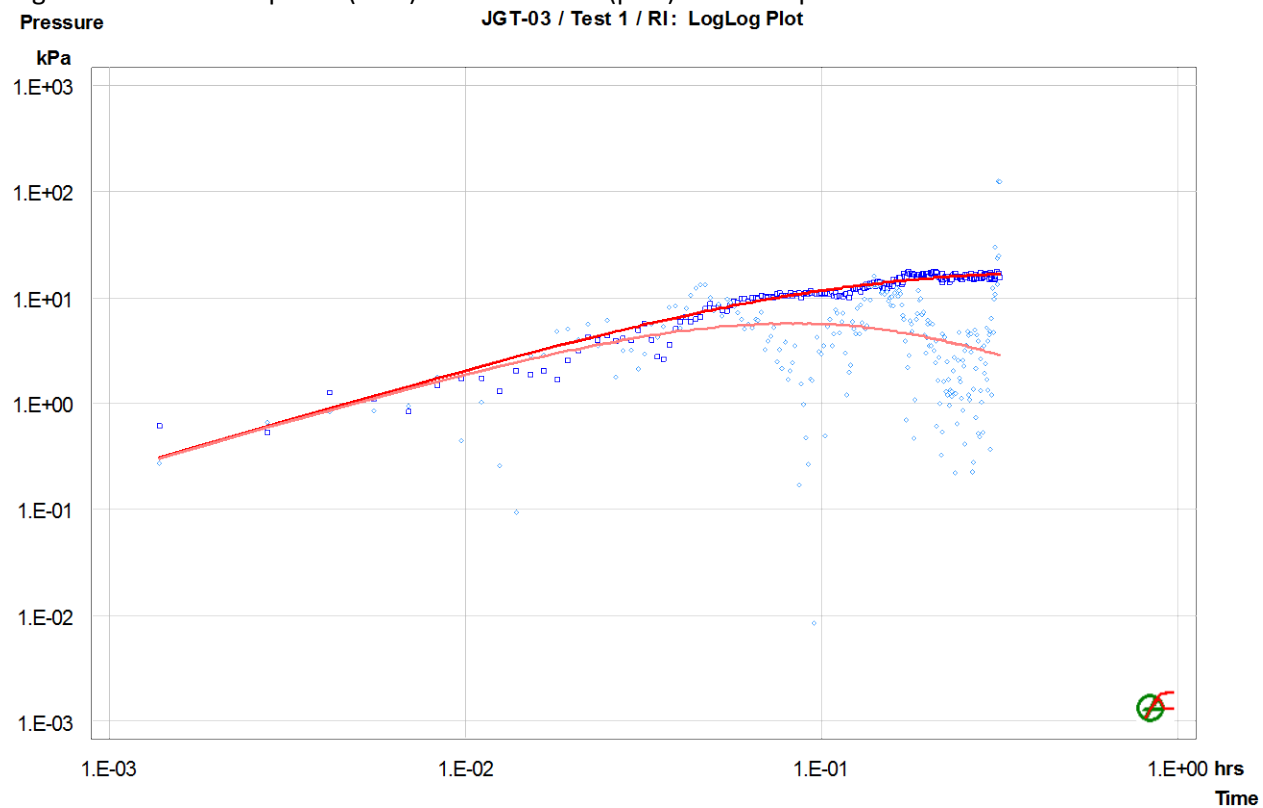


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-03
Test Name Test 2
Test Date/Time April 19, 2014, 13:00
Interval top: 147.68 m bottom: 251.48 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 103.80 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 751.328 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1389.59			5.2e-07
PSR	Variable Pressure	0.86306	1393.43			5.2e-07
SW-Init	dP-Event	1.46611	1392.63	66.2 *		5.2e-07
SW	Slug	1.47222	1326.40	1392.6		5.2e-07
DEF	Variable Pressure	2.15750	1330.88			5.2e-07

Analysis Results

Analysis "SW"

Static Pressure: 1331.45 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.5e-07	2.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.2e-07	0.0
PSR	5.2e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
DEF	5.2e-07	0.0

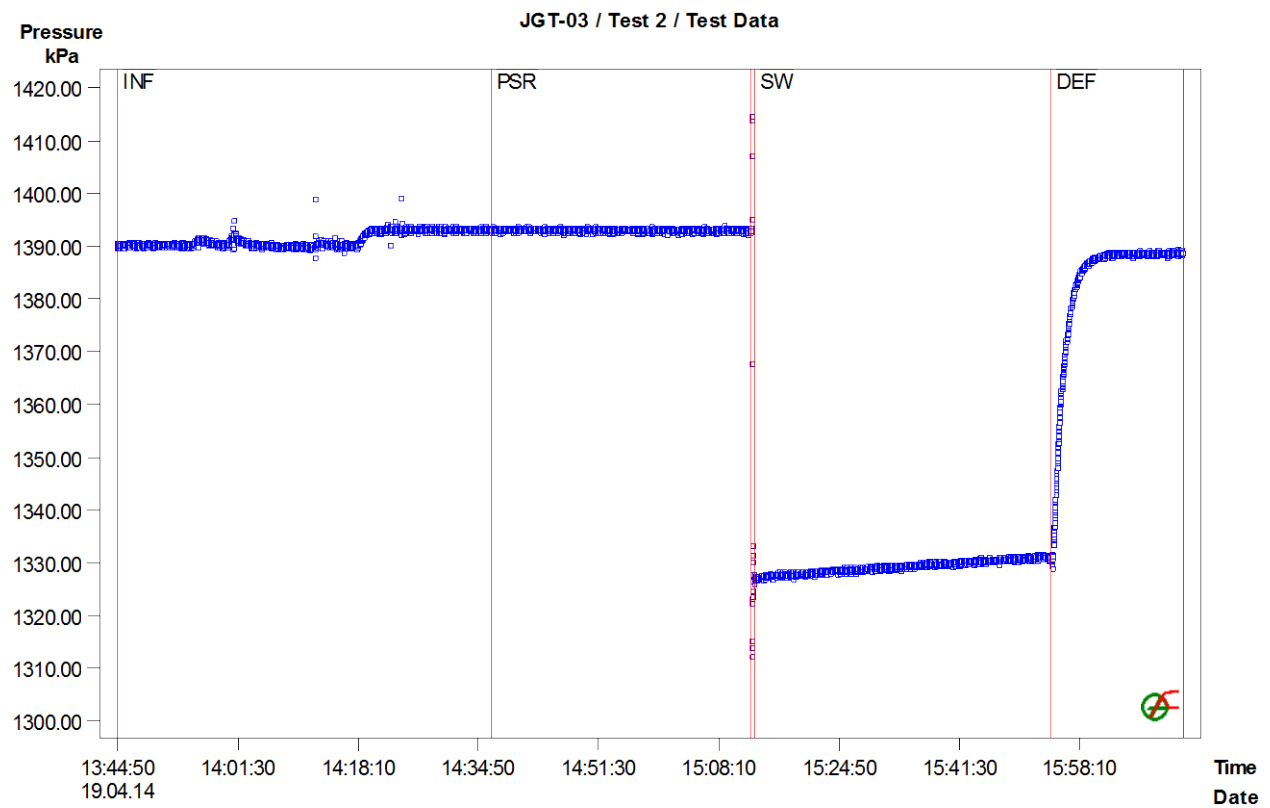


Figure 1: Pressure response and sequence definition

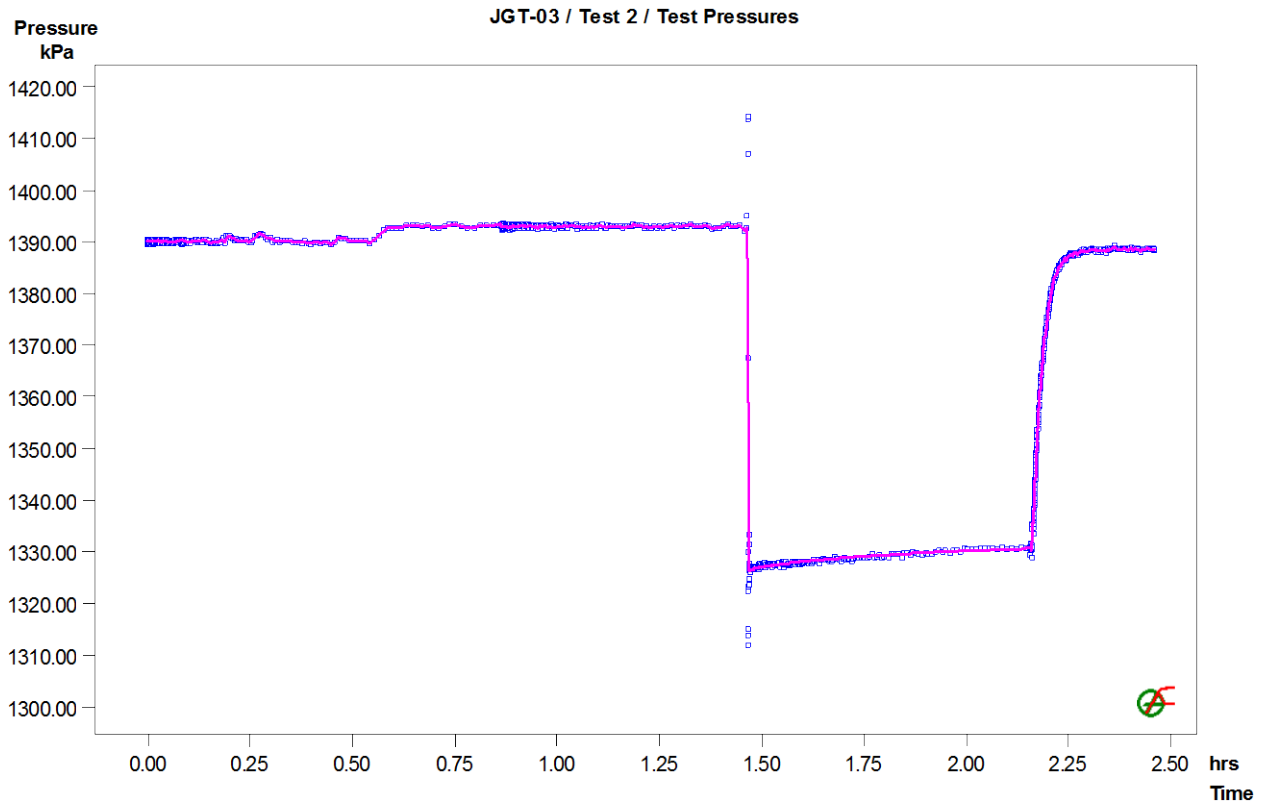


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-03 / Test 2 / SW: LogLog Plot, constant P(i)

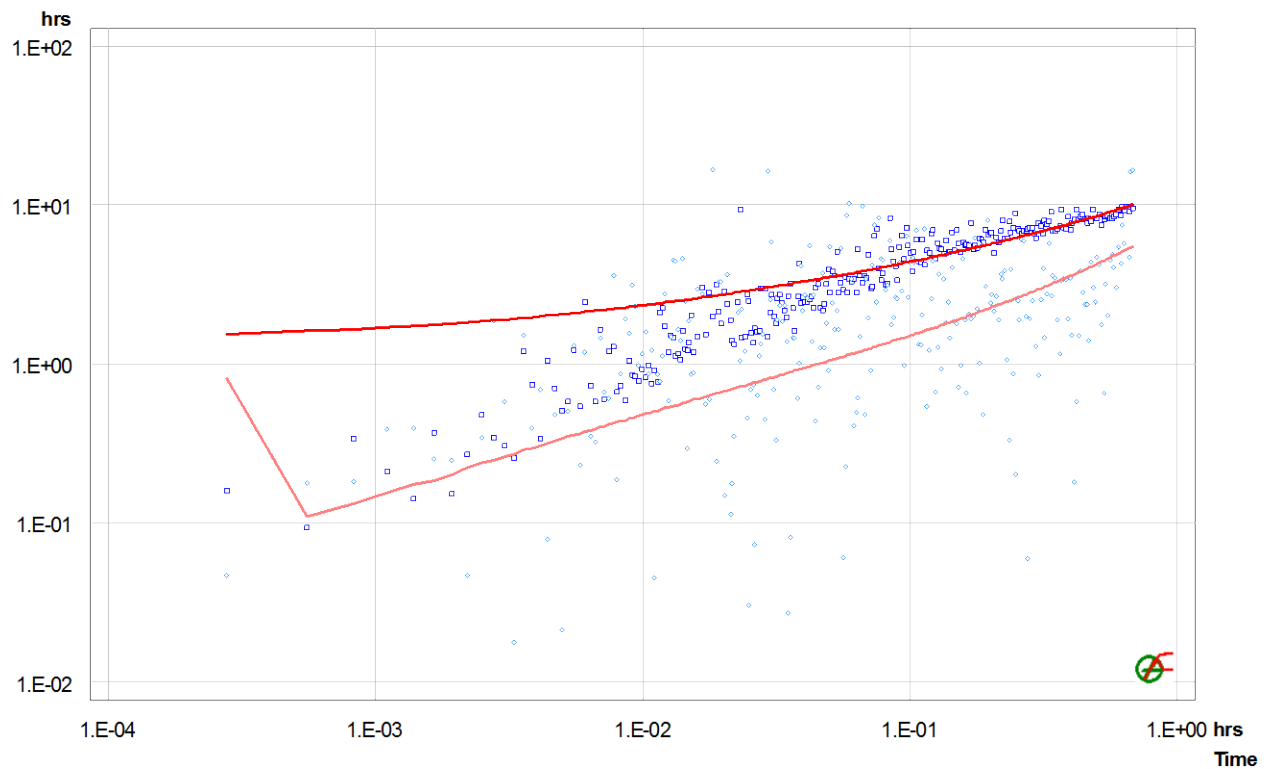


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JGT-03	
Test Name	Test 3	
Test Date/Time	April 21, 2014, 20:00	
Interval	top: 246.68 m bottom: 350.48 m	
Description	Analyzed by: DSL	
	Reviewed by: DV	

Basic Data

Test Interval	103.80 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	20.0 deg		
Test Volume	751.328 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
INF	Variable Pressure	0.00000	2308.56			5.2e-07
PSR	Variable Pressure	0.72806	2307.25			5.2e-07
SW-Init	dP-Event	1.42750	2306.10	50.2 *		5.2e-07
SW	Slug	1.43611	2255.87	2306.1		5.2e-07
COM	Variable Pressure	1.97250	2306.55			5.2e-07
PSR2	Variable Pressure	2.78639	2307.10			5.2e-07
RI	Constant Rate	3.00722	2308.14		-3.09e+01	5.6e-07
DEF	Variable Pressure	3.46361	2484.93			5.6e-07

Analysis Results

Analysis "RI- 2 shell final"

Static Pressure: 2307.48 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.9e-05	2.0e-04	124.91	2.0
Shell 2	3.3e-05	2.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.2e-07	0.0
PSR	3.7e-05	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	3.7e-05	0.0
PSR2	3.7e-05	0.0
RI	2.7e-07	0.0
DEF	2.7e-07	0.0

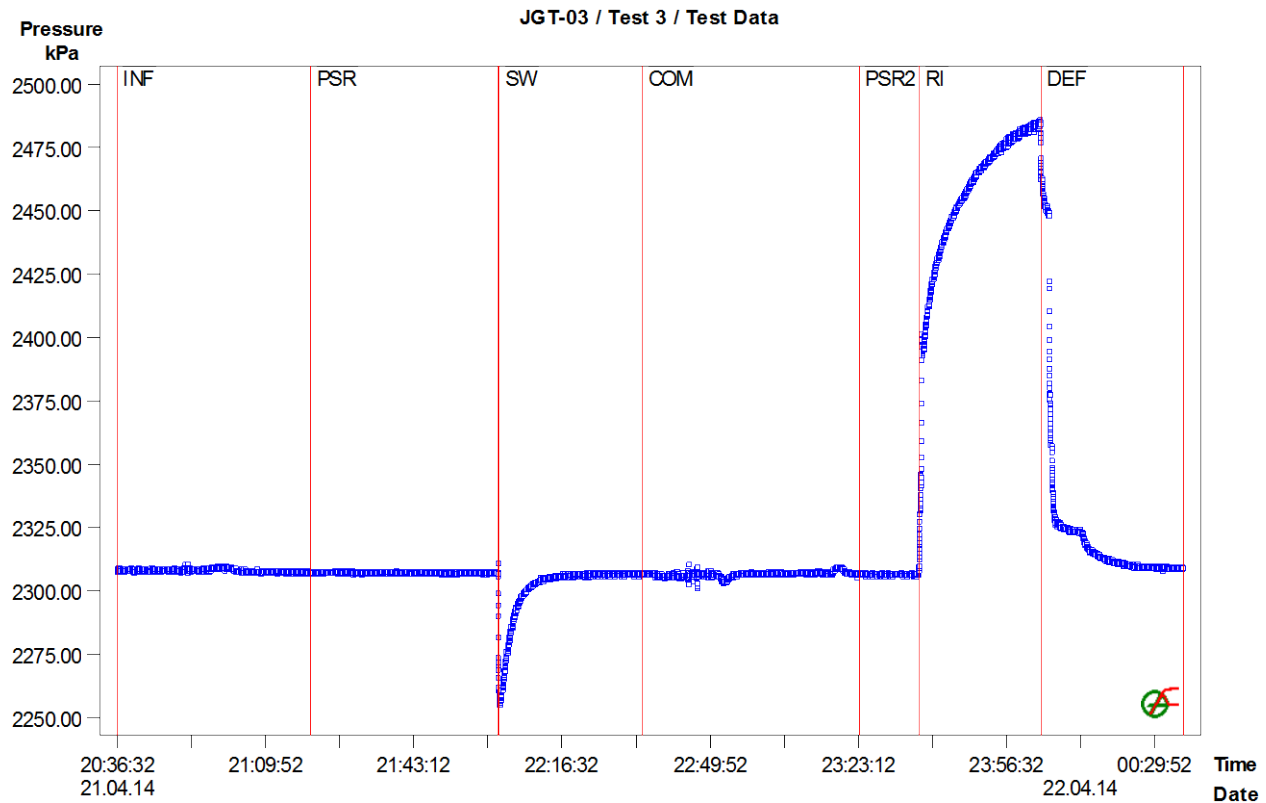


Figure 1: Pressure response and sequence definition

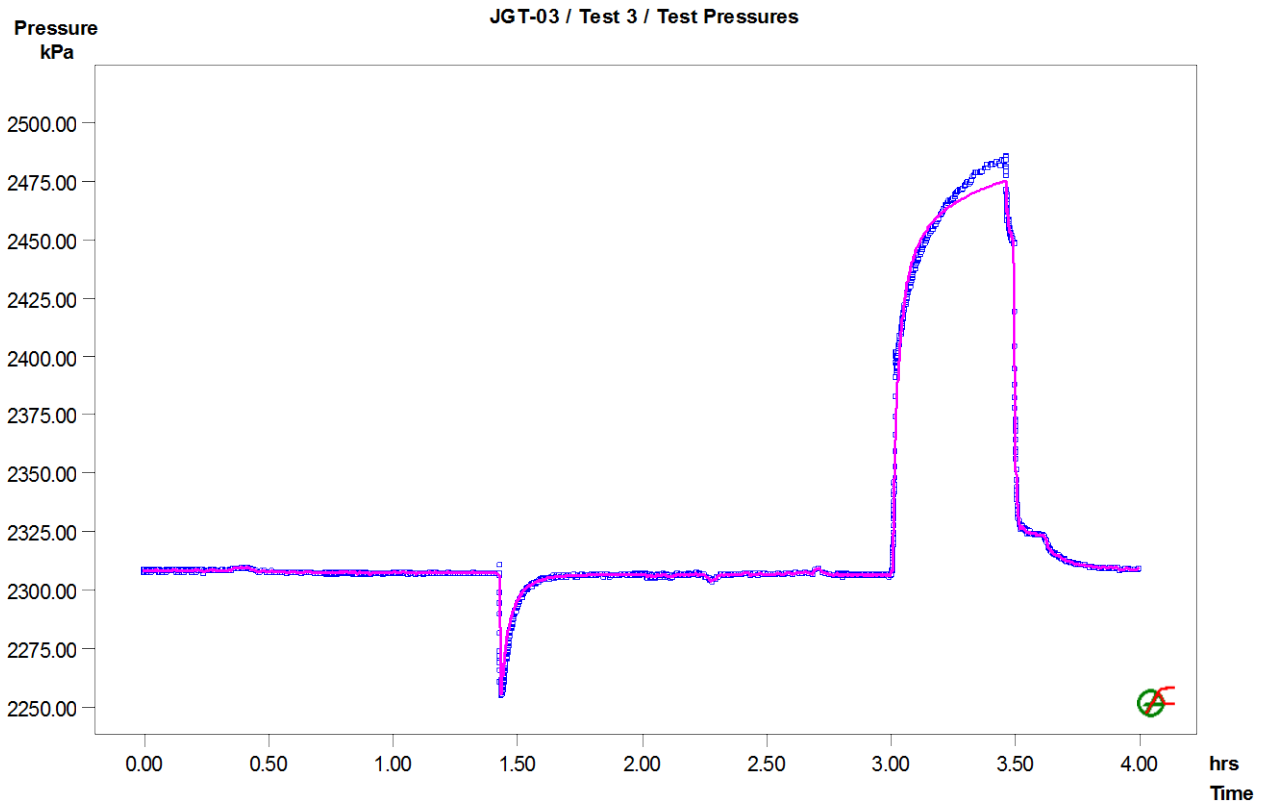


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

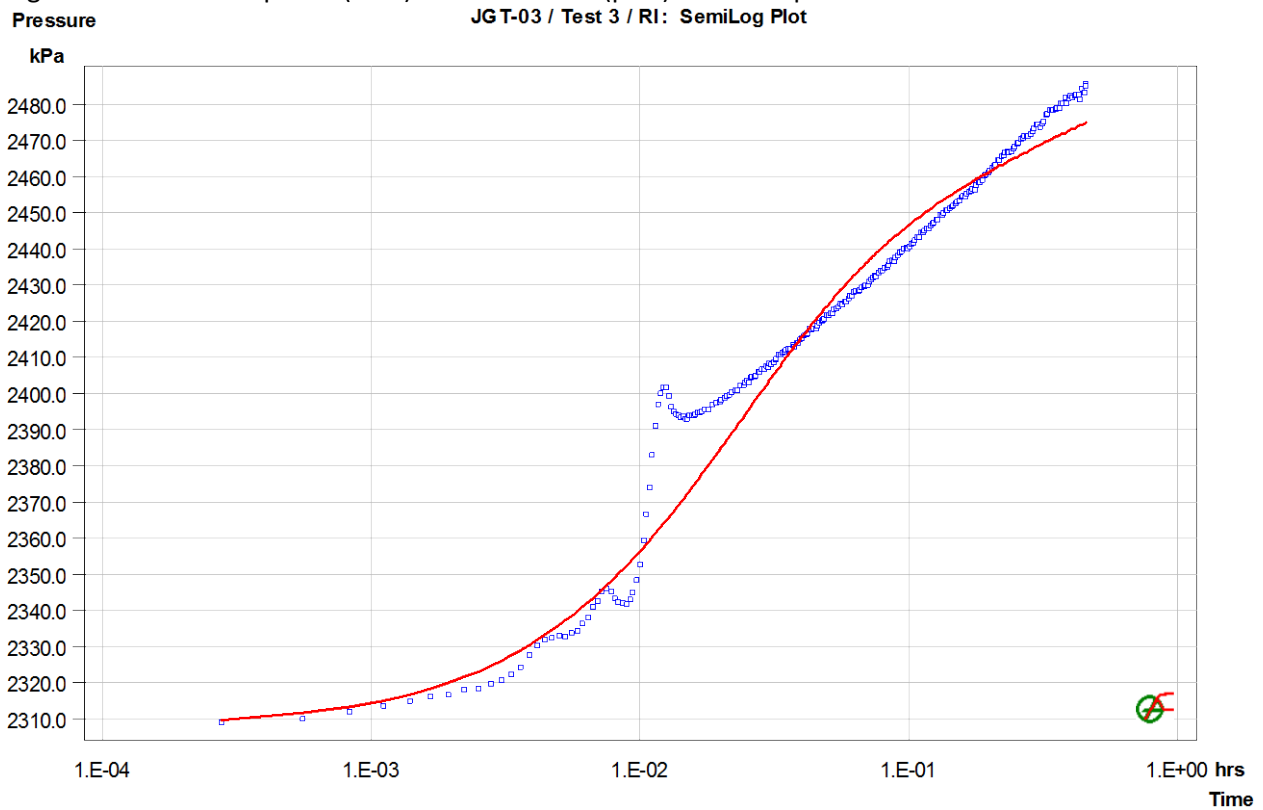


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

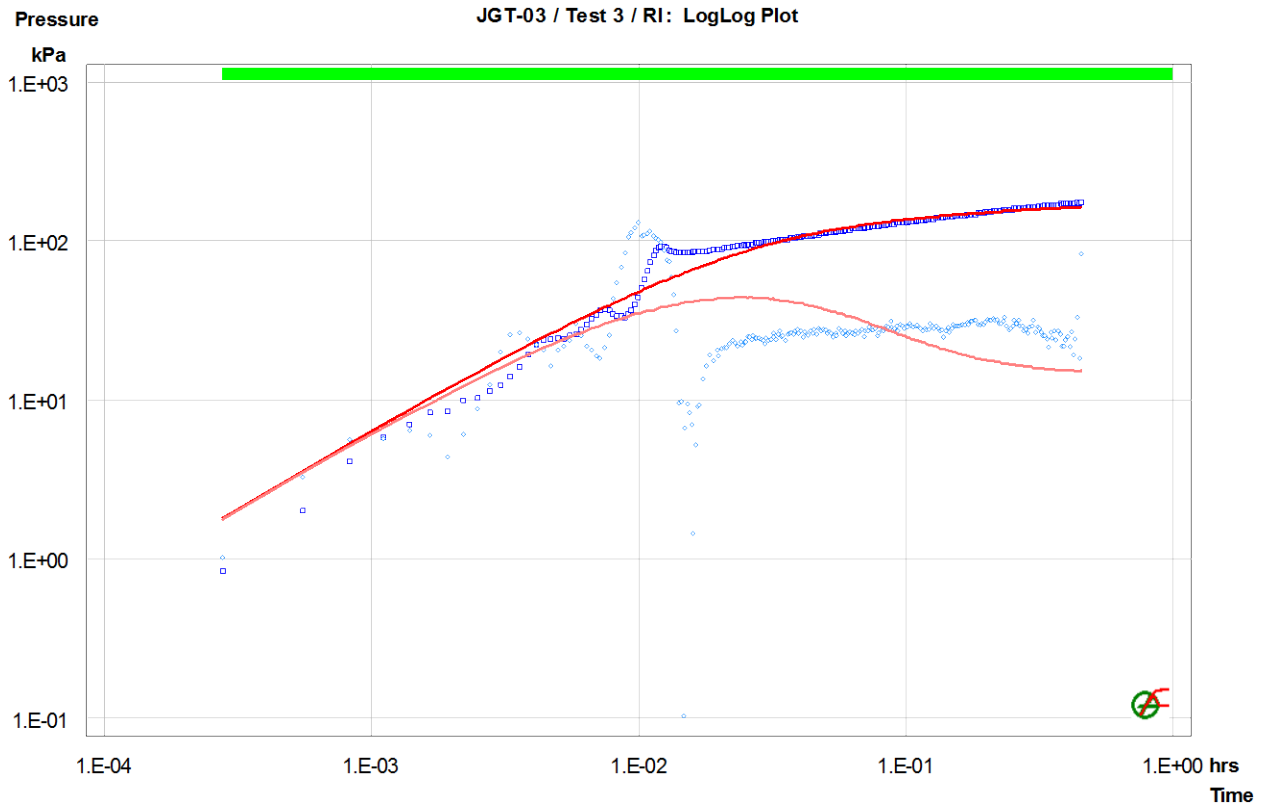


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-03
Test Name Test 4
Test Date/Time
Interval top: 348.68 m bottom: 449.48 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 100.80 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 729.614 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	3230.93			5.2e-07
SW-Init	dP-Event	0.87861	3231.00	42.1 *		5.2e-07
SW	Slug	0.88167	3188.93	3231.0		5.2e-07
VAR	Variable Pressure	1.10944	3230.55			5.2e-07
RI	Constant Rate	1.47417	3230.57		-4.51e+01	8.4e-07
RIR	Recovery	2.01222	3289.69			8.4e-07

Analysis Results

Analysis "RI-2 shell final"

Static Pressure: 3230.28 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.4e-04	2.0e-04	424.74	2.0
Shell 2	4.6e-04	2.0e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	3.9e-06	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
VAR	3.9e-06	0.0
RI	2.1e-06	0.0
RIR	2.1e-06	0.0

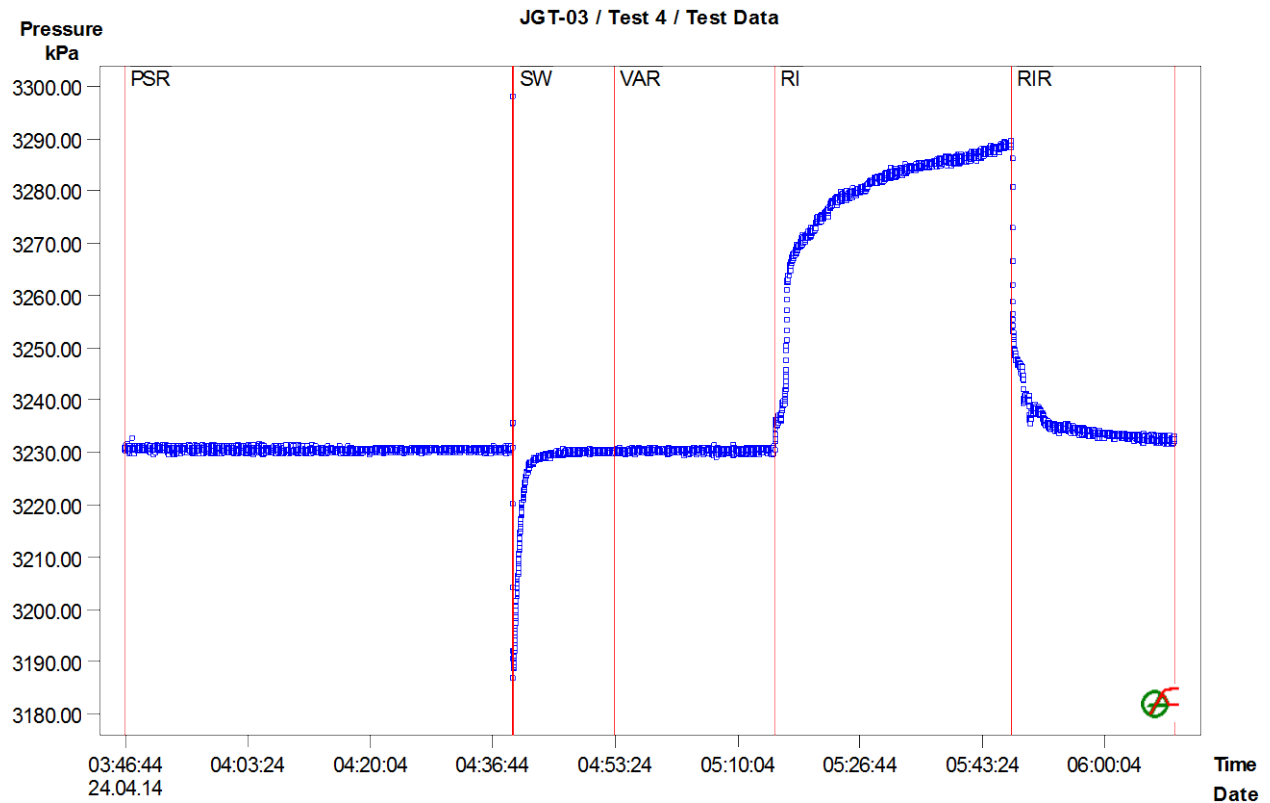


Figure 1: Pressure response and sequence definition

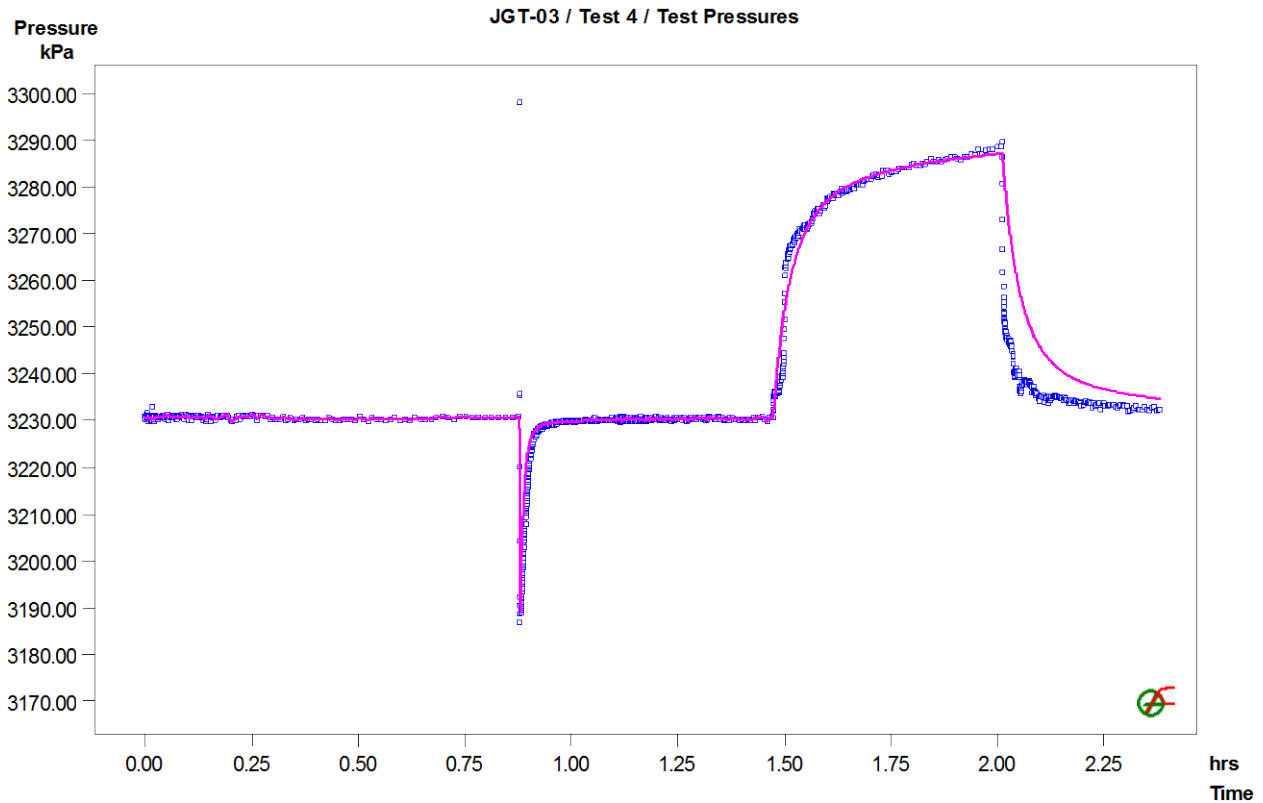


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

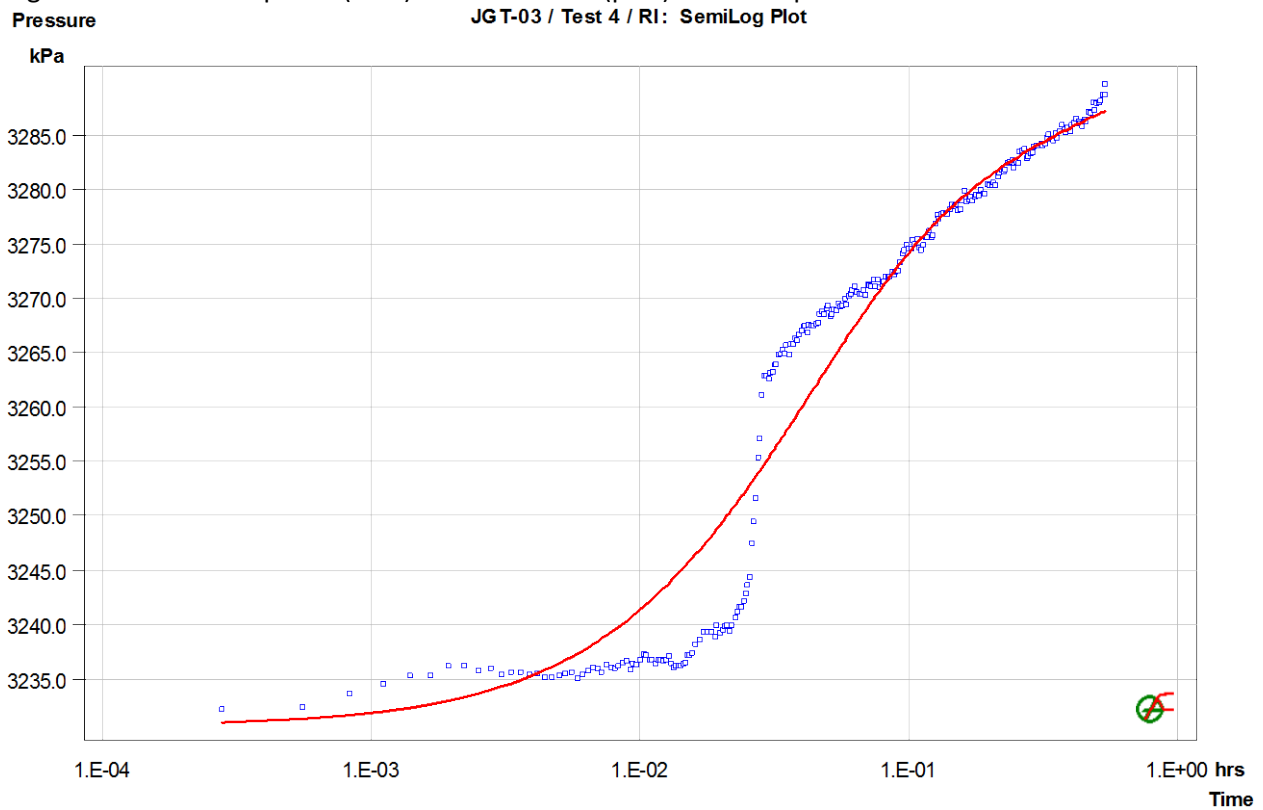


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

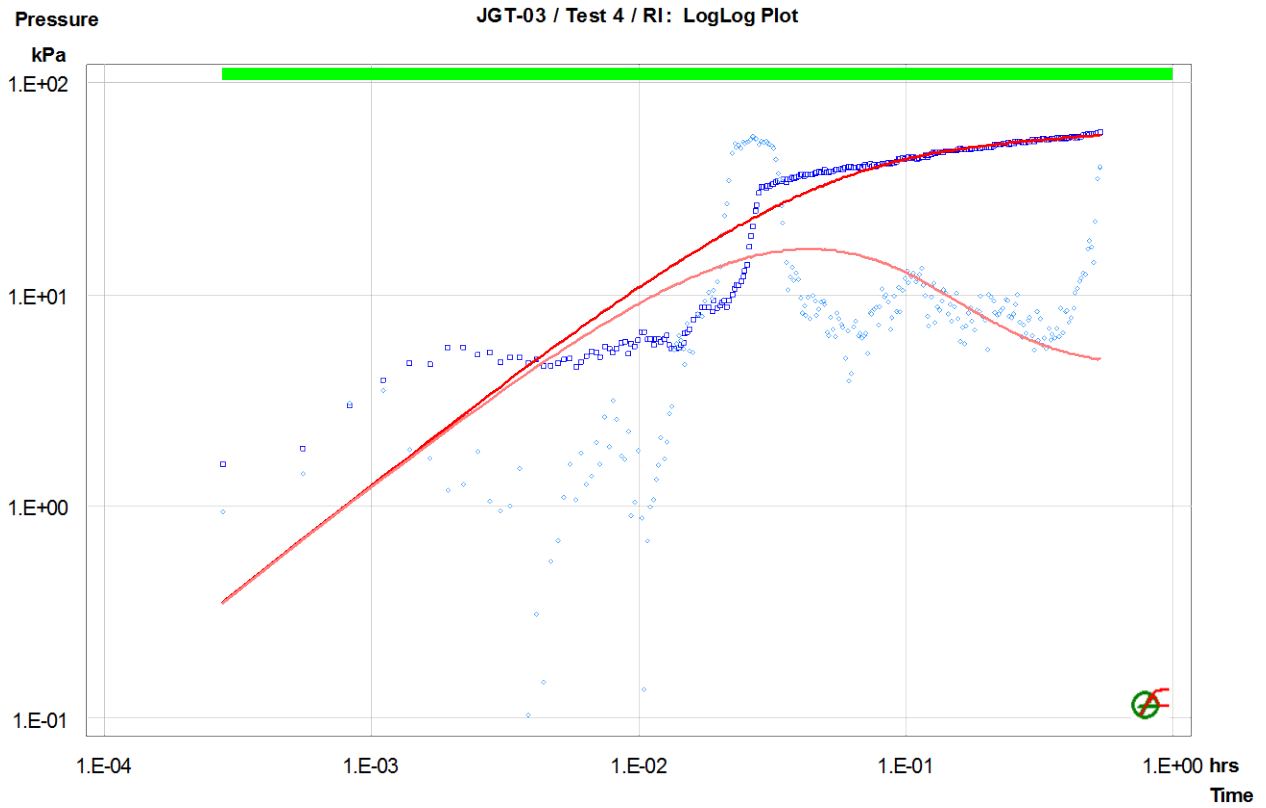


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project	Dominion Diamond
Site	Jay Project
Source Well	JGT-04
Test Name	Test 1
Test Date/Time	
Interval	top: 93.92 m bottom: 146.58 m
Description	Analyzed by: DV Reviewed by: DSL

Basic Data

Test Interval	52.66 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	20.0 deg		
Test Volume	381.165 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	305.60			5.2e-07
PSR	Recovery	0.23417	306.34			5.2e-07
SW-Init	dP-Event	0.58833	304.54	102.8 *		5.2e-07
SW	Slug	0.59417	201.78	304.5		5.2e-07
COM	Variable Pressure	0.72333	301.48			5.2e-07

Analysis Results

Analysis "Sw-Final"

Static Pressure: 304.55 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.5e-05	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.4e-07	0.0
PSR	5.4e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	5.4e-07	0.0

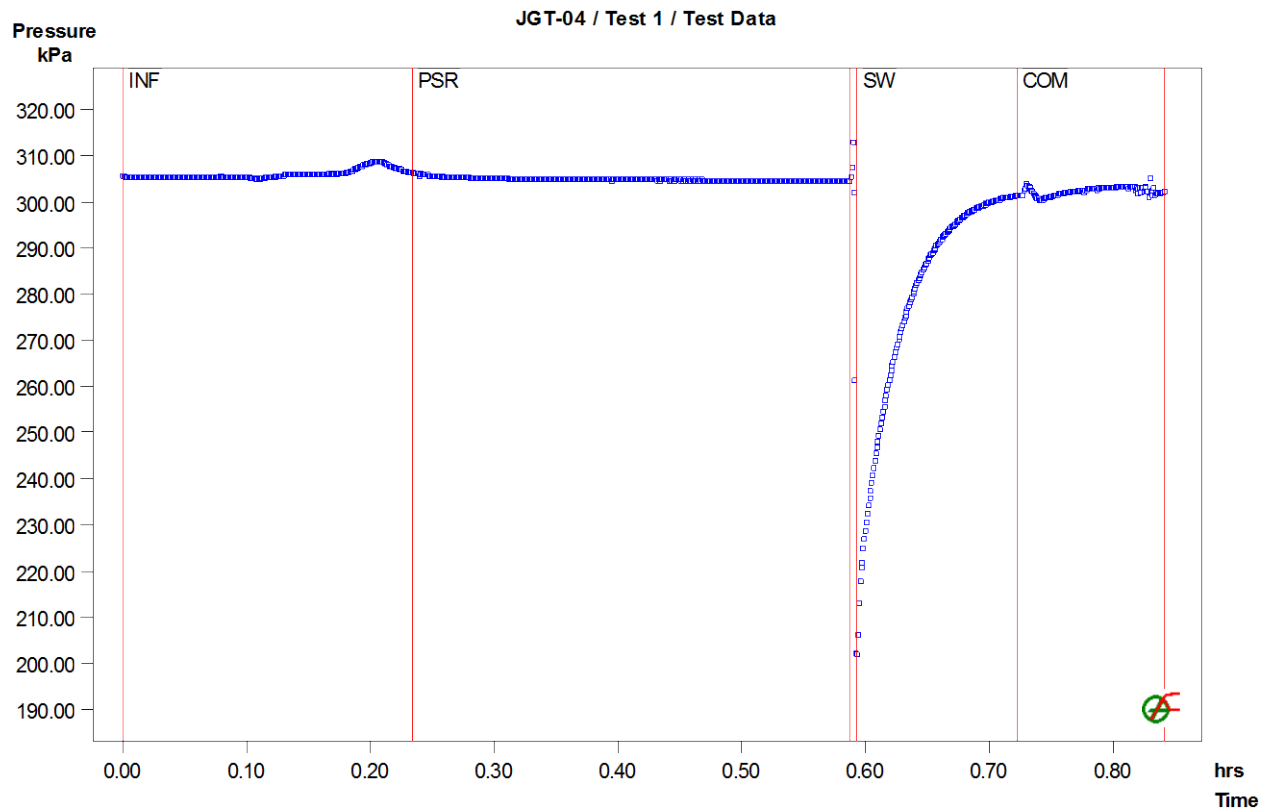


Figure 1: Pressure response and sequence definition

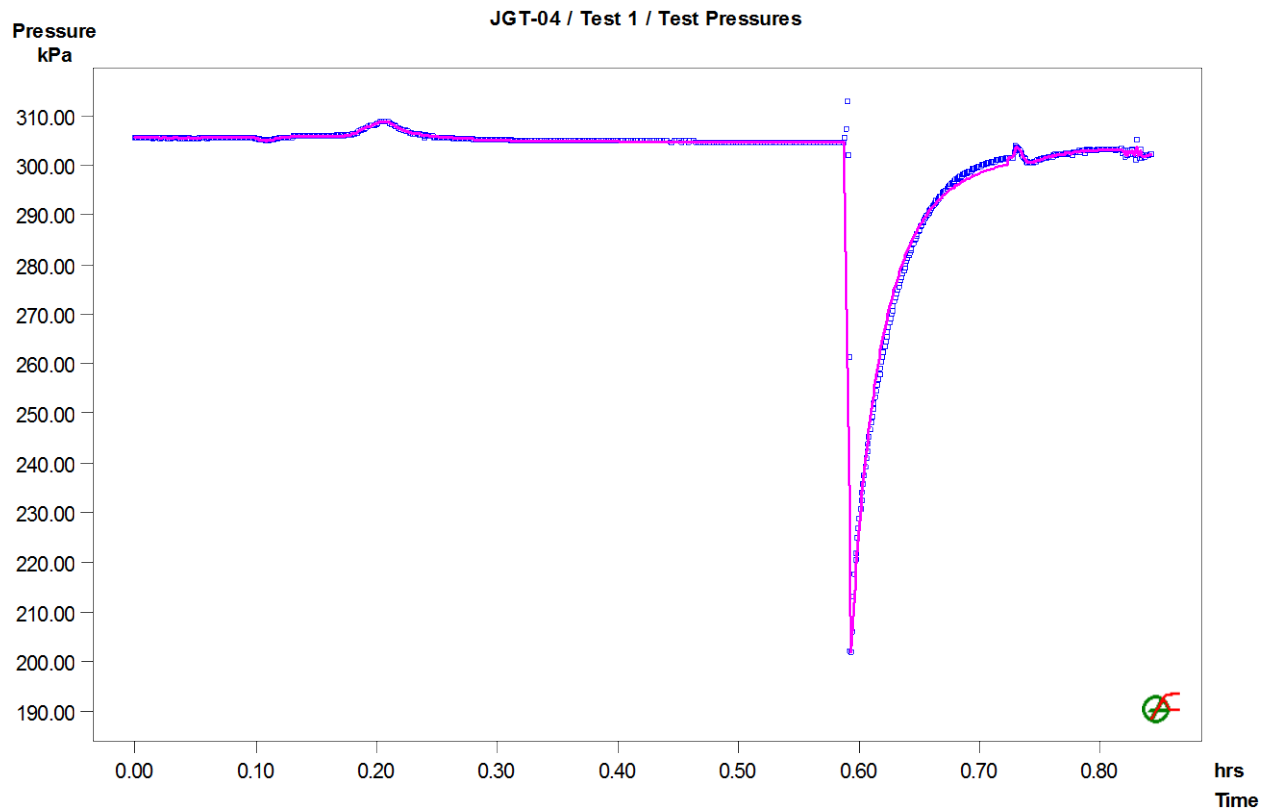


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-04 / Test 1 / SW: LogLog Plot, variable P(i)

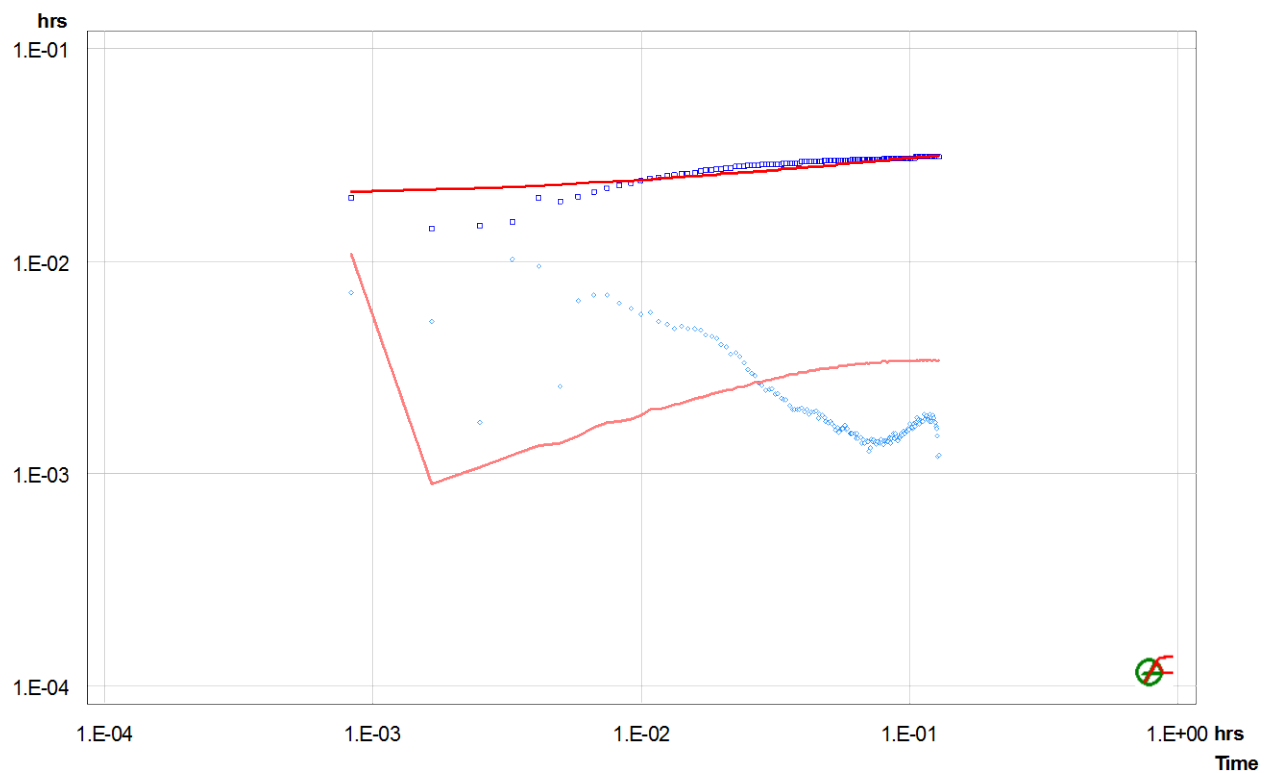


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JGT--04	
Test Name	Test 2	
Test Date/Time	April 9, 2014, 0100	
Interval	top: 144.92 m bottom: 251.58 m	
Description	Analyzed by: DSL Reviewed by: DV	

Basic Data

Test Interval	106.66 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	20.0 deg		
Test Volume	772.030 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
PSR	Variable Pressure	0.00000	1454.73			5.2e-07
SW-Init	dP-Event	0.75417	1454.42	41.2 *		5.2e-07
SW	Slug	0.75972	1413.18	1454.4		5.2e-07
PSR2	Variable Pressure	0.95278	1453.57			5.2e-07
RI-1	Variable Pressure	1.32778	1464.93			2.4e-07
RI-2	Variable Pressure	1.58611	1865.91			2.4e-07
DEF	Variable Pressure	2.13333	1827.09			5.2e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 1455.49 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.8e-05	2.1e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.4e-06	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
PSR2	2.4e-06	0.0
RI-1	2.4e-07	0.0
RI-2	2.4e-07	0.0
DEF	2.4e-06	0.0

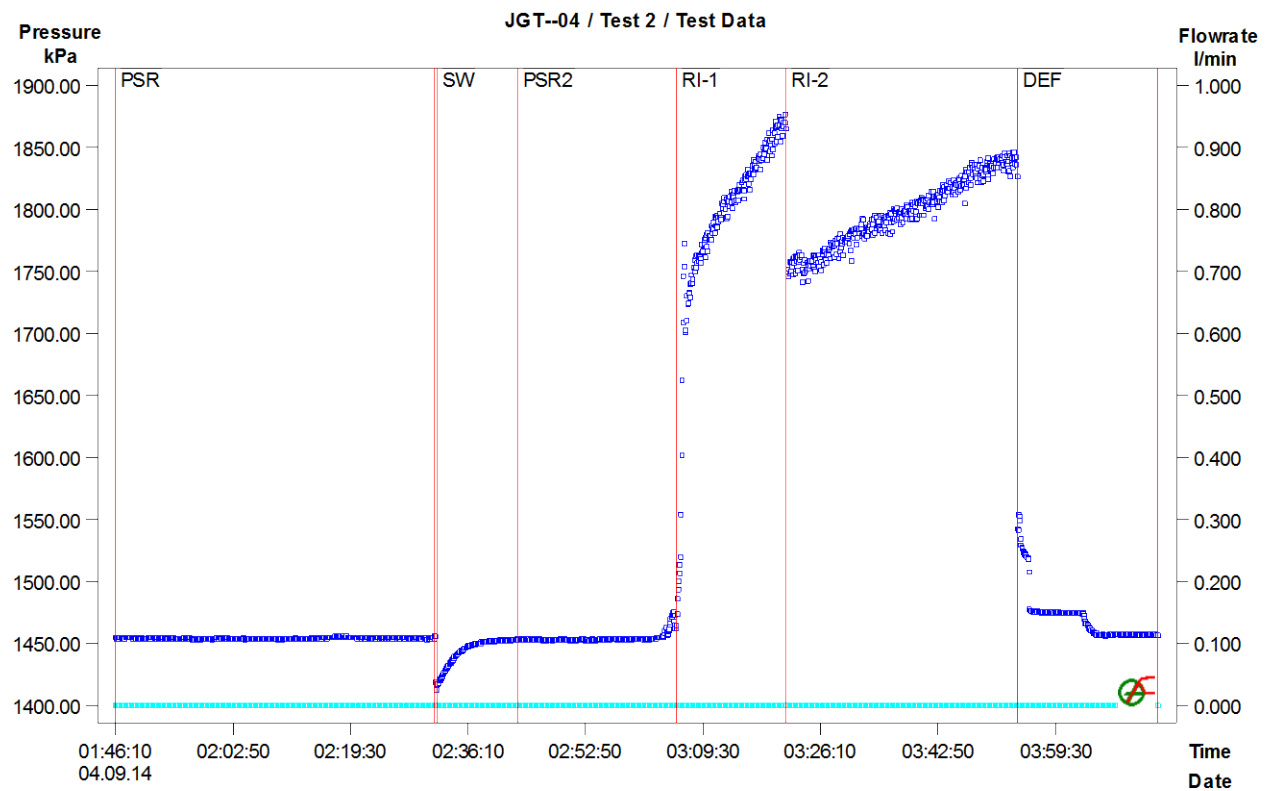


Figure 1: Pressure response and sequence definition

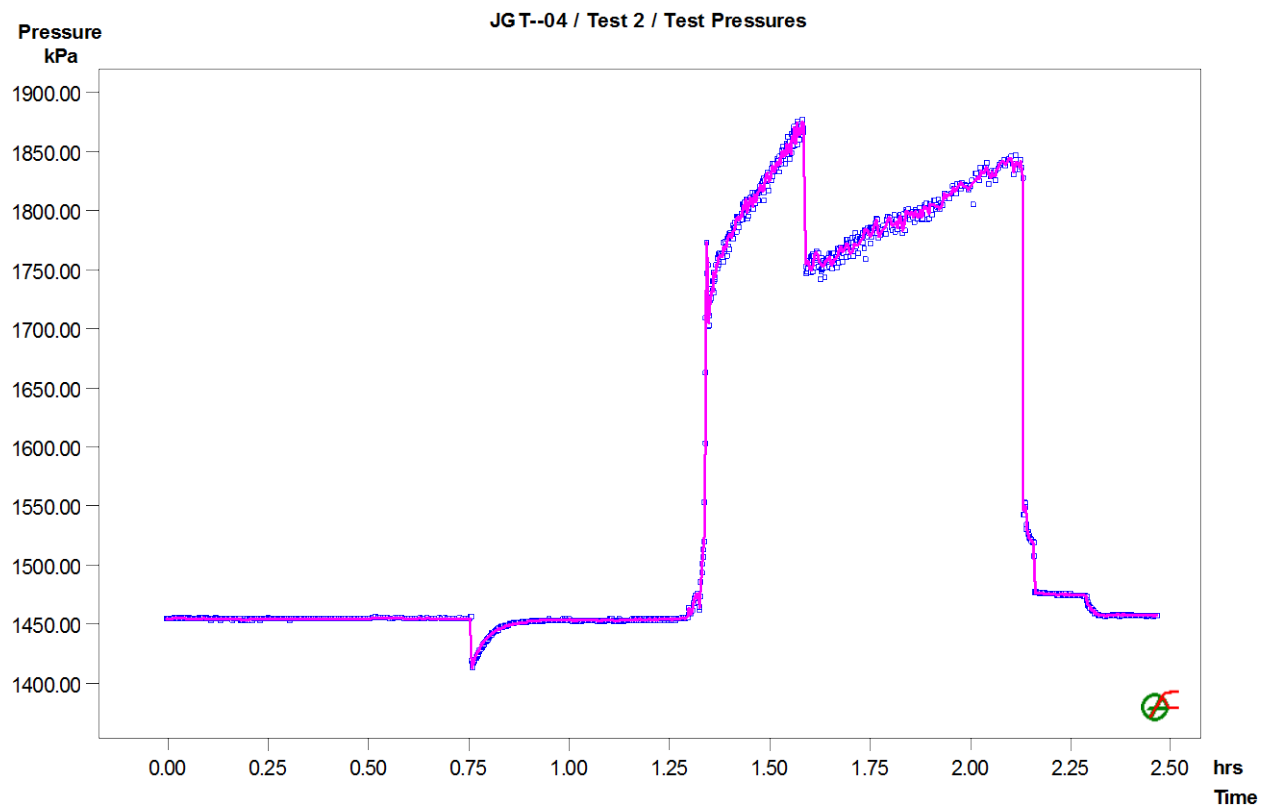


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT--04 / Test 2 / SW: LogLog Plot, constant P(i)

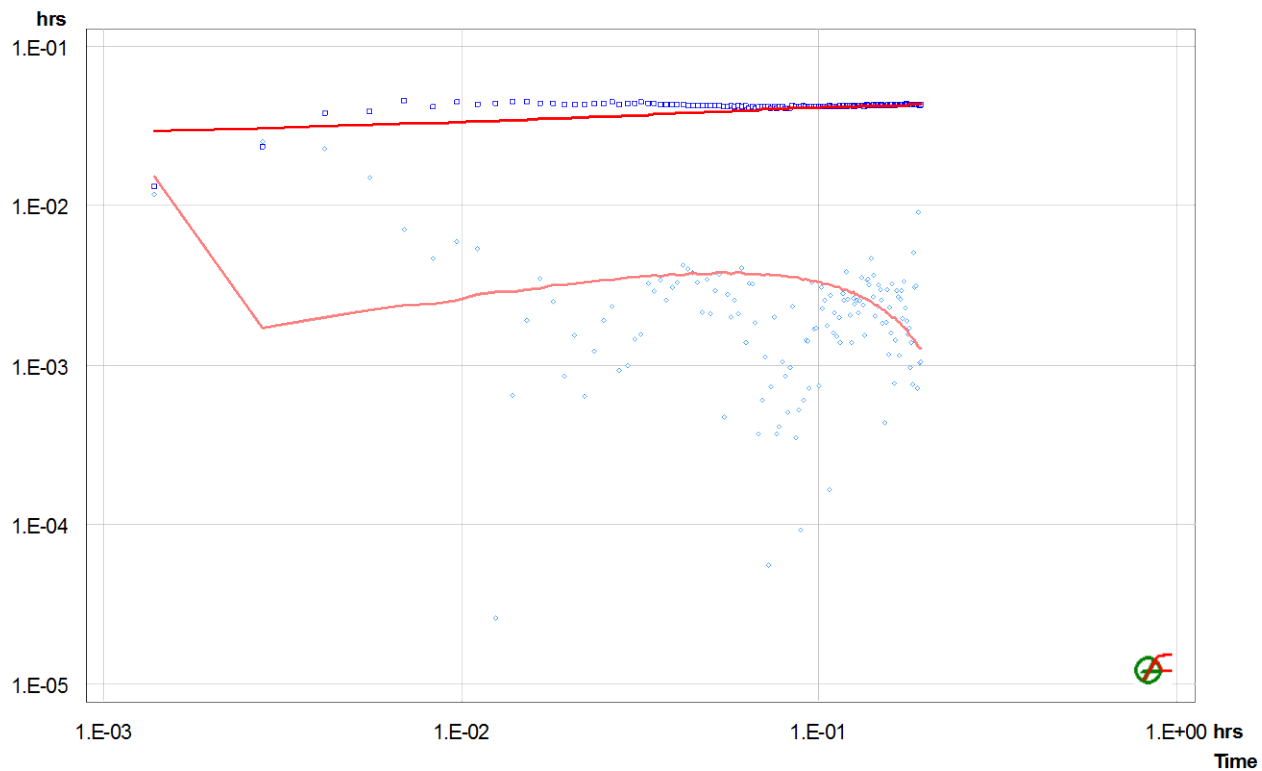


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-04
Test Name Test 3
Test Date/Time April 11, 2014, 0300
Interval top: 243.92 m bottom: 350.58 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 106.66 m
Porosity 0.10
Well Radius 0.079 m Tubing Radius 0.039 m
Inclination 30.0 deg
Test Volume 2091.249 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable Pressure	0.00000	2376.76			5.6e-07
PSR	Recovery	1.30972	2376.70			5.6e-07
Sequence 3	dP-Event	1.68611	2379.43	38.6 *		5.6e-07
SW	Slug	1.71944	2340.84	2379.4		5.6e-07
RI	Constant Rate	2.40278	2378.15		-1.08e+01	4.2e-09
DEF	Variable Pressure	3.03889	2642.75			5.6e-07

Analysis Results

Analysis "RI-2 shell Final"

Static Pressure: 2380.77 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	7.8e-06	2.1e-04	1.25	2.0
Shell 2	4.3e-06	2.1e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	5.6e-07	0.0
PSR	3.6e-07	0.0
Sequence 3	5.6e-07	0.0
SW	5.6e-07	0.0
RI	5.7e-09	0.0
DEF	5.6e-07	0.0

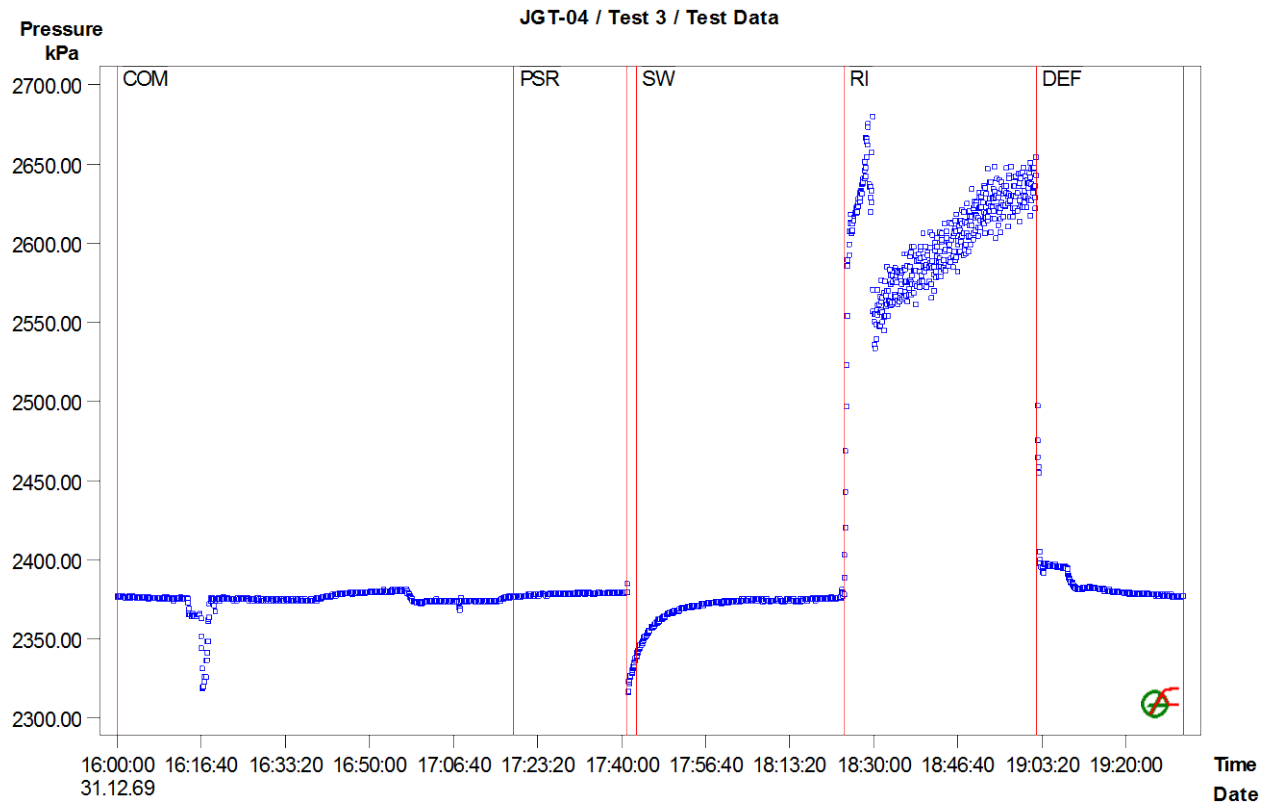


Figure 1: Pressure response and sequence definition

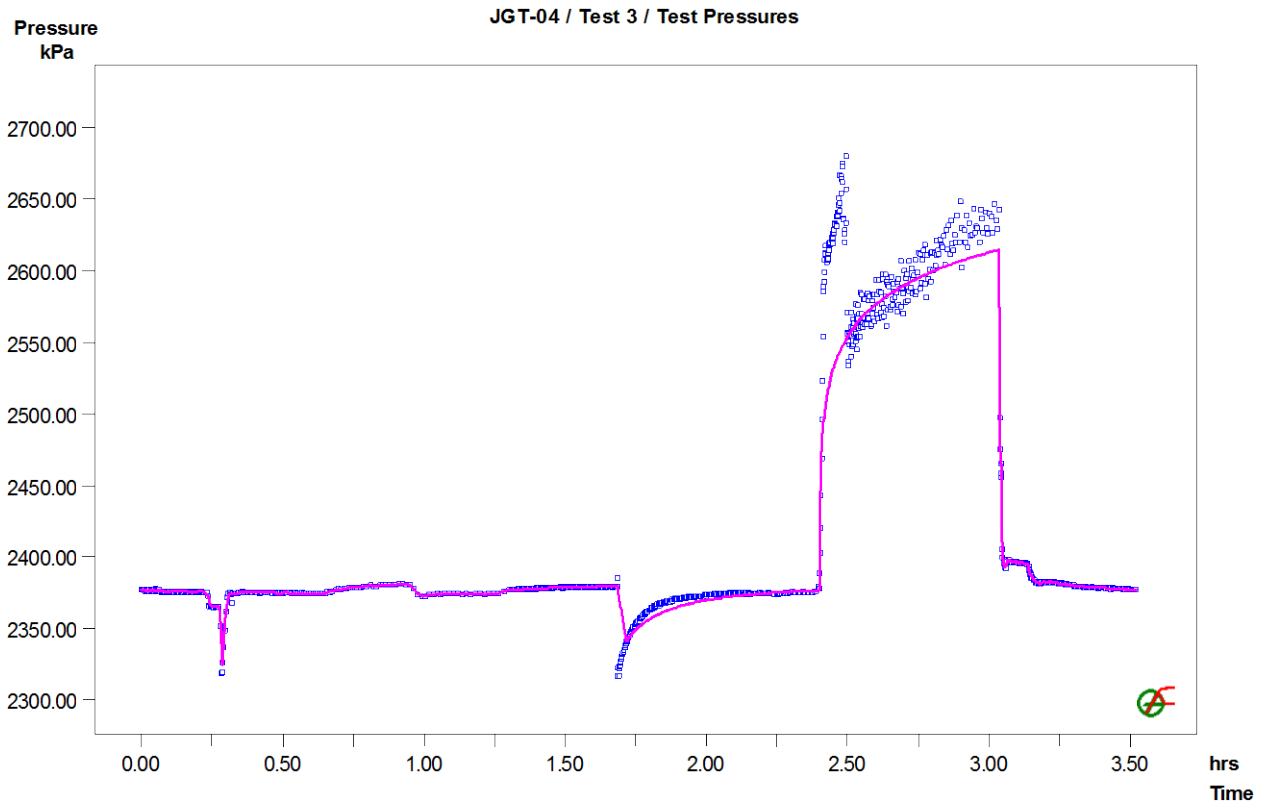


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

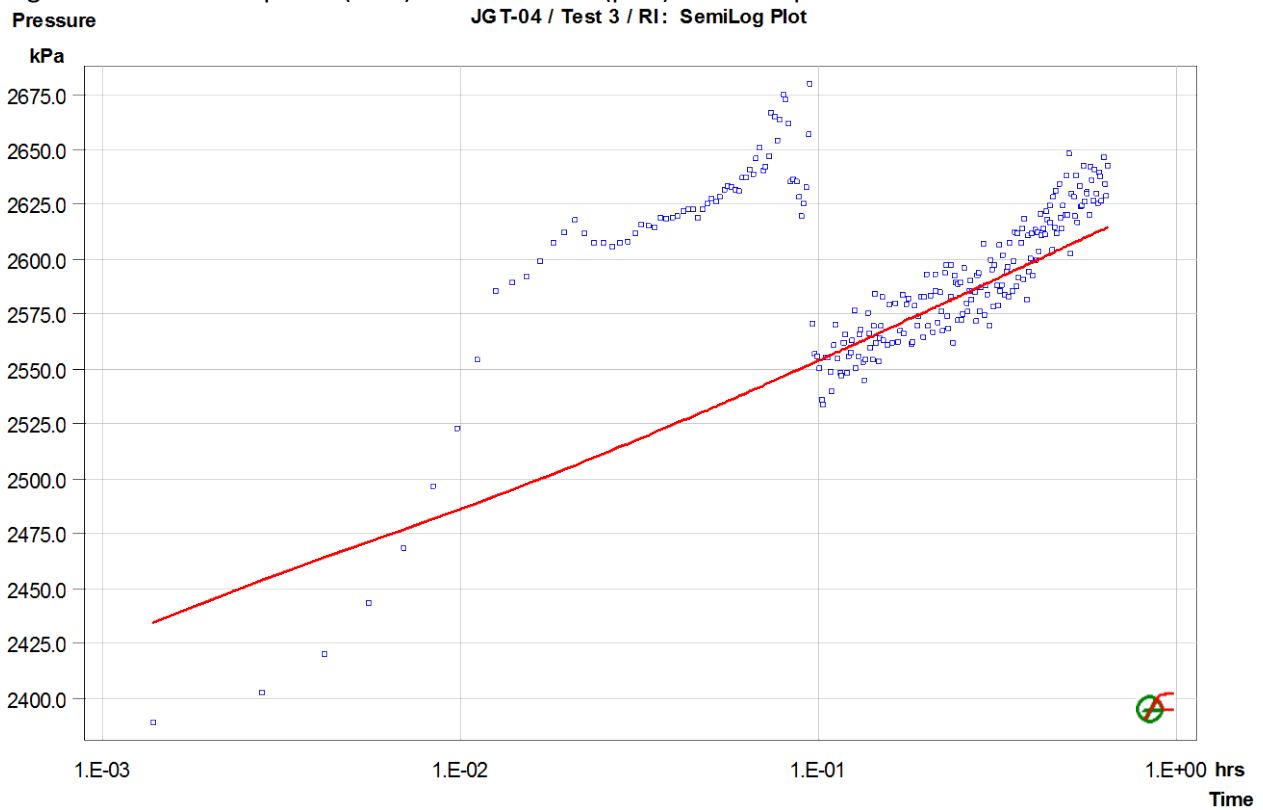


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

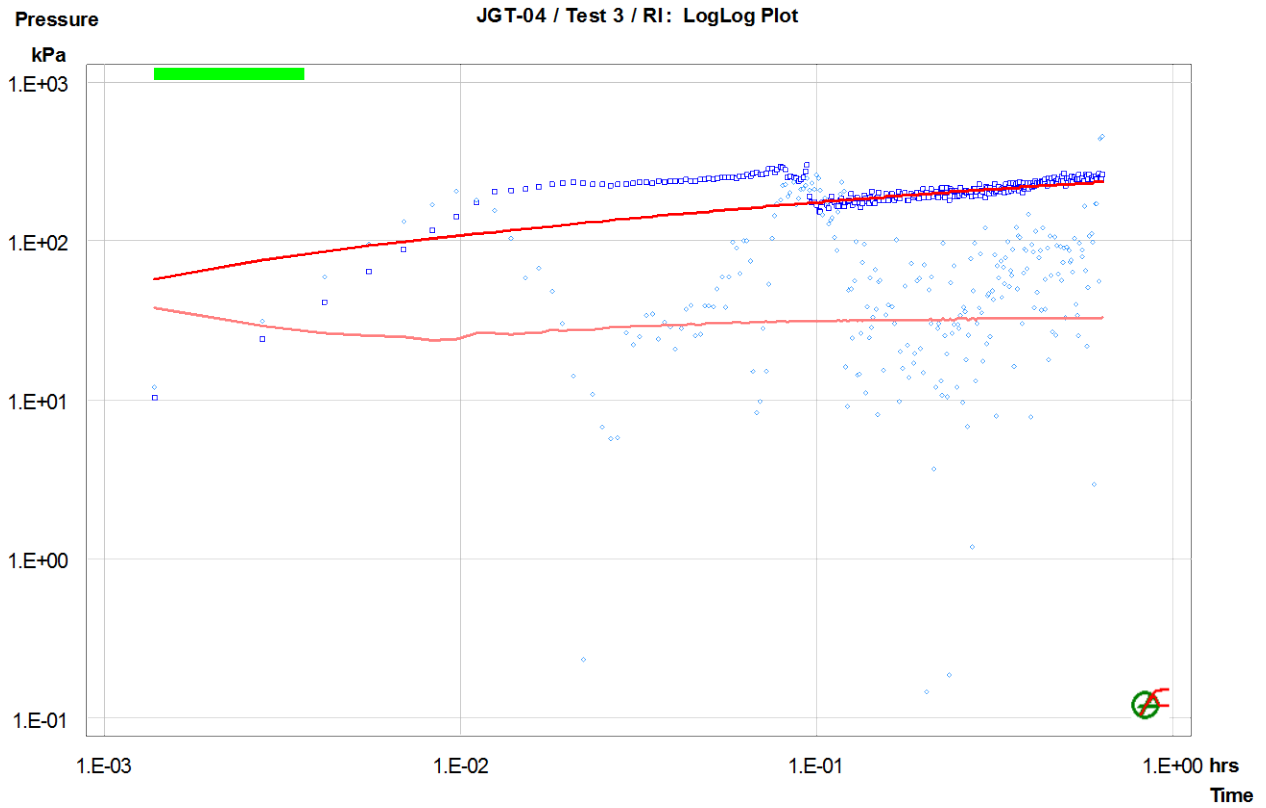


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 1
Test Date/Time
Interval top: 22.09 m bottom: 47.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 25.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 185.878 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	207.52			5.2e-07
PSR	Recovery	0.08750	205.30			4.4e-07
SW-Init	dP-Event	0.35972	204.63	52.4 *		5.2e-07
SW	Slug	0.36389	152.25	204.6		5.2e-07
COM	Variable Pressure	0.64306	199.44			5.2e-07
RI-1	Constant Rate	1.51944	218.15		-5.60e+00	3.7e-08
RI-2	Constant Rate	1.73889	544.85		-4.00e+00	3.7e-08

Analysis Results

Analysis "SW-Final"

Static Pressure: 204.30 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.1e-05	5.0e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.3e-07	0.0
PSR	1.3e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	1.3e-07	0.0
RI-1	3.7e-10	0.0
RI-2	3.7e-10	0.0

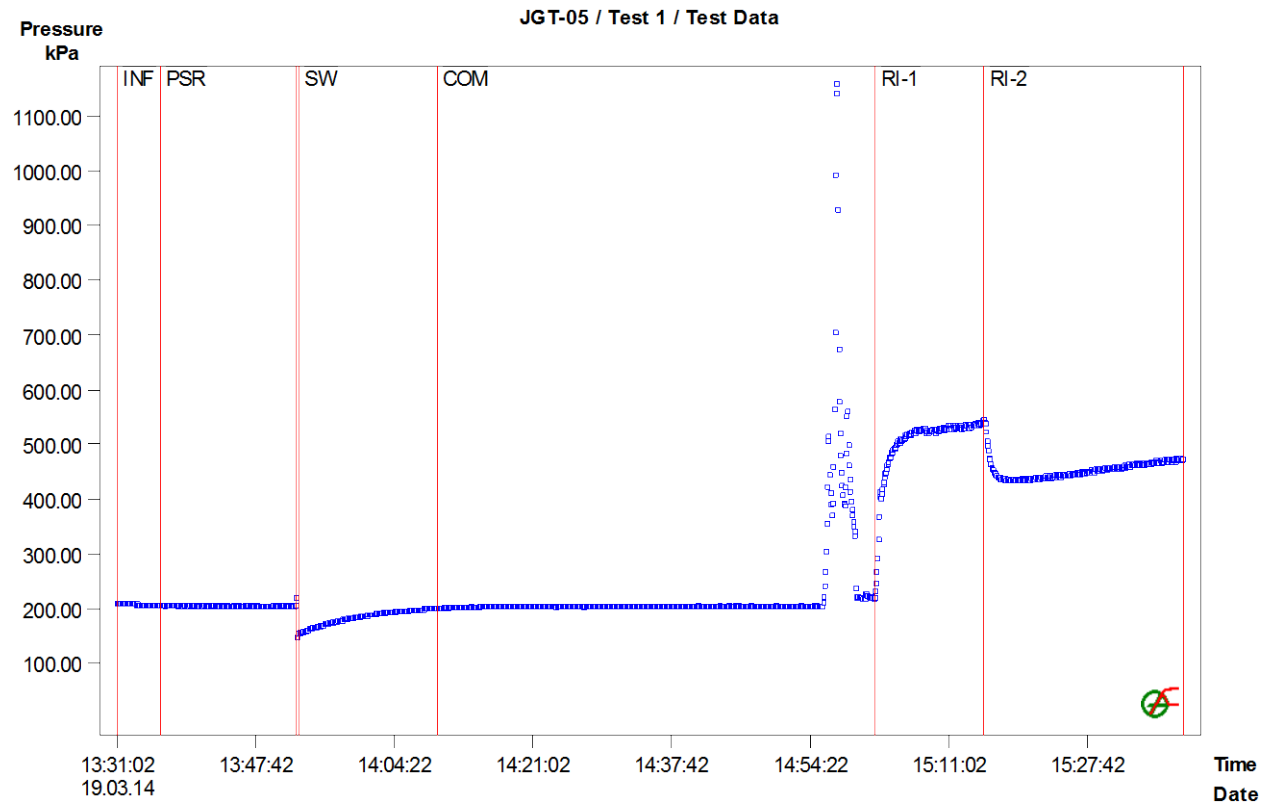


Figure 1: Pressure response and sequence definition

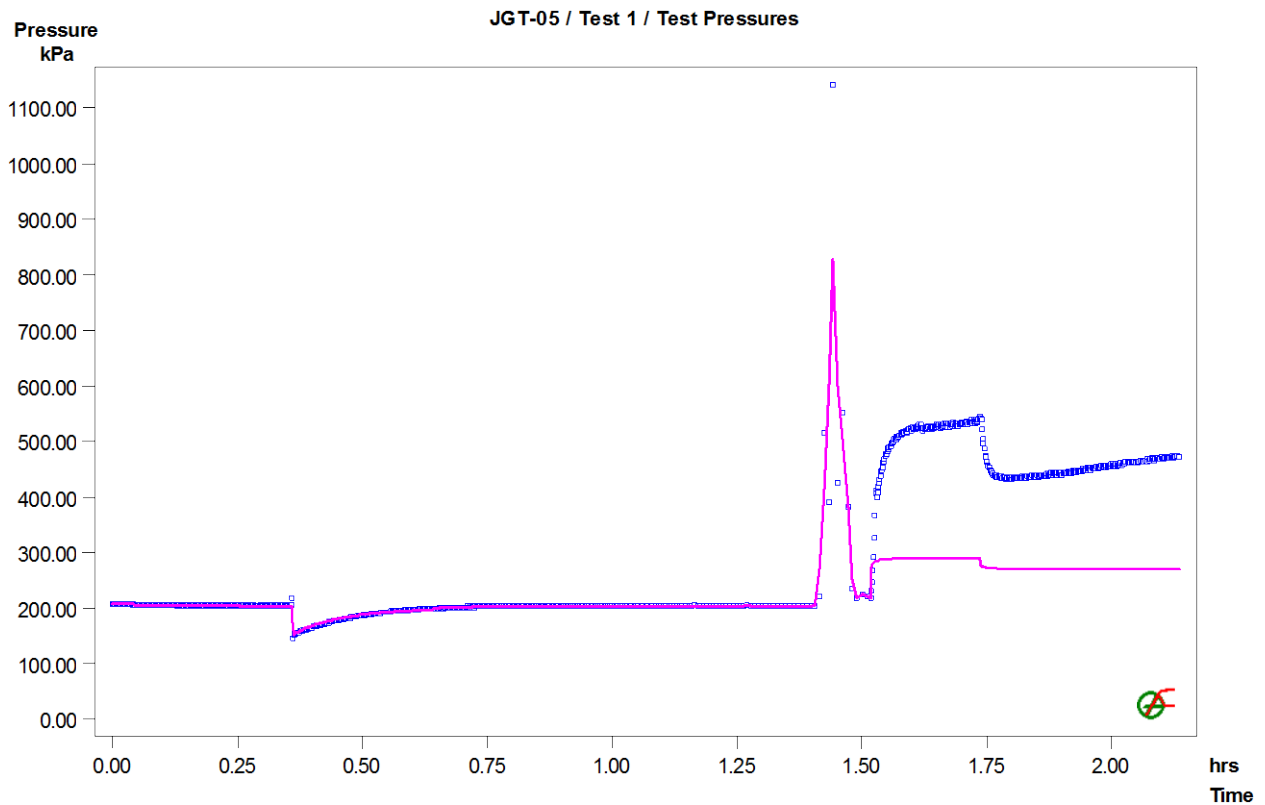


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-05 / Test 1 / SW: LogLog Plot, variable P(i)

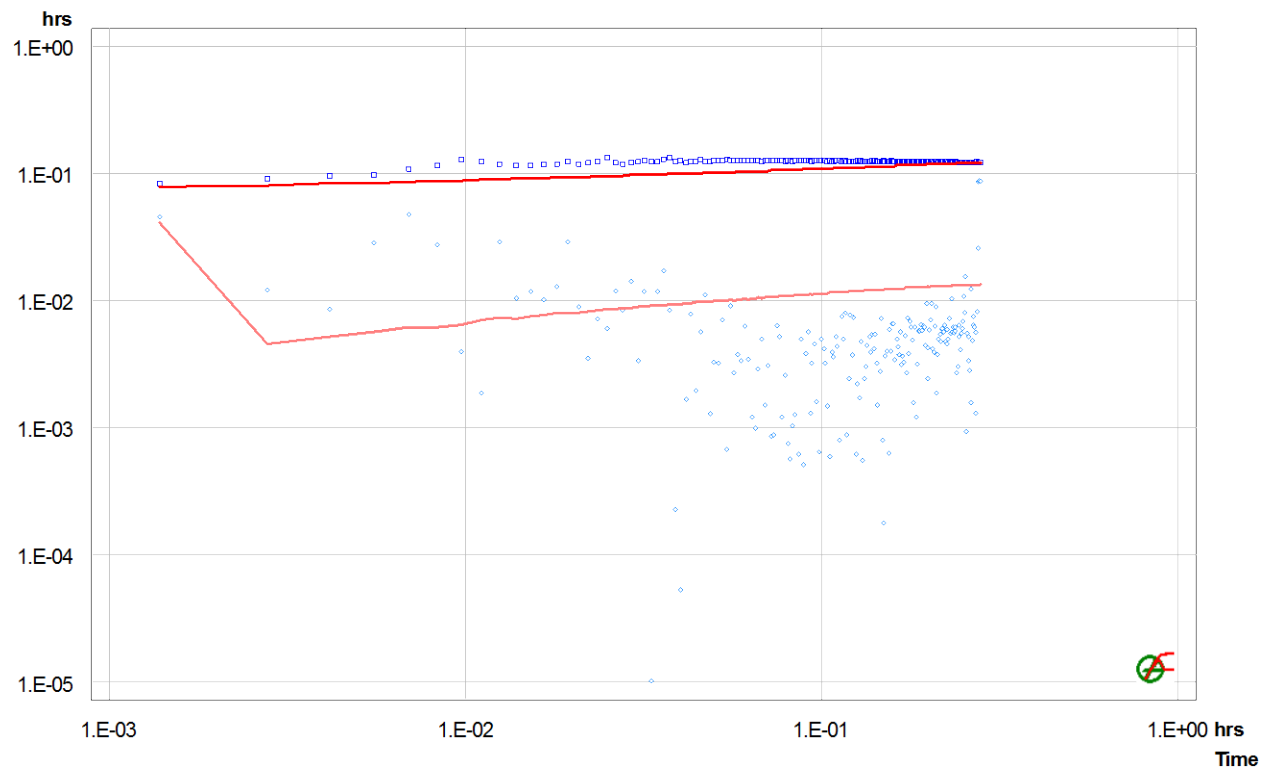


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 2
Test Date/Time
Interval top: 49.09 m bottom: 101.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 52.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 381.310 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	458.55			5.2e-07
SW-Init	dP-Event	0.33194	458.92	84.2 *		5.2e-07
SW	Slug	0.33472	374.68	458.9		5.2e-07
COM	Variable Pressure	0.54583	457.55			5.2e-07
RI	Constant Rate	2.44167	460.43		-2.10e+00	2.2e-08
DEF	Variable Pressure	3.00556	804.77			2.2e-08

Analysis Results

Analysis "SW-final"

Static Pressure: 456.99 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.5e-05	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.7e-05	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	2.7e-05	0.0
RI	3.4e-09	0.0
DEF	3.4e-09	0.0

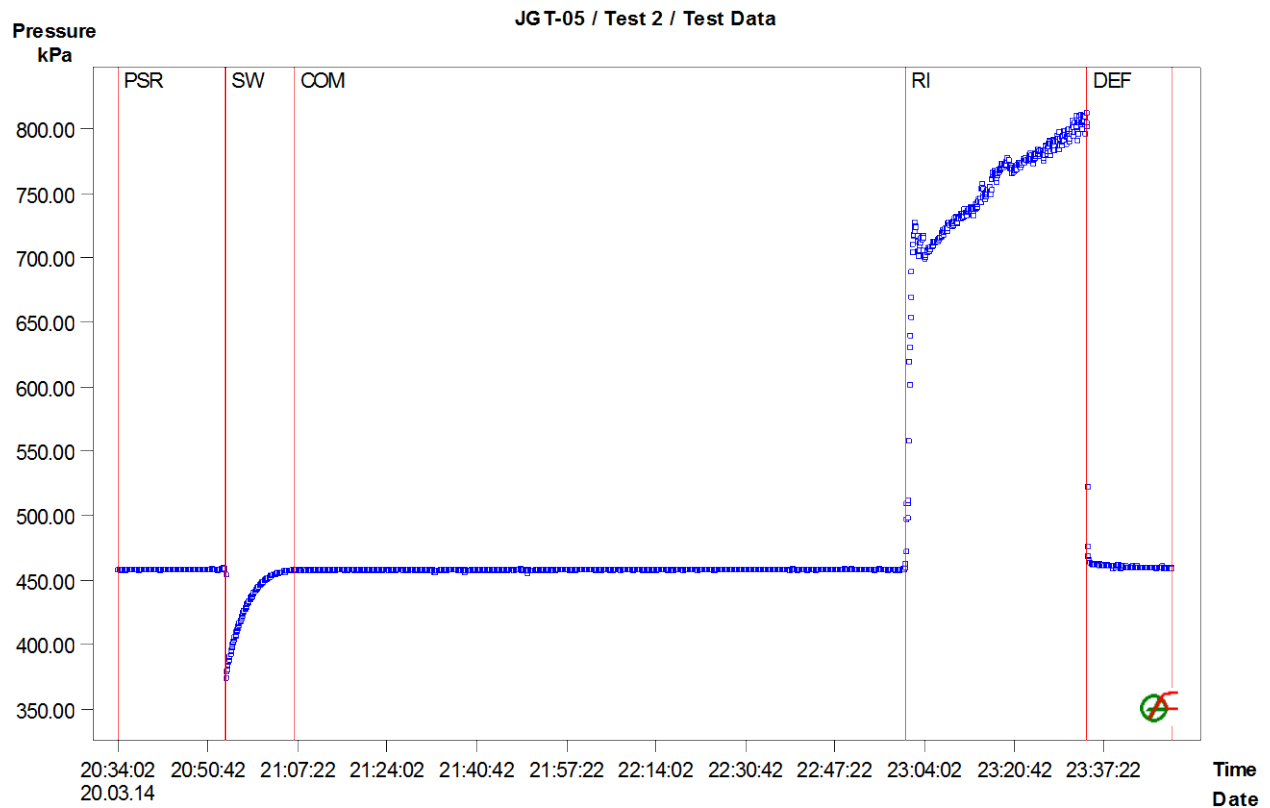


Figure 1: Pressure response and sequence definition

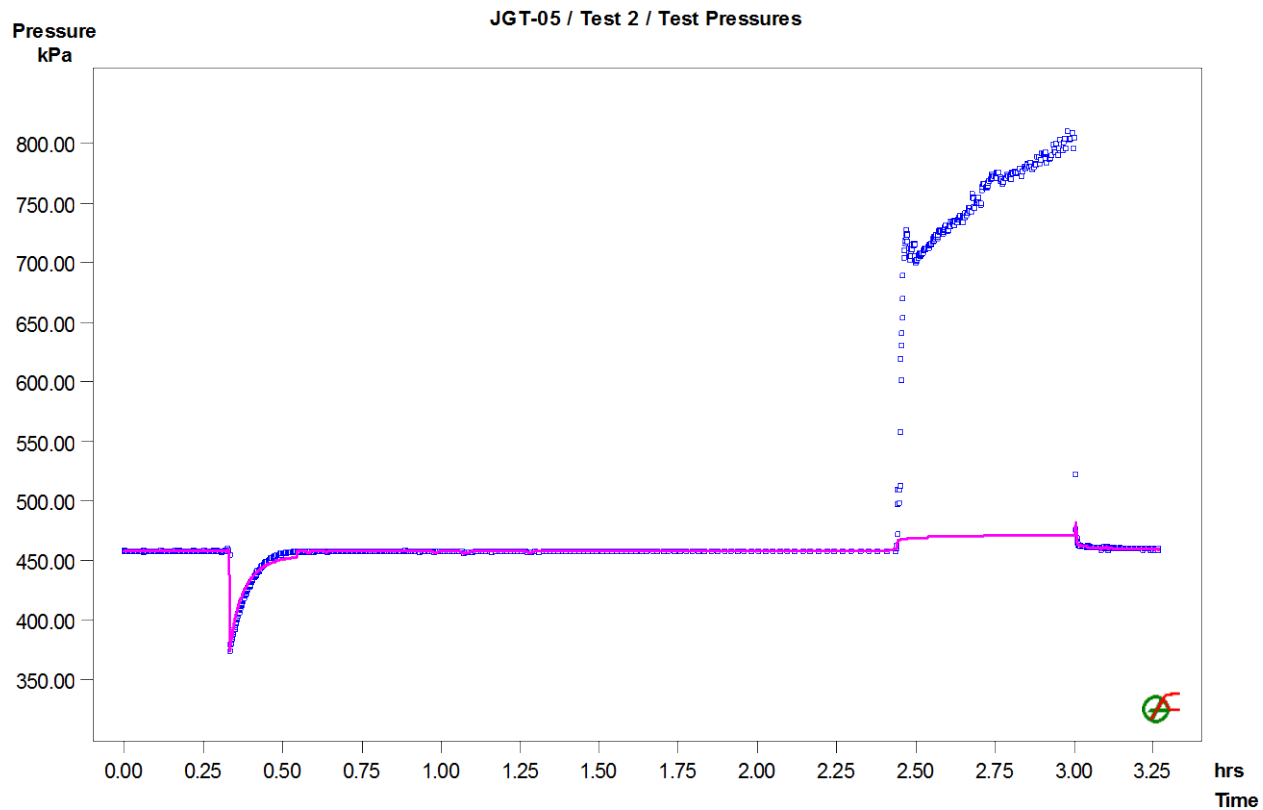


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-05 / Test 2 / SW: LogLog Plot, constant P(i)

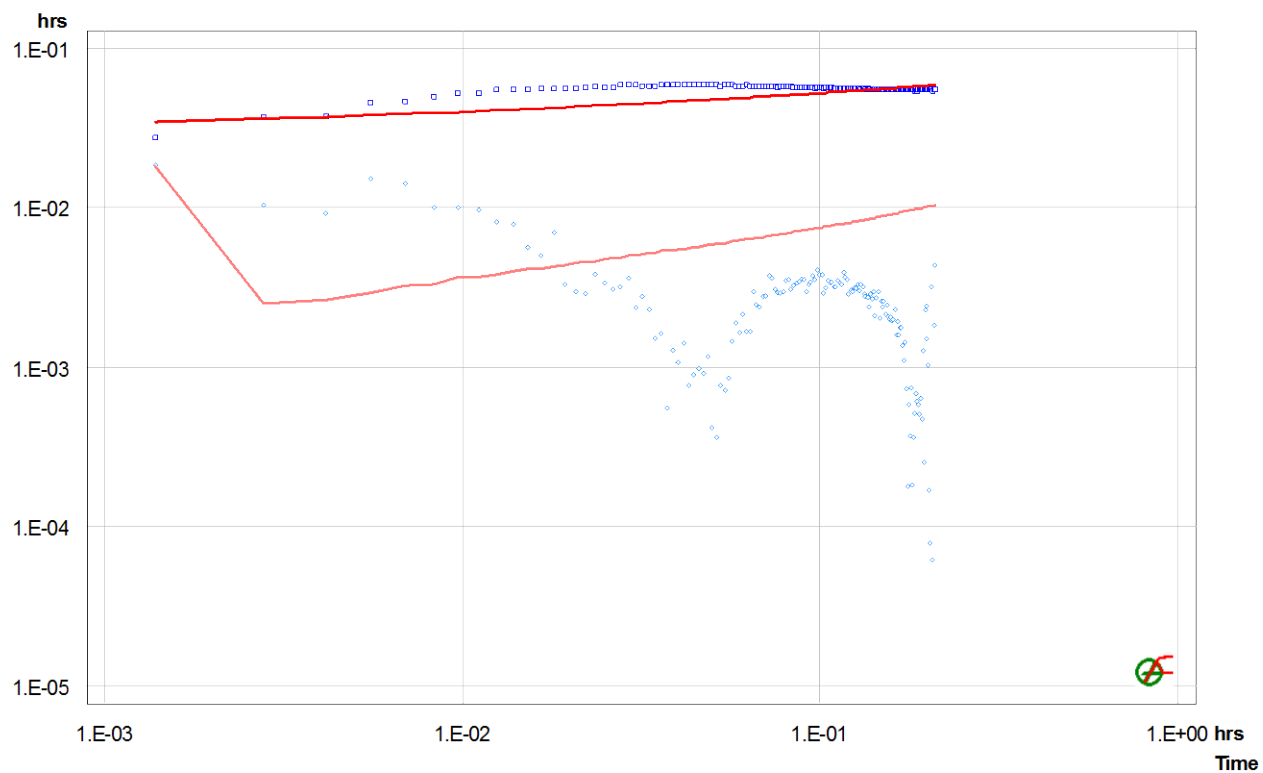


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 3
Test Date/Time
Interval top: 103.09 m bottom: 152.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 49.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 359.595 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	960.99			5.2e-07
SW-Init	dP-Event	0.40417	963.55	75.4 *		5.2e-07
SW	Slug	0.40583	888.19	963.5		5.2e-07
COM	Variable Pressure	0.71667	959.20			5.2e-07
RI-1	Constant Rate	1.38833	964.61		-1.12e+01	2.3e-08
RI-2	Constant Rate	1.55083	1416.06		-5.90e+00	2.3e-08
DEF	Variable Pressure	2.07583	1222.29			5.2e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 962.70 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	9.1e-06	9.7e-05	5.03	2.0
Shell 2	1.0e-02	9.7e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	9.8e-05	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0
COM	9.8e-05	0.0
RI-1	6.0e-07	0.0
RI-2	6.0e-07	0.0
DEF	9.8e-05	0.0

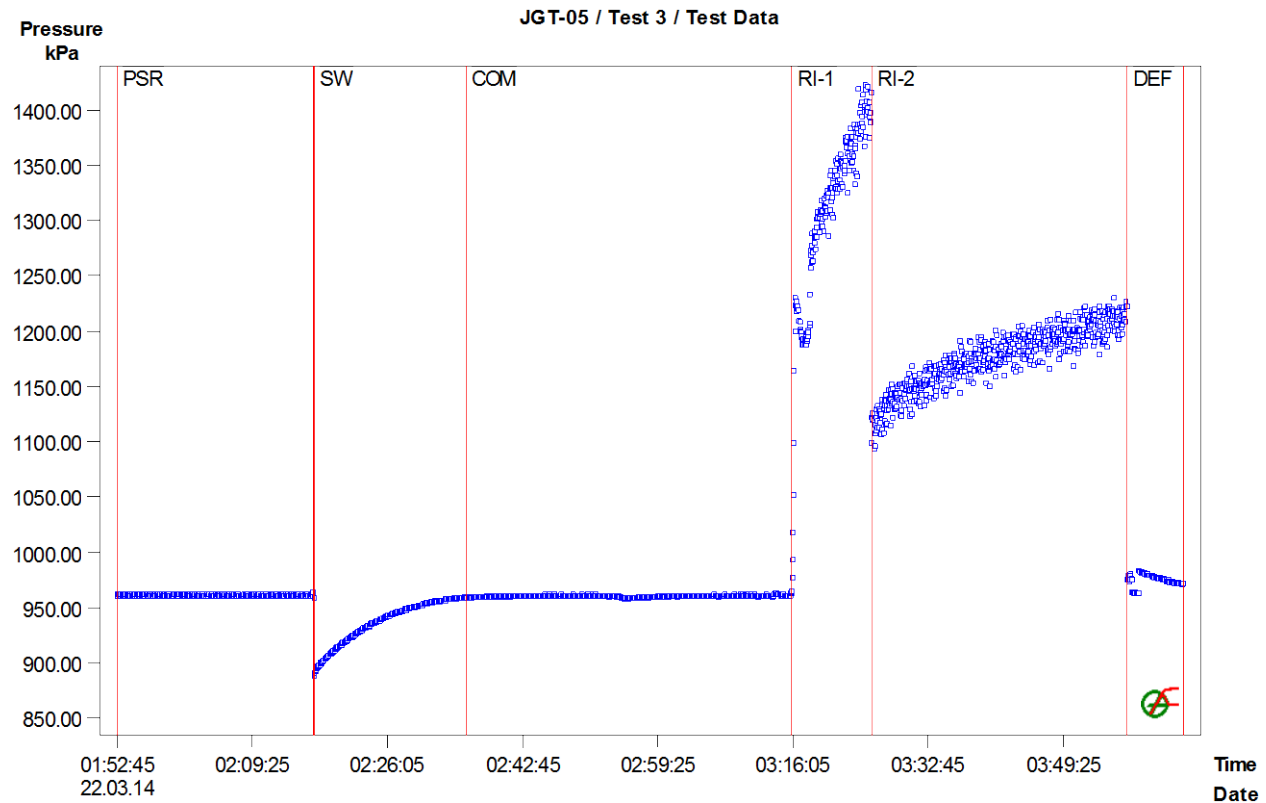


Figure 1: Pressure response and sequence definition

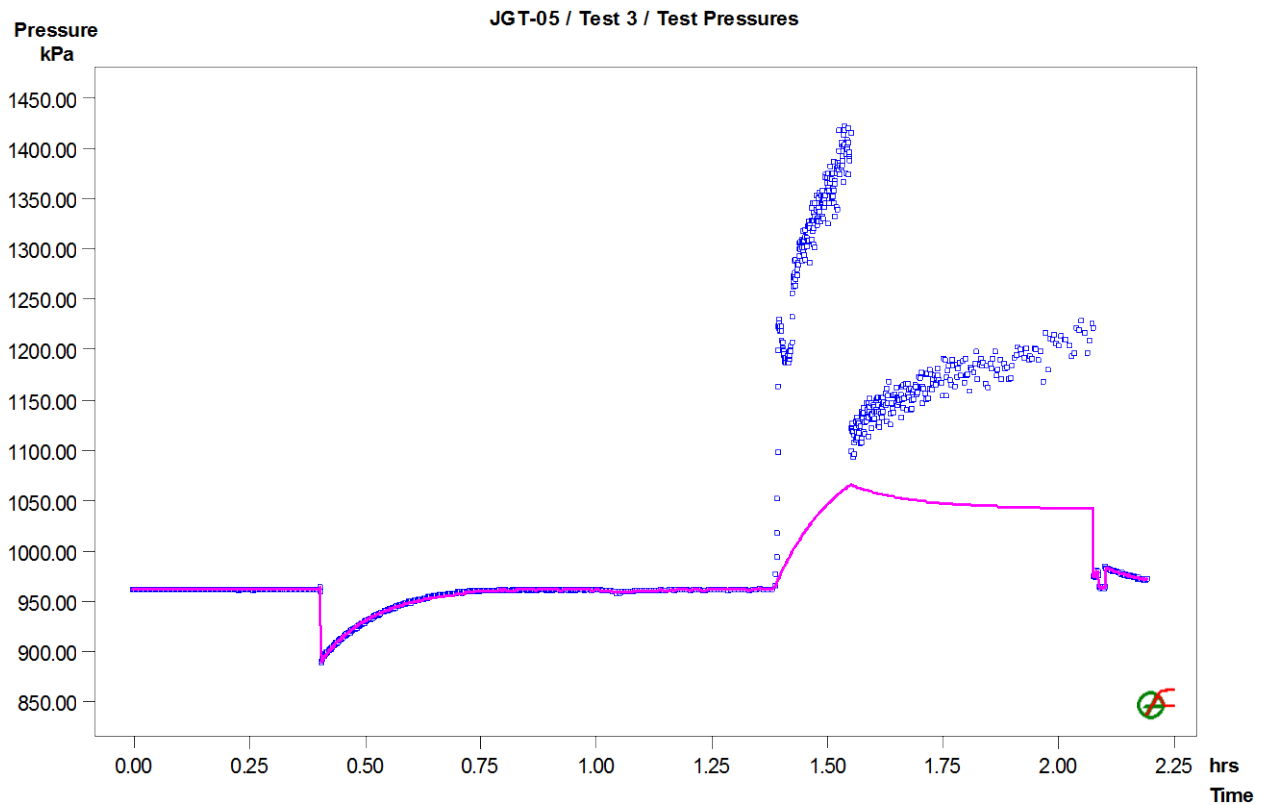


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

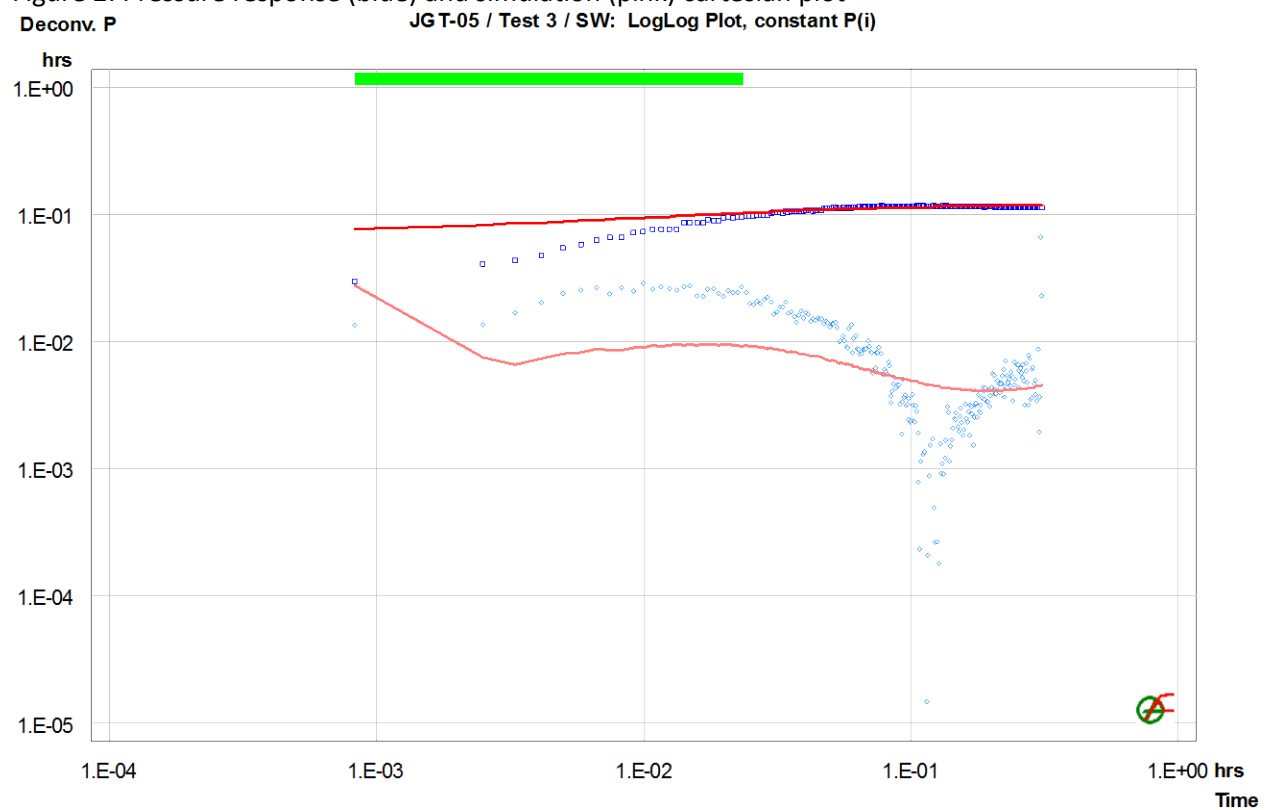


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 4
Test Date/Time
Interval top: 151.09 m bottom: 200.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 49.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 359.595 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1510.34			5.2e-07
PSR	Recovery	0.44861	1512.48			5.2e-07
SW-Init	dP-Event	1.05833	1509.97	157.0 *		5.2e-07
SW	Slug	1.06111	1352.96	1510.0		5.2e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 1505.50 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.3e-06	9.7e-05	6.00	2.0
Shell 2	6.6e-05	9.7e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	7.8e-07	0.0
PSR	7.8e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0

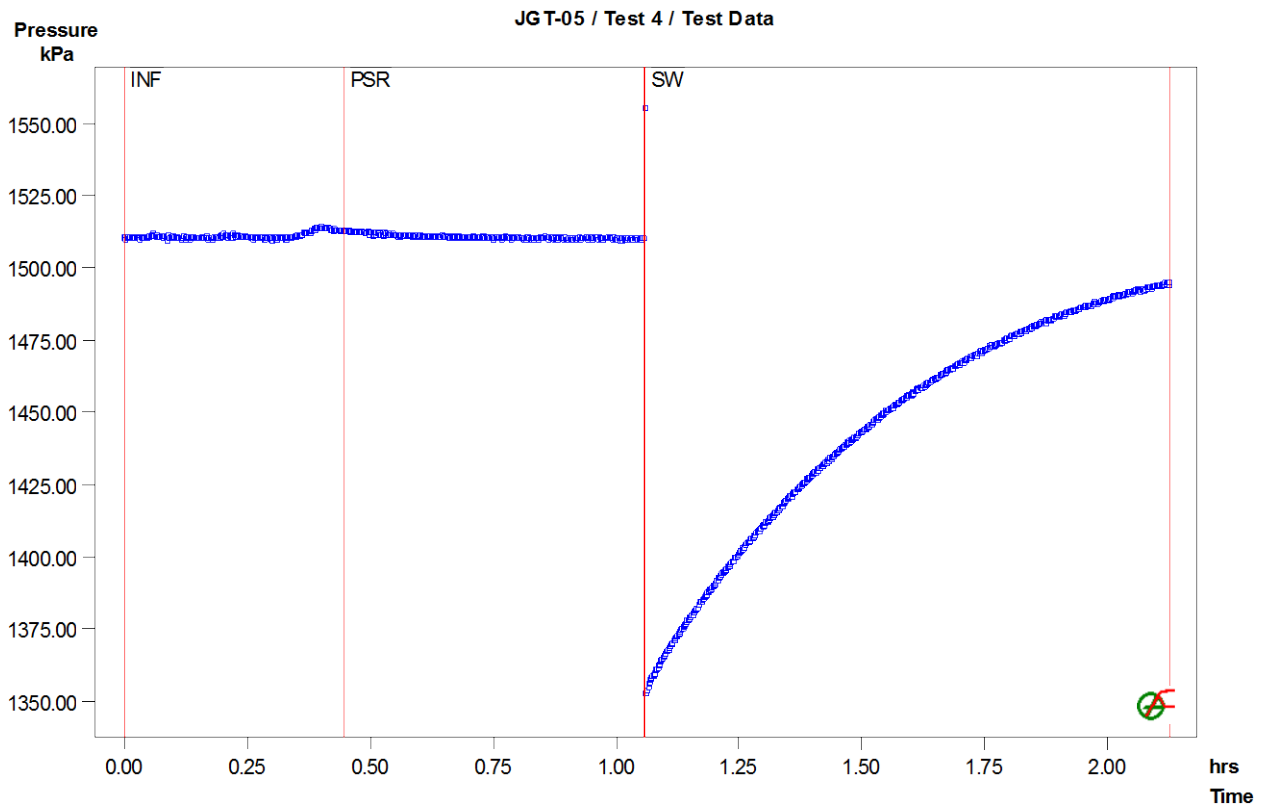


Figure 1: Pressure response and sequence definition

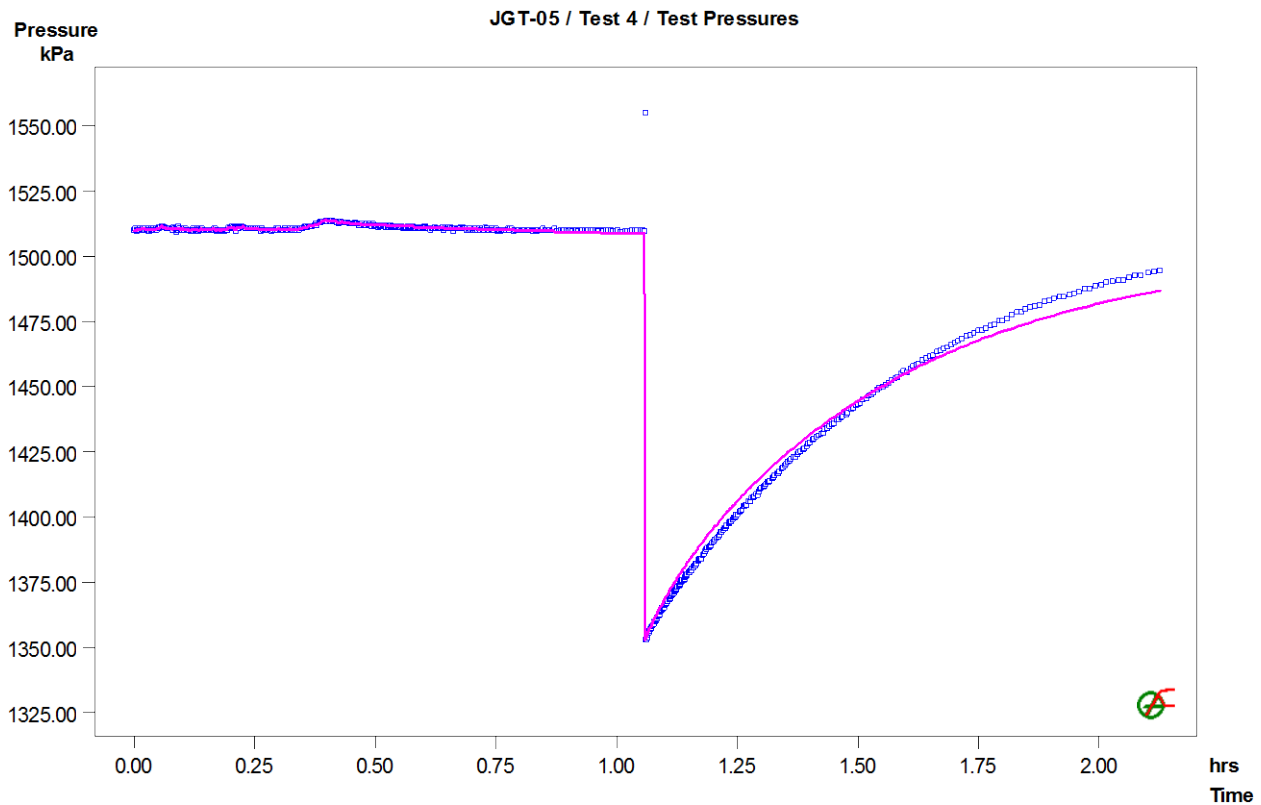


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-05 / Test 4 / SW: LogLog Plot, variable P(i)

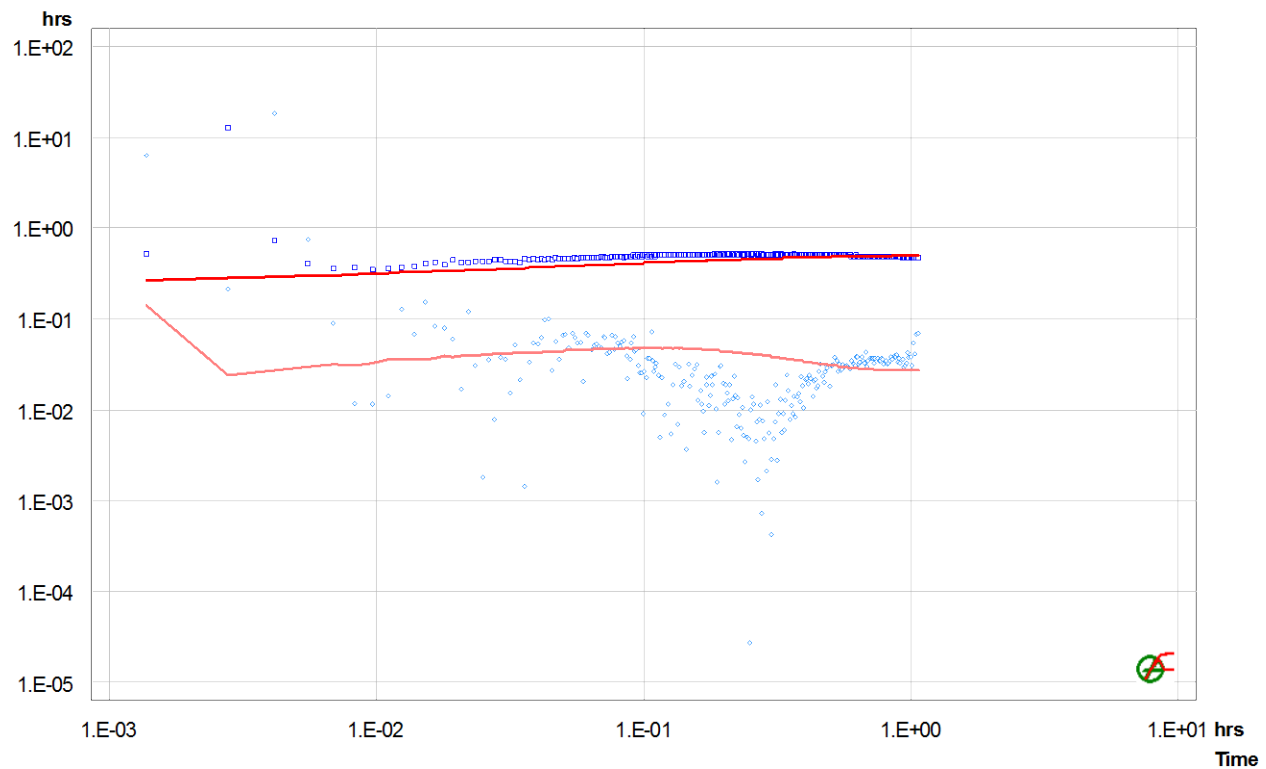


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 5
Test Date/Time
Interval top: 199.09 m bottom: 275.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 76.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 555.027 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1854.11			5.2e-07
PSR	Recovery	0.48194	1859.89			5.2e-07
SW-Init	dP-Event	1.47361	1857.49	88.2 *		5.2e-07
SW	Slug	1.47917	1769.31	1857.5		5.2e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 1856.88 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.3e-08	1.5e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	7.8e-07	0.0
PSR	7.8e-07	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0

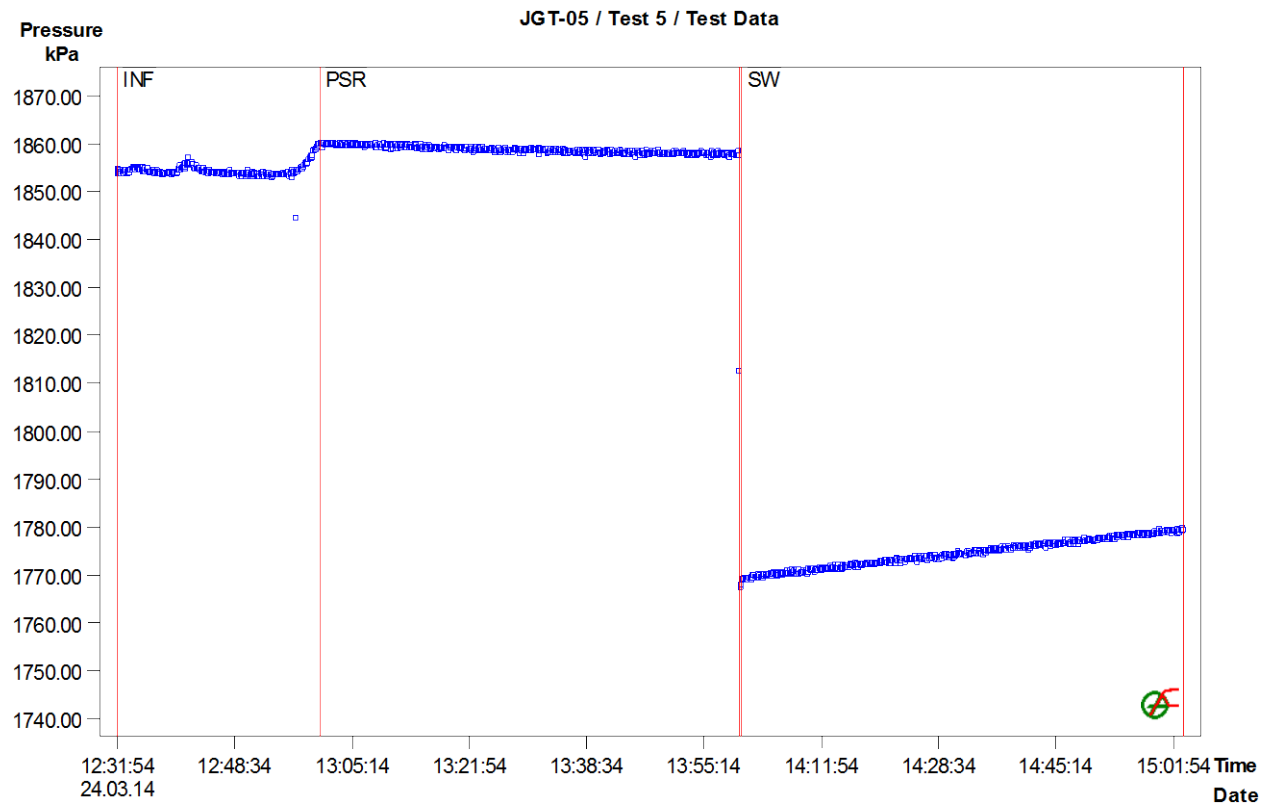


Figure 1: Pressure response and sequence definition

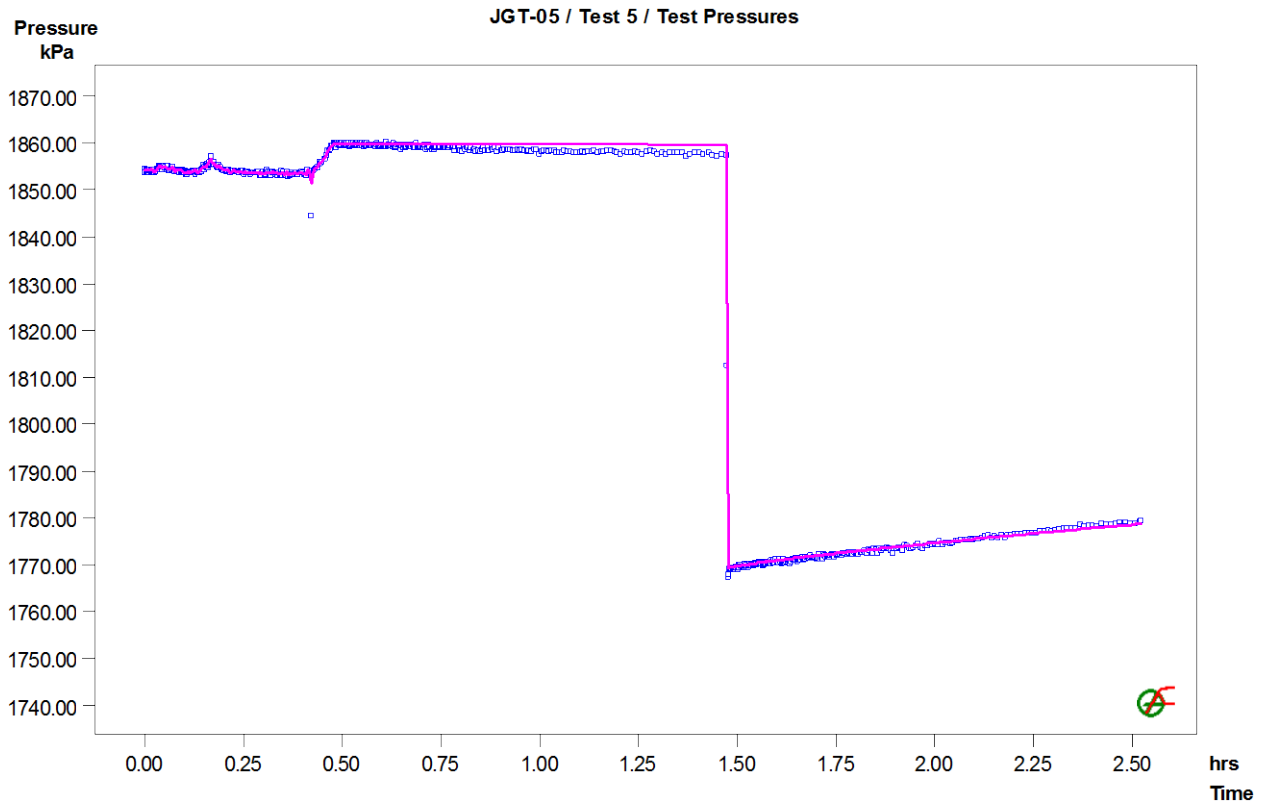


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-05 / Test 5 / SW: LogLog Plot, variable P(i)

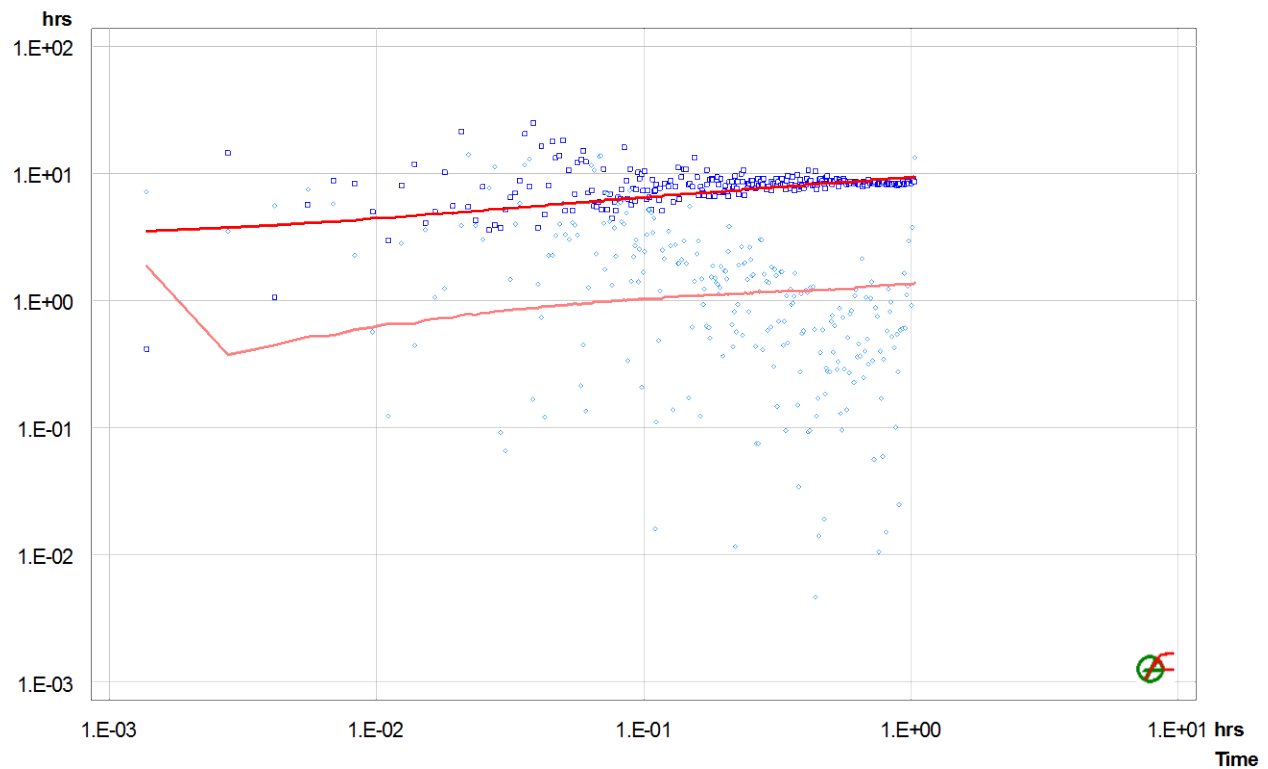


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 6
Test Date/Time
Interval top: 274.09 m bottom: 326.77 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 52.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 20.0 deg
Test Volume 381.310 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	2550.25			5.2e-07
PSR	Recovery	0.77222	2557.17			5.2e-07
SW-Init	dP-Event	0.95417	2557.68	116.7 *		5.2e-07
SW	Slug	0.96528	2440.94	2557.7		5.2e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 2565.26 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.1e-07	1.0e-04	0.20	2.0
Shell 2	5.4e-08	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.9e-08	0.0
PSR	5.9e-08	0.0
SW-Init	5.2e-07	0.0
SW	5.2e-07	0.0

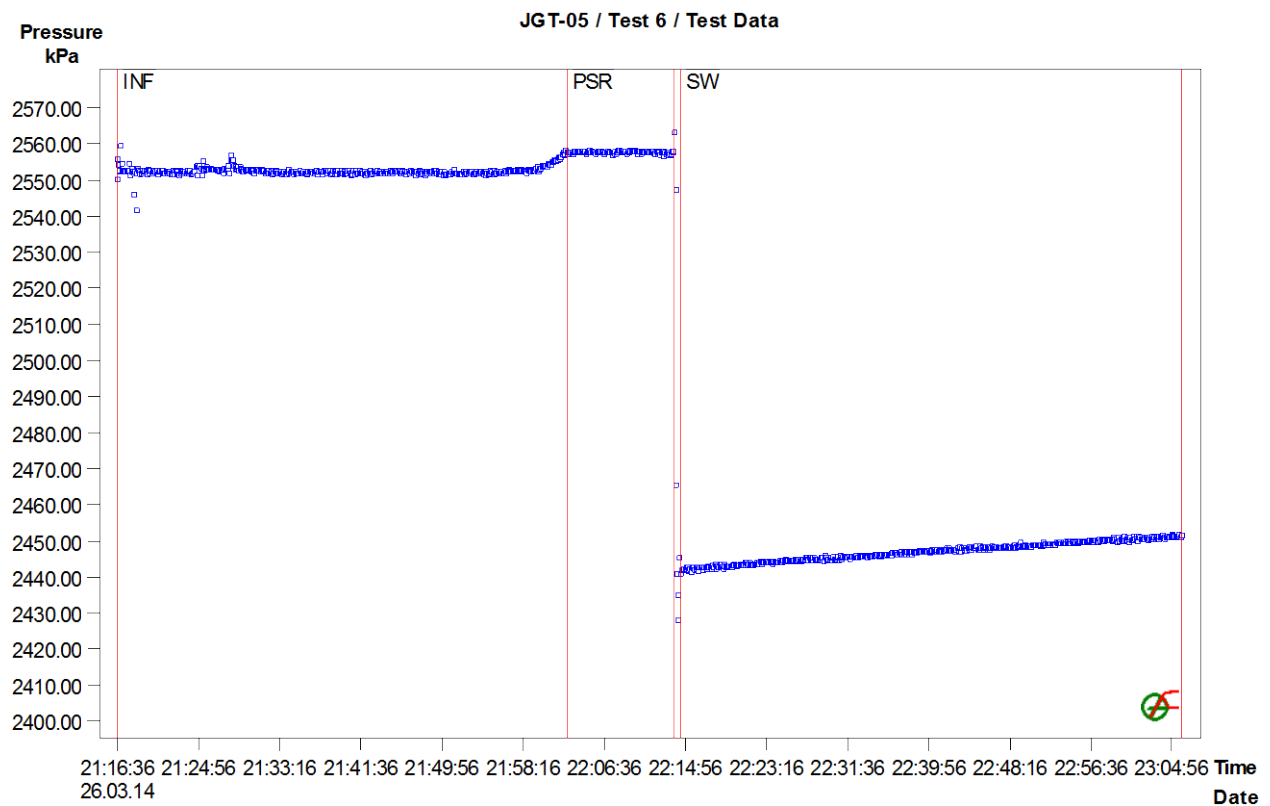


Figure 1: Pressure response and sequence definition

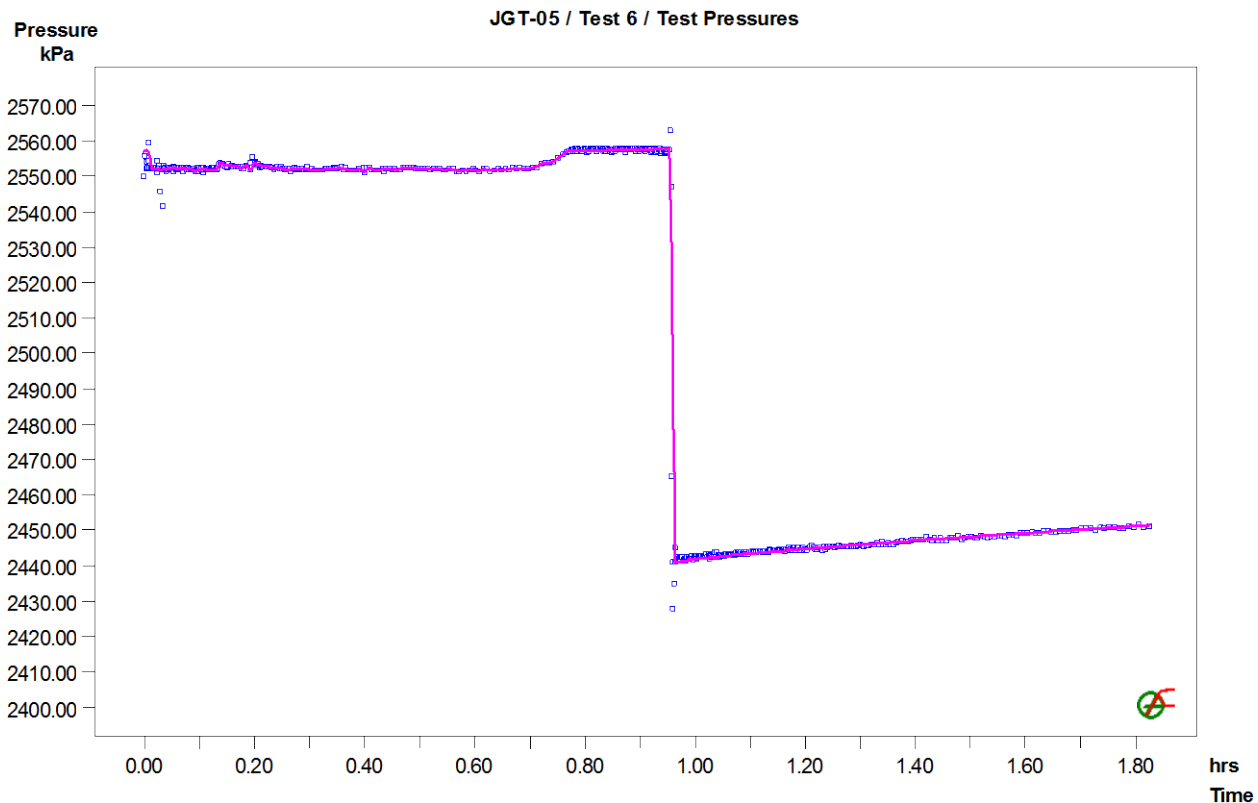


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-05 / Test 6 / SW: LogLog Plot, variable P(i)

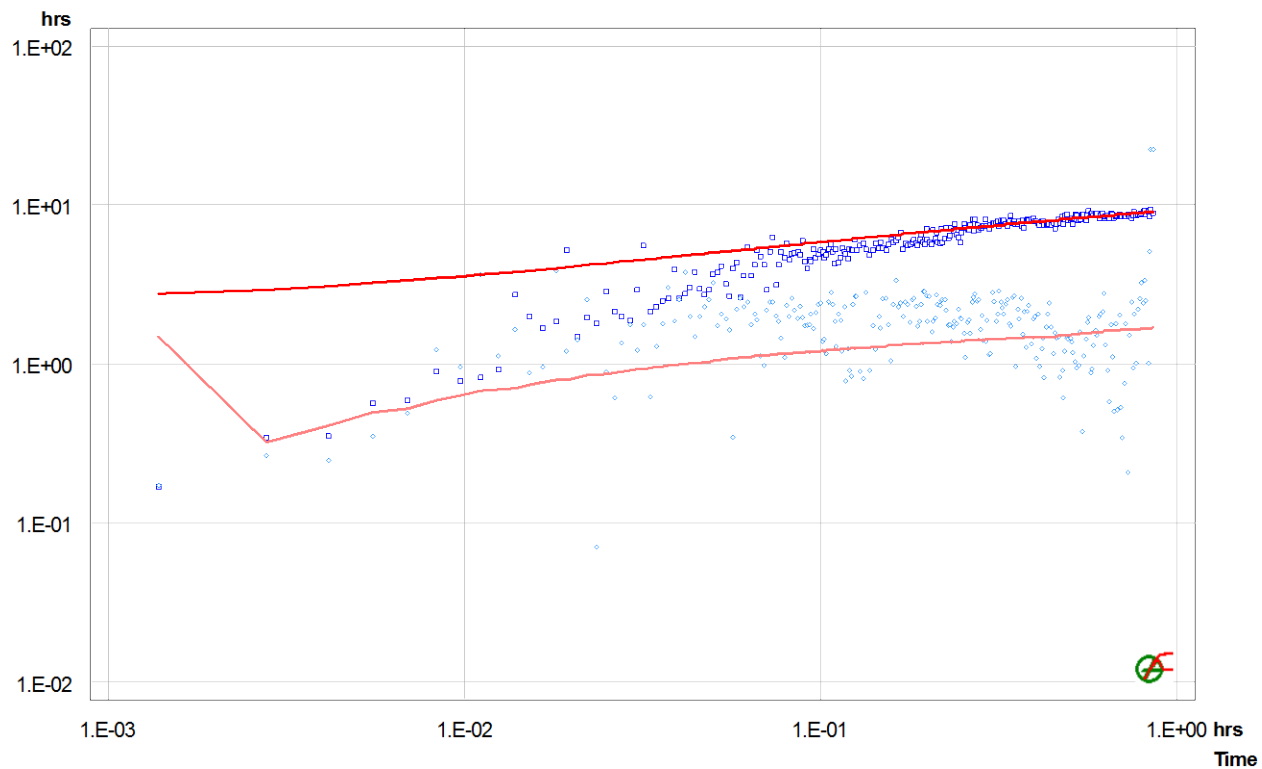


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-05
Test Name Test 7
Test Date/Time
Interval top: 436.09 m bottom: 452.77 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 16.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius
Inclination 20.0 deg
Test Volume 120.734 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	4169.12			3.9e-10
RI	Constant Rate	0.64444	4171.15		-8.00e+01	2.0e-05
RIR	Recovery	1.03472	4191.57			2.0e-05

Analysis Results

Analysis "RI-Final"

Static Pressure: 4170.08 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.0e-04	3.3e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.8e-05	0.0
RI	2.2e-05	0.0
RIR	2.2e-05	0.0

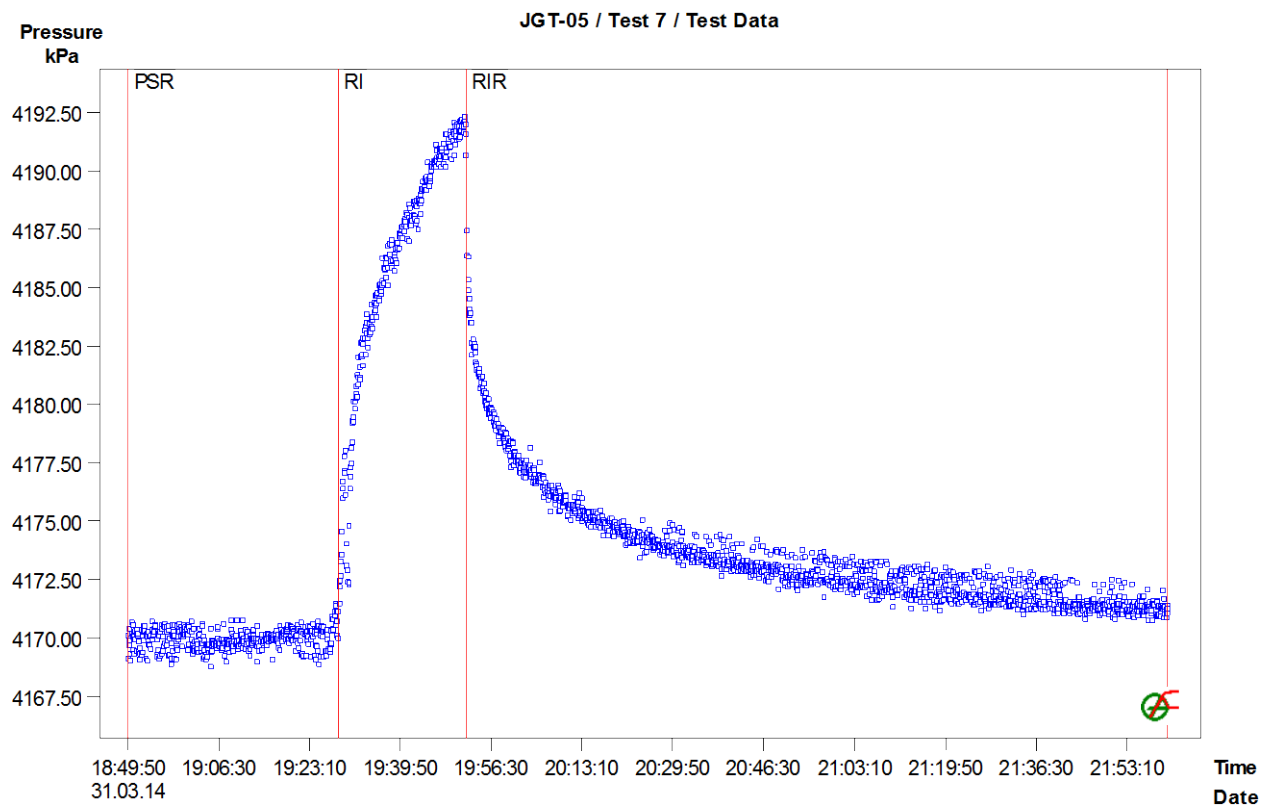


Figure 1: Pressure response and sequence definition

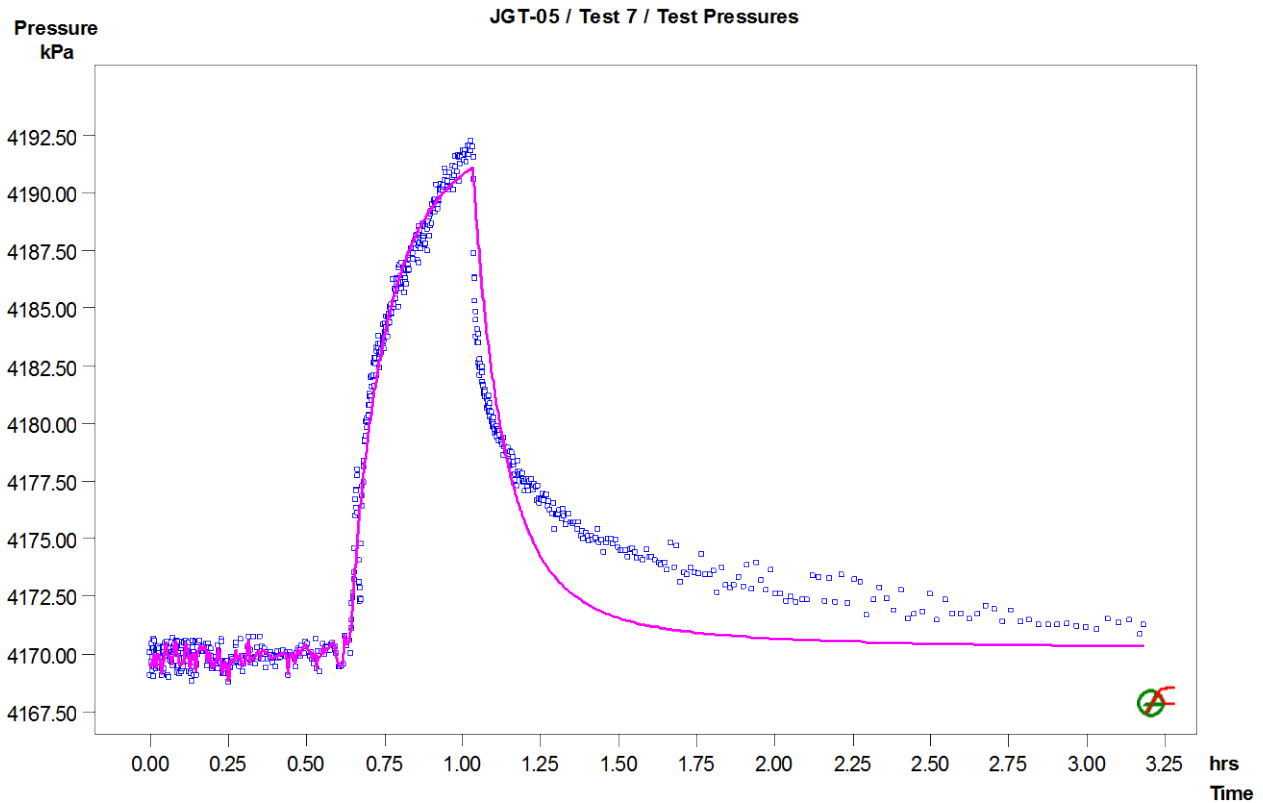


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

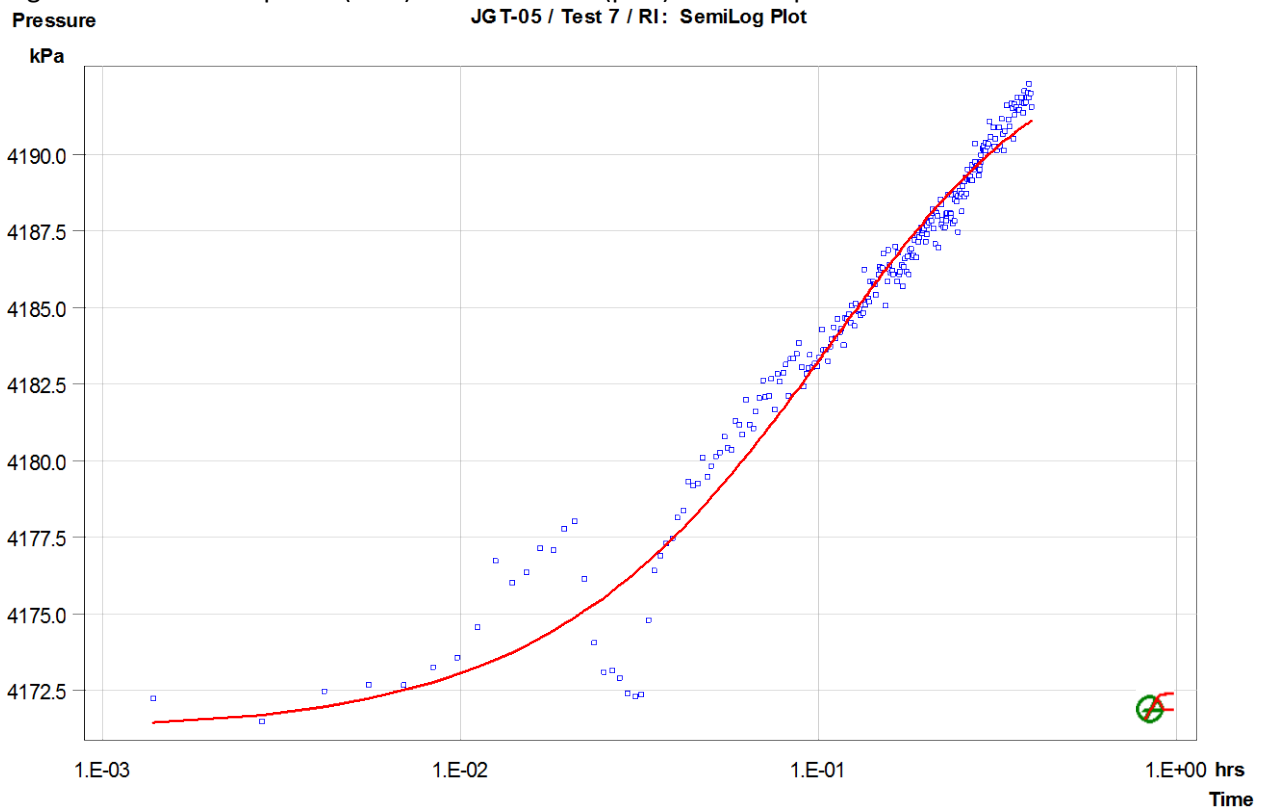


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

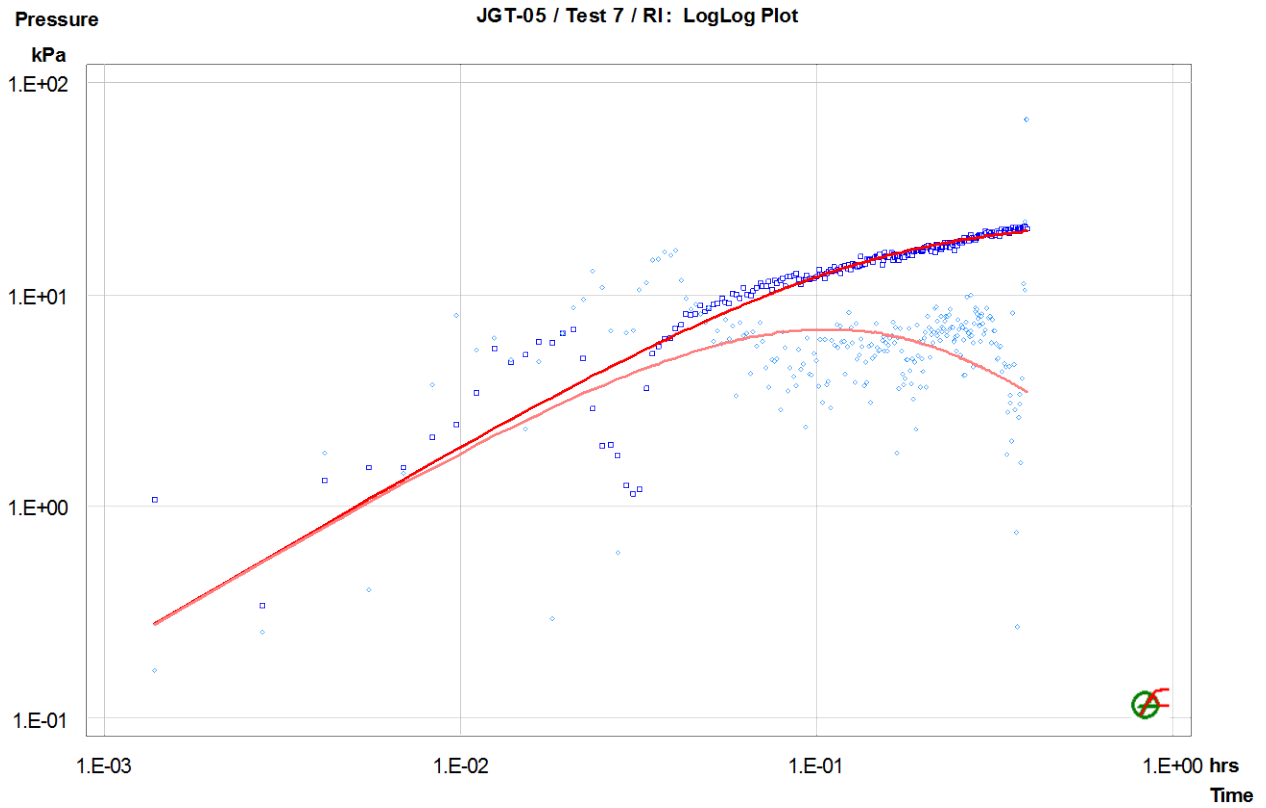


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 1
Test Date/Time
Interval top: 144.02 m bottom: 195.43 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 51.41 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 372.117 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1382.76			4.9e-07
PSR	Recovery	0.37083	1389.47			4.9e-07
SW-Init	dP-Event	0.74028	1389.31	103.6 *		4.9e-07
SW	Slug	0.75139	1285.76	1389.3		4.9e-07

Analysis Results

Analysis "SW- 2 shell -final"

Static Pressure: 1388.83 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.5e-07	1.0e-04	1.11	2.0
Shell 2	1.5e-06	1.0e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.0e-07	0.0
PSR	5.0e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

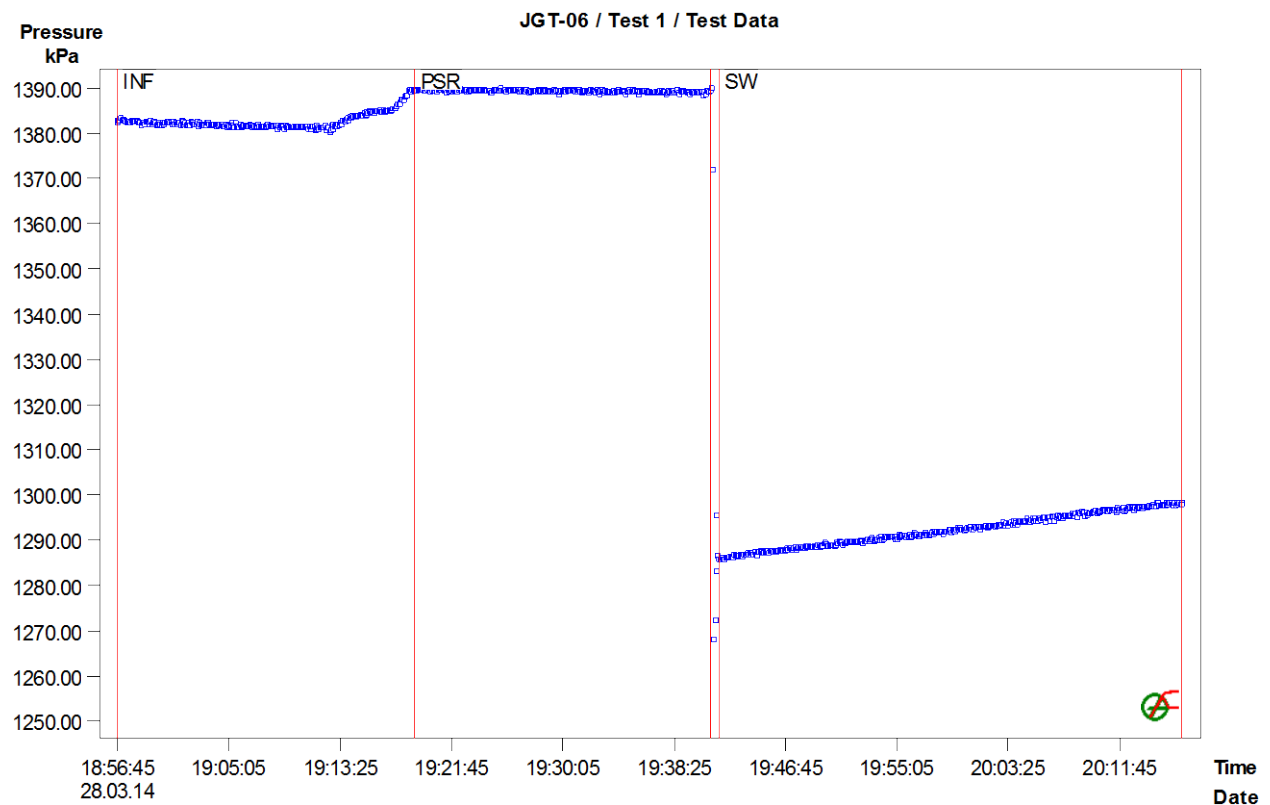


Figure 1: Pressure response and sequence definition

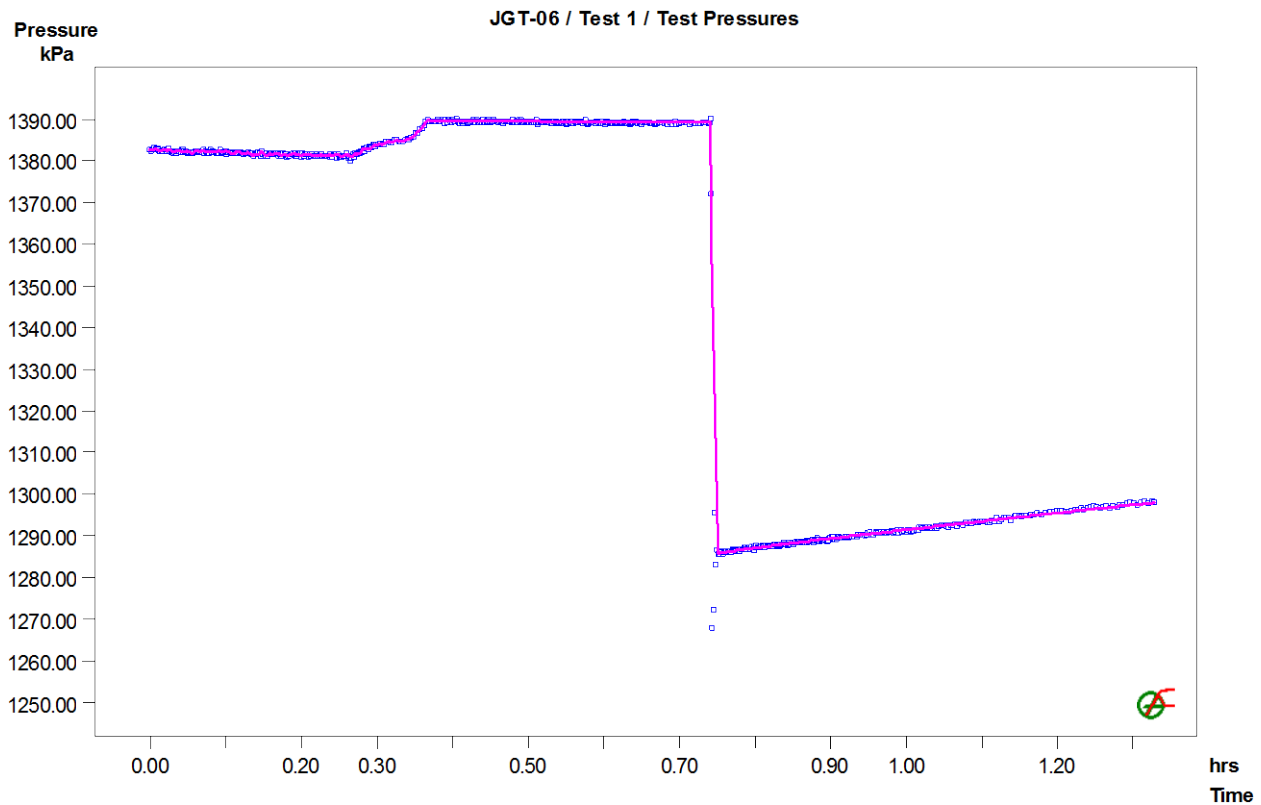


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 1 / SW: LogLog Plot, variable P(i)

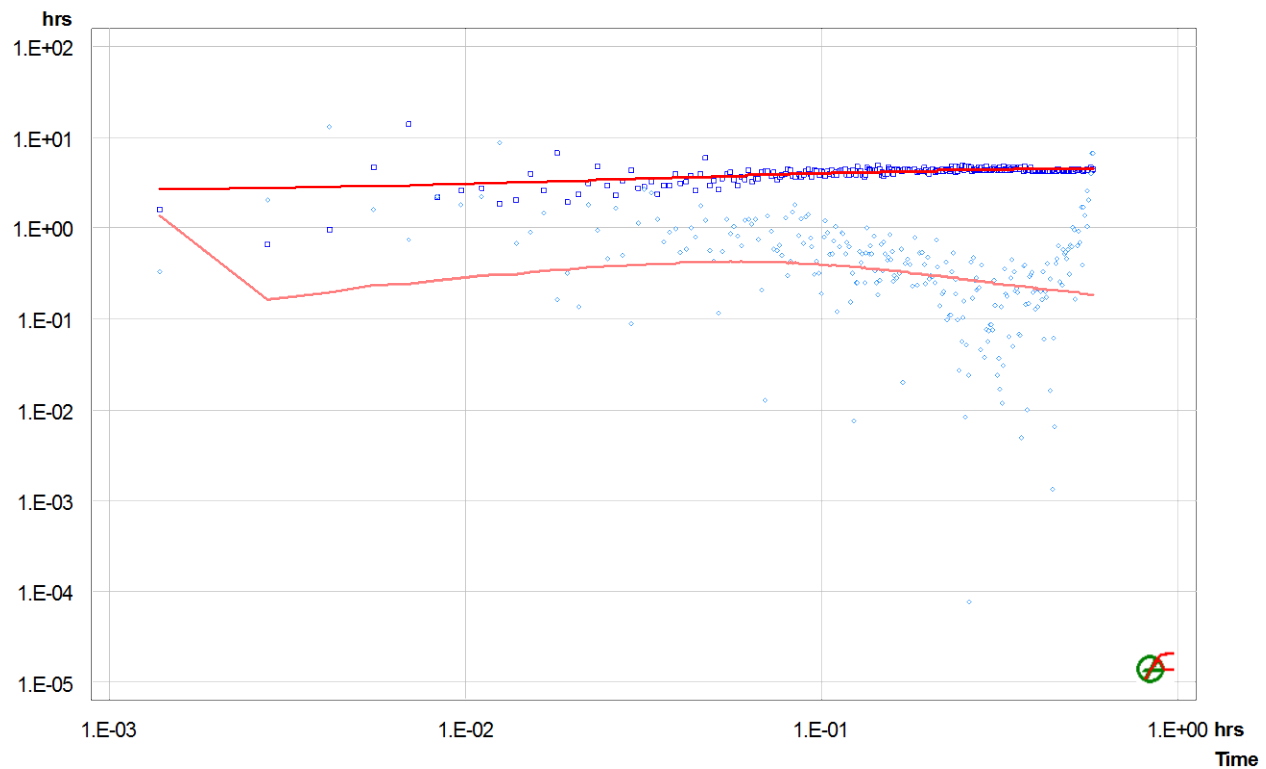


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 2
Test Date/Time
Interval top: 198.02 m bottom: 251.30 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 53.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 385.653 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	1894.14			4.9e-07
PSR	Recovery	0.39444	1898.11			4.9e-07
SW-Init	dP-Event	1.06389	1879.23	73.4 *		4.9e-07
SW	Slug	1.07361	1805.82	1879.2		4.9e-07

Analysis Results

Analysis "SW-2 shell"

Static Pressure: 1876.99 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.3e-06	1.0e-04	3.94	2.0
Shell 2	6.3e-05	1.0e-04	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	3.7e-07	0.0
PSR	3.7e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

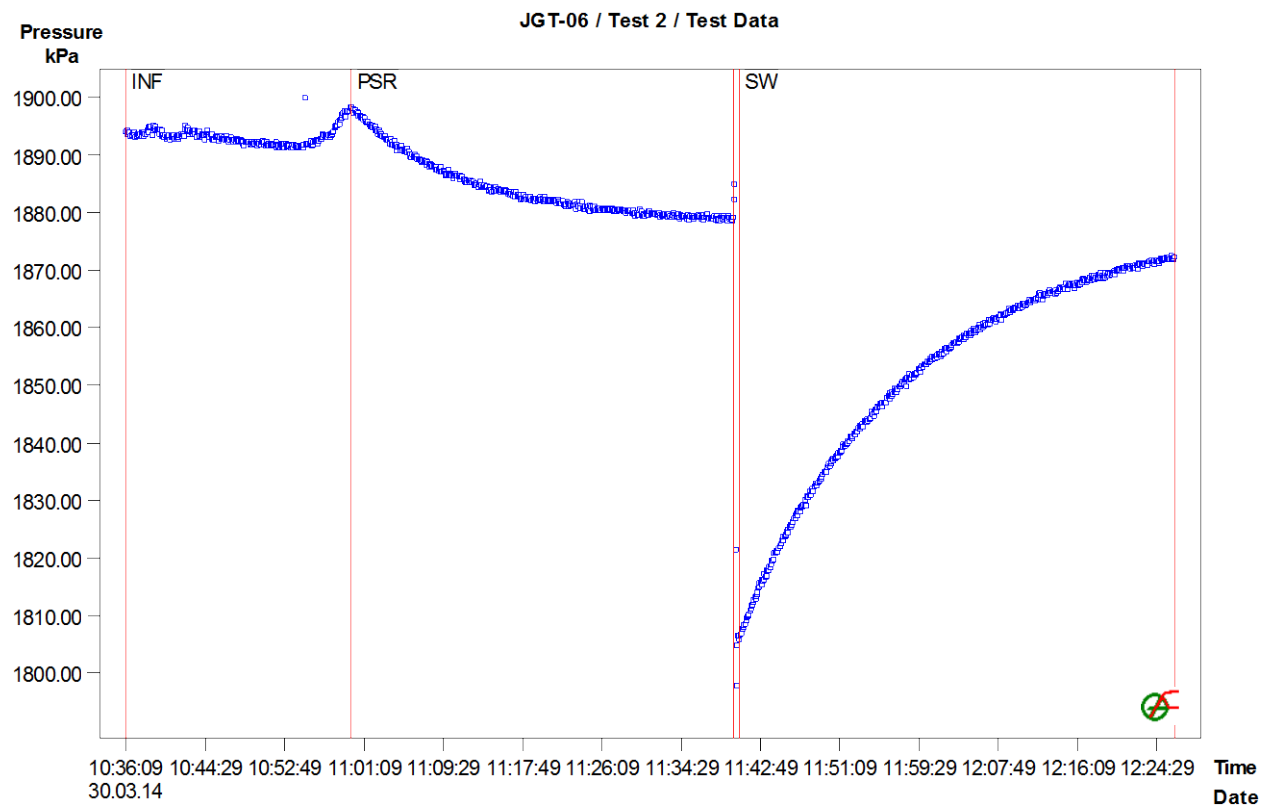


Figure 1: Pressure response and sequence definition

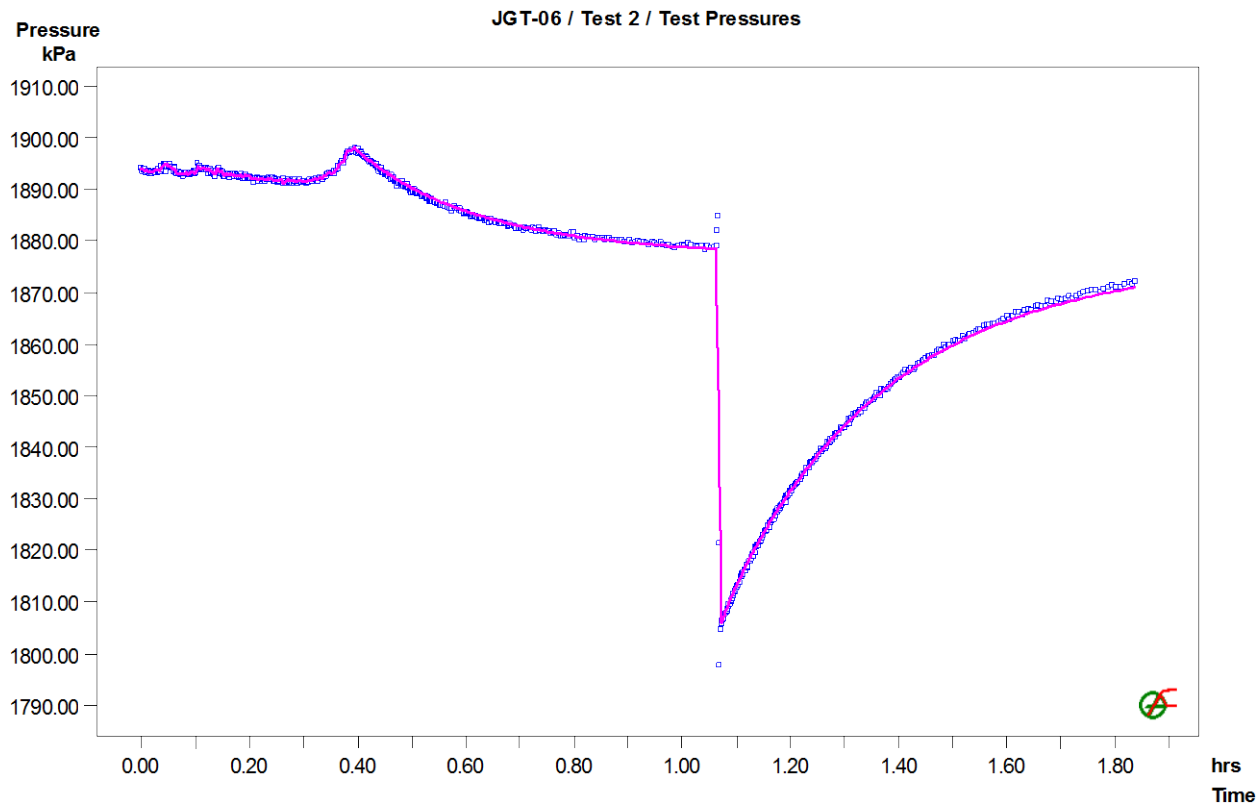


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 2 / SW: LogLog Plot, variable P(i)

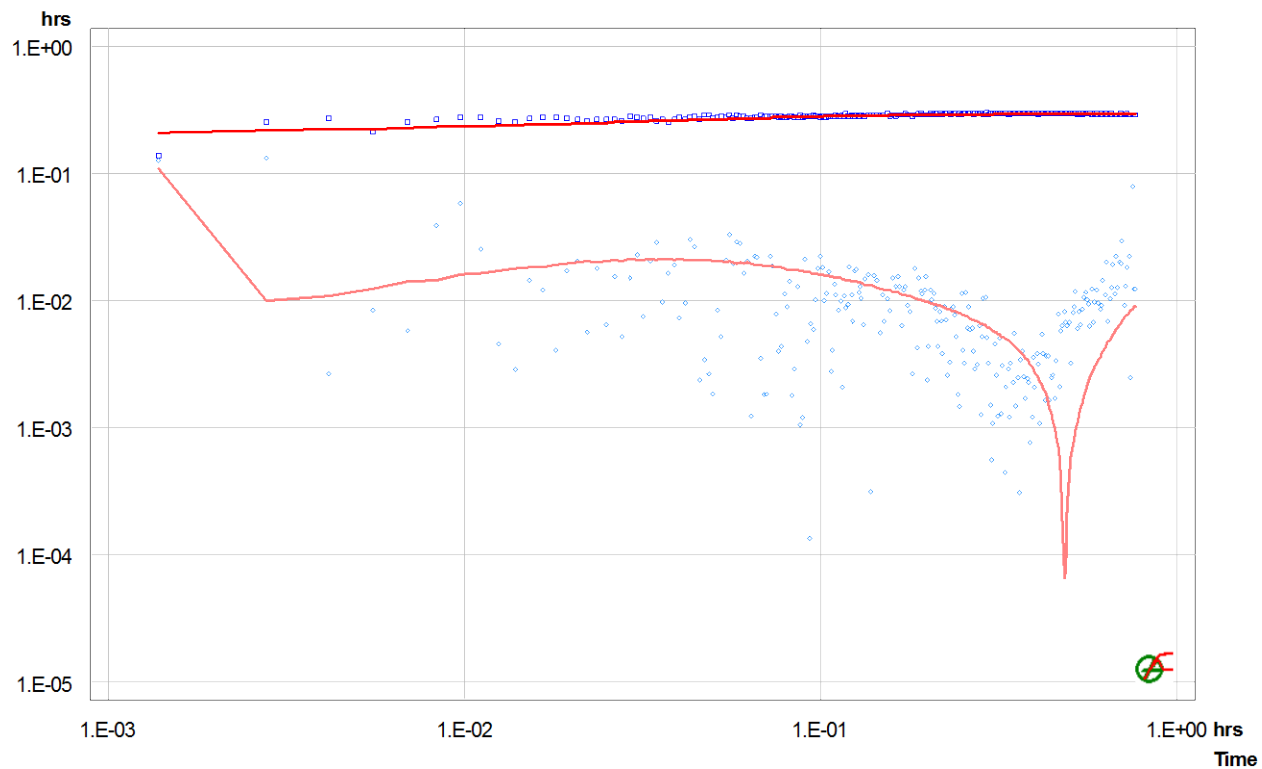


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 3
Test Date/Time
Interval top: 246.02 m bottom: 299.30 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 53.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 385.653 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	2361.94			4.9e-07
PSR	Recovery	0.54167	2366.22			4.9e-07
SW-Init	dP-Event	0.80278	2367.19	108.1 *		4.9e-07
SW	Slug	0.82083	2259.13	2367.2		4.9e-07

Analysis Results

Analysis "SW"

Static Pressure: 2366.96 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.4e-09	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	3.4e-05	0.0
PSR	3.4e-05	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

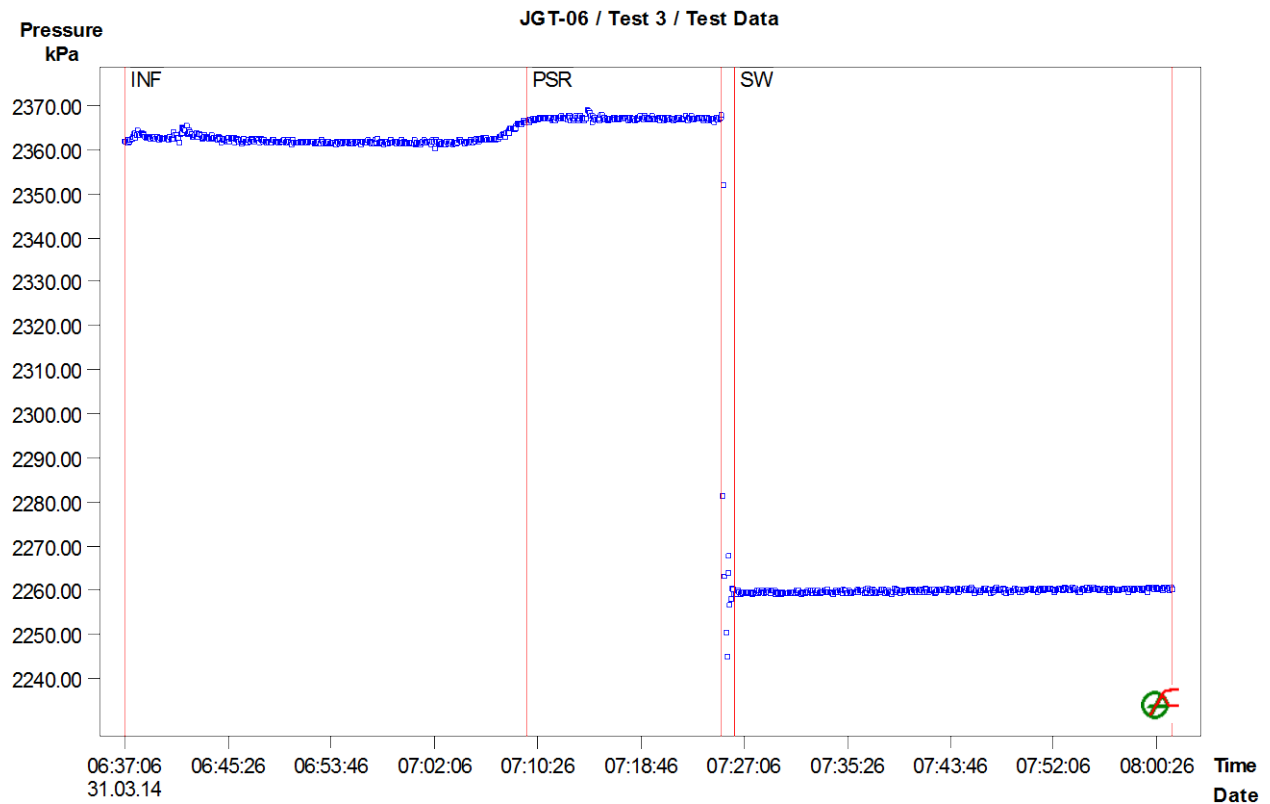


Figure 1: Pressure response and sequence definition

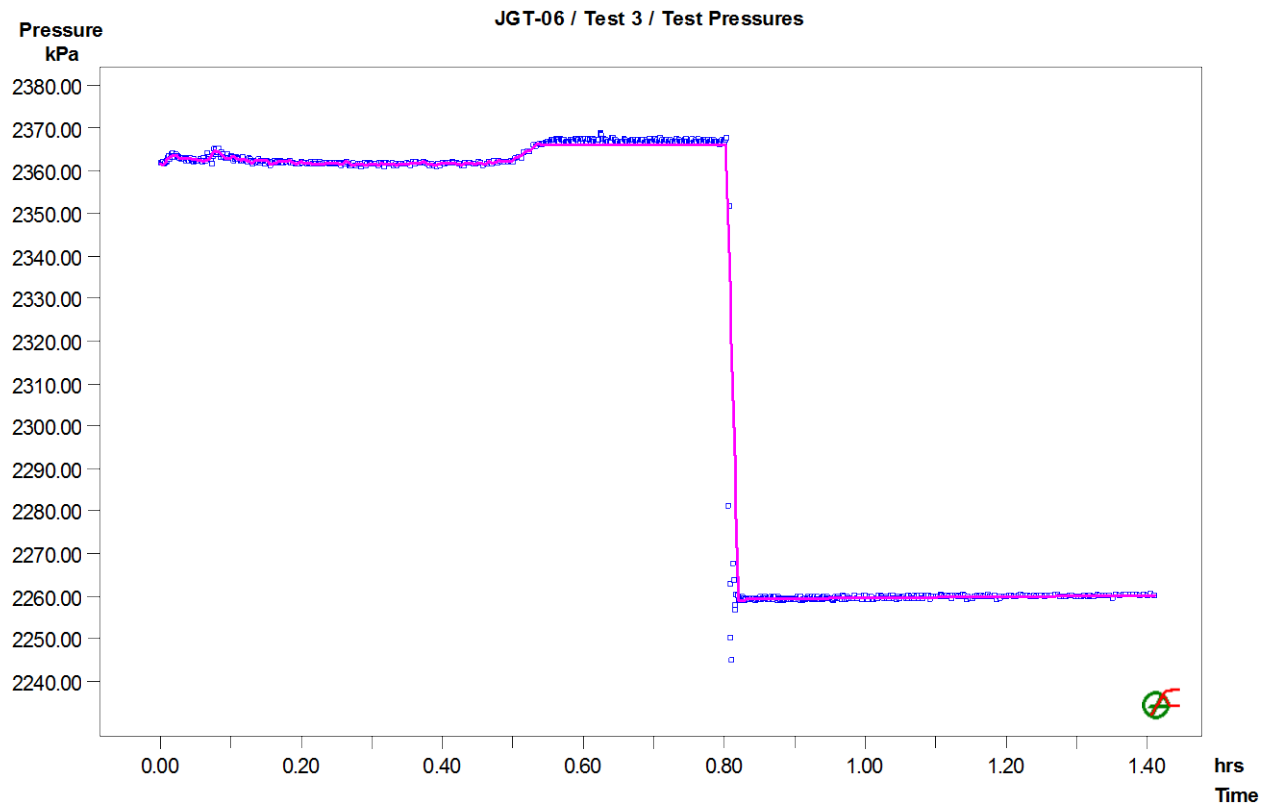


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 3 / SW: LogLog Plot, variable P(i)

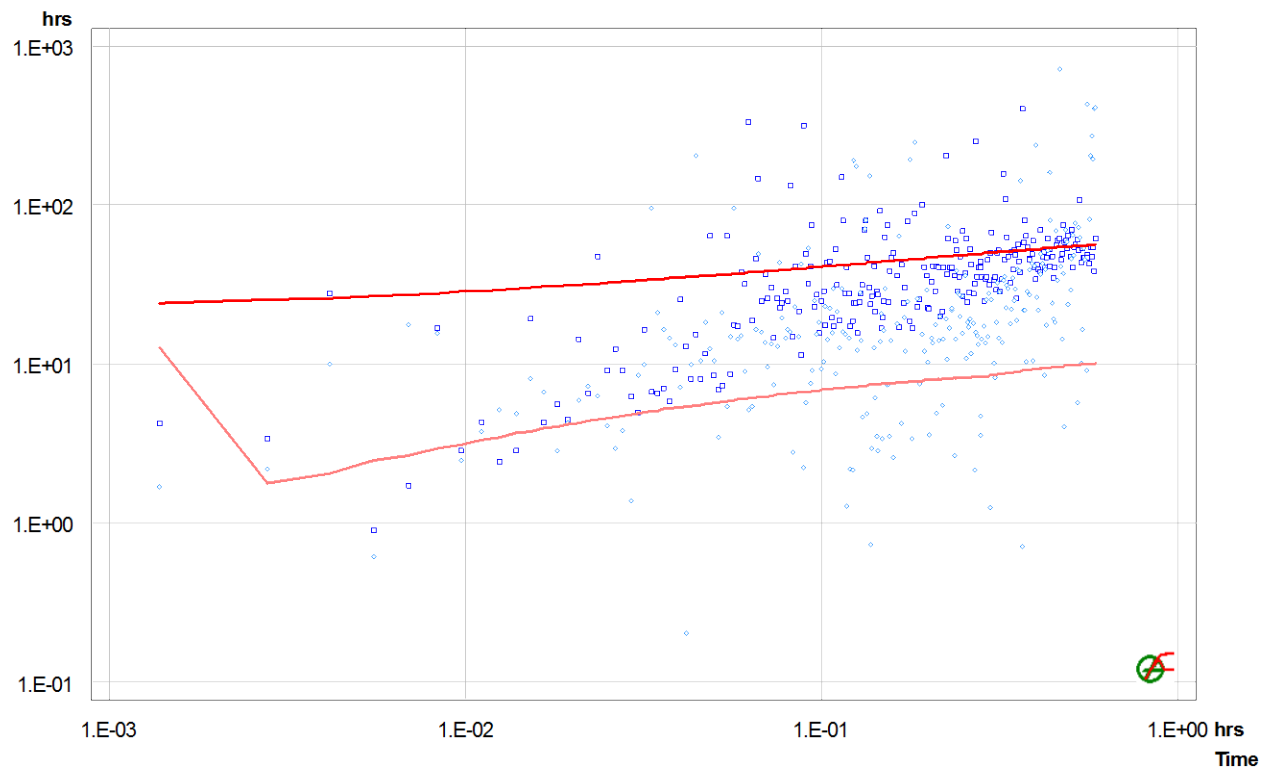


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 4
Test Date/Time
Interval top: 297.02 m bottom: 350.30 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 53.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 385.653 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	2851.68			4.9e-07
PSR	Recovery	0.58333	2859.86			4.9e-07
SW-Init	dP-Event	1.50556	2846.69	131.3 *		4.9e-07
SW	Slug	1.51806	2715.36	2846.7		4.9e-07

Analysis Results

Analysis "SW"

Static Pressure: 2841.95 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.4e-07	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.9e-07	0.0
PSR	1.9e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0

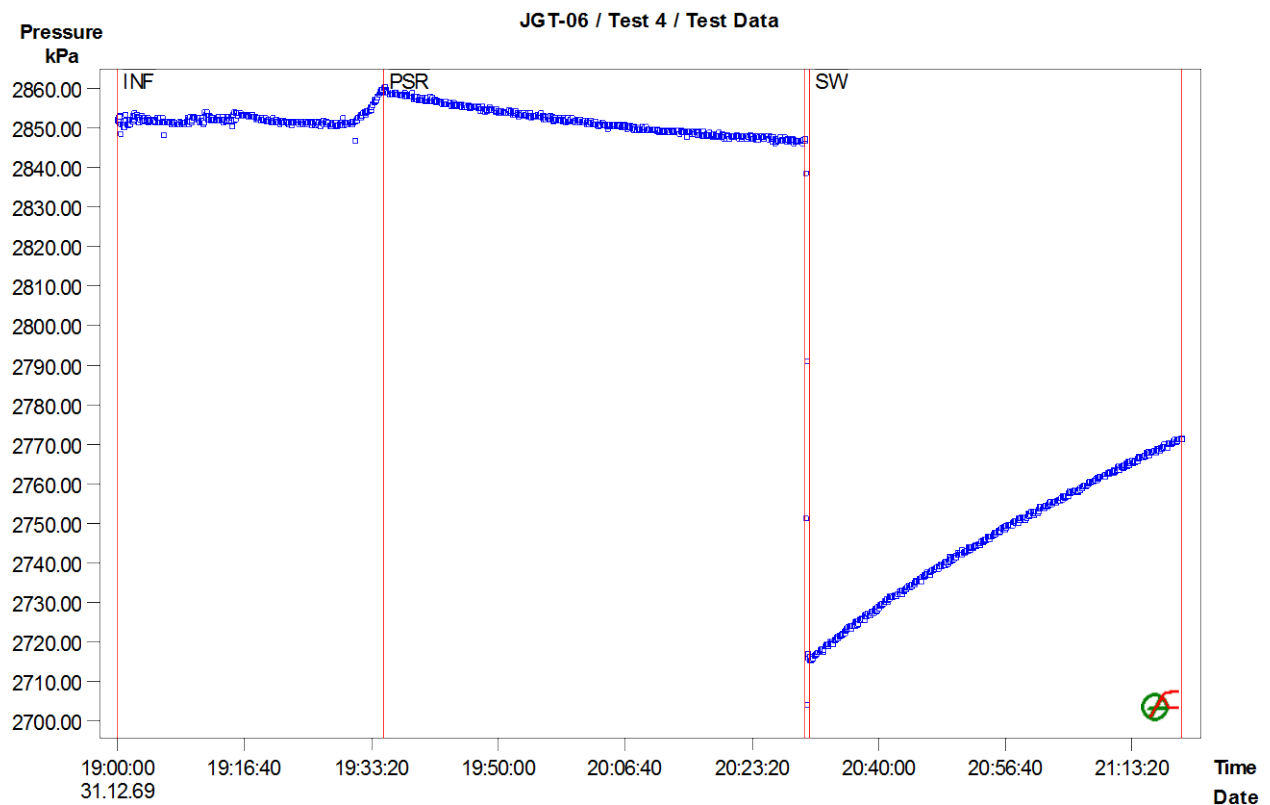


Figure 1: Pressure response and sequence definition

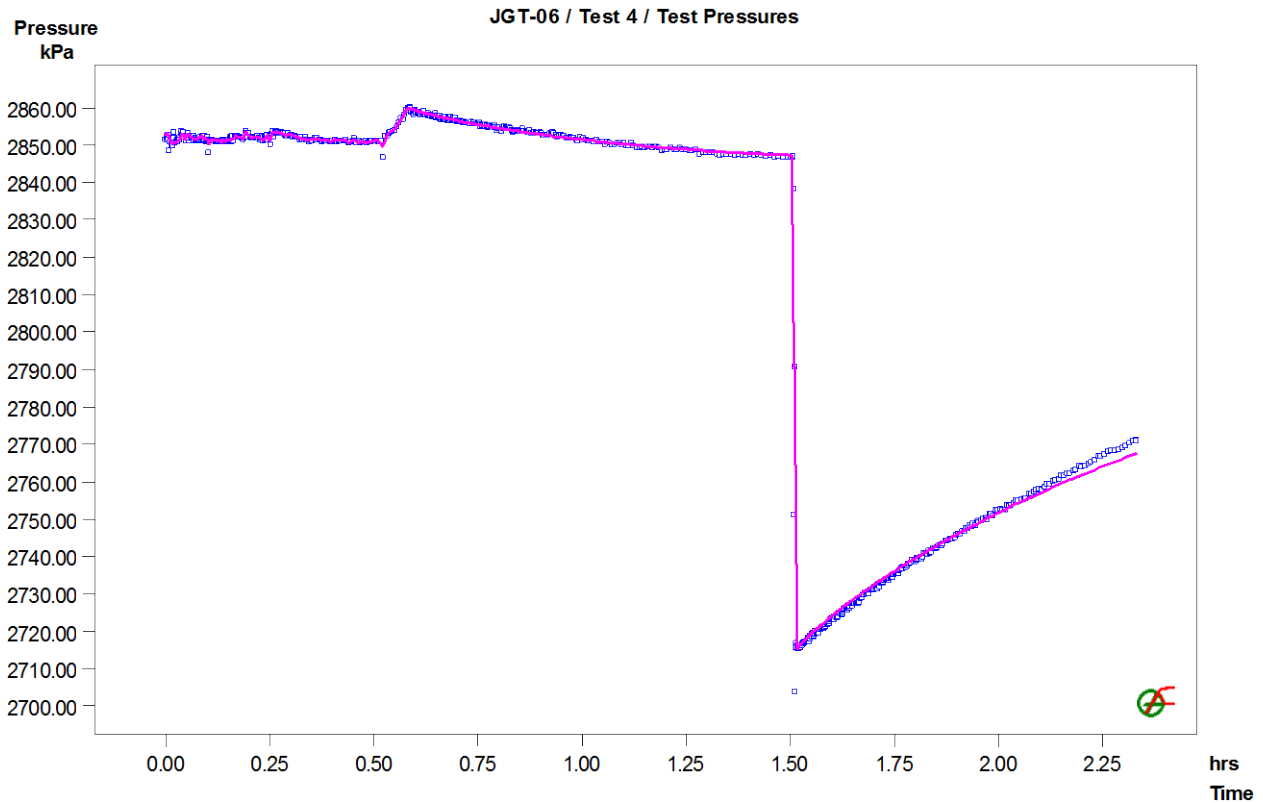


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 4 / SW: LogLog Plot, variable P(i)

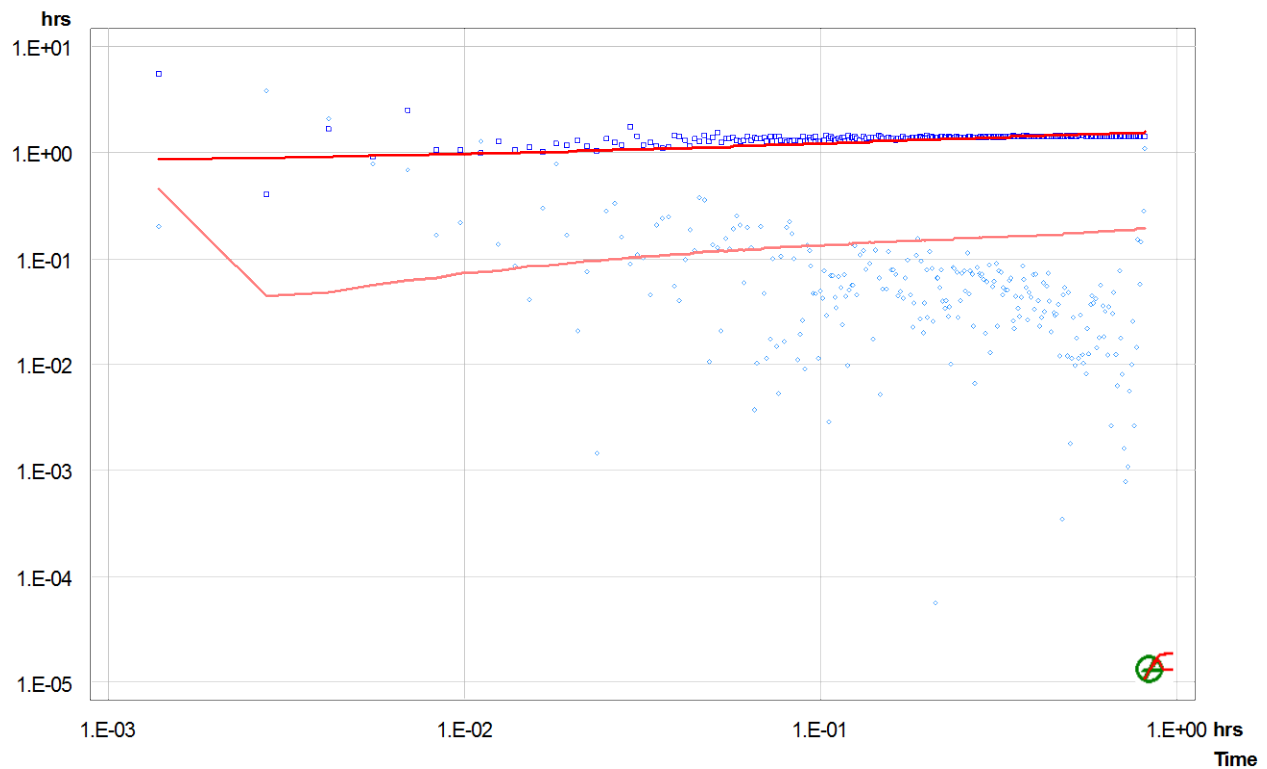


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 5
Test Date/Time
Interval top: 348.02 m bottom: 380.30 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 32.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 233.650 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.50	3321.46			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	3321.46			4.9e-07
SW-Init	dP-Event	1.31806	3319.70	26.3 *		4.9e-07
SW	Slug	1.32361	3293.39	3319.7		4.9e-07
COM	Variable Pressure	1.58333	3318.76			4.9e-07
RI	Constant Rate	2.26667	3320.27		-2.00e+00	5.3e-07
RI-2	Variable Pressure	2.28889	3327.22			5.3e-07
RIR	Recovery	2.51806	3370.18			5.3e-07

Analysis Results

Analysis "SW final"

Static Pressure: 3319.87 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.8e-04	6.3e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	3.8e-05	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0
COM	3.8e-05	0.0
RI	1.0e-06	0.0
RI-2	1.0e-06	0.0
RIR	1.0e-06	0.0

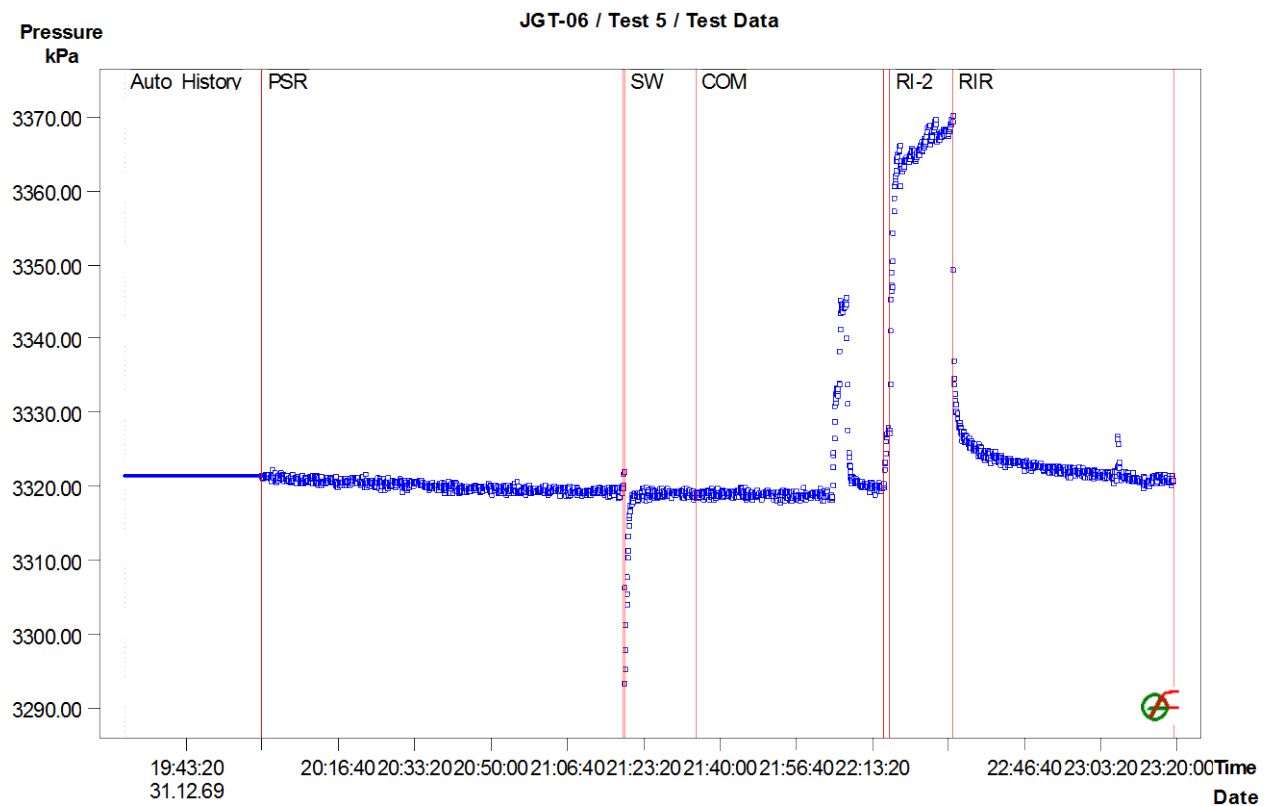


Figure 1: Pressure response and sequence definition

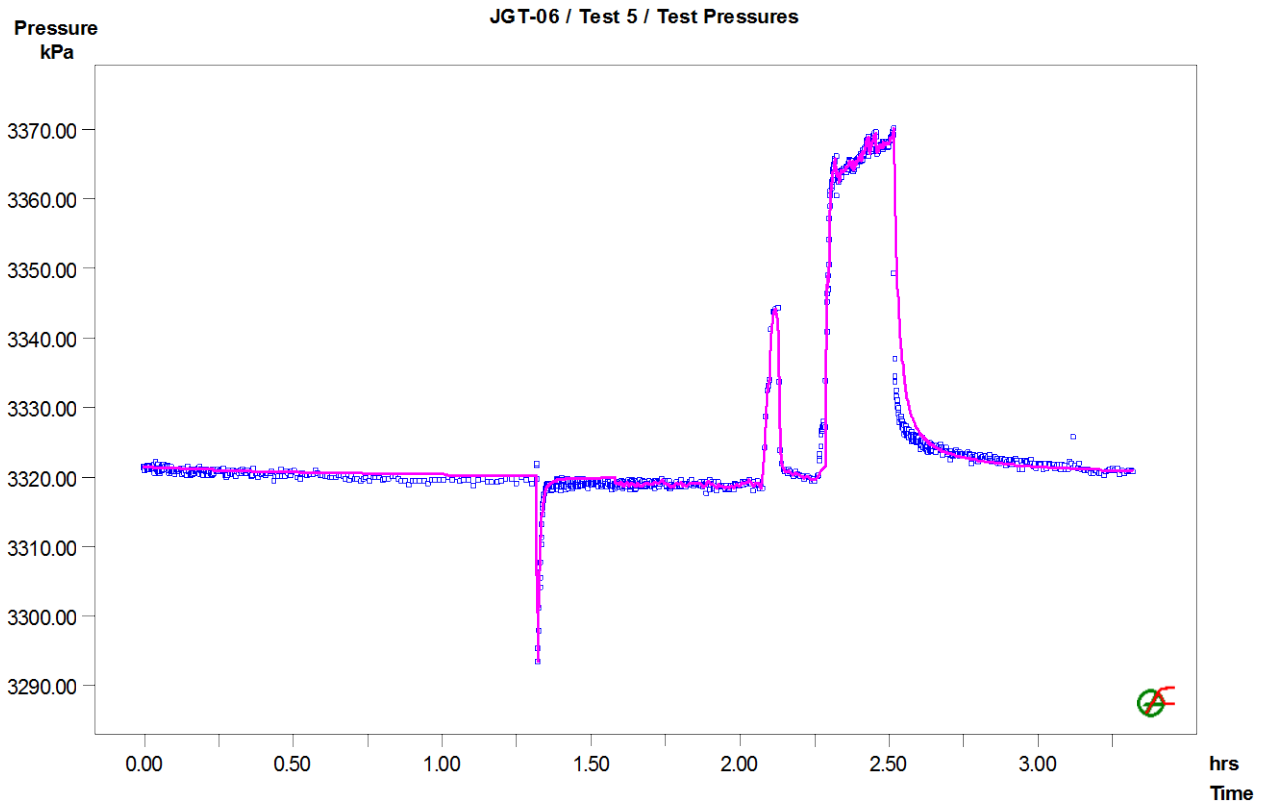


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 5 / SW: LogLog Plot, variable P(i)

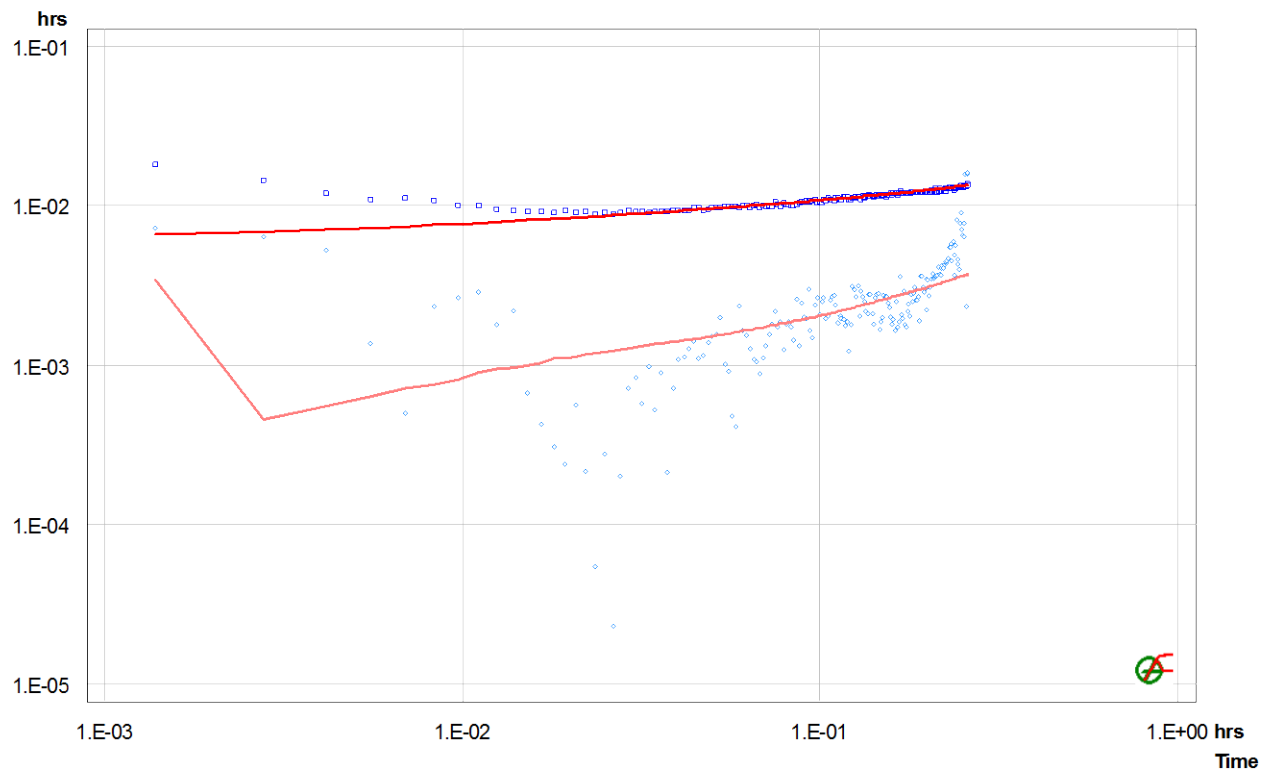


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 6
Test Date/Time
Interval top: 345.02 m bottom: 398.30 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 53.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 385.653 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.50	3299.44			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	3299.44			4.9e-07
SW-Init-1	dP-Event	1.30833	3295.95	23.2 *		4.9e-07
SW-1	Slug	1.31806	3272.74	3295.9		4.9e-07
SW-Init-2	dP-Event	1.46389	3294.84	46.4 *		4.9e-07
SW-2	Slug	1.46667	3248.41	3294.8		4.9e-07
RI	Constant Rate	2.29444	3294.38		-4.80e+00	9.3e-07
RIR	Recovery	2.88889	3328.66			9.3e-07

Analysis Results

Analysis "SW-1-Final"

Static Pressure: 3295.16 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.0e-04	1.0e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	7.5e-05	0.0
SW-Init-1	4.9e-07	0.0
SW-1	4.9e-07	0.0
SW-Init-2	4.9e-07	0.0
SW-2	4.9e-07	0.0
RI	9.3e-07	0.0
RIR	9.3e-07	0.0

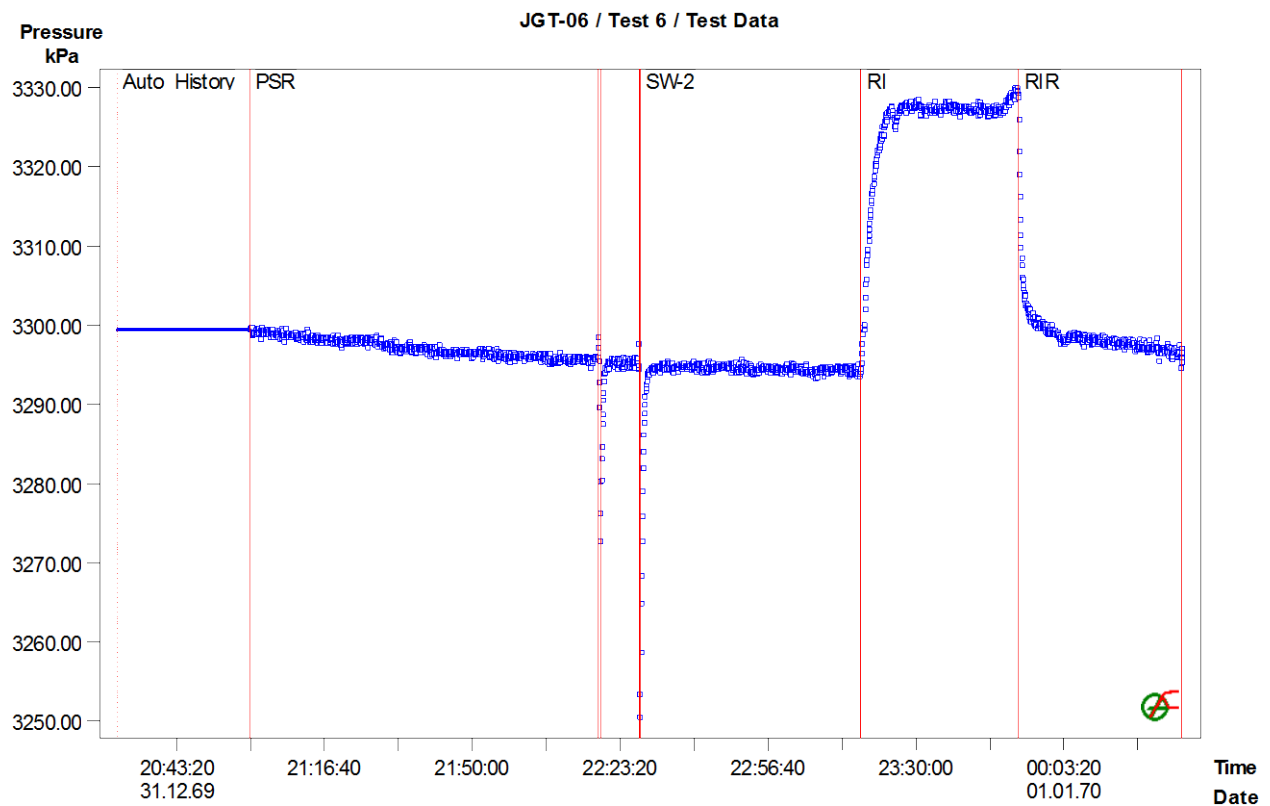


Figure 1: Pressure response and sequence definition

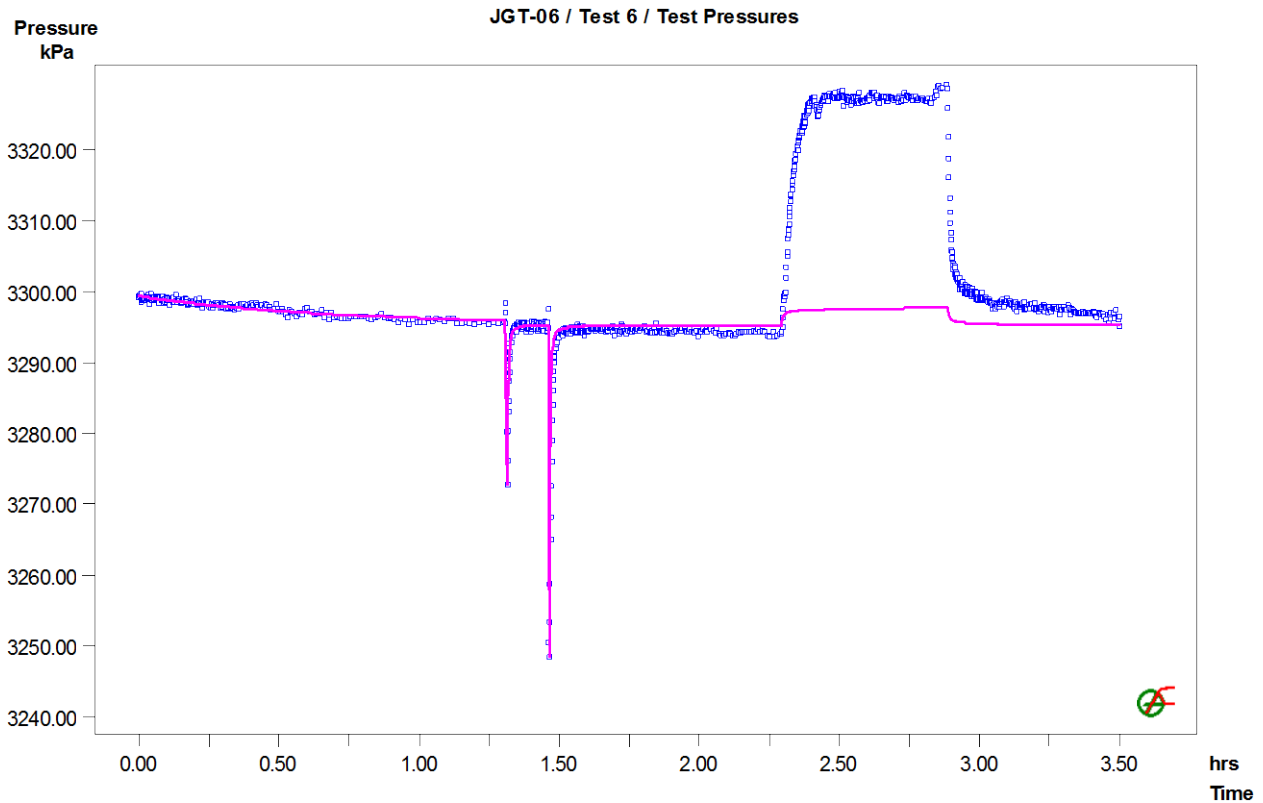


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JGT-06 / Test 6 / SW-1: LogLog Plot, variable P(i)

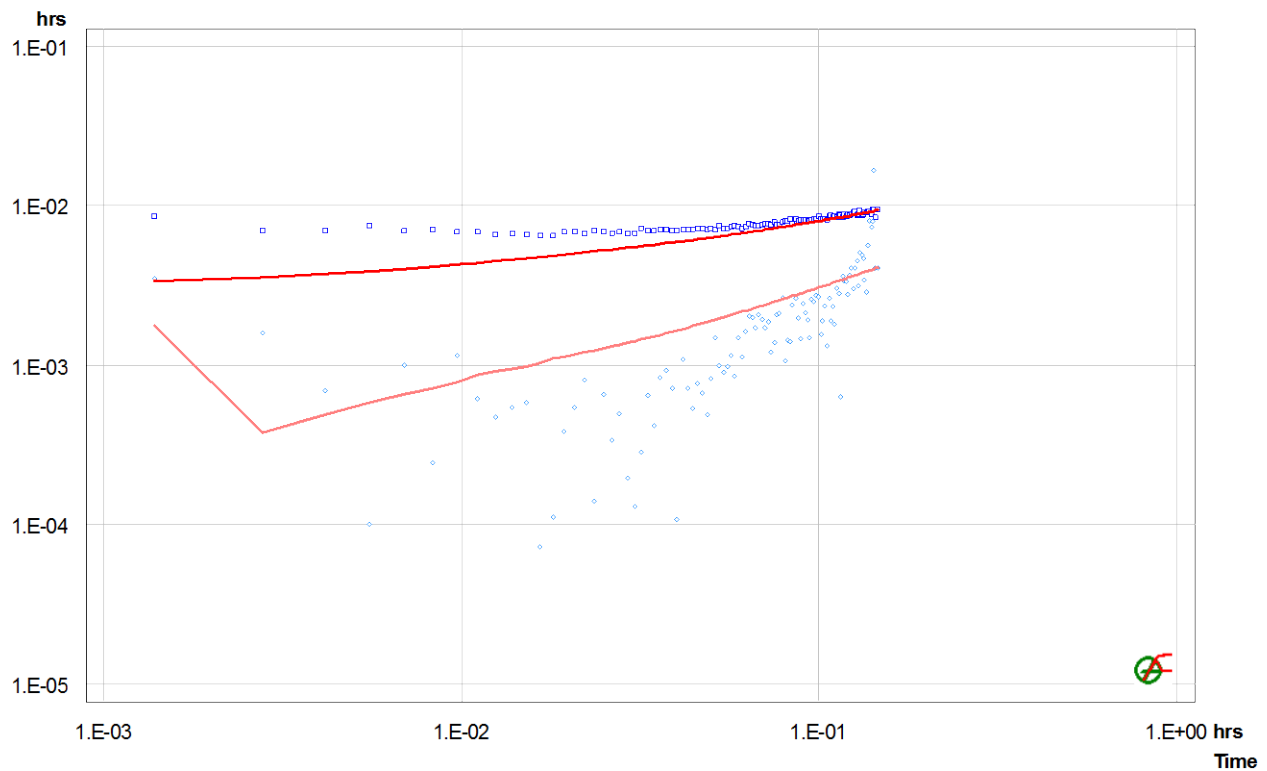


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JGT-06
Test Name Test 8
Test Date/Time
Interval top: 396.02 m bottom: 461.30 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 65.28 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 472.512 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	3787.20			4.9e-07
SW-Init	dP-Event	1.65139	3785.34	13.1 *		4.9e-07
SW	Slug	1.66389	3772.21	3785.3		4.9e-07
COM	Variable Pressure	1.74444	3782.52			4.9e-07
RI-1	Constant Rate	2.20000	3786.20		-3.00e+01	1.2e-05
RI-2	Constant Rate	2.33333	3801.02		-4.13e+01	1.2e-05
RIR	Recovery	2.91111	3814.25			1.2e-05

Analysis Results

Analysis "RI-2 final"

Static Pressure: 3784.77 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.8e-04	1.3e-04	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	9.9e-06	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0
COM	9.9e-06	0.0
RI-1	5.5e-06	0.0
RI-2	5.5e-06	0.0
RIR	5.5e-06	0.0

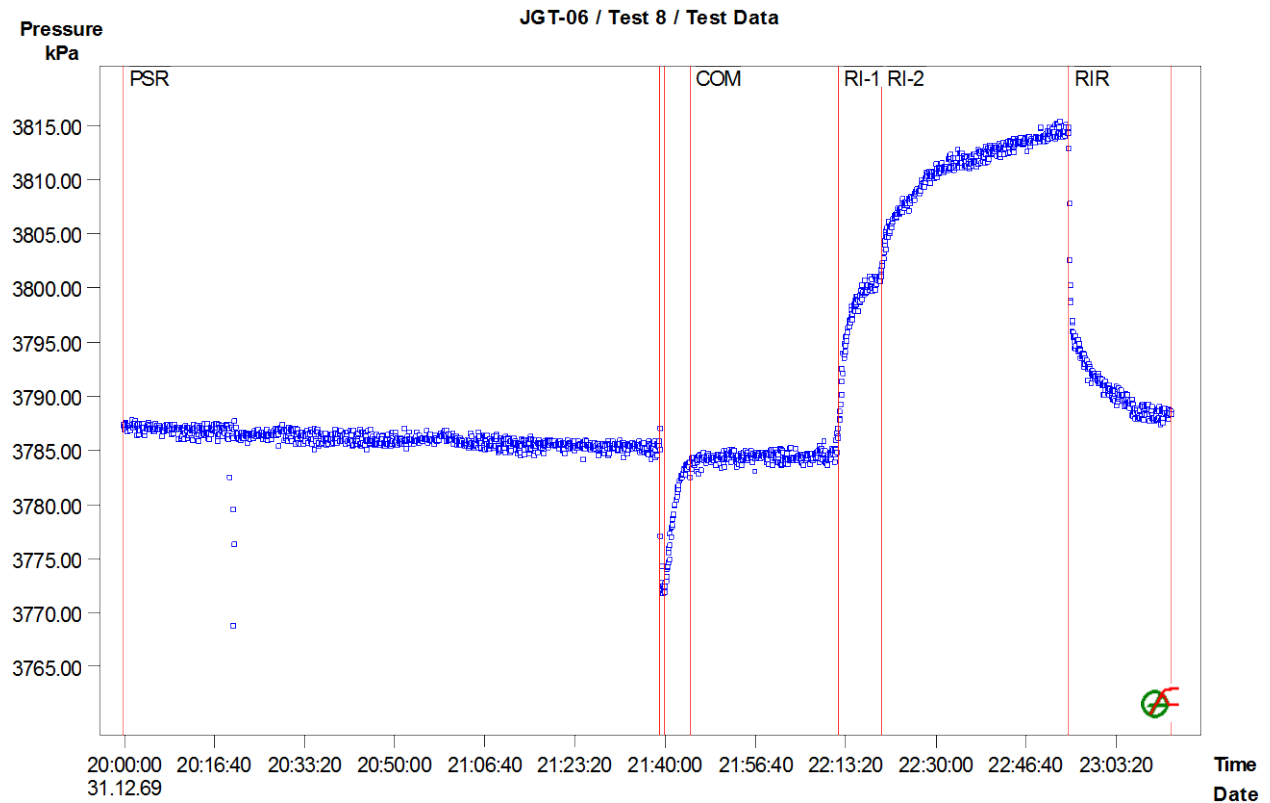


Figure 1: Pressure response and sequence definition

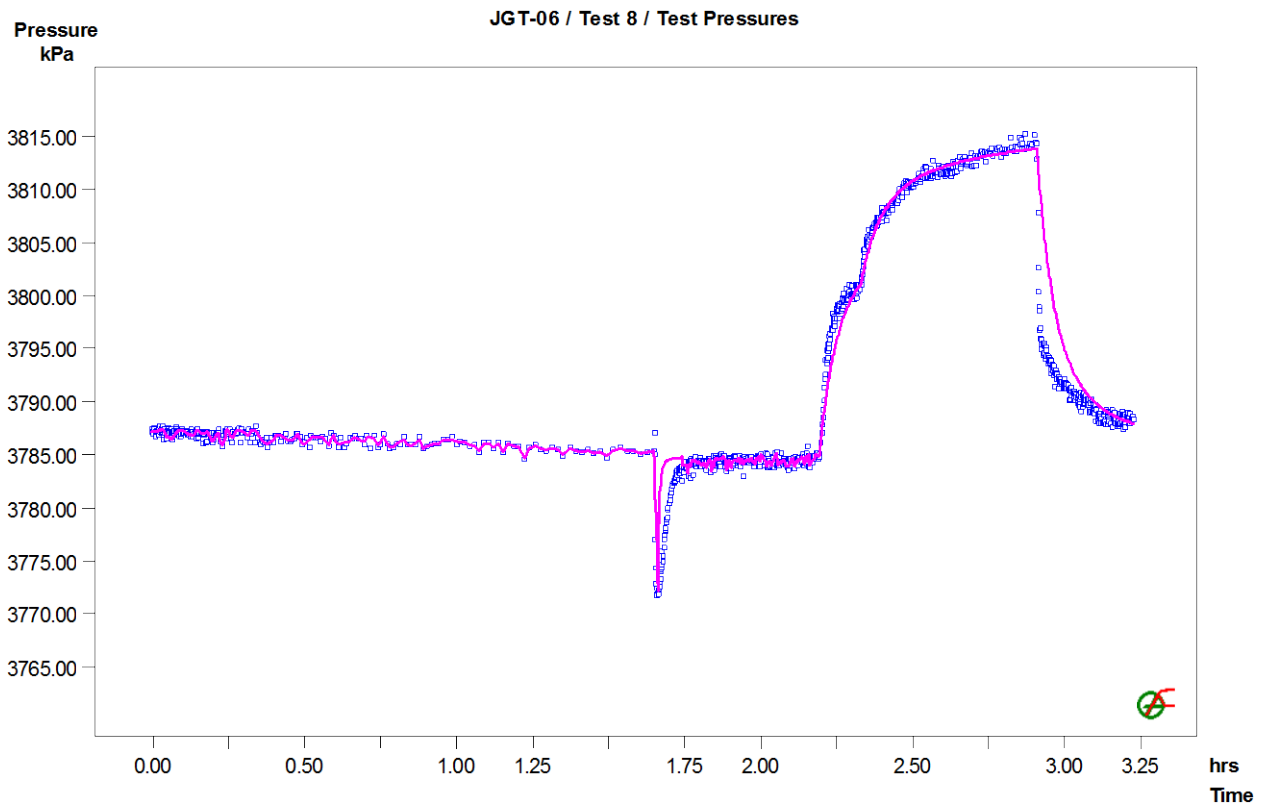


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

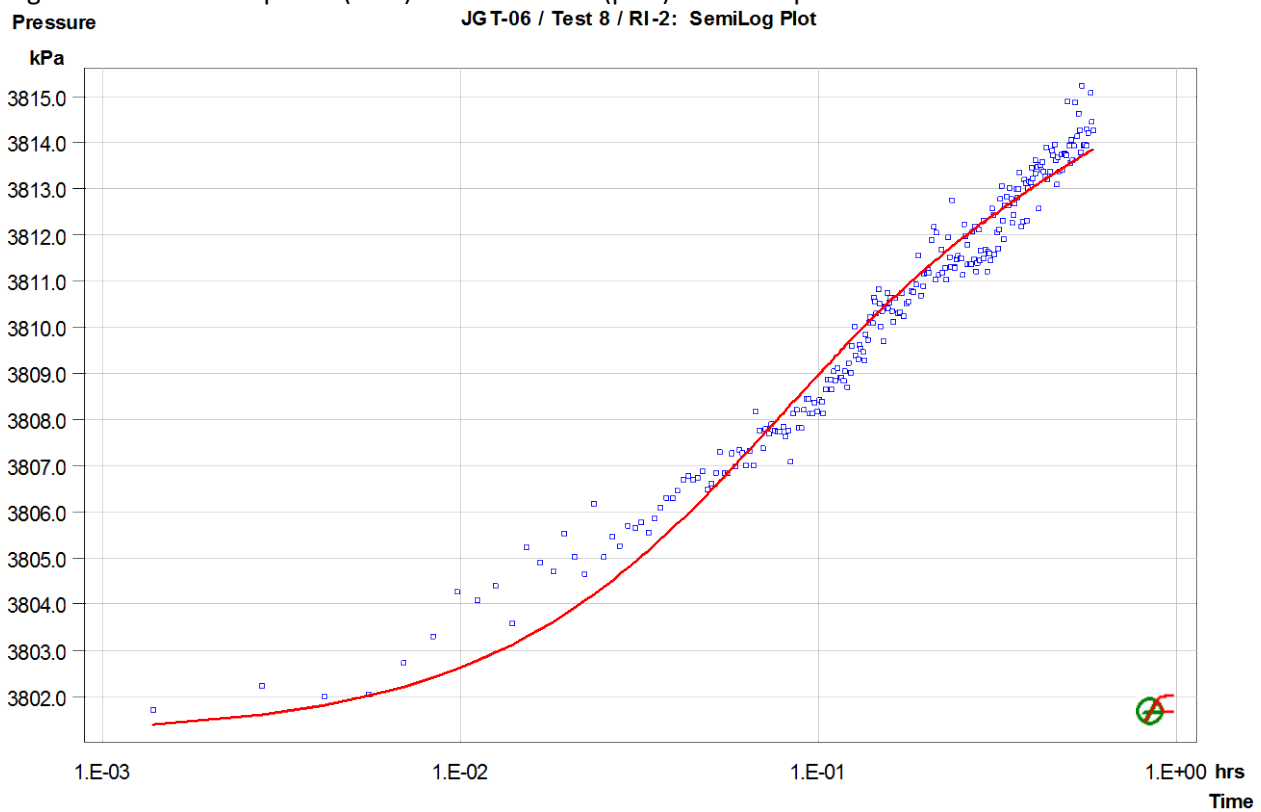


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

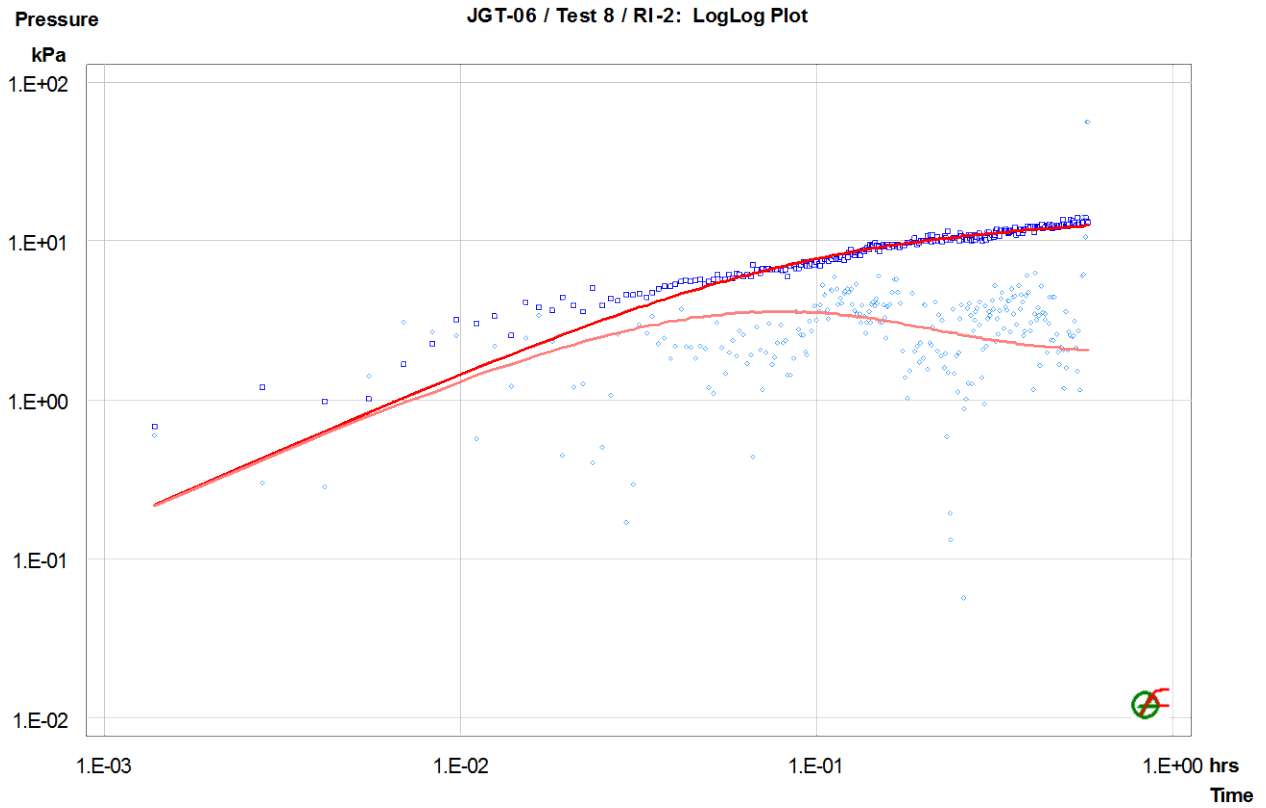


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-01
Test Name Piezometer 1
Test Date/Time
Interval top: 14.33 m bottom: 16.15 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 1.82 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 13.174 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	74.01			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	74.01			2.1e-07
SW-Init	dP-Event	0.49306	138.96	114.0 *		2.1e-07
SW	Slug	0.49611	24.93	139.0		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 141.30 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.4e-06	4.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.4e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

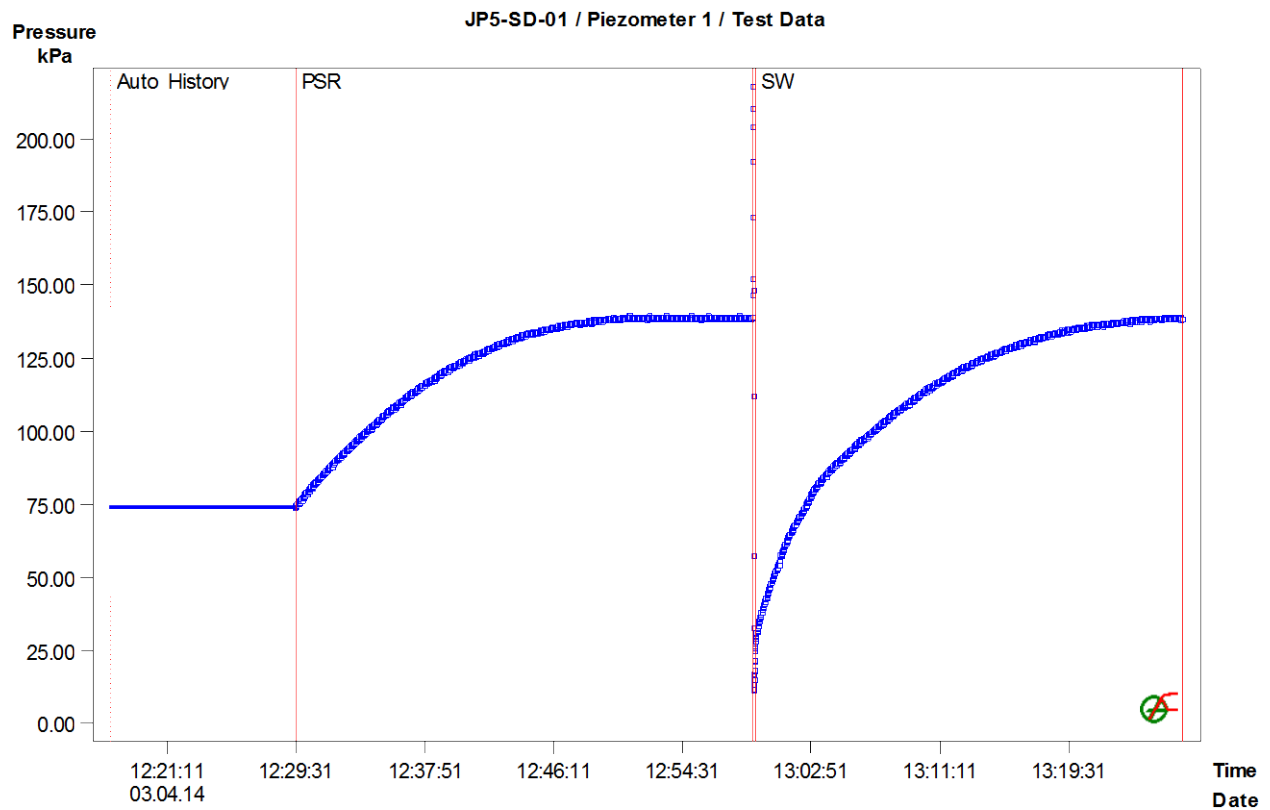


Figure 1: Pressure response and sequence definition

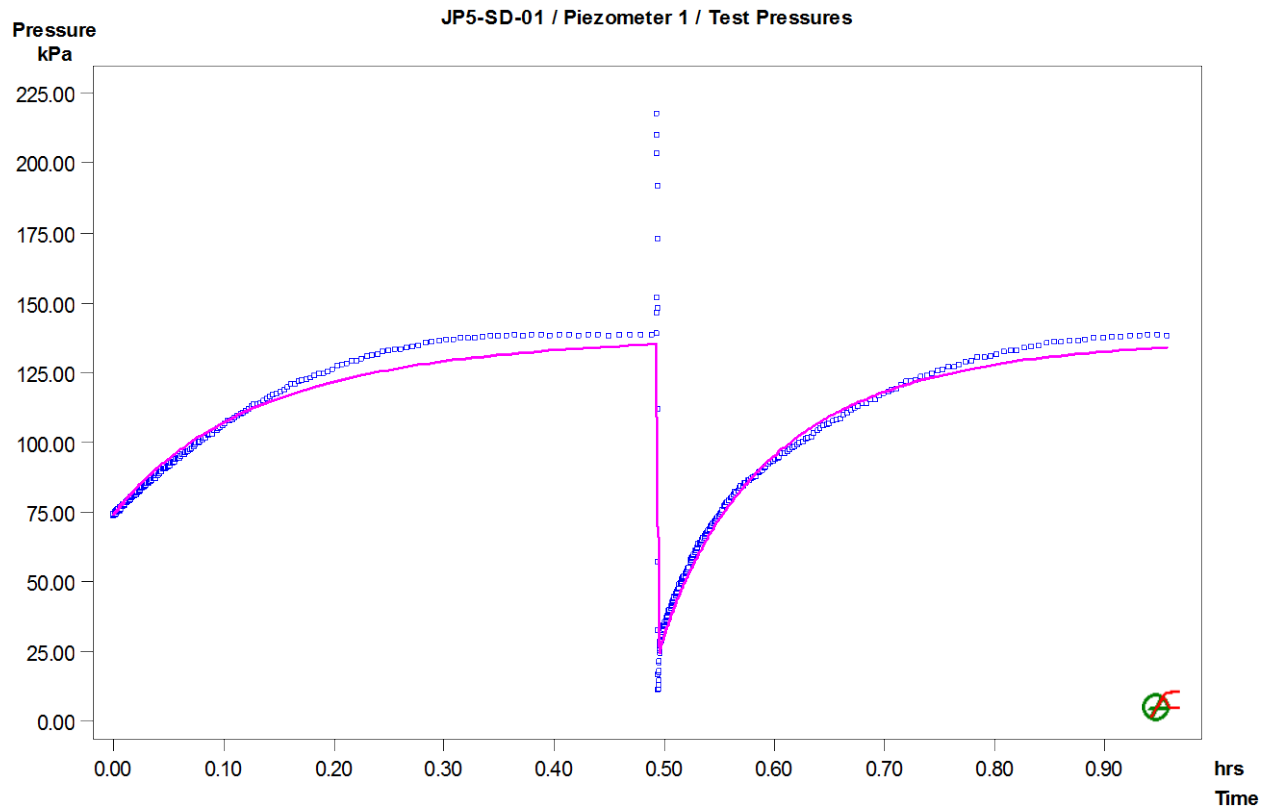


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Piezometer 1 / SW: LogLog Plot, constant P(i)

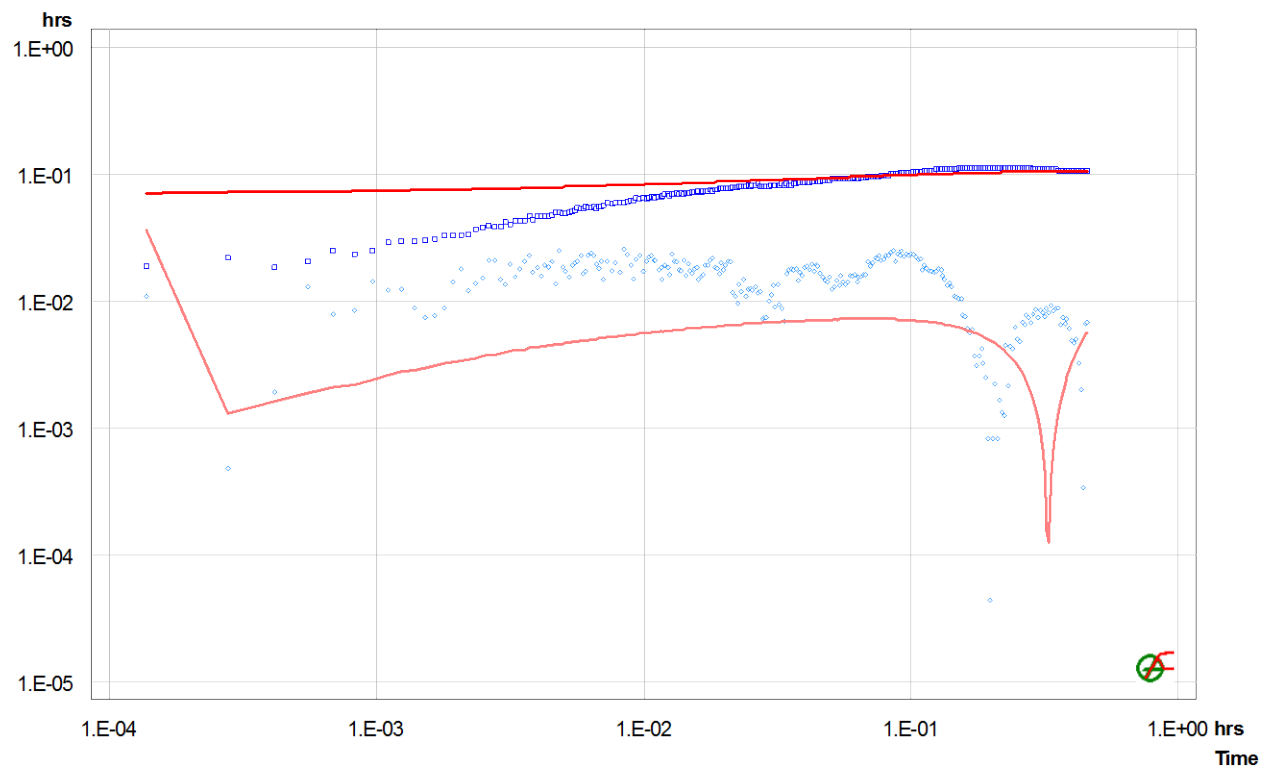


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-01
Test Name Piezometer 2
Test Date/Time
Interval top: 10.97 m bottom: 13.41 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 2.44 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 72.125 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	55.58			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	55.58			2.1e-07
SW-Init	dP-Event	0.97167	69.83	23.1 *		2.1e-07
SW	Slug	0.97917	46.72	69.8		2.1e-07

Analysis Results

Analysis "SW-Final"

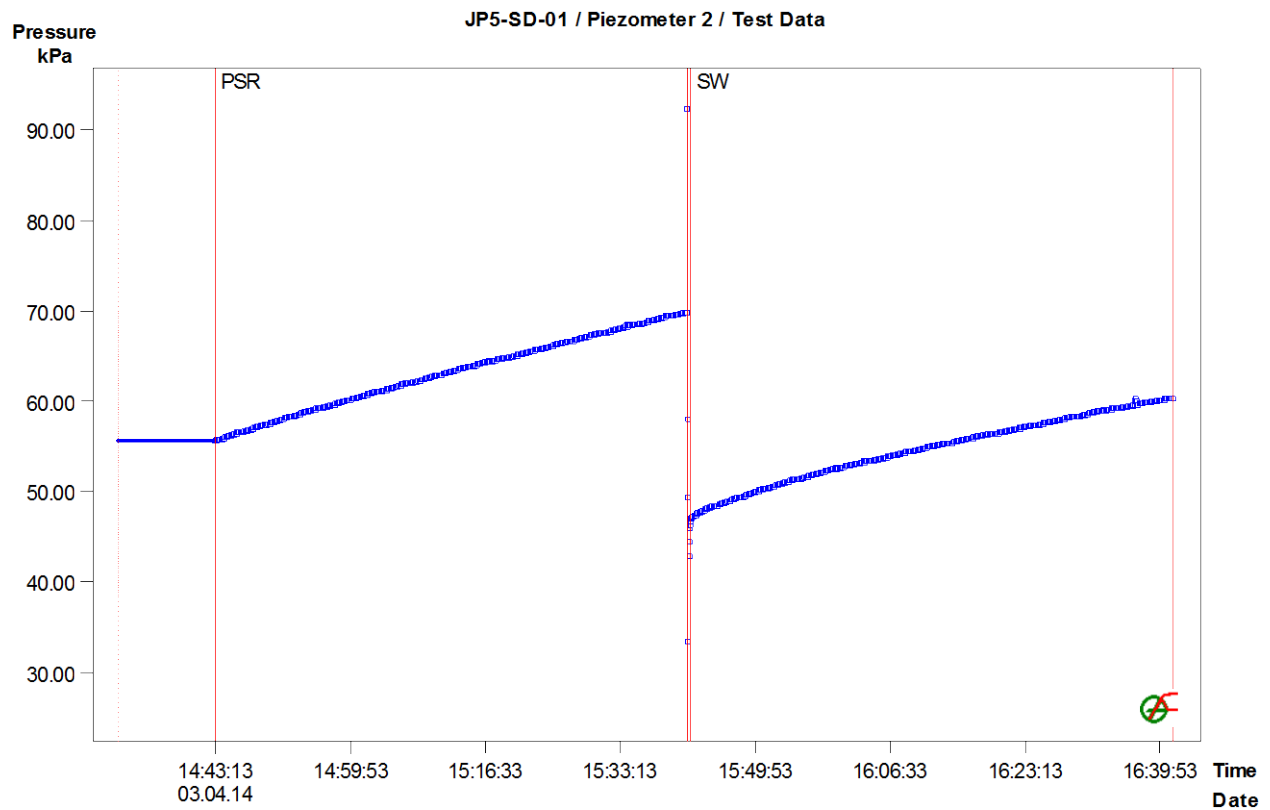
Static Pressure: 80.44 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.6e-07	3.6e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.1e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0



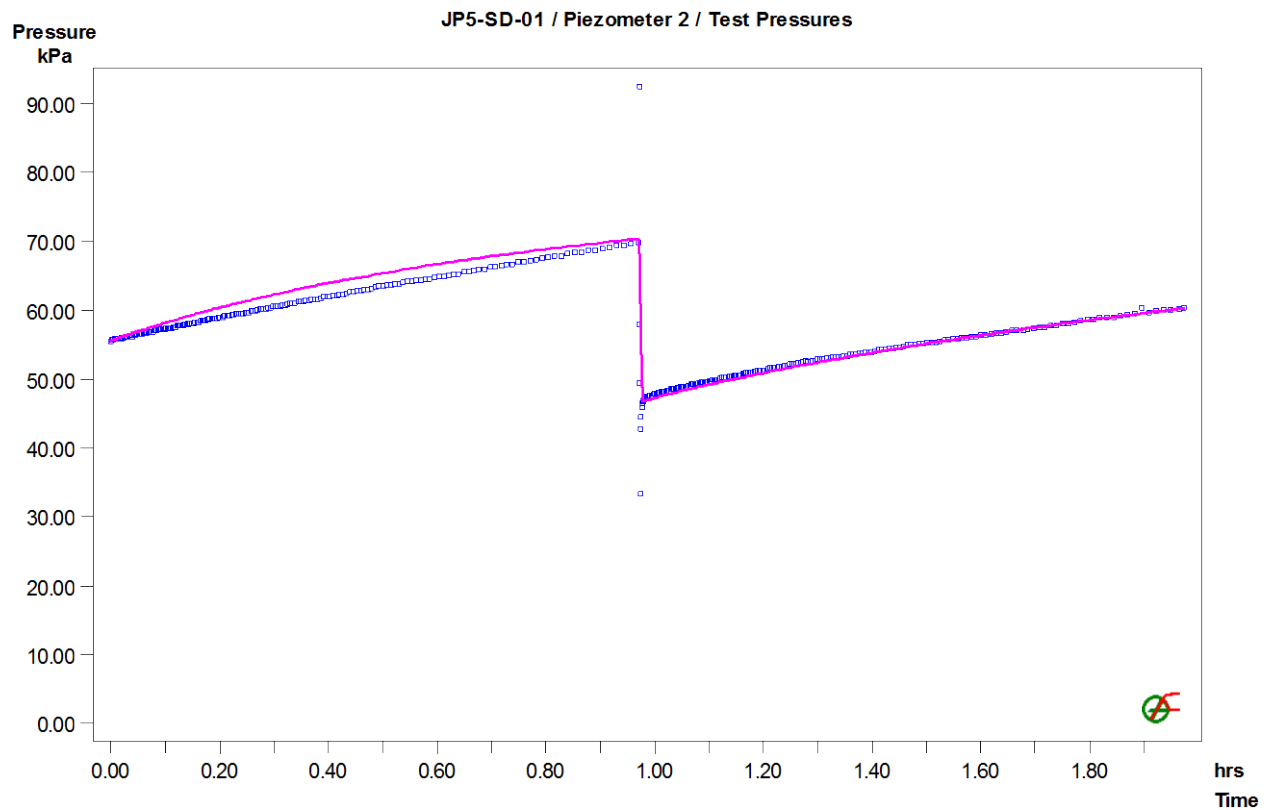


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Piezometer 2 / SW: LogLog Plot, variable P(i)

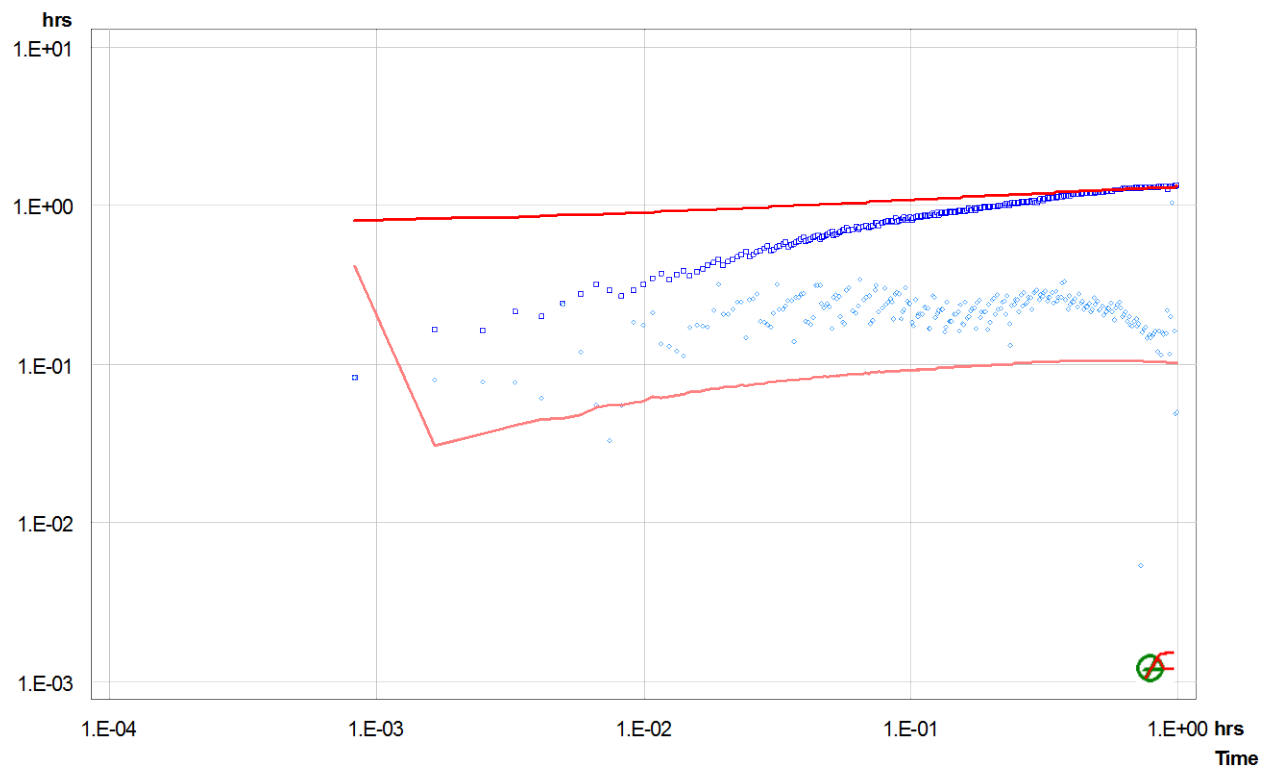


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-01
Test Name Test 1
Test Date/Time
Interval top: 18.42 m bottom: 29.65 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 11.23 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 81.285 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	184.10			4.8e-07
PSR	Recovery	0.26222	185.74			4.8e-07
SW-Init	dP-Event	0.72417	184.10	71.3 *		4.8e-07
SW	Slug	0.72806	112.79	184.1		4.8e-07

Analysis Results

Analysis "SW- 2 shell Final"

Static Pressure: 181.45 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.0e-06	2.2e-05	9.03	2.0
Shell 2	3.5e-03	2.2e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.4e-07	0.0
PSR	5.4e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

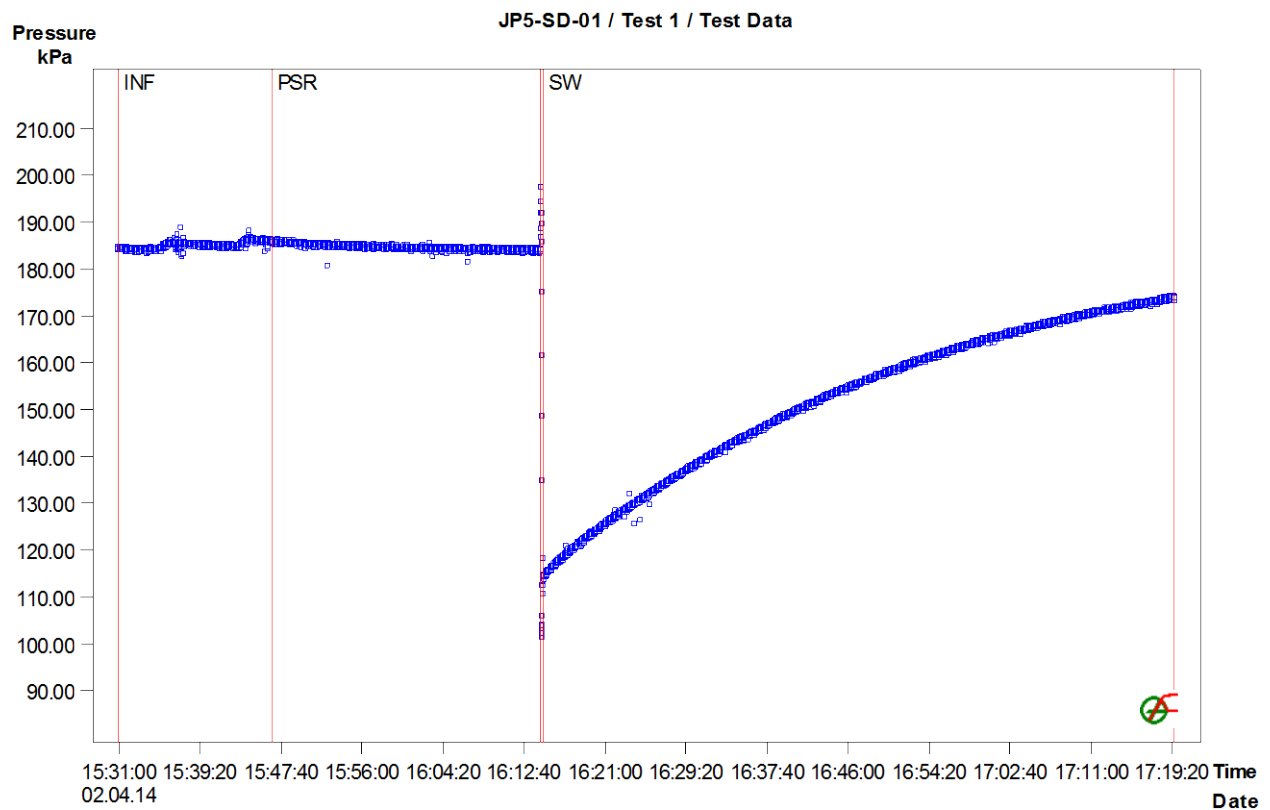


Figure 1: Pressure response and sequence definition

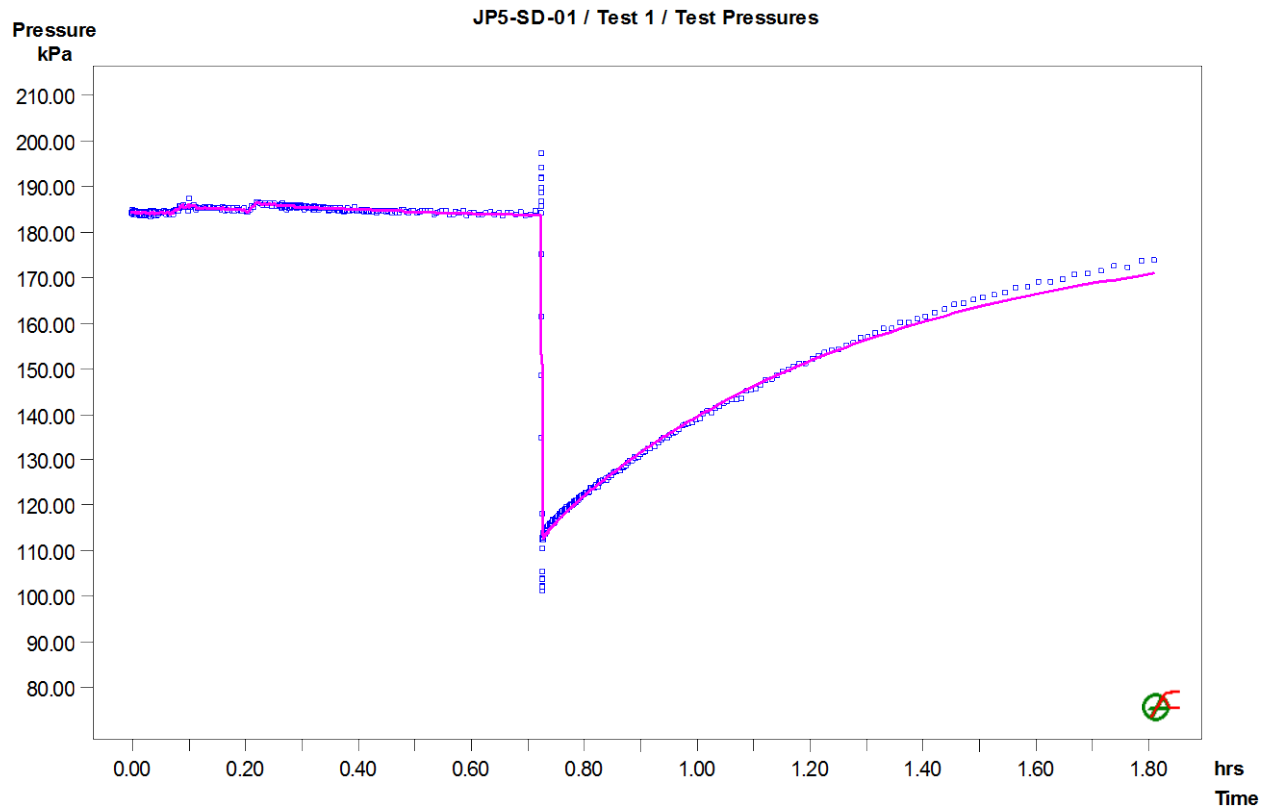


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Test 1 / SW: LogLog Plot, variable P(i)

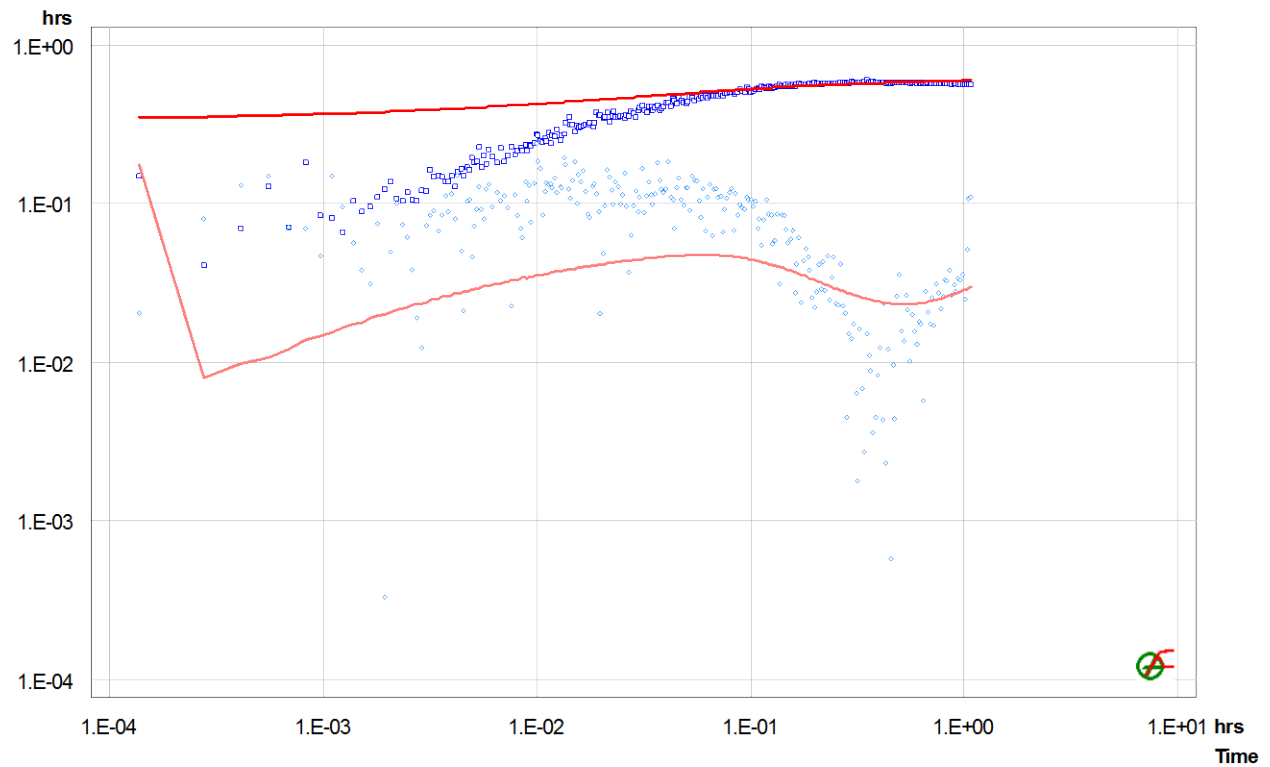


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond
Site	Jay Project
Source Well	JP5-SD-02
Test Name	Piezometer 1
Test Date/Time	
Interval	top: 7.32 m bottom: 9.45 m
Description	Analyzed by: DV Reviewed by: DSL

Basic Data

Test Interval	2.13 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	62.961 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
INF	Variable	0.00000	2.84			2.1e-07
	Pressure					
PSR	Recovery	0.18764	32.55			2.1e-07
SW-Init	dP-Event	1.44500	79.73	35.4 *		2.1e-07
SW	Slug	1.45111	44.31	79.7		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 82.57 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.4e-07	4.2e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	6.0e-08	0.0
PSR	6.0e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

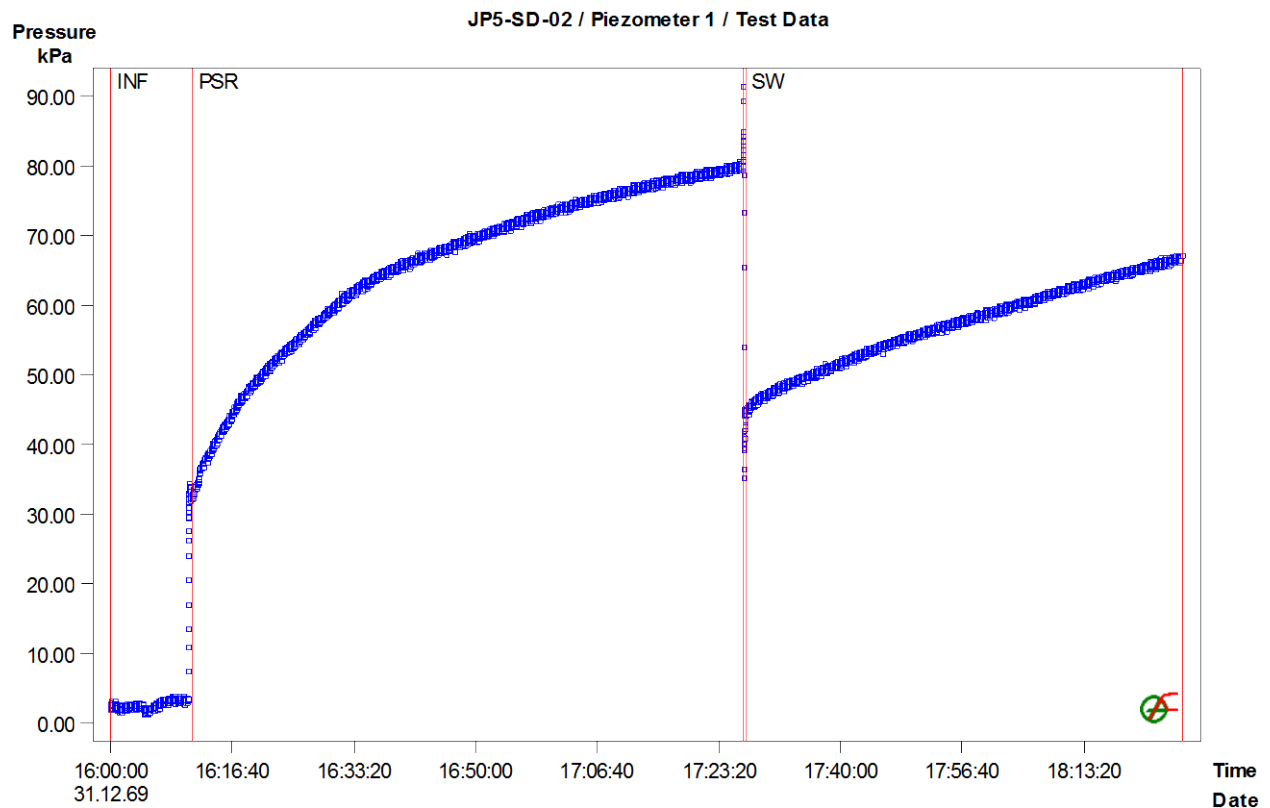


Figure 1: Pressure response and sequence definition

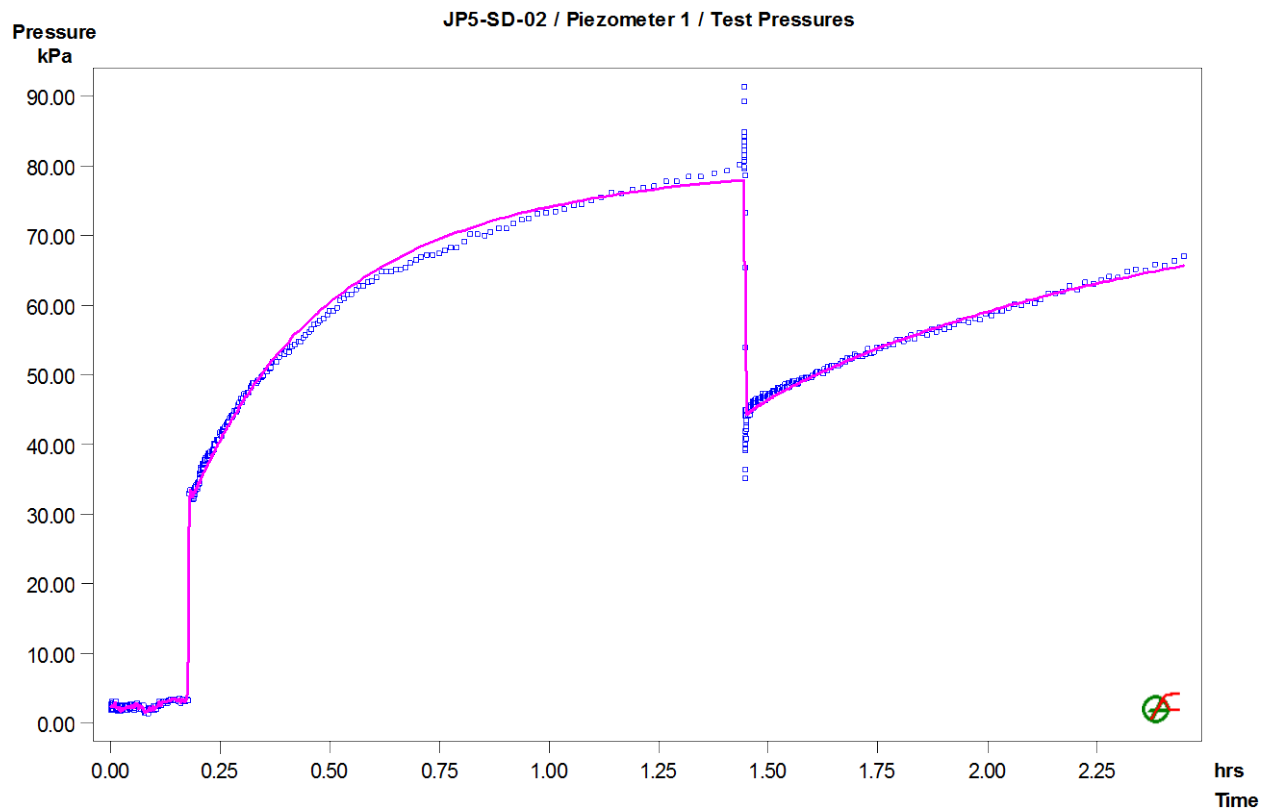


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-02 / Piezometer 1 / SW: LogLog Plot, variable P(i)

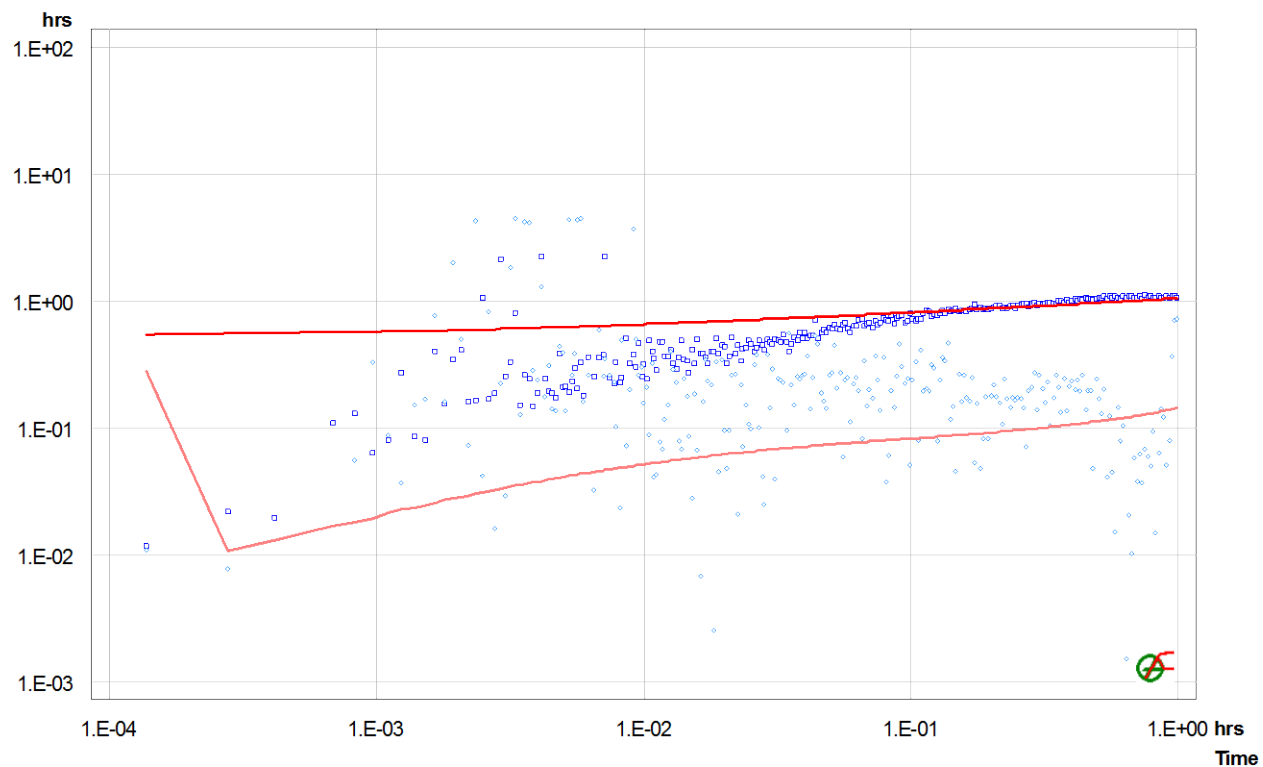


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-02
Test Name Test 1
Test Date/Time
Interval top: 14.06 m bottom: 21.77 m
Description Analyzed by DV.
Reviewed by DSL.

Basic Data

Test Interval 7.71 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 55.807 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	163.83			4.8e-07
PSR	Recovery	0.20083	165.64			4.8e-07
SW-Init	dP-Event	0.80389	163.13	29.9 *		4.8e-07
SW	Slug	0.81375	133.20	163.1		4.8e-07

Analysis Results

Analysis "SW"

Static Pressure: 162.52 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.2e-06	1.5e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.1e-07	0.0
PSR	2.1e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

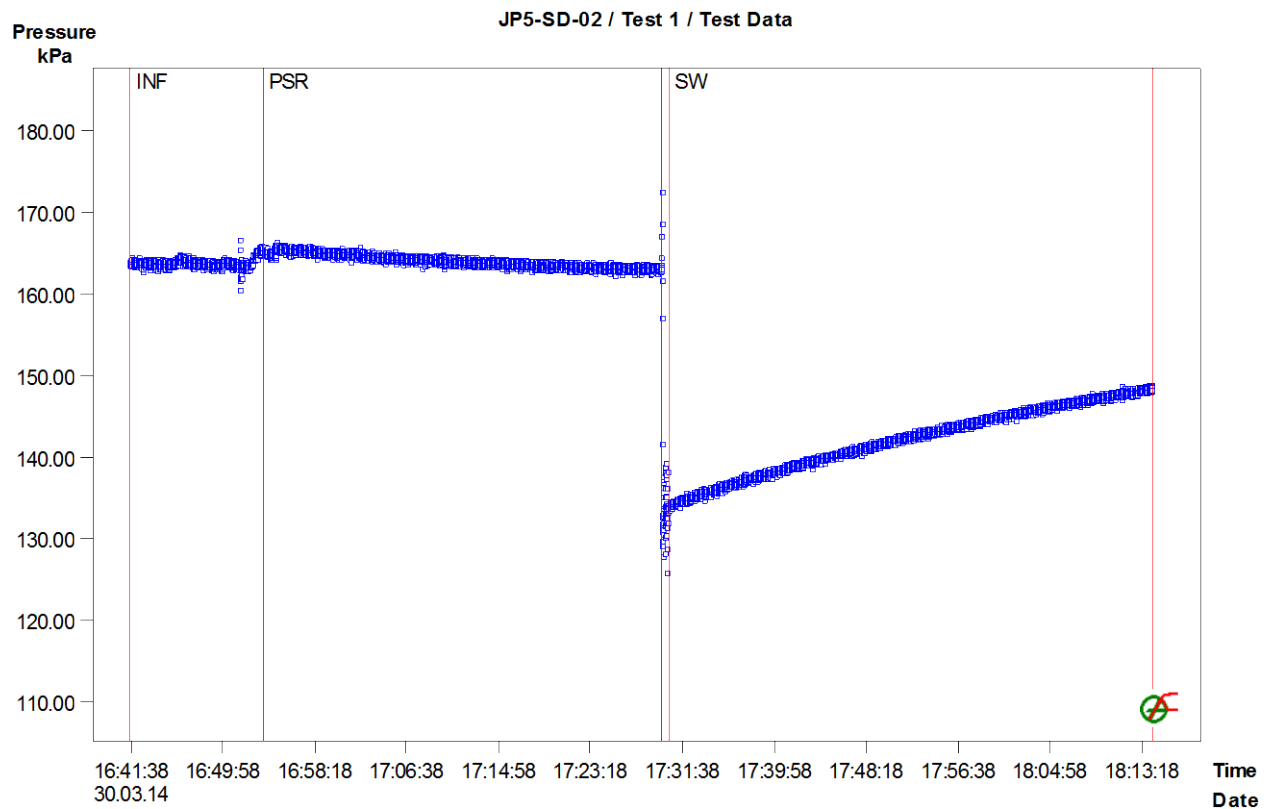


Figure 1: Pressure response and sequence definition

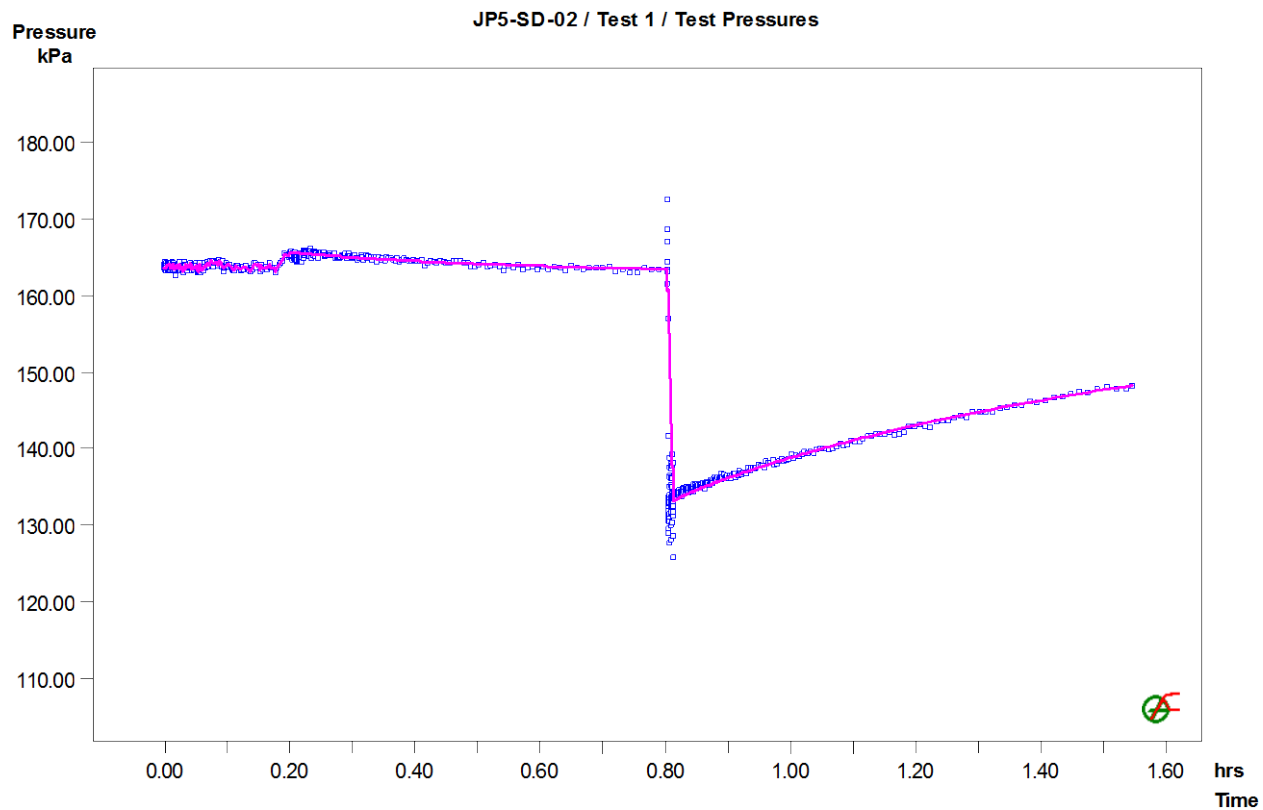


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-02 / Test 1 / SW: LogLog Plot, variable P(i)

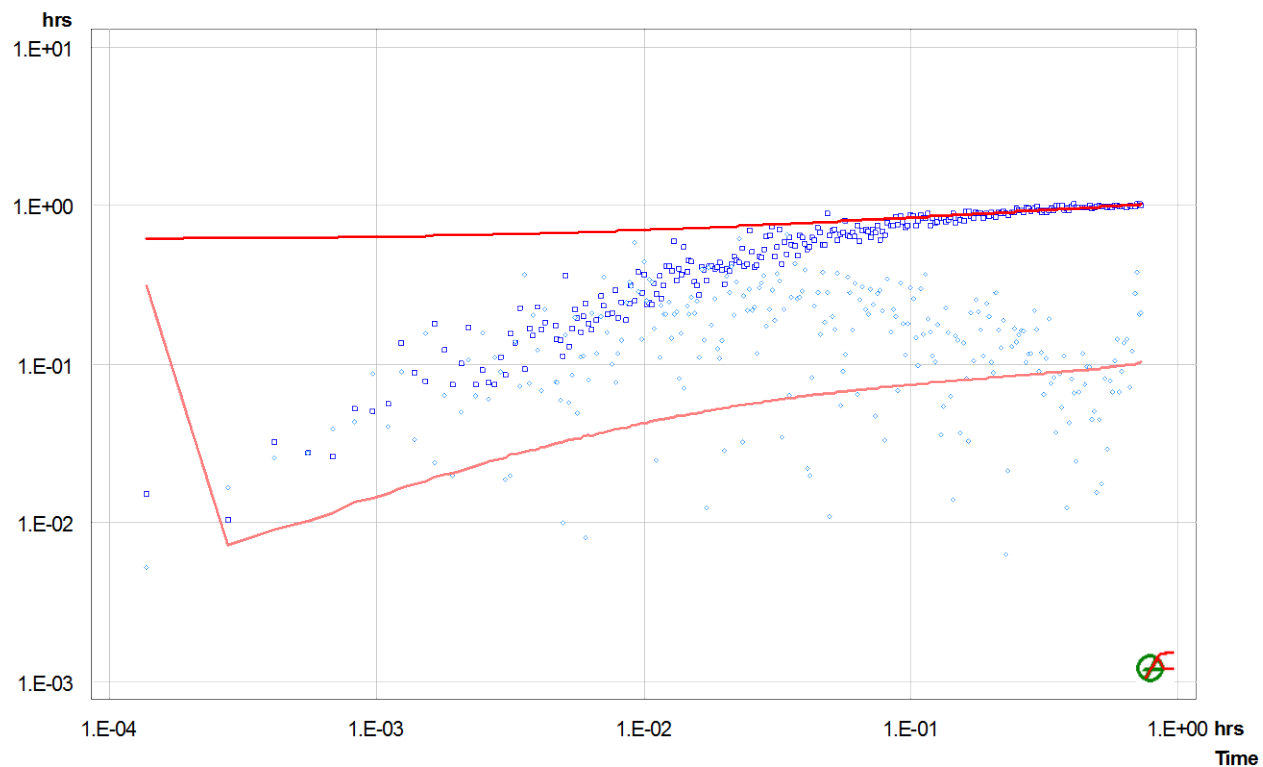


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-03
Test Name Piezometer 1
Test Date/Time 29 March, 2014, 11:00
Interval top: 12.50 m bottom: 14.63 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 2.13 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 62.961 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	132.83			2.1e-07
SW-Init-1	dP-Event	0.10681	133.21	41.3 *		2.1e-07
SW-1	Slug	0.11000	91.91	133.2		2.1e-07
PSR-2	Variable Pressure	0.18361	133.00			2.1e-07
SW-Init-2	dP-Event	0.20236	132.73	36.4 *		2.1e-07
SW-2	Slug	0.20611	96.28	132.7		2.1e-07

Analysis Results

Analysis "SW-2- 2 shell final"

Static Pressure: 133.10 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.9e-04	4.2e-06	47.24	2.0
Shell 2	1.6e-03	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	6.5e-07	0.0
SW-Init-1	2.1e-07	0.0
SW-1	2.1e-07	0.0
PSR-2	6.5e-07	0.0
SW-Init-2	2.1e-07	0.0
SW-2	2.1e-07	0.0

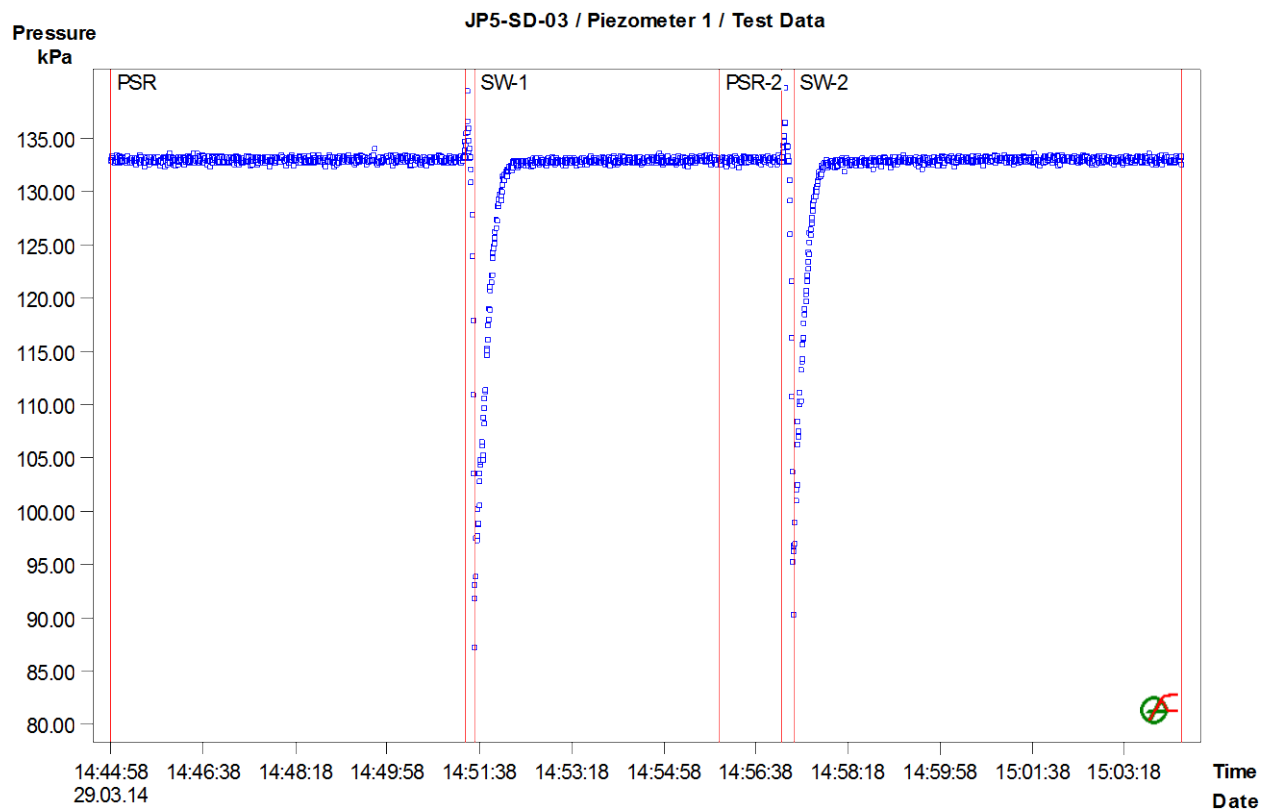


Figure 1: Pressure response and sequence definition

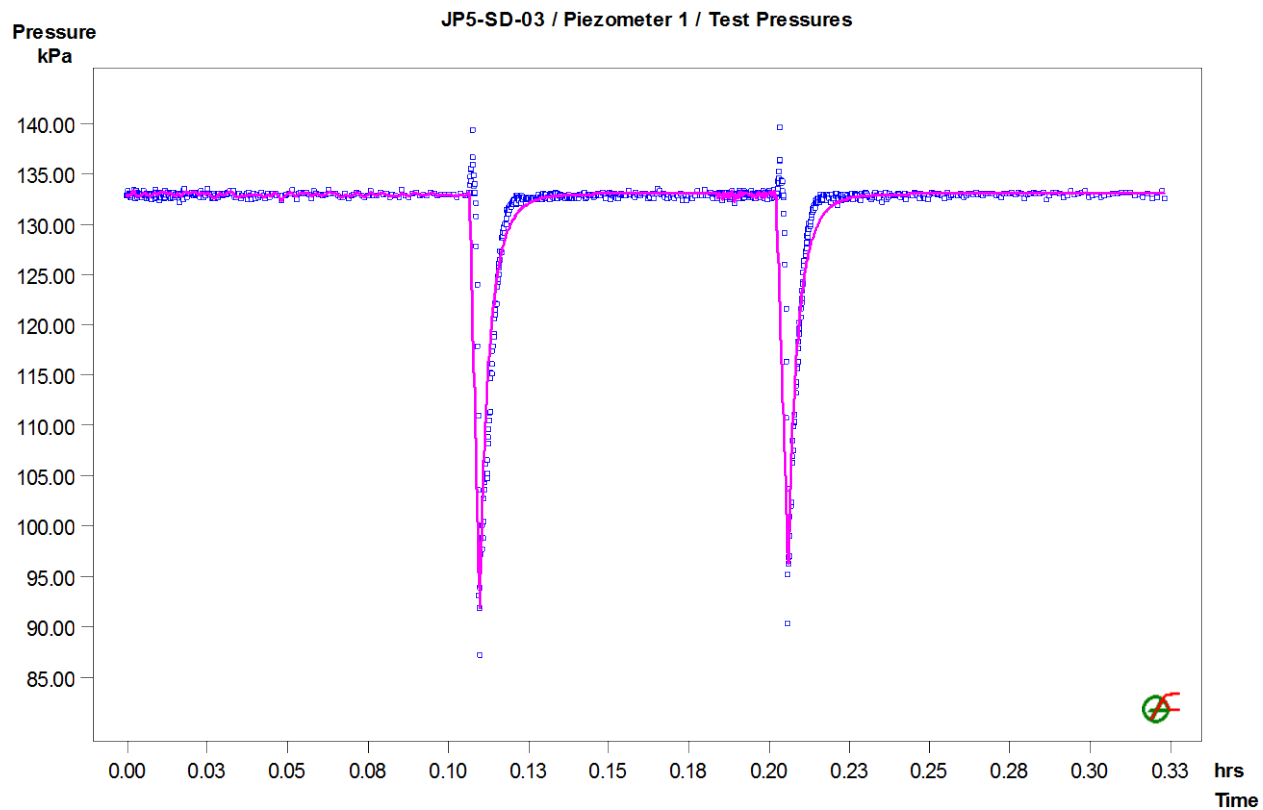


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-03 / Piezometer 1 / SW-2: LogLog Plot, constant P(i)

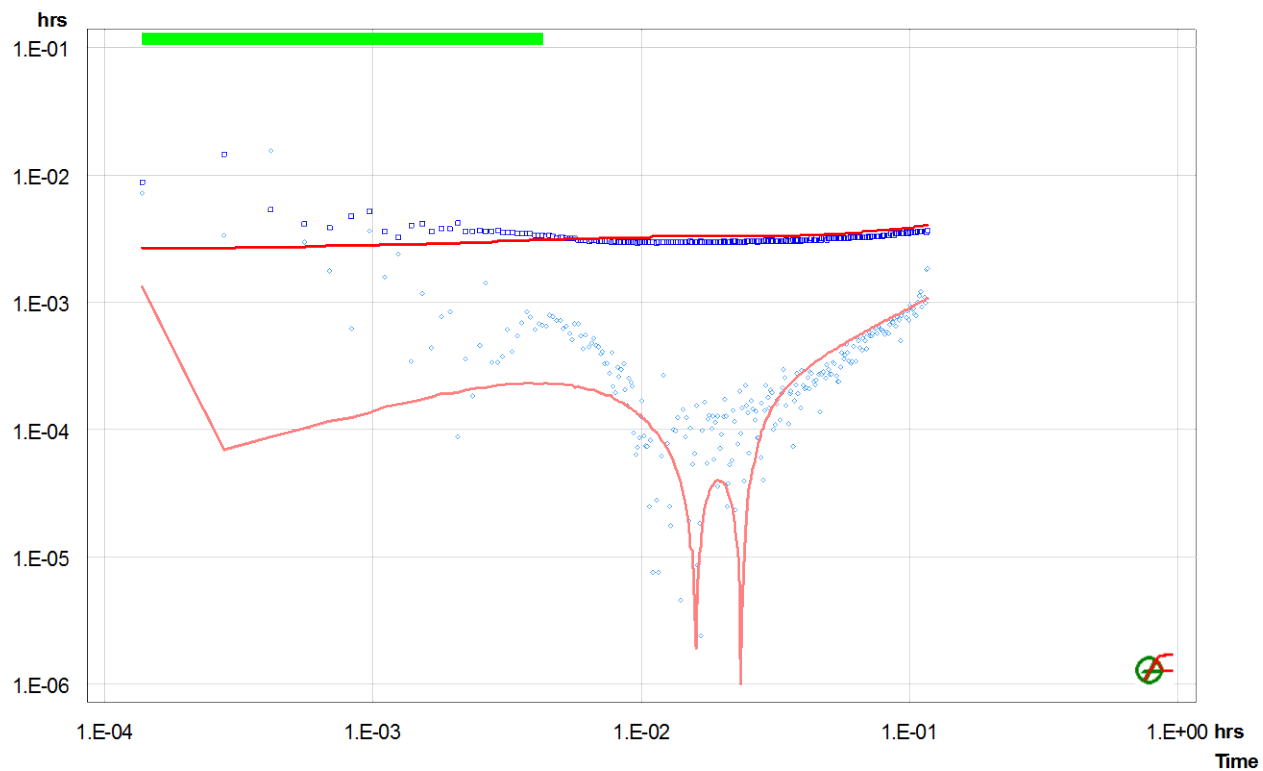


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-03
Test Name Test 1
Test Date/Time
Interval top: 22.27 m bottom: 29.95 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 7.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 55.590 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	220.86			4.8e-07
PSR	Recovery	0.02903	224.87			4.8e-07
SW-Init	dP-Event	0.55000	221.20	51.9 *		4.8e-07
SW	Slug	0.55667	169.29	221.2		4.8e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 220.18 kPa

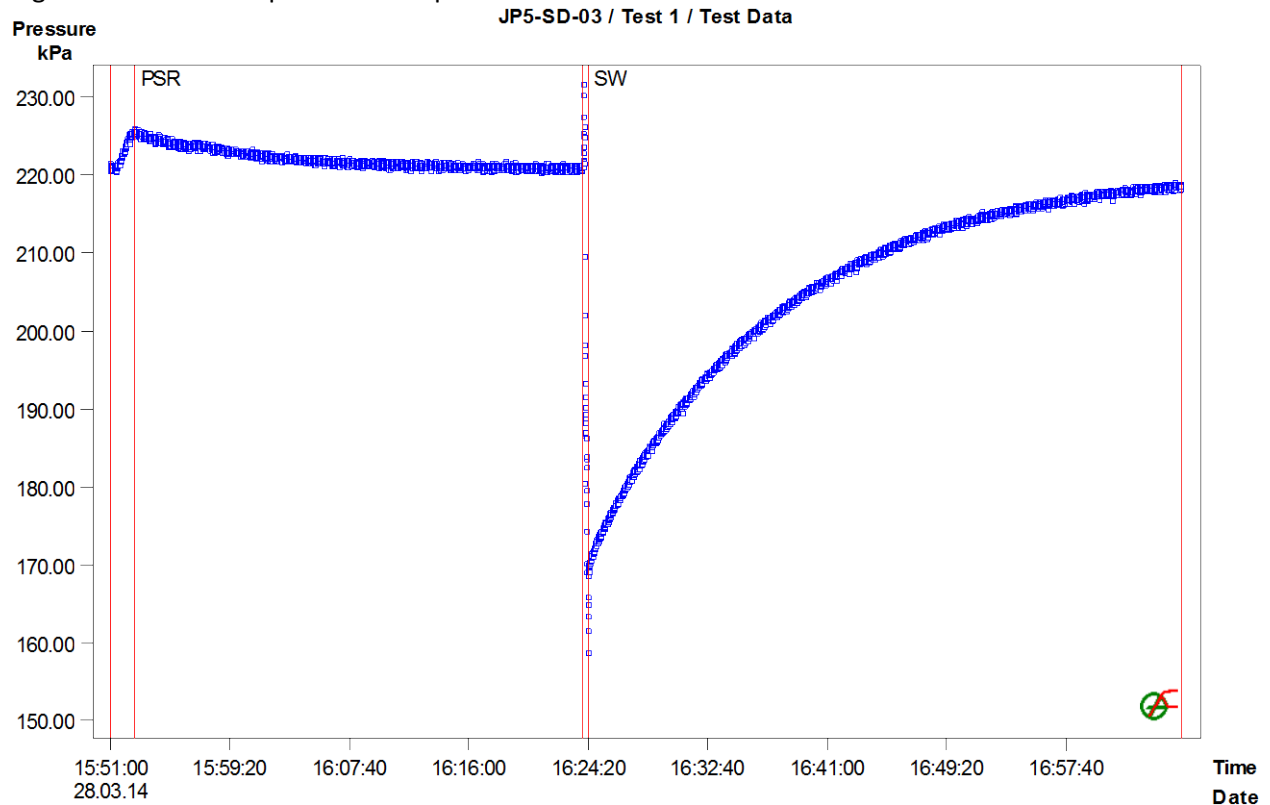
Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.0e-06	1.5e-05	13.92	2.0
Shell 2	6.3e-05	1.5e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	4.8e-07	0.0
PSR	4.8e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

Figure 1: Pressure response and sequence definition



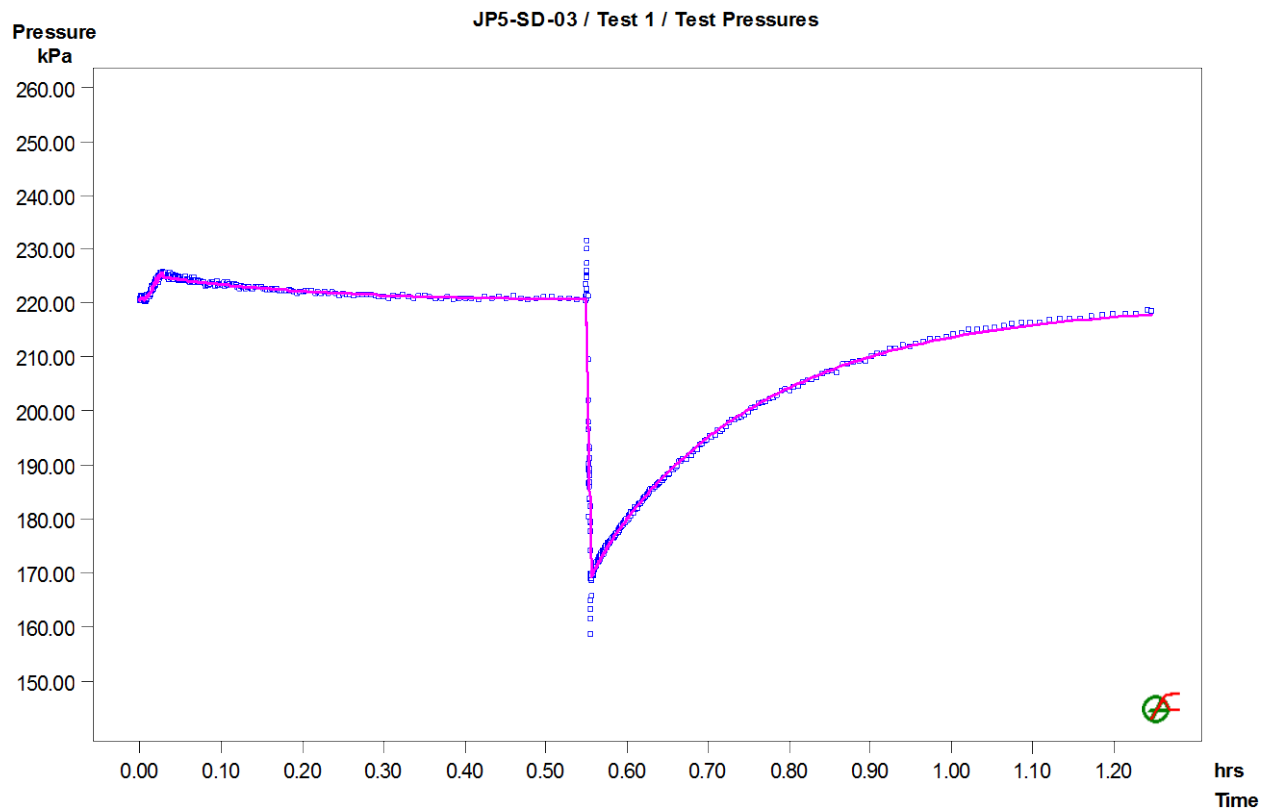


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-03 / Test 1 / SW: LogLog Plot, variable P(i)

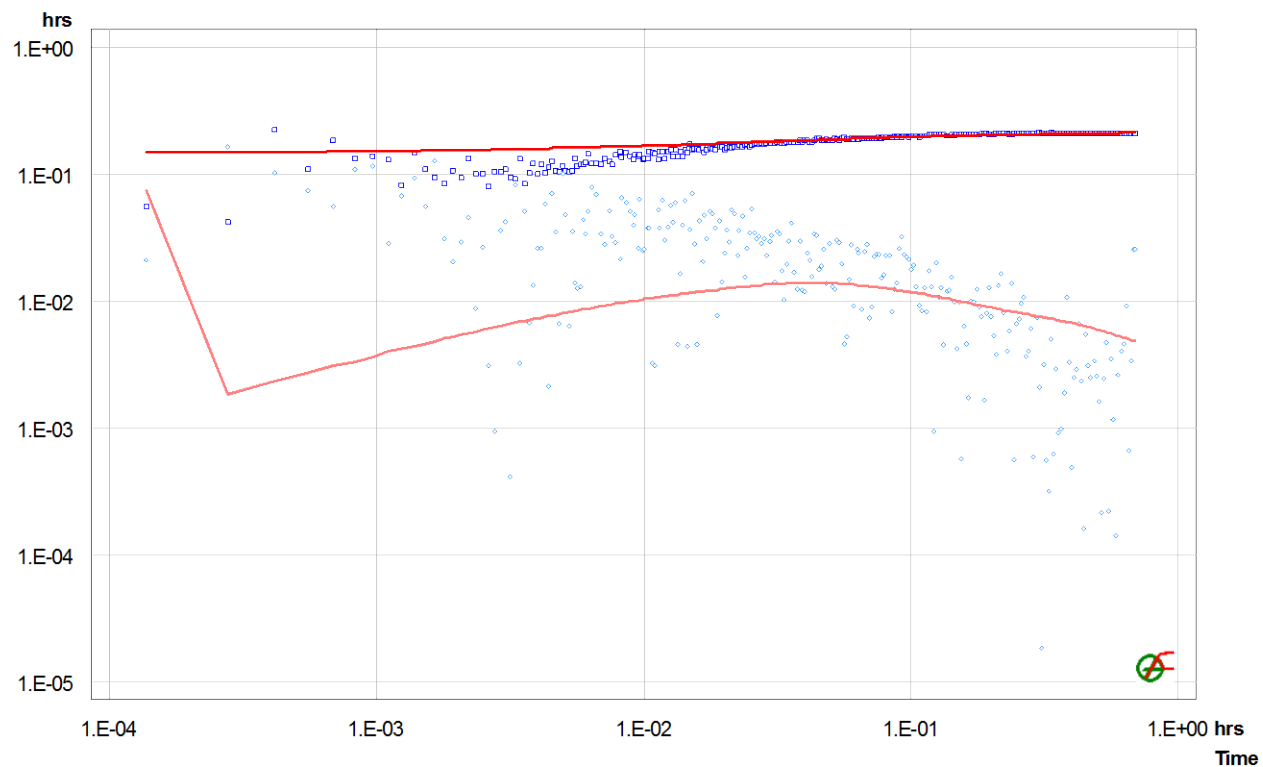


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-04
Test Name Test 1
Test Date/Time
Interval top: 12.76 m bottom: 23.40 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 10.64 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 77.015 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	132.52			4.8e-07
PSR	Recovery	0.10583	134.86			4.8e-07
SW-Init	dP-Event	0.78694	132.13	39.6 *		4.8e-07
SW	Slug	0.78889	92.54	132.1		4.8e-07

Analysis Results

Analysis "SW- 2 shell final"

Static Pressure: 131.72 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.9e-06	2.1e-05	13.09	2.0
Shell 2	2.1e-05	2.1e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.8e-07	0.0
PSR	2.8e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

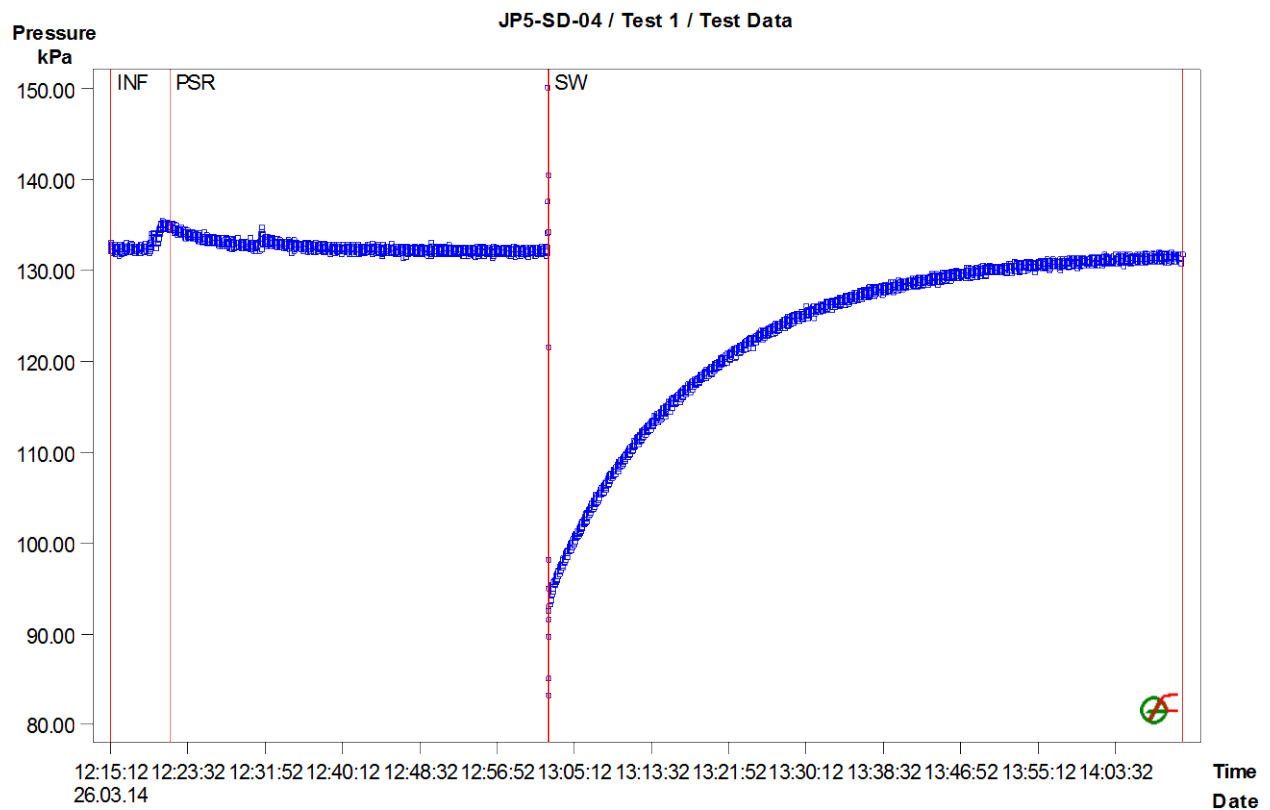


Figure 1: Pressure response and sequence definition

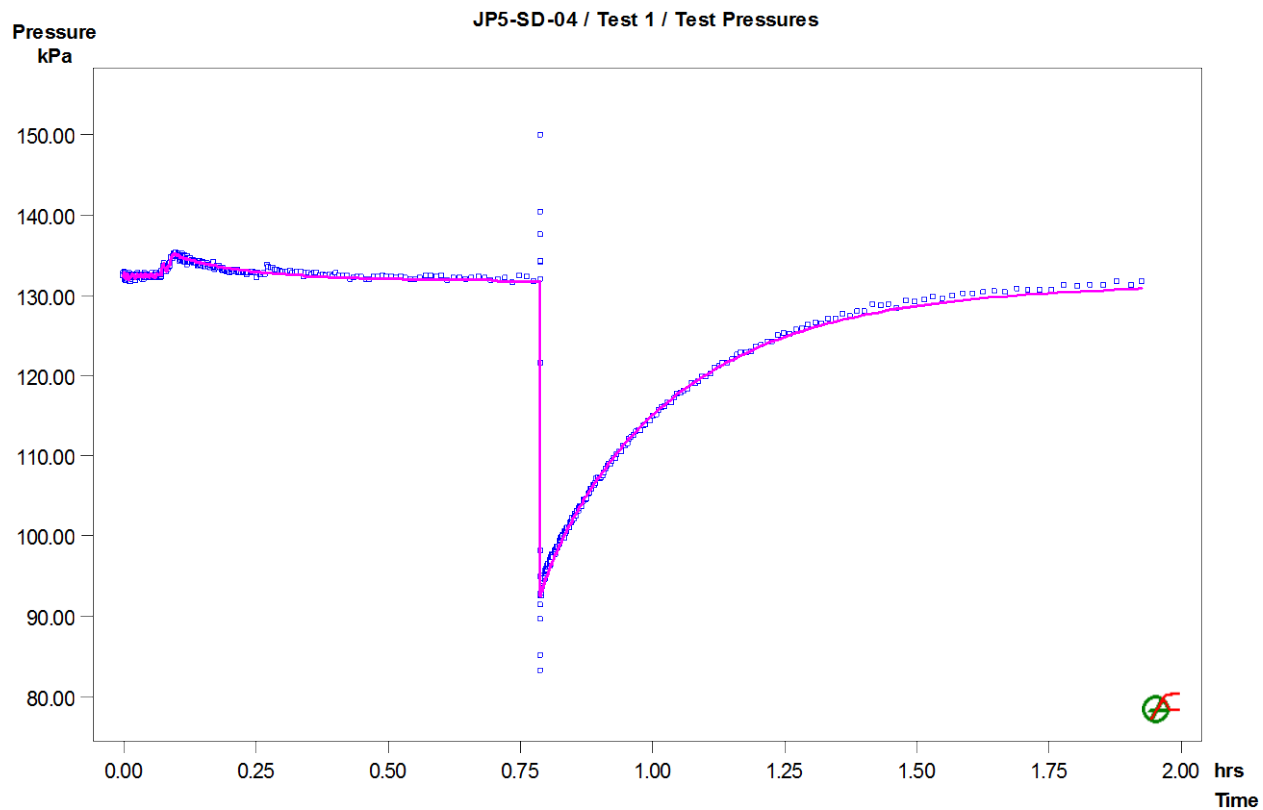


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-04 / Test 1 / SW: LogLog Plot, variable P(i)

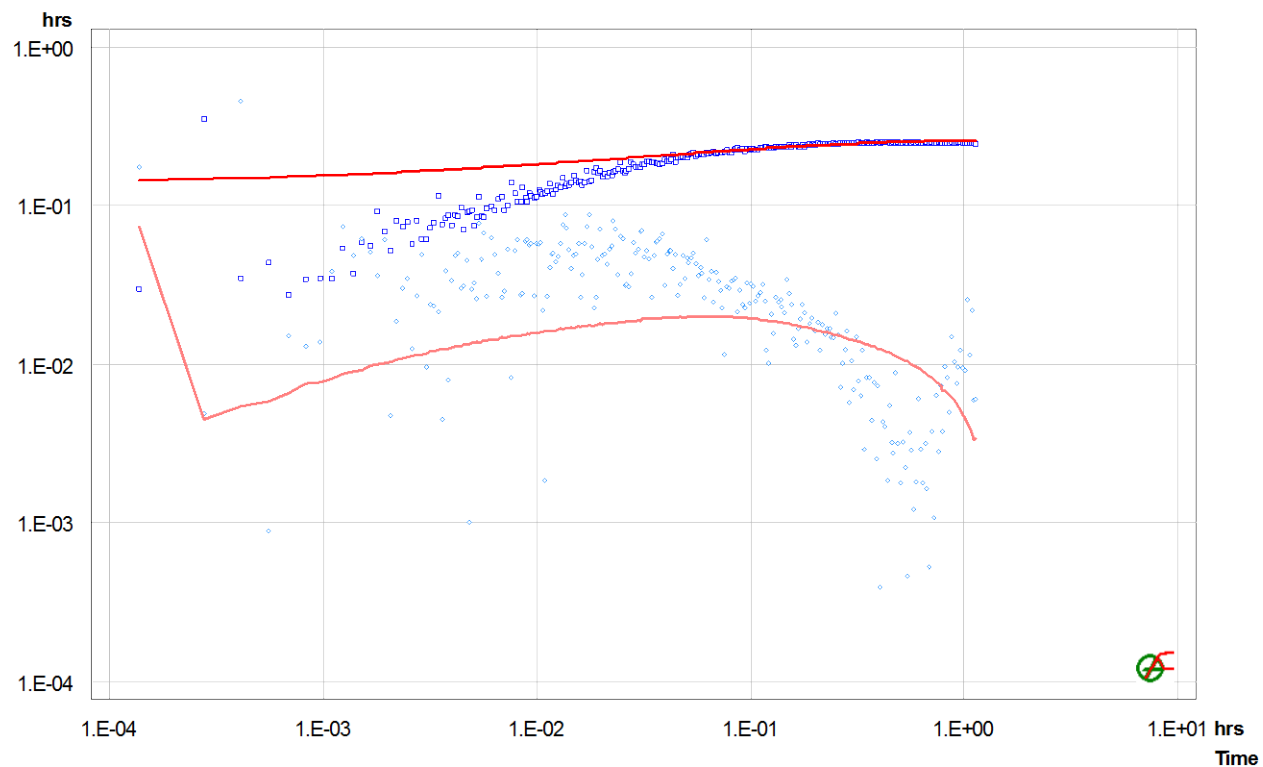


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-05
Test Name Well #1
Test Date/Time
Interval top: 9.75 m bottom: 11.89 m
Description Analyzed by DV.
 Reviewed by DSL.

Basic Data

Test Interval 2.14 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 63.257 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	51.47			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	51.47			2.1e-07
SW-Init	dP-Event	0.49333	56.61	13.4 *		2.1e-07
SW	Slug	0.49583	43.23	56.6		2.1e-07

Analysis Results

Analysis "SW"

Static Pressure: 61.38 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.5e-04	4.2e-06	11.45	2.0
Shell 2	1.5e-07	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	9.0e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

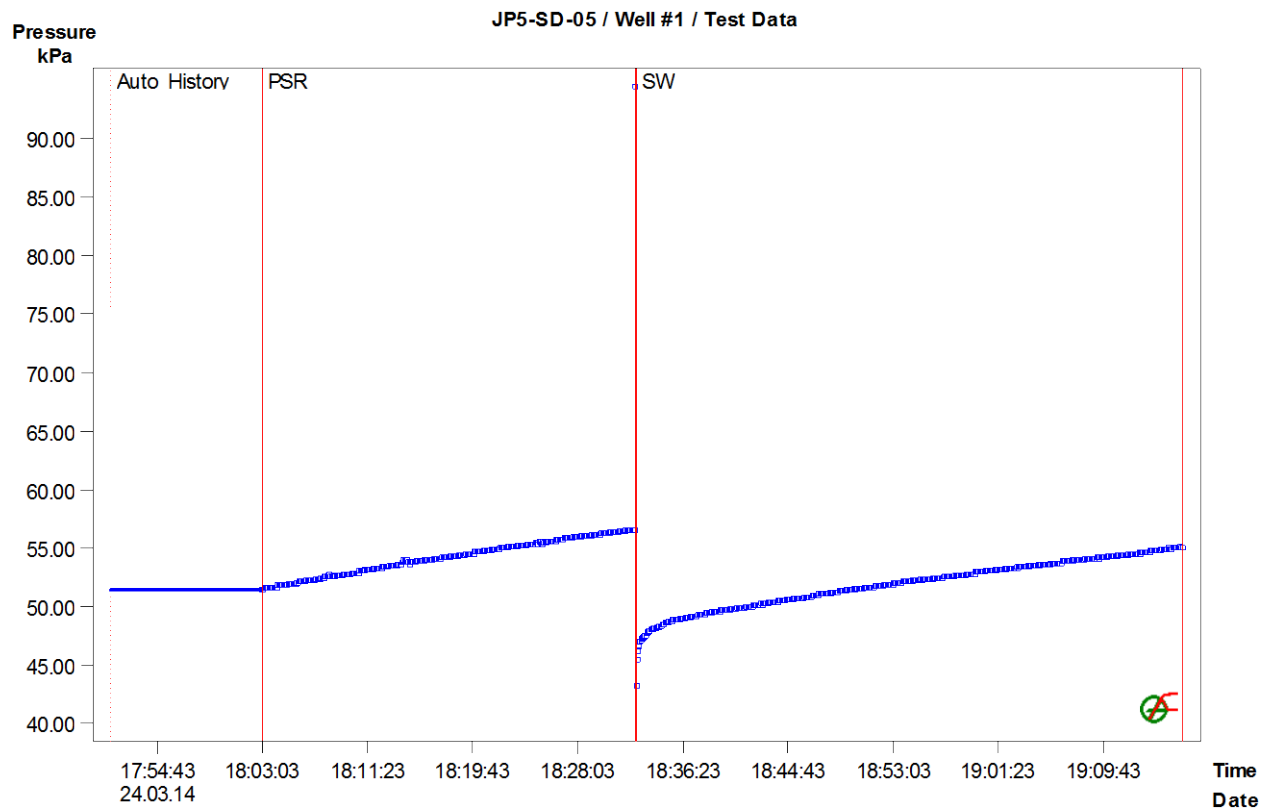


Figure 1: Pressure response and sequence definition

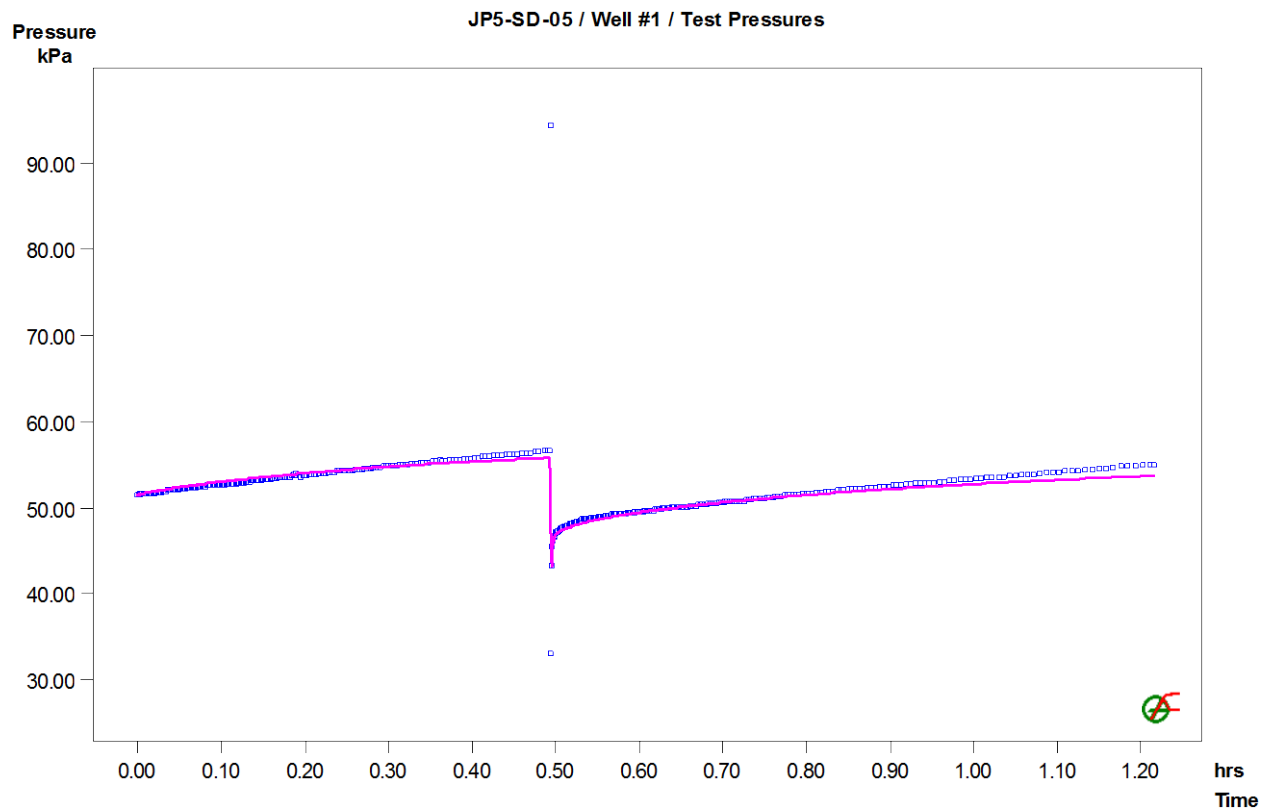


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Well #1 / SW: LogLog Plot, variable P(i)

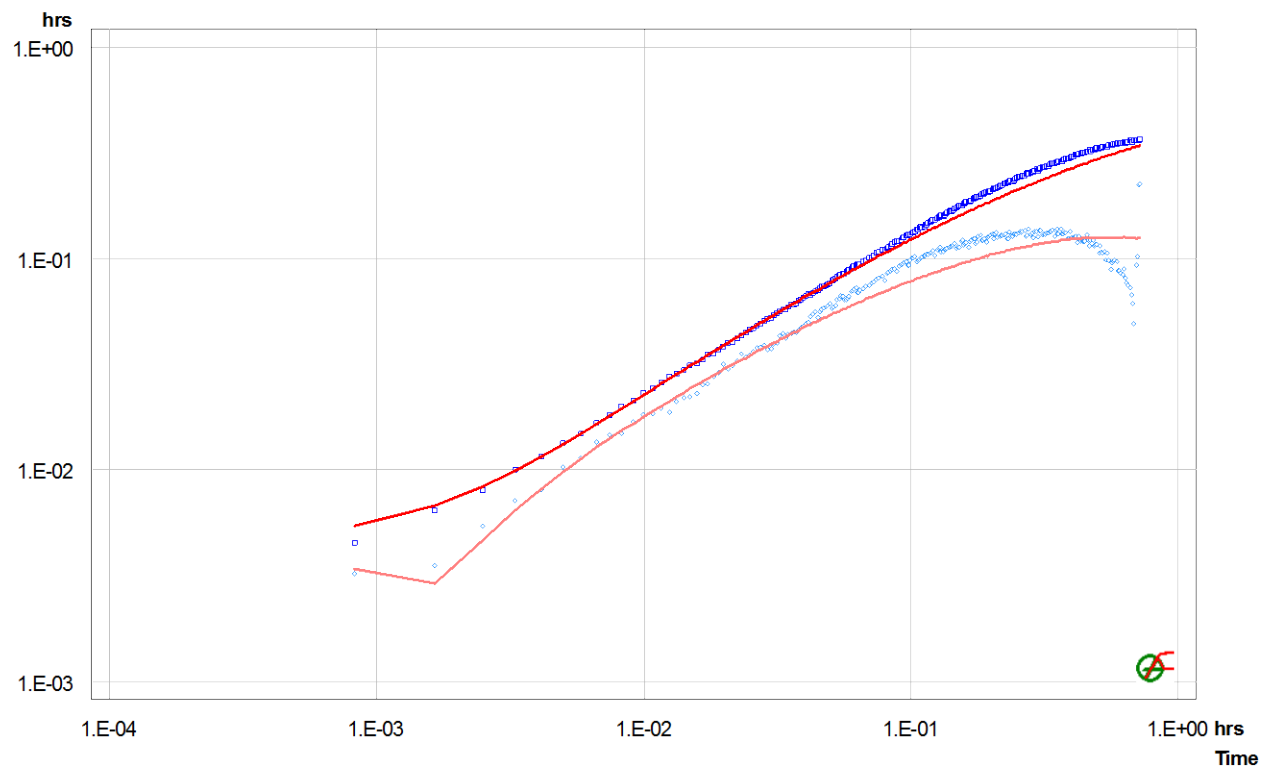


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-05
Test Name Well 2
Test Date/Time
Interval top: 12.80 m bottom: 14.63 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 1.83 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 54.093 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	34.49			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	34.49			2.1e-07
SW-Init	dP-Event	0.88611	49.69	25.6 *		2.1e-07
SW	Slug	0.88889	24.09	49.7		2.1e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 54.60 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.4e-05	3.6e-06	7.05	2.0
Shell 2	6.6e-08	3.6e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	6.4e-09	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

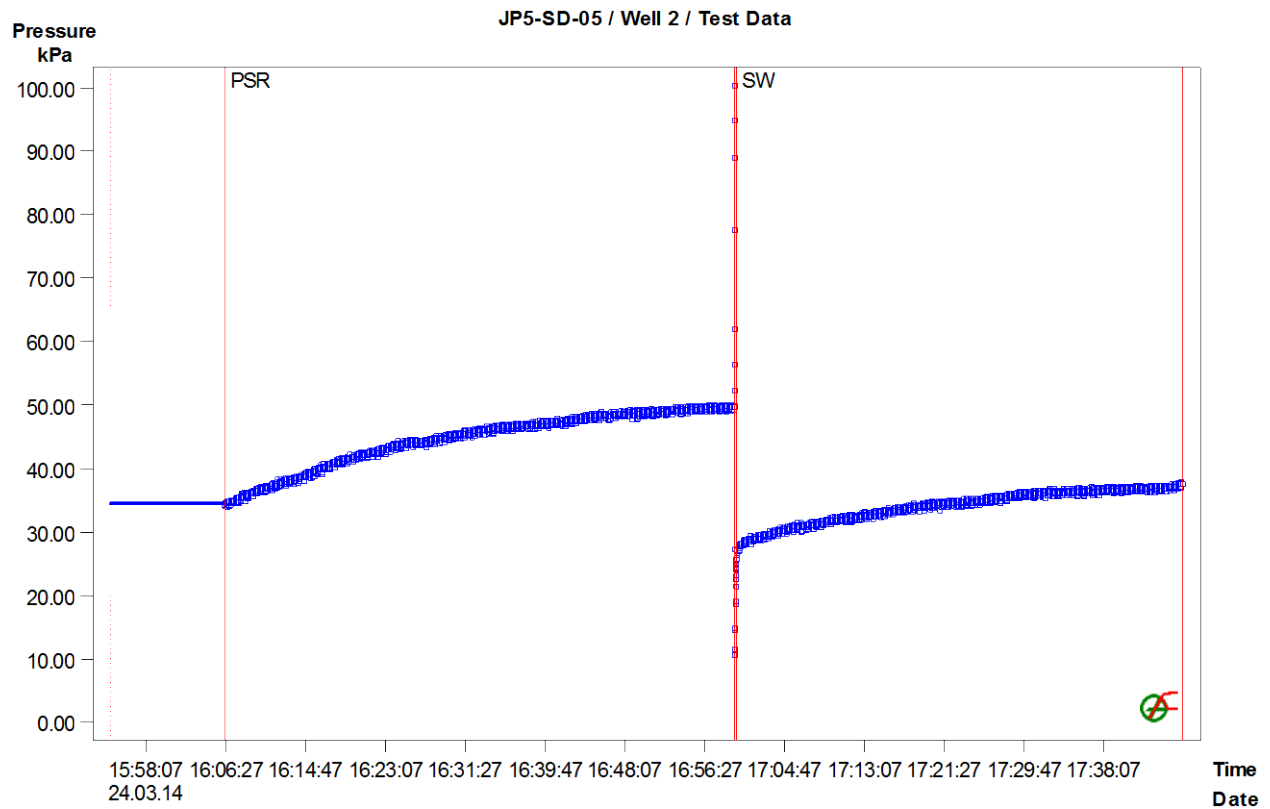


Figure 1: Pressure response and sequence definition

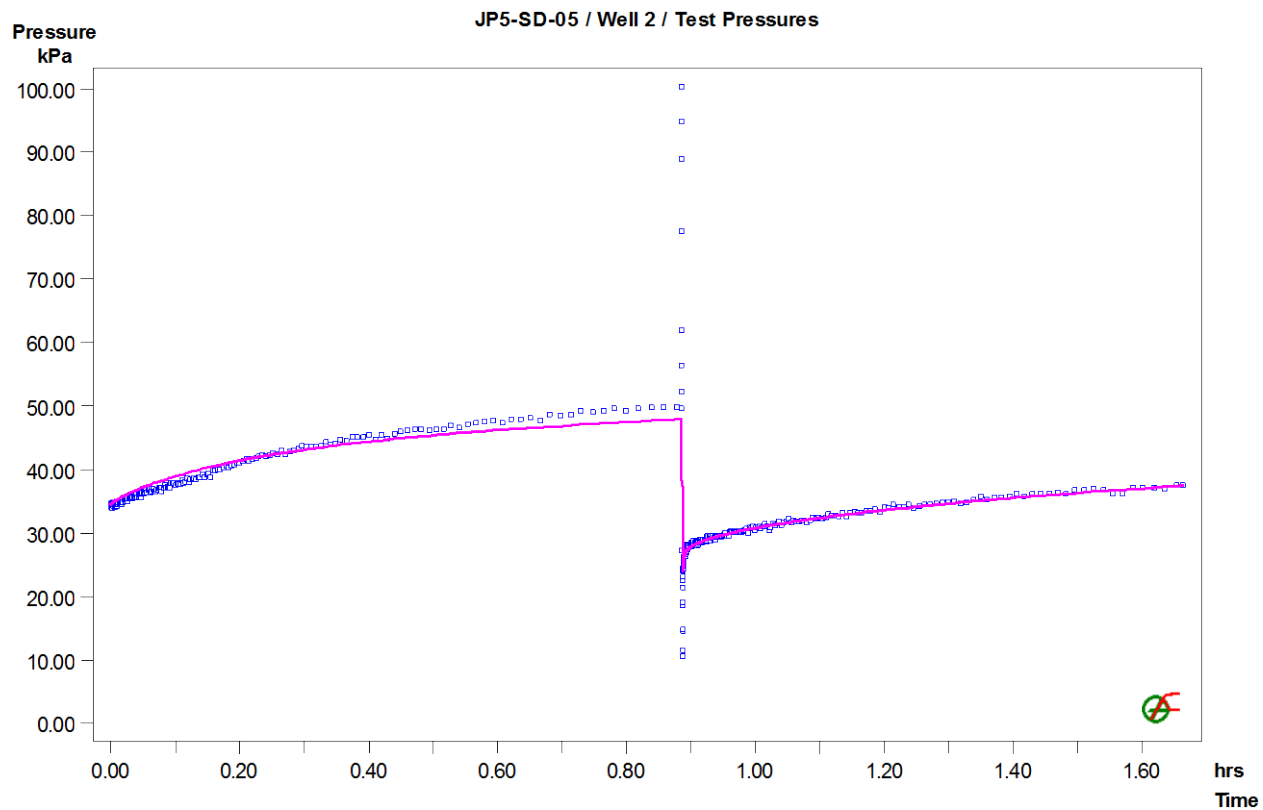


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Well 2 / SW: LogLog Plot, variable P(i)

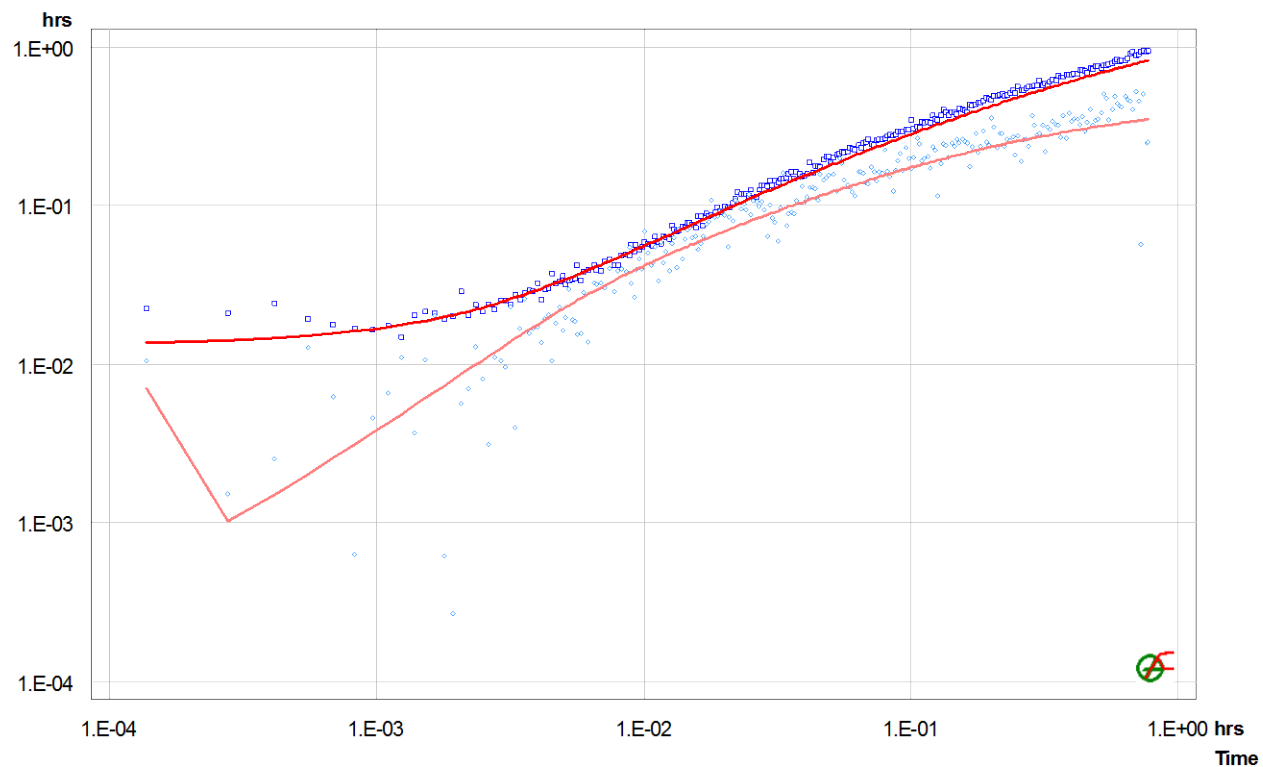


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-05	
Test Name	Test 1	
Test Date/Time		
Interval	top: 25.03 m bottom: 35.62 m	
Description	Analyzed by: DV Reviewd by: DSL	

Basic Data

Test Interval	10.59 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	0.0 deg		
Test Volume	76.653 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
INF	Variable Pressure	0.00000	250.91			4.9e-07
PSR	Recovery	0.33778	252.84			4.9e-07
SI-Init	dP-Event	1.09375	246.64	15.7 *		4.9e-07
SW	Slug	1.10250	230.95	246.6		4.9e-07

Analysis Results

Analysis "SW-final"

Static Pressure: 249.62 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.1e-06	2.1e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.7e-07	0.0
PSR	5.7e-07	0.0
SI-Init	4.9e-07	0.0
SW	4.9e-07	0.0

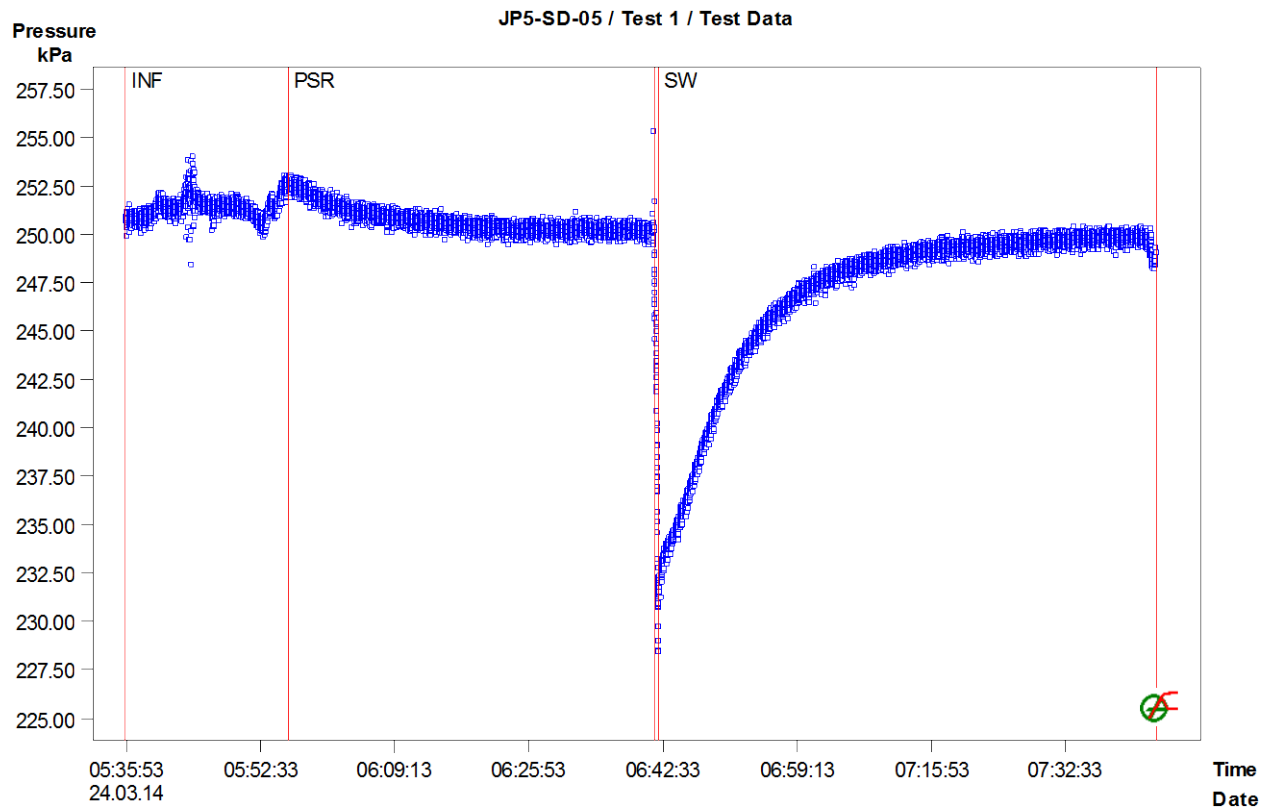


Figure 1: Pressure response and sequence definition

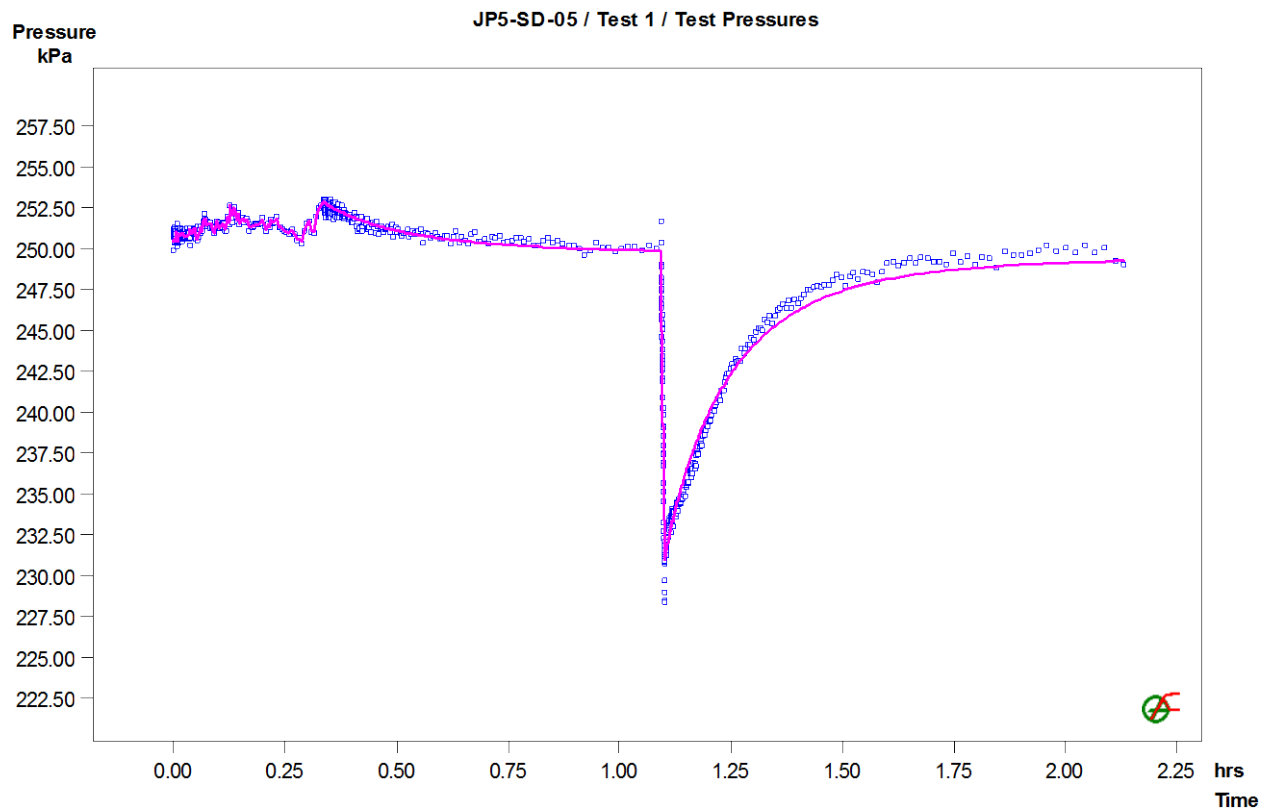


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Test 1 / SW: LogLog Plot, variable P(i)

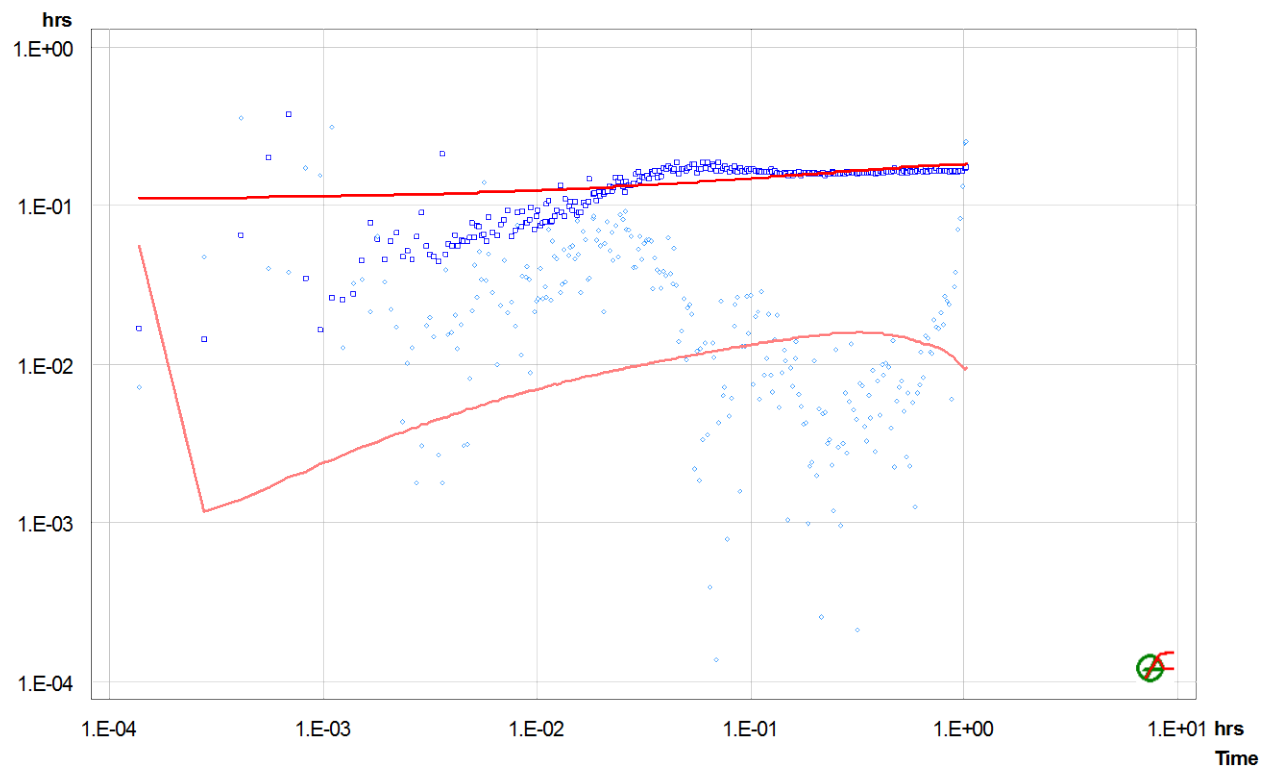


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-06
Test Name piezometer 1
Test Date/Time
Interval top: 13.72 m bottom: 15.85 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 2.13 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 62.961 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	66.22			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	66.22			2.1e-07
SW-Init	dP-Event	0.99319	130.04	61.9 *		2.1e-07
SW	Slug	1.00056	68.17	130.0		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 138.24 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-06	4.2e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.9e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

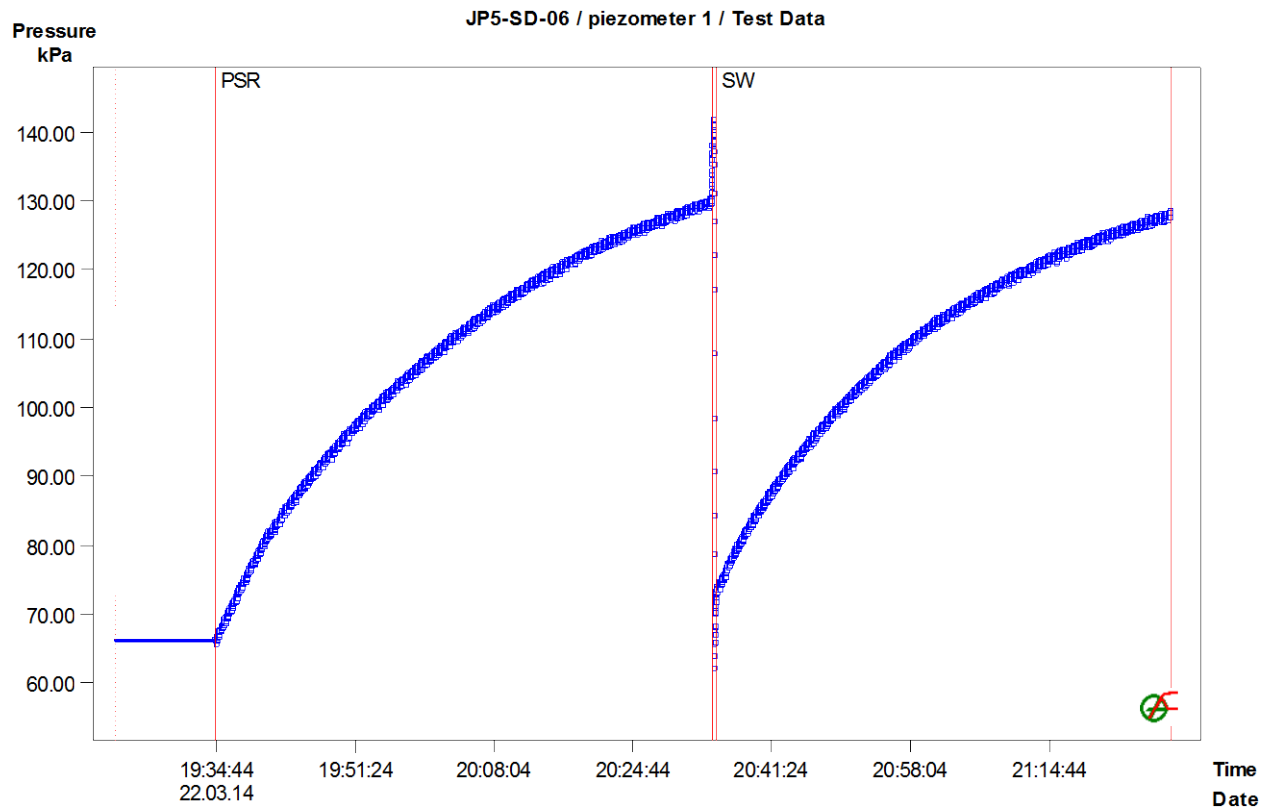


Figure 1: Pressure response and sequence definition

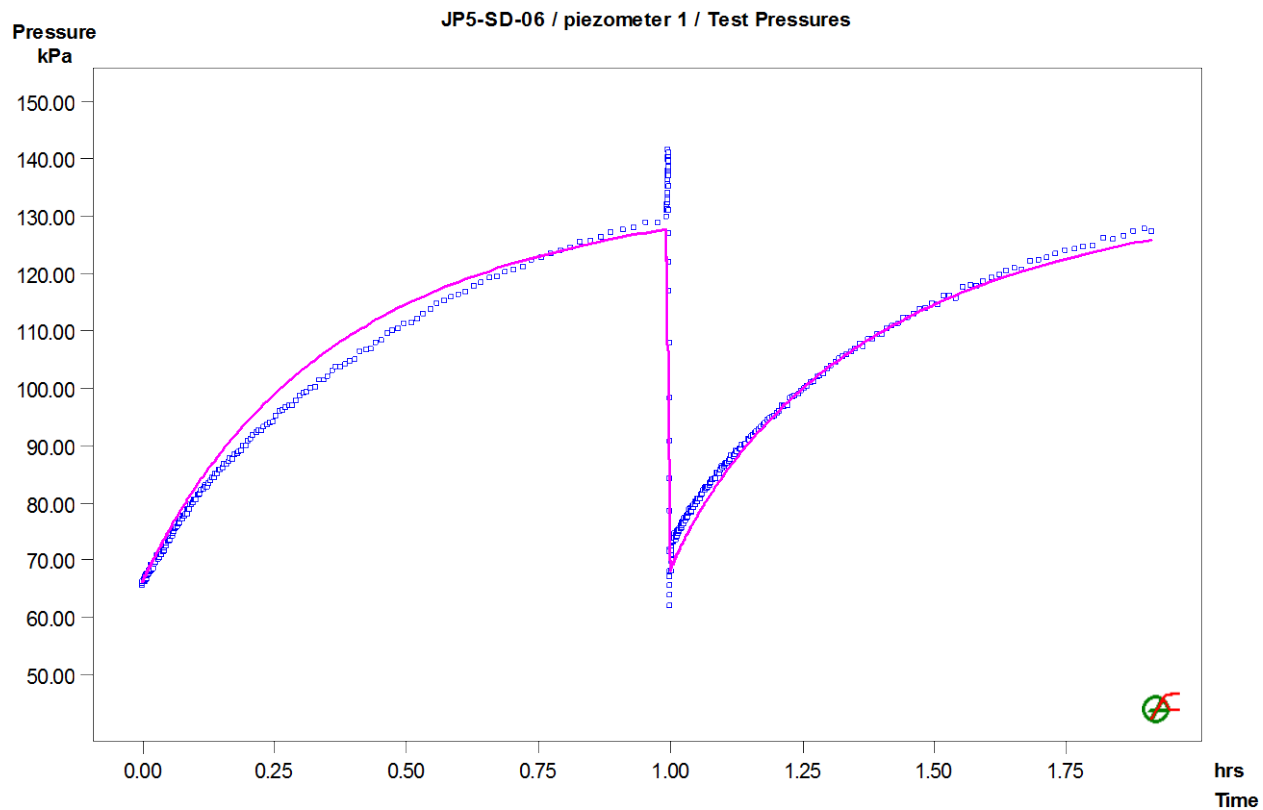


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-06 / piezometer 1 / SW: LogLog Plot, variable P(i)

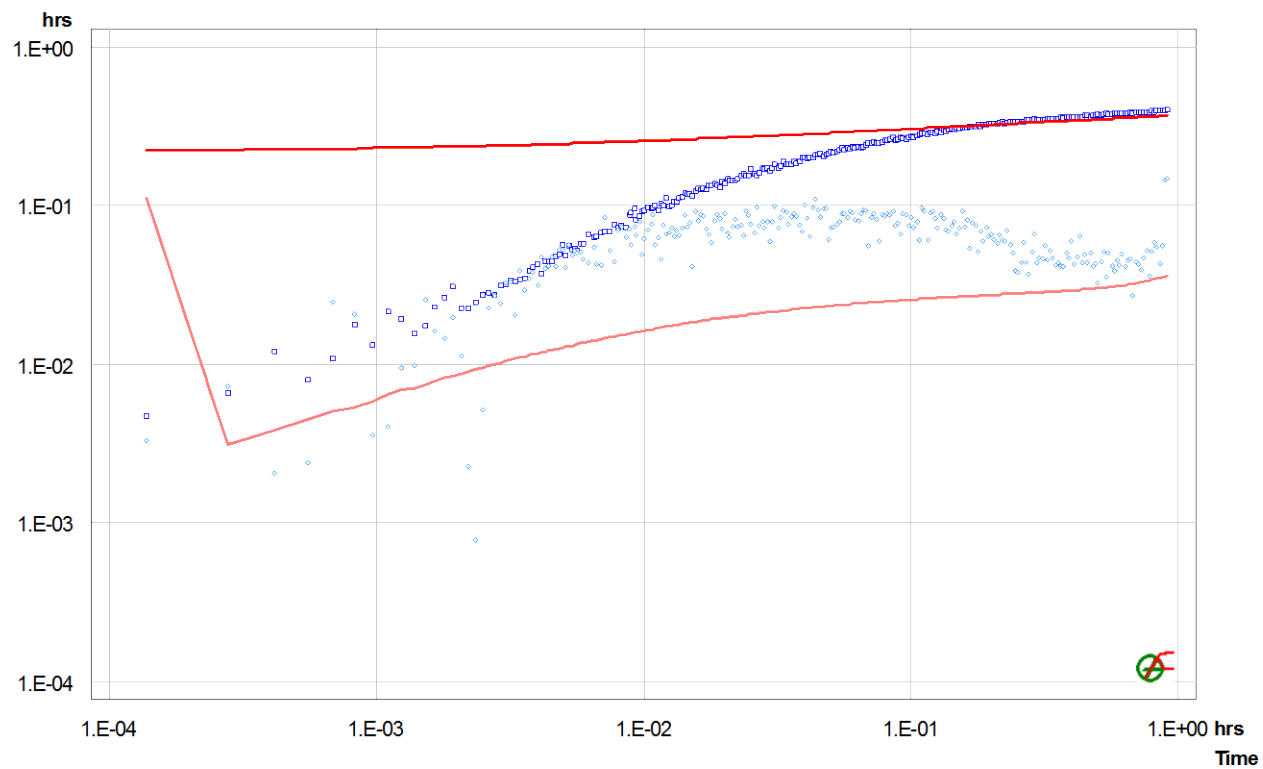


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-06
Test Name Test 1
Test Date/Time
Interval top: 21.94 m bottom: 38.62 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 16.68 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 120.734 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	221.82			4.8e-07
PSR	Recovery	0.56986	226.40			4.8e-07
SW-Init	dP-Event	1.15486	219.40	34.0 *		4.8e-07
SW	Slug	1.16389	185.42	219.4		4.8e-07
COM	Variable Pressure	1.66931	218.86			4.8e-07
RI	Constant Rate	2.29042	231.50		-5.50e+00	2.5e-08
RIR	Recovery	3.09583	351.53			2.5e-08

Analysis Results

Analysis "SW-final"

Static Pressure: 218.65 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.4e-05	3.3e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	5.1e-07	0.0
PSR	5.1e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0
COM	5.1e-07	0.0
RI	2.5e-08	0.0
RIR	2.5e-08	0.0

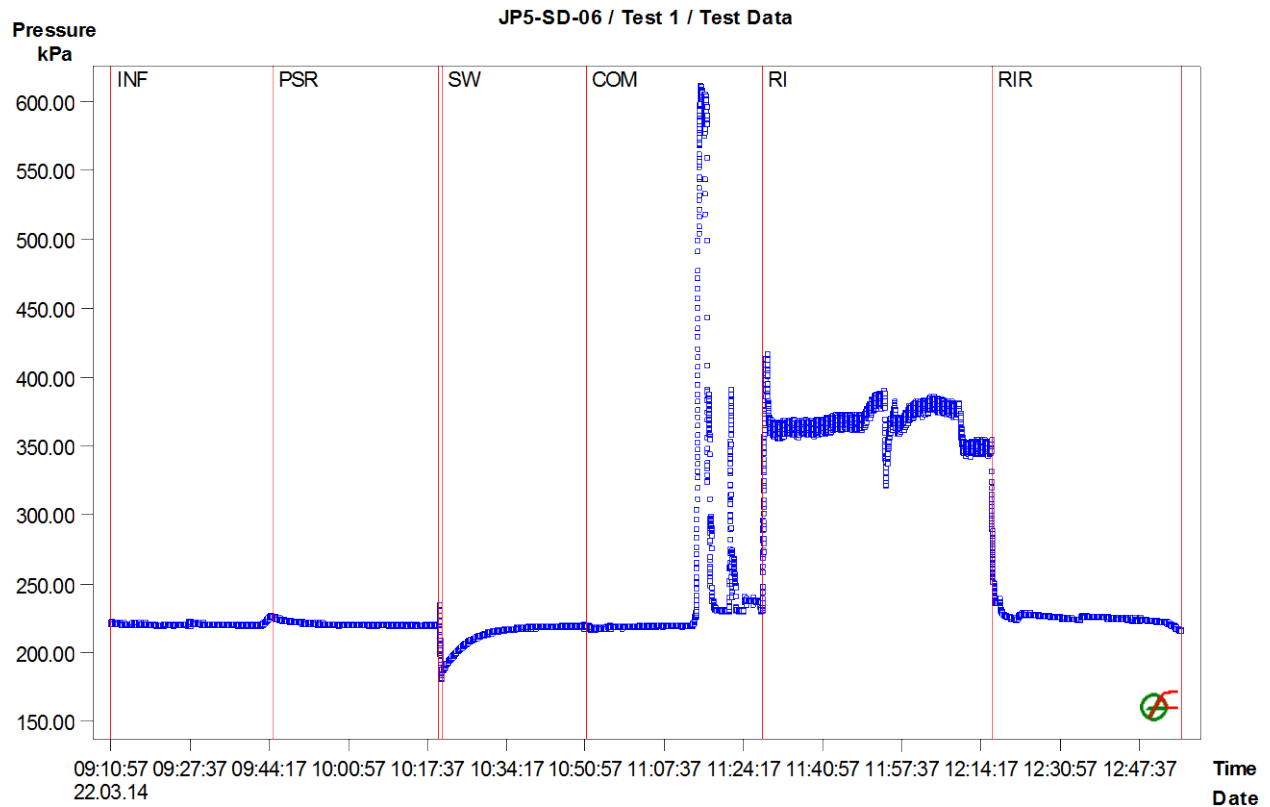


Figure 1: Pressure response and sequence definition

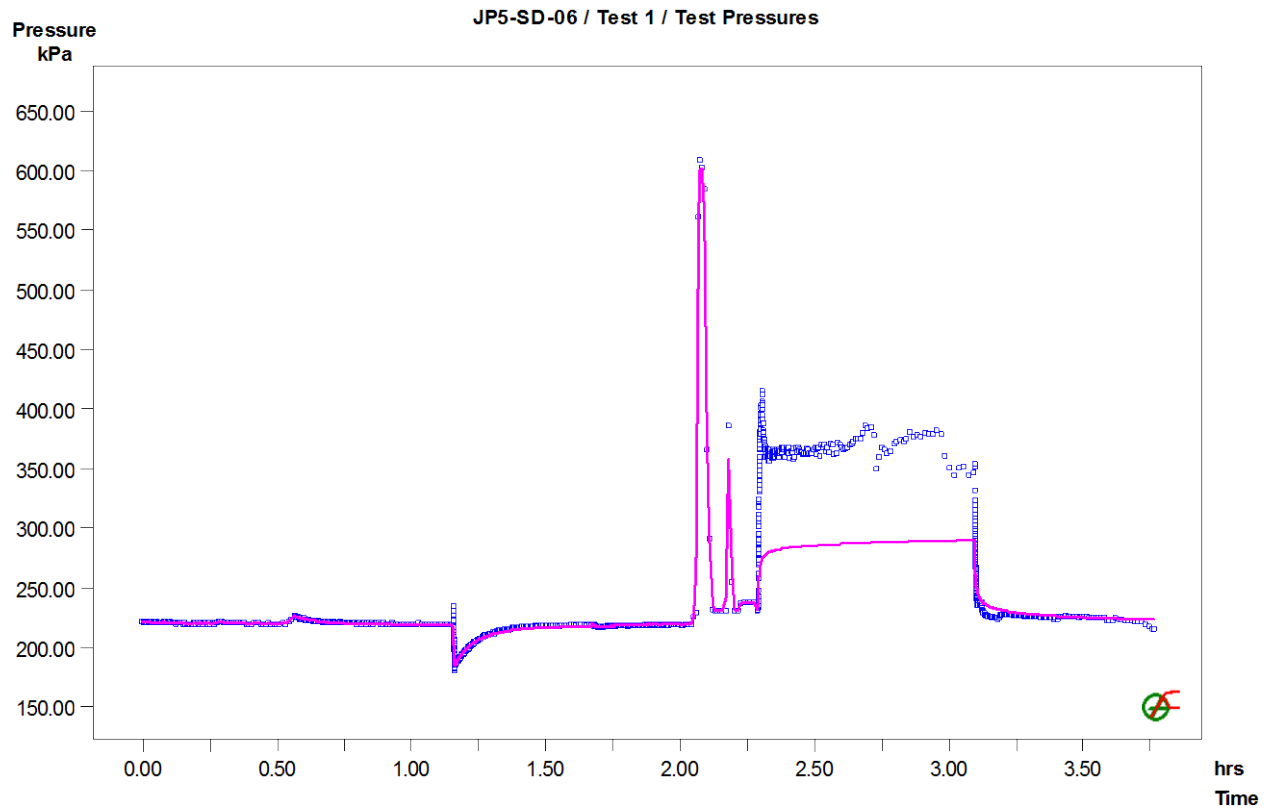


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-06 / Test 1 / SW: LogLog Plot, variable P(i)

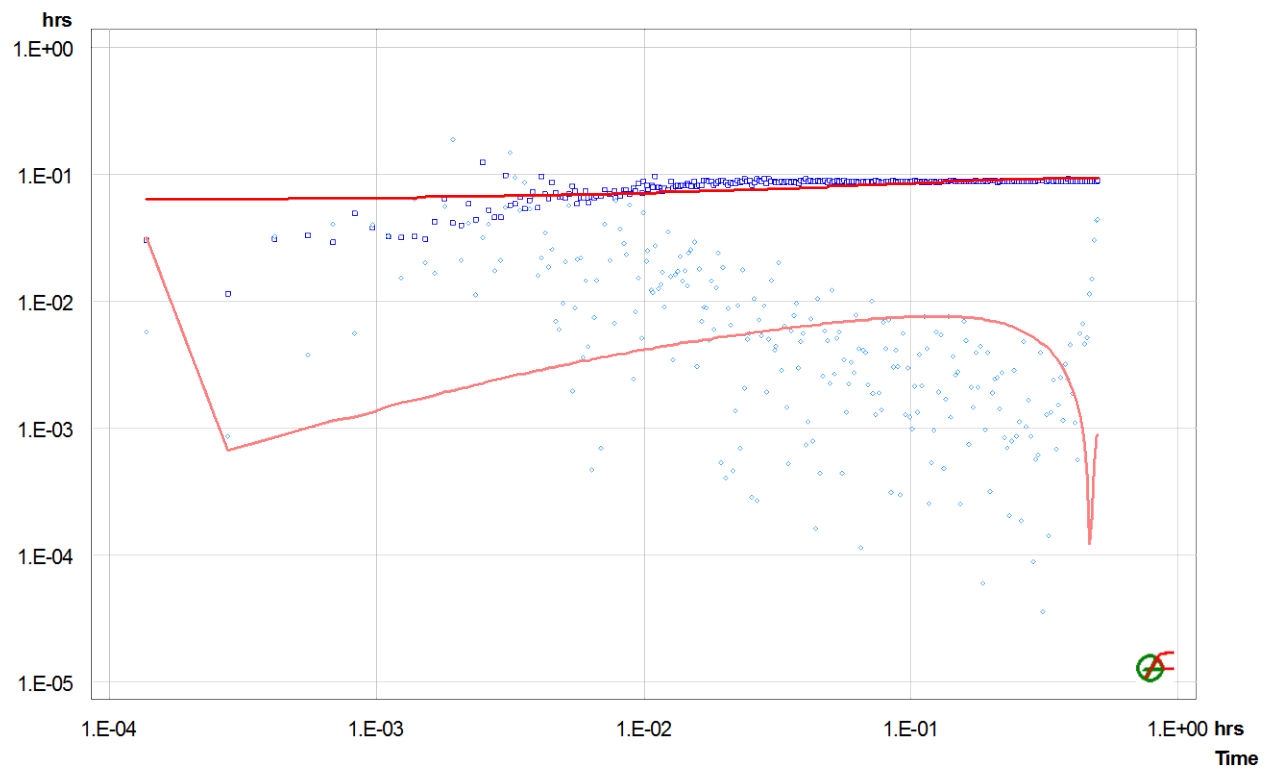


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-07
Test Name Piezometer 1
Test Date/Time
Interval top: 12.04 m bottom: 13.26 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 1.22 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 36.062 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	47.03			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	47.03			2.1e-07
SW-Init	dP-Event	1.09458	115.75	86.2 *		2.1e-07
SW	Slug	1.09931	29.57	115.8		2.1e-07

Analysis Results

Analysis "SW-2 shell Final"

Static Pressure: 134.79 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.0e-05	2.4e-06	16.29	2.0
Shell 2	4.5e-07	2.4e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.2e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

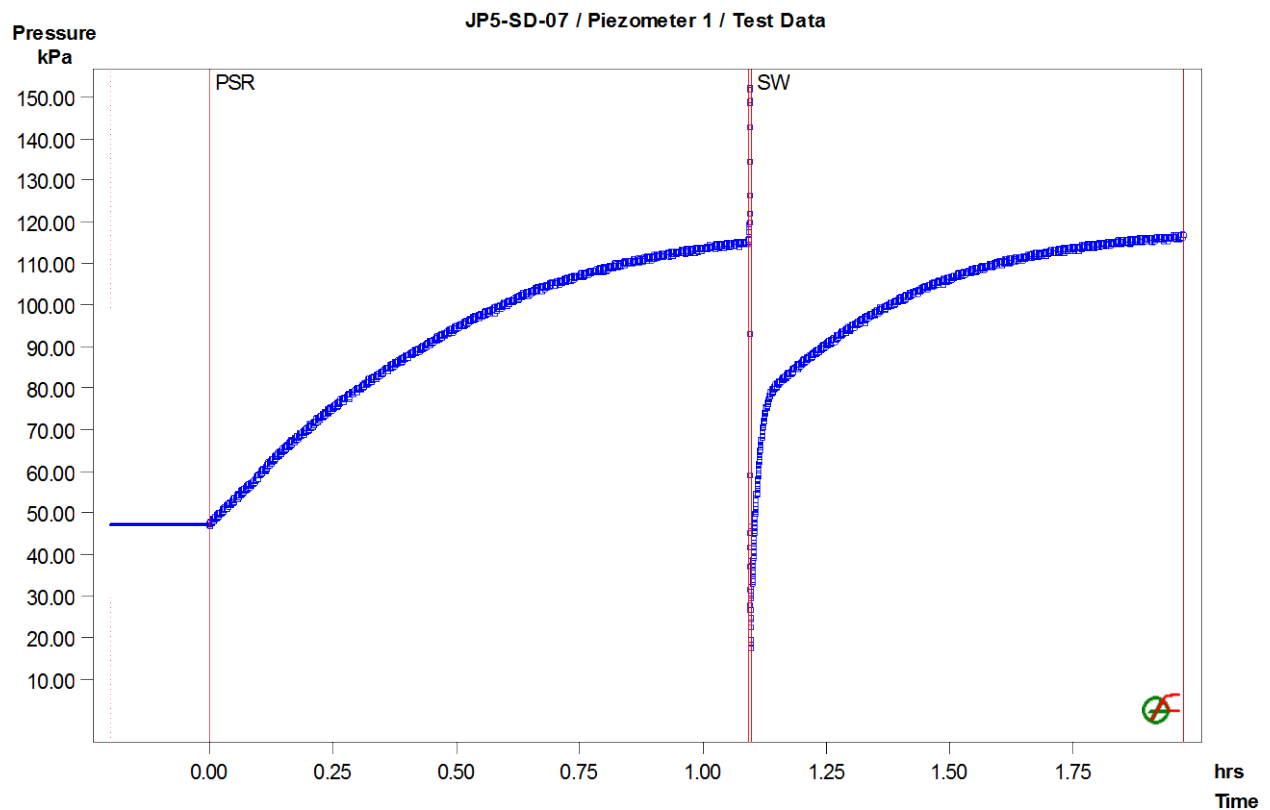


Figure 1: Pressure response and sequence definition

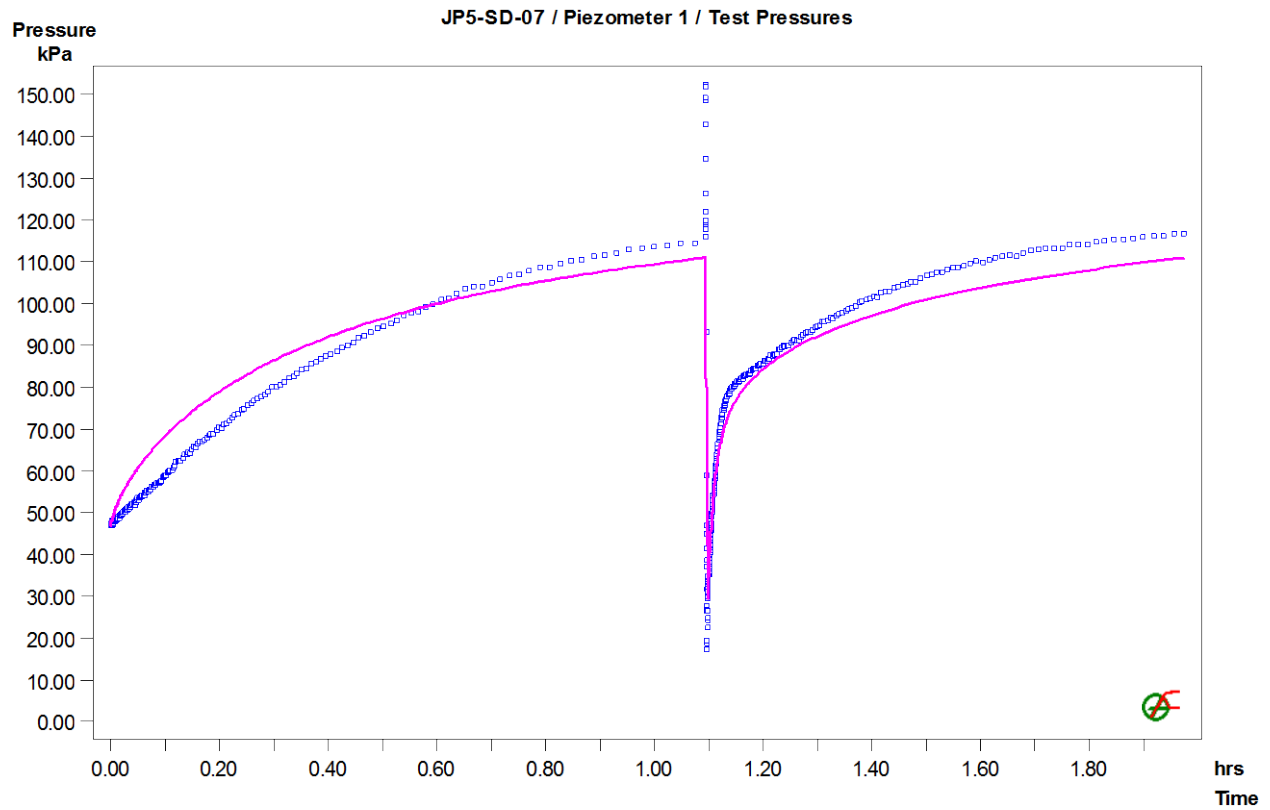


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Piezometer 1 / SW: LogLog Plot, variable P(i)

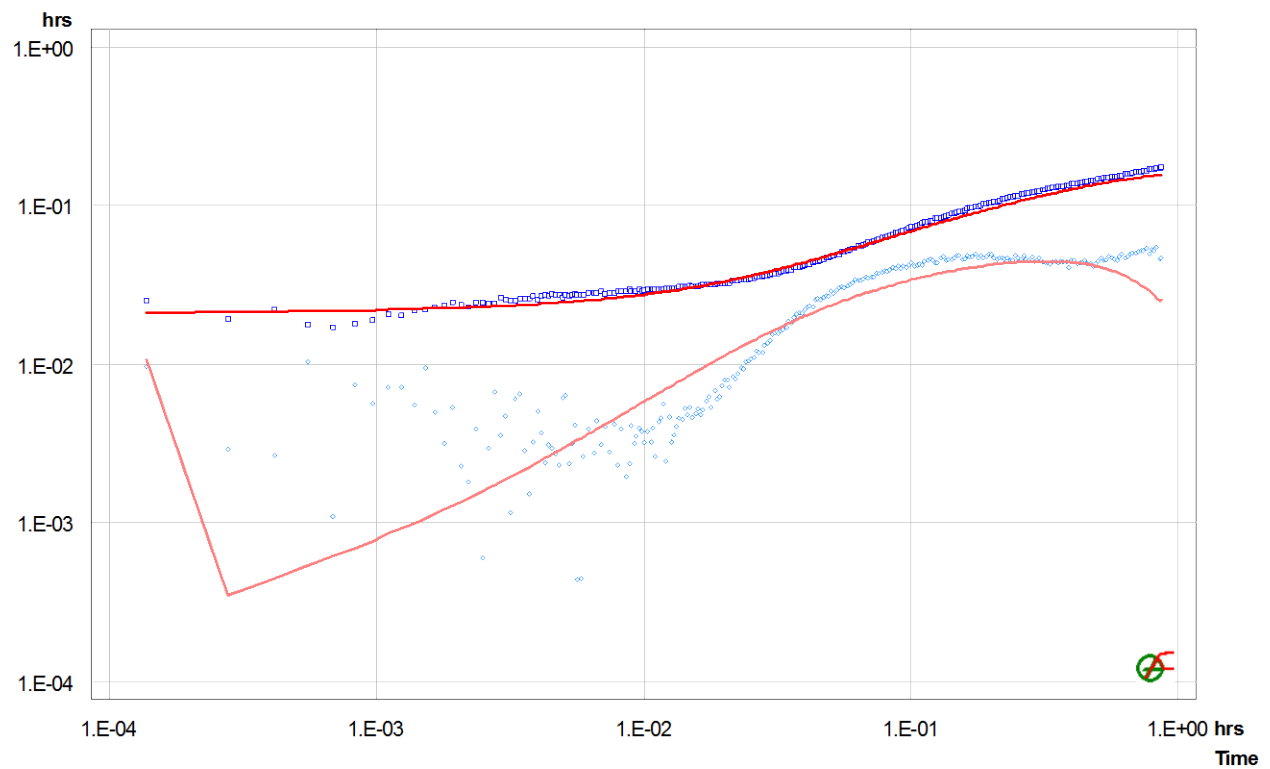


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-07
Test Name Piezometer 2
Test Date/Time
Interval top: 14.48 m bottom: 16.15 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 1.67 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 30.304 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.20	85.02			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	85.02			2.1e-07
SW-Init	dP-Event	0.98444	145.10	91.9 *		2.1e-07
SW	Slug	0.99667	53.23	145.1		2.1e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 159.68 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.5e-05	3.3e-06	12.86	2.0
Shell 2	6.8e-07	3.3e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.8e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

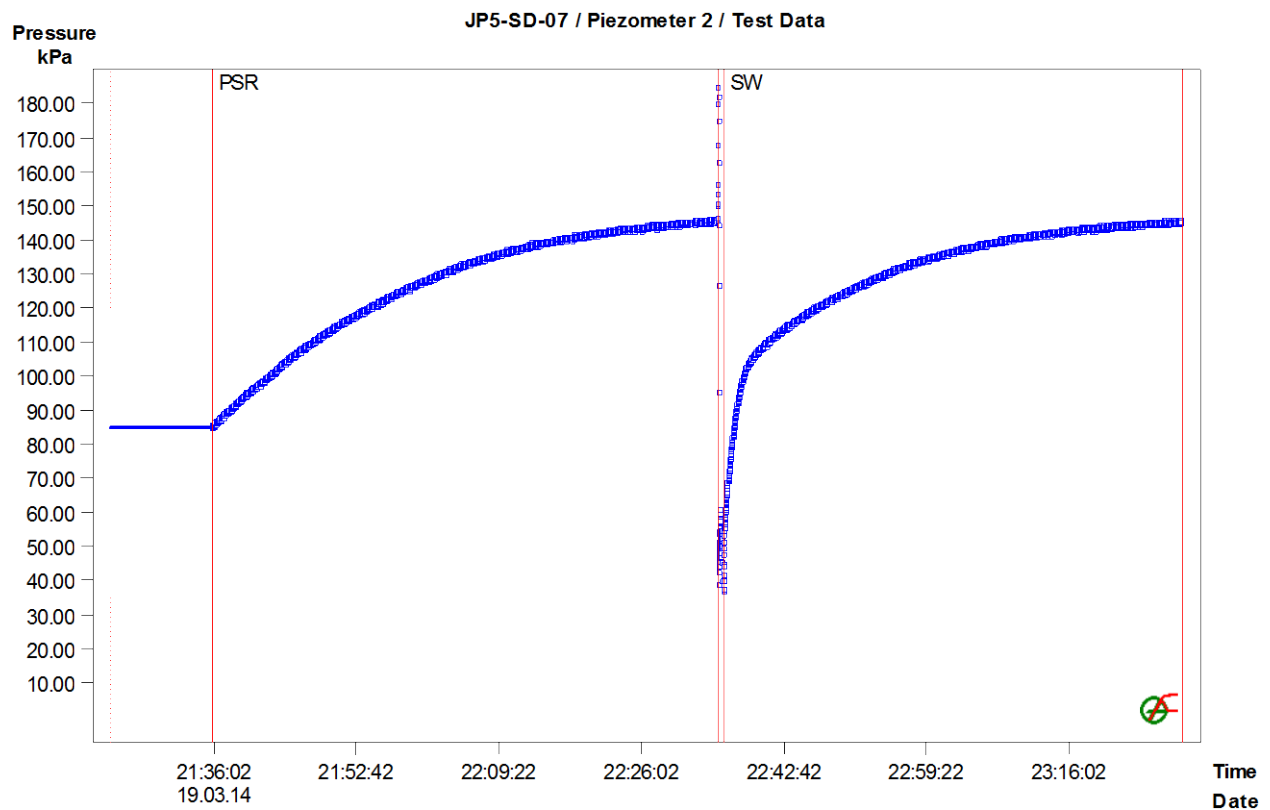


Figure 1: Pressure response and sequence definition

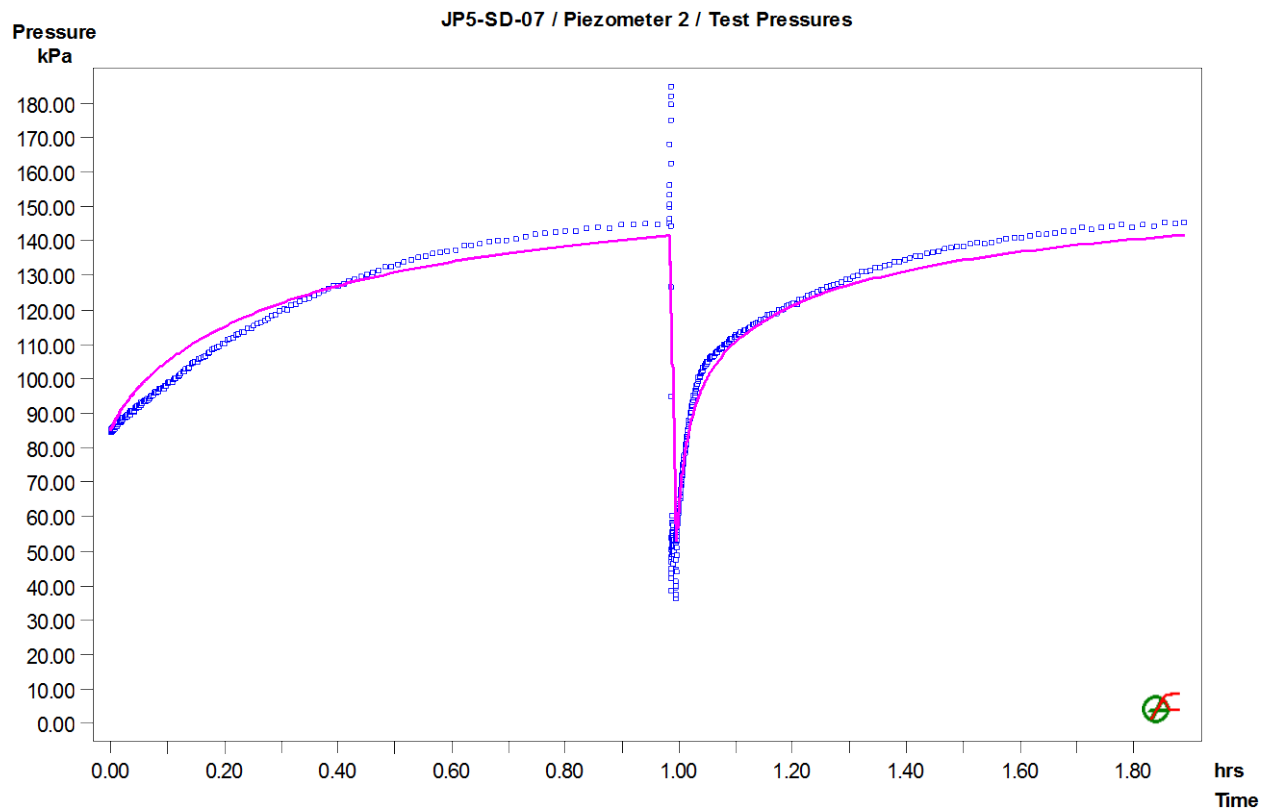


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Piezometer 2 / SW: LogLog Plot, variable P(i)

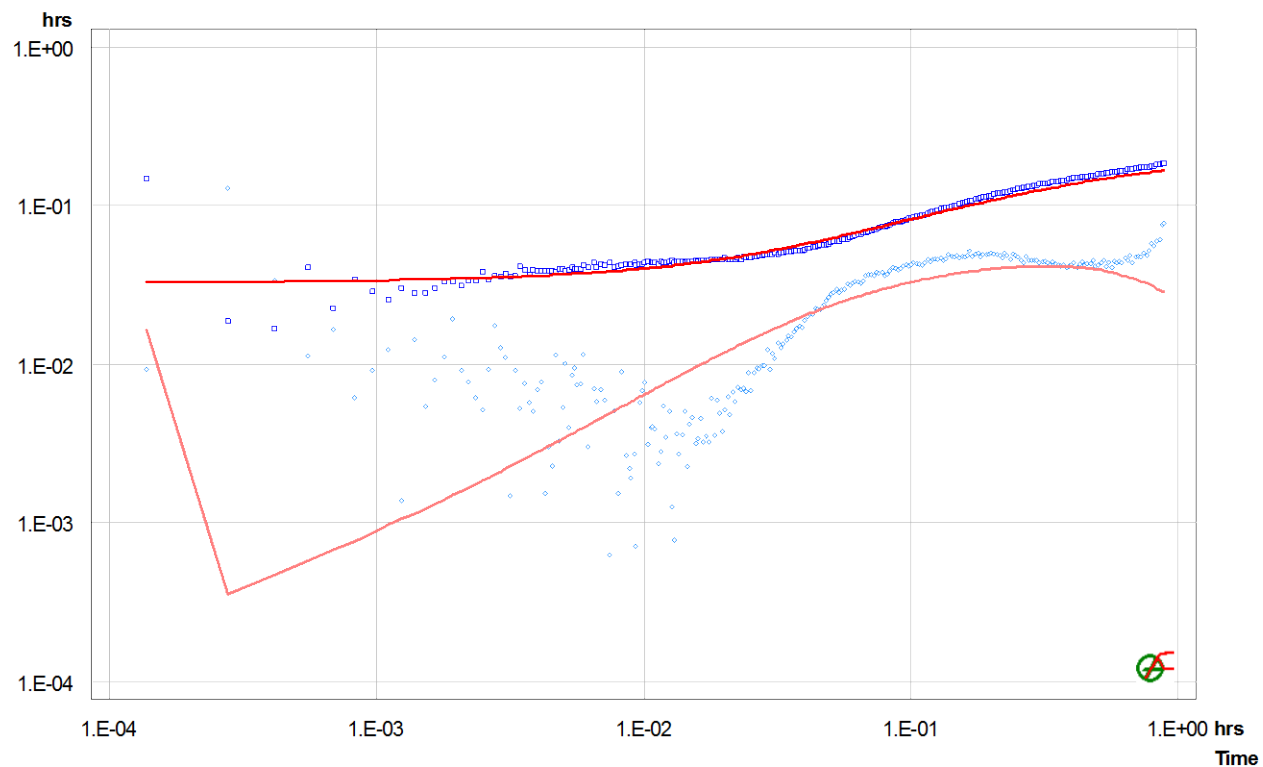


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-07
Test Name Test 1
Test Date/Time
Interval top: 21.95 m bottom: 35.70 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 13.75 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 99.526 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	257.34			4.8e-07
PSR	Recovery	1.55500	258.58			4.8e-07
SW-Init	dP-Event	2.62472	256.34	45.9 *		4.8e-07
SW	Slug	2.64153	210.49	256.3		4.8e-07

Analysis Results

Analysis "Sw-1 shell"

Static Pressure: 254.79 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.7e-07	2.7e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.5e-07	0.0
PSR	2.5e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

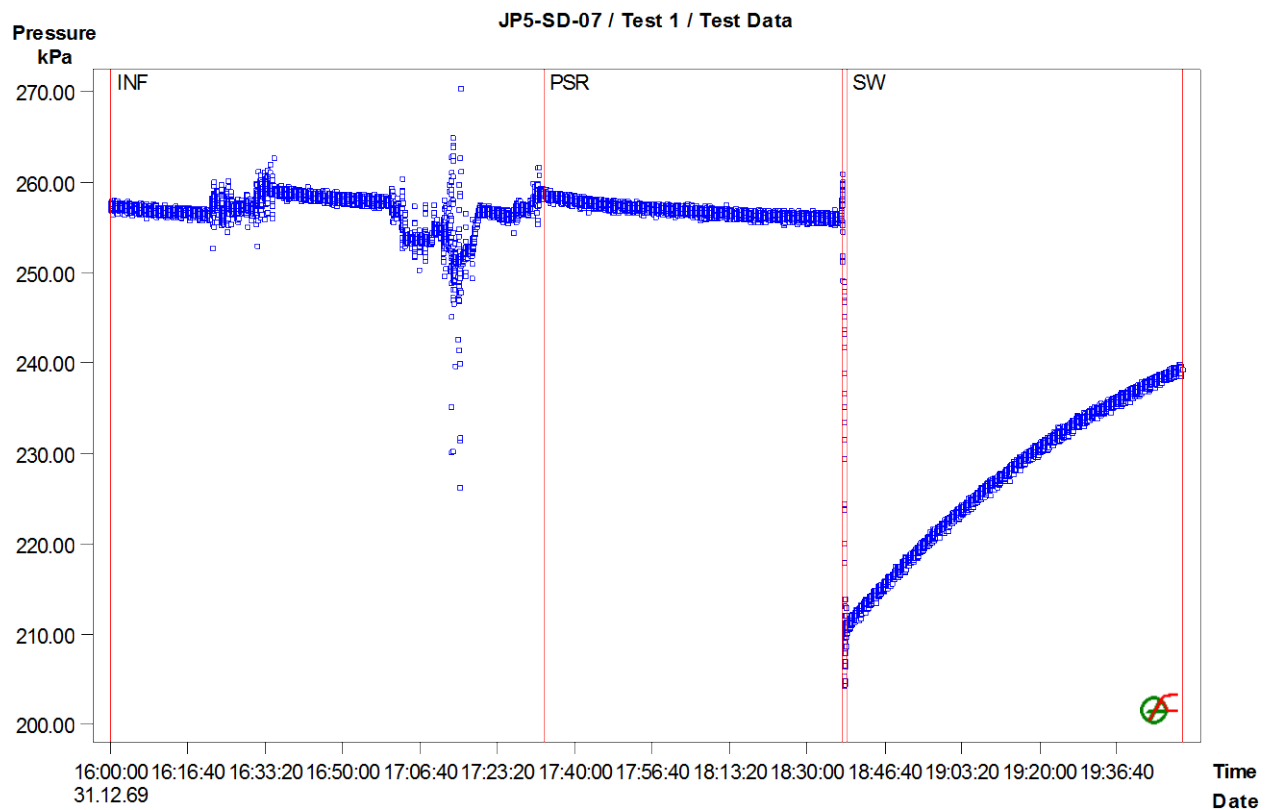


Figure 1: Pressure response and sequence definition

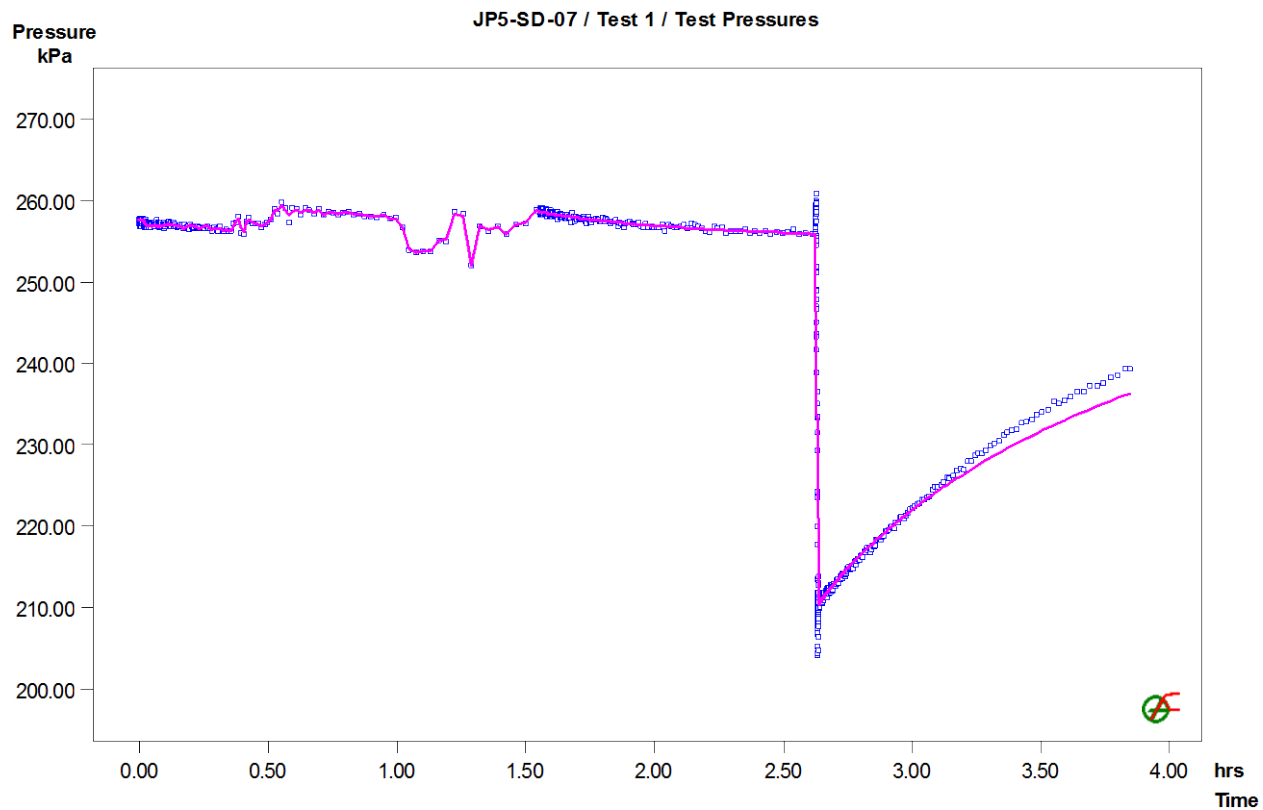


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Test 1 / SW: LogLog Plot, variable P(i)

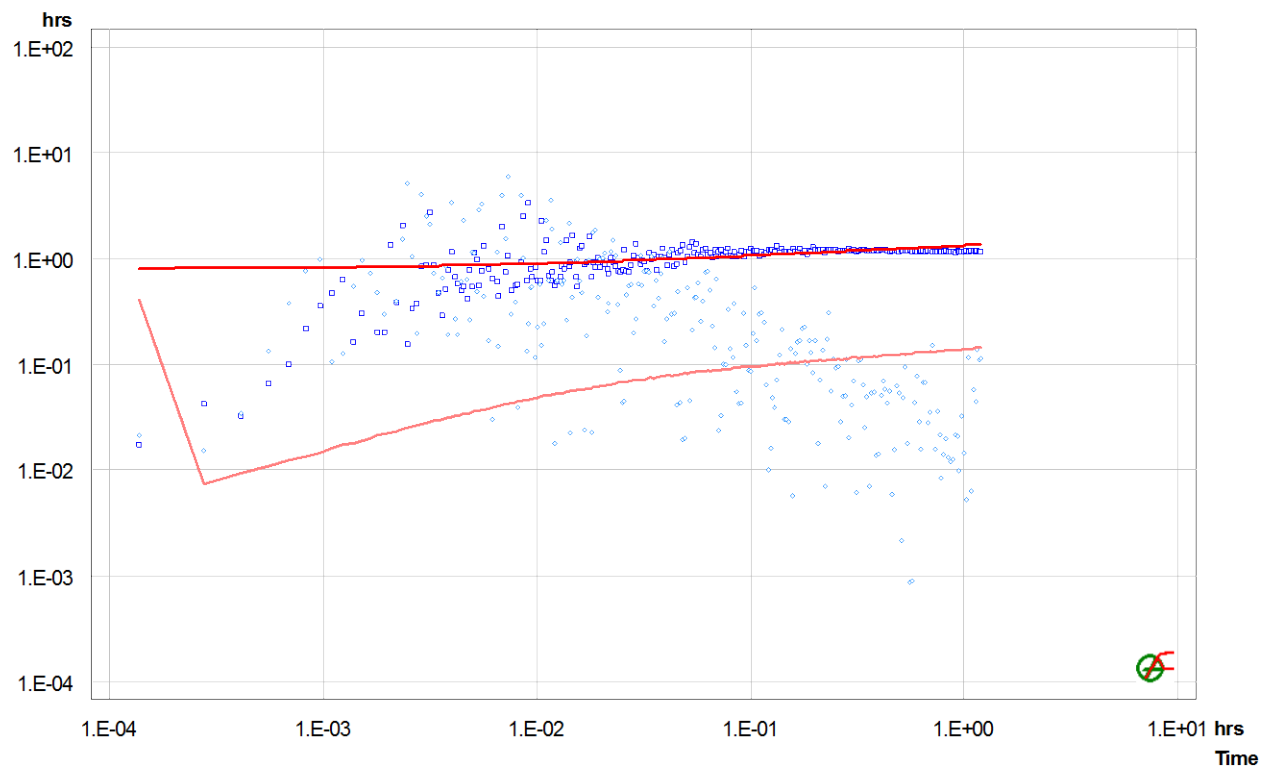


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-08 (Well 1)
Test Name Well 1
Test Date/Time April 9, 2014, 20:00
Interval top: 22.25 m bottom: 24.38 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 2.13 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 62.961 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	231.13			2.0e-07
SW-Init 1	dP-Event	0.28792	231.86	97.0 *		2.0e-07
SW-1	Slug	0.29431	134.89	231.9		2.0e-07
PSR-2	Variable Pressure	0.45069	231.61			2.0e-07
SW-Init 2	dP-Event	0.63000	231.75	156.7 *		2.0e-07
SW-2	Slug	0.63764	75.08	231.8		2.0e-07

Analysis Results

Analysis "SW-2 shell Final"

Static Pressure: 231.00 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.1e-05	4.2e-06	37.85	2.0
Shell 2	1.0e-02	4.2e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.0e-07	0.0
SW-Init 1	2.0e-07	0.0
SW-1	2.0e-07	0.0
PSR-2	2.0e-07	0.0
SW-Init 2	2.0e-07	0.0
SW-2	2.0e-07	0.0

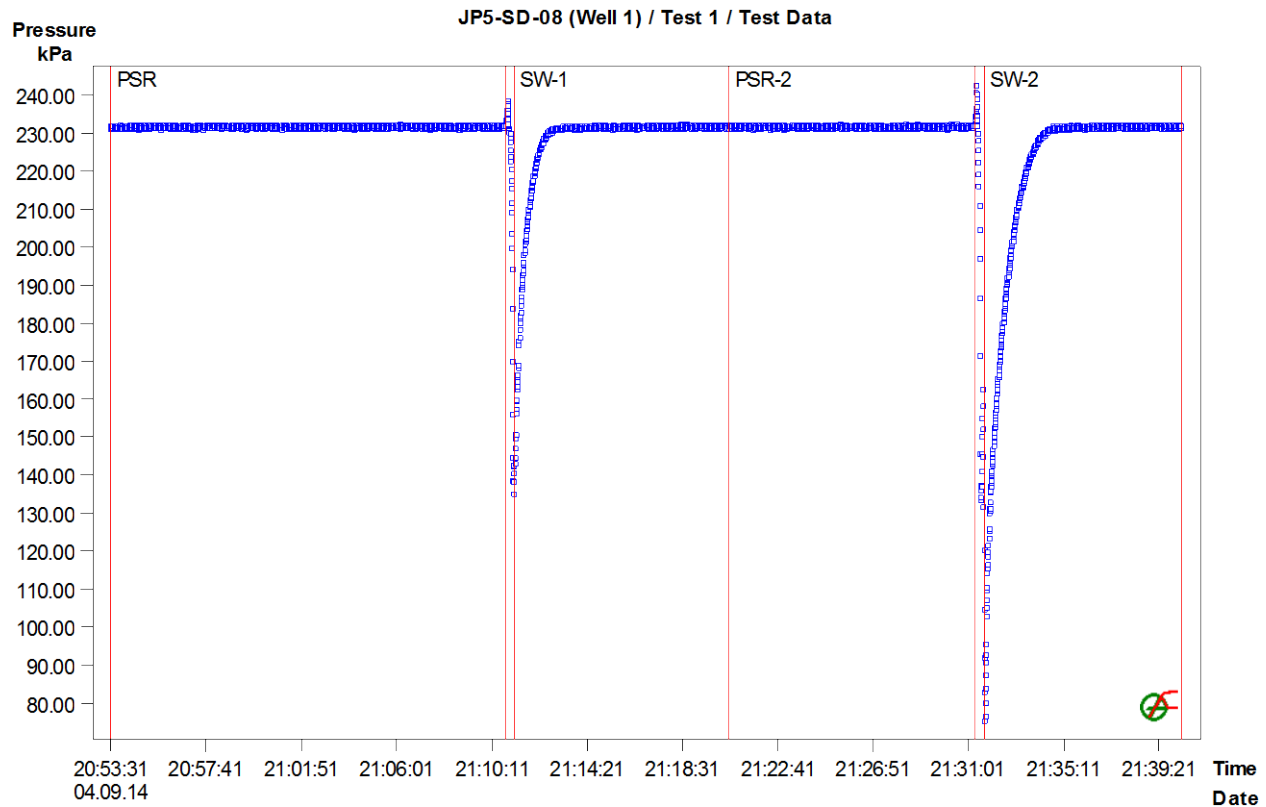


Figure 1: Pressure response and sequence definition

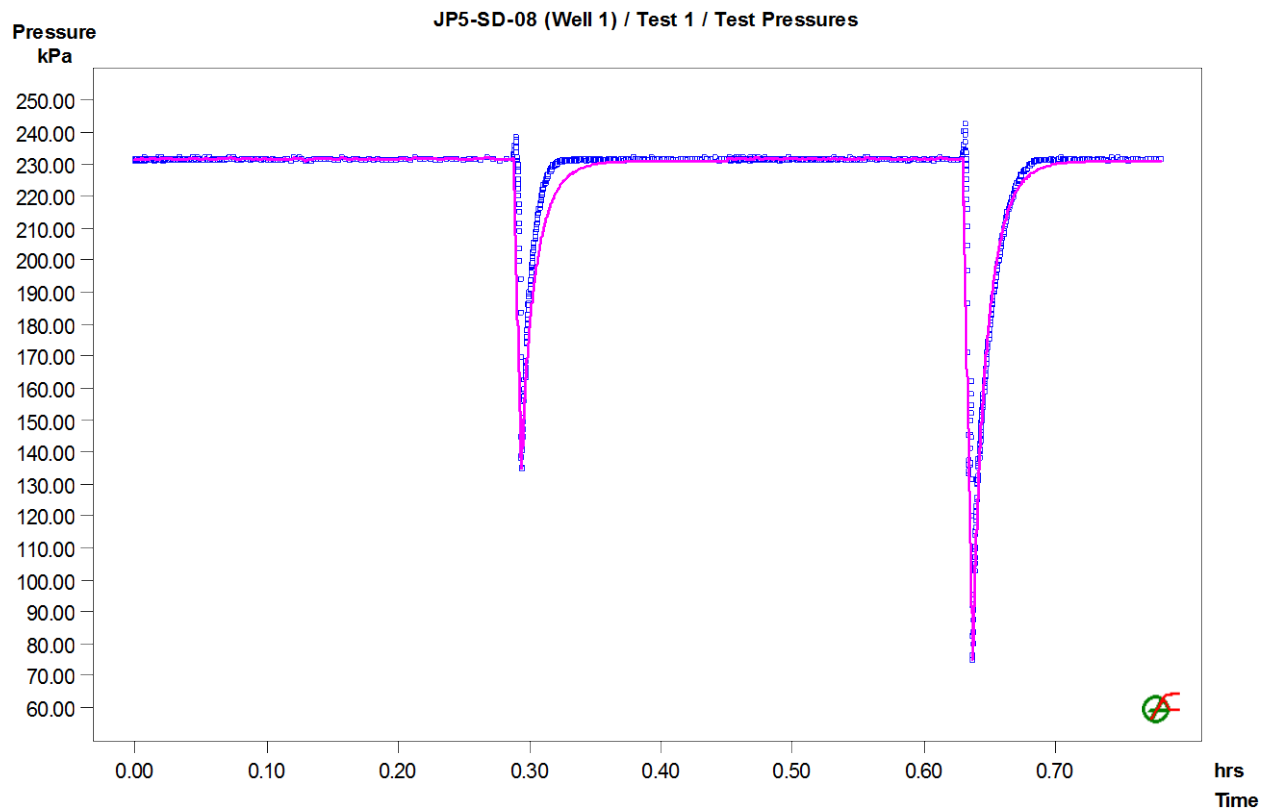


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

Deconv. P

JP5-SD-08 (Well 1) / Test 1 / SW-1: LogLog Plot, constant P(i)

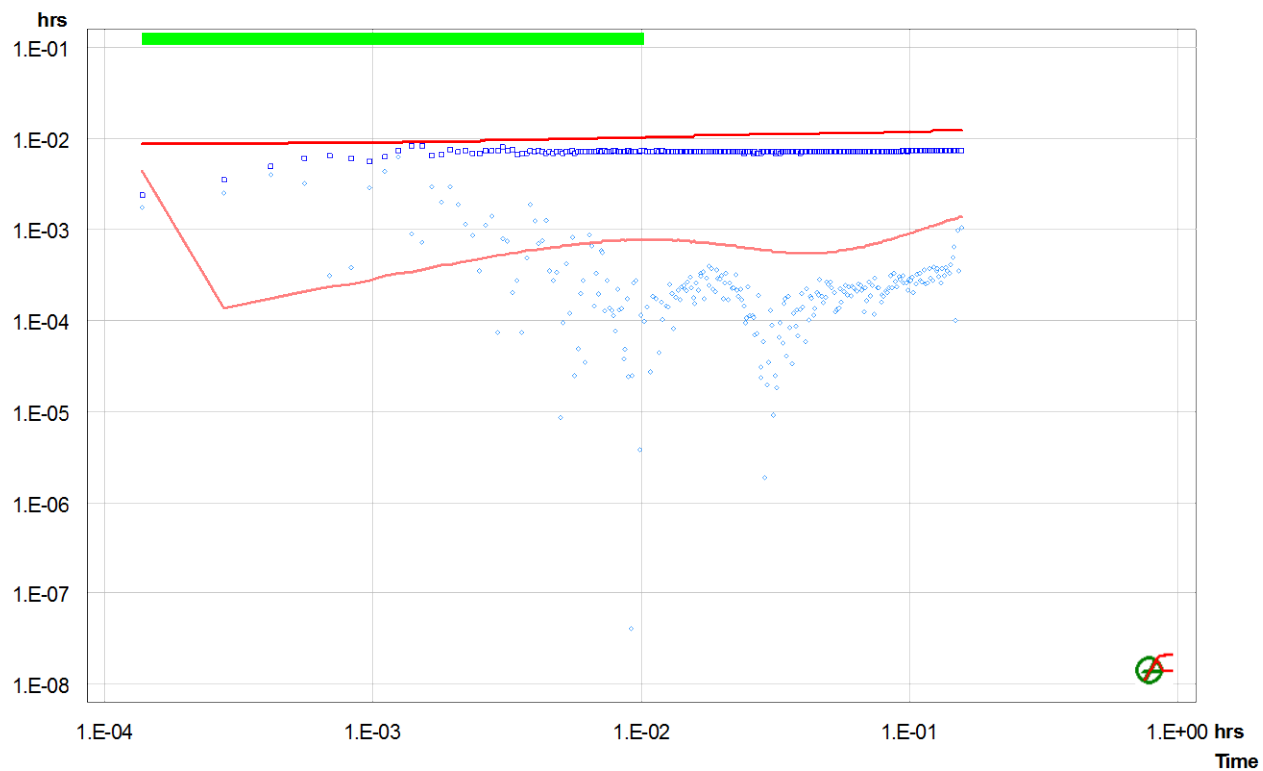


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-08
Test Name Well 2
Test Date/Time
Interval top: 12.80 m bottom: 15.24 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 2.44 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 72.125 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.30	133.76			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	133.76			2.0e-07
SW-Init-1	dP-Event	0.47306	138.37	96.7 *		2.0e-07
SW-1	Slug	0.47833	41.71	138.4		2.0e-07
COM	Variable Pressure	0.86444	135.65			2.0e-07
SW-Init 2	dP-Event	1.04056	137.58	93.9 *		2.0e-07
SW-2	Slug	1.04611	43.70	137.6		2.0e-07
SI-Init	dP-Event	1.65333	138.87	-19.2 *		2.0e-07
SI	Slug	1.66028	158.02	138.9		2.0e-07

Analysis Results

Analysis "SI-Final"

Static Pressure: 139.12 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.0e-05	4.8e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.0e-06	0.0
SW-Init-1	2.0e-07	0.0
SW-1	2.0e-07	0.0
COM	4.0e-06	0.0
SW-Init 2	2.0e-07	0.0
SW-2	2.0e-07	0.0
SI-Init	2.0e-07	0.0
SI	2.0e-07	0.0

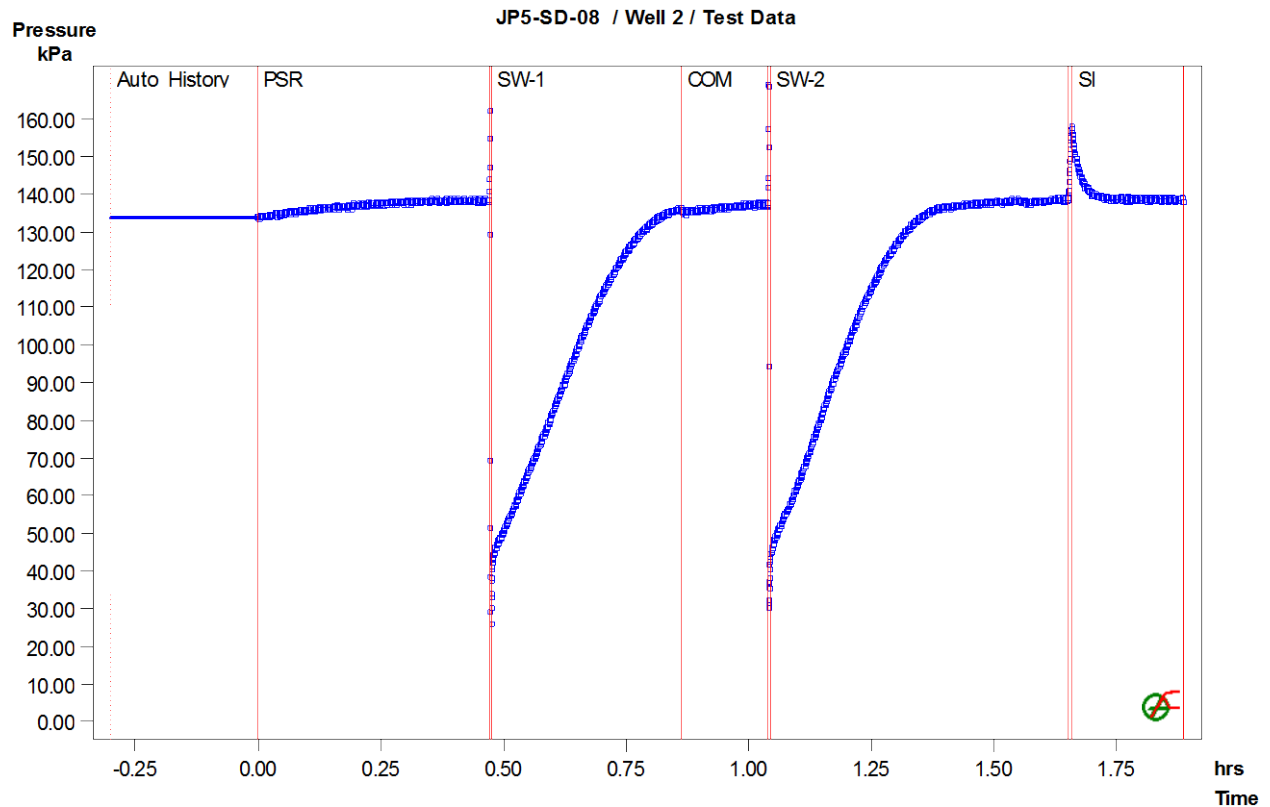


Figure 1: Pressure response and sequence definition

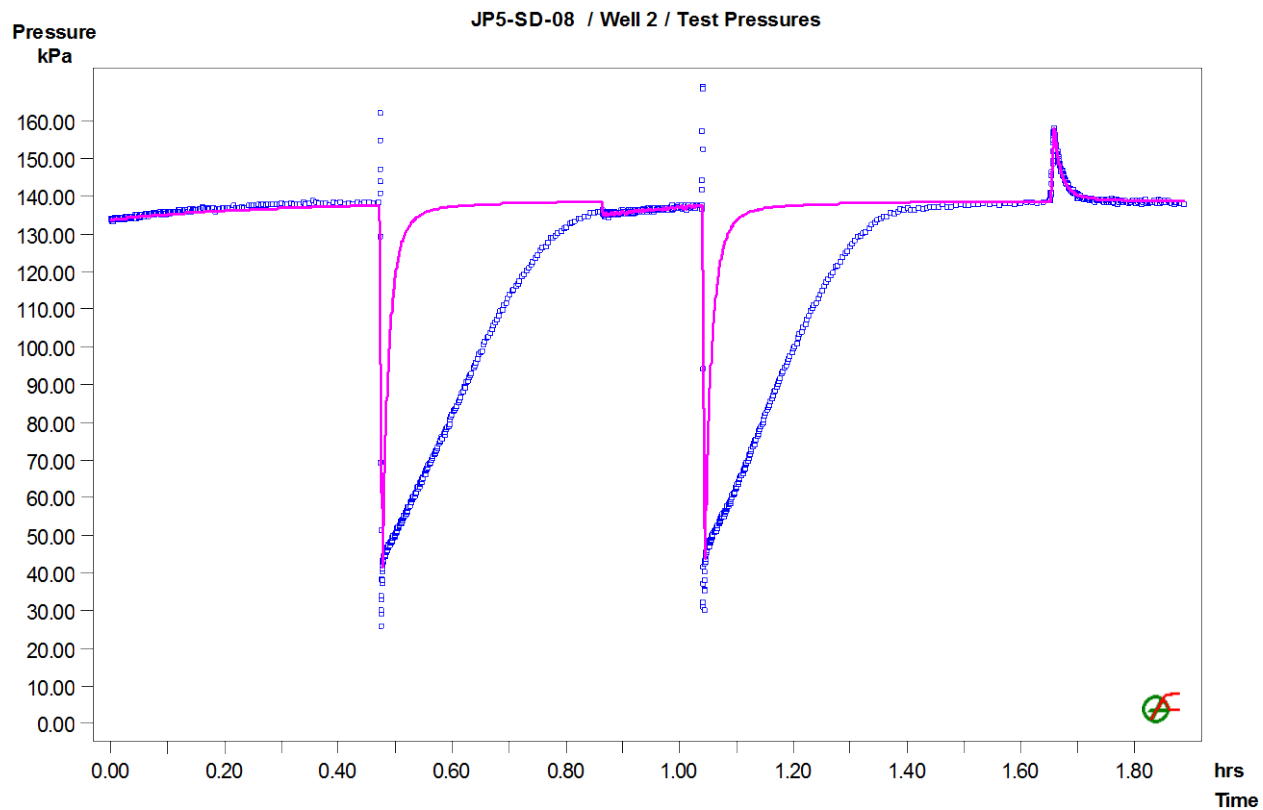


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

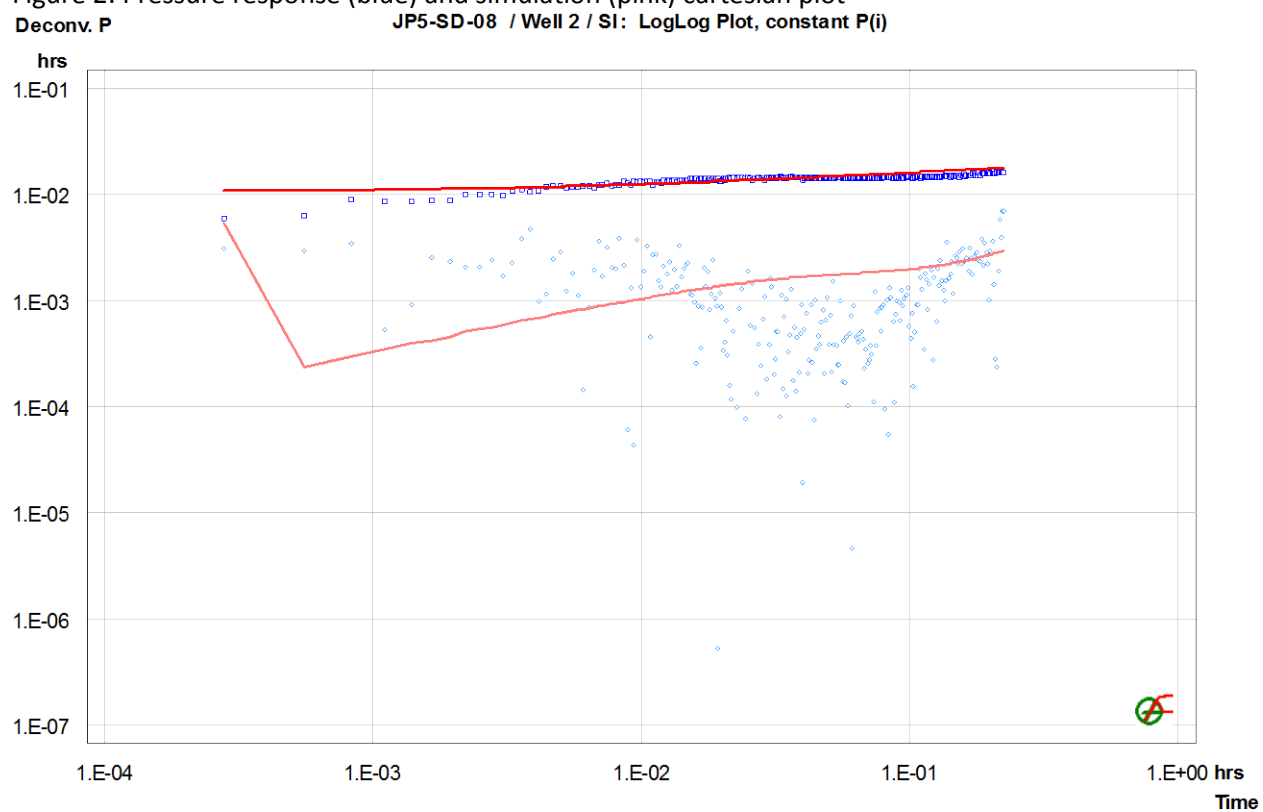


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-08
Test Name Test 1
Test Date/Time April 9, 2014, 10:00
Interval top: 30.05 m bottom: 44.75 m
Description Analyzed by: DSL
 Reviewed by: DV

Basic Data

Test Interval 14.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 106.402 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM1	Variable Pressure	0.00000	303.79			4.9e-07
PSR	Variable Pressure	0.52278	303.71			4.9e-07
SW-Init	dP-Event	0.94403	306.51	94.9 *		4.9e-07
SW	Slug	0.95069	211.65	306.5		4.9e-07
COM2	Variable Pressure	1.53667	301.25			4.9e-07

Analysis Results

Analysis "SW"

Static Pressure: 318.27 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.4e-06	9.4e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM1	4.9e-07	0.0
PSR	4.9e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0
COM2	4.9e-07	0.0

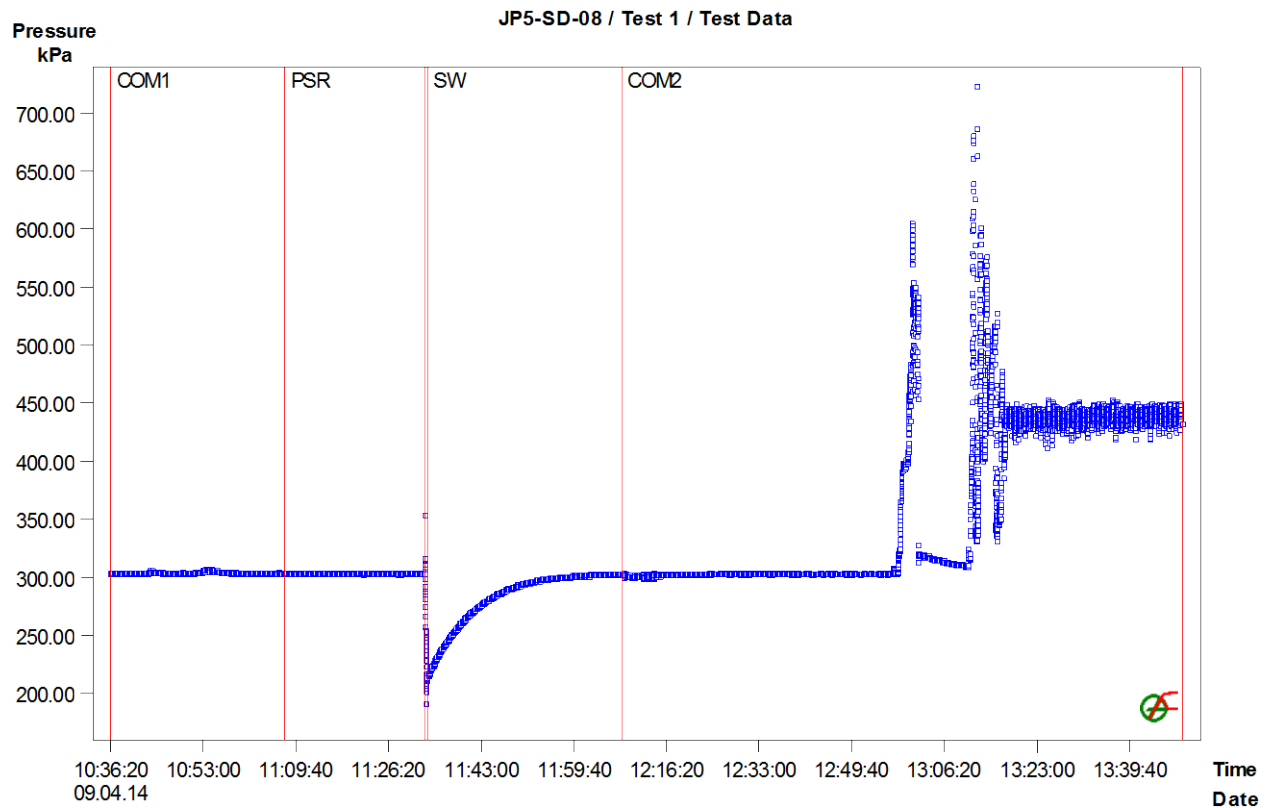


Figure 1: Pressure response and sequence definition

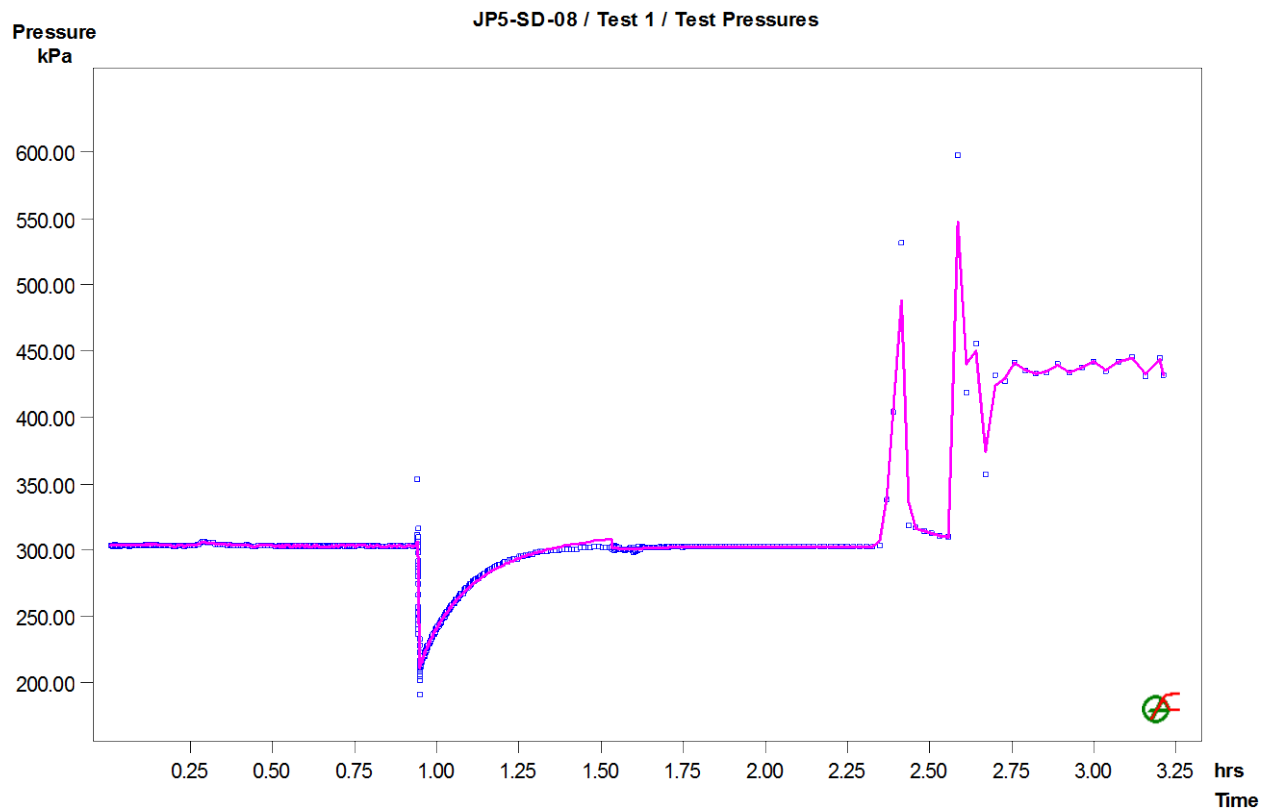


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-08 / Test 1 / SW: LogLog Plot, constant P(i)

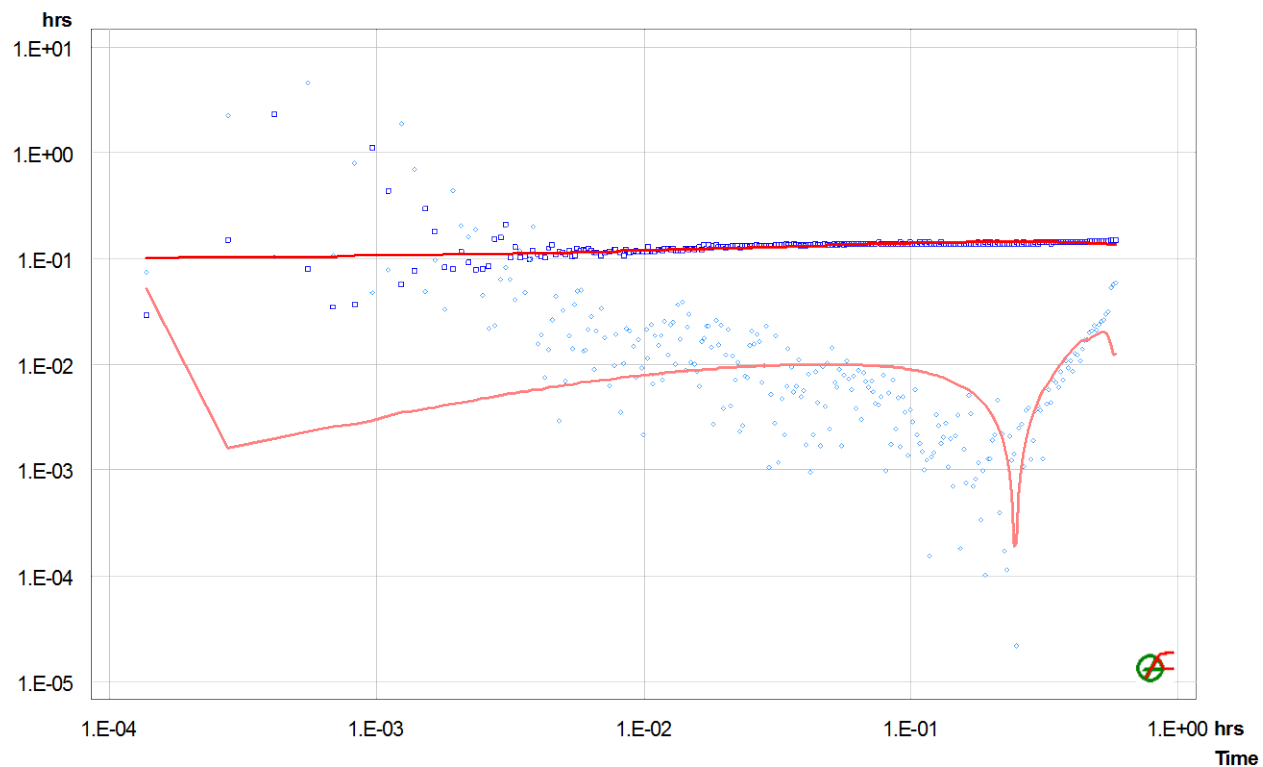


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-09
Test Name Piezometer 1
Test Date/Time
Interval top: 10.97 m bottom: 13.72 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 2.75 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 81.288 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	112.10			2.1e-07
SW-Init	dP-Event	0.07583	112.11	32.0 *		2.1e-07
SW	Slug	0.07764	80.11	112.1		2.1e-07

Analysis Results

Analysis "SW-2 final"

Static Pressure: 111.97 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.1e-04	5.4e-06	10.00	2.0
Shell 2	1.9e-02	5.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

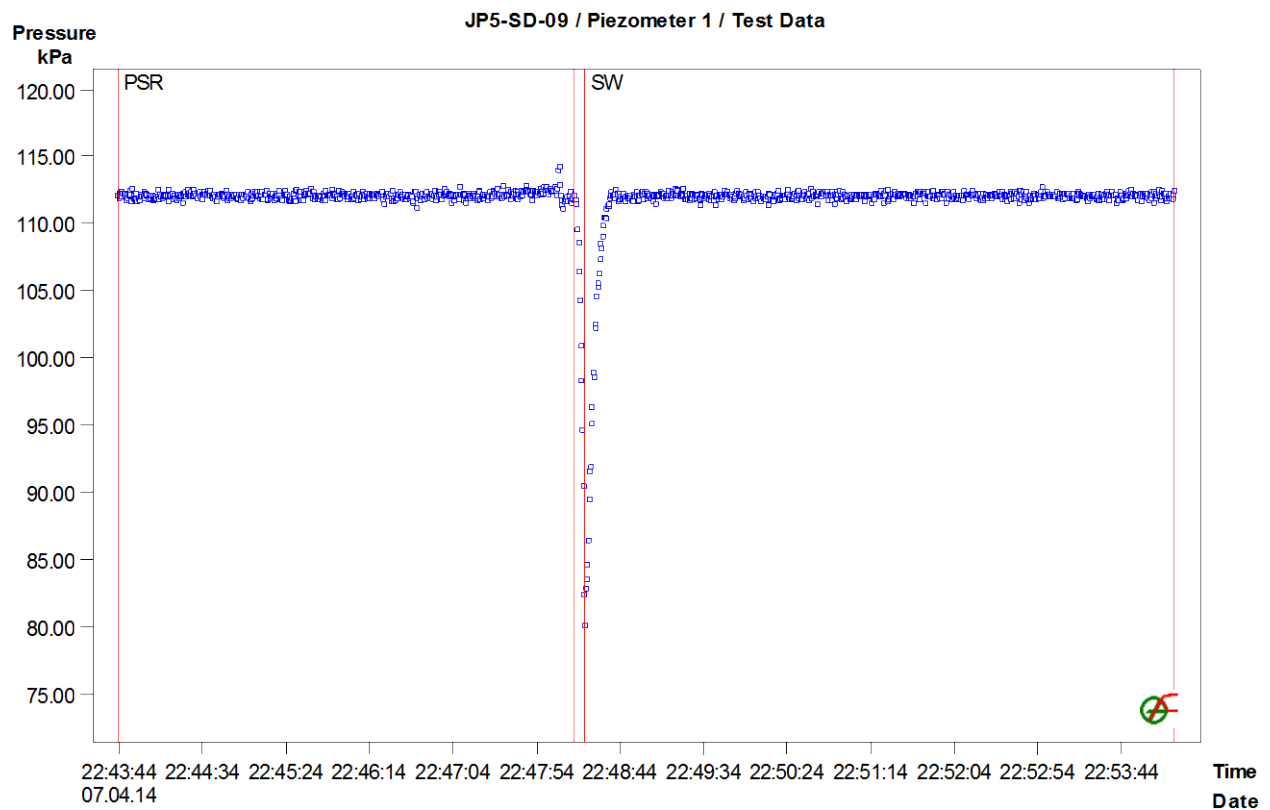


Figure 1: Pressure response and sequence definition

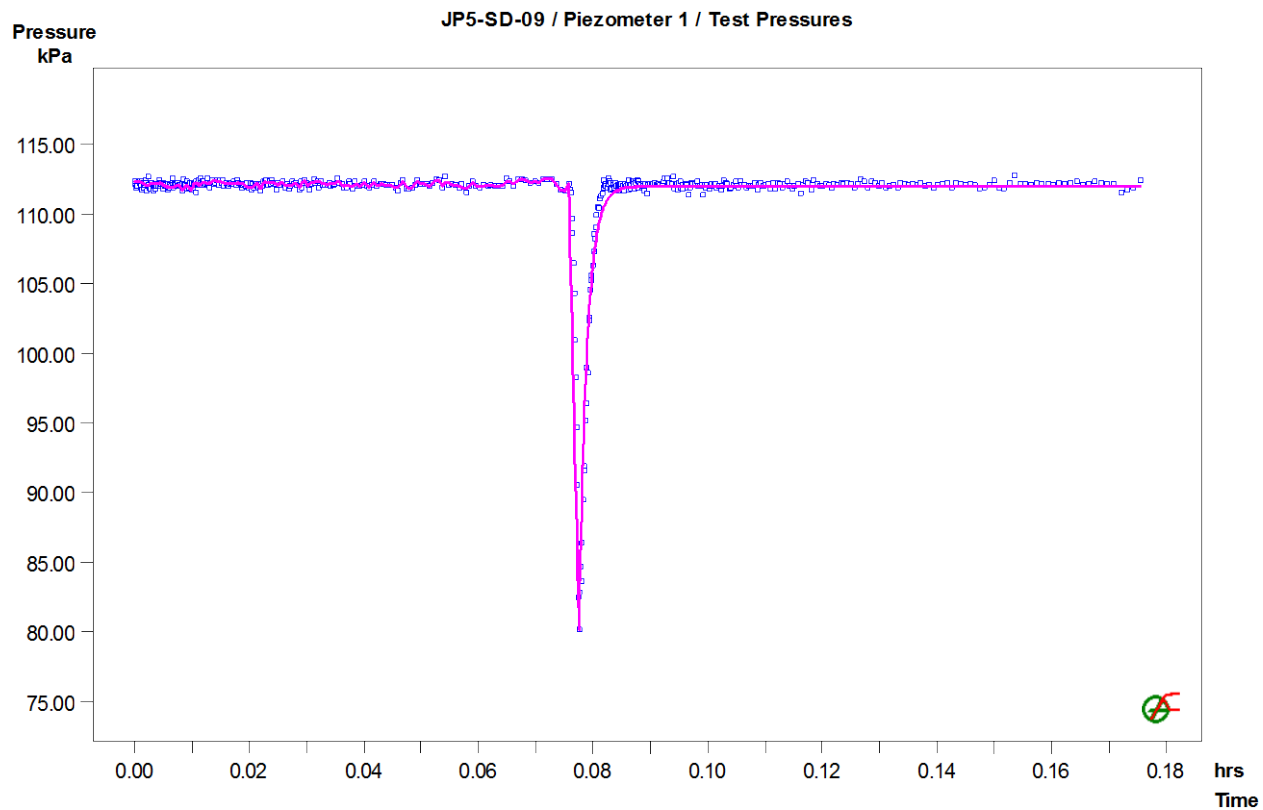


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-09 / Piezometer 1 / SW: LogLog Plot, constant P(i)

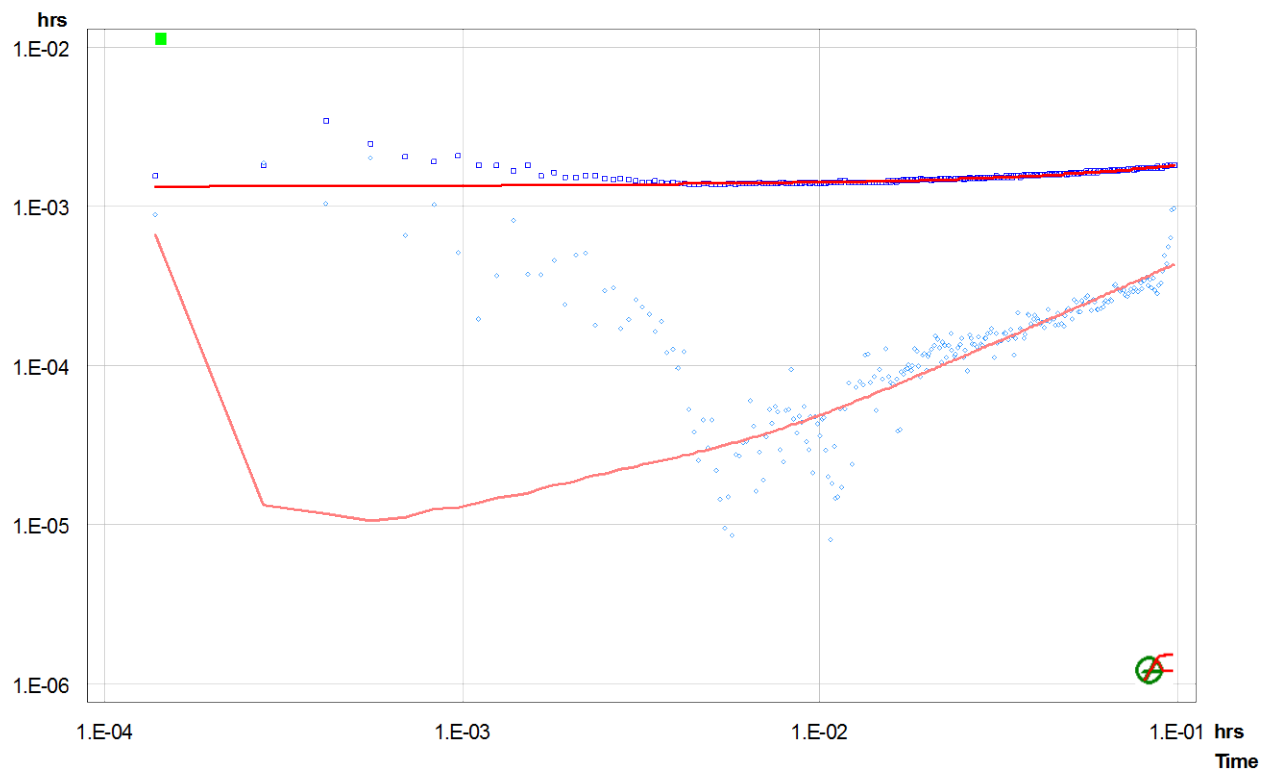


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond
Site	Jay Project
Source Well	JP5-SD-09
Test Name	Piezometer 2
Test Date/Time	
Interval	top: 7.92 m bottom: 10.06 m
Description	Analyzed by: DV Reviewed by: DSL

Basic Data

Test Interval	2.14 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	63.257 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	80.93			2.1e-07
SW-Init	dP-Event	0.39361	81.50	33.5 *		2.1e-07
SW	Slug	0.39500	47.97	81.5		2.1e-07
SW-Init 2	dP-Event	0.70333	81.14	25.3 *		2.1e-07
SW-2	Slug	0.70597	55.83	81.1		2.1e-07

Analysis Results

Analysis "SW-1 2 shell final"

Static Pressure: 80.95 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.5e-04	4.2e-06	5.00	2.0
Shell 2	6.3e-03	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0
SW-Init 2	2.1e-07	0.0
SW-2	2.1e-07	0.0

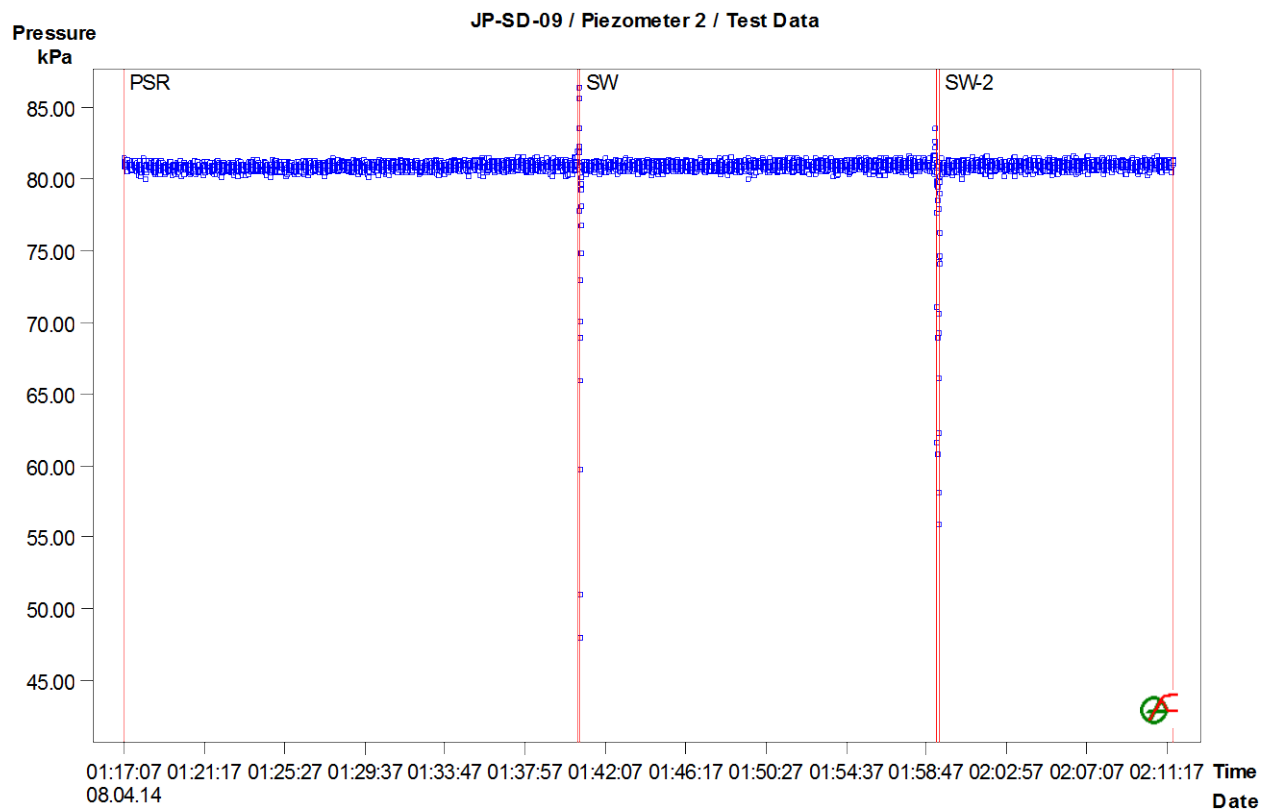


Figure 1: Pressure response and sequence definition

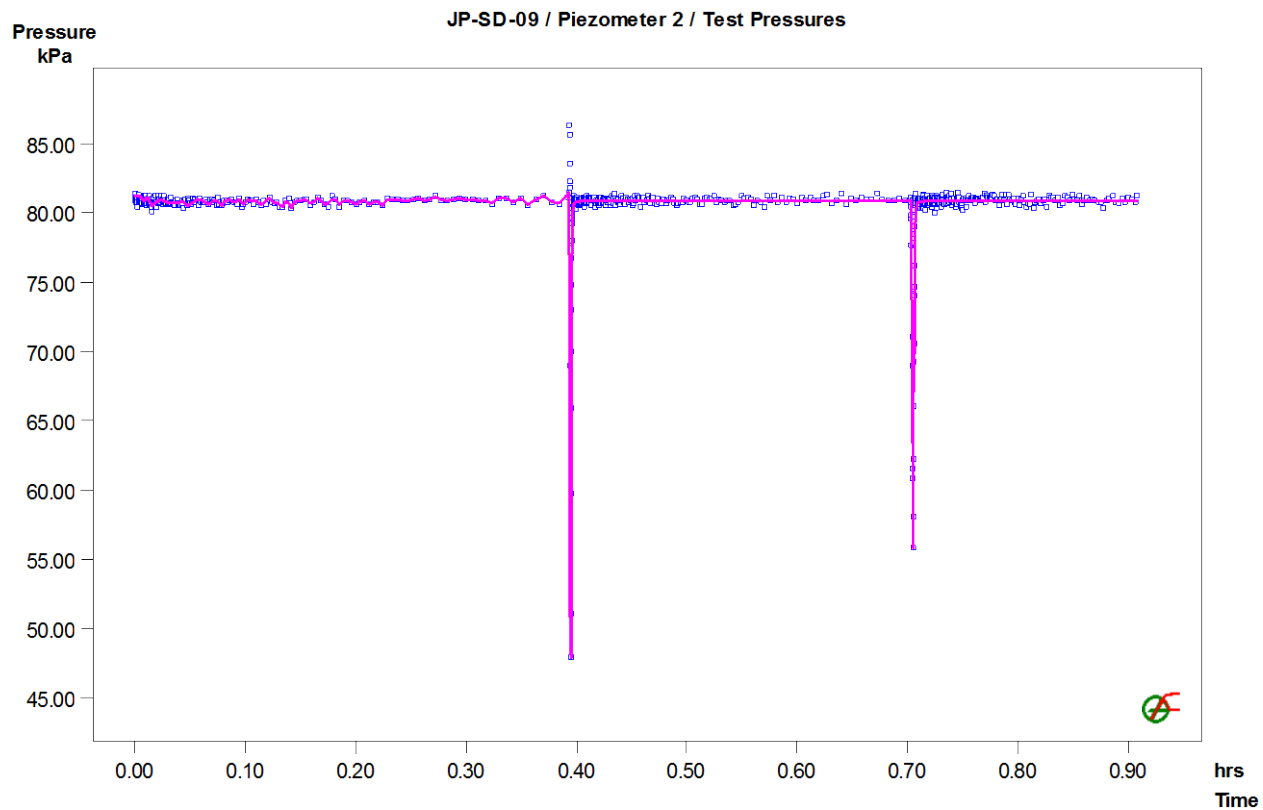


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP-SD-09 / Piezometer 2 / SW: LogLog Plot, constant P(i)

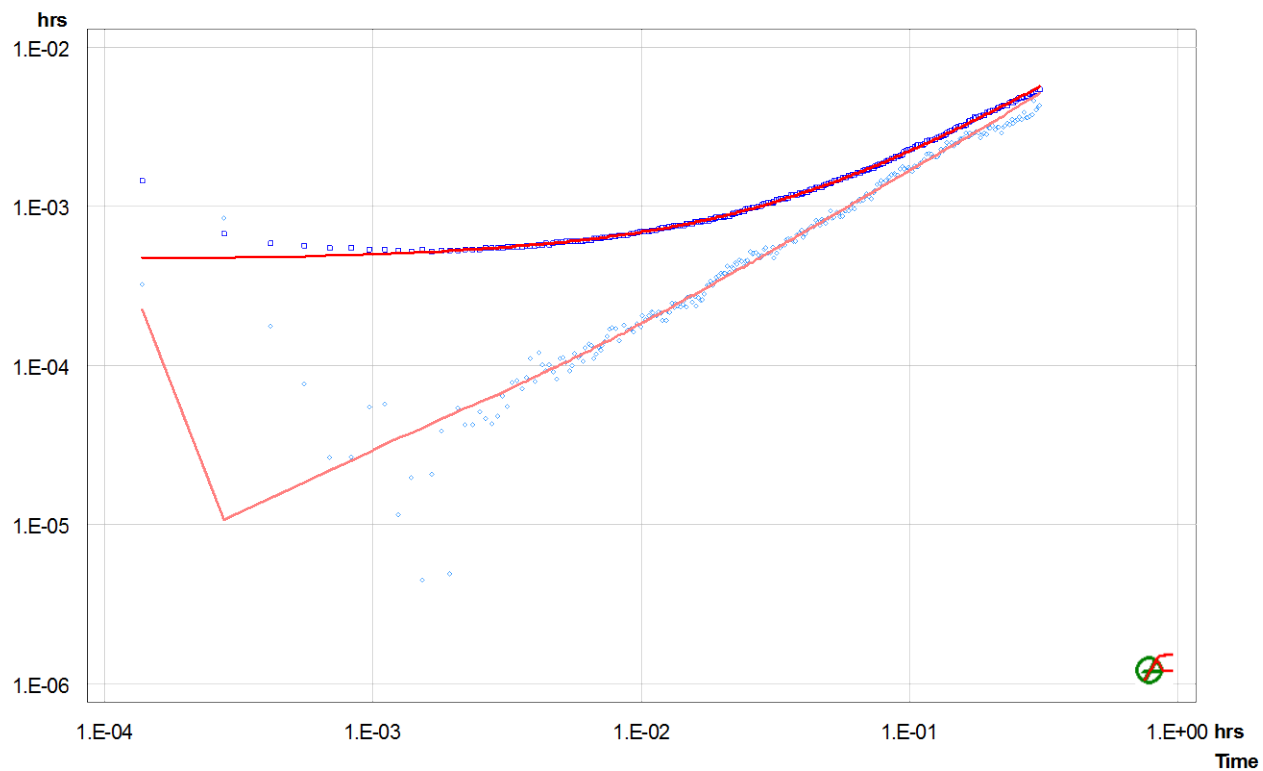


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-09	
Test Name	Test 1	
Test Date/Time		
Interval	top: 23.50 m bottom: 32.62 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	9.12 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	0.0 deg		
Test Volume	66.013 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	263.22			4.8e-07
PSR	Recovery	0.33583	265.52			4.8e-07
SW-Init	dP-Event	1.22125	263.66	79.9 *		4.8e-07
SW	Slug	1.22625	183.72	263.7		4.8e-07

Analysis Results

Analysis "SW"

Static Pressure: 263.74 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.6e-07	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.5e-07	0.0
PSR	1.5e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

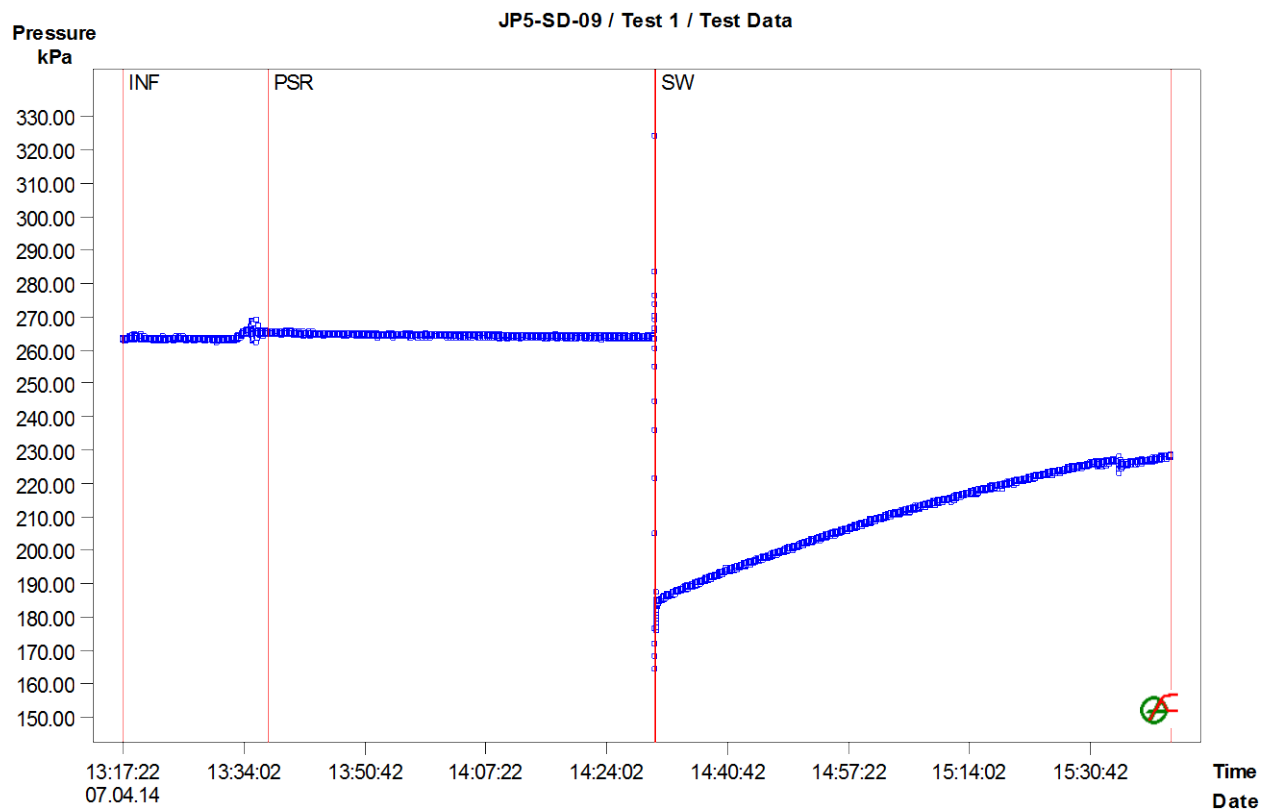


Figure 1: Pressure response and sequence definition

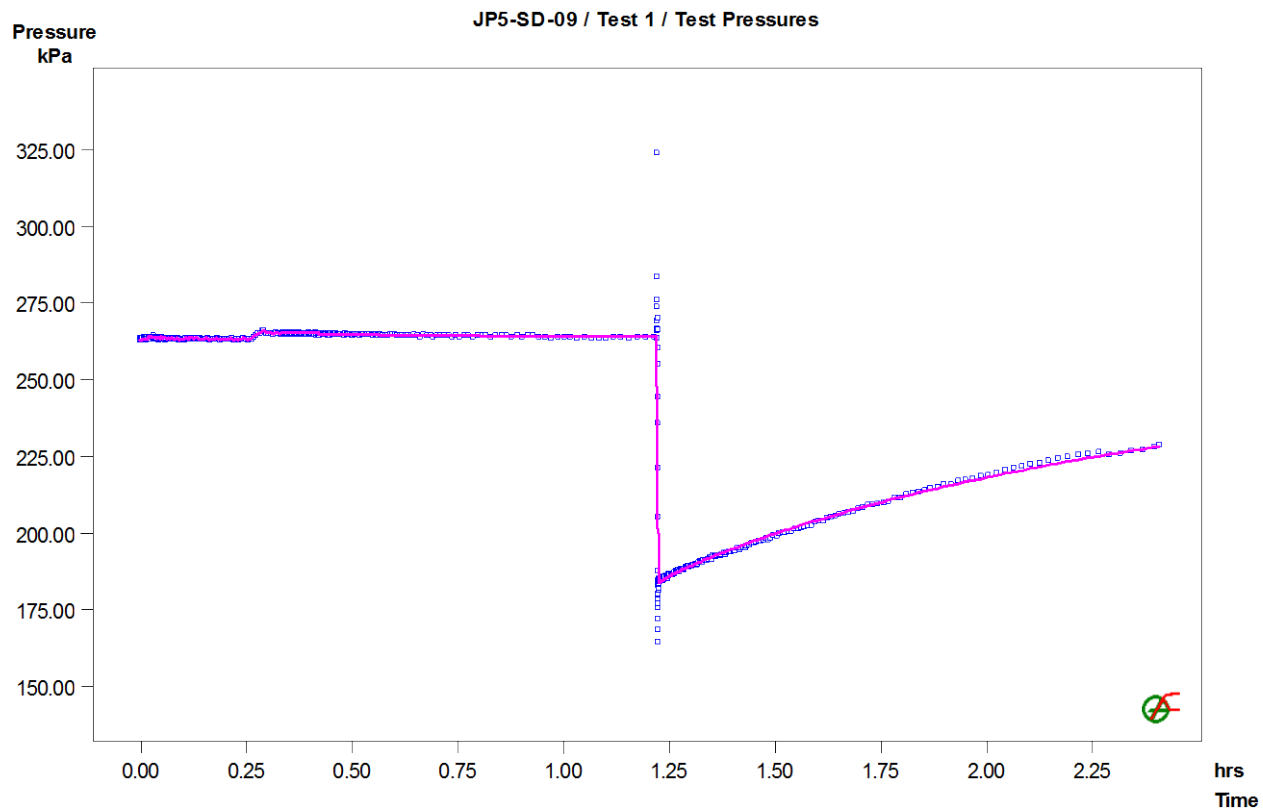


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-09 / Test 1 / SW: LogLog Plot, variable P(i)

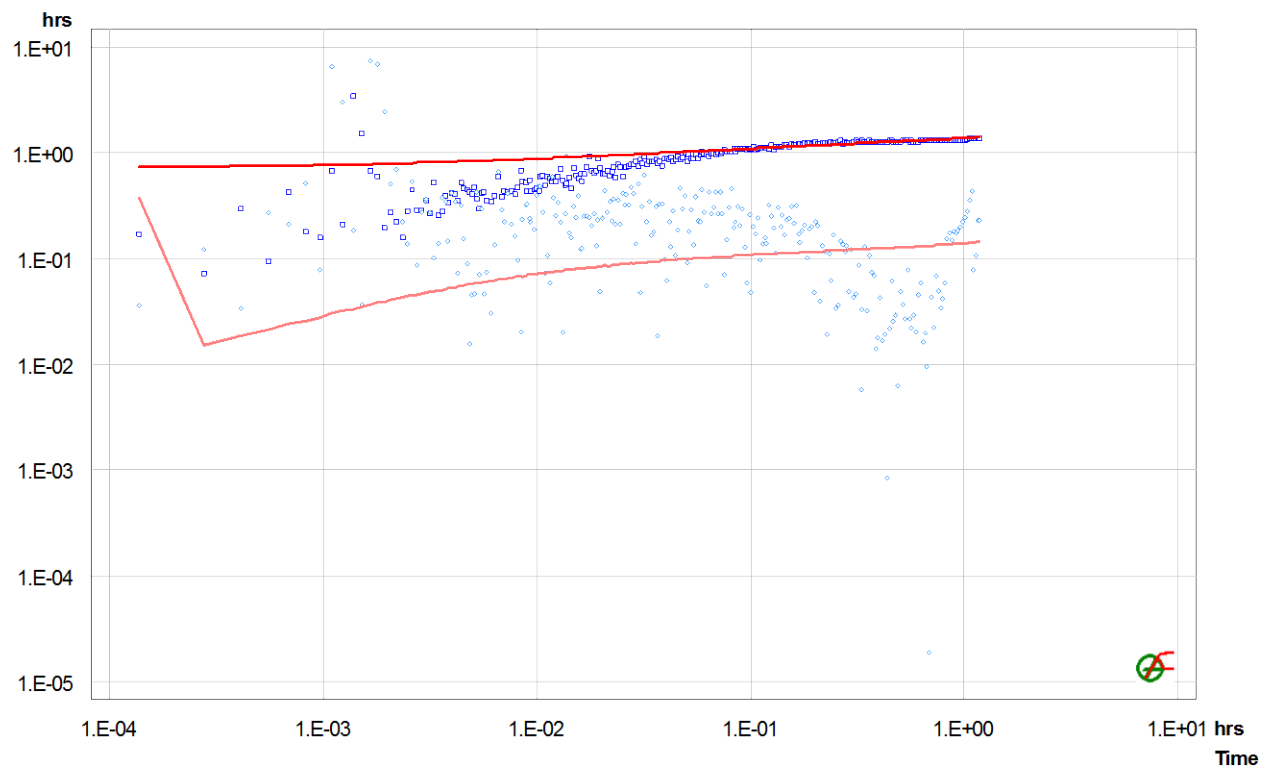


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-10	
Test Name	Test 1	
Test Date/Time		
Interval	top: 24.34 m bottom: 41.37 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	17.03 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	0.0 deg		
Test Volume	123.267 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	234.03			4.8e-07
PSR	Recovery	0.43486	249.31			4.8e-07
SW-Init	dP-Event	1.02819	245.46	86.6 *		4.8e-07
SW	Slug	1.04361	158.82	245.5		4.8e-07

Analysis Results

Analysis "SW-2 shell"

Static Pressure: 244.61 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.0e-06	3.3e-05	7.30	2.0
Shell 2	8.3e-06	3.3e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.5e-07	0.0
PSR	2.5e-07	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

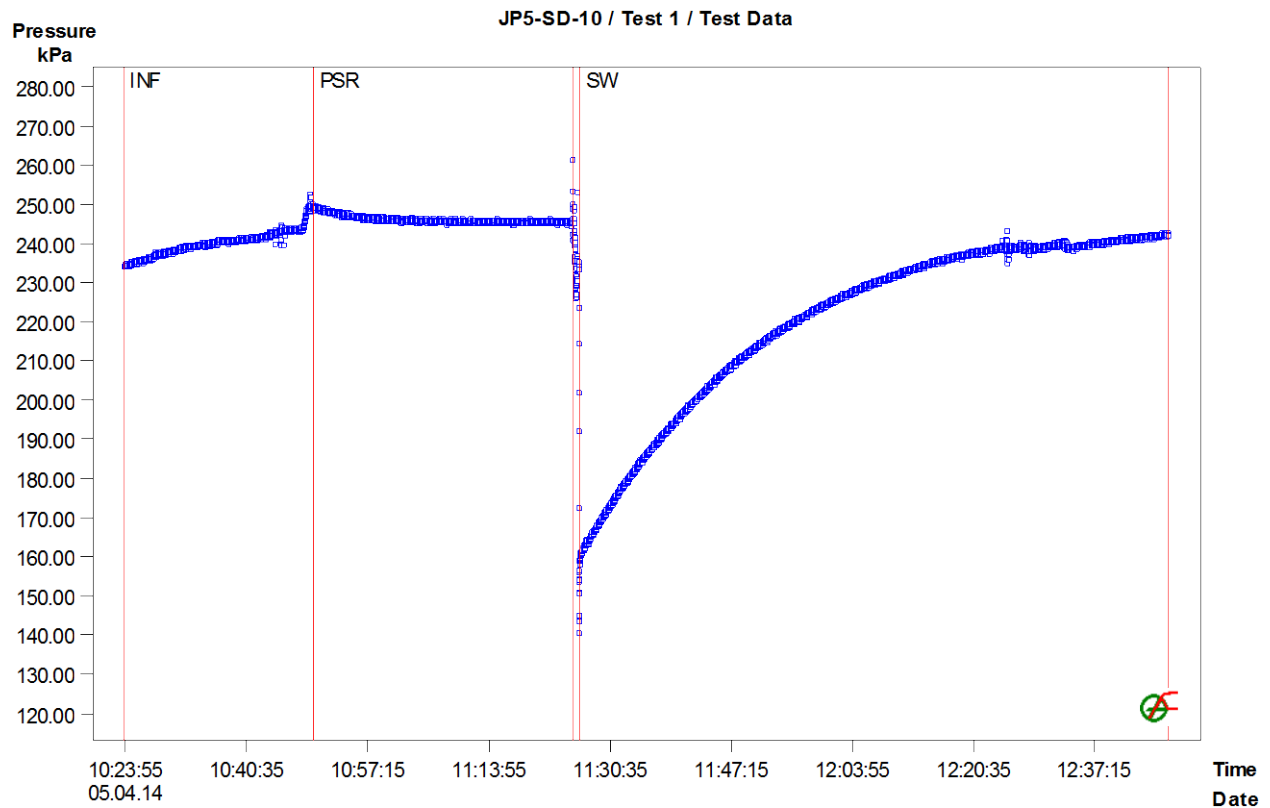


Figure 1: Pressure response and sequence definition

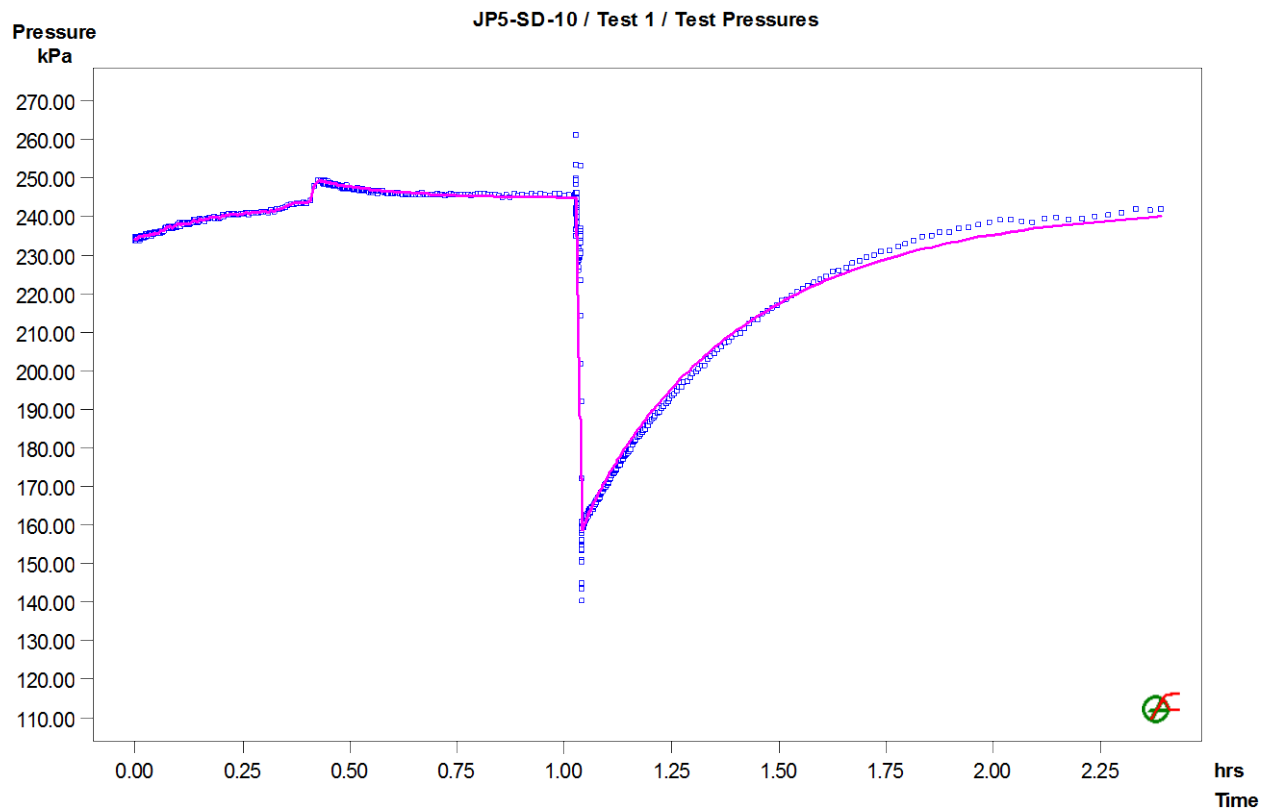


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-10 / Test 1 / SW: LogLog Plot, variable P(i)

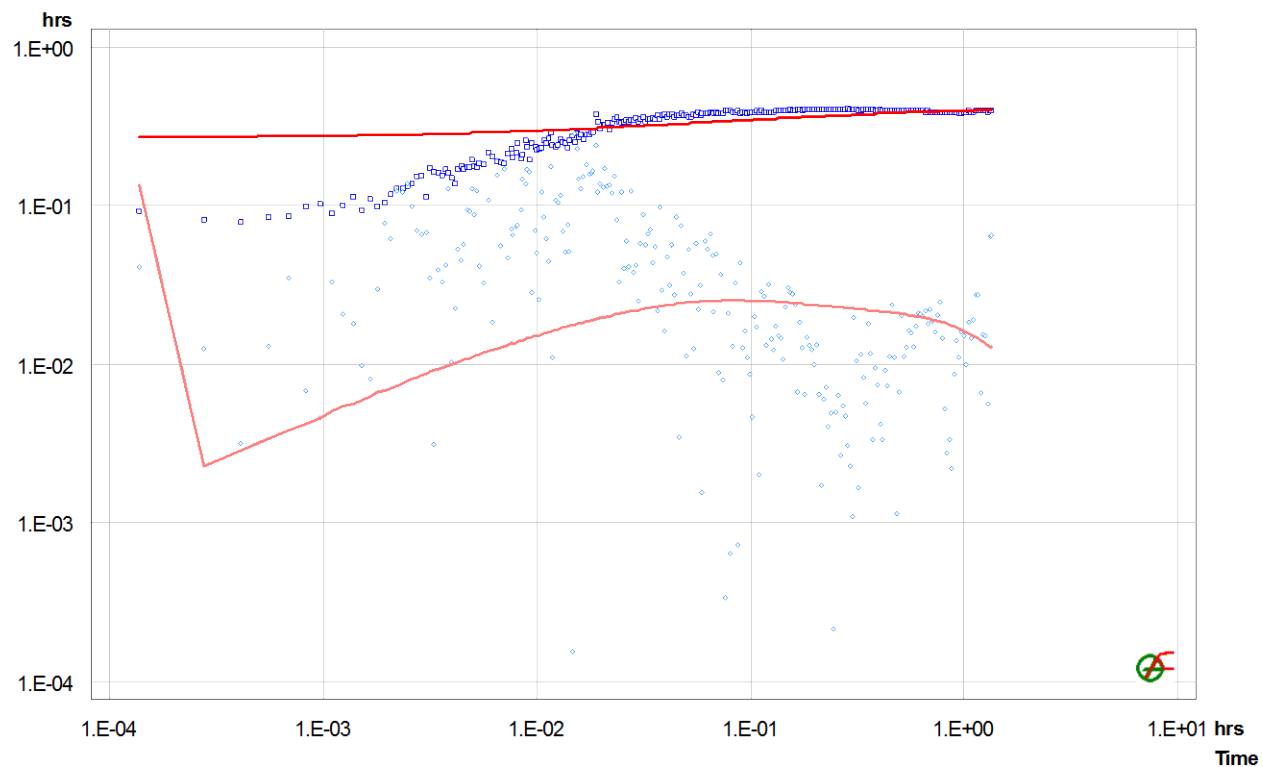


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-GT-01
Test Name Test 1
Test Date/Time 04/02/2014, 1636
Interval top: 20.00 m bottom: 54.70 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 34.70 m
Porosity 0.10
Well Radius 0.079 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 680.352 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable Pressure	0.00000	302.25			1.4e-09
PSR	Recovery	1.12639	301.62			2.7e-07
SW-Init-1	dP-Event	1.30139	303.40	76.6 *		4.9e-07
SW-1	Slug	1.30417	226.78	303.4		4.9e-07
PSR2	Variable Pressure	1.58889	301.69			4.9e-07
SW-Init-2	dP-Event	1.65417	301.68	80.4 *		4.9e-07
Com2	Variable Pressure	1.65833	221.27			1.4e-09

Analysis Results

Analysis "SW-1 final"

Static Pressure: 302.60 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.7e-05	6.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	4.3e-05	0.0
PSR	7.7e-06	0.0
SW-Init-1	4.9e-07	0.0
SW-1	4.9e-07	0.0
PSR2	4.9e-07	0.0
SW-Init-2	4.9e-07	0.0
Com2	4.3e-05	0.0

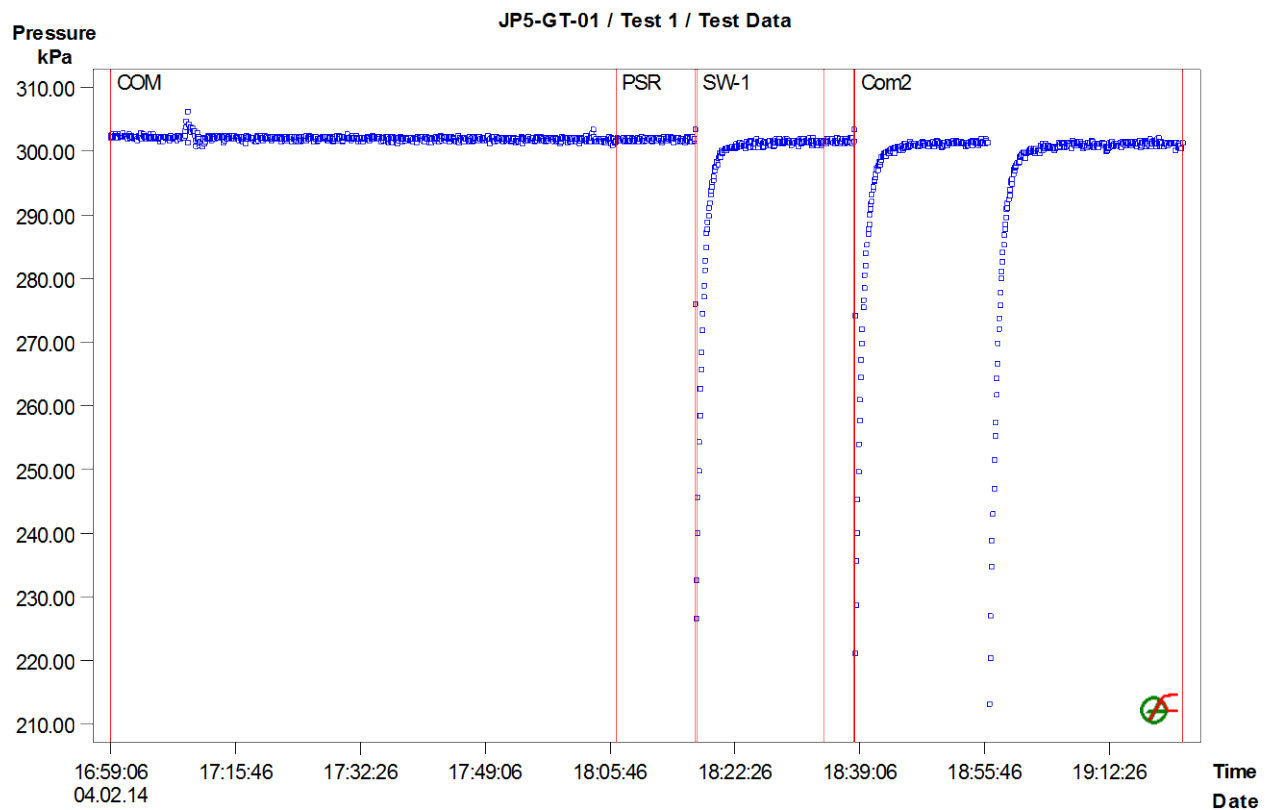


Figure 1: Pressure response and sequence definition

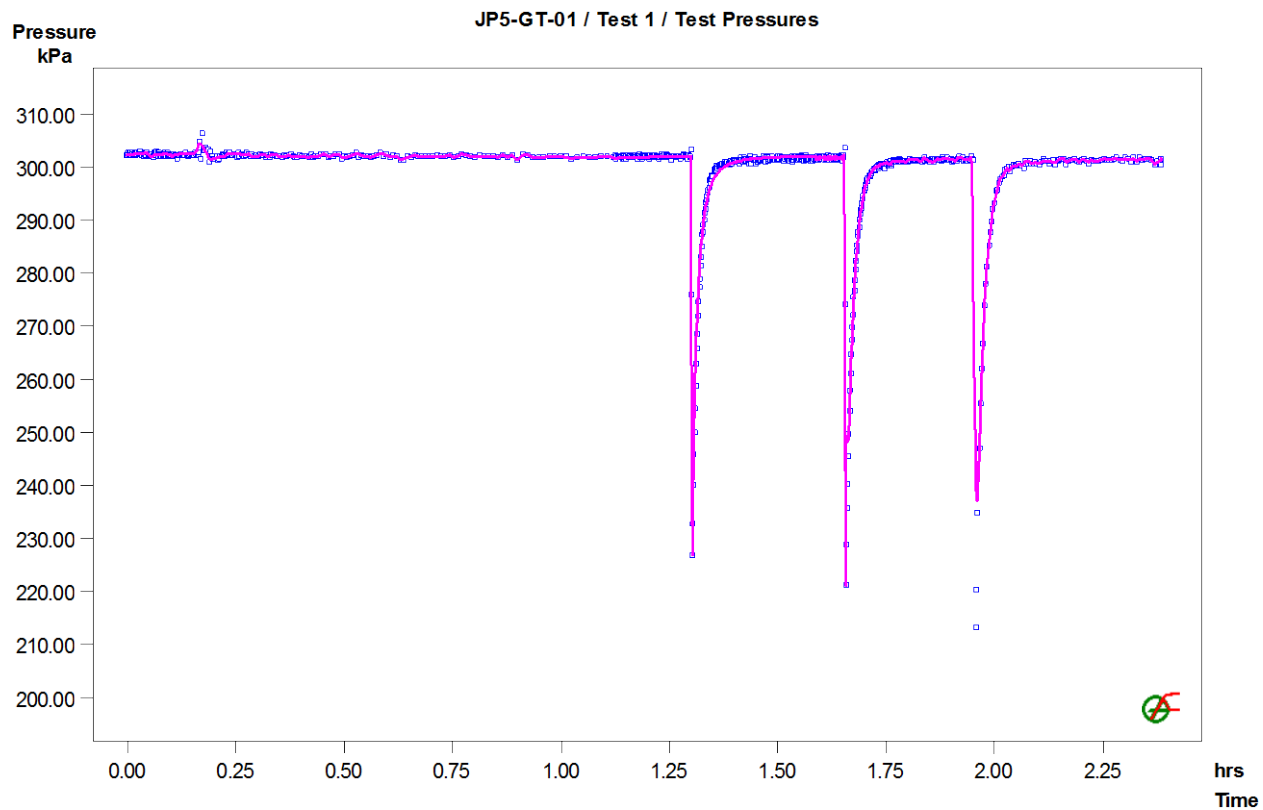


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-01 / Test 1 / SW-1: LogLog Plot, variable P(i)

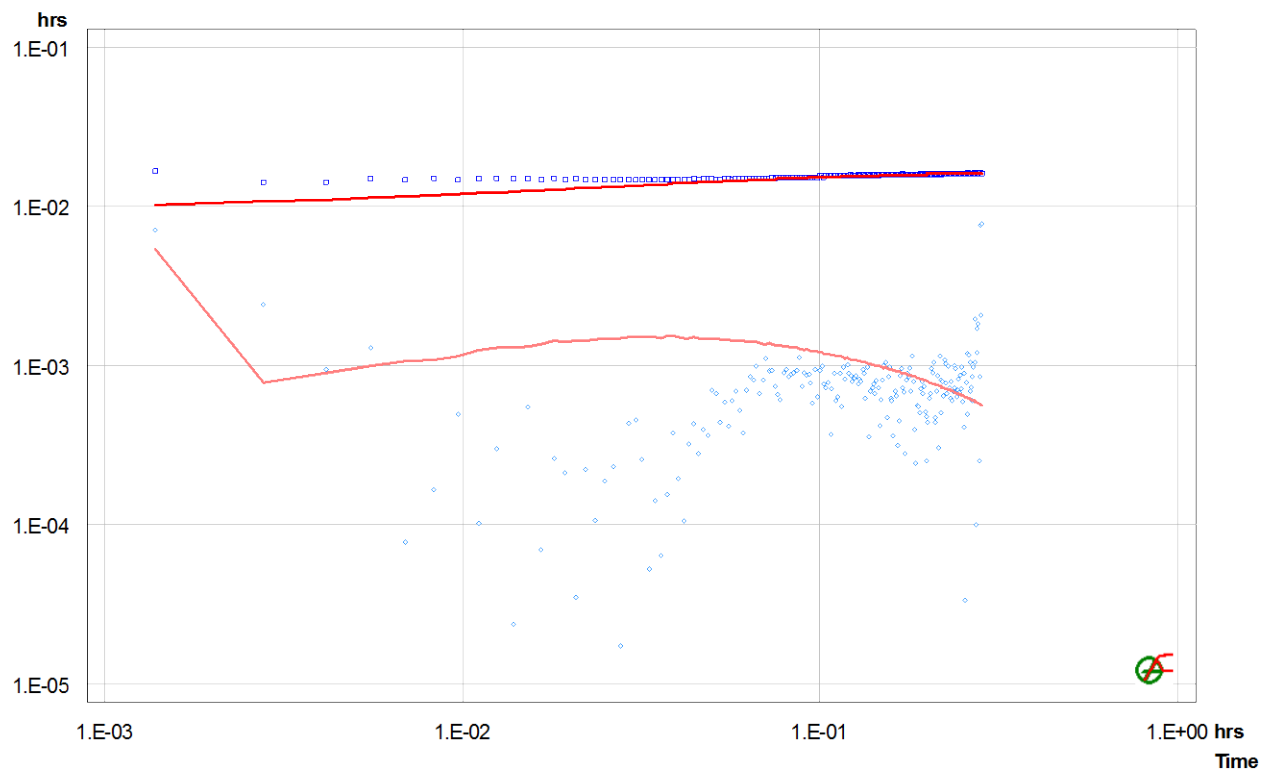


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Domain Diamond
Site	Jay Project
Source Well	JP5-GT-02
Test Name	Test 1
Test Date/Time	March 24, 2014, 07:42:00
Interval	top: 24.50 m bottom: 51.70 m
Description	Analyzed by: DSL Reviewed by: DV

Basic Data

Test Interval	27.20 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	11.9 deg		
Test Volume	196.880 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
INF	Variable Pressure	0.00000	245.99			5.0e-07
PSR	Variable Pressure	0.77361	246.08			5.0e-07
SW-Init	dP-Event	1.19722	245.21	31.0 *		5.0e-07
SW	Slug	1.20139	214.17	245.2		5.0e-07
COM 2	Variable Pressure	1.67778	245.22			5.0e-07
RI	Variable Pressure	1.85972	252.86			2.8e-08
DEF	Variable Pressure	2.42222	668.79			2.8e-08

Analysis Results

Analysis "SW-final"

Static Pressure: 245.23 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.1e-05	5.3e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.1e-06	0.0
PSR	1.1e-06	0.0
SW-Init	5.0e-07	0.0
SW	5.0e-07	0.0
COM 2	1.1e-06	0.0
RI	2.8e-08	0.0
DEF	2.8e-08	0.0

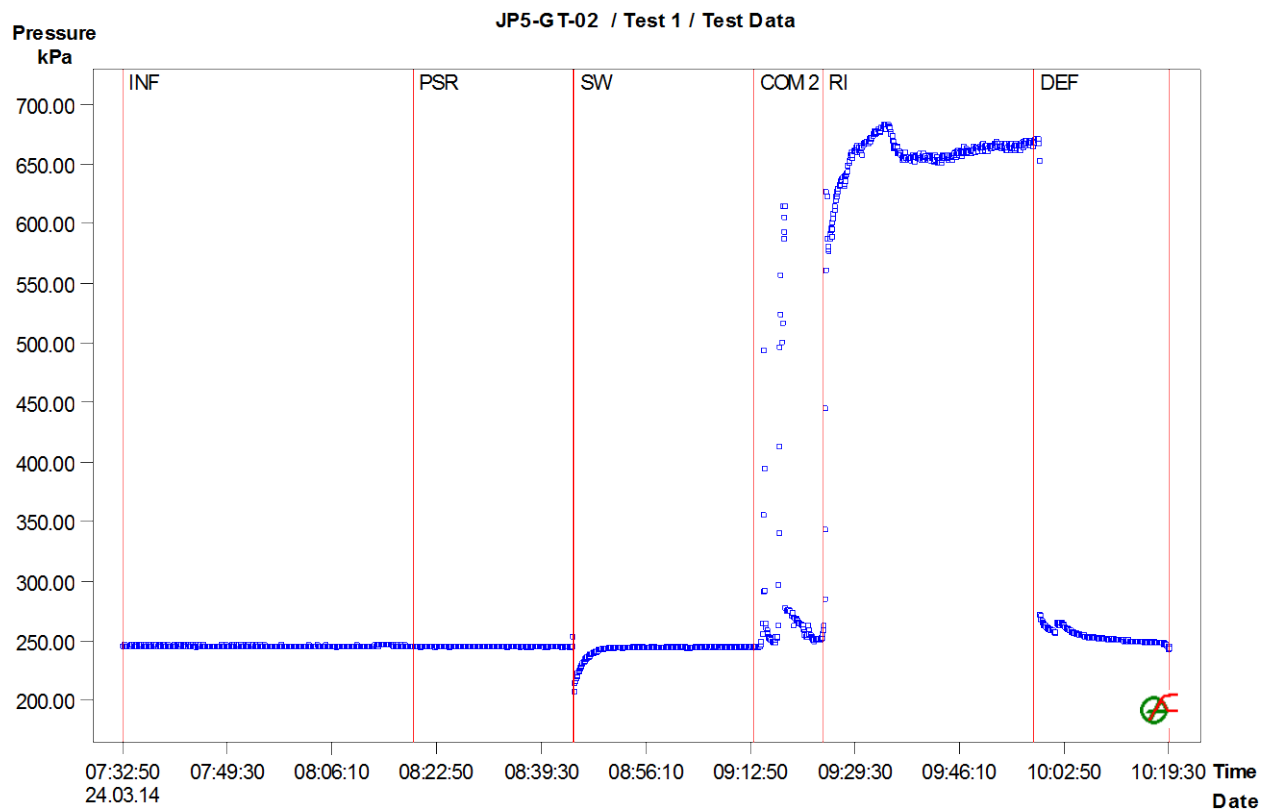


Figure 1: Pressure response and sequence definition

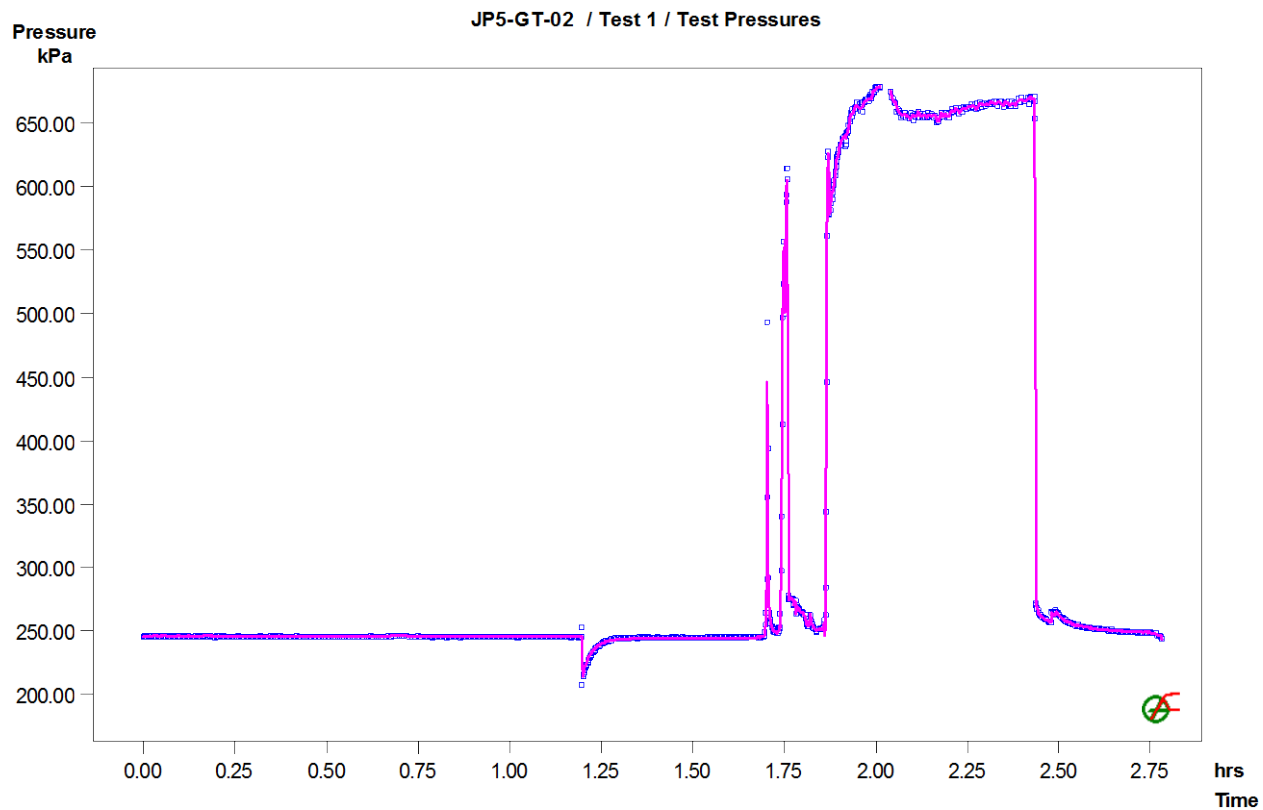


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

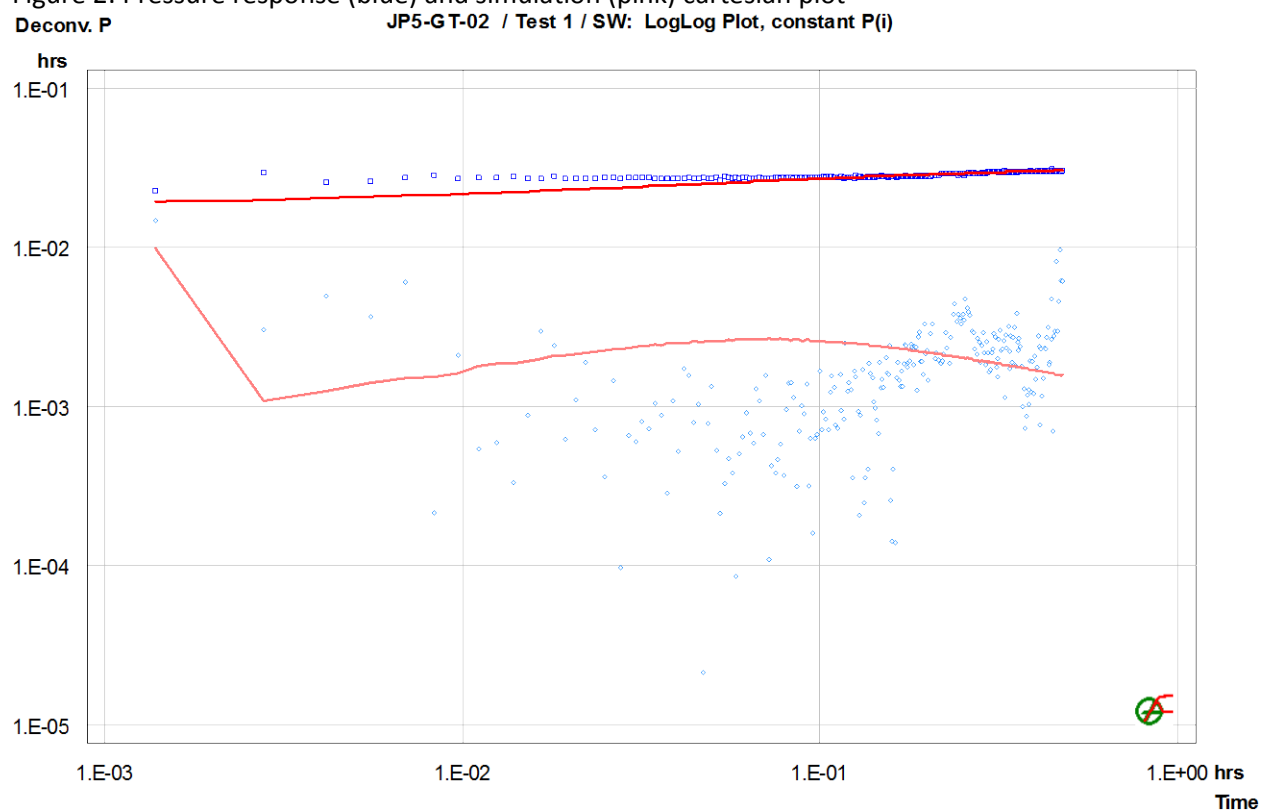


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamonds
Site Jay Project
Source Well JP5-GT-03
Test Name Test 1
Test Date/Time March 23, 2014, 08:06:53
Interval top: 12.50 m bottom: 32.20 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 19.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 142.593 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable Pressure	0.00000	129.74			4.9e-07
PSR	Variable Pressure	0.53750	129.42			4.9e-07
SW-Init	dP-Event	1.03056	129.48	24.7 *		4.9e-07
SW	Slug	1.03333	104.77	129.5		4.9e-07
RI	Variable Pressure	1.74028	129.26			2.9e-10
DEF	Variable Pressure	2.31528	556.61			4.9e-07

Analysis Results

Analysis "SW"

Static Pressure: 128.93 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.6e-05	3.9e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	2.0e-07	0.0
PSR	2.0e-07	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0
RI	1.9e-08	0.0
DEF	4.9e-07	0.0

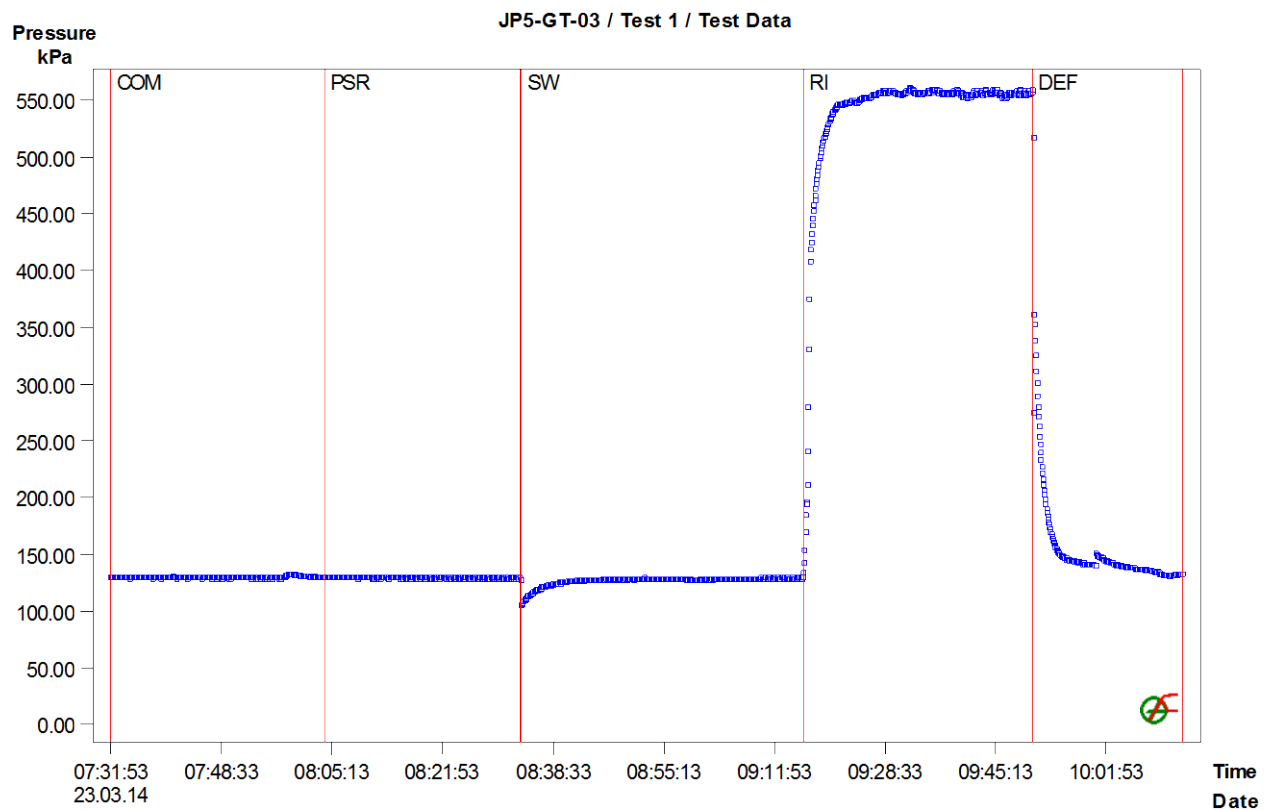


Figure 1: Pressure response and sequence definition

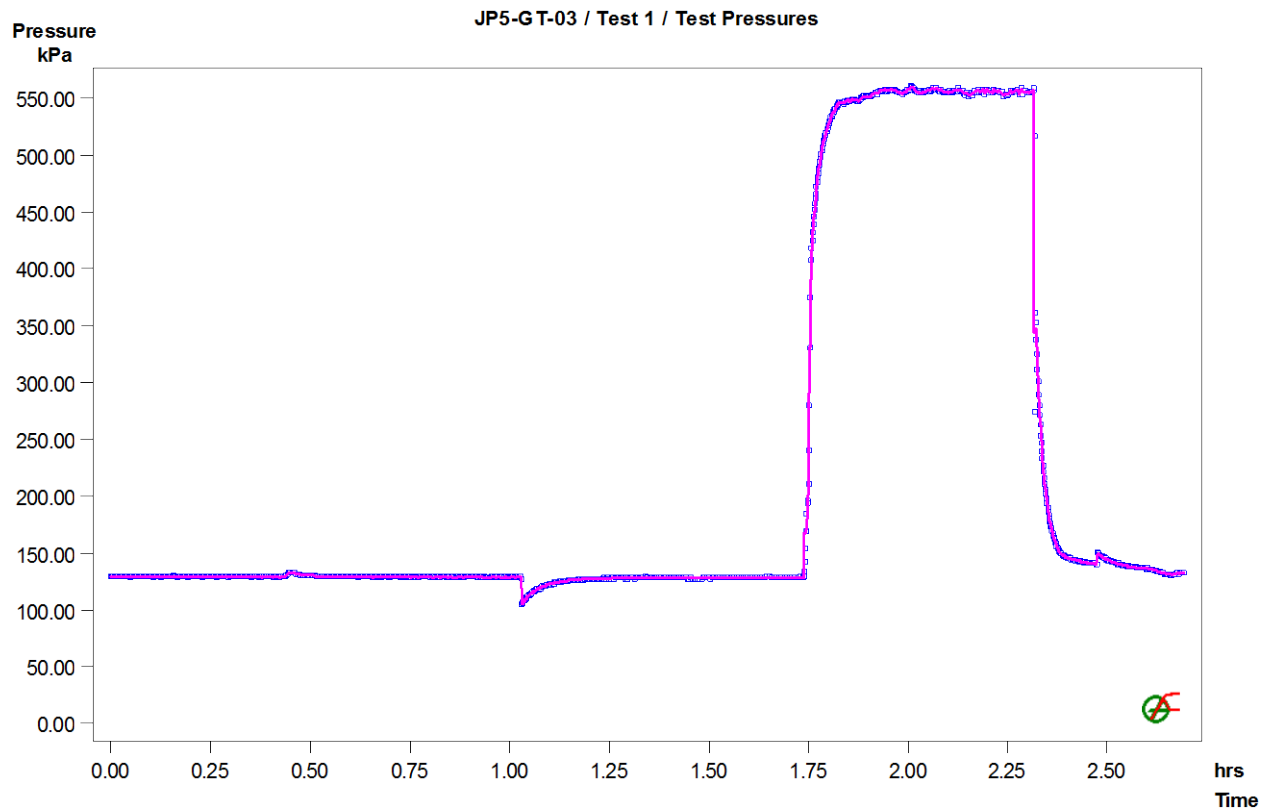


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-03 / Test 1 / SW: LogLog Plot, constant P(i)

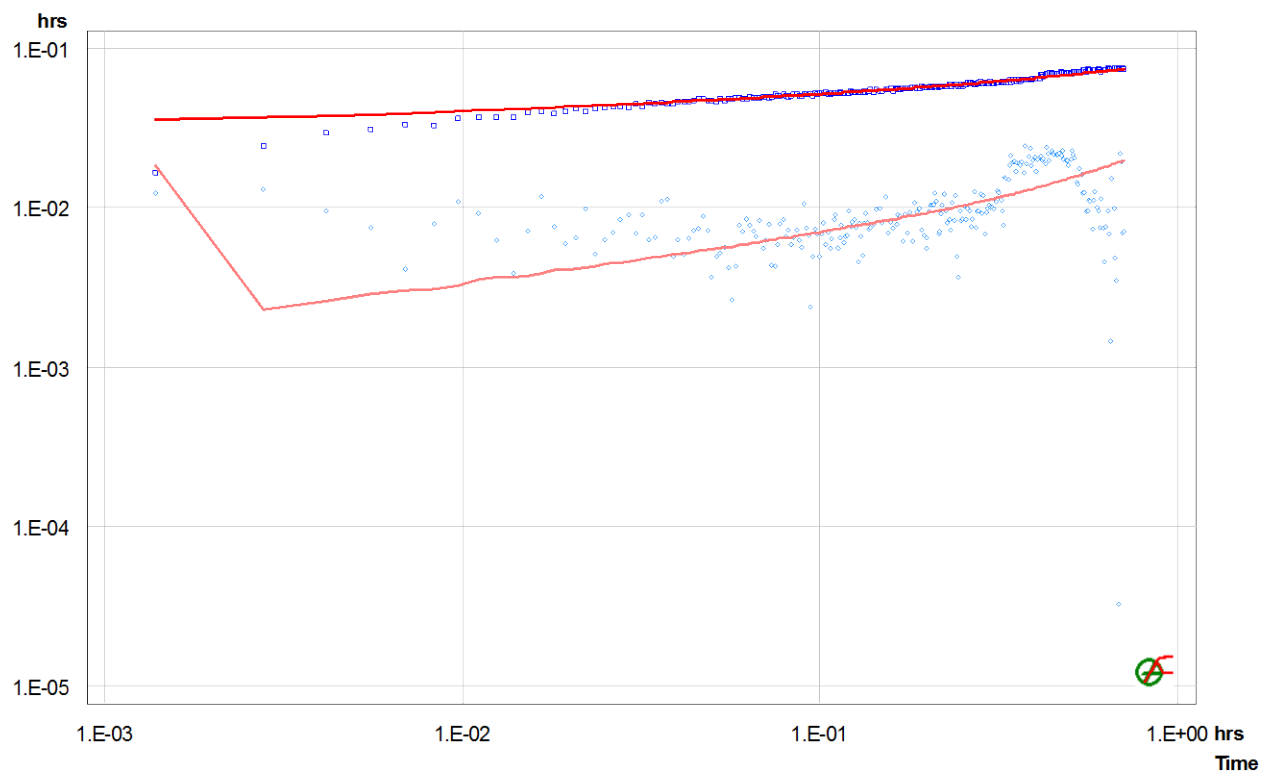


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-GT-04
Test Name Test 1
Test Date/Time March 22, 2013, 08:47:59
Interval top: 21.50 m bottom: 45.70 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 24.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 10.0 deg
Test Volume 175.165 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	218.55			4.9e-07
PSR	Variable Pressure	0.67083	218.40			4.9e-07
SW-Init	dP-Event	1.79306	217.88	34.5 *		4.9e-07
SW	Slug	1.79583	183.36	217.9		4.9e-07
COM	Variable Pressure	2.17778	217.70			4.9e-07
PSR2	Variable Pressure	2.86111	218.25			4.9e-07
RI	Variable Pressure	3.28056	217.14			1.9e-07
DEF	Variable Pressure	3.95556	465.91			4.9e-07

Analysis Results

Analysis "SW"

Static Pressure: 217.58 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.1e-05	4.7e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	4.6e-06	0.0
PSR	4.6e-06	0.0
SW-Init	4.9e-07	0.0
SW	4.9e-07	0.0
COM	4.6e-06	0.0
PSR2	4.6e-06	0.0
RI	1.9e-07	0.0
DEF	4.6e-06	0.0

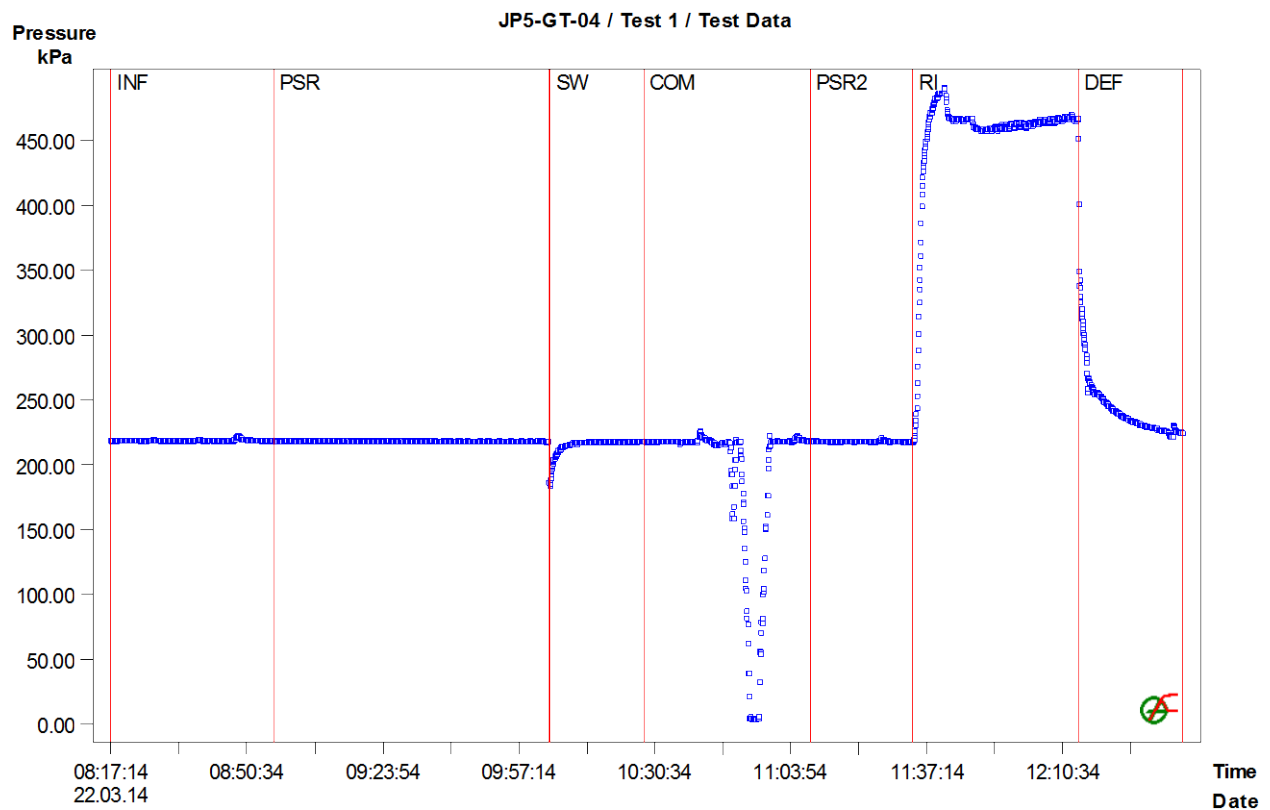


Figure 1: Pressure response and sequence definition

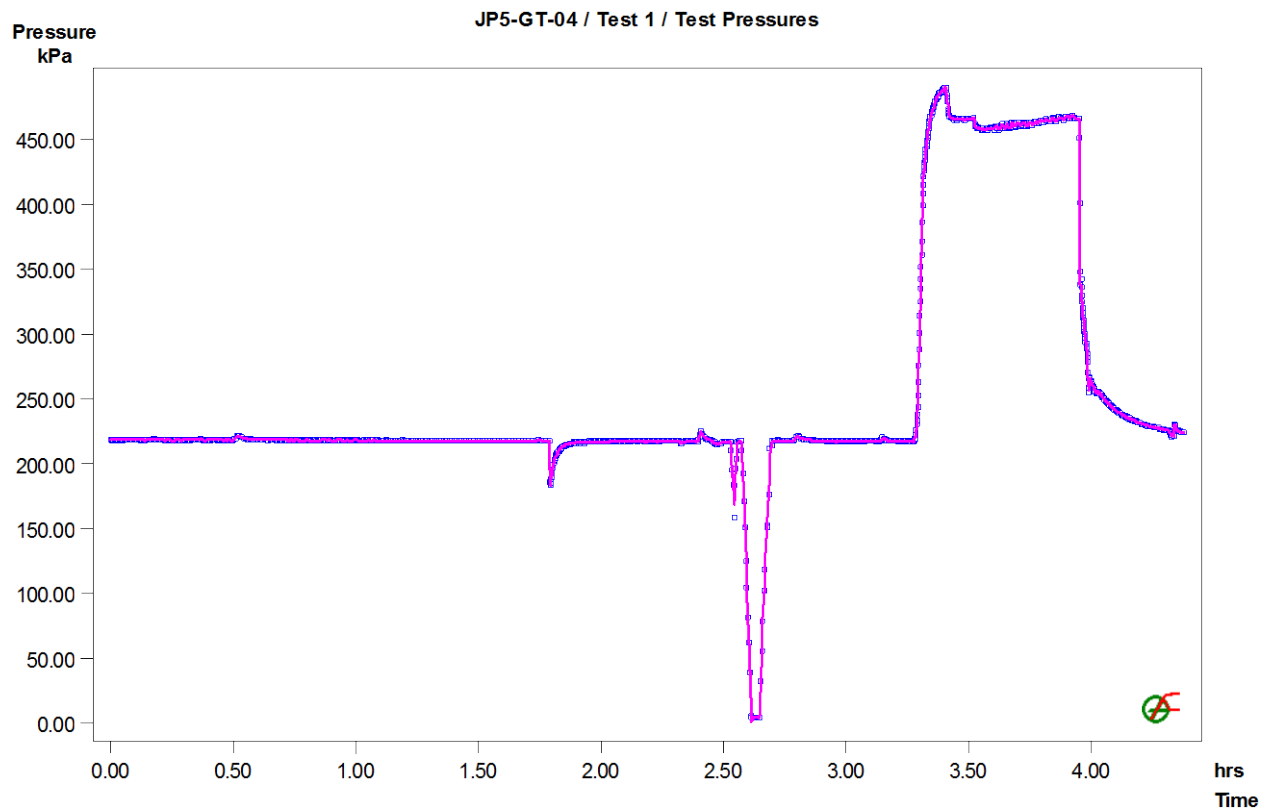


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-04 / Test 1 / SW: LogLog Plot, constant P(i)

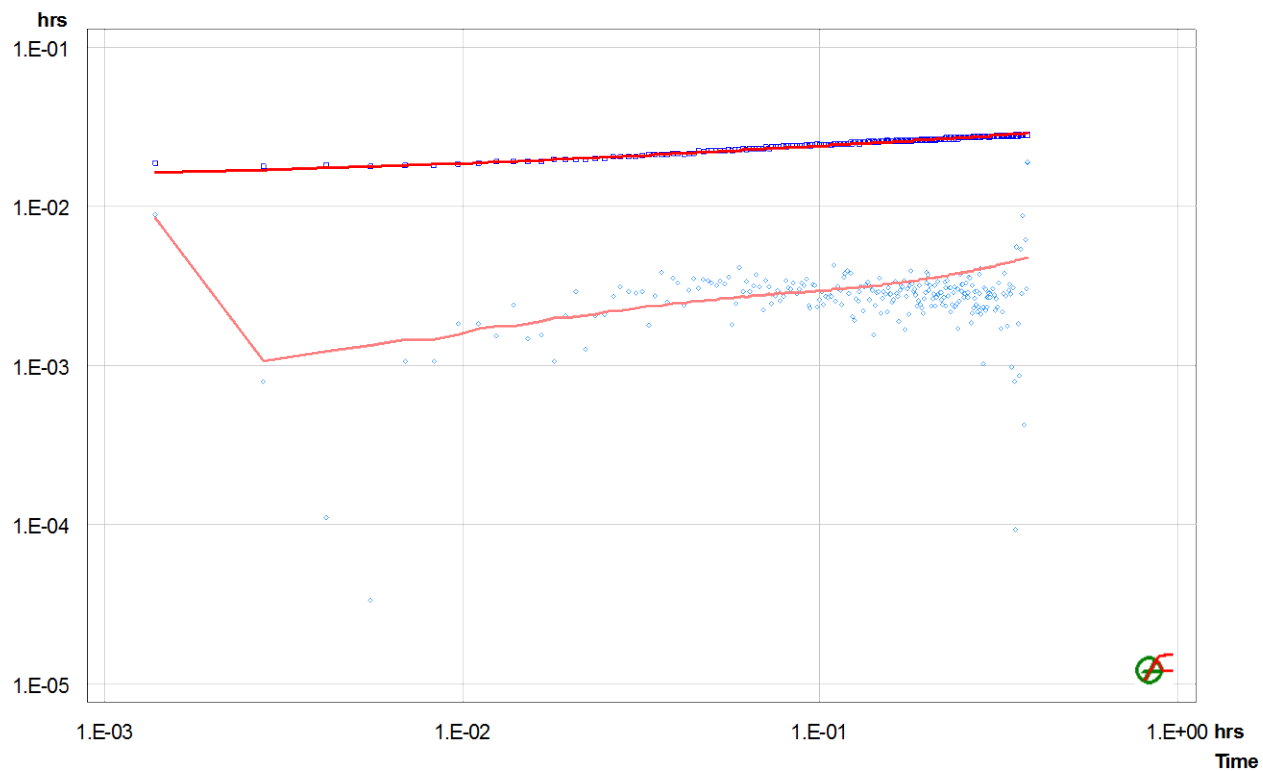


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-GT-05
Test Name Test 1
Test Date/Time March 20, 2014, 14:50:47
Interval top: 16.80 m bottom: 32.00 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 15.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 110.021 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	171.02			4.9e-07
PSR	Variable Pressure	0.51667	170.71			4.9e-07
SW-Init	dP-Event	0.91250	170.19	52.5 *		4.8e-07
SW	Slug	0.91667	117.67	170.2		4.8e-07

Analysis Results

Analysis "SW"

Static Pressure: 169.01 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.8e-05	3.0e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	3.1e-06	0.0
PSR	3.1e-06	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

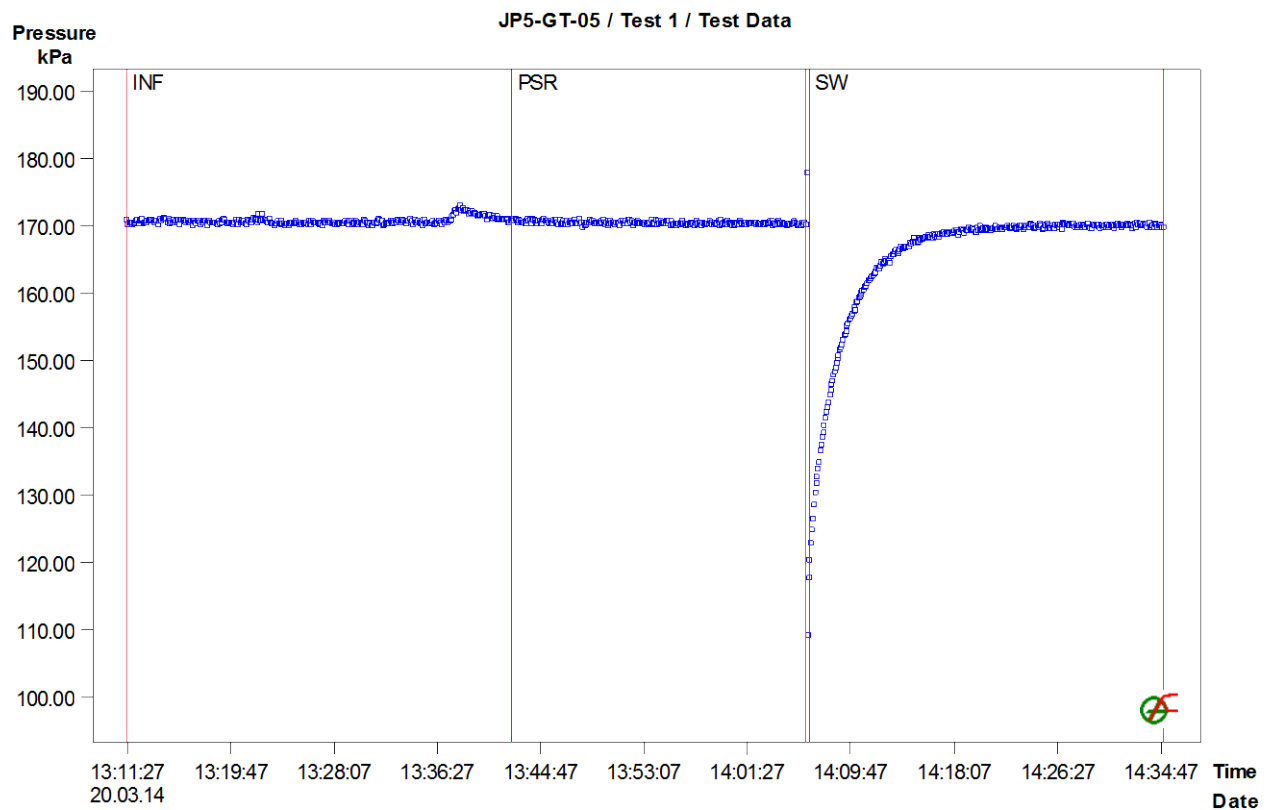


Figure 1: Pressure response and sequence definition

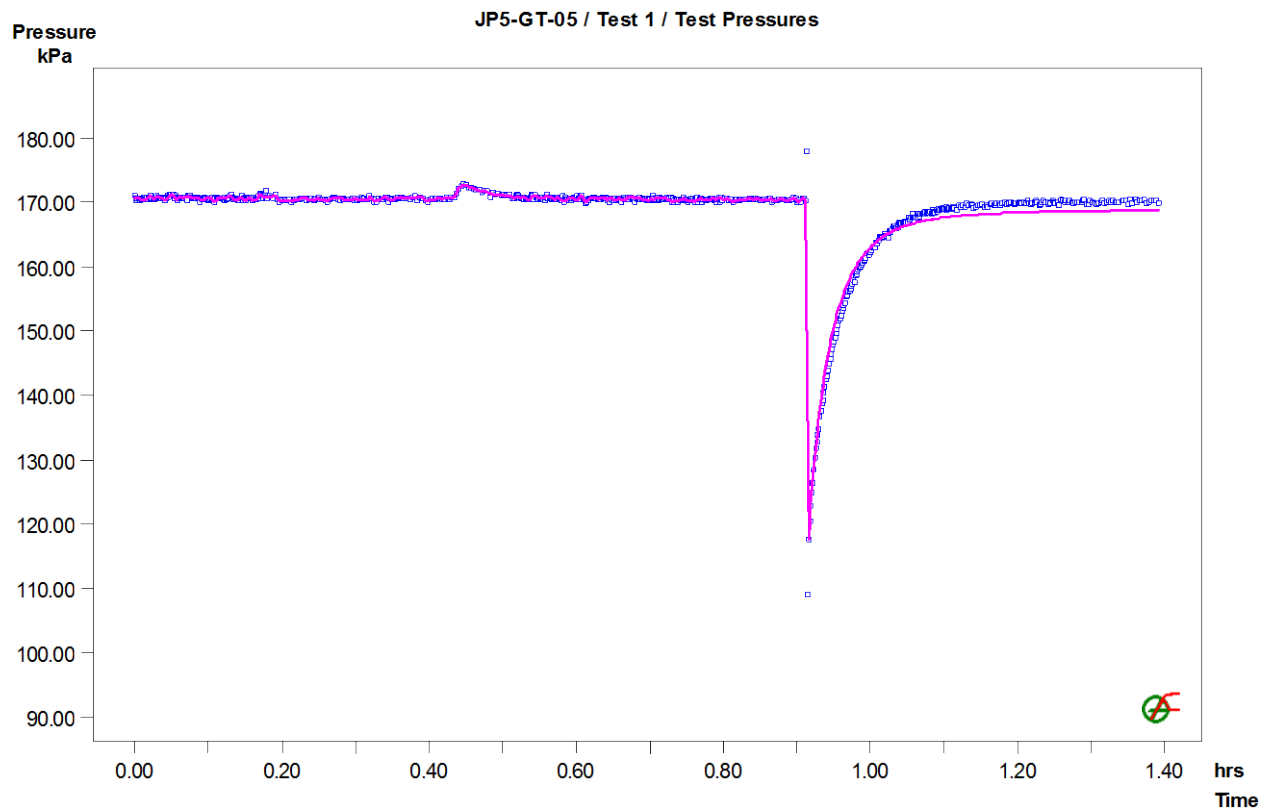


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-05 / Test 1 / SW: LogLog Plot, constant P(i)

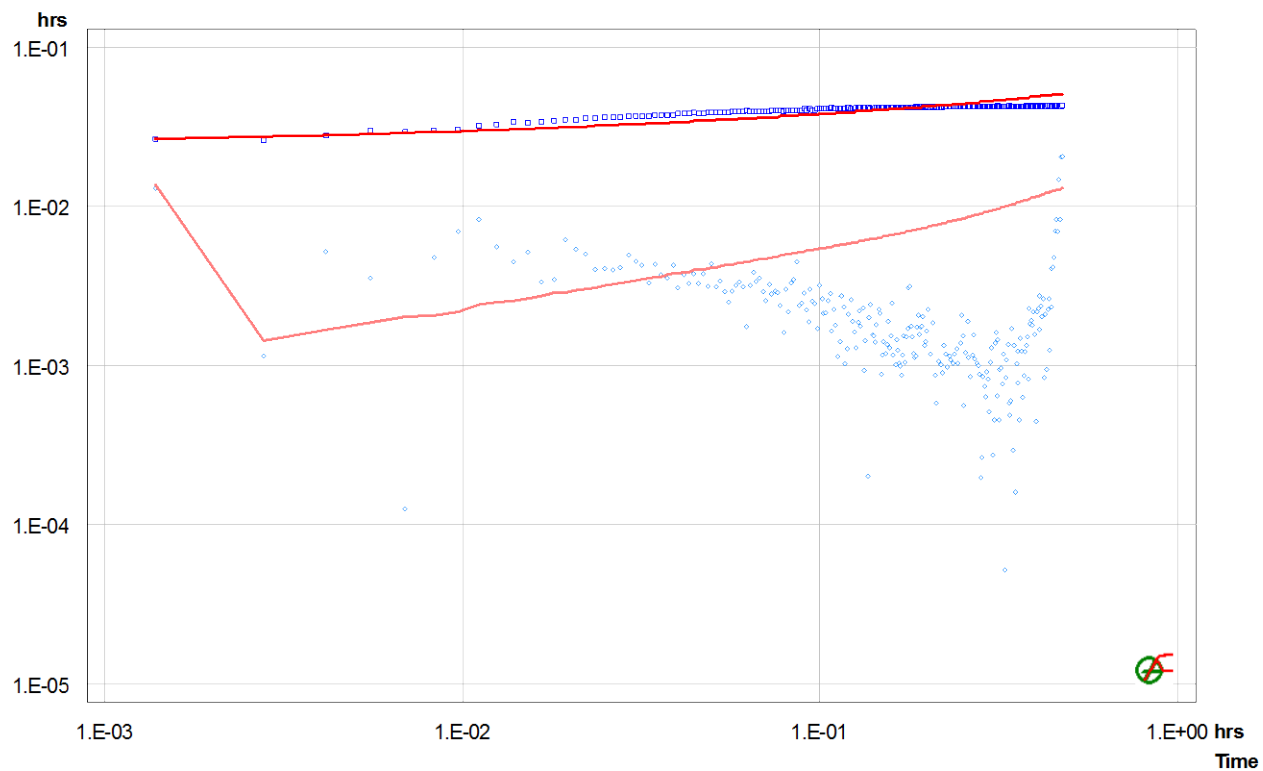


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-01
Test Name Well 1
Test Date/Time
Interval top: 26.21 m bottom: 27.13 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 0.92 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 27.195 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	251.92			2.1e-07
SW-Init-1	dP-Event	0.42236	252.24	79.8 *		2.1e-07
SW-1	Slug	0.42903	172.45	252.2		2.1e-07
PSR-2	Variable Pressure	0.49597	251.36			2.1e-07
SW-Init-2	dP-Event	0.57917	252.28	163.8 *		2.1e-07
Sw-2	Slug	0.59403	88.52	252.3		2.1e-07

Analysis Results

Analysis " SW1-2 shell final."

Static Pressure: 251.74 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.9e-05	1.8e-06	30.29	2.0
Shell 2	1.4e-04	1.8e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
SW-Init-1	2.1e-07	0.0
SW-1	2.1e-07	0.0
PSR-2	2.1e-07	0.0
SW-Init-2	2.1e-07	0.0
Sw-2	2.1e-07	0.0

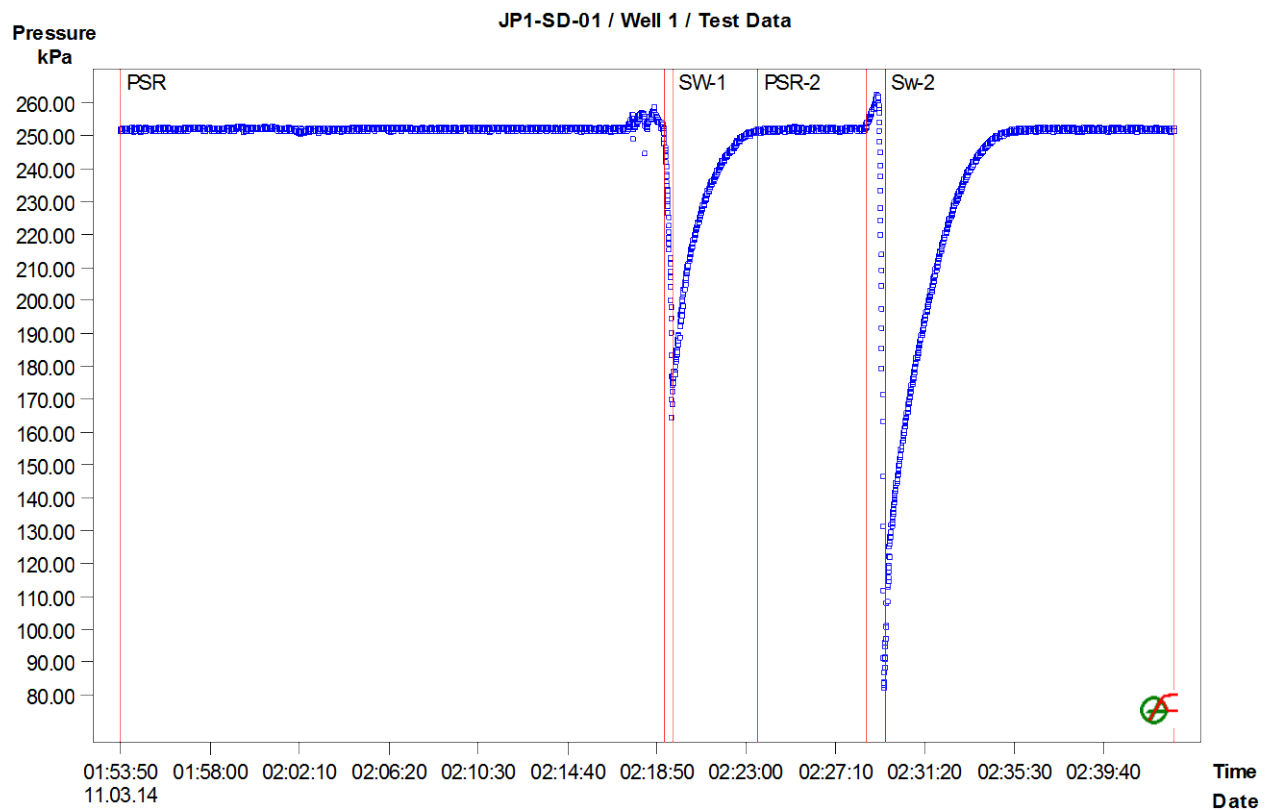


Figure 1: Pressure response and sequence definition

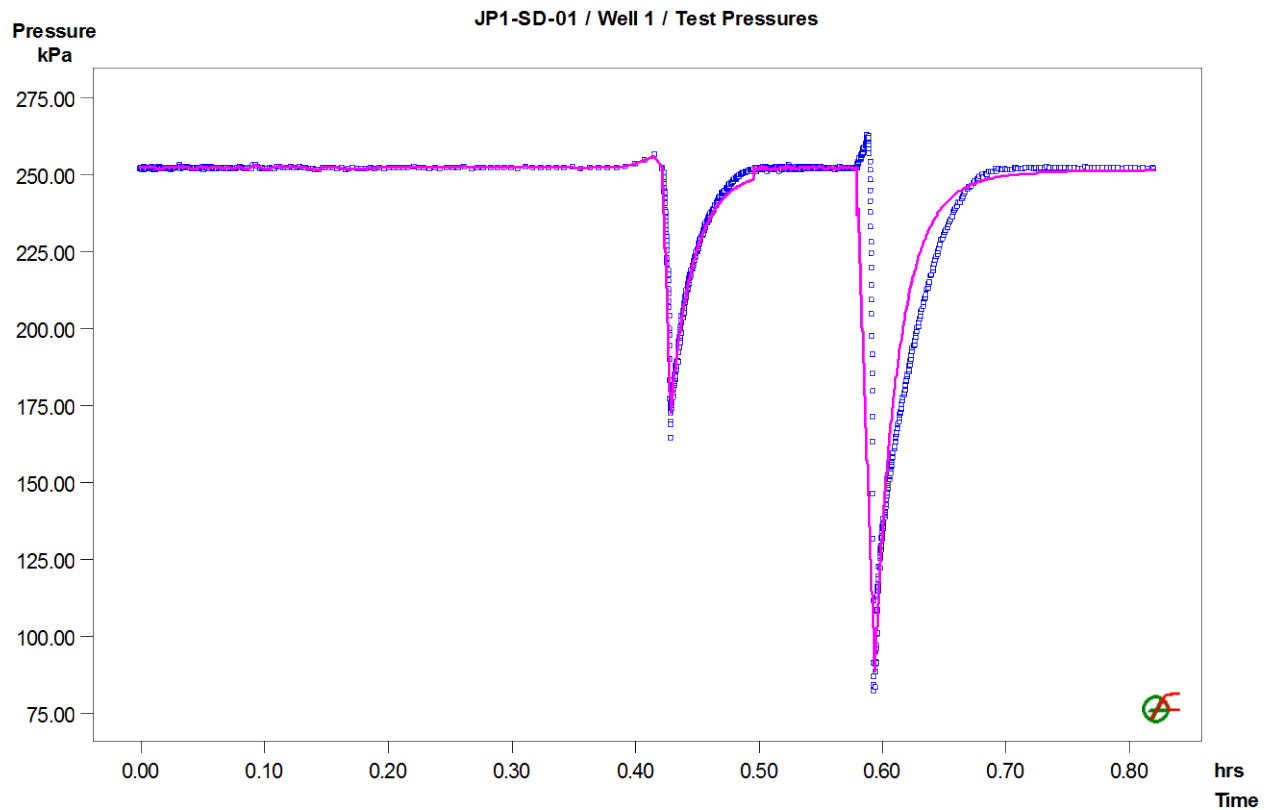


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 1 / SW-1: LogLog Plot, constant P(i)

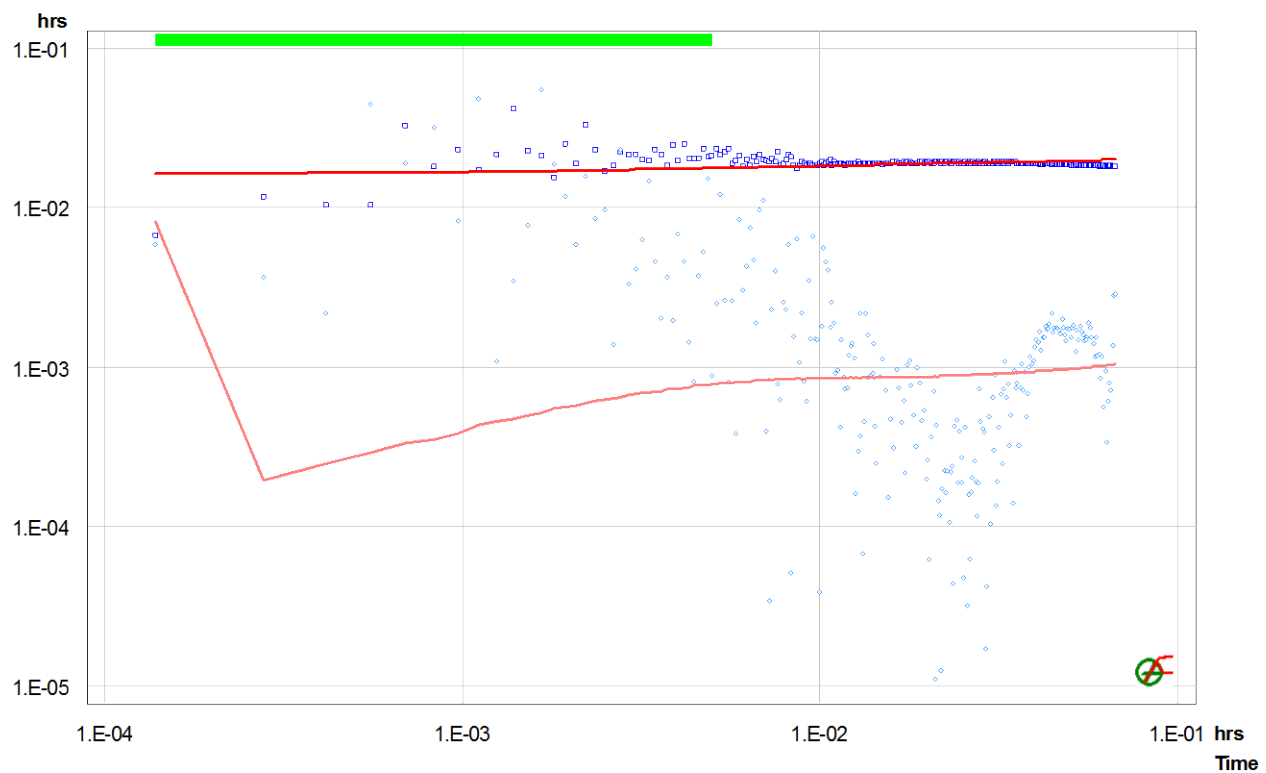


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP1-SD-01	
Test Name	Well 2	
Test Date/Time		
Interval	top: 21.34 m	bottom: 25.60 m
Description	Analyzed by: DV	

Basic Data

Test Interval	4.26 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	125.922 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m³/Pa]	Skin
Auto_History	Const. Pressure	0.50	106.75			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	106.75			2.1e-07
SW-Init	dP-Event	1.04431	130.87	-47.1 *		2.1e-07
SW	Slug	1.13861	177.98	130.9		2.1e-07

Analysis Results

Analysis "Analysis_1"

Static Pressure: 99.01 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-07	8.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

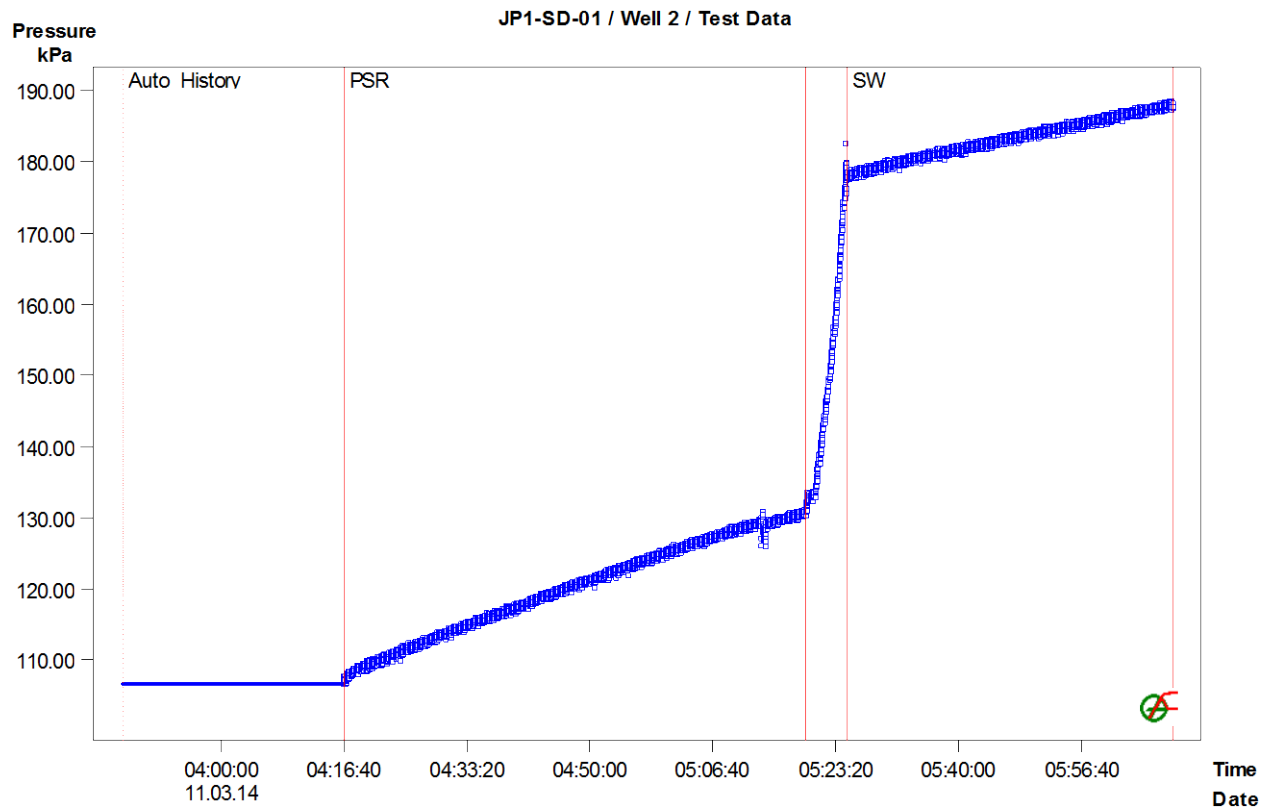


Figure 1: Pressure response and sequence definition

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-01
Test Name Well 3
Test Date/Time
Interval top: 39.62 m bottom: 41.76 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 2.14 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 63.257 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.25	148.93			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	148.93			2.1e-07
SW-Init	dP-Event	0.97444	239.49	94.8 *		2.1e-07
SW	Slug	0.98958	144.69	239.5		2.1e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 279.25 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.8e-07	4.2e-06	88.88	2.0
Shell 2	7.9e-07	4.2e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.9e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

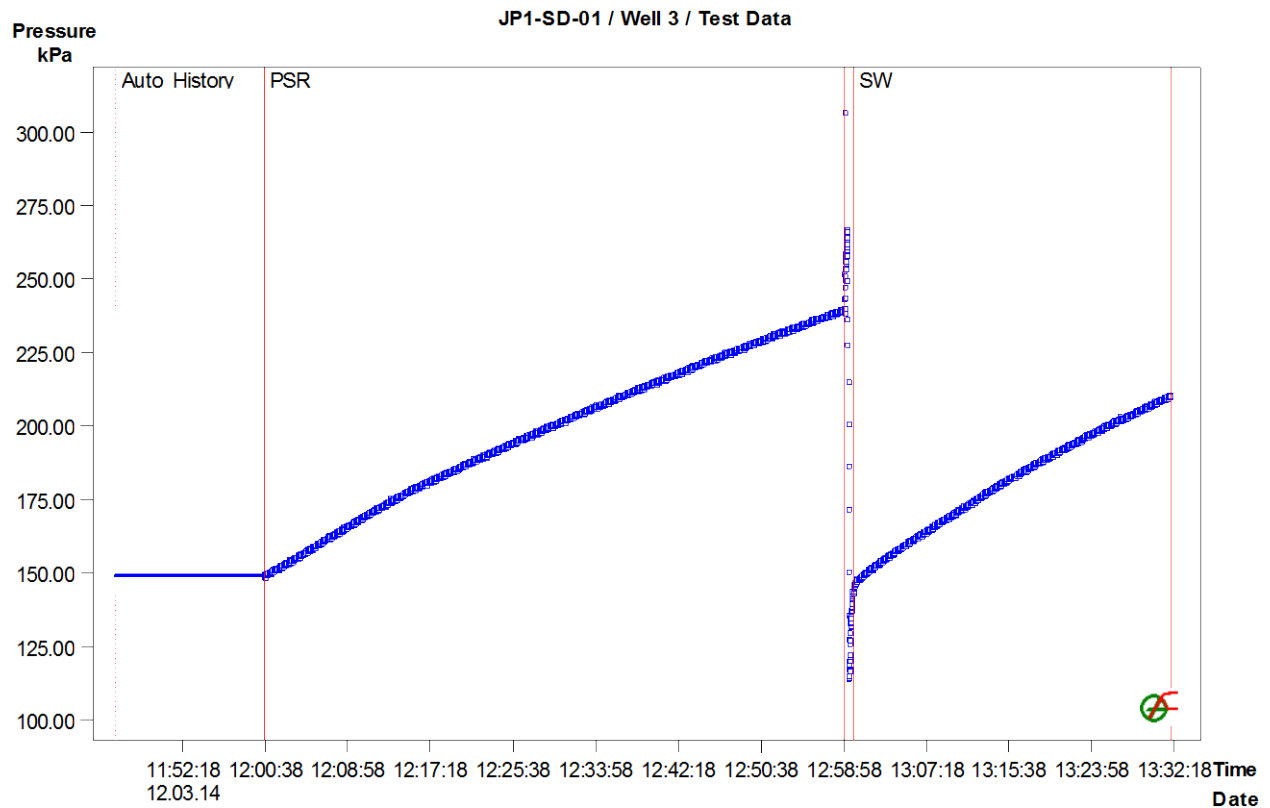


Figure 1: Pressure response and sequence definition

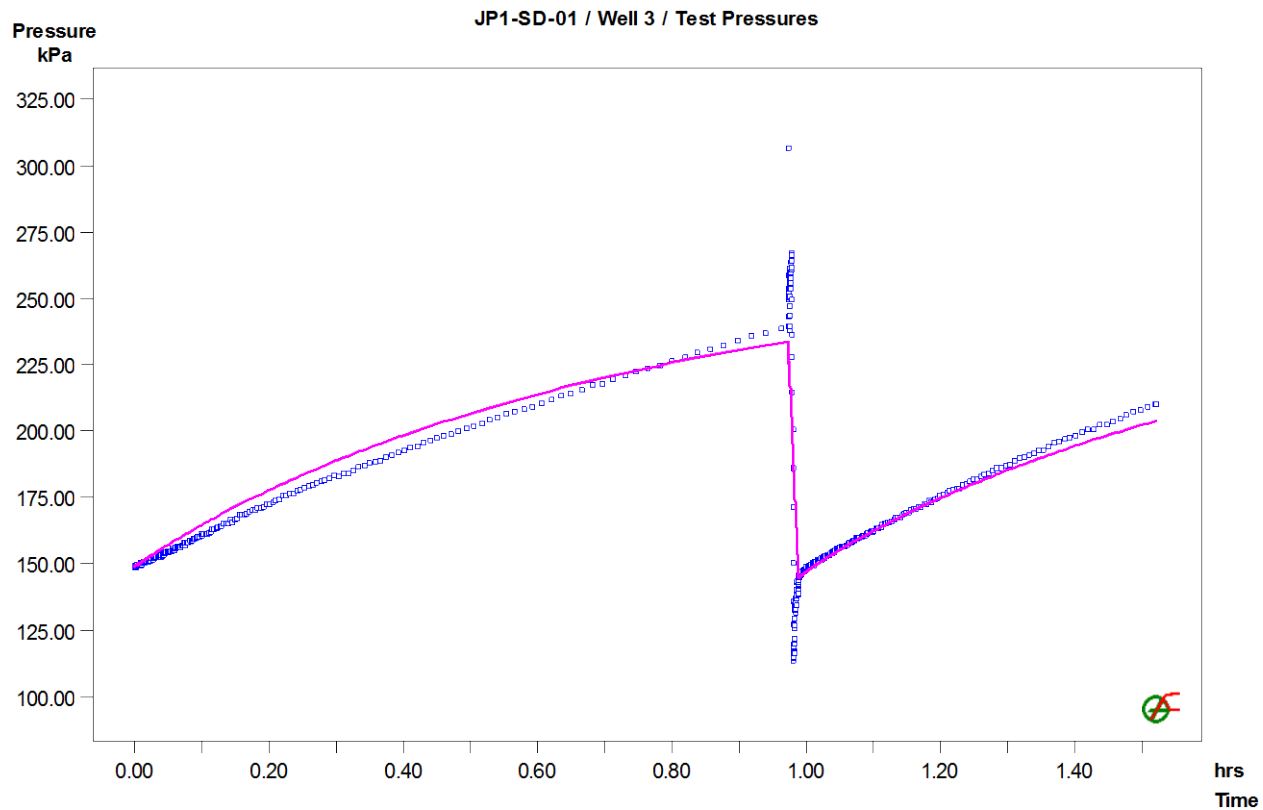


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 3 / SW: LogLog Plot, variable P(i)

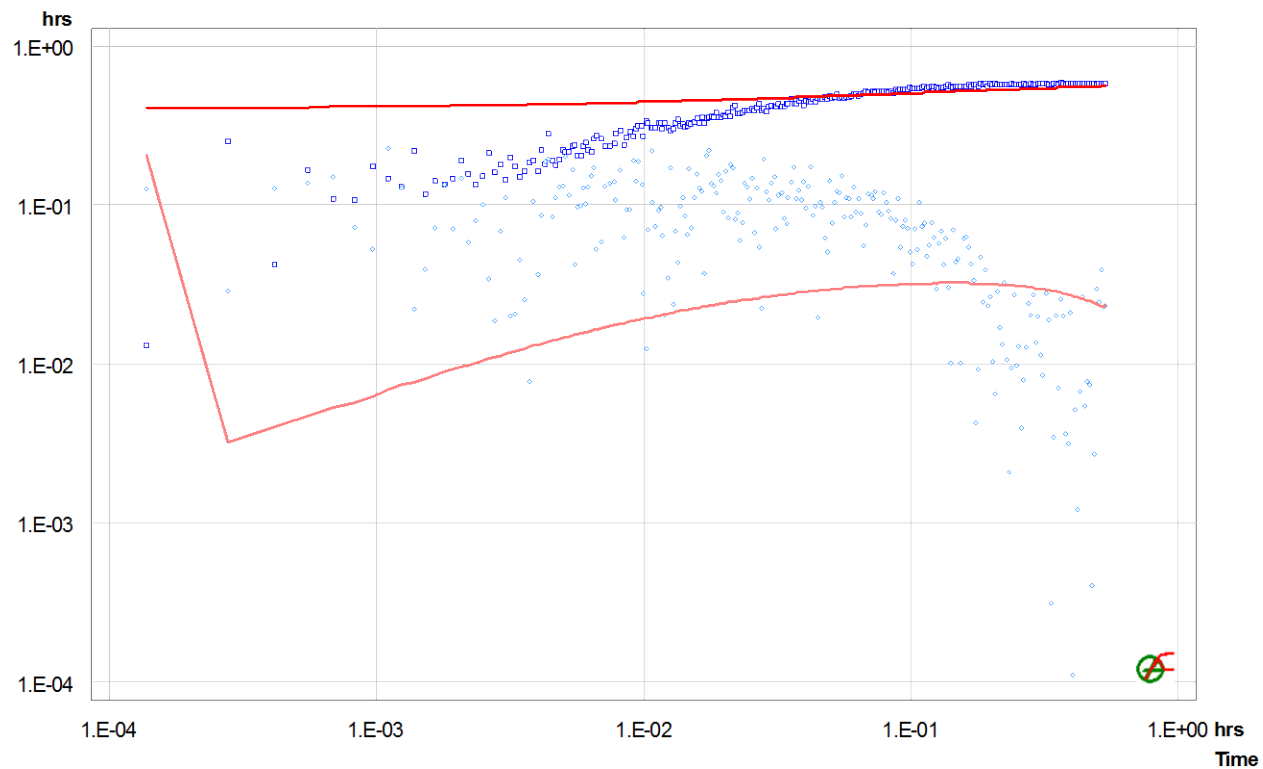


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-01
Test Name Well 4
Test Date/Time
Interval top: 33.53 m bottom: 38.40 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 4.87 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 143.953 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.25	100.70			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	100.70			2.1e-07
SW-Init	dP-Event	1.07333	168.45	26.1 *		2.1e-07
SW	Slug	1.08500	142.40	168.4		2.1e-07

Analysis Results

Analysis "SW- 2 shell-dsl"

Static Pressure: 471.36 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.1e-05	9.6e-06	4.98	2.0
Shell 2	1.9e-08	9.6e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	3.3e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

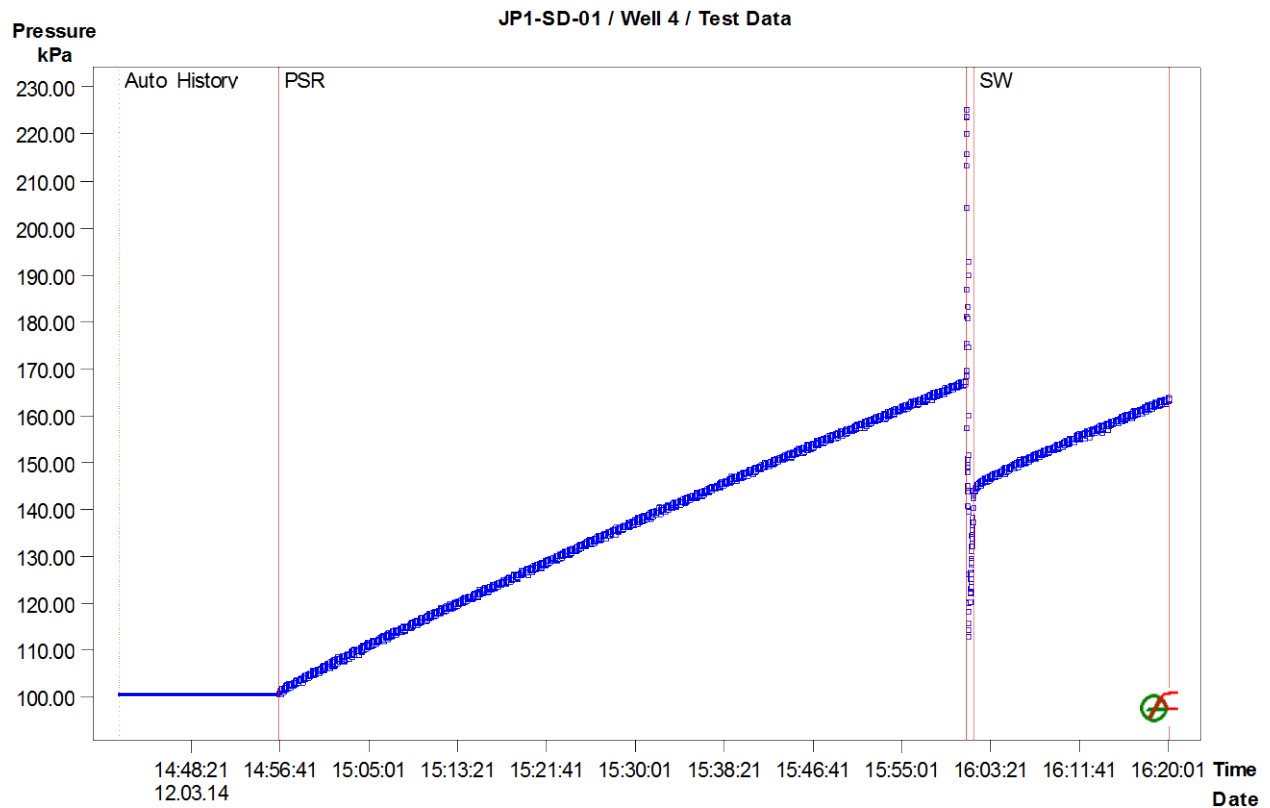


Figure 1: Pressure response and sequence definition

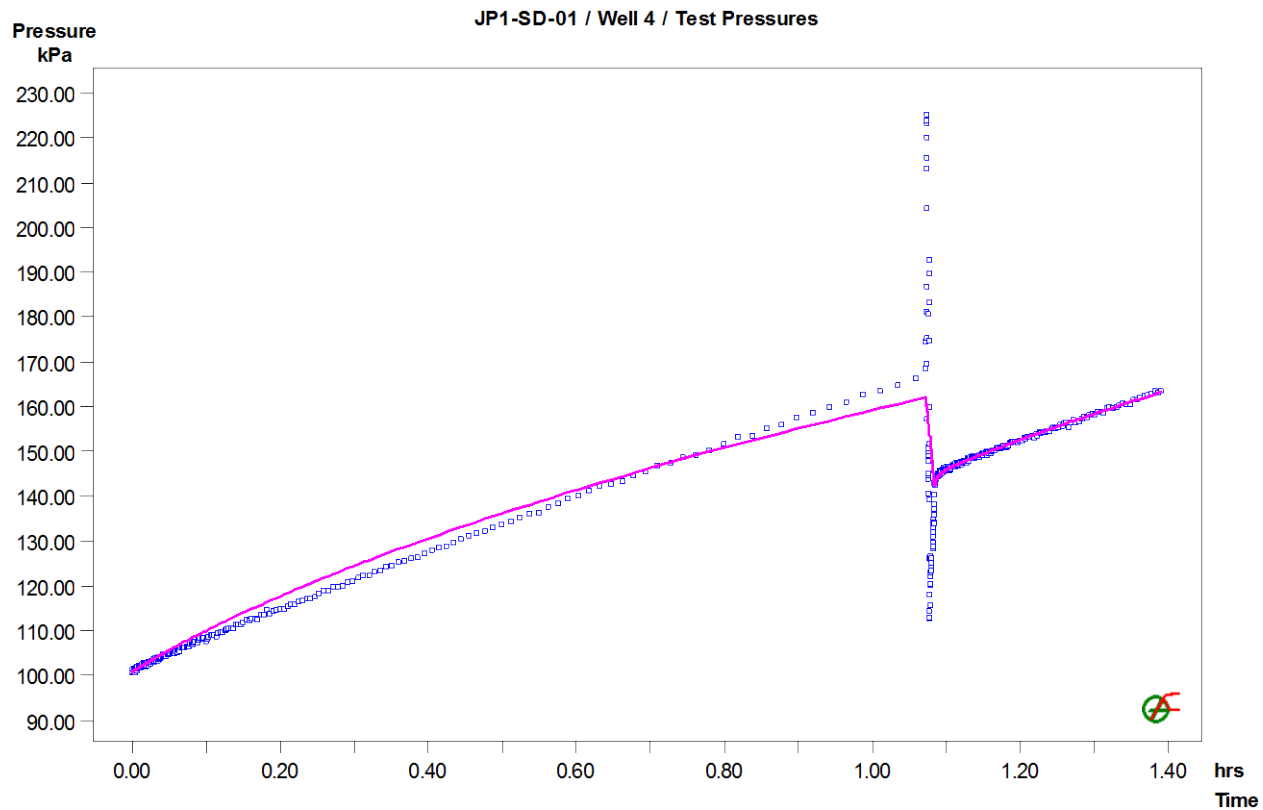


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 4 / SW: LogLog Plot, variable P(i)

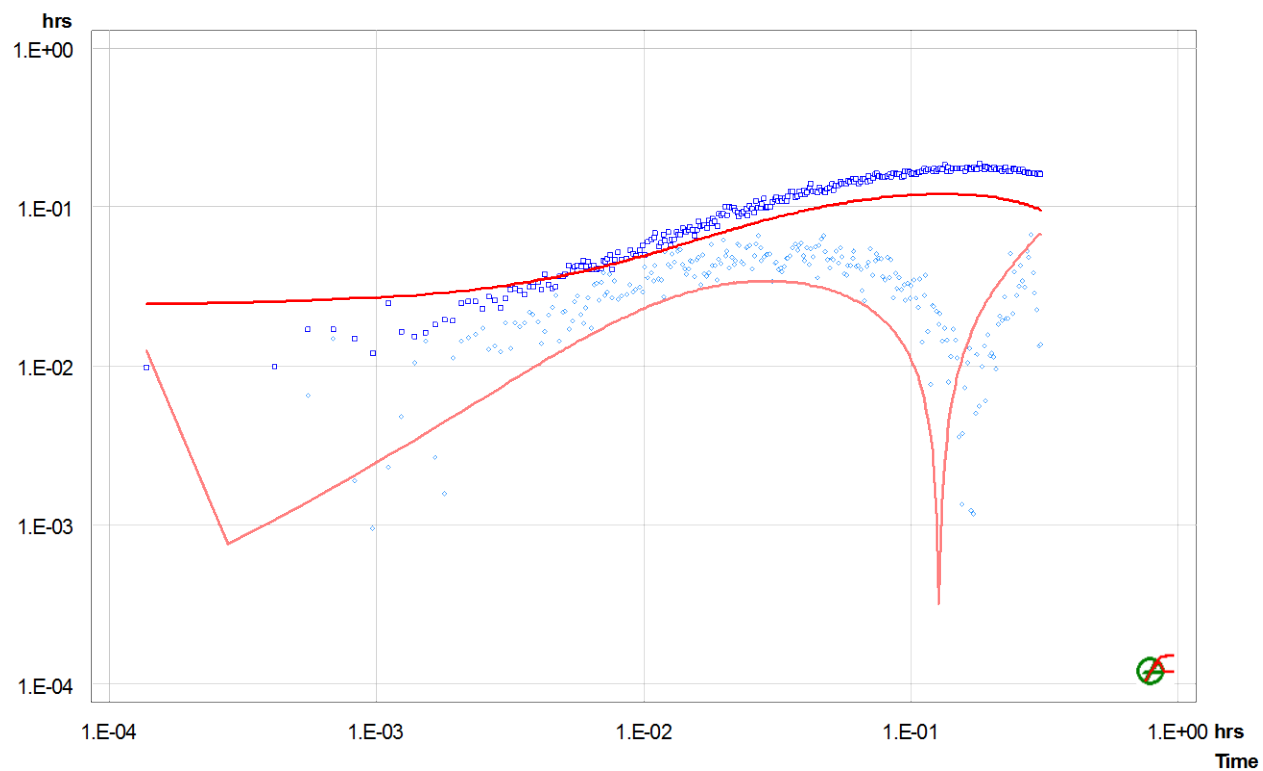


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP1-SD-02	
Test Name	Well 1	
Test Date/Time		
Interval	top: 24.38 m	bottom: 27.58 m
Description	Analyzed by: DV	

Basic Data

Test Interval	3.20 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	94.590 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
Com/INF	Variable Pressure	0.00000	92.43			2.0e-07
PSR	Recovery	0.32569	122.33			2.0e-07
SW-Init	dP-Event	1.02597	174.81	102.2 *		2.0e-07
SW	Slug	1.03597	72.63	174.8		2.0e-07

Analysis Results

Analysis "SW"

Static Pressure: 197.26 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.1e-07	6.3e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
Com/INF	1.1e-07	0.0
PSR	1.1e-07	0.0
SW-Init	2.0e-07	0.0
SW	2.0e-07	0.0

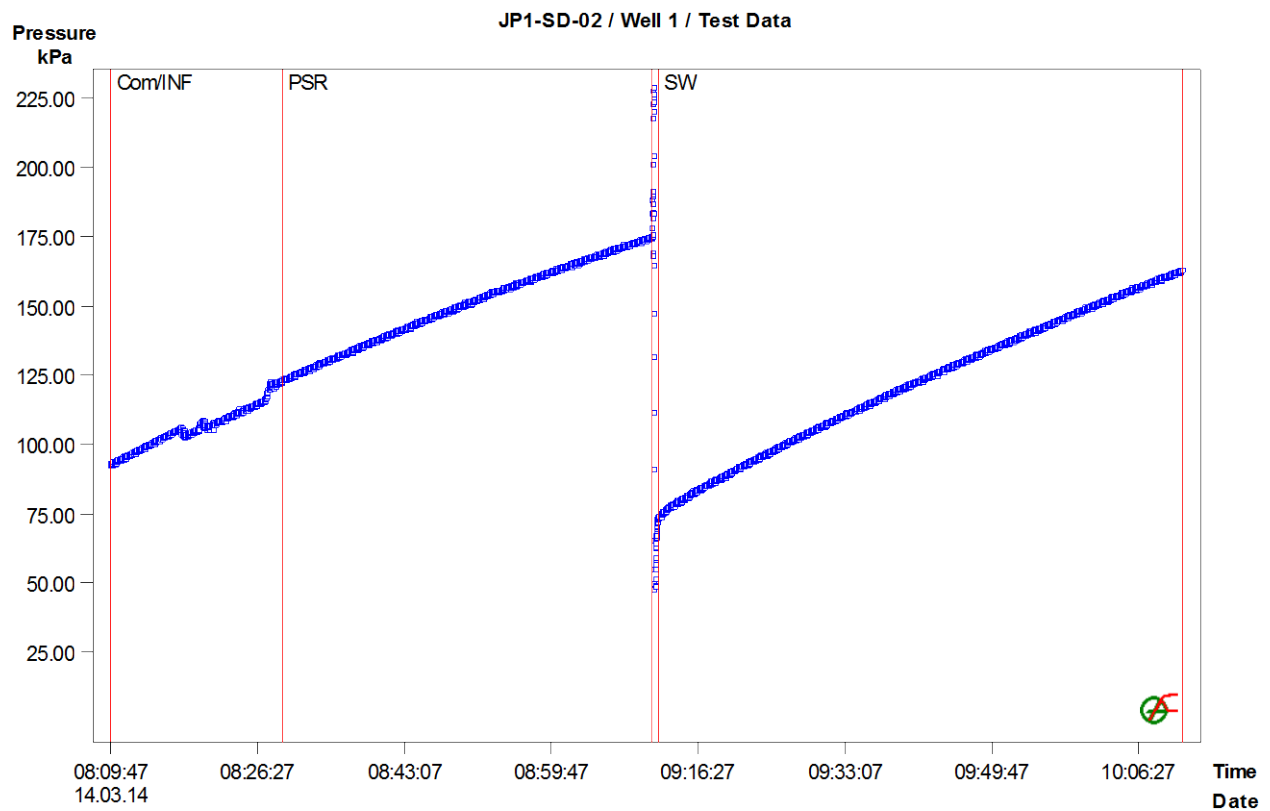


Figure 1: Pressure response and sequence definition

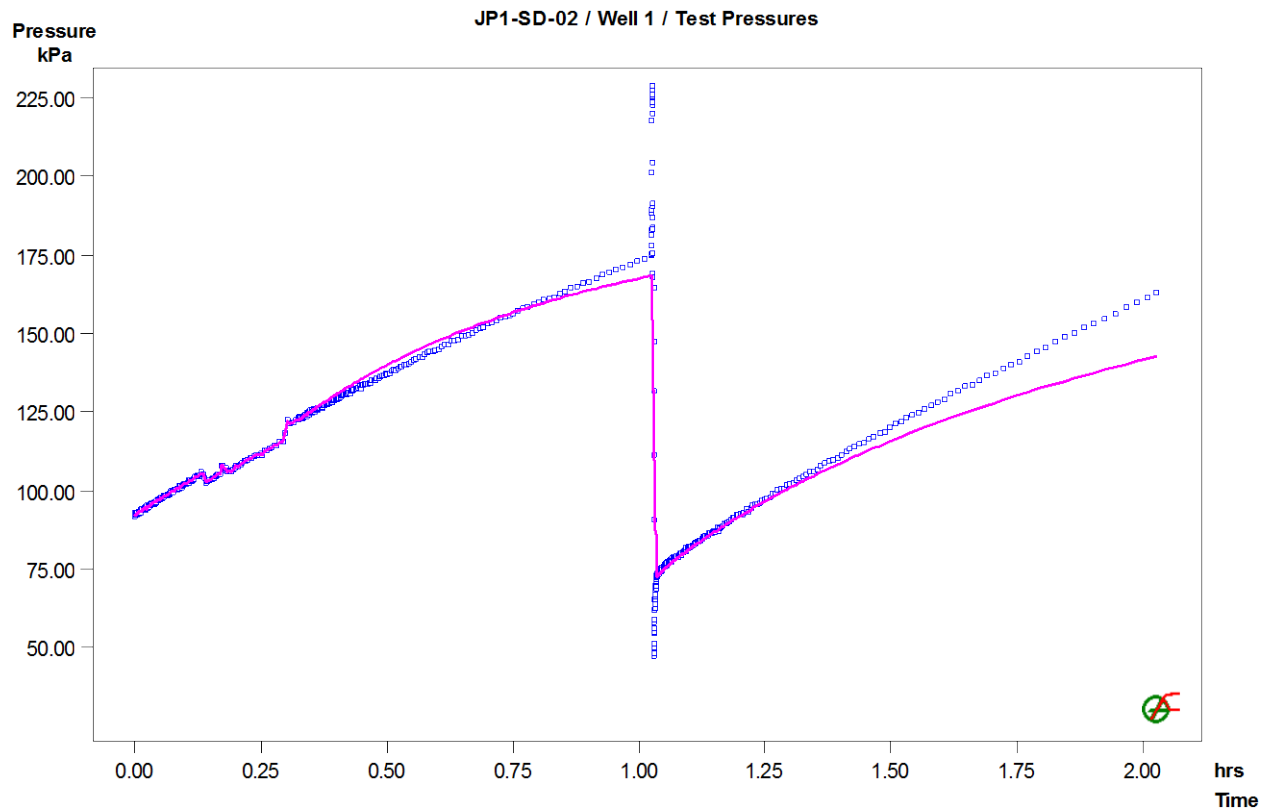


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-02 / Well 1 / SW: LogLog Plot, variable P(i)

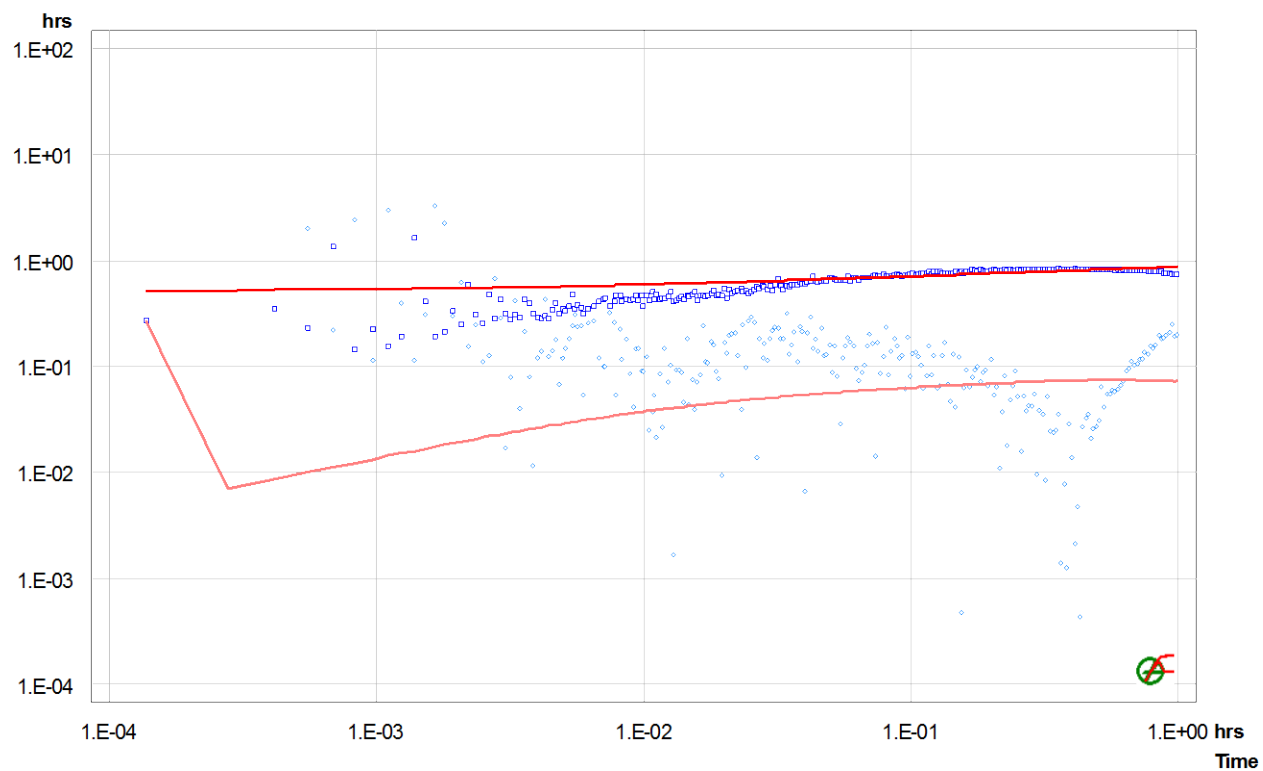


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-02
Test Name Well 2
Test Date/Time
Interval top: 19.51 m bottom: 22.10 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 2.59 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 76.558 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Hist.	Const. Pressure	0.50	115.00			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	115.75			2.0e-07
SW-Init	dP-Event	0.54014	176.01	63.6 *		2.0e-07
SW	Slug	0.55125	112.44	176.0		2.0e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 220.32 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.1e-06	5.1e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.3e-07	0.0
SW-Init	4.3e-07	0.0
SW	2.0e-07	0.0

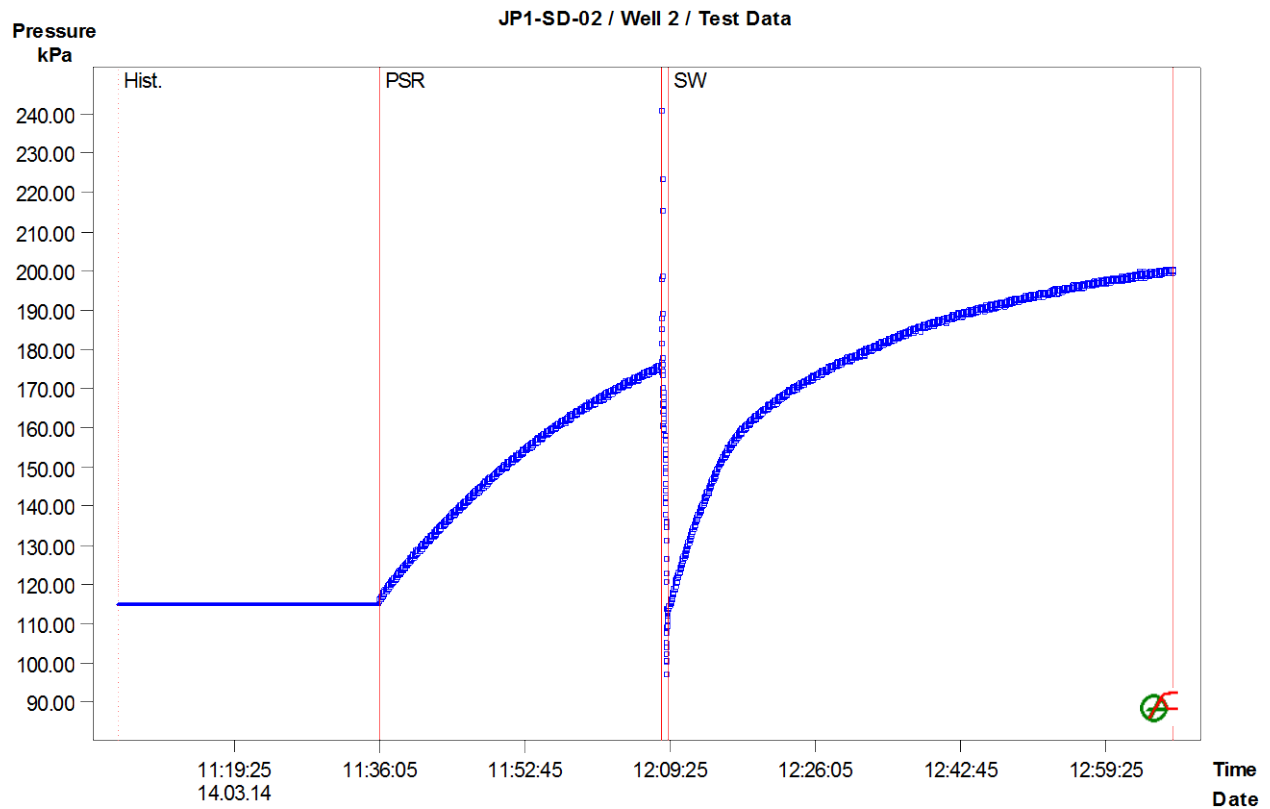


Figure 1: Pressure response and sequence definition

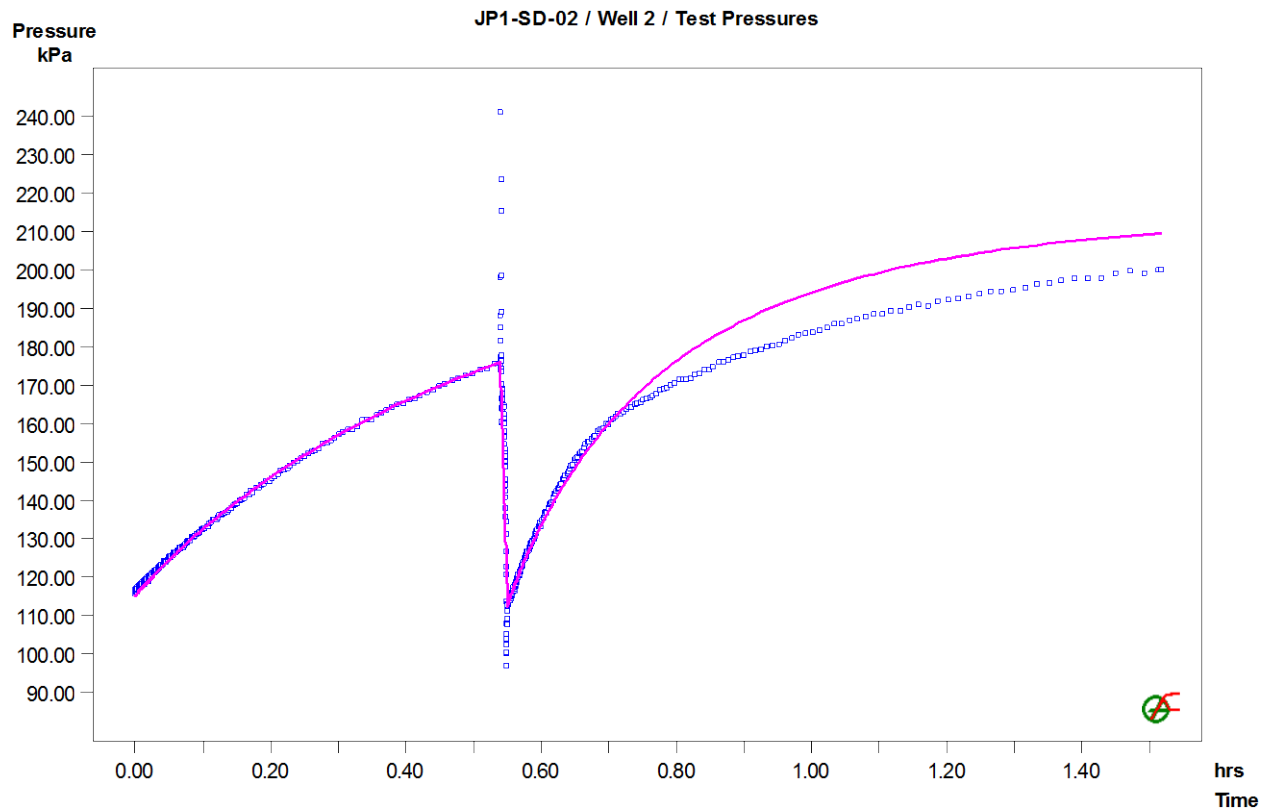


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-02 / Well 2 / SW: LogLog Plot, variable P(i)

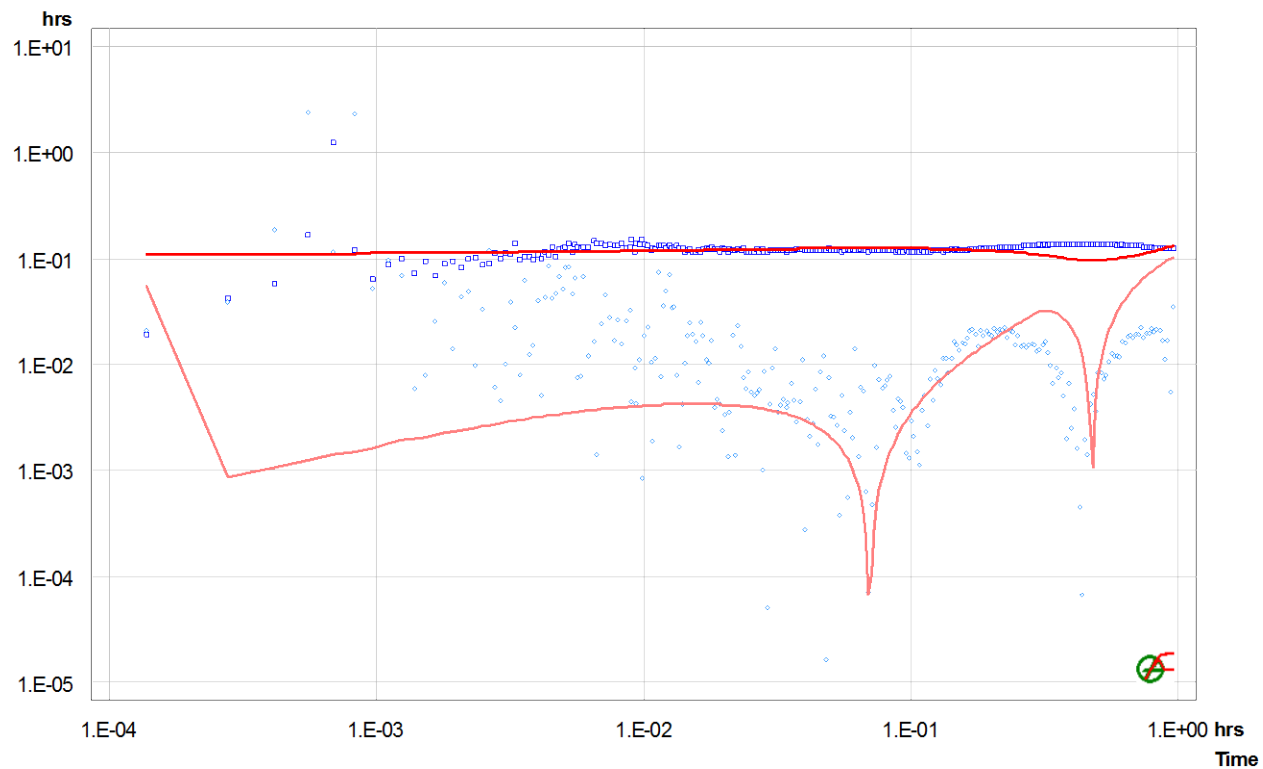


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-03
Test Name Well 1
Test Date/Time
Interval top: 19.20 m bottom: 20.42 m
Description Analyzed by: DSL
 Reviewed by: DV

Basic Data

Test Interval 1.22 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 36.062 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM/INF	Variable Pressure	0.00000	56.54			2.1e-07
PSR	Recovery	0.36931	60.68			2.1e-07
SW-Init	dP-Event	0.44792	61.74	35.5 *		2.1e-07
SW	Slug	0.45167	26.27	61.7		2.1e-07

Analysis Results

Analysis "Analysis_1"

Static Pressure: 98.11 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-07	2.4e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM/INF	2.1e-07	0.0
PSR	2.1e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

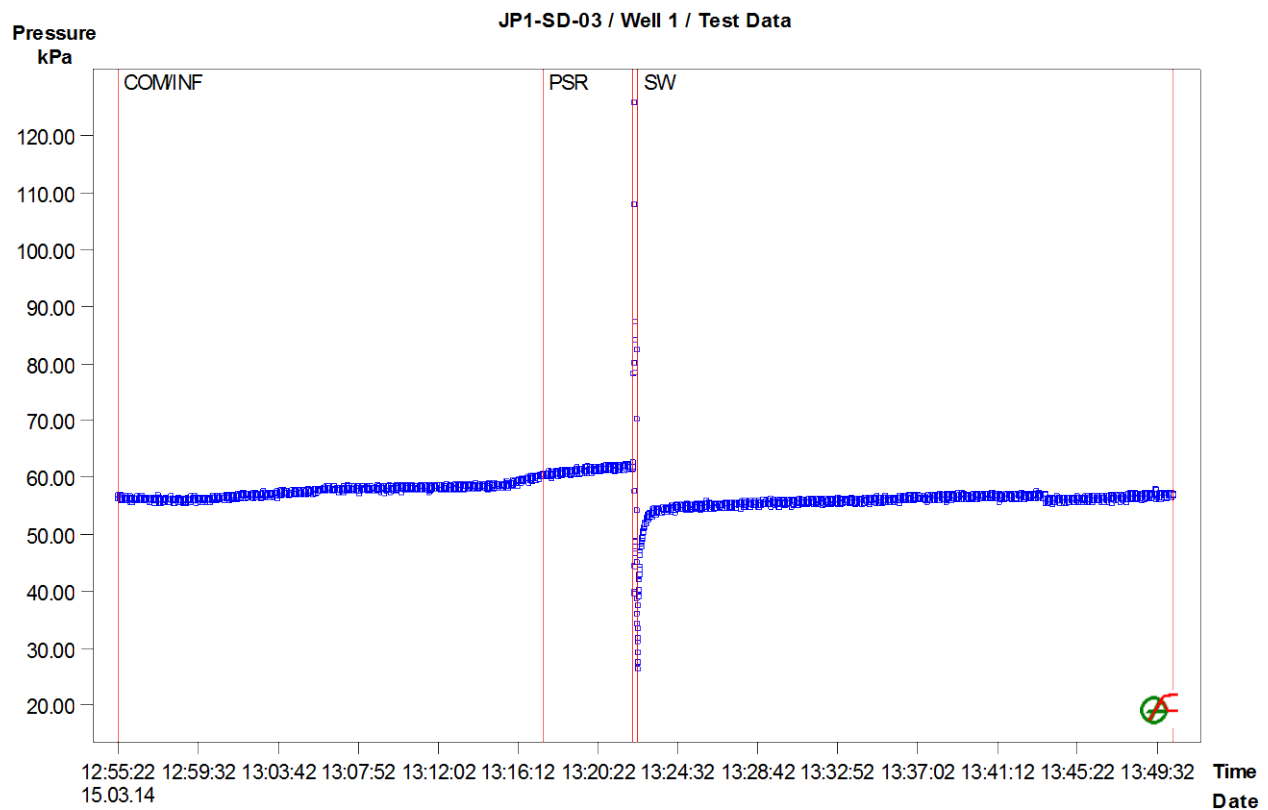


Figure 1: Pressure response and sequence definition

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-SD-03
Test Name Well 2
Test Date/Time
Interval top: 17.22 m bottom: 18.29 m
Description Analyzed by: DSL
Reviewed by: DV

Basic Data

Test Interval 1.07 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius
Inclination 0.0 deg
Test Volume 31.628 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
Sequence 1	Variable Pressure	0.00000	98.17			2.0e-09

Analysis Results

Analysis "Analysis_1"

Static Pressure: 98.17 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-07	2.1e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
Sequence	2.0e-09	0.0
1		

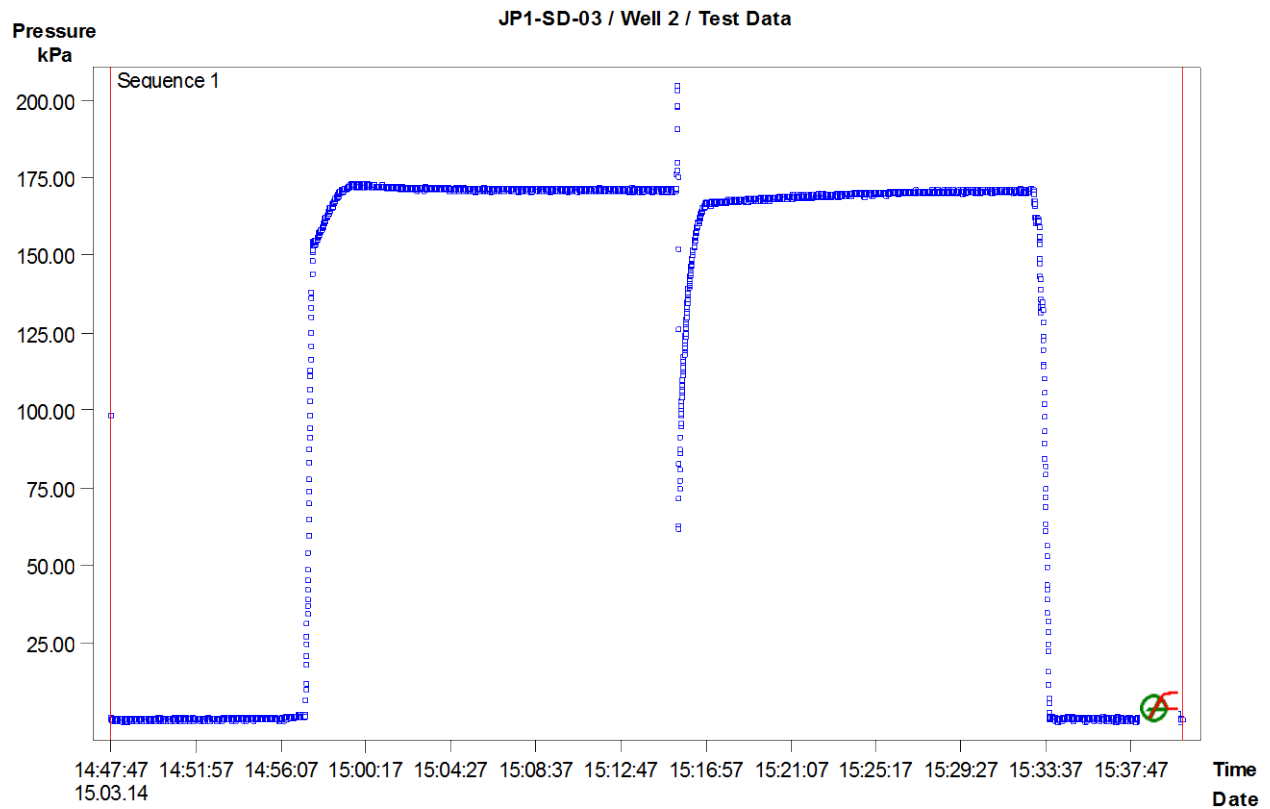


Figure 1: Pressure response and sequence definition

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-GT-01
Test Name Well 1
Test Date/Time March 4, 2014, 14:03:00
Interval top: 22.80 m bottom: 30.50 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 7.70 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 5.0 deg
Test Volume 55.734 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	220.11			4.9e-07
PSR	Recovery	0.37222	220.58			4.9e-07
SW-Init	dP-Event	0.61806	220.51	72.2 *		4.9e-07
SW	Slug	0.62222	148.33	220.5		4.9e-07

Analysis Results

Analysis "SW-with skin- final-dsl"

Static Pressure: 223.80 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	7.7e-07	1.5e-05	1.41	2.0
Shell 2	4.2e-10	1.5e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.2e-08	0.9
PSR	2.2e-08	0.9
SW-Init	4.9e-07	0.9
SW	4.9e-07	0.9

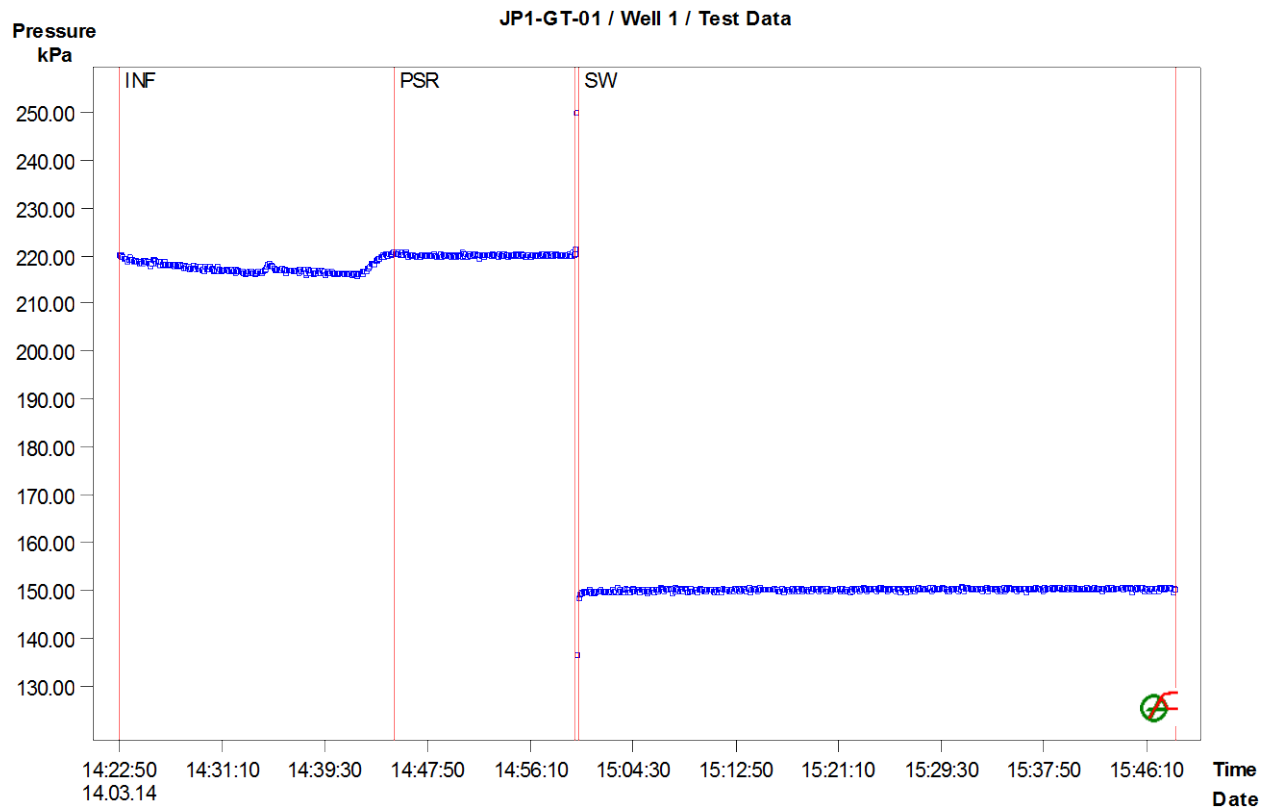


Figure 1: Pressure response and sequence definition

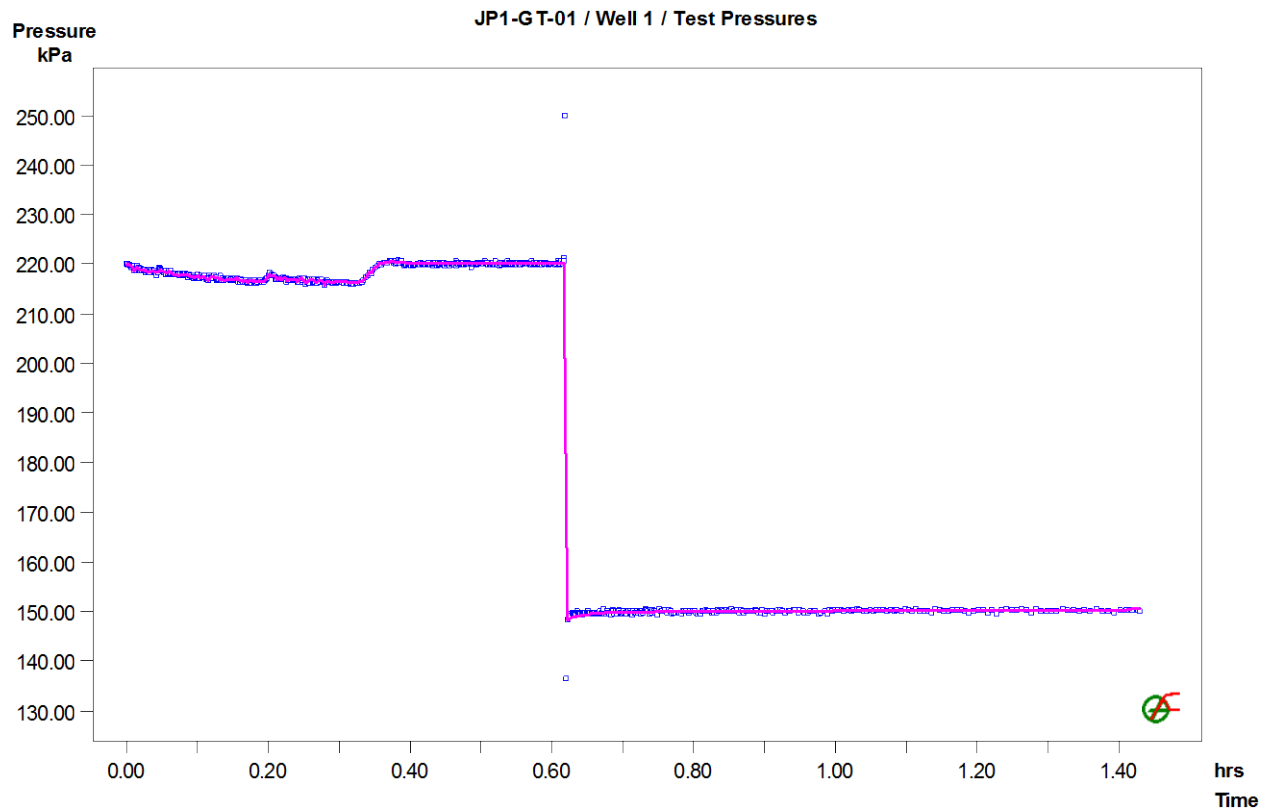


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-GT-01 / Well 1 / SW: LogLog Plot, variable P(i)

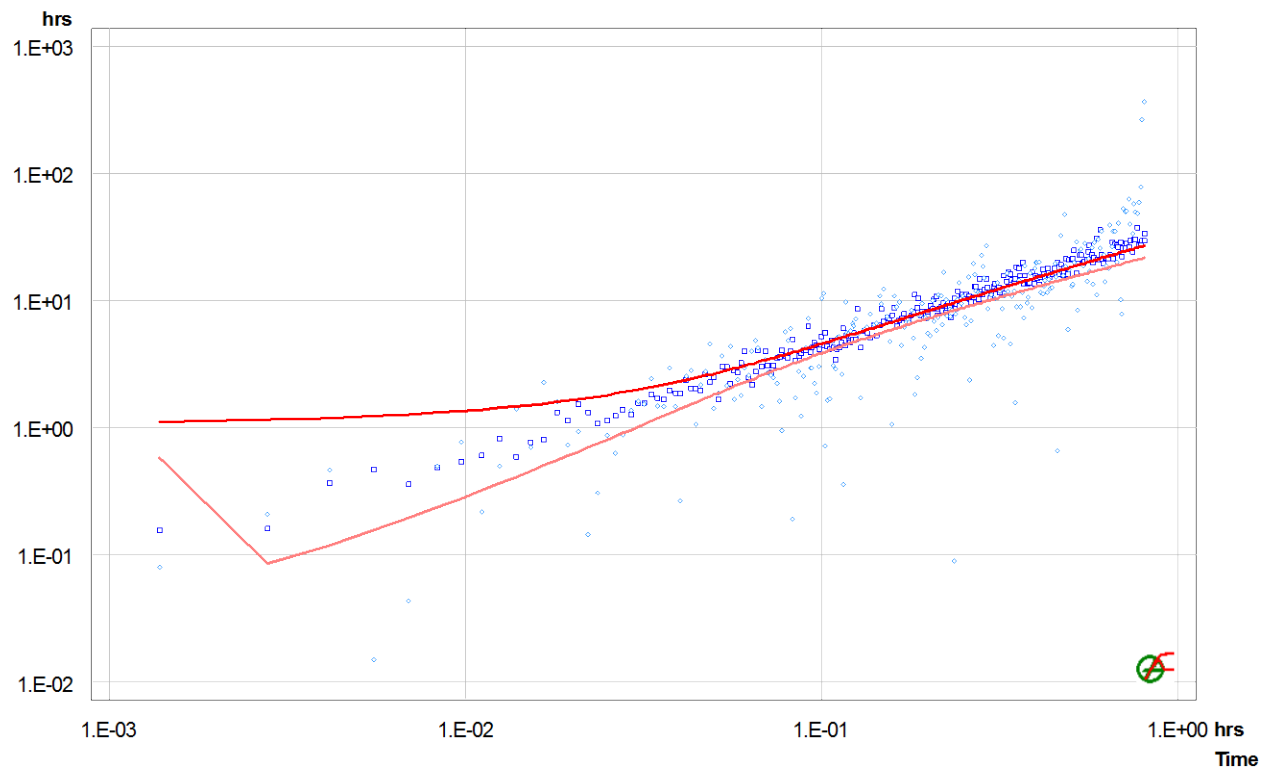


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-GT-04
Test Name Test 1
Test Date/Time
Interval top: 14.20 m bottom: 23.40 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 9.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 5.0 deg
Test Volume 66.592 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	122.03			4.9e-07
PSR	Recovery	0.04028	124.47			4.9e-07
SW-Init	dP-Event	0.78889	126.24	33.2 *		4.9e-07
Sw	Slug	0.79306	93.05	126.2		4.9e-07

Analysis Results

Analysis "SW-2 shell"

Static Pressure: 125.44 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.0e-06	1.8e-05	1.45	2.0
Shell 2	1.5e-10	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	4.9e-07	0.0
PSR	4.9e-07	0.0
SW-Init	4.9e-07	0.0
Sw	4.9e-07	0.0

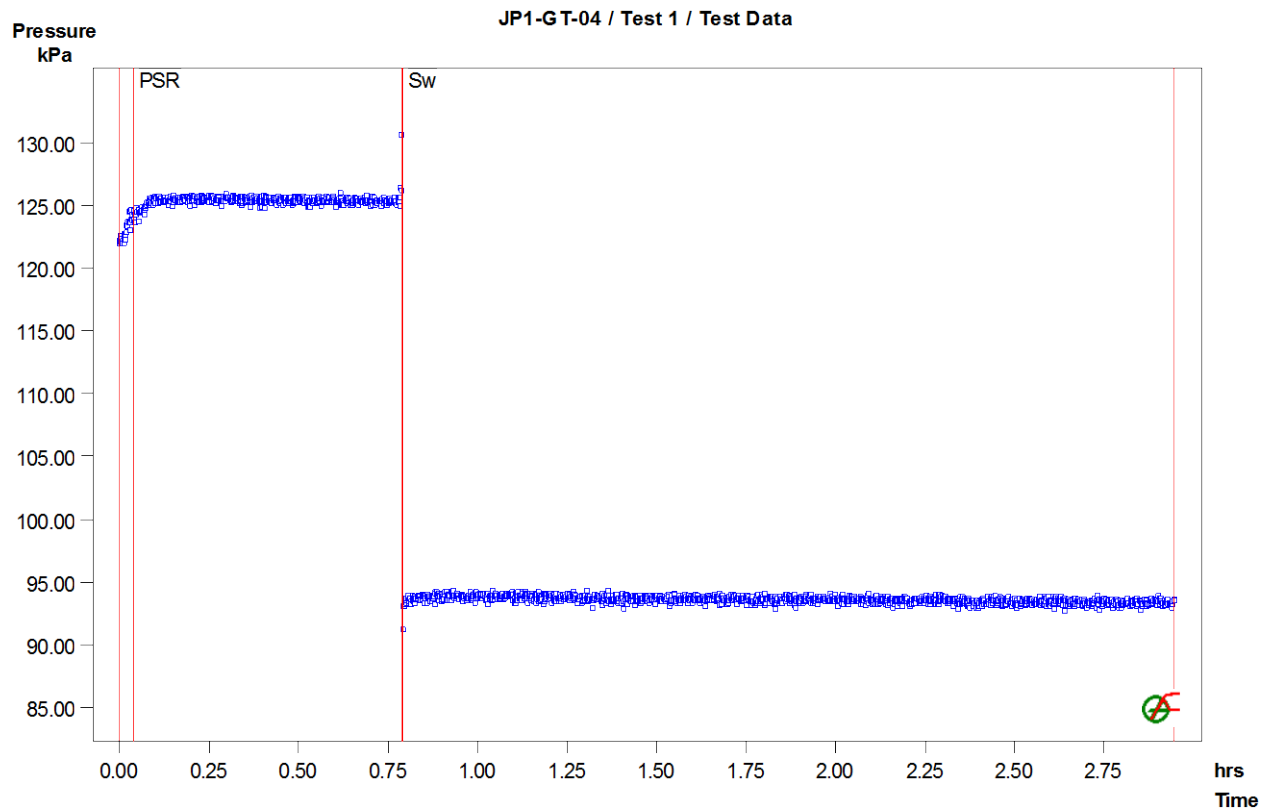


Figure 1: Pressure response and sequence definition

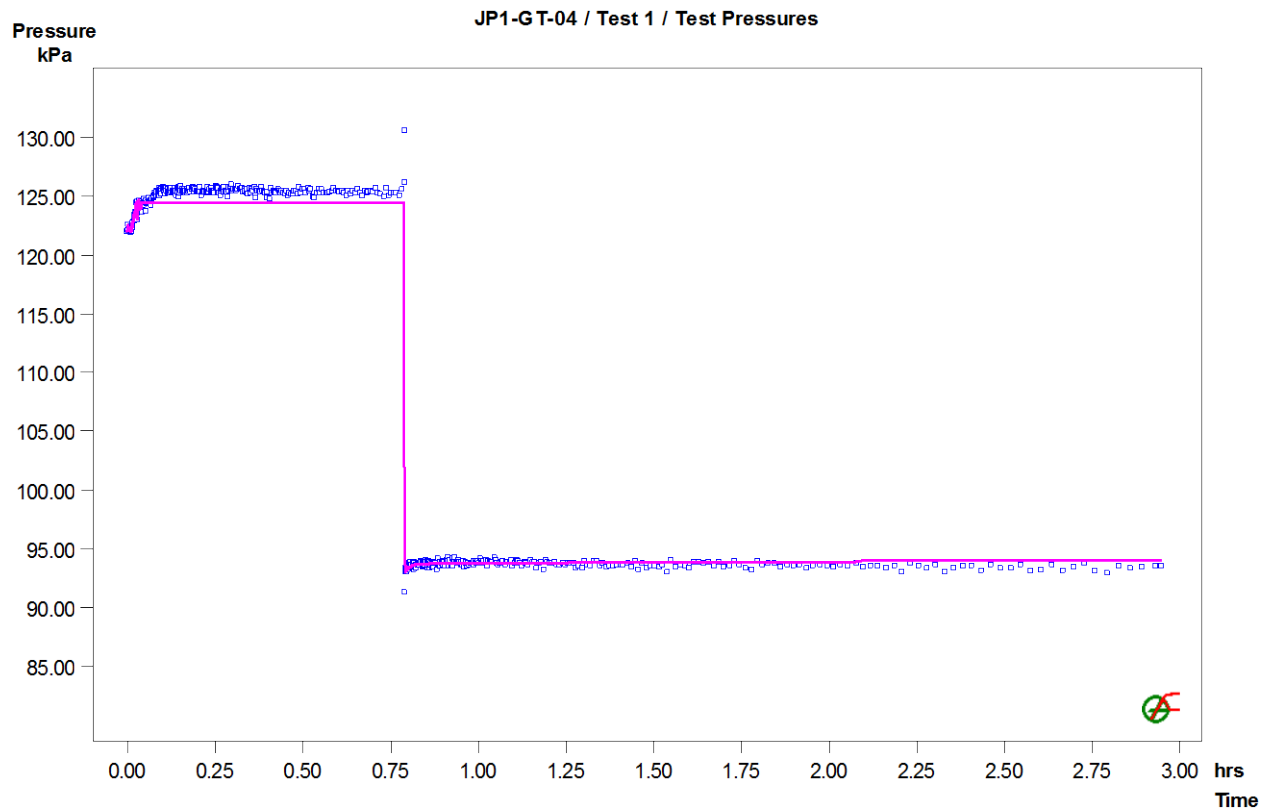


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-GT-04 / Test 1 / Sw: LogLog Plot, variable P(i)

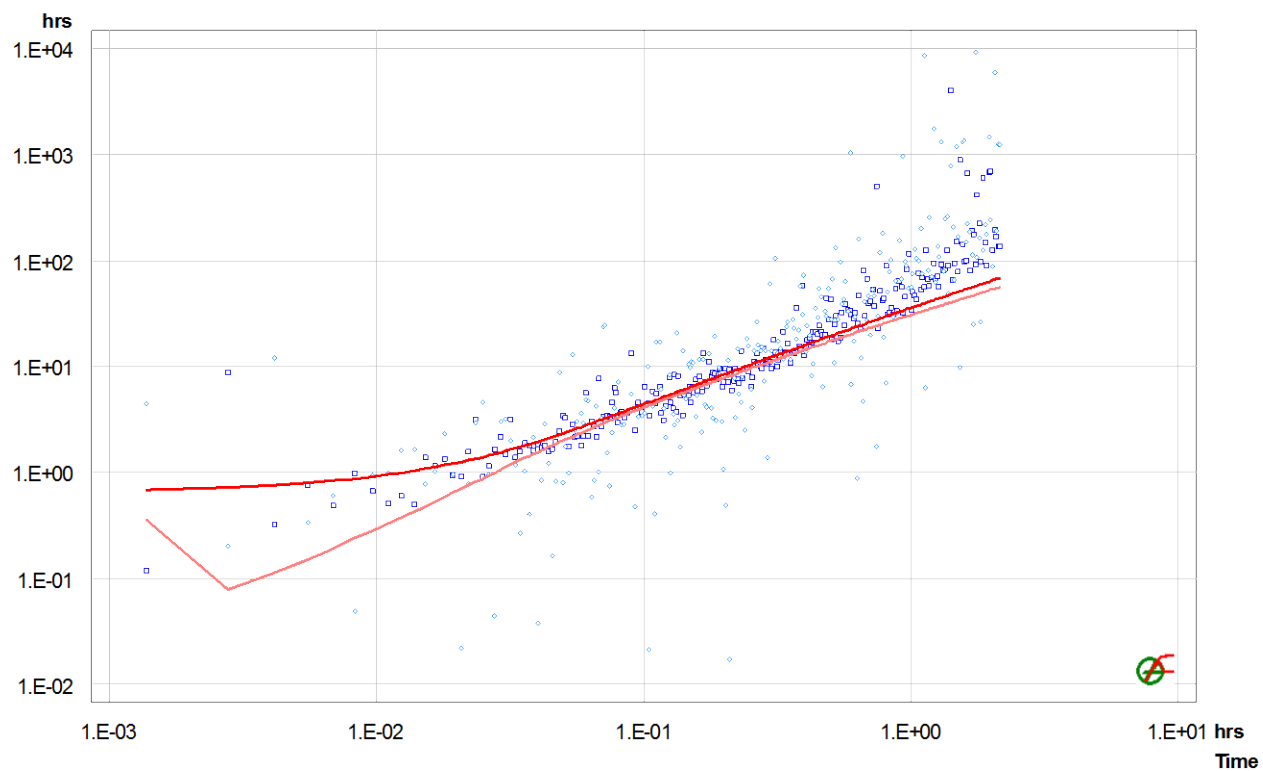


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP2-SD-01	
Test Name	Well 1	
Test Date/Time		
Interval	top: 10.97 m bottom: 13.11 m	
Description	Analyzed by: DSL Reviewed by: DV	

Basic Data

Test Interval	2.14 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	63.257 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM/INF	Variable Pressure	0.00000	93.49			2.1e-07
PSR	Recovery	0.61389	89.50			2.1e-07
SI-Init	dP-Event	1.16486	88.24	-51.7 *		2.1e-07
SI	Slug	1.17986	139.98	88.2		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 88.02 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.2e-07	4.2e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM/INF	2.7e-08	0.0
PSR	2.7e-08	0.0
SI-Init	2.1e-07	0.0
SI	2.1e-07	0.0

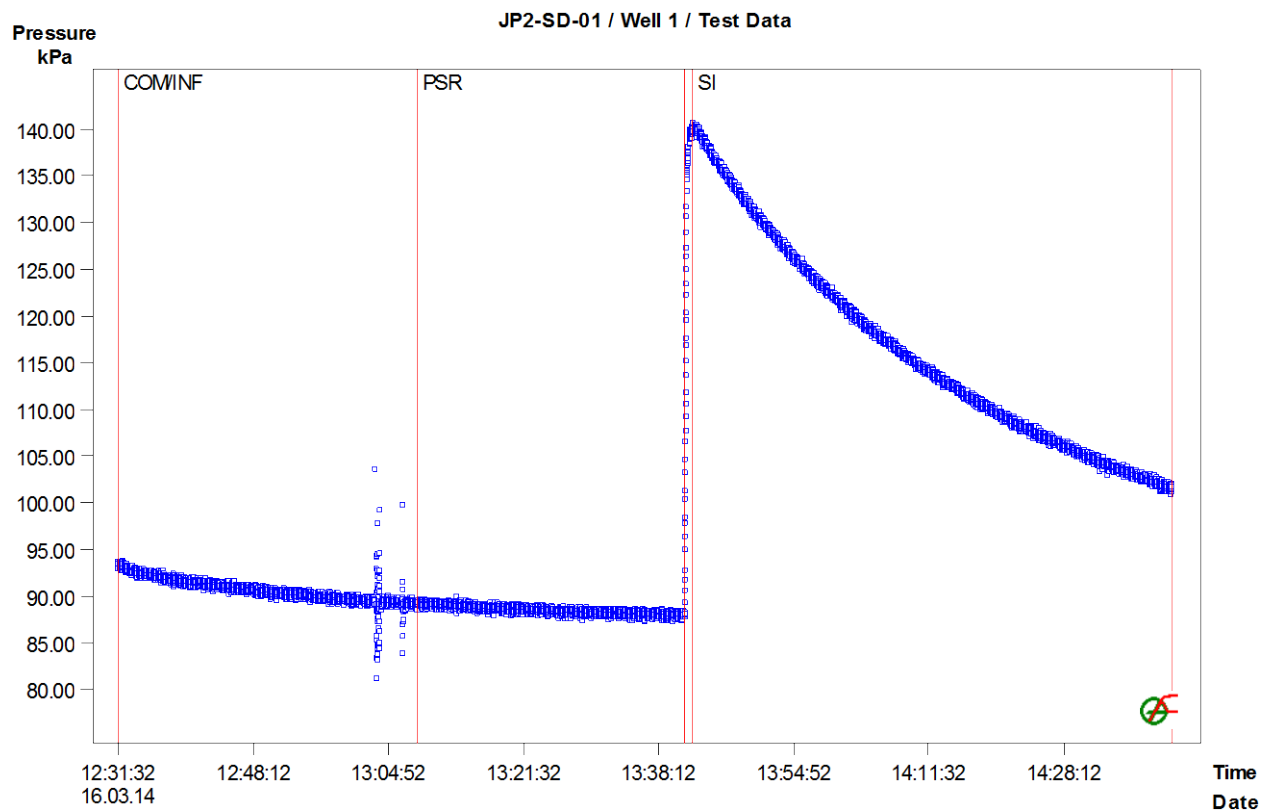


Figure 1: Pressure response and sequence definition

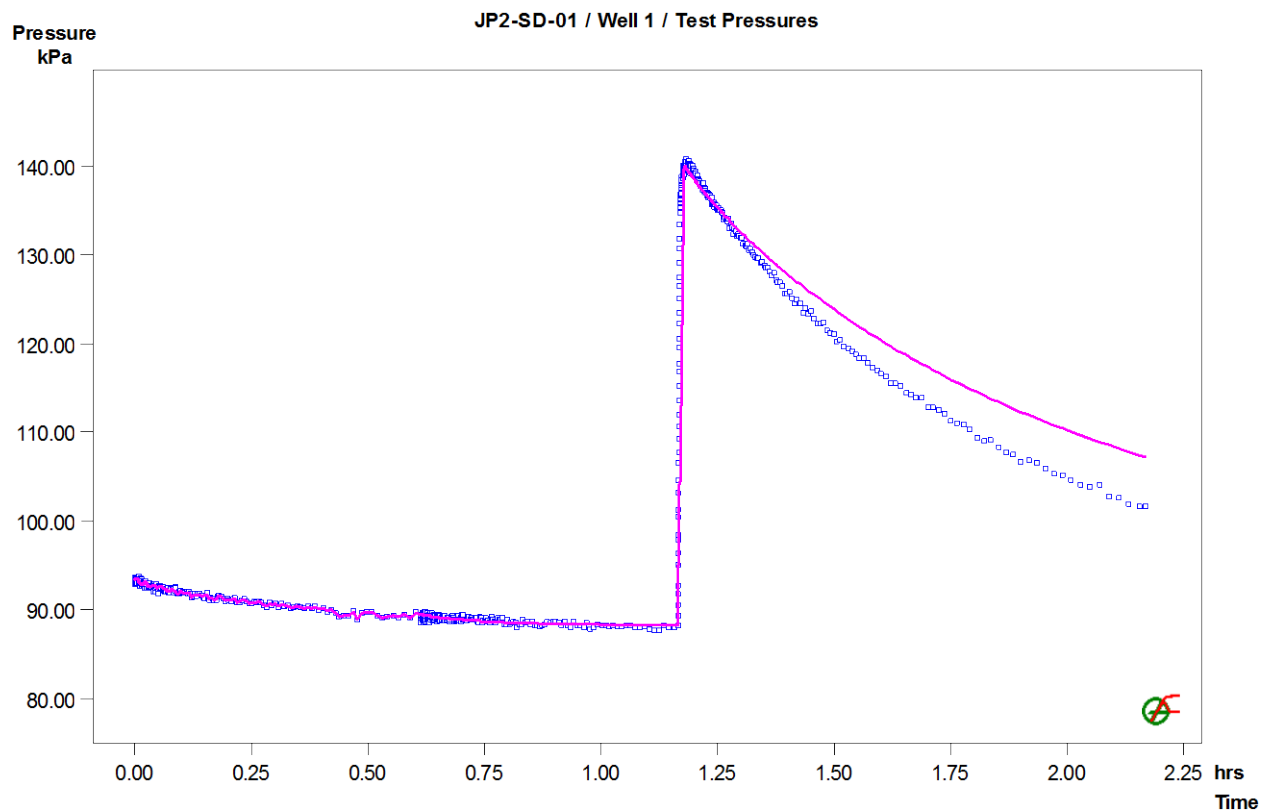


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-SD-01 / Well 1 / SI: LogLog Plot, variable P(i)

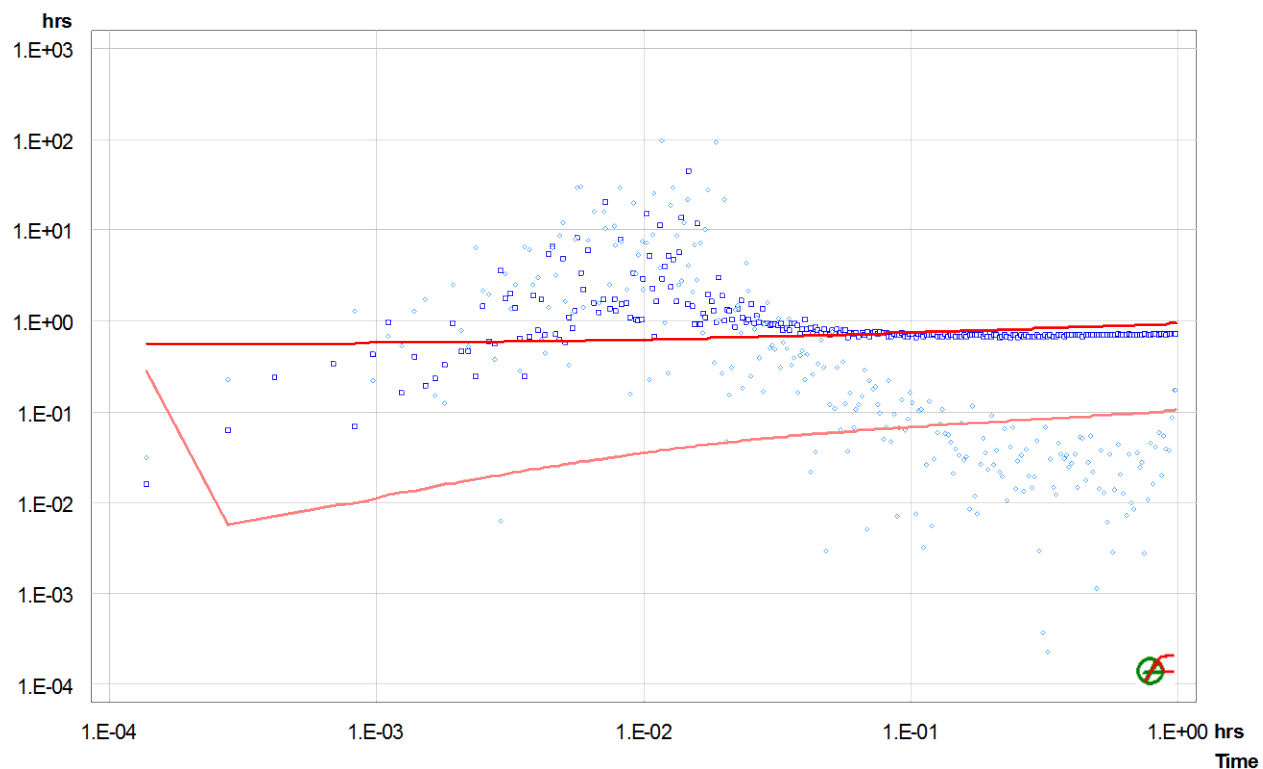


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP2-SD-01
Test Name Well 2
Test Date/Time
Interval top: 14.33 m bottom: 16.46 m
Description Analyzed by: DV

Basic Data

Test Interval 1.83 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 54.093 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
VAR	Variable Pressure	0.00000	97.53			2.1e-07
PSR	Recovery	0.81806	22.13			2.1e-07
SW-Init	dP-Event	1.99403	69.23	51.7 *		2.1e-07
SW	Slug	2.01417	17.51	69.2		2.1e-07

Analysis Results

Analysis "SW"

Static Pressure: 84.87 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.1e-07	3.6e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	1.4e-07	0.0
PSR	1.4e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

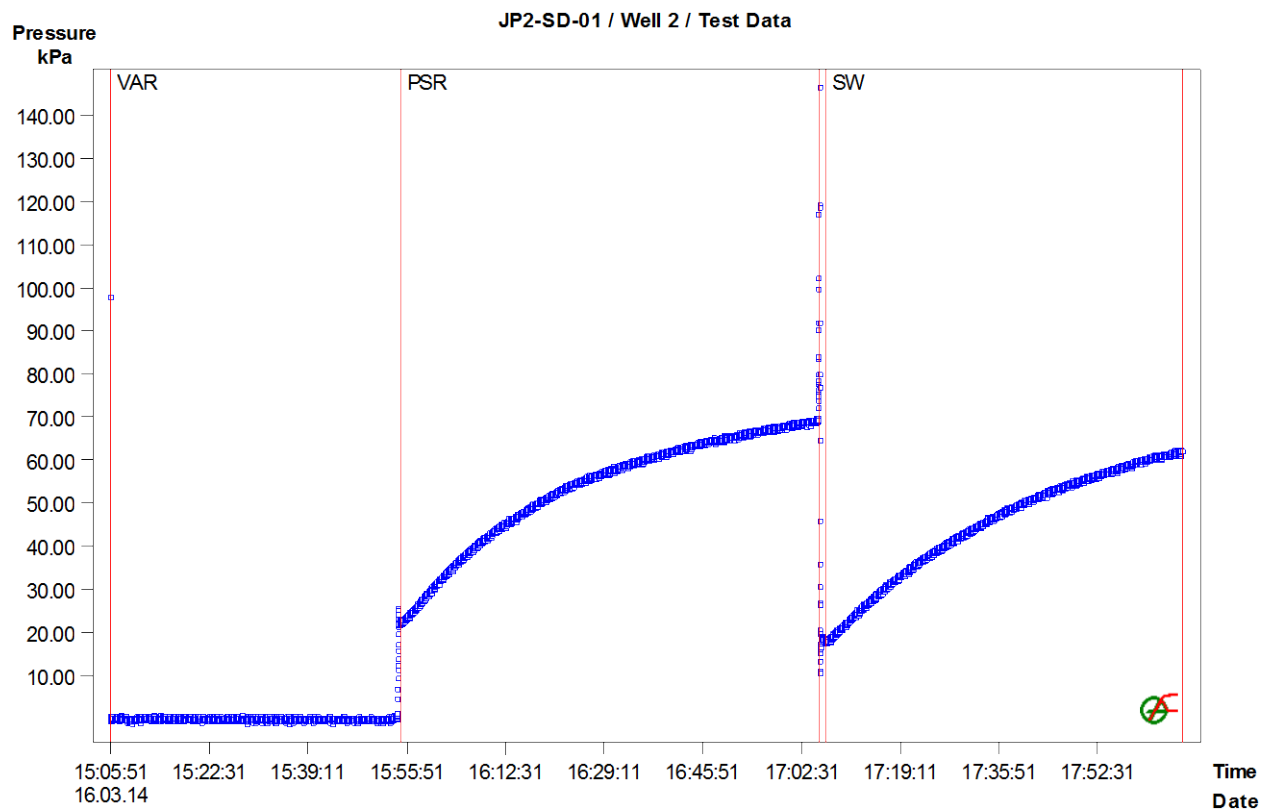


Figure 1: Pressure response and sequence definition

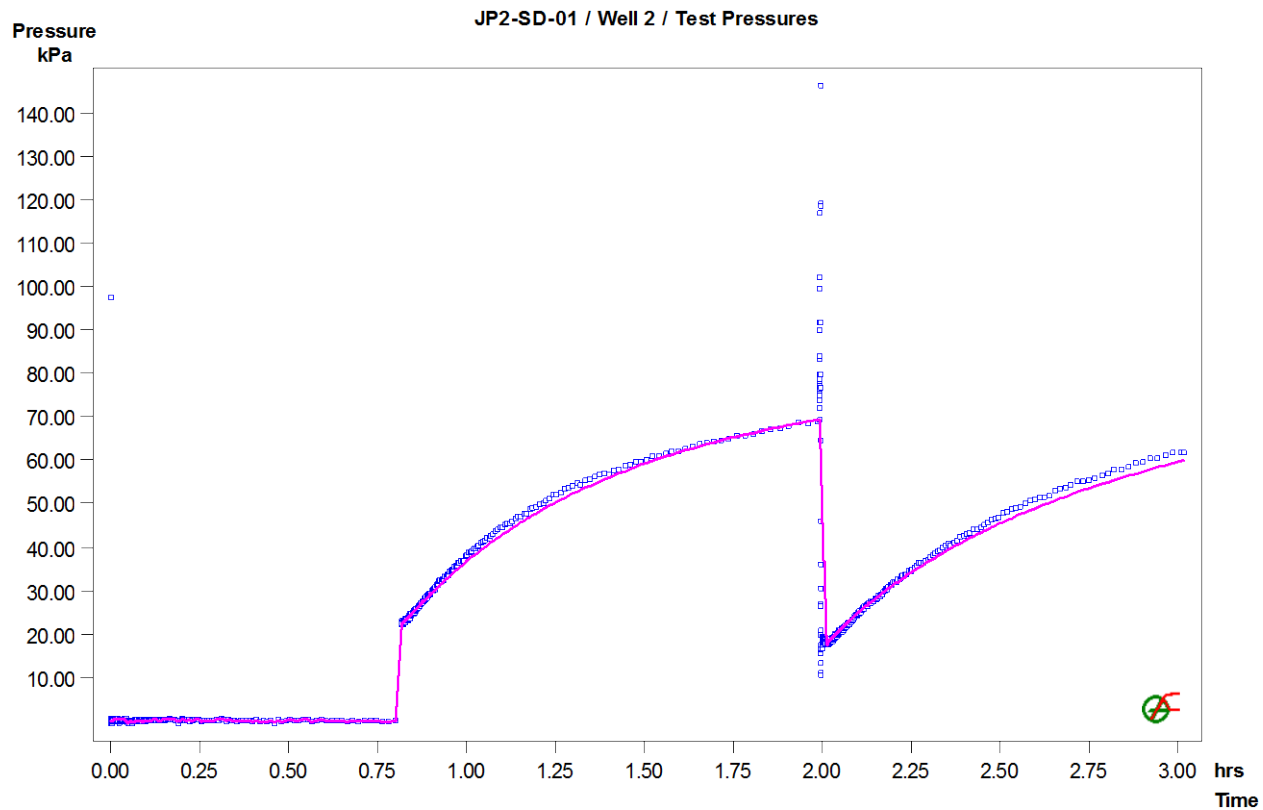


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-SD-01 / Well 2 / SW: LogLog Plot, variable P(i)

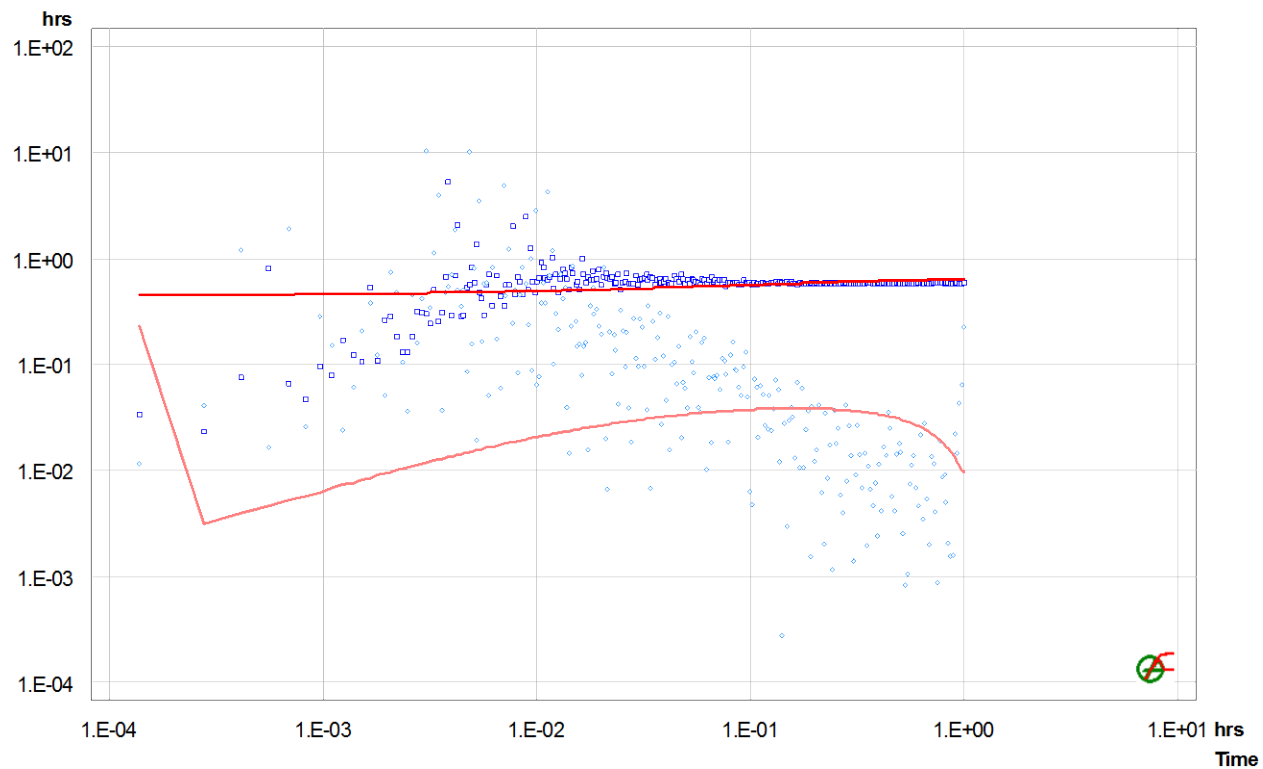


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP2-GT-04
Test Name Test 1
Test Date/Time March 16, 2014, 16:03:14
Interval top: 19.58 m bottom: 29.00 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 9.42 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 68.184 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	180.81			4.8e-07
PSR	Recovery	0.23611	180.09			4.8e-07
SW-Init	dP-Event	0.78750	179.81	55.5 *		4.8e-07
SW	Slug	0.79028	124.30	179.8		4.8e-07

Analysis Results

Analysis "SW final2"

Static Pressure: 178.95 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.1e-07	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	4.8e-07	-2.3
PSR	4.8e-07	-2.3
SW-Init	4.8e-07	-2.3
SW	4.8e-07	-2.3

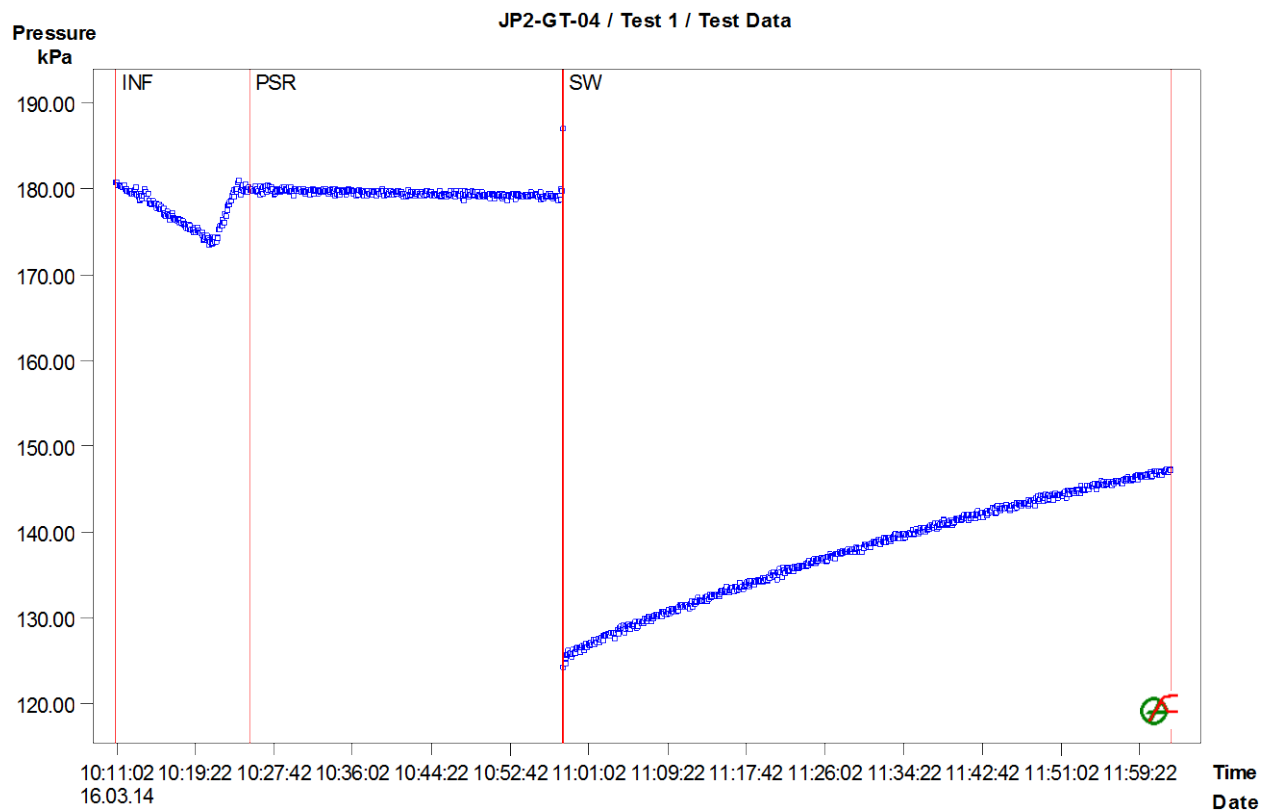


Figure 1: Pressure response and sequence definition

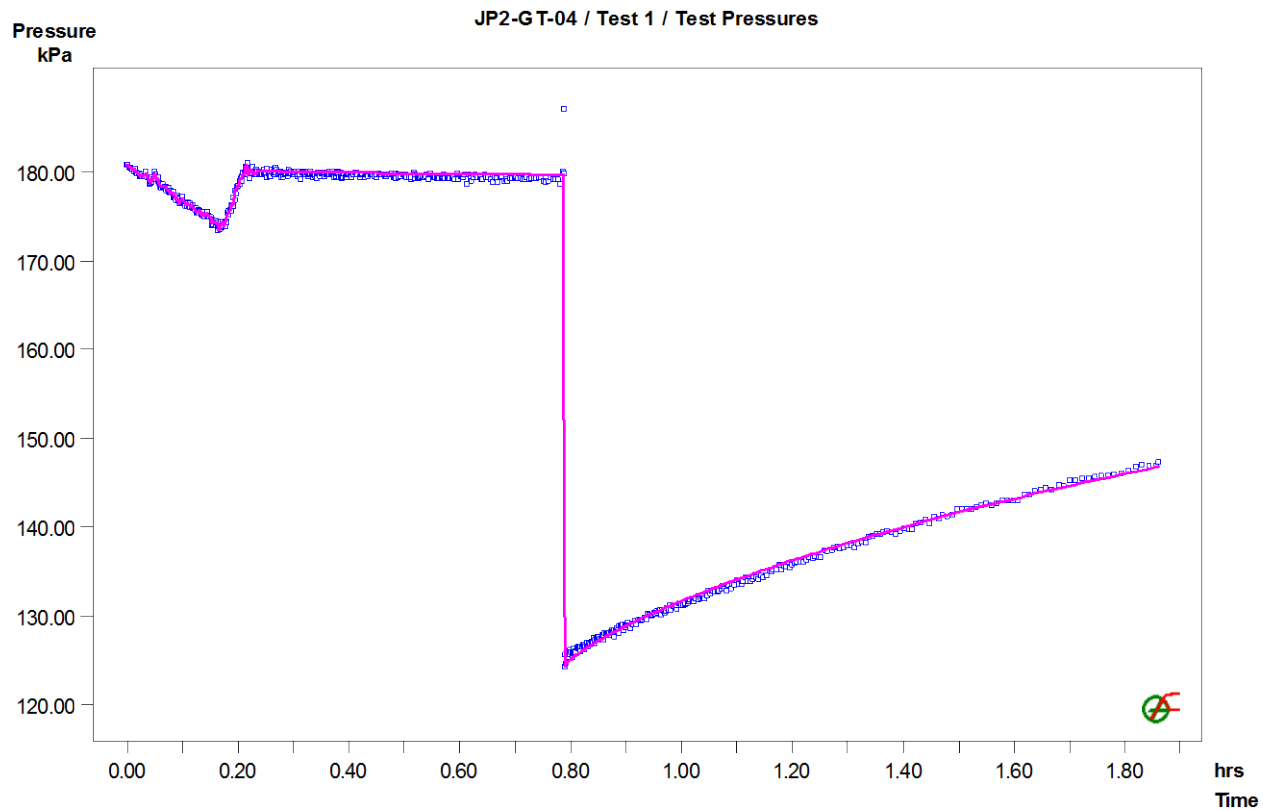


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-GT-04 / Test 1 / SW: LogLog Plot, variable P(i)

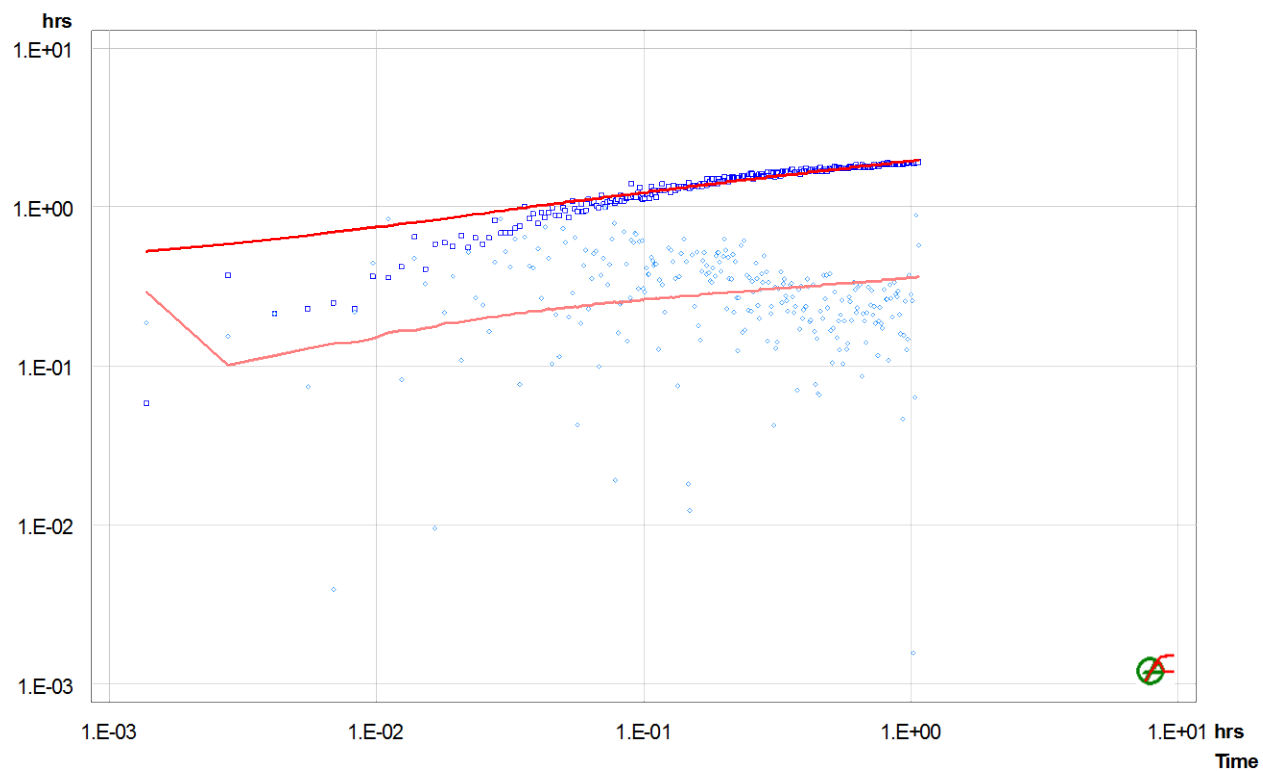


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-01
Test Name Well 1
Test Date/Time
Interval top: 10.97 m bottom: 13.11 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 1.83 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 33.207 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.25	111.80			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	111.80			2.1e-07
SW-Init	dP-Event	0.44083	121.53	67.3 *		2.1e-07
SW	Slug	0.44528	54.27	121.5		2.1e-07

Analysis Results

Analysis "SW- Final"

Static Pressure: 127.75 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.6e-06	3.6e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	8.9e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

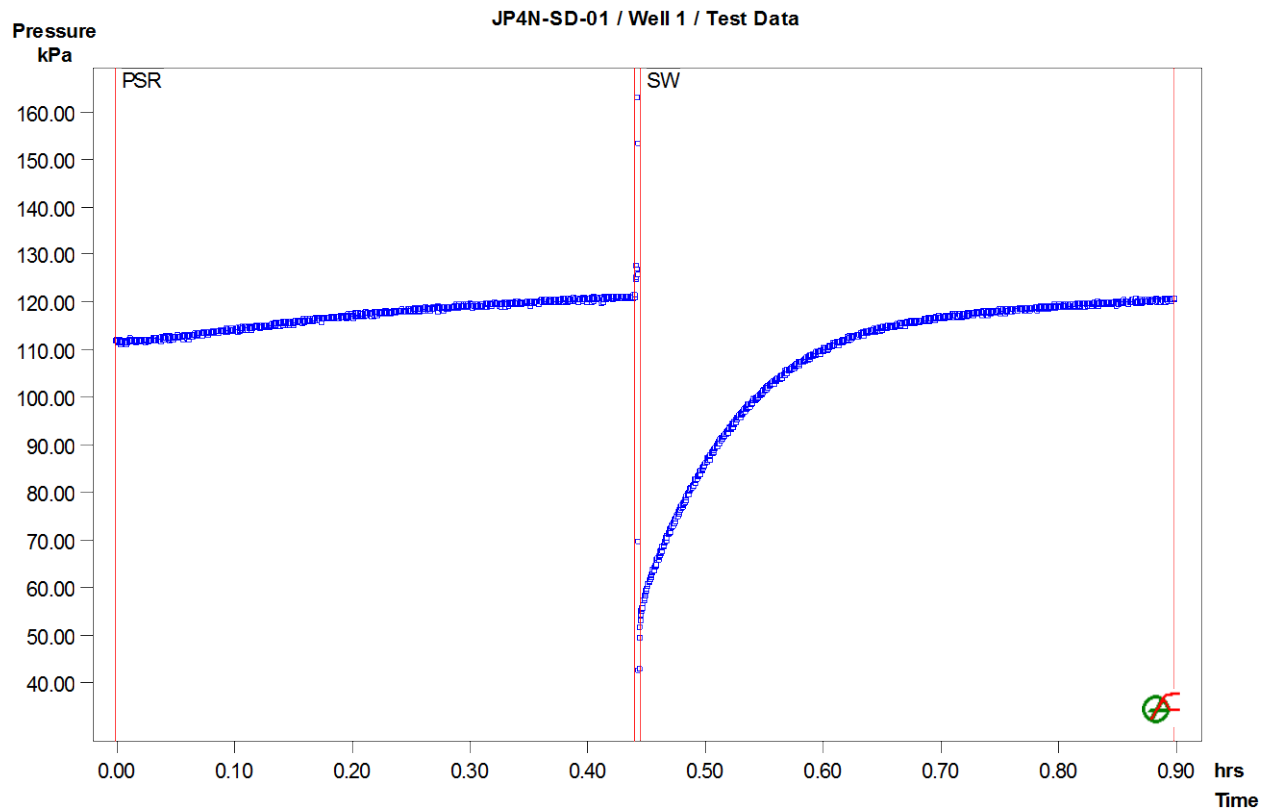


Figure 1: Pressure response and sequence definition

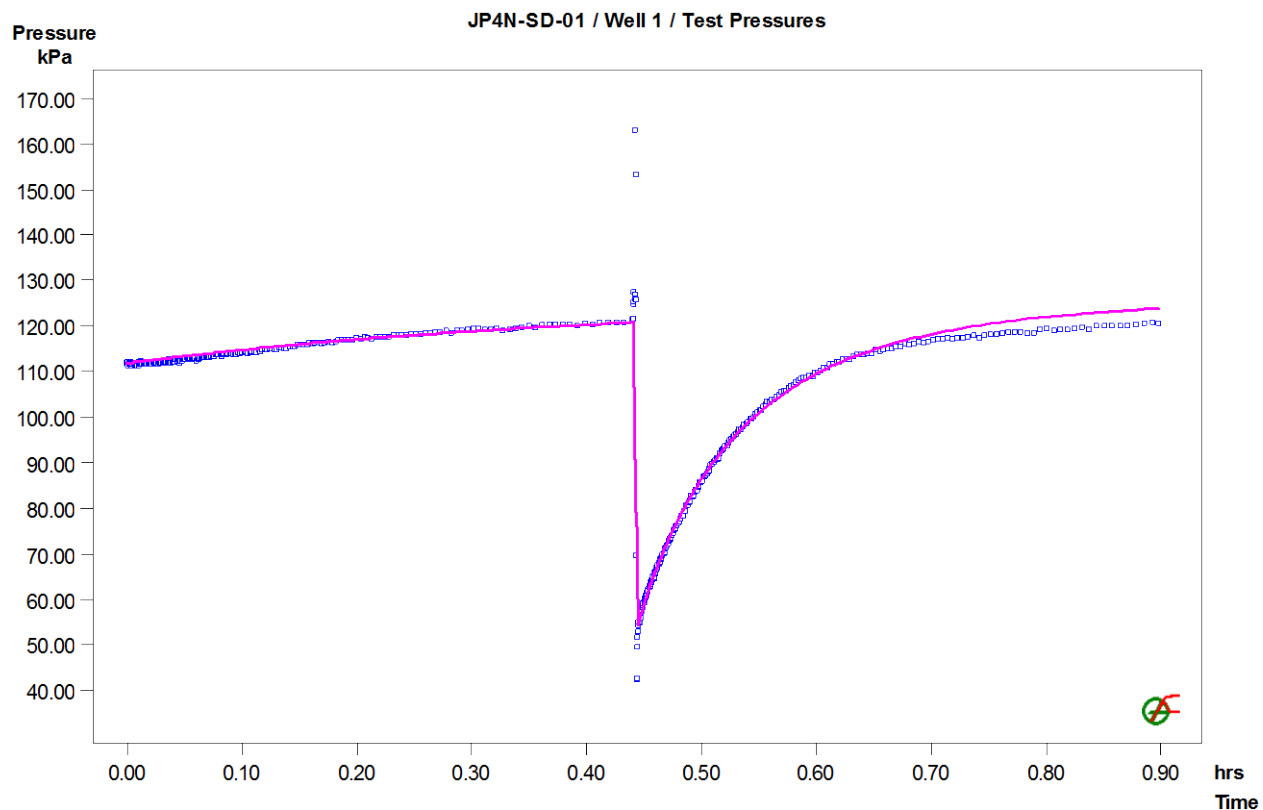


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-01 / Well 1 / SW: LogLog Plot, variable P(i)

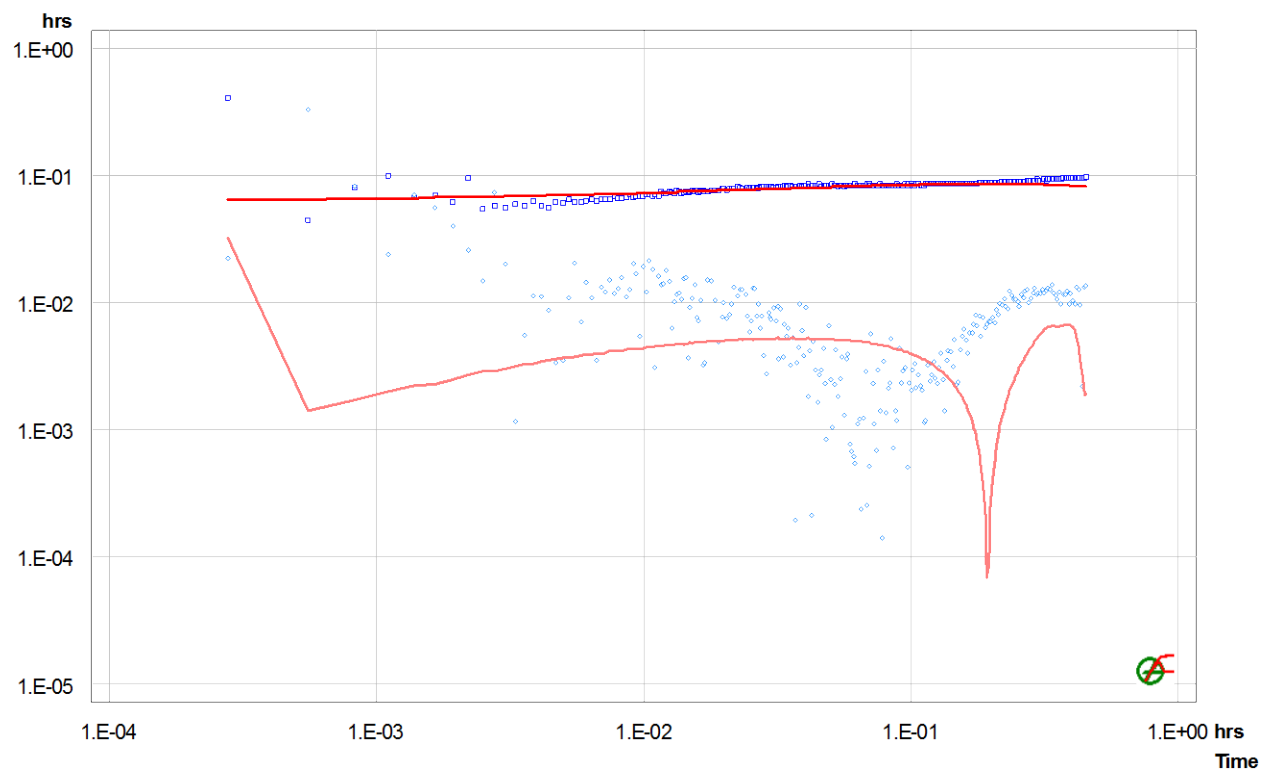


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-01	
Test Name	Well 2	
Test Date/Time		
Interval	top: 8.84 m bottom: 10.06 m	
Description	Analyzed by: DV	
	Reviewed by: DSL	

Basic Data

Test Interval	1.22 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	36.062 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m³/Pa]	Skin
Auto_History	Const. Pressure	0.25	94.92			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	94.92			2.1e-07
SW-Init	dP-Event	0.27667	93.62	54.5 *		2.1e-07
SW	Slug	0.28028	39.15	93.6		2.1e-07

Analysis Results

Analysis "SW- 2 shell"

Static Pressure: 93.12 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.6e-06	2.4e-06	27.69	2.0
Shell 2	7.7e-04	2.4e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.9e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

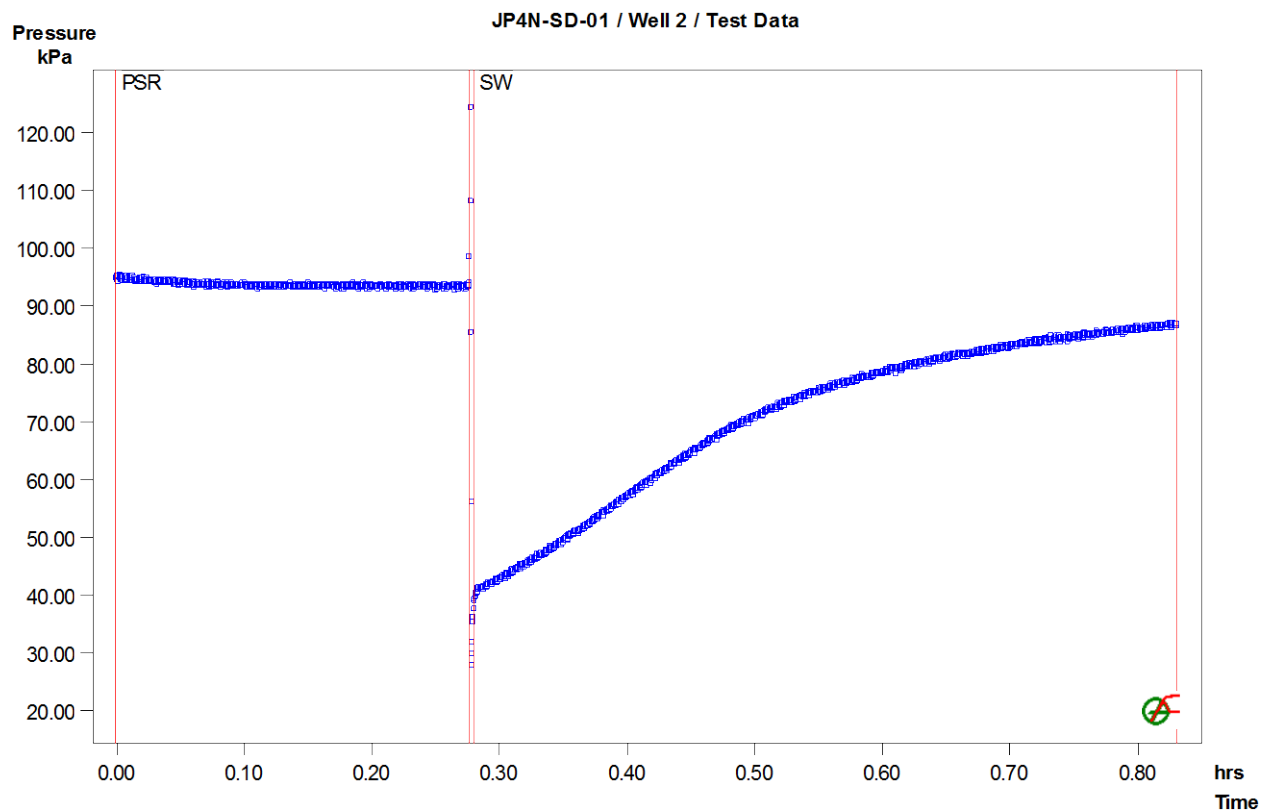


Figure 1: Pressure response and sequence definition

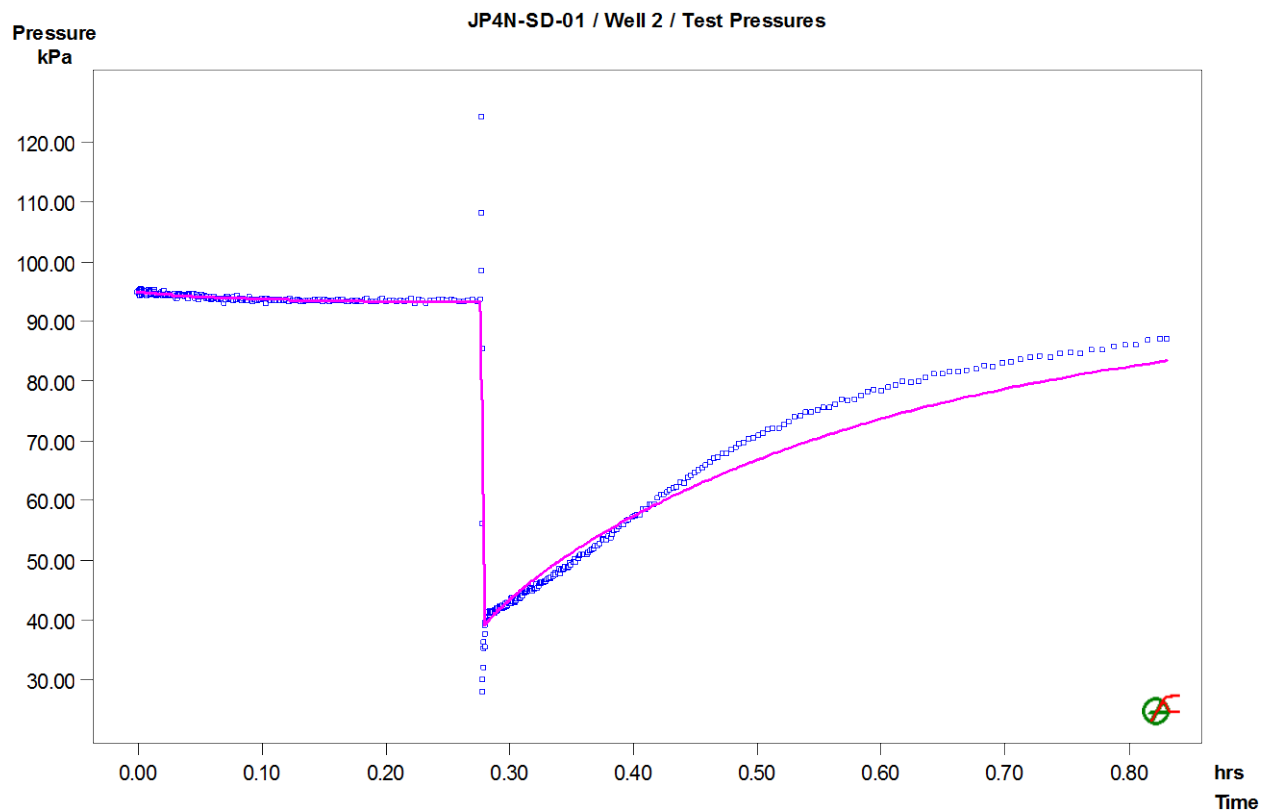


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-01 / Well 2 / SW: LogLog Plot, variable P(i)

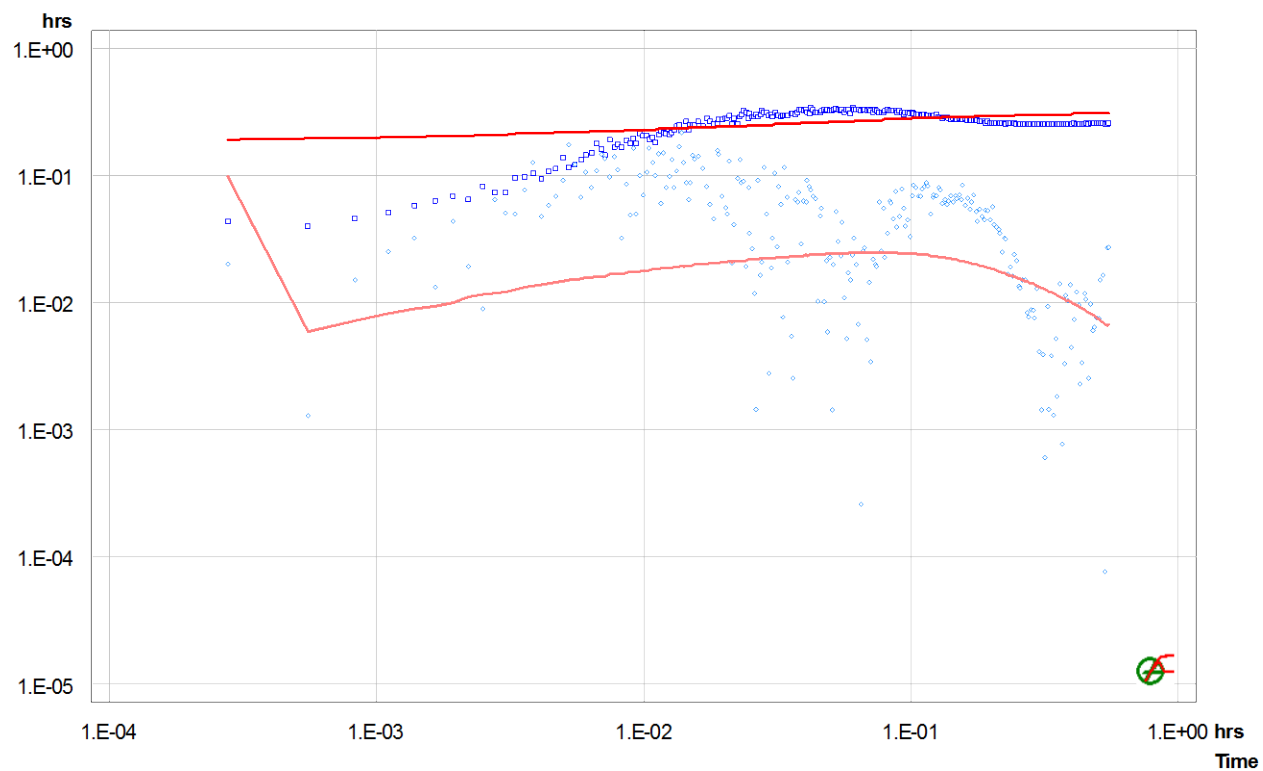


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-02	
Test Name	Well 1	
Test Date/Time		
Interval	top: 11.58 m bottom: 12.80 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	1.28 m		
Porosity	0.10		
Well Radius	0.076 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	23.227 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable	0.00000	68.21			2.1e-07
	Pressure					
PSR	Recovery	0.05250	73.69			2.1e-07
SW-Init	dP-Event	0.38639	79.23	34.1 *		2.1e-07
SW	Slug	0.39000	45.10	79.2		2.1e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 81.64 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.7e-06	2.5e-06	14.55	2.0
Shell 2	1.4e-07	2.5e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	1.4e-07	0.0
PSR	1.4e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

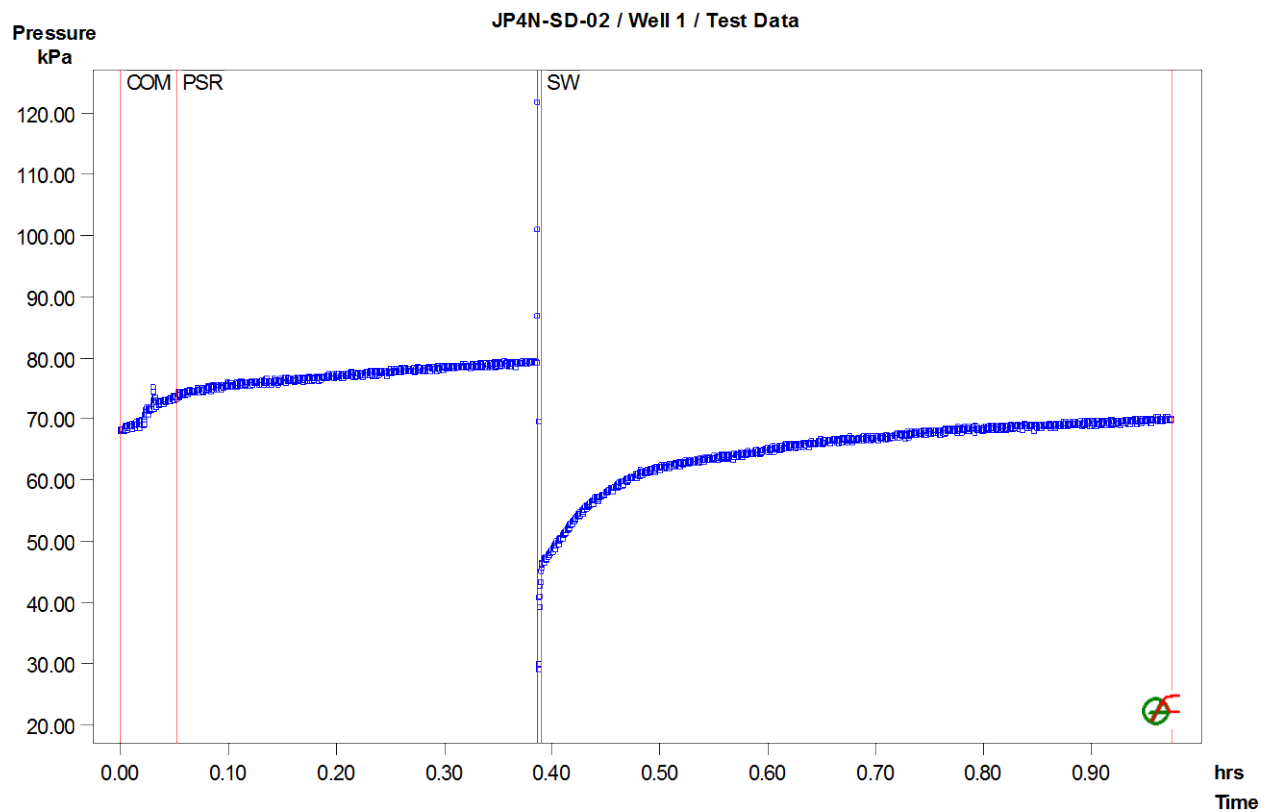


Figure 1: Pressure response and sequence definition

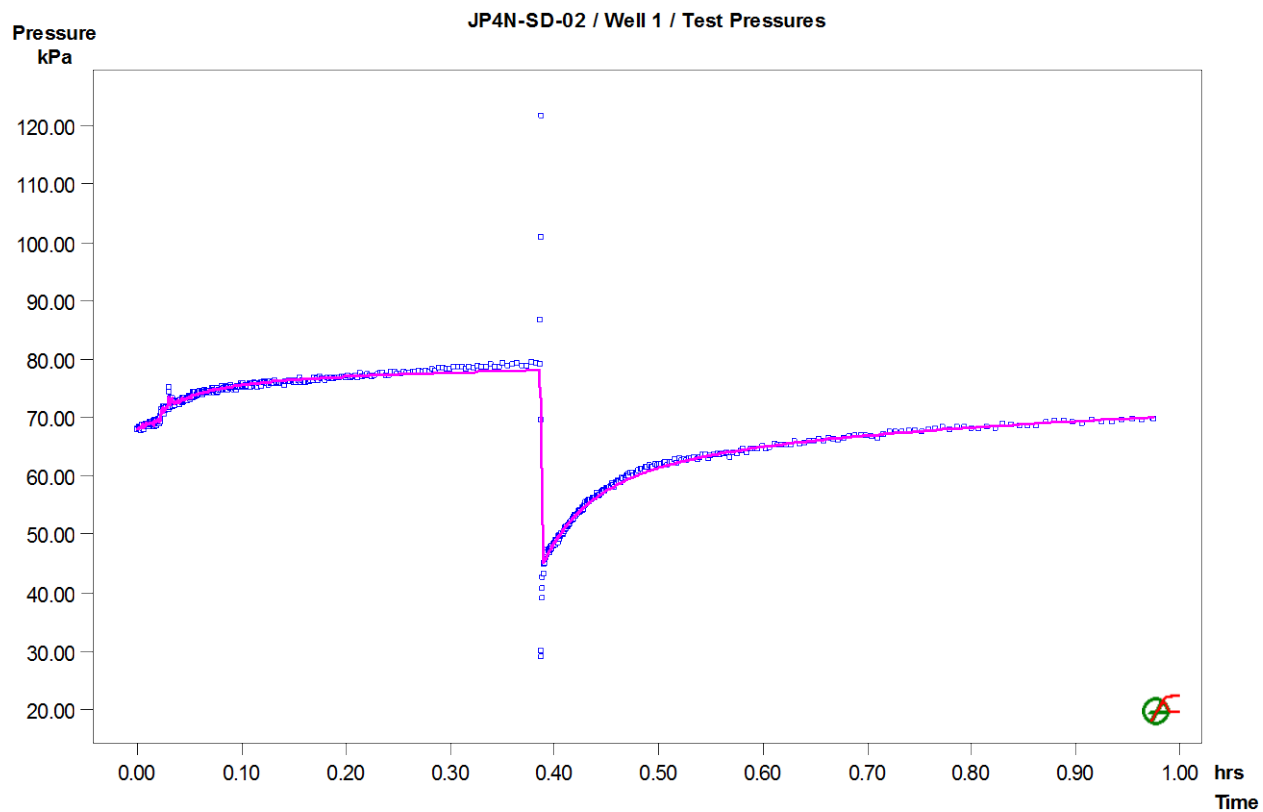


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-02 / Well 1 / SW: LogLog Plot, variable P(i)

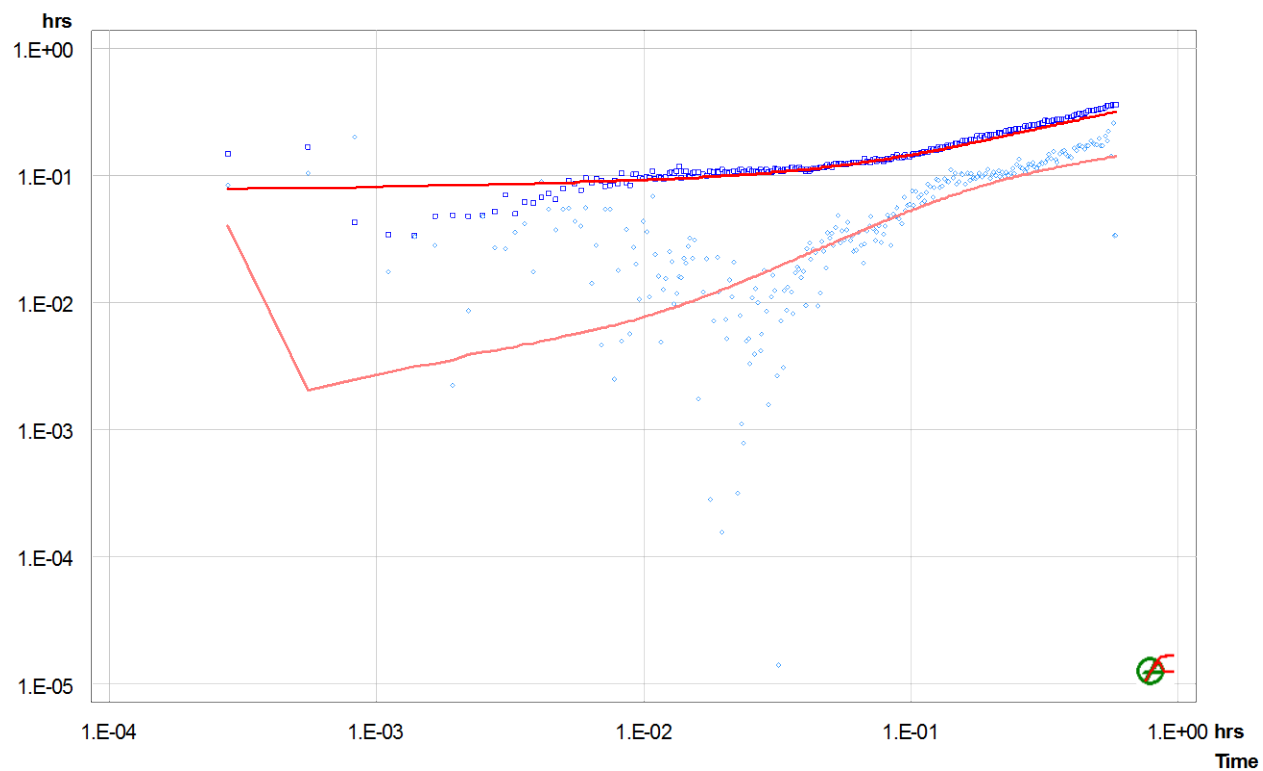


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-02
Test Name Well 2
Test Date/Time
Interval top: 8.53 m bottom: 10.66 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 2.13 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 62.961 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.50	81.71			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	81.71			2.1e-07
SW-Init	dP-Event	0.28917	96.94	63.3 *		2.1e-07
SW	Slug	0.29139	33.67	96.9		2.1e-07

Analysis Results

Analysis "SW-2 shell"

Static Pressure: 103.92 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.7e-06	8.4e-06	15.79	2.0
Shell 2	2.2e-05	8.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.4e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

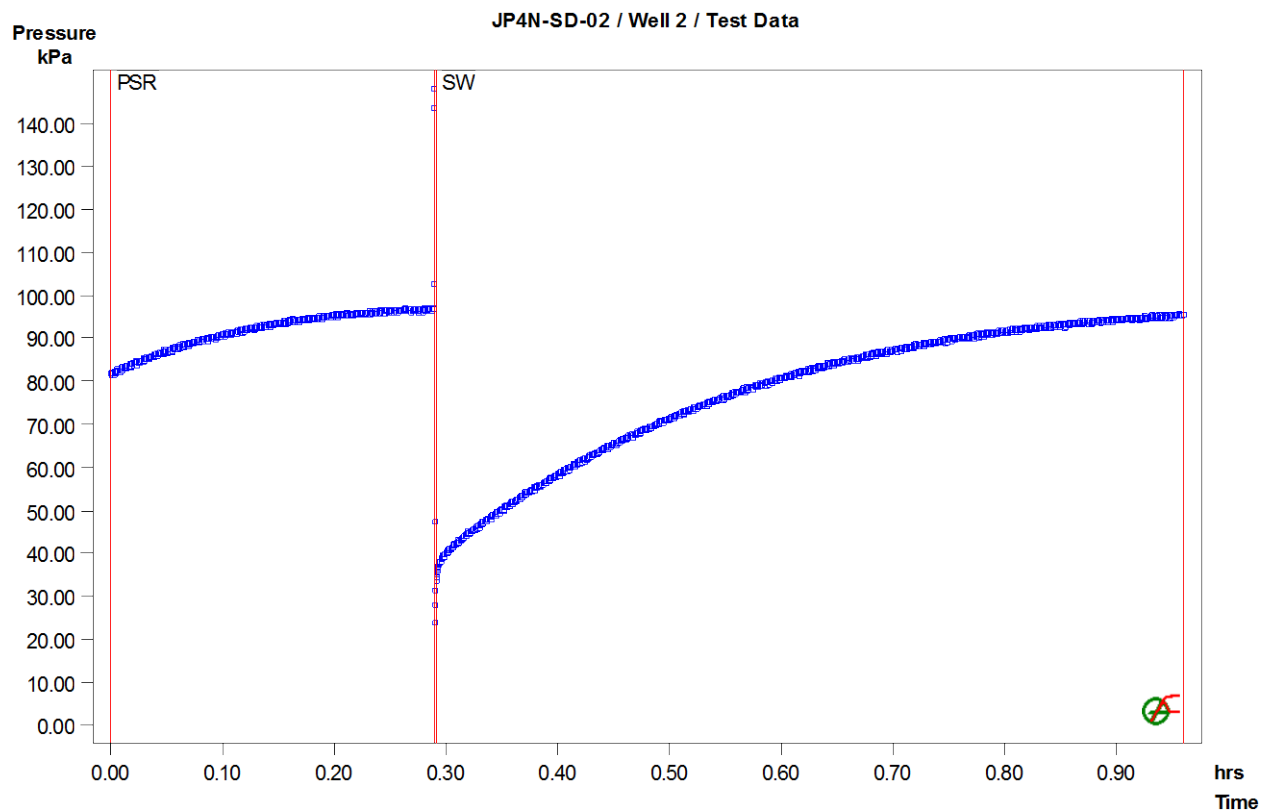


Figure 1: Pressure response and sequence definition

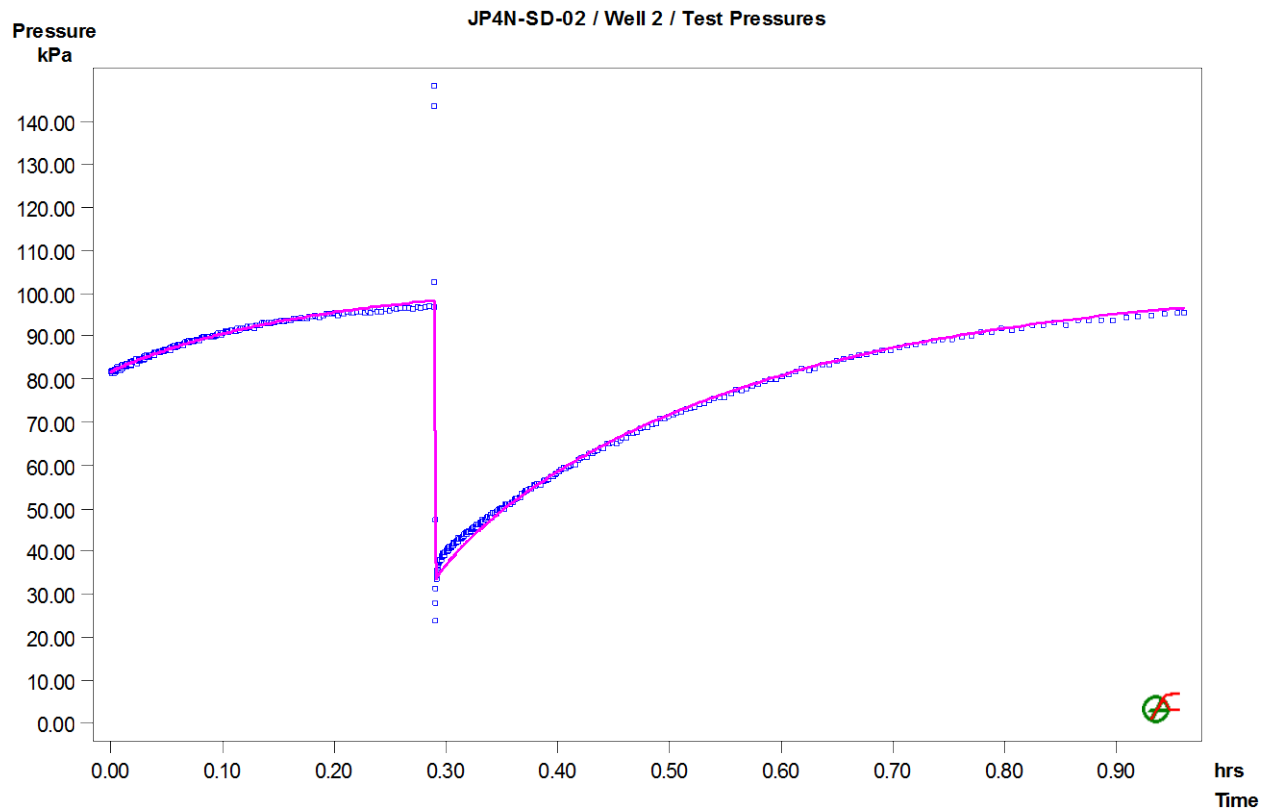


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-02 / Well 2 / SW: LogLog Plot, variable P(i)

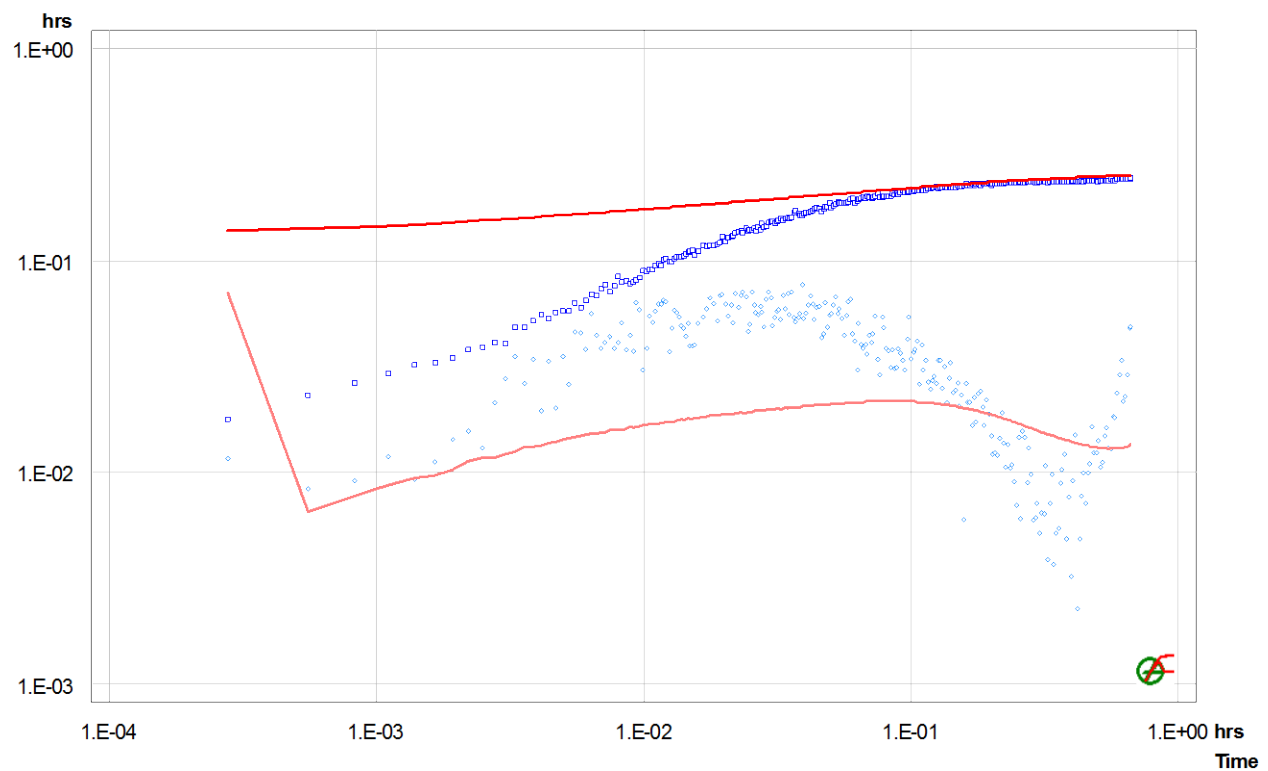


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-03
Test Name Well 1
Test Date/Time
Interval top: 17.98 m bottom: 20.12 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 2.14 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 38.832 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.25	106.19			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	106.19			2.1e-07
SW-Init	dP-Event	0.90750	136.26	58.0 *		2.1e-07
SW	Slug	0.97278	78.30	136.3		2.1e-07

Analysis Results

Analysis "SW-2shell final-dsl"

Static Pressure: 254.83 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.4e-04	4.2e-06	35.17	2.0
Shell 2	5.1e-08	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.0e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

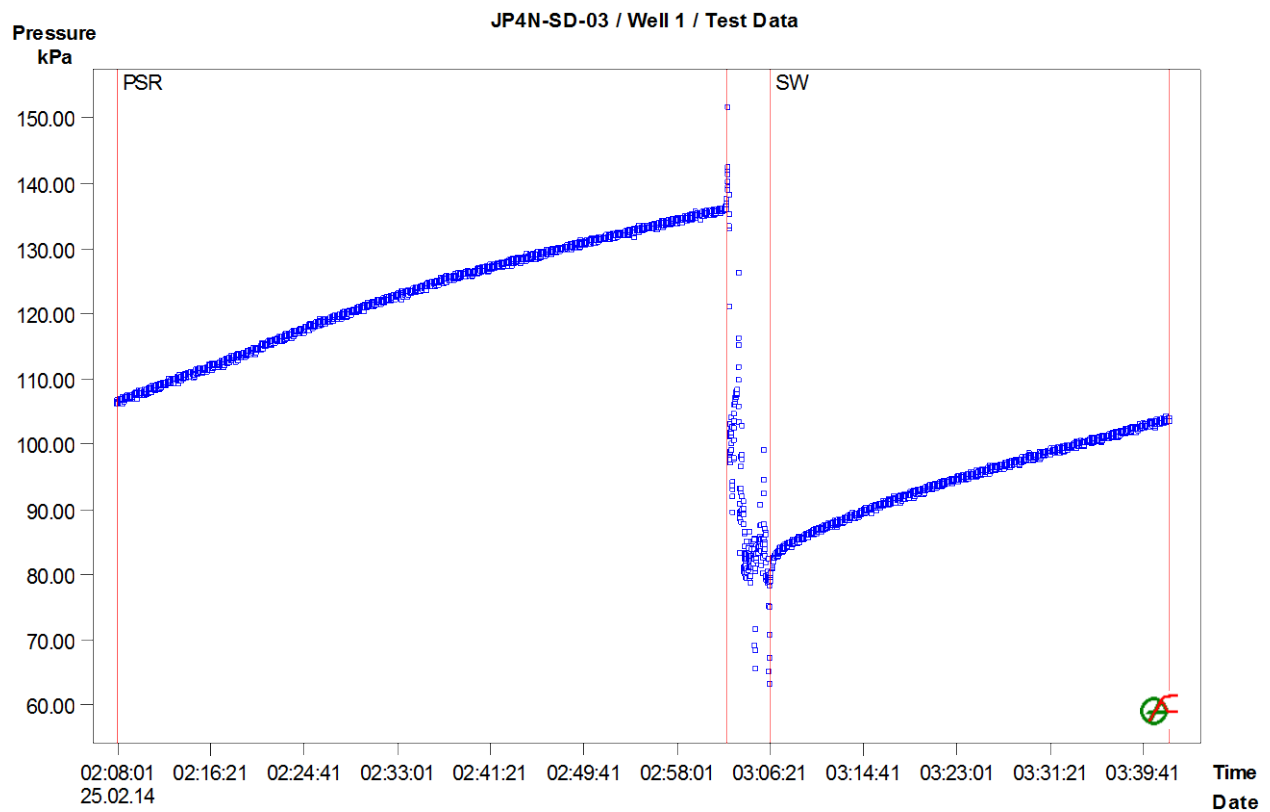


Figure 1: Pressure response and sequence definition

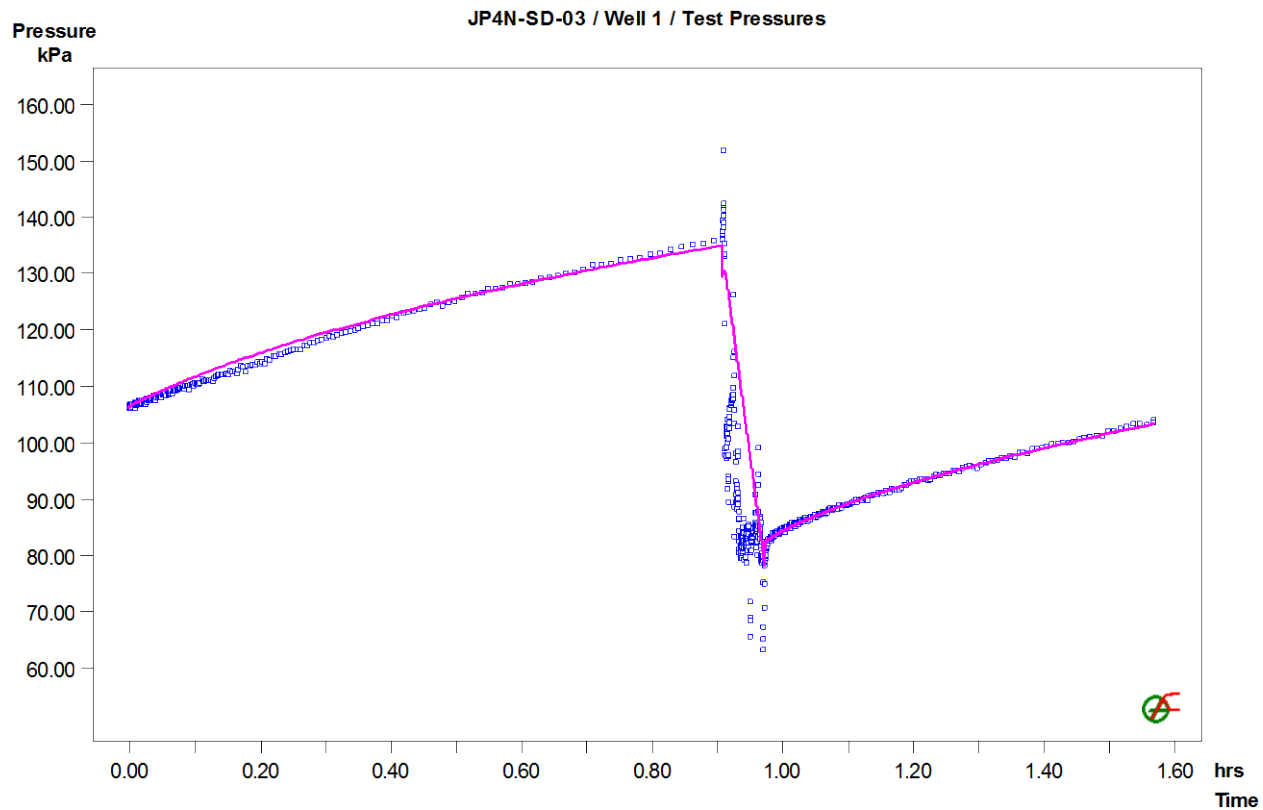


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-03 / Well 1 / SW: LogLog Plot, variable P(i)

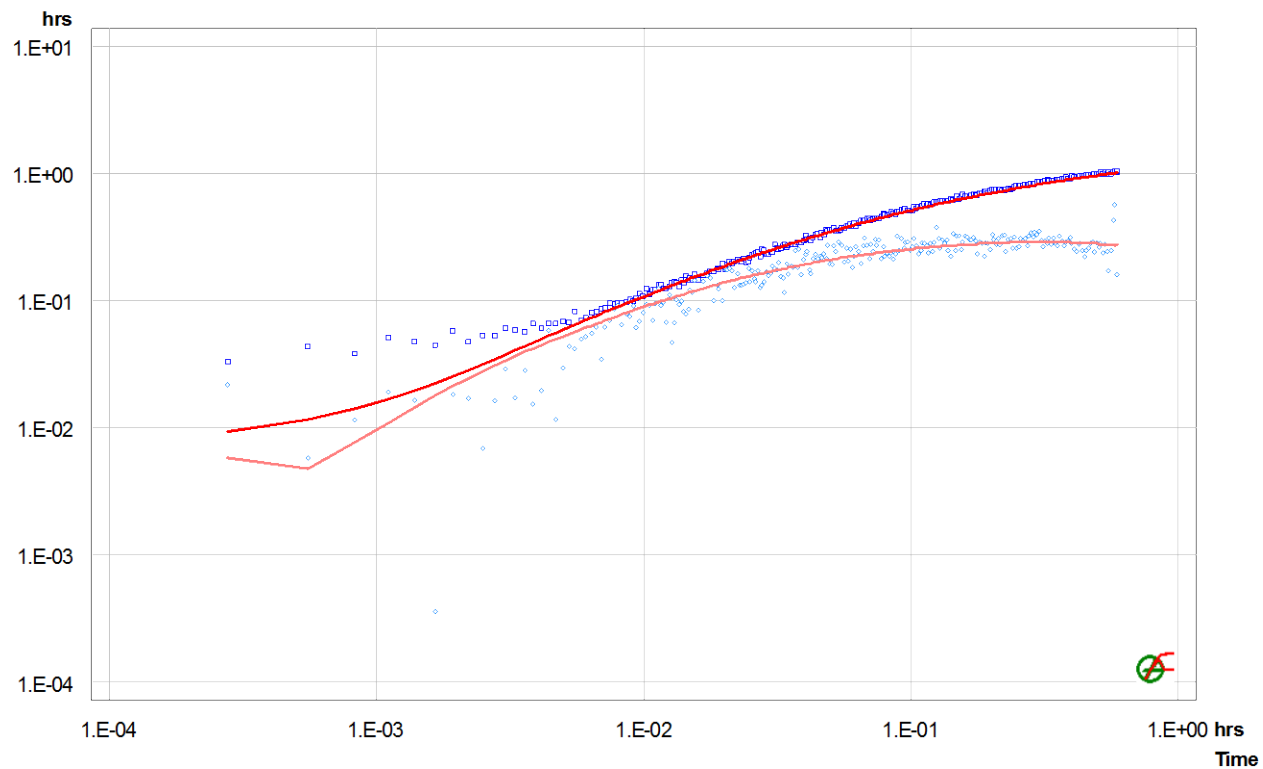


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-03	
Test Name	Well 2	
Test Date/Time		
Interval	top: 14.94 m bottom: 17.07 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	2.13 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	62.961 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m³/Pa]	Skin
Auto_History	Const. Pressure	0.25	94.80			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	94.80			2.1e-07
SW-Init	dP-Event	0.38306	94.38	53.0 *		2.1e-07
SW	Slug	0.39222	41.36	94.4		2.1e-07

Analysis Results

Analysis "SW 2 shell final"

Static Pressure: 93.25 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.4e-07	4.2e-06	71.66	2.0
Shell 2	5.7e-06	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.2e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

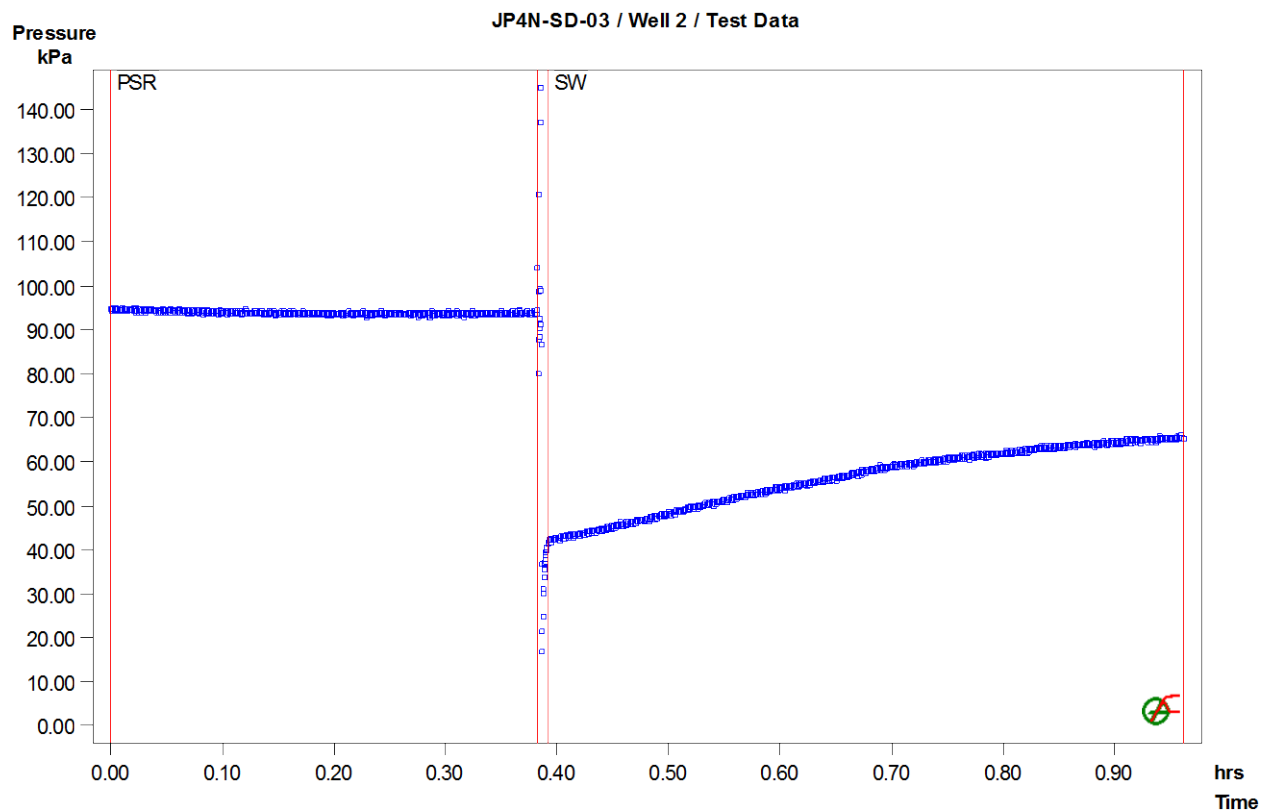


Figure 1: Pressure response and sequence definition

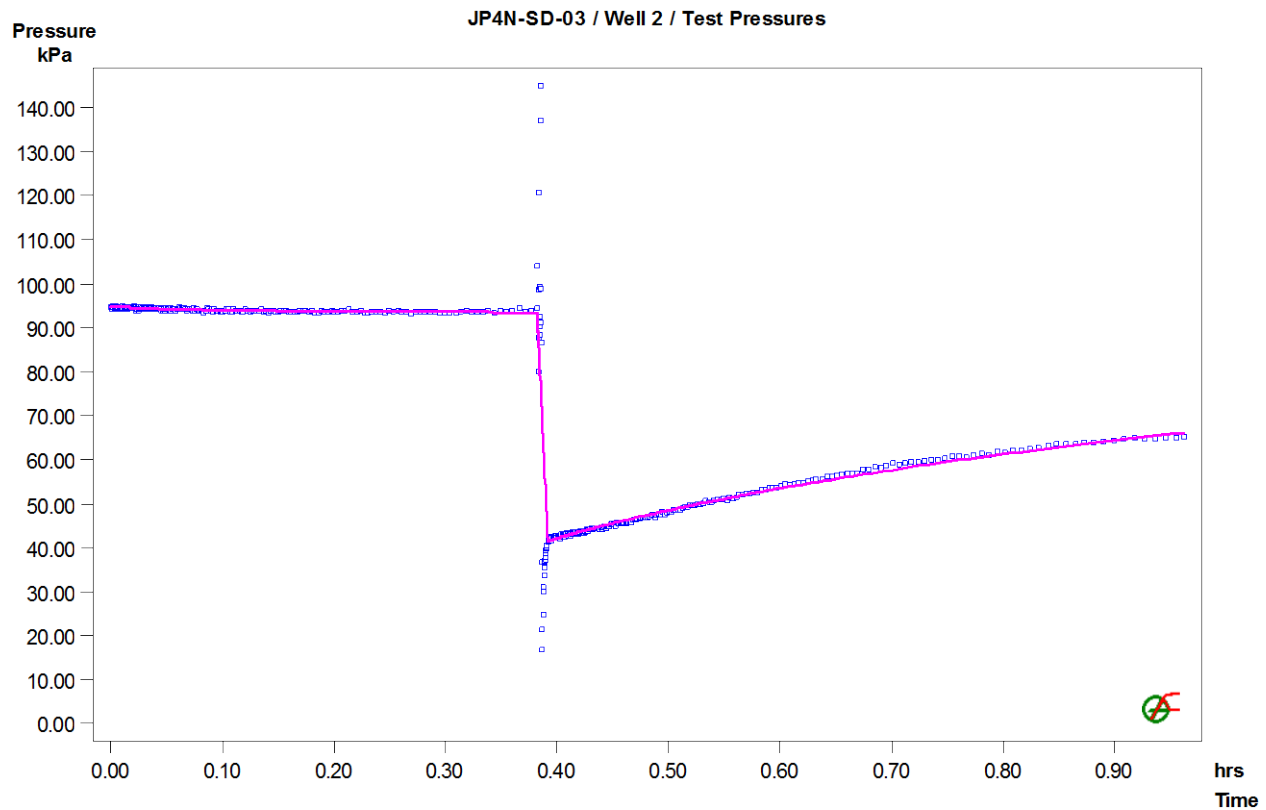


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-03 / Well 2 / SW: LogLog Plot, variable P(i)

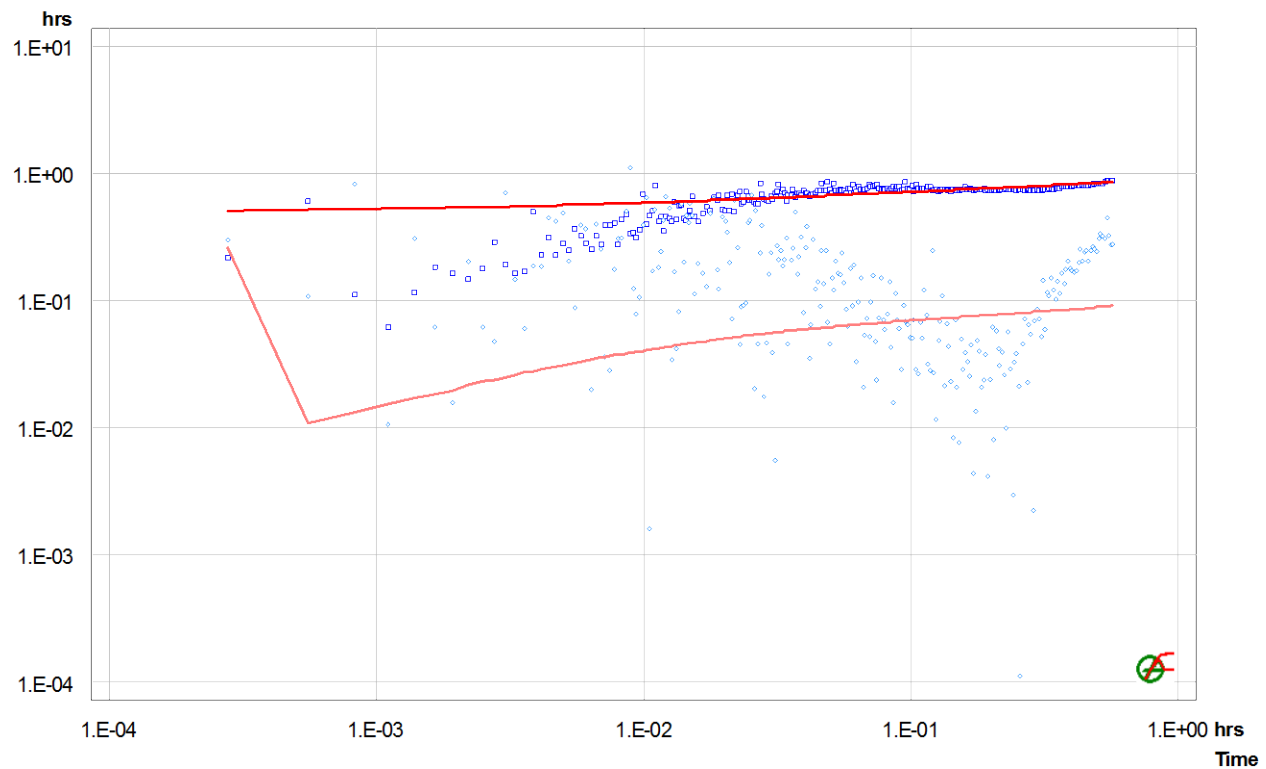


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-04	
Test Name	Well 1	
Test Date/Time		
Interval	top: 12.50 m bottom: 14.63 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	2.13 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	62.961 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
VAR	Variable Pressure	0.00000	100.32			2.1e-07
PSR	Recovery	0.23472	106.18			2.1e-07
SW-Init	dP-Event	0.34861	103.76	44.0 *		2.1e-07
SW	Slug	0.35972	59.73	103.8		2.1e-07

Analysis Results

Analysis "SW-2shell final"

Static Pressure: 102.10 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.7e-06	4.2e-06	56.48	2.0
Shell 2	1.1e-10	4.2e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	2.6e-07	0.0
PSR	2.6e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

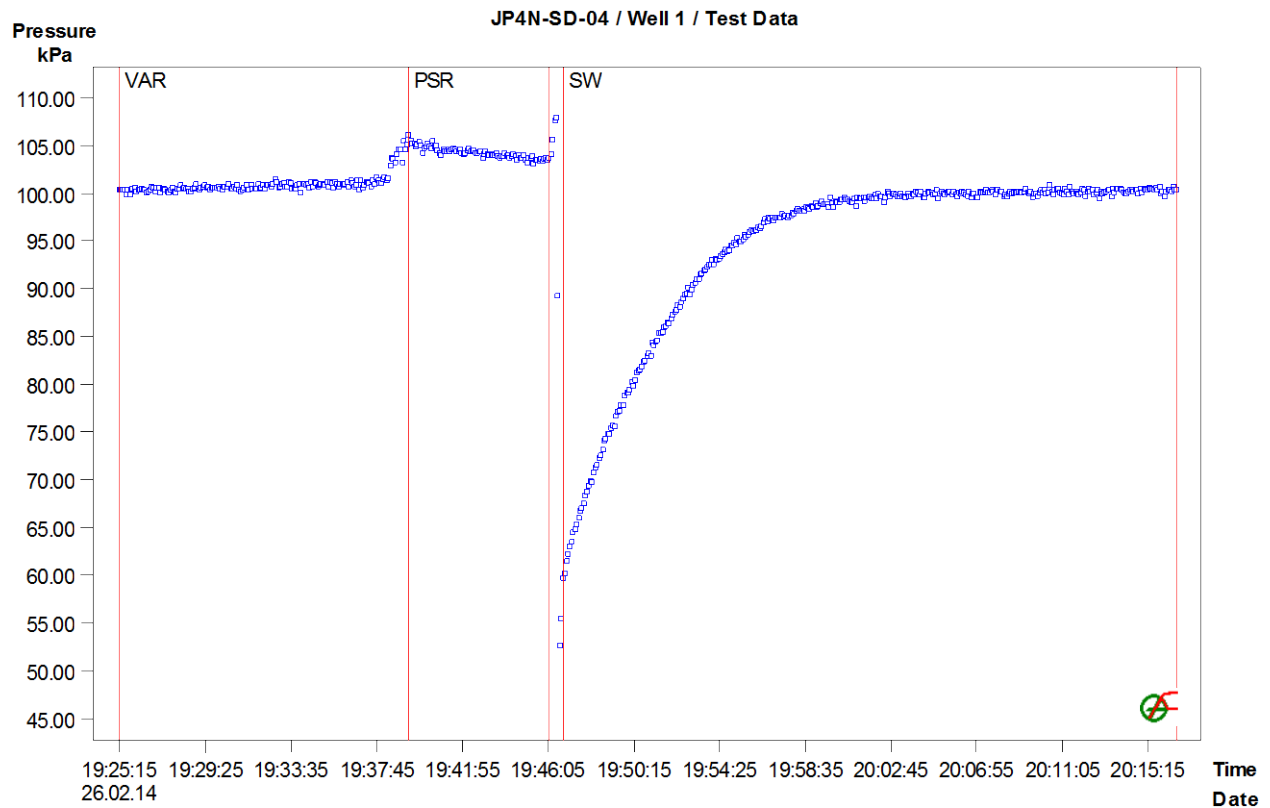


Figure 1: Pressure response and sequence definition

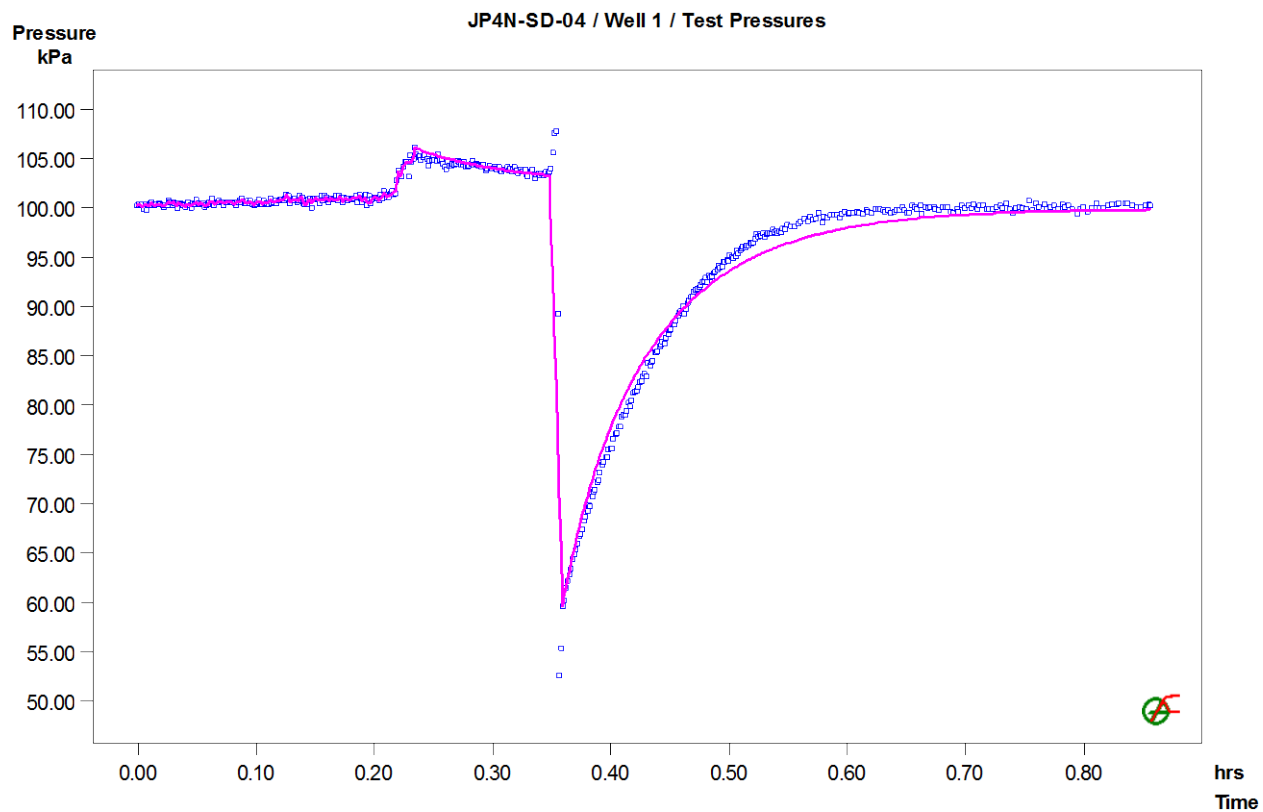


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-04 / Well 1 / SW: LogLog Plot, variable P(i)

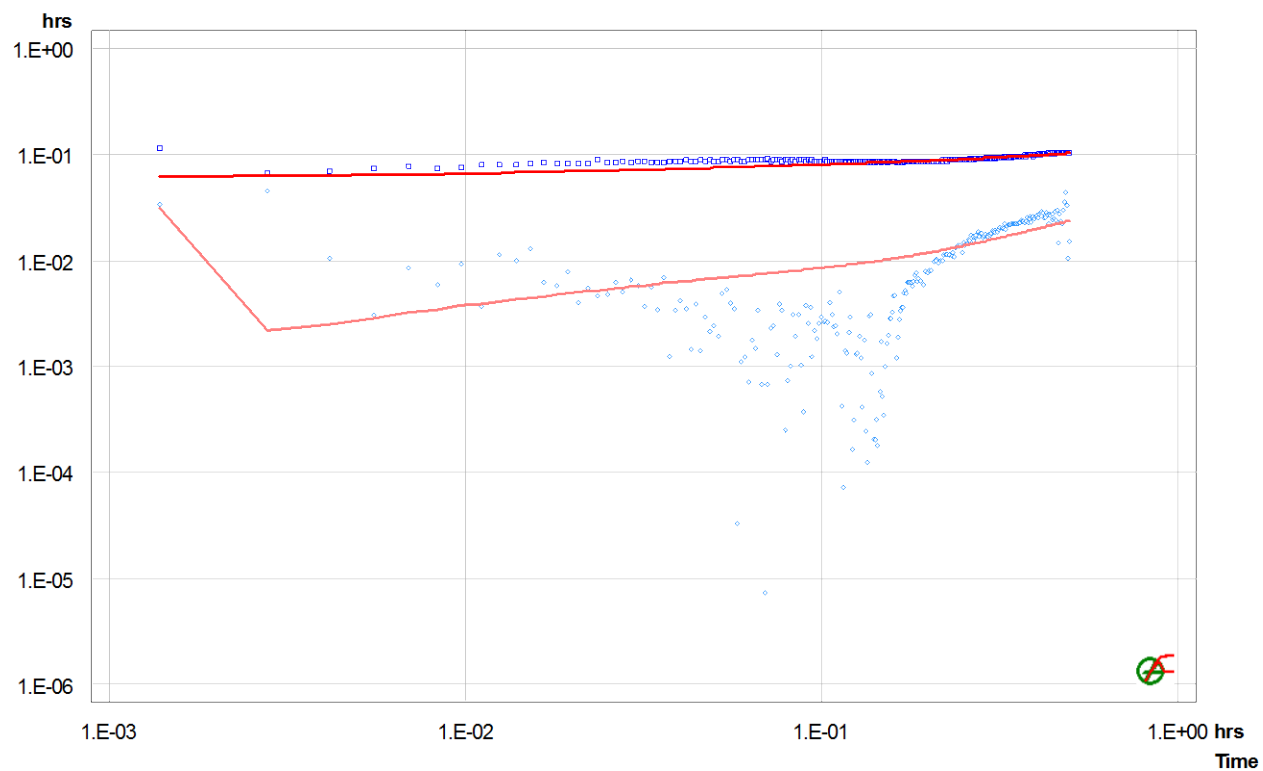


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-04
Test Name Well 2
Test Date/Time
Interval top: 16.46 m bottom: 17.68 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 1.22 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 22.138 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	163.30			2.1e-07
Sw-Init	dP-Event	0.37944	165.81	121.6 *		2.1e-07
SW	Slug	0.38375	44.24	165.8		2.1e-07

Analysis Results

Analysis "SW-2 shell- final"

Static Pressure: 161.74 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.3e-06	2.4e-06	20.26	2.0
Shell 2	2.0e-04	2.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
Sw-Init	2.1e-07	0.0
SW	2.1e-07	0.0

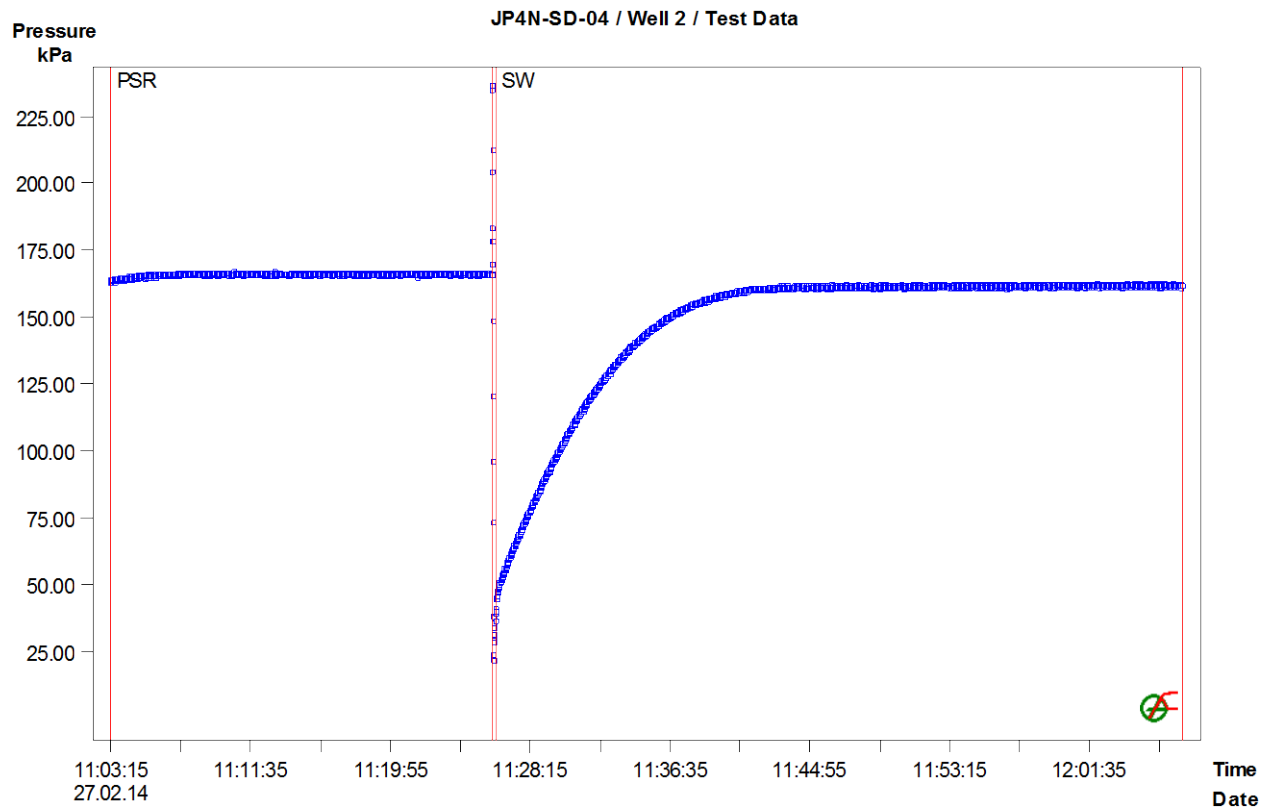


Figure 1: Pressure response and sequence definition

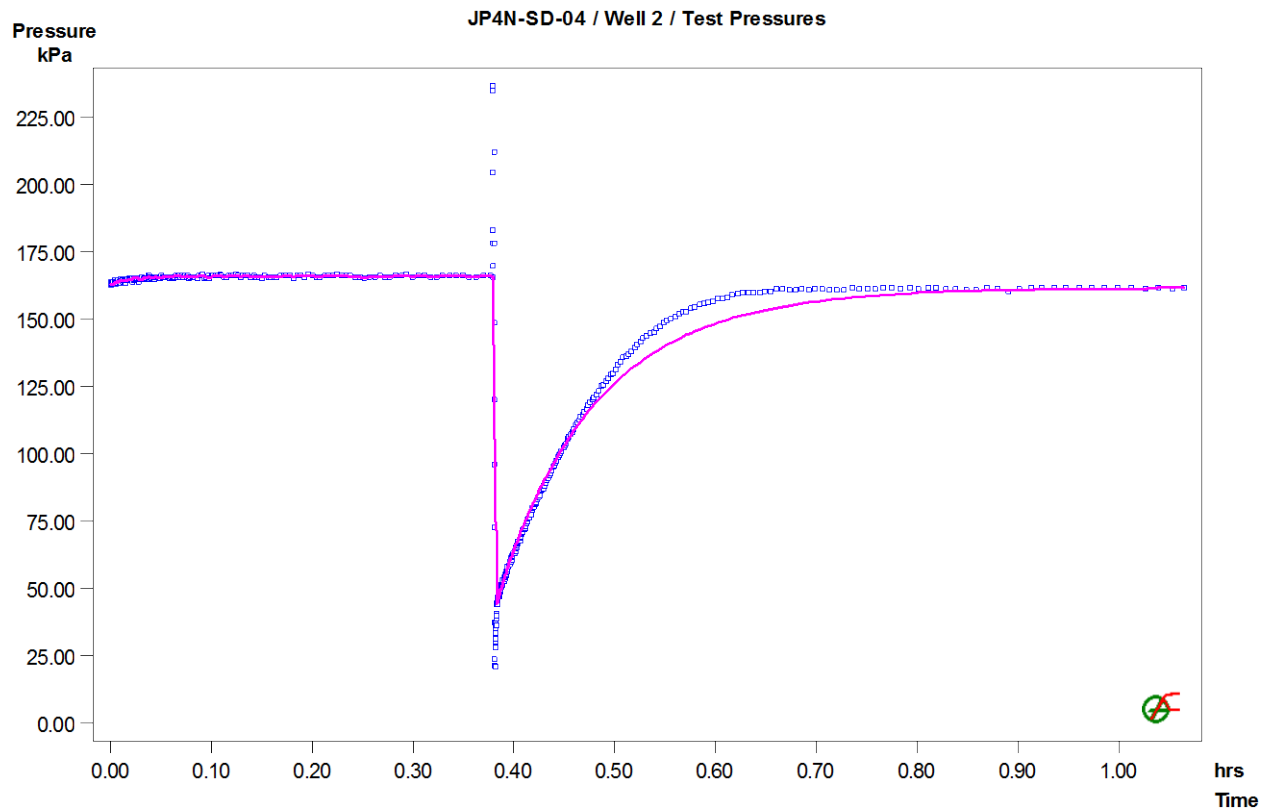


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-04 / Well 2 / SW: LogLog Plot, constant P(i)

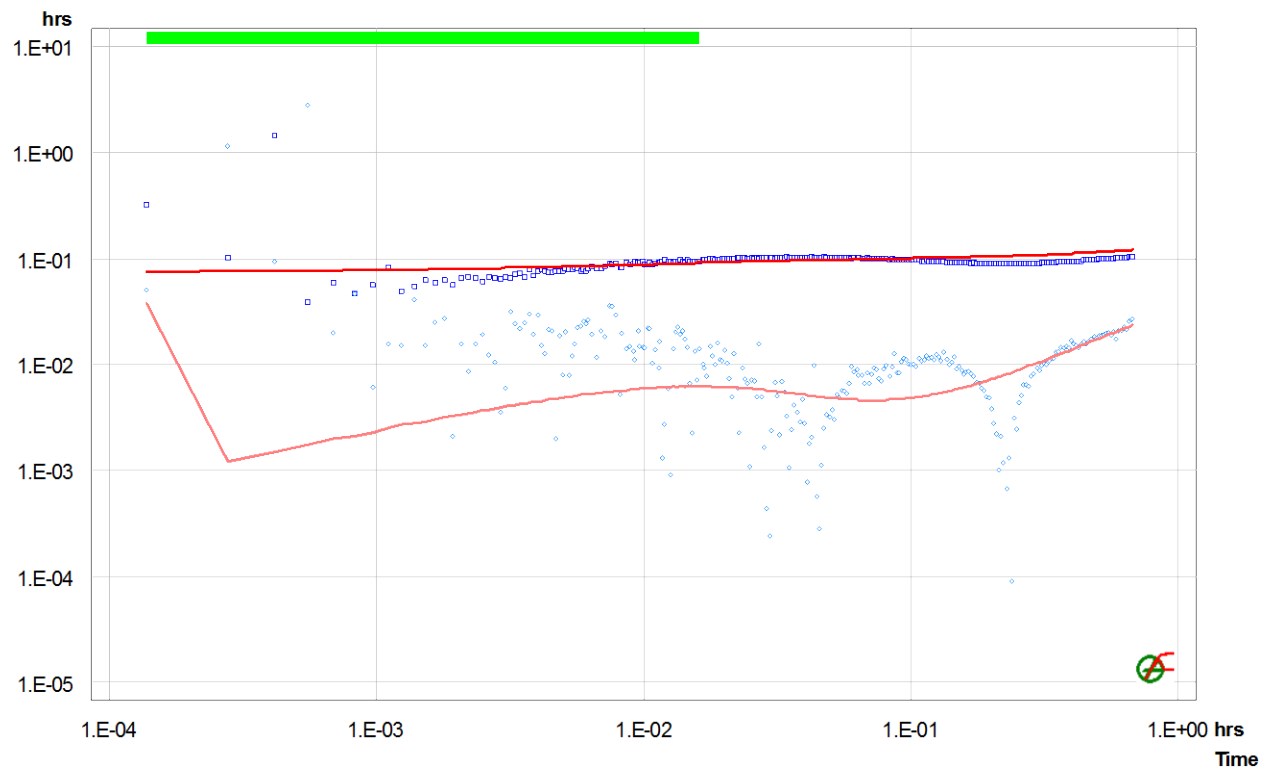


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-04
Test Name Well 3
Test Date/Time
Interval top: 13.72 m bottom: 15.85 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 2.13 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 62.961 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.50	72.26			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	72.26			2.1e-07
Sw-Init	dP-Event	0.32917	135.03	87.1 *		2.1e-07
SW	Slug	0.33361	47.91	135.0		2.1e-07

Analysis Results

Analysis "SW- 2 shell"

Static Pressure: 141.48 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.1e-06	3.0e-06	34.51	2.0
Shell 2	1.5e-03	3.0e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	3.5e-07	0.0
Sw-Init	2.1e-07	0.0
SW	2.1e-07	0.0

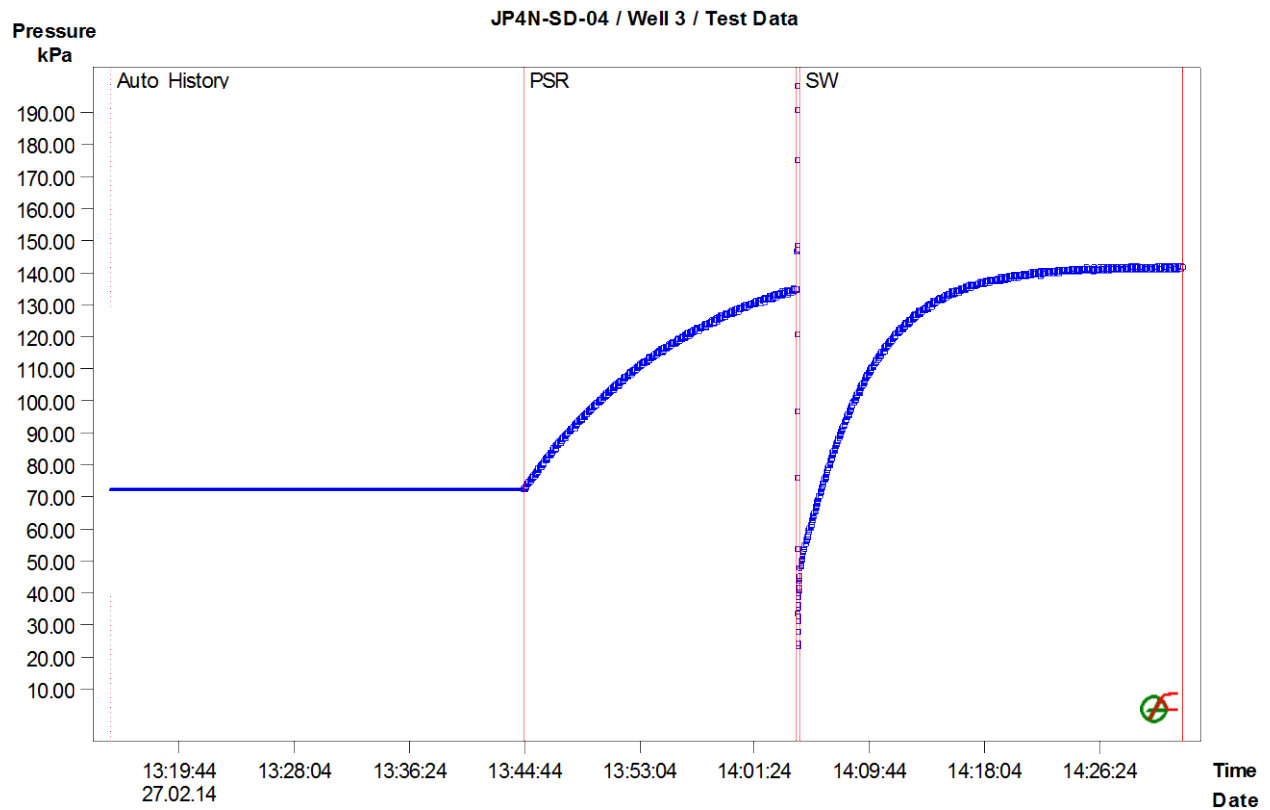


Figure 1: Pressure response and sequence definition

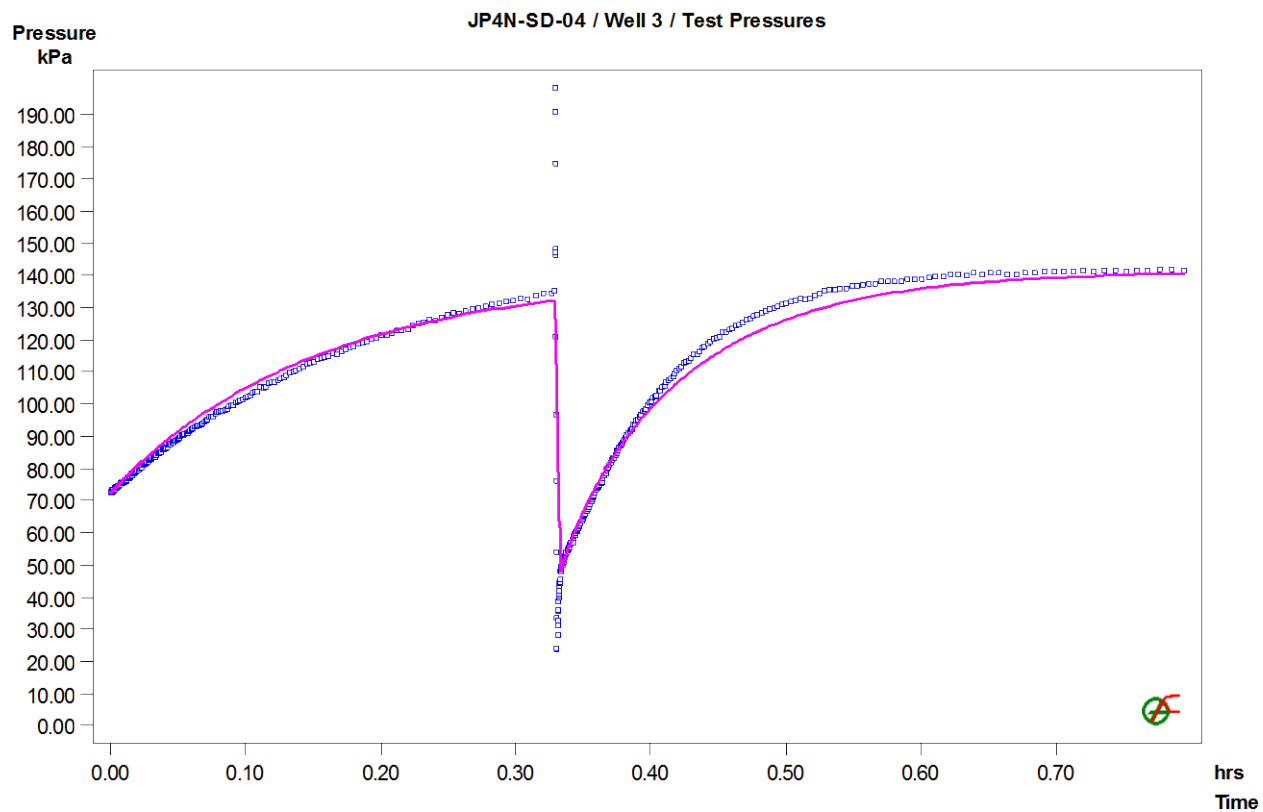


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-04 / Well 3 / SW: LogLog Plot, variable P(i)

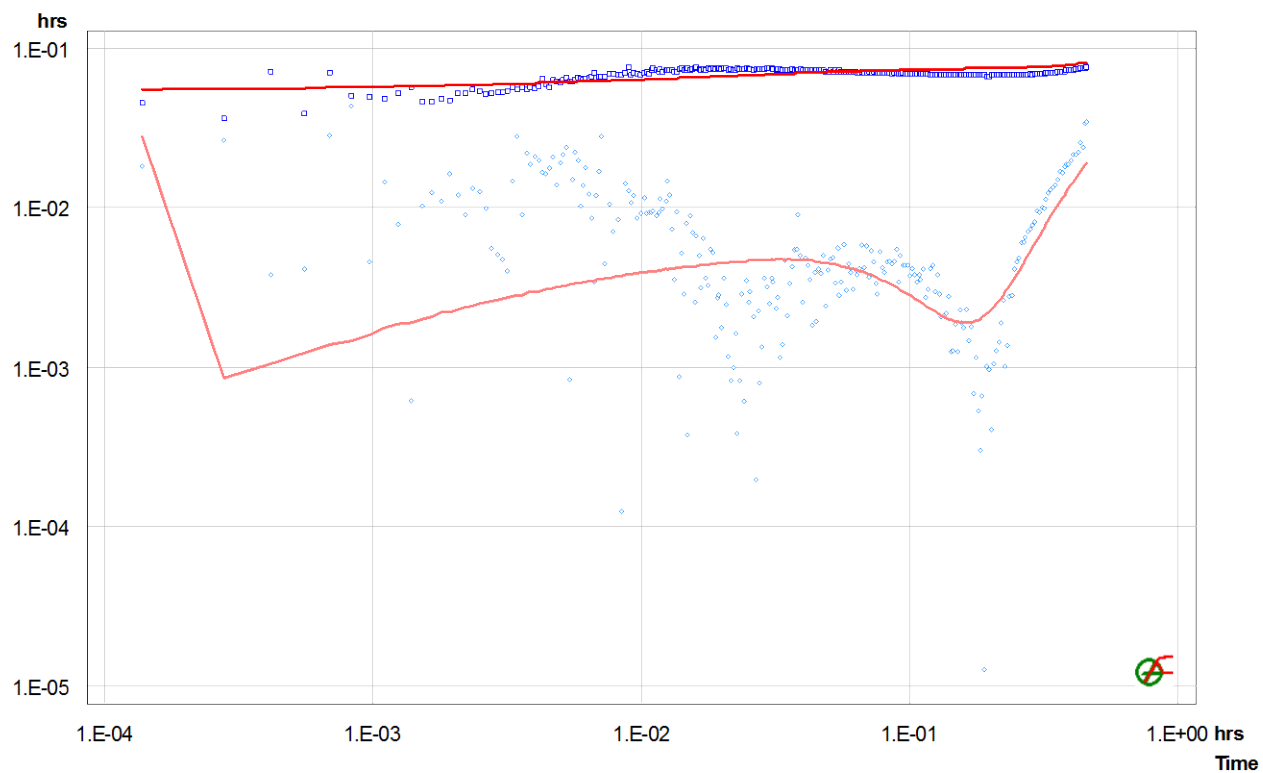


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-05
Test Name Well 1
Test Date/Time
Interval top: 14.33 m bottom: 15.85 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 1.52 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 27.582 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
VAR	Variable Pressure	0.00000	57.85			2.1e-07
PSR	Recovery	0.17361	68.16			2.1e-07
Sw-Init	dP-Event	0.85236	105.86	54.8 *		2.1e-07
SW	Slug	0.85917	51.09	105.9		2.1e-07

Analysis Results

Analysis "SW- 2 shell final"

Static Pressure: 114.35 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.6e-05	3.0e-06	9.26	2.0
Shell 2	1.5e-07	3.0e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	6.3e-08	0.0
PSR	6.3e-08	0.0
Sw-Init	2.1e-07	0.0
SW	2.1e-07	0.0

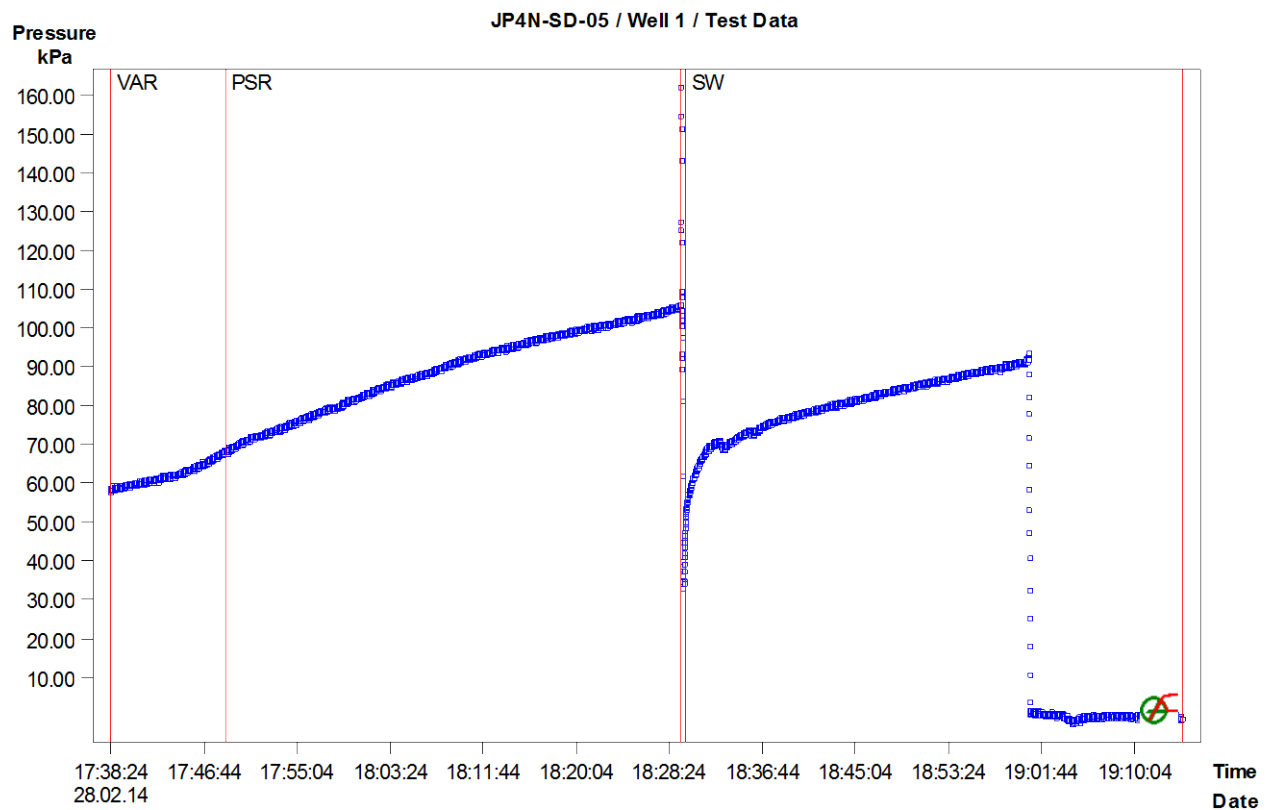


Figure 1: Pressure response and sequence definition

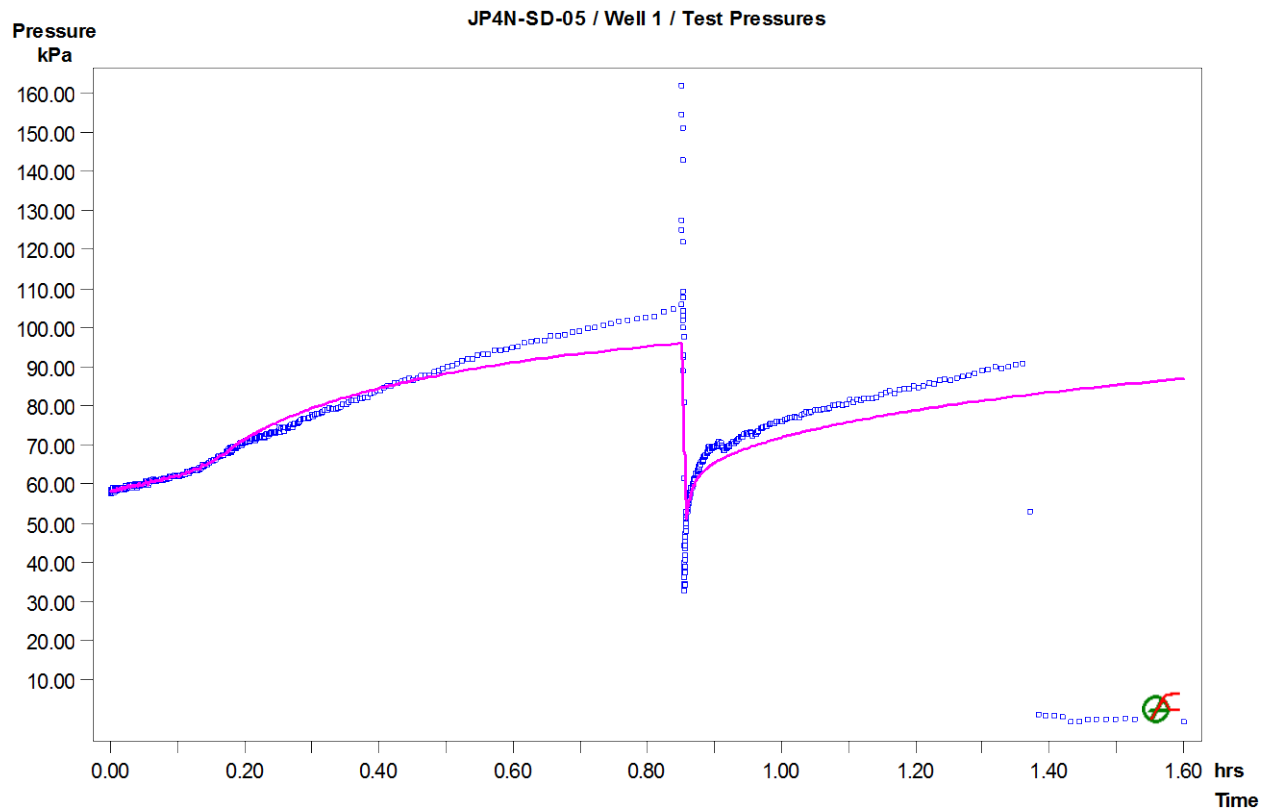


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-05 / Well 1 / SW: LogLog Plot, variable P(i)

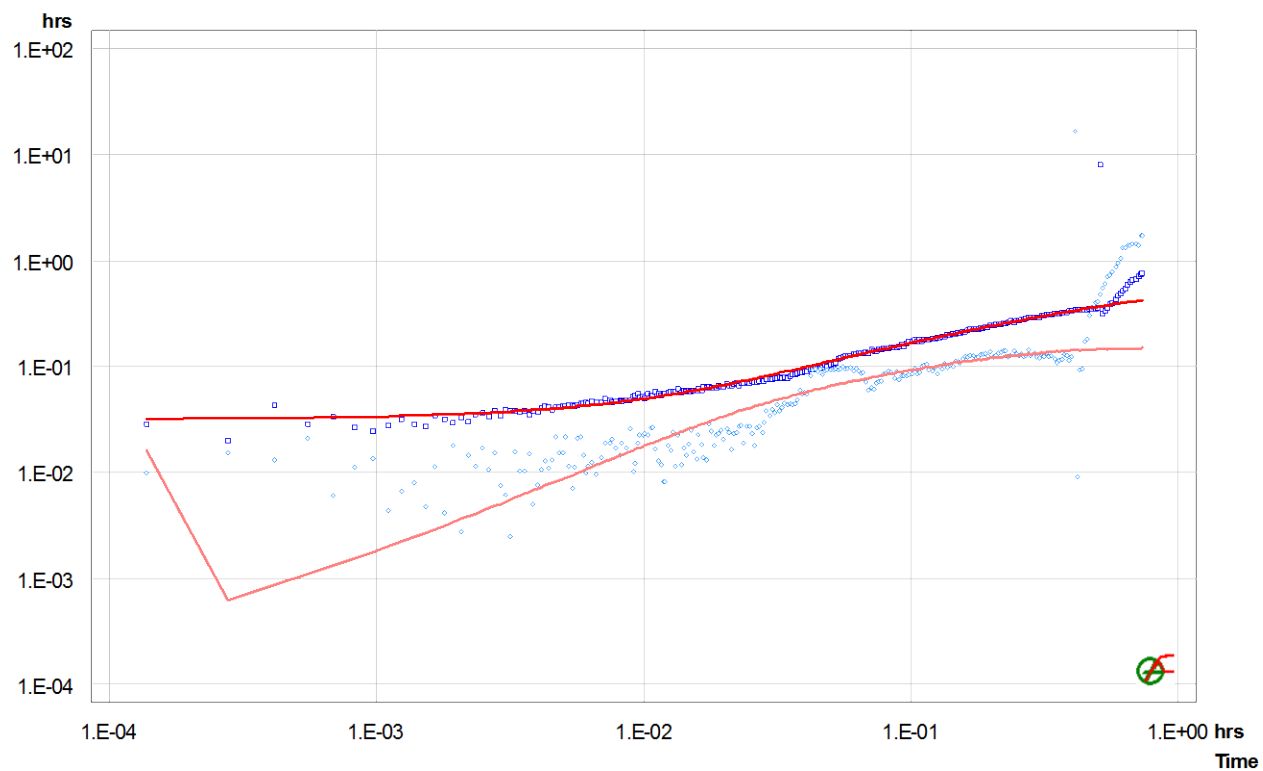


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-05	
Test Name	Well 2	
Test Date/Time	February 28, 2014	
Interval	top: 12.19 m bottom: 13.41 m	
Description	Analyzed by: DV	
	Reviewed by: DSL	

Basic Data

Test Interval	1.22 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	36.062 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
VAR	Variable Pressure	0.00000	100.45			2.1e-07
PSR	Recovery	0.18597	21.60			2.1e-07
SW-Init	dP-Event	0.68653	27.39	21.3 *		2.1e-07
SW	Slug	0.68819	6.11	27.4		2.1e-07

Analysis Results

Analysis "SW-2shell"

Static Pressure: 26.83 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.1e-04	2.4e-06	2.00	2.0
Shell 2	1.8e-06	2.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	7.1e-08	0.0
PSR	7.1e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

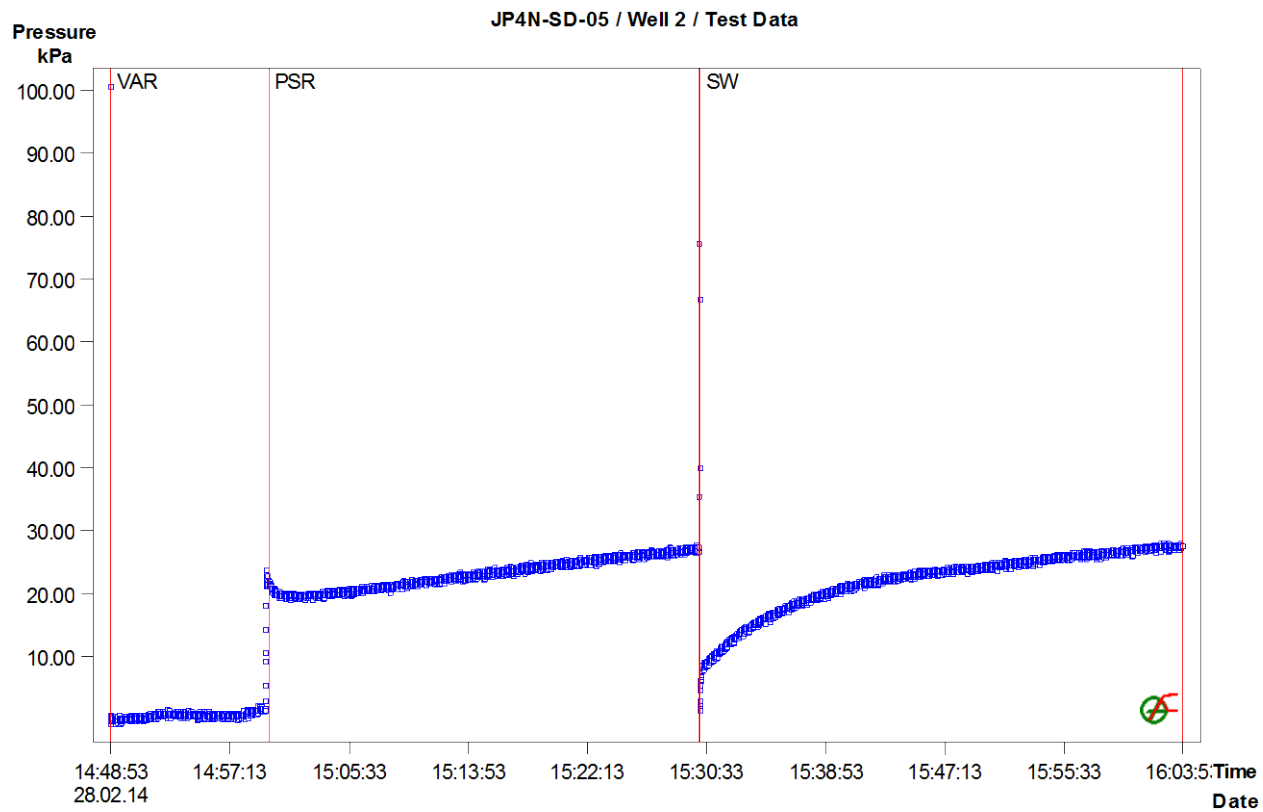


Figure 1: Pressure response and sequence definition.

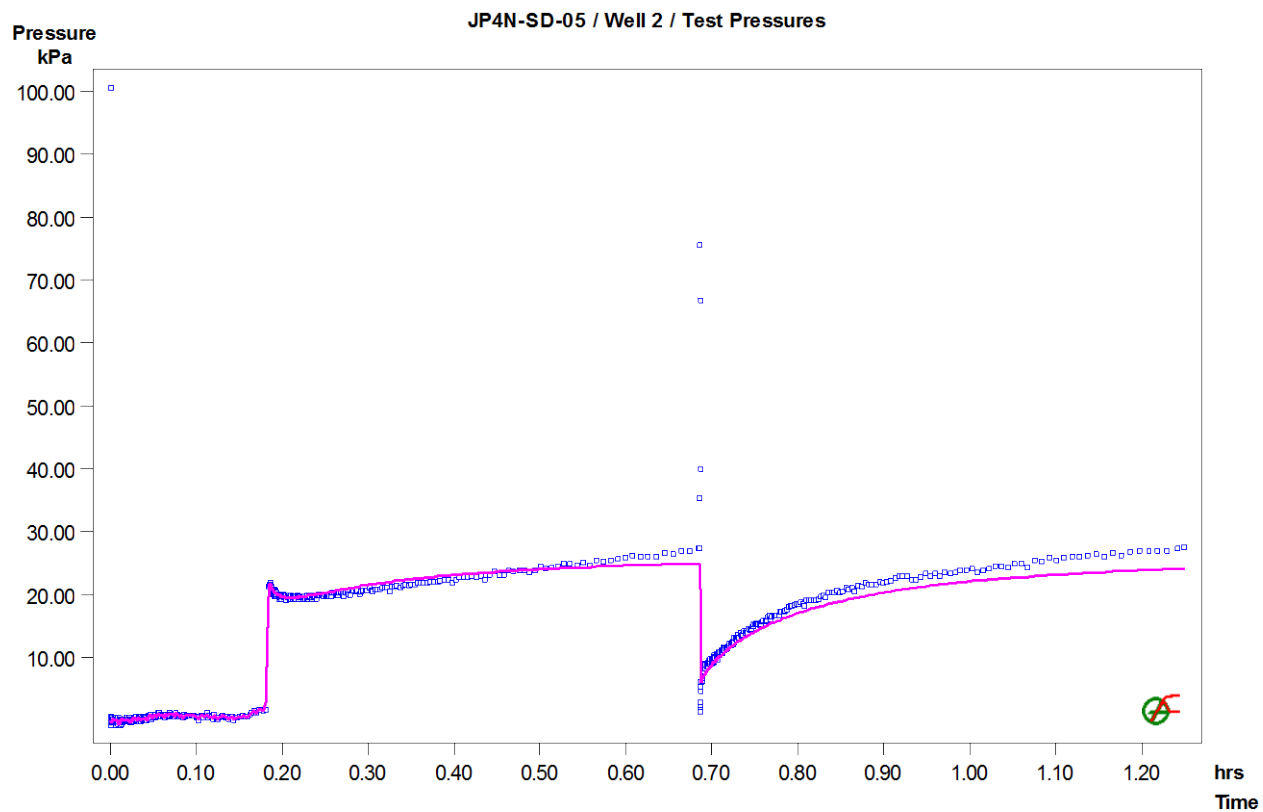


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot.

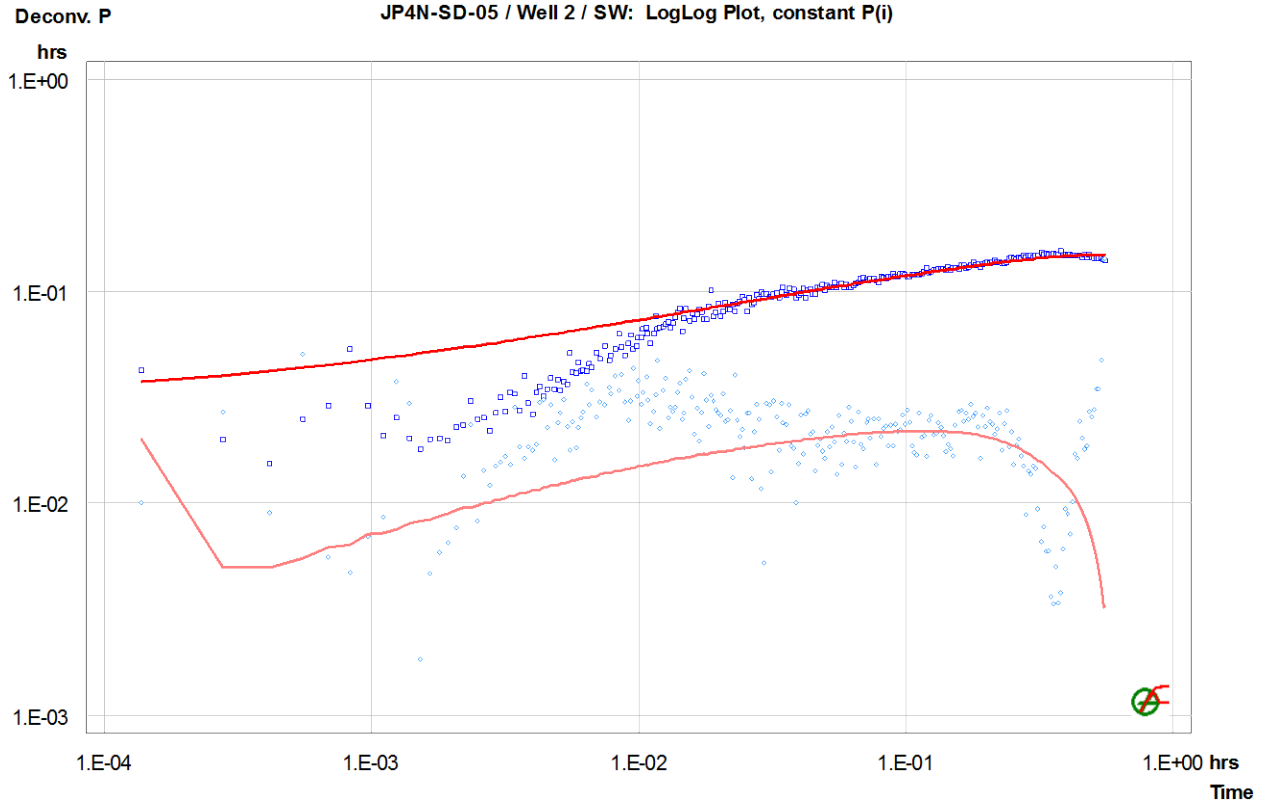


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence.

HYDROBENCH REPORT

Project	Dominion Diamond
Site	Jay Project
Source Well	JP4N-SD-06
Test Name	Well 1
Test Date/Time	
Interval	top: 9.75 m bottom: 10.67 m
Description	Analyzed by: DV Reviewed by: DSL

Basic Data

Test Interval	0.92 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	27.195 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
VAR	Variable	0.00000	99.90			2.1e-07
	Pressure					
PSR	Recovery	0.21514	35.74			2.1e-07
SW-Init	dP-Event	0.97542	72.62	57.1 *		2.1e-07
SW	Slug	0.97806	15.50	72.6		2.1e-07

Analysis Results

Analysis "SW-2 shell Final"

Static Pressure: 93.08 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.7e-03	1.8e-06	1.00	2.0
Shell 2	4.6e-07	1.8e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	1.8e-07	0.0
PSR	1.8e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

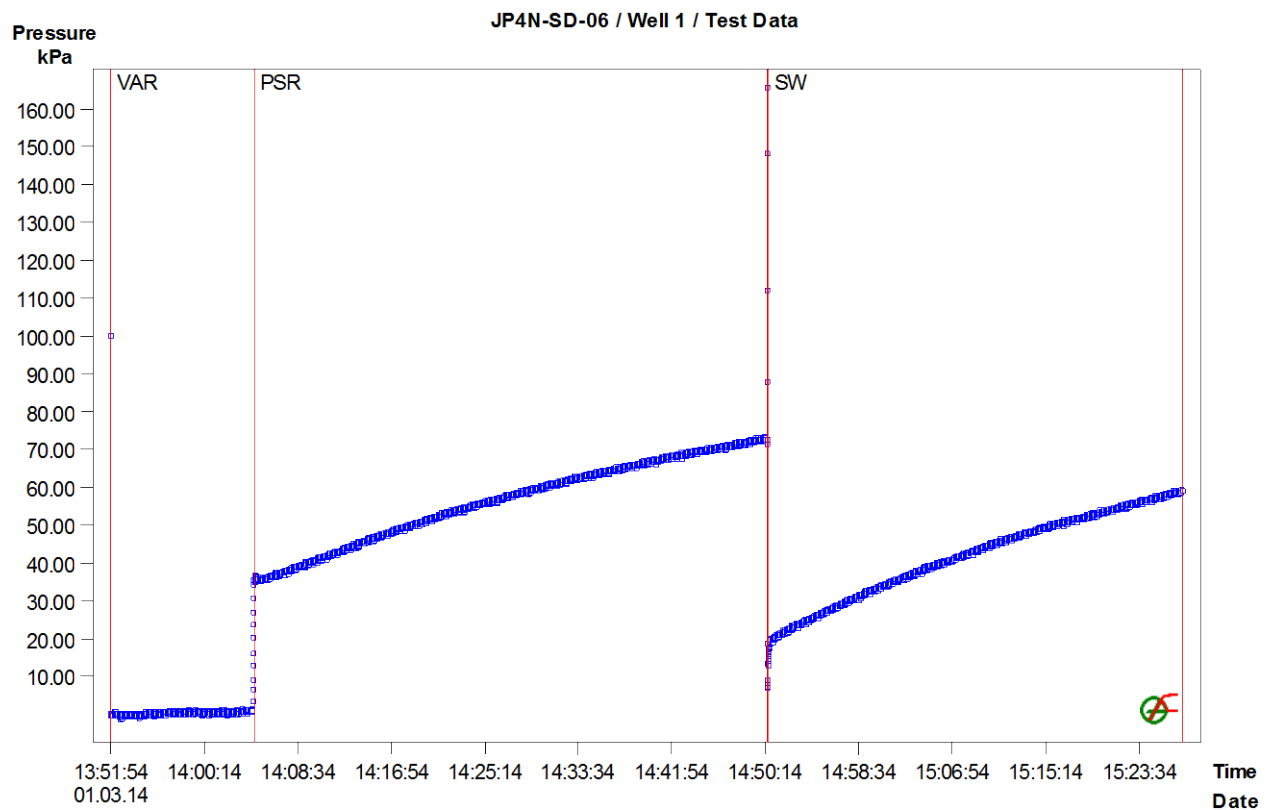


Figure 1: Pressure response and sequence definition

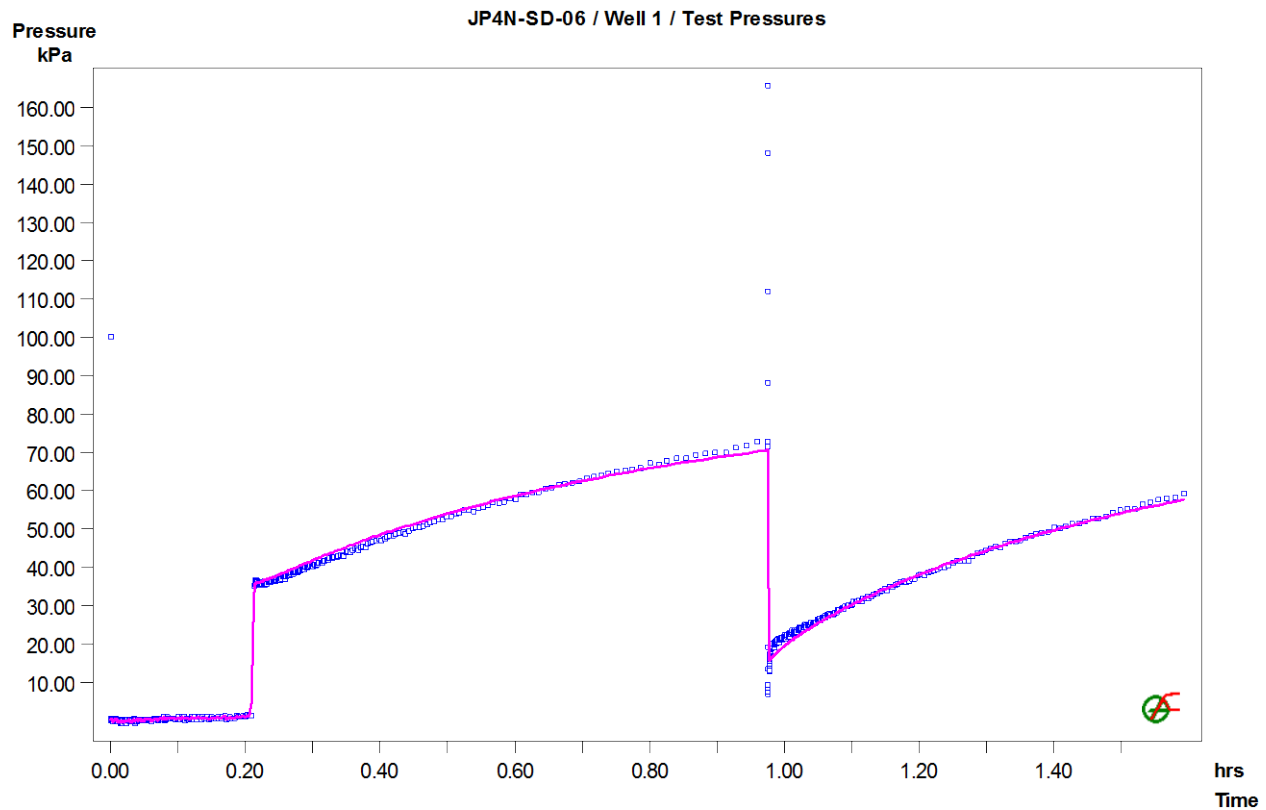


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-06 / Well 1 / SW: LogLog Plot, variable P(i)

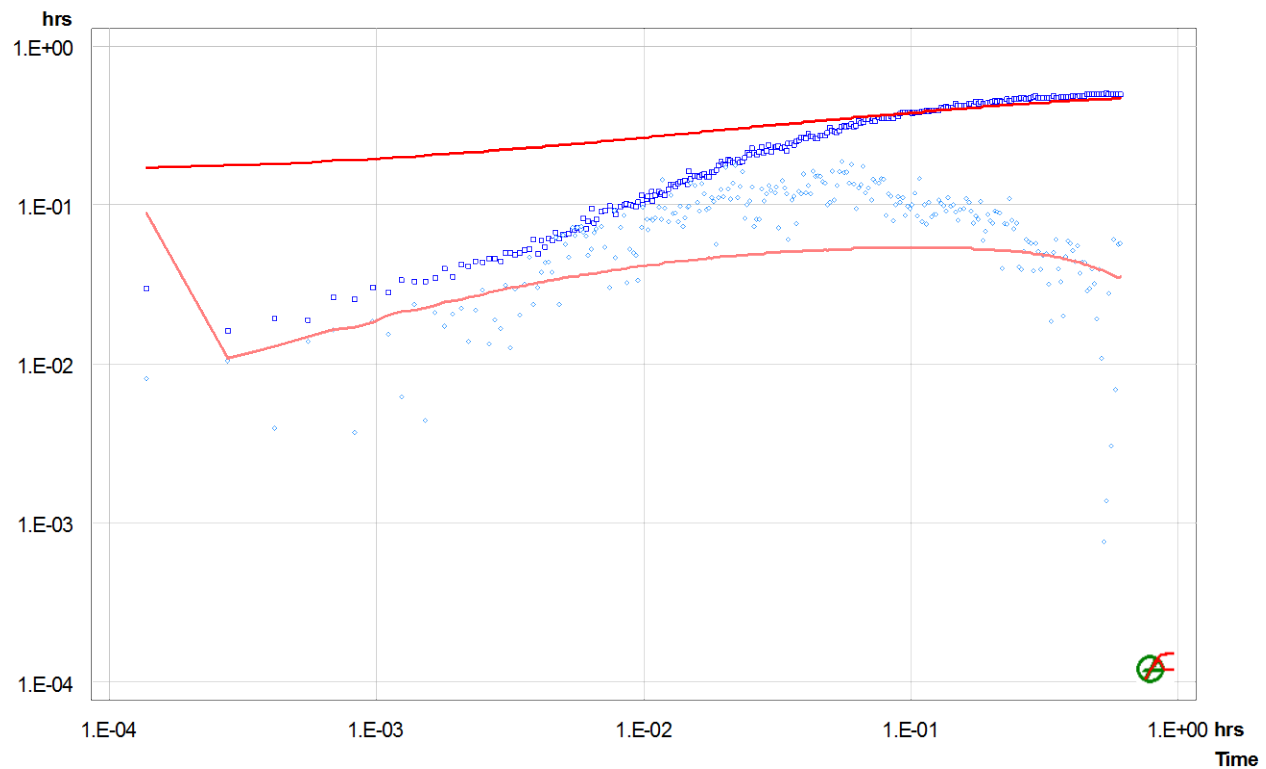


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-07	
Test Name	Well 1	
Test Date/Time		
Interval	top: 13.11 m bottom: 15.33 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	2.22 m		
Porosity	0.10		
Well Radius	0.076 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	40.284 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
PSR	Variable Pressure	0.00000	140.93			2.1e-07
SW-Init-1	dP-Event	0.23306	141.73	22.2 *		2.1e-07
SW-1	Slug	0.23514	119.51	141.7		2.1e-07
VAR	Variable Pressure	0.24778	141.20			2.1e-07
Sw-Init 2	dP-Event	0.28194	141.58	31.0 *		2.1e-07
SW-2	Slug	0.28389	110.56	141.6		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 141.05 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.5e-03	4.4e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.7e-05	0.0
SW-Init-1	2.1e-07	0.0
SW-1	2.1e-07	0.0
VAR	4.7e-05	0.0
Sw-Init 2	2.1e-07	0.0
SW-2	2.1e-07	0.0

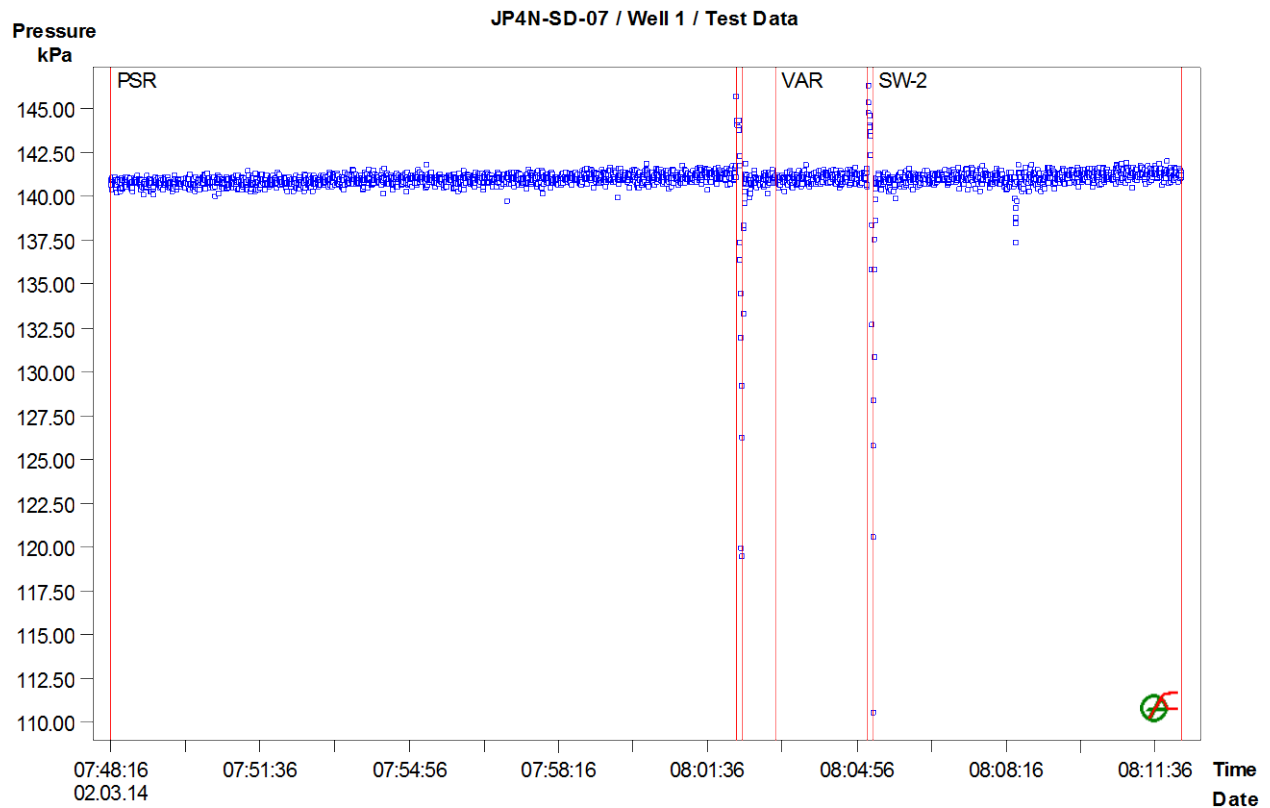


Figure 1: Pressure response and sequence definition

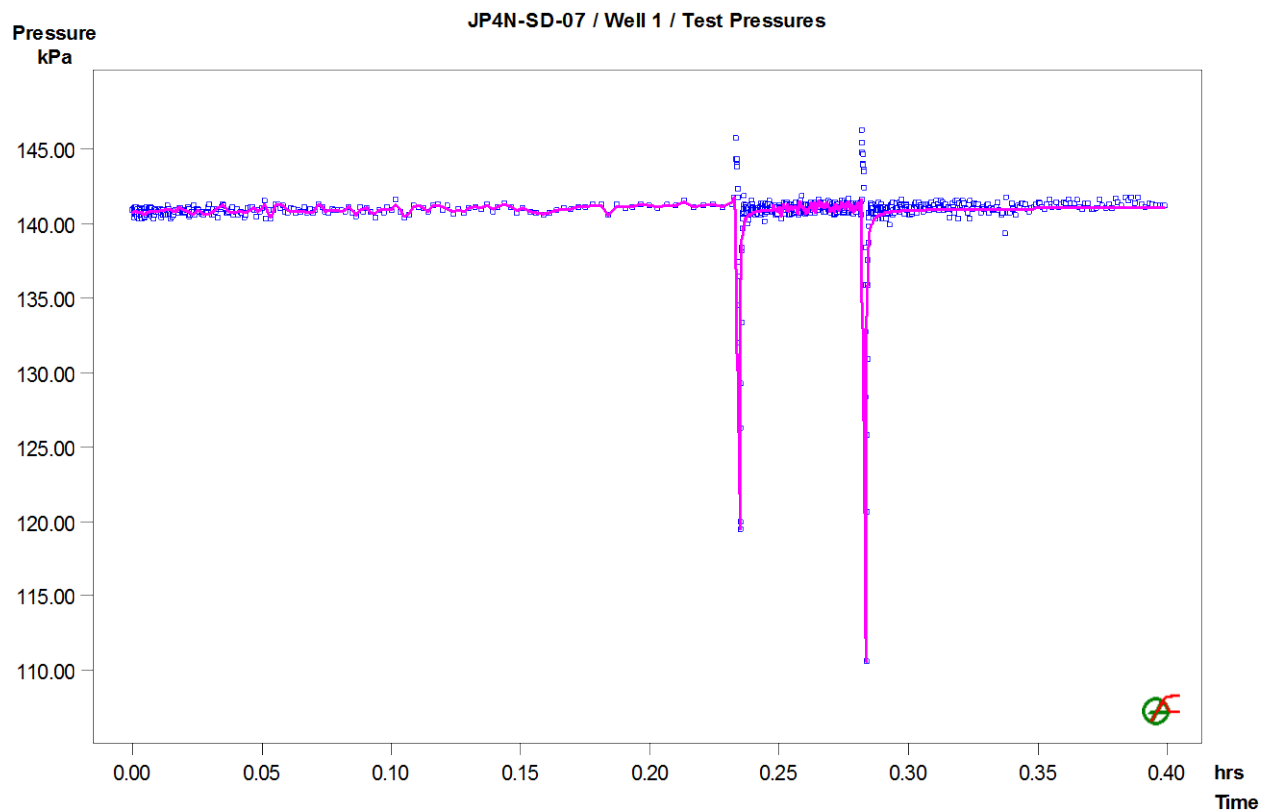


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-07 / Well 1 / SW-2: LogLog Plot, constant P(i)

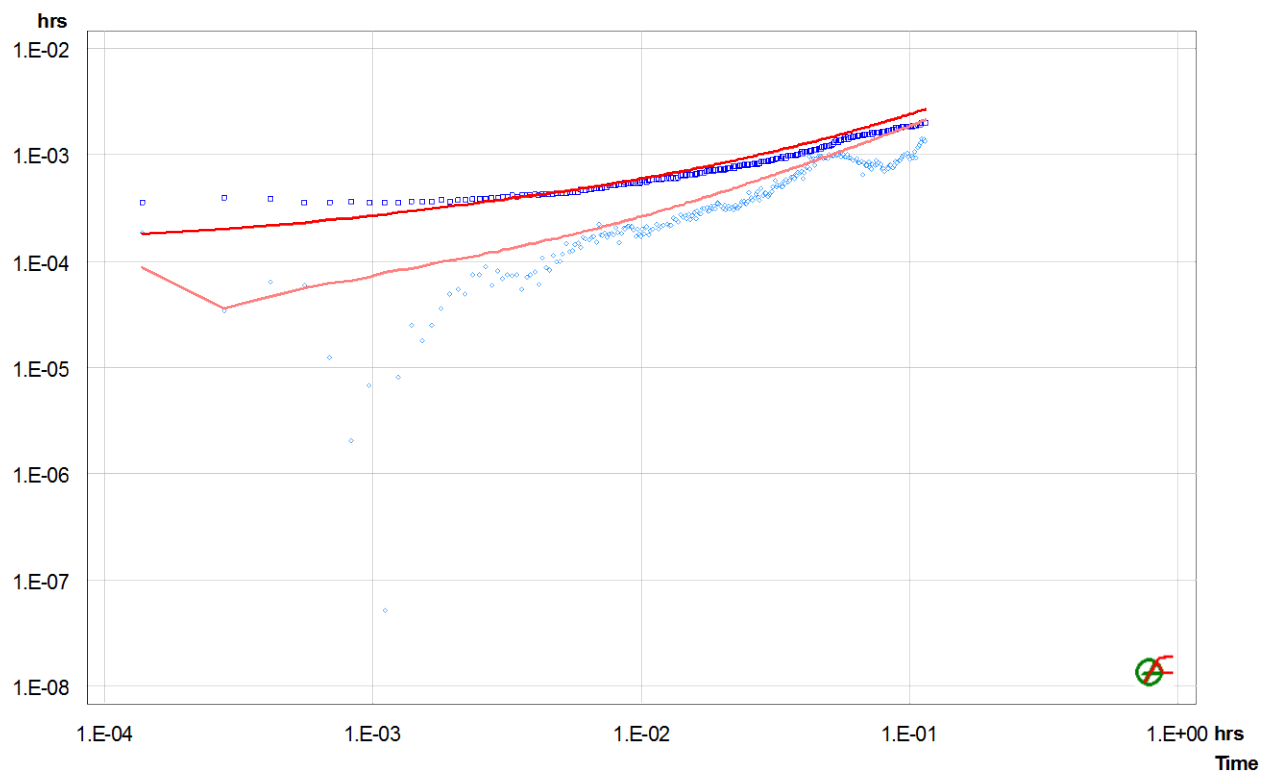


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4N-SD-07	
Test Name	Well 2	
Test Date/Time		
Interval	top: 11.13 m bottom: 12.19 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	1.06 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	31.333 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
VAR	Variable Pressure	0.00000	100.69			2.1e-07
PSR	Recovery	0.97139	44.58			2.1e-07
Sw-Init	dP-Event	2.00347	95.46	69.2 *		2.1e-07
SW	Slug	2.00667	26.22	95.5		2.1e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 122.19 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	8.6e-07	2.1e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	2.1e-07	0.0
PSR	2.1e-07	0.0
Sw-Init	2.1e-07	0.0
SW	2.1e-07	0.0

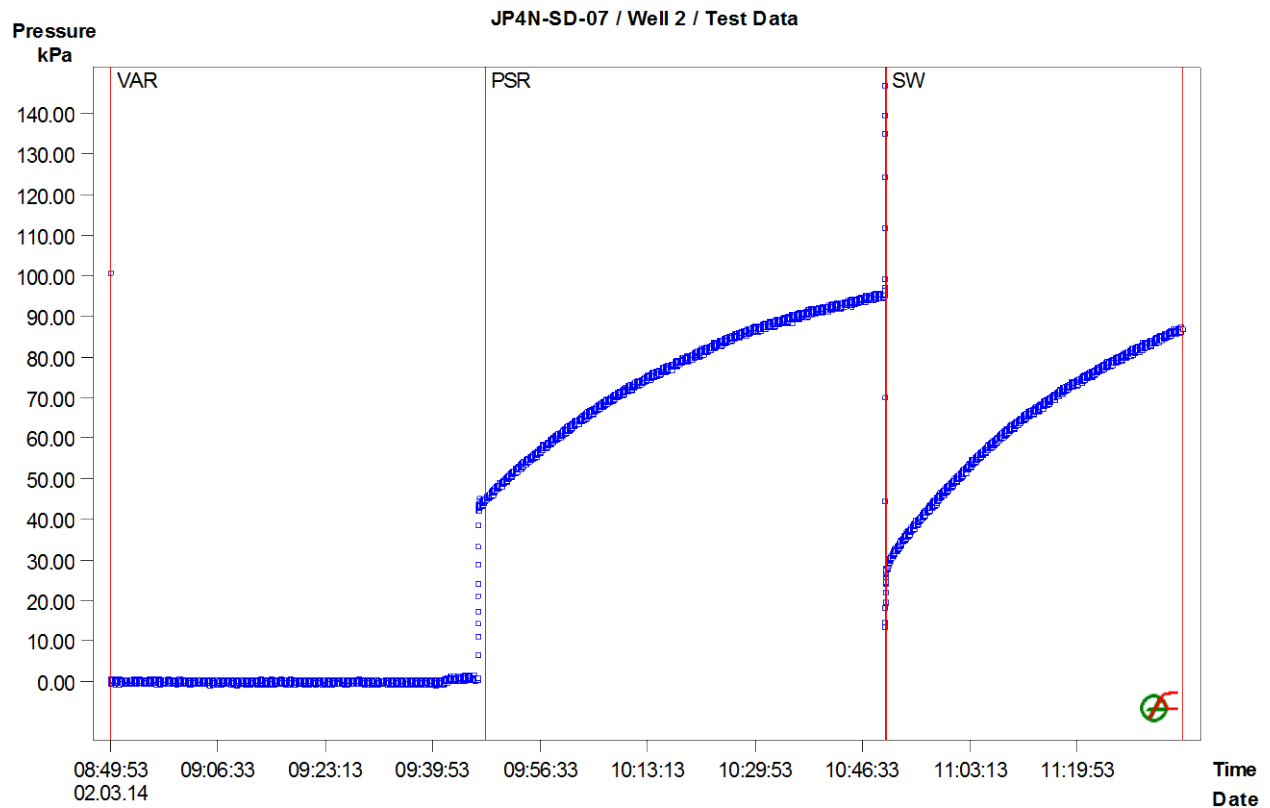


Figure 1: Pressure response and sequence definition

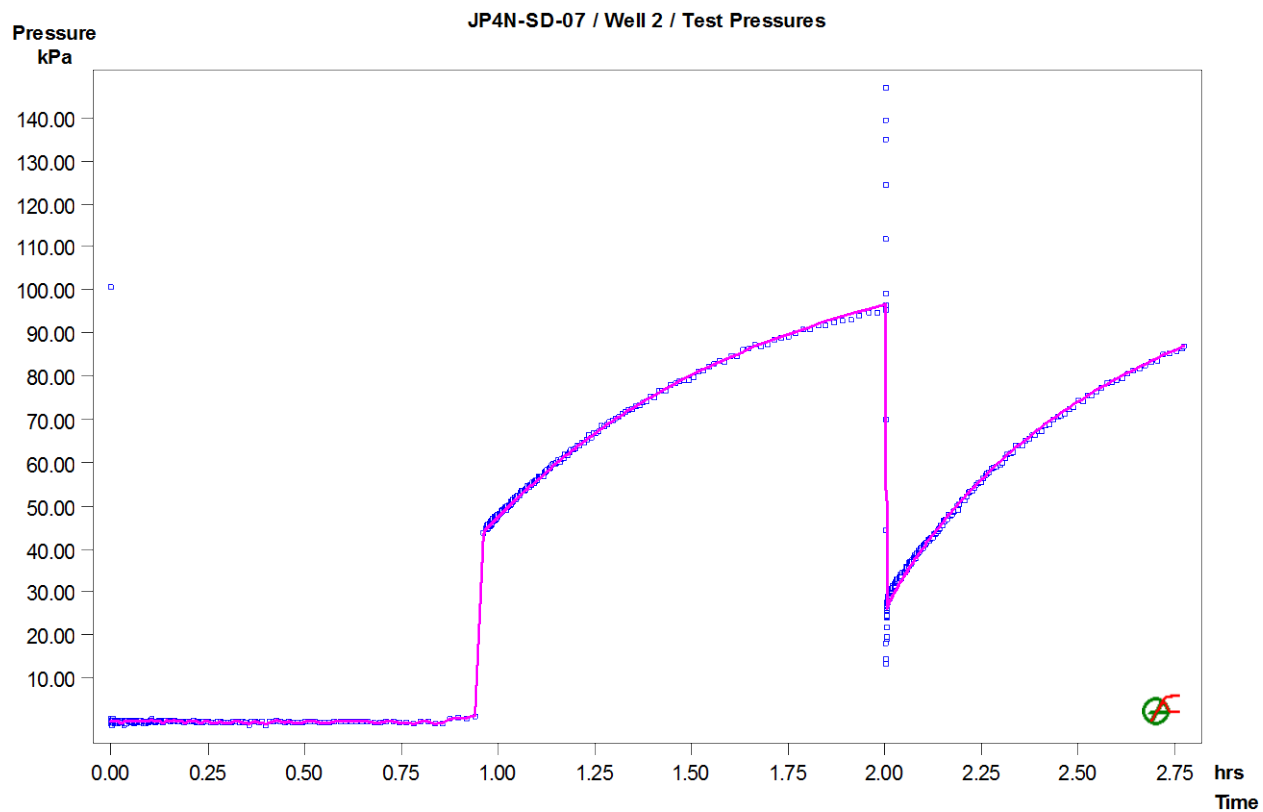


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-07 / Well 2 / SW: LogLog Plot, variable P(i)

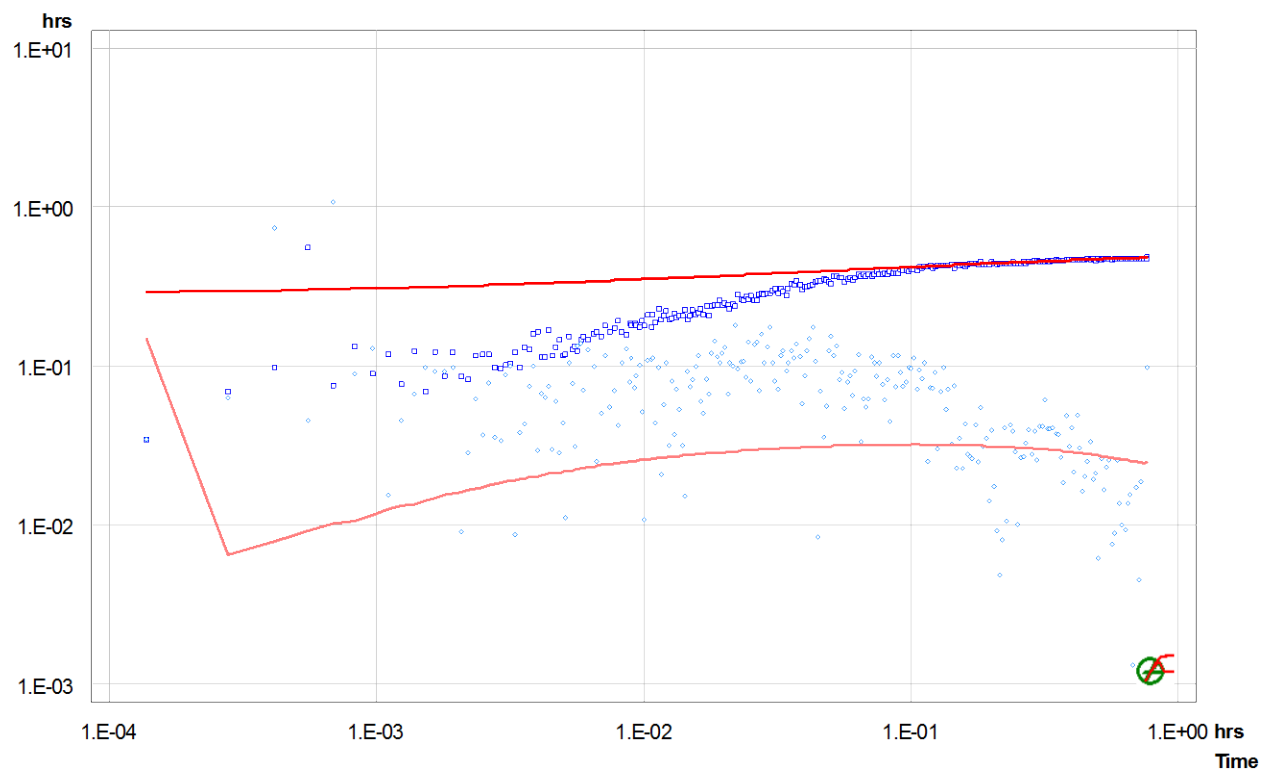


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-SD-08
Test Name Well 1
Test Date/Time
Interval top: 11.58 m bottom: 12.95 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 1.37 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 24.860 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

History Definition

Name	Category	Duration [hrs]	P(o) [kPa]	Rate [l/min]	C [m ³ /Pa]	Skin
Auto_History	Const. Pressure	0.50	37.14			0.00

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Recovery	0.00000	37.14			2.1e-07
SW-Init	dP-Event	1.63833	44.94	-89.5 *		2.1e-07
SW	Slug	1.66500	134.41	44.9		2.1e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 48.51 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	5.4e-08	2.7e-06	3.99	2.0
Shell 2	1.2e-09	2.7e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.7e-08	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

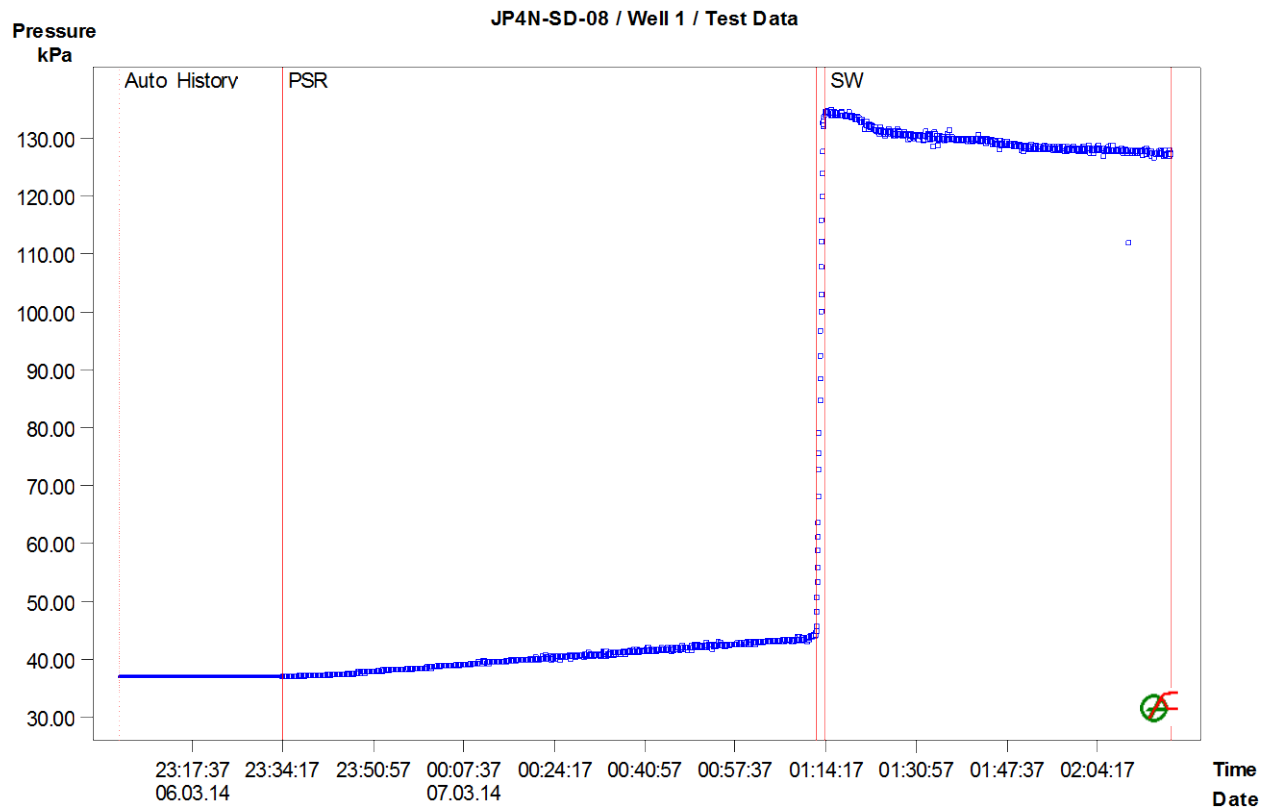


Figure 1: Pressure response and sequence definition

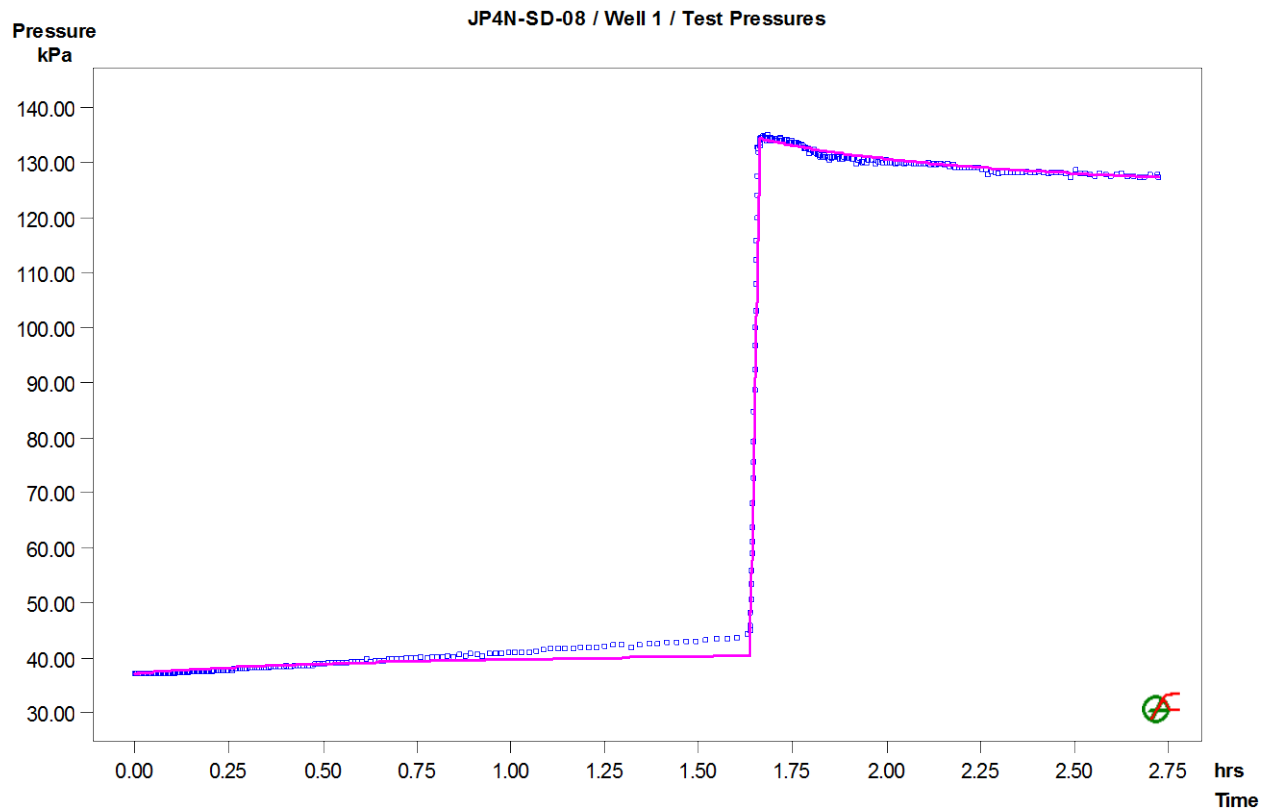


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-08 / Well 1 / SW: LogLog Plot, variable P(i)

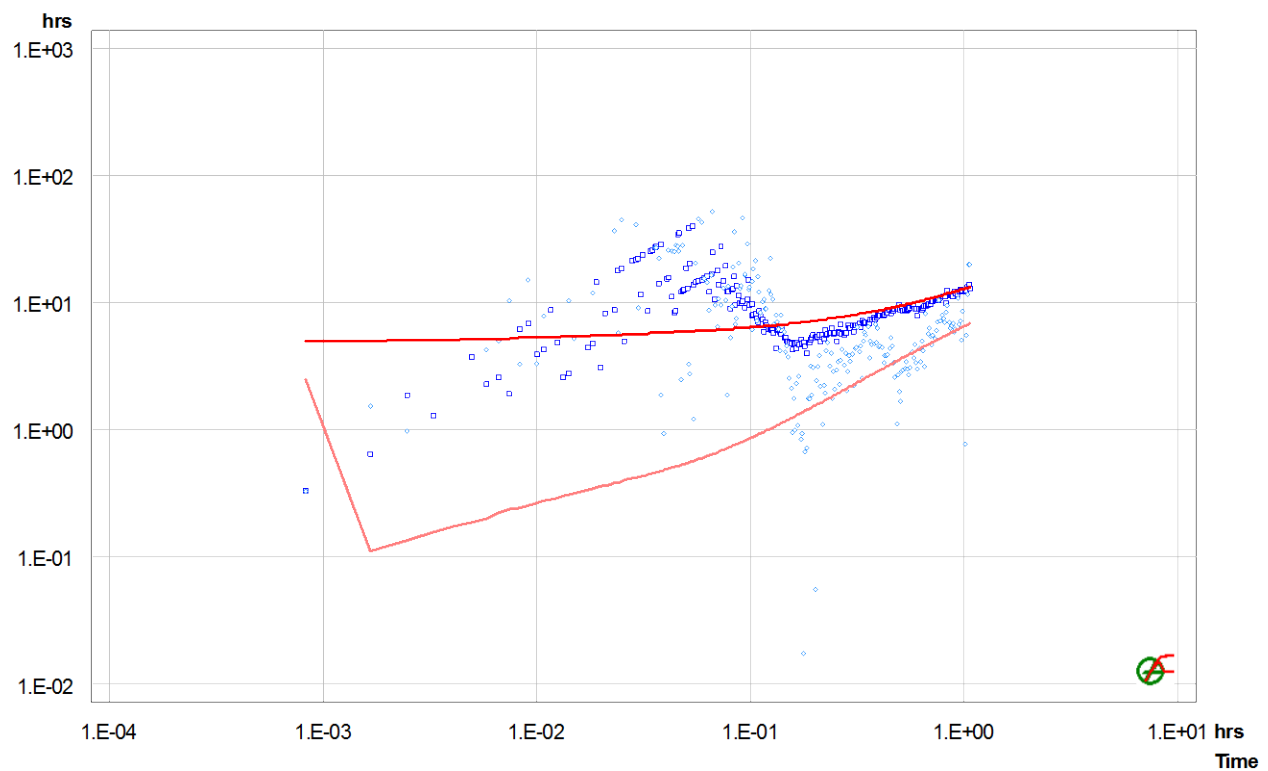


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-02
Test Name Test 1
Test Date/Time March 1, 2014 , 14:31:00
Interval top: 7.80 m bottom: 17.00 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 9.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 66.592 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	99.61			4.8e-07
PSR	Recovery	0.16389	104.82			4.8e-07
SW-Init	dP-Event	0.63472	94.86	17.3 *		4.8e-07
SW	Slug	0.64167	77.56	94.9		4.8e-07

Analysis Results

Analysis "SW"

Static Pressure: 92.61 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.8e-08	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.7e-09	0.0
PSR	1.7e-09	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

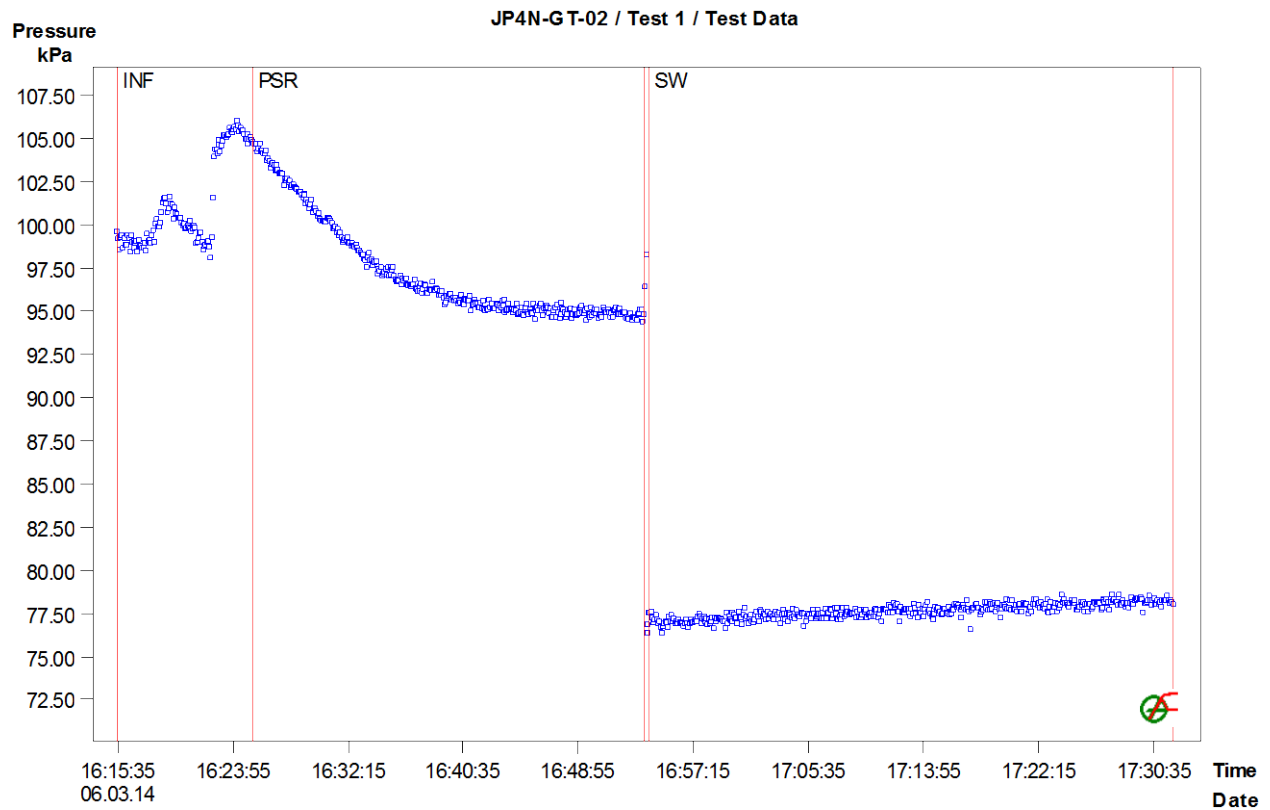


Figure 1: Pressure response and sequence definition

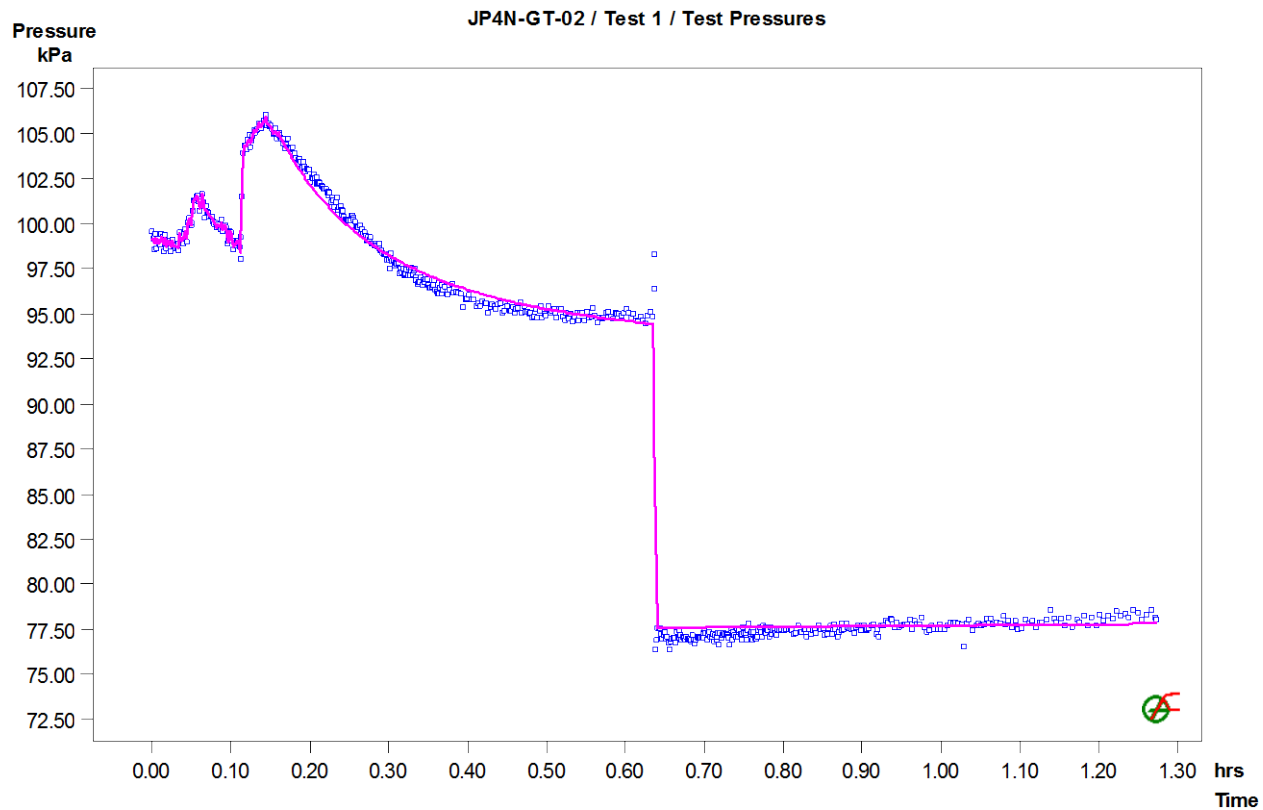


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-02 / Test 1 / SW: LogLog Plot, variable P(i)

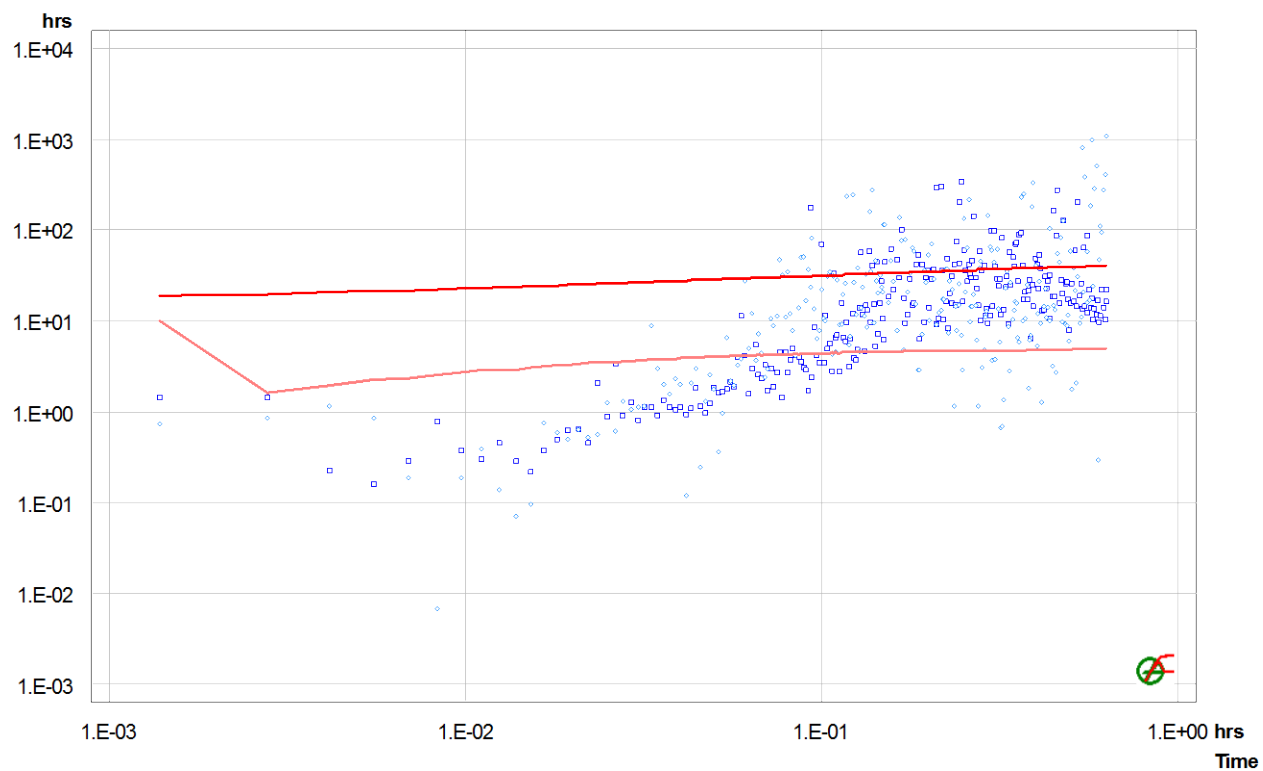


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-03
Test Name Test 1
Test Date/Time March 5, 2014, 21:16:33
Interval top: 13.80 m bottom: 23.00 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 9.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 66.592 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	142.33			4.8e-07
SW-Init 1	dP-Event	0.61417	142.33	2.8 *		4.8e-07
SW	Slug	0.62417	139.53	142.3		4.8e-07
SW-Init-2	dP-Event	0.89000	141.66	2.0 *		4.8e-07
SW-2	Slug	0.90167	139.65	141.7		4.8e-07
RI	Constant Rate	1.24417	142.33		-3.50e+00	2.8e-06
RIR	Variable Pressure	1.74917	147.13			2.8e-06

Analysis Results

Analysis "RI-Final"

Static Pressure: 142.15 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.4e-04	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.4e-05	0.0
SW-Init 1	4.8e-07	0.0
SW	4.8e-07	0.0
SW-Init-2	4.8e-07	0.0
SW-2	4.8e-07	0.0
RI	2.5e-06	0.0
RIR	2.5e-06	0.0

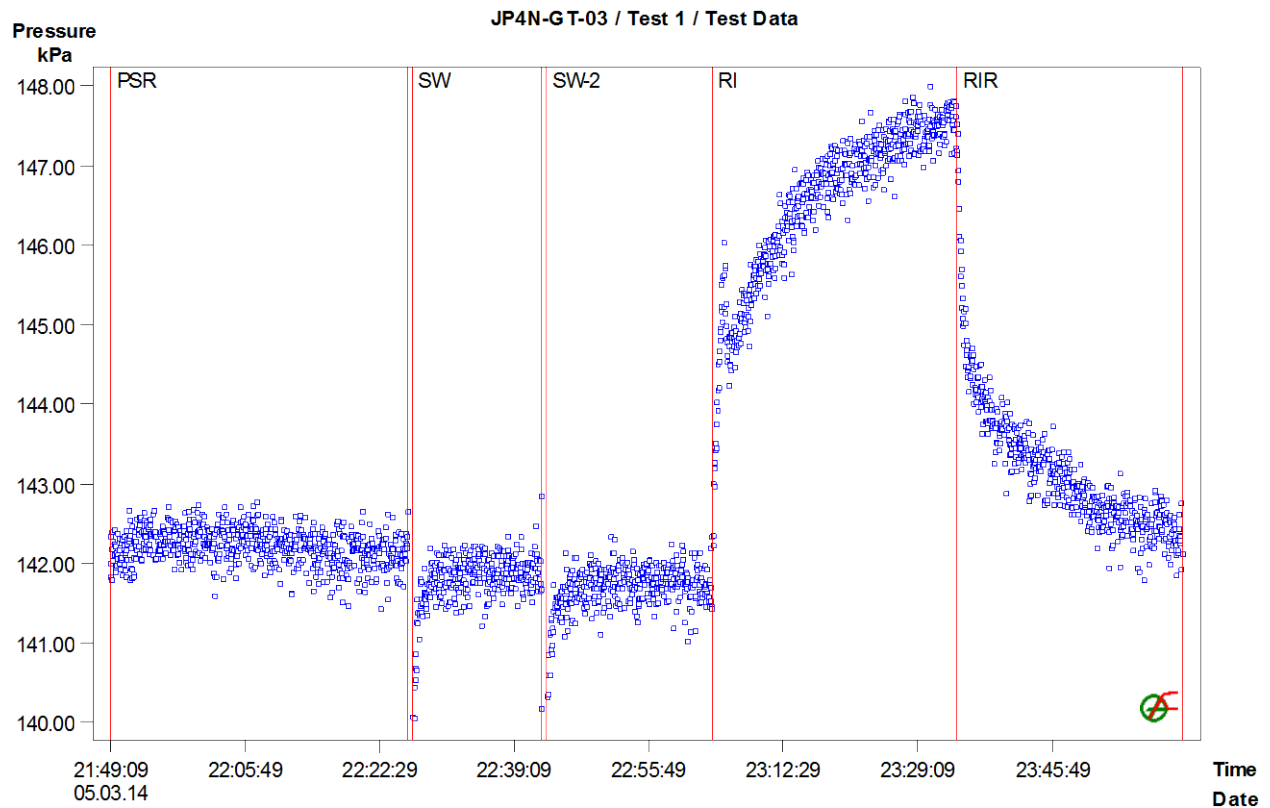


Figure 1: Pressure response and sequence definition

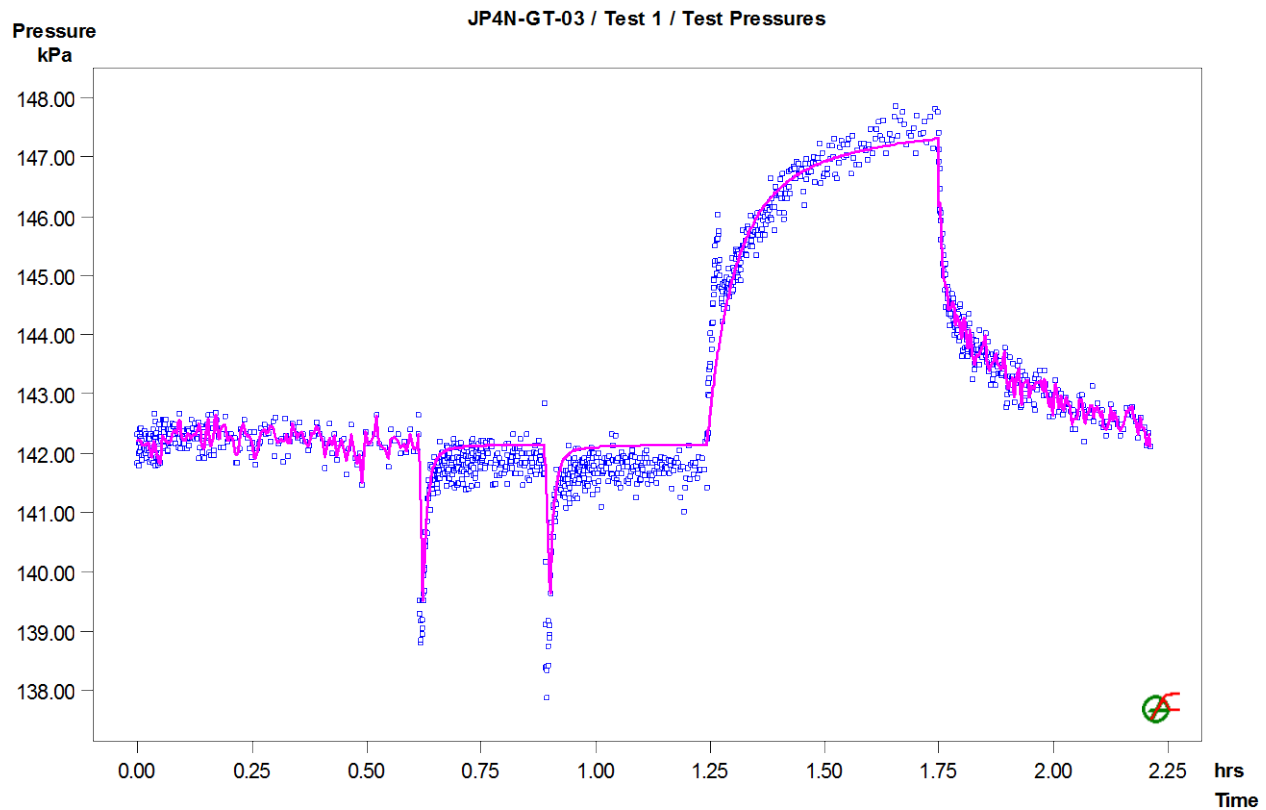


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

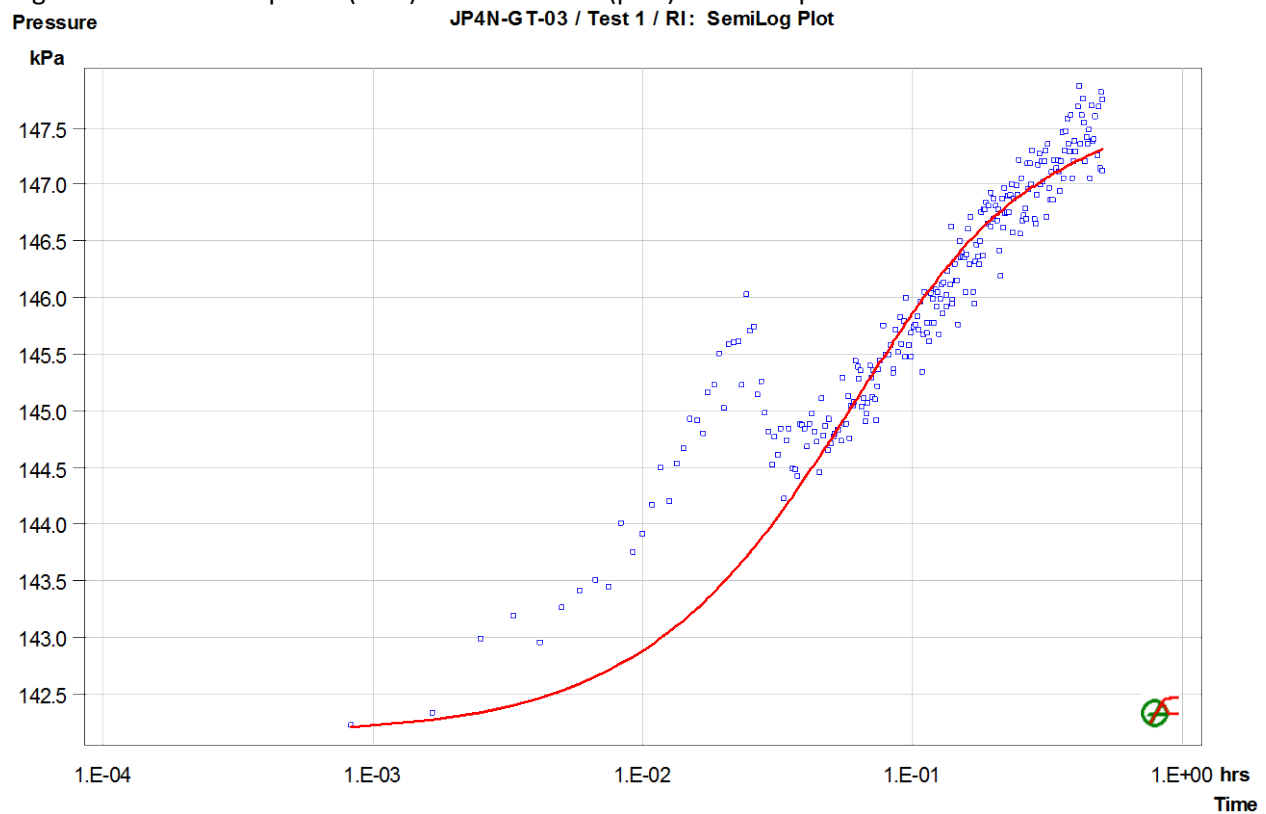


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

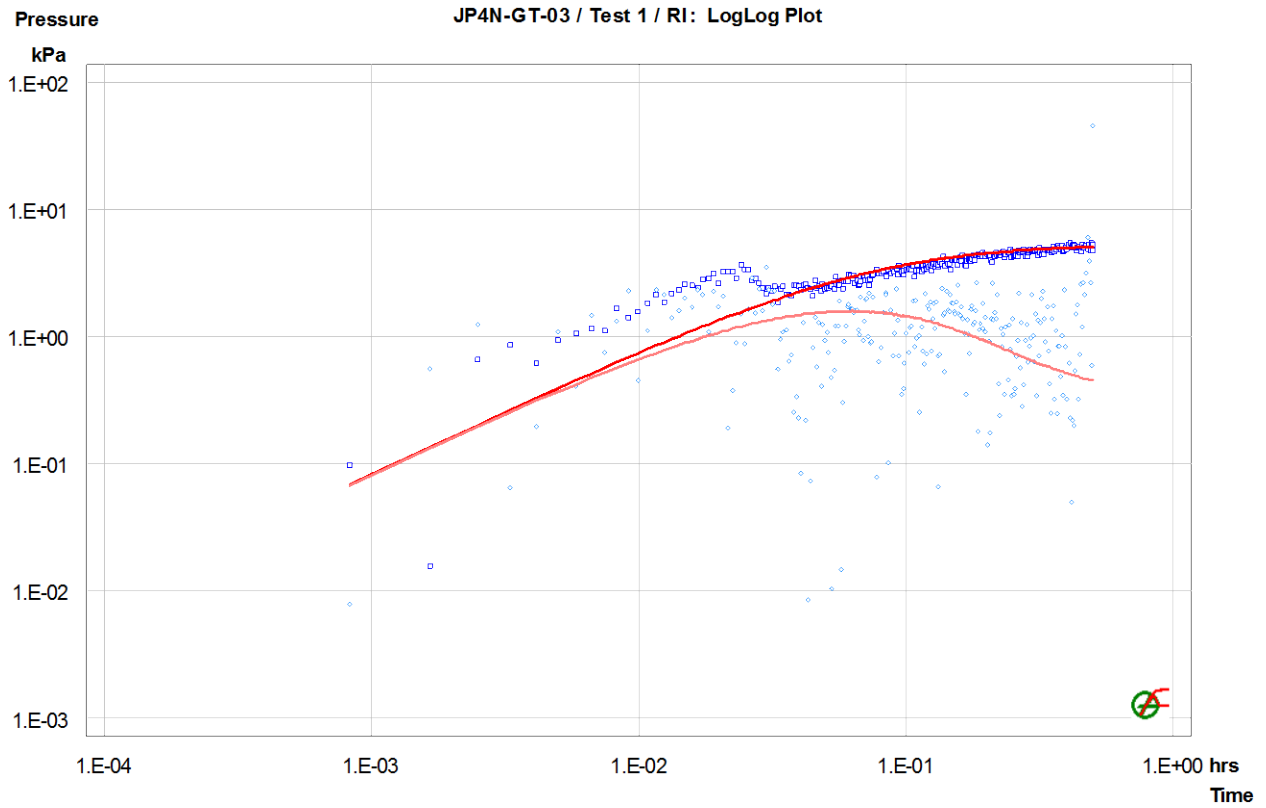


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-04
Test Name Test 1
Test Date/Time March 1, 2014, 01:00:00
Interval top: 19.80 m bottom: 35.00 m
Description Analyzed by: DV
 Reviewed by: DSL

Basic Data

Test Interval 15.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 110.021 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
Sequence	Variable	0.00000	203.62			4.8e-07
1	Pressure					
SW-Init	dP-Event	0.60000	203.32	67.7 *		4.8e-07
SW	Slug	0.60417	135.57	203.3		4.8e-07

Analysis Results

Analysis "SW-2 shell"

Static Pressure: 202.66 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	7.2e-06	3.0e-05	12.69	2.0
Shell 2	3.0e-03	3.0e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
Sequence 1	2.5e-04	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

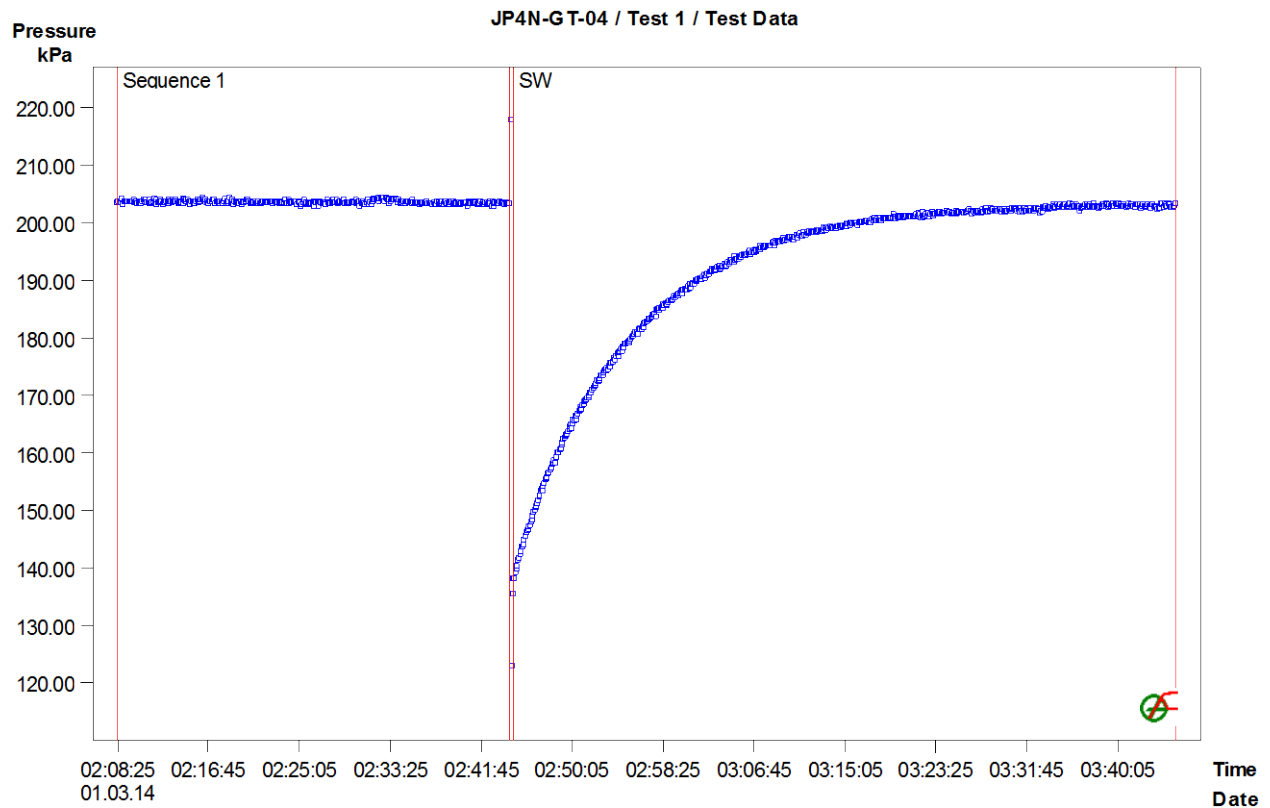


Figure 1: Pressure response and sequence definition

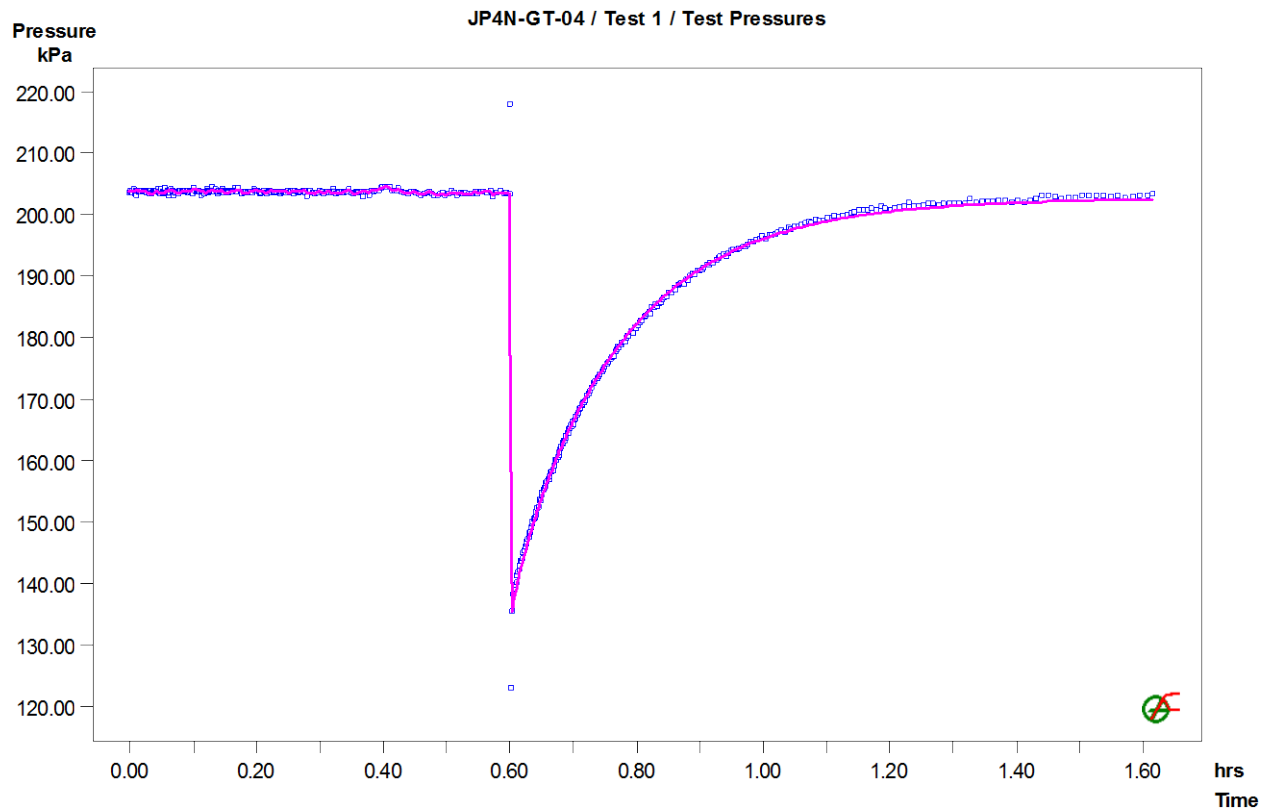


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 1 / SW: LogLog Plot, constant P(i)

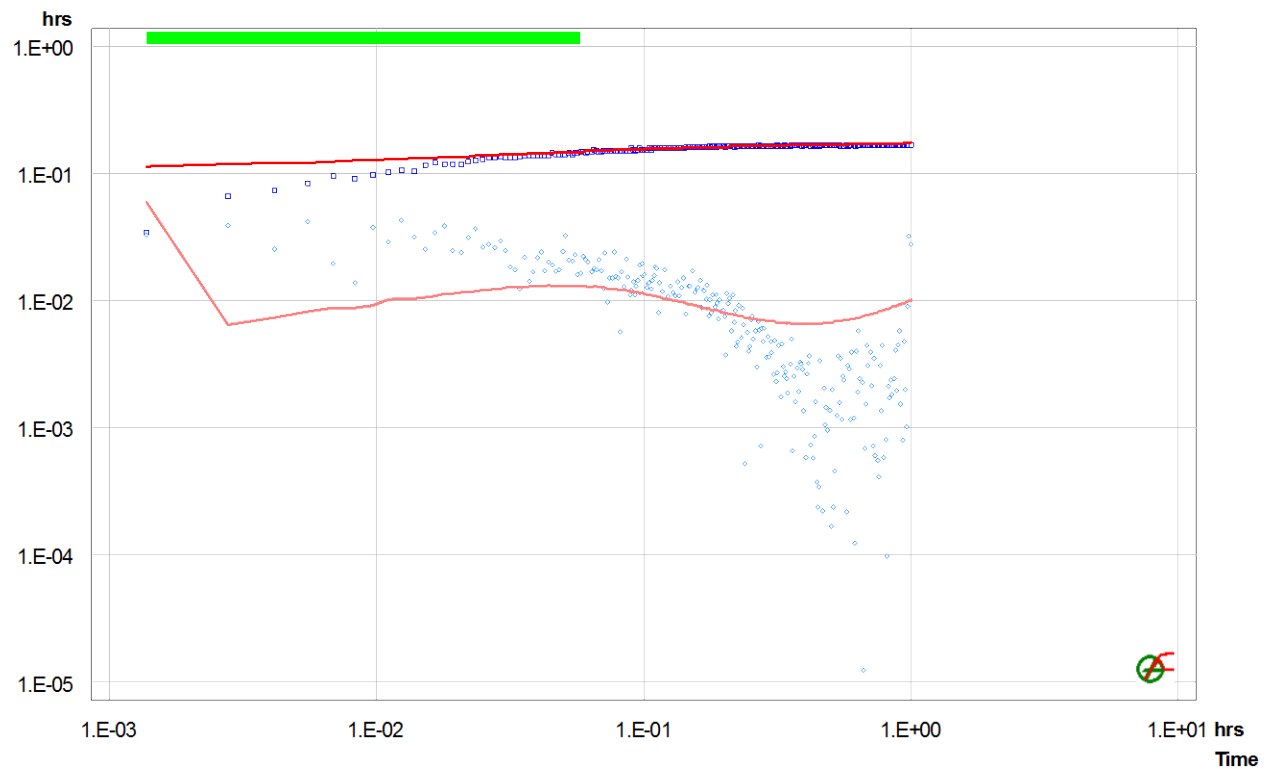


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-04
Test Name Test 2
Test Date/Time
Interval top: 34.67 m bottom: 73.60 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 38.93 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 281.784 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	219.99			4.8e-07
Sw-Init	dP-Event	0.39583	225.93	205.6 *		4.8e-07
SW	Slug	0.39917	20.29	225.9		4.8e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 221.64 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.9e-04	7.6e-05	18.38	2.0
Shell 2	9.7e-03	7.6e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.8e-07	10.0
Sw-Init	4.8e-07	10.0
SW	4.8e-07	10.0

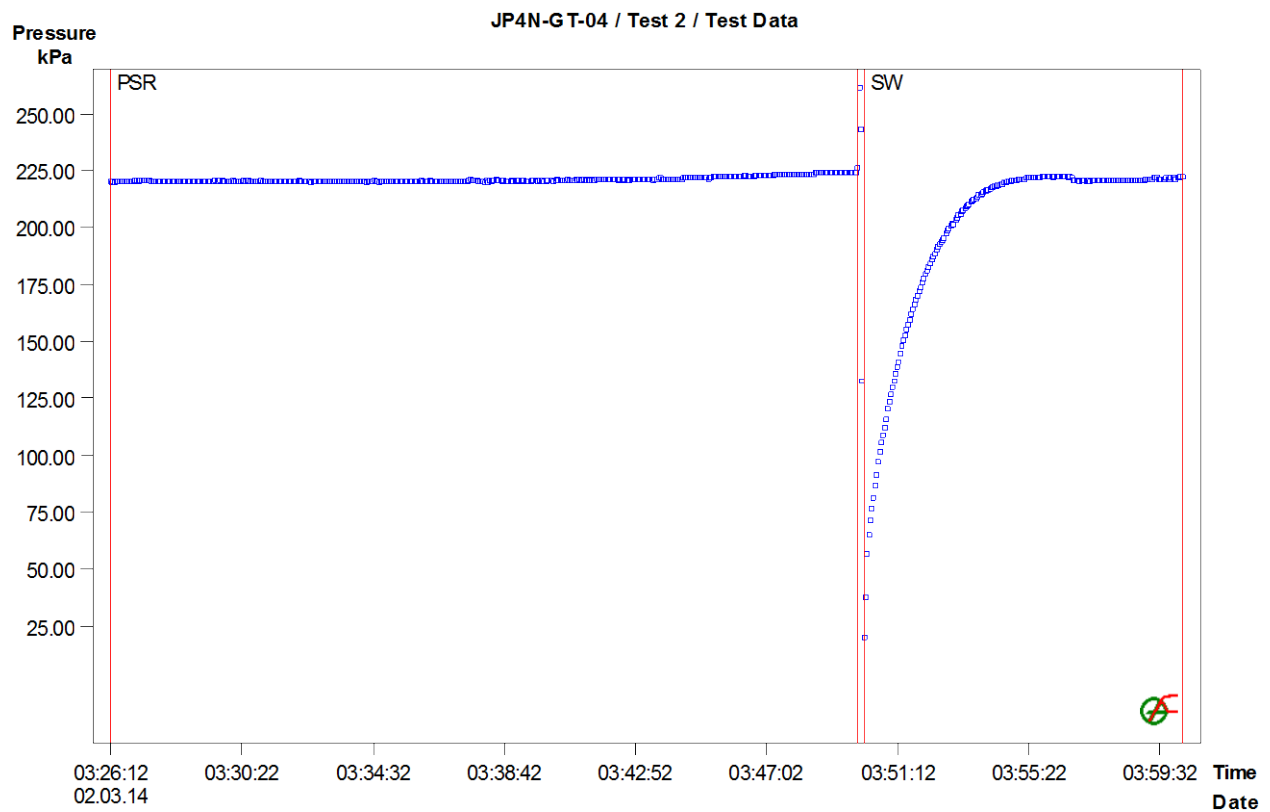


Figure 1: Pressure response and sequence definition

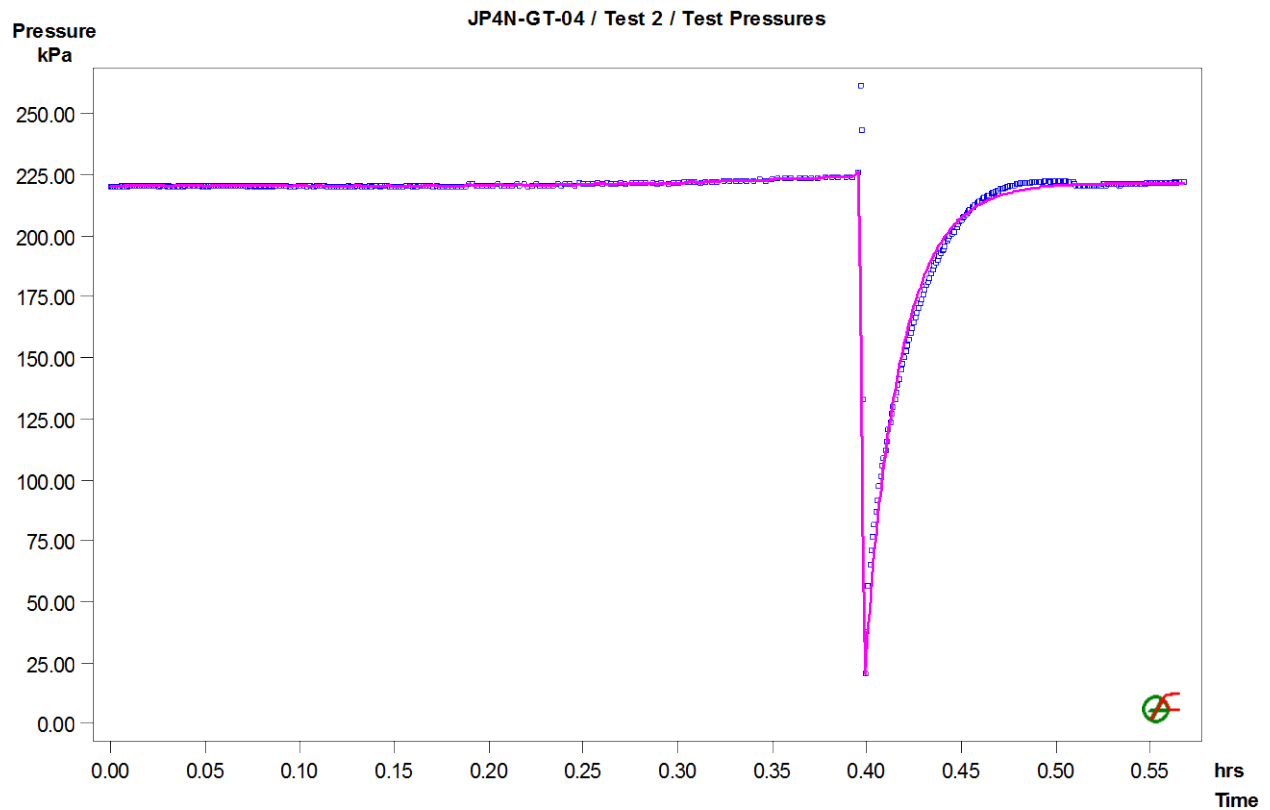


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 2 / SW: LogLog Plot, constant P(i)

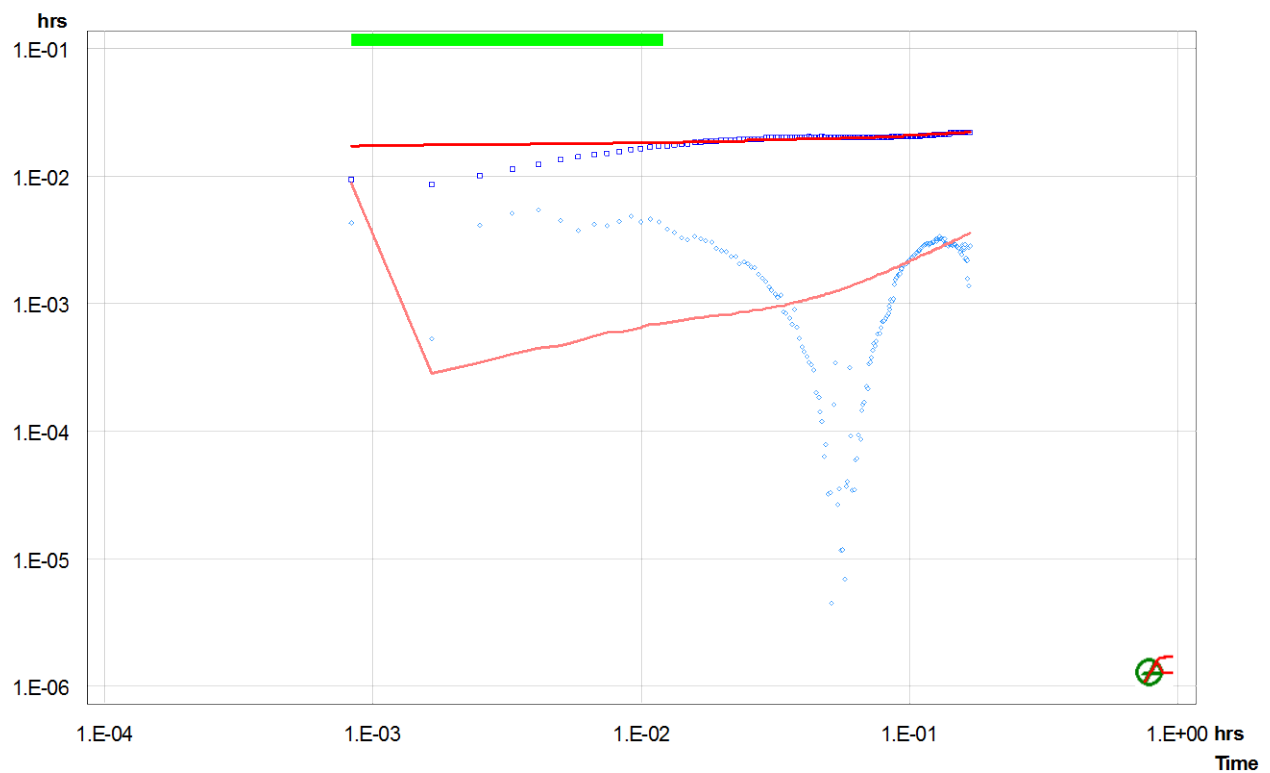


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-04
Test Name Test 3
Test Date/Time March 2, 2014, 05:41:00
Interval top: 52.80 m bottom: 73.60 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 20.80 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 150.555 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	527.53			4.8e-07
SW-Init	dP-Event	0.31944	527.79	108.0 *		4.8e-07
SW	Slug	0.32222	419.78	527.8		4.8e-07

Analysis Results

Analysis "SW-2 shell final"

Static Pressure: 532.81 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.6e-05	7.6e-05	5.39	2.0
Shell 2	1.2e-05	7.6e-05	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	1.5e-06	0.0
SW-Init	4.8e-07	0.0
SW	4.8e-07	0.0

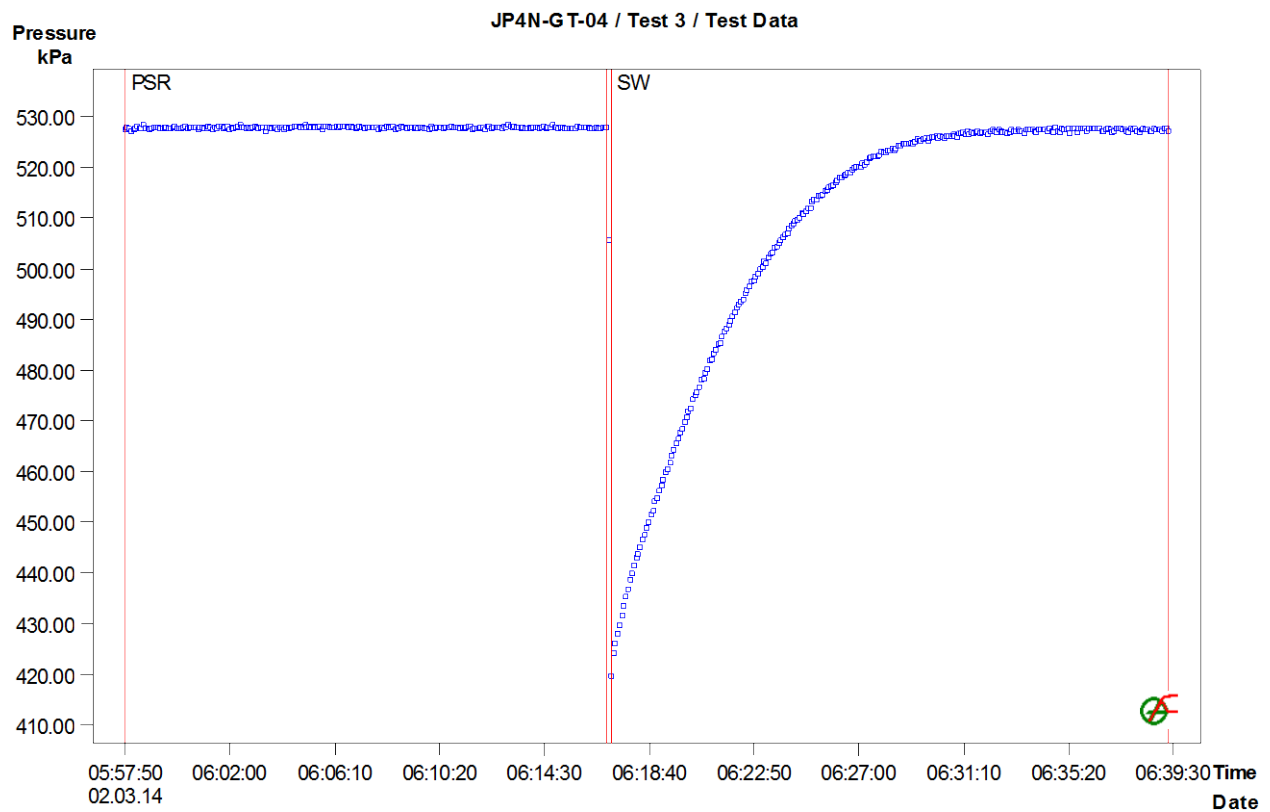


Figure 1: Pressure response and sequence definition

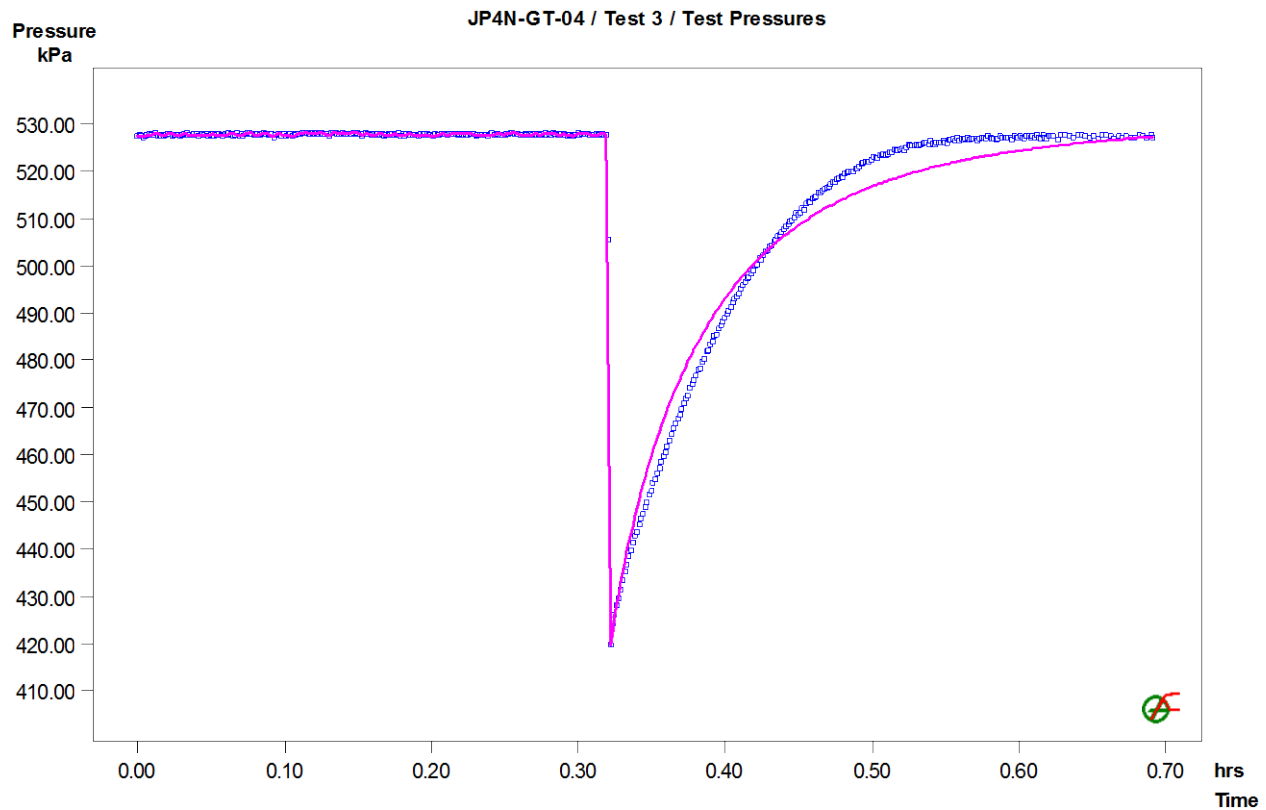


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 3 / SW: LogLog Plot, constant P(i)

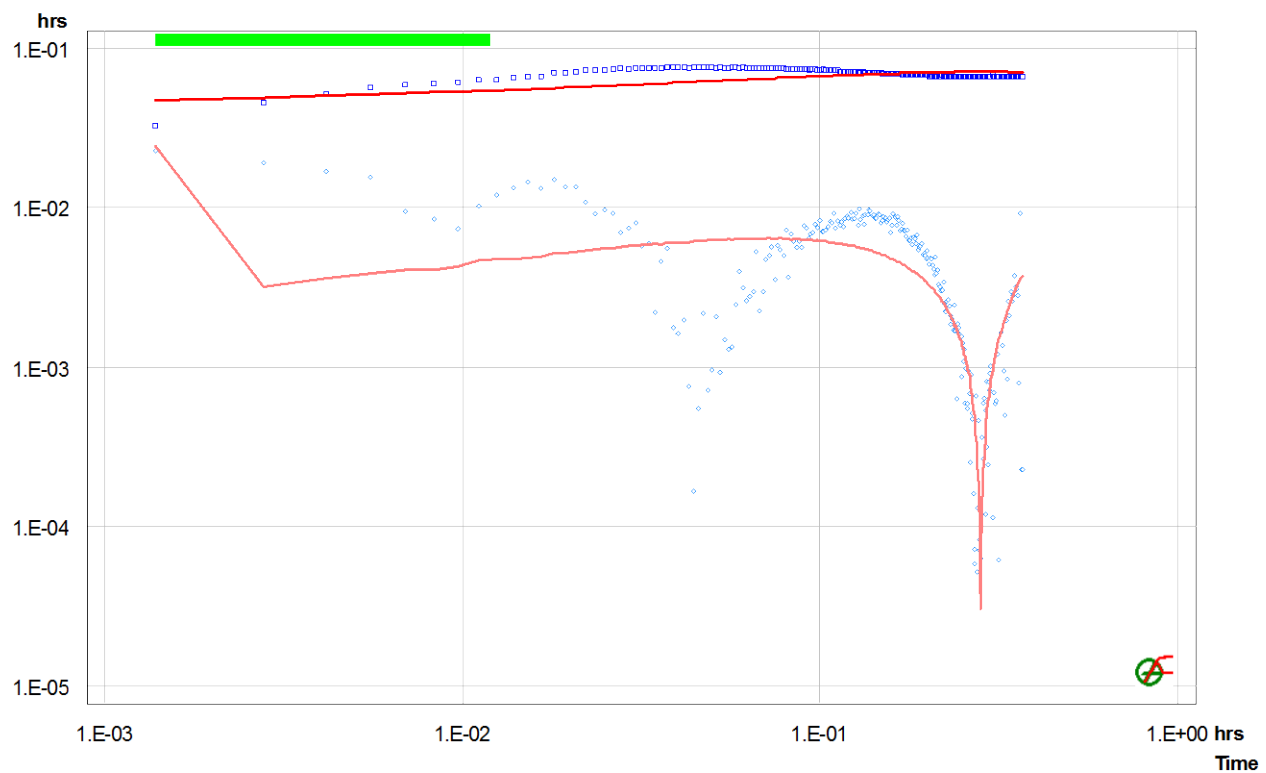


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-05
Test Name Test 1
Test Date/Time February 27, 2014, 09:00:00
Interval top: 16.80 m bottom: 26.00 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 9.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 66.592 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	175.11			4.8e-07
SW_Init	dP-Event	0.76111	174.83	22.4 *		4.8e-07
SW	Slug	0.76667	152.41	174.8		4.8e-07
RI	Constant Rate	2.07639	174.71		-4.40e+00	4.9e-07
RIR	Recovery	2.84444	194.80			4.9e-07

Analysis Results

Analysis "SW-Final"

Static Pressure: 174.32 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.0e-04	1.8e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.8e-07	0.0
SW_Init	4.8e-07	0.0
SW	4.8e-07	0.0
RI	8.9e-05	0.0
RIR	8.9e-05	0.0

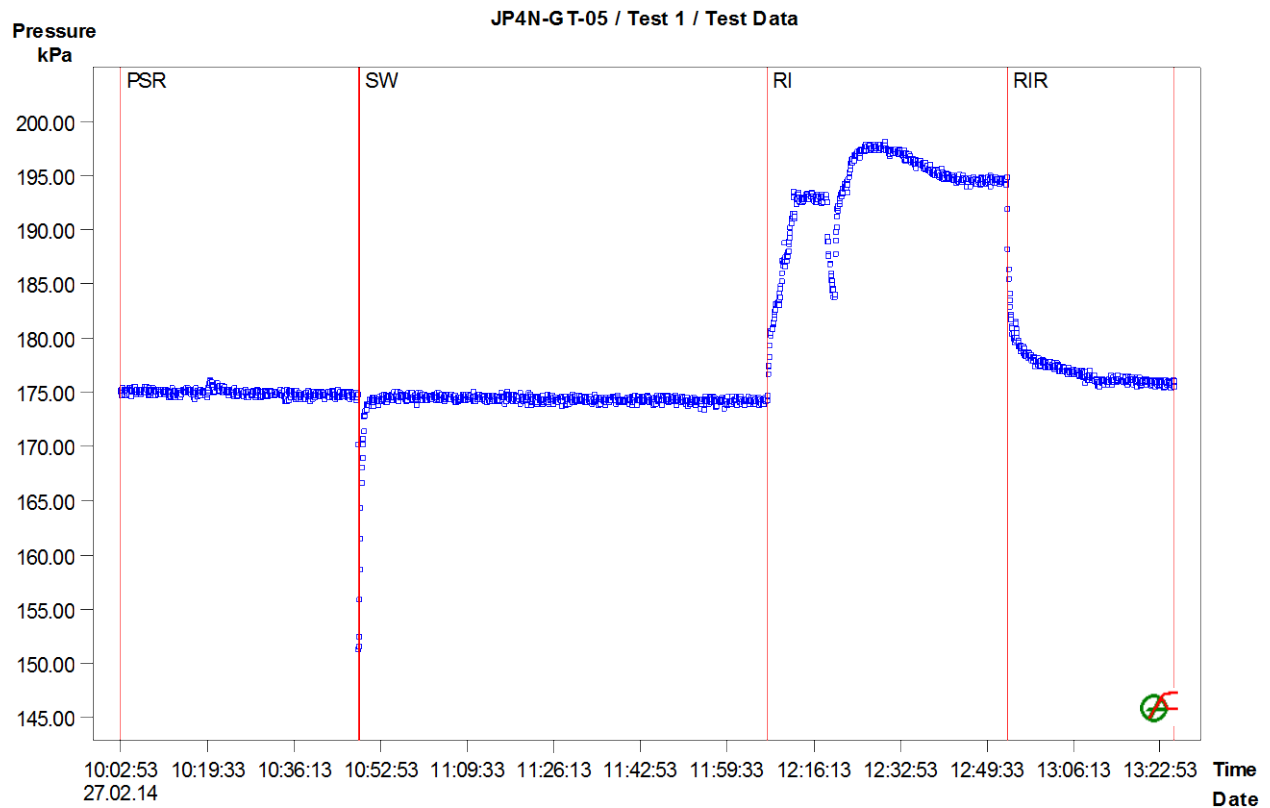


Figure 1: Pressure response and sequence definition

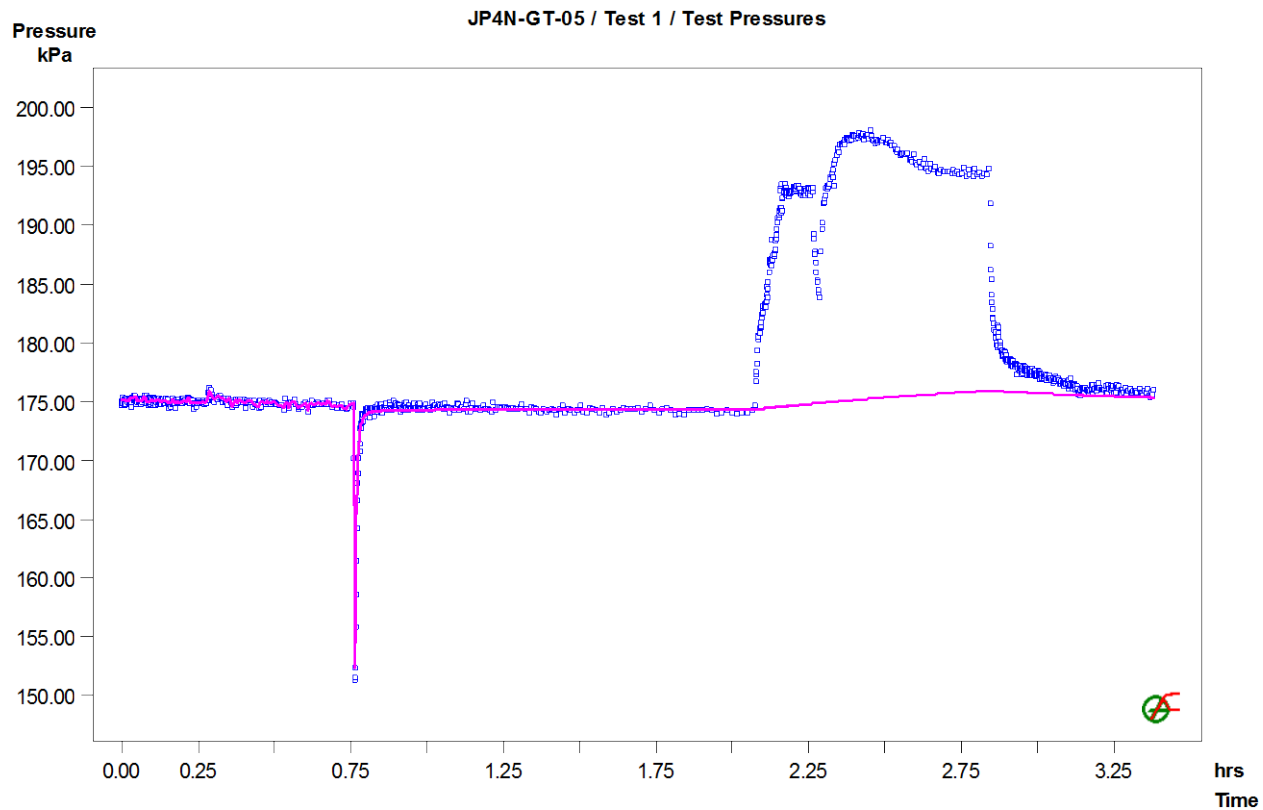


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-05 / Test 1 / SW: LogLog Plot, constant P(i)

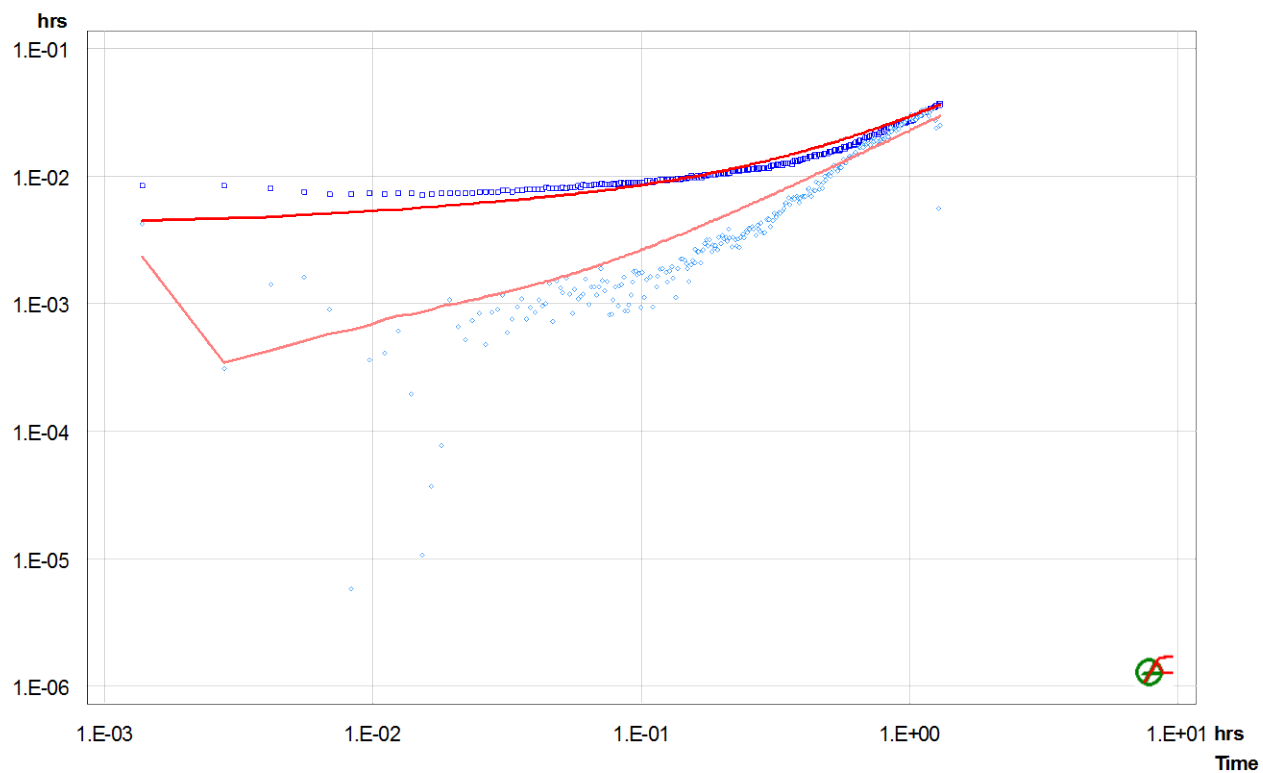


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-06
Test Name Test 1
Test Date/Time February 24, 2014, 16:15:00
Interval top: 16.70 m bottom: 30.60 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 13.90 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 100.611 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	167.05			4.8e-07
Sw-Init 1	dP-Event	1.07000	167.10	47.4 *		4.8e-07
Sw-1	Slug	1.07500	119.73	167.1		4.8e-07
VAR	Variable Pressure	1.20250	165.22			4.8e-07
Sw-Init-2	dP-Event	2.94000	166.08	33.3 *		4.8e-07
SW-2	Slug	2.95000	132.75	166.1		4.8e-07

Analysis Results

Analysis "SW-2 Final"

Static Pressure: 166.58 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.8e-05	2.7e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	4.8e-06	0.0
Sw-Init 1	4.8e-07	0.0
Sw-1	4.8e-07	0.0
VAR	4.8e-06	0.0
Sw-Init-2	4.8e-07	0.0
SW-2	4.8e-07	0.0

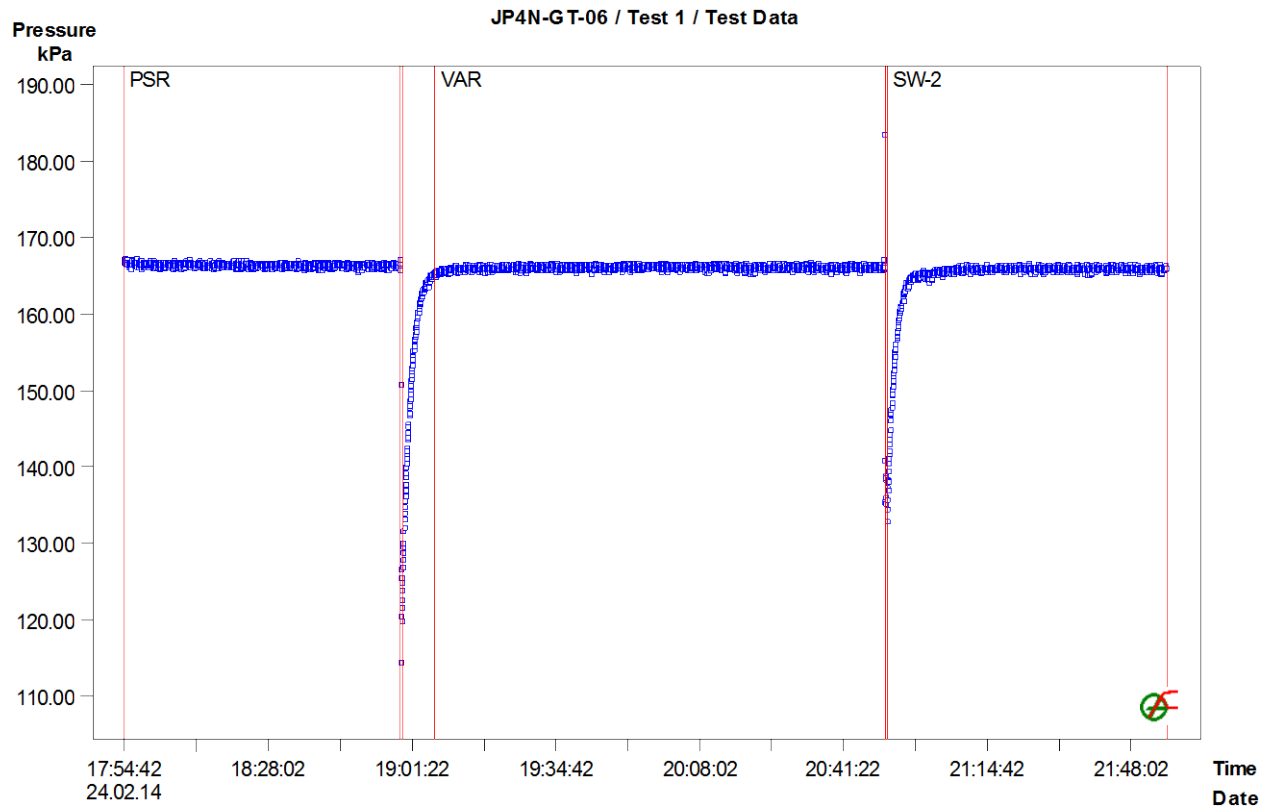


Figure 1: Pressure response and sequence definition

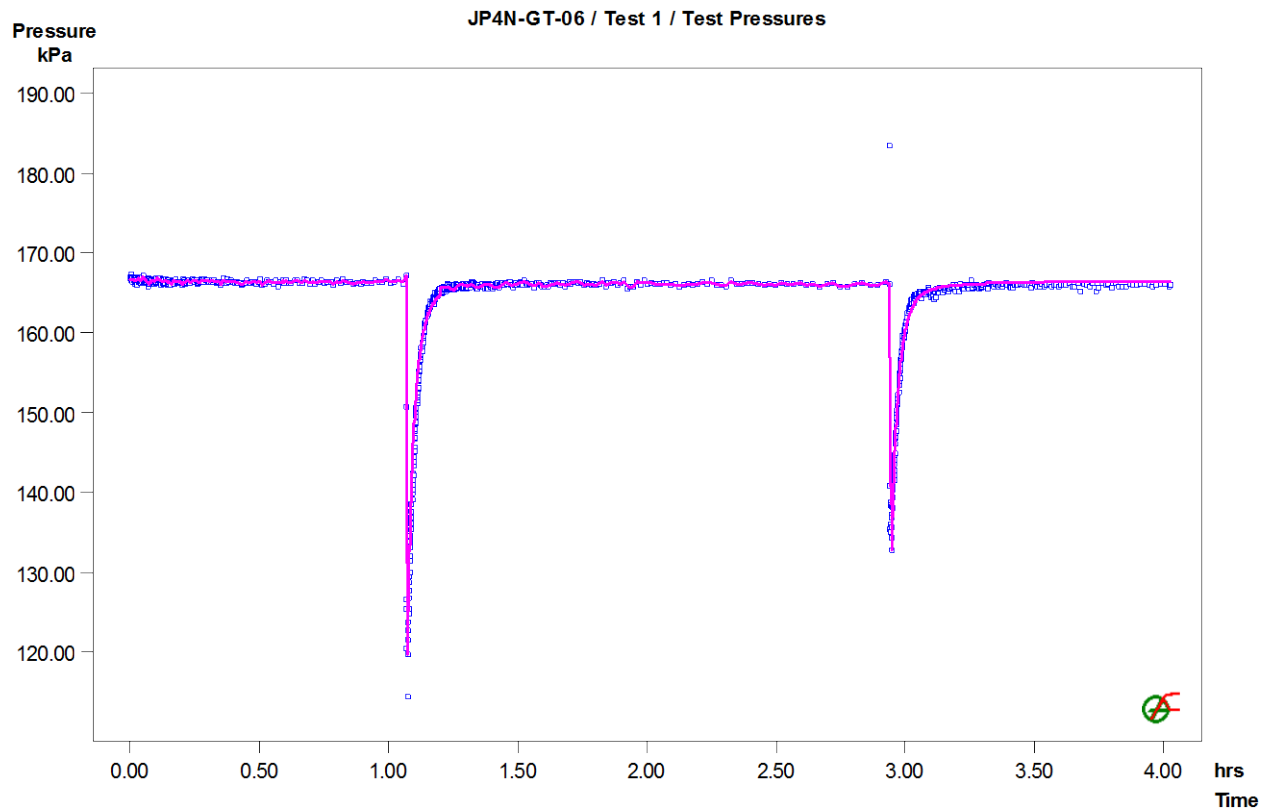


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-06 / Test 1 / SW-2: LogLog Plot, constant P(i)

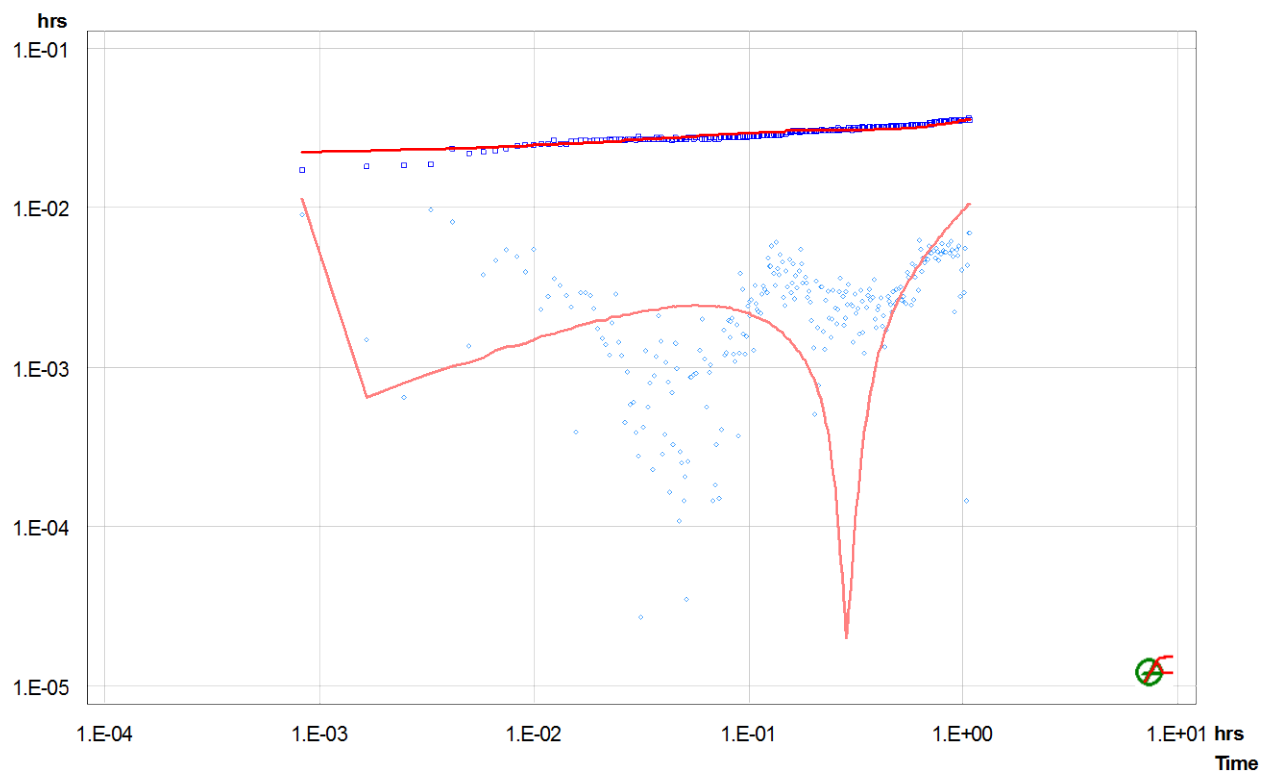


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond
Site	Jay Project
Source Well	JP4N-GT-06
Test Name	Test 2
Test Date/Time	February 24, 2014, 16:15:00
Interval	top: 19.70 m bottom: 30.60 m
Description	Analyzed by: DV Reviewed by: DSL

Basic Data

Test Interval	10.90 m		
Porosity	0.10		
Well Radius	0.048 m	Tubing Radius	0.039 m
Inclination	0.0 deg		
Test Volume	78.897 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
PSR	Variable Pressure	0.00000	196.34			4.8e-07
SW-Init-1	dP-Event	0.41750	195.83	68.6 *		4.8e-07
SW-1	Slug	0.41917	127.27	195.8		4.8e-07
SW-Init 2	dP-Event	0.64667	195.87	48.5 *		4.8e-07
SW-2	Slug	0.65083	147.41	195.9		4.8e-07
VAR	Variable Pressure	1.18750	195.21			4.8e-07
RI	Variable Pressure	1.76167	199.24			1.0e-08
RIR	Variable Pressure	2.31417	530.95			1.0e-08

Analysis Results

Analysis "SW-1- final"

Static Pressure: 195.72 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	4.6e-05	2.1e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	9.2e-06	0.0
SW-Init-1	4.8e-07	0.0
SW-1	4.8e-07	0.0
SW-Init 2	4.8e-07	0.0
SW-2	4.8e-07	0.0
VAR	9.2e-06	0.0
RI	1.6e-10	0.0
RIR	1.6e-10	0.0

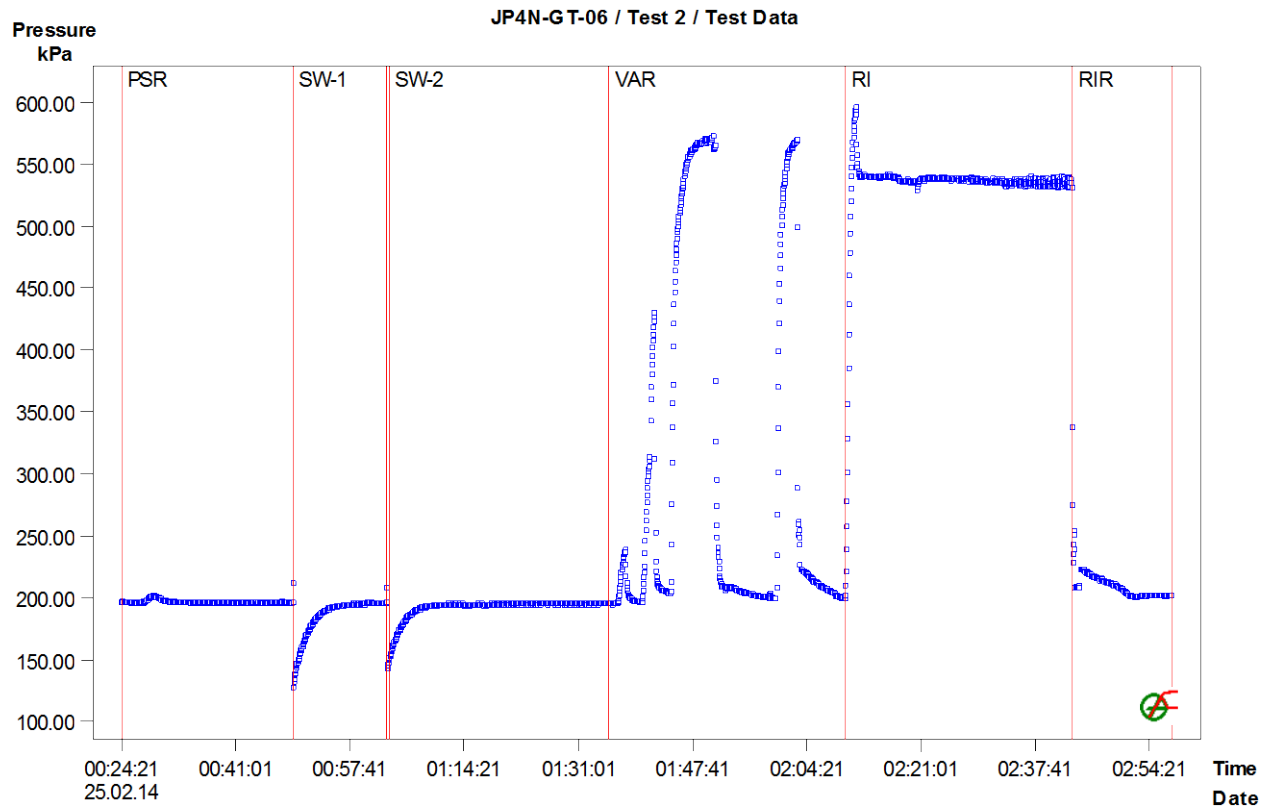


Figure 1: Pressure response and sequence definition

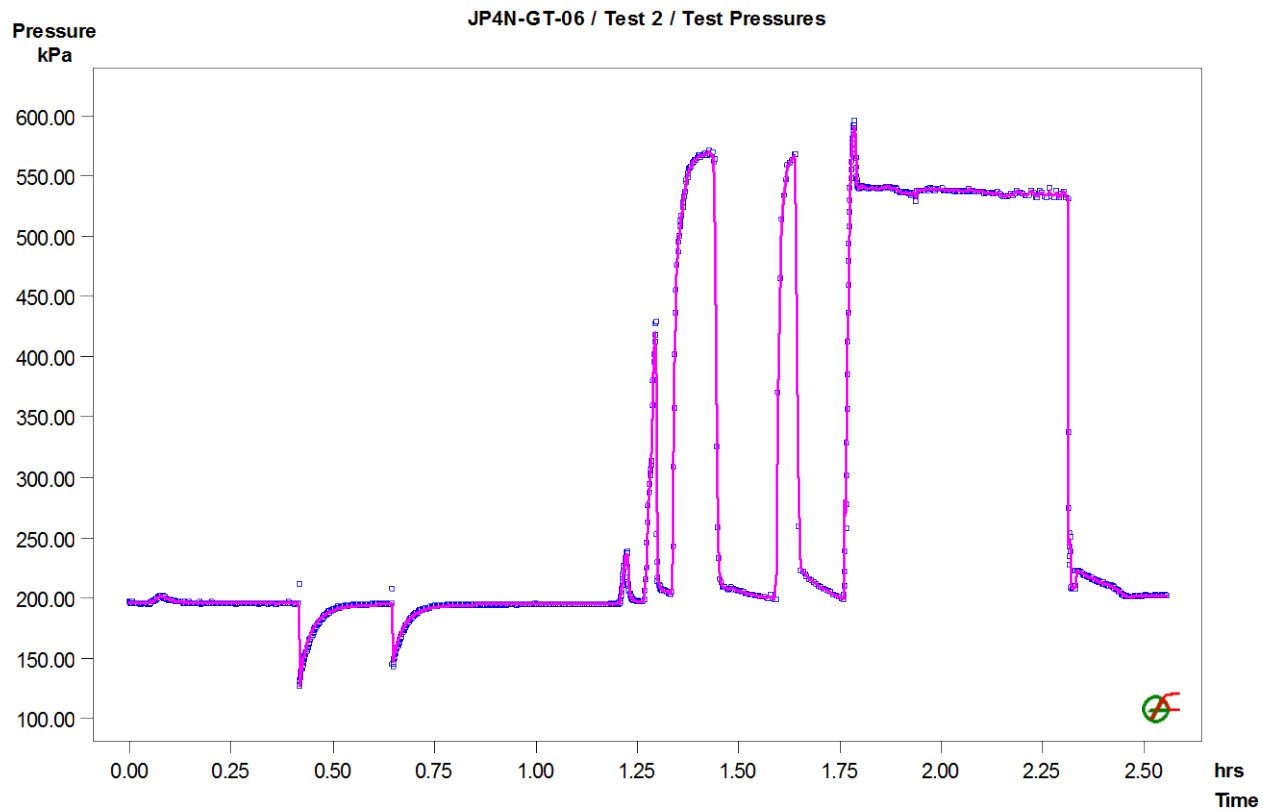


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-06 / Test 2 / SW-1: LogLog Plot, constant P(i)

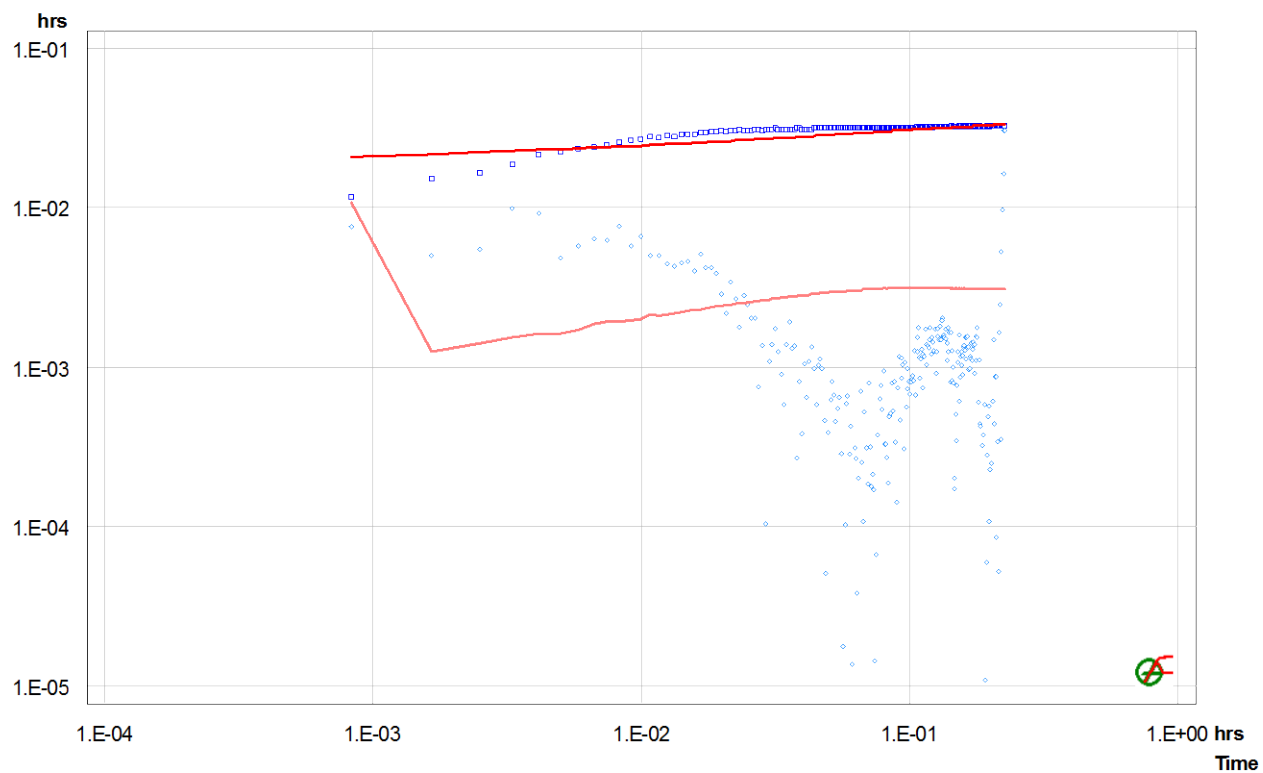


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-GT-07
Test Name Test 1
Test Date/Time March 12, 2014, 11:30:41
Interval top: 24.33 m bottom: 31.44 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 7.11 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 5.0 deg
Test Volume 51.464 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	278.58			4.9e-07
PSR	Recovery	0.31250	282.79			4.9e-07
Sw-Init	dP-Event	0.65694	282.80	122.1 *		4.9e-07
SW	Slug	0.66250	160.66	282.8		4.9e-07

Analysis Results

Analysis "Sw 2 shell-Final"

Static Pressure: 284.21 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	7.2e-08	1.4e-05	1.00	2.0
Shell 2	1.3e-10	1.4e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	6.5e-07	0.0
PSR	6.5e-07	0.0
Sw-Init	4.9e-07	0.0
SW	4.9e-07	0.0



Figure 1: Pressure response and sequence definition

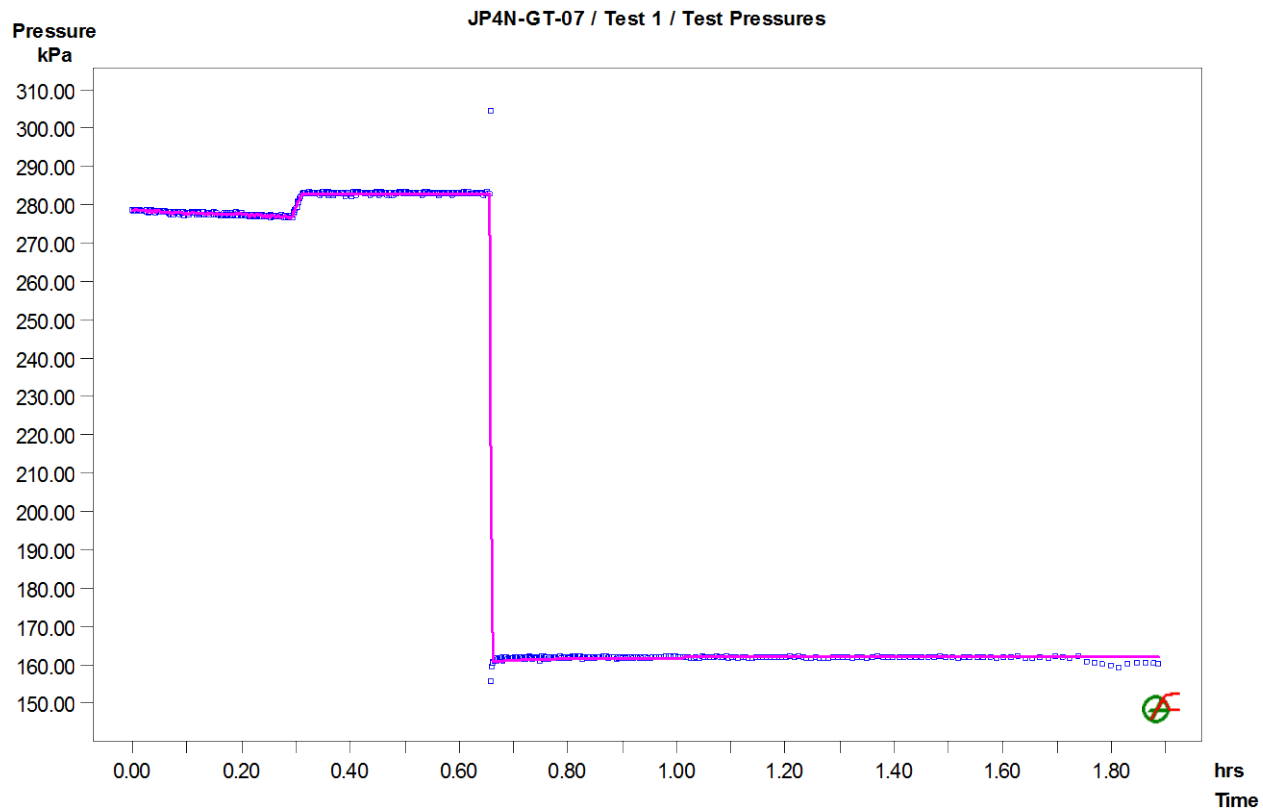


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-07 / Test 1 / SW: LogLog Plot, variable P(i)

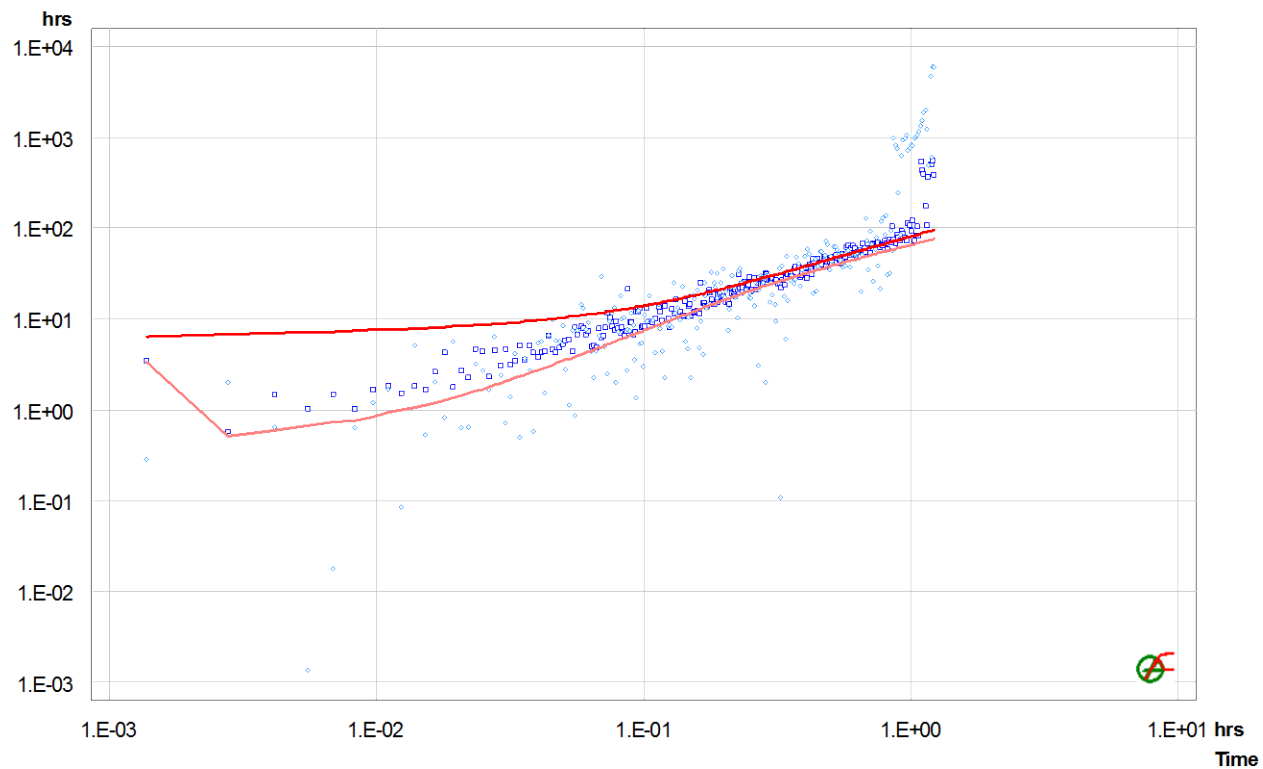


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-SD-01
Test Name Well 1
Test Date/Time
Interval top: 27.06 m bottom: 29.40 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 2.34 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 69.169 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR 1	Variable Pressure	0.00000	287.40			2.0e-07
SW-Init 1	dP-Event	0.09583	287.10	78.4 *		1.9e-07
SW-1	Slug	0.10111	208.68	287.1		1.9e-07
COM	Variable Pressure	0.16972	287.14			2.0e-07
PSR 2	Variable Pressure	0.35389	287.05			2.0e-07
SW-Init 2	dP-Event	0.38556	286.93	93.0 *		1.9e-07
SW-2	Slug	0.38722	193.95	286.9		1.9e-07

Analysis Results

Analysis "SW-2-2 shell Final"

Static Pressure: 292.94 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-04	4.6e-06	3.10	2.0
Shell 2	2.2e-05	4.6e-06	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR 1	2.7e-06	0.0
SW-Init 1	1.9e-07	0.0
SW-1	1.9e-07	0.0
COM	2.7e-06	0.0
PSR 2	2.7e-06	0.0
SW-Init 2	1.9e-07	0.0
SW-2	1.9e-07	0.0

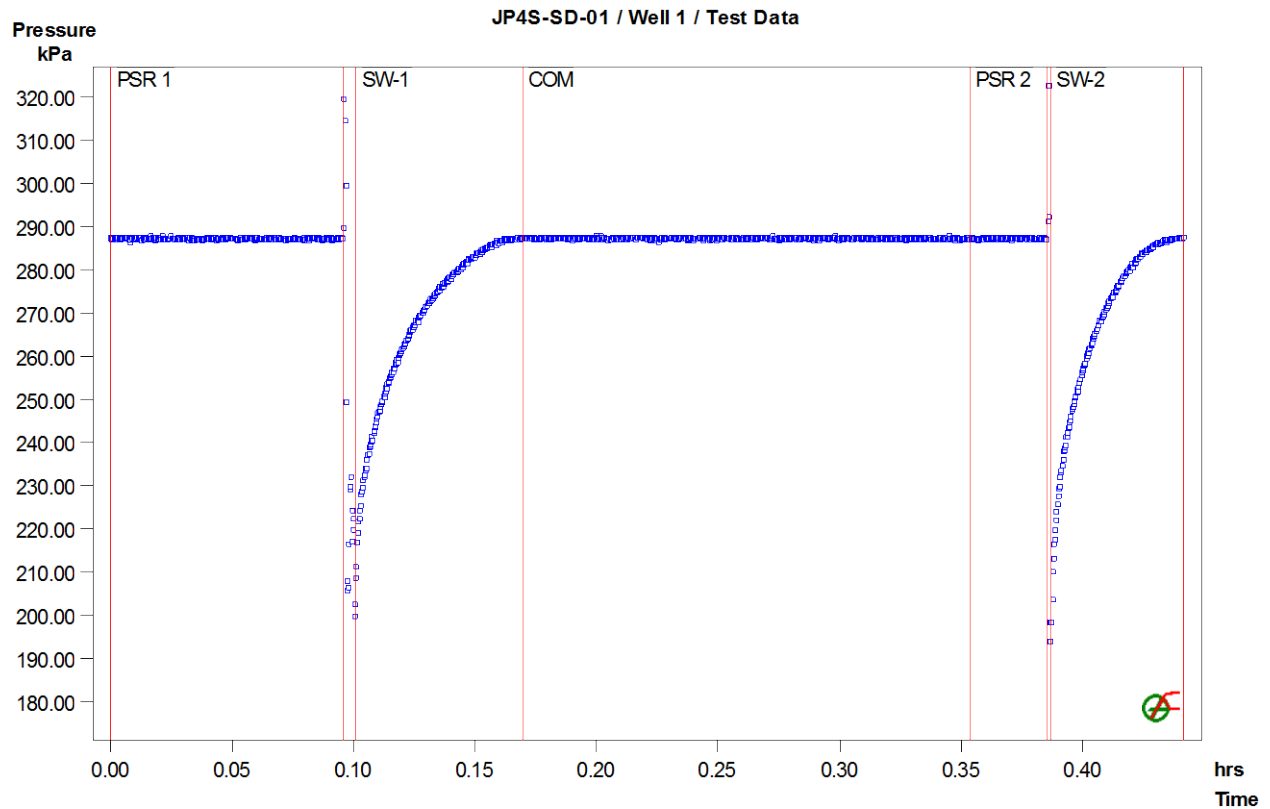


Figure 1: Pressure response and sequence definition

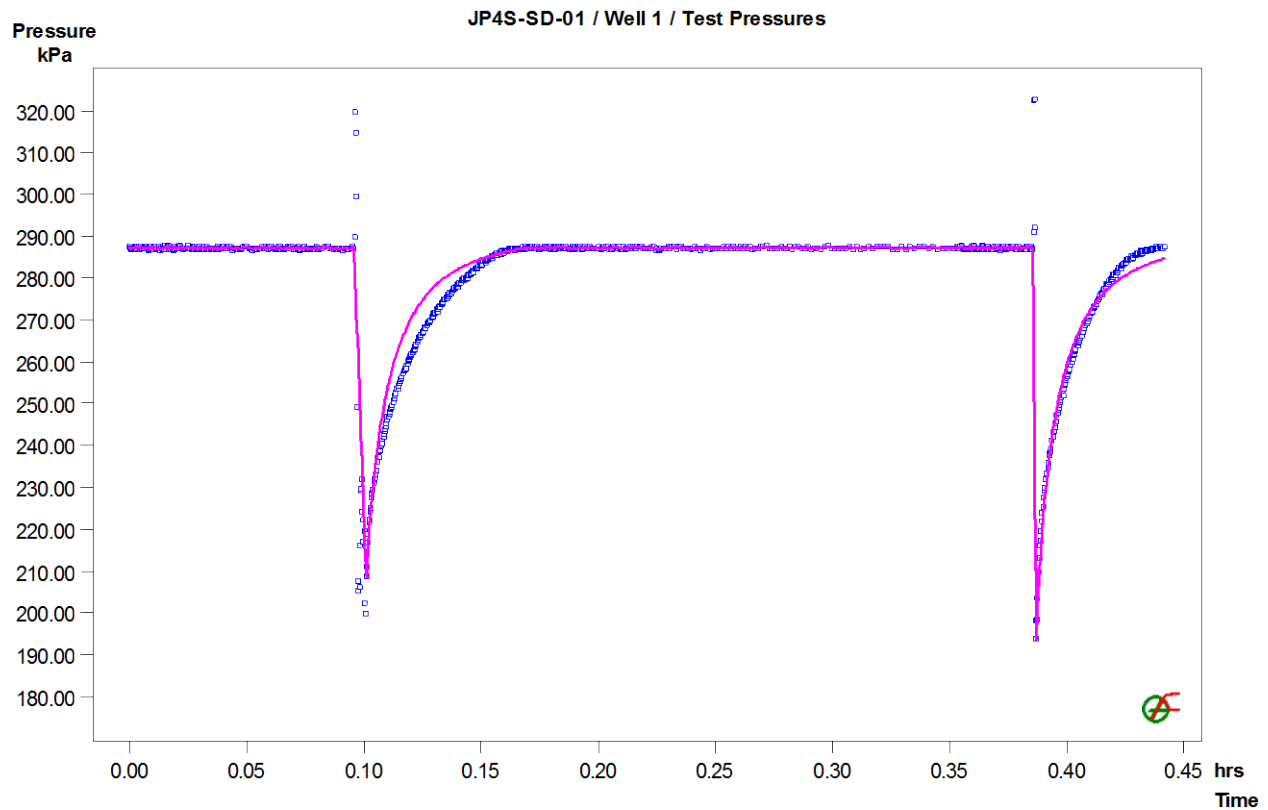


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-01 / Well 1 / SW-2: LogLog Plot, constant P(i)

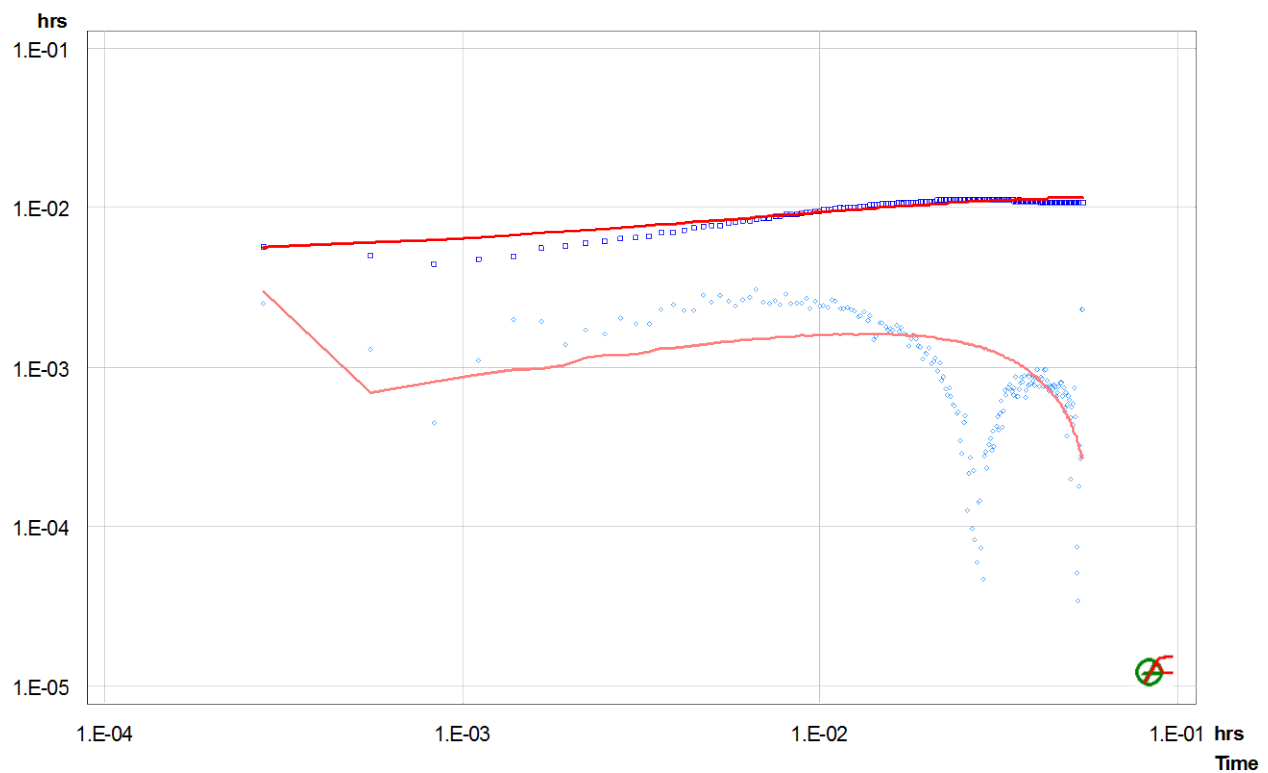


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-SD-02
Test Name Well 1
Test Date/Time
Interval top: 24.08 m bottom: 27.43 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 3.35 m
Porosity 0.10
Well Radius 0.097 m Tubing Radius 0.025 m
Inclination 0.0 deg
Test Volume 99.023 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
PSR	Variable Pressure	0.00000	255.30			2.0e-07
SW-Init 1	dP-Event	0.10389	256.97	22.4 *		2.0e-07
SW-1	Slug	0.11014	234.62	257.0		2.0e-07
SW-Init 2	dP-Event	0.12556	255.56	20.0 *		2.0e-07
SW-2	Slug	0.13014	235.53	255.6		2.0e-07

Analysis Results

Analysis "SW 2 shell final"

Static Pressure: 255.98 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	6.3e-04	6.6e-06	1261.99	2.0
Shell 2	8.1e-03	6.6e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
PSR	2.1e-07	0.0
SW-Init 1	2.1e-07	0.0
SW-1	2.1e-07	0.0
SW-Init 2	2.1e-07	0.0
SW-2	2.1e-07	0.0

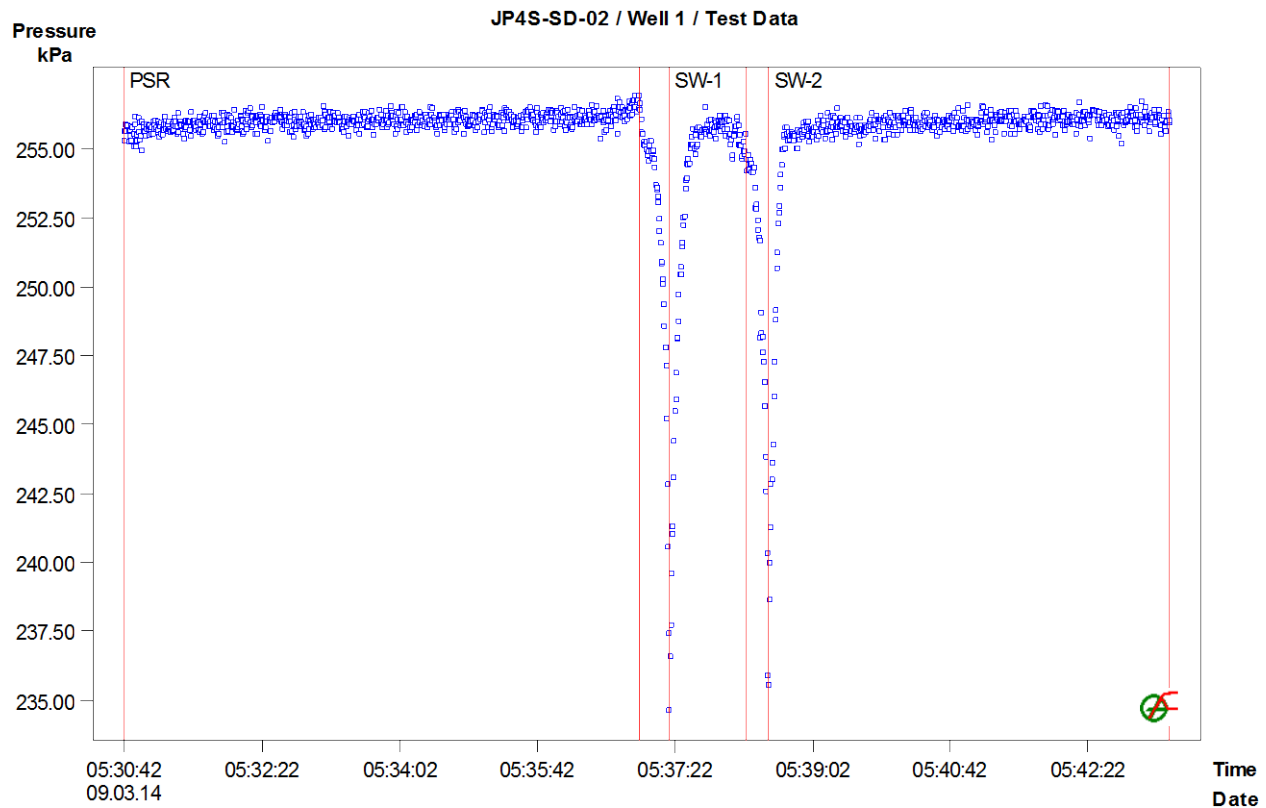


Figure 1: Pressure response and sequence definition

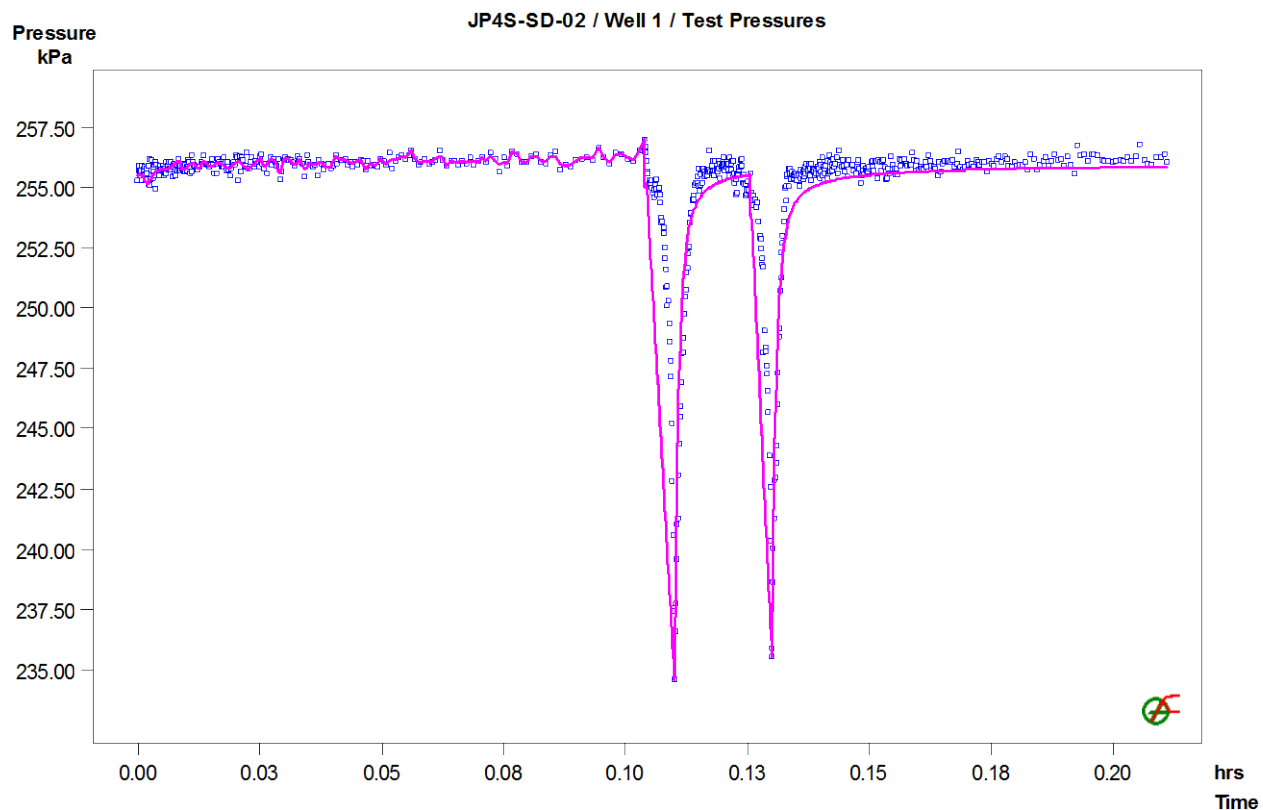


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-02 / Well 1 / SW-2: LogLog Plot, constant P(i)

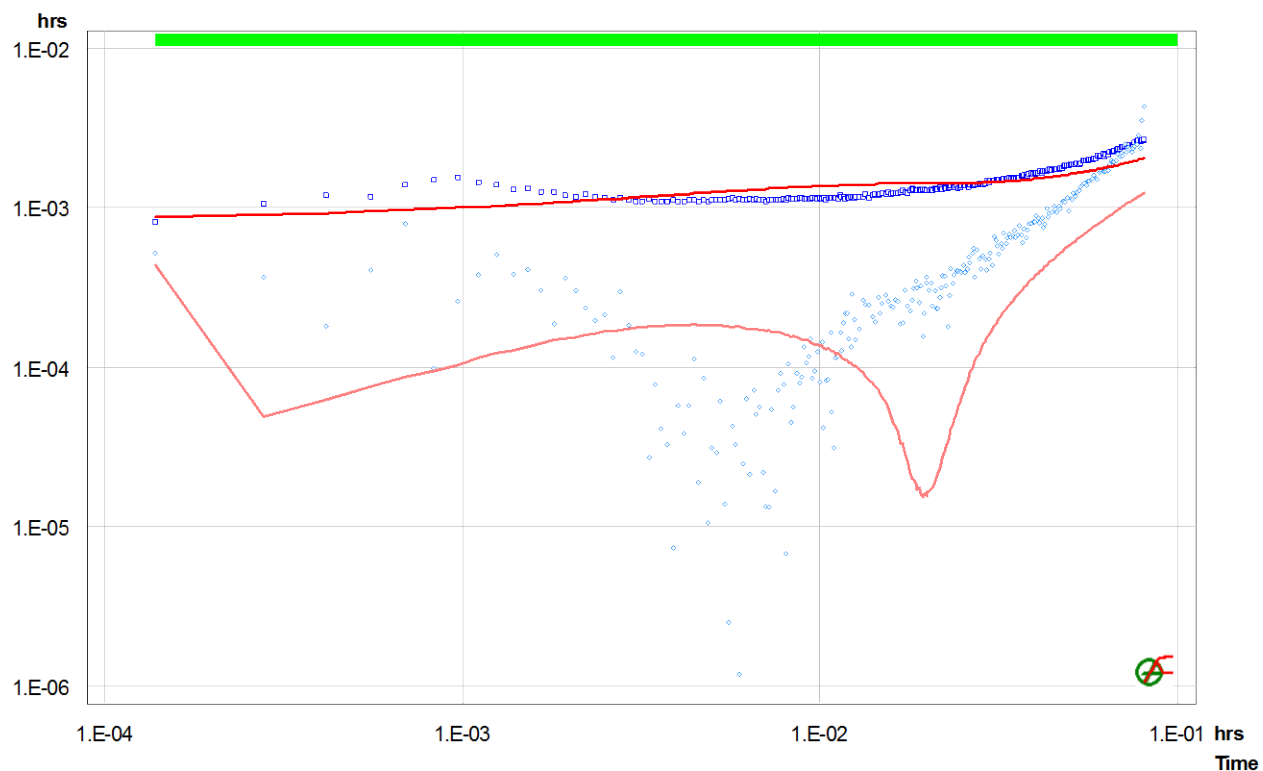


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-SD-03
Test Name Well 1
Test Date/Time
Interval top: 10.97 m bottom: 13.17 m
Description

Basic Data

Test Interval 2.20 m
Porosity 0.10
Well Radius 0.076 m Tubing Radius
Inclination 0.0 deg
Test Volume 39.921 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
Sequence 1	Variable Pressure	0.00000	98.30			2.0e-09

Analysis Results

Analysis "Analysis_1"

Static Pressure: 98.30 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.3e-07	4.3e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
Sequence 1	2.0e-09	0.0

1

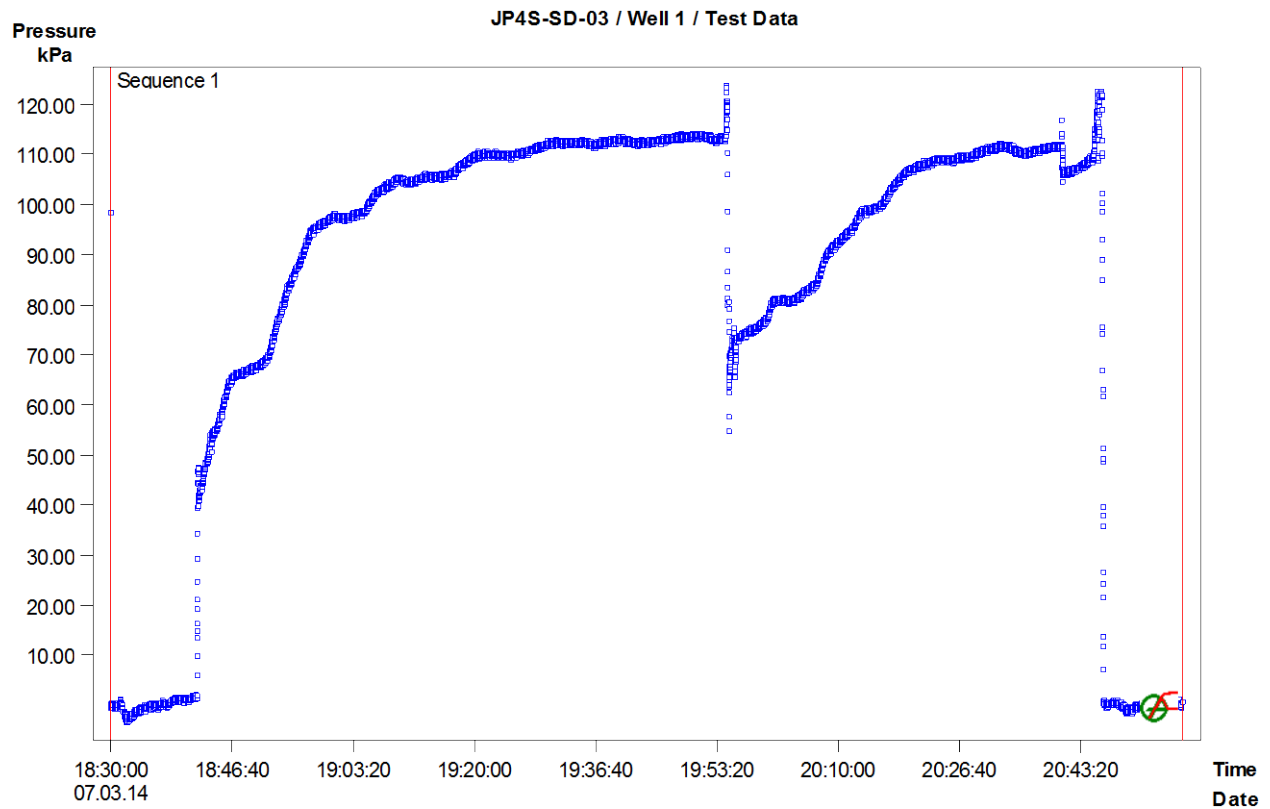


Figure 1: Pressure response and sequence definition

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4S-SD-03	
Test Name	Well 2	
Test Date/Time		
Interval	top: 11.28 m bottom: 12.50 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	1.22 m		
Porosity	0.10		
Well Radius	0.097 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	36.062 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m³/Pa]
VAR	Variable Pressure	0.00000	98.21			2.1e-07
PSR	Recovery	0.17417	82.60			2.1e-07
SW-Init	dP-Event	0.89889	108.58	55.9 *		2.1e-07
SW	Slug	0.90667	52.66	108.6		2.1e-07

Analysis Results

Analysis "SW 2 shell final"

Static Pressure: 116.50 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.2e-06	2.4e-06	14.15	2.0
Shell 2	3.7e-06	2.4e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
VAR	1.9e-07	0.0
PSR	1.9e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

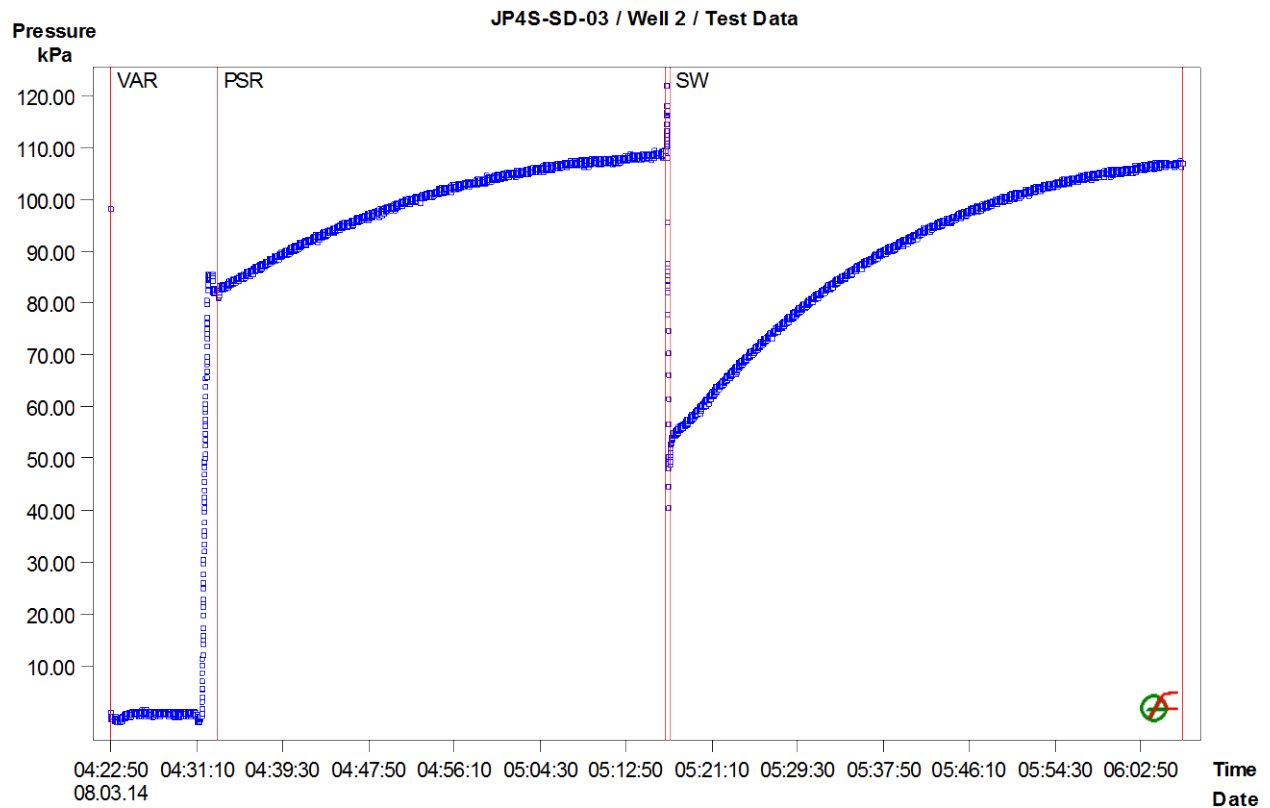


Figure 1: Pressure response and sequence definition

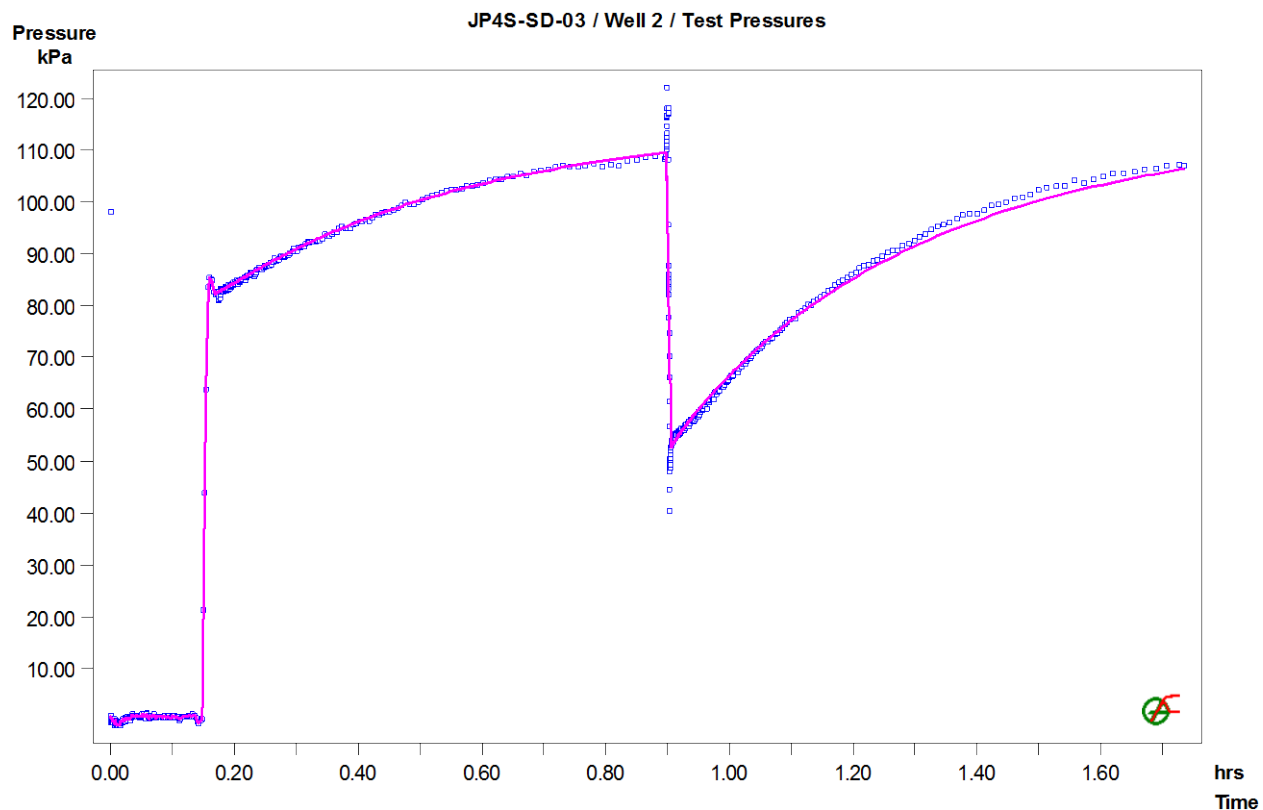


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-03 / Well 2 / SW: LogLog Plot, variable P(i)

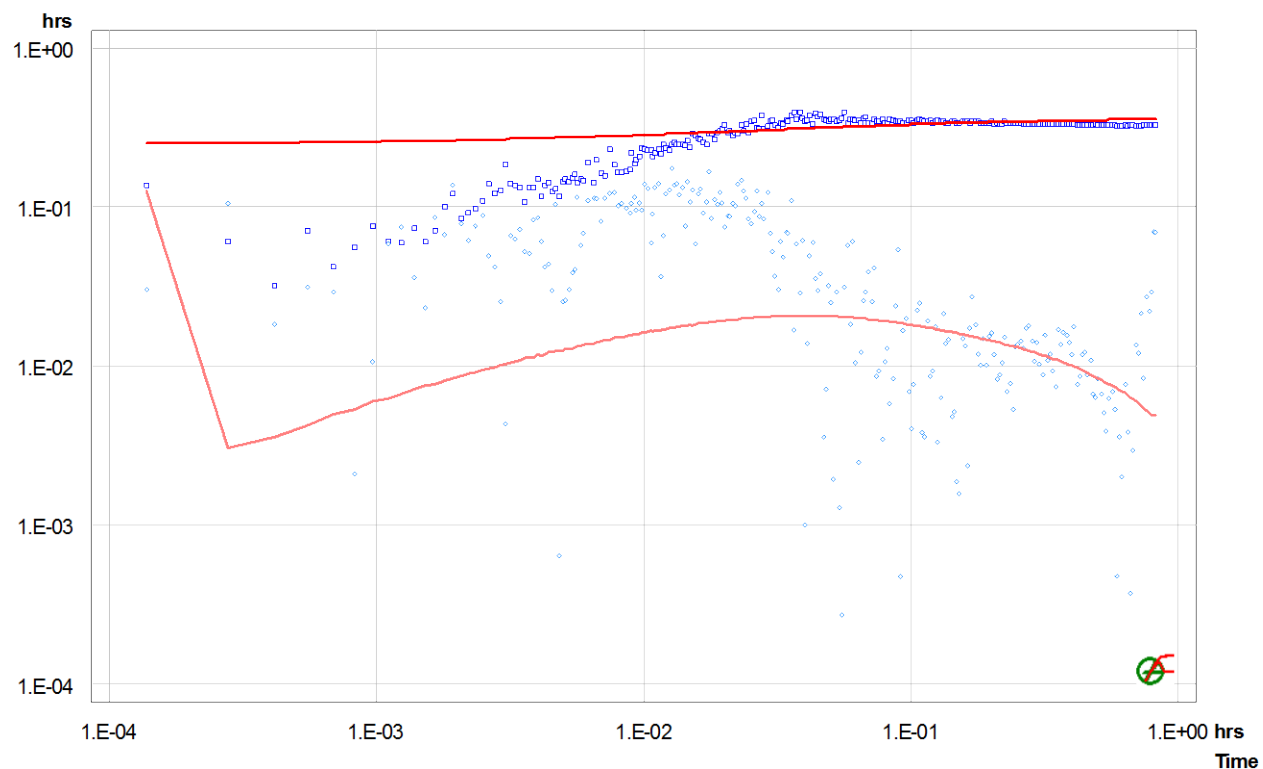


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP4S-SD-04	
Test Name	Well 1	
Test Date/Time		
Interval	top: 10.36 m bottom: 11.89 m	
Description	Analyzed by: DV Reviewed by: DSL	

Basic Data

Test Interval	1.52 m		
Porosity	0.10		
Well Radius	0.076 m	Tubing Radius	0.025 m
Inclination	0.0 deg		
Test Volume	27.582 l		
Well Type	Source		

Fluid Properties

Viscosity	0.001 Pa*s
Density	1000.0 kg/m ³
Compressibility	2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
COM	Variable	0.00000	59.36			2.1e-07
	Pressure					
PSR	Recovery	1.00083	86.48			2.1e-07
SW-Init	dP-Event	1.63417	91.70	39.9 *		2.1e-07
SW	Slug	1.63889	51.77	91.7		2.1e-07

Analysis Results

Analysis "SW- 2 shell"

Static Pressure: 97.48 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	3.3e-06	3.0e-06	16.18	2.0
Shell 2	2.8e-07	3.0e-06	--	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
COM	1.3e-07	0.0
PSR	1.3e-07	0.0
SW-Init	2.1e-07	0.0
SW	2.1e-07	0.0

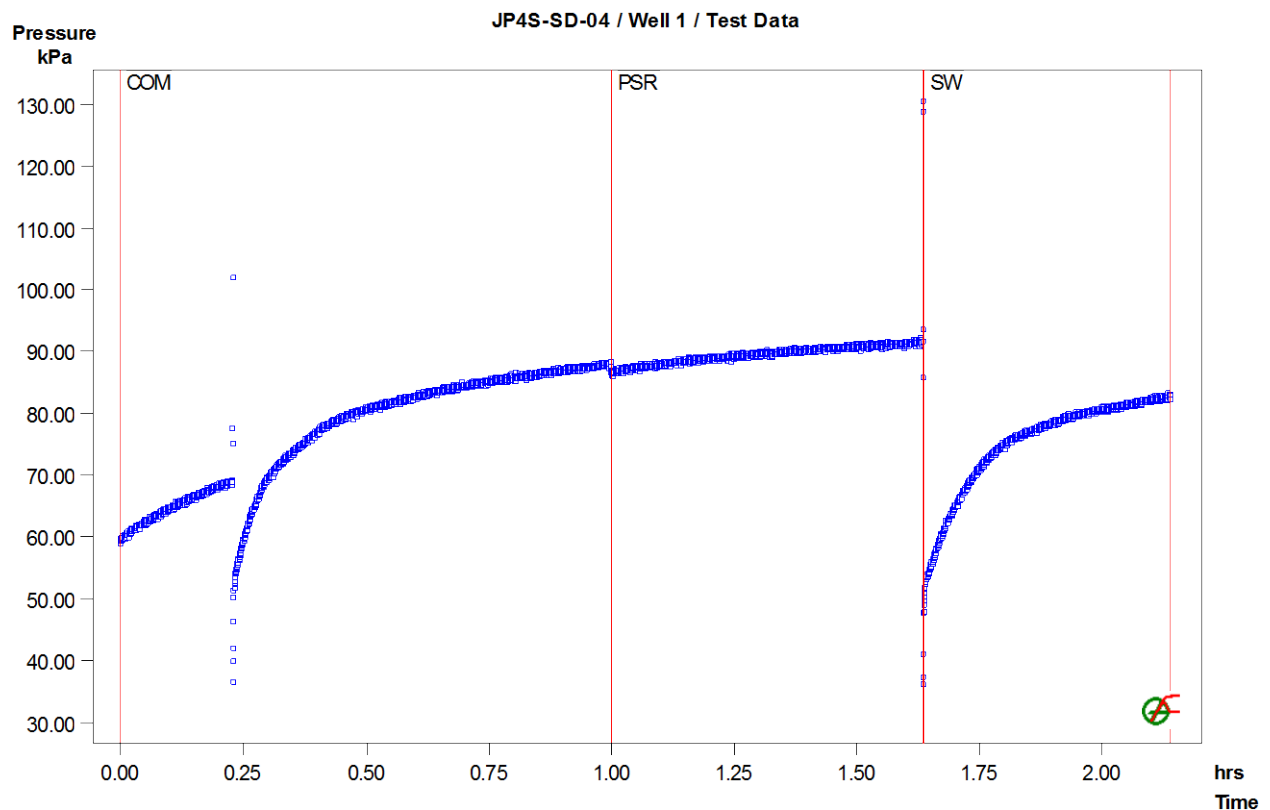


Figure 1: Pressure response and sequence definition

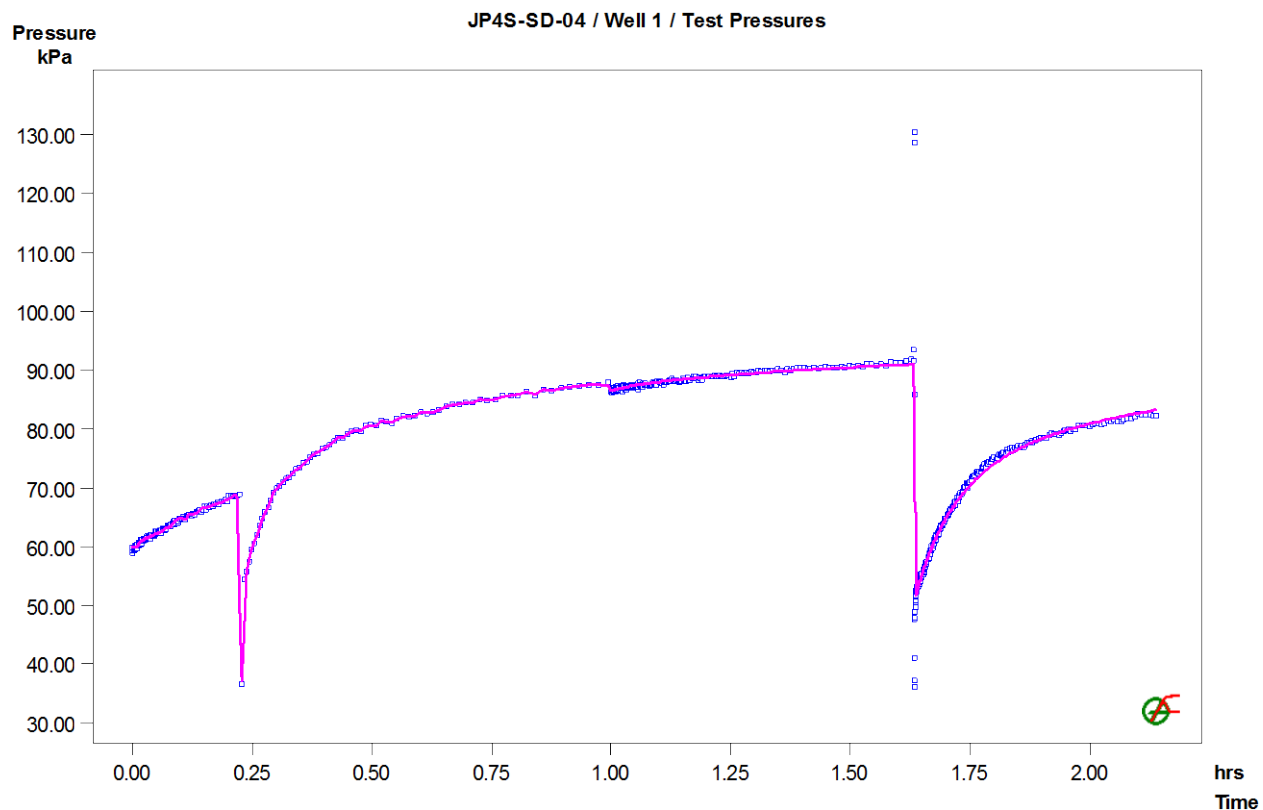


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-04 / Well 1 / SW: LogLog Plot, variable P(i)

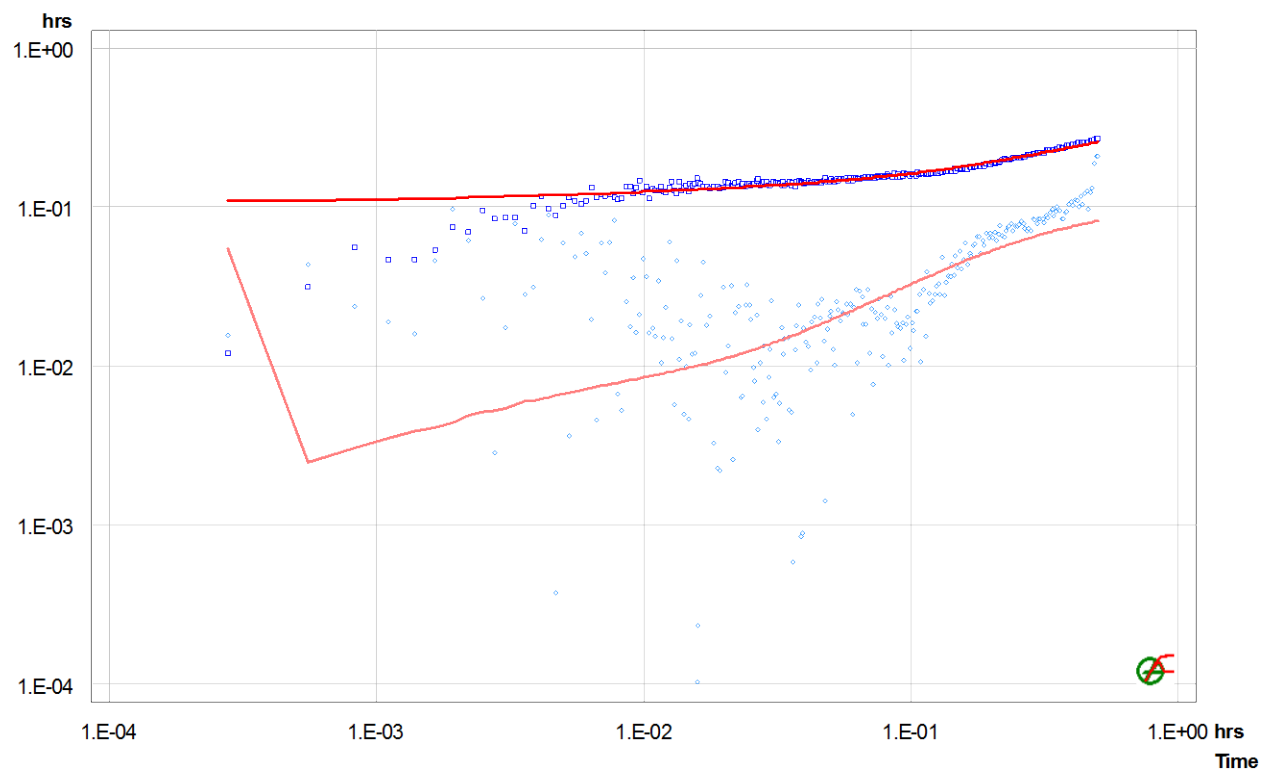


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-GT-03
Test Name Test 1
Test Date/Time March 10, 2014, 19:34:00
Interval top: 9.33 m bottom: 17.00 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 7.67 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 0.0 deg
Test Volume 55.517 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	98.43			4.8e-07
PSR	Recovery	0.41528	100.86			4.8e-07
SW-Init	dP-Event	0.73333	97.77	22.5 *		4.8e-07
Sw	Slug	0.73611	75.28	97.8		4.8e-07
VAR	Variable Pressure	1.10417	97.40			4.8e-07
RI	Constant Rate	1.53889	98.51		-7.52e+00	2.7e-07
RIR	Variable Pressure	1.94861	111.59			2.7e-07

Analysis Results

Analysis "RI Final"

Static Pressure: 97.20 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	1.0e-04	1.5e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	2.1e-06	0.0
PSR	2.1e-06	0.0
SW-Init	4.8e-07	0.0
Sw	4.8e-07	0.0
VAR	2.1e-06	0.0
RI	1.2e-07	0.0
RIR	1.2e-07	0.0

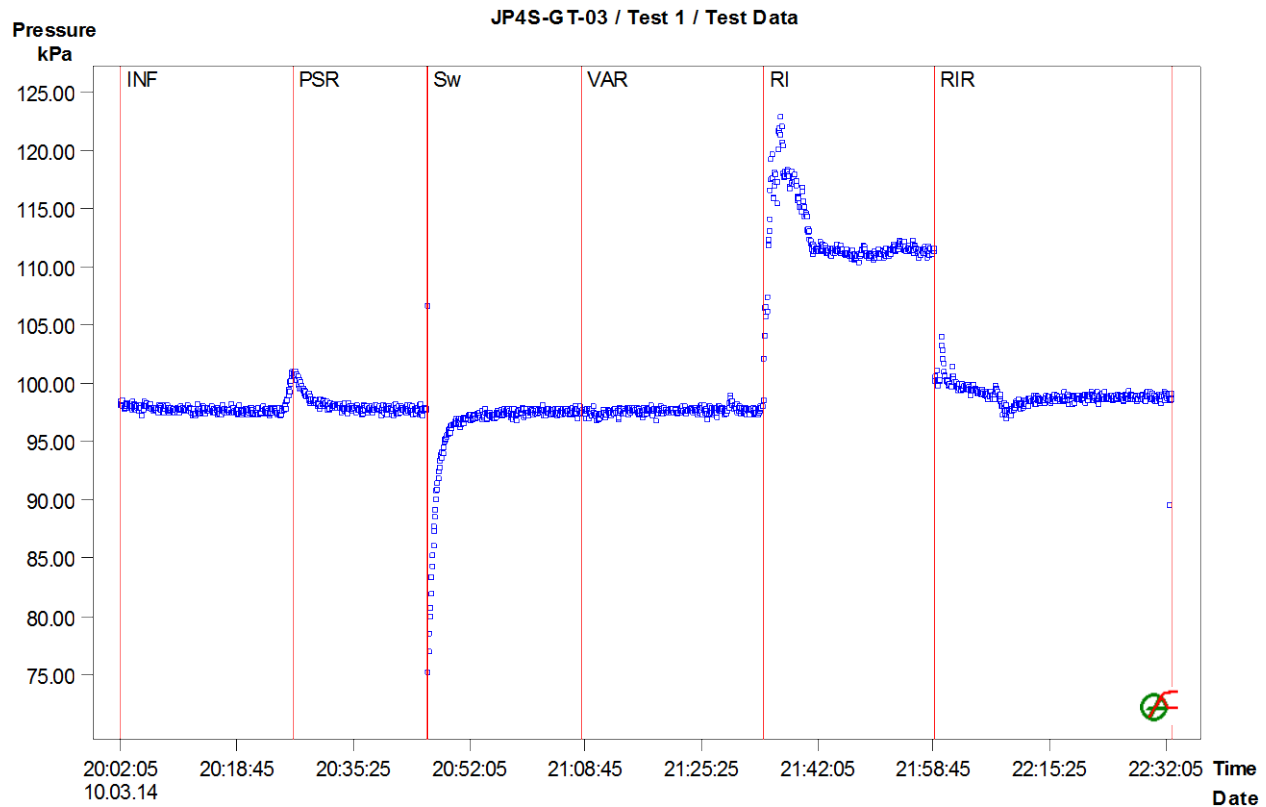


Figure 1: Pressure response and sequence definition

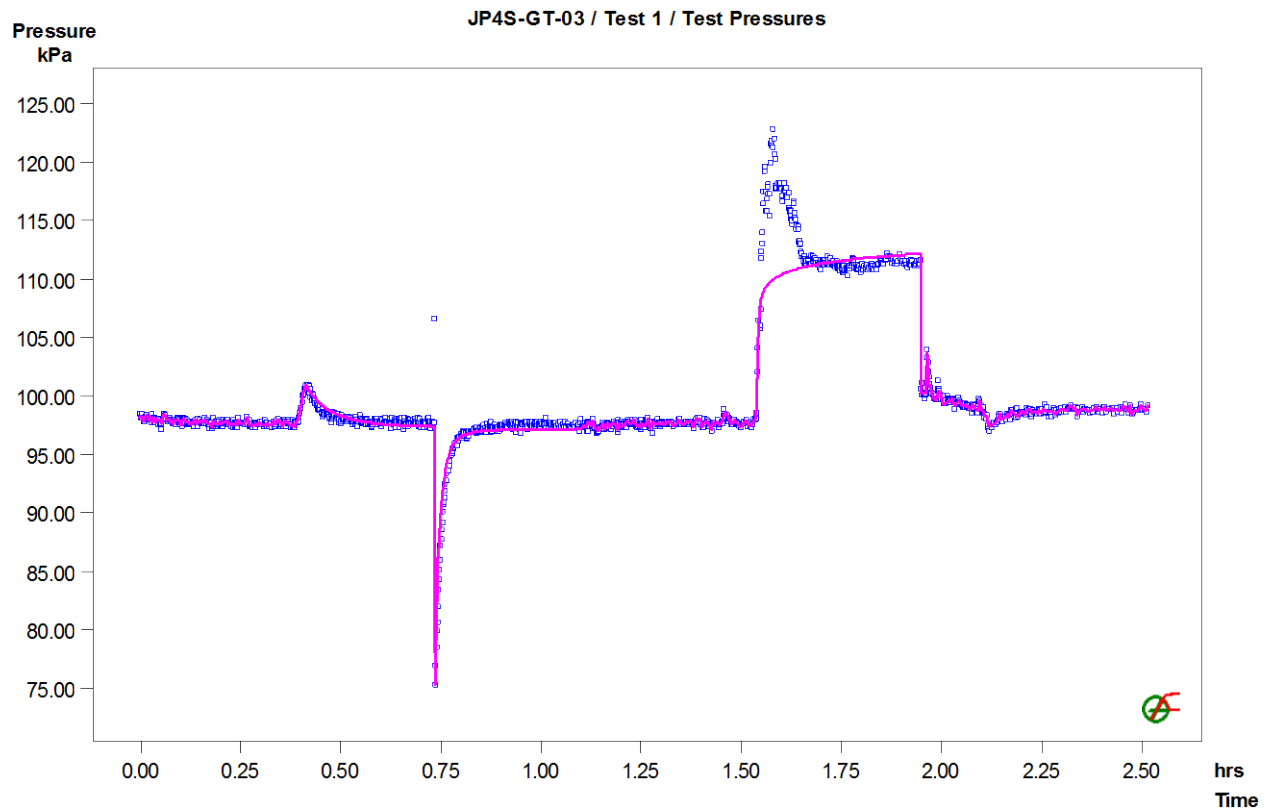


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

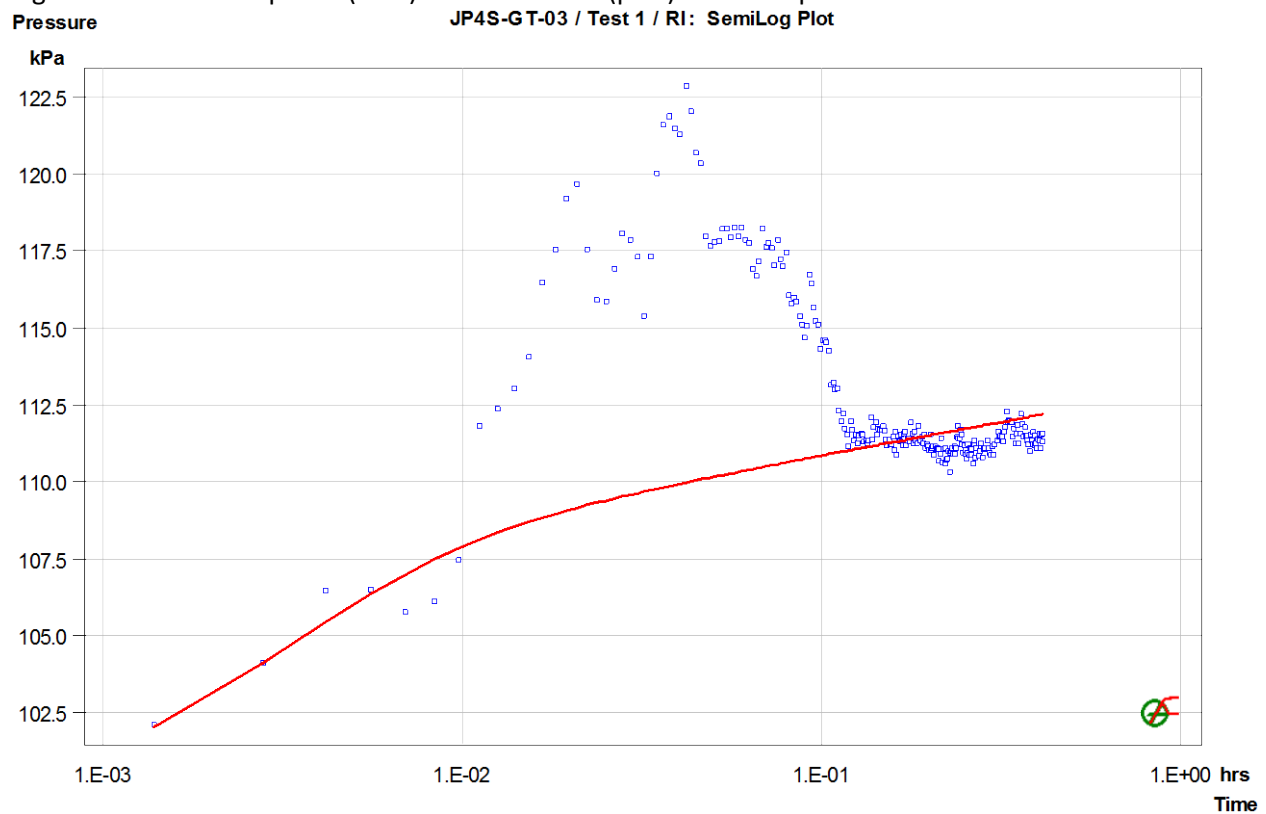


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

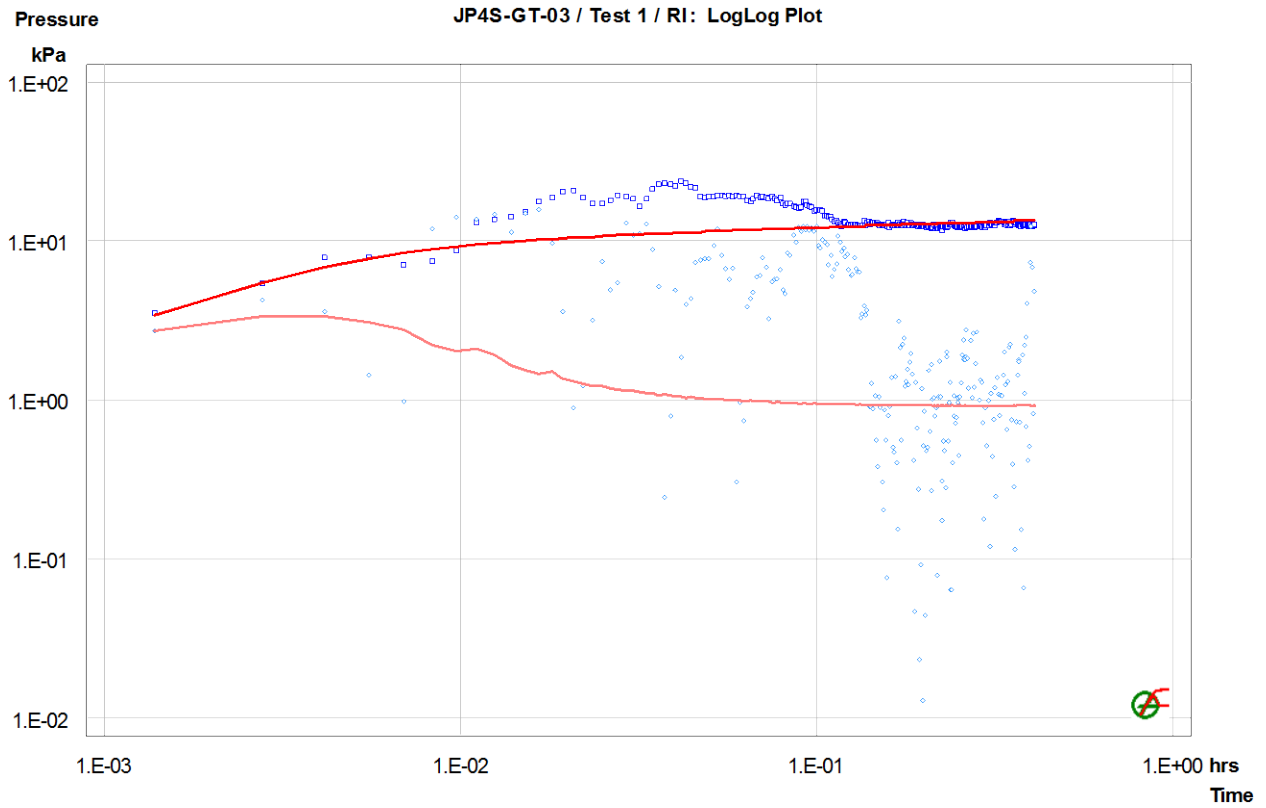


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-GT-04
Test Name Test 1
Test Date/Time March 8, 2014, 04:04:59
Interval top: 8.20 m bottom: 20.40 m
Description Analyzed by: DV
Reviewed by: DSL

Basic Data

Test Interval 12.20 m
Porosity 0.10
Well Radius 0.048 m Tubing Radius 0.039 m
Inclination 5.0 deg
Test Volume 88.306 l
Well Type Source

Fluid Properties

Viscosity 0.001 Pa*s
Density 1000.0 kg/m³
Compressibility 2.0e-09 1/Pa

Sequence Definition

Name	Category	t(o) [hrs]	P(o) [kPa]	P(i) [kPa]	Rate [l/min]	C [m ³ /Pa]
INF	Variable Pressure	0.00000	87.34			4.9e-07
PSR	Recovery	0.13611	94.08			4.9e-07
Sw-Init	dP-Event	0.52222	93.77	41.0 *		4.9e-07
SW	Slug	0.52639	52.78	93.8		4.9e-07

Analysis Results

Analysis "SW-2 shell Final"

Static Pressure: 93.79 kPa

Shell Parameters:

Name	Transmissivity [m ² /s]	Storativity [-]	Radius [m]	Flow Dimension [-]
Shell 1	2.8e-06	2.4e-05	1.00	2.0
Shell 2	5.1e-10	2.4e-05	- -	2.0

Sequence Parameters:

Name	Wellbore Storage [m ³ /Pa]	Skin [-]
INF	1.7e-08	0.0
PSR	1.7e-08	0.0
Sw-Init	4.9e-07	0.0
SW	4.9e-07	0.0

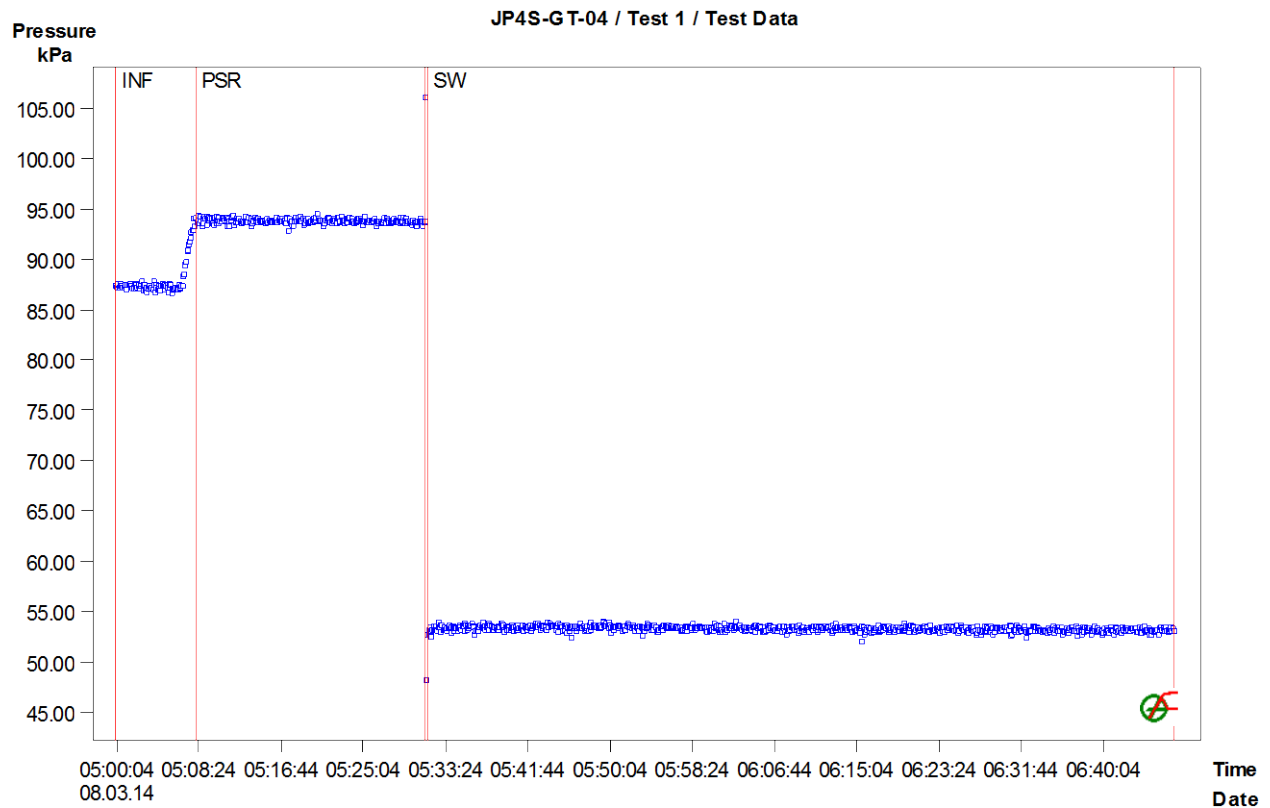


Figure 1: Pressure response and sequence definition

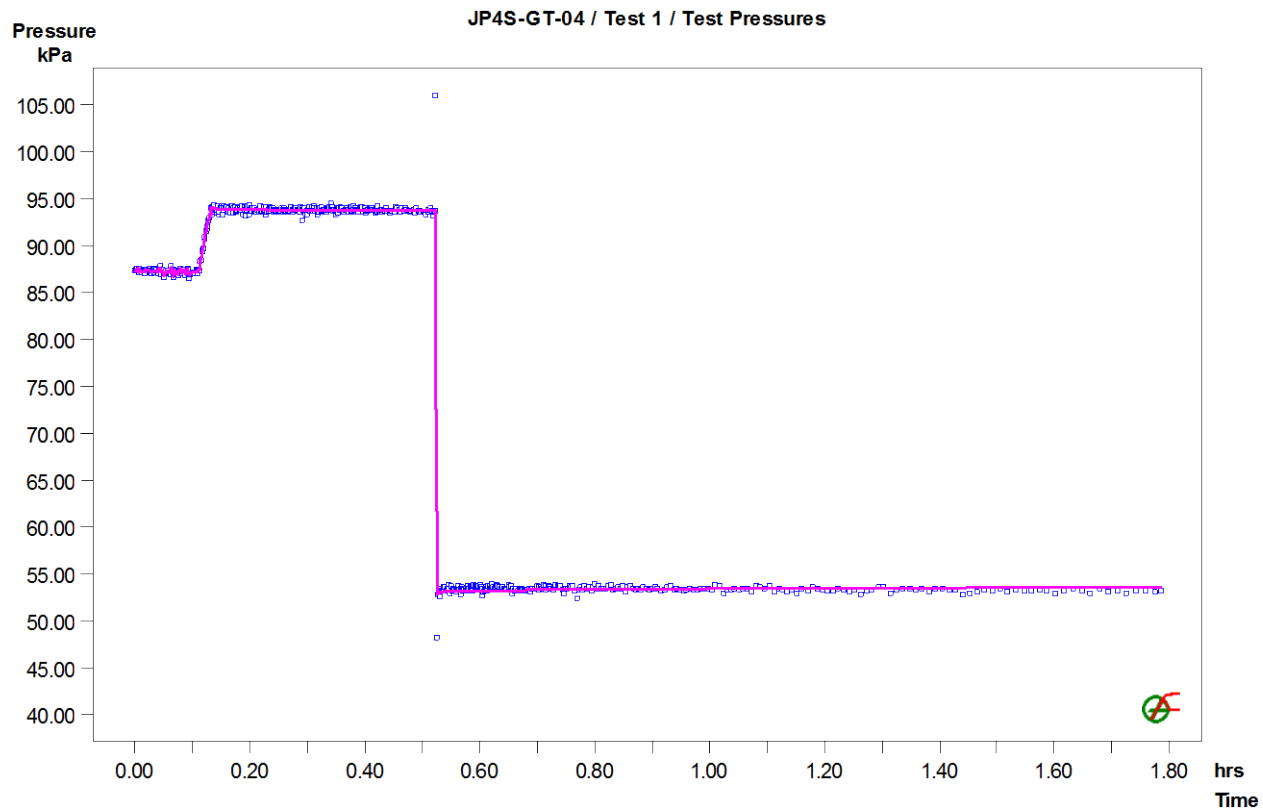


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-GT-04 / Test 1 / SW: LogLog Plot, variable P(i)

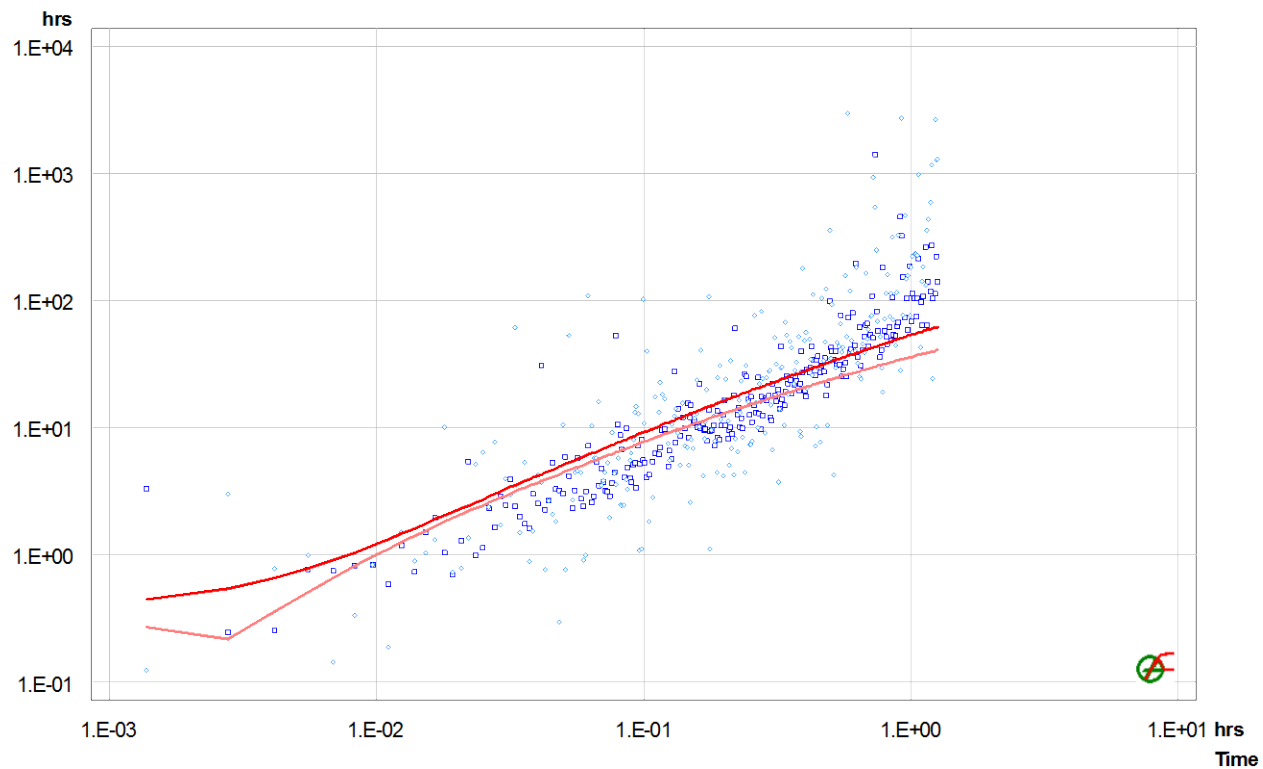


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence