



APPENDIX C

Hydrogeological Testing



C1 – Dike Soil Hydrogeology Investigation

DATE July 15, 2014**REFERENCE No.** 1313280041-E14043-TM-Rev0-2010**TO** Ermanno Rambelli
Golder Associates Ltd.**FROM** Nick Gorski and Mike Dobr**EMAIL** Nick_Gorski@golder.com;
Michal_Dobr@golder.com**FACTUAL MEMORANDUM ON 2014 HYDROGEOLOGICAL TESTING PROGRAM IN THE SOIL ALONG JAY DIKE ALIGNMENT – JAY PROJECT**

1.0 INTRODUCTION

A hydrogeological testing program using temporary standpipe piezometers was conducted in the area of the proposed Jay dike as part of the 2014 geotechnical and hydrogeological field investigations carried out in support of the Jay Project geotechnical dike design.

This technical memorandum provides a summary and interpretation of the hydrogeological data collected from temporary standpipe piezometers installed in boreholes drilled into the soil and the soil / bedrock contact along the alignment of the proposed Jay dike.

2.0 HYDROGEOLOGICAL TESTING PROGRAM

Hydrogeological testing in temporary standpipe piezometers was undertaken over a period of February 18 to April 10, 2014, in 24 boreholes drilled by Major Drilling. The vertical boreholes were advanced using an LS600 sonic drill rig with a core barrel with a nominal diameter of 152 mm. A casing with a nominal diameter of 194 mm was used to keep the borehole open during drilling. Detailed information such as collar coordinates, top of lake sediment and bedrock, and total drilled depth is presented for selected boreholes in Table 1.



Table 1: Test Borehole Details

Borehole ID	Easting (m) ^(a,b)	Northing (m) ^(a,b)	Elevation (m) ^(a,b,c)	Depth (m) ^(d)		Total Drilled Depth (m) ^(d)
				Top of Lake Sediment	Top of Bedrock	
JP5-SD-01	541,323.3	7,168,002.0	415.8	4.0	14.0	29.7
JP5-SD-02	541,644.5	7,167,575.9	415.8	4.3	9.8	21.8
JP5-SD-03	542,008.9	7,167,184.3	415.6	5.9	13.1	30.0
JP5-SD-05	542,652.8	7,165,297.8	416.1	8.1	14.0	35.6
JP5-SD-06	542,164.0	7,164,940.6	415.9	12.5	15.8	38.6
JP5-SD-07	541,857.9	7,164,582.8	415.9	8.5	13.1	35.7
JP5-SD-08	541,307.7	7,166,462.7	415.9	8.2	22.9	44.8
JP5-SD-09	541,766.4	7,166,642.5	416.0	1.2	12.5	32.6
JP1-SD-01	538,396.9	7,169,469.4	415.9	11.3	40.2	50.9
JP1-SD-02	538,487.0	7,169,575.0	415.8	11.1	27.4	31.1
JP1-SD-03	538,565.8	7,169,666.2	415.8	9.6	20.3	23.3
JP2-SD-01	543,099.8	7,171,740.3	416.2	1.1	18.7	20.3
JP4N-SD-01	546,353.3	7,162,199.2	415.9	3.4	9.4	13.1
JP4N-SD-02	546,315.3	7,162,691.0	415.9	3.5	9.8	13.7
JP4N-SD-03	546,284.3	7,162,909.1	415.9	6.4	16.8	20.4
JP4N-SD-04	546,428.9	7,163,006.9	415.9	6.1	14.6	17.7
JP4N-SD-05	546,603.2	7,163,101.4	415.9	9.4	13.0	15.8
JP4N-SD-06	546,779.9	7,163,198.5	415.9	7.0	10.4	13.4
JP4N-SD-07	546,947.1	7,163,423.0	415.9	8.5	11.4	15.3
JP4N-SD-08	547,001.1	7,163,614.9	415.9	7.2	11.7	14.9
JP4S-SD-01	545,408.8	7,161,386.9	415.9	6.7	28.0	31.1
JP4S-SD-02	545,421.3	7,161,487.3	416.0	18.0	29.9	35.7
JP4S-SD-03	545,435.1	7,161,606.0	415.9	8.5	12.5	15.5
JP4S-SD-04	545,444.2	7,161,685.0	416.0	5.5	9.9	12.5

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

b) Collar survey data provided by Dominion Diamond Corporation.

c) Metres above sea level.

d) Metres below ice surface.

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 along the Jay dike alignment. Due to the poor borehole stability, the hydrogeological testing was conducted using temporary standpipe piezometers. The following methodology was used for these temporary installations:

- 1) after cleaning the borehole at the depth selected for testing, the core barrel was removed;
- 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);
- 3) filter sand was placed in the annulus between the casing and the PVC to above the top of the screen;
- 4) casing was pulled up (in stages) above the top of sand pack and approximately 1 m of bentonite pellets was placed on top of the sand pack and hydrated to create a seal;
- 5) casing was pulled up above the top of bentonite seal; and
- 6) steps 2 to 6 were repeated if additional temporary standpipe piezometers were installed within the same borehole.

Once a temporary standpipe piezometer was installed, the bentonite seal was allowed to hydrate for at least 1.5 hours before testing was initiated. Prior to the testing the temporary standpipe piezometer was developed by airlifting technique. After the test was completed, the temporary installation was pulled out of the borehole and the borehole was backfilled with bentonite pellets.

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 that were utilized are provided in Attachment A.

The test intervals varied in length from 0.9 to 4.9 m. If the thickness of the soil was too thin to conduct a test, the contact between soil and bedrock was tested. A summary of the tests carried out in the selected boreholes is presented in Table 2.

Table 2: Summary of Hydrogeological Tests

Borehole ID	Interval Tested (m) ^(a)	Number of Tests Conducted	Date Started	Date Ended
JP5-SD-01	11.0 to 16.2	2	April 3, 2014	April 3 2014
JP5-SD-02	7.3 to 9.4	1	March 31, 2014	March 31, 2014
JP5-SD-03	12.5 to 14.6	1	March 29, 2014	March 29, 2014
JP5-SD-05	9.8 to 14.6	2	March 24, 2014	March 24, 2014
JP5-SD-06	13.7 to 15.8	1	March 22, 2014	March 22, 2014
JP5-SD-07	12.0 to 15.8	2	March 19, 2014	March 20, 2014
JP5-SD-08	12.8 to 24.4	2	April 9, 2014	April 10, 2014
JP5-SD-09	7.9 to 13.7	2	April 7, 2014	April 7, 2014
JP1-SD-01	21.3 to 41.8	4	March 11, 2014	March 12, 2014
JP1-SD-02	19.5 to 27.6	2	April 9, 2014	April 9, 2014
JP1-SD-03	17.2 to 20.4	2	March 15, 2014	March 15, 2014
JP2-SD-01	11.0 to 16.5	2	March 16, 2014	March 16, 2014
JP4N-SD-01	8.8 to 13.1	2	February 21, 2014	February 21, 2014
JP4N-SD-02	8.5 to 12.8	2	February 23, 2014	February 23, 2014
JP4N-SD-03	14.9 to 20.1	2	February 25, 2014	February 25, 2014
JP4N-SD-04	12.5 to 17.7	3	February 26, 2014	February 27, 2014
JP4N-SD-05	12.2 to 15.9	2	February 28, 2014	February 28, 2014
JP4N-SD-06	9.8 to 10.7	1	March 1, 2014	March 1, 2014
JP4N-SD-07	11.1 to 15.3	2	March 2, 2014	March 2, 2014
JP4N-SD-08	11.6 to 13.0	1	March 6, 2014	March 7, 2014
JP4S-SD-01	27.1 to 29.4	1	February 18, 2014	February 18, 2014
JP4S-SD-02	22.0 to 27.4	2	March 8, 2014	March 8, 2014
JP4S-SD-03	11.0 to 13.2	2	March 7, 2014	March 7, 2014
JP4S-SD-04	10.4 to 11.9	1	February 22, 2014	February 22, 2014

a) = Metres below ice surface.

2.2 Testing Methodology

The following methodology was used for hydrogeological testing in the soil along the Jay dike alignment:

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

The following provides detailed description of the individual test sequences.

2.2.1 Pressure Static Recovery

Following the development of the temporary standpipe piezometer, a pressure transducer was lowered inside the temporary standpipe piezometer 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 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.

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) of the temporary standpipe piezometer, and monitoring the recovery of the water level inside the piezometer after the slug displacement. If full recovery to pre-test level was not reached within 1 hour the test was terminated even if full recovery was not reached.

2.3 Test Analysis

2.3.1 Software

The test analyses were carried out with HydroBench[®] (Version 3.6.4.3), a 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 a detailed documentation of the verification of the software, is available on request.

2.3.2 Results

A summary of the transmissivity and hydraulic conductivity values calculated for the tested intervals is presented in Table 3. 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, and SW. For each test interval, the test sequence with the most reliable pressure response data set was selected for analyses.

Table 3: Summary of Test Results

Borehole ID	Test Number	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	-	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-02	Piezometer 1	7.3	9.4	2.1	PSR, SW	SW	Till / Competent Soil	-	4.E-07	2.E-07
JP5-SD-03	Piezometer 1	12.5	14.6	2.1	PSR, SW	SW	Soil / Bedrock Contact	-	2.E-04	9.E-05
JP5-SD-05	Piezometer 1	9.8	11.9	2.1	PSR, SW	SW	Lakebed Sediments	-	2.E-07	7.E-08
JP5-SD-05	Piezometer 2	12.8	14.6	1.8	PSR, SW	SW	Soil / Bedrock Contact	-	7.E-08	4.E-08
JP5-SD-06	Piezometer 1	13.7	15.8	2.1	PSR, SW	SW	Till / Competent Soil	-	1.E-06	6.E-07
JP5-SD-07	Piezometer 1	12.0	13.3	1.2	PSR, SW	SW	Soil / Bedrock Contact	-	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-08	Piezometer 1	22.3	24.4	2.1	PSR, SW	SW	Soil / Bedrock Contact	-	5.E-05	2.E-05
JP5-SD-08	Piezometer 2	12.8	15.2	2.4	PSR, SI	SI	Till / Competent Soil	-	4.E-05	2.E-05
JP5-SD-09	Piezometer 1	11.0	13.7	2.7	PSR, SW	SW	Soil / Bedrock Contact	-	3.E-04	1.E-04
JP5-SD-09	Piezometer 2	7.9	10.1	2.1	PSR, SW	SW	Till / Competent Soil	-	9.E-04	4.E-04
JP1-SD-01	Piezometer 1	26.2	27.1	0.9	PSR, SW	SW	Till / Competent Soil	-	3.E-05	3.E-05
JP1-SD-01	Piezometer 2	21.3	25.6	4.3	PSR, SI	N/A	Till / Competent Soil	-	Test not analysed ^(b)	
JP1-SD-01	Piezometer 3	39.6	41.8	2.1	PSR, SW	SW	Soil / Bedrock Contact	-	6.E-07	3.E-07
JP1-SD-01	Piezometer 4	33.5	38.4	4.9	PSR, SW	SW	Till / Competent Soil	-	2.E-08	4.E-09

Borehole ID	Test Number	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)
JP1-SD-02	Piezometer 1	24.4	27.6	3.2	PSR, SW	SW	Soil / Bedrock Contact	-	4.E-07	1.E-07
JP1-SD-02	Piezometer 2	19.5	22.1	2.6	PSR, SW	SW	Till / Competent Soil	-	2.E-06	8.E-07
JP1-SD-03	Piezometer 1	19.2	20.4	1.2	PSR, SW	N/A	Soil / Bedrock Contact	-	Leakage ^(c)	
JP1-SD-03	Piezometer 2	17.2	18.3	1.1	PSR, SW	N/A	Till / Competent Soil	-	Leakage ^(c)	
JP2-SD-01	Piezometer 1	11.0	13.1	2.1	PSR, SW	SW	Till / Competent Soil	-	5.E-07	2.E-07
JP2-SD-01	Piezometer 2	14.3	16.5	2.1	PSR, SW	SW	Till / Competent Soil	-	6.E-07	3.E-07
JP4N-SD-01	Piezometer 1	11.0	13.1	2.1	PSR, SW	SW	Till / Competent Soil	-	6.E-06	3.E-06
JP4N-SD-01	Piezometer 2	8.8	10.1	1.2	PSR, SW	N/A	Till / Competent Soil	-	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	-	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	-	5.E-07	3.E-07
JP4N-SD-04	Piezometer 1	12.5	14.6	2.1	PSR, SW	SW	Till / Competent Soil	-	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	-	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

Borehole ID	Test Number	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)
JP4N-SD-05	Piezometer 2	12.2	13.4	1.2	PSR, SW	SW	Soil / Bedrock Contact	-	2.E-06	1.E-06
JP4N-SD-06	Piezometer 1	9.8	10.7	0.9	PSR, SW	SW	Soil / Bedrock Contact	-	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	-	9.E-07	8.E-07
JP4N-SD-08	Piezometer 1	11.6	13.0	1.4	PSR, SW	SW	Soil / Bedrock Contact	-	1.E-09	9.E-10
JP4S-SD-01	Piezometer 1	27.1	29.4	2.3	PSR, SI	SI	Soil / Bedrock Contact	-	2.E-05	9.E-06
JP4S-SD-02	Piezometer 1	24.1	27.4	3.4	PSR, SW	SW	Till / Competent Soil	-	6.E-04	2.E-04
JP4S-SD-02	Piezometer 2	22.0	23.2	1.2	PSR, SW	N/A	Till / Competent Soil	-	No data ^(d)	
JP4S-SD-03	Piezometer 1	11.0	13.2	2.2	PSR, SW	N/A	Soil / Bedrock Contact	-	Leakage ^(c)	
JP4S-SD-03	Piezometer 2	11.3	12.5	1.2	PSR, SW	SW	Till / Competent Soil	-	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

(a) Metres below ice surface

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

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

(d) 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 in temporary standpipe piezometers varies 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^{-7} m/s and 2×10^{-3} m/s for tests conducted in shallow bedrock.

The results of the individual tests are presented along with the depth of the corresponding test interval (below ground/ice surface) in Figures 1 to 3 for tests conducted in soil, the soil / bedrock contact, and rock, respectively. Detailed analytical test reports are presented in Attachment B. These reports are computer generated protocols, and some values in these documents might differ from values discussed within the text section of this document.

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.

ORIGINAL SIGNED

Nick Gorski, M.Sc.
Environmental Scientist

DV/NGG/MD/rs/it

ORIGINAL SIGNED

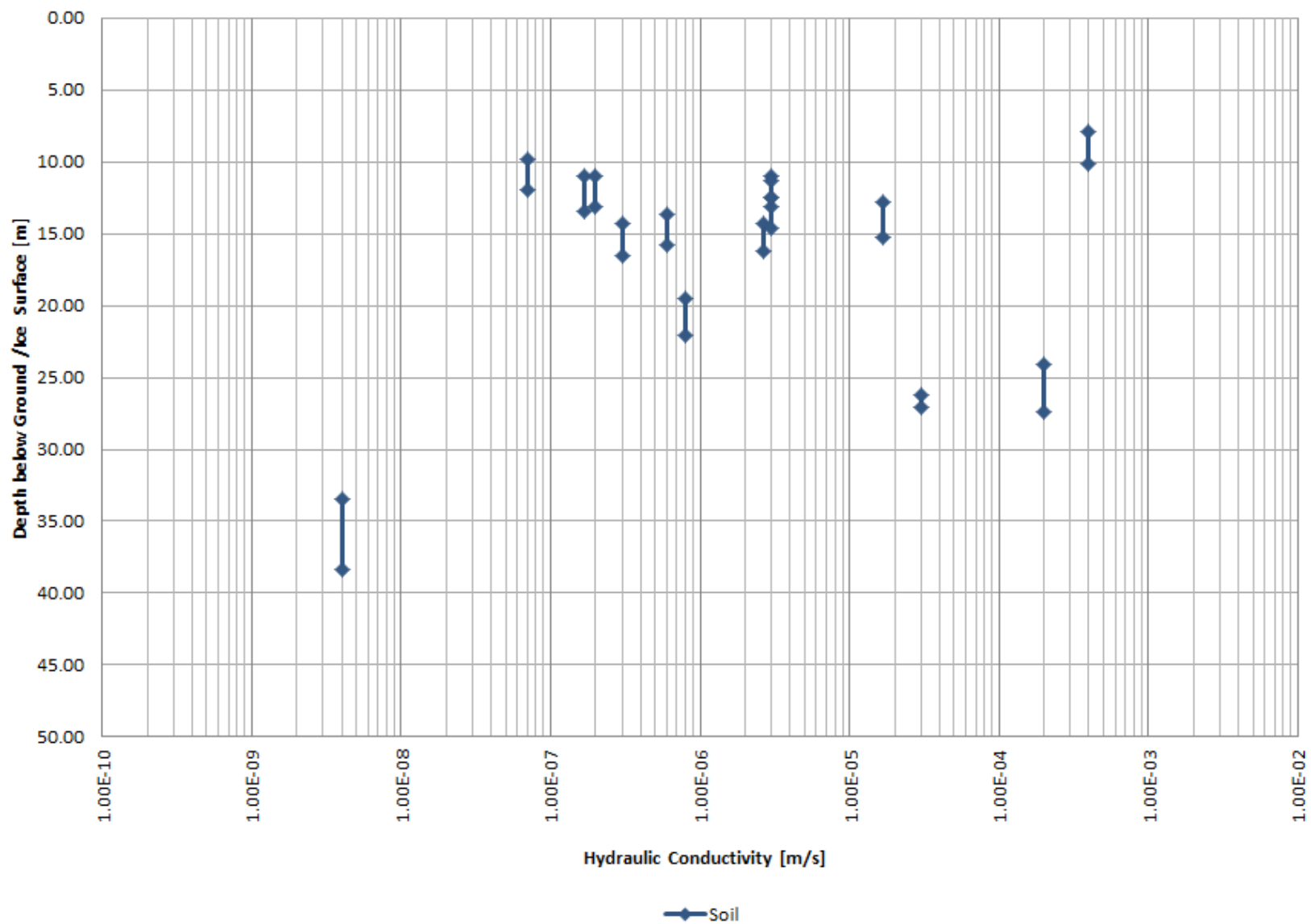
Mike Dobr, RNDr. P.Geo. (BC)
Principal, Senior Hydrogeologist

Attachments: Figures 1 to 3: Summaries of Hydraulic Conductivity Results
Attachment A: Transducer Calibration Certificates
Attachment B: *HydroBench*® Analysis Reports

\\golder.gds\gal\burnaby\final\2013\1328\13-1328-0041\1313280041-e14043-tm-rev0-2010\1313280041-e14043-tm-rev0-2010-dike soil hg investigation 15jul_14.docx

REFERENCES

Gringarten AC., 2008. From Straight Lines to Deconvolution: The Evolution of the State of the Art in Well Test Analysis. SPE Reservoir Evaluation & Engineering 11: 41-62.



DOMINION DIAMOND

CONSULTANT

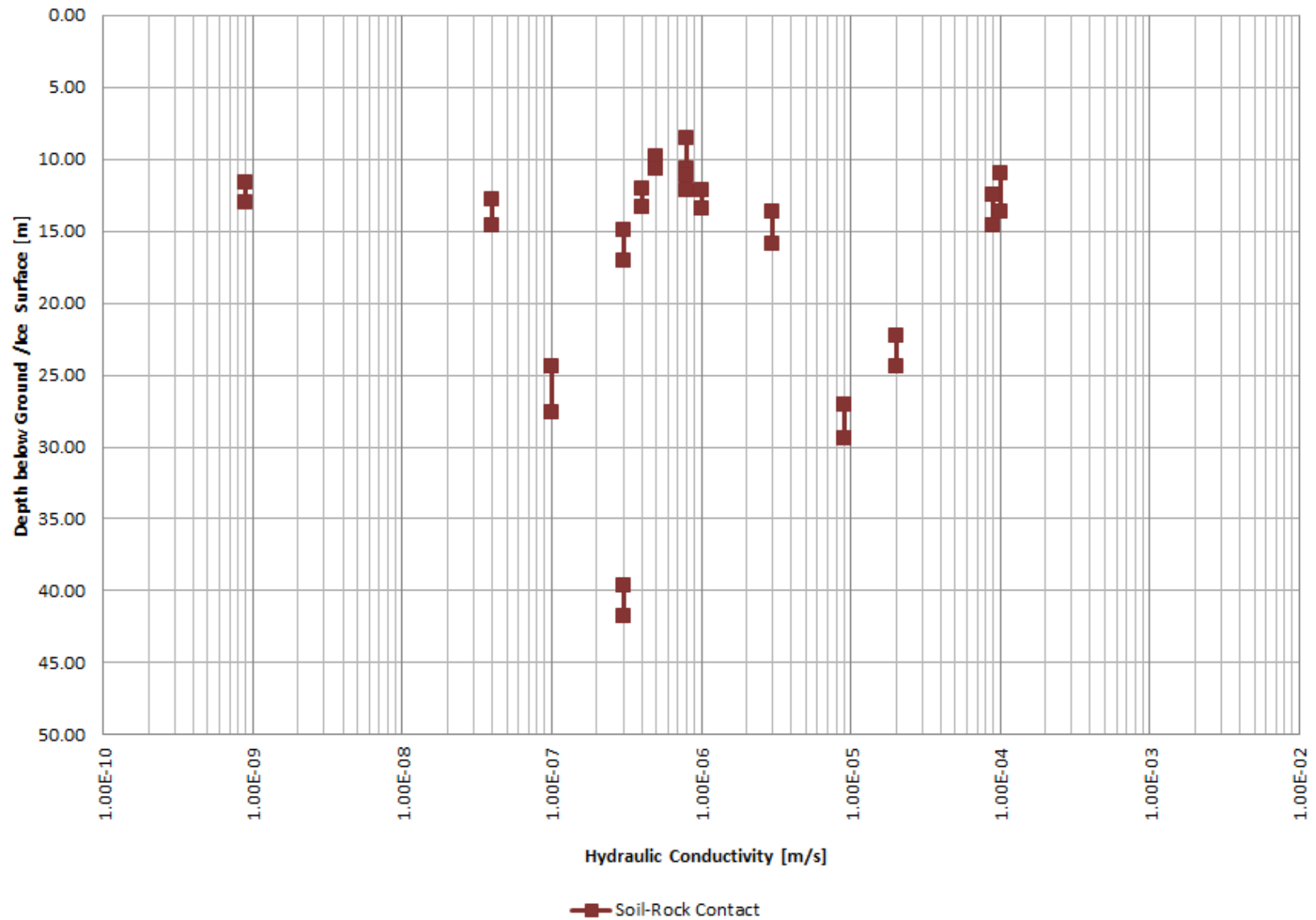


YYYY-MM-DD	2014-06-10
PREPARED	NGG
DESIGN	TD
REVIEW	DSL
APPROVED	MD

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY (SOIL)
VERSUS DEPTH**

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



DOMINION DIAMOND

CONSULTANT



YYYY-MM-DD	2014-06-10
PREPARED	NGG
DESIGN	TD
REVIEW	DSL
APPROVED	MD

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

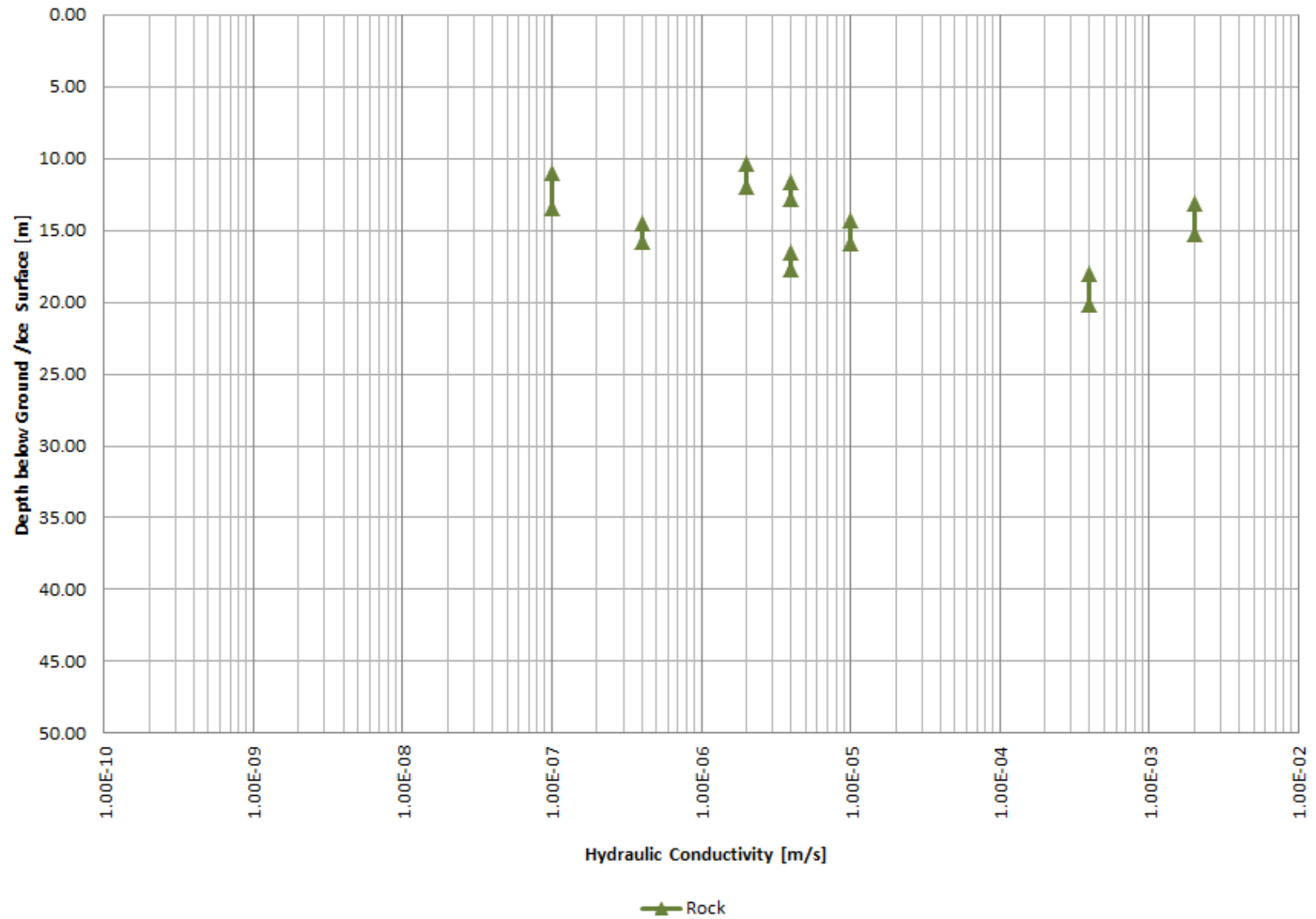
TITLE
SUMMARY OF HYDRAULIC CONDUCTIVITY (SOIL AND BEDROCK CONTACT) VERSUS DEPTH

PROJECT No.
13-1328-0041

Phase.
2010

Rev.
0

Fig.
2



CLIENT
DOMINION DIAMOND

CONSULTANT



YYYY-MM-DD	2014-06-10
PREPARED	NGG
DESIGN	TD
REVIEW	DSL
APPROVED	MD

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY (BEDROCK)
VERSUS DEPTH**

PROJECT No.
13-1328-0041

Phase.
2010

Rev.
0

Fig.
3

ATTACHMENT A
Transducer Calibration Certificates

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:

- 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.
- The post-calibration data is collected at nominal +20 C.
- 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: **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

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



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

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

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

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



ATTACHMENT B
***HydroBench*[®] Analysis Reports**

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

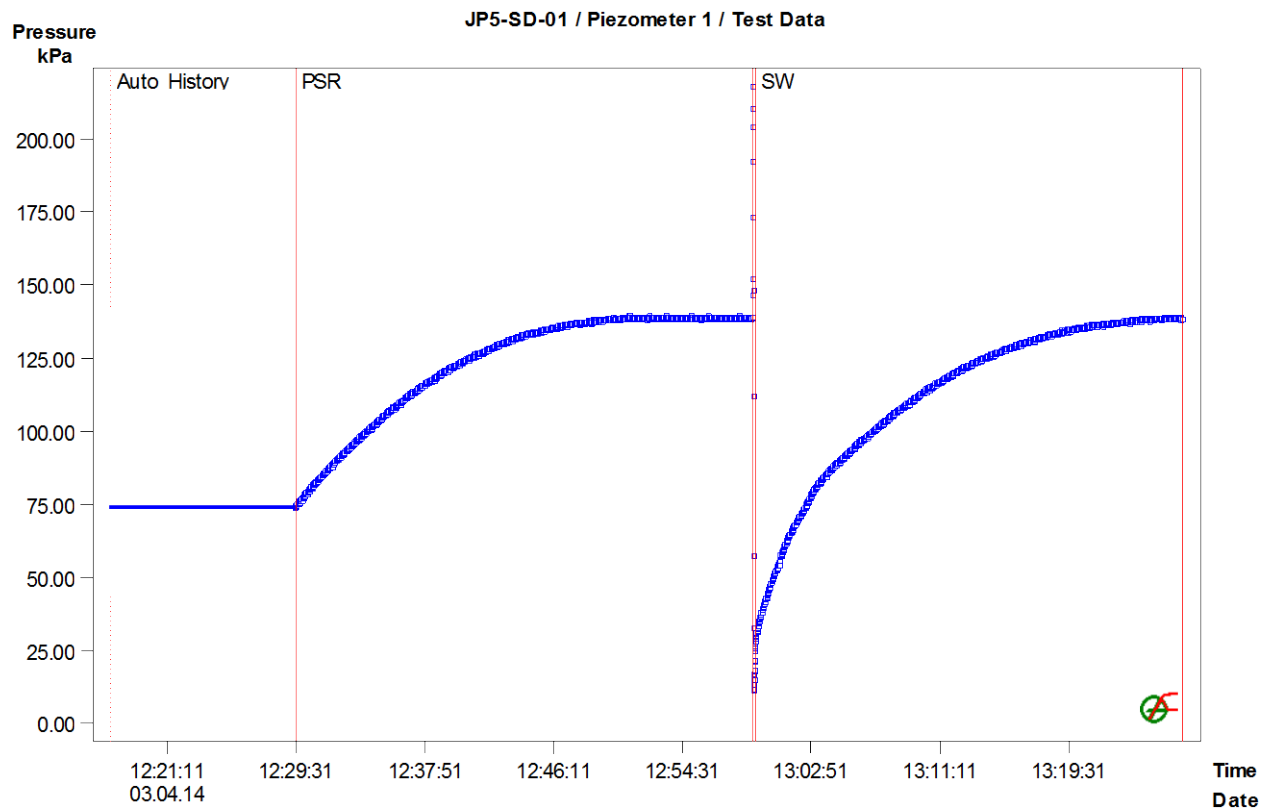


Figure 1: Pressure response and sequence definition

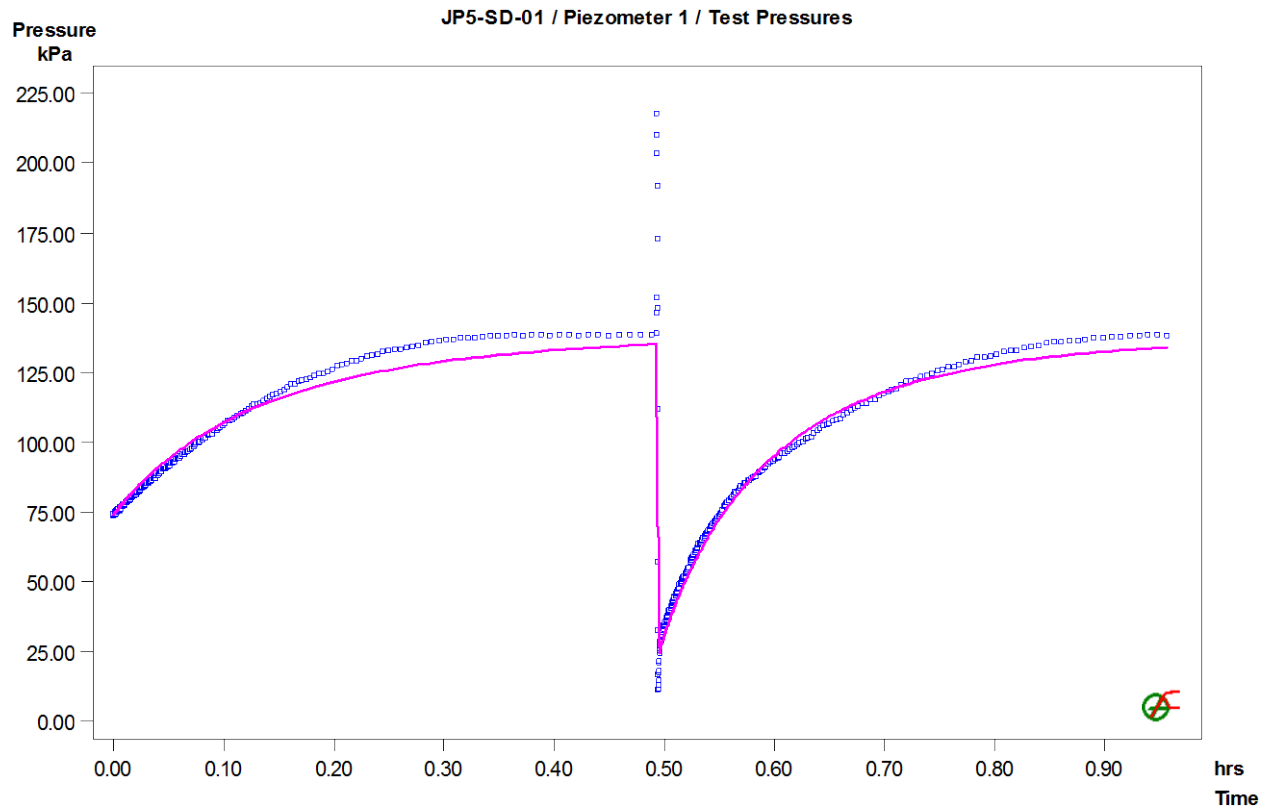


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Piezometer 1 / SW: LogLog Plot, constant P(i)

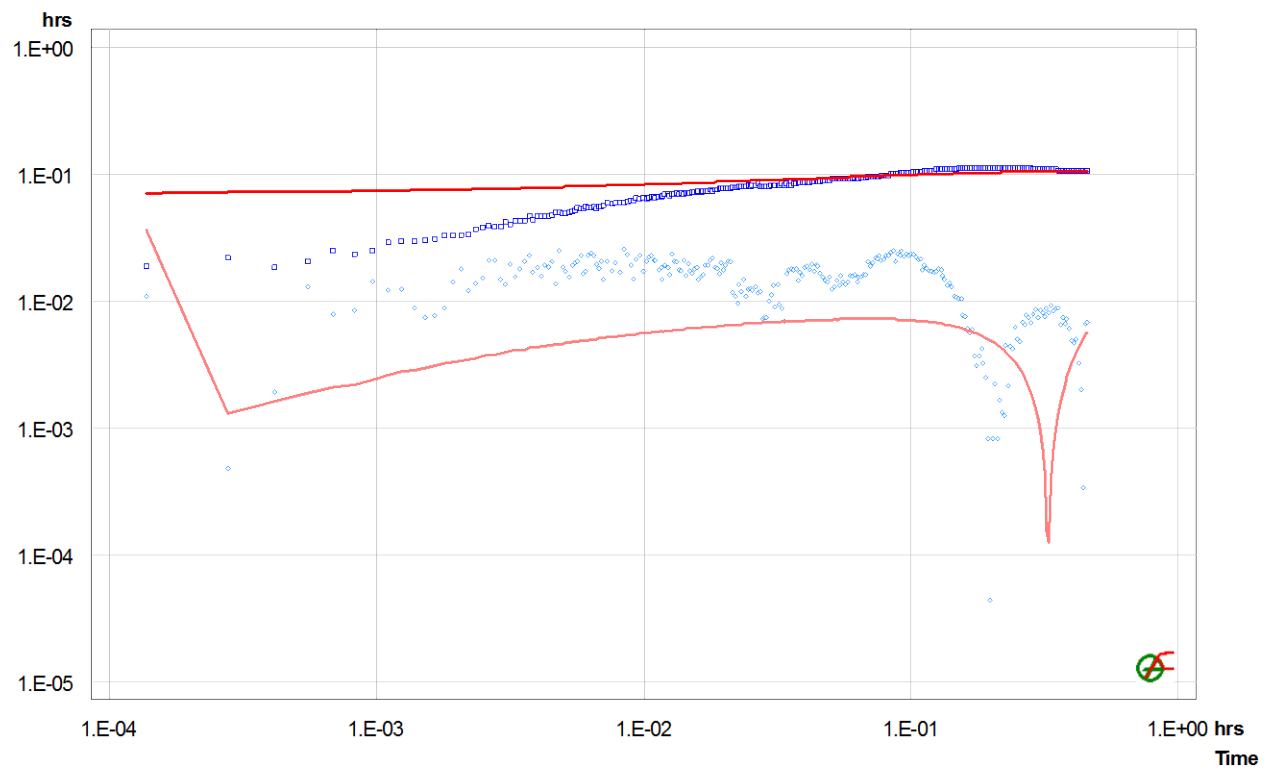


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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"

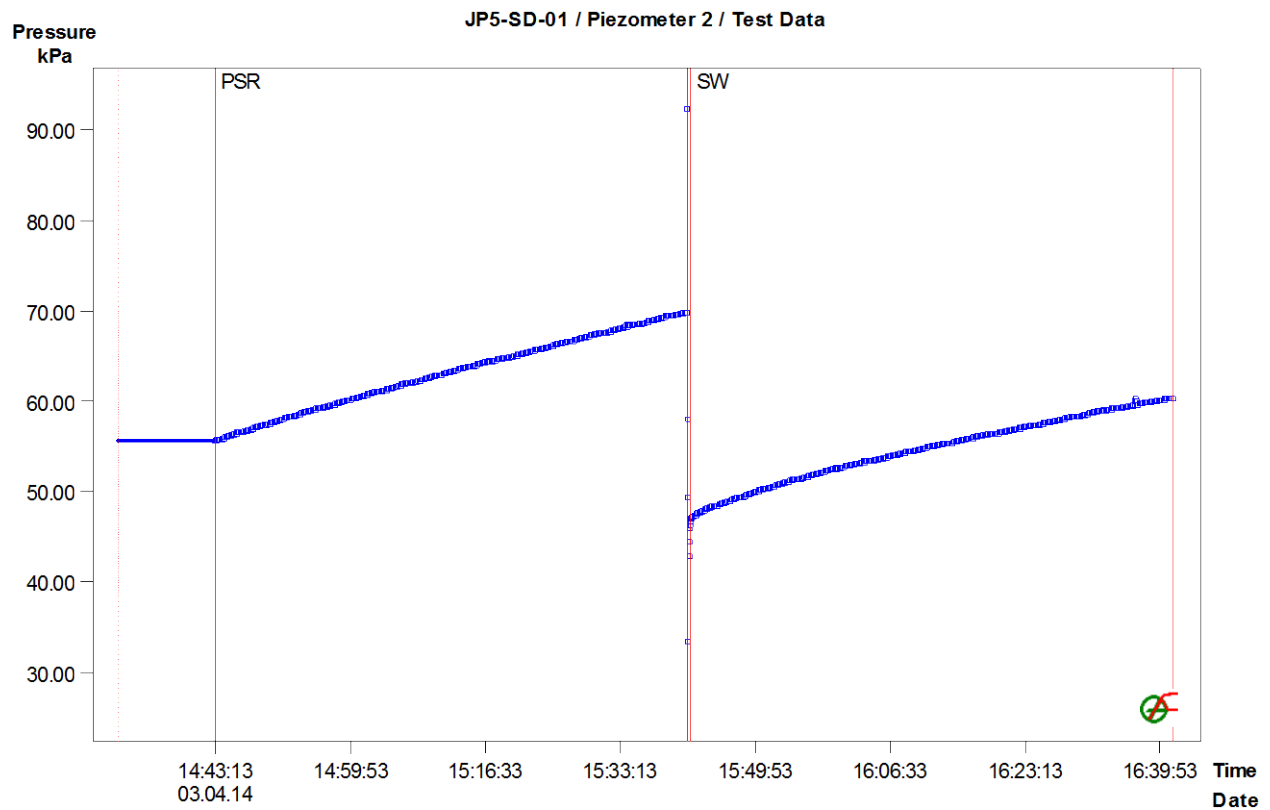
Static Pressure: 80.44 kPa

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



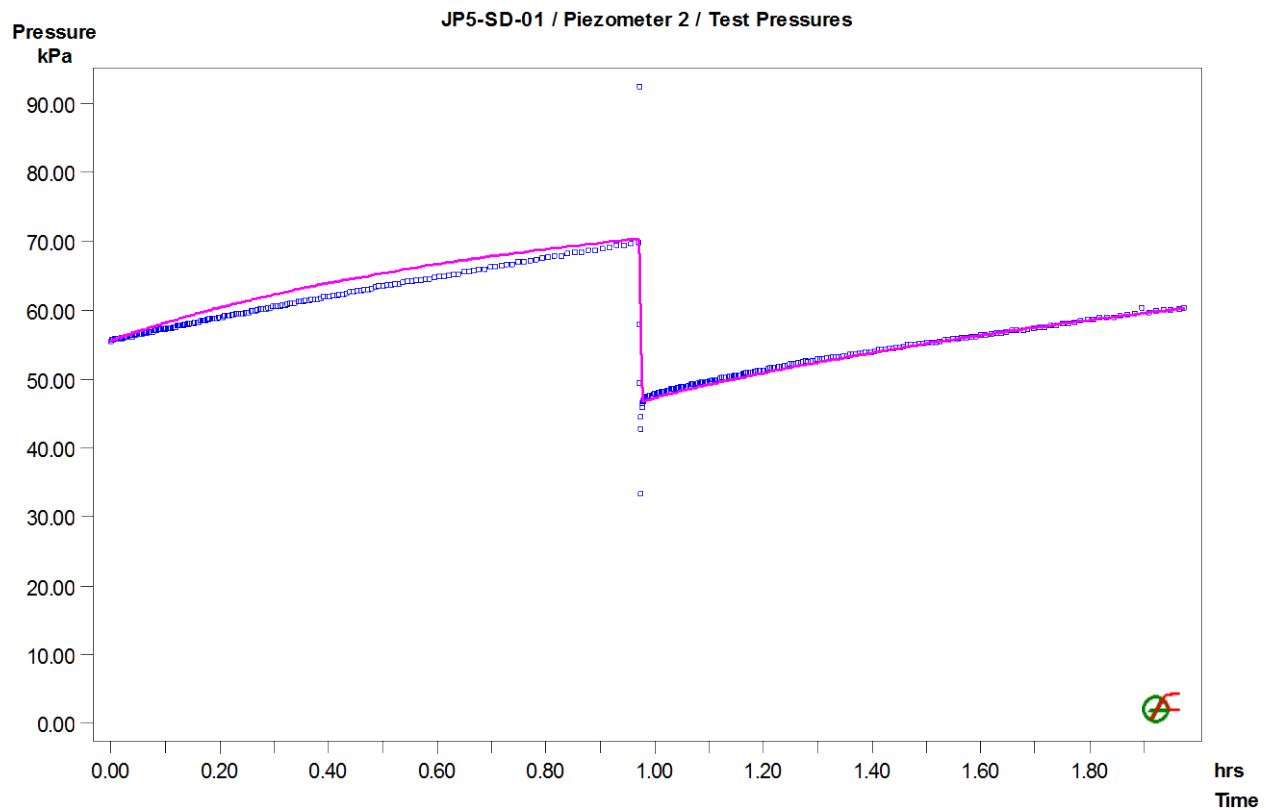


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Piezometer 2 / SW: LogLog Plot, variable P(i)

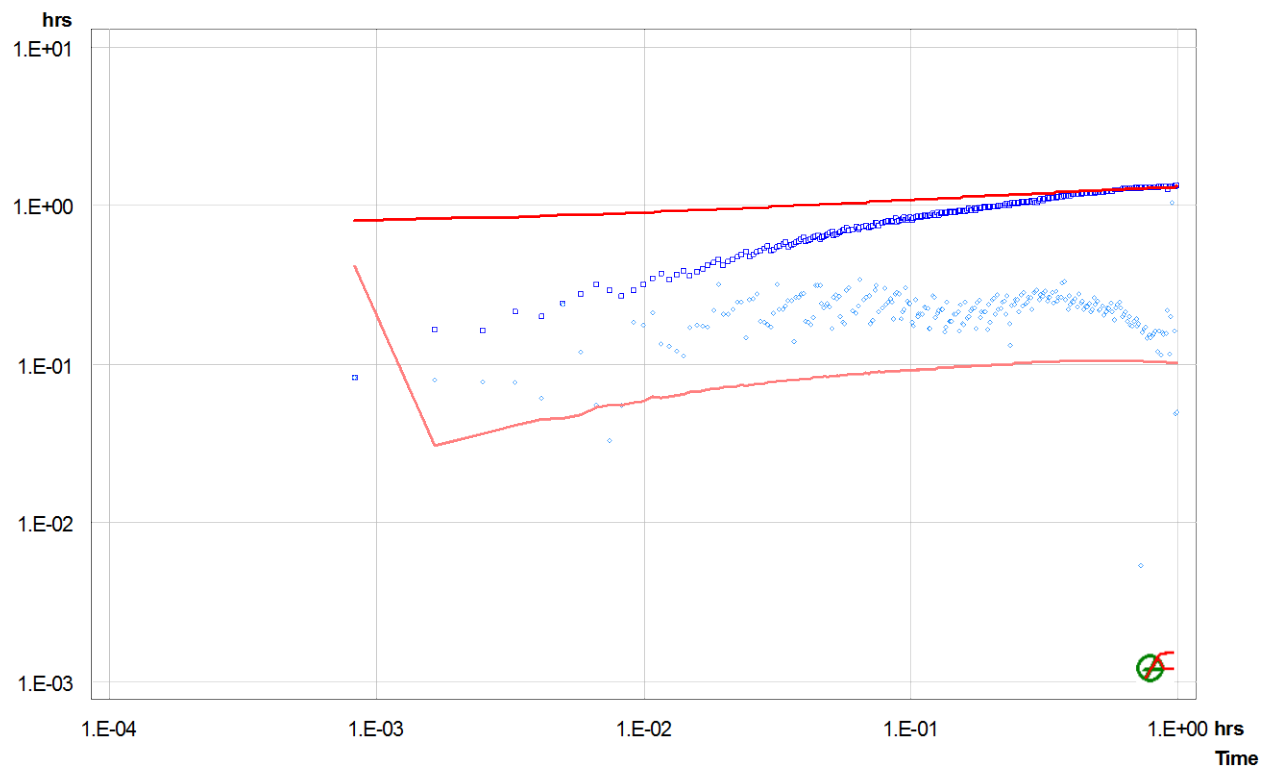


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-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 Pressure	0.00000	2.84			2.1e-07
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

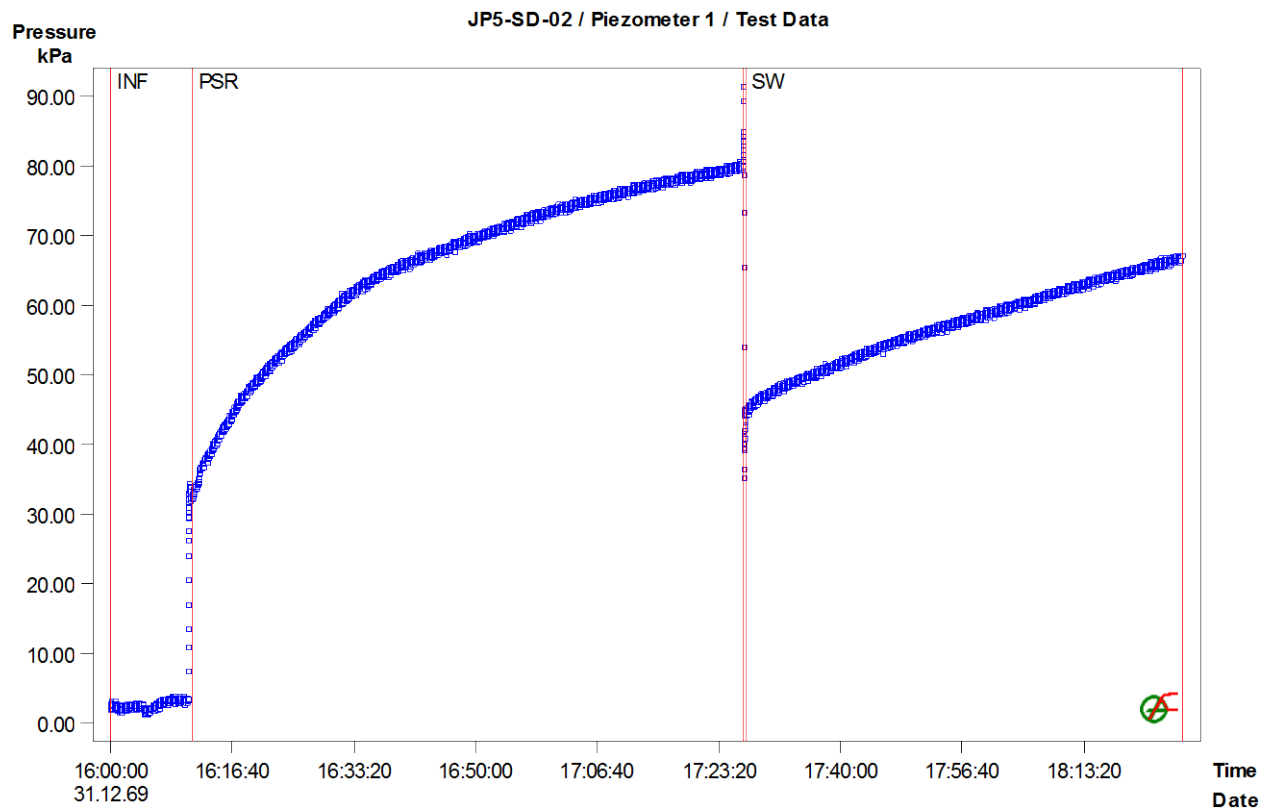


Figure 1: Pressure response and sequence definition

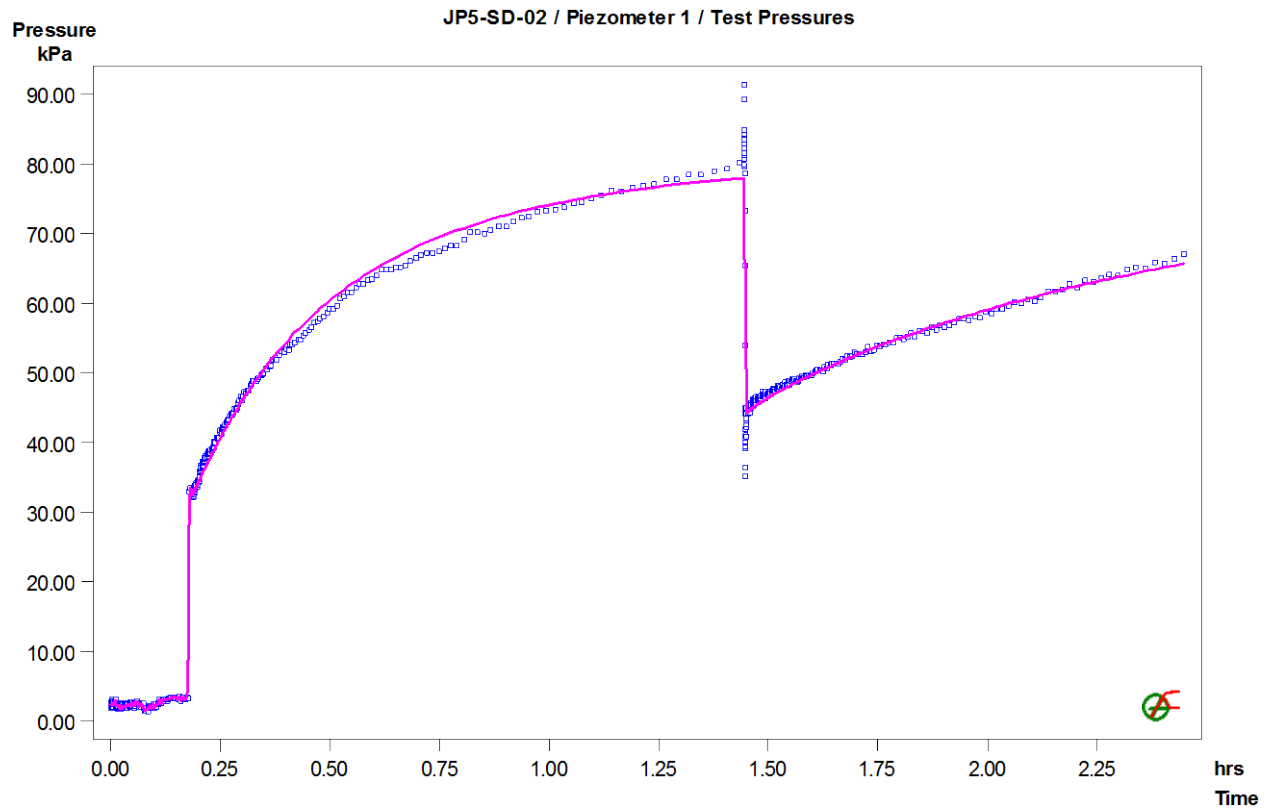


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-02 / Piezometer 1 / SW: LogLog Plot, variable P(i)

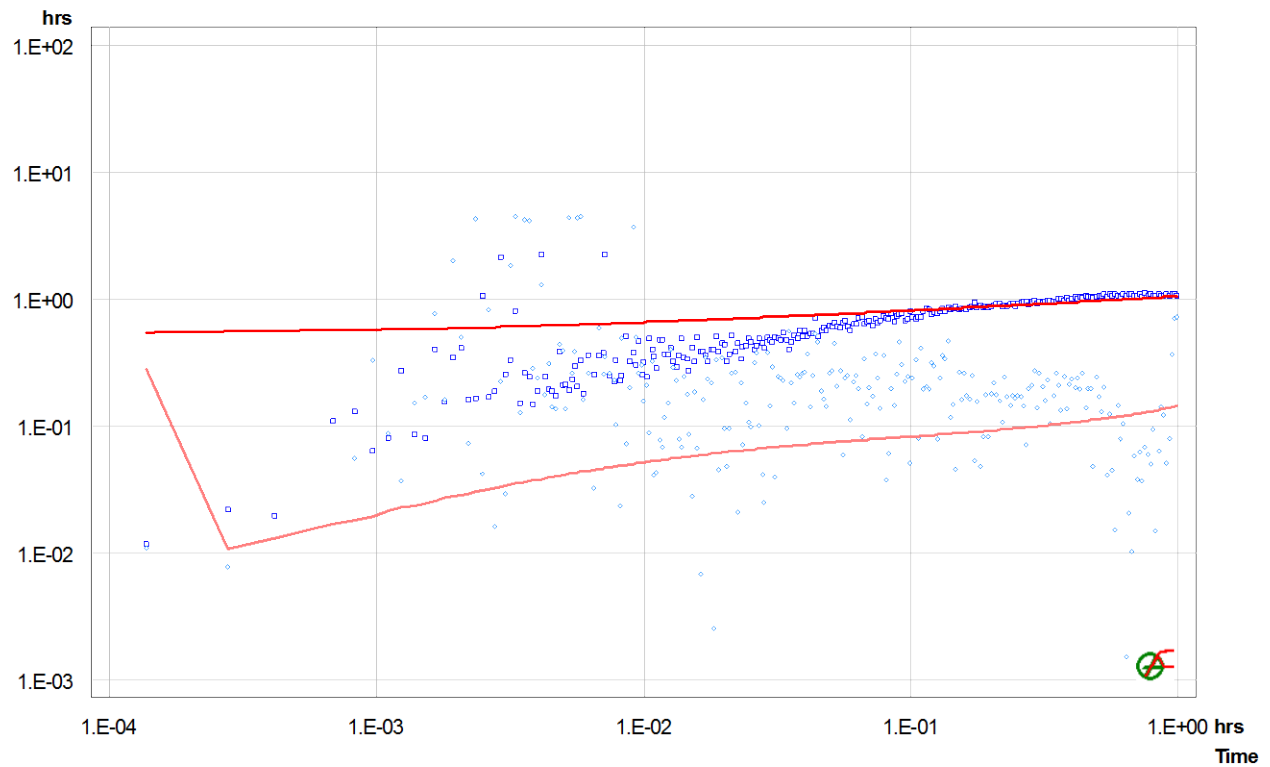


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

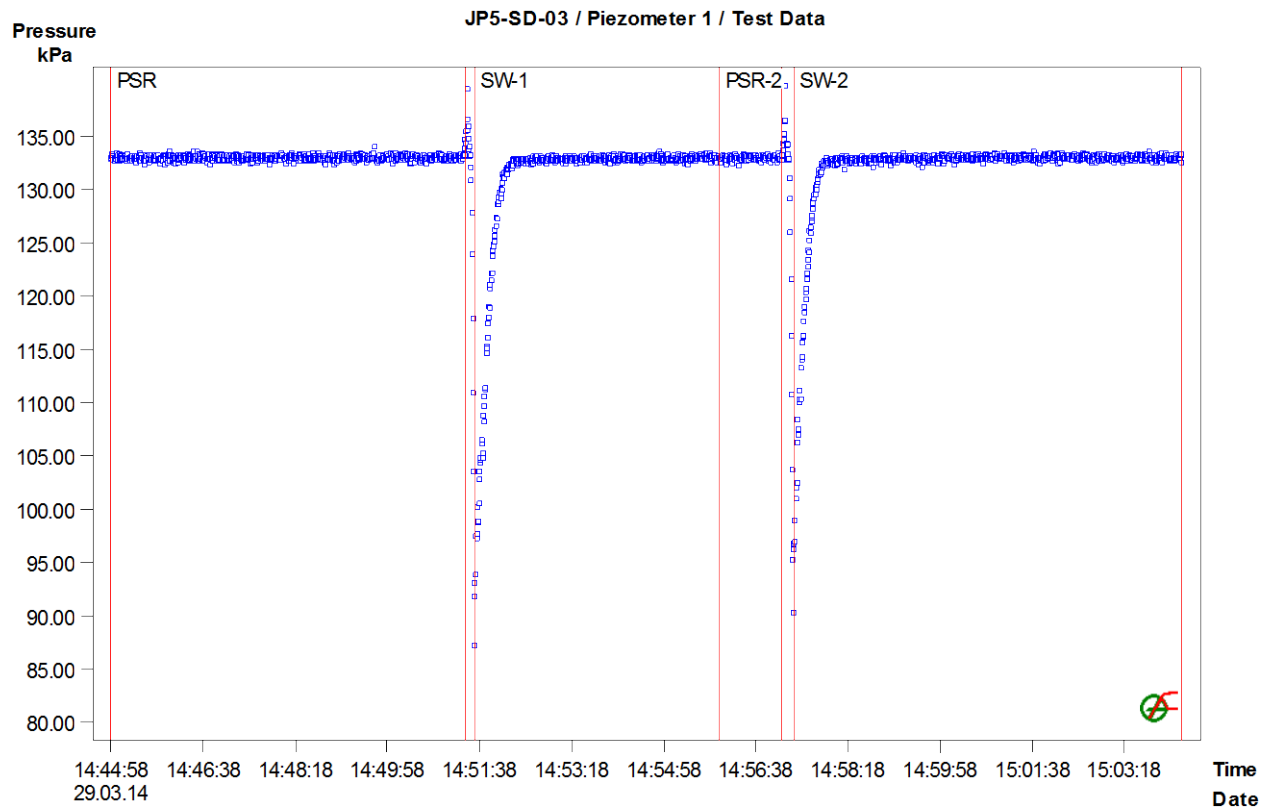


Figure 1: Pressure response and sequence definition

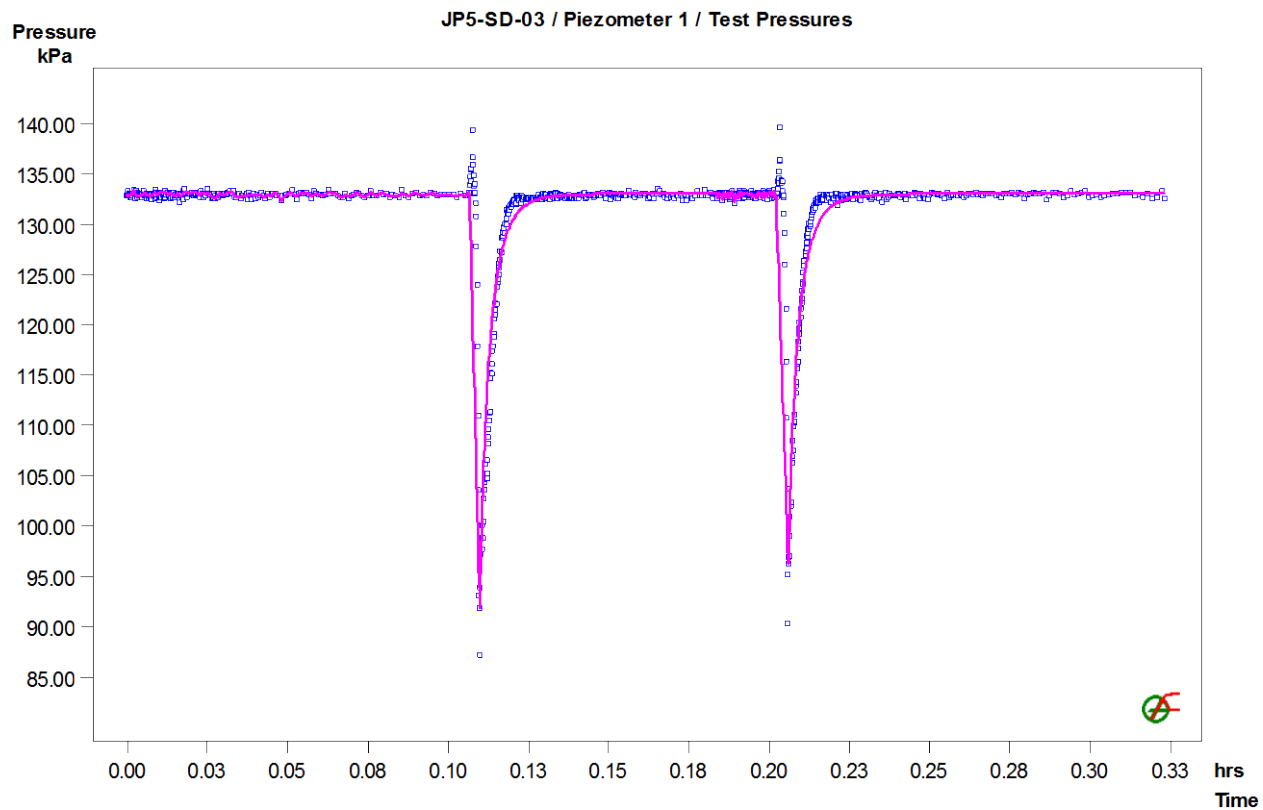


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-03 / Piezometer 1 / SW-2: LogLog Plot, constant P(i)

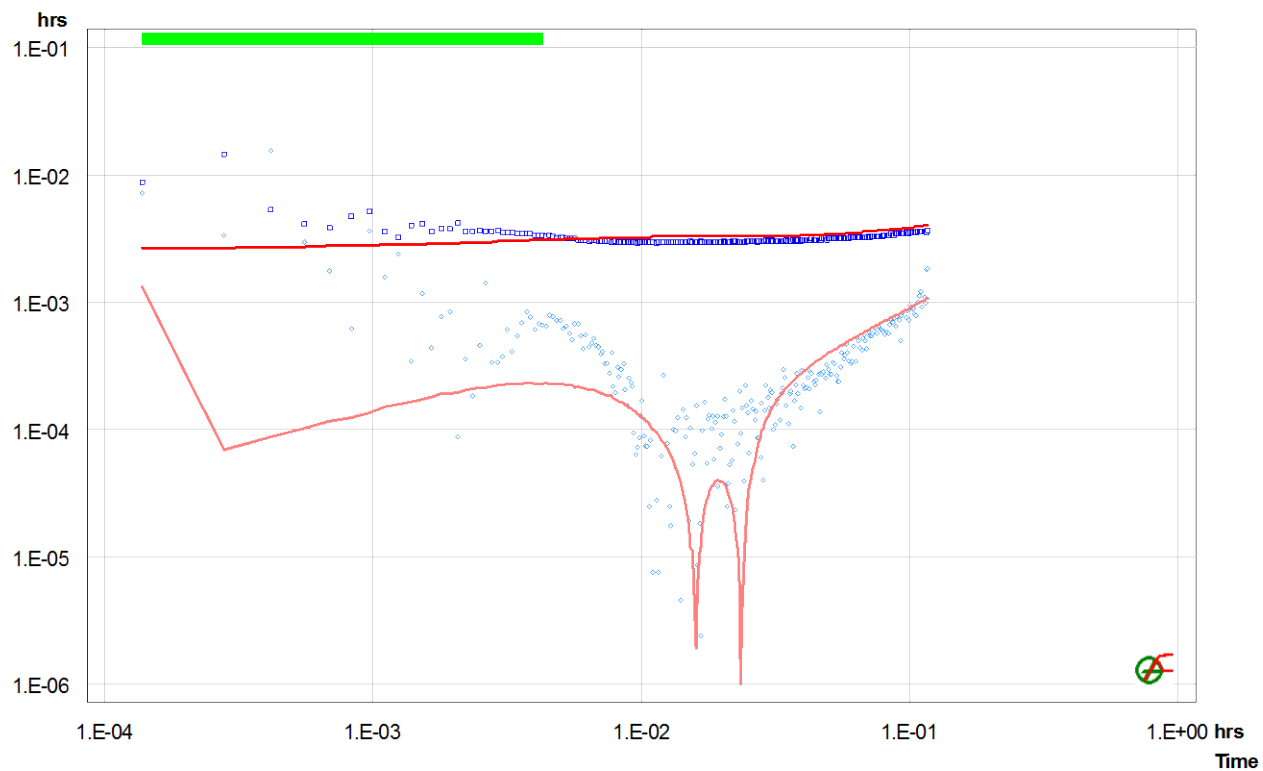


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

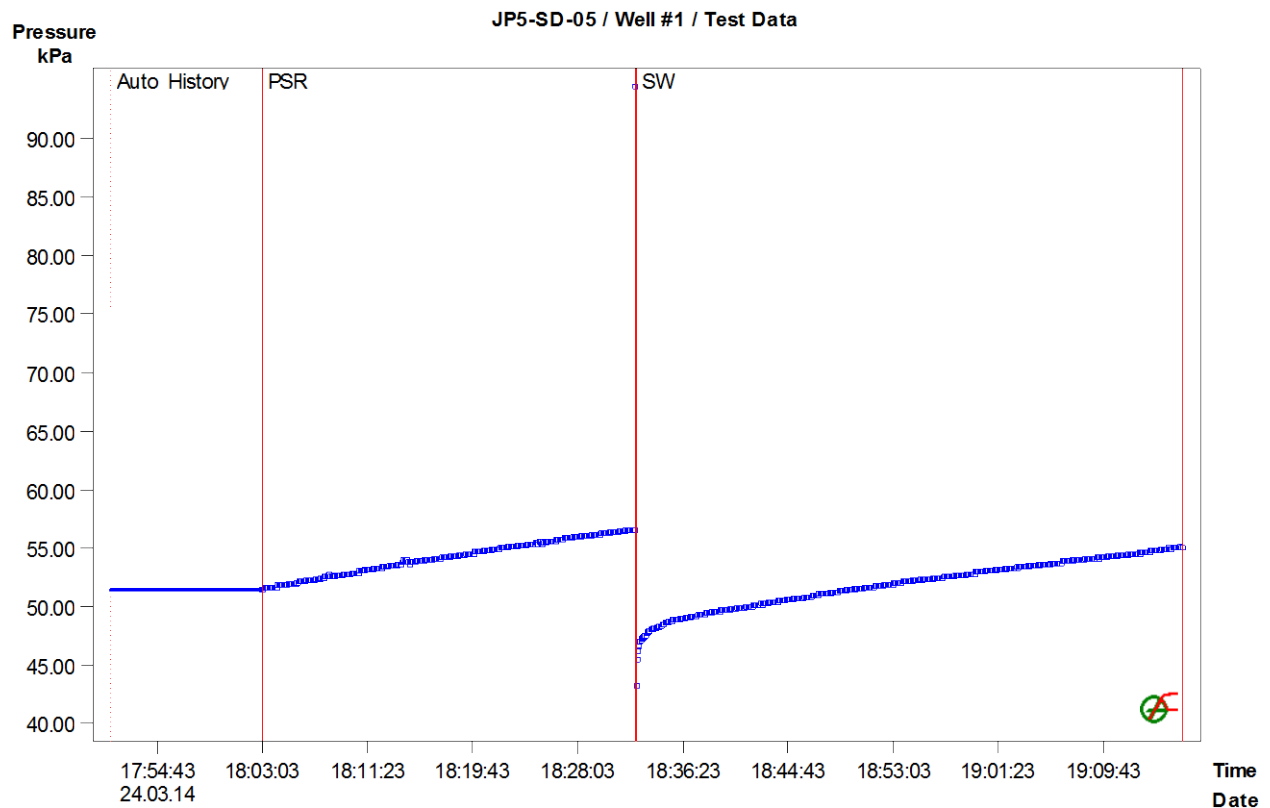


Figure 1: Pressure response and sequence definition

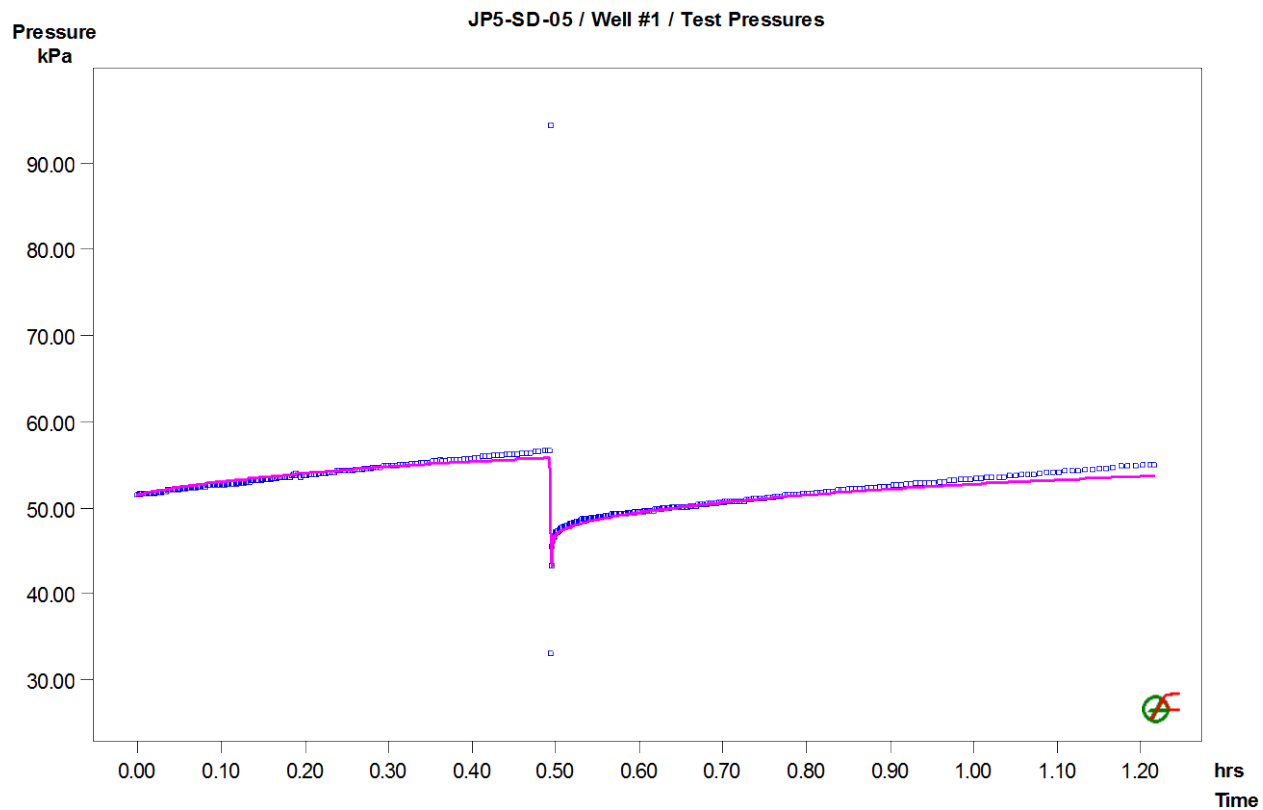


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Well #1 / SW: LogLog Plot, variable P(i)

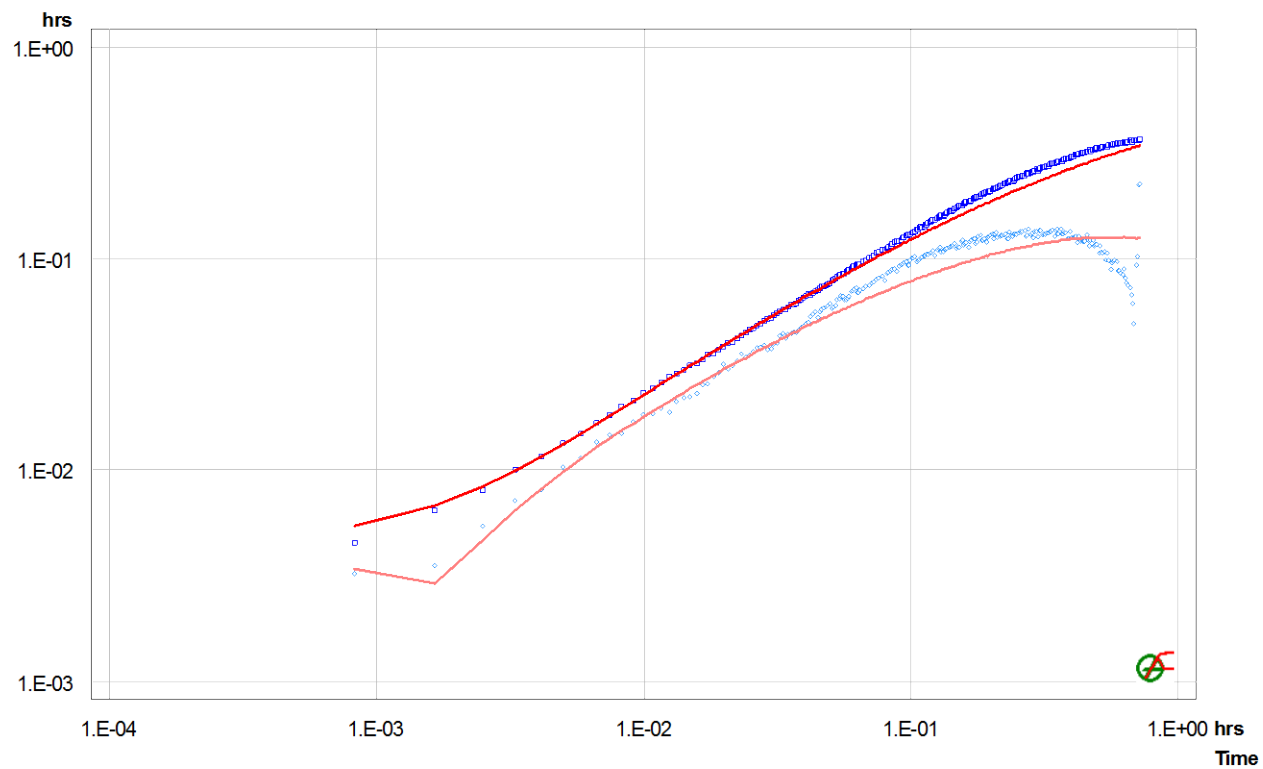


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

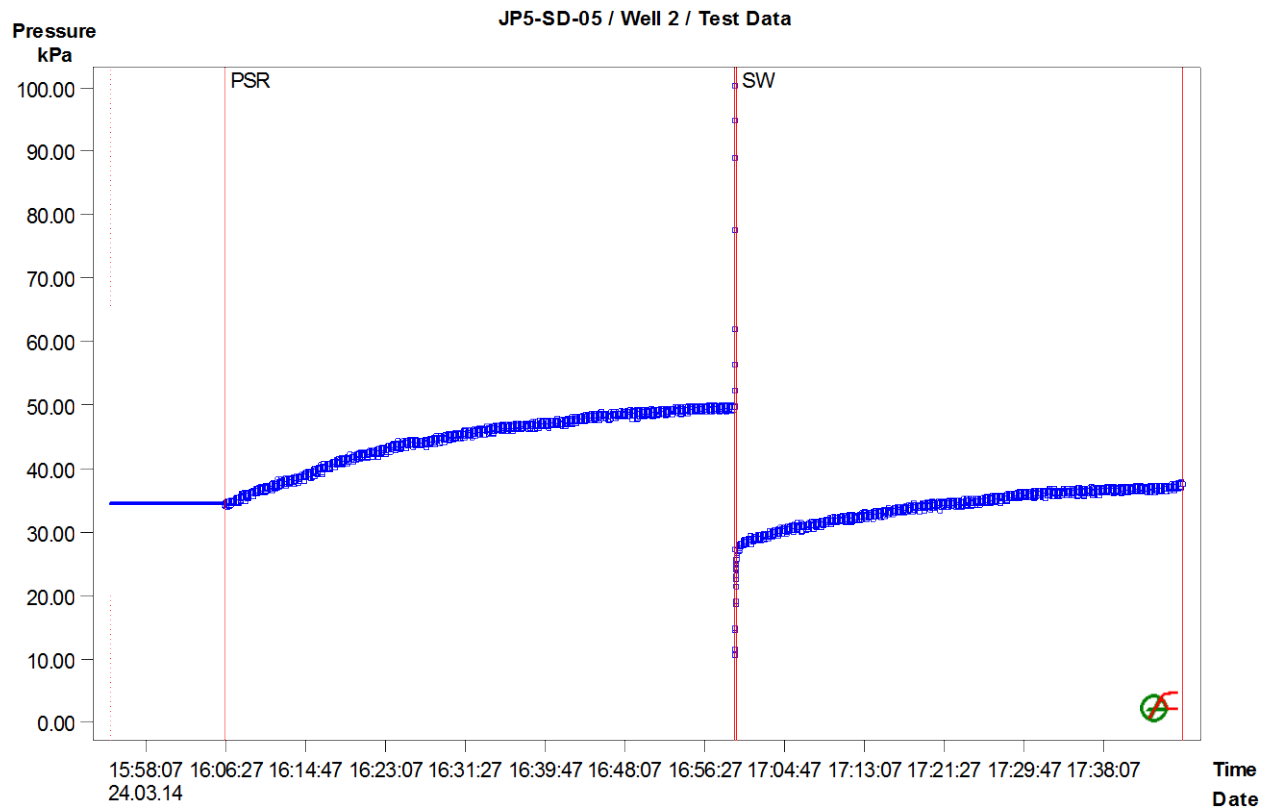


Figure 1: Pressure response and sequence definition

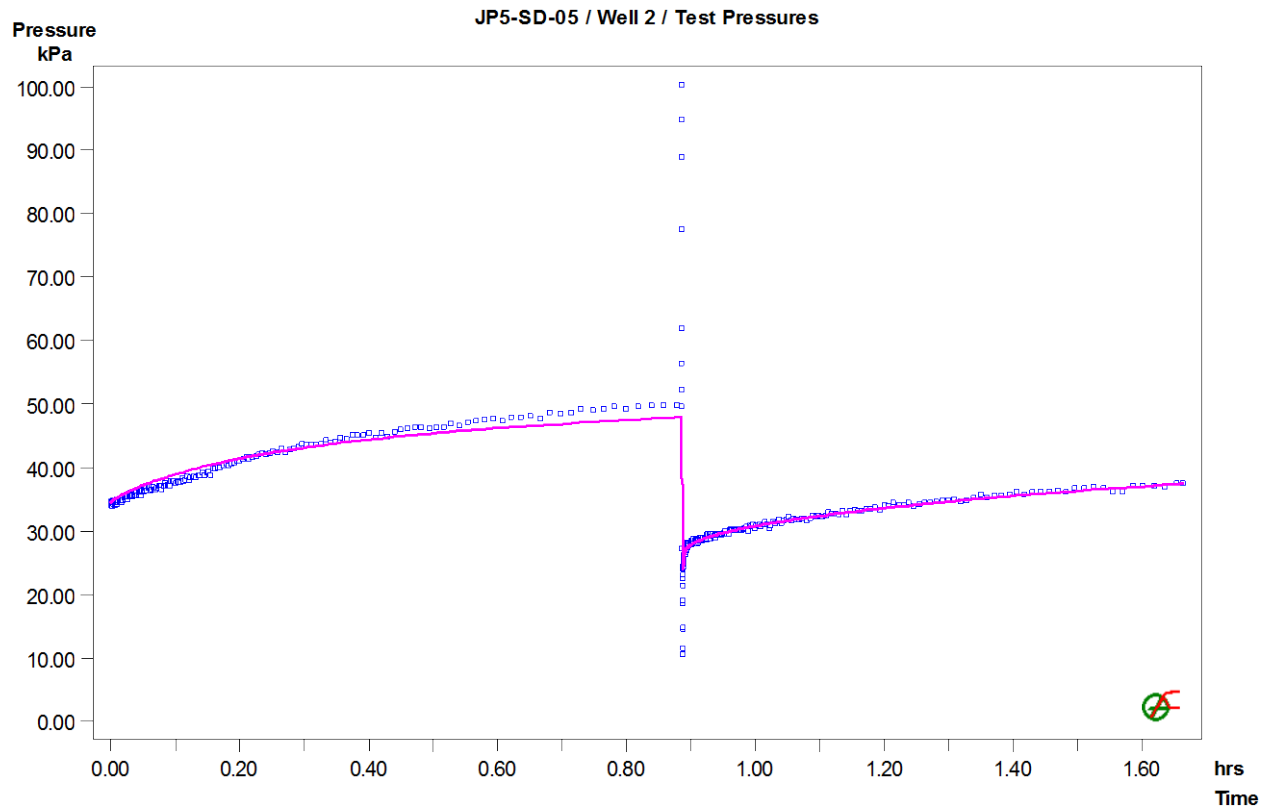


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Well 2 / SW: LogLog Plot, variable P(i)

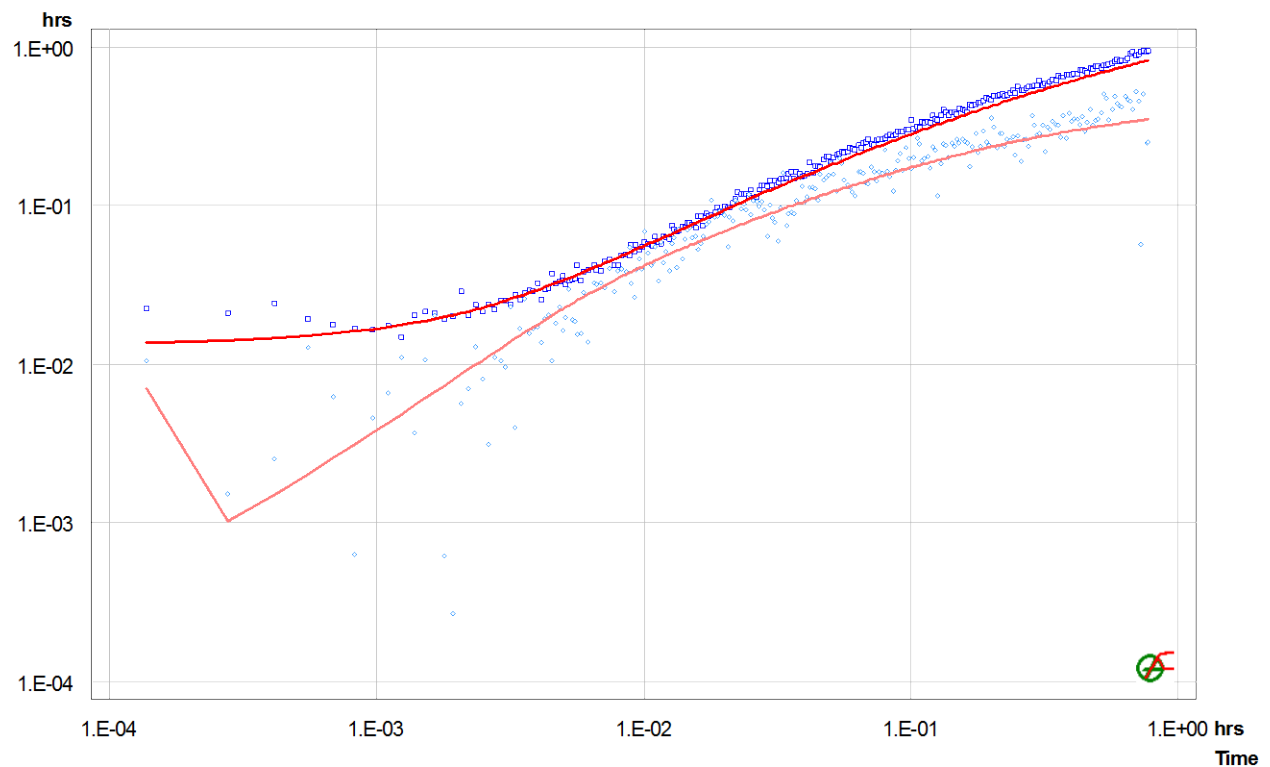


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

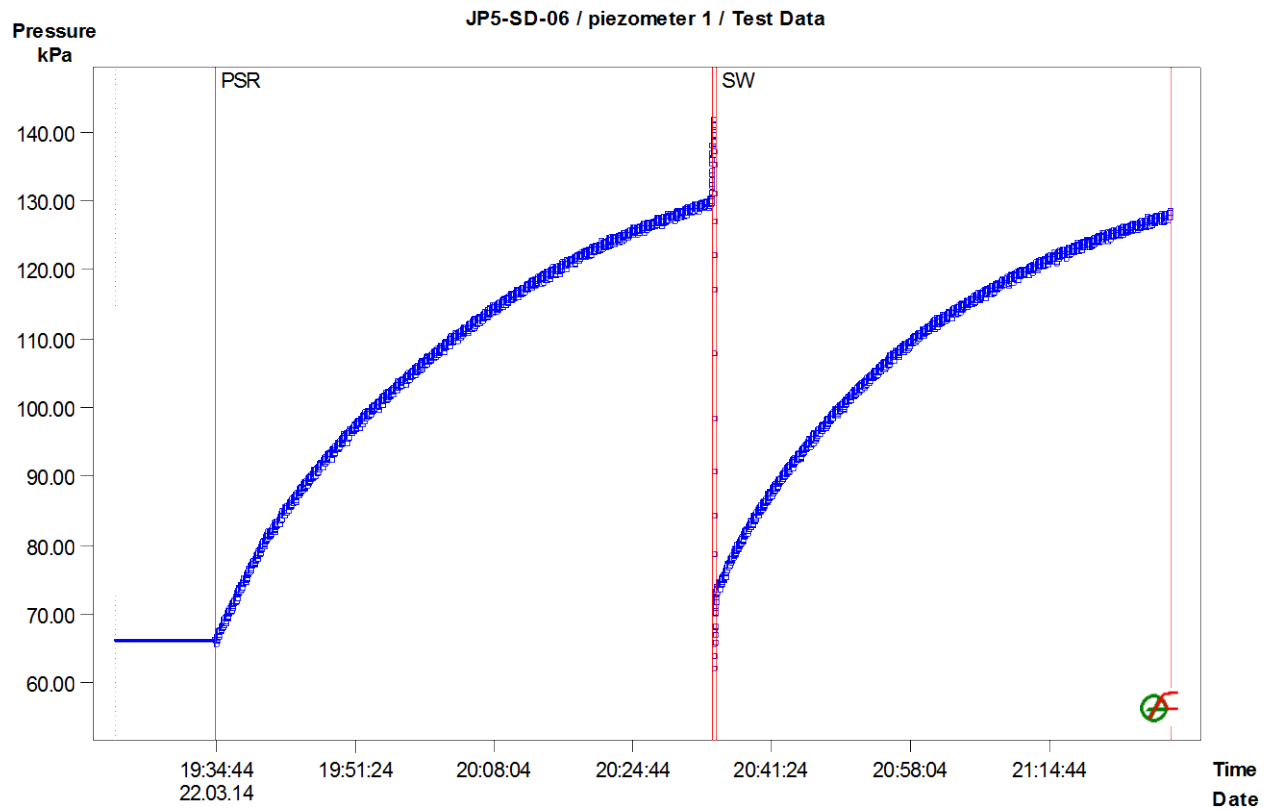


Figure 1: Pressure response and sequence definition

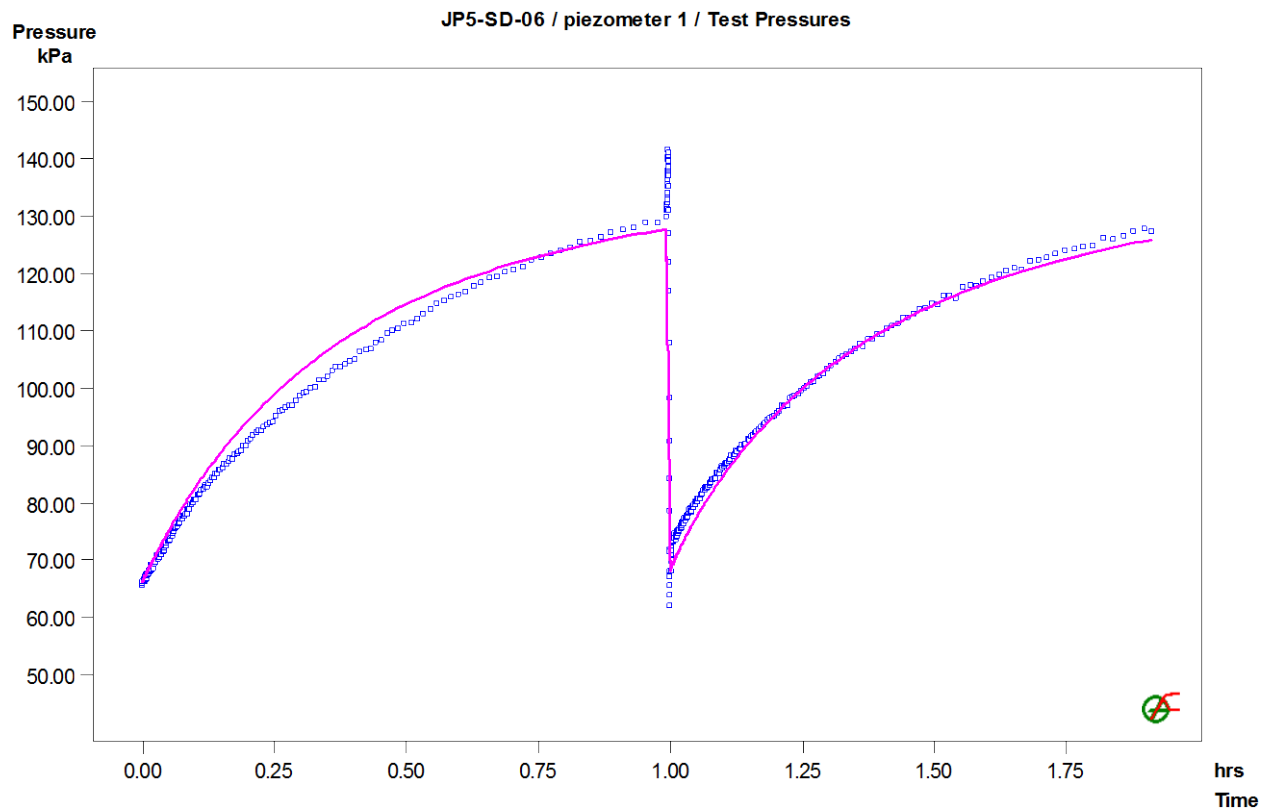


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-06 / piezometer 1 / SW: LogLog Plot, variable P(i)

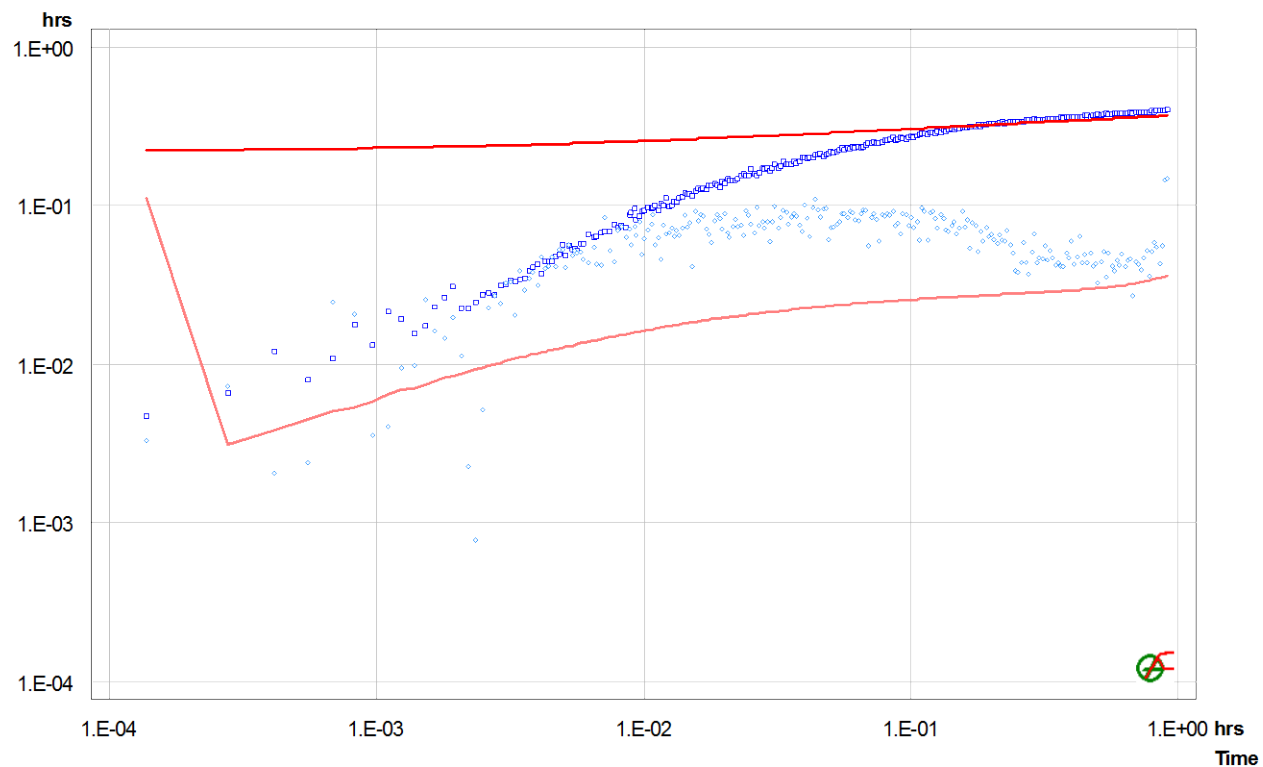


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

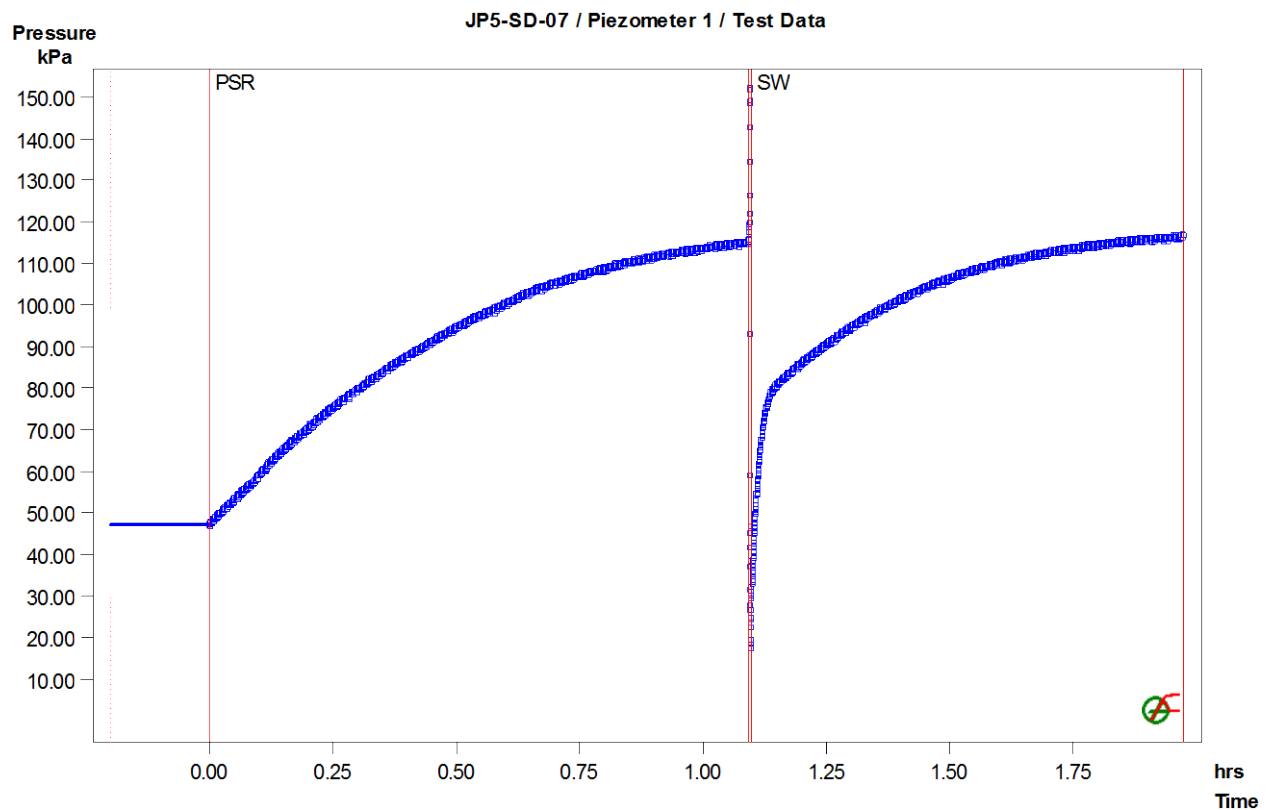


Figure 1: Pressure response and sequence definition

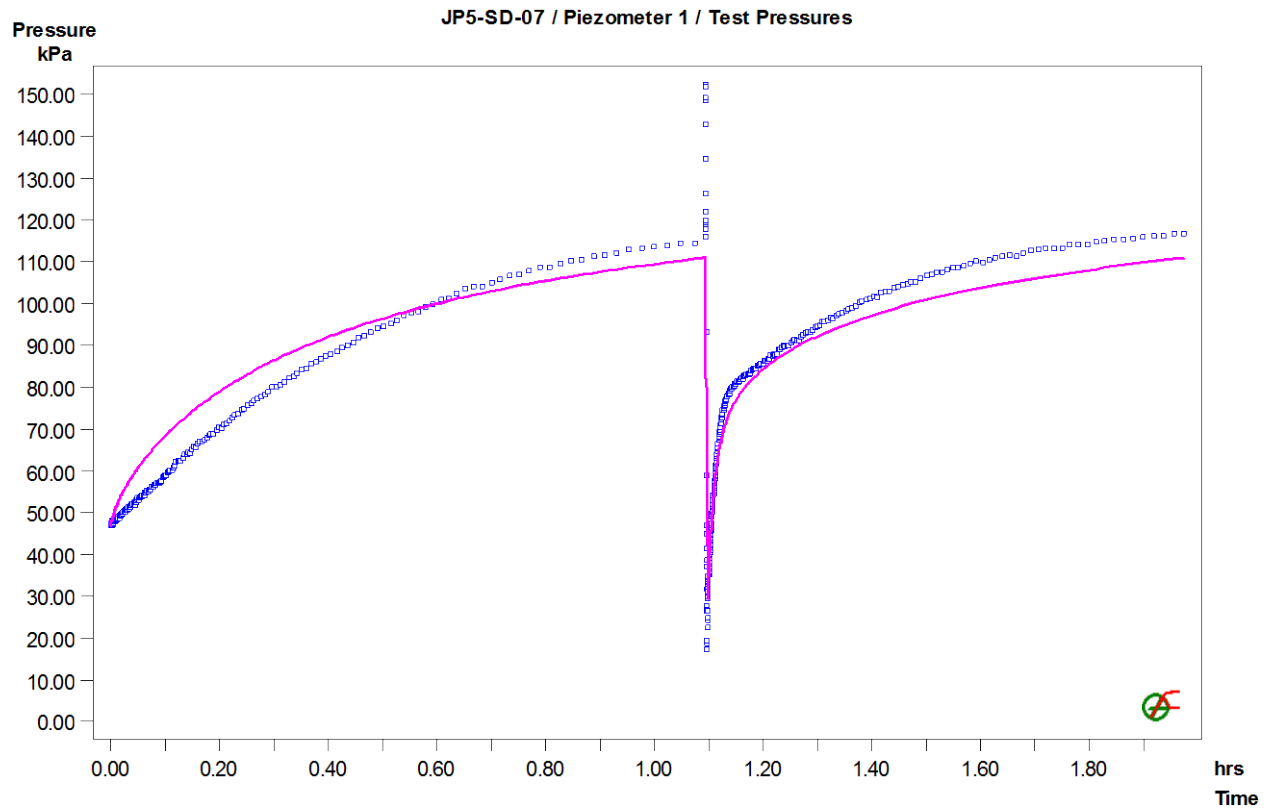


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Piezometer 1 / SW: LogLog Plot, variable P(i)

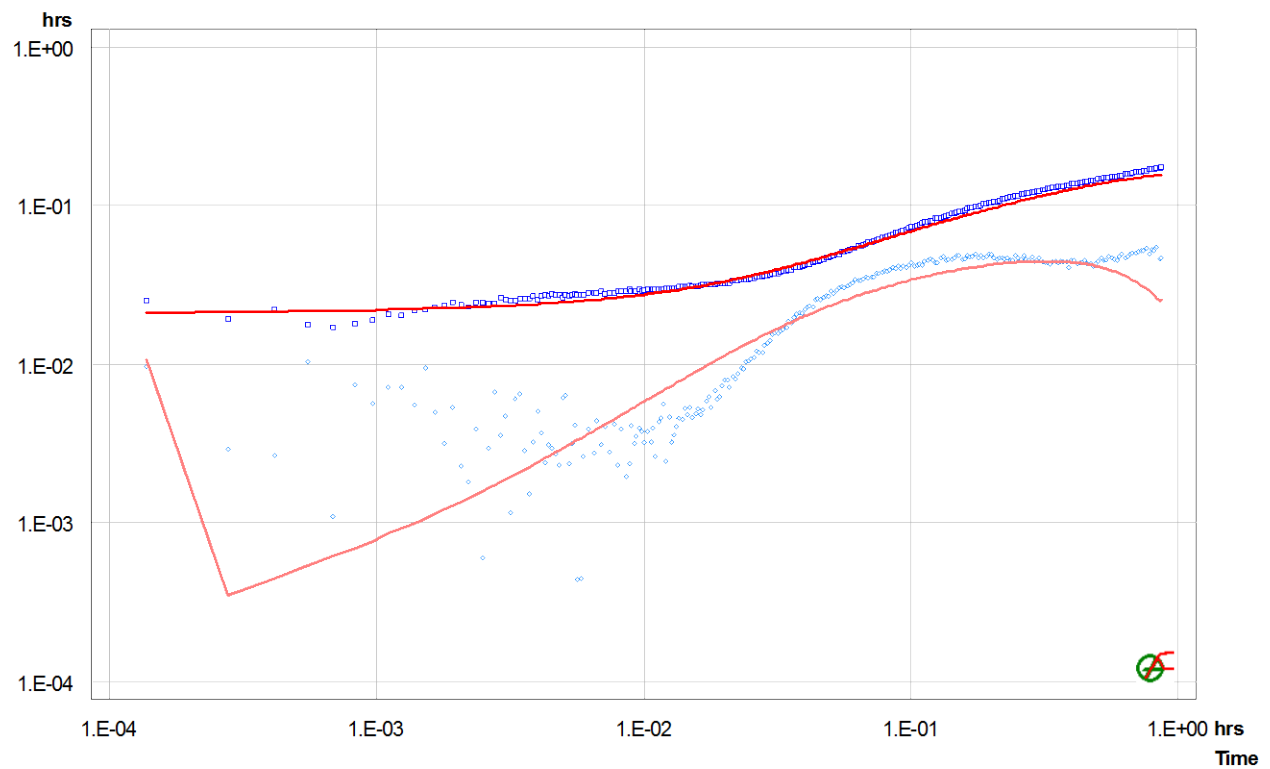


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

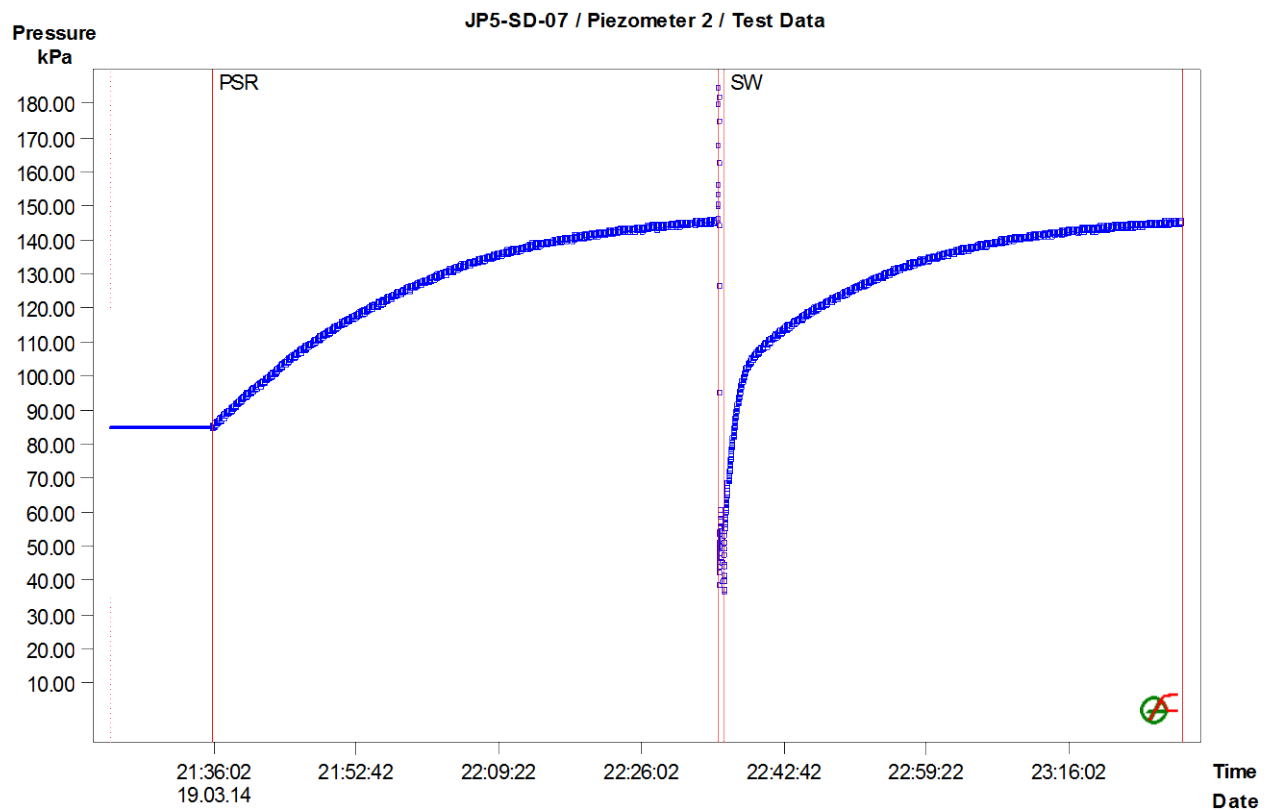


Figure 1: Pressure response and sequence definition

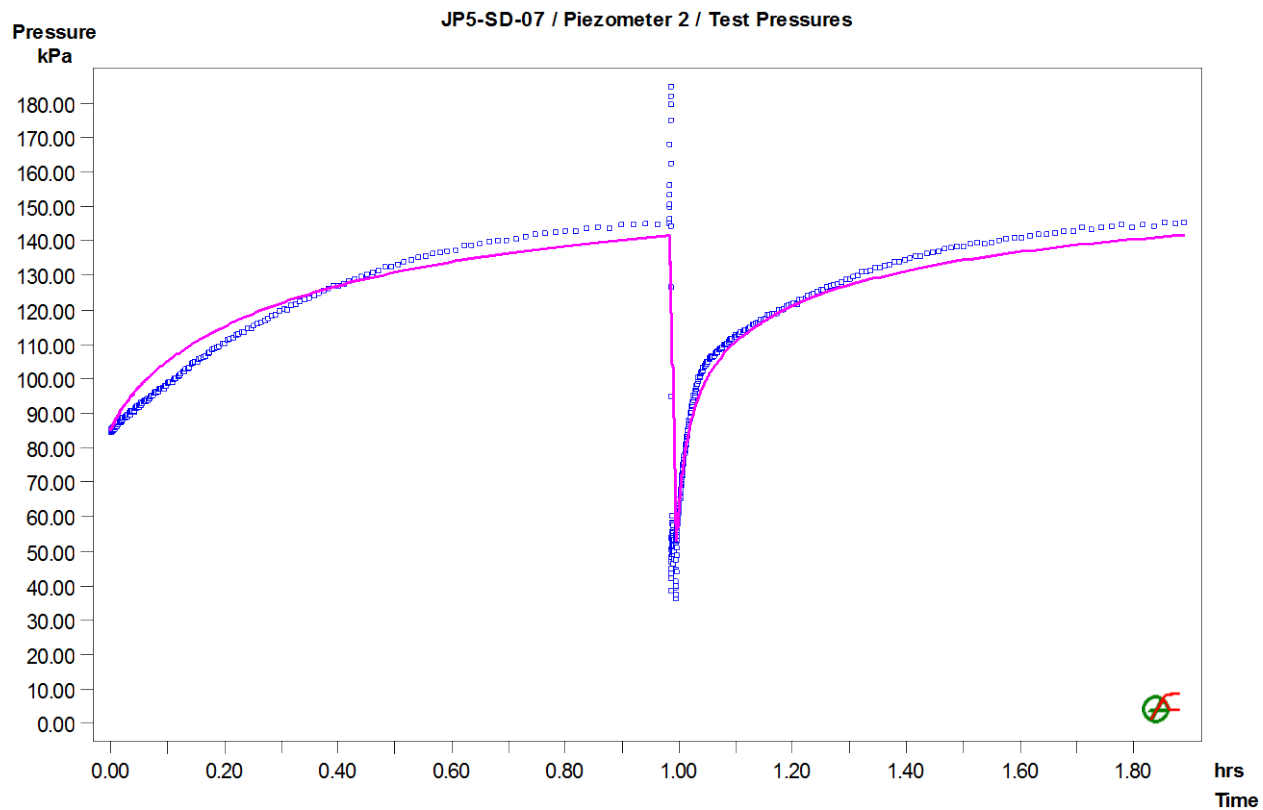


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Piezometer 2 / SW: LogLog Plot, variable P(i)

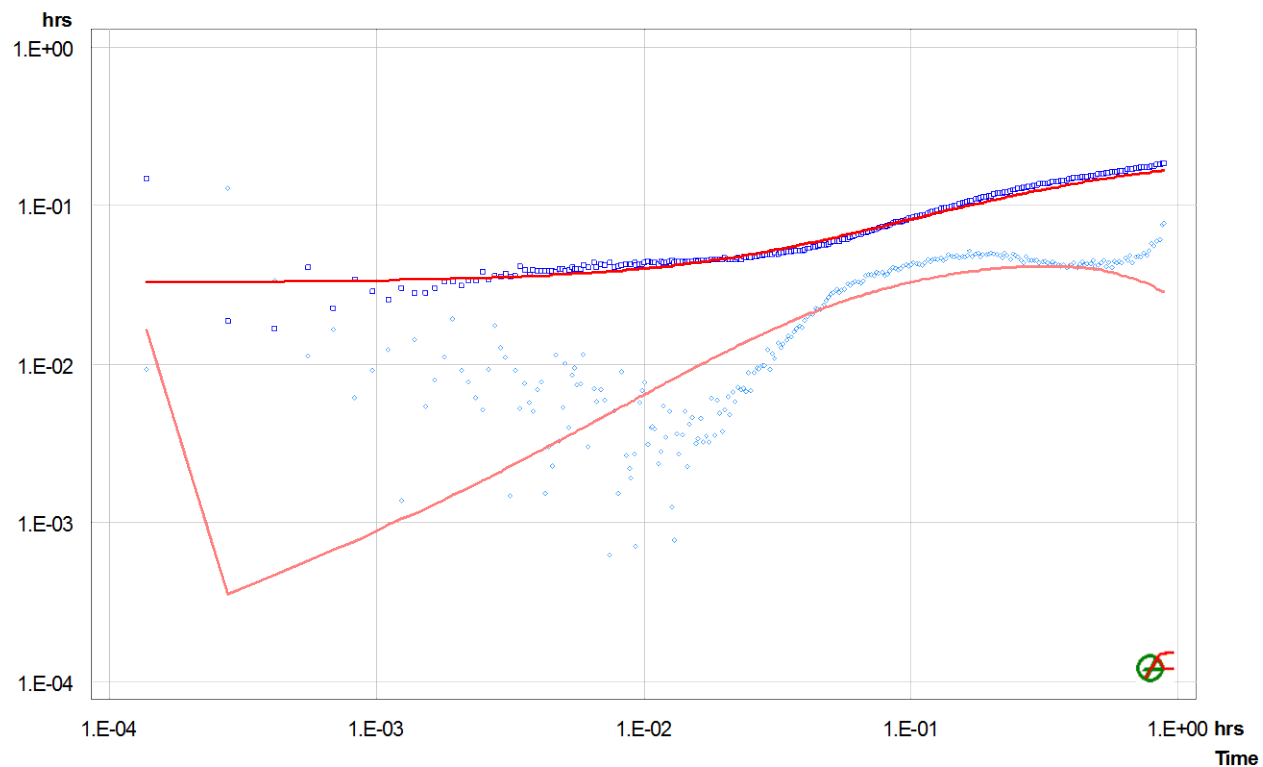


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

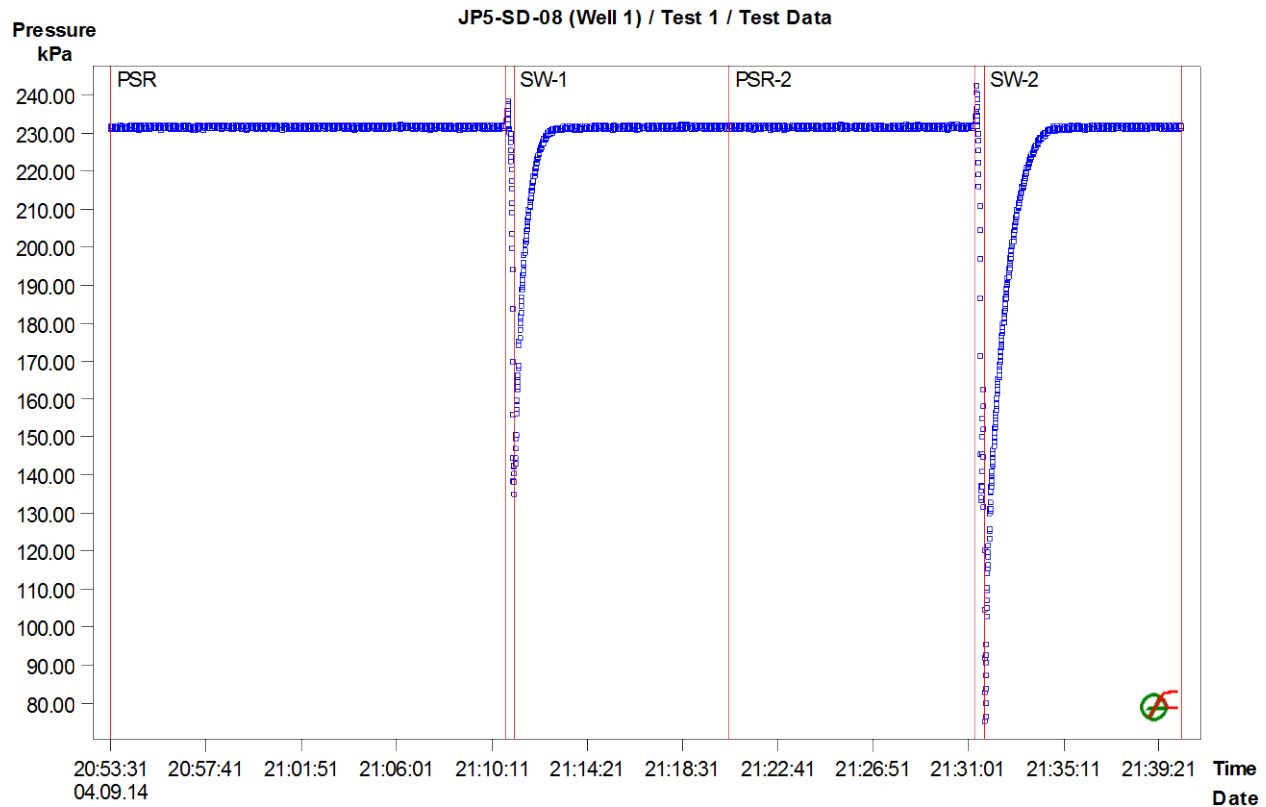


Figure 1: Pressure response and sequence definition

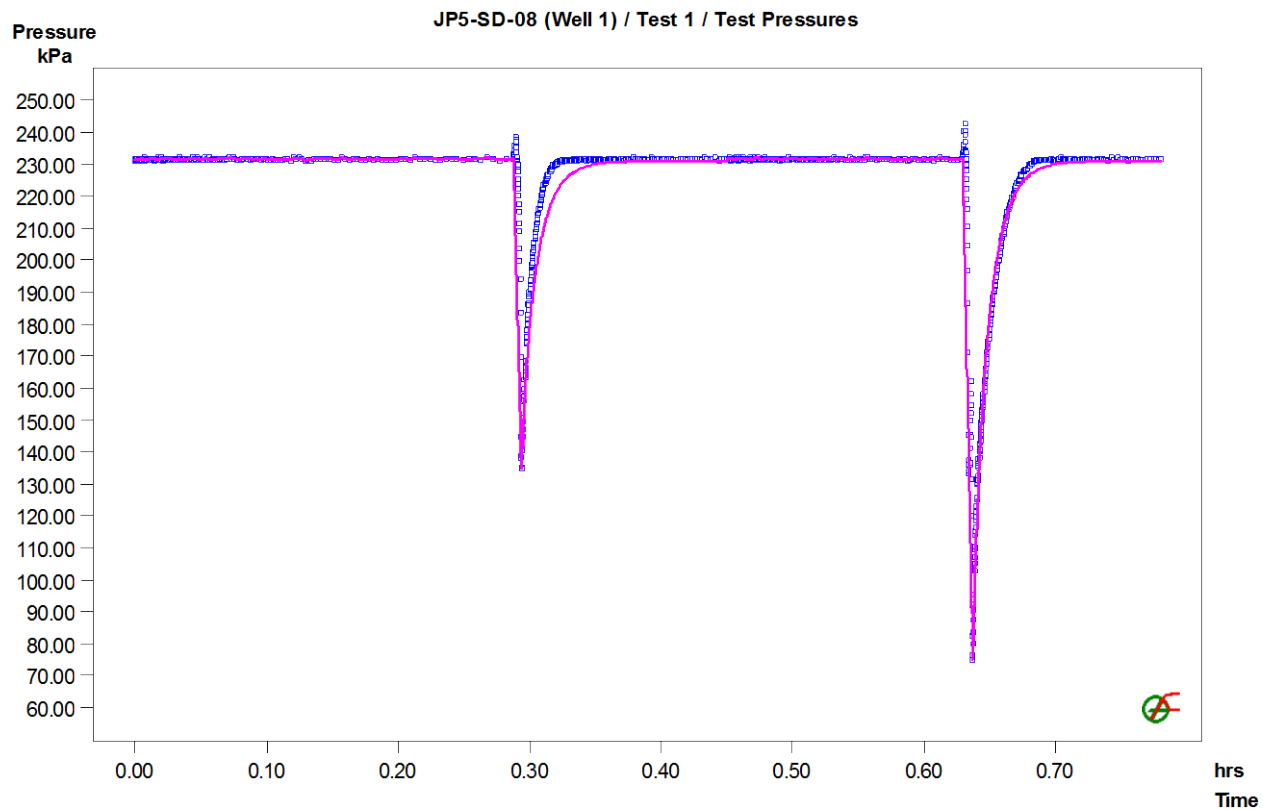


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

Deconv. P

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

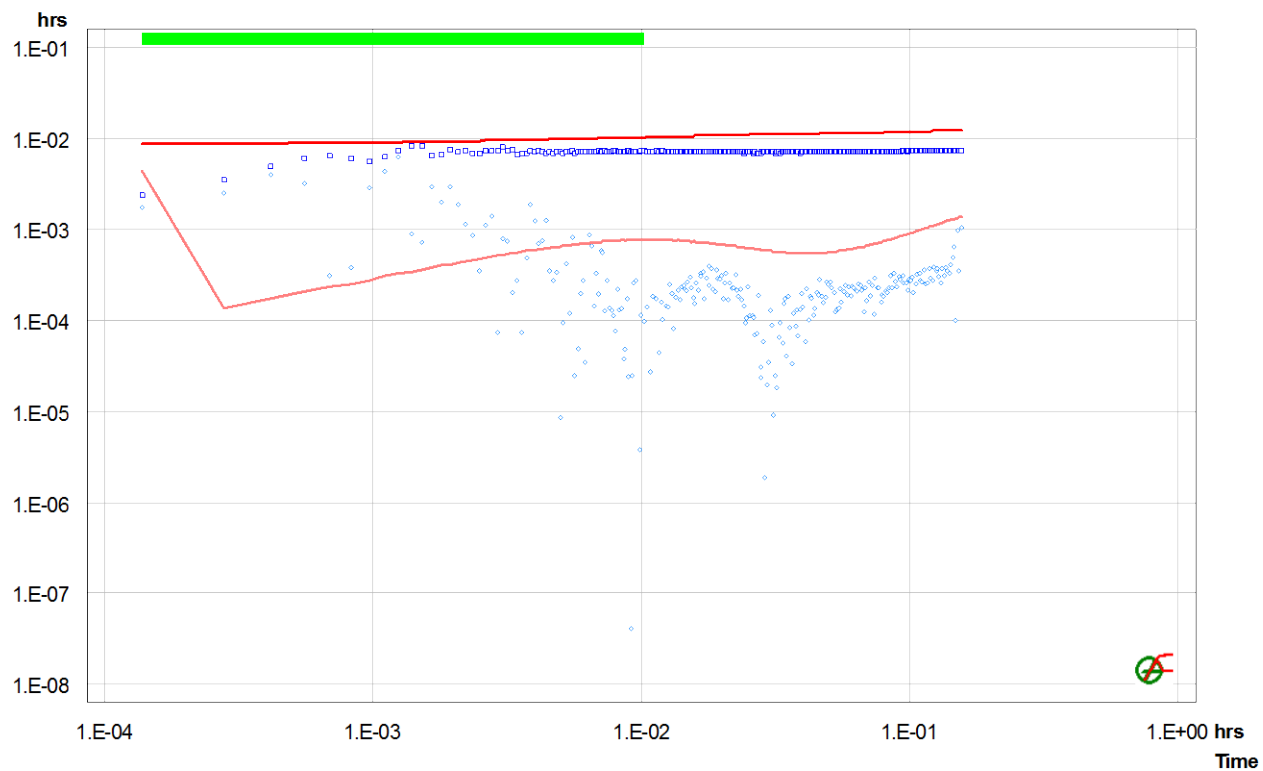


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

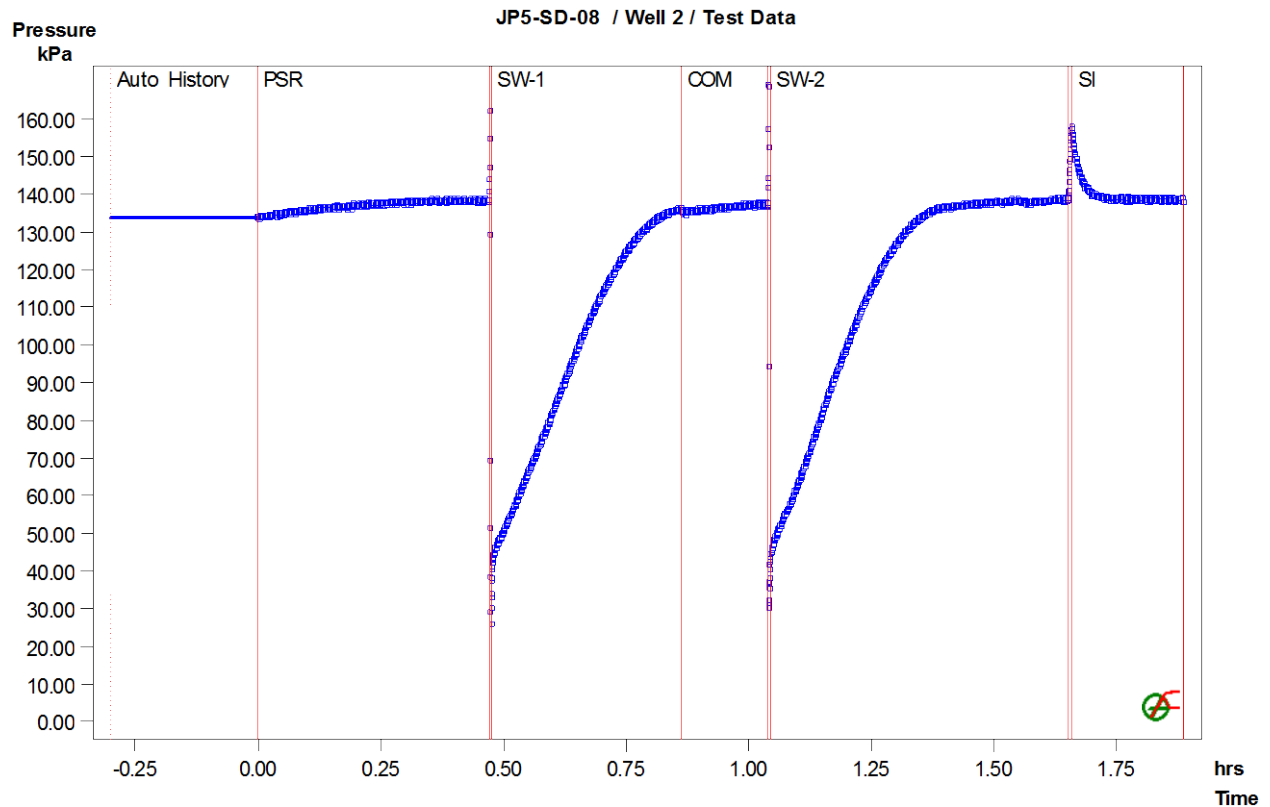


Figure 1: Pressure response and sequence definition

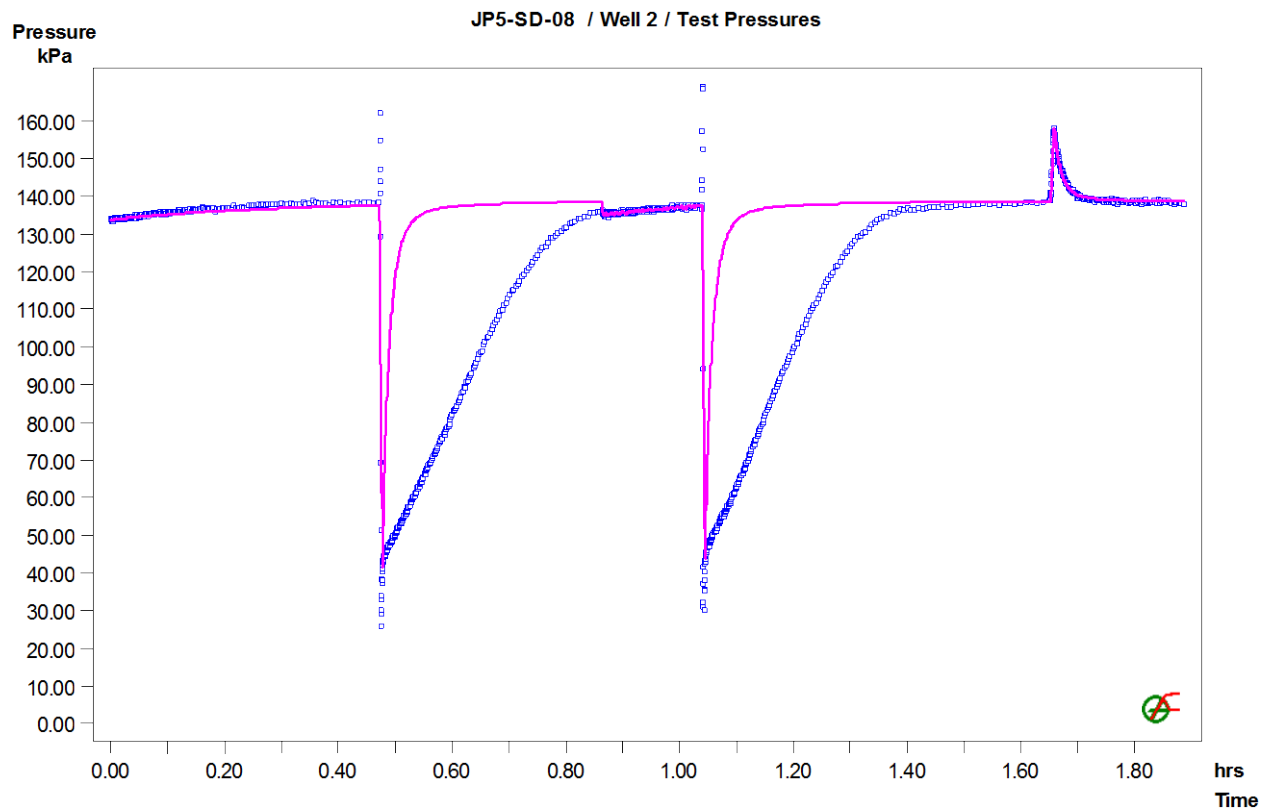


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

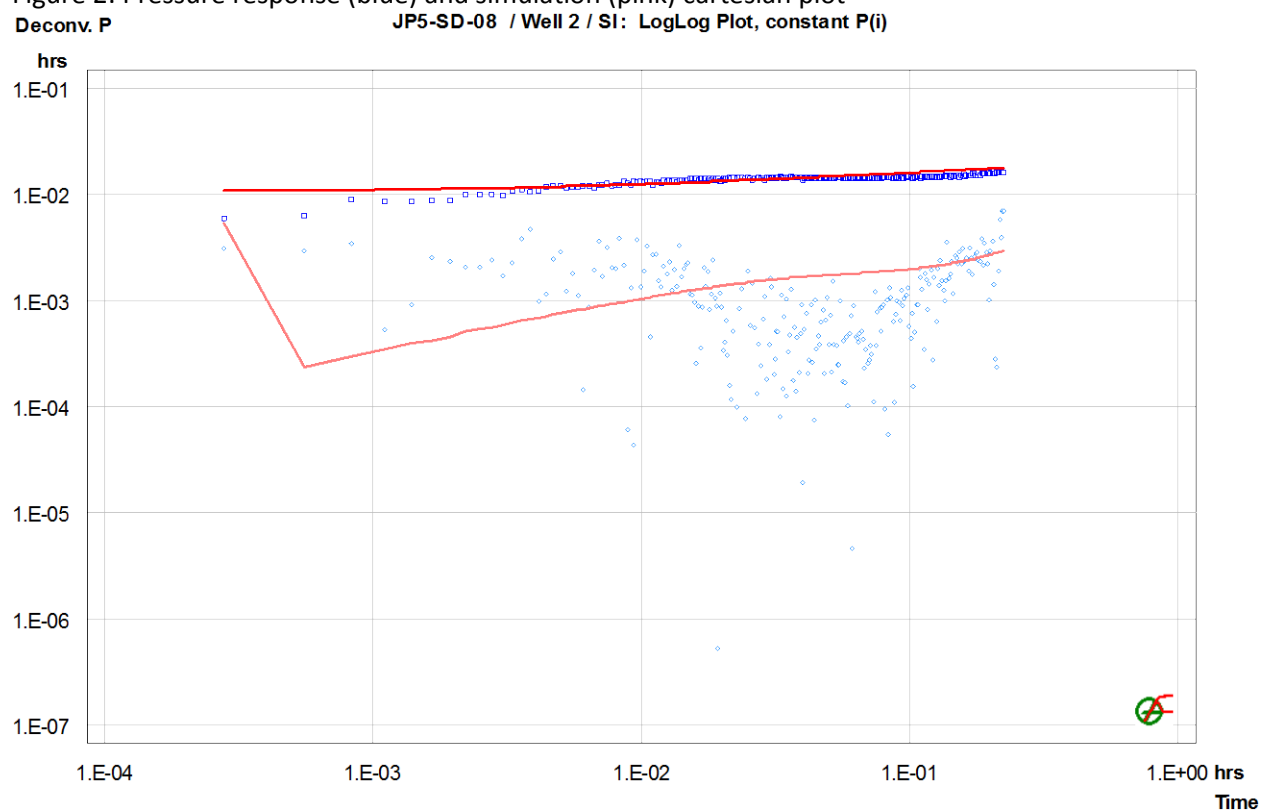


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SI sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-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

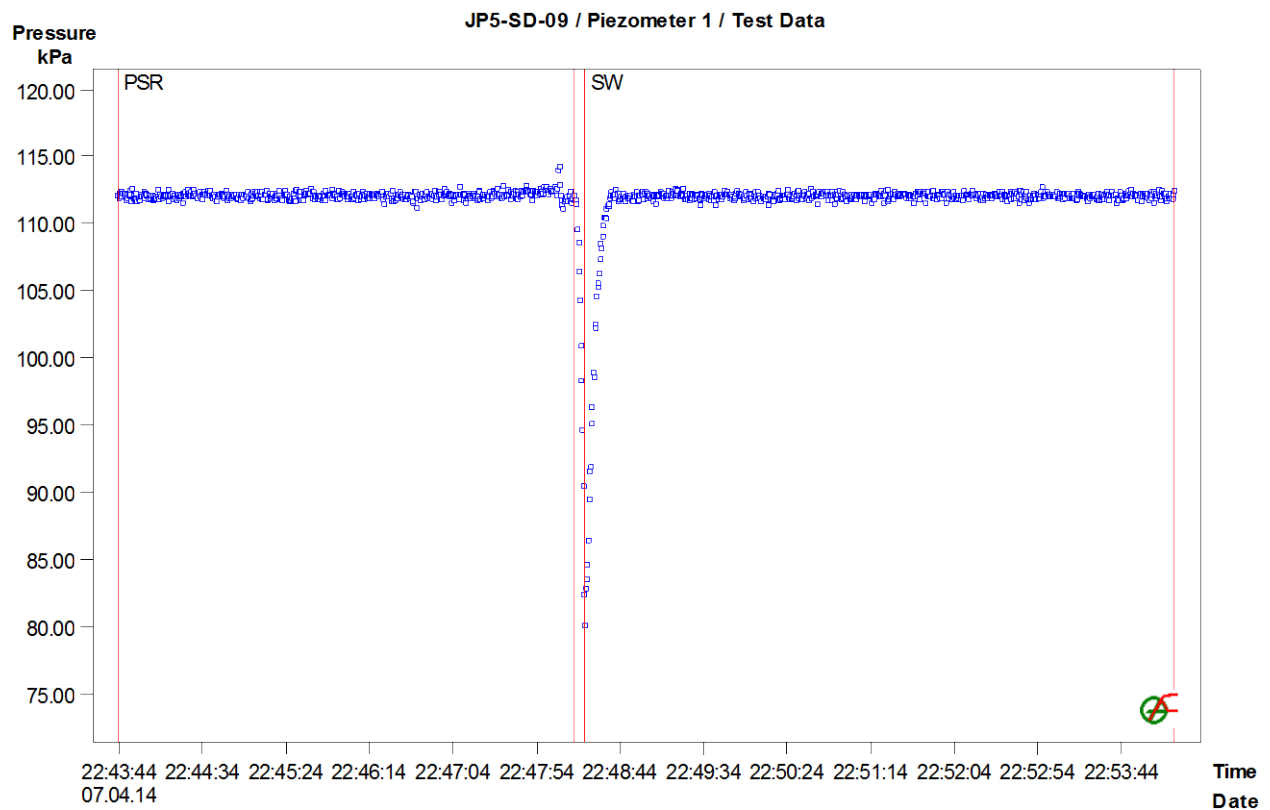


Figure 1: Pressure response and sequence definition

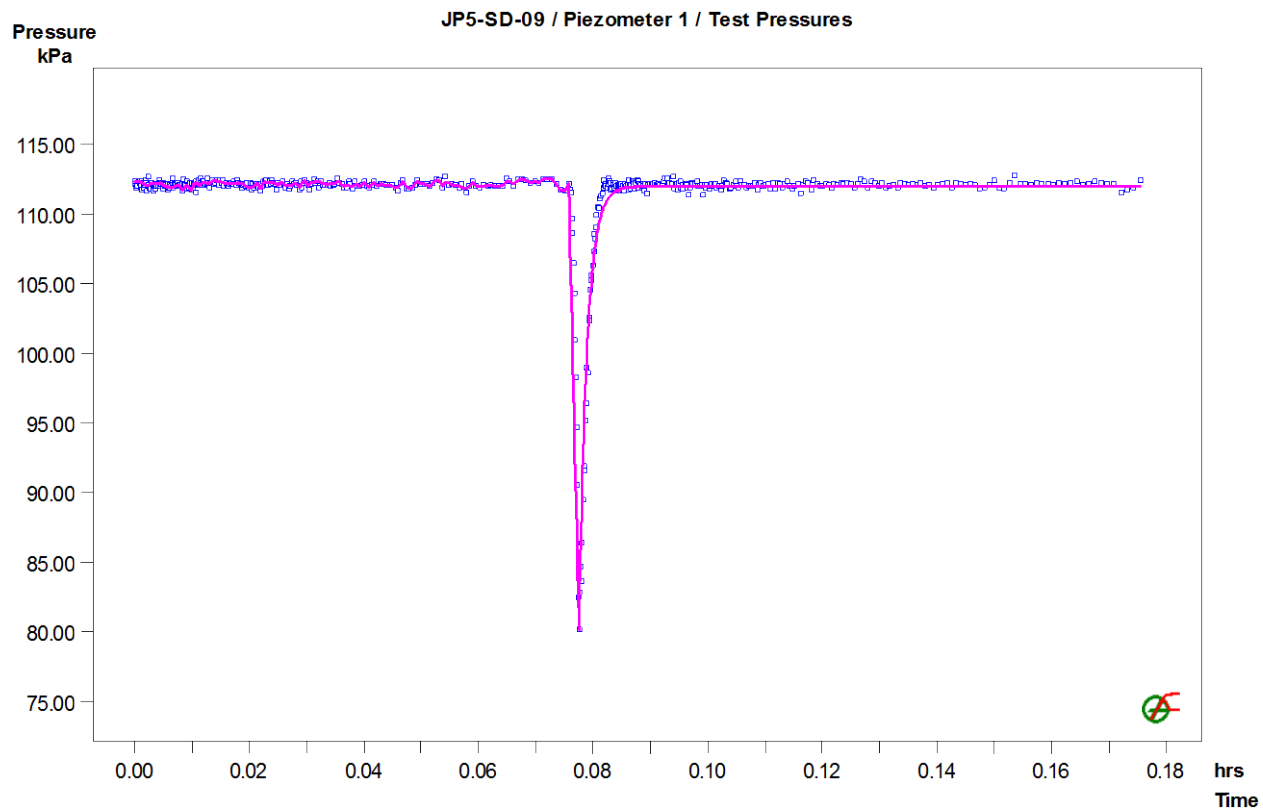


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-09 / Piezometer 1 / SW: LogLog Plot, constant P(i)

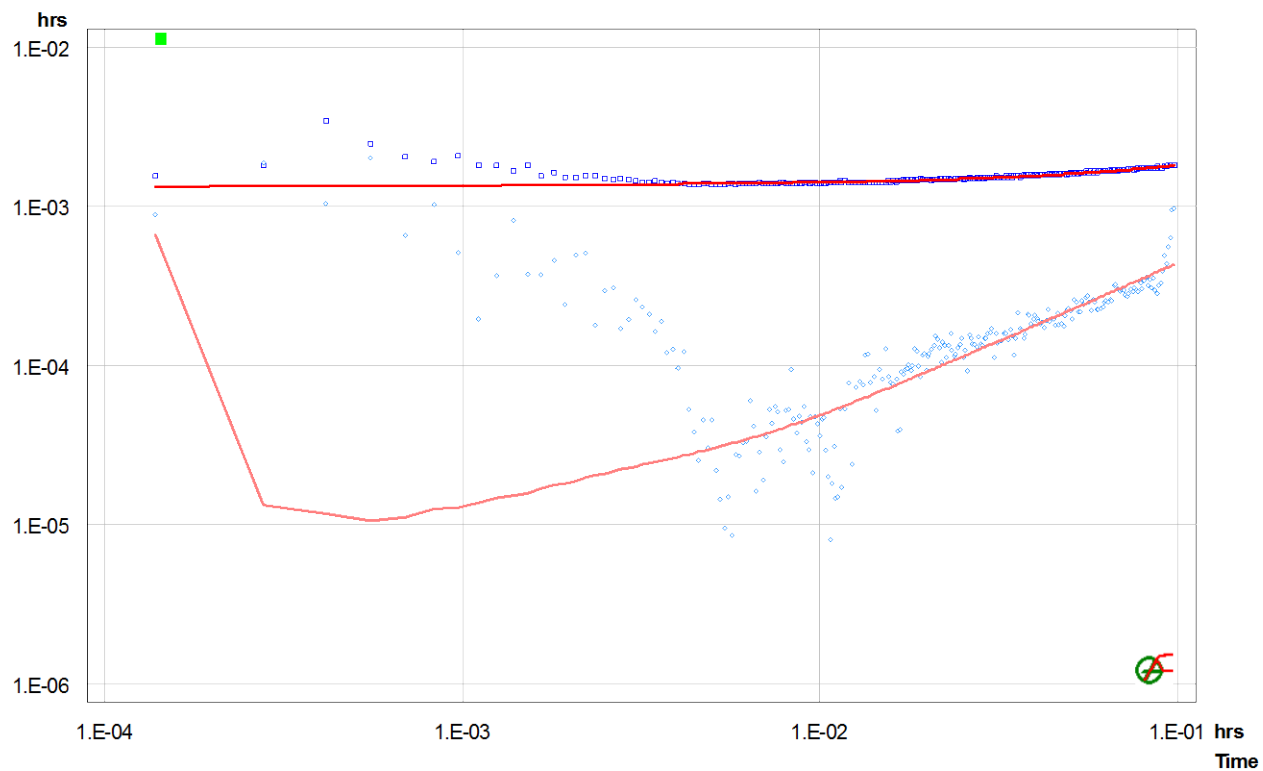


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

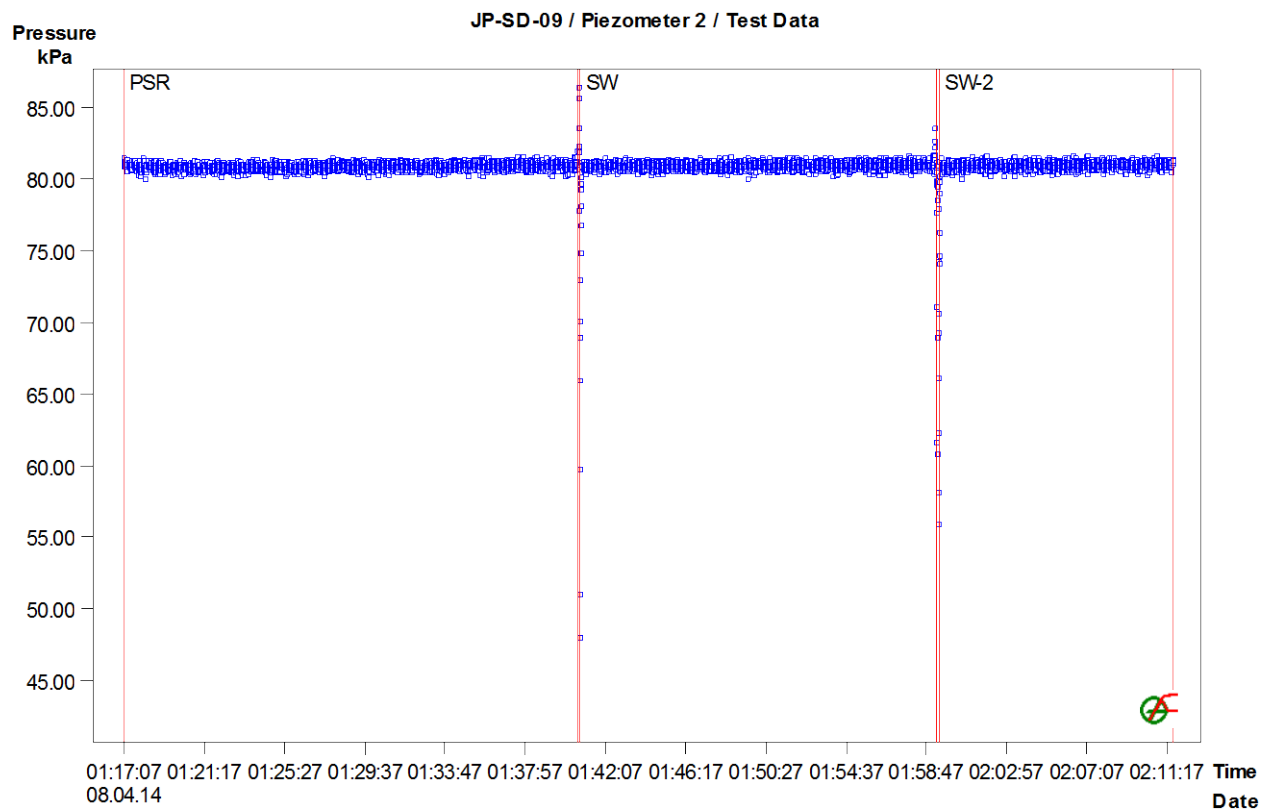


Figure 1: Pressure response and sequence definition

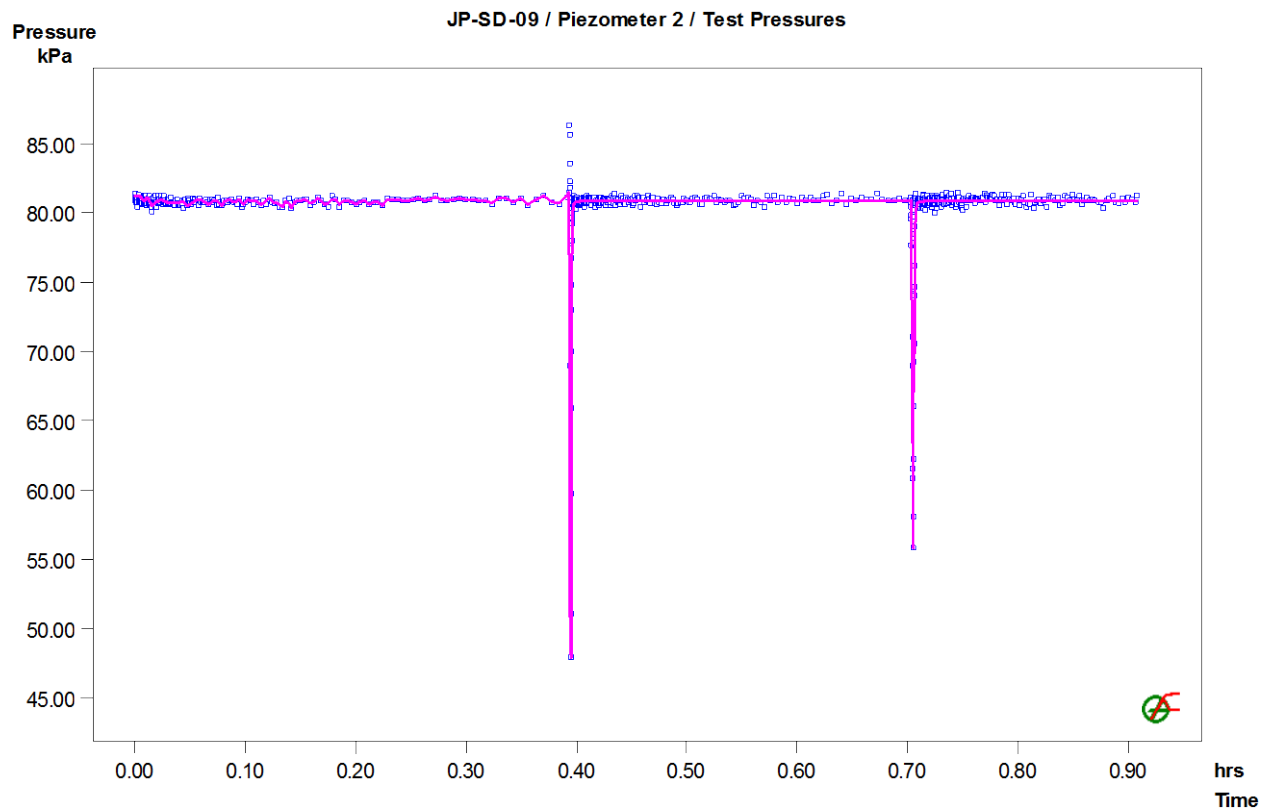


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP-SD-09 / Piezometer 2 / SW: LogLog Plot, constant P(i)

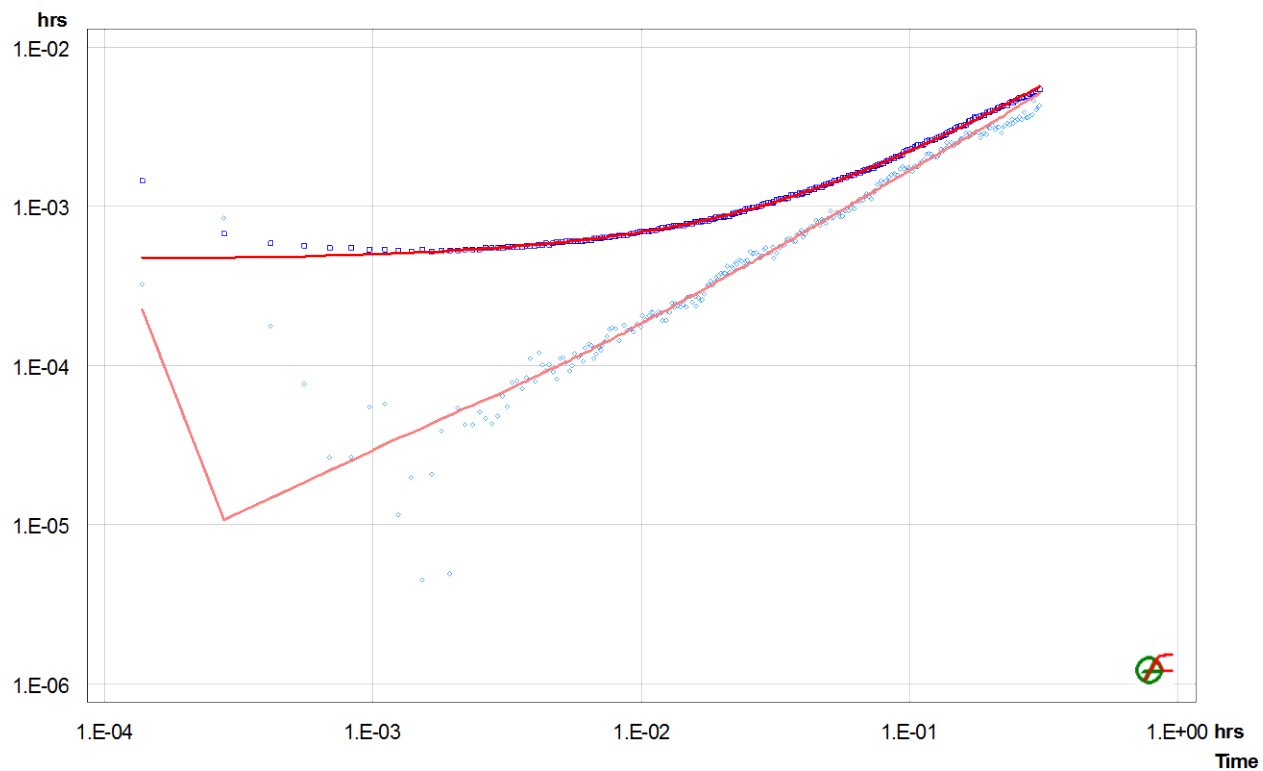


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	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/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	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

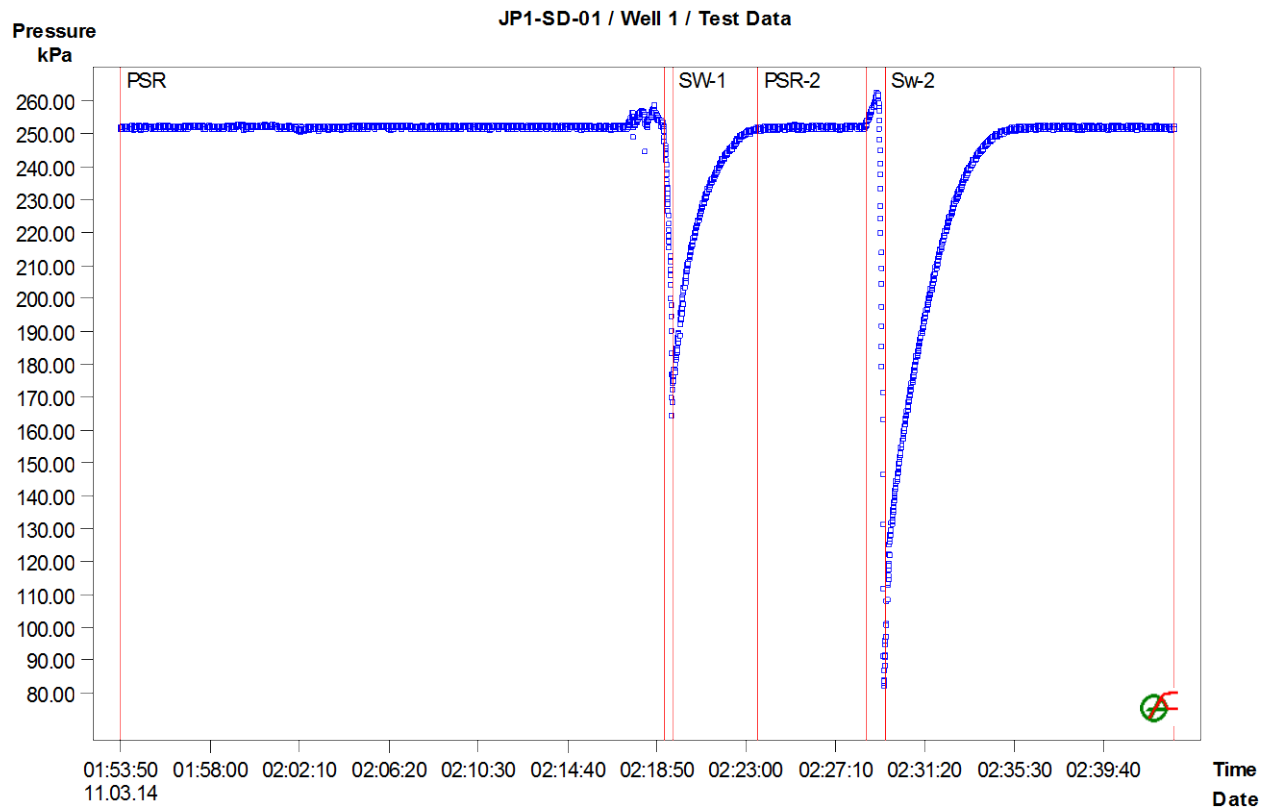


Figure 1: Pressure response and sequence definition

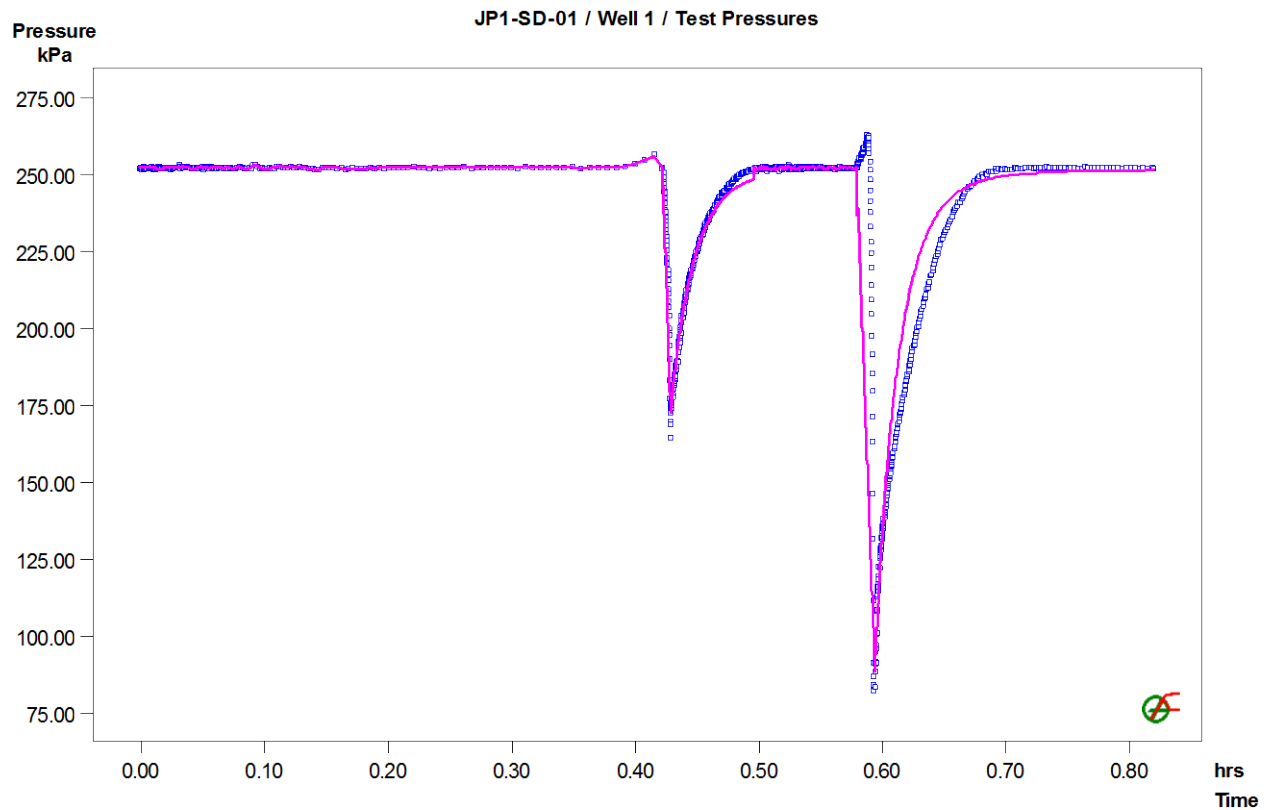


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 1 / SW-1: LogLog Plot, constant P(i)

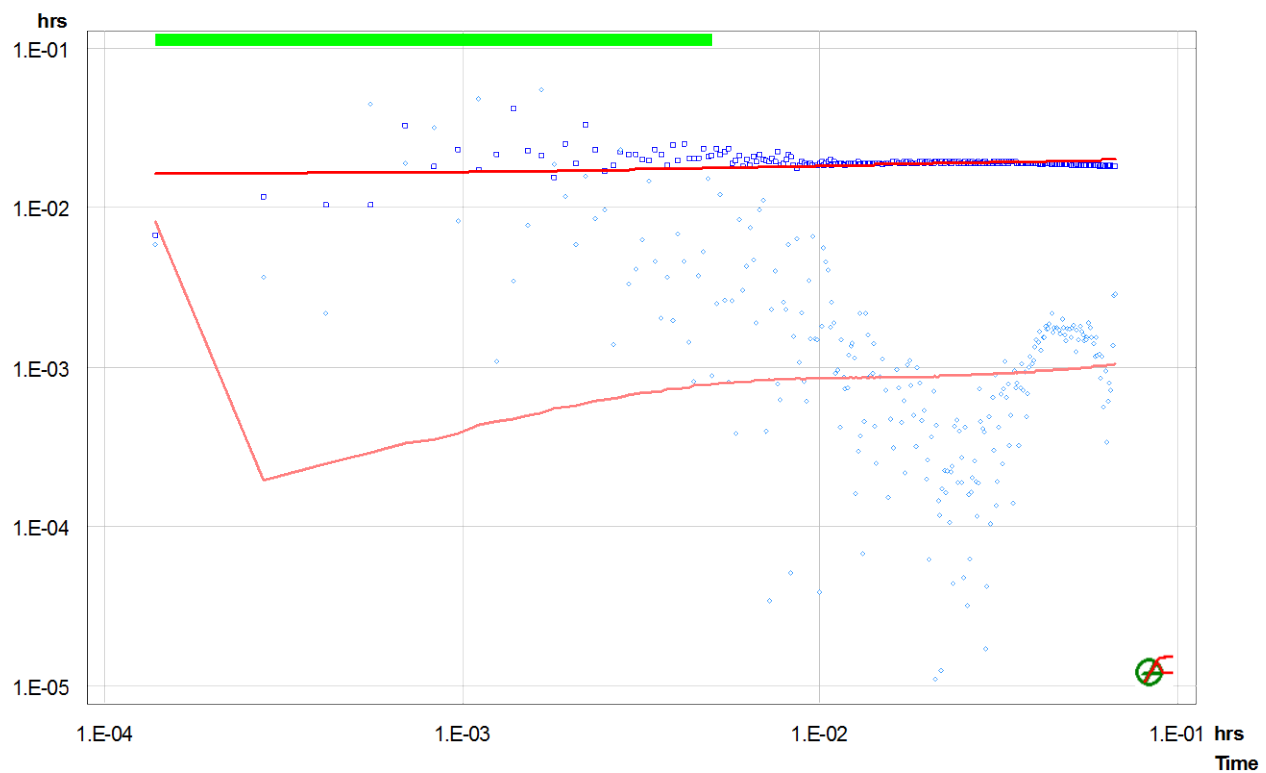


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

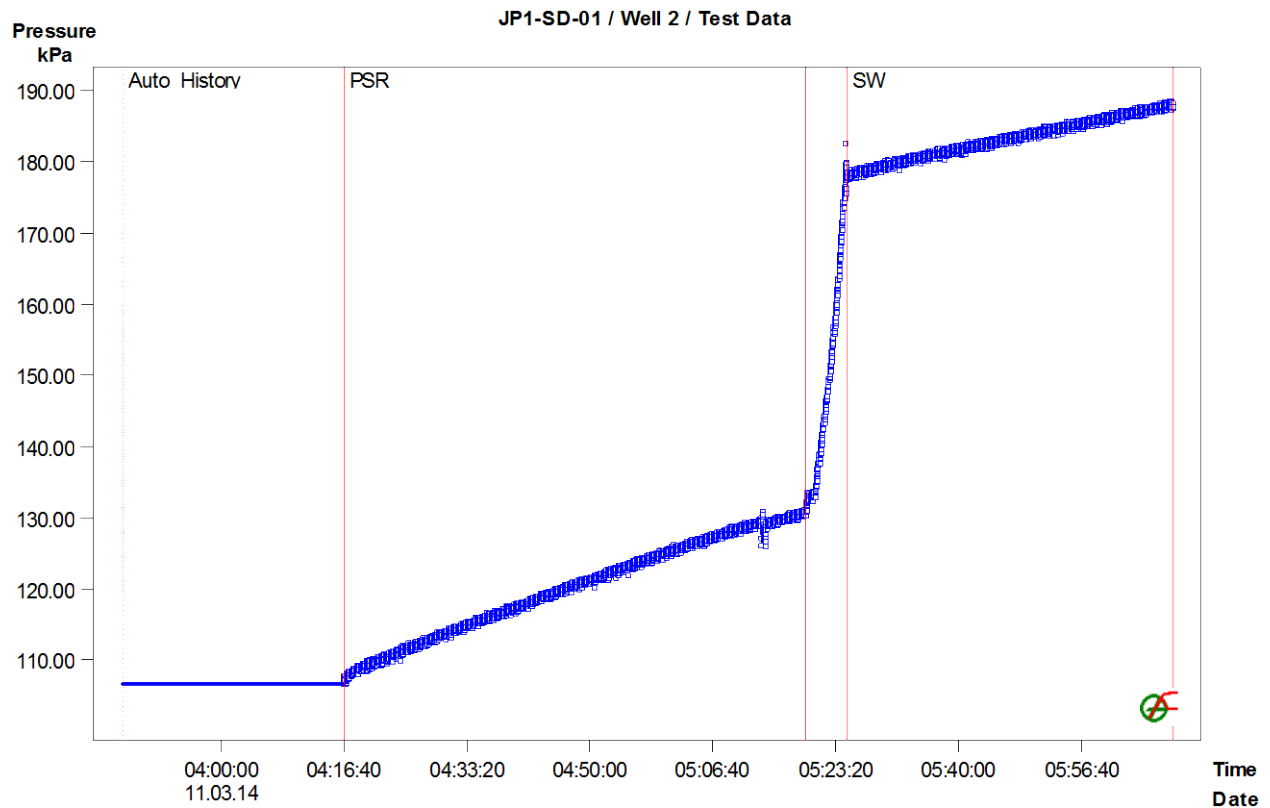


Figure 1: Pressure response and sequence definition

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

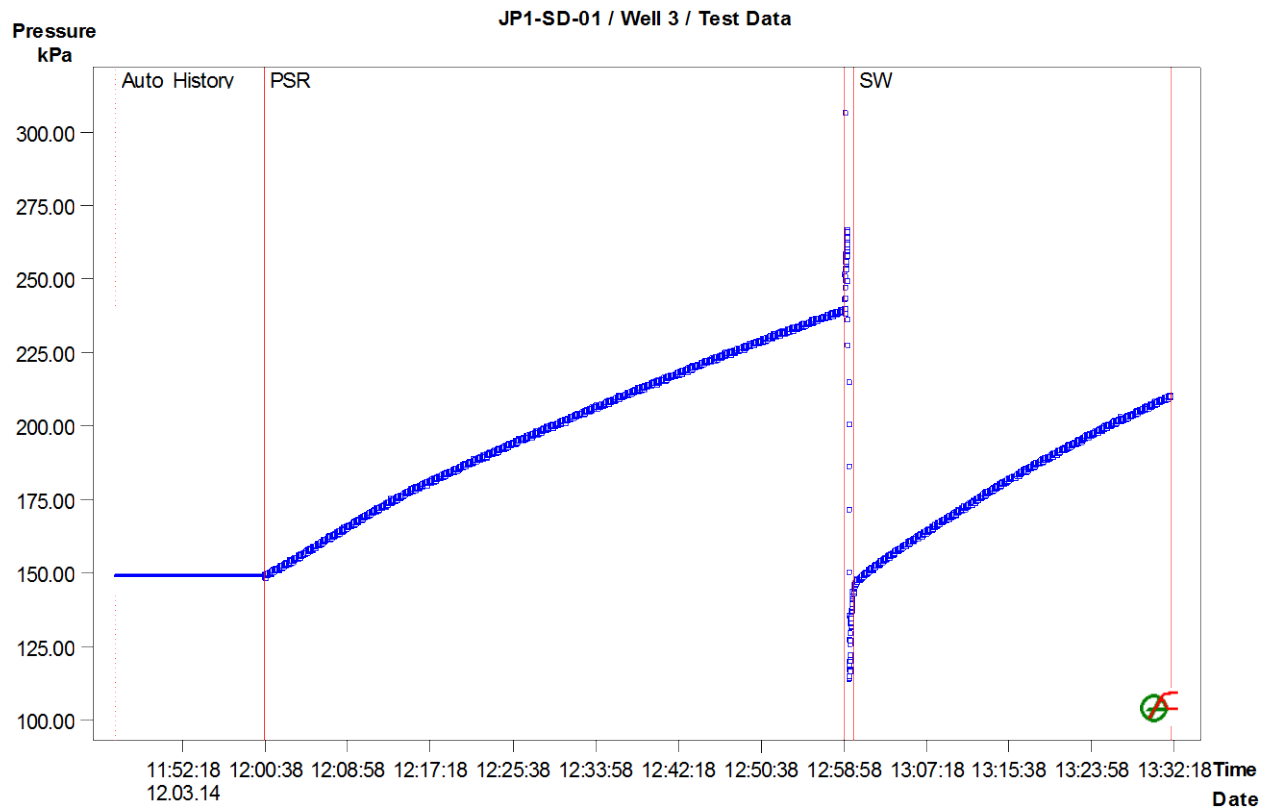


Figure 1: Pressure response and sequence definition

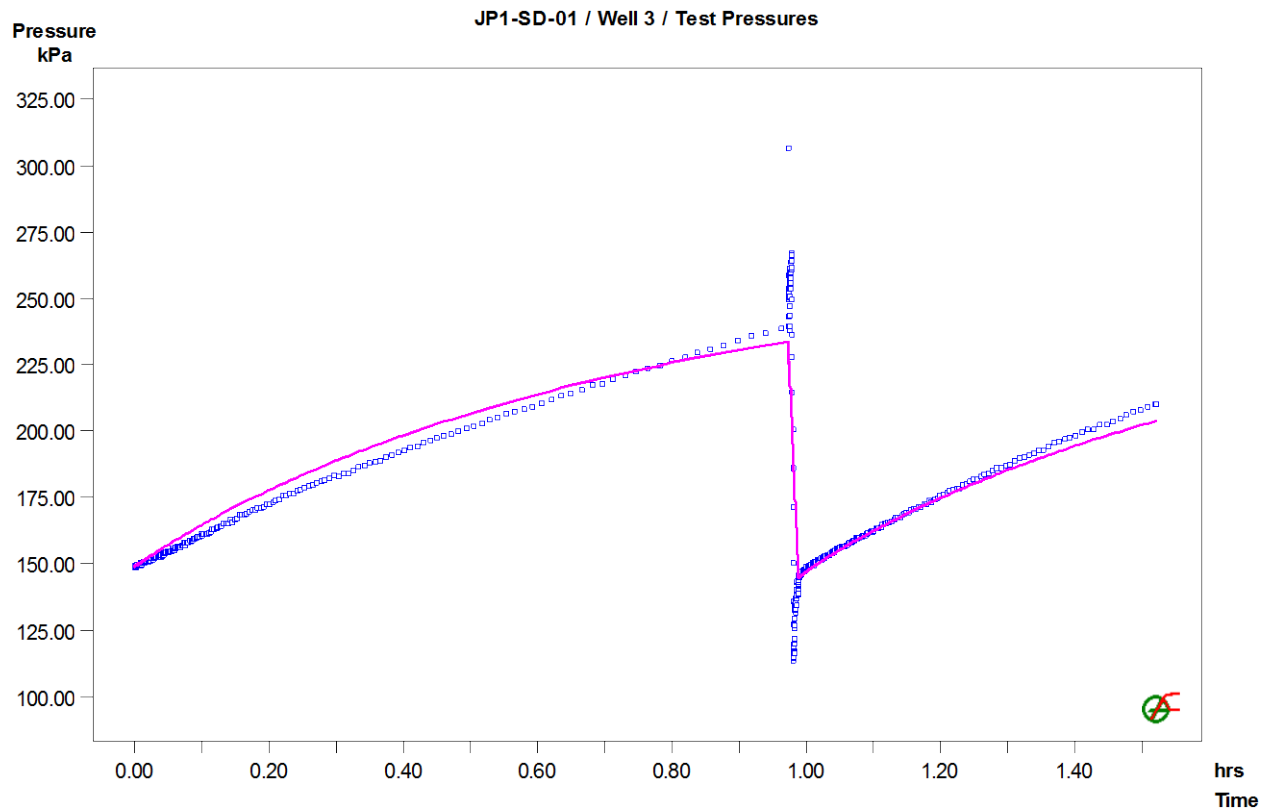


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 3 / SW: LogLog Plot, variable P(i)

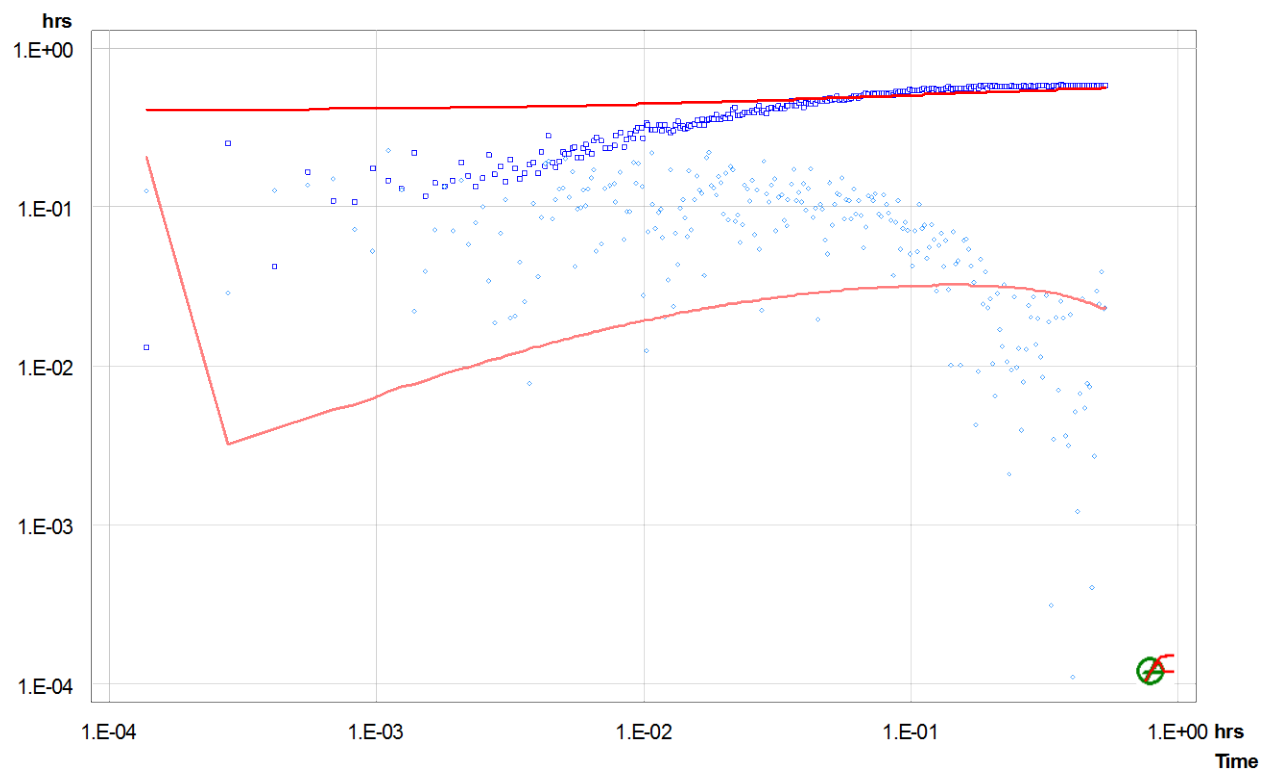


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

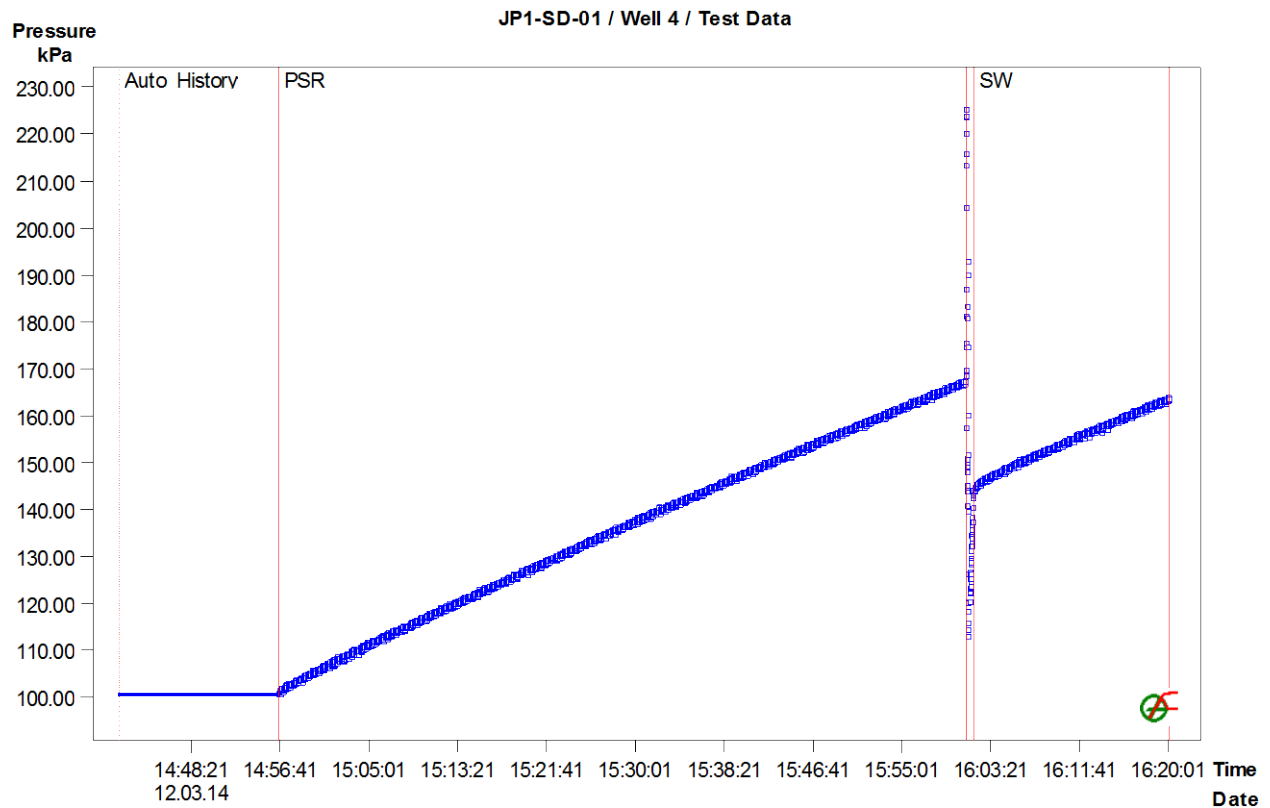


Figure 1: Pressure response and sequence definition

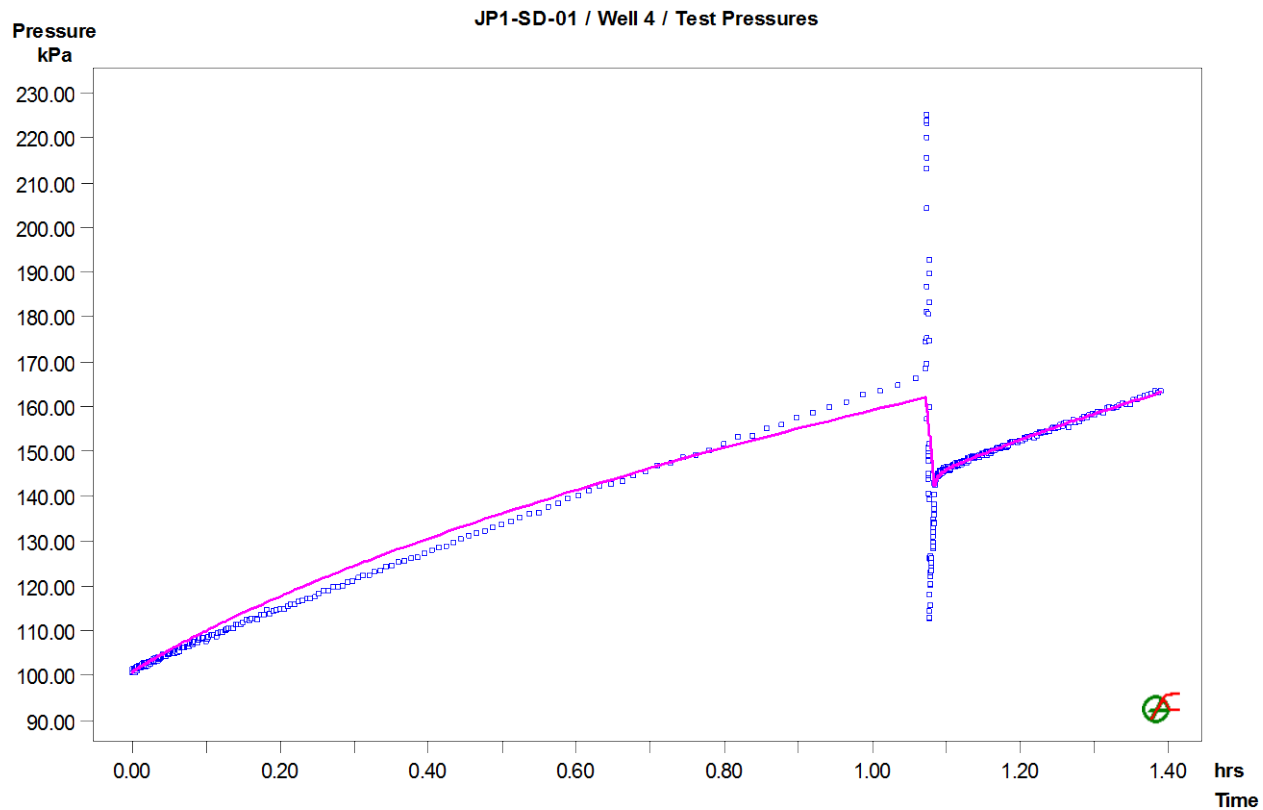


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-01 / Well 4 / SW: LogLog Plot, variable P(i)

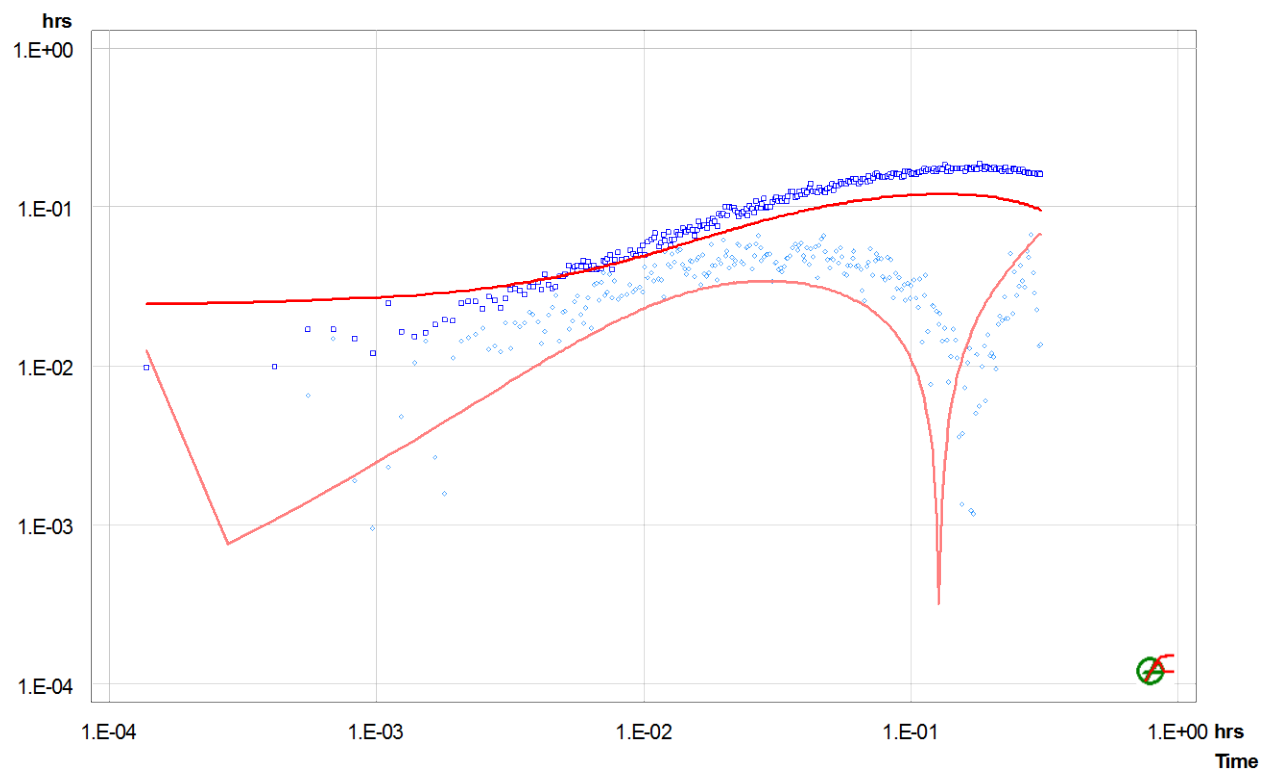


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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 [m³/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

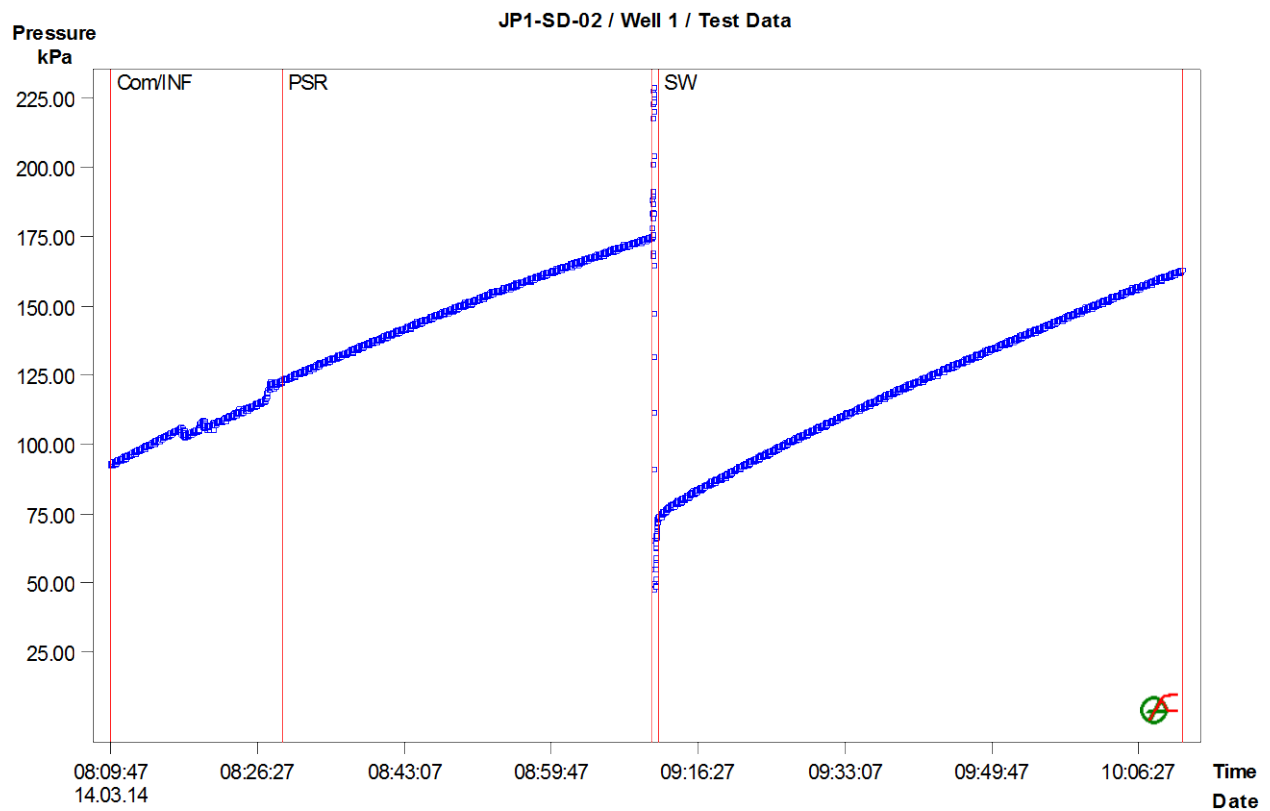


Figure 1: Pressure response and sequence definition

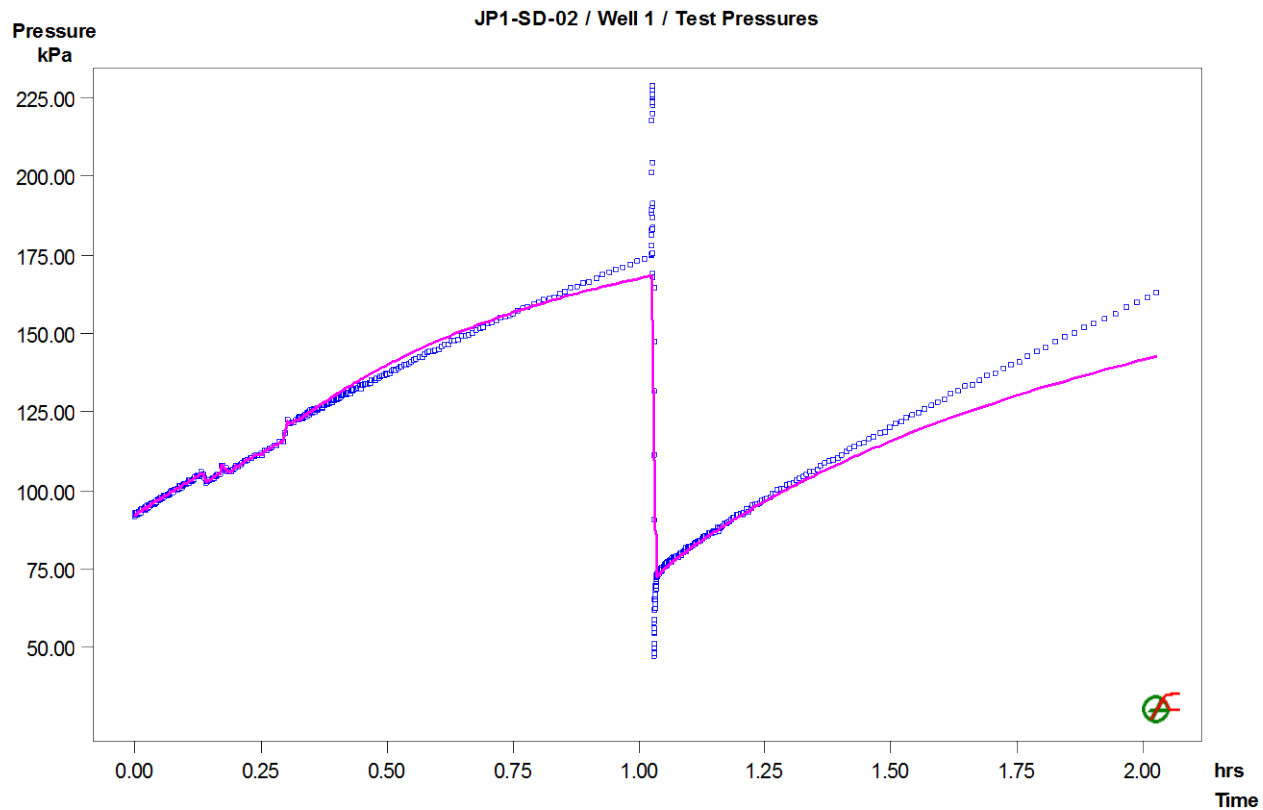


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-02 / Well 1 / SW: LogLog Plot, variable P(i)

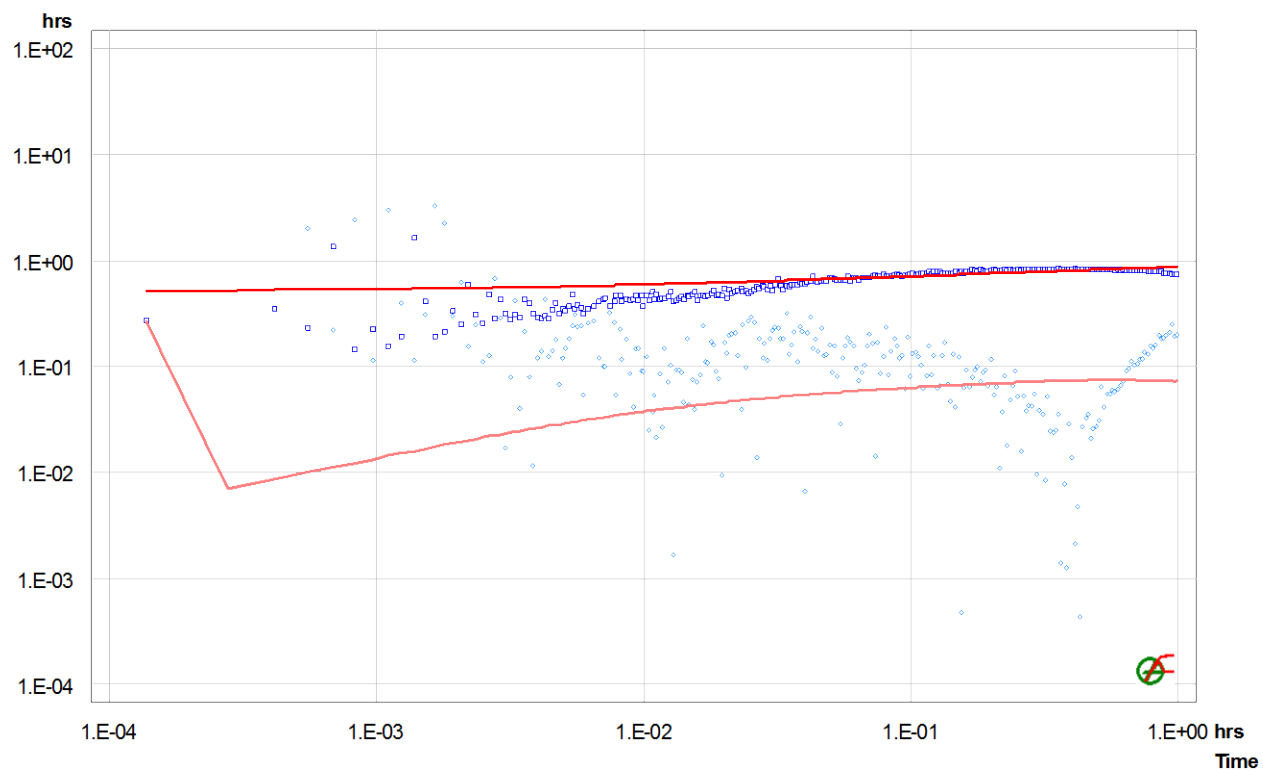


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

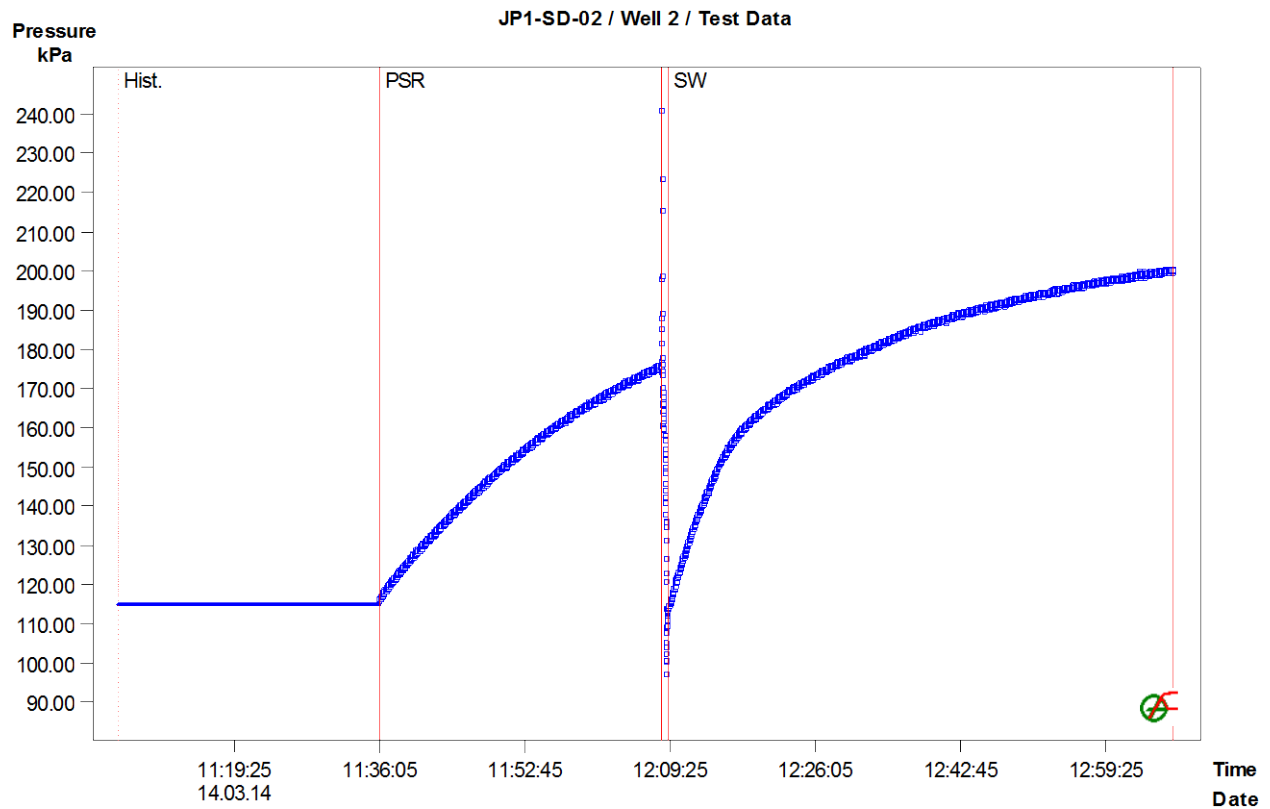


Figure 1: Pressure response and sequence definition

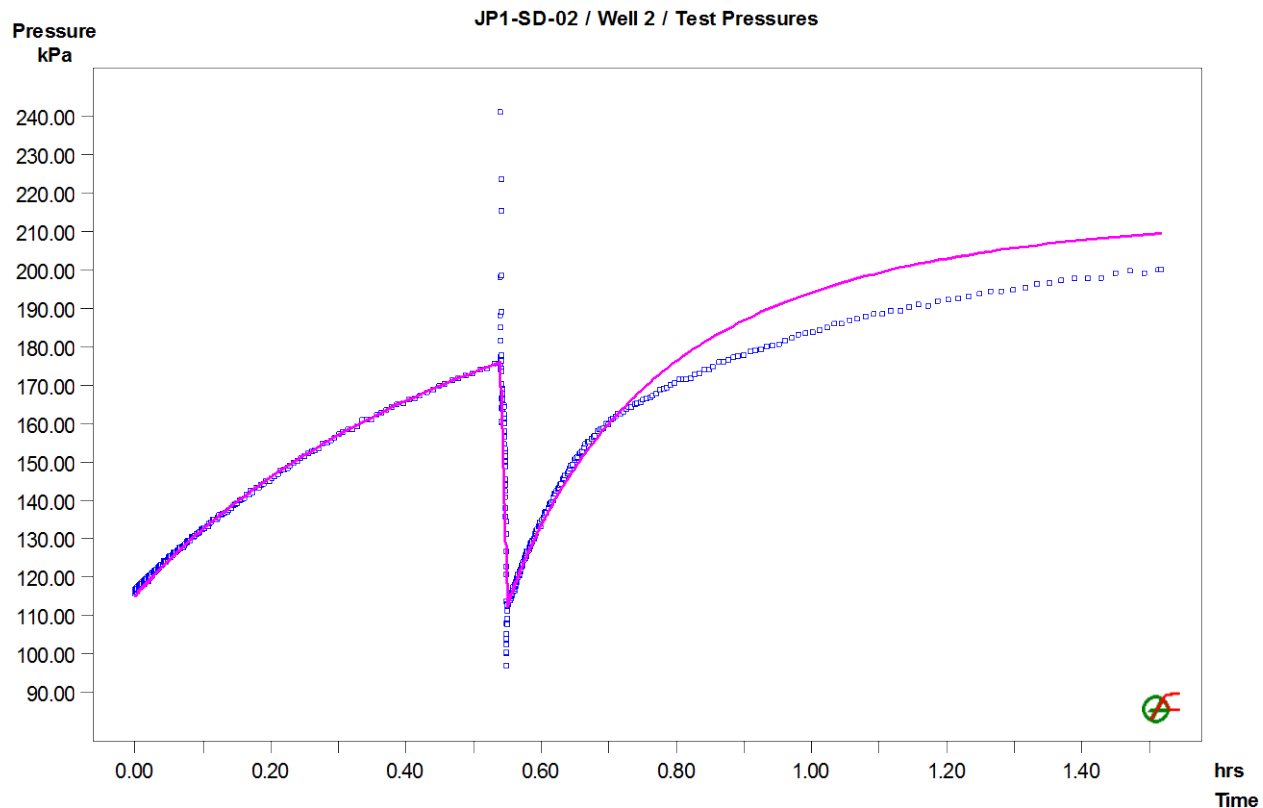


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-SD-02 / Well 2 / SW: LogLog Plot, variable P(i)

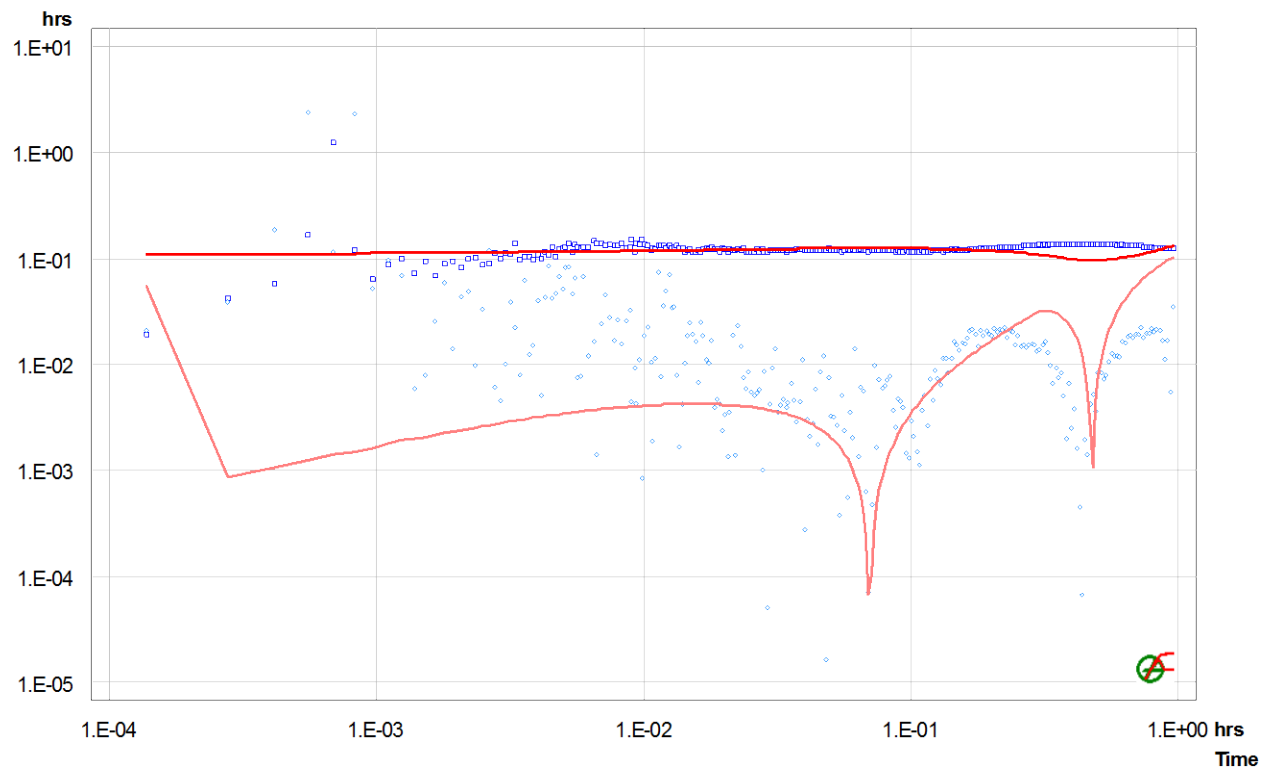


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

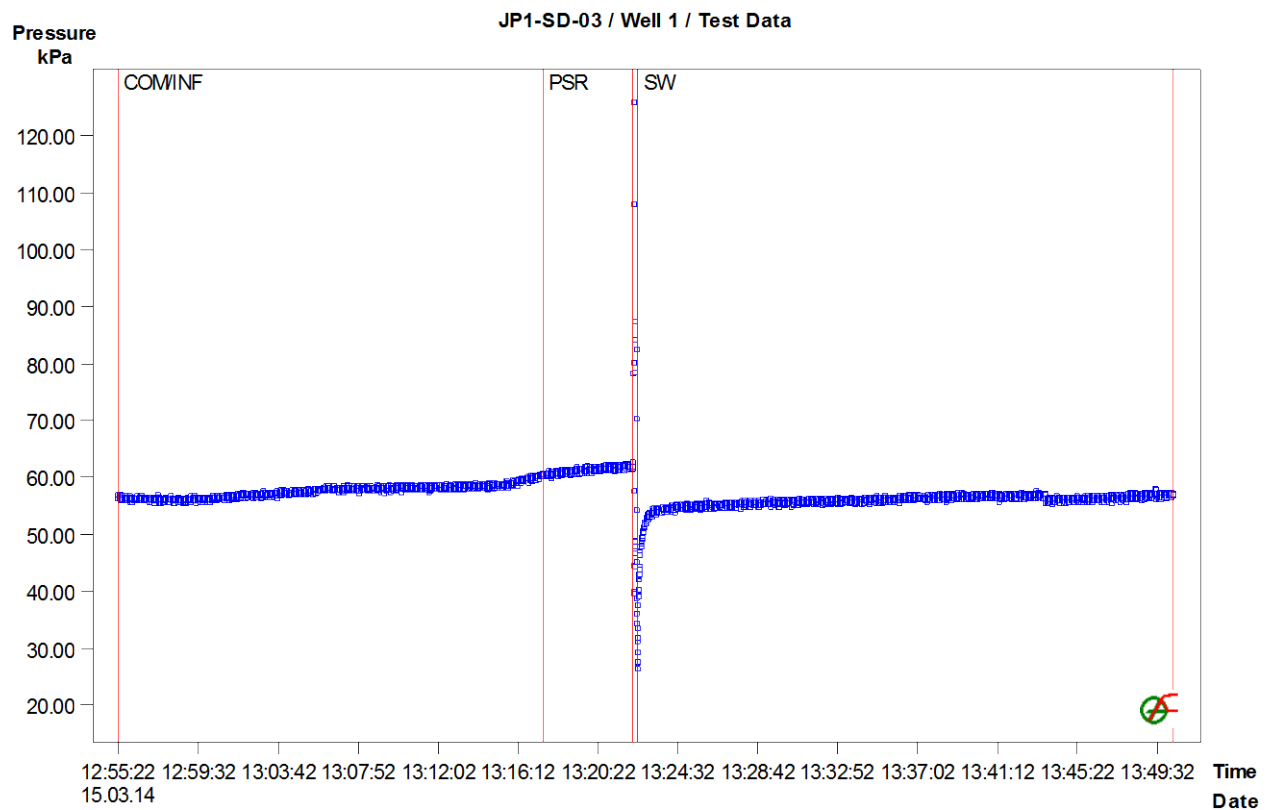


Figure 1: Pressure response and sequence definition

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		

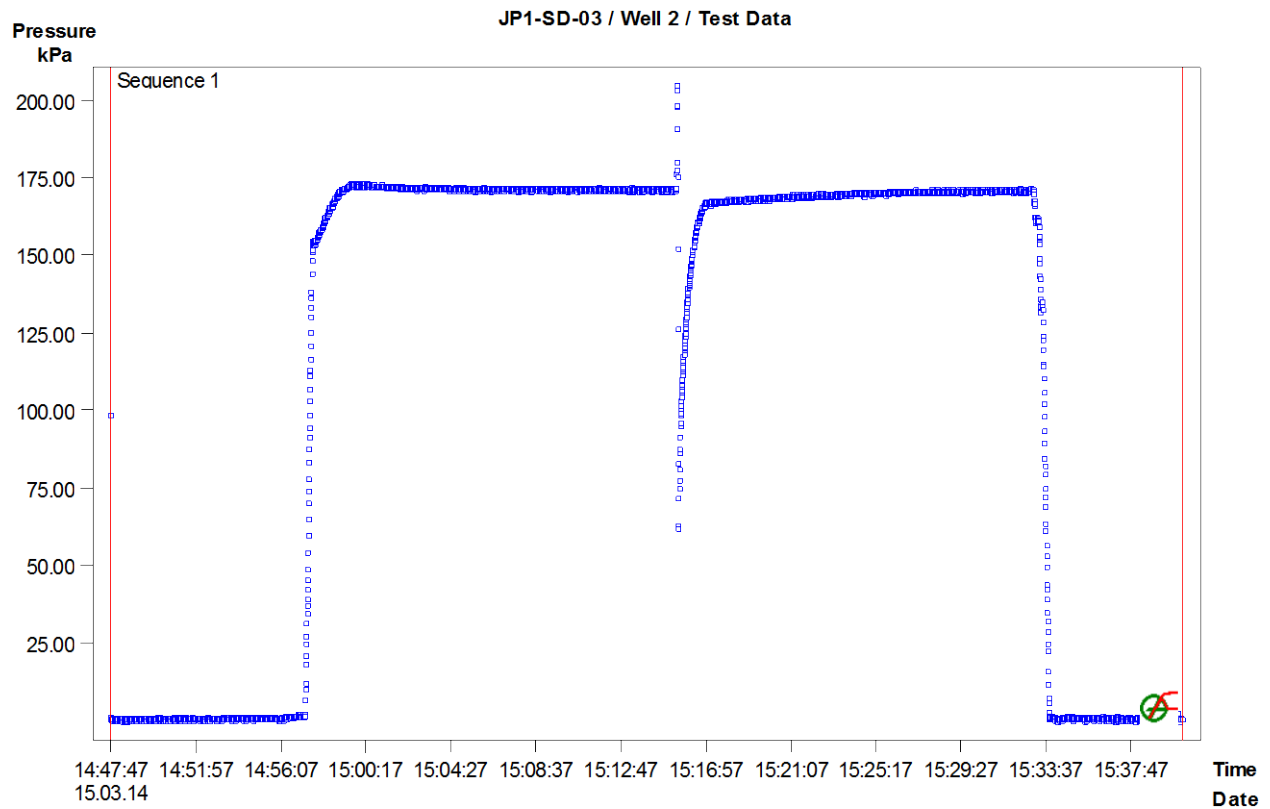


Figure 1: Pressure response and sequence definition

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	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

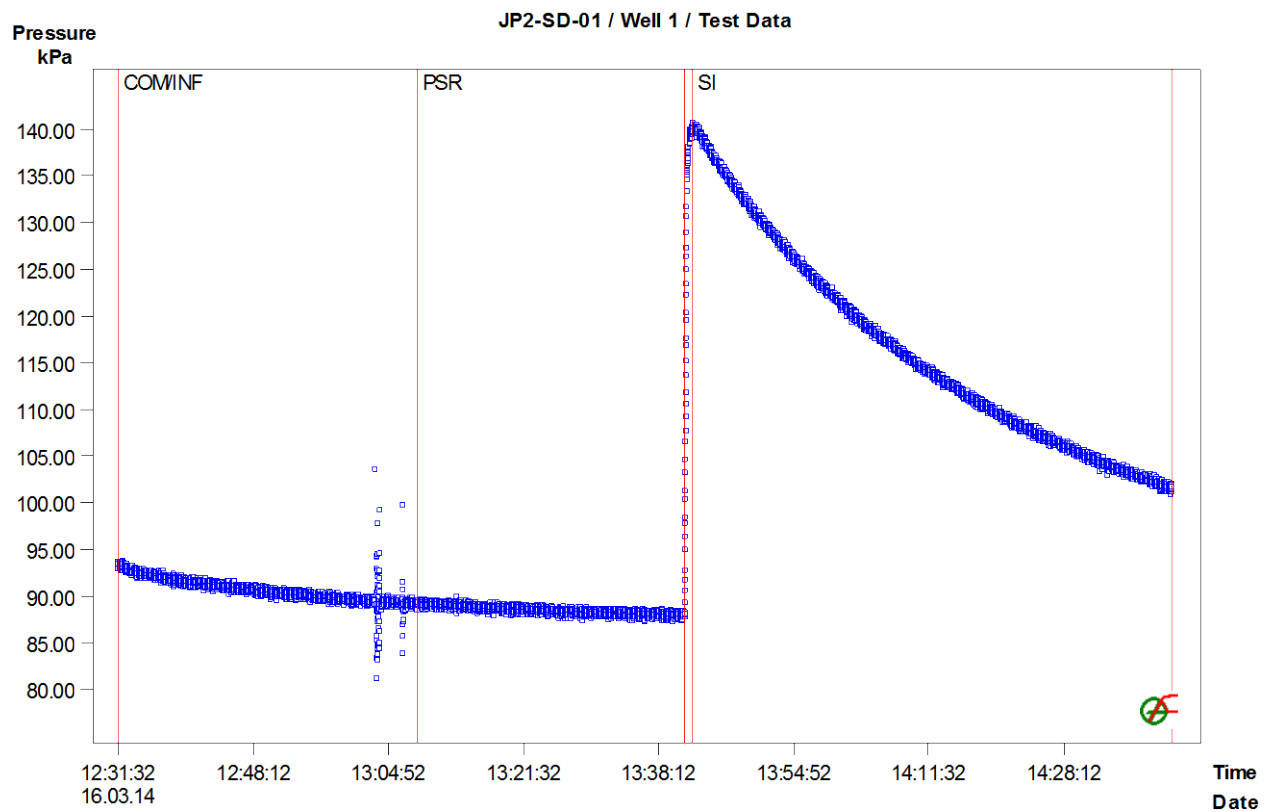


Figure 1: Pressure response and sequence definition

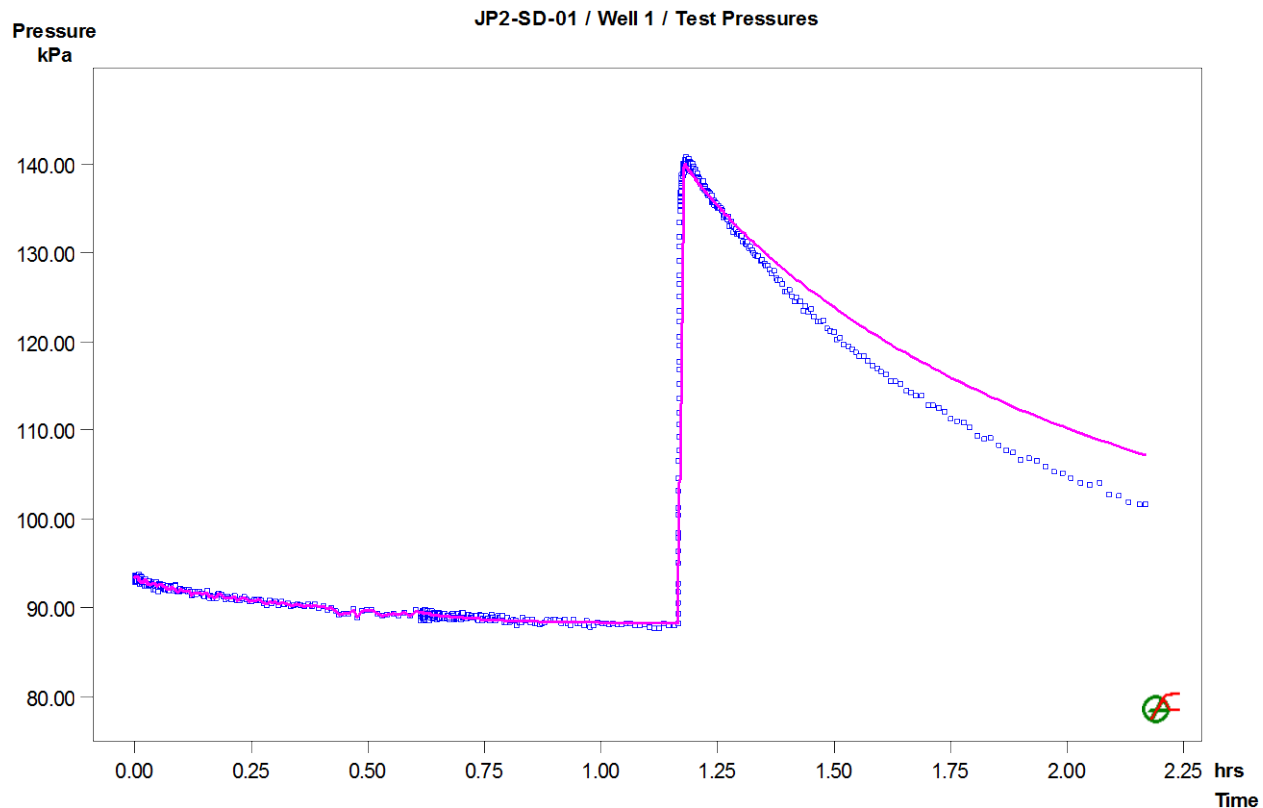


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-SD-01 / Well 1 / SI: LogLog Plot, variable P(i)

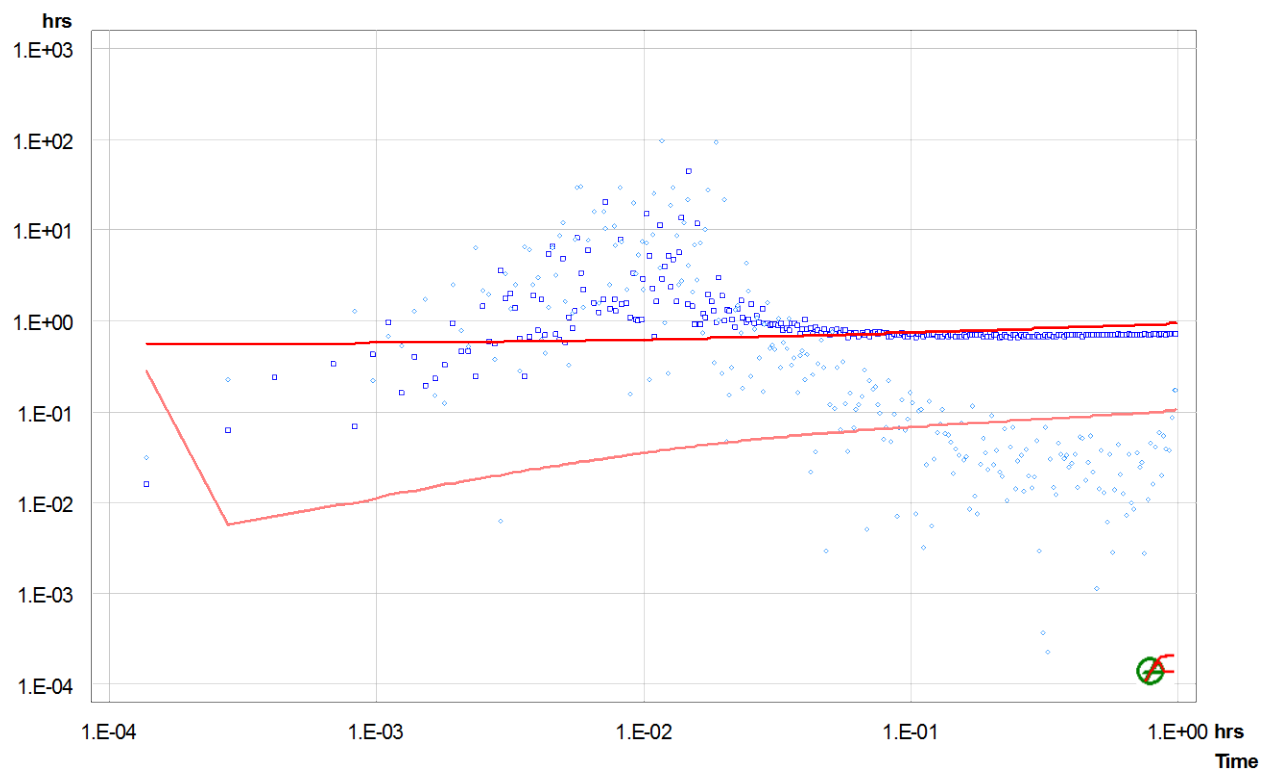


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SI sequence

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

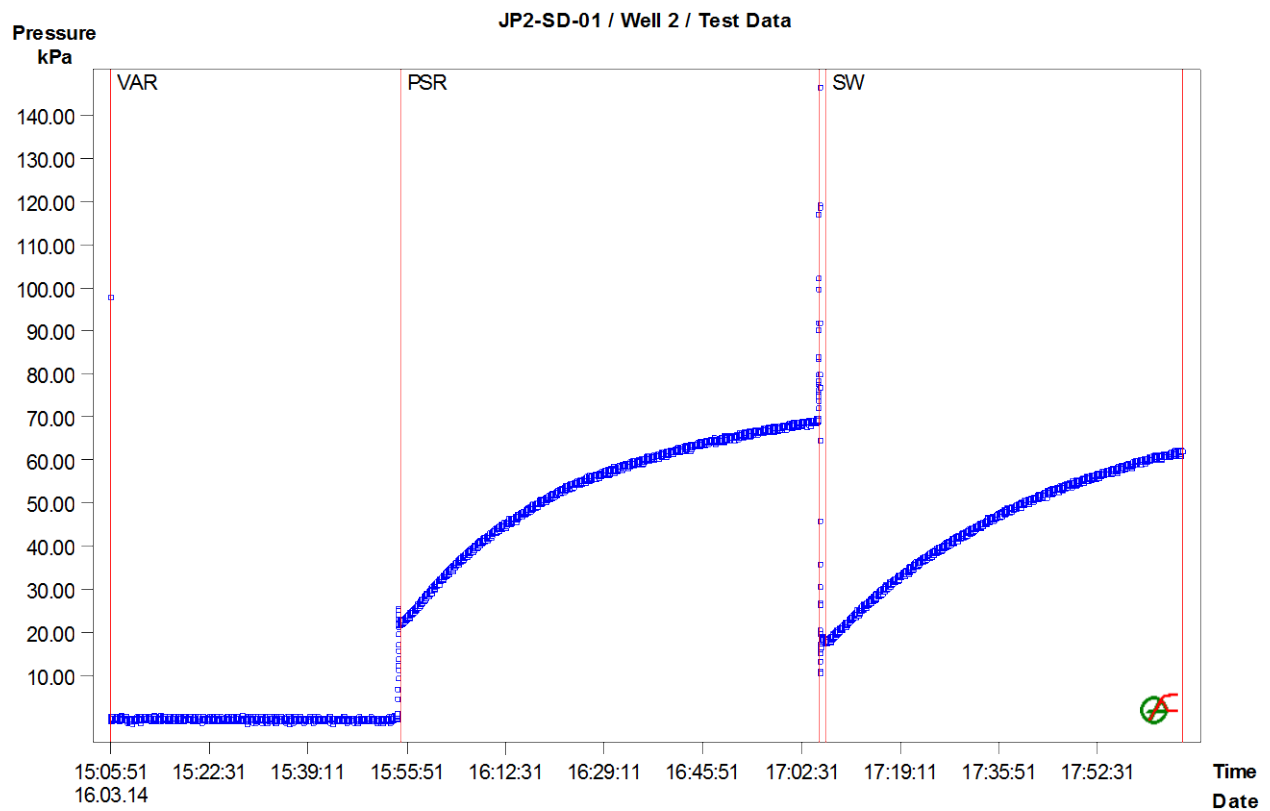


Figure 1: Pressure response and sequence definition

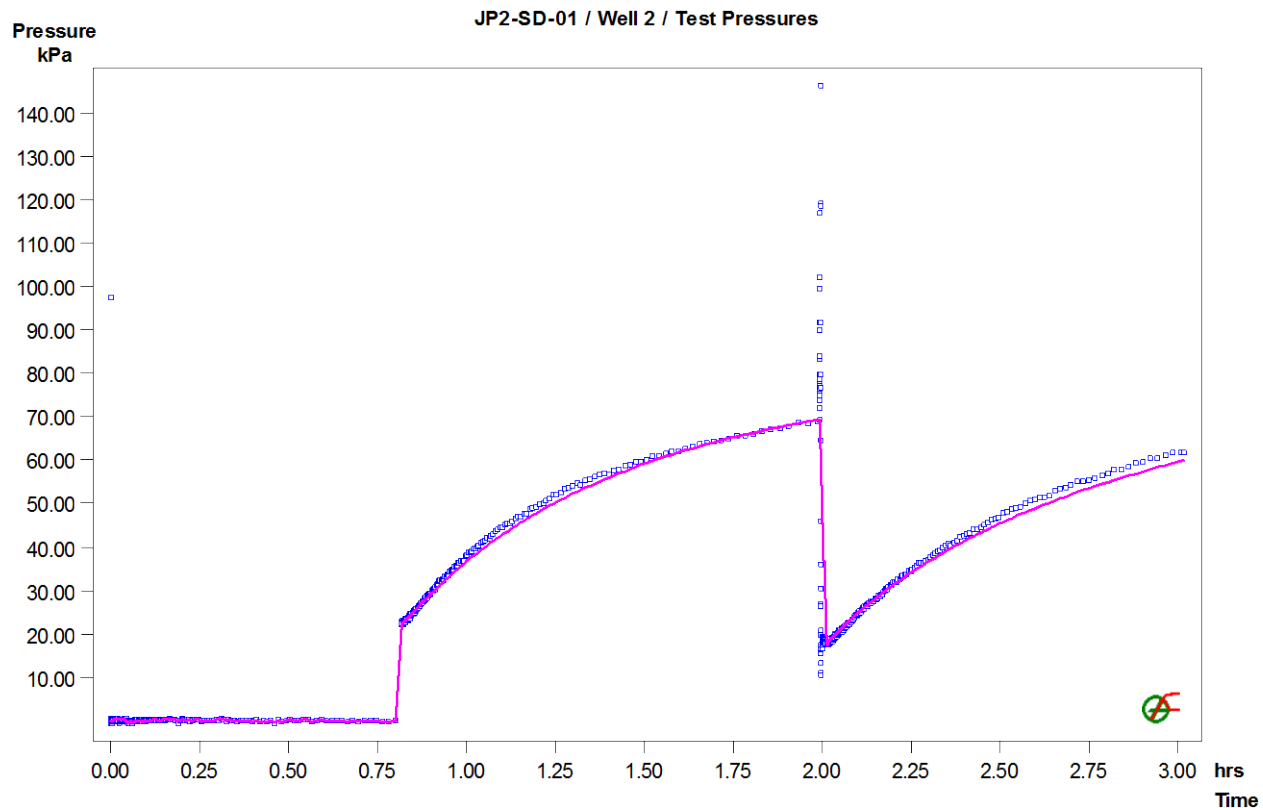


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-SD-01 / Well 2 / SW: LogLog Plot, variable P(i)

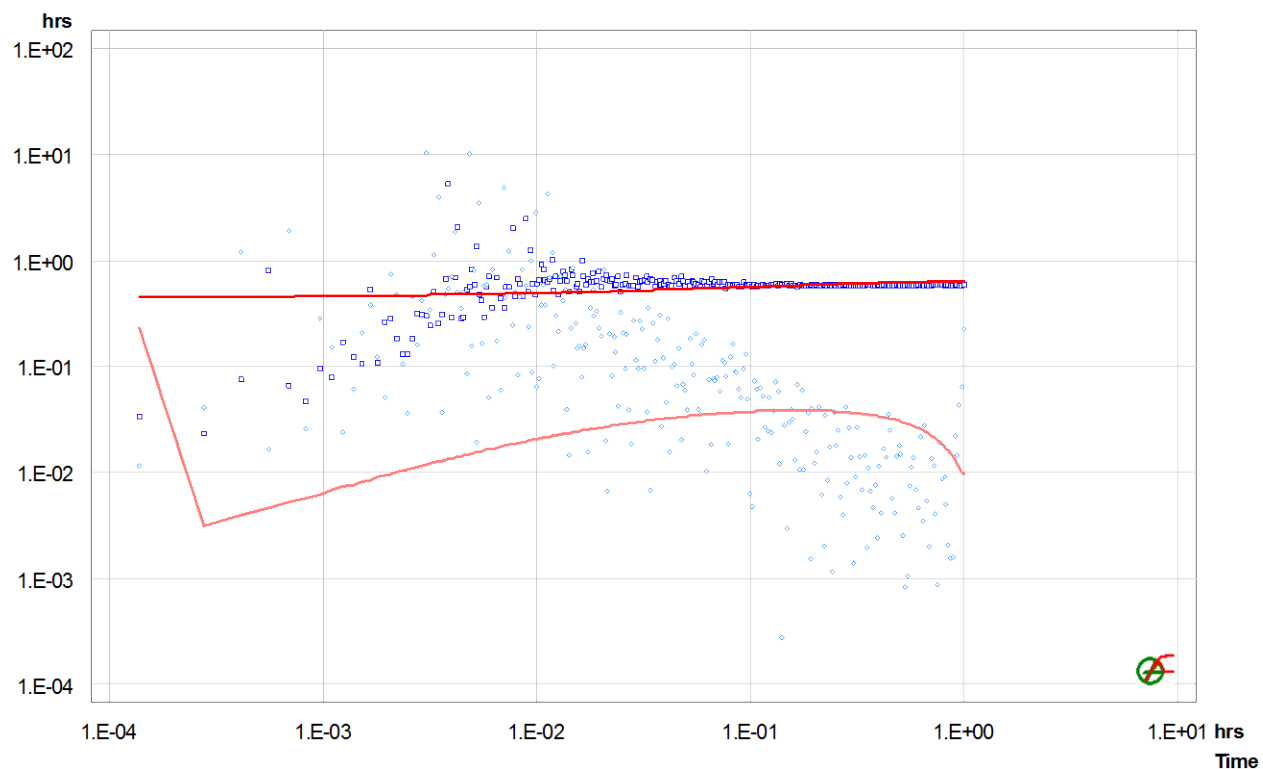


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well 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

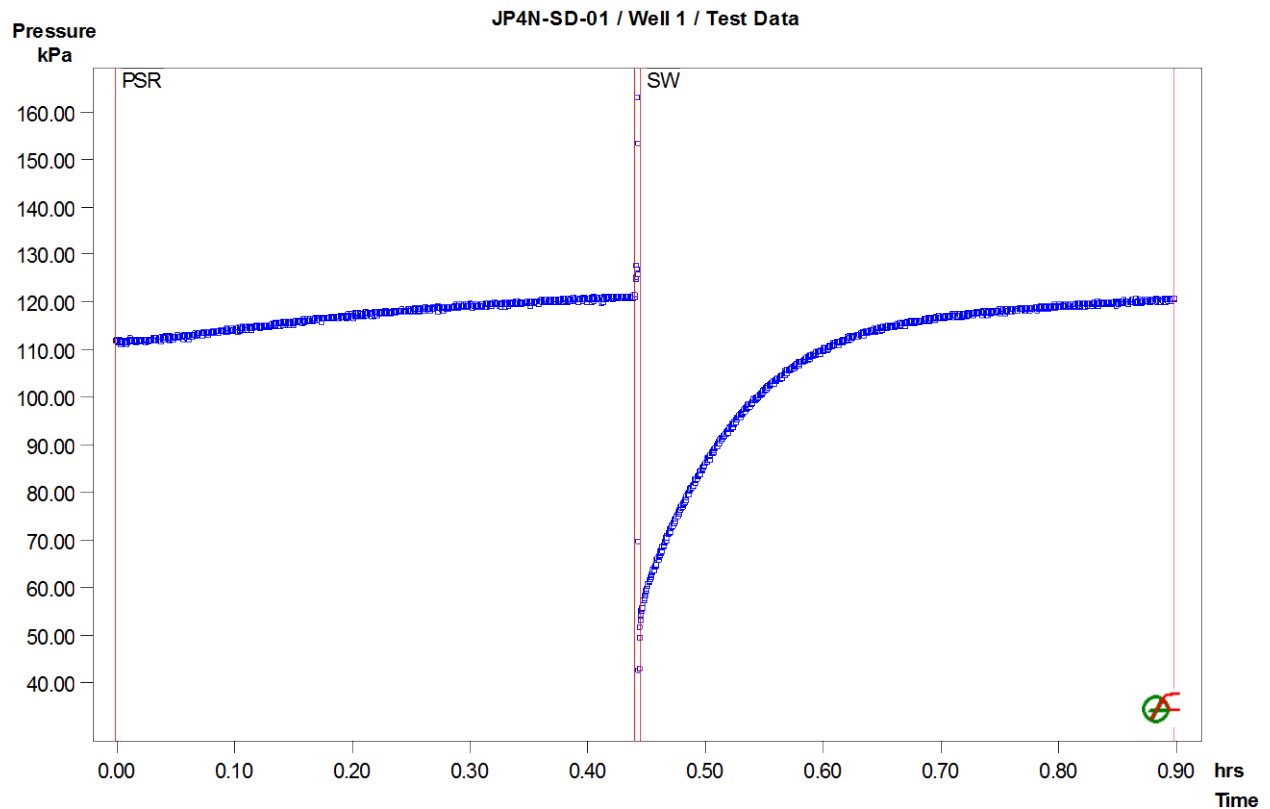


Figure 1: Pressure response and sequence definition

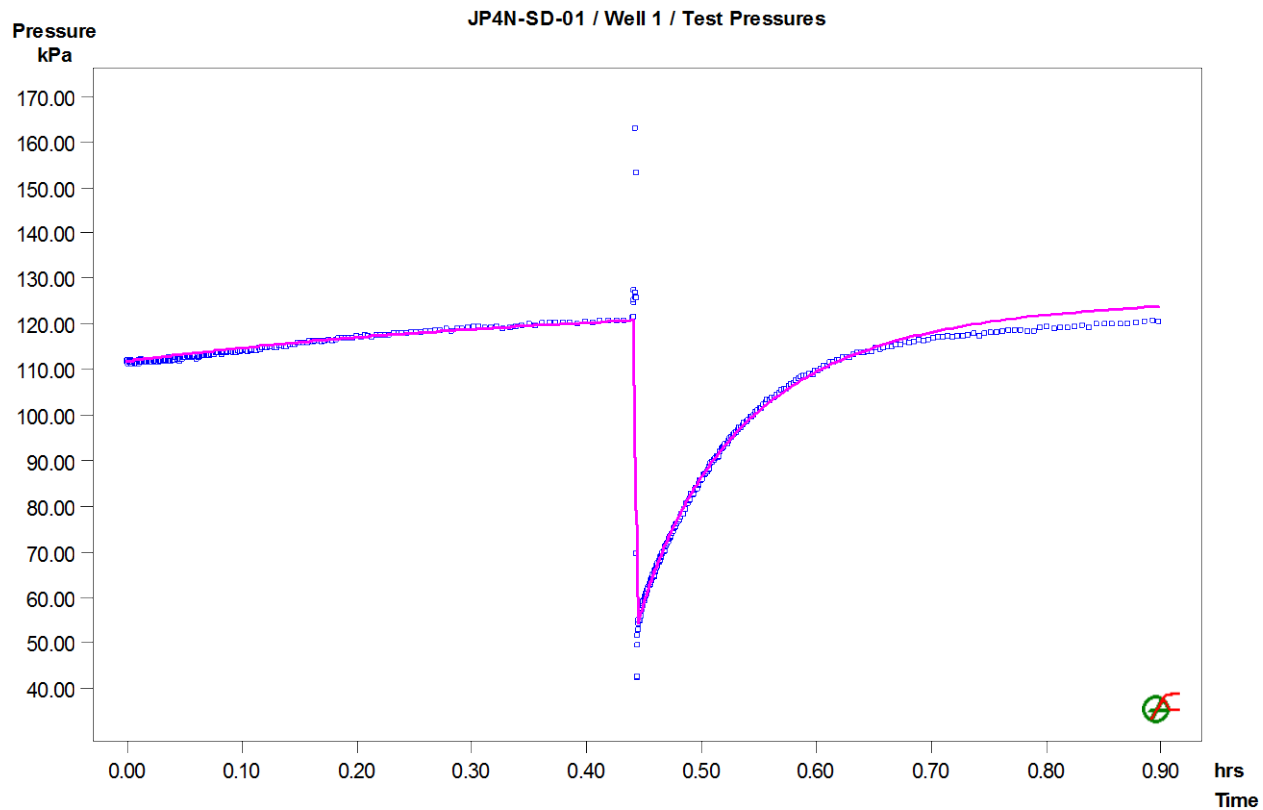


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-01 / Well 1 / SW: LogLog Plot, variable P(i)

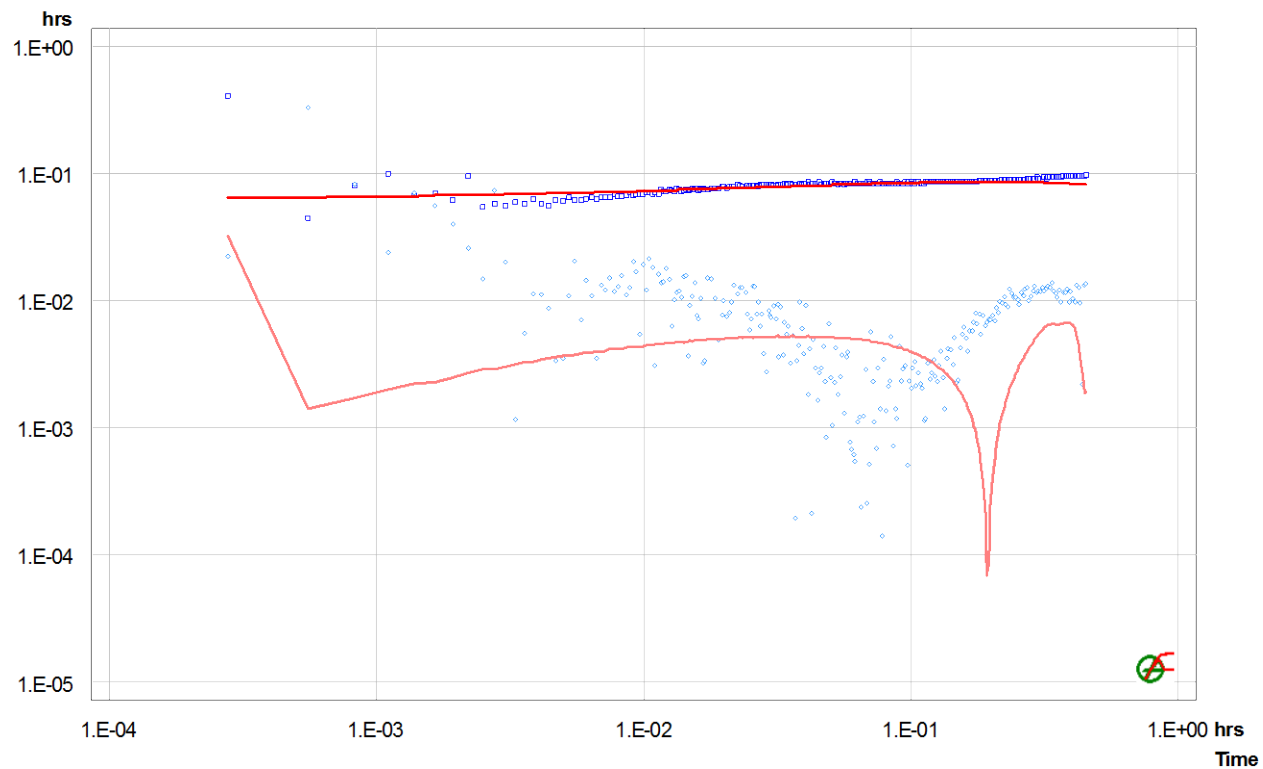


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

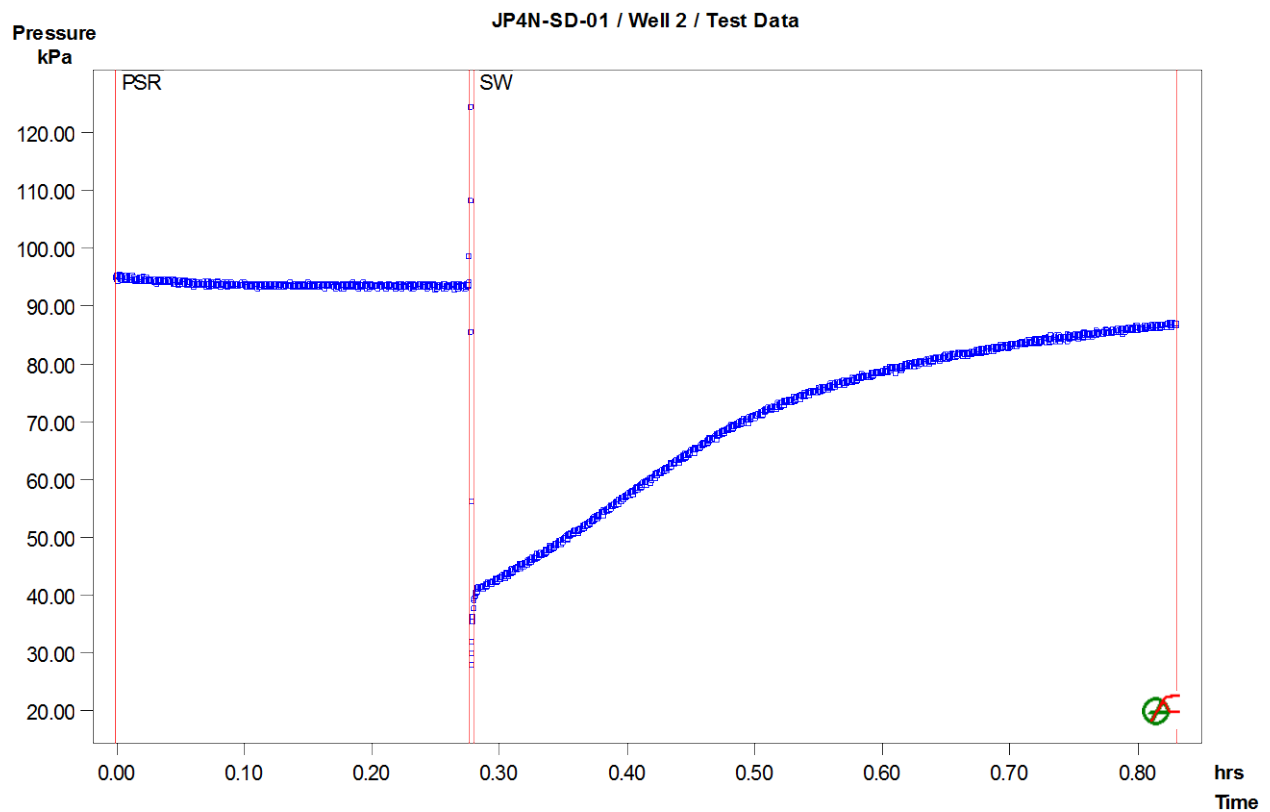


Figure 1: Pressure response and sequence definition

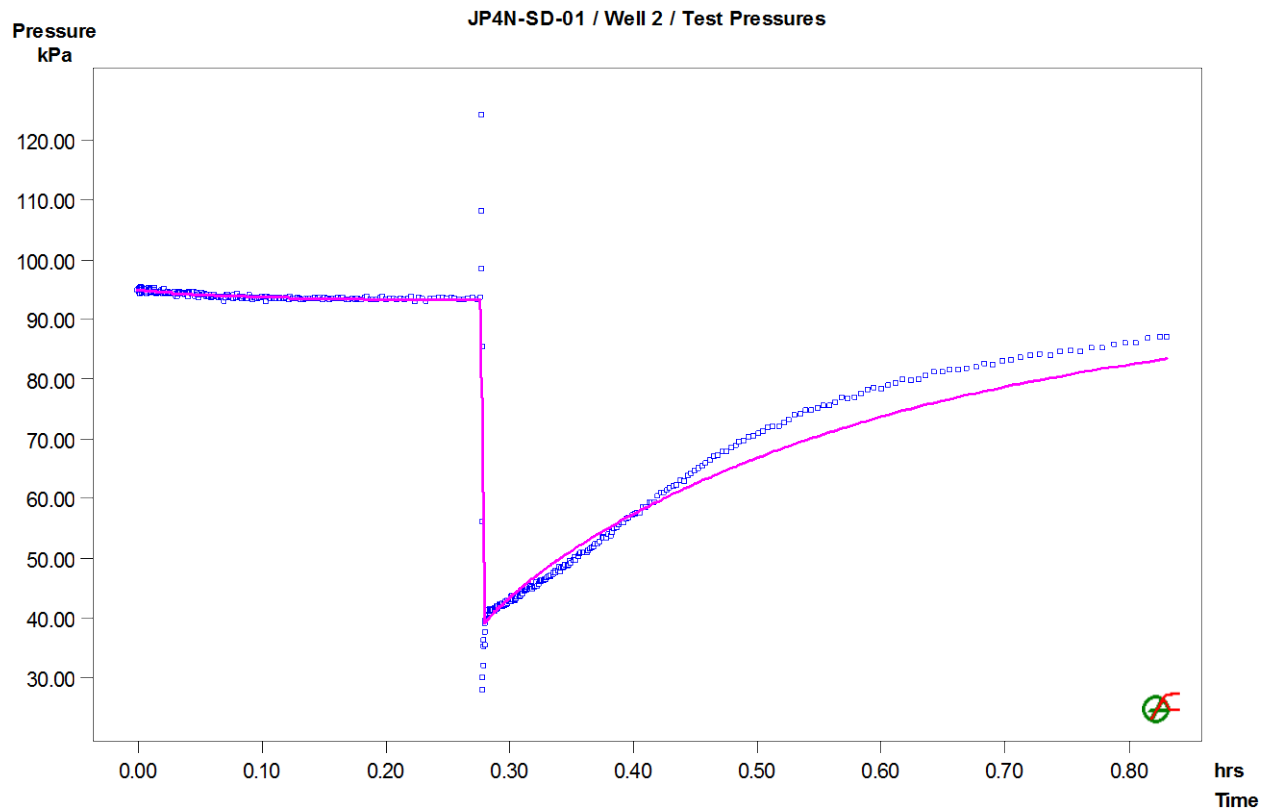


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-01 / Well 2 / SW: LogLog Plot, variable P(i)

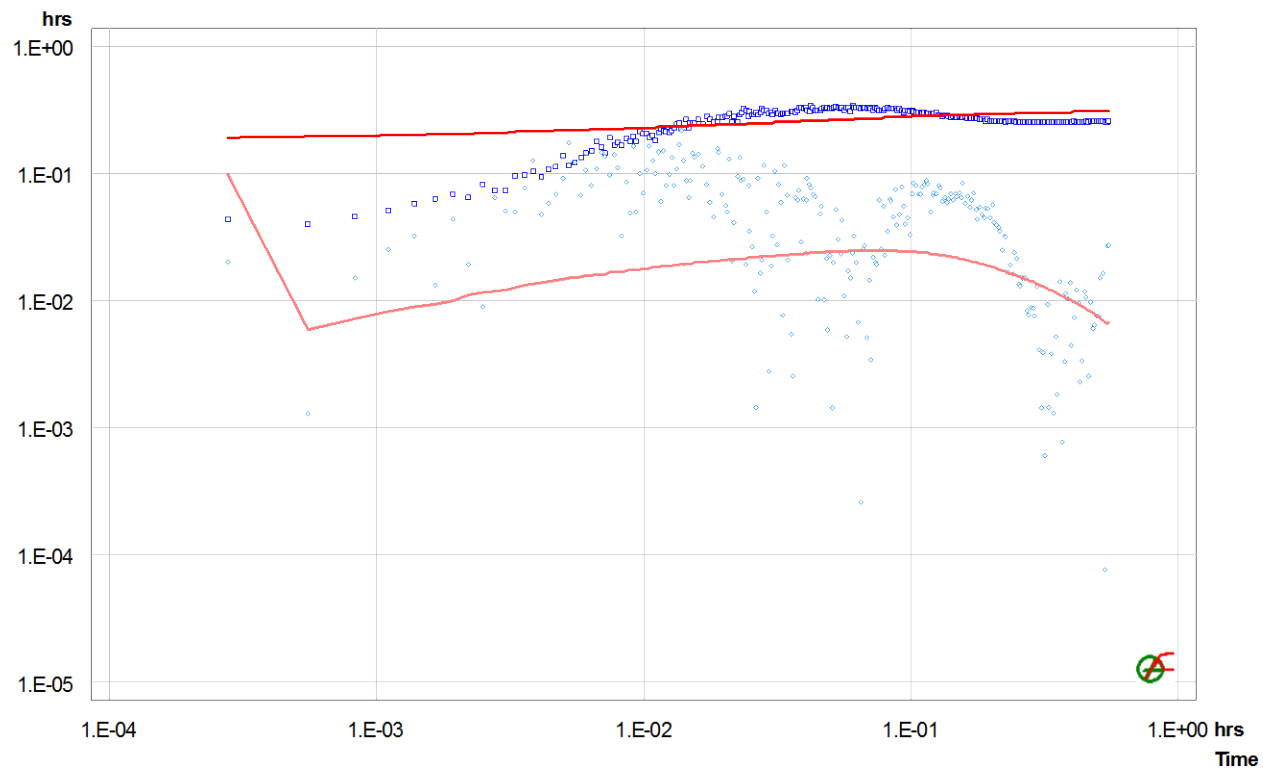


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	68.21			2.1e-07
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

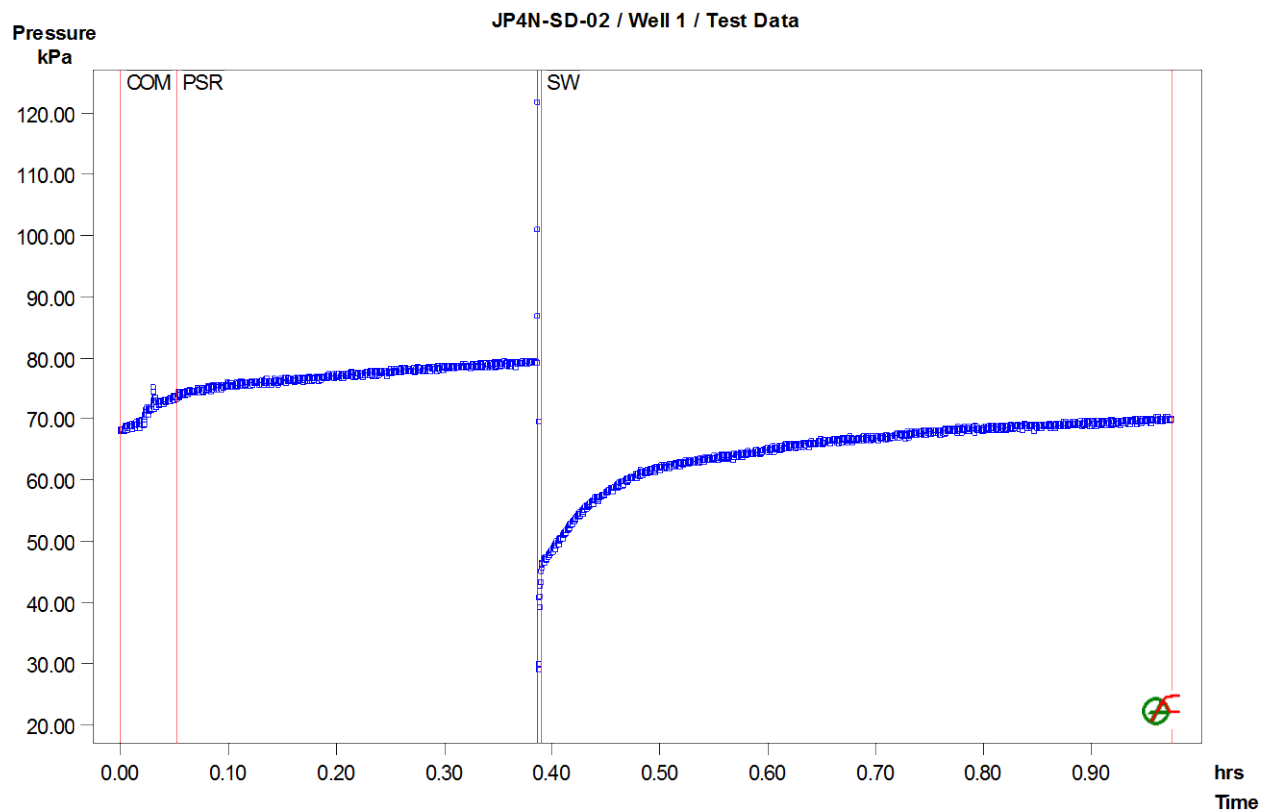


Figure 1: Pressure response and sequence definition

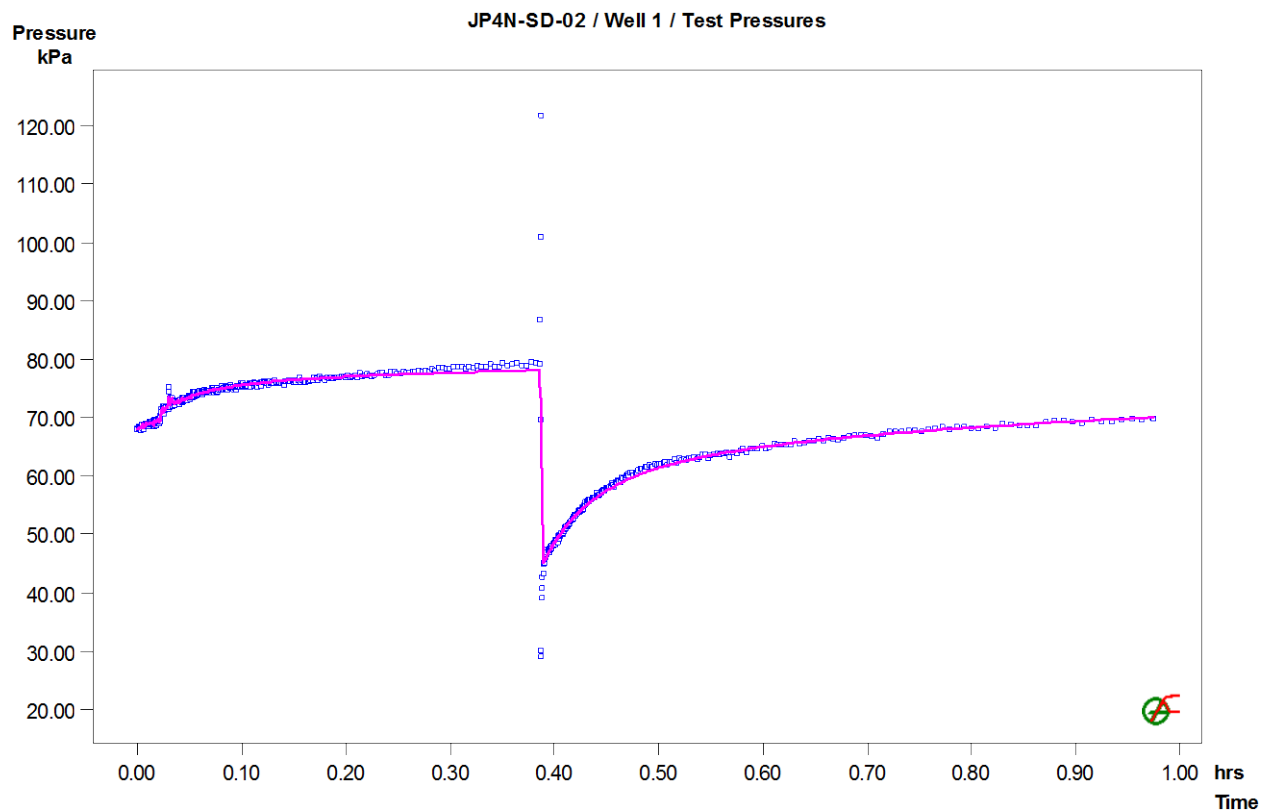


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-02 / Well 1 / SW: LogLog Plot, variable P(i)

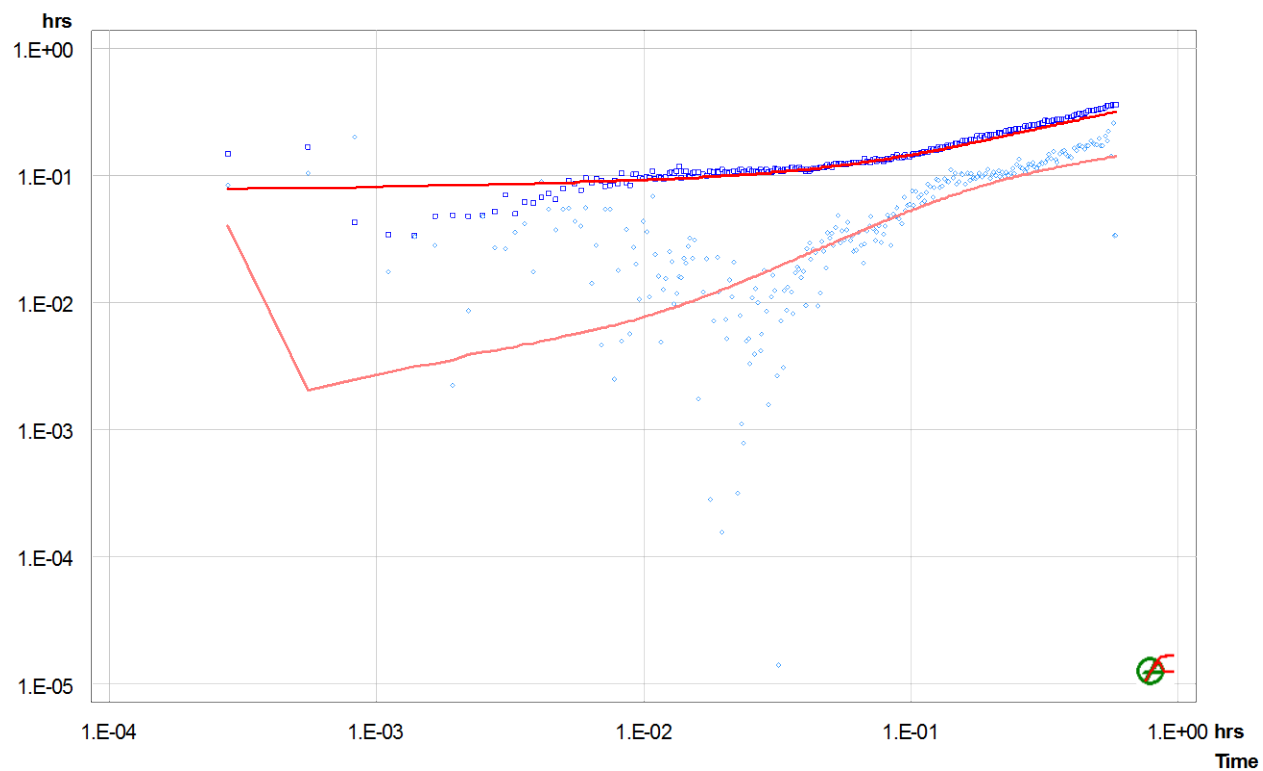


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

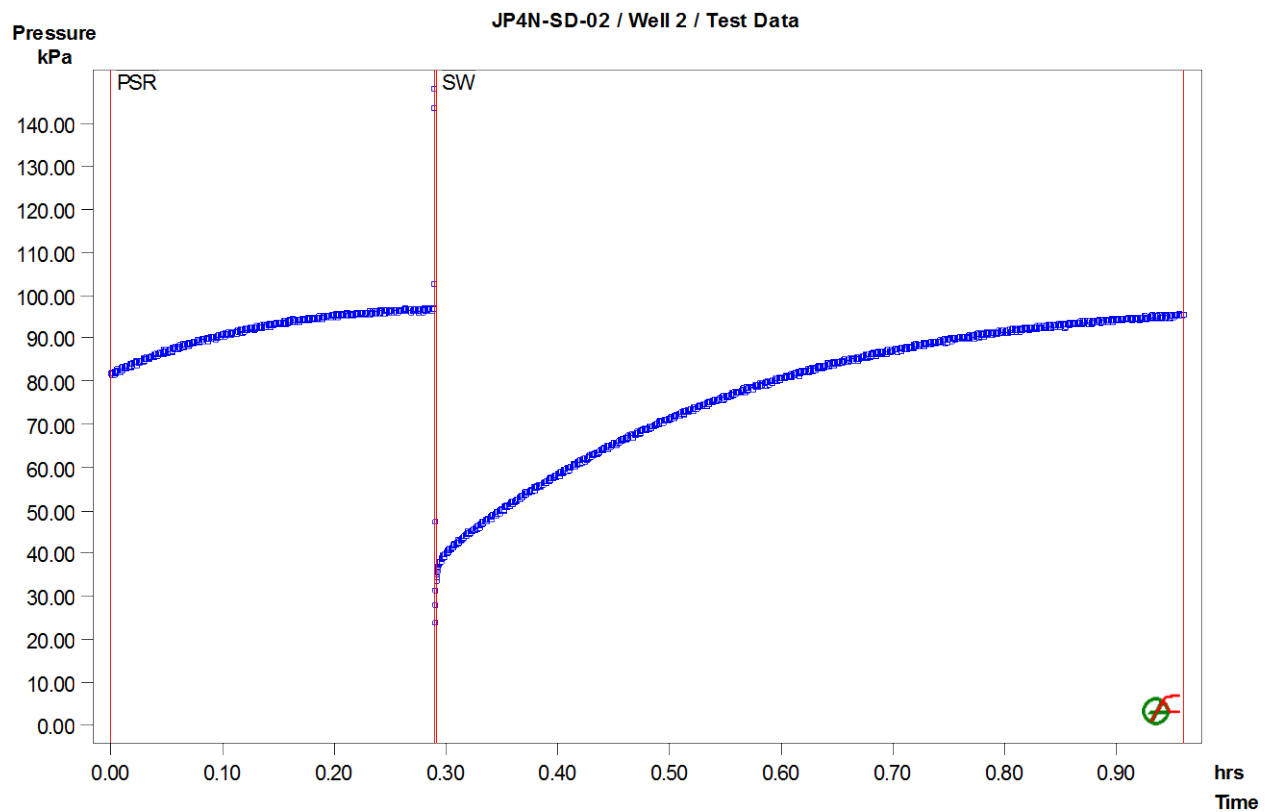


Figure 1: Pressure response and sequence definition

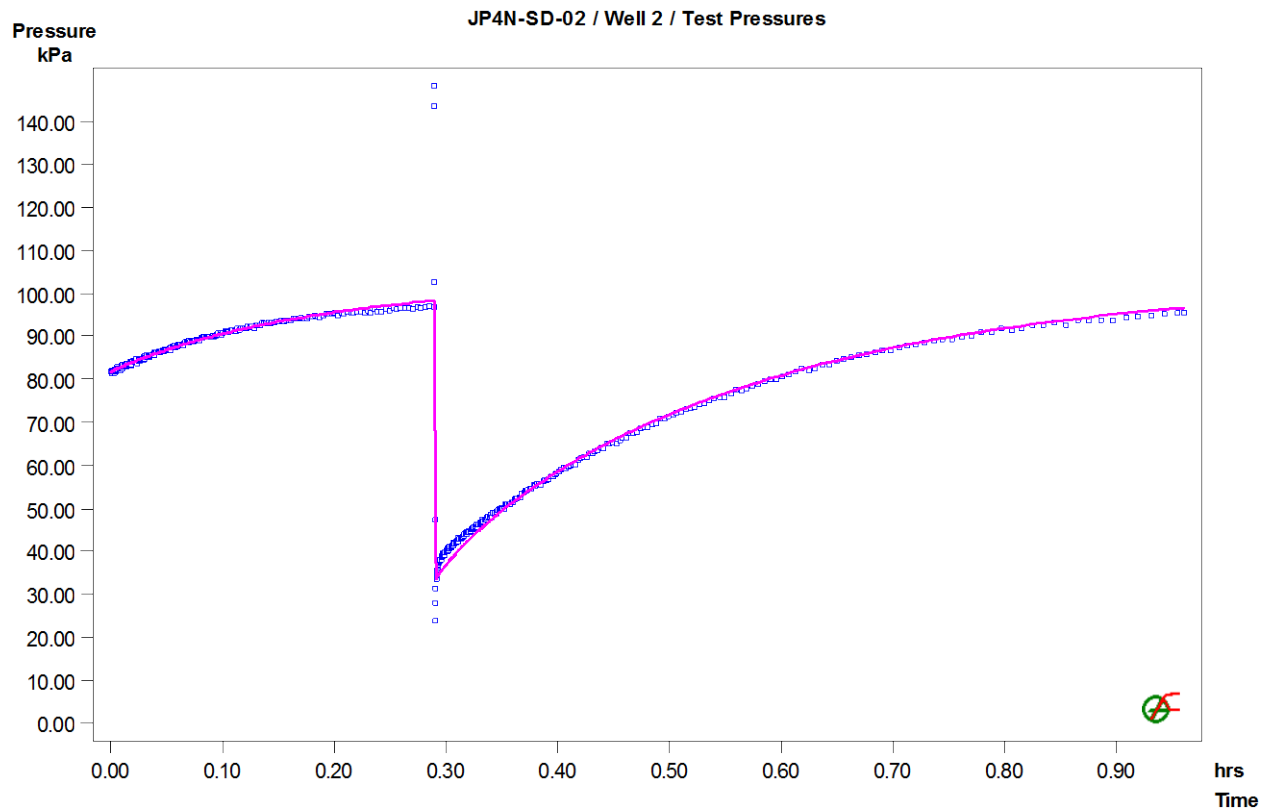


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-02 / Well 2 / SW: LogLog Plot, variable P(i)

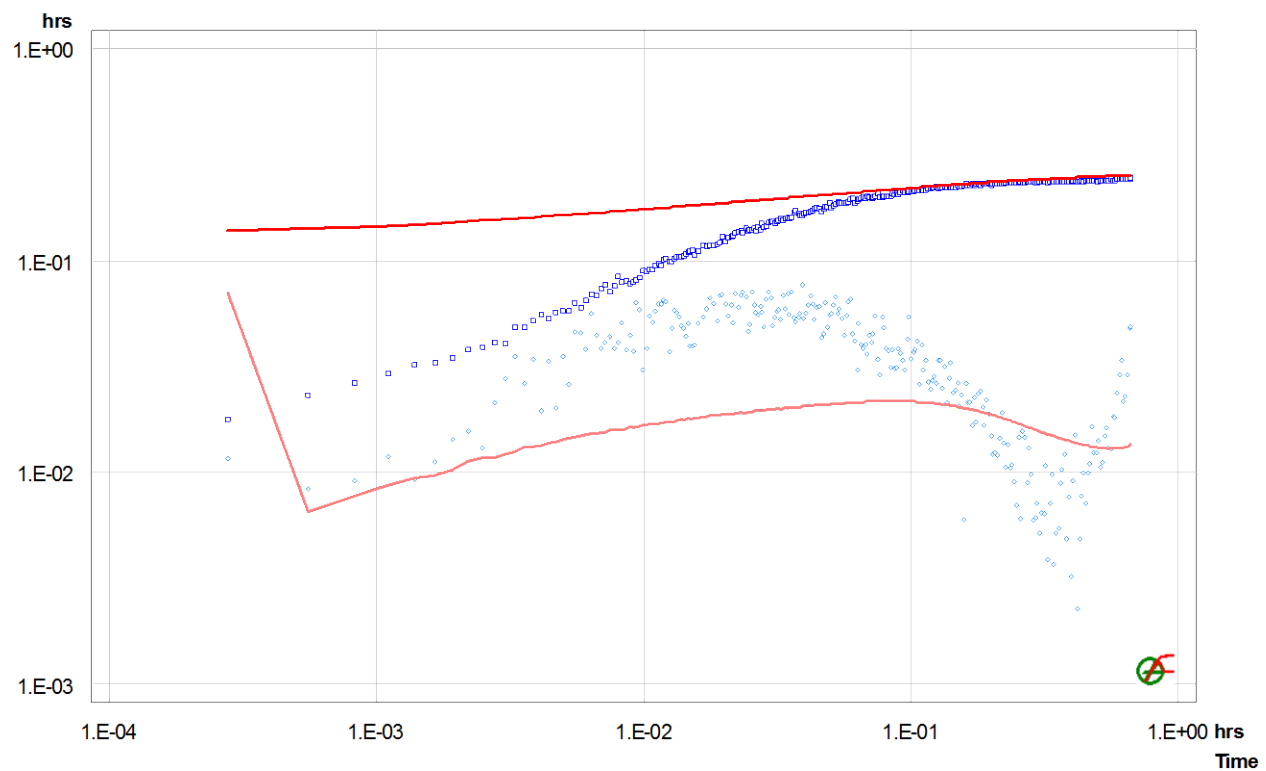


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

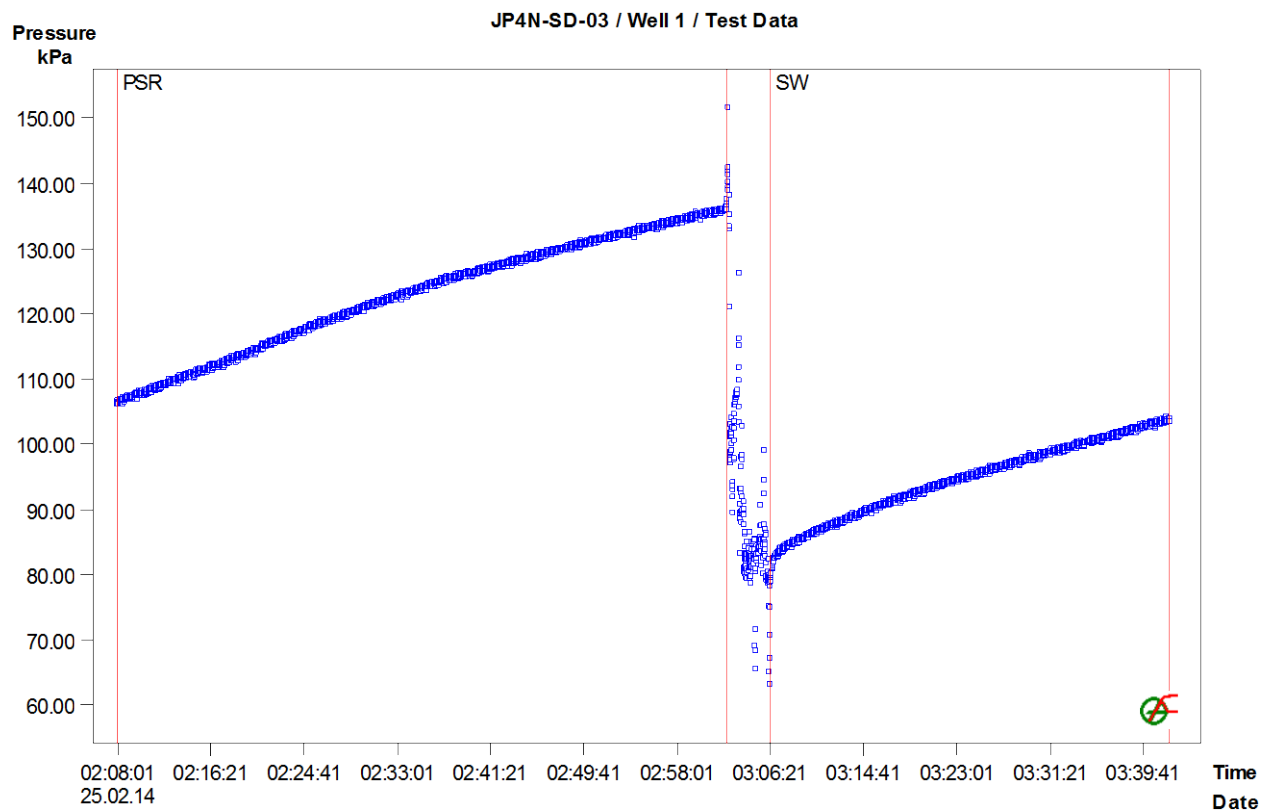


Figure 1: Pressure response and sequence definition

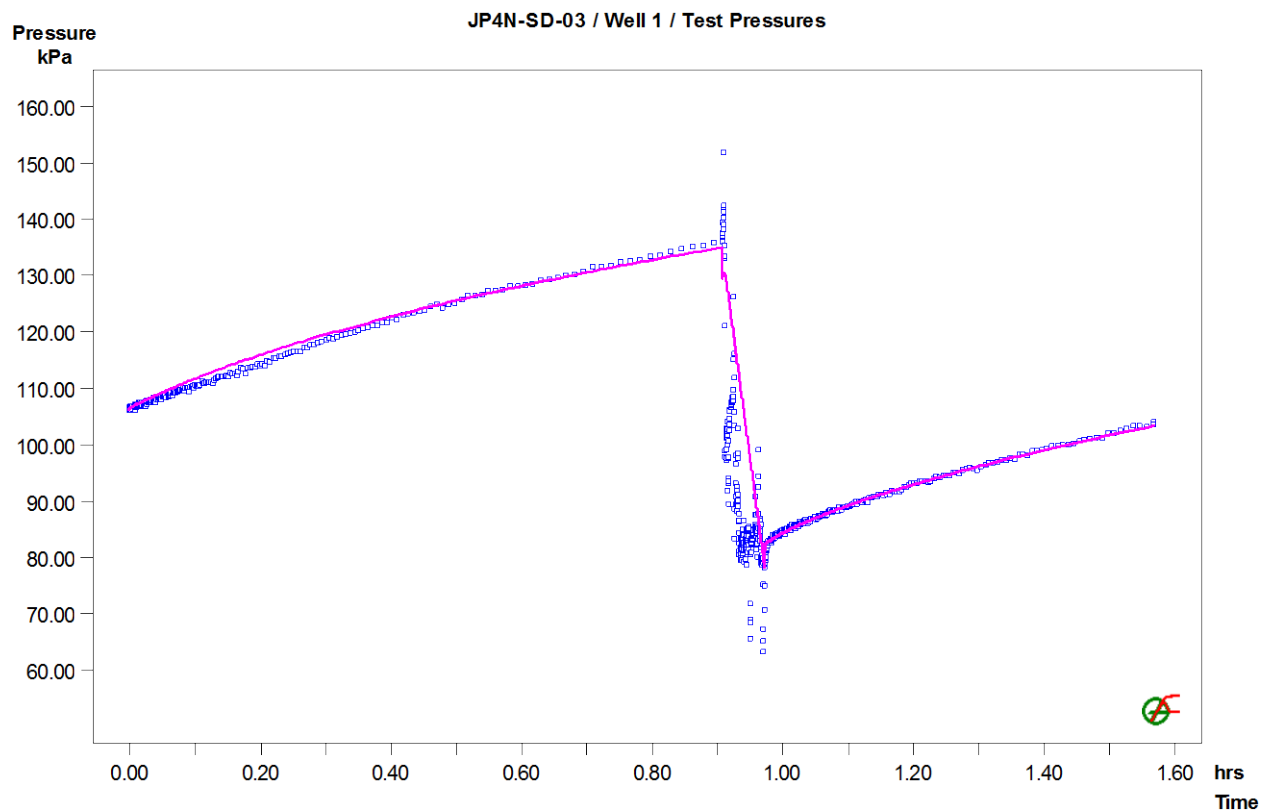


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-03 / Well 1 / SW: LogLog Plot, variable P(i)

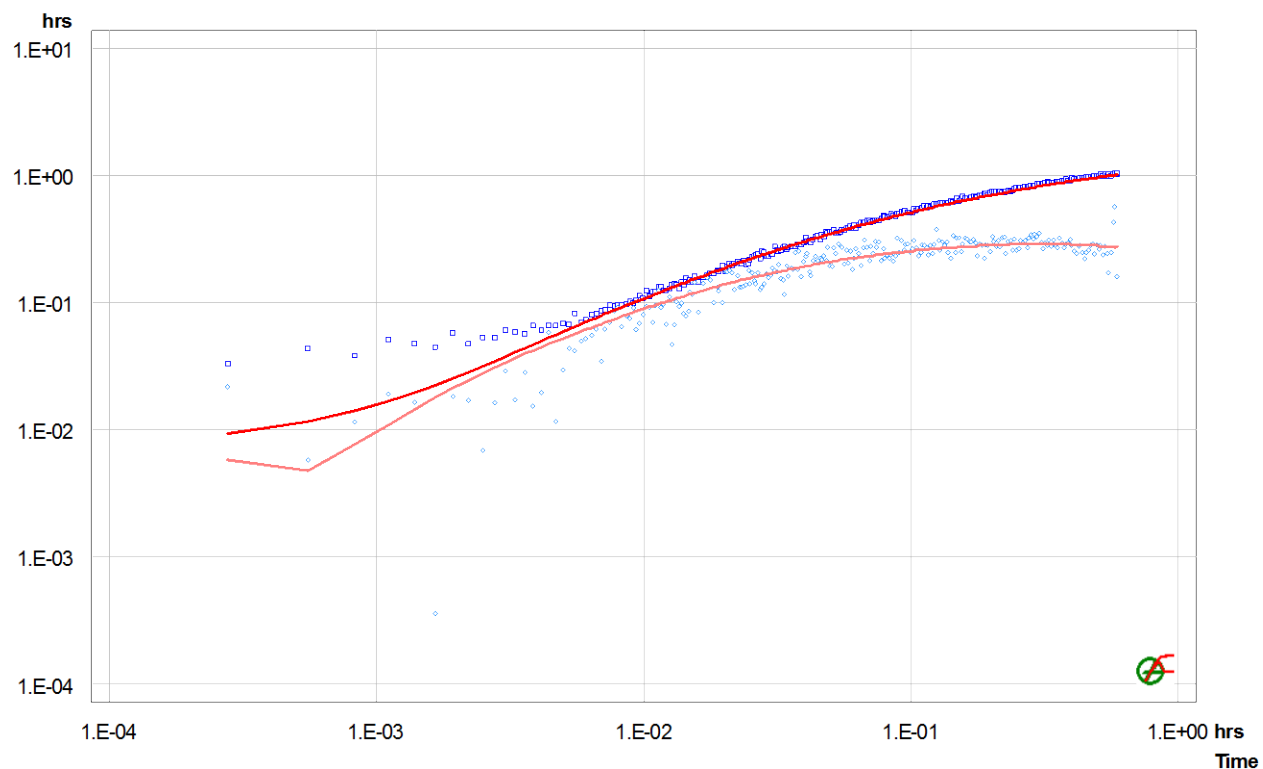


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

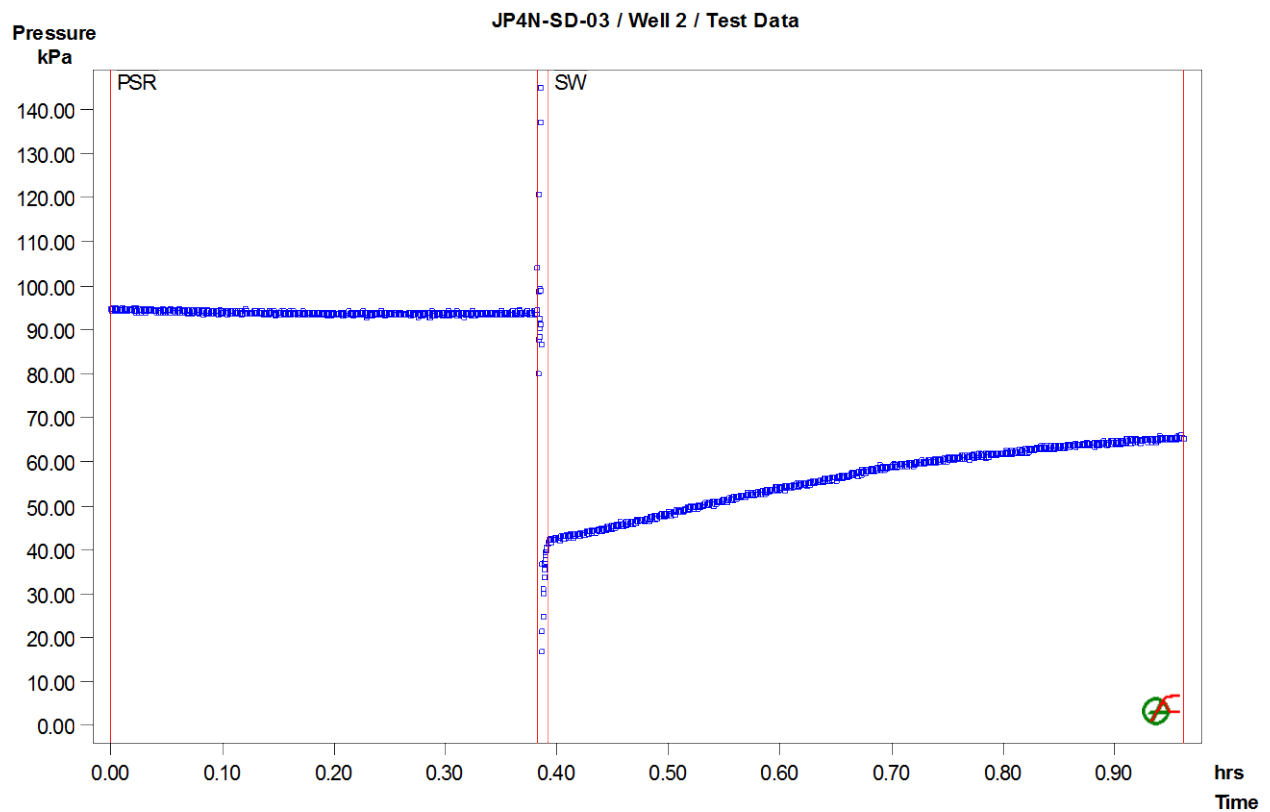


Figure 1: Pressure response and sequence definition

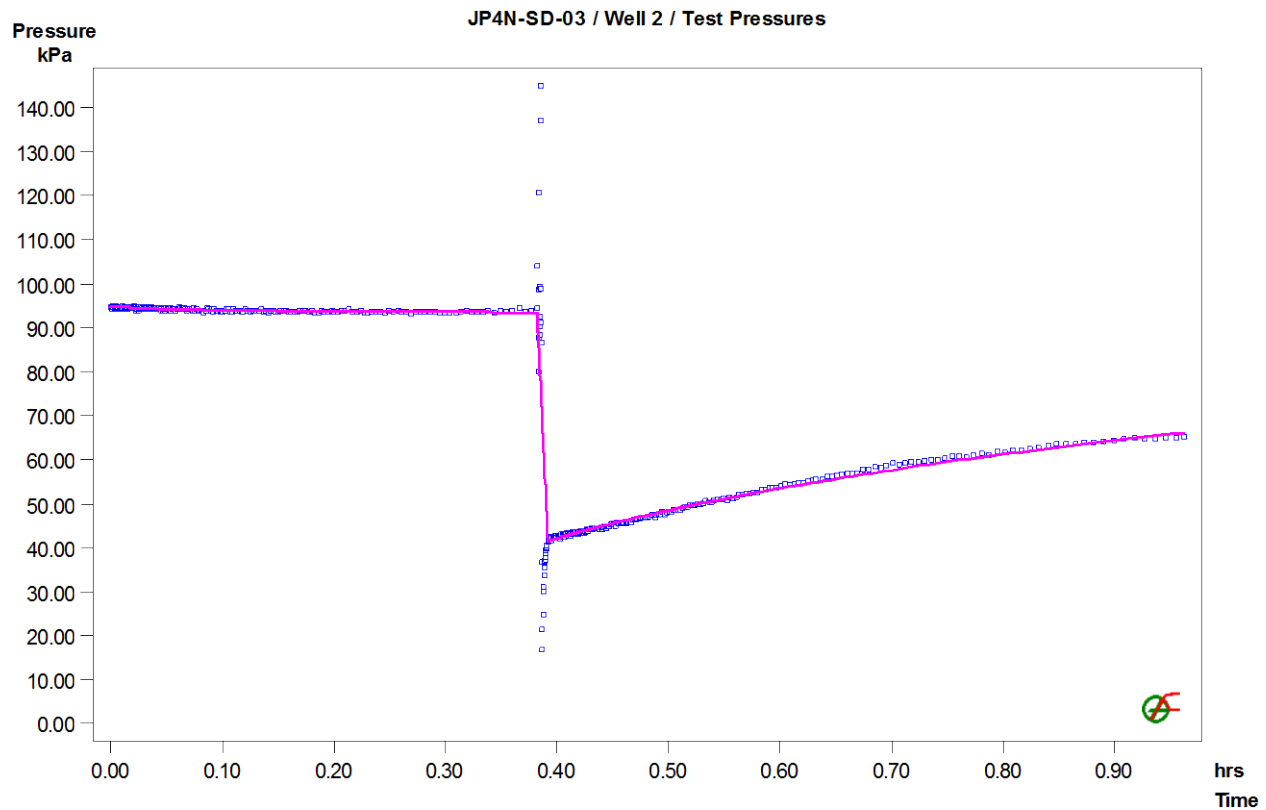


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-03 / Well 2 / SW: LogLog Plot, variable P(i)

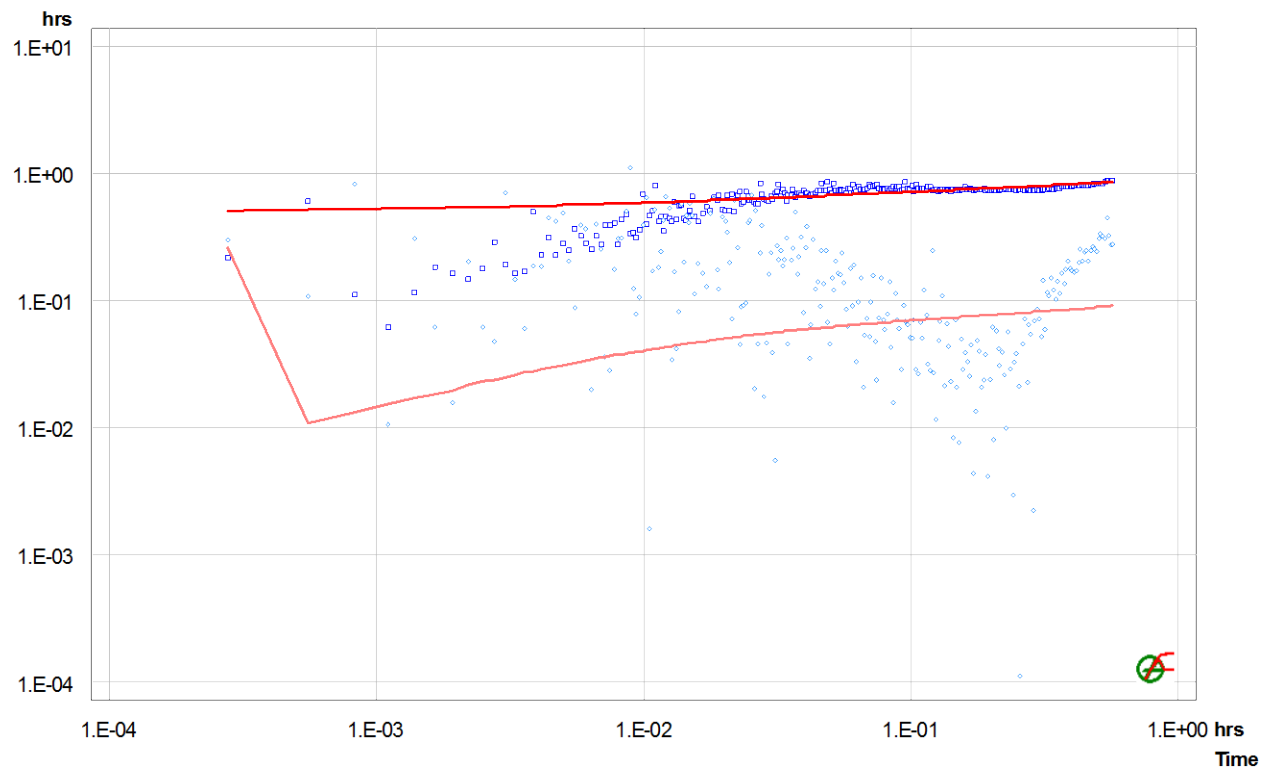


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

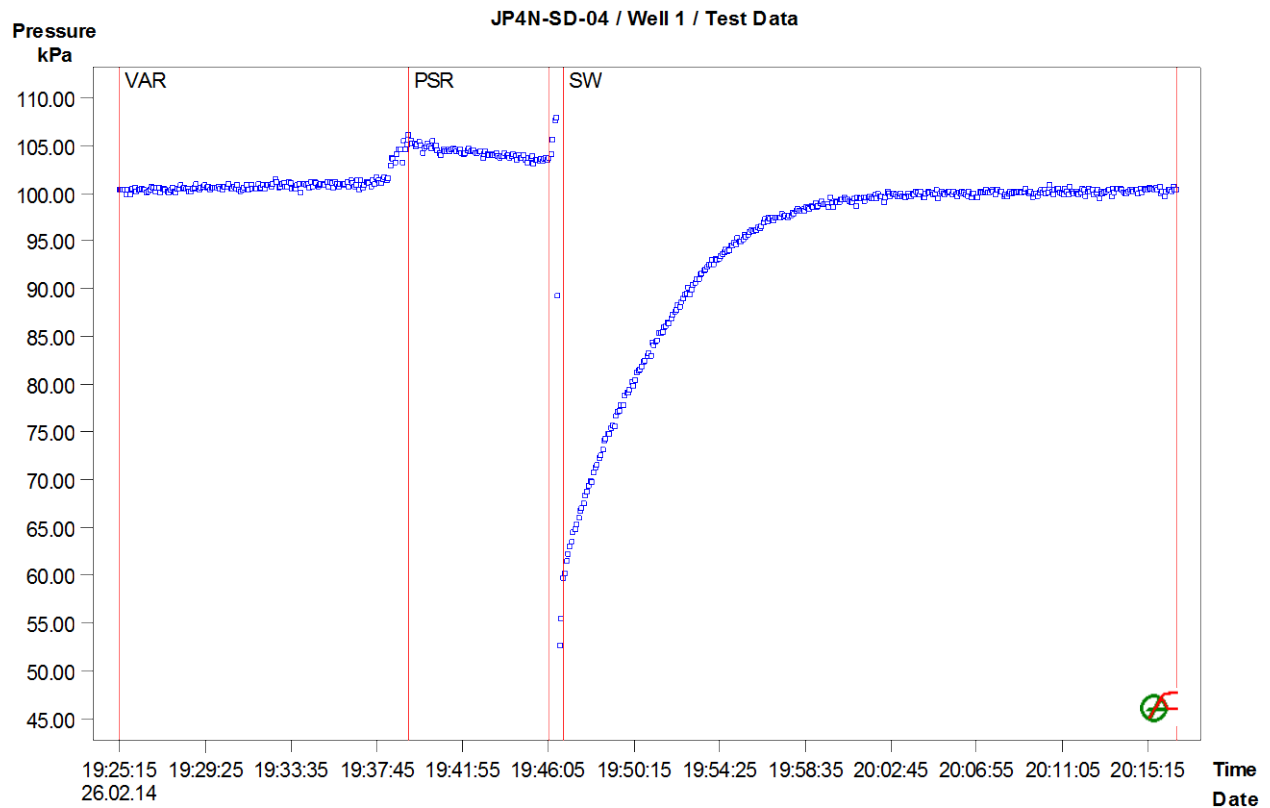


Figure 1: Pressure response and sequence definition

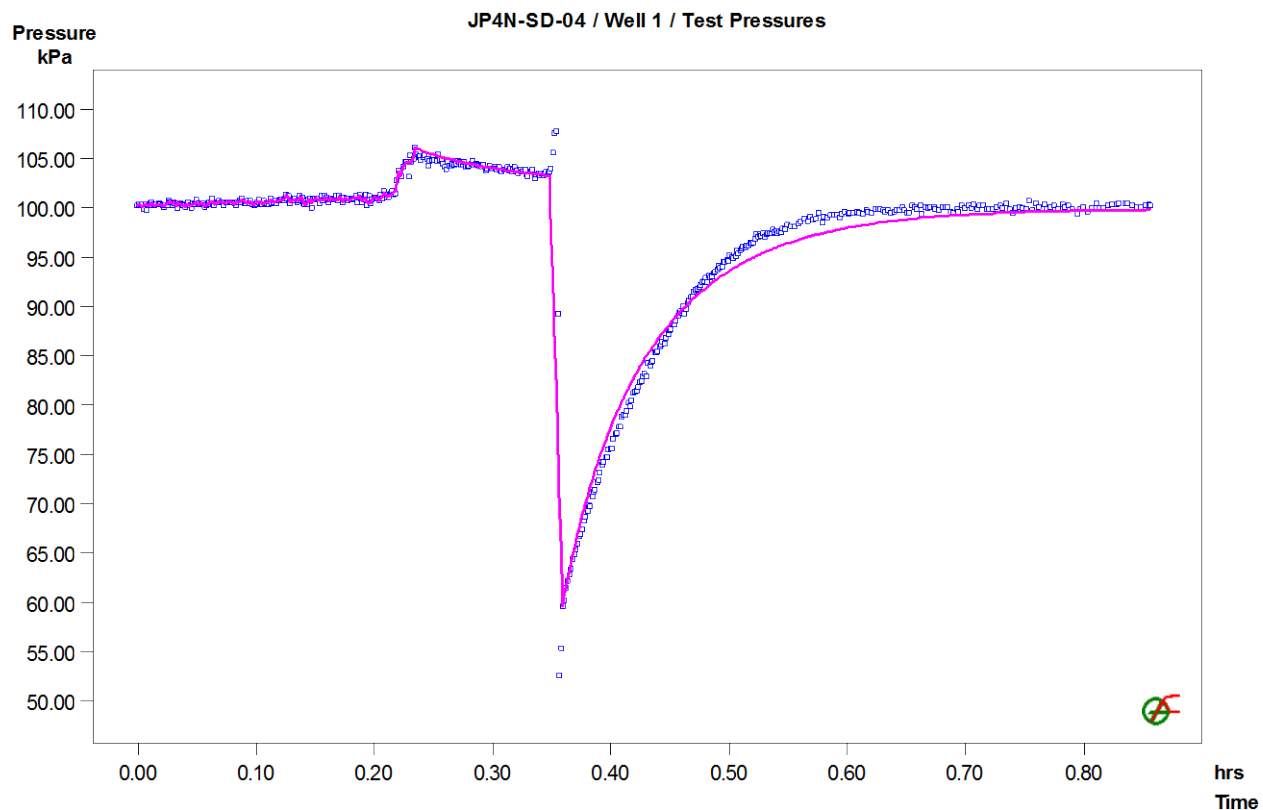


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-04 / Well 1 / SW: LogLog Plot, variable P(i)

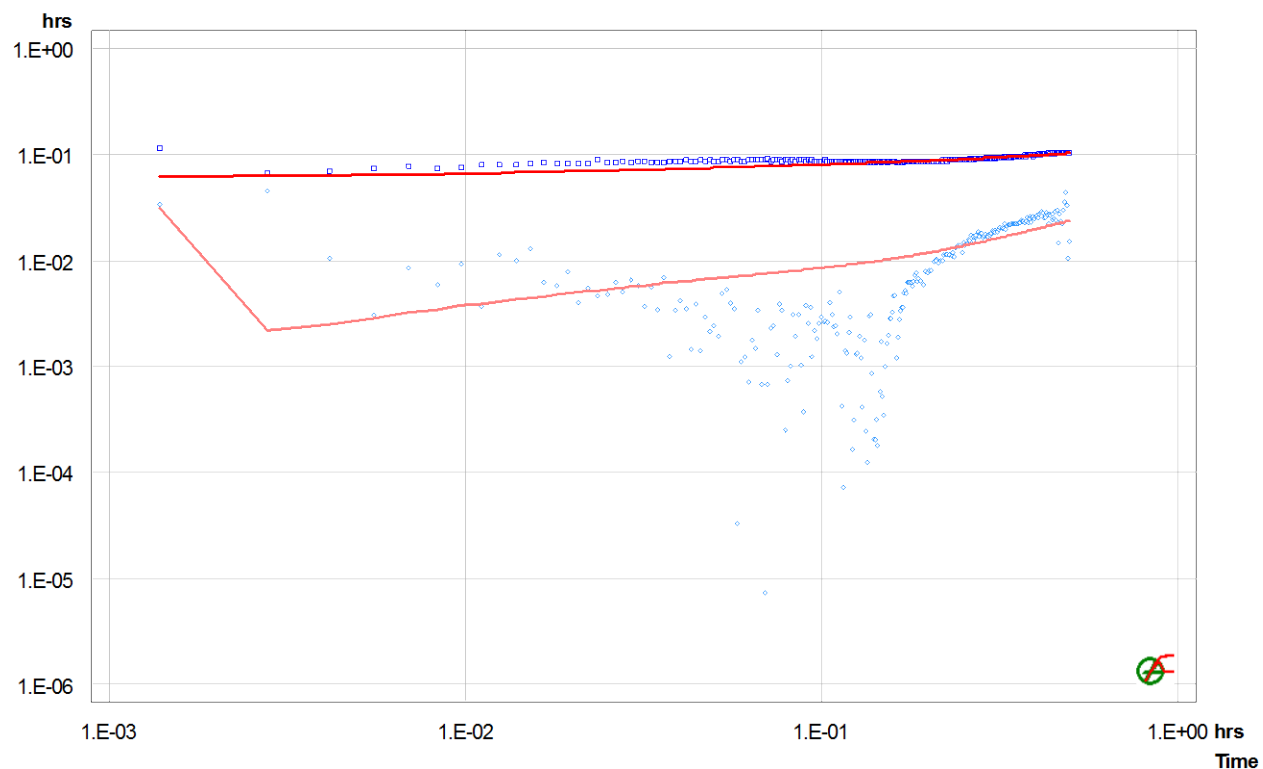


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

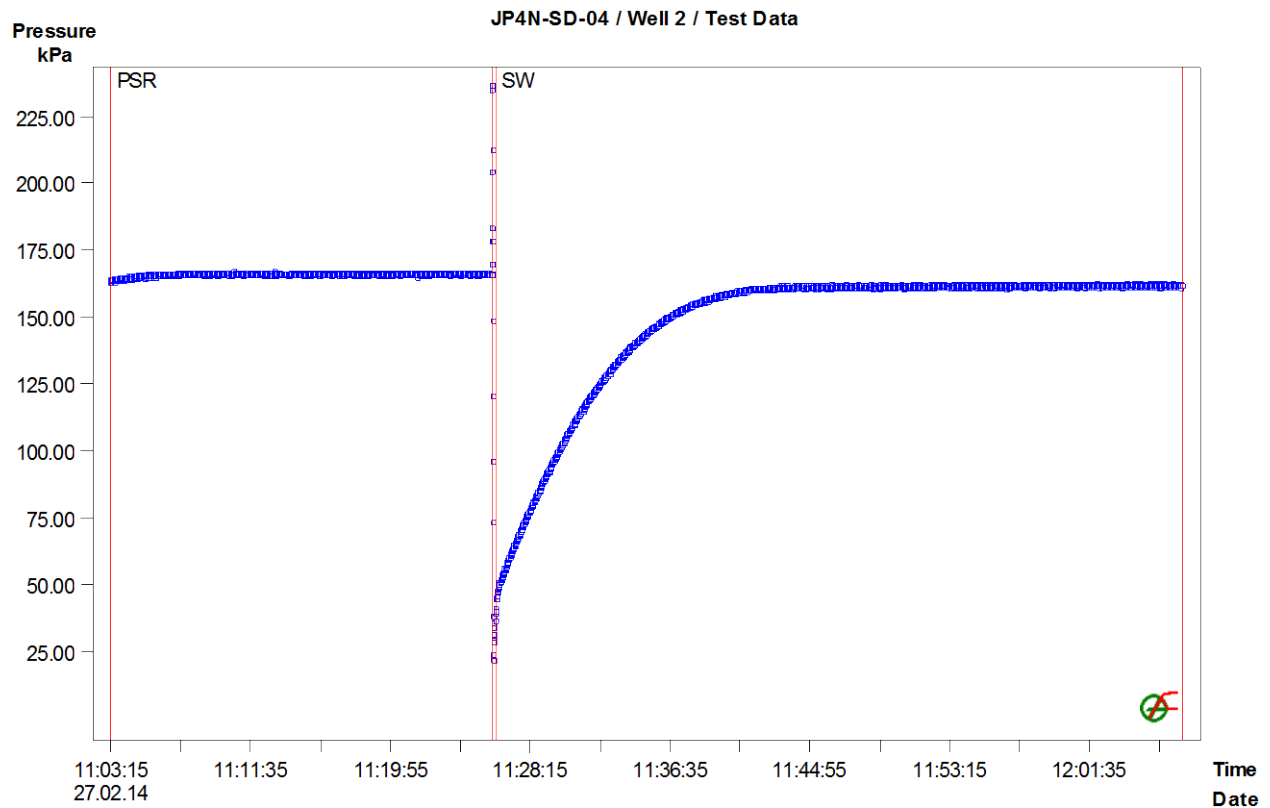


Figure 1: Pressure response and sequence definition

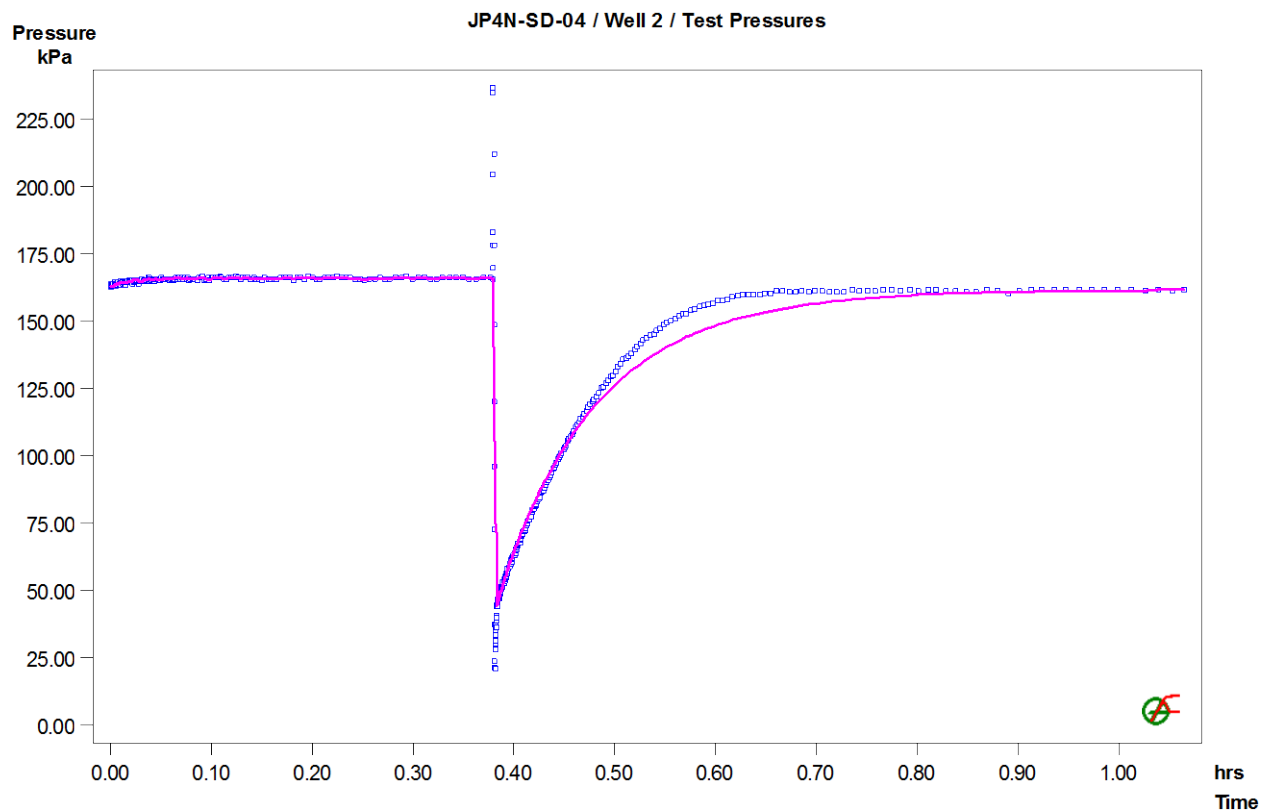


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-04 / Well 2 / SW: LogLog Plot, constant P(i)

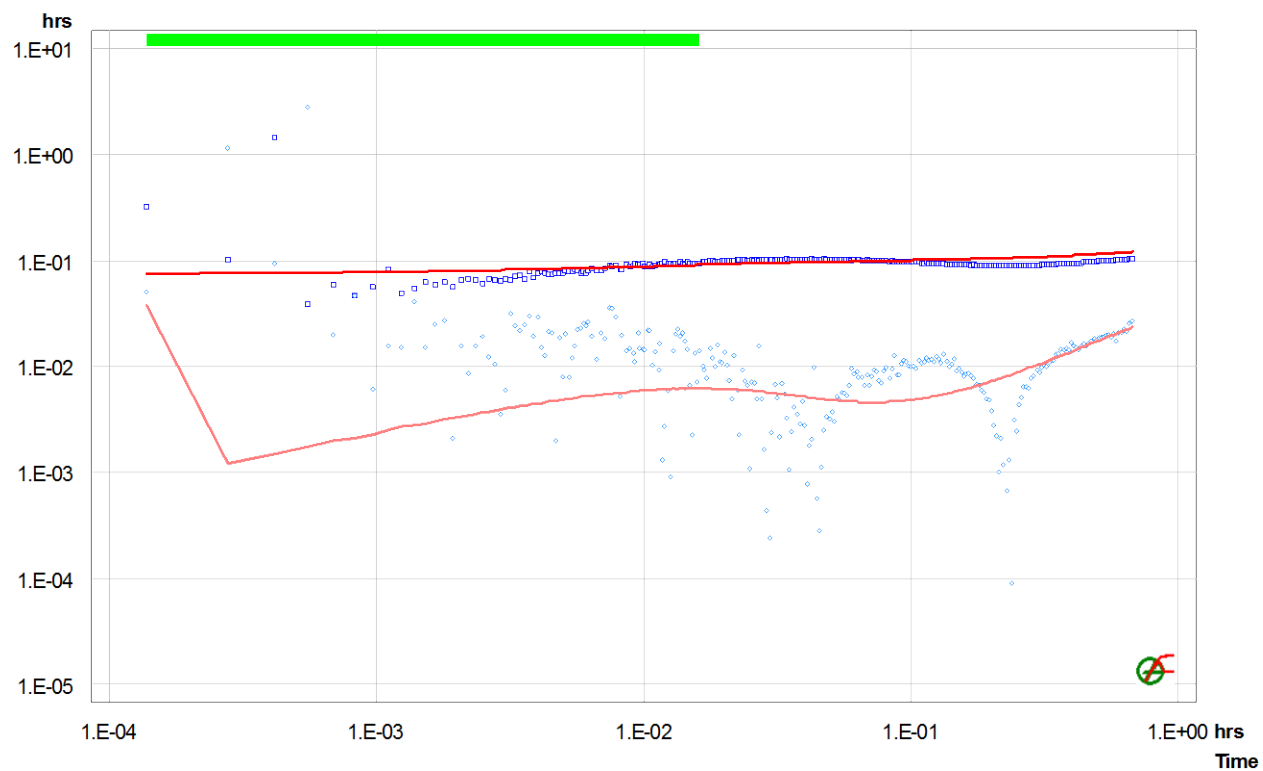


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

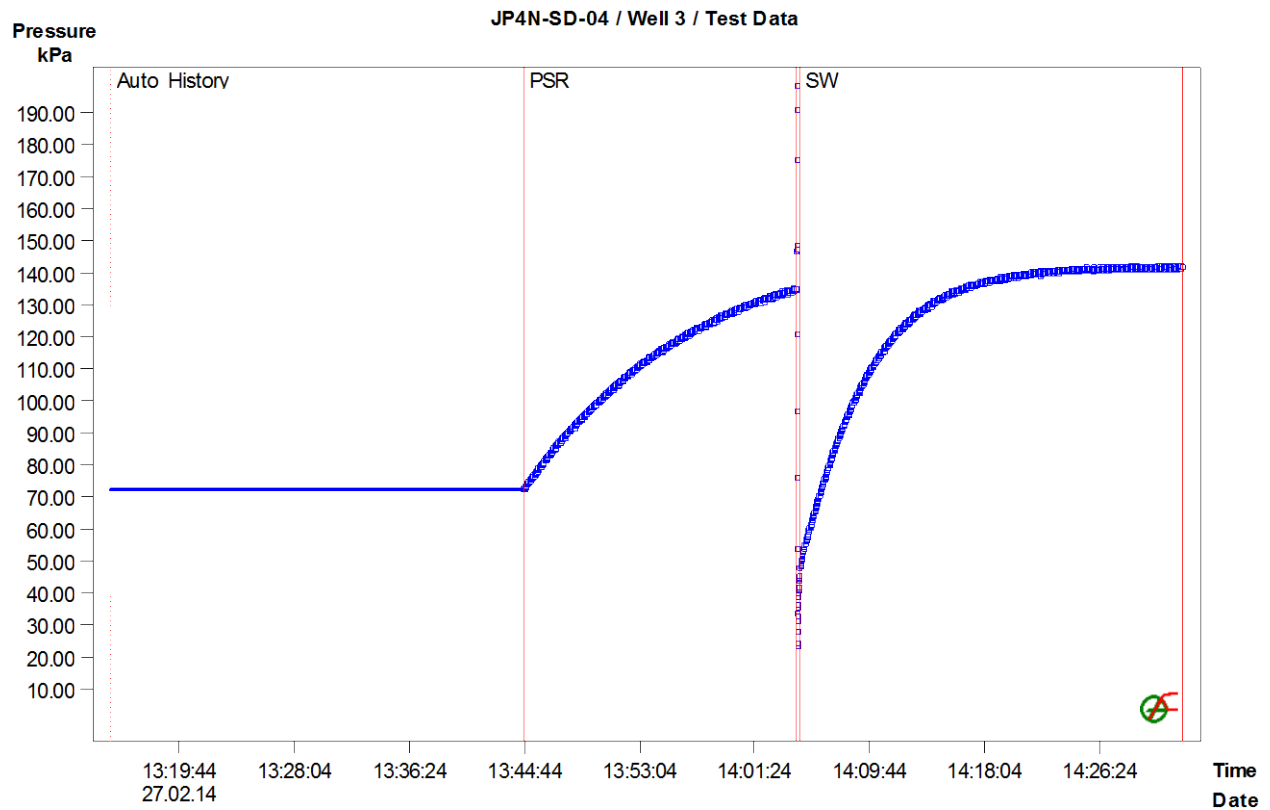


Figure 1: Pressure response and sequence definition

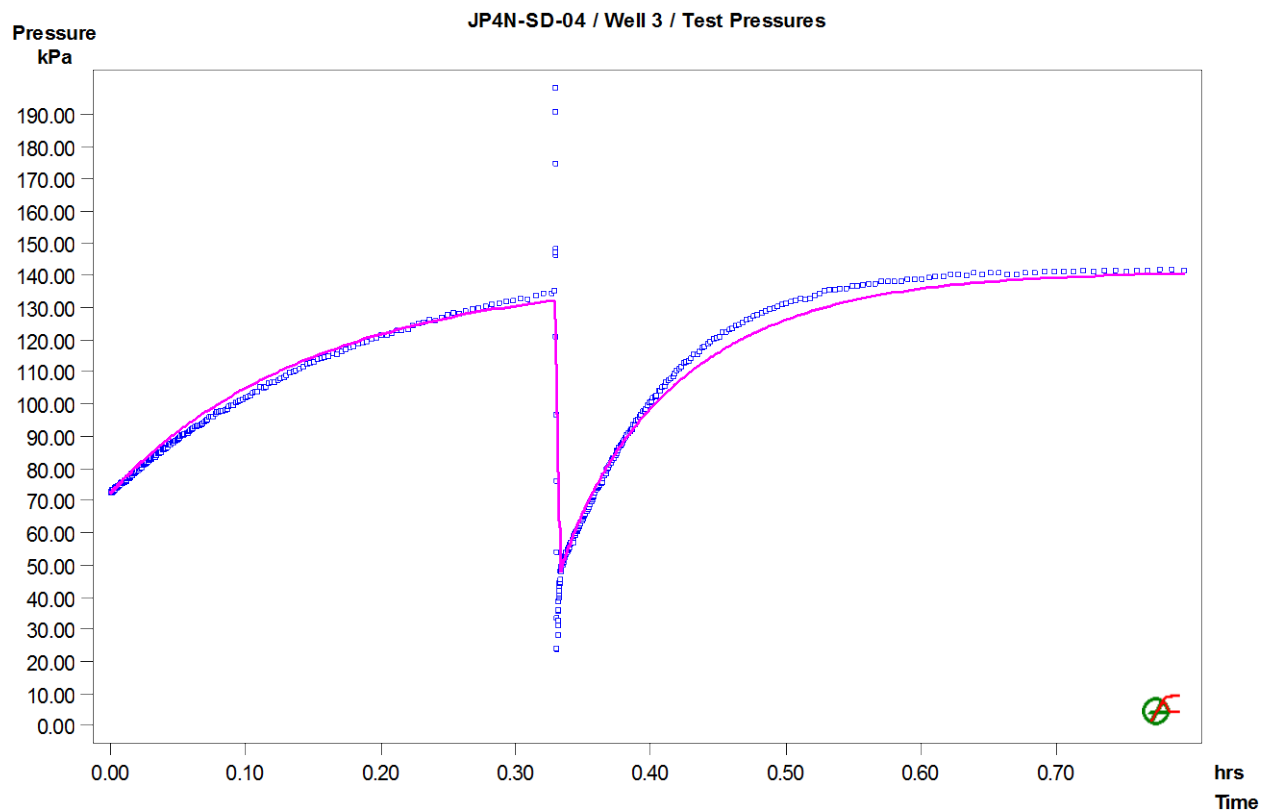


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

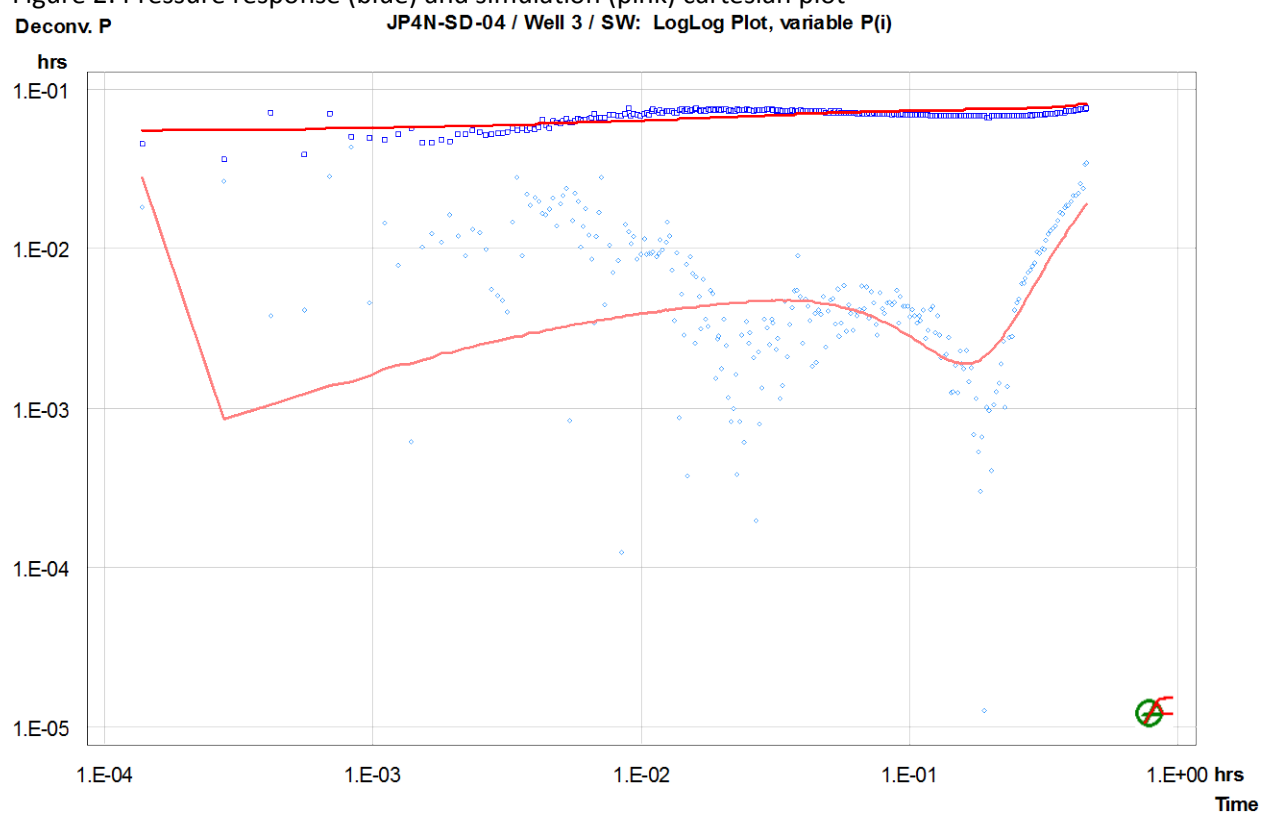


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

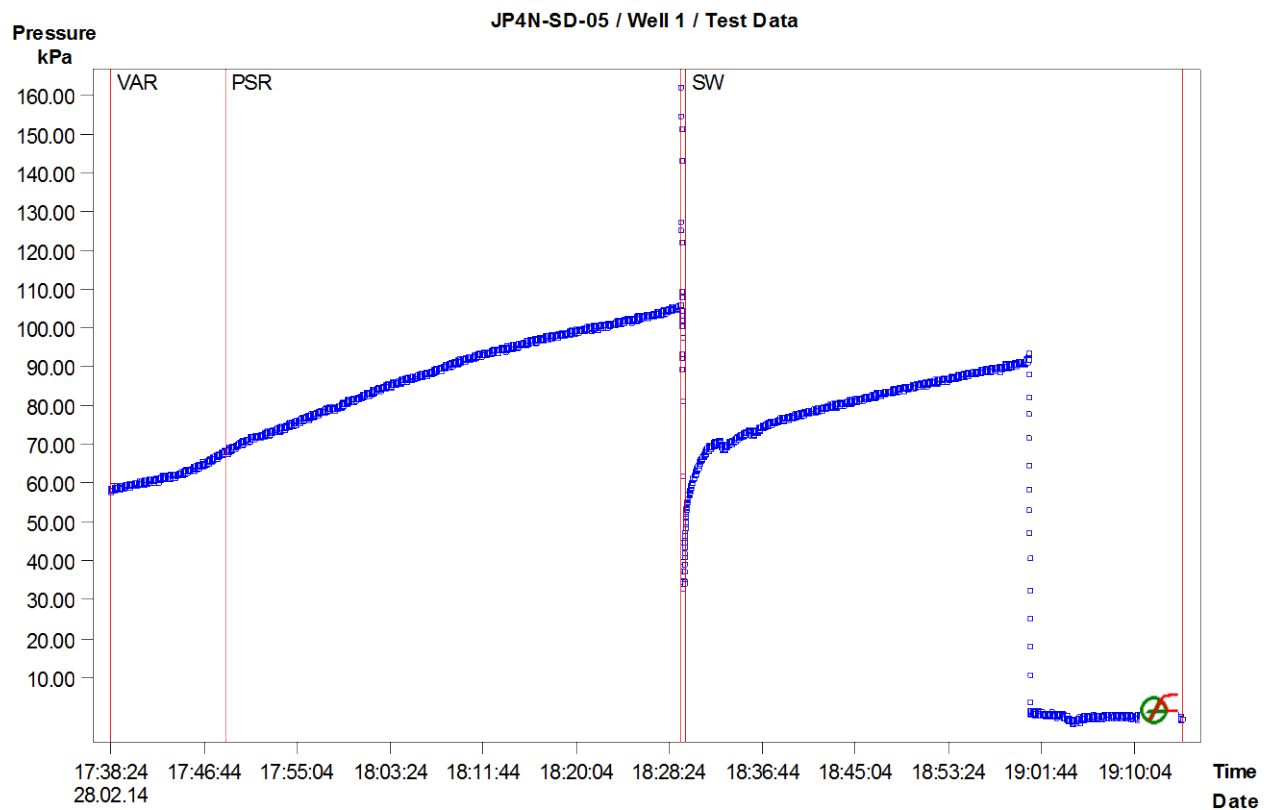


Figure 1: Pressure response and sequence definition

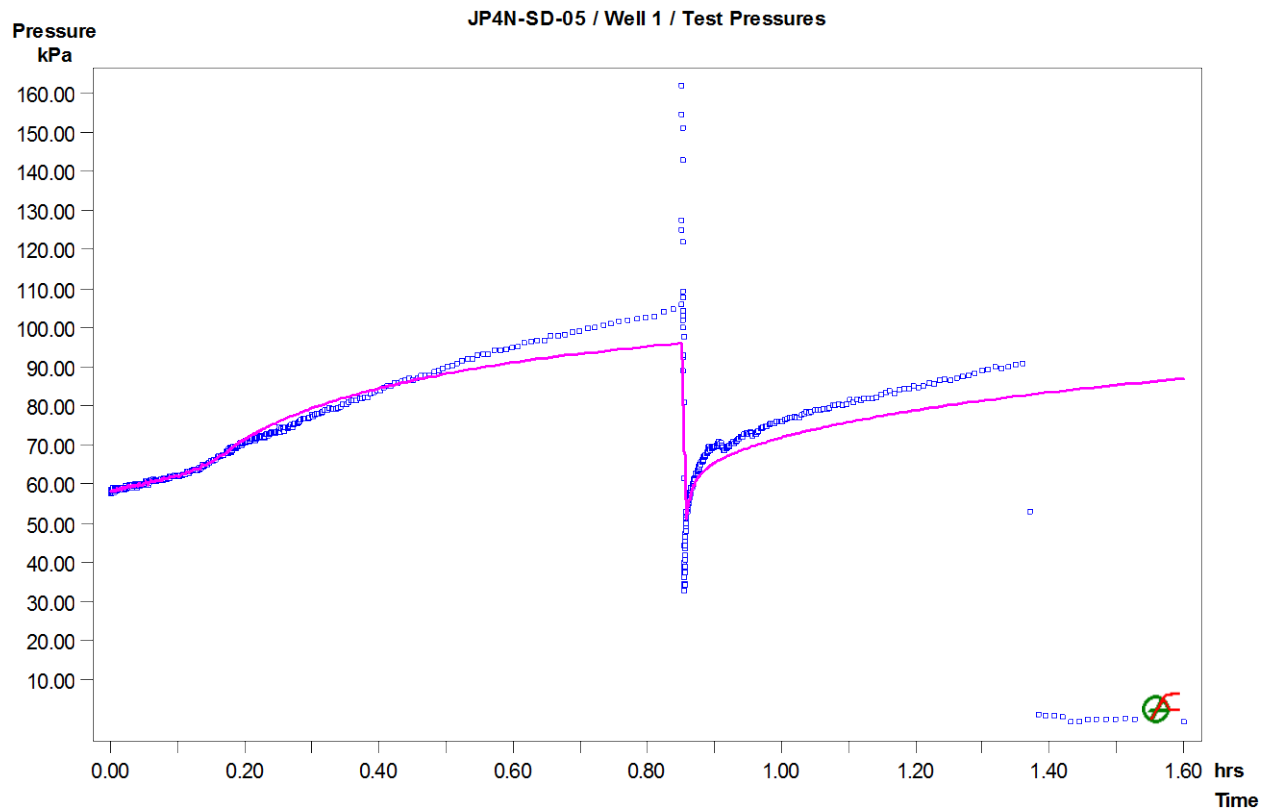


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-05 / Well 1 / SW: LogLog Plot, variable P(i)

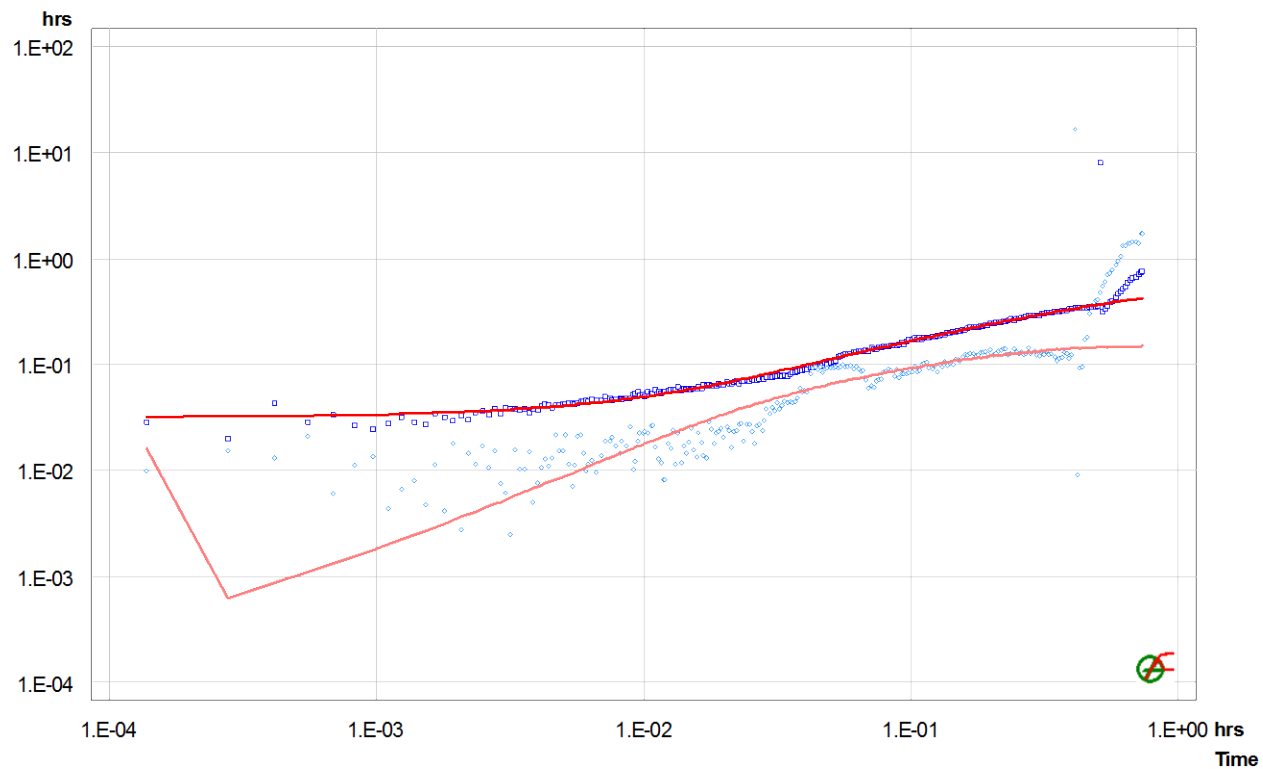


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

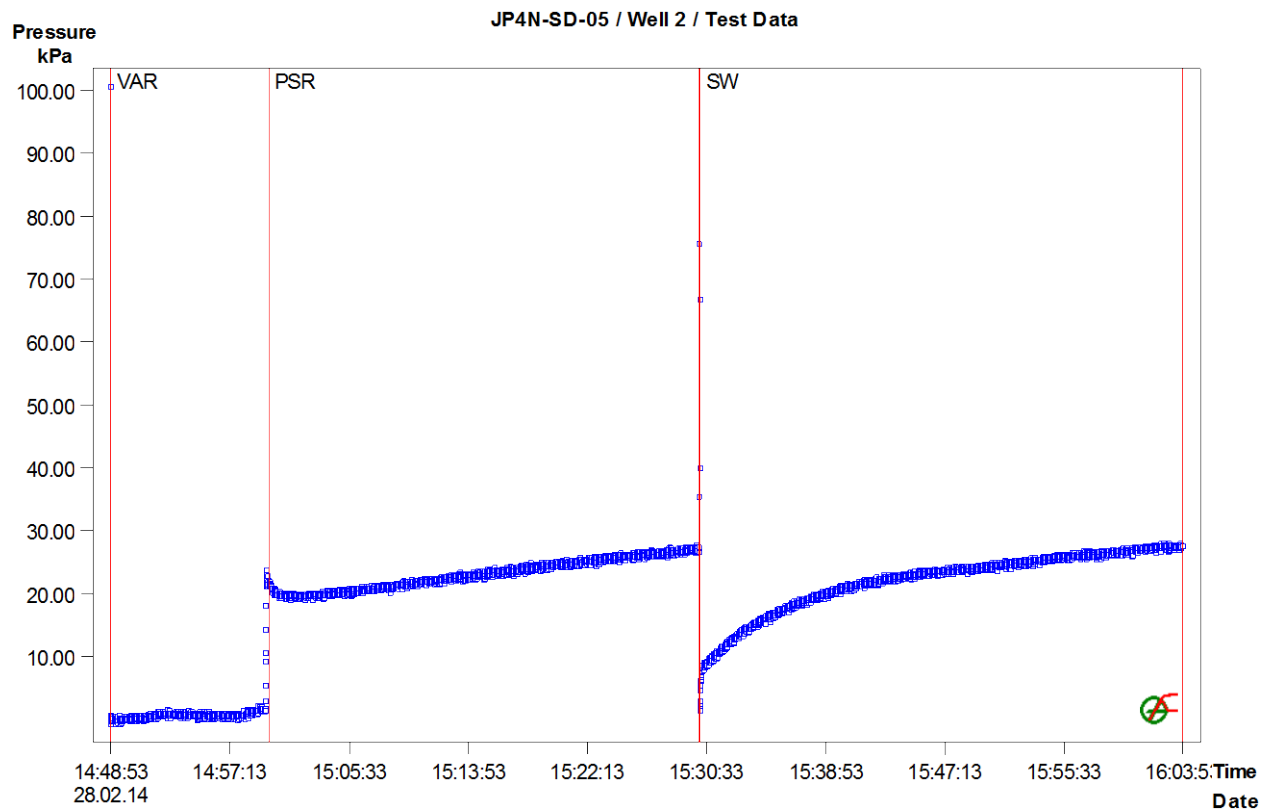


Figure 1: Pressure response and sequence definition.

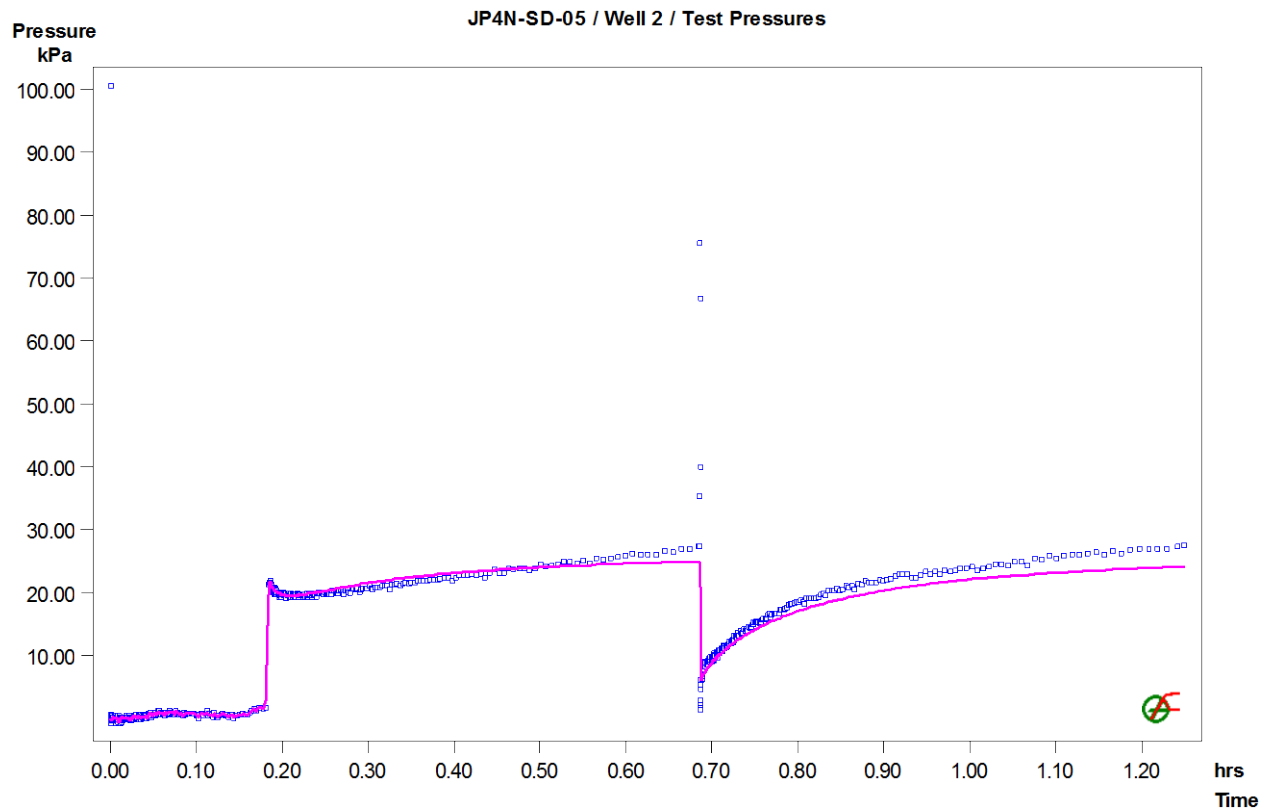


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot.

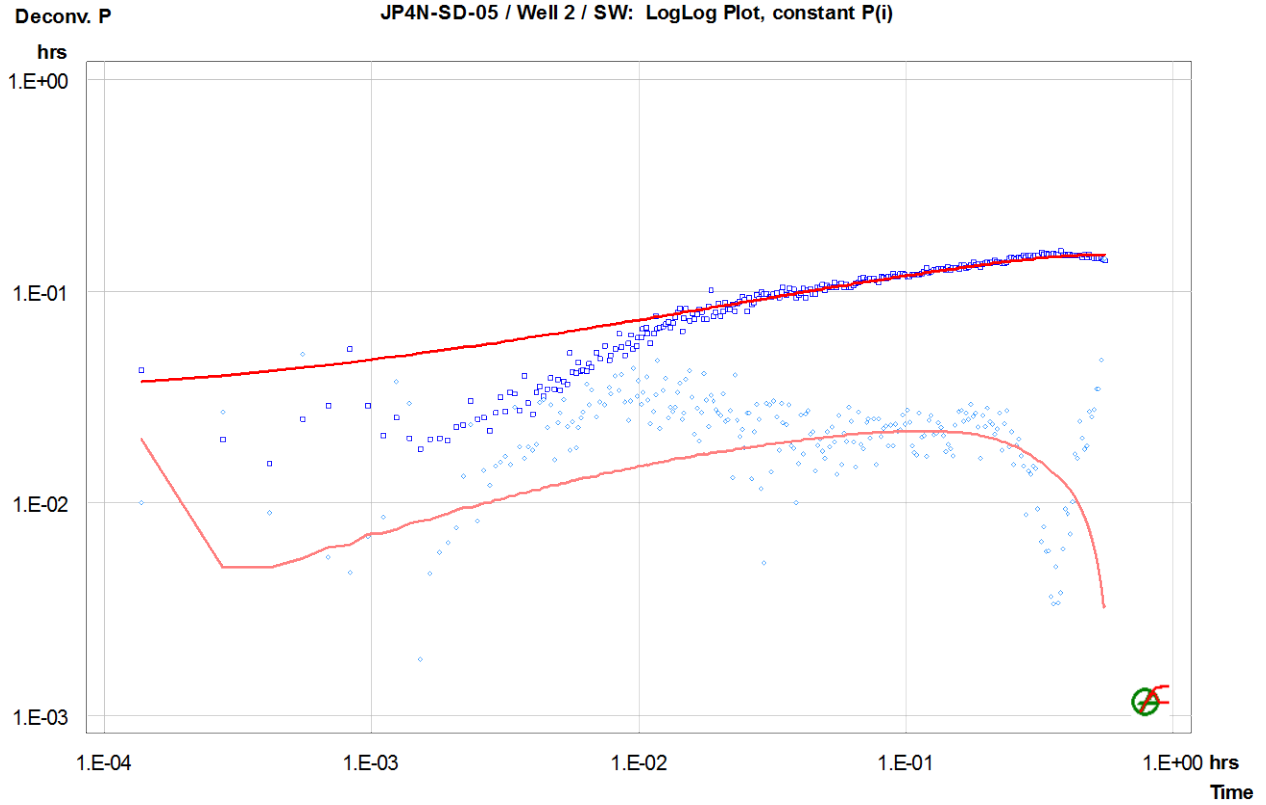


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence.

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

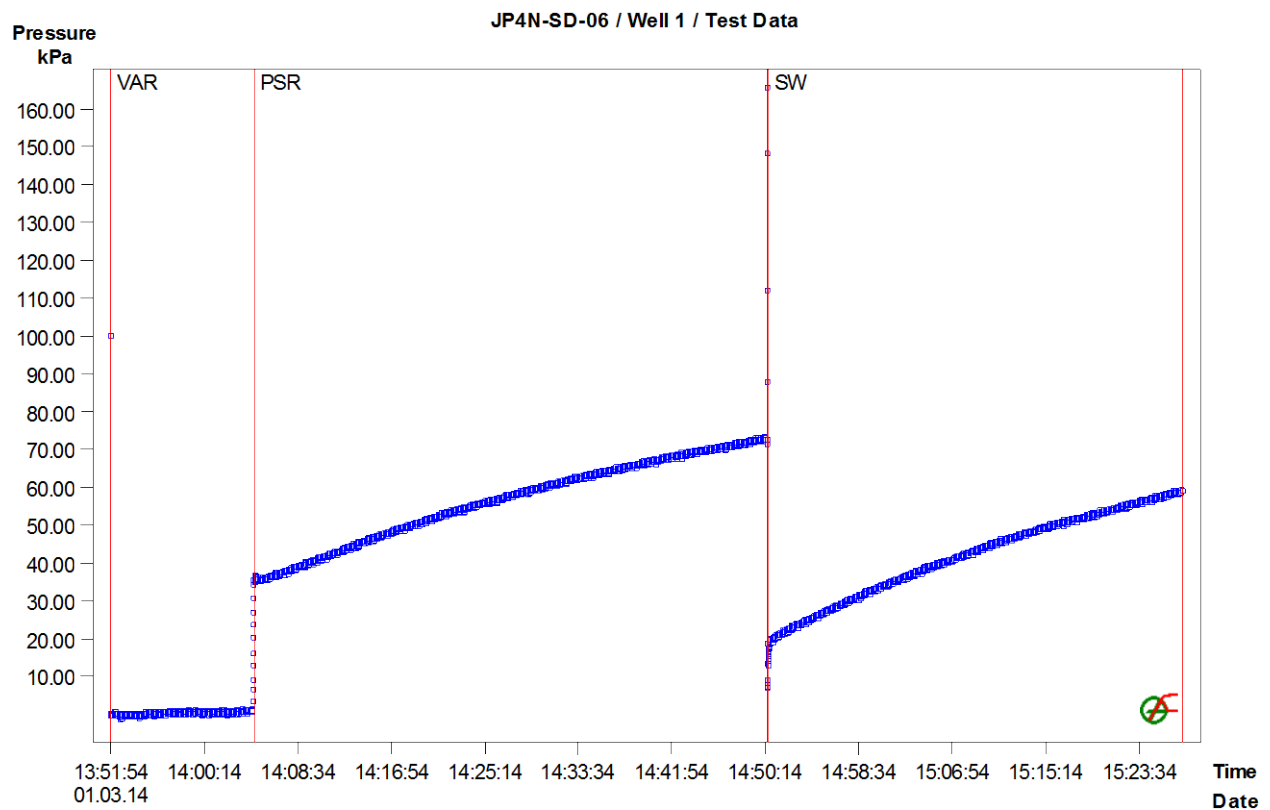


Figure 1: Pressure response and sequence definition

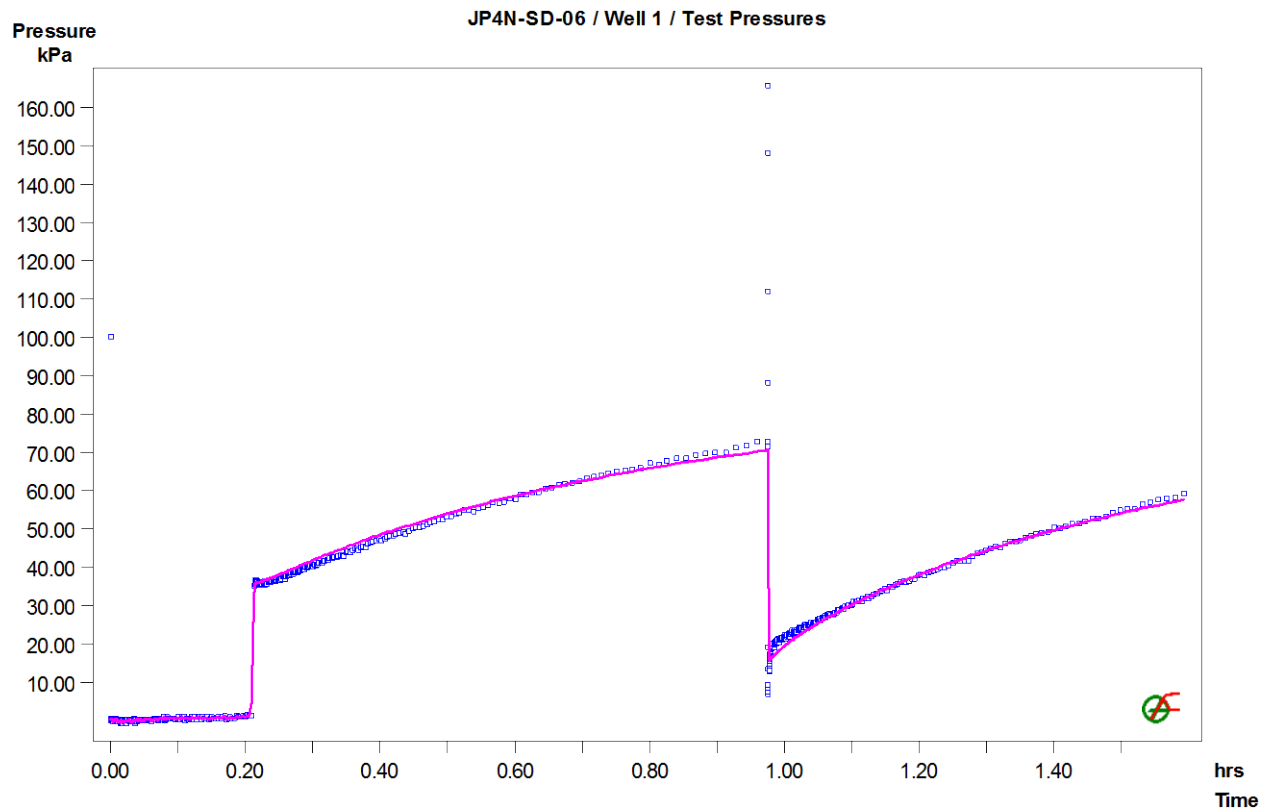


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-06 / Well 1 / SW: LogLog Plot, variable P(i)

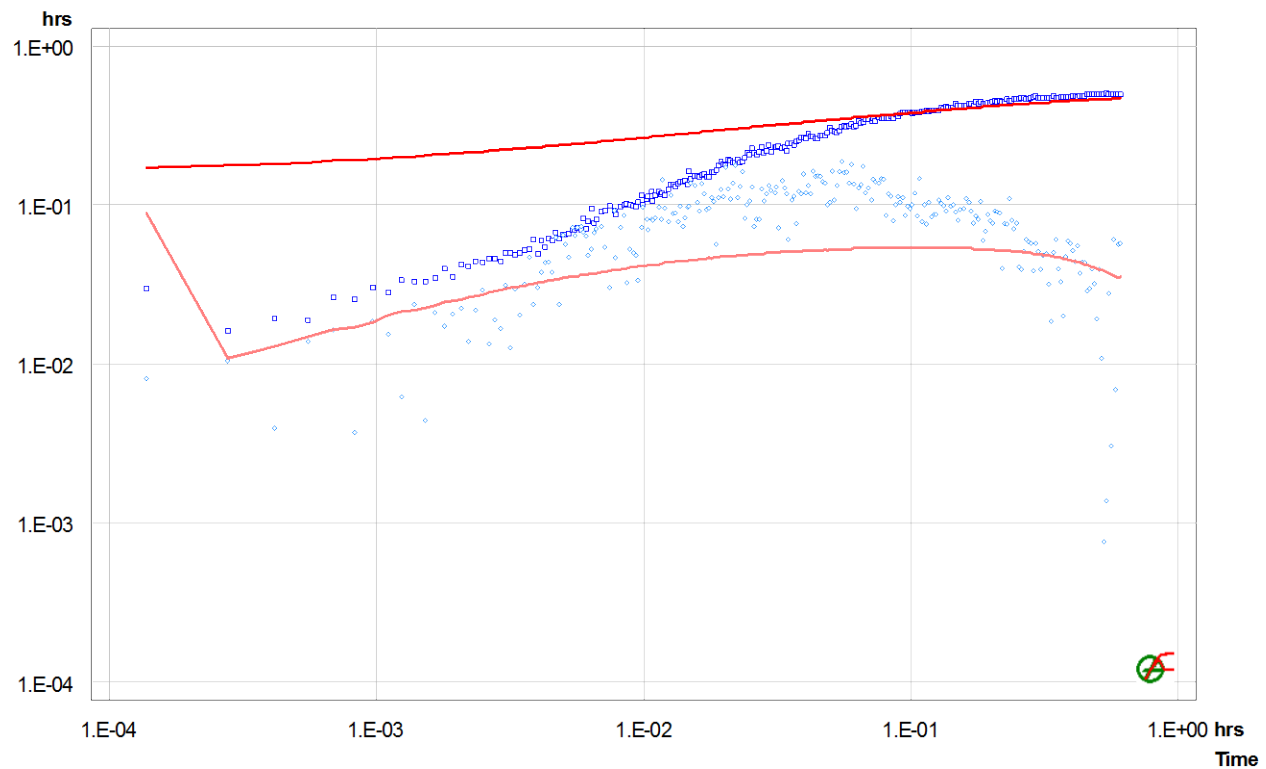


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

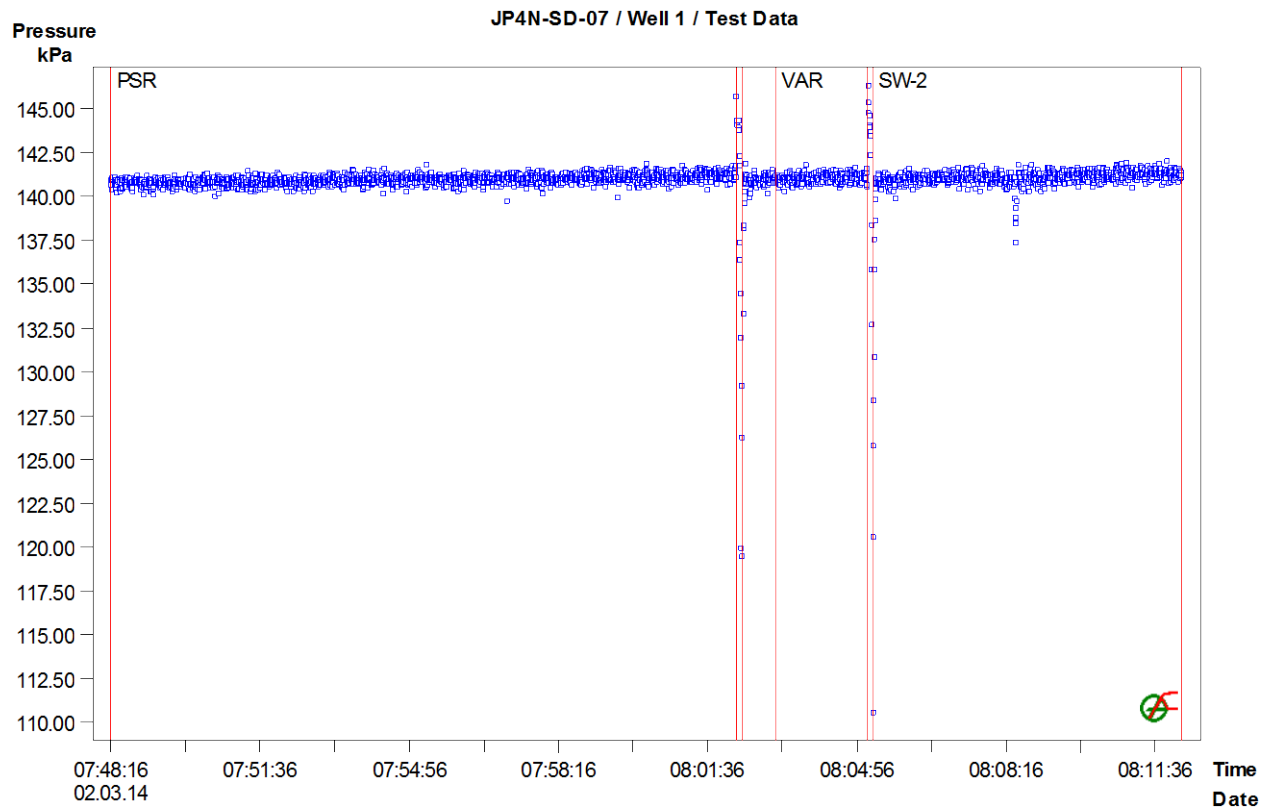


Figure 1: Pressure response and sequence definition

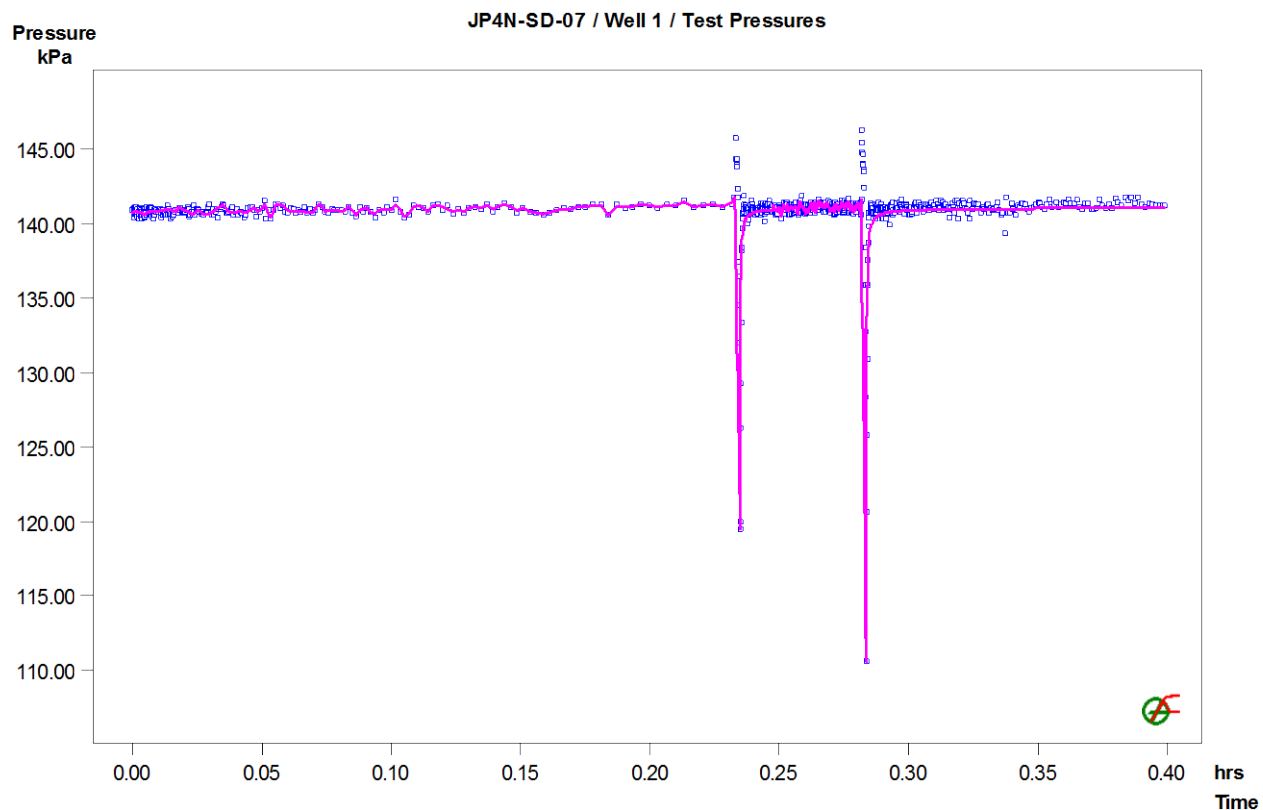


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-07 / Well 1 / SW-2: LogLog Plot, constant P(i)

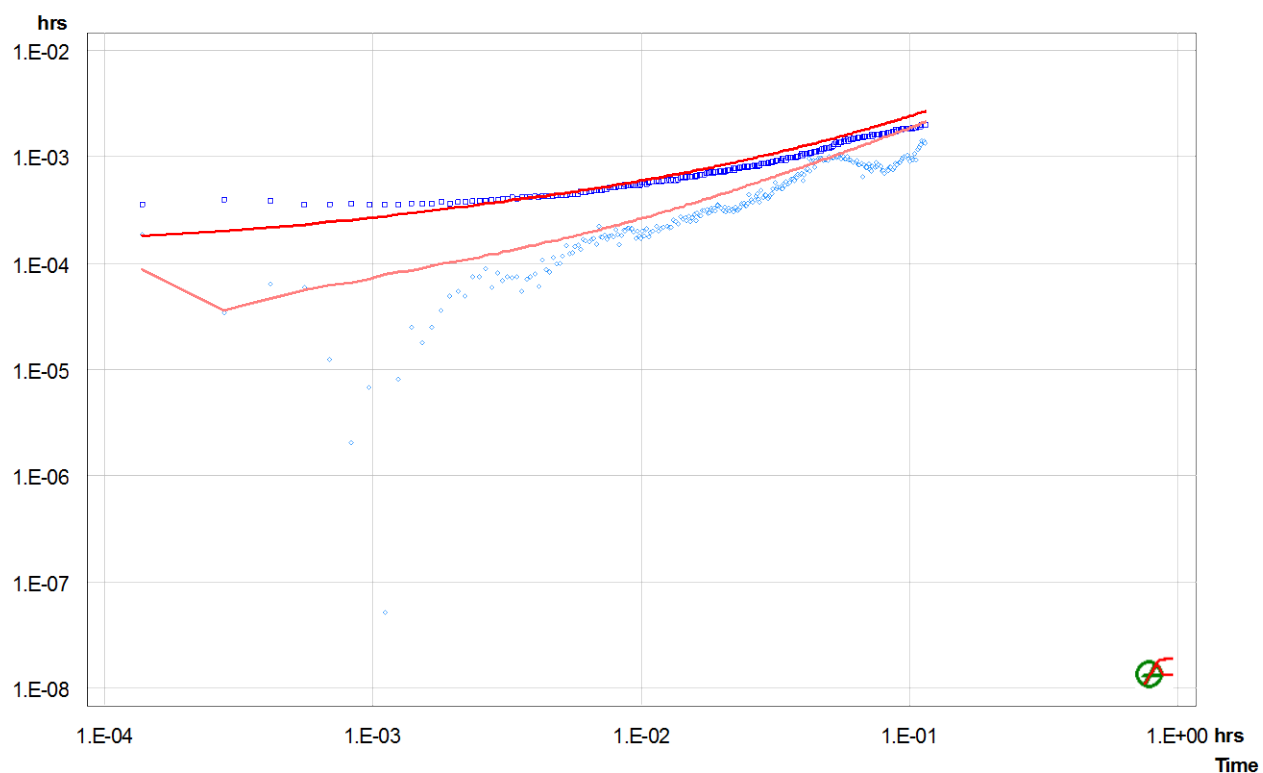


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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 [m³/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

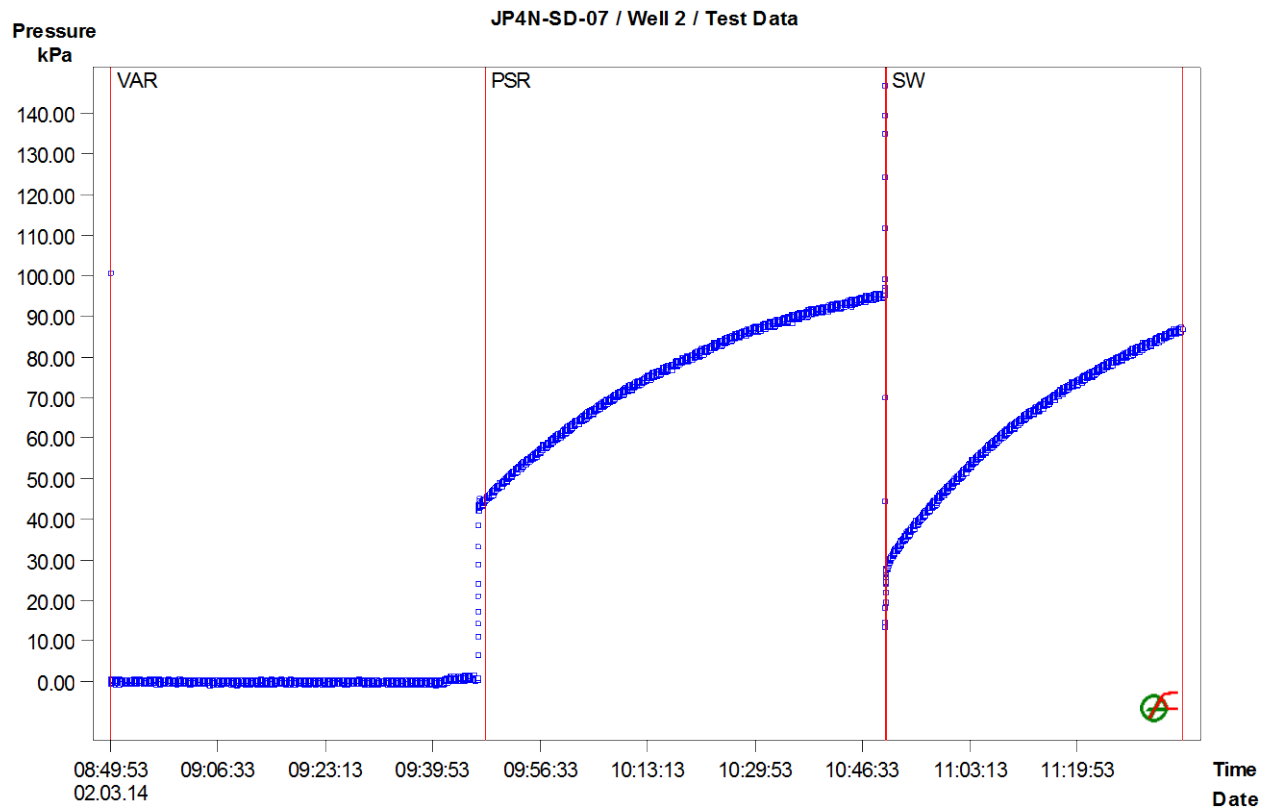


Figure 1: Pressure response and sequence definition

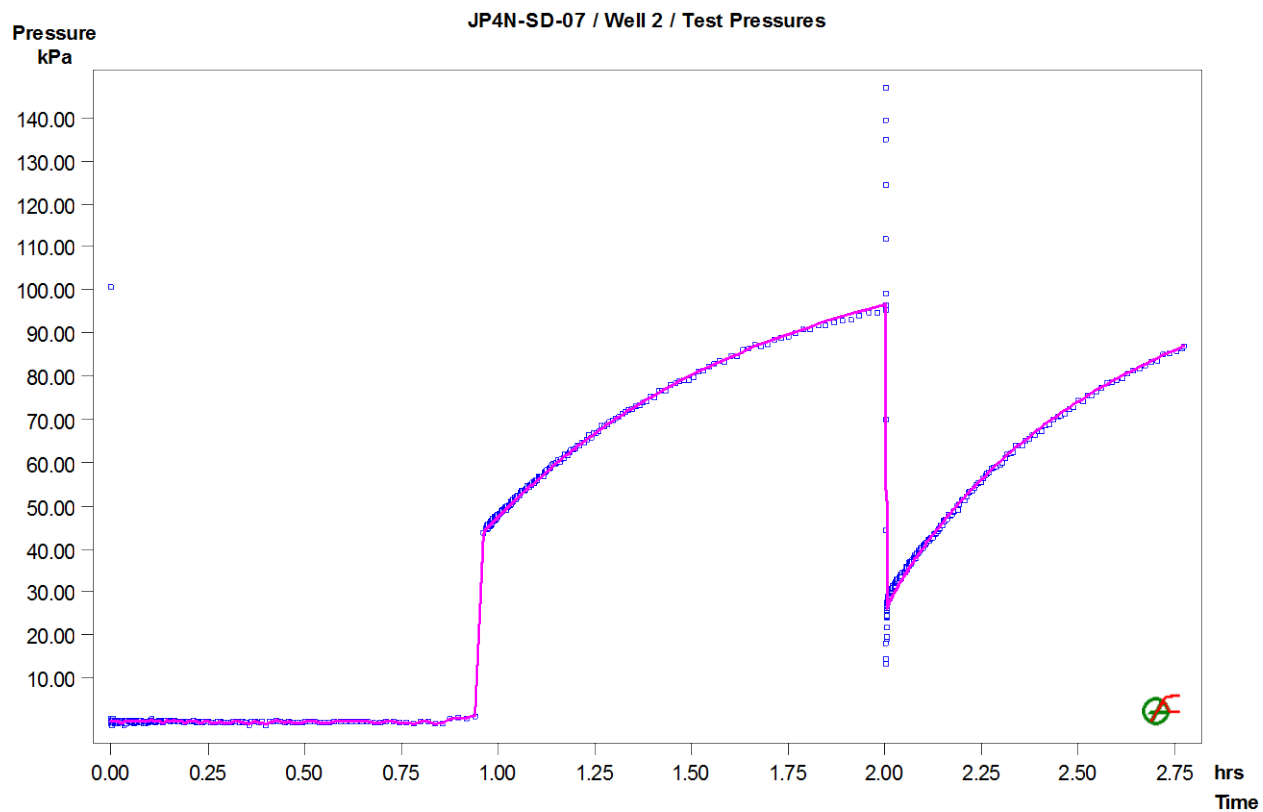


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-07 / Well 2 / SW: LogLog Plot, variable P(i)

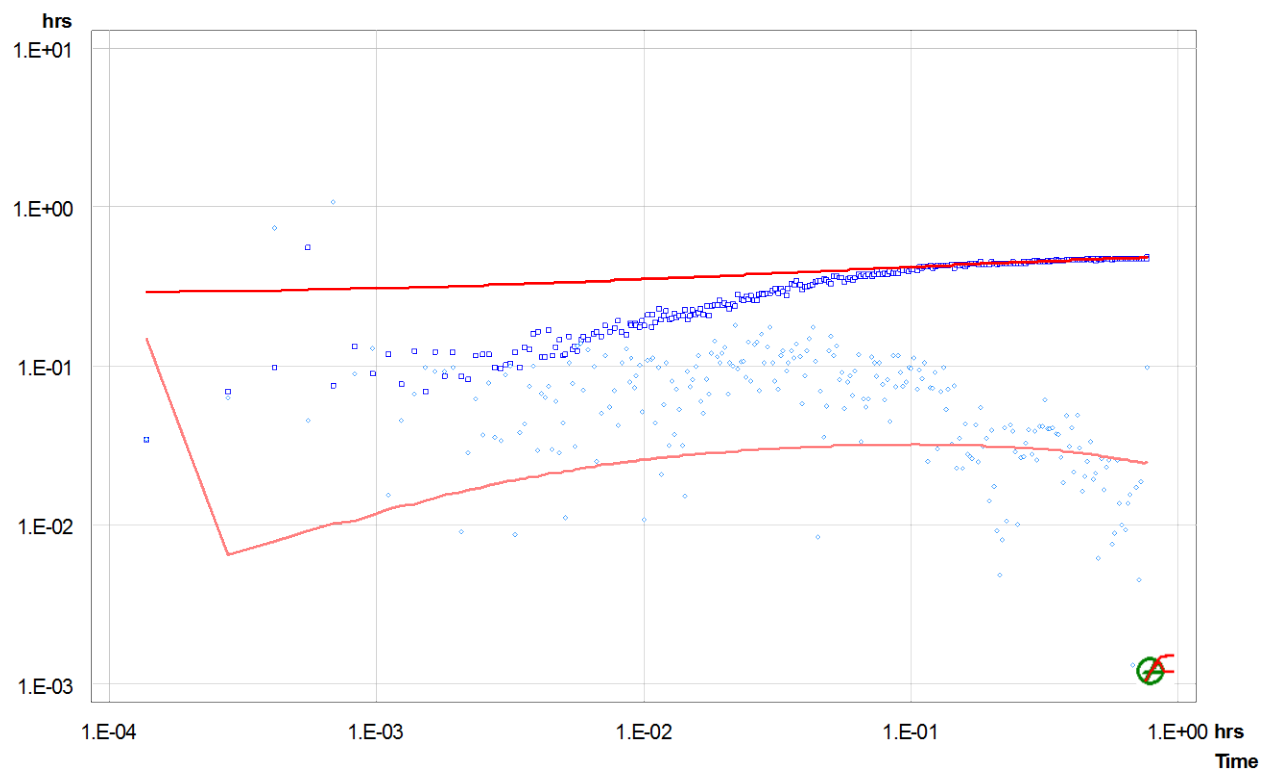


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

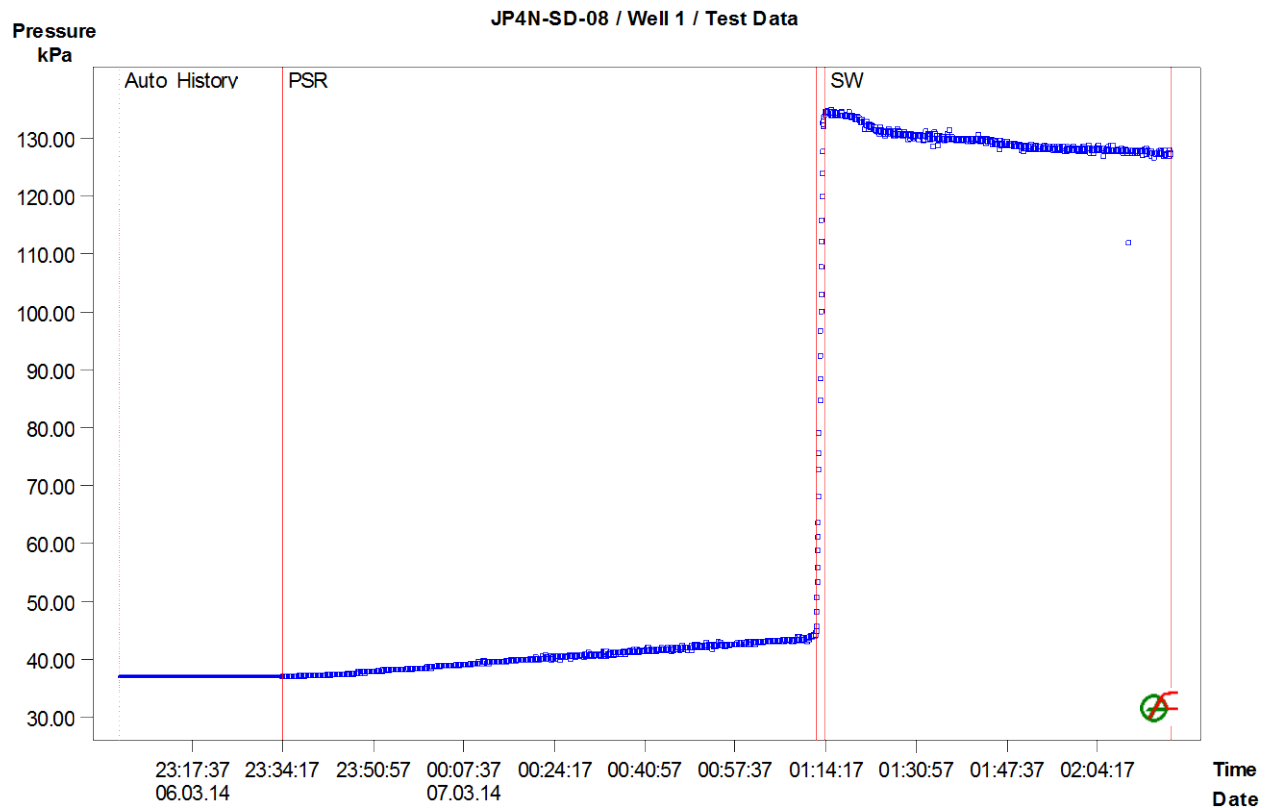


Figure 1: Pressure response and sequence definition

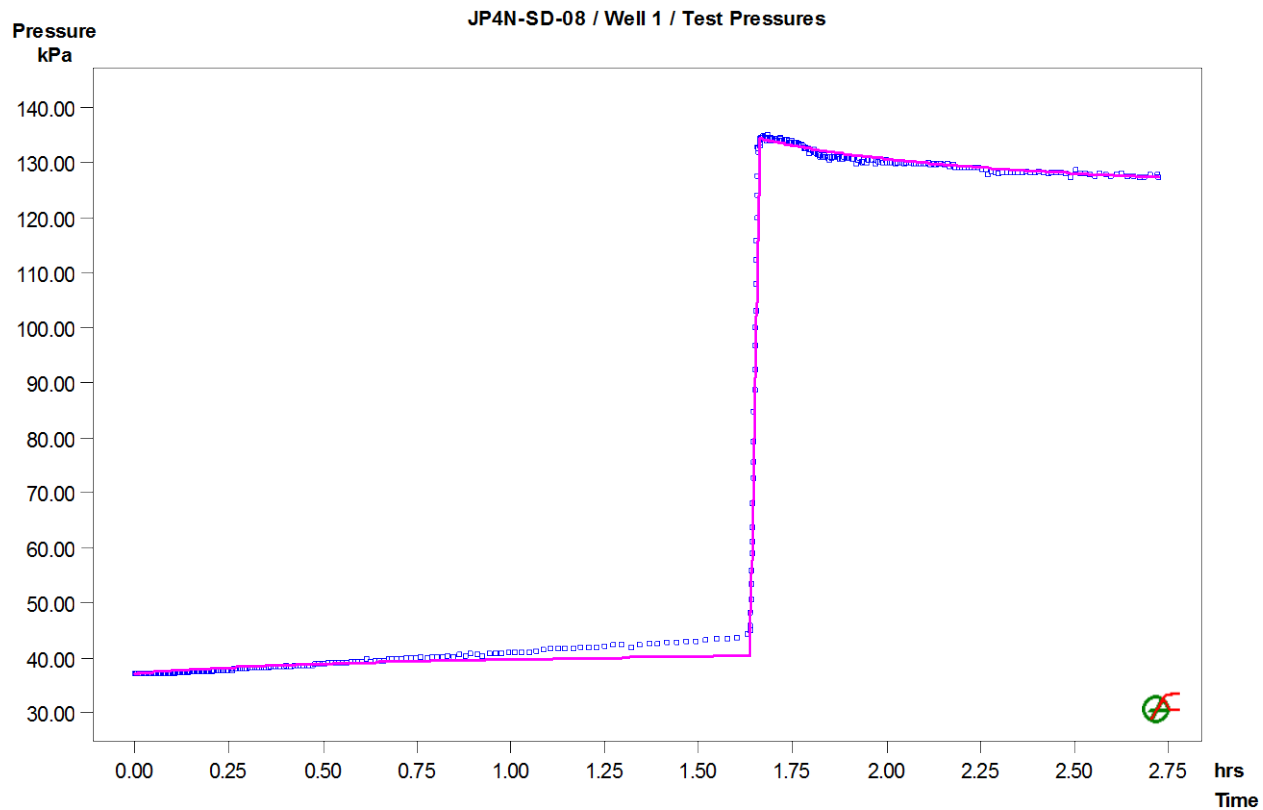


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-SD-08 / Well 1 / SW: LogLog Plot, variable P(i)

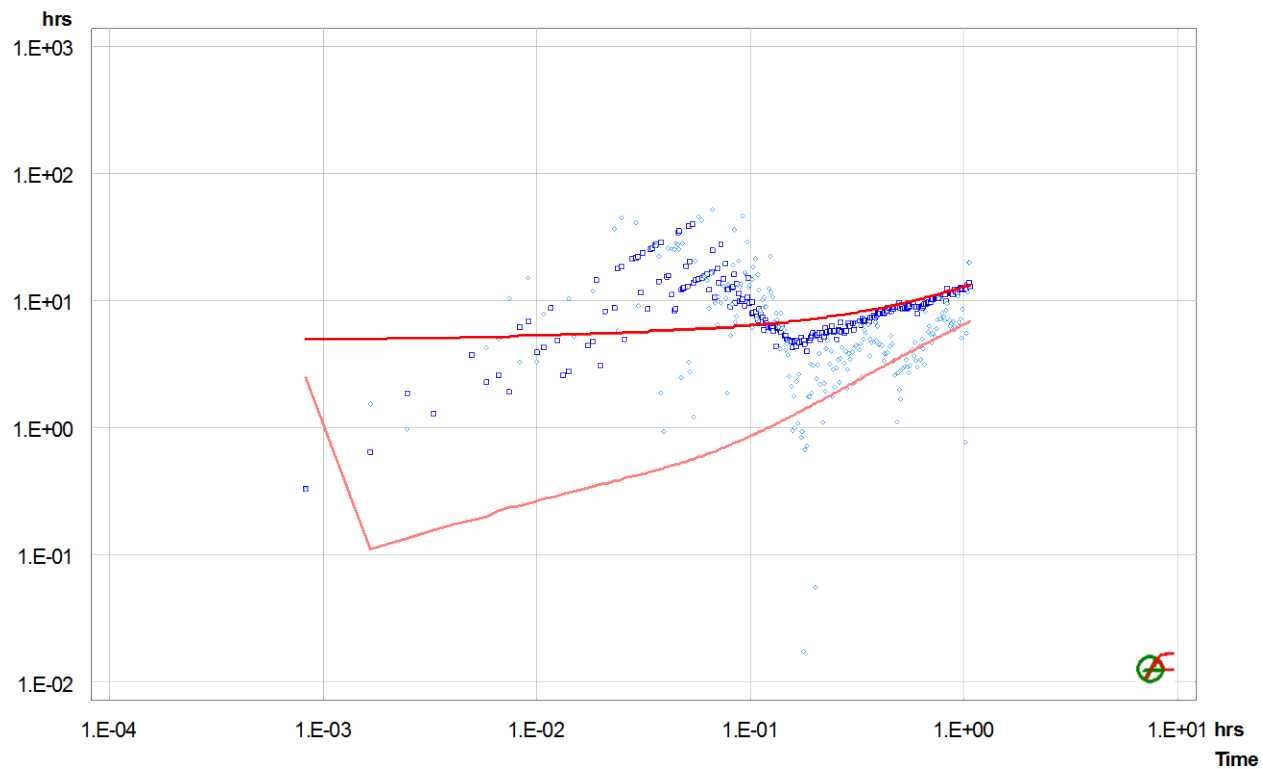


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well 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

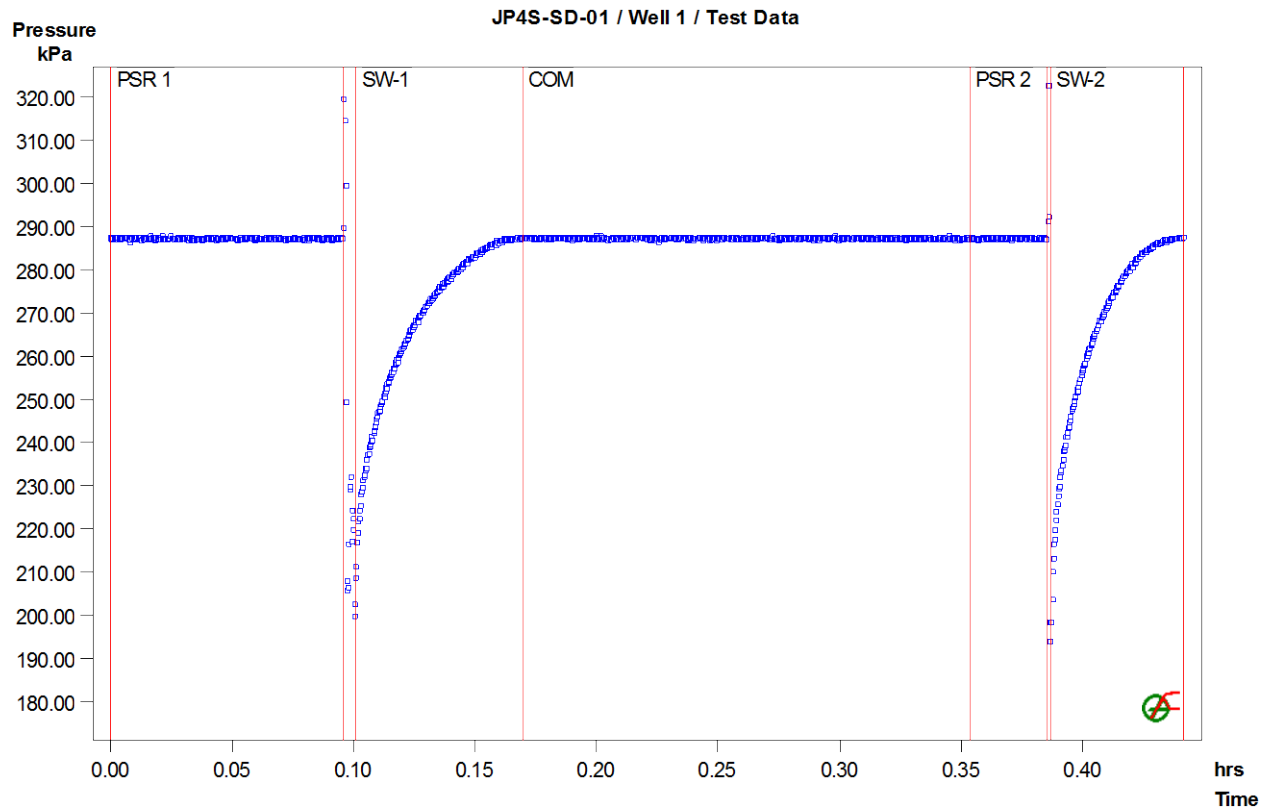


Figure 1: Pressure response and sequence definition

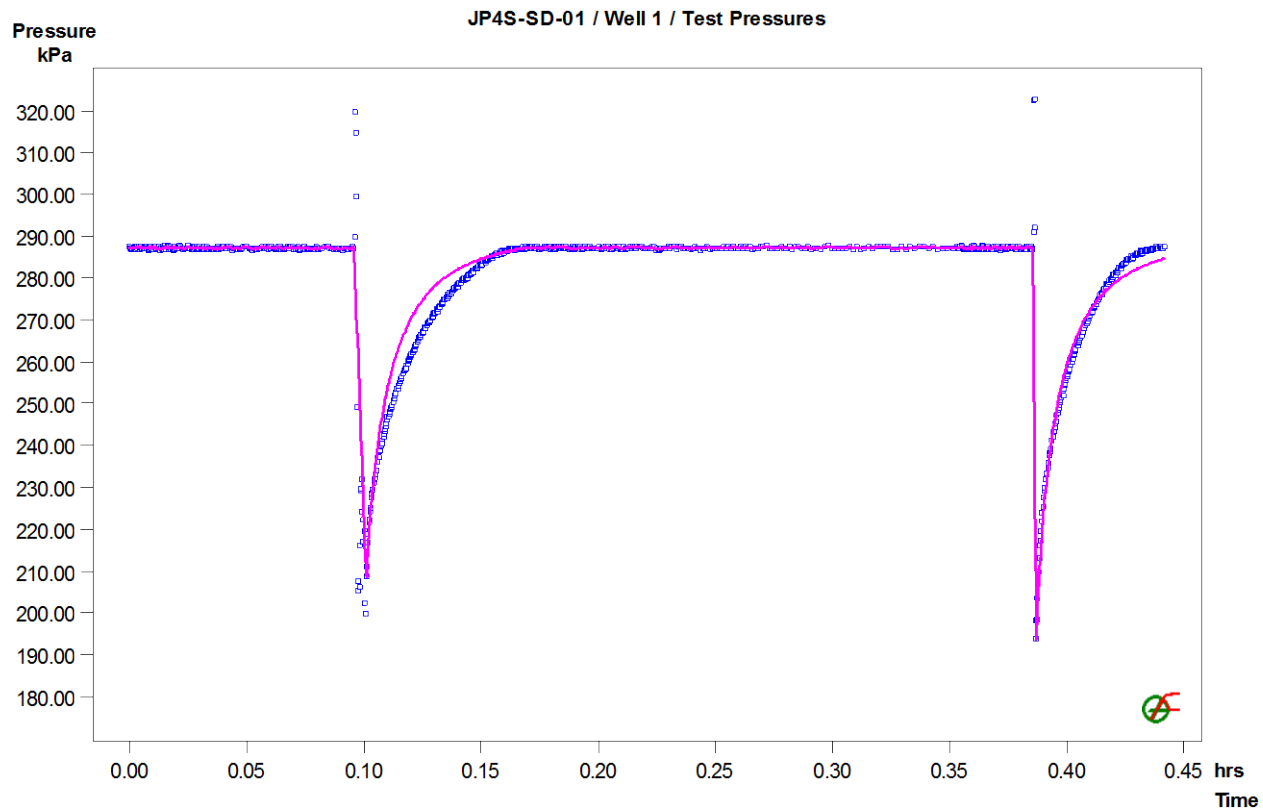


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-01 / Well 1 / SW-2: LogLog Plot, constant P(i)

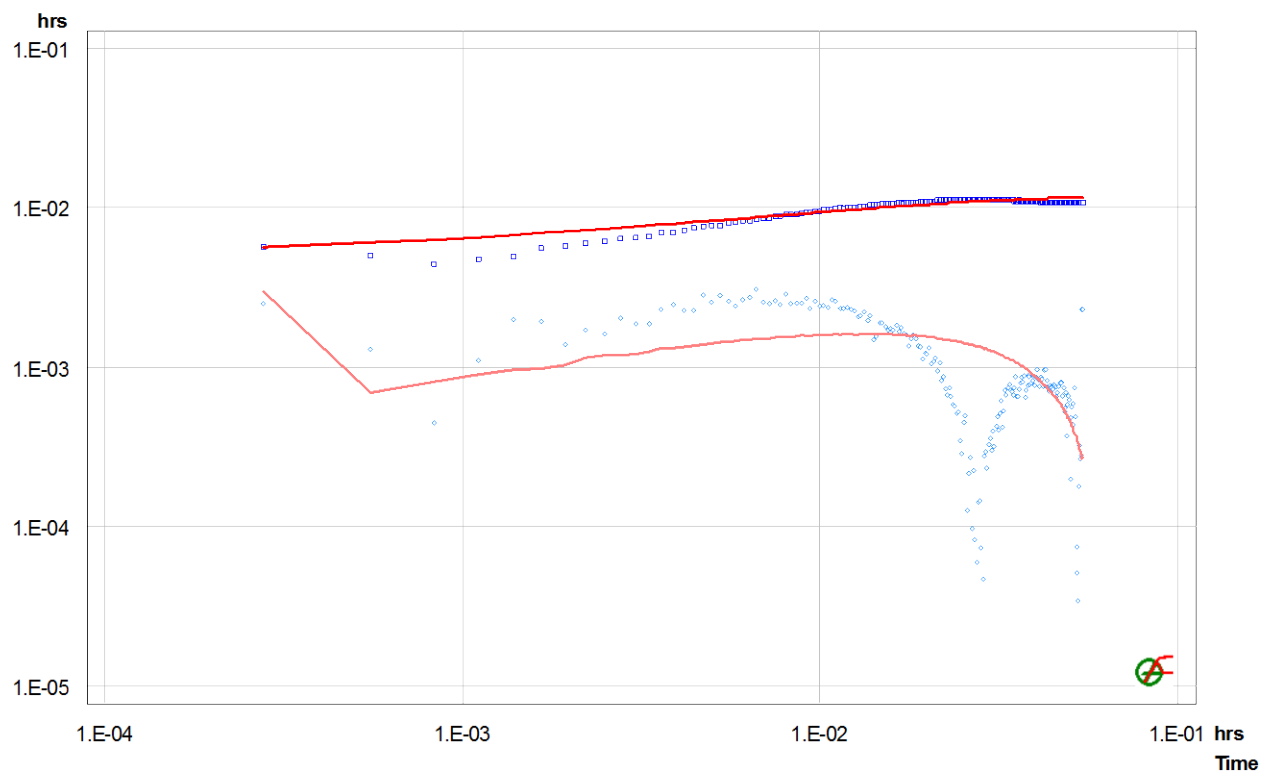


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

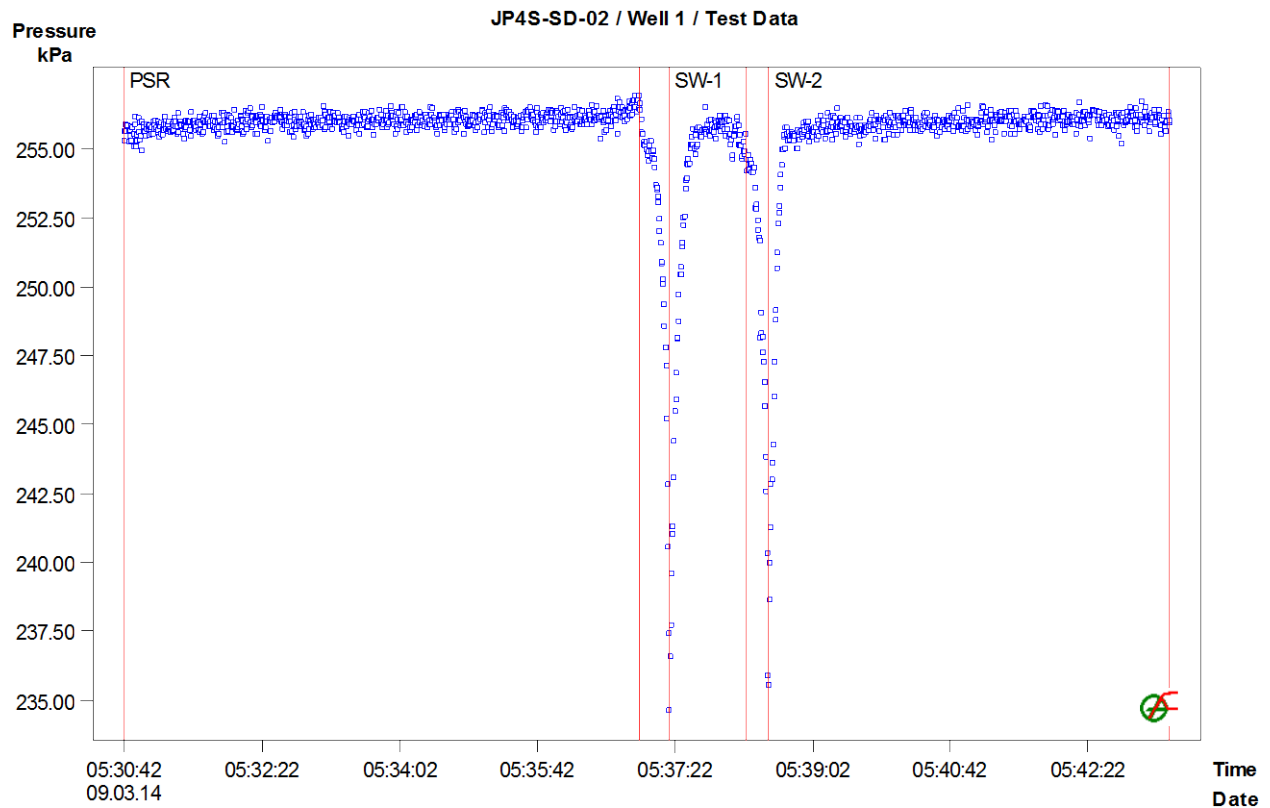


Figure 1: Pressure response and sequence definition

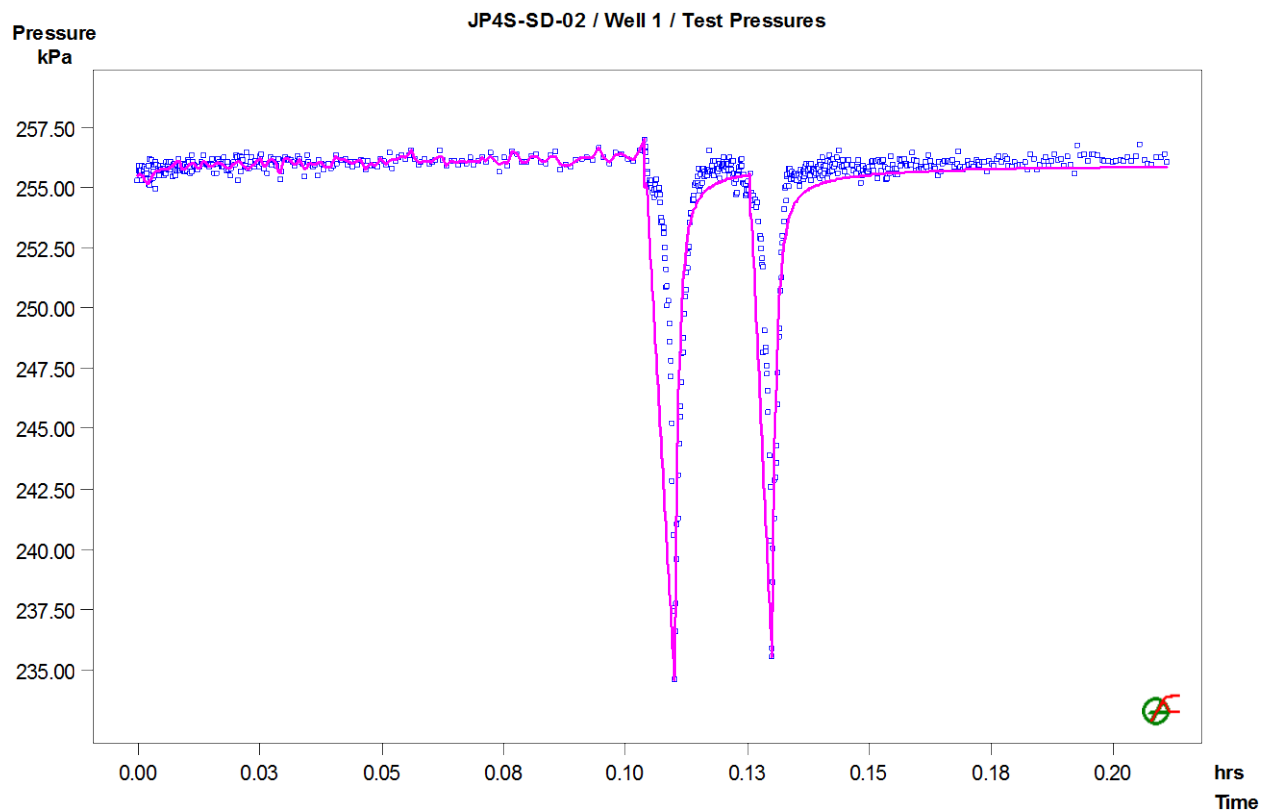


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-02 / Well 1 / SW-2: LogLog Plot, constant P(i)

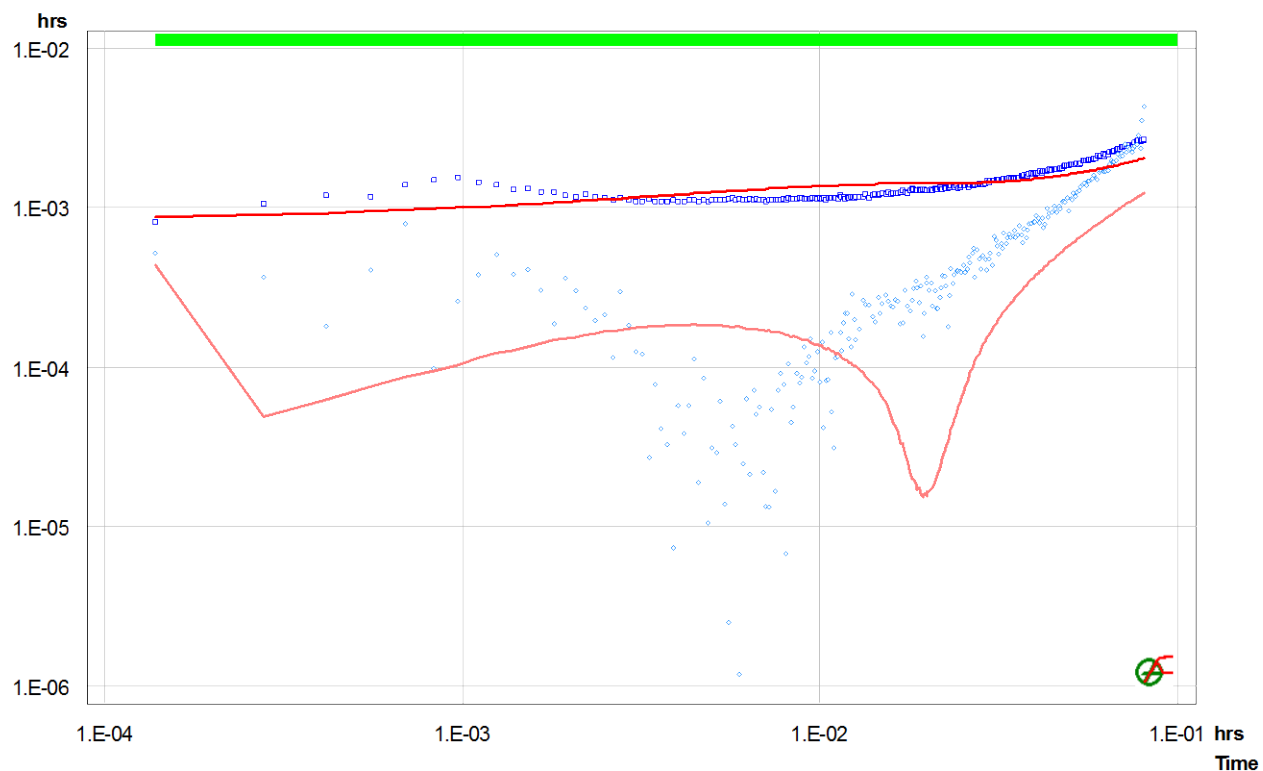


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

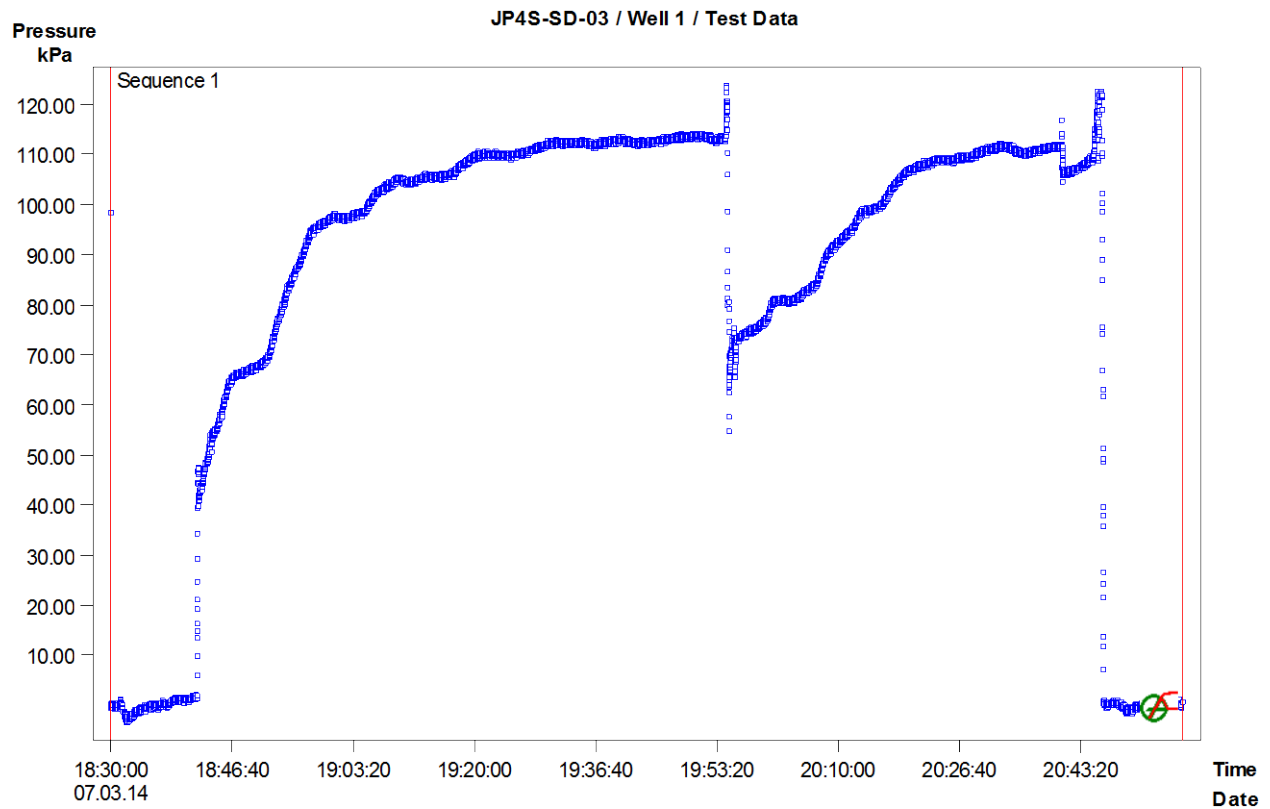


Figure 1: Pressure response and sequence definition

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/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	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

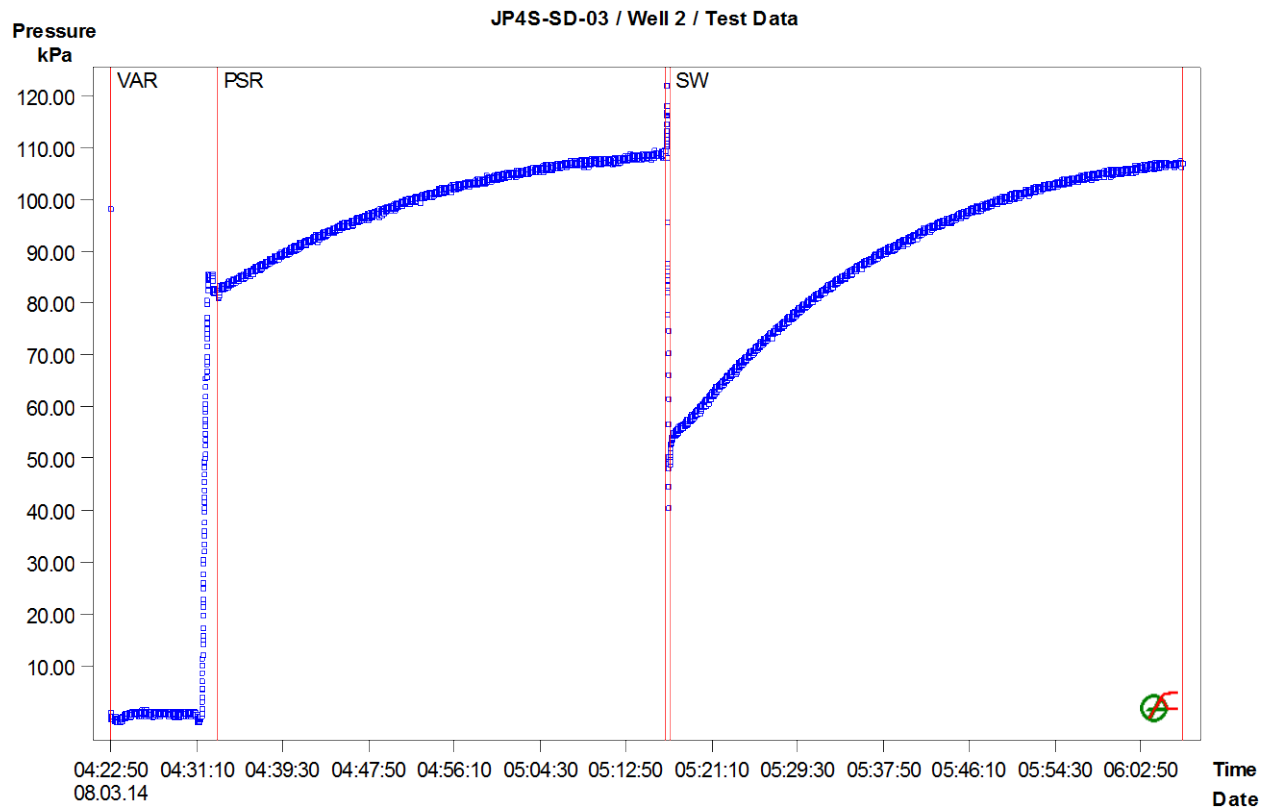


Figure 1: Pressure response and sequence definition

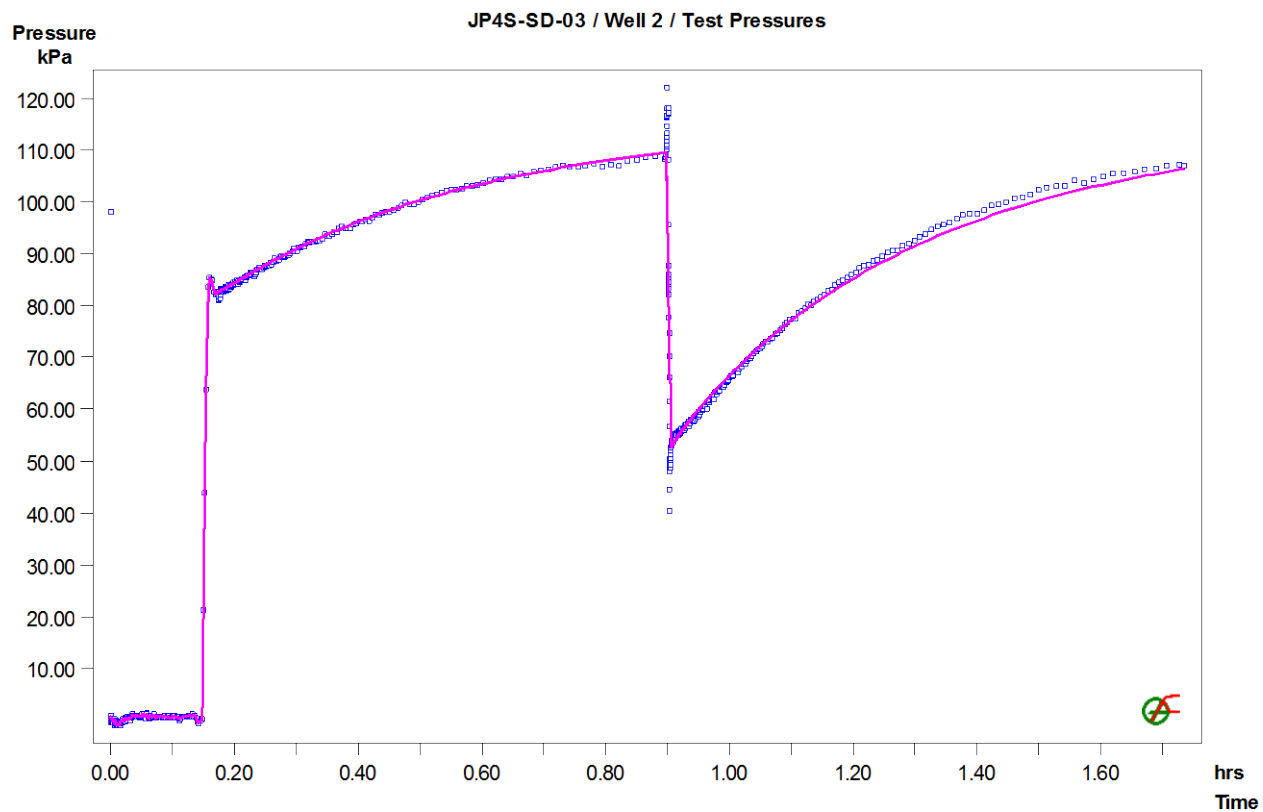


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-03 / Well 2 / SW: LogLog Plot, variable P(i)

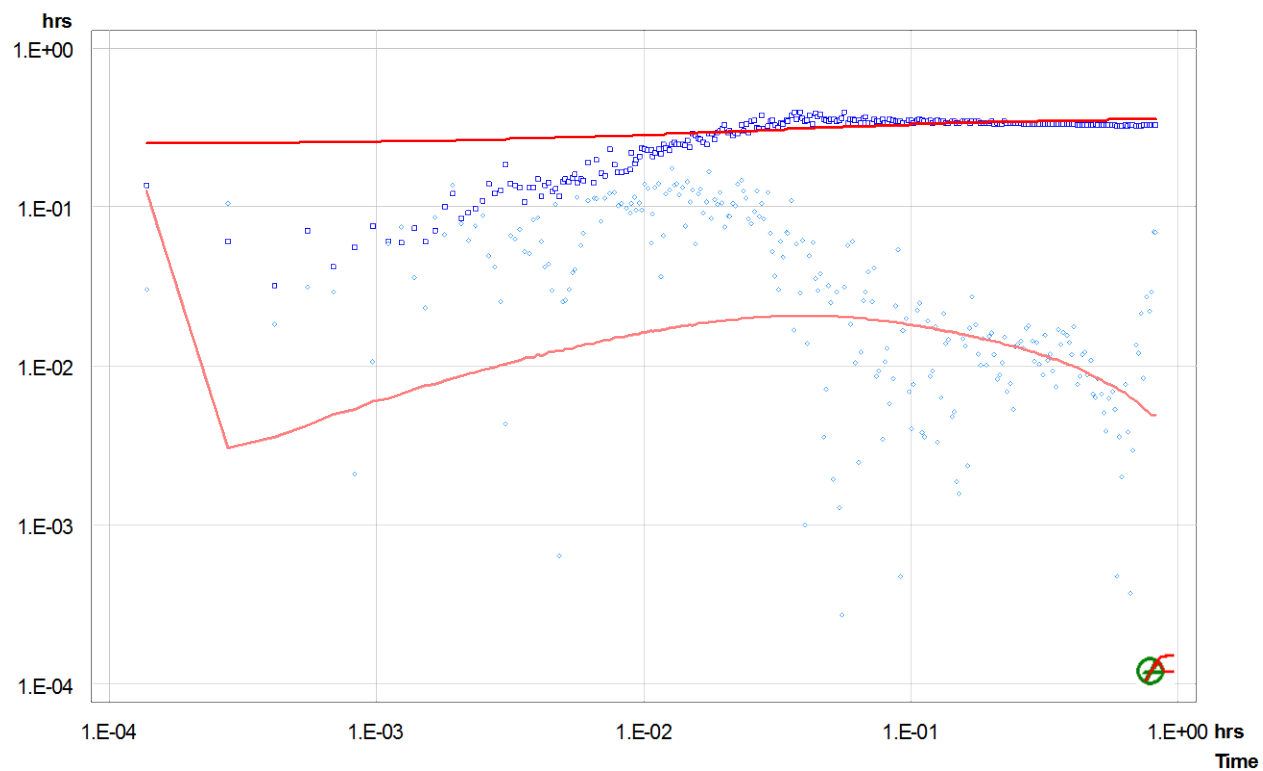


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	59.36			2.1e-07
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

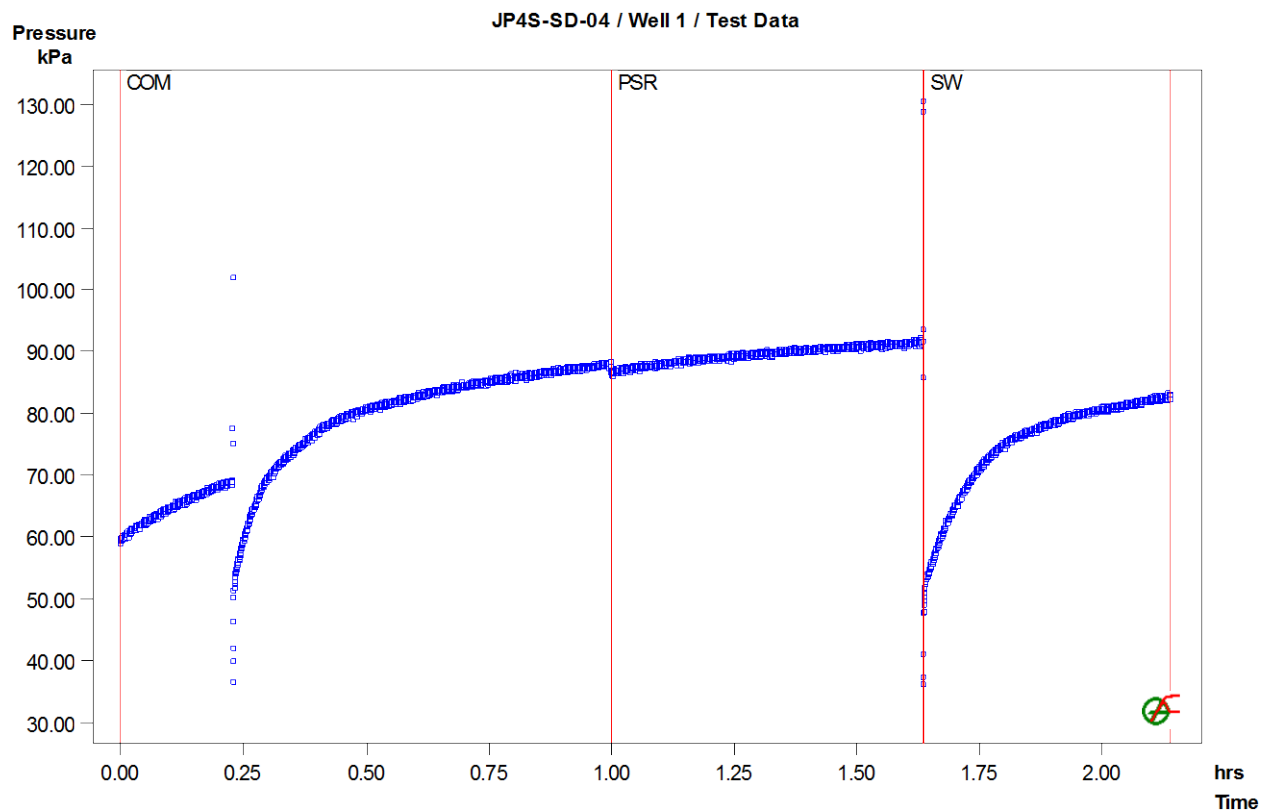


Figure 1: Pressure response and sequence definition

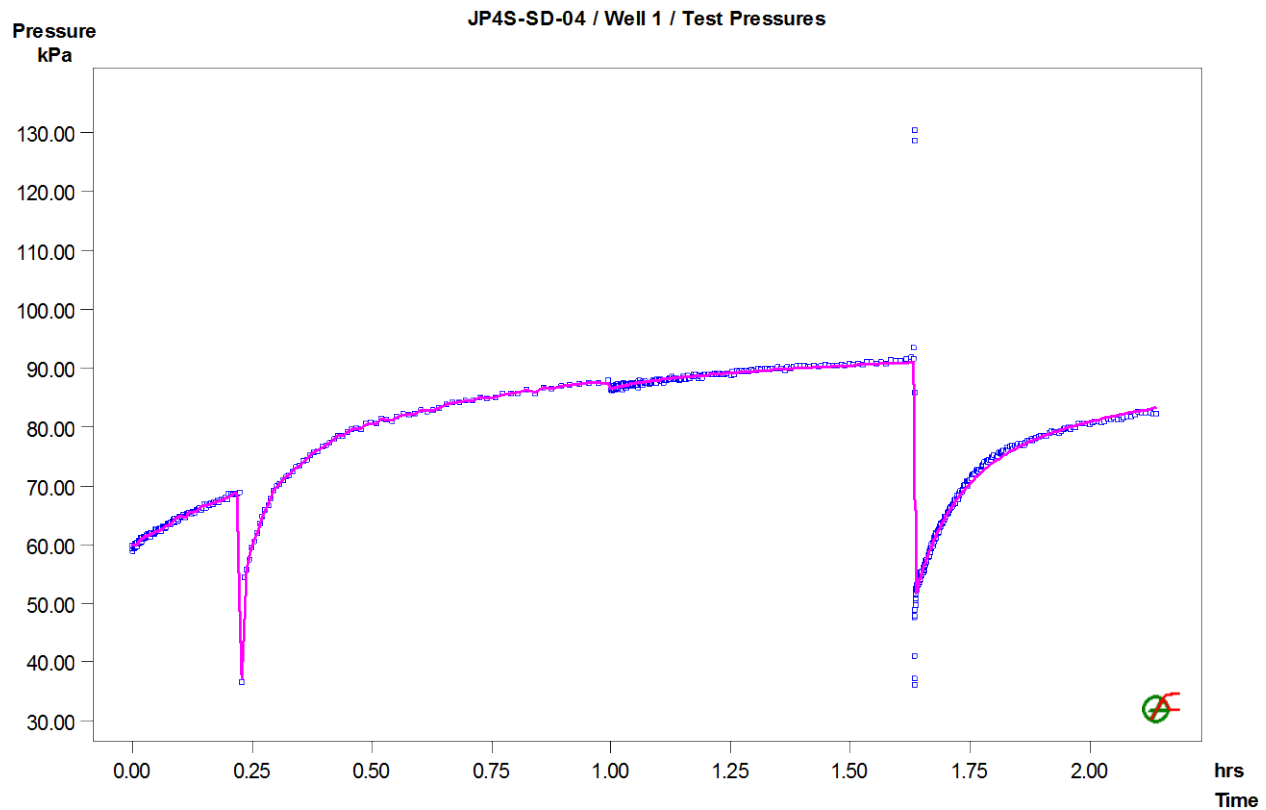


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-SD-04 / Well 1 / SW: LogLog Plot, variable P(i)

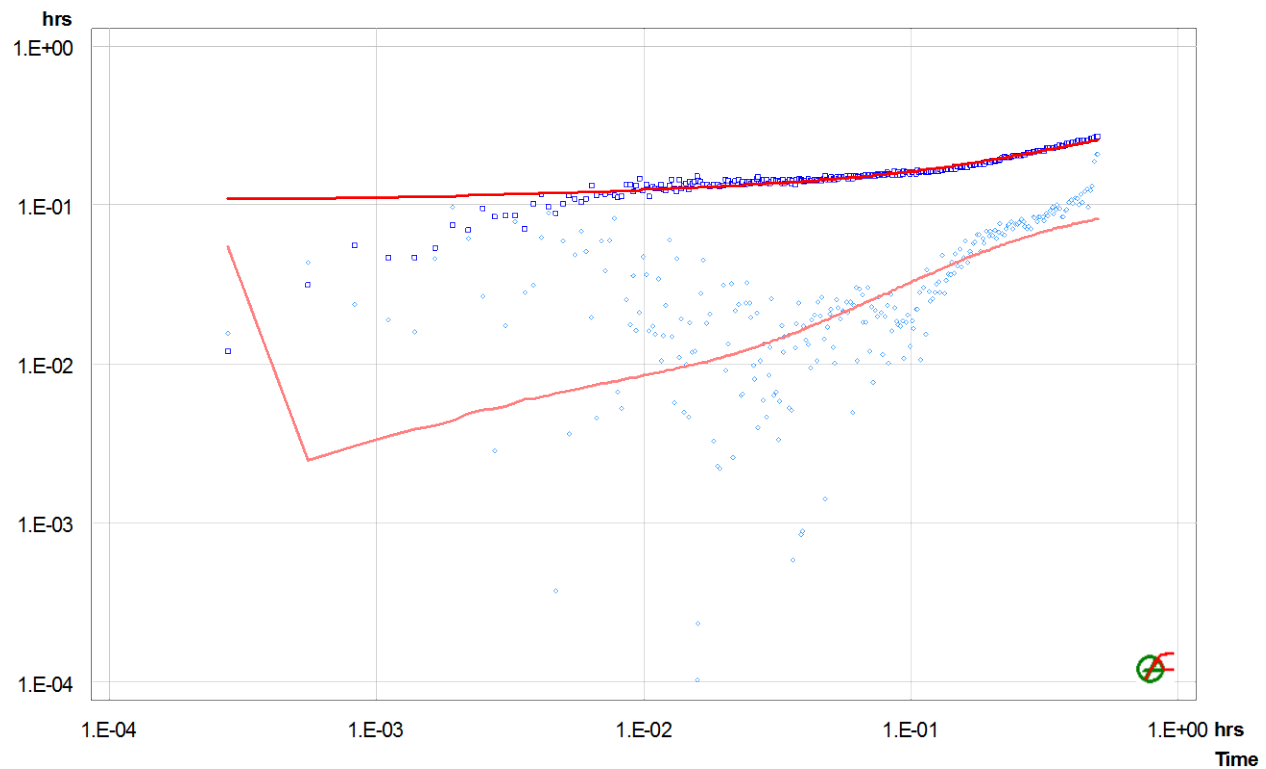


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence



C2 – Dike Shallow Bedrock Hydrogeology Investigation

DATE July 15, 2014**REFERENCE No.** 1313280041-E14044-TM-Rev0-2010**TO** Ermanno Rambelli
Golder Associates Ltd.**FROM** Nick Gorski and Mike Dobr**EMAIL** Nick_Gorski@golder.com;
Michal_Dobr@golder.com**FACTUAL MEMORANDUM ON 2014 HYDROGEOLOGICAL TESTING PROGRAM IN SHALLOW
BEDROCK ALONG JAY DIKE ALIGNMENT – JAY PROJECT**

1.0 INTRODUCTION

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

This technical memorandum provides a summary and interpretation of the hydrogeological data collected from boreholes drilled into the shallow bedrock along the alignment of the proposed Jay dike.

2.0 HYDROGEOLOGICAL TESTING PROGRAM

The Jay dike shallow bedrock hydrogeological testing program was undertaken over a period of March 11 to April 23, 2014, in 26 boreholes drilled by Major Drilling. The boreholes were cored with a nominal diameter of 96 mm (HQ3) using a LS600 sonic drill rig or a diamond drill rig. Detailed information on the selected test boreholes such as collar coordinates, borehole inclination, and depth is presented in Table 1.



Table 1: Test Borehole Details

Borehole ID	Easting (m) ^(a,b)	Northing (m) ^(a,b)	Elevation (masl)	Depth (m) ^(c)		Total Drilled Length (m) ^(c)	Azimuth (deg) ^(d)	Inclination (deg) ^(e)
				Top of Lake Sediment	Top of Bedrock			
JP5-SD-01	541323.3	7168002.0	415.8	4.0	14.0	29.7	0	90
JP5-SD-02	541644.5	7167575.9	415.8	4.3	9.8	21.8	0	90
JP5-SD-03	542008.9	7167184.3	415.6	5.9	13.1	30.0	0	90
JP5-SD-04	542301.8	7166798.5	415.7	3.4	4.0	23.4	0	90
JP5-SD-05	542652.8	7165297.8	416.1	8.1	14.0	35.6	0	90
JP5-SD-06	542164.0	7164940.6	415.9	12.5	15.8	38.6	0	90
JP5-SD-07	541857.9	7164582.8	415.9	8.5	13.1	35.7	0	90
JP5-SD-08	541307.7	7166462.7	415.9	8.2	22.9	44.8	0	90
JP5-SD-09	541766.4	7166642.5	416.0	1.2	12.5	32.6	0	90
JP5-SD-10	542006.9	7166707.9	415.8	7.0	17.1	41.4	0	90
JP5-GT-01	542218.9	7164927.7	416.1	10.3	13.7	53.9	70	80
JP5-GT-02	542670.6	7165252.6	415.8	8.0	16.9	50.9	245	80
JP5-GT-03	543178.0	7166017.7	415.9	3.0	6.2	31.7	225	80
JP5-GT-04	542702.9	7166595.1	416.1	3.9	15.6	45.0	155	80
JP5-GT-05	541485.1	7167778.1	415.9	4.4	11.5	32.0	0	90
JP1-GT-01	538263.2	7169310.0	418.3	1.5	18.9	30.4	220	85
JP1-GT-04	538732.8	7169883.5	419.6	2.7	10.1	23.3	40	85
JP2-GT-04	543114.9	7171755.1	416.1	1.5	16.0	29.0	0	90
JP4N-GT-02	546345.9	7162493.1	415.8	5.2	6.2	17.0	0	90
JP4N-GT-03	546284.0	7162889.4	415.8	9.0	11.4	23.0	0	90
JP4N-GT-04	546693.5	7163151.6	415.9	14.7	15.2	73.6	0	90
JP4N-GT-05	546939.8	7163398.8	415.9	12.0	15.0	26.0	0	90
JP4N-GT-06	547029.1	7163711.7	415.8	10.2	13.8	30.6	0	90
JP4N-GT-07	547084.4	7163908.2	420.8	0.2	21.4	31.3	15	85
JP4S-GT-03	545439.2	7161645.3	415.9	5.5	7.7	16.9	0	90
JP4S-GT-04	545513.7	7161849.0	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 Corporation.

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

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

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

m = metres; deg = 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 shallow rock mass along the Jay dike alignment. Testing was conducted with a pneumatic packer tool in a wireline single-packer configuration. This tool consists of two packers lowered to the selected depth through the drill string using a wireline. The packers are 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. 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 into the bottom of the drill string. 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 inside the drill rods below the water table, and programmed to collect data every five seconds. A LevelTROLL 700 memory gauge was attached below the lower packer to obtain more accurate pressure response data directly from the test interval. 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 A.

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. The test intervals varied in length from 7.7 to 38.9 m, and were selected to provide a continuous hydraulic conductivity profile along the saturated portion of each borehole. A summary of the tests carried out in the selected boreholes is presented in Table 2.

Table 2: Summary of Hydrogeological Tests

Borehole ID	Interval Tested (m) ^(a)	Number of Tests Conducted	Date Started	Date Ended
JP5-SD-01	18.4 - 29.7	1	2-Apr-14	2-Apr-14
JP5-SD-02	14.1 - 21.8	1	30-Mar-14	30-Mar-14
JP5-SD-03	22.3 - 30.0	1	28-Mar-14	28-Mar-14
JP5-SD-04	12.8 - 23.4	1	26-Mar-14	26-Mar-14
JP5-SD-05	25.0 - 35.6	1	24-Mar-14	24-Mar-14
JP5-SD-06	21.9 - 38.6	1	22-Mar-14	22-Mar-14
JP5-SD-07	22.0 - 35.7	1	20-Mar-14	21-Mar-14
JP5-SD-08	30.1 - 44.8	1	9-Apr-14	9-Apr-14
JP5-SD-09	23.5 - 32.6	1	7-Apr-14	7-Apr-14
JP5-SD-10	24.3 - 41.4	1	5-Apr-14	5-Apr-14
JP5-GT-01	19.7 - 53.9	1	2-Apr-14	2-Apr-14
JP5-GT-02	24.1 - 50.9	1	24-Mar-14	24-Mar-14
JP5-GT-03	12.3 - 31.7	1	23-Mar-14	23-Mar-14
JP5-GT-04	21.2 - 45.0	1	22-Mar-14	22-Mar-14
JP5-GT-05	16.8 - 32.0	1	20-Mar-14	20-Mar-14
JP1-GT-01	22.7 - 30.4	1	14-Mar-14	14-Mar-14
JP1-GT-04	14.1 - 23.3	1	18-Mar-14	18-Mar-14
JP2-GT-04	19.6 - 29.0	1	16-Mar-14	16-Mar-14
JP4N-GT-02	7.8 - 17.0	1	6-Mar-14	6-Mar-14
JP4N-GT-03	13.8 - 23.0	1	5-Mar-14	6-Mar-14
JP4N-GT-04	19.8 - 73.6	3	1-Mar-14	2-Mar-14
JP4N-GT-05	16.8 - 26.0	1	27-Feb-14	27-Feb-14
JP4N-GT-06	16.7 - 30.6	2	24-Feb-14	25-Feb-14
JP4N-GT-07	24.2 - 31.3	1	12-Mar-14	12-Mar-14
JP4S-GT-03	9.3 - 17.0	1	10-Mar-14	10-Mar-14
JP4S-GT-04	8.2 - 20.3	1	8-Mar-14	8-Mar-14

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

2.2 Testing Methodology

The following methodology was used for the hydrogeological testing for the Jay Project:

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

The procedures and the order of the individual test sequences were adjusted for each hydrogeological test. Based on the actual conditions encountered in the individual test intervals, some of the sequences listed above were not carried out. The following provides detailed description of the individual test sequences.

2.2.1 Pressure Static Recovery

Following inflation of the packer at the desired depth, a pressure transducer was lowered inside the test rods 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 packer inflation. 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.

2.2.2 Slug Withdrawal Test

After the PSR sequence, a slug withdrawal (SW) test was carried out. This test sequence consists of removing an instantaneous slug of water out of the test rods, and monitoring the recovery of the water level inside the test rods 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

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.

2.3 Test Analysis

2.3.1 Software

The test analyses were carried out with HydroBench[®] (Version 3.6.4.3), a 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 a detailed documentation of the verification of the software, is available on request.

2.3.2 Results

A summary of the transmissivity and hydraulic conductivity values calculated for the tested intervals is presented in Table 3. 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, SW, and RI. For each test interval, the test sequence with the most reliable pressure response data set was selected for analyses.

Table 3: Summary of Single Well Test Results

Borehole ID	Test Number	Interval Top (m) ^(a)	Interval Bottom (m) ^(a)	Interval Length (m) ^(a)	Test Sequences Conducted	Test Sequence Analysed	Rock Type	T [m ² /s]	K [m/s]
JP5-SD-01	Packer 1	18.4	29.7	11.2	PSR, SW	SW	GR	2.E-06	2.E-07
JP5-SD-02	Packer 1	14.1	21.8	7.7	PSR, SW	SW	GR	1.E-06	2.E-07
JP5-SD-03	Packer 1	22.3	30.0	7.7	PSR, SW	SW	GR	6.E-06	8.E-07
JP5-SD-04	Packer 1	12.8	23.4	10.6	PSR, SW	SW	GR	5.E-06	5.E-07
JP5-SD-05	Packer 1	25.0	35.6	10.6	PSR, SW	SW	GR	8.E-06	8.E-07
JP5-SD-06	Packer 1	21.9	38.6	16.7	PSR, SW	SW	MTSD	1.E-05	9.E-07
JP5-SD-07	Packer 1	22.0	35.7	13.8	PSR, SW	SW	MTSD	9.E-07	6.E-08
JP5-SD-08	Packer 1	30.1	44.8	14.7	PSR, SW, RI	SW	MTSD	6.E-06	4.E-07
JP5-SD-09	Packer 1	23.5	32.6	9.1	PSR, SW	SW	GR, MTSD	9.E-07	9.E-08
JP5-SD-10	Packer 1	24.3	41.4	17.0	PSR, SW	SW	GR	8.E-06	5.E-07
JP5-GT-01	Packer 1	19.7	53.9	34.2	PSR, SW, RI	SW	MTSD	6.E-05	2.E-06
JP5-GT-02	Packer 1	24.1	50.9	26.8	PSR, SW, RI	SW	GR	5.E-05	2.E-06
JP5-GT-03	Packer 1	12.3	31.7	19.4	PSR, SW, RI	SW	GR, MTSD	3.E-05	1.E-06
JP5-GT-04	Packer 1	21.2	45.0	23.8	PSR, SW, RI	SW	GR	6.E-05	3.E-06
JP5-GT-05	Packer 1	16.8	32.0	15.2	PSR, SW, RI	SW	GR	4.E-05	2.E-06
JP1-GT-01	Packer 1	22.7	30.4	7.7	PSR, SW	SW	MTSD	4.E-10	1.E-10 ^(b)
JP1-GT-04	Packer 1	14.1	23.3	9.2	PSR, SW	SW	MTSD	2.E-10	1.E-10 ^(b)
JP2-GT-04	Packer 1	19.6	29.0	9.4	PSR, SW	SW	MTSD	3.E-07	3.E-08
JP4N-GT-02	Packer 1	7.8	17.0	9.2	PSR, SW	SW	MTSD	2.E-08	2.E-09
JP4N-GT-03	Packer 1	13.8	23.0	9.2	PSR, SW, RI	RI	GR, MTSD	1.E-04	2.E-05
JP4N-GT-04	Packer 1	19.8	35.0	15.2	PSR, SW	SW	GR	7.E-06	5.E-07
JP4N-GT-04	Packer 2	34.7	73.6	38.9	PSR, SW	SW	GR	2.E-04	5.E-06
JP4N-GT-04	Packer 3	52.8	73.6	20.8	PSR, SW	SW	GR	2.E-05	8.E-07
JP4N-GT-05	Packer 1	16.8	26.0	9.2	PSR, SW, RI	SW	GR	3.E-04	3.E-05
JP4N-GT-06	Packer 1	16.7	30.6	13.9	PSR, SW	SW	GR, MTSD	5.E-05	3.E-06
JP4N-GT-06	Packer 2	19.7	30.6	10.9	PSR, SW, RI	RI	GR	5.E-05	4.E-06

Borehole ID	Test Number	Interval Top (m) ^(a)	Interval Bottom (m) ^(a)	Interval Length (m) ^(a)	Test Sequences Conducted	Test Sequence Analysed	Rock Type	T [m ² /s]	K [m/s]
JP4N-GT-07	Packer 1	24.2	31.3	7.1	PSR, SW	SW	GR	1.E-10	1.E-10 ^(b)
JP4S-GT-03	Packer 1	9.3	17.0	7.7	PSR, SW, RI	RI	MTSD	1.E-04	1.E-05
JP4S-GT-04	Packer 1	8.2	20.3	12.2	PSR, SW, RI	SW	MTSD	5.E-10	1.E-10 ^(b)

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

(b) K estimated at less than 1×10^{-10} m/s based on very slow response during the SW.

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.

GR = Granitoid.

MTSD = Metasediments.

The hydraulic conductivity values derived from the single-well pressure response tests conducted in the shallow bedrock along the alignment of the proposed Jay dike varied between 1×10^{-10} m/s and 3×10^{-5} m/s, with a geometric mean of 2×10^{-7} m/s. The results of the individual tests are presented along with the vertical depth of the corresponding test interval in Figure 2. Detailed analytical test reports are presented in Attachment B. These reports are computer generated protocols, and some values in these documents might differ from values discussed within the text section of this document.

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.



Nick Gorski, M.Sc.
Environmental Scientist

DV/NGG/MD/rs/it



Mike Dobr, RNDr. P.Geo. (BC)
Principal, Senior Hydrogeologist

Attachments: Figures 1 and 2

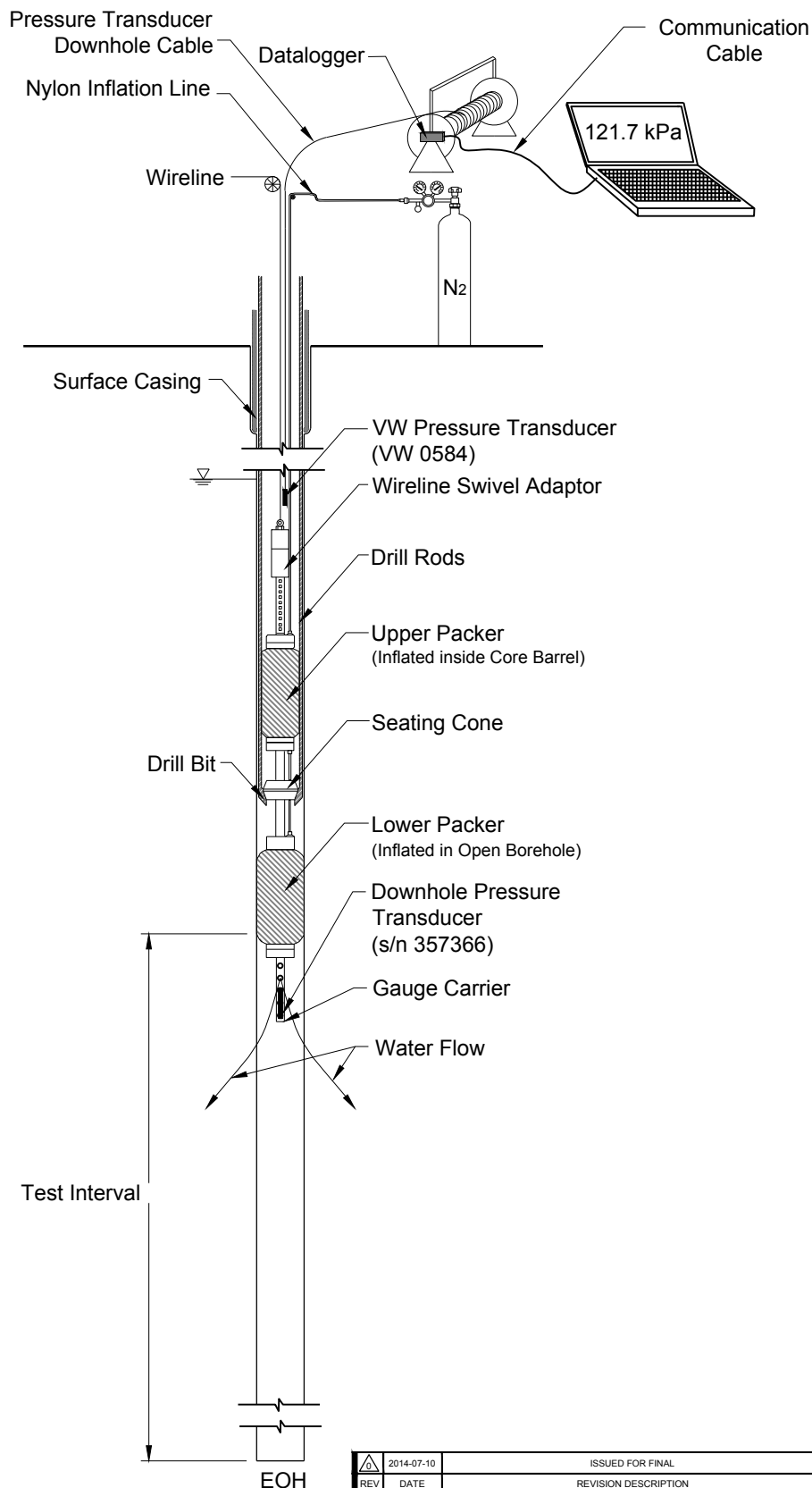
Attachment A: Transducer Calibration Certificates

Attachment B: *HydroBench*® Analysis Reports

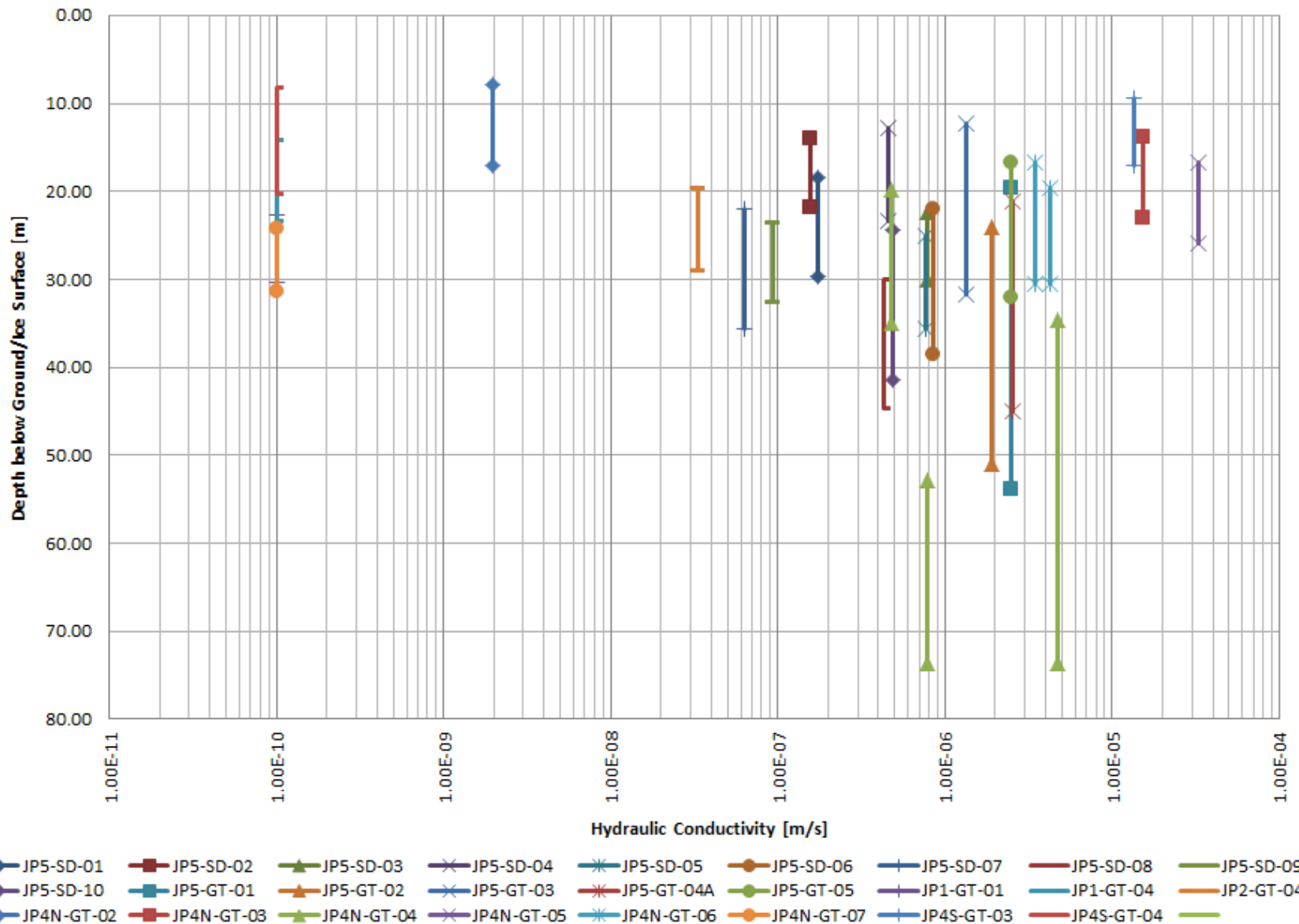
\\golder.gds\gal\burnaby\final\2013\1328\13-1328-0041\1313280041-e14044-tm-rev0-2010\1313280041-e14044-tm-rev0-2010-dike bedrock hg investigation 15jul_14.docx

REFERENCES

Gringarten AC., 2008. From Straight Lines to Deconvolution: The Evolution of the State of the Art in Well Test Analysis. SPE Reservoir Evaluation & Engineering 11: 41-62.



	2014-07-10	ISSUED FOR FINAL				DV	MSH	NG	MD
REV	DATE	REVISION DESCRIPTION				DES	CADD	CHK	RVW
PROJECT  DOMINION DIAMOND						JAY PROJECT NORTHWEST TERRITORIES, CANADA			
TITLE SINGLE PACKER WIRELINE DOWNHOLE ASSEMBLY - SCHEMATIC									
		PROJECT No. 13-1328-0041.2010.70				FILE No. 1313280041-2010-70-E14040-01			
		DESIGN	DV	2014-05-30		SCALE		AS SHOWN	
		CADD	MSH	2014-05-30		FIGURE		1	
		CHECK	NG	2014-07-10					
		REVIEW	MD	2014-07-10					



CLIENT
 DOMINION DIAMOND

CONSULTANT



YYYY-MM-DD	2014-06-10
PREPARED	DV
DESIGN	TD
REVIEW	DSL
APPROVED	MD

PROJECT
JAY PROJECT
NORTHWEST TERRITORIES

TITLE
**SUMMARY OF HYDRAULIC CONDUCTIVITY
VERSUS DEPTH**

ATTACHMENT A
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:

- 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.
- The post-calibration data is collected at nominal +20 C.
- 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: **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

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 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



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

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

	Date	VW Readout	Temp °C	Baro
	(dd/mm/yr)	Pos. B (Li)	(Ti)	(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

ATTACHMENT B
***HydroBench*[®] Analysis Reports**

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/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	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

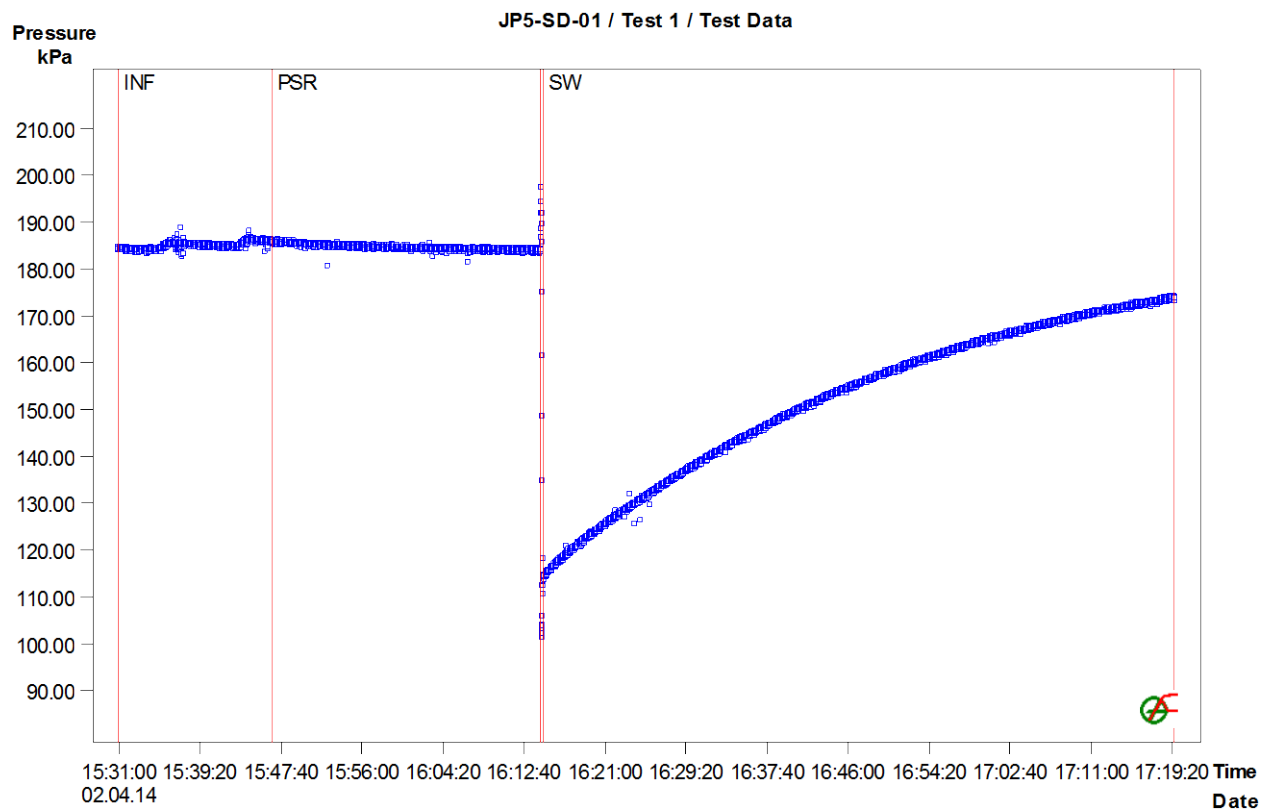


Figure 1: Pressure response and sequence definition

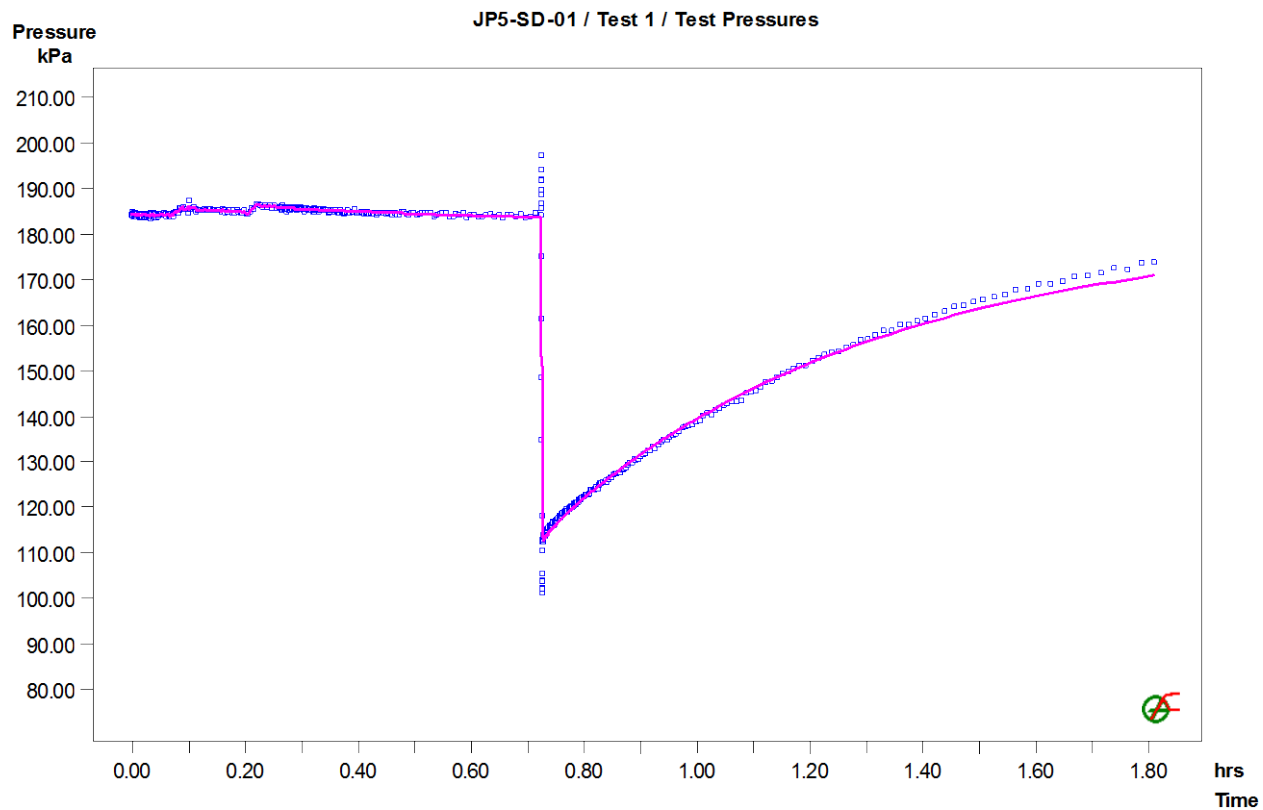


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-01 / Test 1 / SW: LogLog Plot, variable P(i)

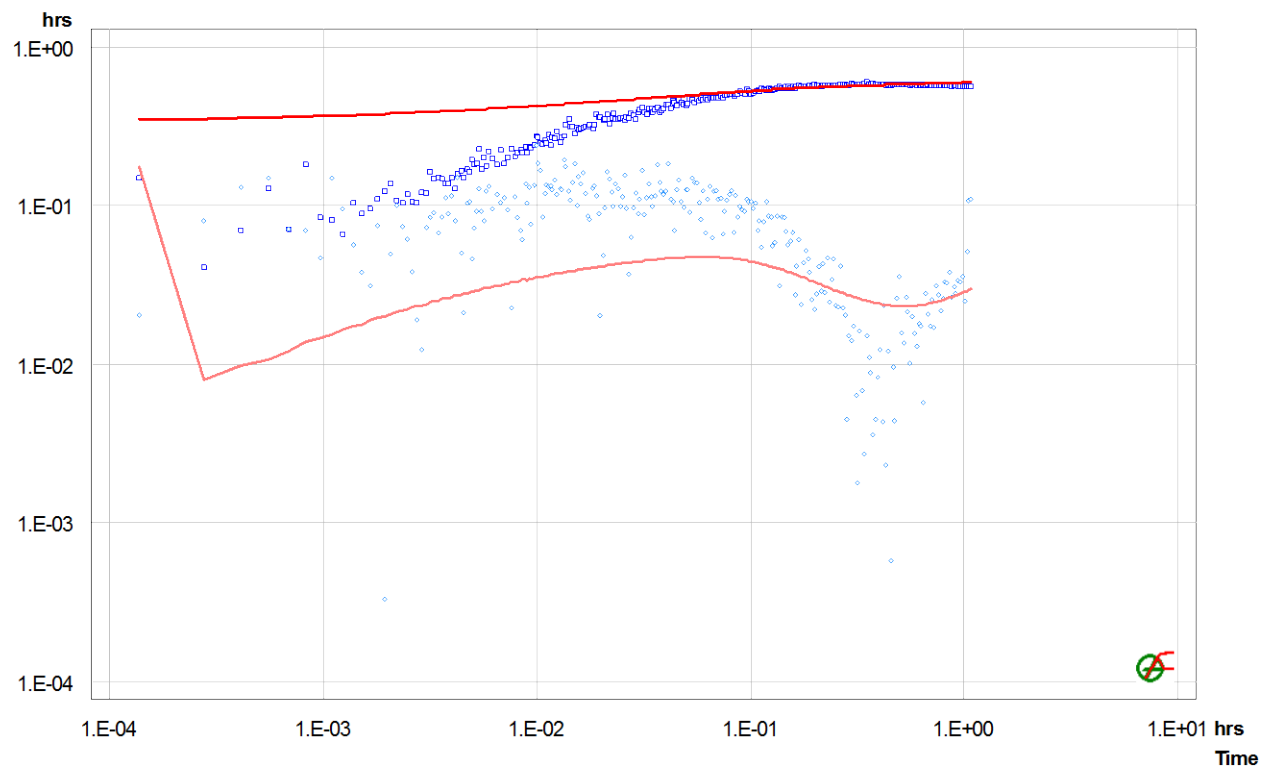


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-02
Test Name 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

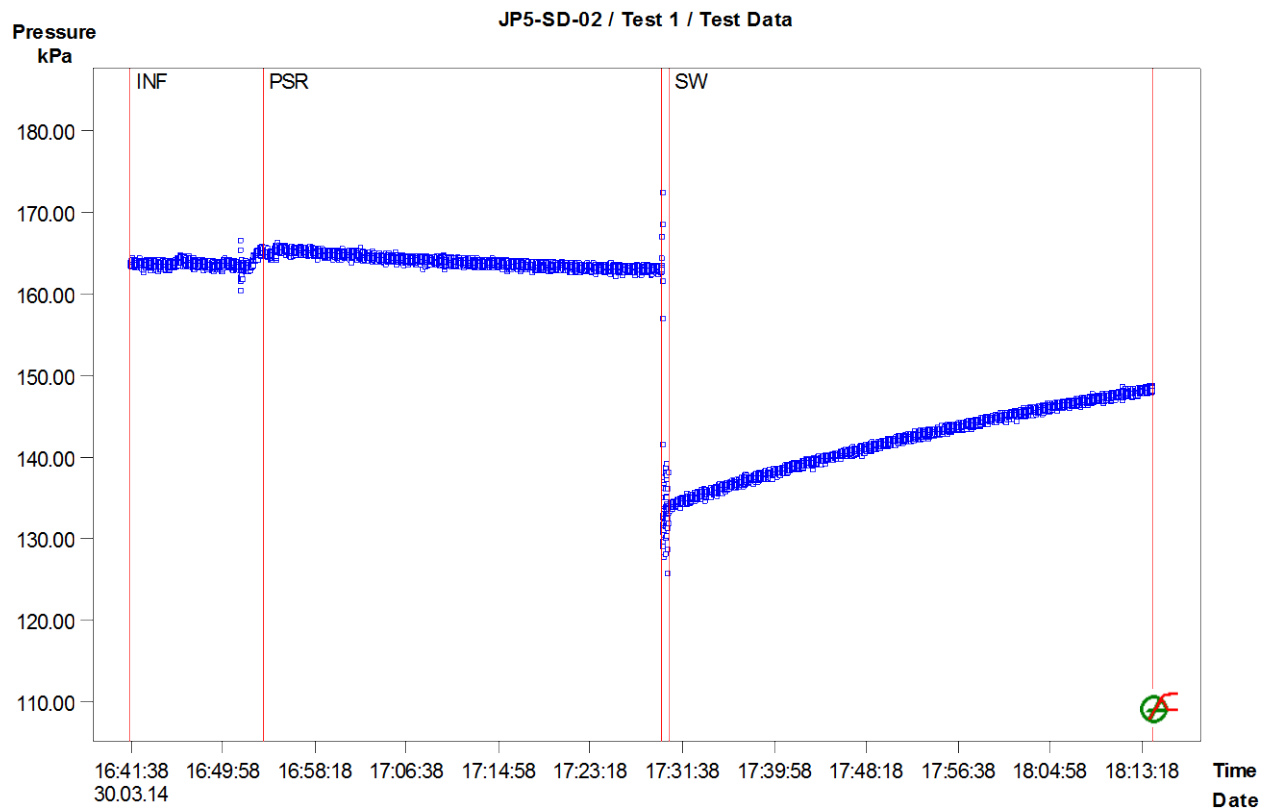


Figure 1: Pressure response and sequence definition

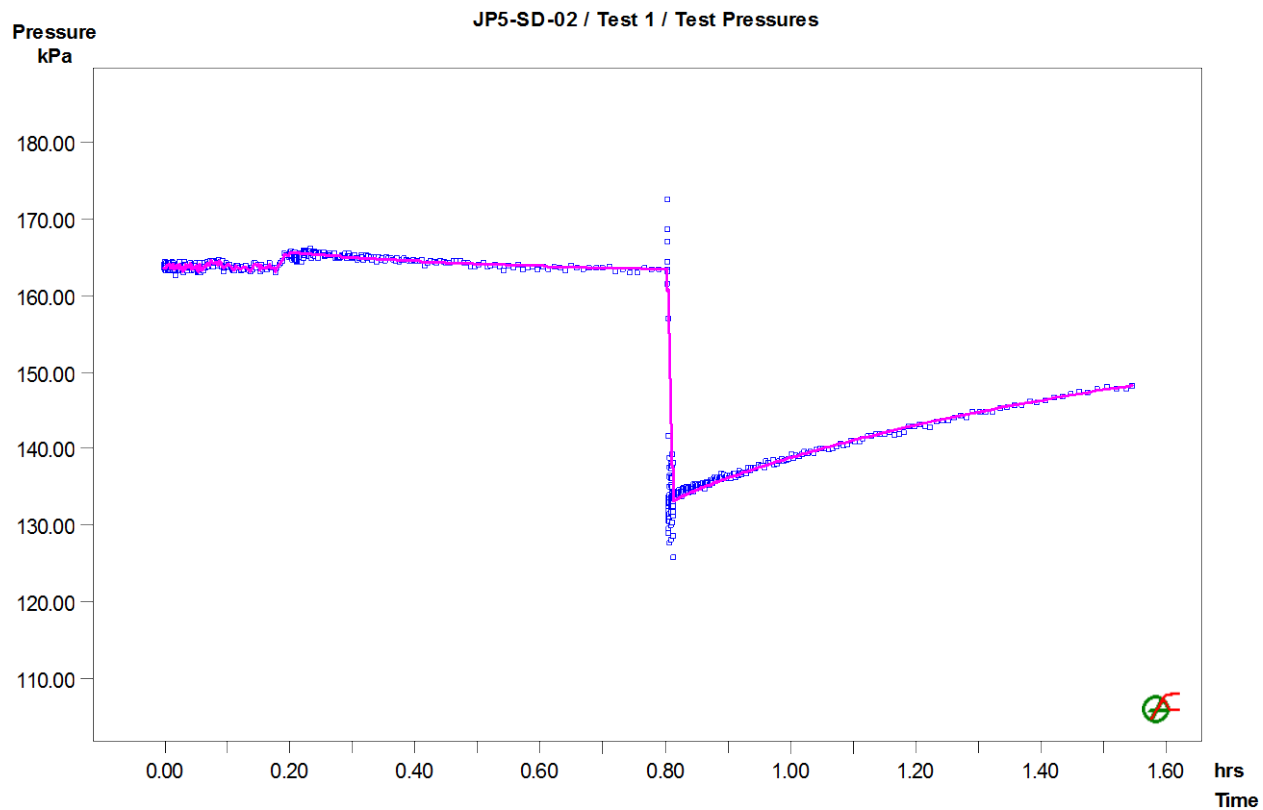


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-02 / Test 1 / SW: LogLog Plot, variable P(i)

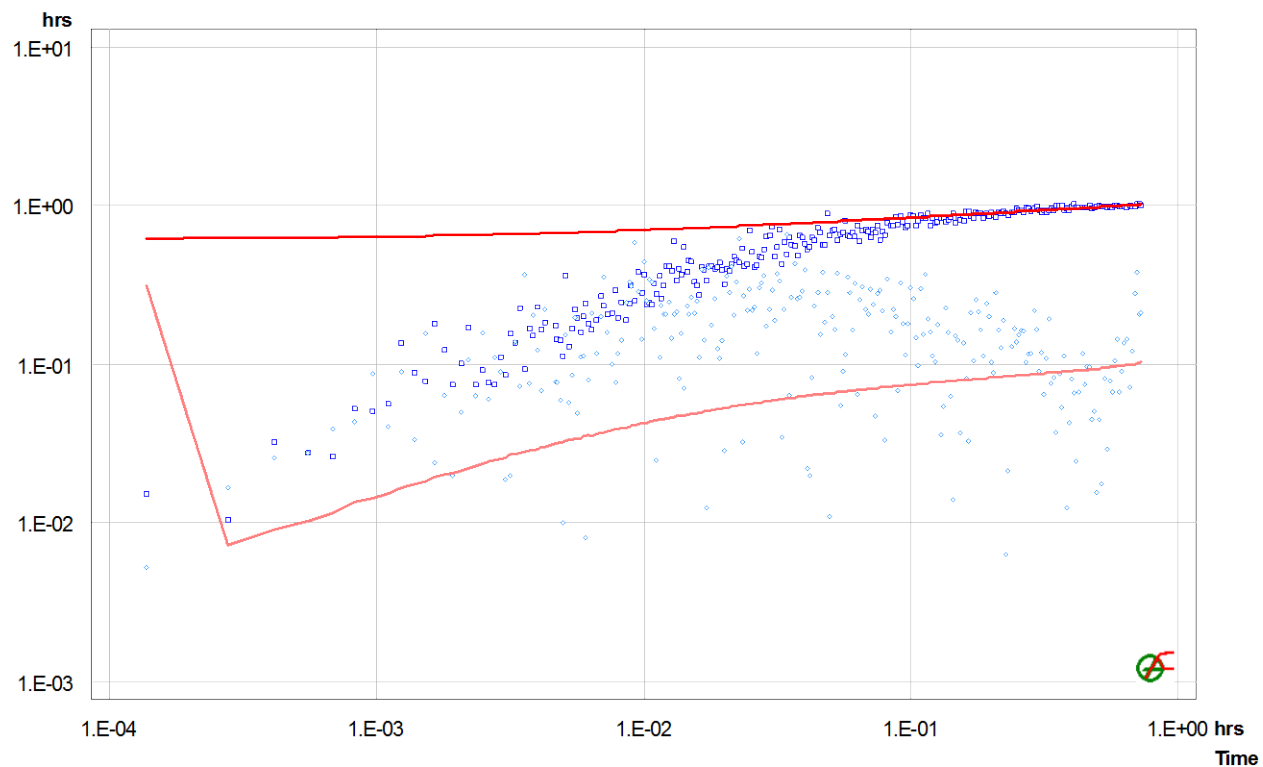


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-03	
Test Name	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/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	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

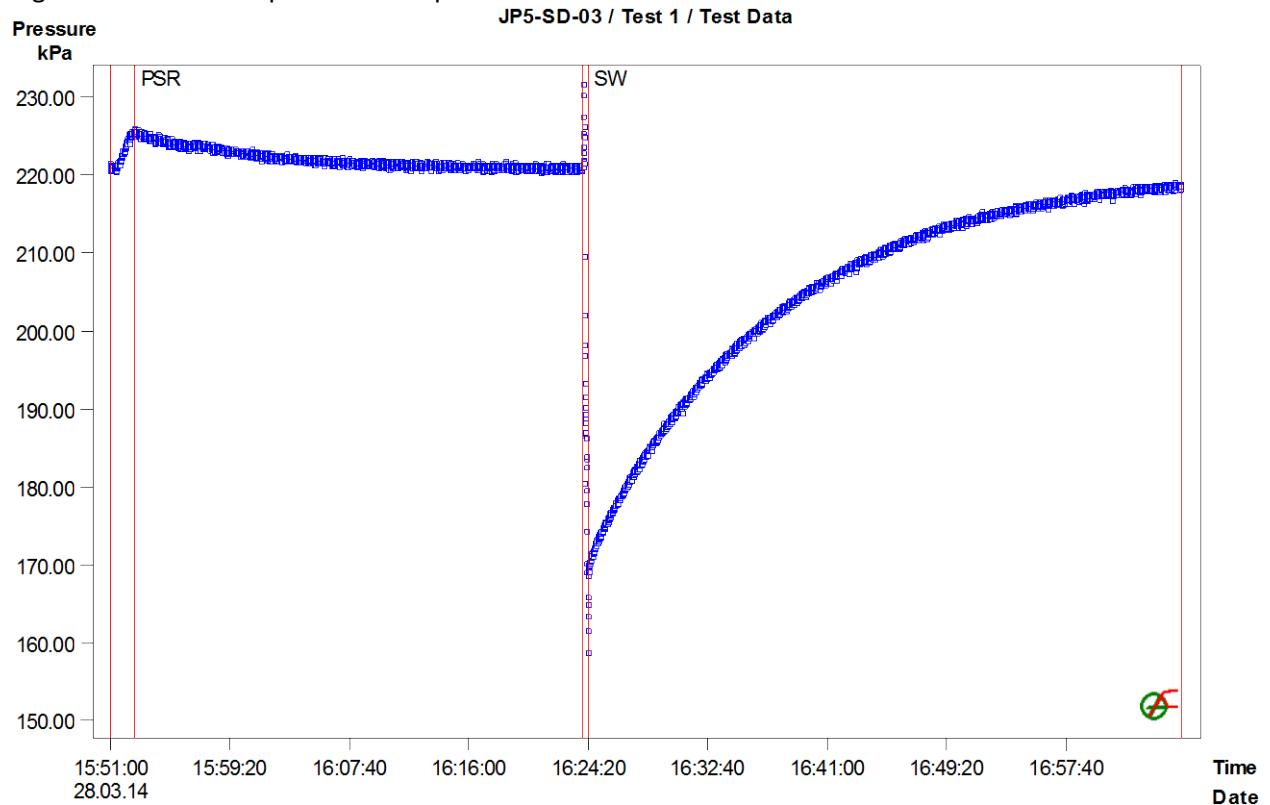
Shell Parameters:

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



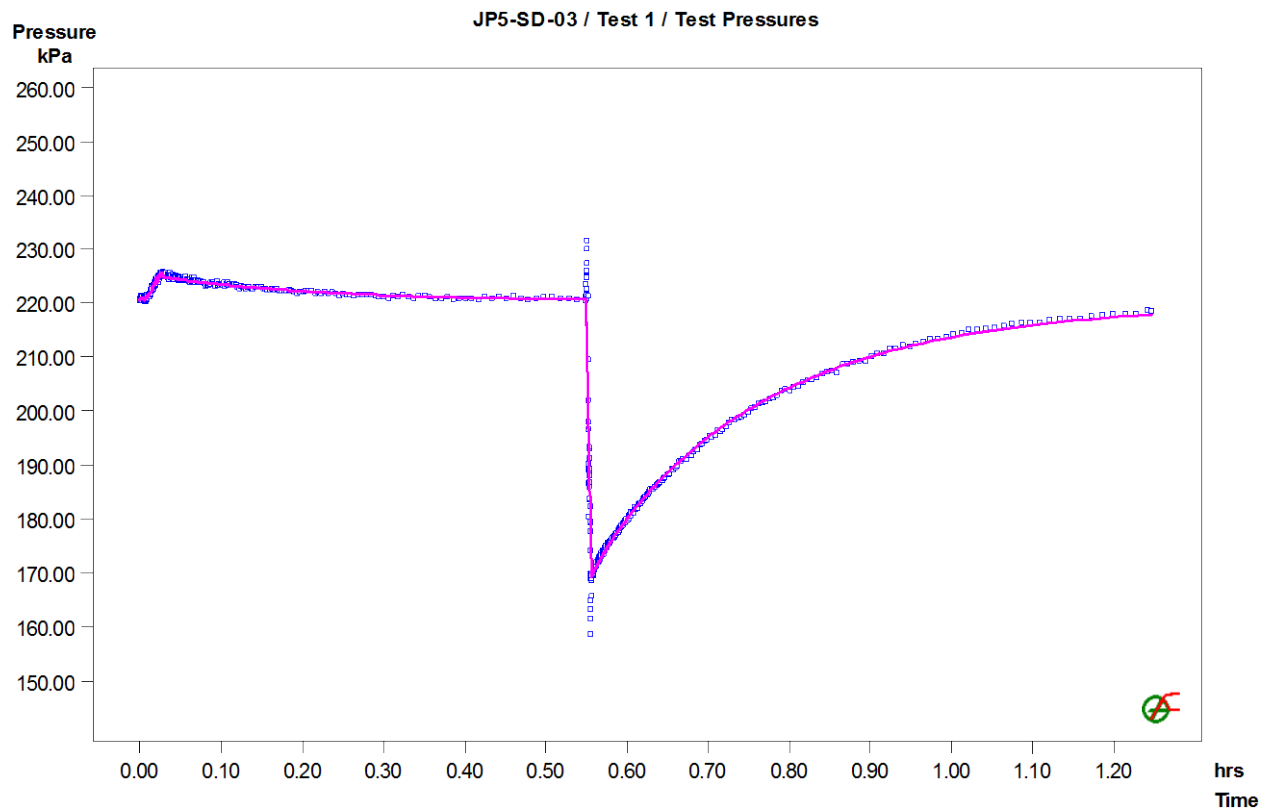


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-03 / Test 1 / SW: LogLog Plot, variable P(i)

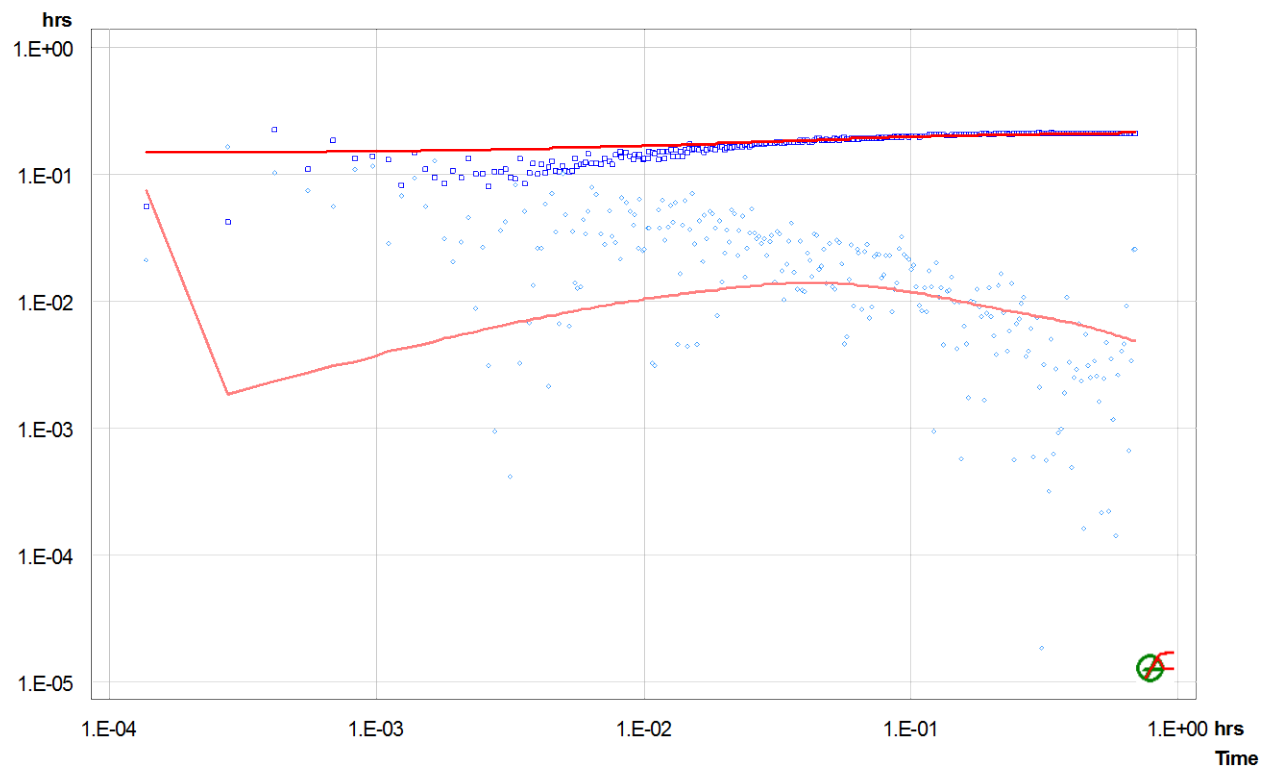


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

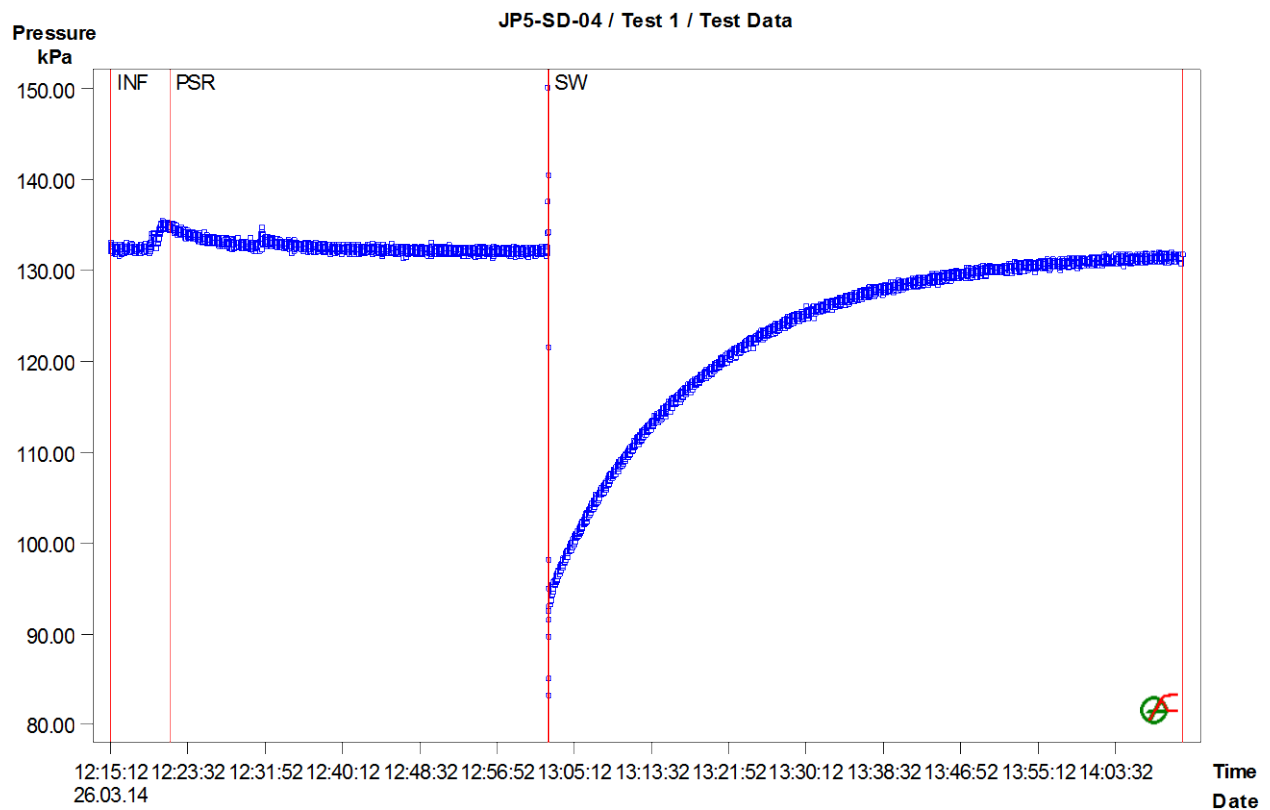


Figure 1: Pressure response and sequence definition

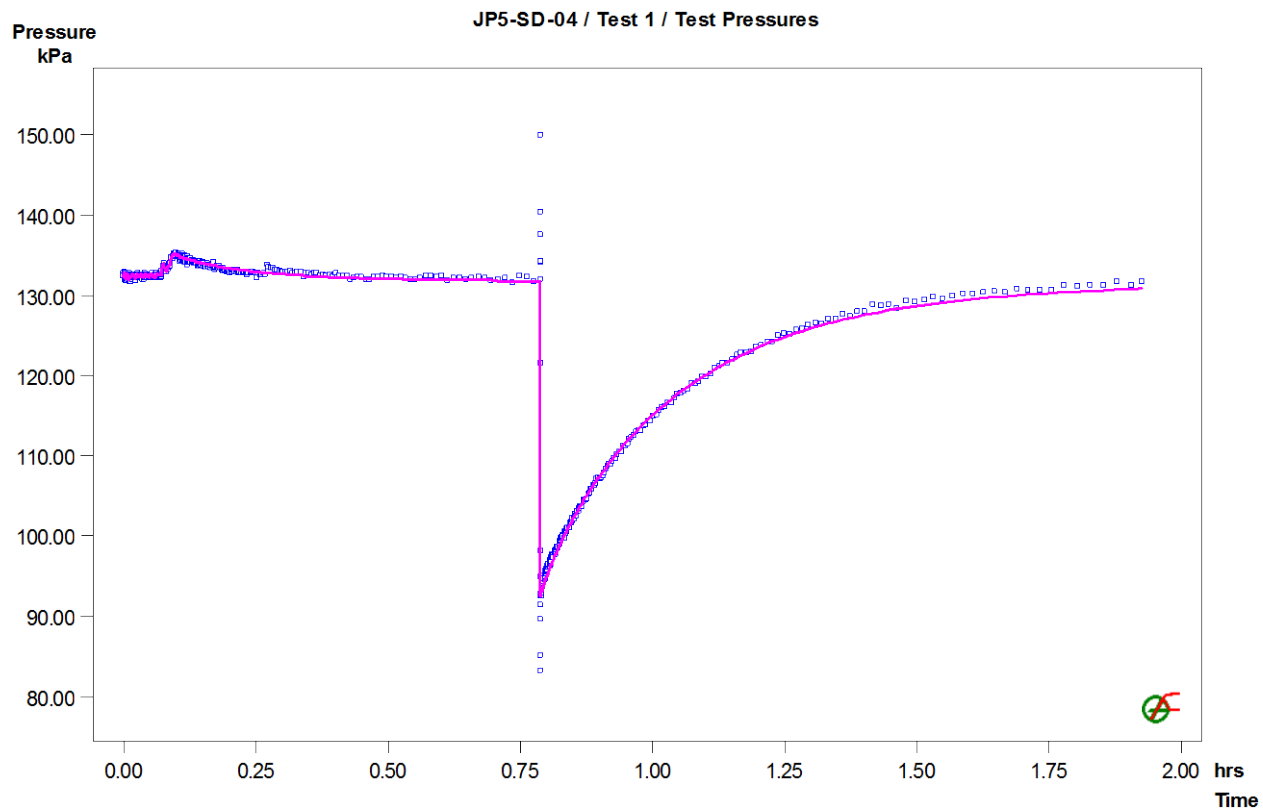


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-04 / Test 1 / SW: LogLog Plot, variable P(i)

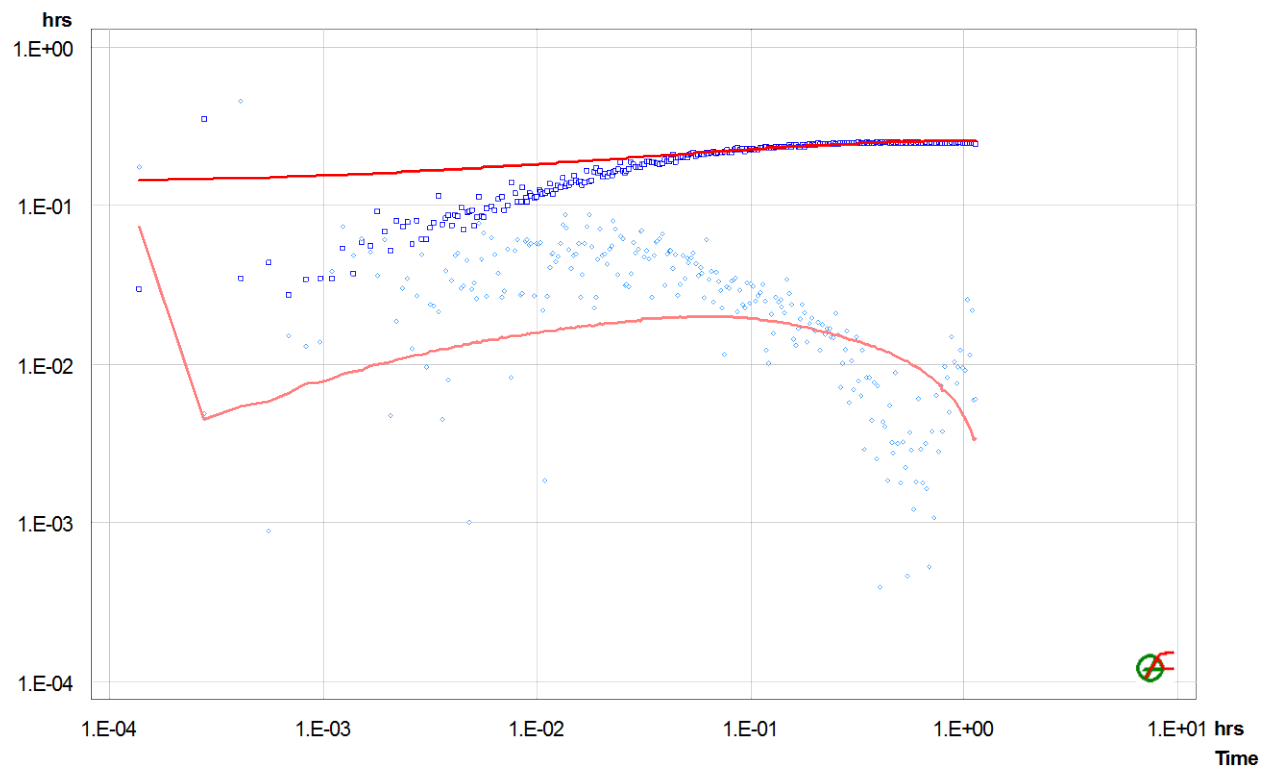


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-05
Test Name 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/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	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

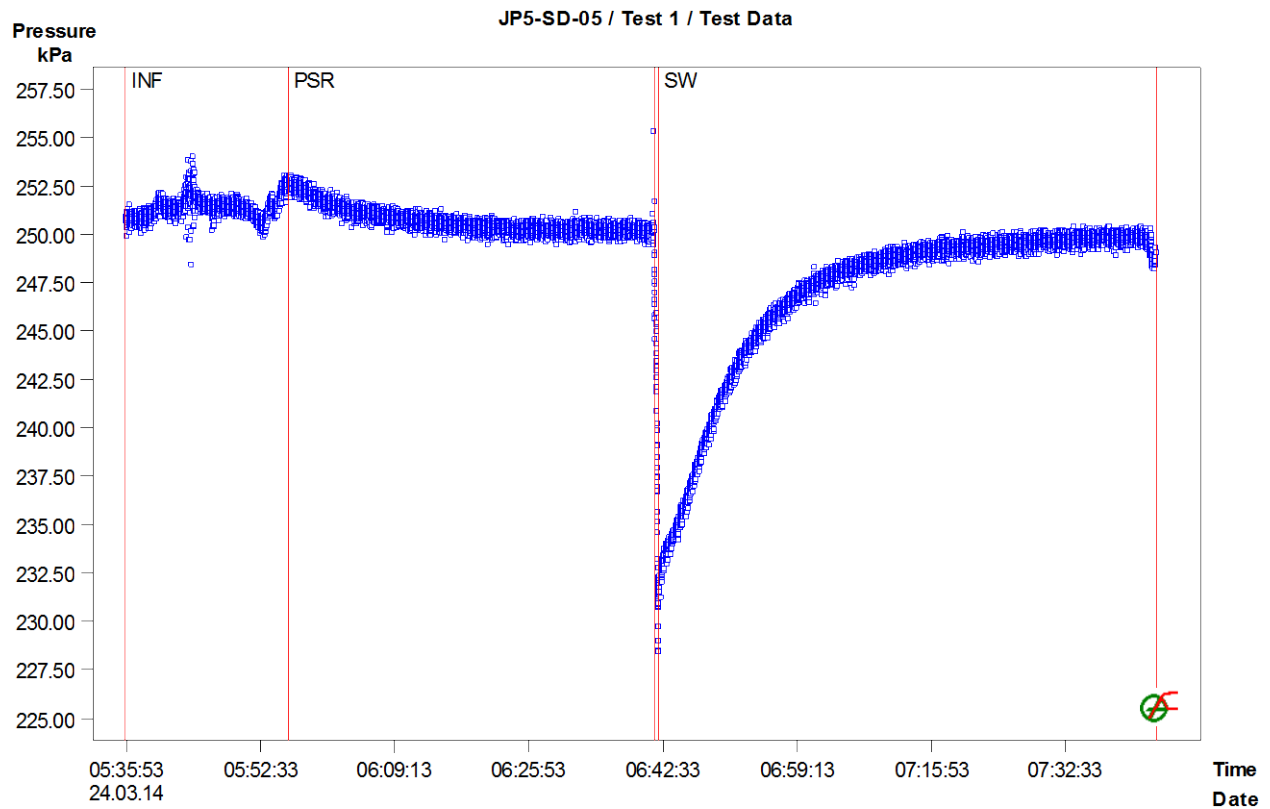


Figure 1: Pressure response and sequence definition

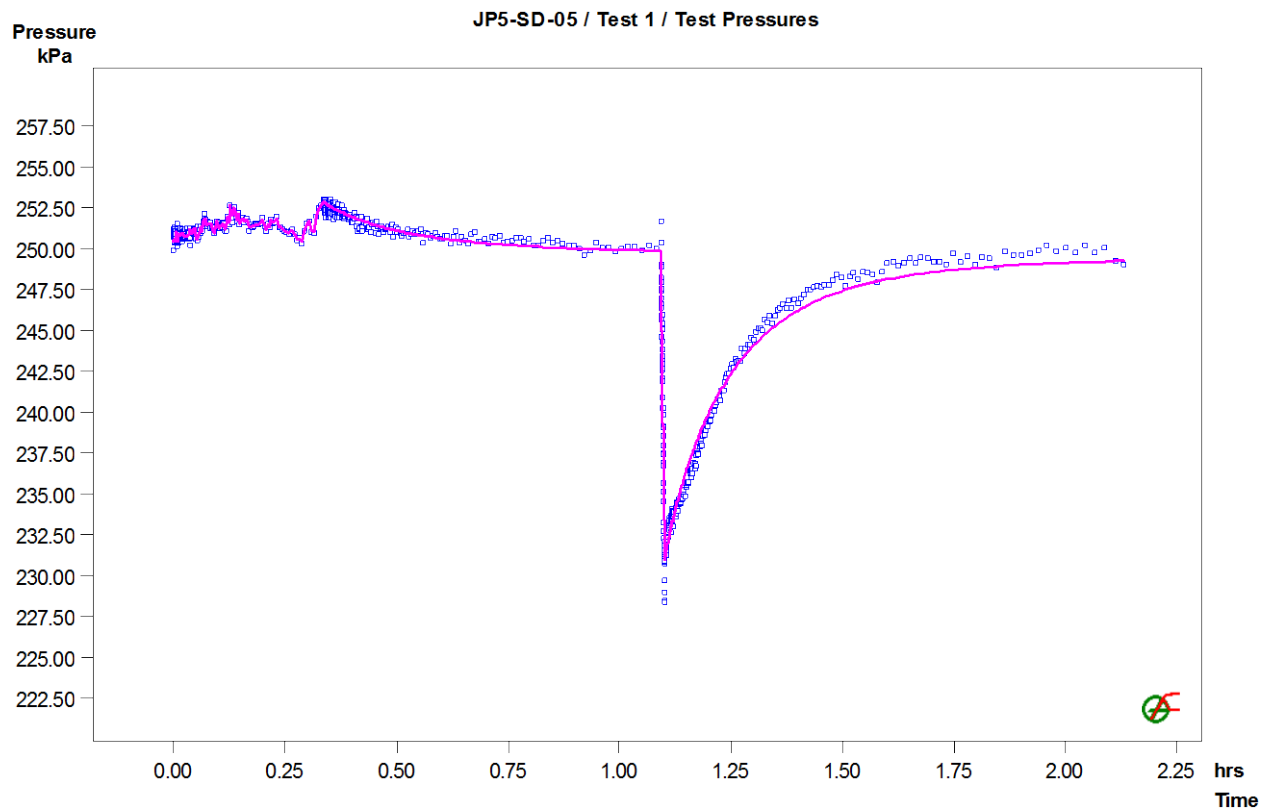


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-05 / Test 1 / SW: LogLog Plot, variable P(i)

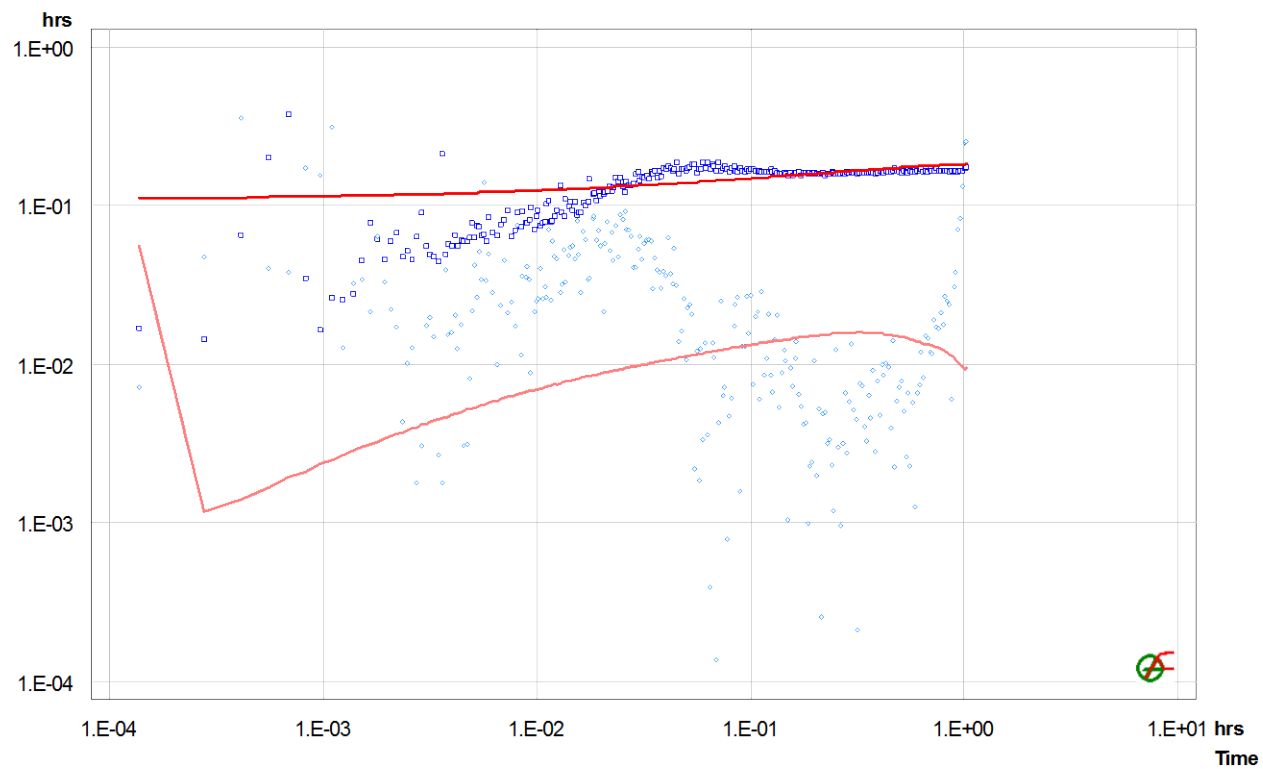


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-06
Test Name 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

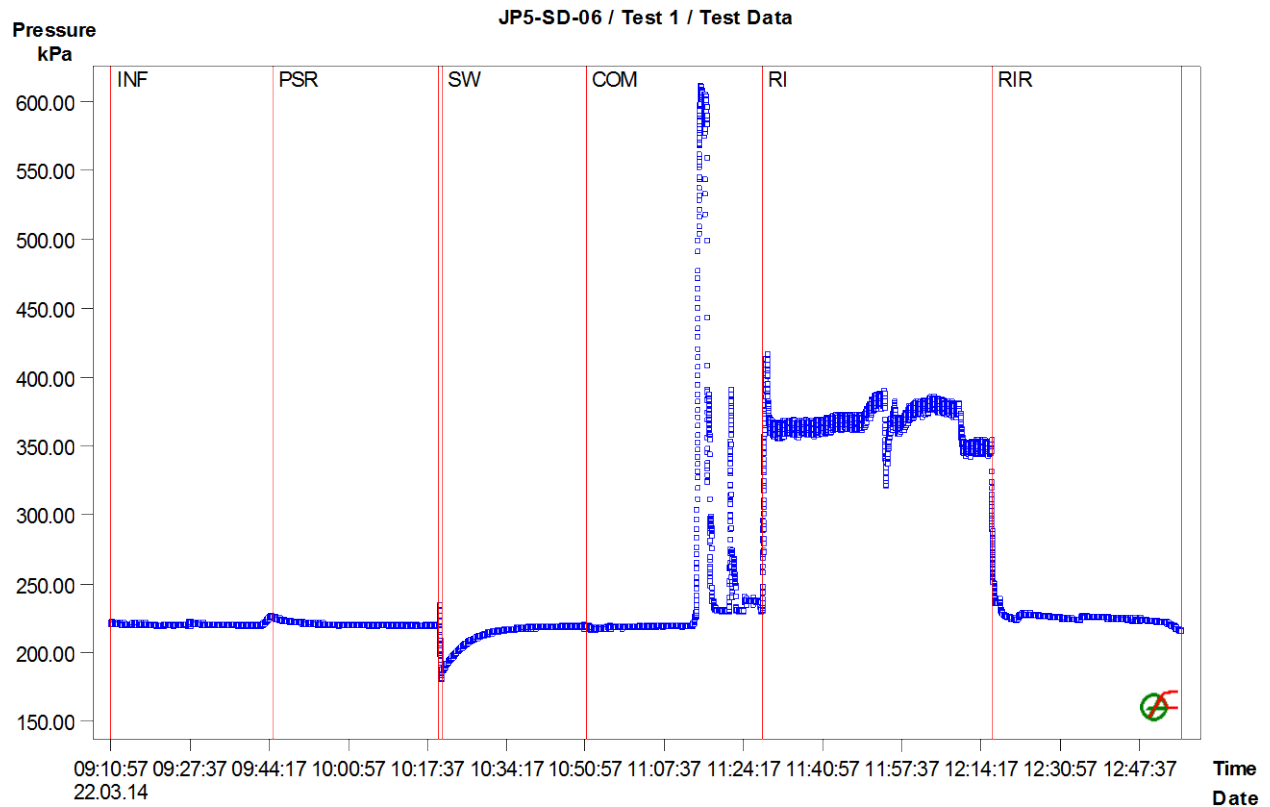


Figure 1: Pressure response and sequence definition

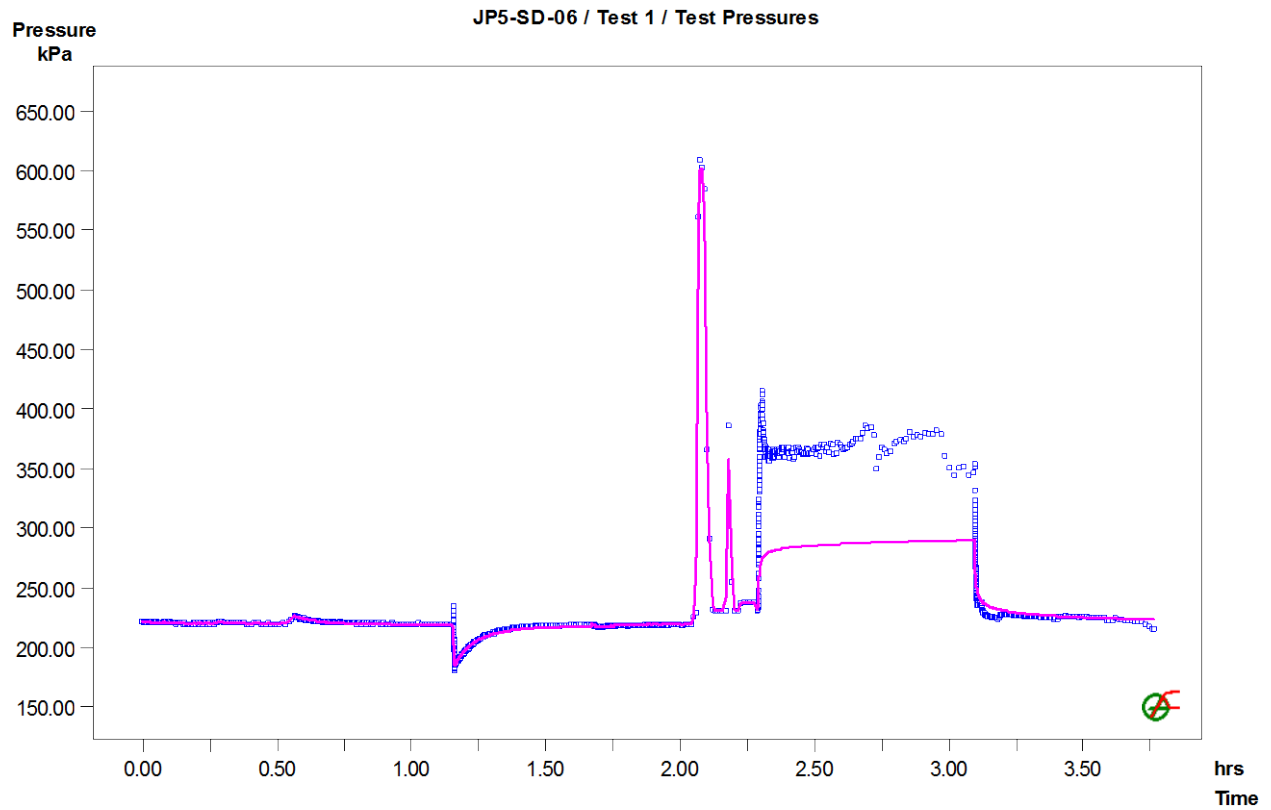


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-06 / Test 1 / SW: LogLog Plot, variable P(i)

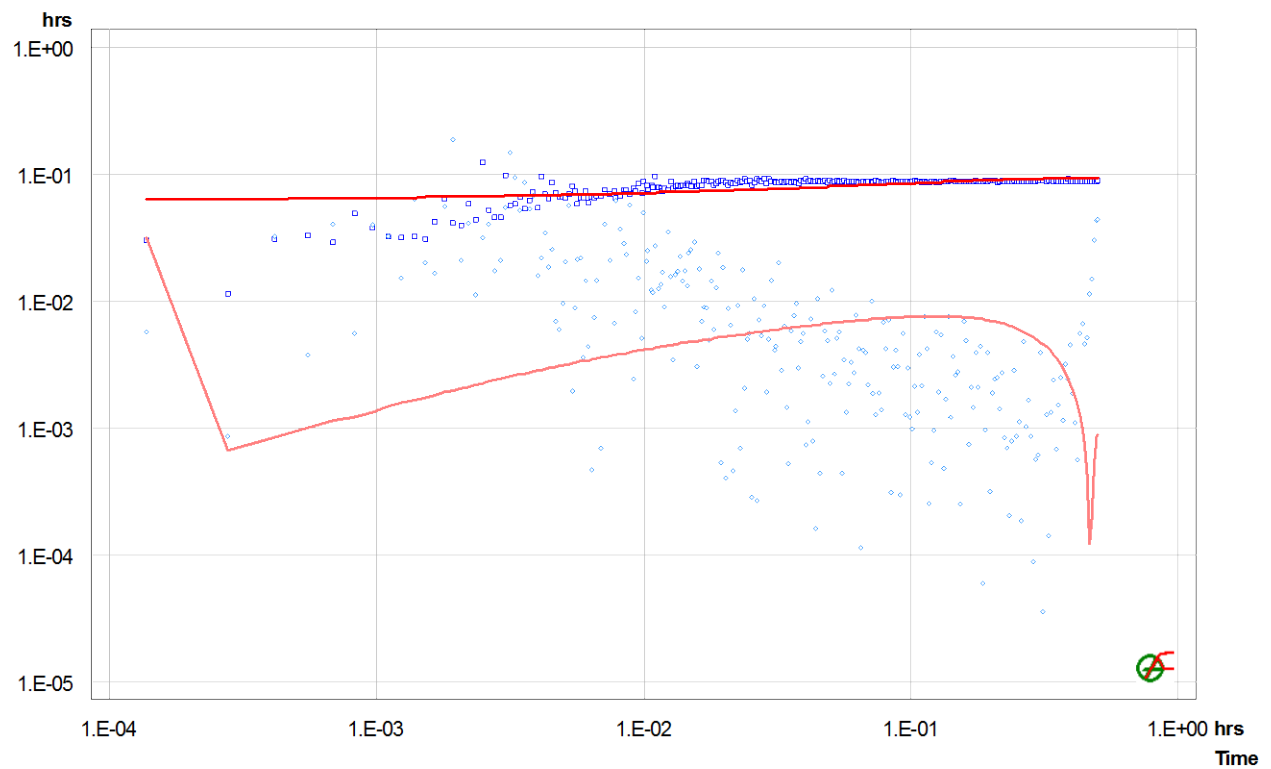


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-07	
Test Name	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/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	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

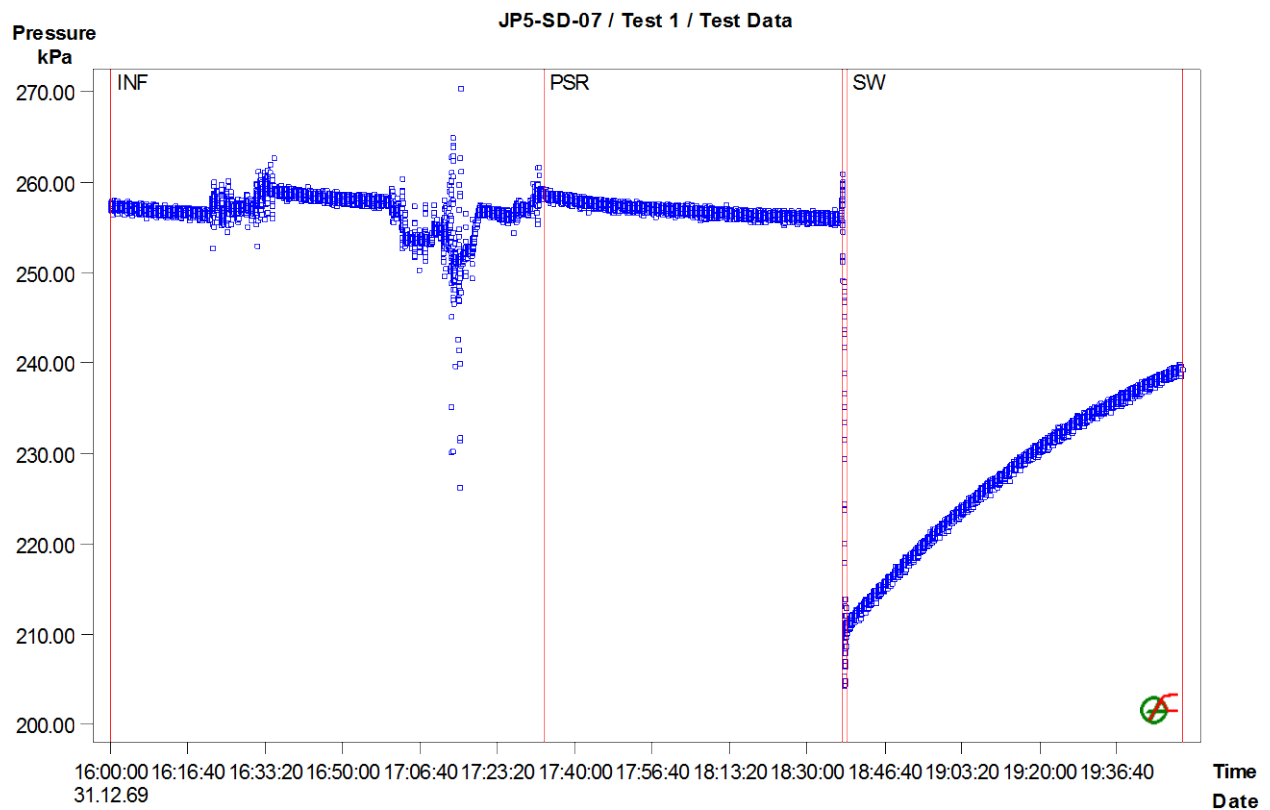


Figure 1: Pressure response and sequence definition

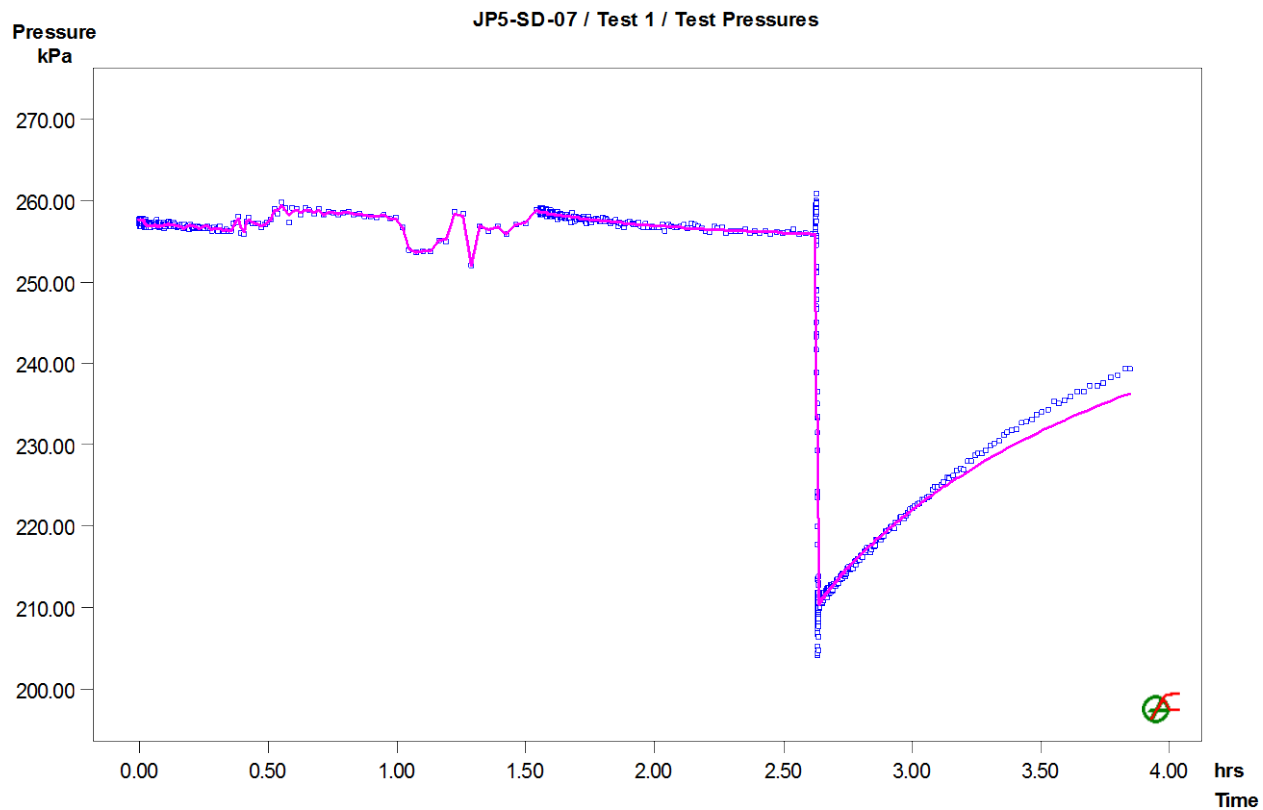


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-07 / Test 1 / SW: LogLog Plot, variable P(i)

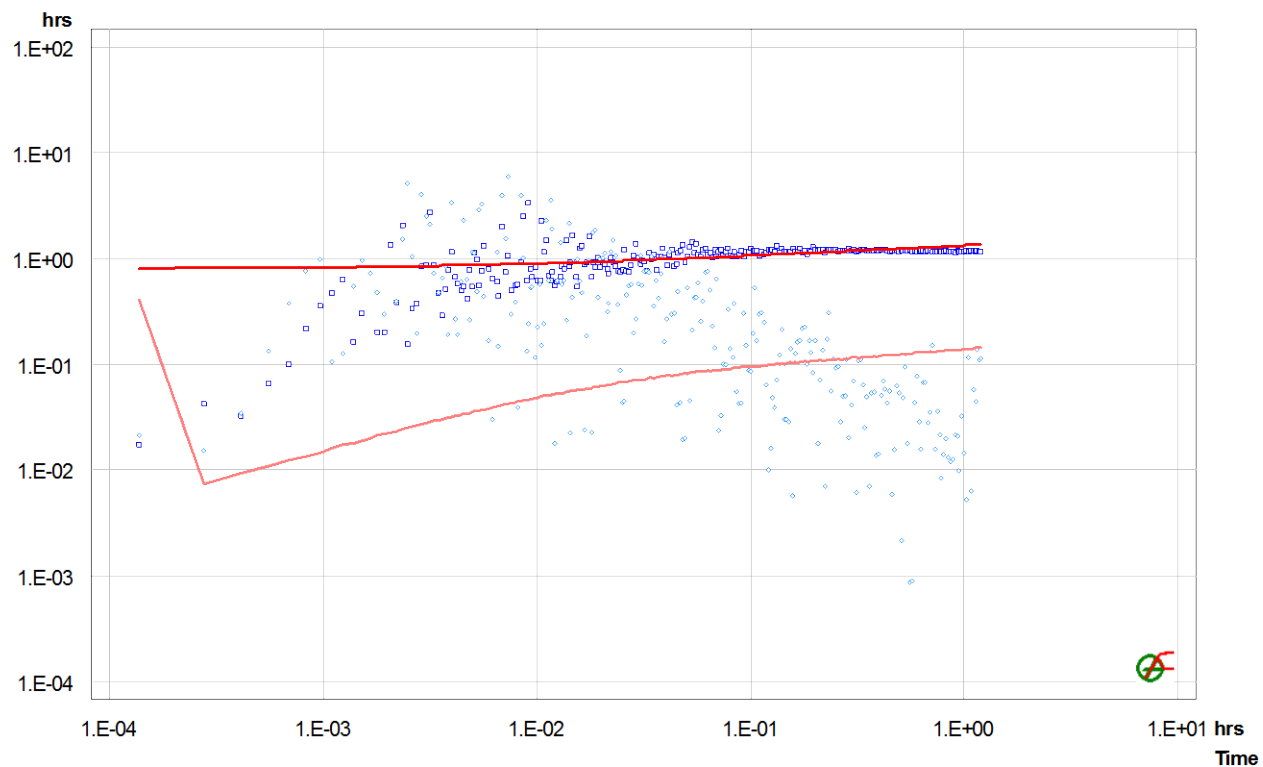


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP5-SD-08
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

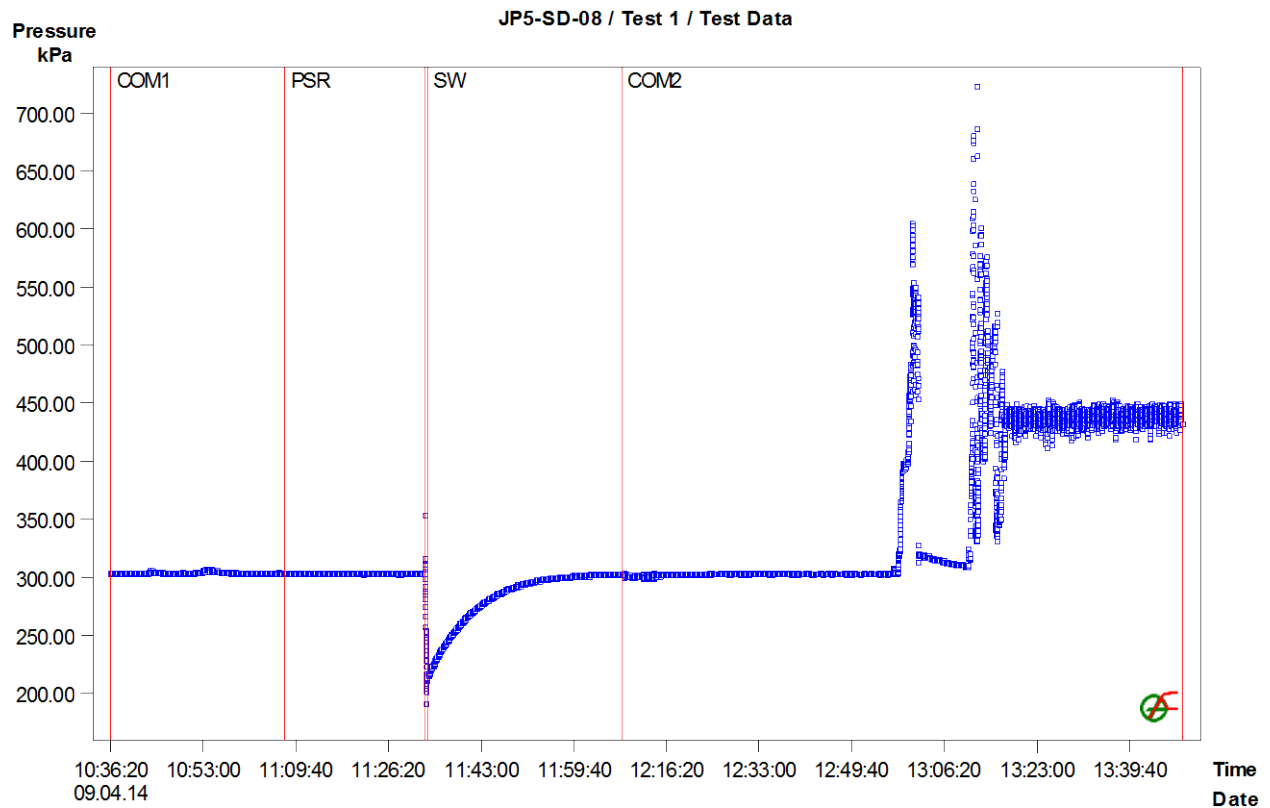


Figure 1: Pressure response and sequence definition

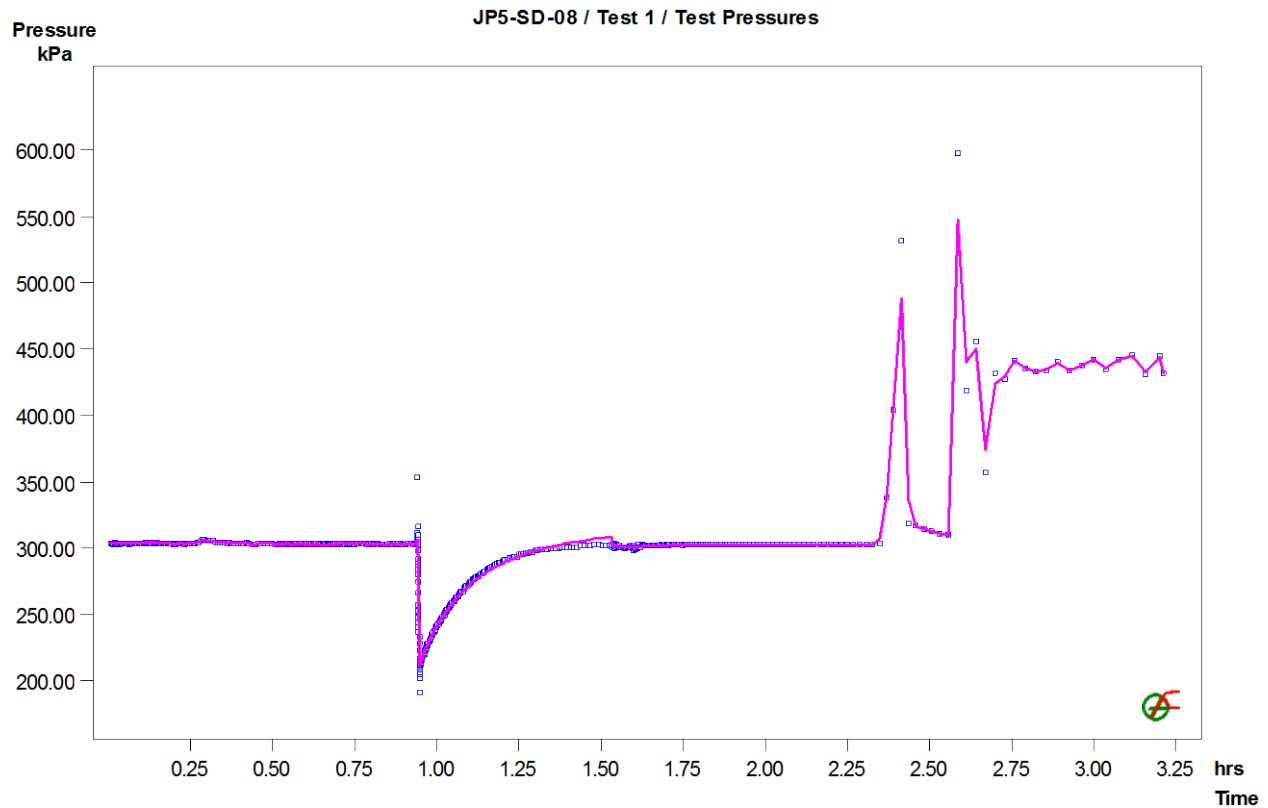


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-08 / Test 1 / SW: LogLog Plot, constant P(i)

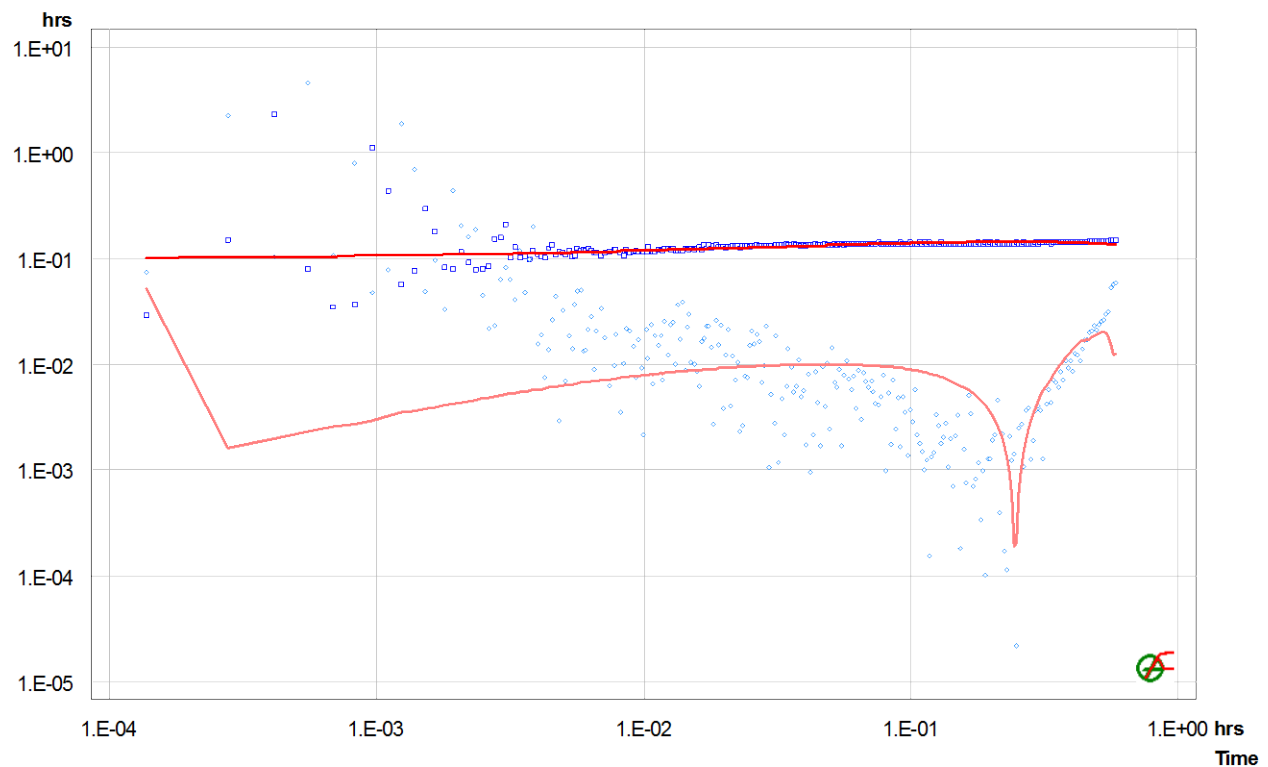


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project	Dominion Diamond	
Site	Jay Project	
Source Well	JP5-SD-09	
Test Name	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

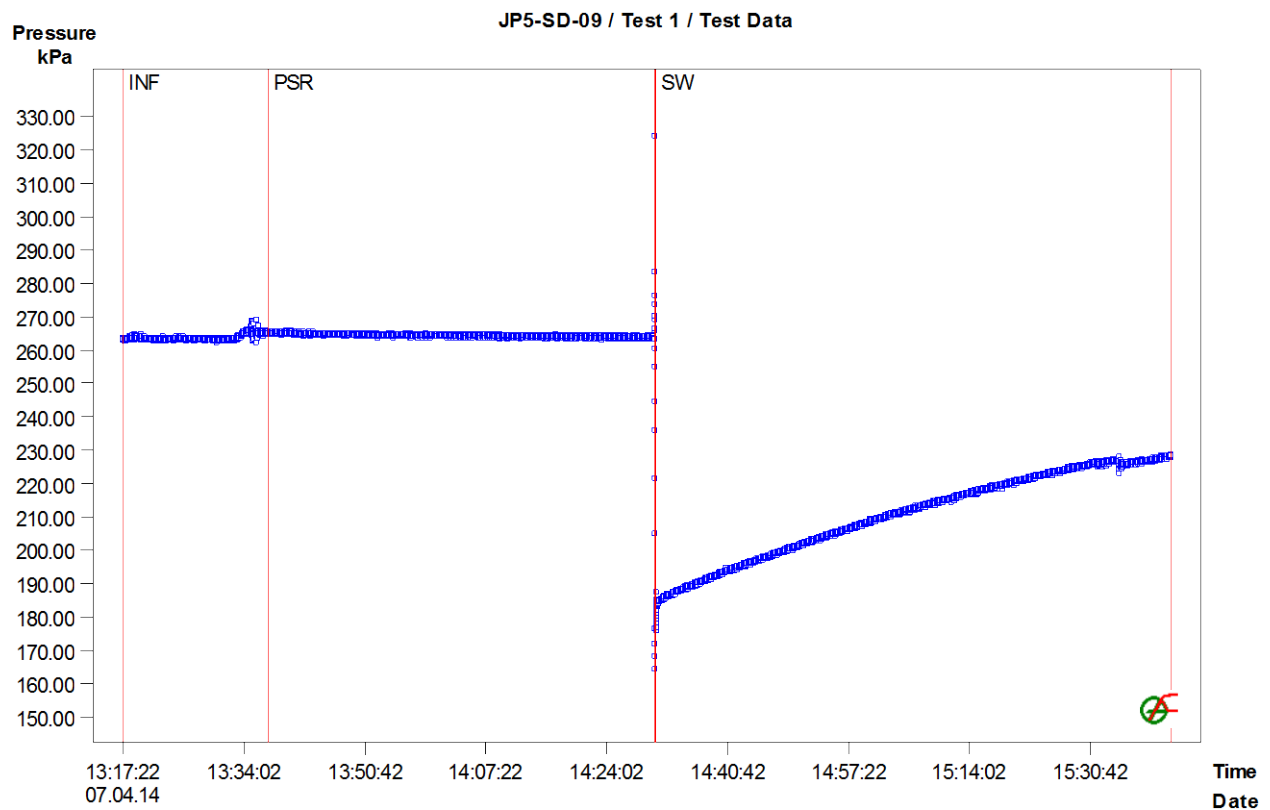


Figure 1: Pressure response and sequence definition

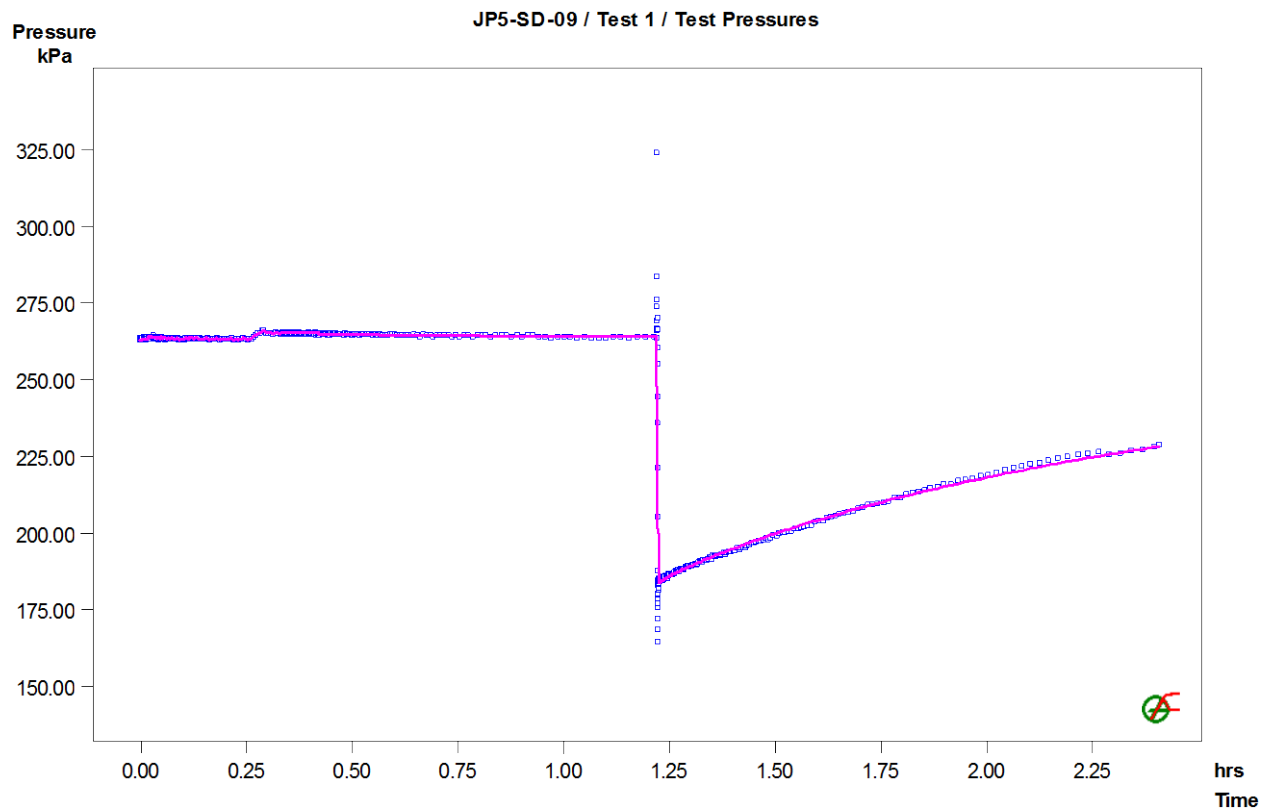


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-09 / Test 1 / SW: LogLog Plot, variable P(i)

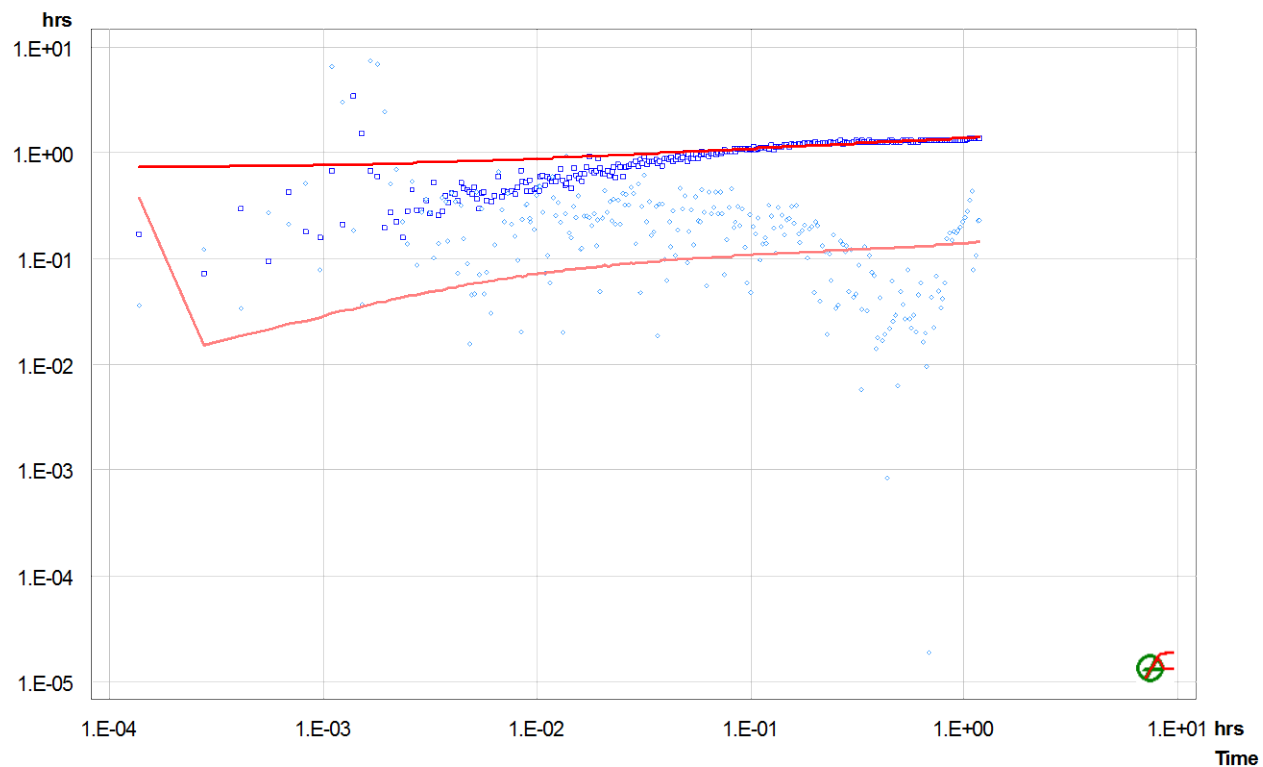


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

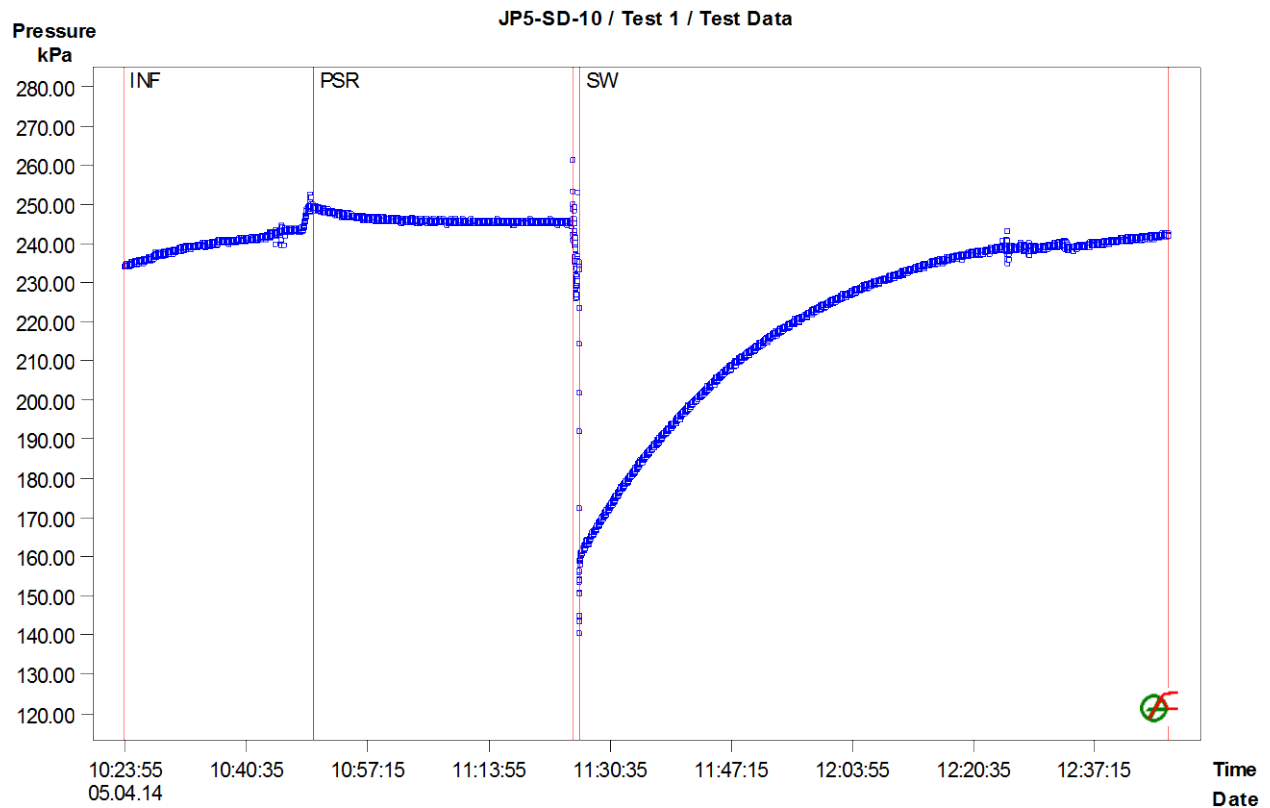


Figure 1: Pressure response and sequence definition

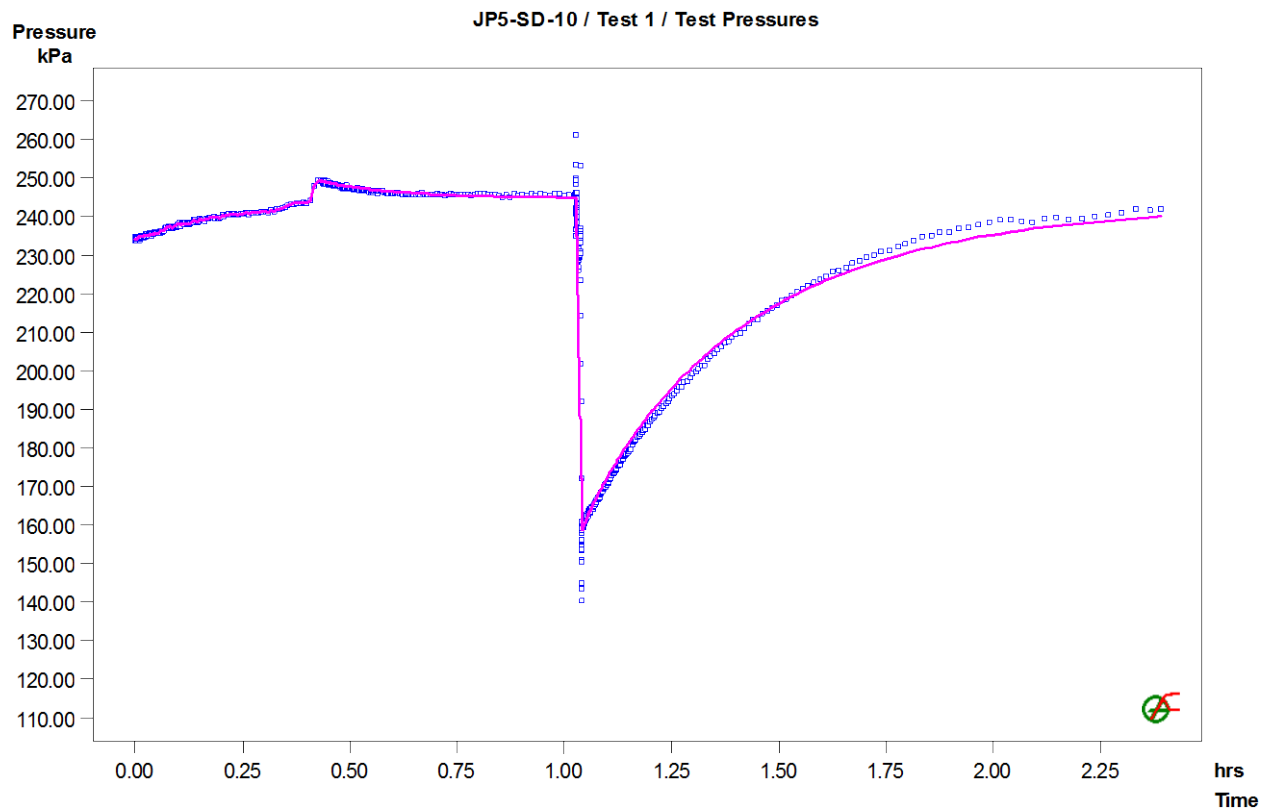


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-SD-10 / Test 1 / SW: LogLog Plot, variable P(i)

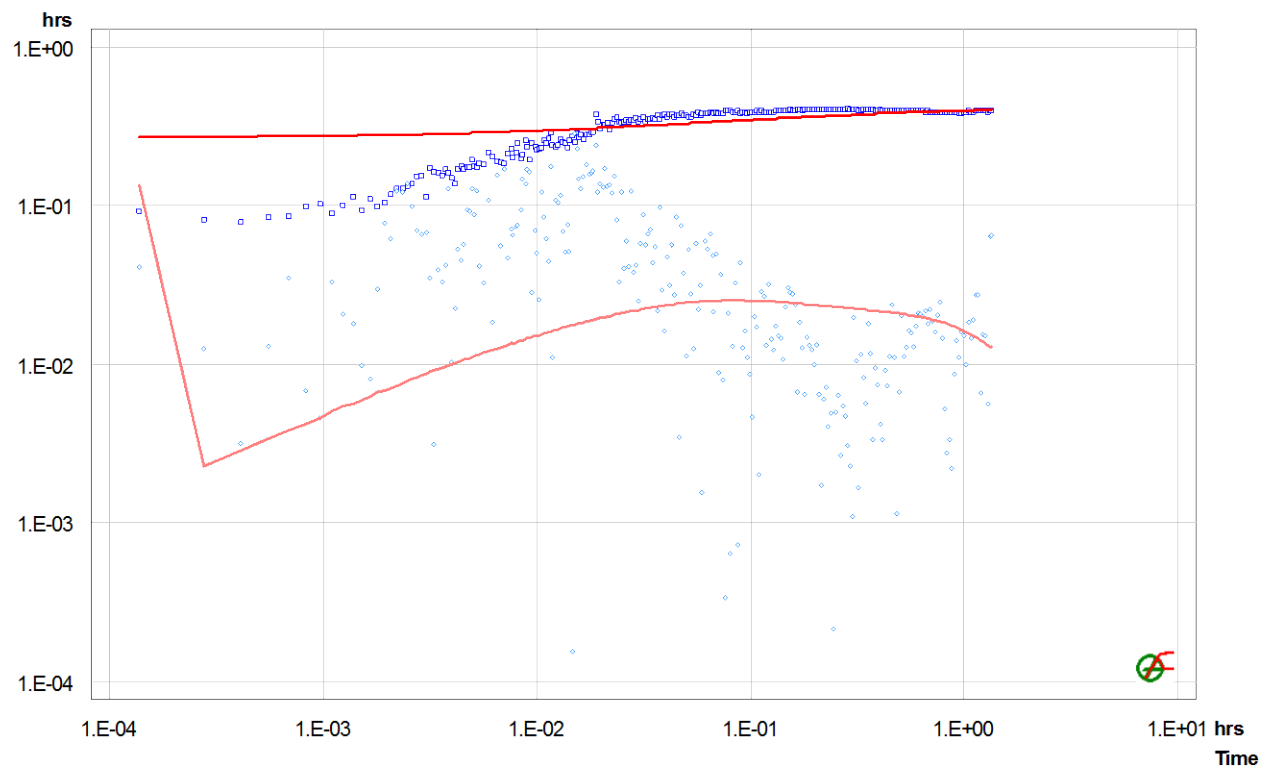


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

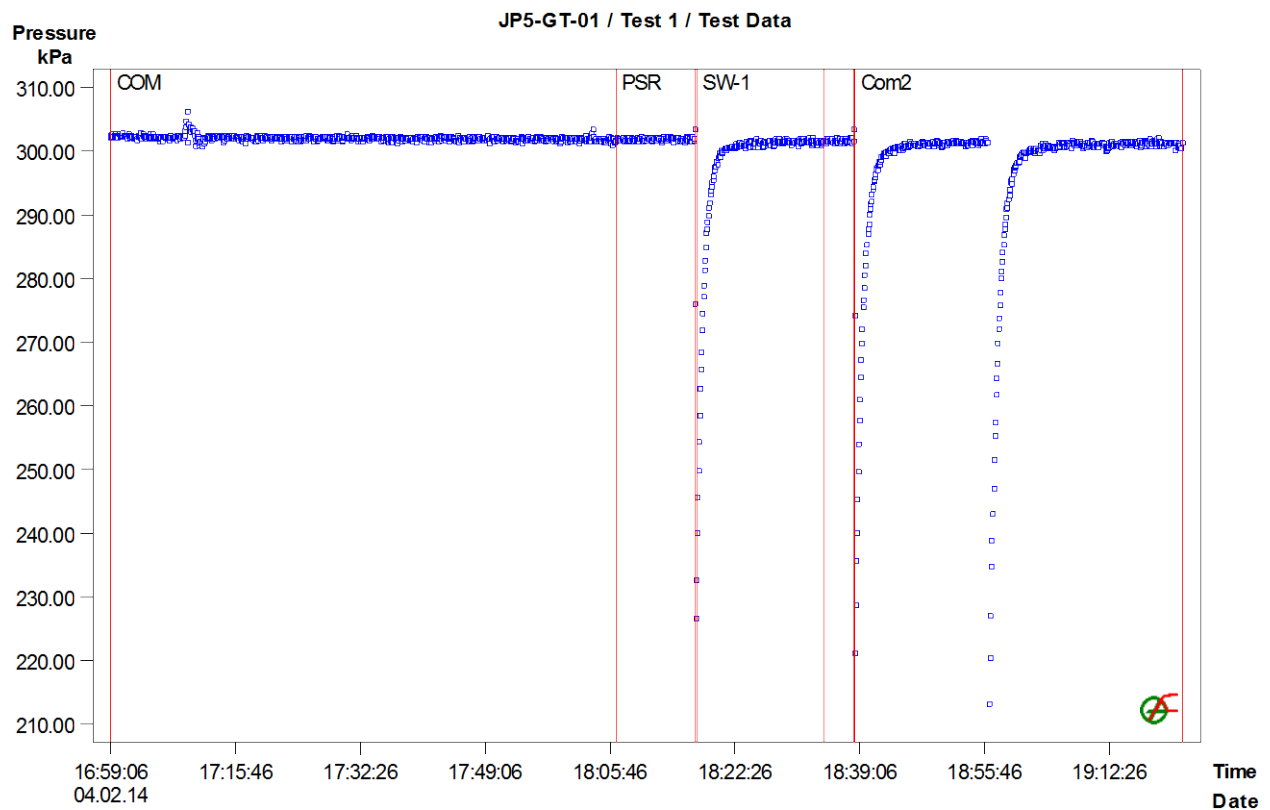


Figure 1: Pressure response and sequence definition

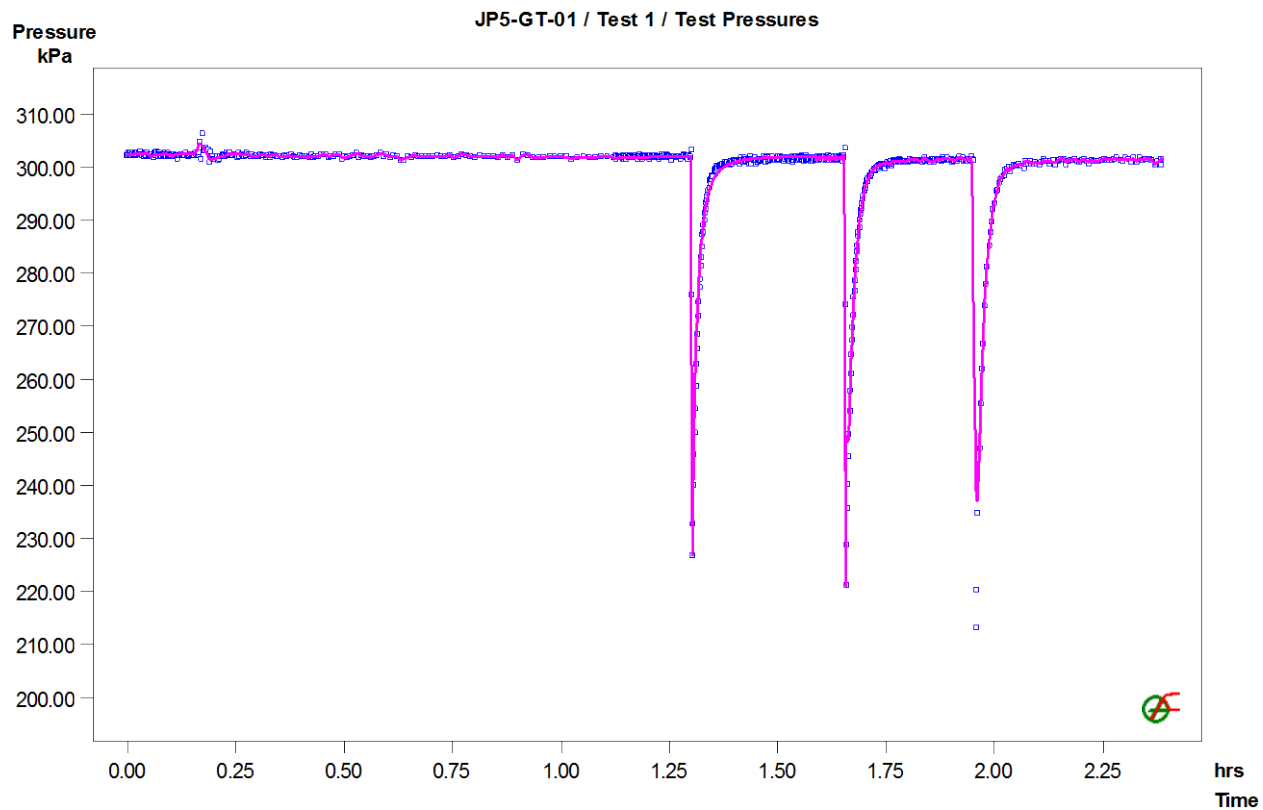


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-01 / Test 1 / SW-1: LogLog Plot, variable P(i)

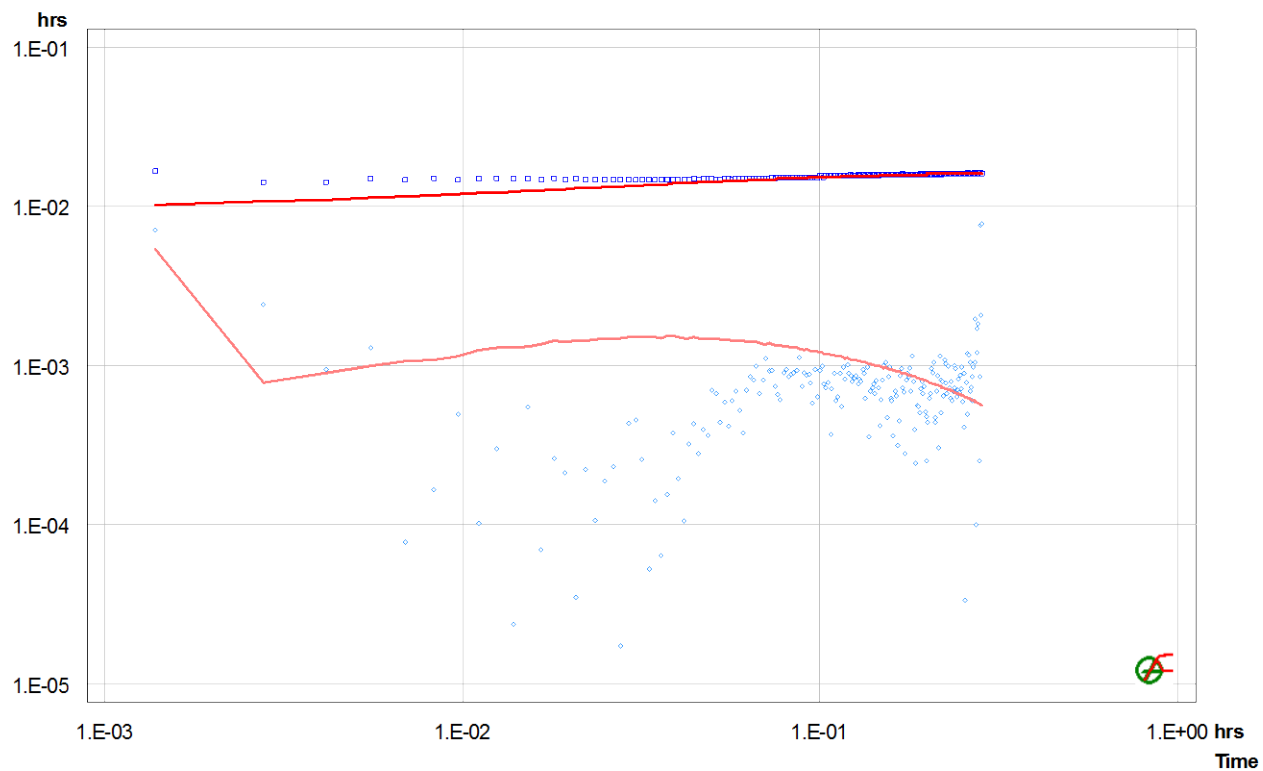


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

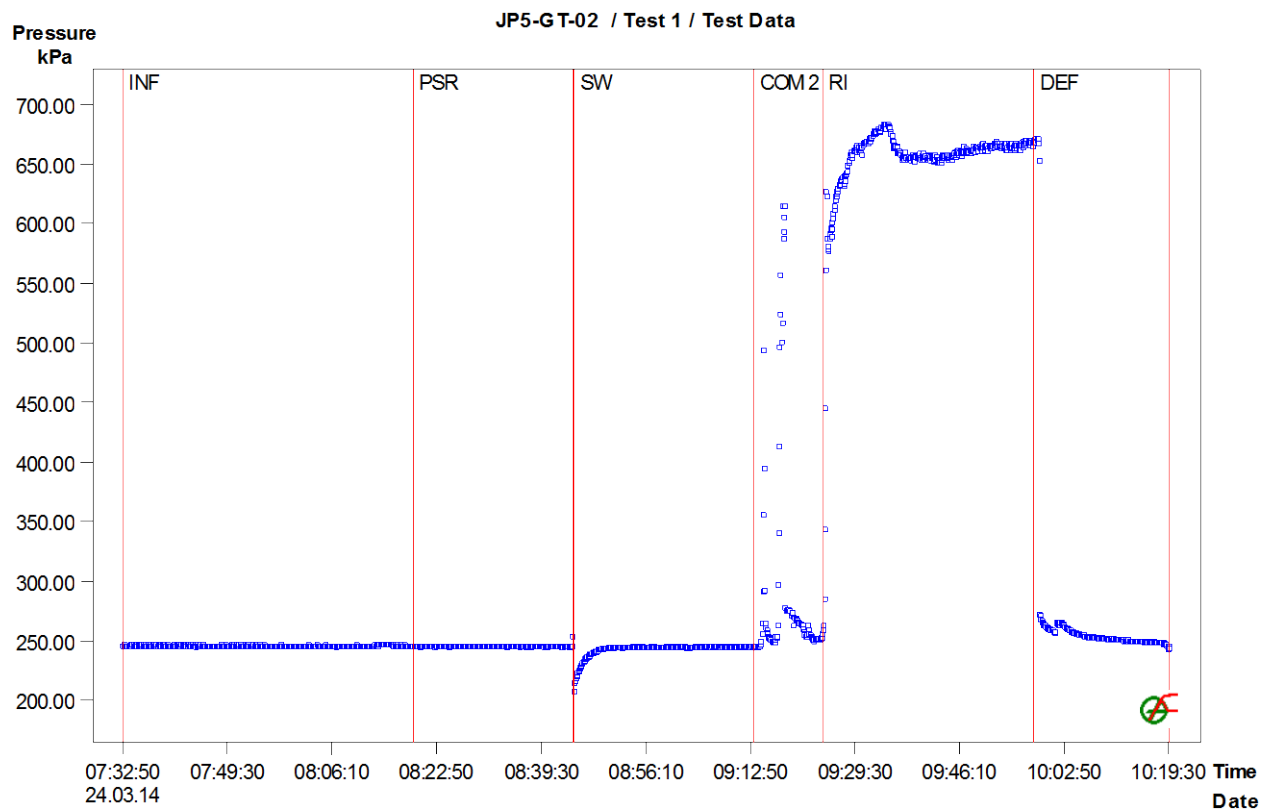


Figure 1: Pressure response and sequence definition

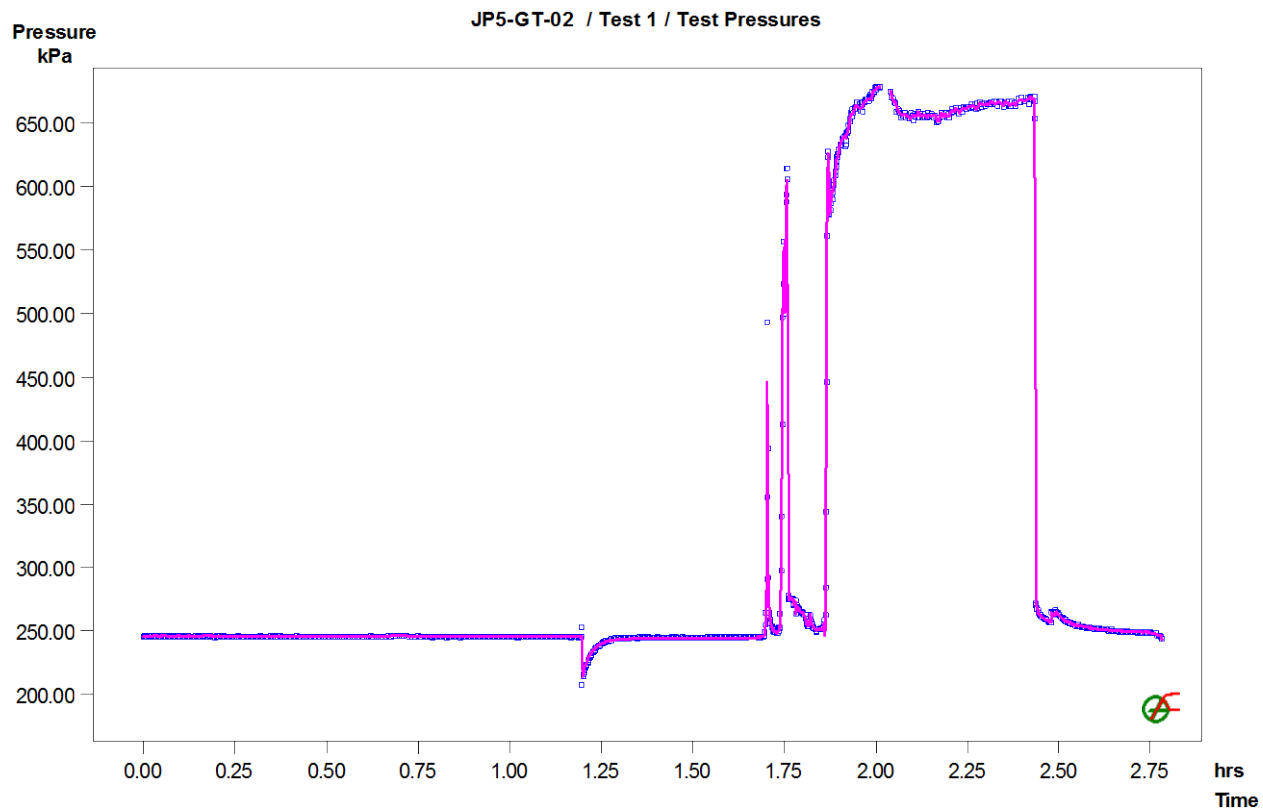


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P

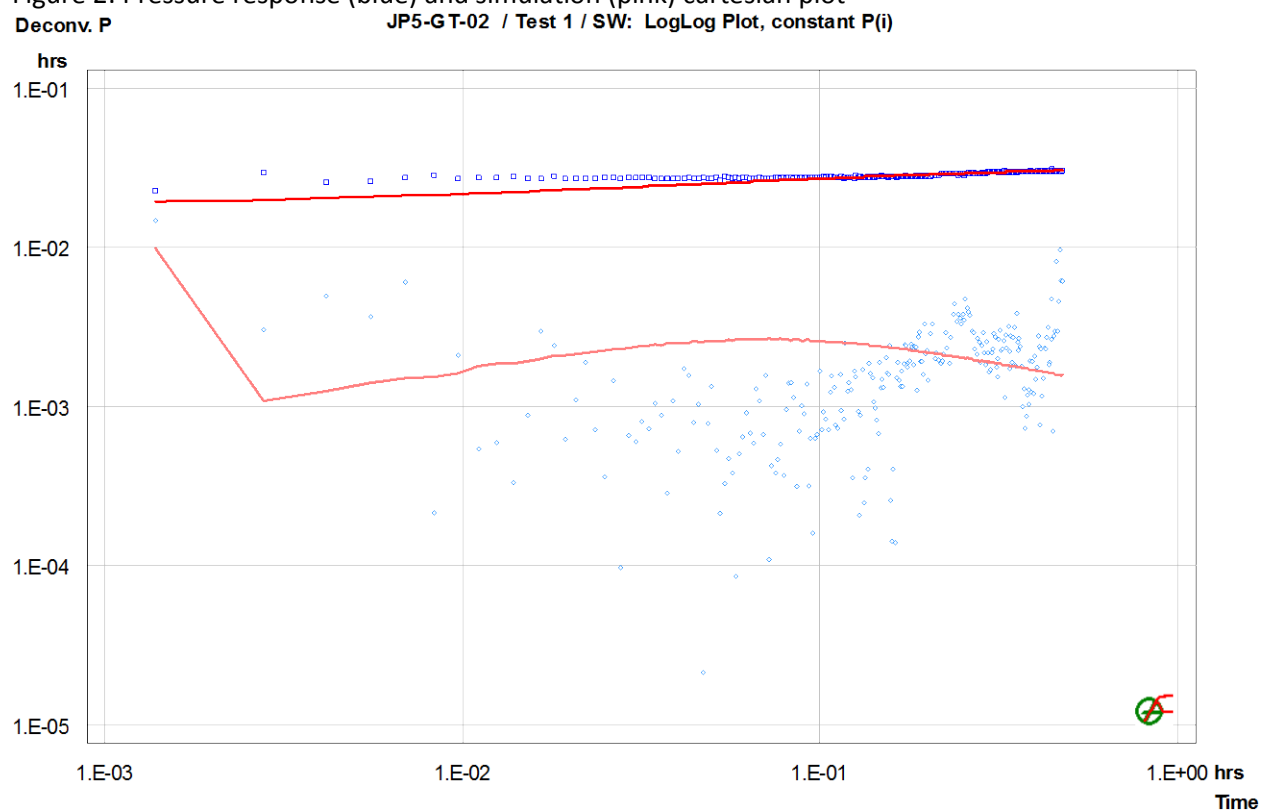


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

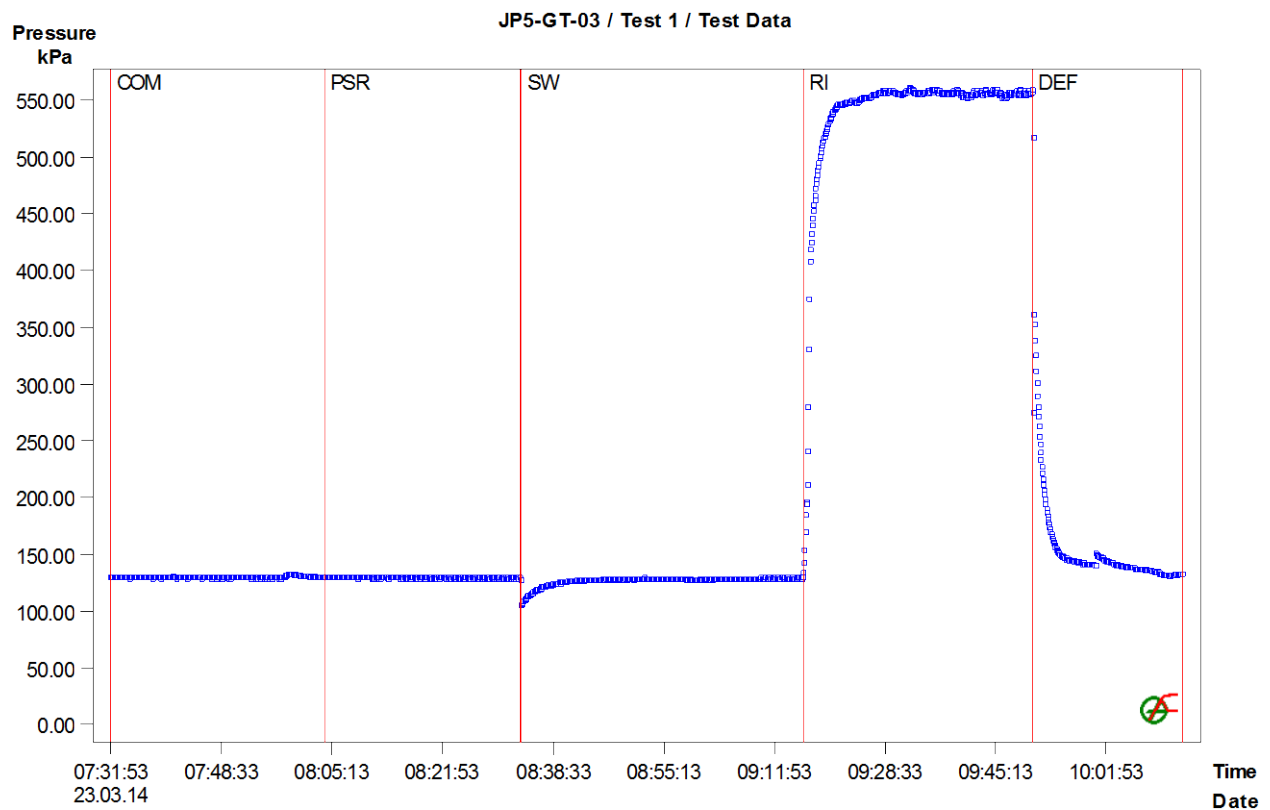


Figure 1: Pressure response and sequence definition

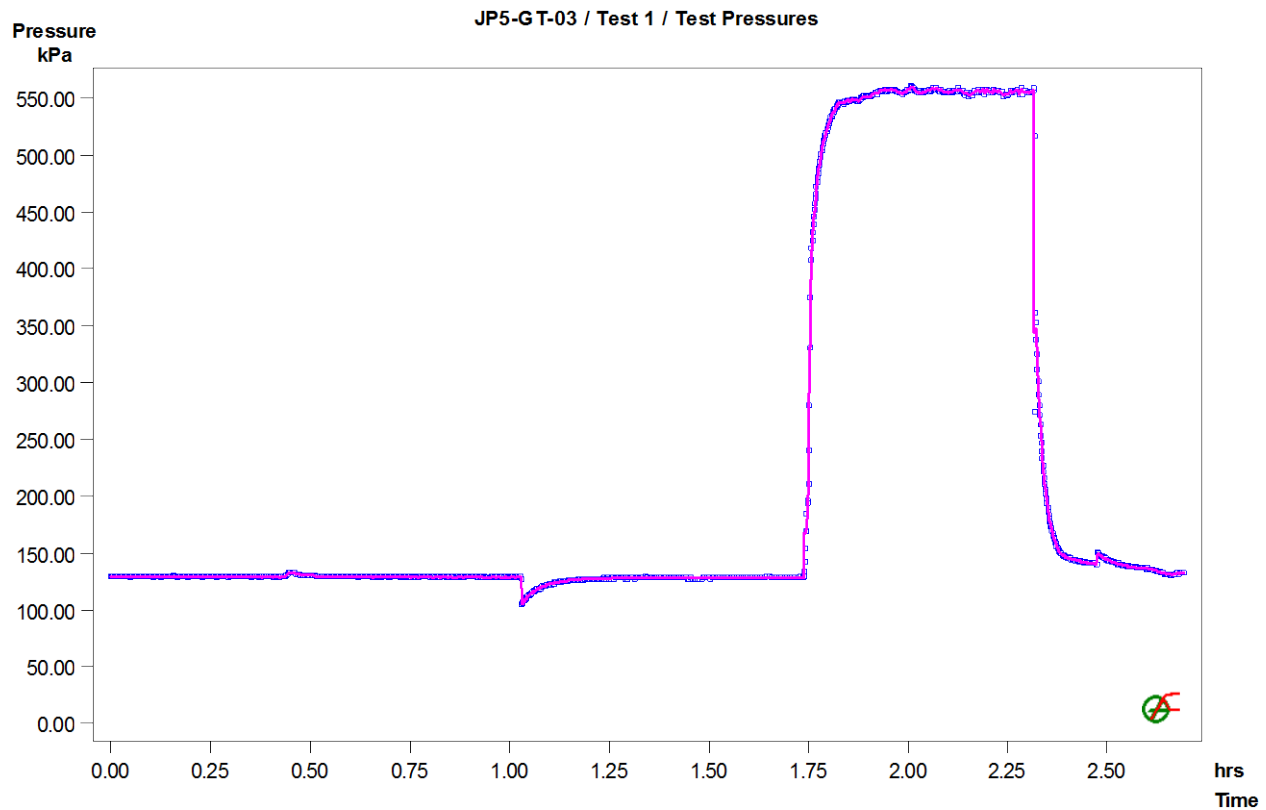


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-03 / Test 1 / SW: LogLog Plot, constant P(i)

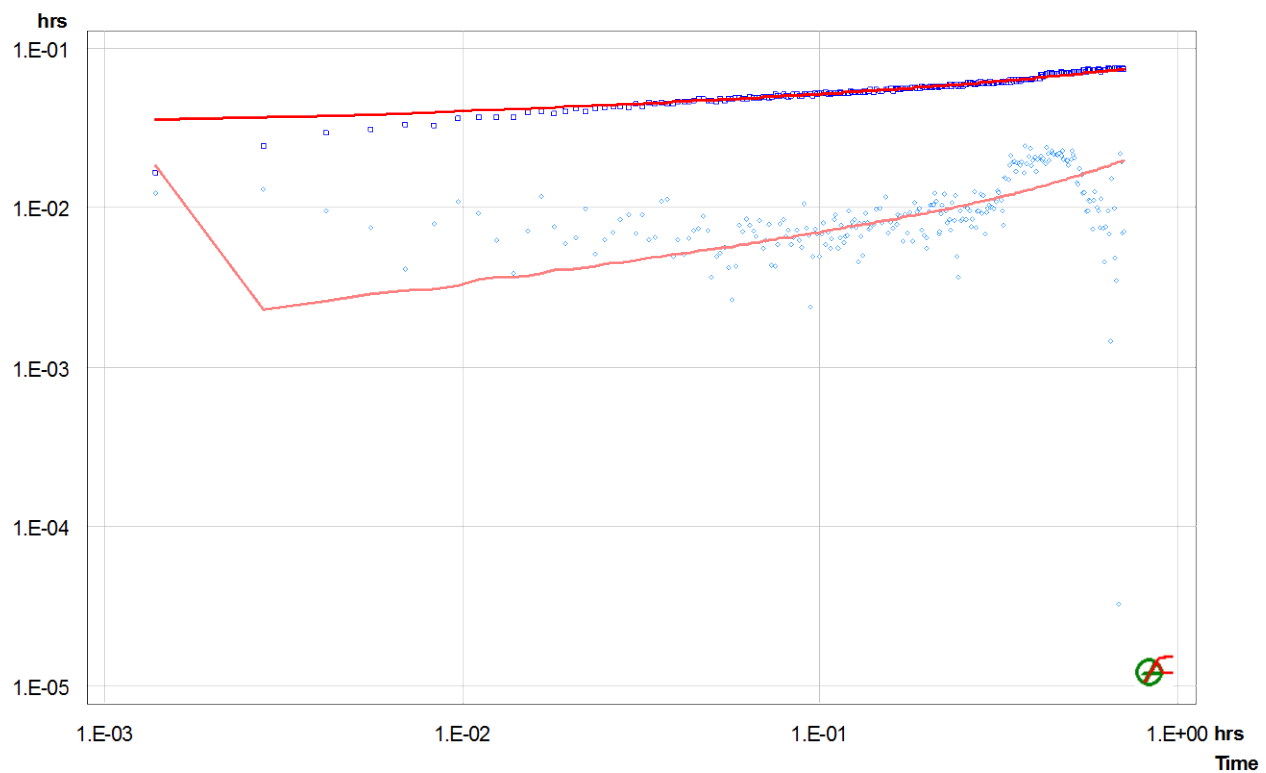


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

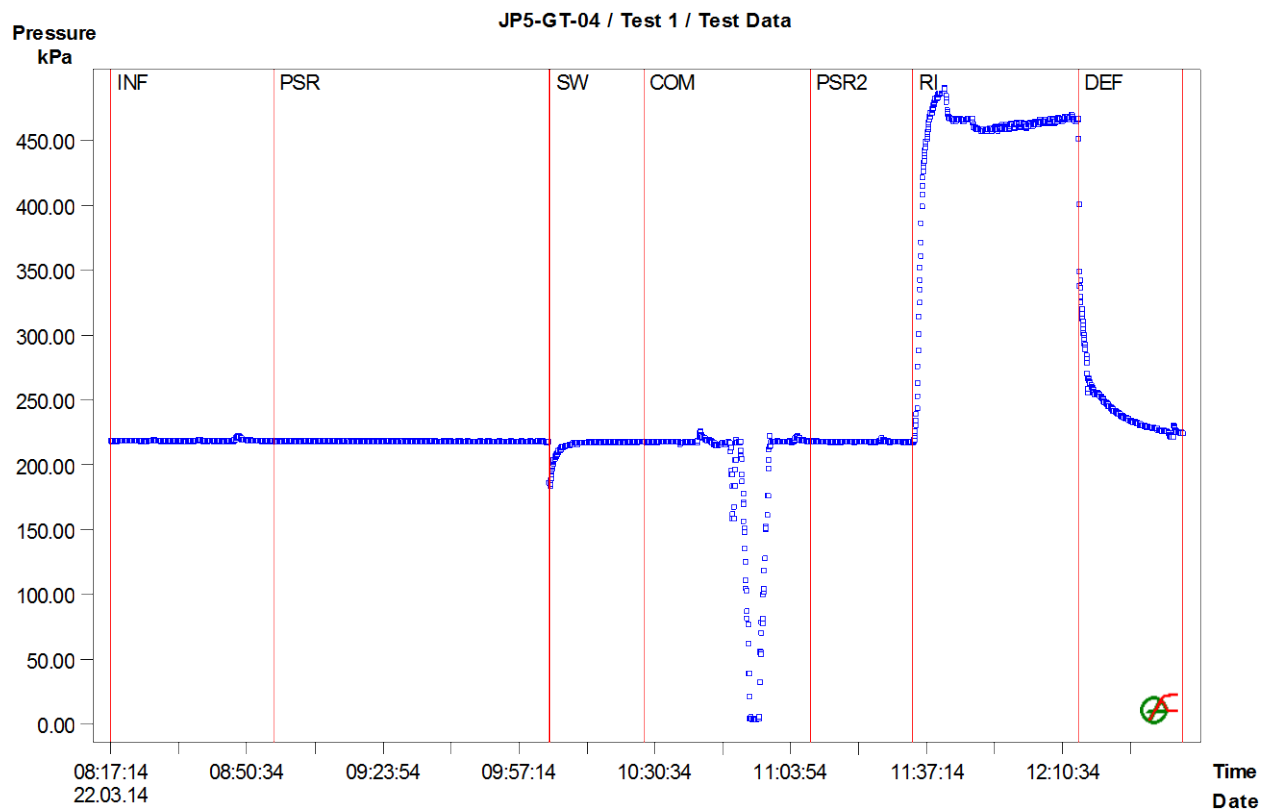


Figure 1: Pressure response and sequence definition

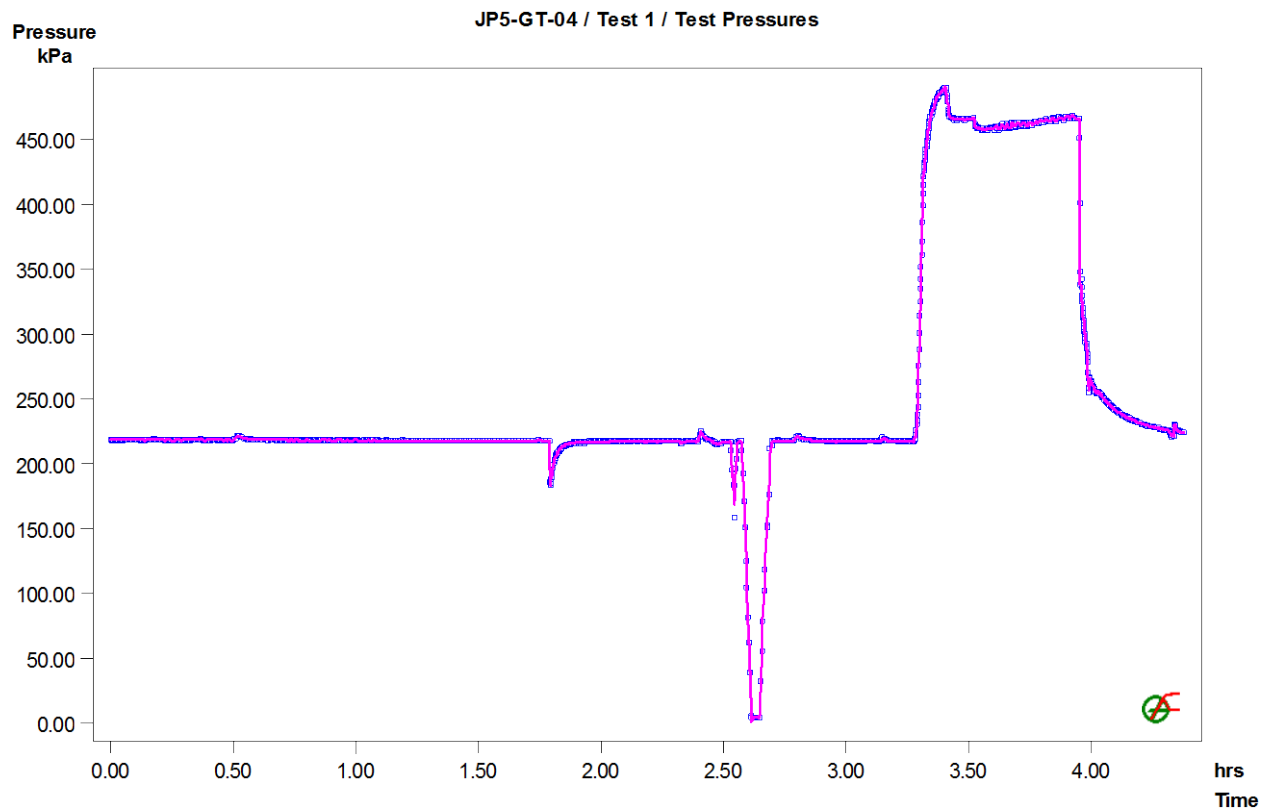


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-04 / Test 1 / SW: LogLog Plot, constant P(i)

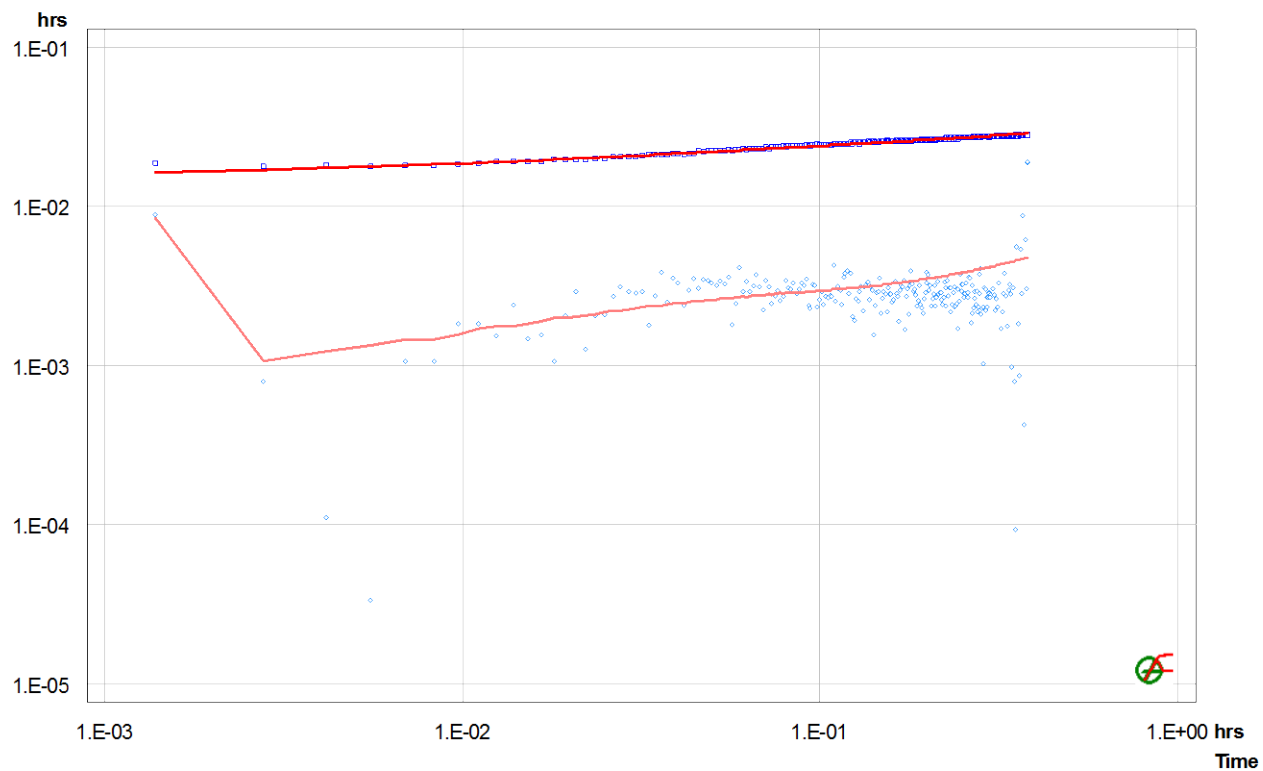


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

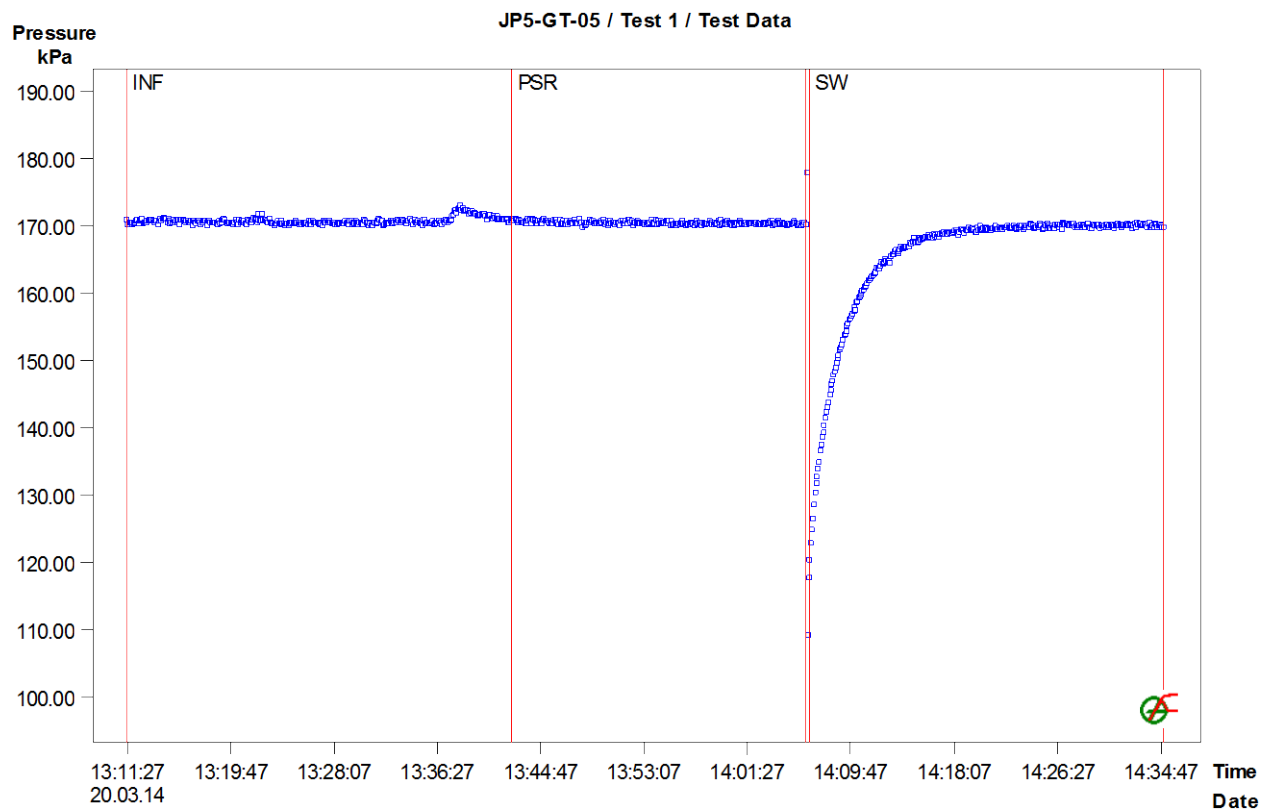


Figure 1: Pressure response and sequence definition

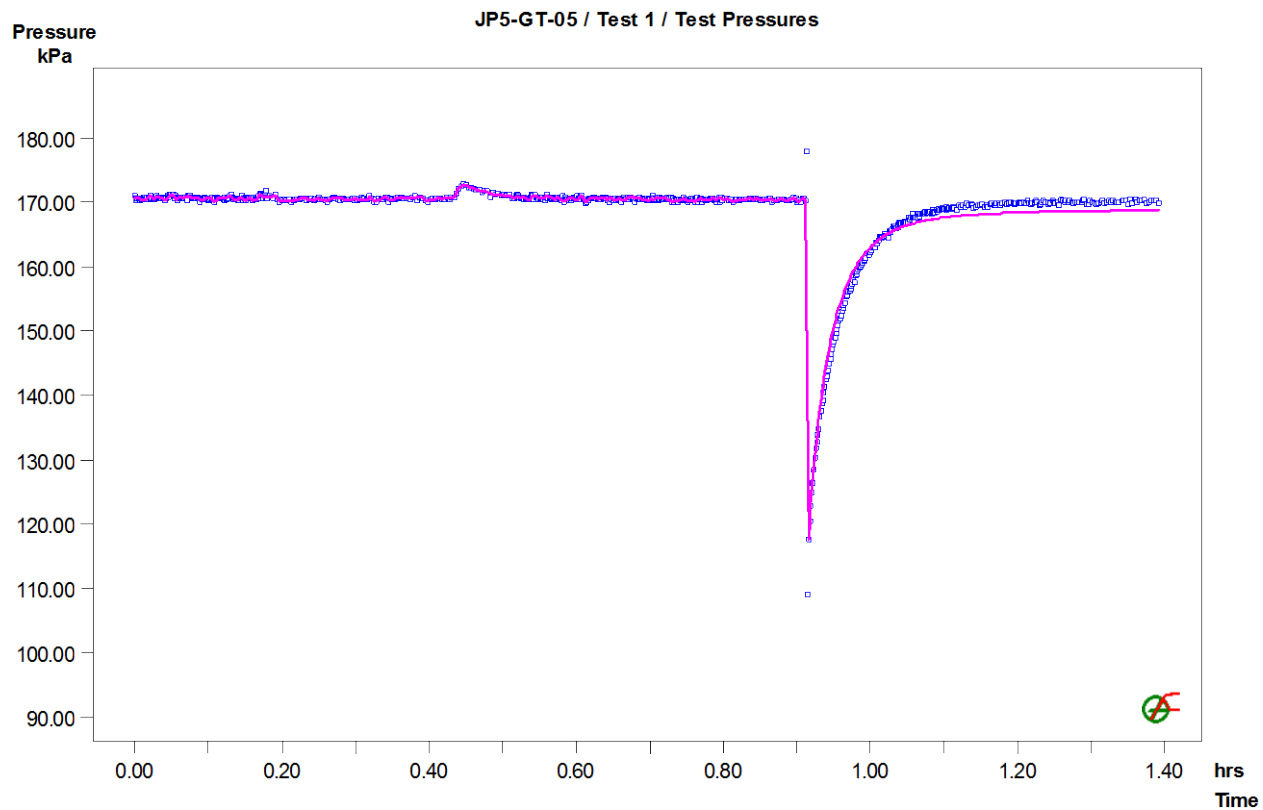


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP5-GT-05 / Test 1 / SW: LogLog Plot, constant P(i)

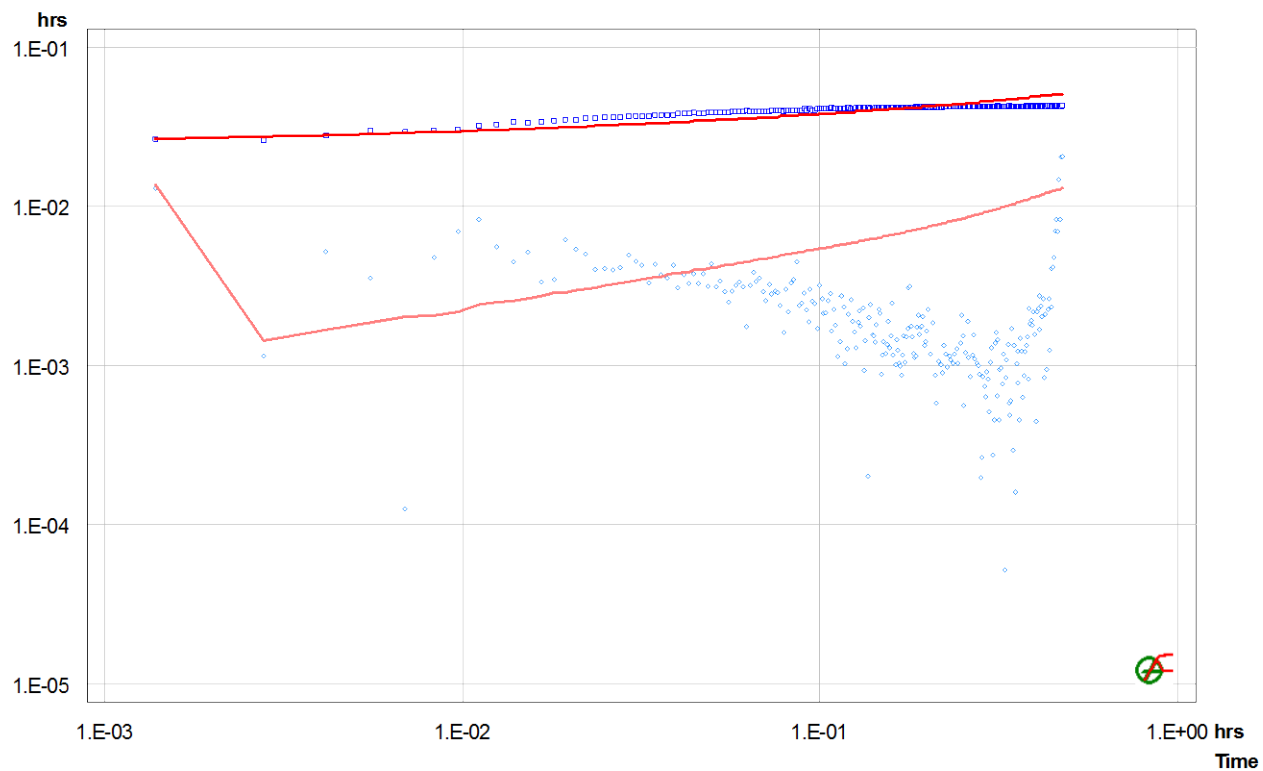


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP1-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

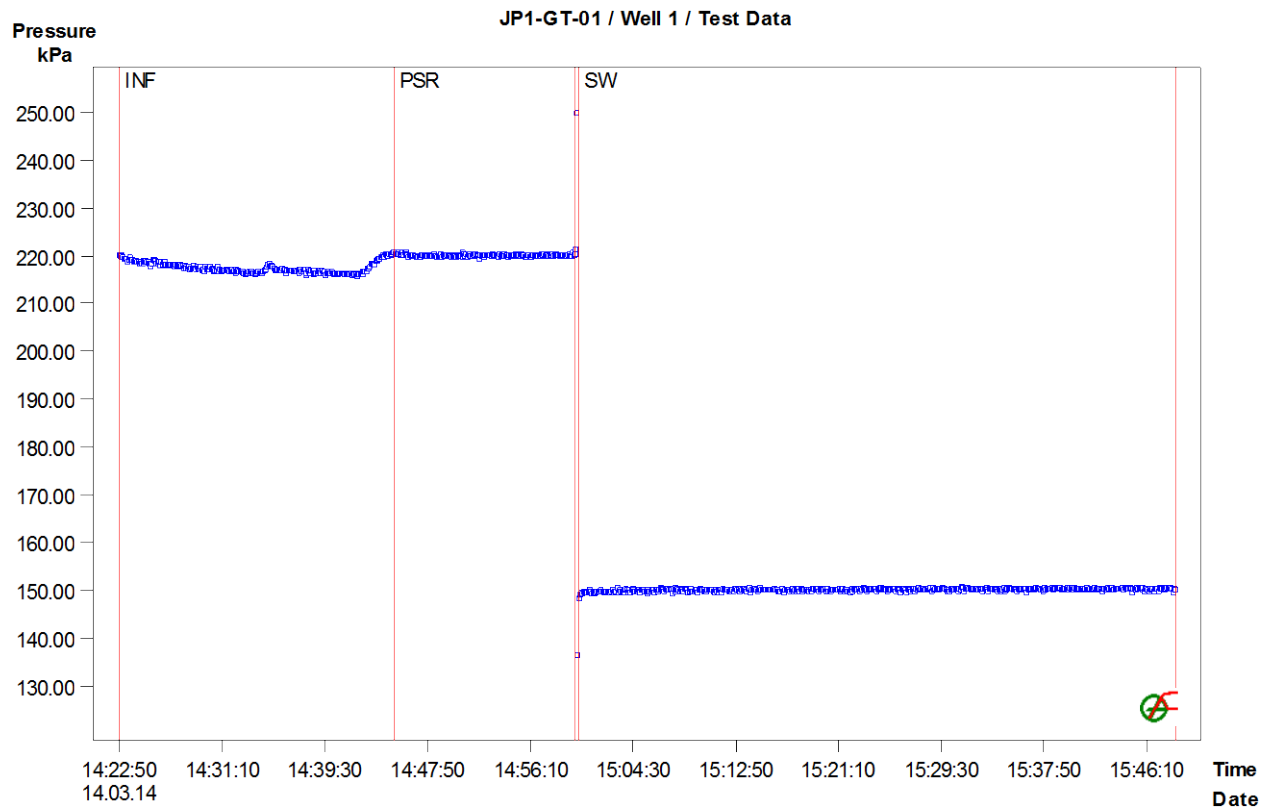


Figure 1: Pressure response and sequence definition

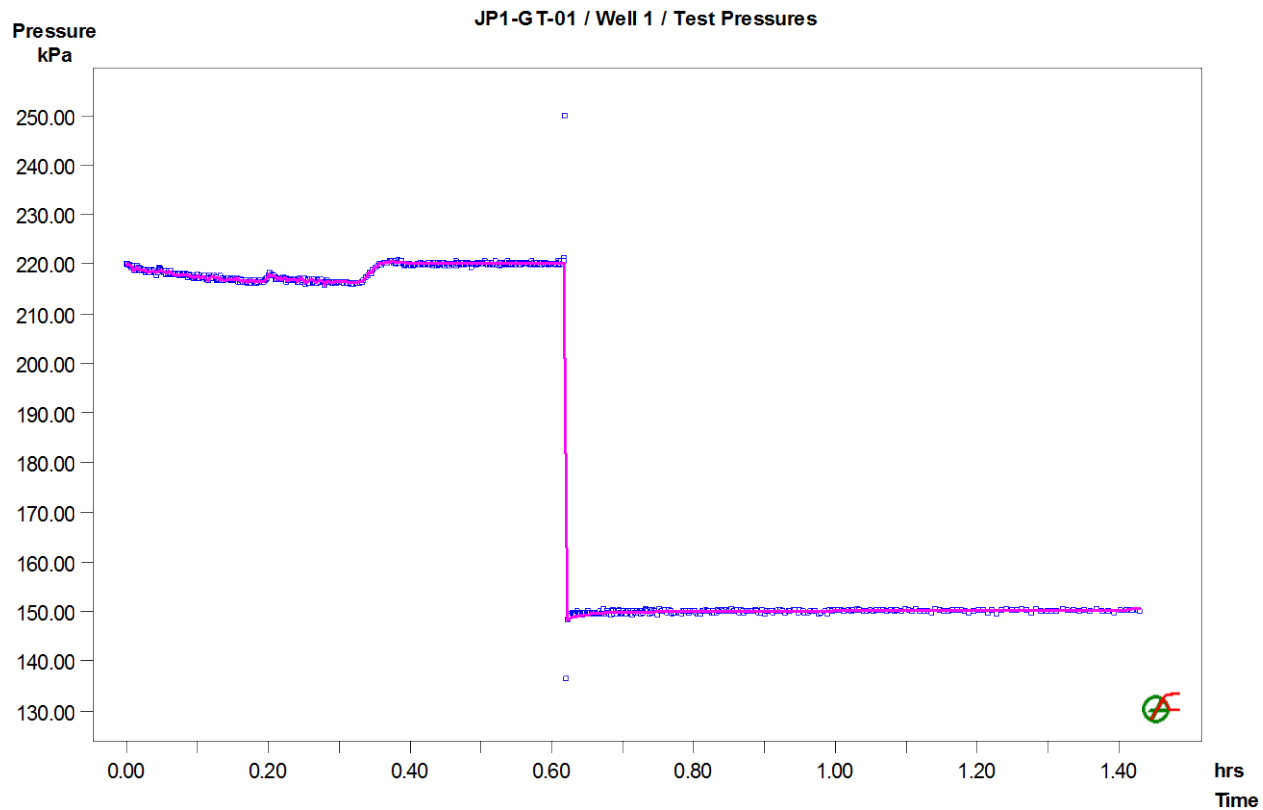


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-GT-01 / Well 1 / SW: LogLog Plot, variable P(i)

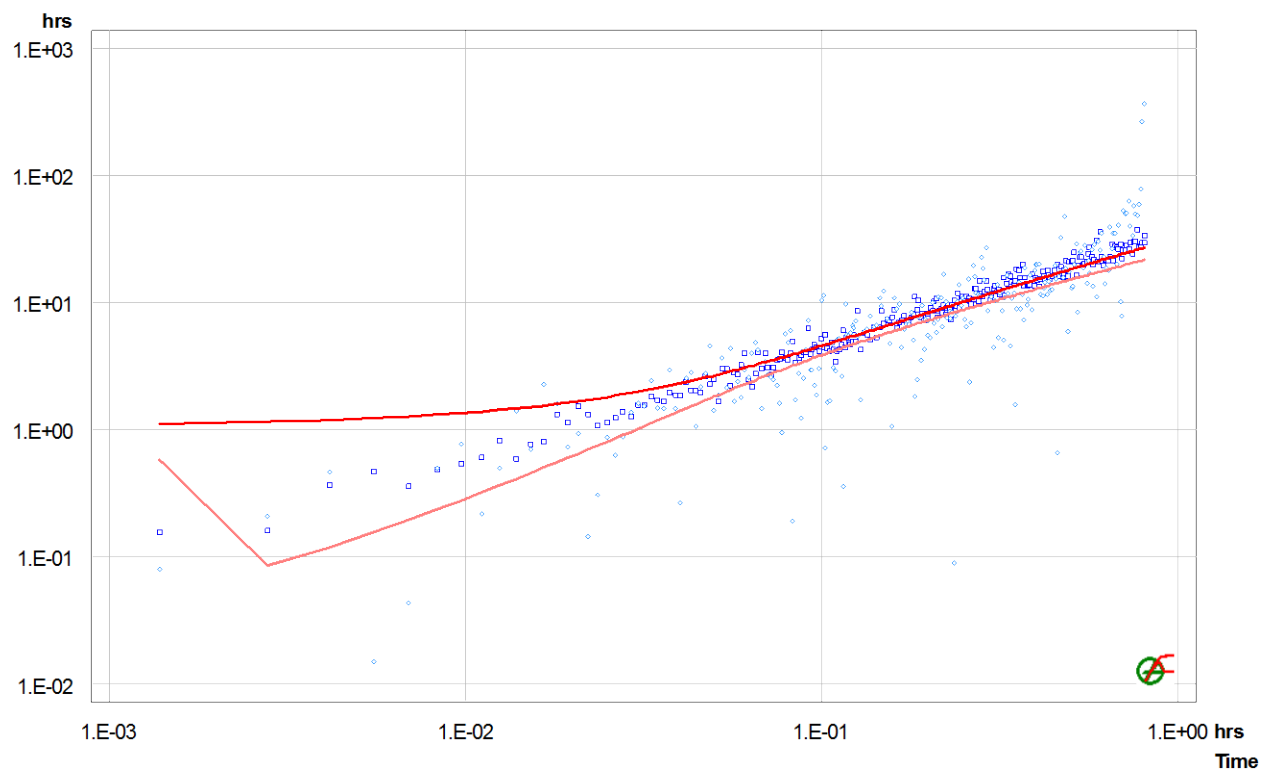


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

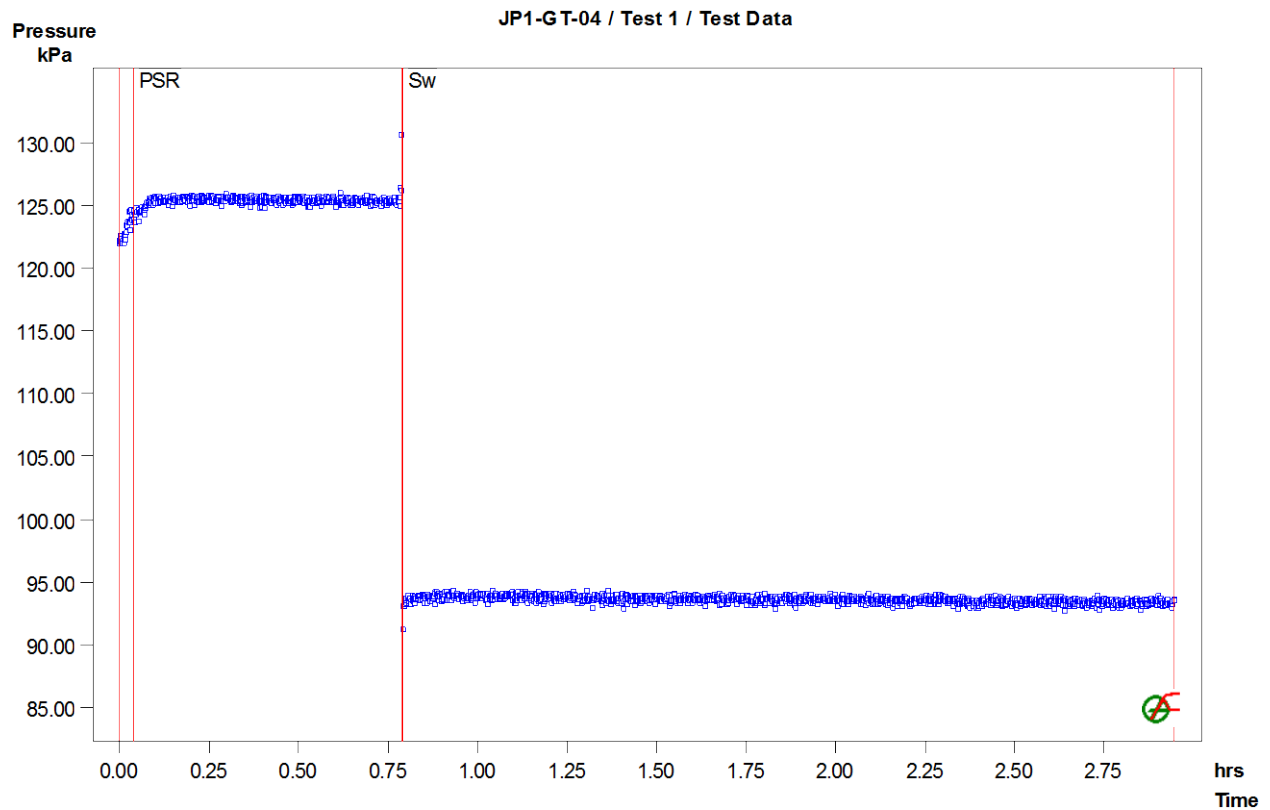


Figure 1: Pressure response and sequence definition

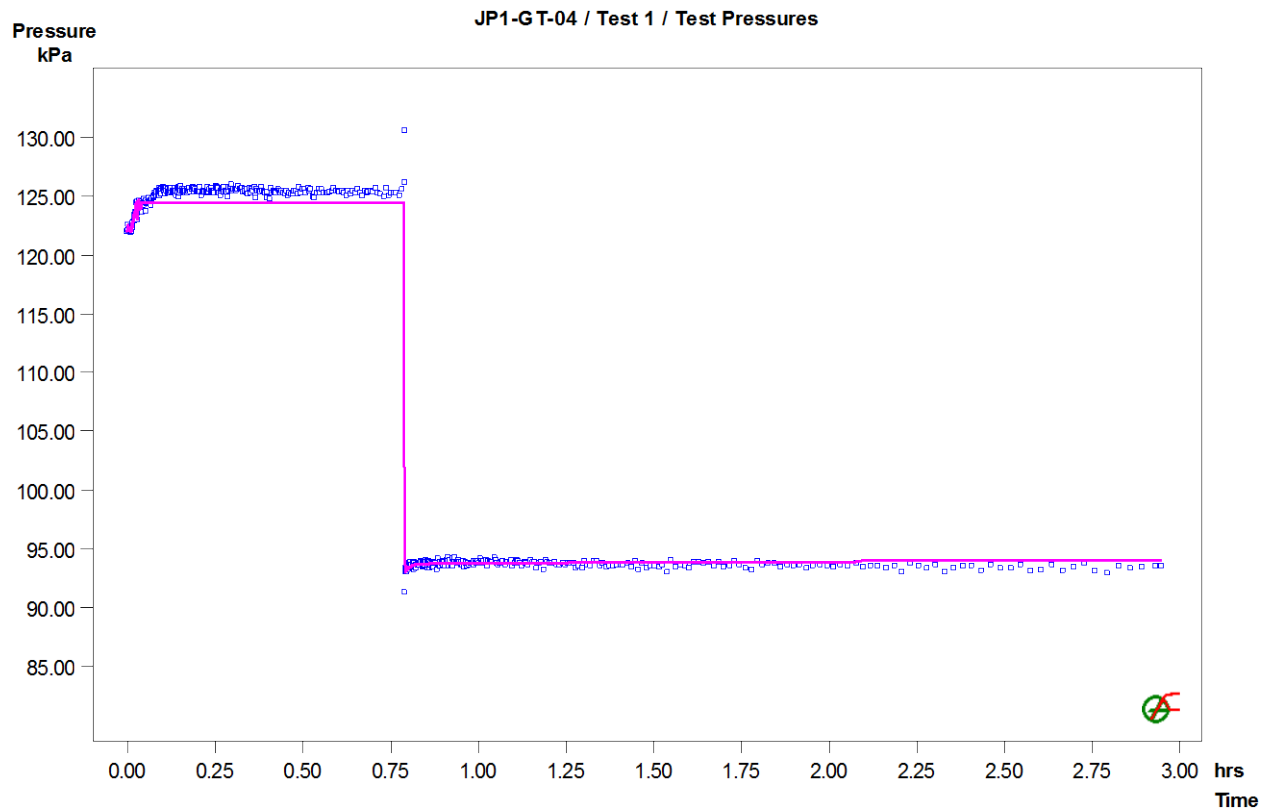


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP1-GT-04 / Test 1 / Sw: LogLog Plot, variable P(i)

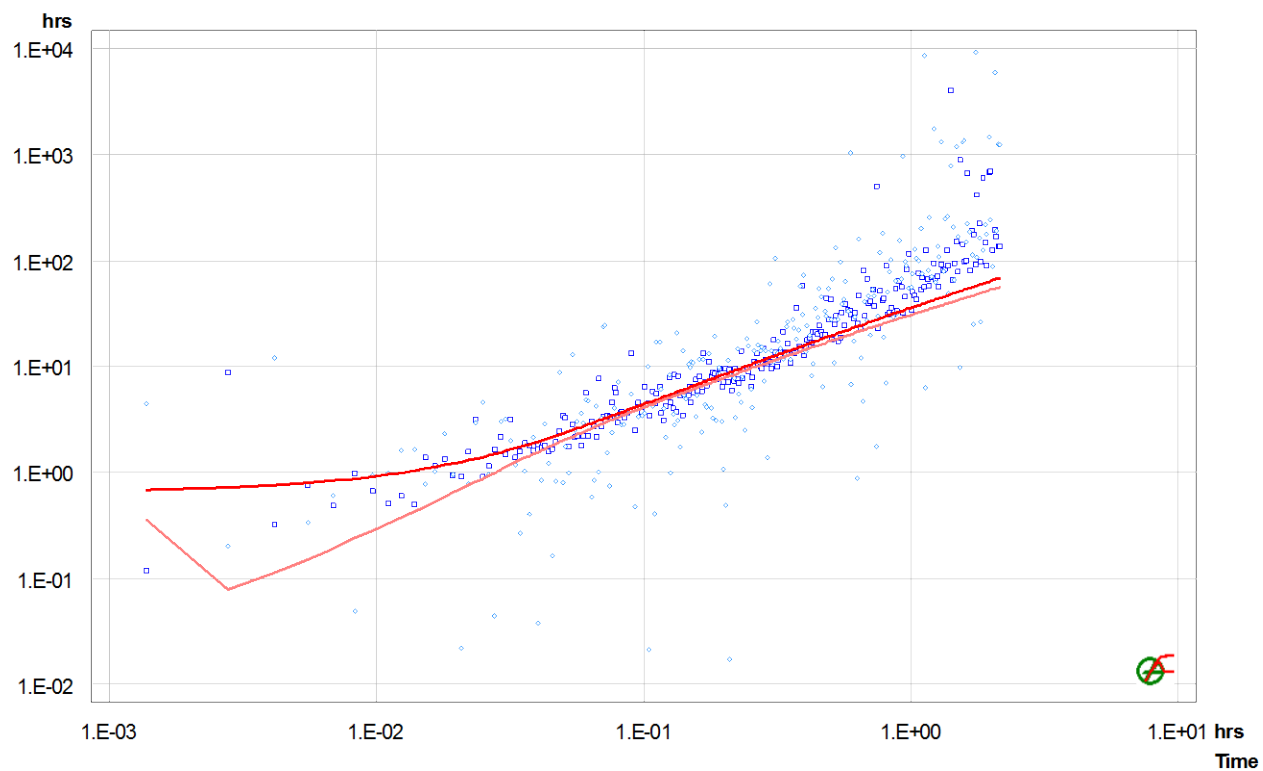


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP2-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

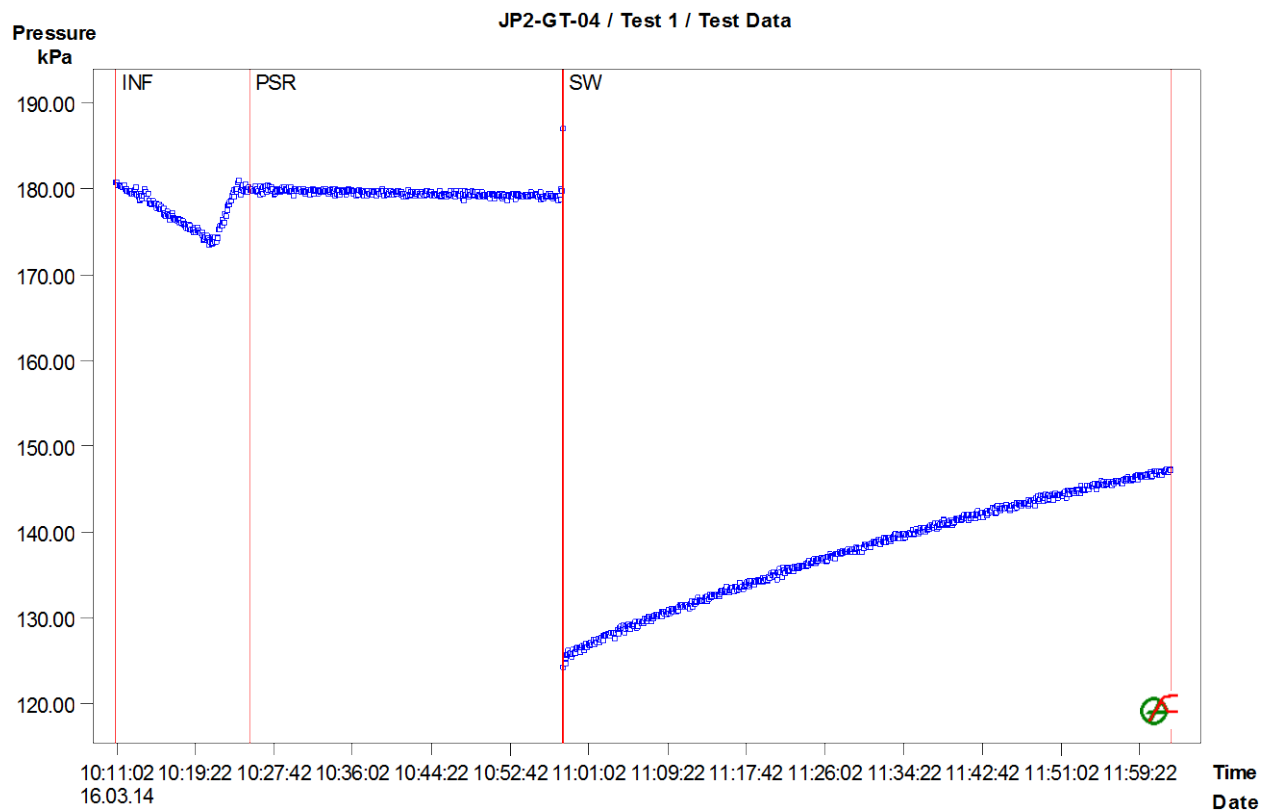


Figure 1: Pressure response and sequence definition

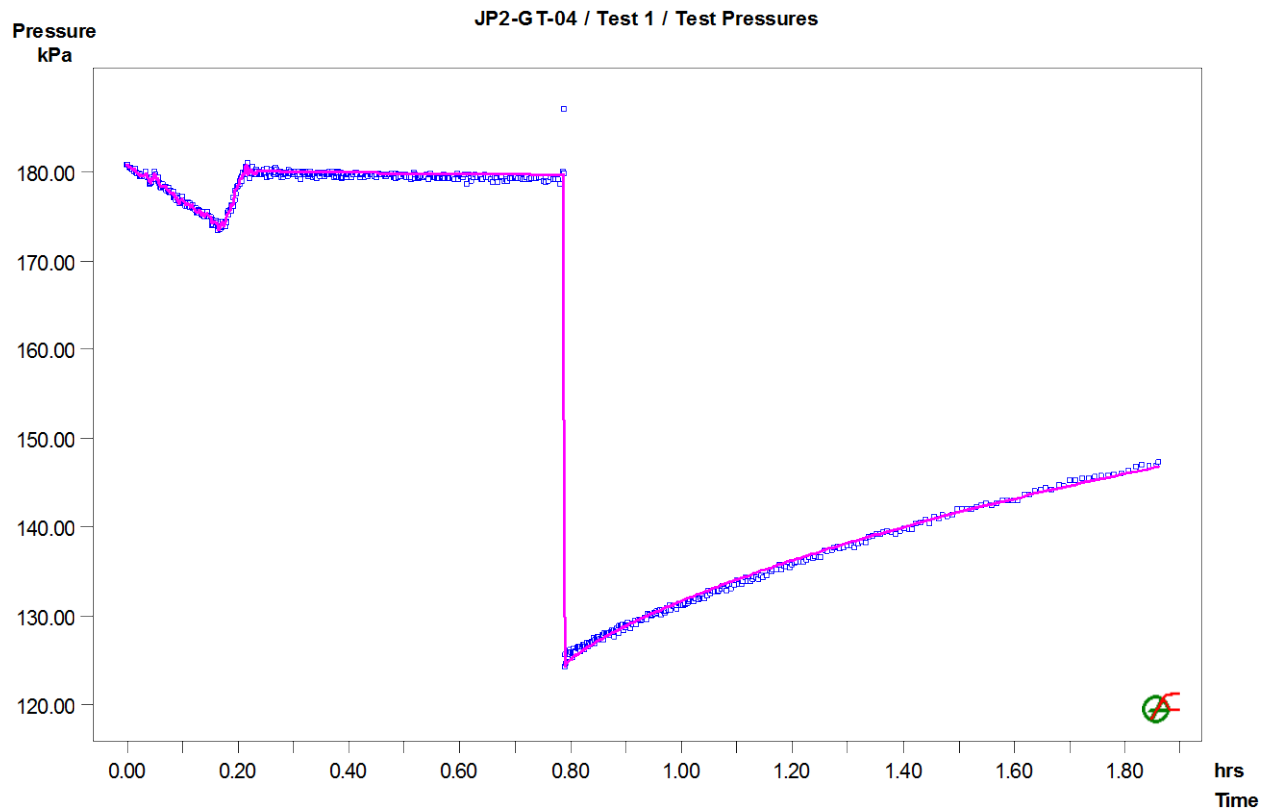


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP2-GT-04 / Test 1 / SW: LogLog Plot, variable P(i)

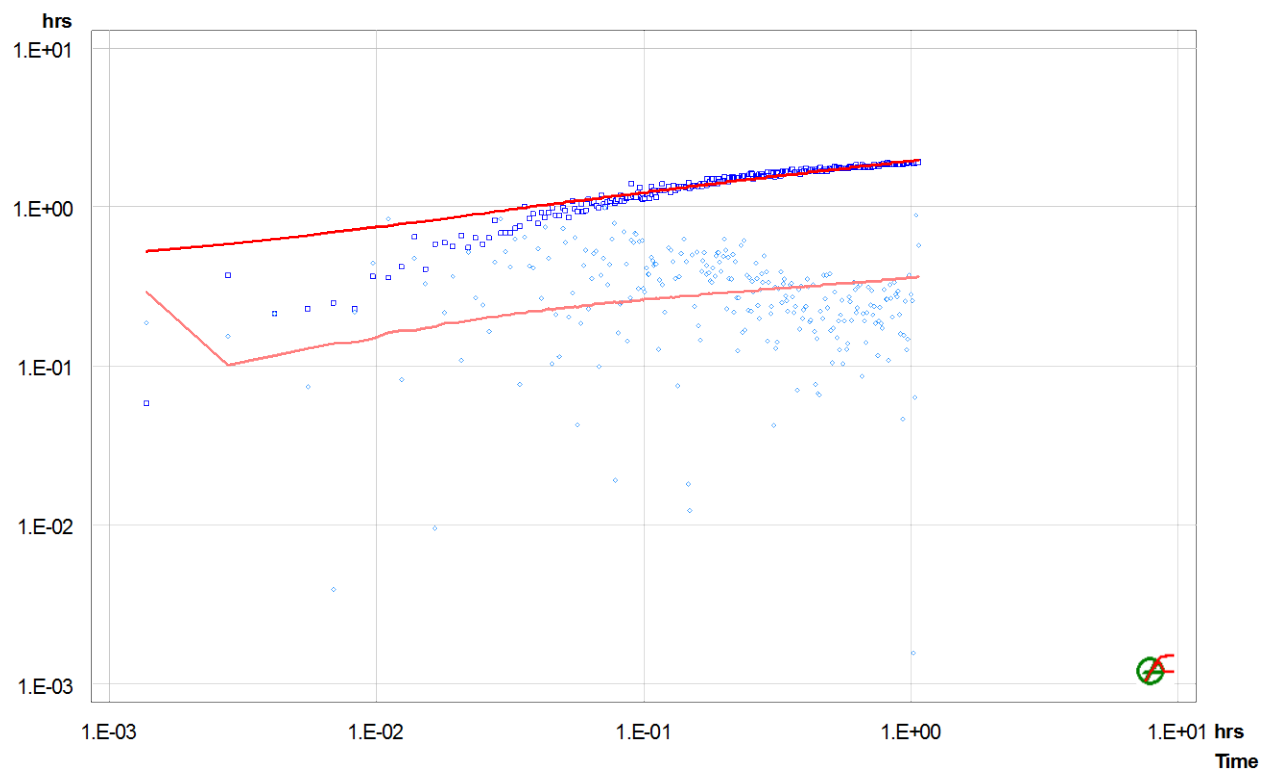


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4N-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

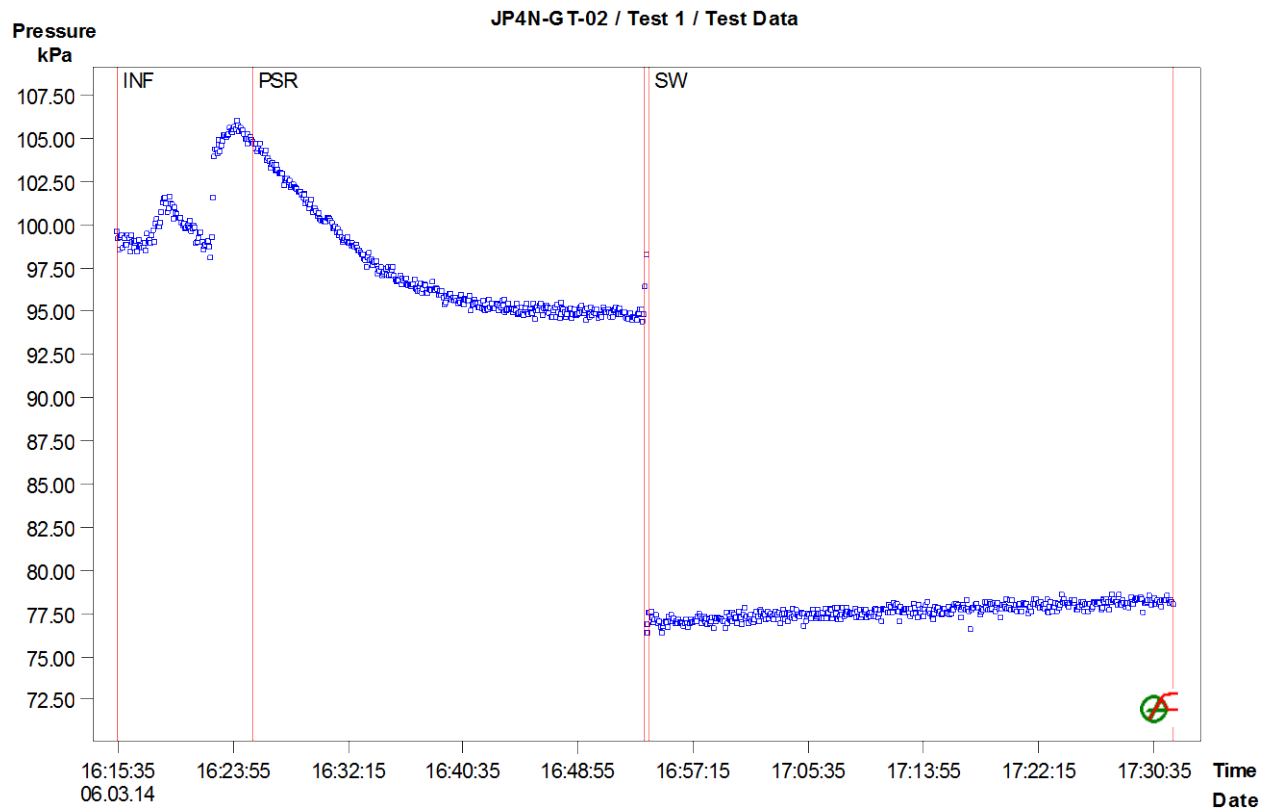


Figure 1: Pressure response and sequence definition

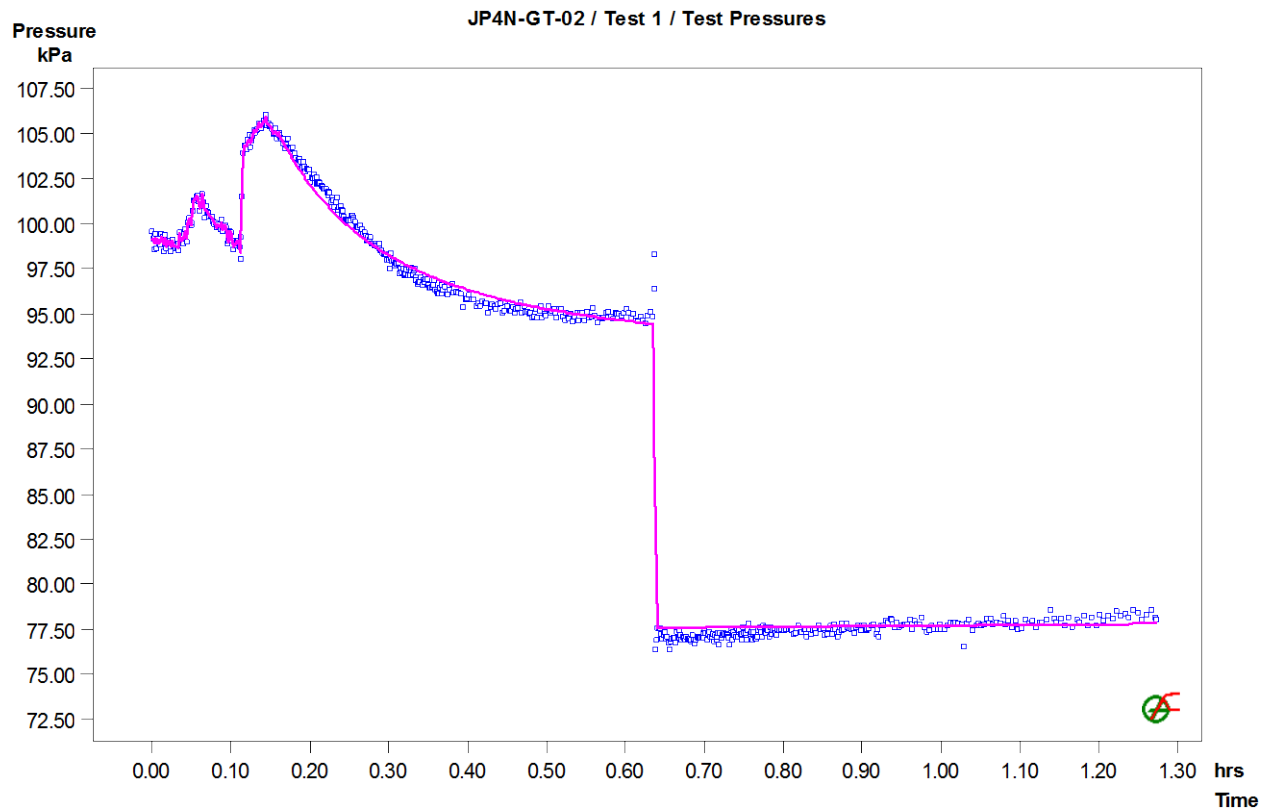


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-02 / Test 1 / SW: LogLog Plot, variable P(i)

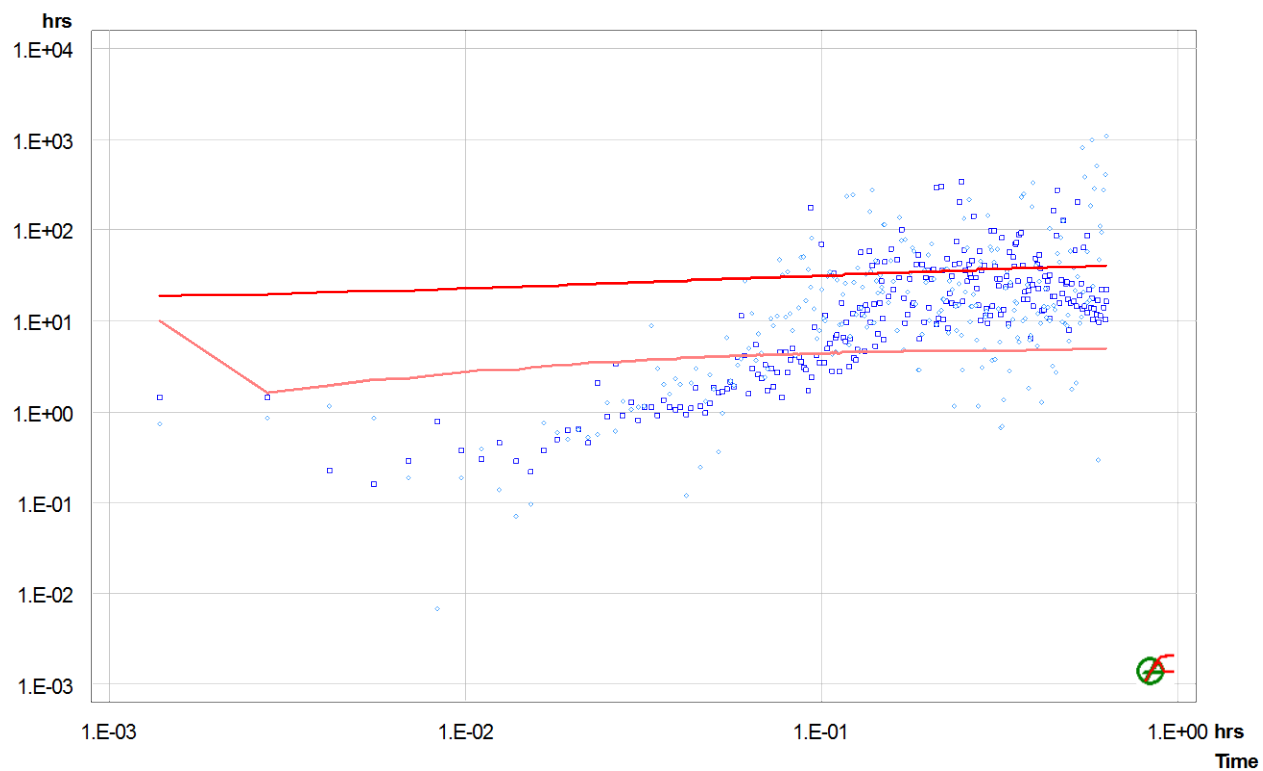


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

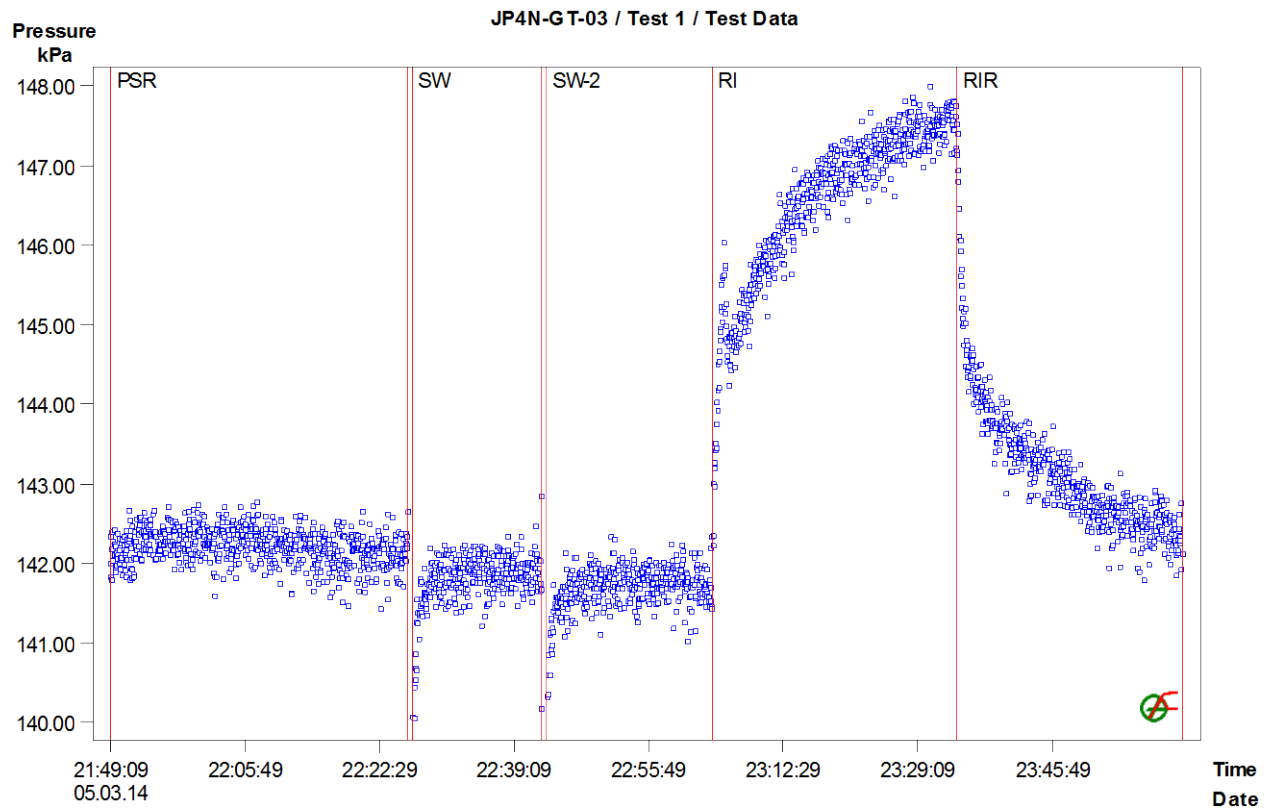


Figure 1: Pressure response and sequence definition

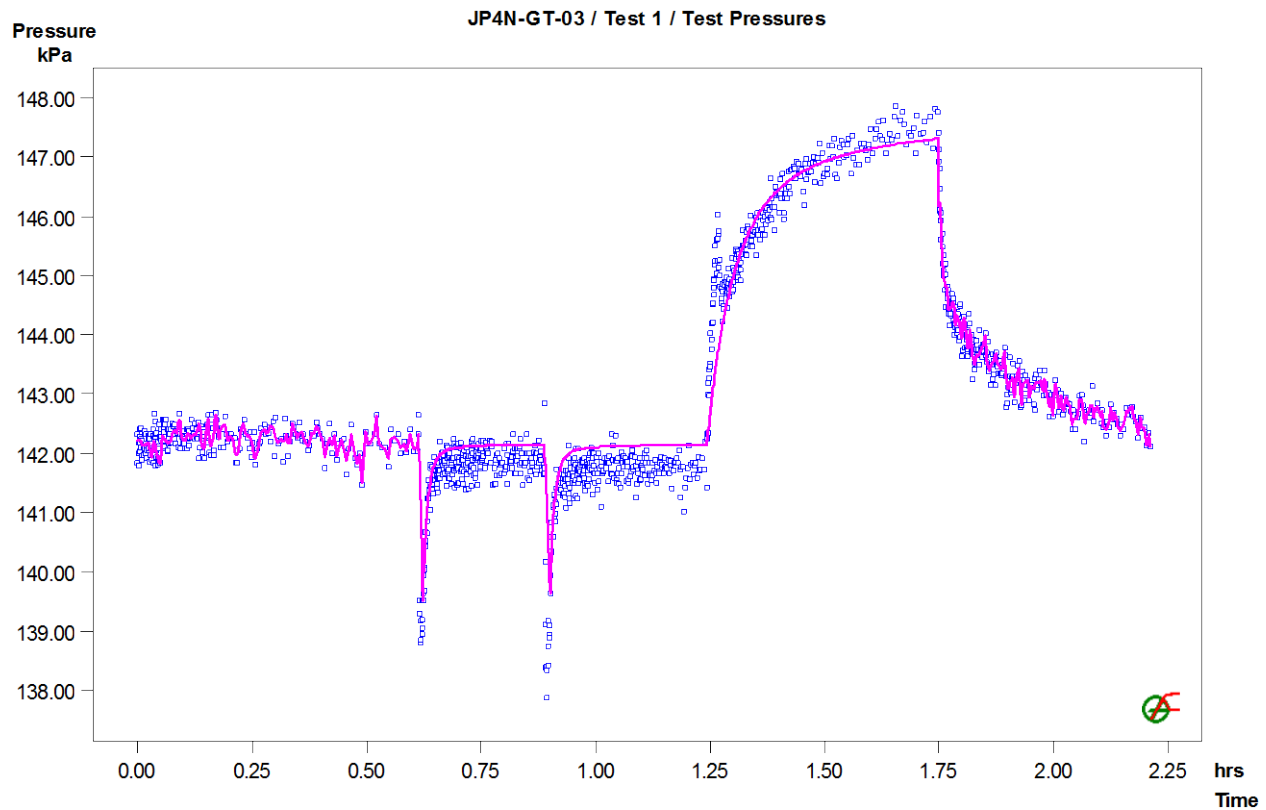


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

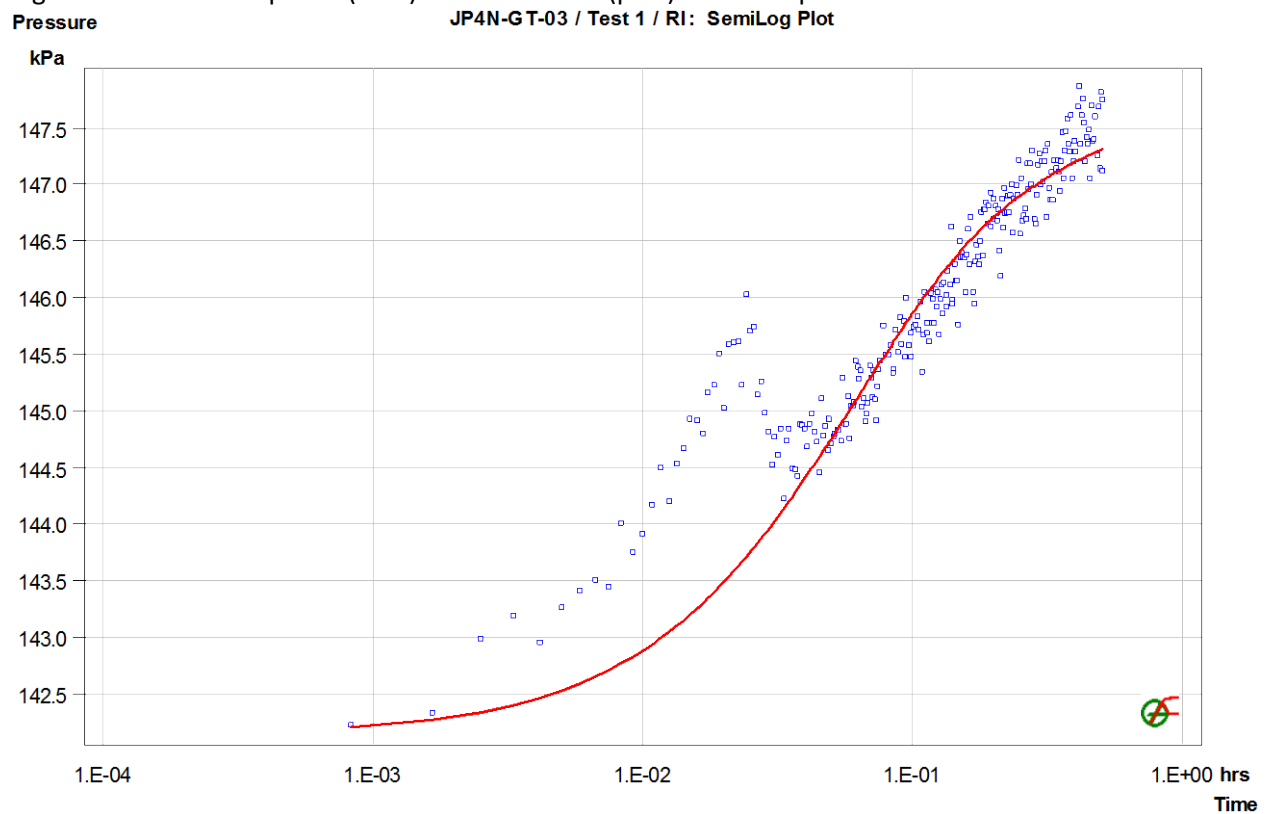


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

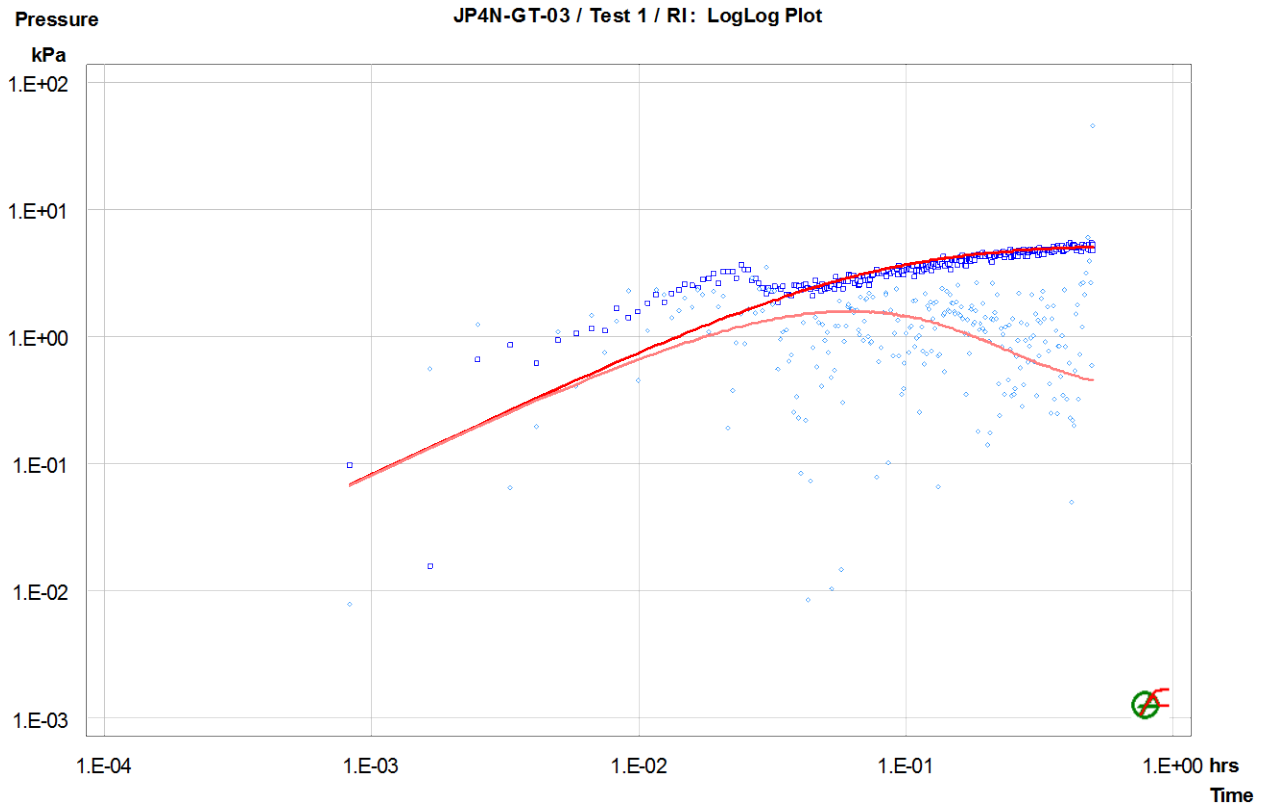


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

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 1	Variable Pressure	0.00000	203.62			4.8e-07
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

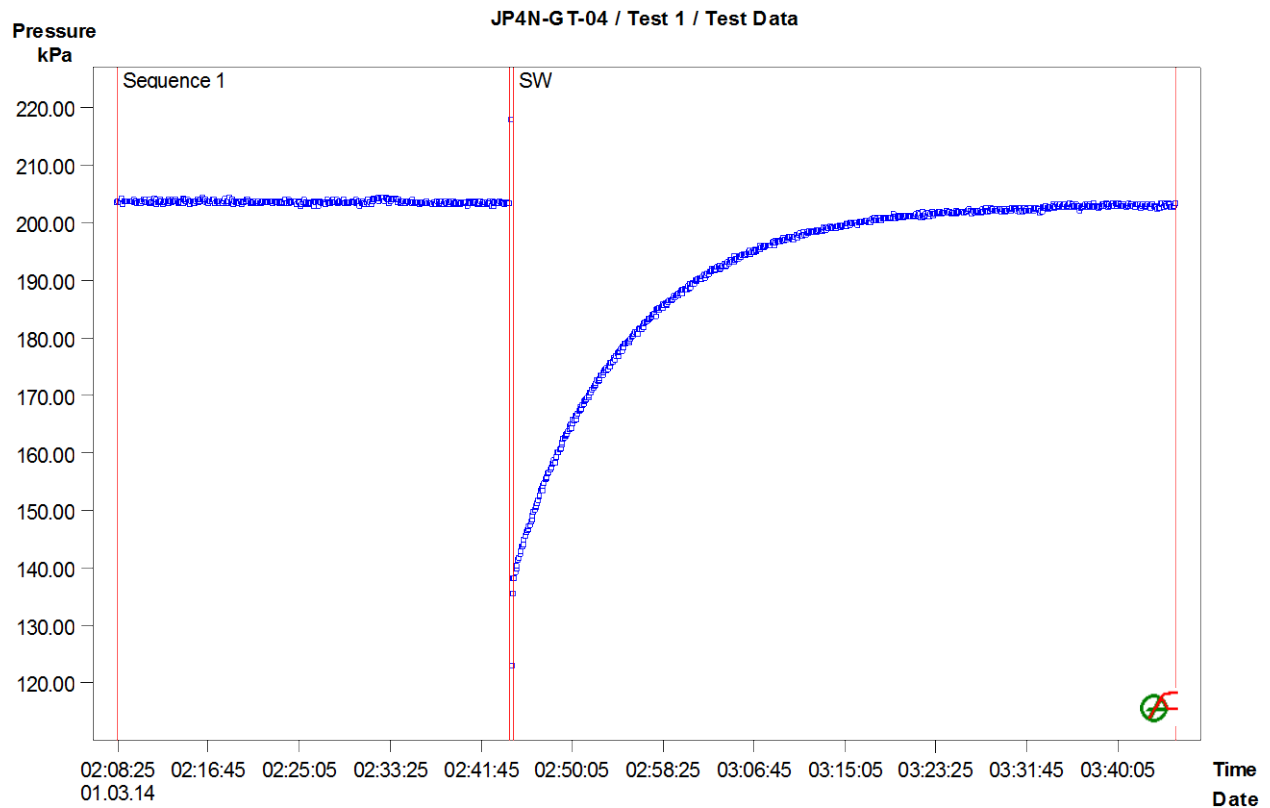


Figure 1: Pressure response and sequence definition

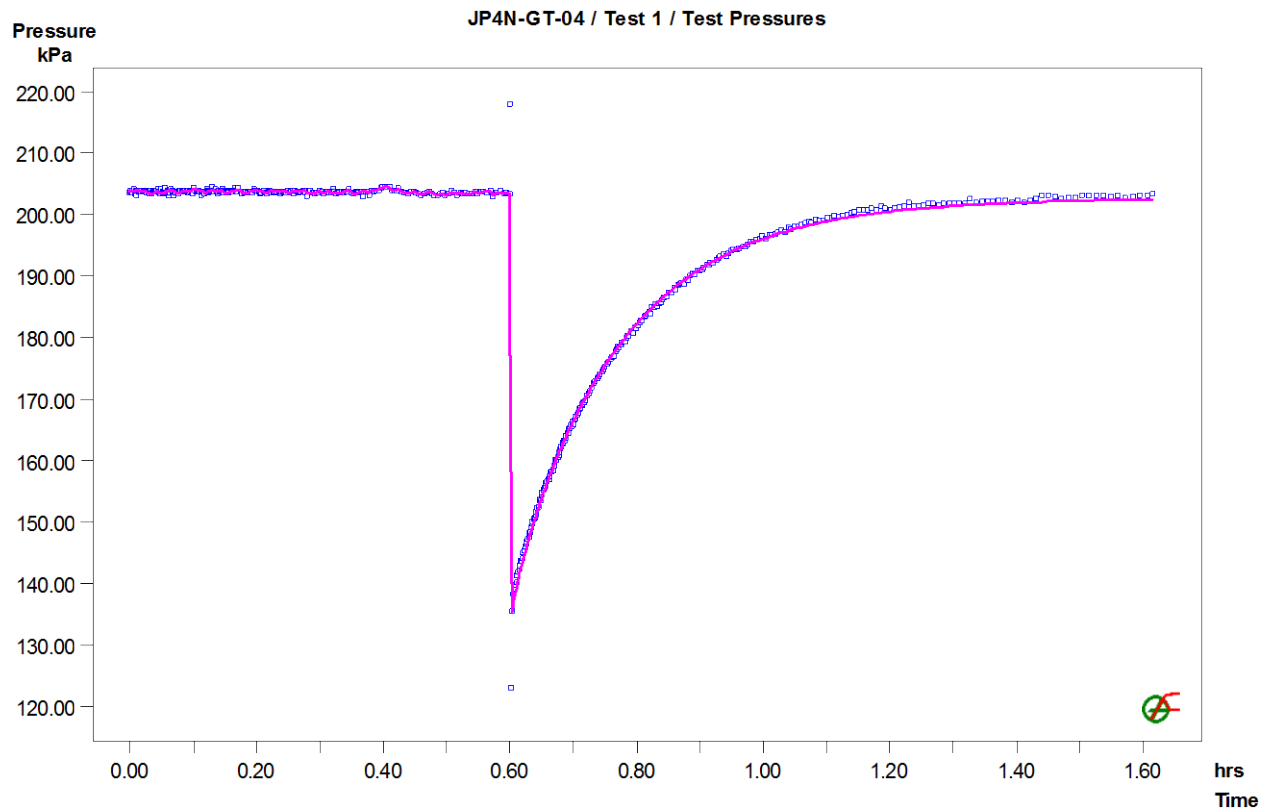


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 1 / SW: LogLog Plot, constant P(i)

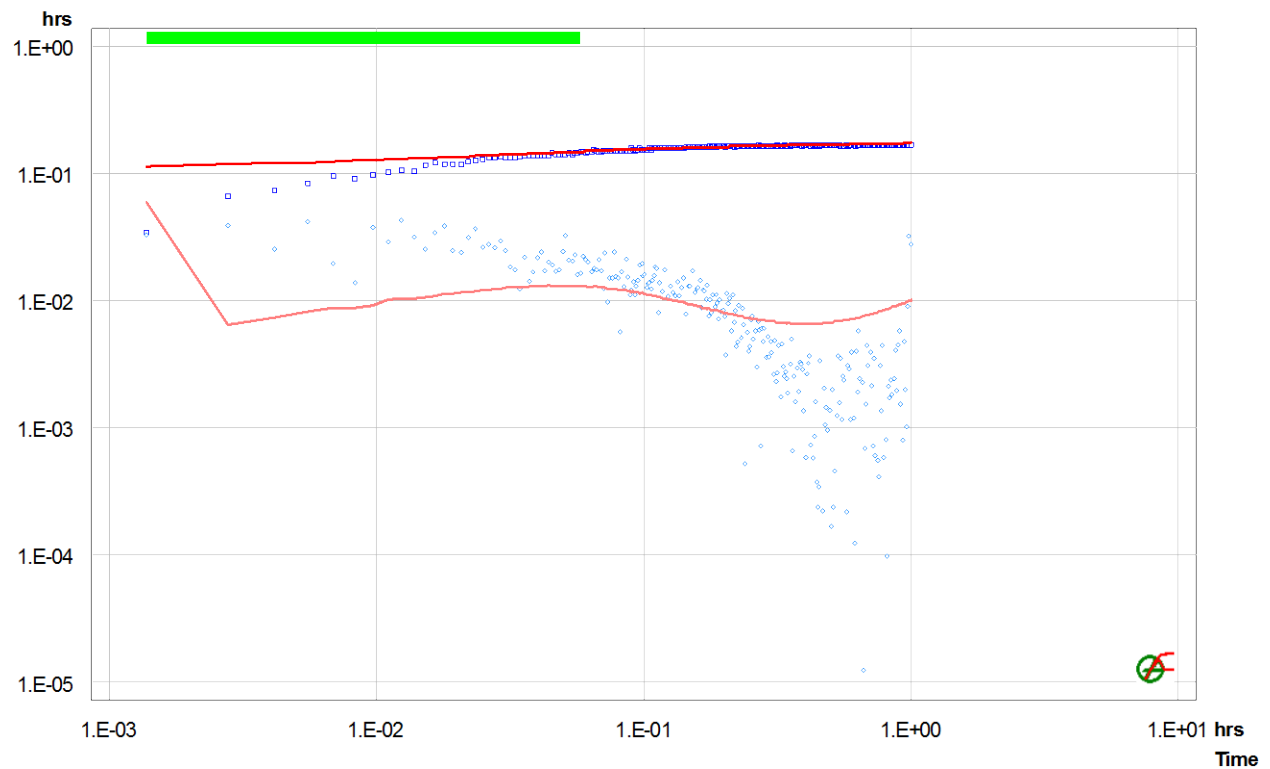


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

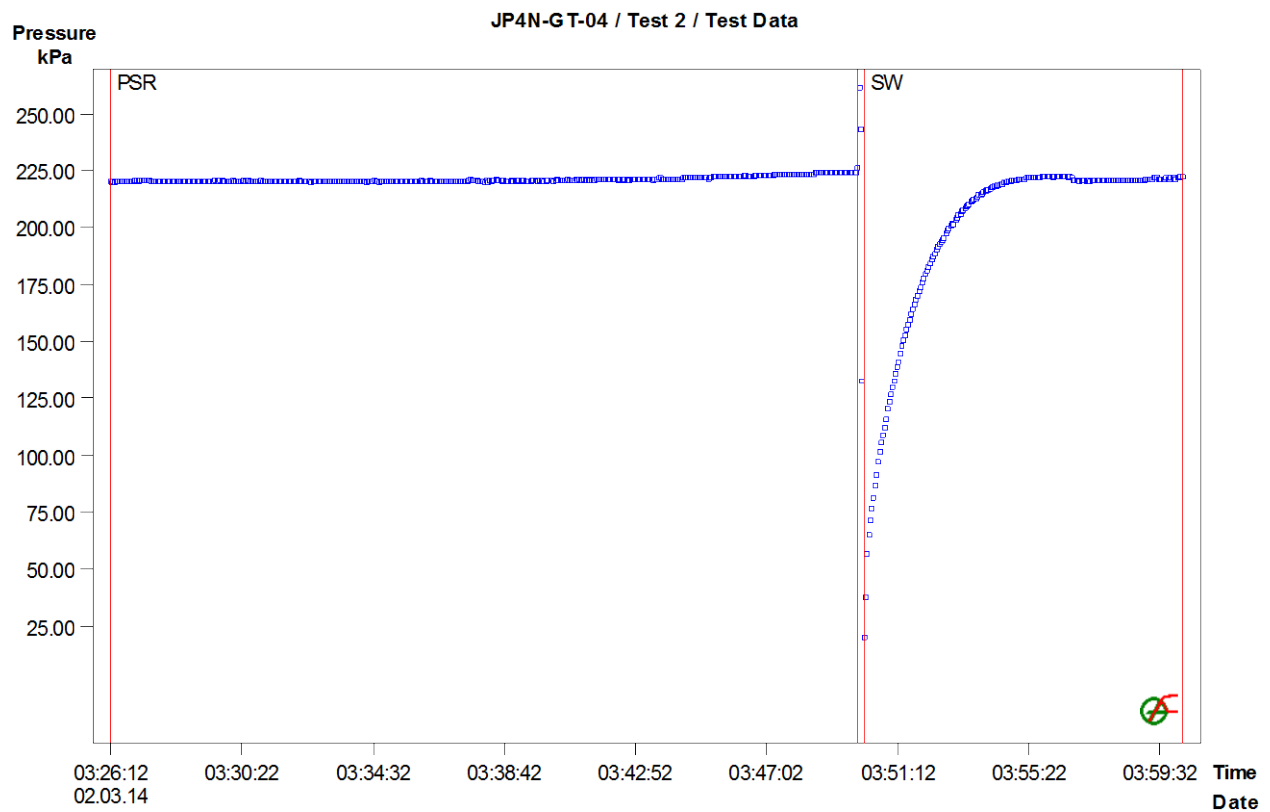


Figure 1: Pressure response and sequence definition

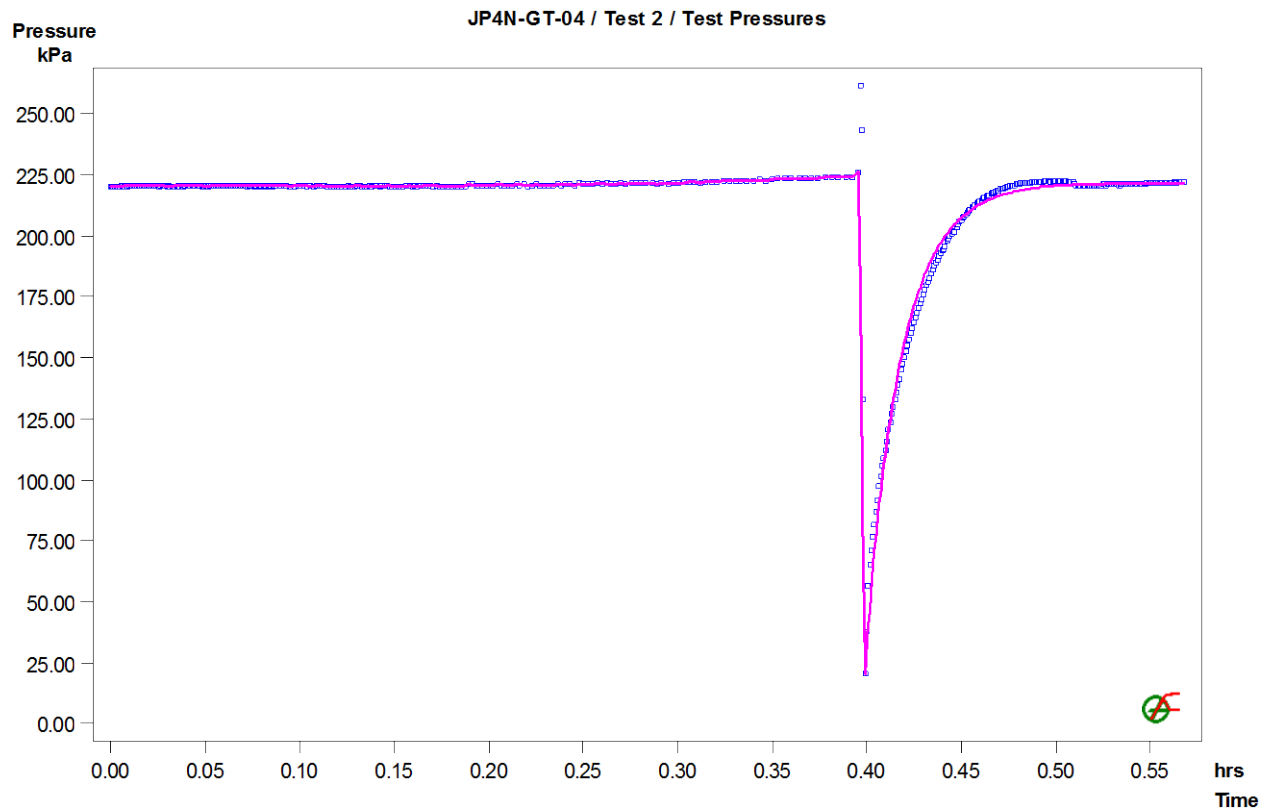


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 2 / SW: LogLog Plot, constant P(i)

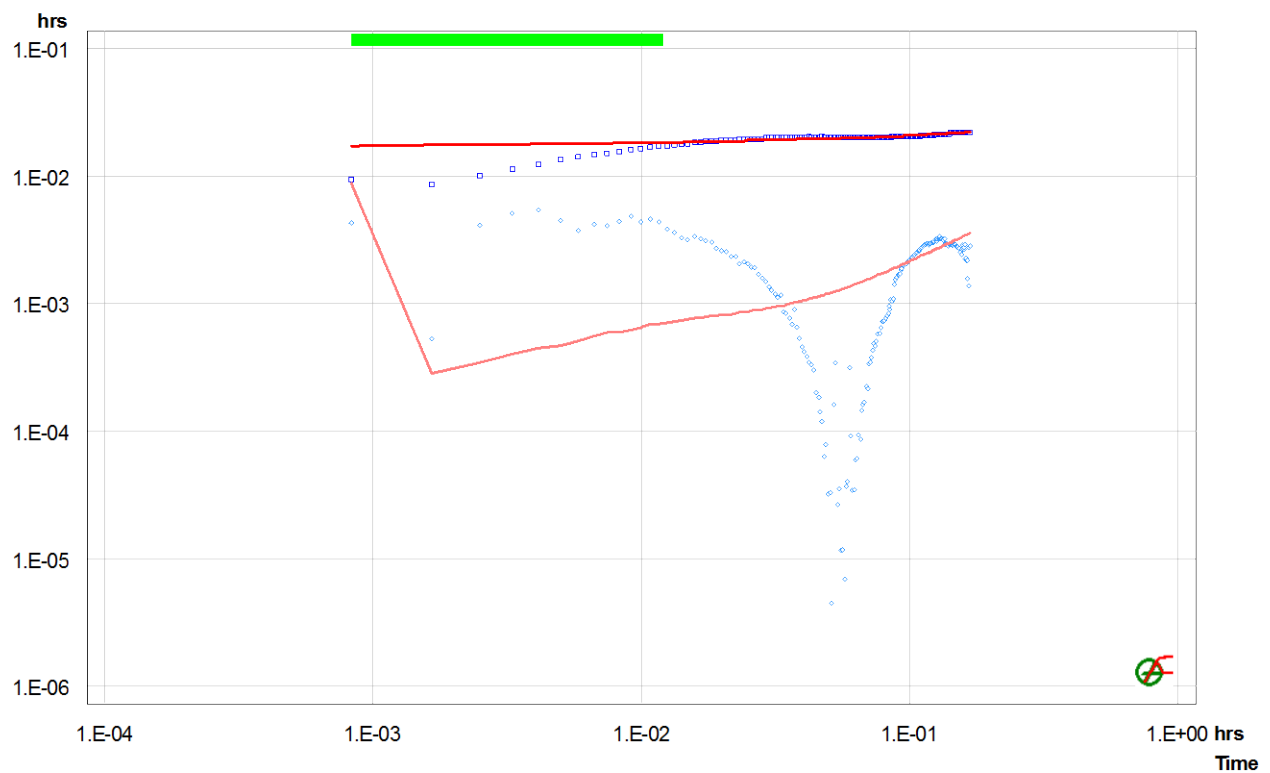


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

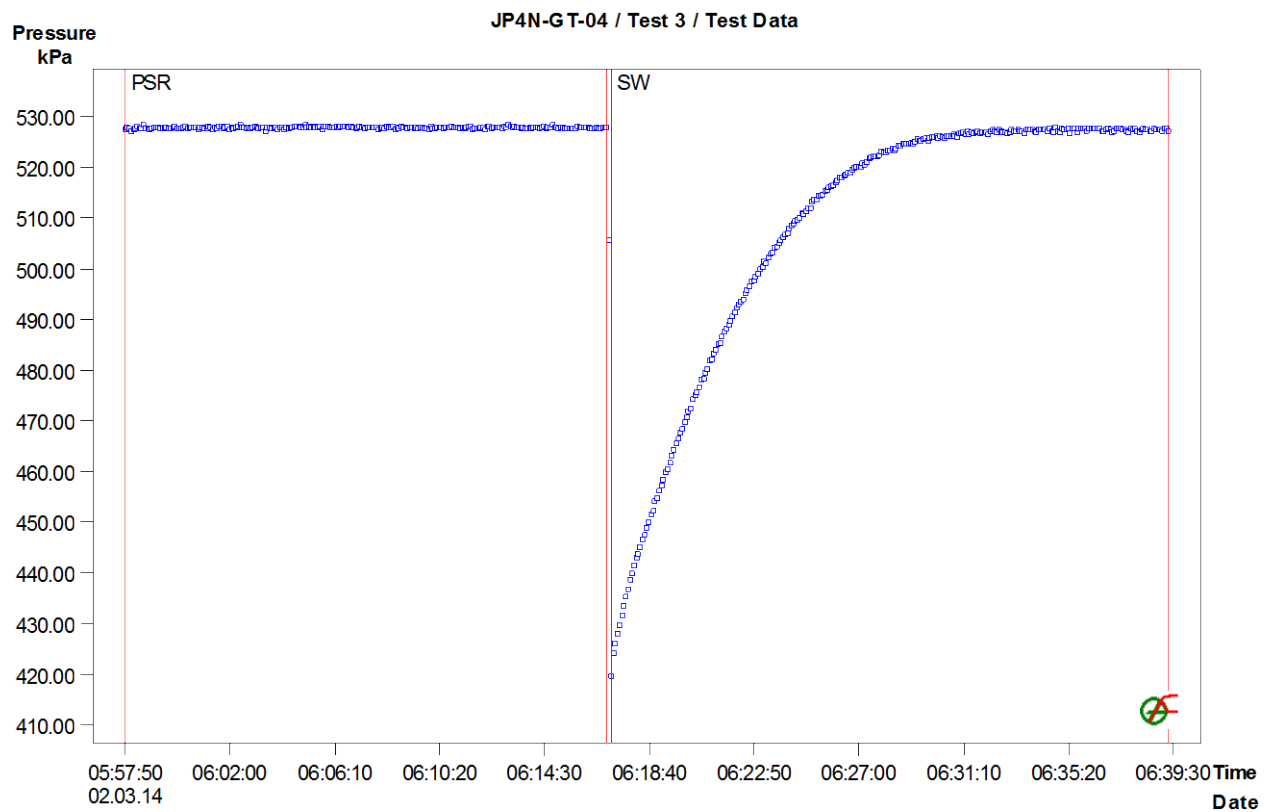


Figure 1: Pressure response and sequence definition

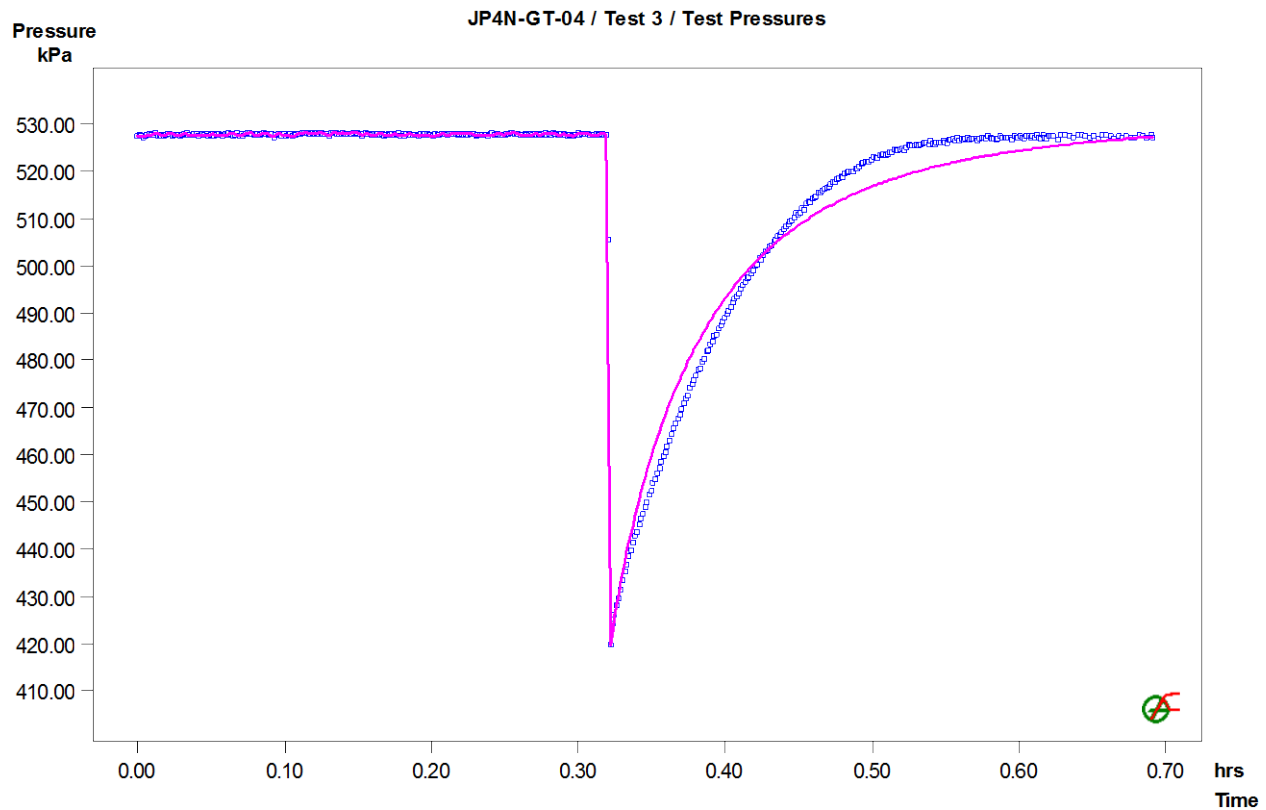


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-04 / Test 3 / SW: LogLog Plot, constant P(i)

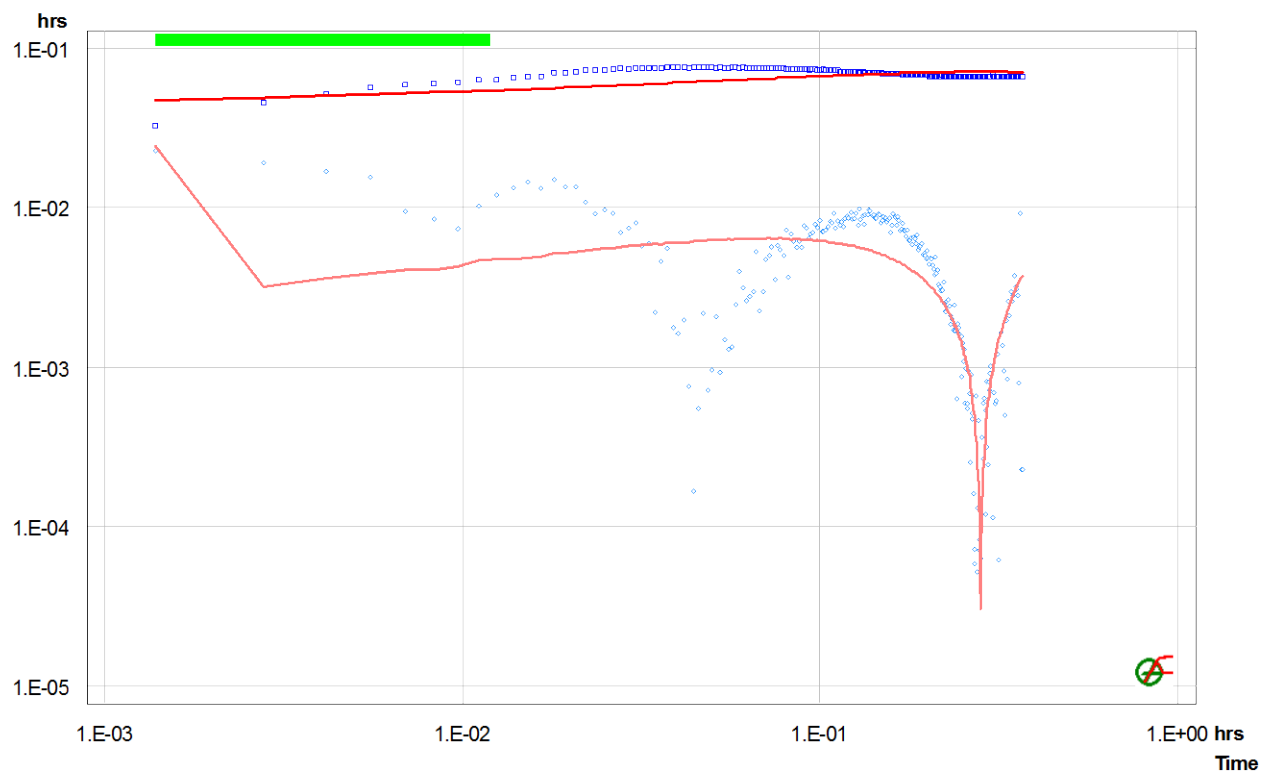


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

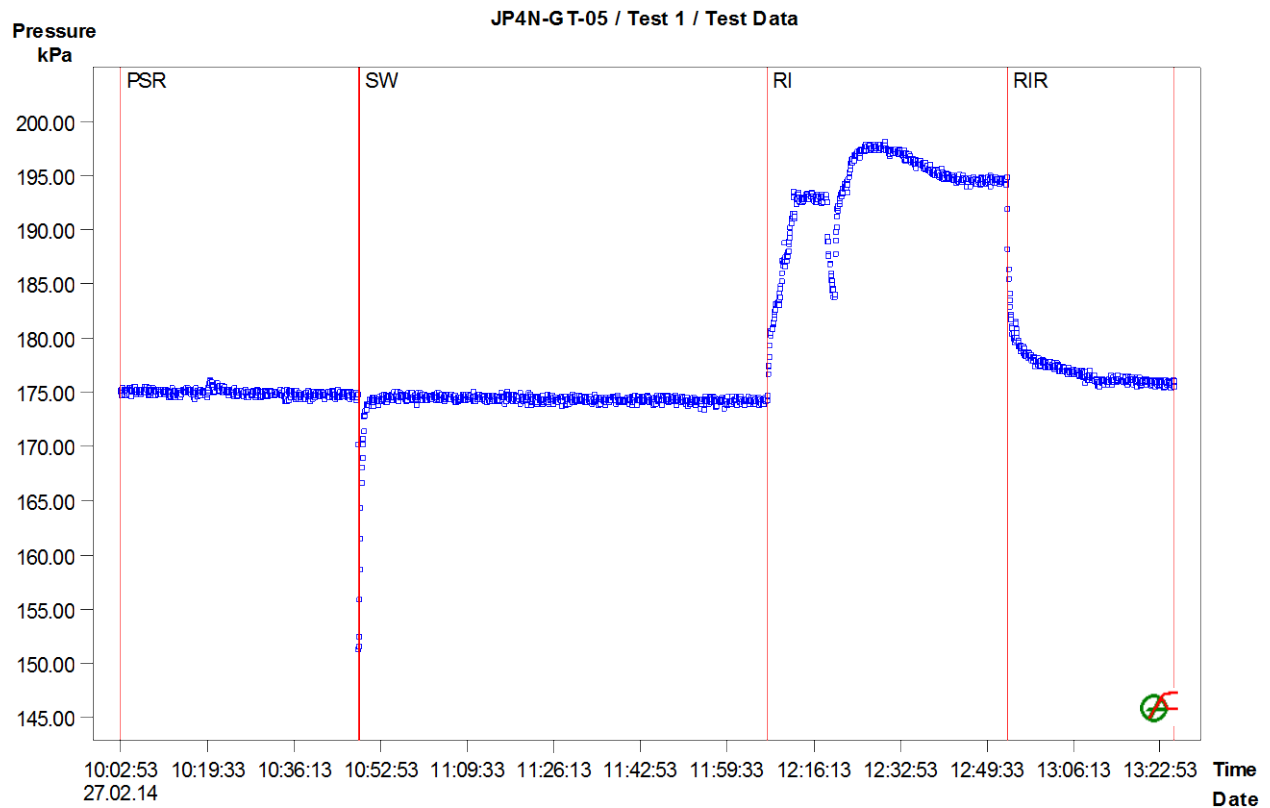


Figure 1: Pressure response and sequence definition

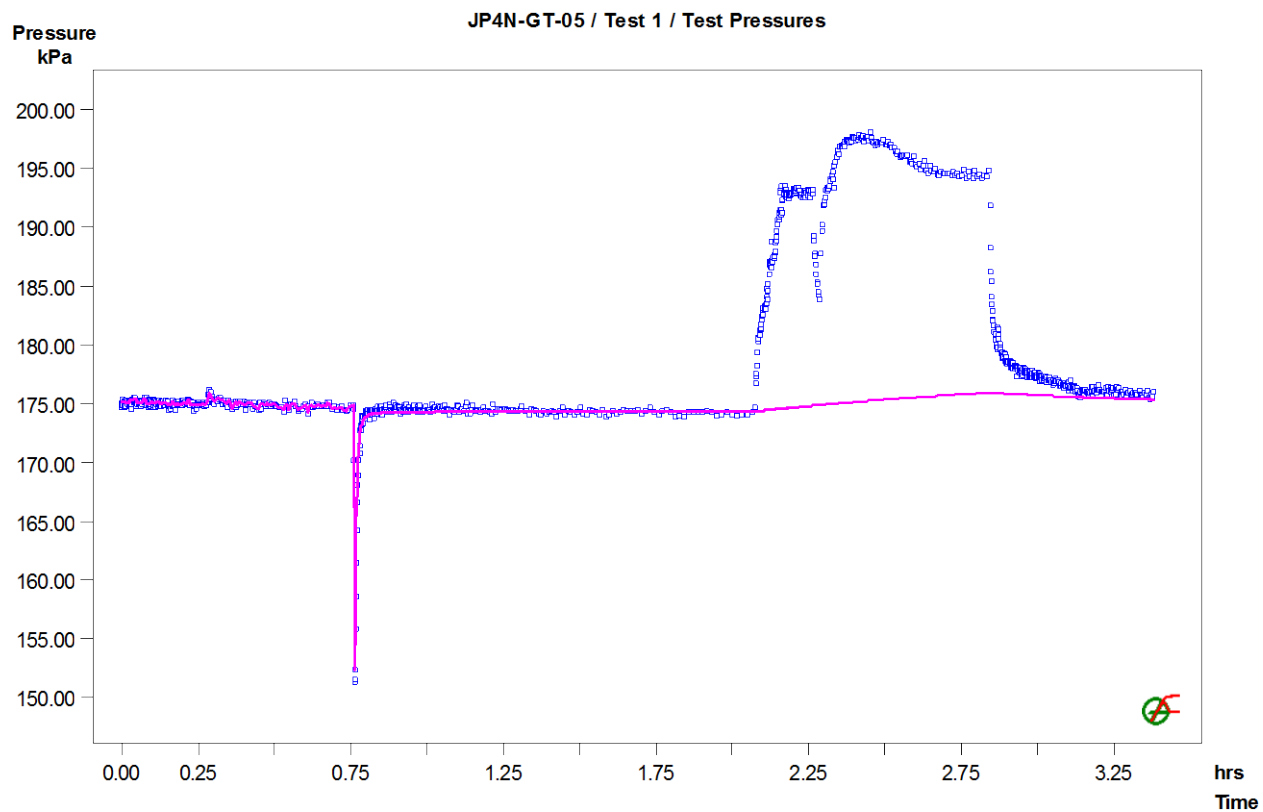


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-05 / Test 1 / SW: LogLog Plot, constant P(i)

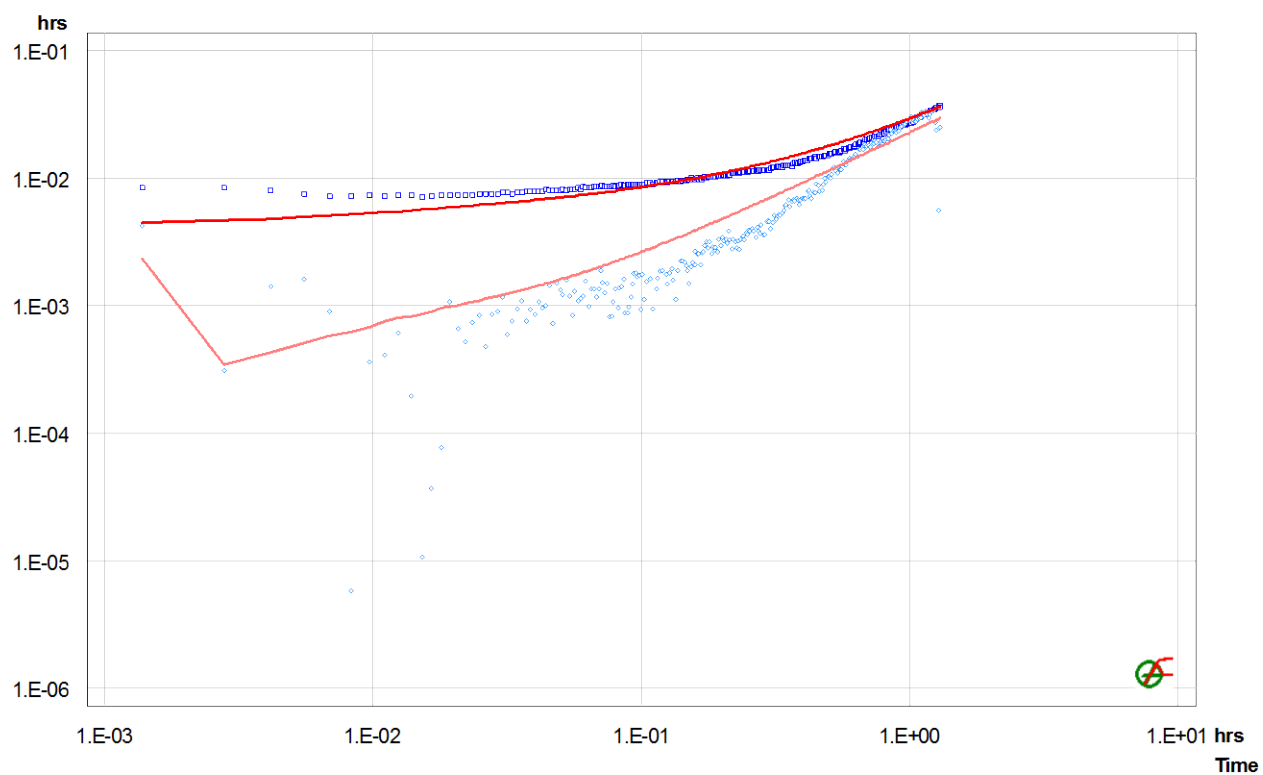


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

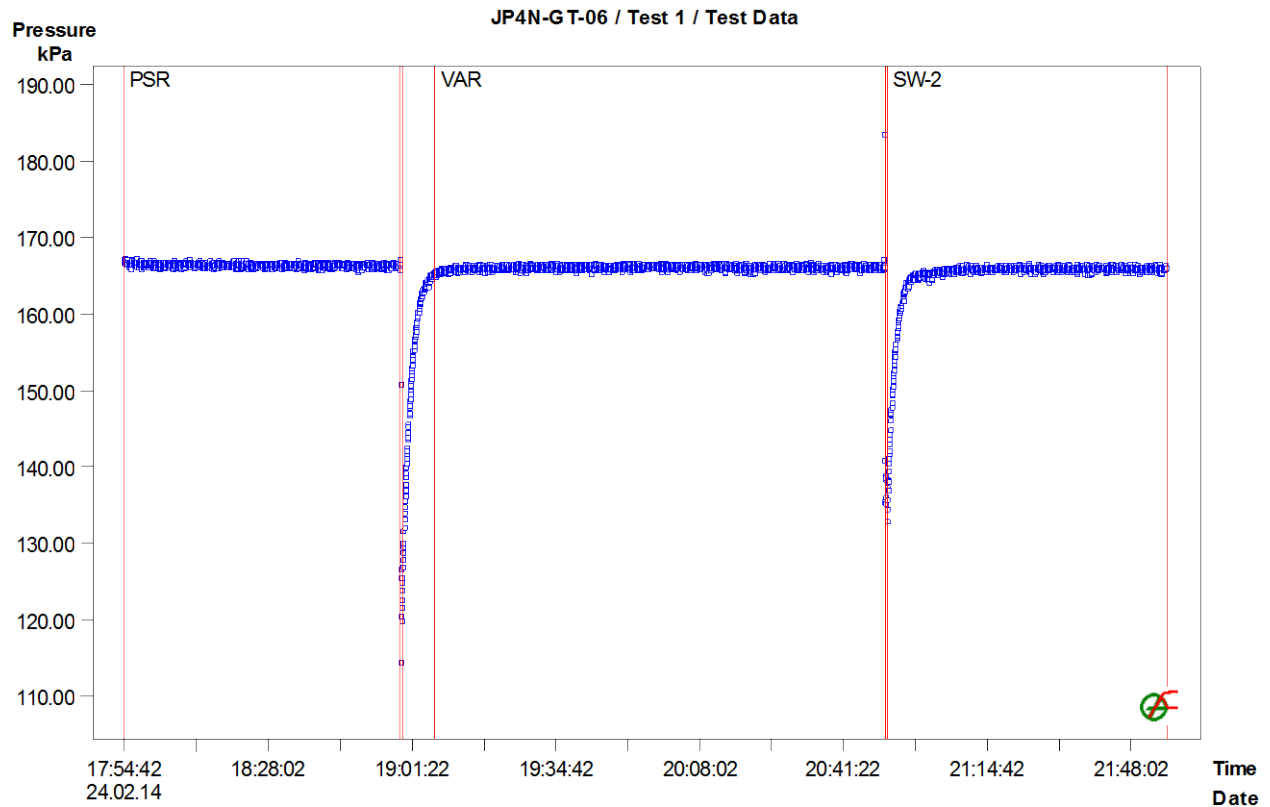


Figure 1: Pressure response and sequence definition

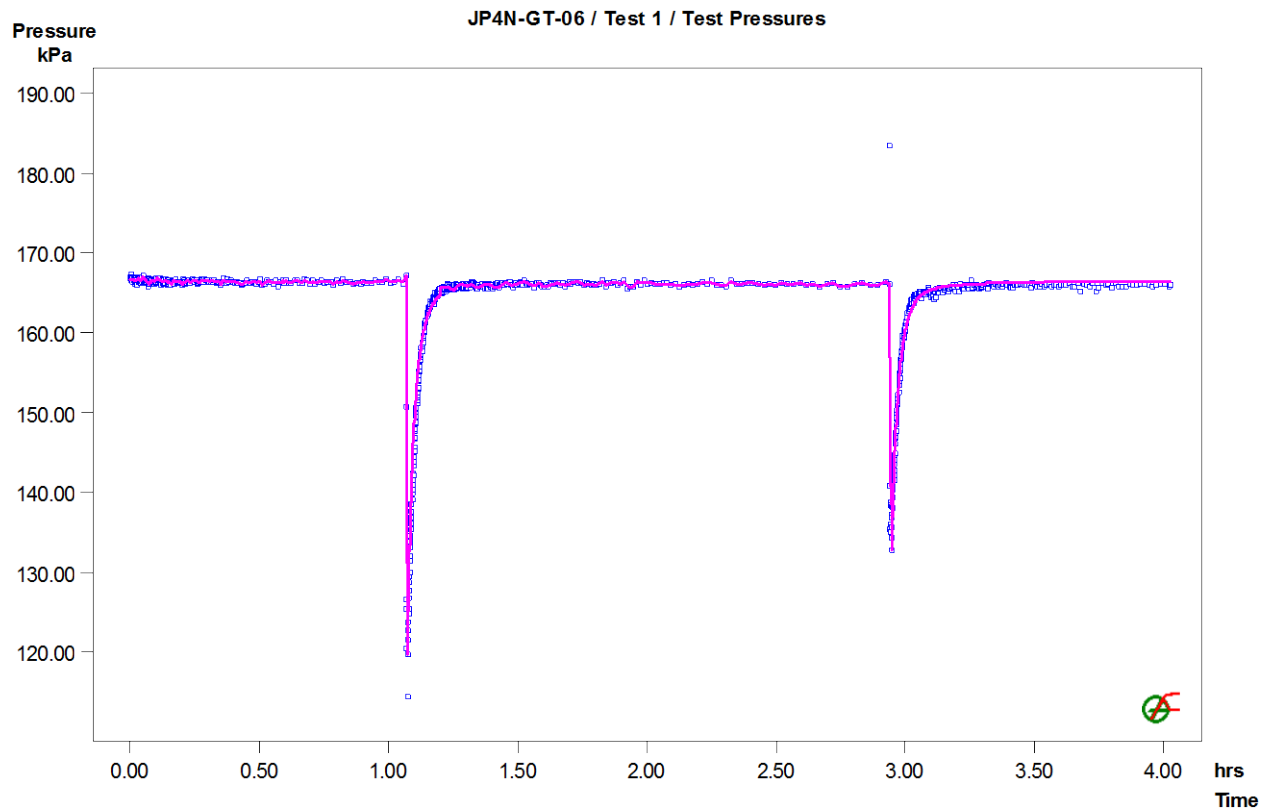


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-06 / Test 1 / SW-2: LogLog Plot, constant P(i)

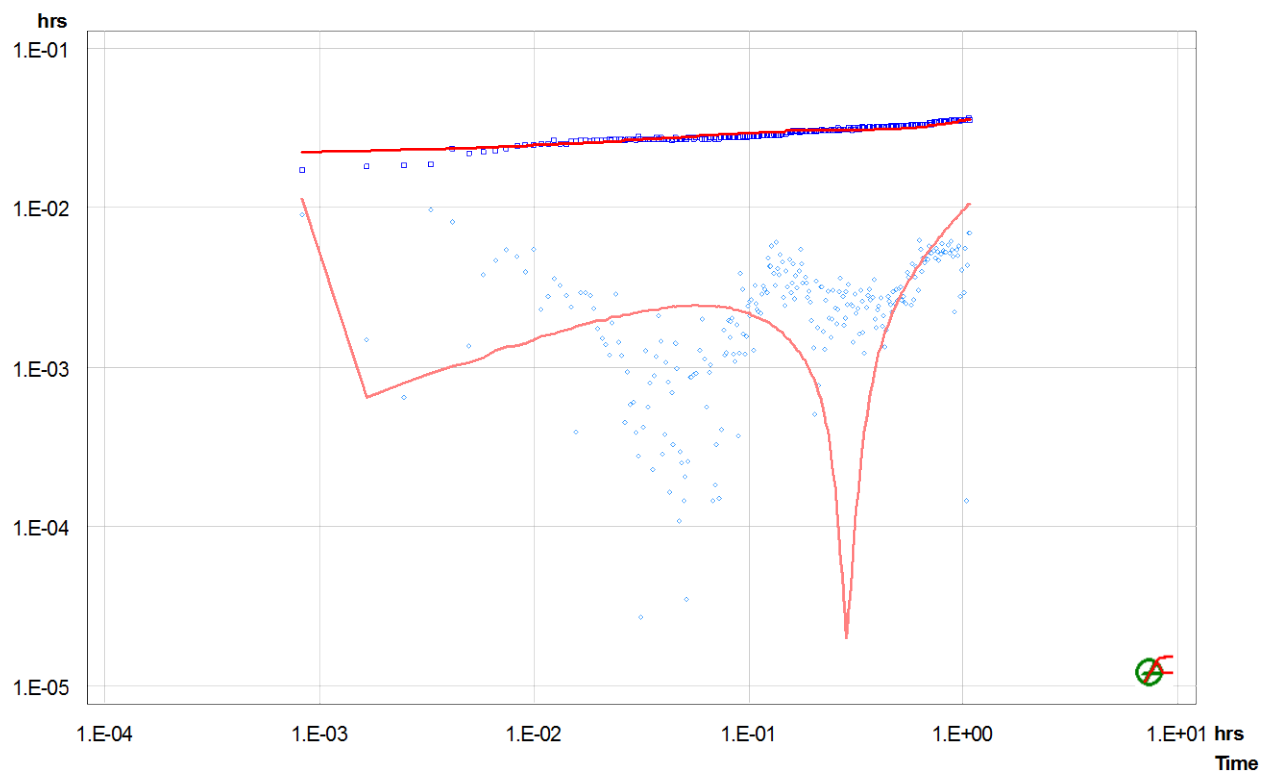


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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/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	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

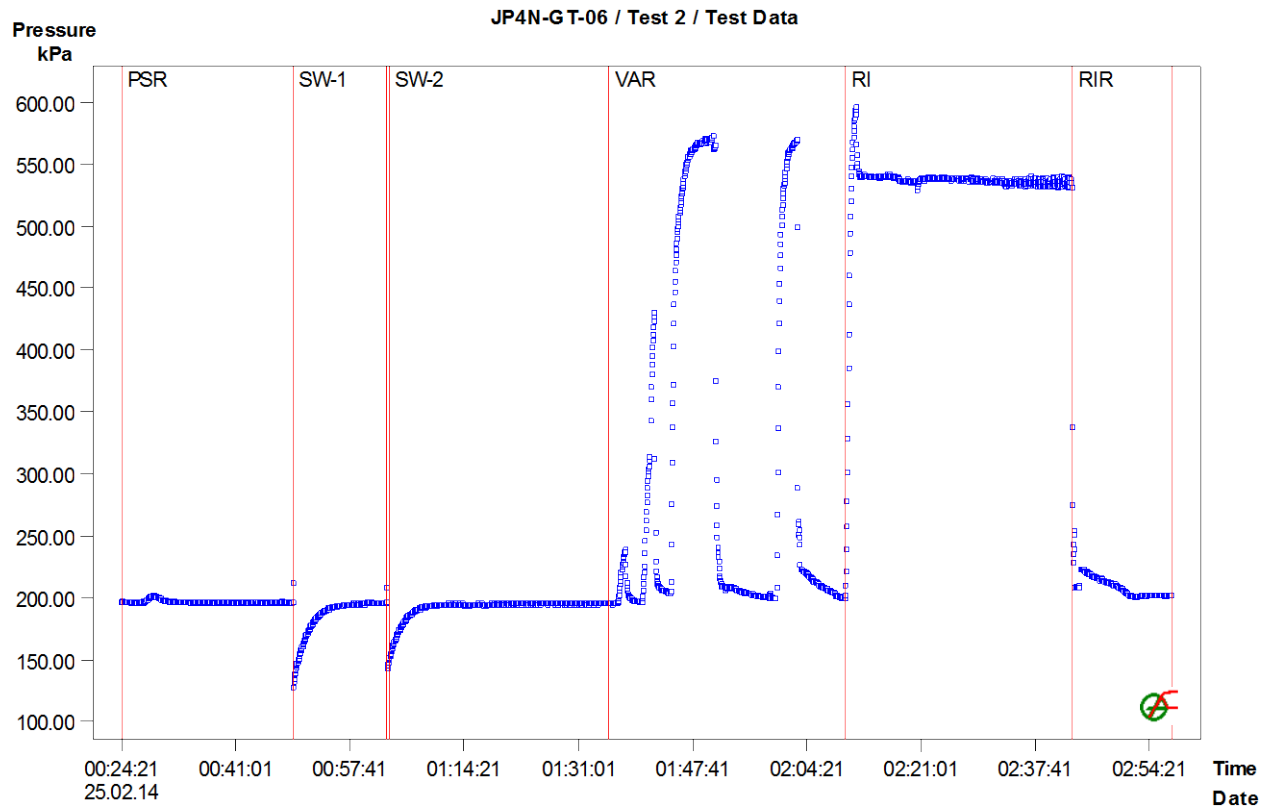


Figure 1: Pressure response and sequence definition

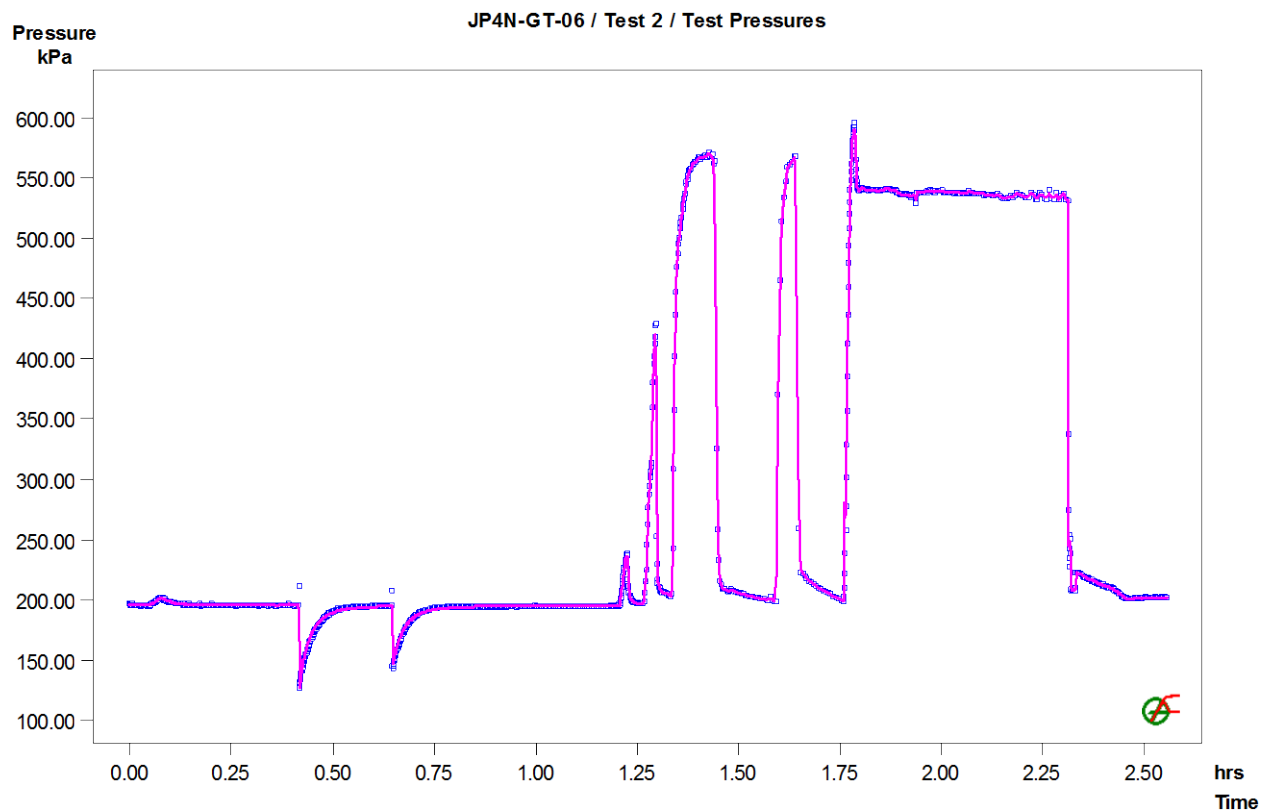


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-06 / Test 2 / SW-1: LogLog Plot, constant P(i)

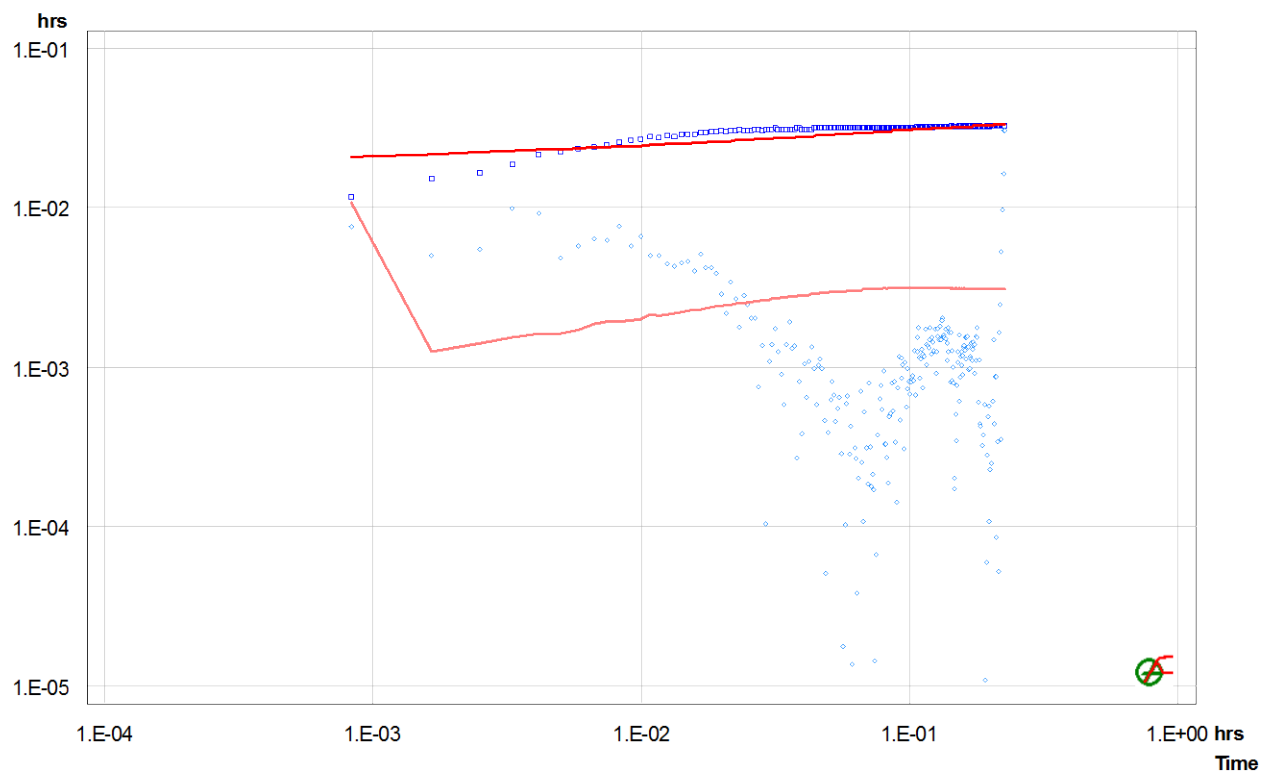


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

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

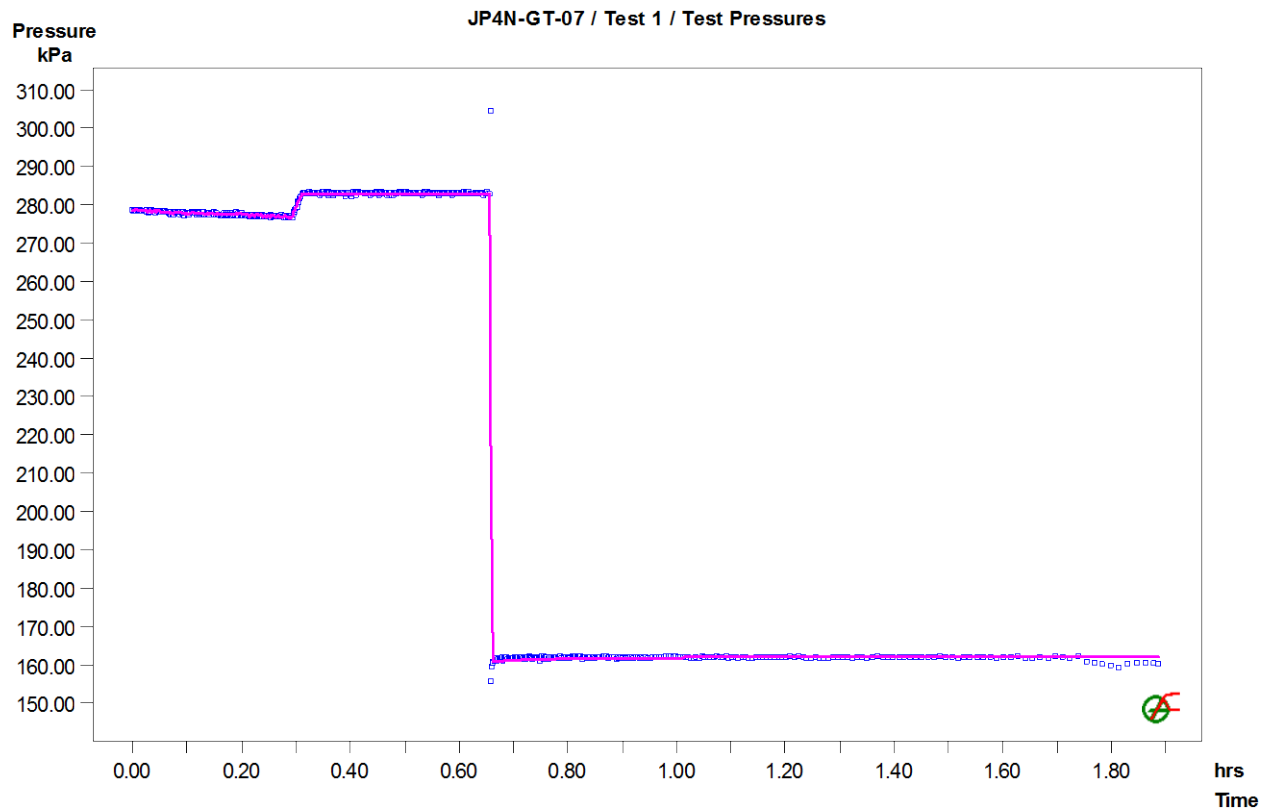


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4N-GT-07 / Test 1 / SW: LogLog Plot, variable P(i)

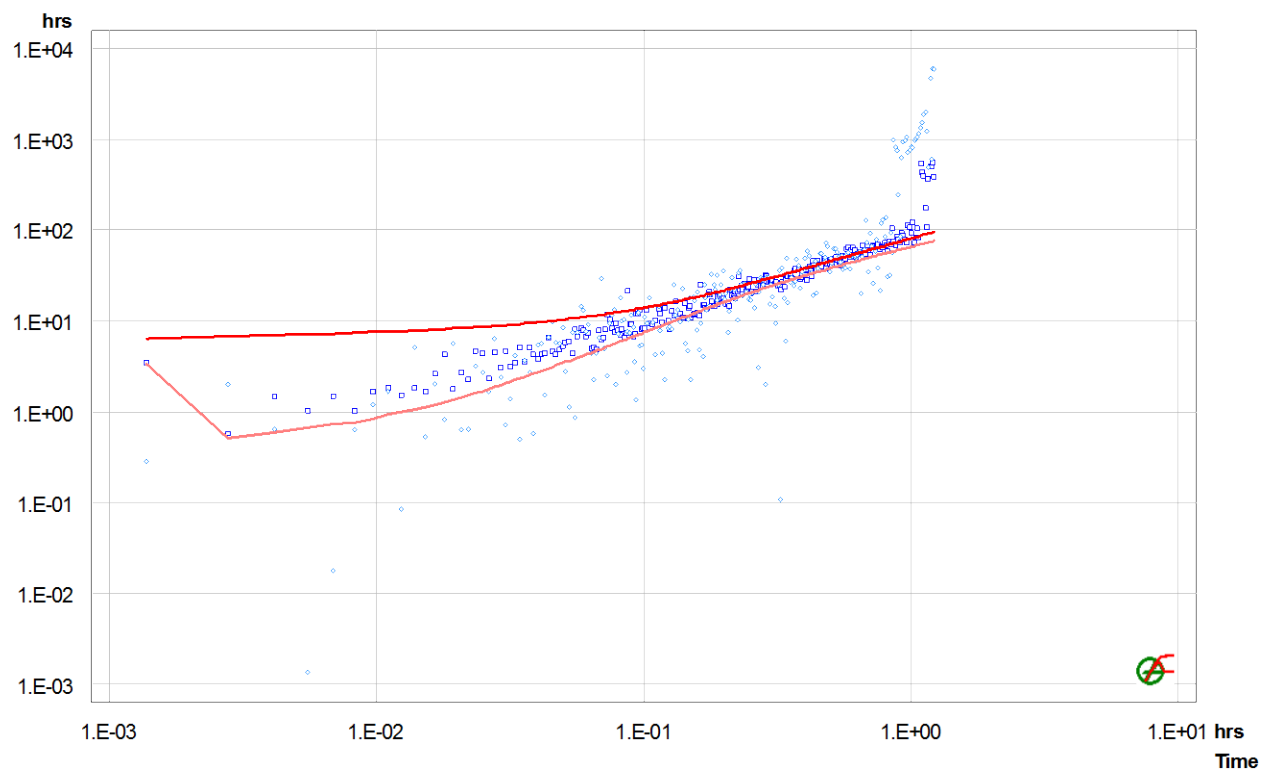


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence

HYDROBENCH REPORT

Project Dominion Diamond
Site Jay Project
Source Well JP4S-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

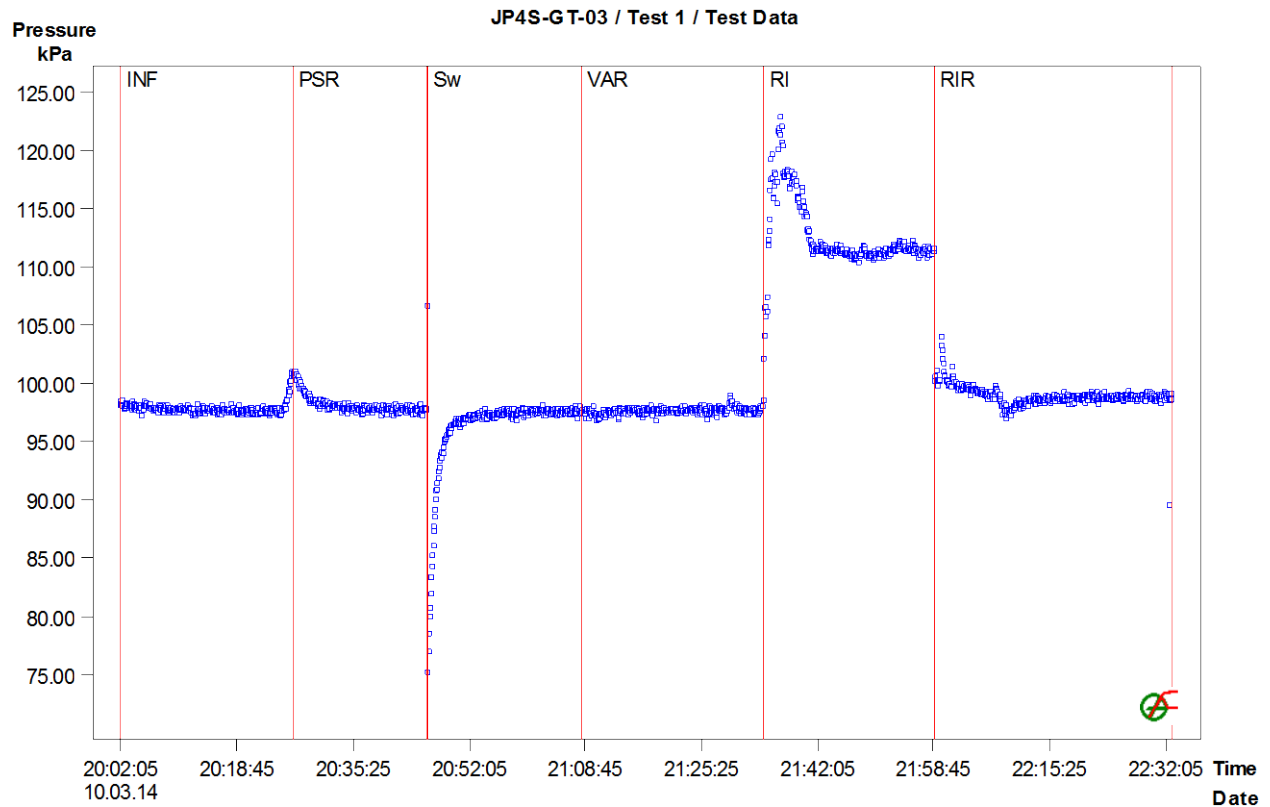


Figure 1: Pressure response and sequence definition

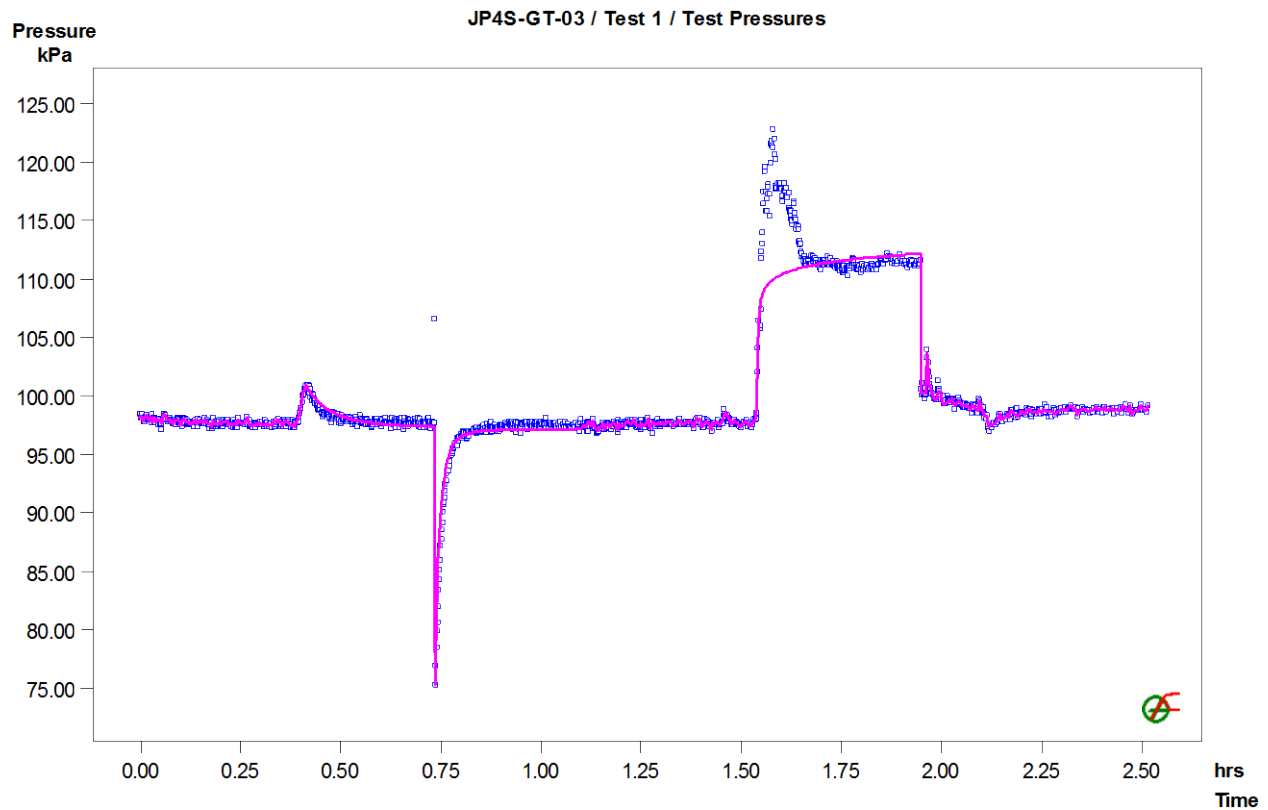


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot

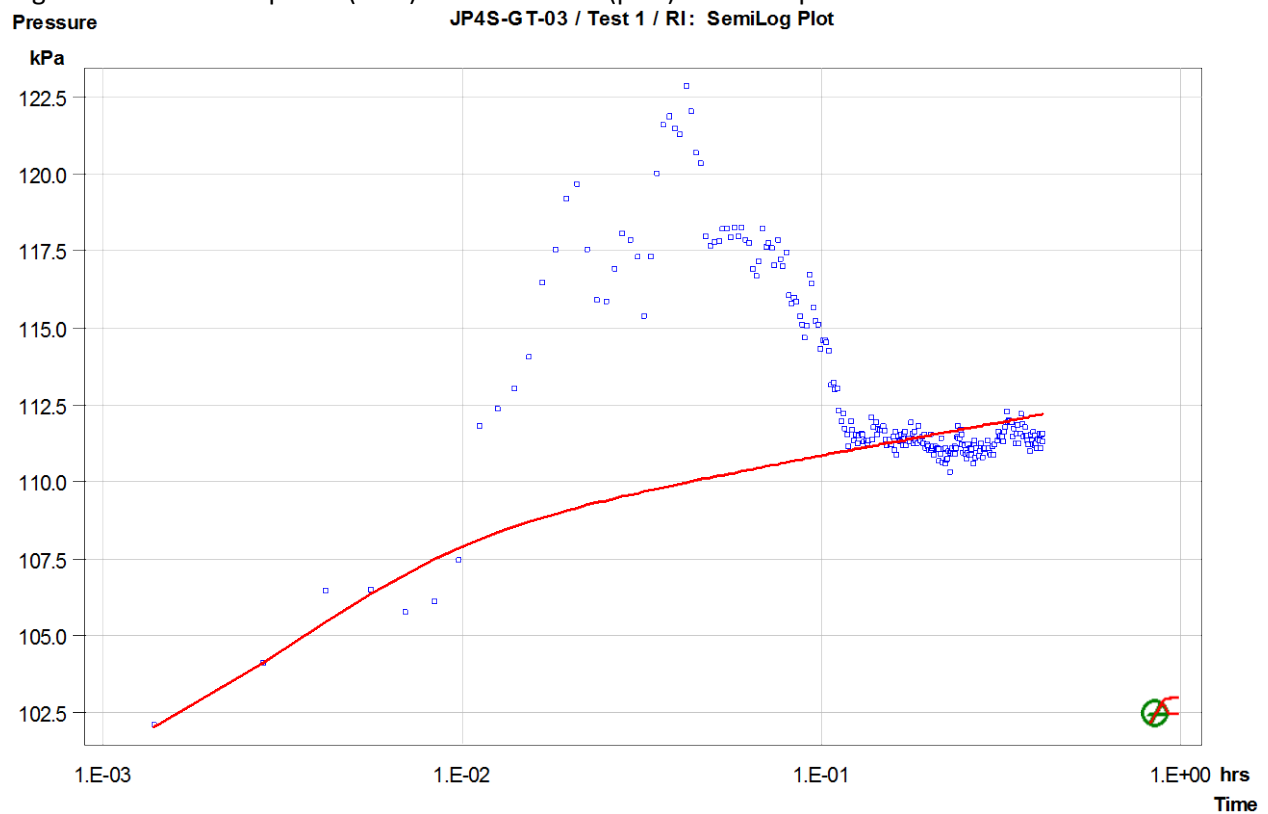


Figure 3: Pressure response (dark blue) and simulation (red): Semi Log diagnostic plot, RI sequence

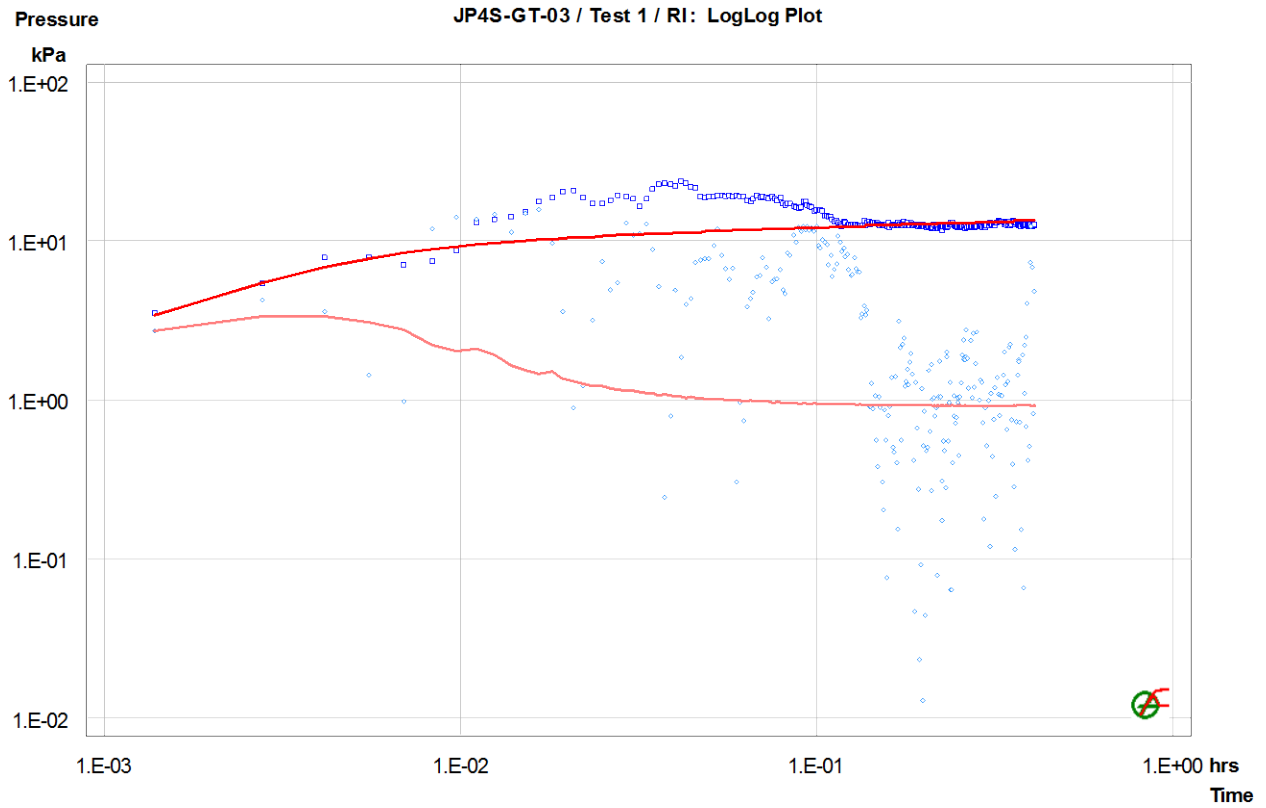


Figure 4: Pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, RI sequence

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

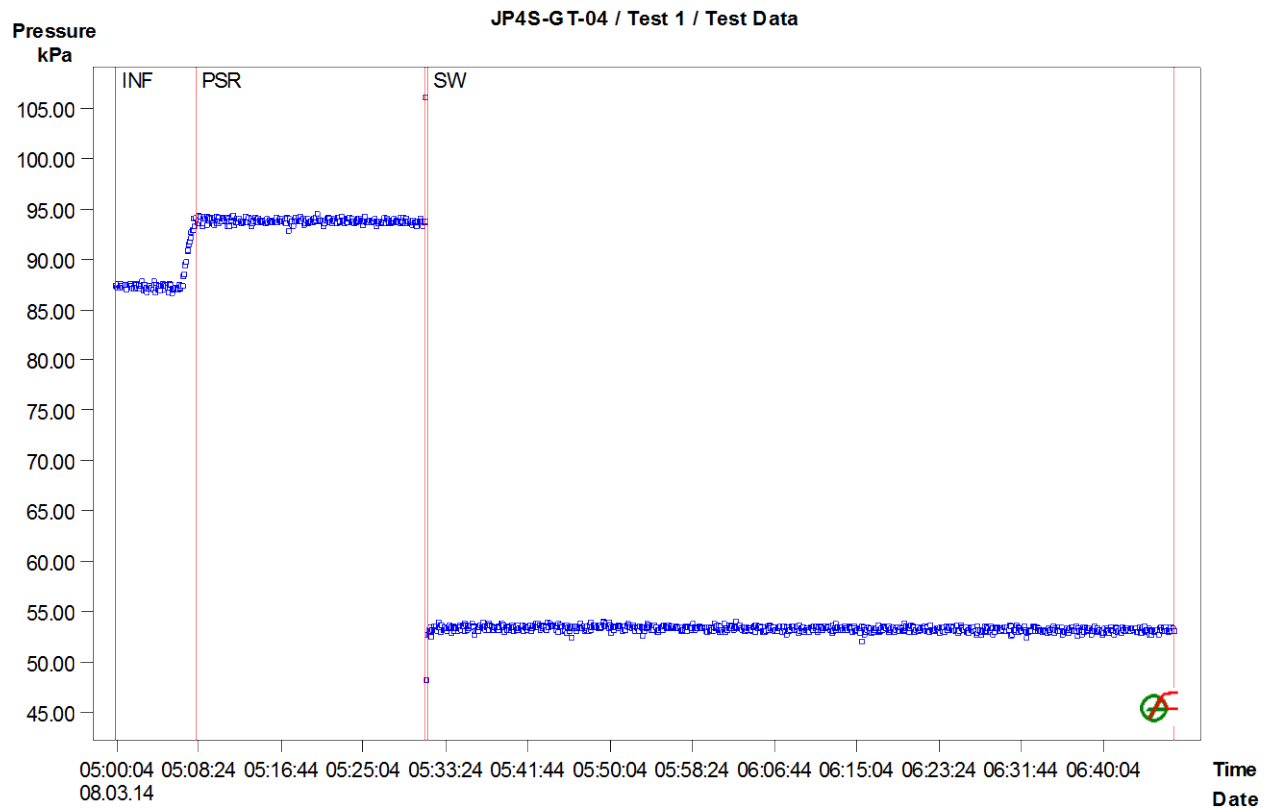


Figure 1: Pressure response and sequence definition

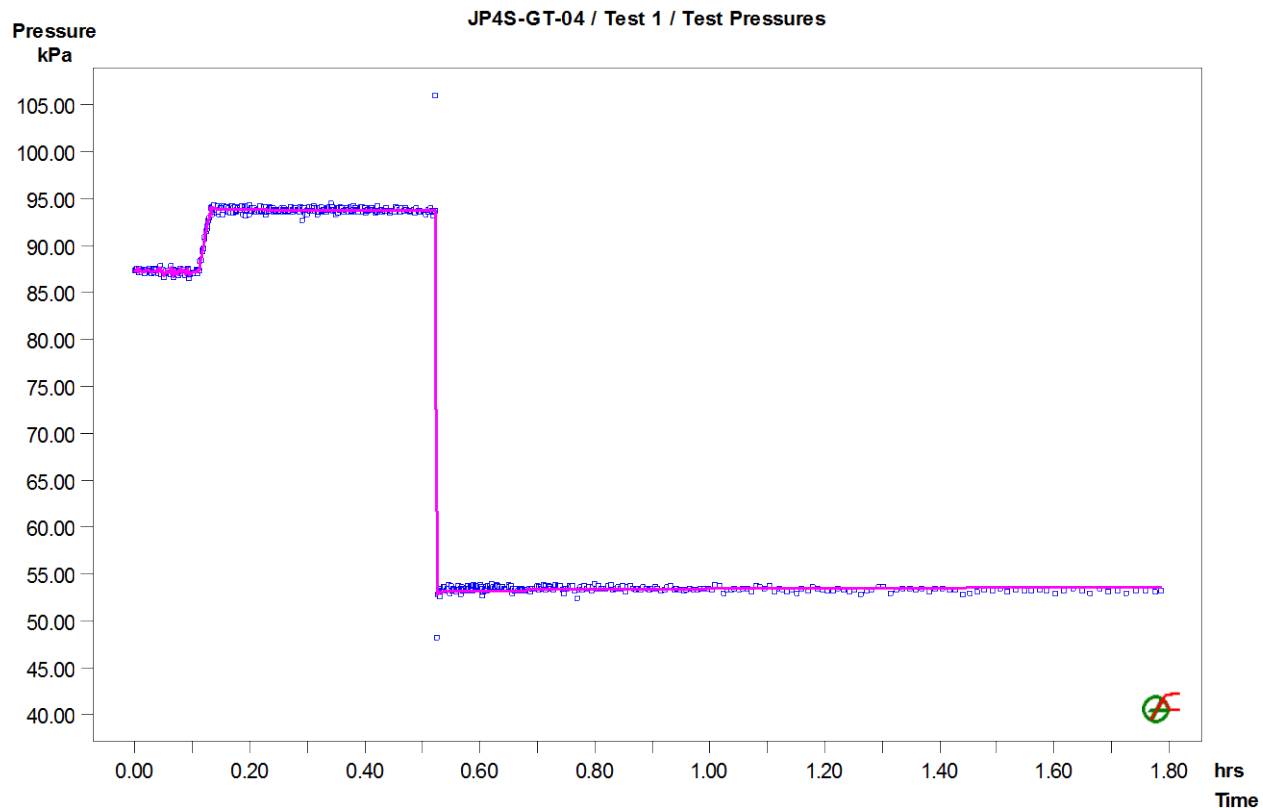


Figure 2: Pressure response (blue) and simulation (pink) cartesian plot
Deconv. P JP4S-GT-04 / Test 1 / SW: LogLog Plot, variable P(i)

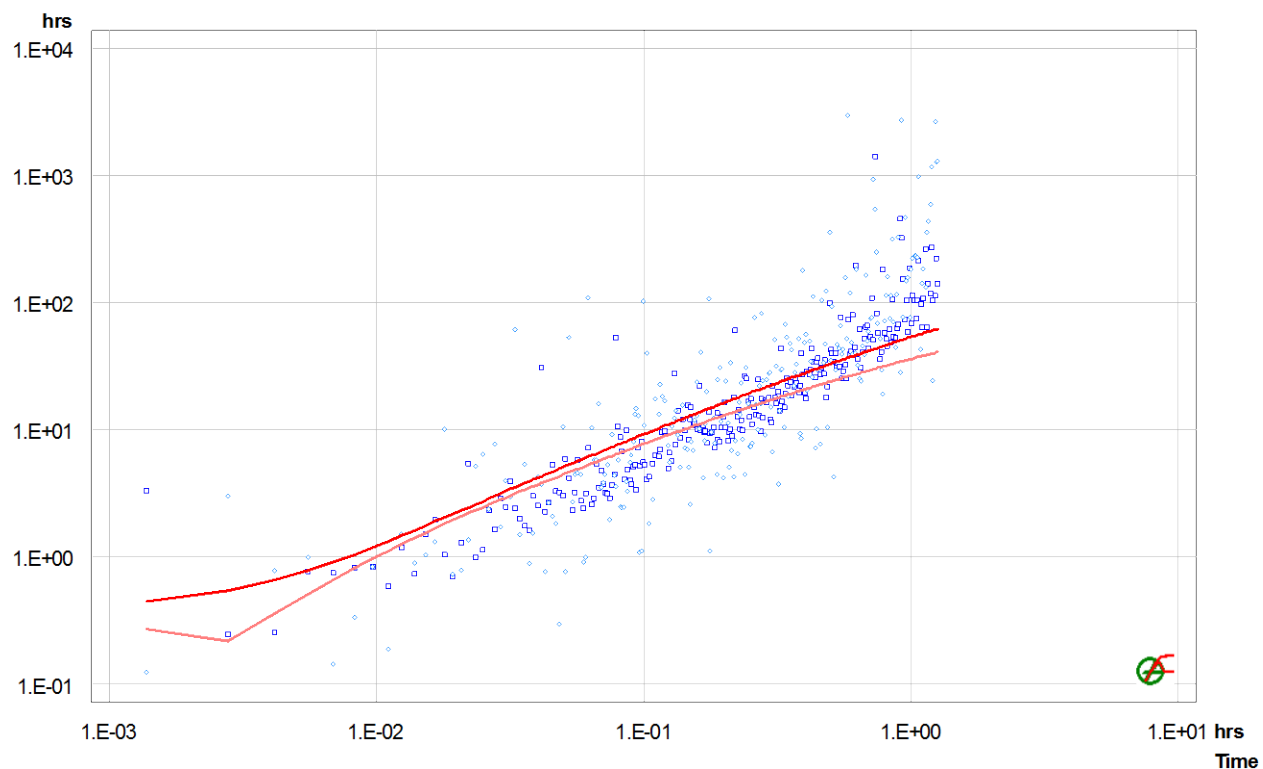


Figure 3: Deconvolved pressure response (dark blue), derivative (light blue) and simulation (red): Log-Log diagnostic plot, SW sequence



APPENDIX D

Thermistors

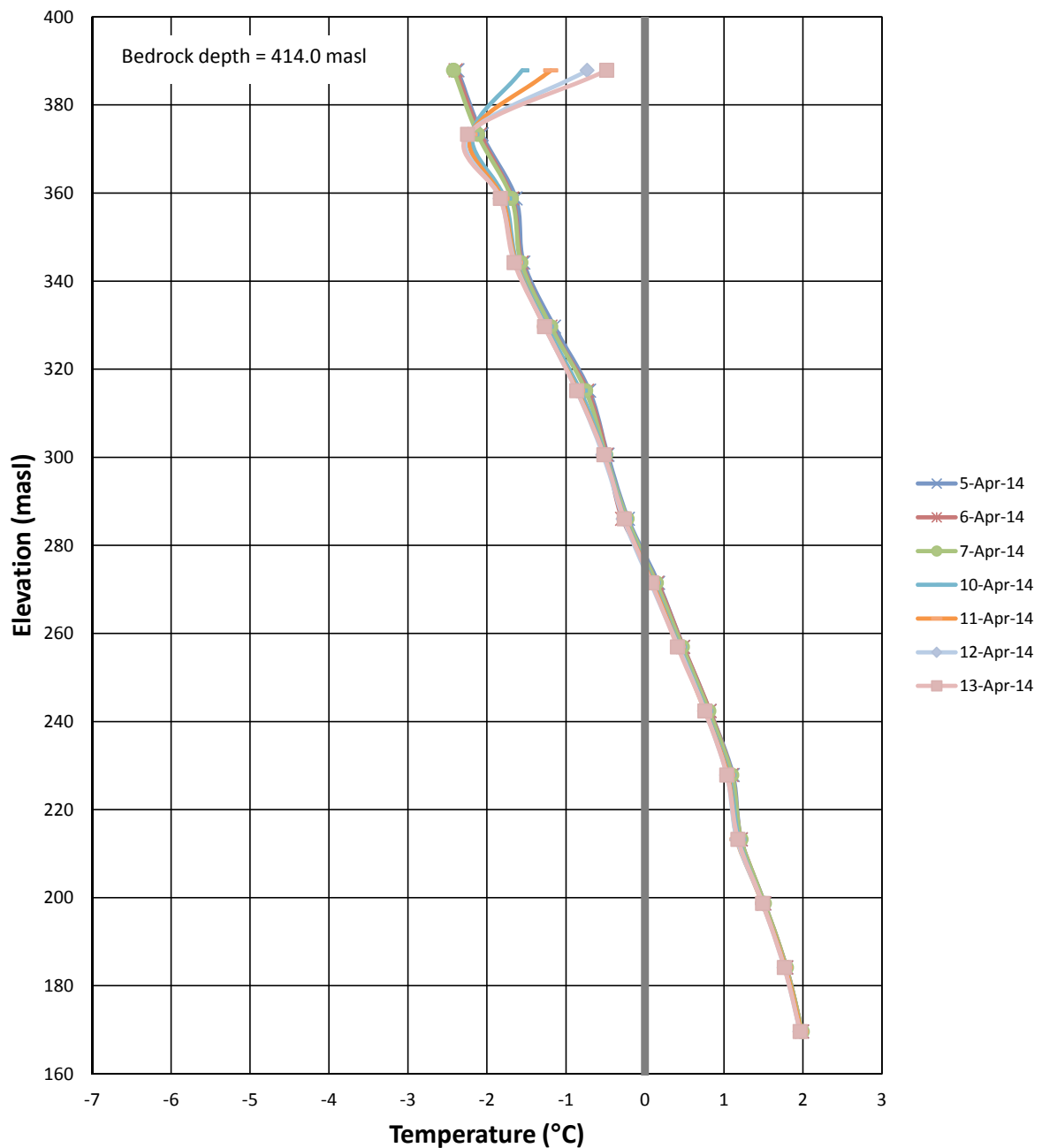


APPENDIX D

Thermistors

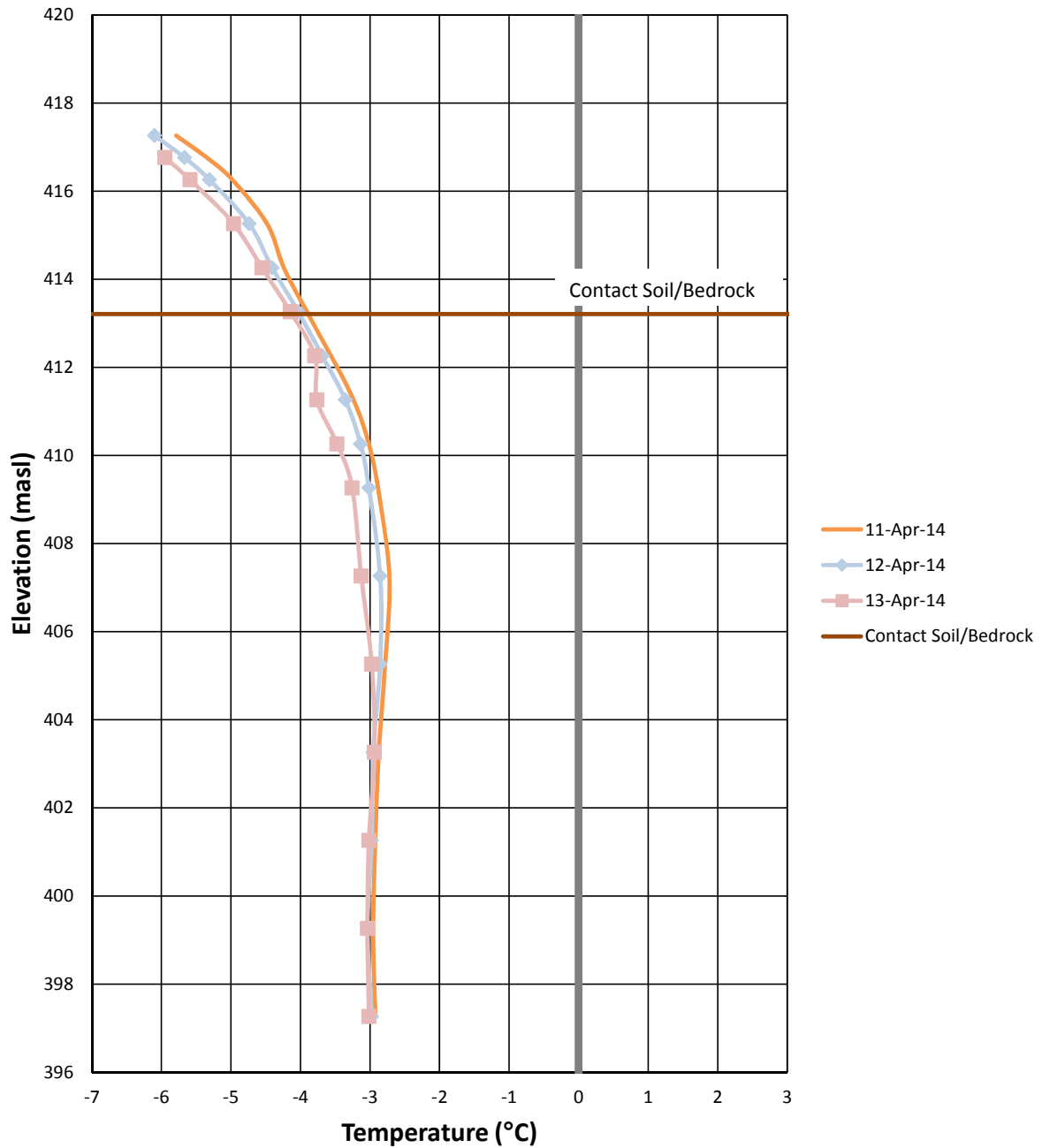
Thermistors Graphs

Deep Thermistor Installation JGT-01



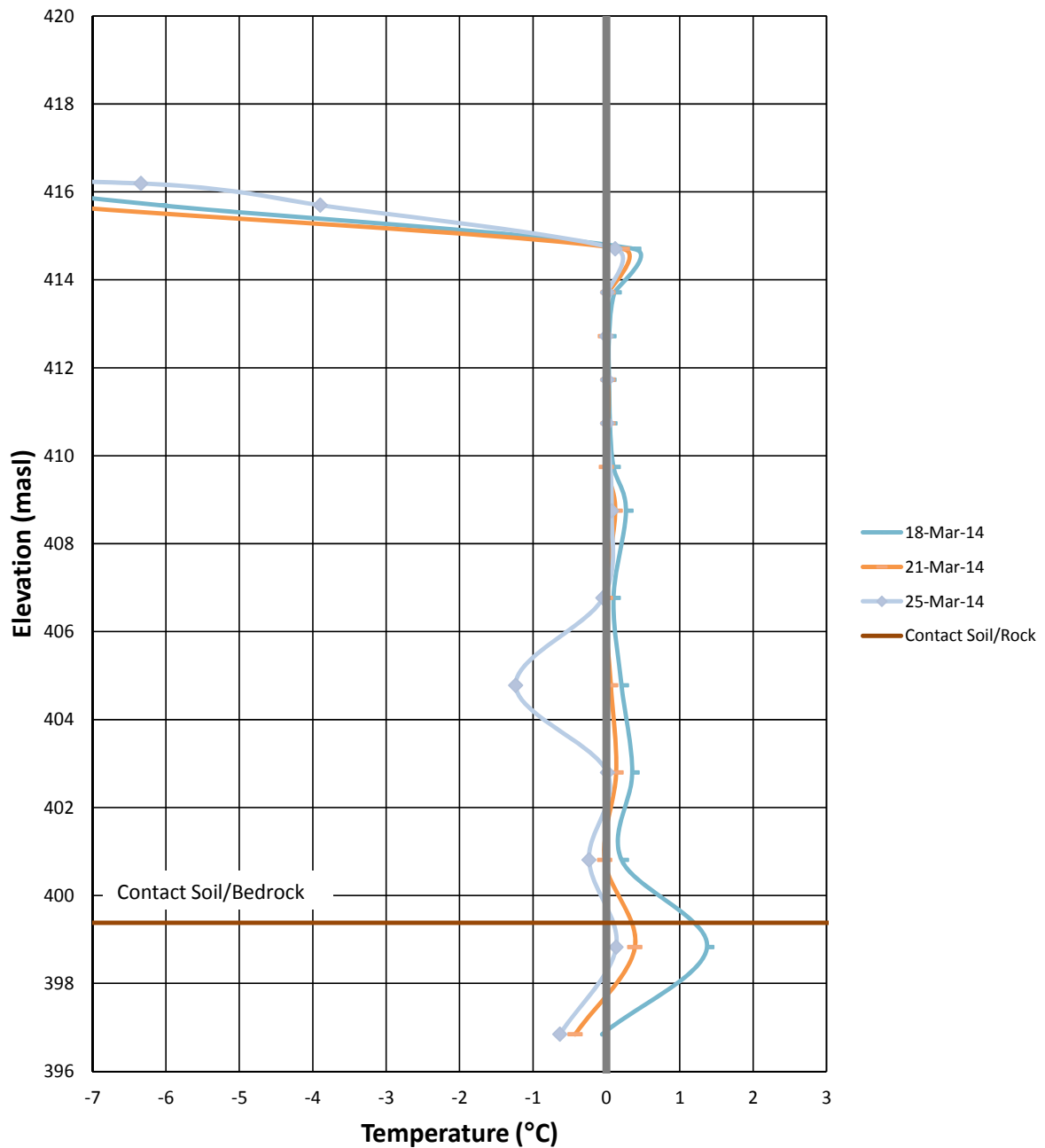
PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JGT-01			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
		DESIGN	LS	16JUN14	SCALE NTS REV. 0
		CADD	LS	16JUN14	
		CHECK	FA	10JUL14	
		REVIEW	GJ	14JUL14	
					FIGURE D-1

Shallow Thermistor Installation JGT-07



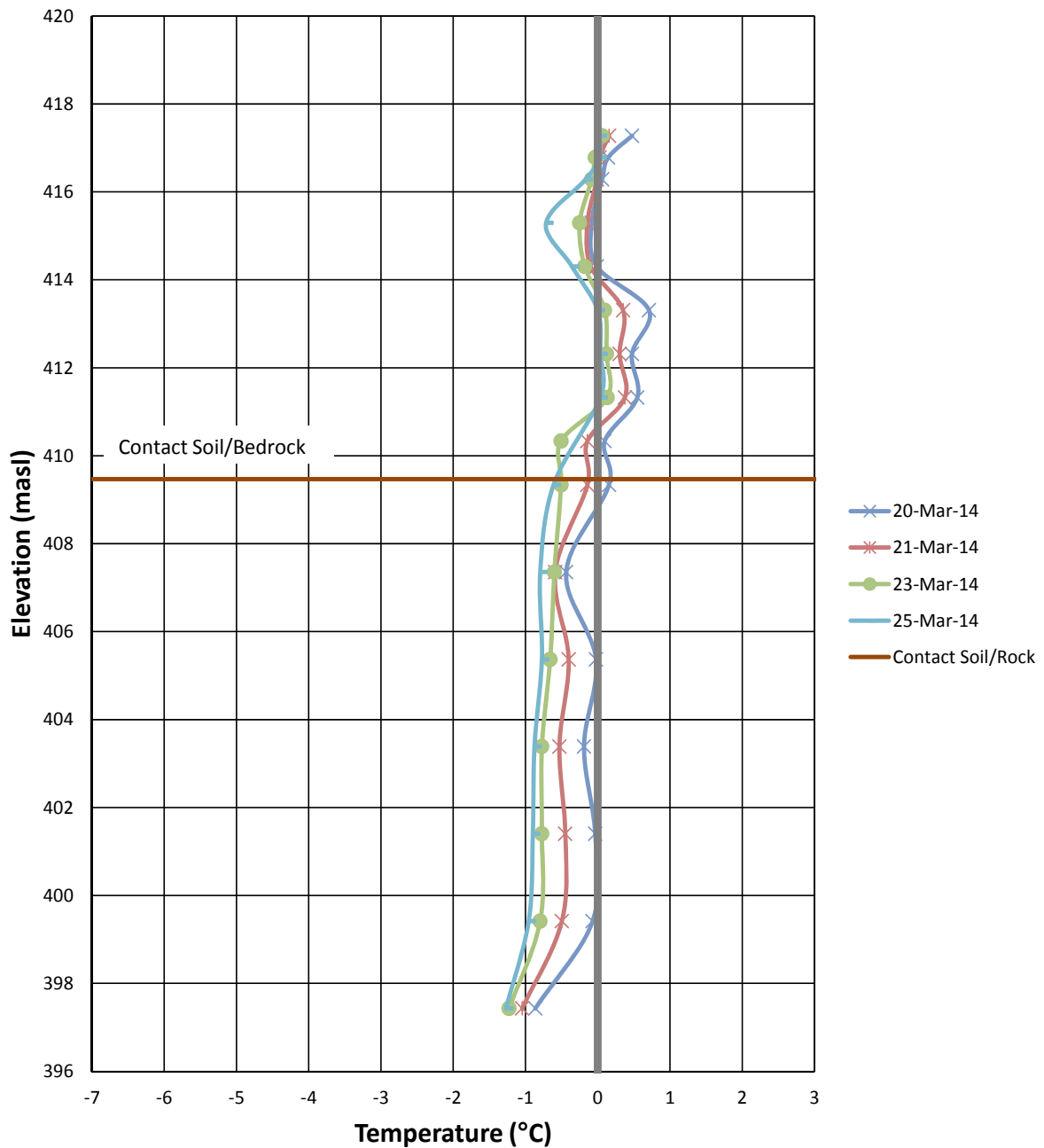
PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JGT-07			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
		DESIGN	LS	16JUN14	SCALE NTS REV. 0
		CADD	LS	16JUN14	
		CHECK	FA	10JUL14	
		REVIEW	GJ	14JUL14	FIGURE D-2

Shallow Thermistor Installation JP1-GT-01



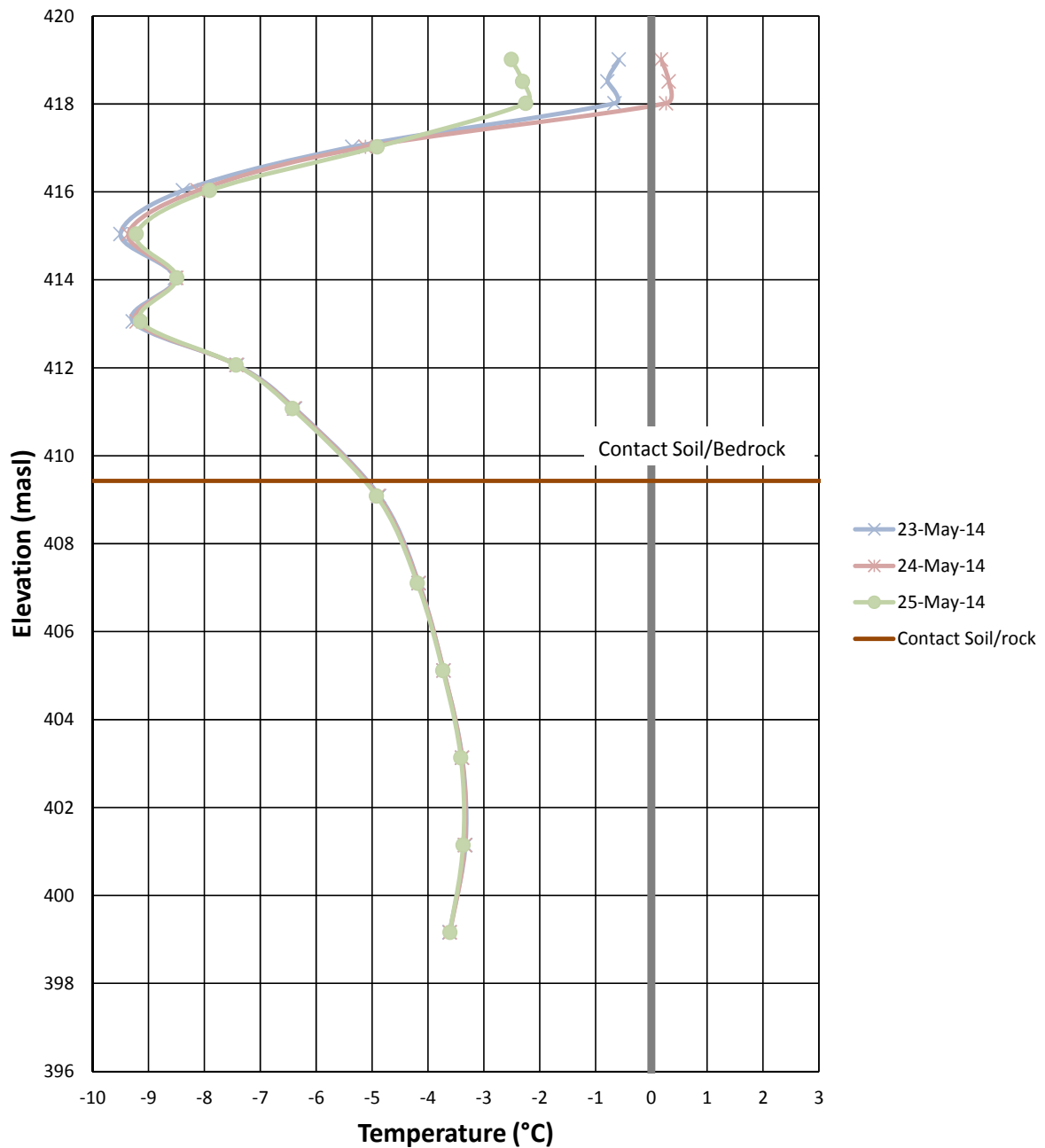
PROJECT				DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE				THERMISTOR PLOT JP1-GT-01			
				PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
				DESIGN	LS	16JUN14	SCALE NTS REV. 0
				CADD	LS	16JUN14	
				CHECK	FA	10JUL14	
				REVIEW	GJ	14JUL14	
				FIGURE D-3			

Shallow Thermistor Installation JP1-GT-04



PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JP1-GT-04			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
		DESIGN	LS	16JUN14	SCALE NTS REV. 0
		CADD	LS	16JUN14	
		CHECK	FA	10JUL14	
		REVIEW	GJ	14JUL14	
					FIGURE D-4

Shallow Thermistor Installation JP4N-GT-07



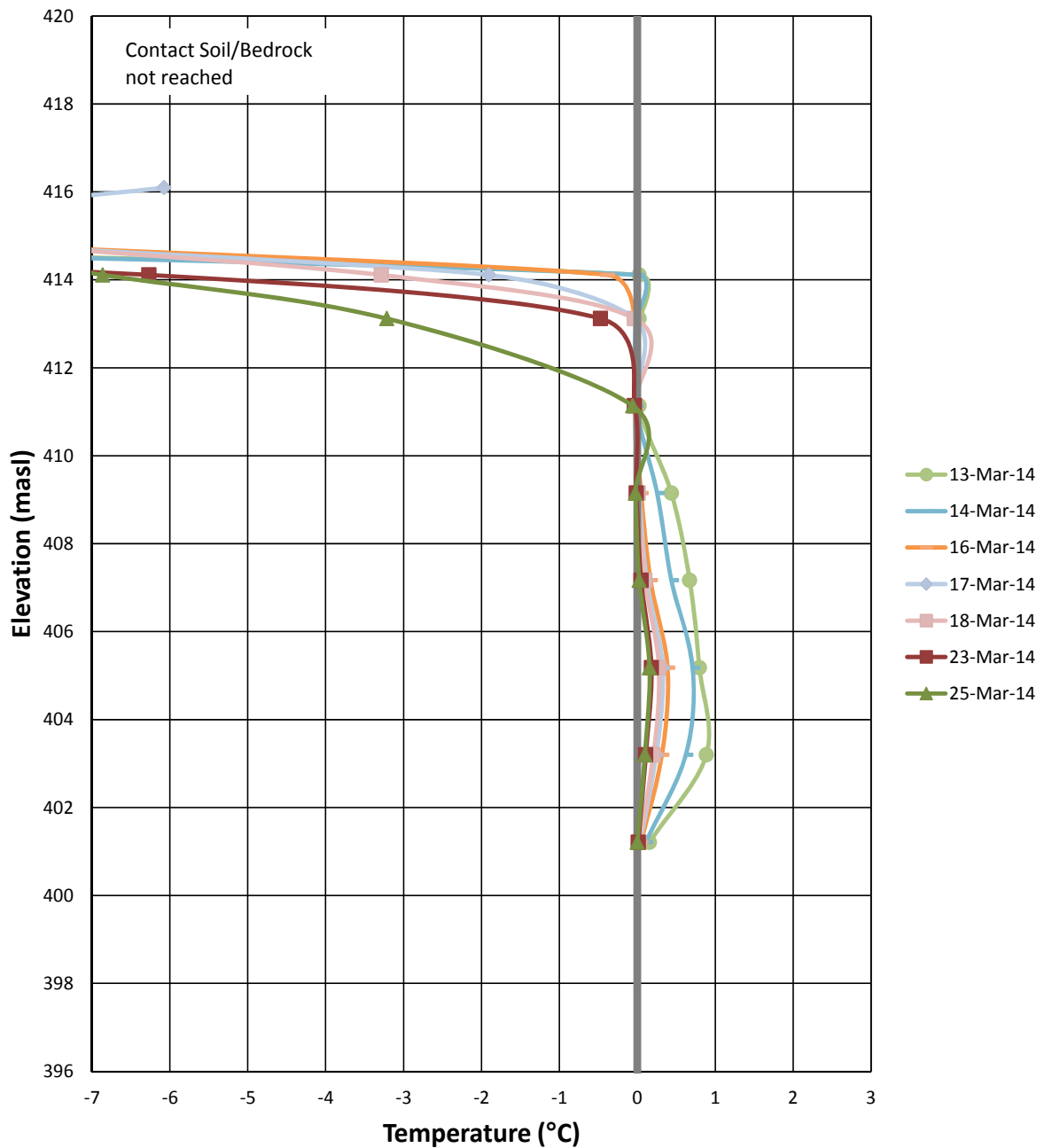
Notes:

1. No manual readings taken by Golder immediately following installation. Data presented are from Datalogger readings, as supplied by Dominion Diamond

PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JP4N-GT-07			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
DESIGN	LS	16JUN14	SCALE	NTS	REV. 0
CADD	LS	16JUN14	FIGURE D-5		
CHECK	FA	10JUL14			
REVIEW	GJ	14JUL14			

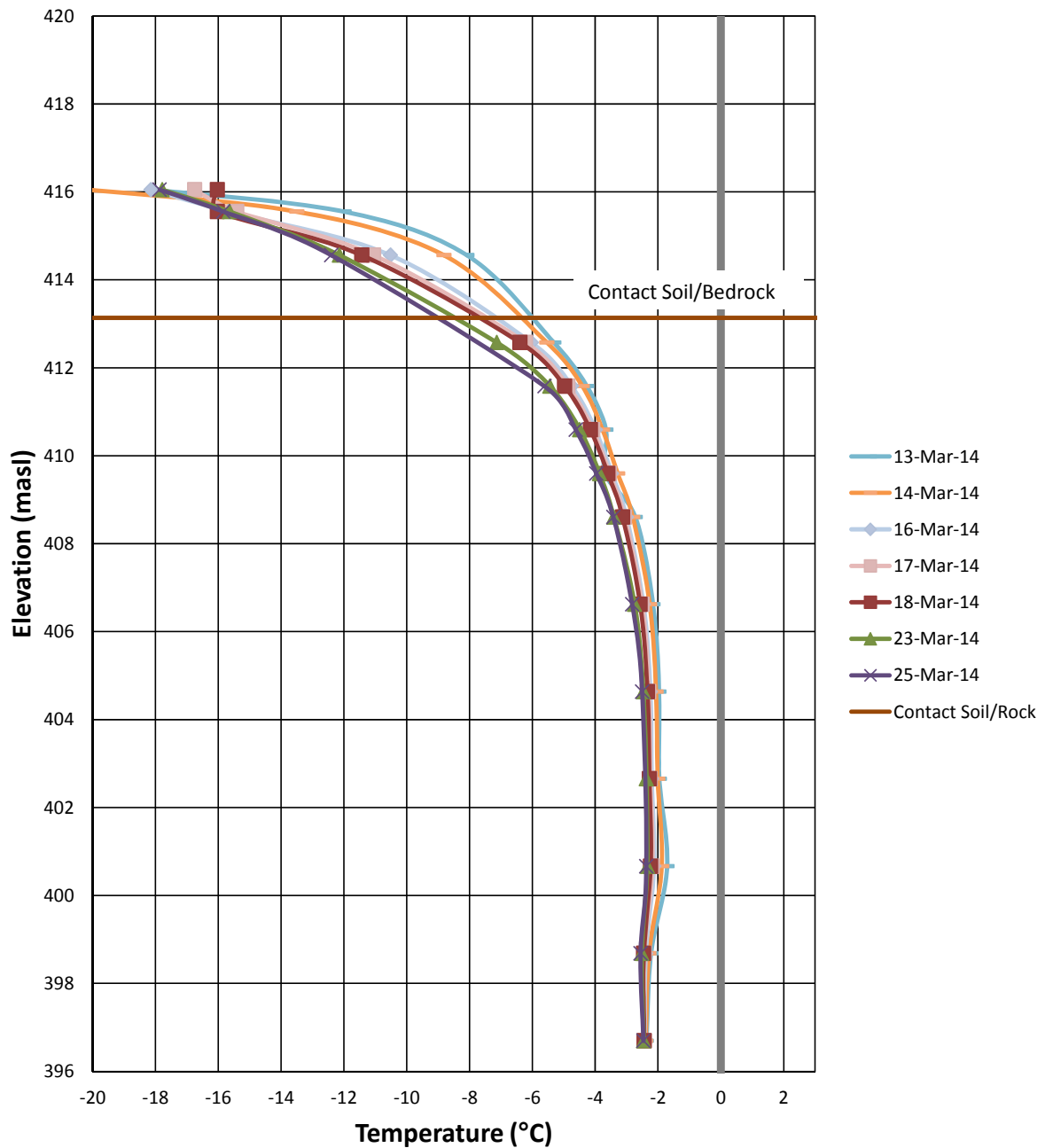


Shallow Thermistor Installation JP4S-GT-01



PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JP4S-GT-01			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
		DESIGN	LS	16JUN14	SCALE NTS REV. 0
		CADD	LS	16JUN14	
		CHECK	FA	10JUL14	
		REVIEW	GJ	14JUL14	
					FIGURE D-6

Shallow Thermistor Installation JP4S-GT-04



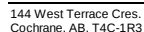
PROJECT		DOMINION DIAMOND CORPORATION JAY PROJECT NORTHWEST TERRITORIES			
TITLE		THERMISTOR PLOT JP4S-GT-04			
		PROJECT No. 13-1328-0041		PHASE/TASK No. 2010/70	
		DESIGN	LS	16JUN14	SCALE NTS REV. 0
		CADD	LS	16JUN14	
		CHECK	FA	10JUL14	
		REVIEW	GJ	14JUL14	
					FIGURE D-7



APPENDIX D

Thermistors

Calibration Sheets



Ph. 403-560-7079
msquared.instruments@gmail.com

Customer: Golden Assoc., 500 – 4260 Still Creek Dr.
Burnaby, BC V5C 6C6
Contact: John Cunning
Project: Ekati
Date Ordered: 19-Dec-13
Purchase Order No.: 3280041-E13018-Rev0-2010

Total Length (m.):	25	
Lead Length(m.):	5	Shielded: _____
Termination:	MS3106E20-29P	Molded: _____
Thermistor Type:	44007	
No. of Thermistors:	16	

Number of Cables in Order:

[illegible]



Ph. 403-560-7079
msquared.instruments@gmail.com

Thermistor Cable Data Sheet

Purchase Order No.: 3280041-E13018-Rev0-2010

No. of Thermistors: 16

Number of Cables in Order: _____

[illegible]

**Measurement Specialties, Temperature Product Group**2670 Indian Ripple Road
Dayton, Ohio 45440-3605 USA
937 427 1231 fax 937 427 1640www.meas-spec.com

Resistance Data for YSI Thermistors						44007 column								
Thermistor Mix	"L" 100	"L" 300	"L" 1000	"B" 2252	"B" 3000	"B" 5000	"B" 6000	"B" 10,000	"H" 10,000	"H" 30,000	"H" 100 K	"H" 300 K	"H" 1 M	
Ohms @ 25°C														
YSI P/N	44001A	44002A	44003A 44035	44004 44033	44005 44030	44007 44034	44017 44037	44016 44036	44006 44031	44008 44032	44011	44014	44015	
				45004	45005	45007	45017	45016	45006	45008				
				46004 46033 46043	46005 46030 46040	46007 46034 46044	46017 46037 46047	46016 46036 46046	46006 46031 46041	46008 46032				
				55004 55033	55005 55030	55007 55034	55017 55037	55016 55036	55006 55031	55008 55032				
Temperature °F °C			44019	400 Series Probes			44018		44019	44018				
-112.0 -80	14,470	67,660	278,800	1,660,000	2,211,000	3,685,000	4,423,000	7,371,000	3,558,000					
-110.2 -79	13,510	62,780	258,100	1,518,000	2,022,000	3,371,000	4,044,000	6,741,000	3,296,000					
-108.4 -78	12,620	58,290	239,100	1,390,000	1,851,000	3,086,000	3,703,000	6,172,000	3,055,000					
-106.6 -77	11,800	54,150	221,700	1,273,000	1,696,000	2,827,000	3,392,000	5,653,000	2,833,000					
-104.8 -76	11,040	50,340	205,600	1,167,000	1,555,000	2,592,000	3,109,000	5,182,000	2,629,000					
-103.0 -75	10,330	46,830	190,800	1,071,000	1,426,000	2,378,000	2,853,000	4,756,000	2,440,000					
-101.2 -74	9672	43,580	177,200	982,800	1,309,000	2,182,000	2,618,000	4,364,000	2,266,000					
-99.4 -73	9061	40,590	164,700	902,700	1,202,000	2,005,000	2,405,000	4,008,000	2,106,000					
-97.6 -72	8494	37,820	153,100	829,700	1,105,000	1,843,000	2,211,000	3,684,000	1,957,000					
-95.8 -71	7966	35,260	142,500	763,100	1,016,000	1,695,000	2,033,000	3,389,000	1,821,000					
-94.0 -70	7475	32,900	132,600	702,300	935,400	1,560,000	1,871,000	3,119,000	1,694,000					
-92.2 -69	7018	30,710	123,500	646,700	861,400	1,436,000	1,723,000	2,872,000	1,577,000					
-90.4 -68	6592	28,680	115,100	595,900	793,700	1,323,000	1,588,000	2,646,000	1,469,000					
-88.6 -67	6195	26,800	107,300	549,400	731,800	1,220,000	1,464,000	2,440,000	1,369,000					
-86.8 -66	5825	25,060	100,100	506,900	675,200	1,126,000	1,351,000	2,251,000	1,276,000					
-85.0 -65	5479	23,450	93,480	467,900	623,300	1,039,000	1,247,000	2,078,000	1,190,000					
-83.2 -64	5157	21,950	87,300	432,200	575,700	959,900	1,152,000	1,919,000	1,111,000					
-81.4 -63	4856	20,550	81,580	399,500	532,100	887,200	1,064,000	1,774,000	1,037,000					
-79.6 -62	4575	19,260	76,280	369,400	492,100	820,500	984,200	1,640,000	968,400					
-77.8 -61	4312	18,050	71,350	341,800	455,300	759,200	910,700	1,518,000	904,900					
-76.0 -60	4066	16,930	66,780	316,500	421,500	702,900	843,300	1,405,000	845,900					
-74.2 -59	3835	15,890	62,530	293,200	390,500	651,100	781,200	1,302,000	791,100					
-72.4 -58	3620	14,920	58,590	271,700	361,900	603,500	723,900	1,206,000	740,200					
-70.6 -57	3418	14,020	54,920	252,000	335,700	559,700	671,400	1,119,000	692,800					
-68.8 -56	3229	13,170	51,500	233,800	311,500	519,400	622,900	1,038,000	648,800					
-67.0 -55	3051	12,390	48,320	217,100	289,200	482,200	578,400	964,000	607,800					
-65.2 -54	2885	11,650	45,360	201,700	268,600	447,900	537,400	895,600	569,600					
-63.4 -53	2729	10,970	42,600	187,400	249,700	416,300	499,300	832,100	534,100					
-61.6 -52	2582	10,330	40,030	174,300	232,200	387,100	464,400	774,000	501,000					
-59.8 -51	2445	9730	37,630	162,200	216,000	360,200	432,100	720,200	470,100					
-58.0 -50	2315	9171	35,390	151,000	201,100	335,300	402,300	670,500	441,300					
-56.2 -49	2194	8647	33,300	140,600	187,300	312,300	374,600	624,300	414,500					
-54.4 -48	2079	8158	31,350	131,000	174,500	291,000	349,000	581,700	389,400					
-52.6 -47	1972	7699	29,520	122,100	162,700	271,300	325,300	542,200	366,000					
-50.8 -46	1870	7270	27,810	113,900	151,700	253,000	303,500	505,800	344,100					
-49.0 -45	1775	6867	26,220	106,300	141,600	236,200	283,200	472,000	323,700					
-47.2 -44	1685	6489	24,720	99,260	132,200	220,500	264,500	440,800	304,600					
-45.4 -43	1600	6135	23,320	92,720	123,500	205,900	247,000	411,700	286,700					
-43.6 -42	1521	5803	22,010	86,650	115,400	192,500	230,900	384,800	270,000					
-41.8 -41	1445	5491	20,790	81,020	107,900	180,000	215,900	359,800	254,400					
-40.0 -40	1374	5198	19,640	75,790	101,000	168,300	201,900	336,500	239,800	884,600	3,356,000			
-38.2 -39	1307	4922	18,560	70,930	94,480	157,500	189,000	315,000	226,000	830,900	3,147,000			
-36.4 -38	1244	4663	17,540	66,410	88,460	147,500	176,900	294,900	213,200	780,800	2,951,000			
-34.6 -37	1184	4420	16,590	62,210	82,870	138,200	165,700	276,200	201,100	733,900	2,769,000			
-32.8 -36	1127	4191	15,700	58,300	77,660	129,500	155,300	258,900	189,800	690,200	2,599,000			
-31.0 -35	1073	3975	14,860	54,660	72,810	121,400	145,600	242,700	179,200	649,300	2,440,000			
-29.2 -34	1023	3772	14,070	51,270	68,300	113,900	136,600	227,700	169,300	611,000	2,292,000			
-27.4 -33	974.9	3580	13,330	48,110	64,090	106,900	128,200	213,600	160,000	575,200	2,154,000			
-25.6 -32	929.6	3400	12,630	45,170	60,170	100,300	120,300	200,600	151,200	541,700	2,025,000			
-23.8 -31	886.6	3230	11,970	42,420	56,510	94,220	113,000	188,400	143,000	510,400	1,904,000			
-22.0 -30	846.0	3069	11,350	39,860	53,100	88,530	106,200	177,000	135,200	481,000	1,791,000			
-20.2 -29	807.5	2918	10,770	37,470	49,910	83,220	99,830	166,400	127,900	453,500	1,685,000			
-18.4 -28	771.0	2775	10,220	35,240	46,940	78,260	93,890	156,500	121,100	427,700	1,586,000			
-16.6 -27	736.4	2640	9705	33,150	44,160	73,620	88,320	147,200	114,600	403,500	1,494,000			
-14.8 -26	703.6	2512	9218	31,200	41,560	69,290	83,130	138,500	108,600	380,900	1,407,000			
-13.0 -25	672.5	2392	8758	29,380	39,130	65,240	78,280	130,500	102,900	359,600	1,326,000			
-11.2 -24	643.0	2278	8323	27,670	36,860	61,450	73,720	122,900	97,490	339,600	1,250,000			
-9.4 -23	614.9	2170	7914	26,070	34,730	57,900	69,460	115,800	92,430	320,900	1,178,000			
-7.6 -22	588.3	2068	7527	24,580	32,740	54,580	65,490	109,100	87,660	303,300	1,111,000			
-5.8 -21	563.0	1972	7161	23,180	30,870	51,470	61,760	102,900	83,160	286,700	1,049,000			
-4.0 -20	538.9	1880	6815	21,870	29,130	48,560	58,270	97,110	78,910	271,200	989,800			
-2.2 -19	516.1	1794	6489	20,640	27,490	45,830	54,990</							



Measurement Specialties, Temperature Product Group

2670 Indian Ripple Road
Dayton, Ohio 45440-3605 USA
937 427 1231 fax 937 427 1640

www.meas-spec.com

Resistance Data for YSI Thermistors						44007 column								
Thermistor Mix Ohms @ 25°C	"L" 100	"L" 300	"L" 1000	"B" 2252	"B" 3000	"B" 5000	"B" 6000	"B" 10,000	"H" 10,000	"H" 30,000	"H" 100 K	"H" 300 K	"H" 1 M	
YSI P/N	44001A	44002A	44003A 440035	44004 440033	44005 440030	44007 440034	44017 440037	44016 440036	44006 440031	44008 440032	44011	44014	44015	
				45004	45005	45007	45017	45016	45006	45008				
				46004 460033 460043	46005 460030 460040	46007 460034 460044	46017 460037 460047	46016 460036 460046	46006 460031 460041	46008 460032				
				55004 550033	55005 550030	55007 550034	55017 550037	55016 550036	55006 550031	55008 550032				
				44019	400 Series Probes			44018		44019	44018			
Temperature °F °C														
35.6 2	221.9	716.3	2487	6644	8851	14,750	17,700	29,500	26,890	86,090	300,600	975,300	3,529,000	
37.4 3	213.8	687.8	2384	6319	8417	14,030	16,840	28,060	25,690	81,990	285,700	923,800	3,330,000	
39.2 4	206.0	660.6	2286	6011	8006	13,340	16,020	26,690	24,550	78,110	271,600	875,200	3,144,000	
41.0 5	198.6	634.6	2192	5719	7618	12,700	15,240	25,400	23,460	74,440	258,300	829,500	2,969,000	
42.8 6	191.5	609.9	2102	5444	7252	12,090	14,500	24,170	22,430	70,960	245,700	786,300	2,804,000	
44.6 7	184.6	586.2	2017	5183	6905	11,510	13,810	23,020	21,450	67,660	233,800	745,600	2,649,000	
46.4 8	178.1	563.6	1936	4937	6576	10,960	13,150	21,920	20,520	64,530	222,500	707,200	2,504,000	
48.2 9	171.9	542.1	1859	4703	6265	10,440	12,530	20,880	19,630	61,560	211,900	671,000	2,367,000	
50.0 10	165.9	521.5	1785	4482	5971	9951	11,940	19,900	18,790	58,750	201,700	636,800	2,238,000	
51.8 11	160.1	501.7	1714	4273	5692	9486	11,380	18,970	17,980	56,070	192,200	604,500	2,117,000	
53.6 12	154.6	482.9	1647	4074	5427	9046	10,850	18,090	17,220	53,540	183,100	574,000	2,003,000	
55.4 13	149.3	464.9	1582	3886	5177	8628	10,350	17,260	16,490	51,130	174,500	545,200	1,896,000	
57.2 14	144.2	447.6	1521	3708	4939	8232	9879	16,470	15,790	48,840	166,300	518,000	1,795,000	
59.0 15	139.4	431.2	1462	3539	4714	7857	9429	15,710	15,130	46,670	158,600	492,300	1,700,000	
60.8 16	134.7	415.4	1406	3378	4500	7500	9000	15,000	14,500	44,600	151,300	468,000	1,610,000	
62.6 17	130.2	400.2	1353	3226	4297	7162	8595	14,330	13,900	42,640	144,300	444,900	1,525,000	
64.4 18	125.9	385.8	1302	3081	4105	6841	8209	13,680	13,330	40,770	137,700	423,200	1,446,000	
66.2 19	121.7	371.9	1253	2944	3922	6536	7844	13,070	12,790	38,990	131,400	402,600	1,370,000	
68.0 20	117.7	358.6	1206	2814	3748	6247	7497	12,500	12,260	37,300	125,500	383,100	1,299,000	
69.8 21	113.9	345.9	1161	2690	3583	5972	7167	11,940	11,770	35,700	119,800	364,600	1,232,000	
71.6 22	110.2	333.7	1118	2572	3426	5710	6853	11,420	11,290	34,170	114,500	347,100	1,169,000	
73.4 23	106.7	322.0	1077	2460	3277	5462	6554	10,920	10,840	32,710	109,400	330,600	1,110,000	
75.2 24	103.3	310.8	1038	2354	3135	5225	6272	10,450	10,410	31,320	104,500	314,900	1,053,000	
77.0 25	100.0	300.0	1000	2252	3000	5000	6000	10,000	10,000	30,000	100,000	300,000	1,000,000	
78.8 26	96.9	289.7	963.9	2156	2872	4787	5744	9574	9605	28,740	95,510	285,900	949,700	
80.6 27	93.8	279.8	929.4	2064	2750	4583	5499	9165	9227	27,540	91,340	272,500	902,200	
82.4 28	90.9	270.3	896.3	1977	2633	4389	5267	8779	8867	26,400	87,380	259,800	857,200	
84.2 29	88.1	261.1	864.5	1894	2523	4204	5046	8410	8523	25,310	83,600	247,800	814,700	
86.0 30	85.4	252.4	834.0	1815	2417	4029	4836	8060	8194	24,270	80,000	236,400	774,500	
87.8 31	82.8	243.9	804.8	1739	2317	3861	4633	7722	7880	23,280	76,580	225,600	736,500	
89.6 32	80.3	235.9	776.8	1667	2221	3702	4441	7402	7579	22,330	73,320	215,300	700,500	
91.4 33	77.8	228.1	749.9	1599	2130	3549	4260	7100	7291	21,430	70,220	205,500	666,400	
93.2 34	75.5	220.6	724.1	1533	2042	3404	4084	6807	7016	20,570	67,260	196,200	634,100	
95.0 35	73.2	213.4	699.4	1471	1959	3266	3919	6532	6752	19,740	64,440	187,400	603,600	
96.8 36	71.1	206.5	675.6	1412	1880	3134	3762	6270	6500	18,960	61,750	179,000	574,600	
98.6 37	69.0	199.8	652.7	1355	1805	3008	3610	6017	6258	18,210	59,190	171,000	547,200	
100.4 38	67.0	193.4	630.8	1301	1733	2888	3466	5777	6026	17,490	56,750	163,500	521,200	
102.2 39	65.0	187.3	609.7	1249	1664	2773	3328	5546	5805	16,800	54,420	156,300	496,600	
104.0 40	63.1	181.4	589.5	1200	1598	2663	3197	5329	5592	16,150	52,190	149,400	473,200	
105.8 41	61.3	175.7	570.0	1152	1535	2559	3069	5116	5389	15,520	50,070	142,900	451,000	
107.6 42	59.6	170.2	551.2	1107	1475	2459	2949	4916	5193	14,920	48,040	136,700	430,000	
109.4 43	57.9	164.9	533.2	1064	1418	2363	2835	4725	5006	14,350	46,110	130,800	410,000	
111.2 44	56.2	159.8	515.9	1023	1363	2272	2726	4543	4827	13,800	44,260	125,100	391,100	
113.0 45	54.7	154.9	499.2	983.8	1310	2184	2621	4369	4655	13,280	42,500	119,800	373,100	
114.8 46	53.1	150.1	483.2	946.2	1260	2101	2521	4202	4489	12,770	40,810	114,700	356,100	
116.6 47	51.7	145.6	467.8	910.2	1212	2021	2425	4042	4331	12,290	39,200	109,800	339,800	
118.4 48	50.2	141.2	452.9	875.8	1167	1944	2333	3889	4179	11,830	37,660	105,200	324,400	
120.2 49	48.9	137.0	438.6	842.8	1123	1871	2246	3743	4033	11,390	36,190	100,800	309,800	
122.0 50	47.5	132.9	424.8	811.3	1081	1801	2162	3603	3893	10,970	34,780	96,540	295,900	
123.8 51	46.2	128.9	411.6	781.1	1040	1734	2081	3469	3758	10,570	33,440	92,520	282,700	
125.6 52	45.0	125.1	398.8	752.2	1002	1670	2004	3340	3629	10,180	32,150	88,690	270,100	
127.4 53	43.8	121.5	386.5	724.5	965.0	1608	1930	3217	3504	9807	30,920	85,040	258,100	
129.2 54	42.6	117.9	374.7	697.9	929.6	1549	1859	3099	3385	9450	29,740	81,550	246,700	
131.0 55	41.5	114.5	363.2	672.5	895.8	1493	1792	2986	3270	9109	28,610	78,220	235,900	
132.8 56	40.4	111.2	352.2	648.1	863.3	1439	1727	2878	3160	8781	27,530	75,040	225,600	
134.6 57	39.3	108.0	341.6	624.8	832.2	1387	1665	2774	3054	8467	26,500	72,010	215,800	
136.4 58	38.3	105.0	331.3	602.4	802.3	1337	1605	2675	2952	8166	25,500	69,110	206,400	
138.2 59	37.3	102.0	321.5	580.9	773.7	1290	1548	2580	2854	7876	24,560	66,340	197,500	
140.0 60	36.4	99.1	311.9	560.3	746.3	1244	1493	2488	2760	7599	23,650	63,700	189,100	
141.8 61	35.4	96.3	302.7	540.5	719.9	1200	1440	2400	2669					

**Measurement Specialties, Temperature Product Group**

2670 Indian Ripple Road
Dayton, Ohio 45440-3605 USA
937 427 1231 fax 937 427 1640

www.meas-spec.com

Resistance Data for YSI Thermistors							44007 column							
Thermistor Mix Ohms @ 25°C	"L" 100	"L" 300	"L" 1000	"B" 2252	"B" 3000	"B" 5000	"B" 6000	"B" 10,000	"H" 10,000	"H" 30,000	"H" 100 K	"H" 300 K	"H" 1 M	
YSI P/N	44001A	44002A	44003A 440035	44004 440033	44005 440030	44007 440034	44017 440037	44016 440036	44006 440031	44008 440032	44011	44014	44015	
				45004	45005	45007	45017	45016	45006	45008				
				46004 460033 46043	46005 460030 46040	46007 460034 46044	46017 460037 46047	46016 460036 46046	46006 460031 46041	46008 460032				
				55004 55033	55005 55030	55007 55034	55017 55037	55016 55036	55006 55031	55008 55032				
Temperature °F			44019	400 Series Probes			44018		44019	44018				
183.2 84	20.3	52.4	159.1	248.6	331.5	552.6	662.3	1104	1293	3379	10,080	25,350	69,980	
185.0 85	19.9	51.1	154.9	240.9	321.2	535.4	641.8	1070	1255	3273	9744	24,450	67,290	
186.8 86	19.4	49.9	151.0	233.4	311.3	518.8	621.8	1036	1218	3172	9424	23,590	64,720	
188.6 87	19.0	48.7	147.1	226.2	301.7	502.8	602.7	1004	1183	3073	9117	22,760	62,260	
190.4 88	18.6	47.5	143.4	219.3	292.4	487.4	584.3	973.8	1149	2979	8821	21,960	59,910	
192.2 89	18.2	46.4	139.8	212.6	283.5	472.6	566.4	944.1	1116	2887	8536	21,190	57,650	
194.0 90	17.8	45.3	136.2	206.1	274.9	458.2	549.1	915.2	1084	2799	8261	20,450	55,480	
195.8 91	17.4	44.2	132.8	199.9	266.6	444.4	532.6	887.7	1053	2714	7996	19,750	53,410	
197.6 92	17.0	43.2	129.5	193.9	258.6	431.0	516.6	861.0	1023	2632	7741	19,070	51,420	
199.4 93	16.6	42.1	126.3	188.1	250.9	418.2	501.2	835.3	994.2	2552	7496	18,410	49,520	
201.2 94	16.3	41.2	123.2	182.5	243.4	405.7	486.2	810.4	966.3	2476	7259	17,780	47,690	
203.0 95	15.9	40.2	120.2	177.1	236.2	393.7	471.8	786.4	939.3	2402	7030	17,180	45,940	
204.8 96	15.6	39.3	117.3	171.9	229.3	382.1	458.0	763.3	913.2	2331	6810	16,600	44,260	
206.6 97	15.3	38.4	114.4	166.9	222.6	370.9	444.7	741.1	887.9	2262	6598	16,040	42,650	
208.4 98	15.0	37.5	111.7	162.0	216.1	360.1	431.6	719.4	863.4	2195	6393	15,500	41,100	
210.2 99	14.6	36.7	109.0	157.3	209.8	349.7	419.1	698.5	839.7	2131	6195	14,980	39,620	
212.0 100	14.3	35.8	106.4	152.8	203.8	339.6	407.1	678.5	816.8	2069	6005	14,480	38,200	
213.8 101				148.4	197.9	329.8	395.4	659.0	794.6	2009	5821	14,000	36,840	
215.6 102				144.2	192.2	320.4	384.2	640.3	773.1	1950	5643	13,540	35,530	
217.4 103				140.1	186.8	311.3	373.3	622.1	752.3	1894	5472	13,090	34,270	
219.2 104				136.1	181.5	302.5	362.6	604.4	732.1	1840	5307	12,660	33,060	
221.0 105				132.3	176.4	294.0	352.5	587.5	712.6	1788	5147	12,250	31,910	
222.8 106				128.6	171.4	285.7	342.6	571.0	693.6	1737	4993	11,860	30,790	
224.6 107				125.0	166.7	277.8	333.0	555.1	675.3	1688	4844	11,470	29,720	
226.4 108				121.6	162.0	270.1	324.0	540.0	657.5	1640	4700	11,110	28,690	
228.2 109				118.2	157.6	262.6	314.9	524.9	640.3	1594	4561	10,750	27,710	
230.0 110				115.0	153.2	255.4	306.4	510.7	623.5	1550	4427	10,410	26,760	
231.8 111				111.8	149.0	248.4	297.9	496.4	607.3	1507	4297	10,080	25,840	
233.6 112				108.8	145.0	241.6	289.9	483.1	591.6	1465	4172	9763	24,960	
235.4 113				105.8	141.1	235.1	281.9	469.8	576.4	1425	4051	9456	24,120	
237.2 114				103.0	137.2	228.7	274.4	457.4	561.6	1386	3933	9161	23,310	
239.0 115				100.2	133.6	222.6	267.0	444.9	547.3	1348	3820	8876	22,520	
240.8 116				97.6	130.0	216.7	260.0	433.4	533.4	1311	3711	8601	21,770	
242.6 117				95.0	126.5	210.9	253.1	421.8	519.9	1276	3605	8336	21,050	
244.4 118				92.5	123.2	205.3	246.4	410.7	506.8	1241	3502	8080	20,350	
246.2 119				90.0	119.9	199.9	239.8	399.6	494.1	1208	3403	7832	19,680	
248.0 120				87.7	116.8	194.7	233.7	389.4	481.8	1176	3307	7594	19,030	
249.8 121				85.4	113.8	189.6	227.5	379.2	469.8	1145	3214	7364	18,410	
251.6 122				83.2	110.8	184.7	221.7	369.4	458.2	1114	3124	7142	17,810	
253.4 123				81.1	107.9	179.9	216.1	360.1	446.9	1085	3038	6927	17,230	
255.2 124				79.0	105.2	175.3	210.5	350.8	435.9	1057	2953	6720	16,680	
257.0 125				77.0	102.5	170.8	205.2	341.9	425.3	1029	2872	6519	16,140	
258.8 126				75.0	99.9	166.4	199.8	333.0	414.9	1002	2793	6326	15,620	
260.6 127				73.1	97.3	162.2	194.8	324.6	404.9	976.3	2717	6139	15,120	
262.4 128				71.3	94.9	158.1	190.0	316.6	395.1	951.1	2643	5958	14,640	
264.2 129				69.5	92.5	154.1	185.2	308.6	385.6	926.7	2571	5784	14,180	
266.0 130				67.8	90.2	150.3	180.6	301.1	376.4	903.0	2501	5615	13,740	
267.8 131				66.1	87.9	146.5	176.1	293.5	367.4	880.0	2434	5452	13,310	
269.6 132				64.4	85.7	142.9	171.6	286.0	358.7	857.7	2369	5294	12,890	
271.4 133				62.9	83.6	139.4	167.6	279.3	350.3	836.1	2306	5141	12,490	
273.2 134				61.3	81.6	136.0	163.3	272.2	342.0	815.0	2244	4994	12,100	
275.0 135				59.8	79.6	132.6	159.3	265.5	334.0	794.6	2185	4851	11,730	
276.8 136				58.4	77.6	129.4	155.6	259.3	326.3	774.8	2128	4713	11,370	
278.6 137				57.0	75.8	126.3	151.9	253.1	318.7	755.6	2072	4580	11,020	
280.4 138				55.6	73.9	123.2	148.1	246.9	311.3	736.9	2018	4450	10,690	
282.2 139				54.3	72.2	120.3	144.7	241.1	304.2	718.8	1965	4325	10,360	
284.0 140				53.0	70.4	117.4	141.2	235.3	297.2	701.2	1914	4204	10,050	
285.8 141				51.7	68.8	114.6	137.7	229.6	290.4	684.1	1865	4087	9746	
287.6 142				50.5	67.1	111.9	134.5	224.2	283.8	667.5	1817	3974	9455	
289.4 143				49.3	65.5	109.2	131.3	218.9	277.4	651.3	1770	3864	9173	
291.2 144				48.2	64.0	106.7	128.4	214.0	271.2	635.6	1725	3757	8901	
293.0 145				47.0	62.5	104.2	125.2	208.7	265.1	620.3	1681	3654	8637	
294.8 146				45.9	61.1	101.8	122.3	203.8	259.2	605.5	1639	3555	8383	
296.6 147				44.9	59.6	99.4	119.6	199.4	253.4	591.1	1598	3458	8137	
298.4 148				43.8	58.3	97.1	116.7	194.5	247.8	577.1	1558	3364	7899	
300.2 149				42.8	56.9	94.9	114.0	190.1	242.3	563.5	1519	3274	7669	
302.0 150				41.8	55.6	92.7	111.5	185.9	237.0	550.2	1481	3186	7447	
303.8 151				40.9	54.5	90.8	109.0	181.7	231.7	537.7				
305														

**Measurement Specialties, Temperature Product Group**

2670 Indian Ripple Road
Dayton, Ohio 45440-3605 USA
937 427 1231 fax 937 427 1640

www.meas-spec.com

Resistance Data for YSI Thermistors						44007 column								
Thermistor Mix Ohms @ 25°C	"L" 100	"L" 300	"L" 1000	"B" 2252	"B" 3000	"B" 5000	"B" 6000	"B" 10,000	"H" 10,000	"H" 30,000	"H" 100 K	"H" 300 K	"H" 1 M	
YSI P/N	44001A	44002A	44003A 44035	44004 44033	44005 44030	44007 44034	44017 44037	44016 44036	44006 44031	44008 44032	44011	44014	44015	
				45004	45005	45007	45017	45016	45006	45008				
				46004	46005	46007	46017	46016	46006	46008				
				46033 46043	46030 46040	46034 46044	46037 46047	46036 46046	46031 46041	46032				
				55004 55033	55005 55030	55007 55034	55017 55037	55016 55036	55006 55031	55008 55032				
Temperature °F °C			44019	400 Series Probes			44018		44019	44018				
330.8 166				29.3	39.0	65.1	78.1	130.1	167.8	380.8				
332.6 167				28.7	38.2	63.7	76.4	127.3	164.4	372.4				
334.4 168				28.1	37.4	62.3	74.8	124.6	161.0	364.3				
336.2 169				27.5	36.6	61.0	73.2	122.0	157.7	356.3				
338.0 170				26.9	35.8	59.7	71.7	119.4	154.5	348.6				
339.8 171				26.3	35.1	58.5	70.1	116.9	151.4	341.0				
341.6 172				25.9	34.3	57.3	68.7	114.5	148.3	333.6				
343.4 173				25.2	33.6	56.1	67.3	112.1	145.3	326.4				
345.2 174				24.7	32.9	54.9	65.9	109.8	142.4	319.4				
347.0 175				24.2	32.2	53.8	64.5	107.5	139.6	312.7				
348.8 176				23.7	31.6	52.7	63.2	105.3	136.8	305.9				
350.6 177				23.2	30.9	51.6	61.9	103.2	134.1	299.4				
352.4 178				22.8	30.3	50.5	60.7	101.1	131.5	293.1				
354.2 179				22.3	29.7	49.5	59.4	99.0	128.9	286.9				
356.0 180				21.9	29.1	48.6	58.2	97.1	126.3	281.0				
357.8 181				21.4	28.5	47.5	57.1	95.1	123.9	275.0				
359.6 182				21.0	27.9	46.6	55.9	93.2	121.5	269.3				
361.4 183				20.6	27.4	45.6	54.8	91.3	119.1	263.7				
363.2 184				20.2	26.8	44.7	53.7	89.5	116.8	258.3				
365.0 185				19.8	26.3	43.8	52.7	87.8	114.6	253.0				
366.8 186				19.4	25.8	43.0	51.6	86.0	112.4	247.7				
368.6 187				19.0	25.3	42.1	50.6	84.3	110.2	242.7				
370.4 188				18.6	24.8	41.3	49.6	82.7	108.1	237.7				
372.2 189				18.3	24.3	40.5	48.6	81.1	106.1	232.9				
374.0 190				17.9	23.8	39.7	47.7	79.5	104.1	228.2				
375.8 191				17.6	23.4	39.0	46.8	78.0	102.2	223.6				
377.6 192				17.2	22.9	38.2	45.9	76.5	100.2	219.1				
379.4 193				16.9	22.5	37.5	45.0	75.1	98.4	214.7				
381.2 194				16.6	22.1	36.8	44.2	73.7	96.6	210.4				
383.0 195				16.3	21.7	36.1	43.4	72.3	94.8	206.2				
384.8 196				16.0	21.3	35.5	42.6	70.9	93.0	202.1				
386.6 197				15.7	20.9	34.8	41.8	69.6	91.3	198.2				
388.4 198				15.4	20.5	34.2	41.0	68.3	89.7	194.2				
390.2 199				15.1	20.2	33.5	40.2	67.1	88.0	190.4				
392.0 200				14.9	19.8	32.9	39.6	65.9	86.5	186.7				
393.8 201				14.6	19.4	32.3	38.8	64.7	84.9	183.1				
395.6 202				14.3	19.1	31.7	38.1	63.5	83.3	179.5				
397.4 203				14.0	18.7	31.2	37.4	62.3	81.9	176.0				
399.2 204				13.8	18.4	30.6	36.7	61.2	80.4	172.6				
401.0 205				13.5	18.1	30.0	36.0	60.1	79.0	169.3				
402.8 206				13.3	17.8	29.5	35.4	59.0	77.6	166.1				
404.6 207				13.1	17.4	29.0	34.8	58.0	76.2	162.9				
406.4 208				12.8	17.1	28.5	34.2	57.0	74.9	159.8				
408.2 209				12.6	16.8	28.0	33.6	56.0	73.6	156.8				
410.0 210				12.4	16.5	27.5	33.0	55.0	72.3	153.8				
411.8 211				12.2	16.3	27.0	32.4	54.0	71.0	150.9				
413.6 212				11.9	16.0	26.5	31.8	53.1	69.8	148.1				
415.4 213				11.7	15.7	26.1	31.3	52.1	68.6	145.3				
417.2 214				11.5	15.4	25.6	30.7	51.2	67.4	142.6				
419.0 215				11.3	15.1	25.1	30.2	50.3	66.2	139.9				
420.8 216				11.1	14.9	24.7	29.7	49.5	65.1	137.3				
422.6 217				10.9	14.6	24.3	29.2	48.6	64.0	134.8				
424.4 218				10.8	14.4	23.9	28.7	47.8	62.9	132.3				
426.2 219				10.6	14.1	23.5	28.2	47.0	61.8	129.9				
428.0 220				10.4	13.9	23.1	27.7	46.2	60.8	127.5				
429.8 221				10.2	13.7	22.7	27.2	45.4	59.8	125.2				
431.6 222				10.1	13.4	22.3	26.8	44.7	58.8	122.9				
433.4 223				9.9	13.2	22.0	26.3	43.9	57.8	120.7				
435.2 224				9.7	13.0	21.6	25.9	43.2	56.8	118.5				
437.0 225				9.6	12.8	21.3	25.5	42.5	55.9	116.3				
438.8 226				9.4	12.6	20.9	25.0	41.8	55.0	114.3				
440.6 227				9.2	12.3	20.5	24.6	41.1	54.1	112.2				
442.4 228				9.1	12.1	20.2	24.2	40.4	53.2	110.2				
444.2 229				8.9	11.9	19.9	23.8	39.7	52.3	108.3				
446.0 230				8.8	11.7	19.5	23.4	39.1	51.5	106.4				
447.8 231				8.7	11.5	19.2	23.1	38.5	50.6	104.5				
449.6 232				8.5	11.4	18.9	22.7	37.8	49.9	102.6				
451.4 233				8.4	11.2	18.6	22.3	37.2	49.0	100.8				
453.2 234				8.2	11.0	18.3	22.0	36.6	48.2	99.1				
455.0 235				8.1	10.8	18.0	21.6	36.0	47.4	97.3				
456.8 236				8.0	10.6	17.7	21.3	35.5	46.7	95.7				
458.6 237				7.9	10.5	17.4	20.9	34.9	46.0	94.0				
460.4 238				7.7	10.3	17.1	20.6	34.4	45.2	92.4				
462.2 239				7.6	10.1	16.9	20.3	33.8	44.5	90.8				
464.0 240				7.5	10.0	16.6	20.0	33.3	43.8	89.2				
465.8 241				7.4	9.8	16.3	19.6	32.8	43.1	87.7				
467.6 242				7.3	9.7	16.1	19.3	32.2	42.4	86.2				
469.4 243				7.1	9.5	15.8	19.0	31.7	41.8	84.8				
471.2 244				7.0	9.3	15.6	18.7	31.3	41.1	83.3				
473.0 245				6.9	9.2	15.3	18.5	30.8	40.5	81.9				
474.8 246				6.8	9.1	15.1	18.2	30.3	39.9	80.5				
476.6 247				6.7	8.9	14.9	17.9	29.8	39.3	79.2				



Measurement Specialties, Temperature Product Group
2670 Indian Ripple Road
Dayton, Ohio 45440-3605 USA
937 427 1231 fax 937 427 1640
www.meas-spec.com

		44007 column												
Resistance Data for YSI Thermistors		"L"	"L"	"L"	"B"	"B"	"B"	"B"	"H"	"H"	"H"	"H"	"H"	"H"
Thermistor Mix		100	300	1000	2252	3000	5000	6000	10,000	10,000	30,000	100 K	300 K	1 M
Ohms @ 25°C		44001A	44002A	44003A 44035	44004 44033	44005 44030	44007 44034	44017 44037	44016 44036	44006 44031	44008 44032	44011	44014	44015
YSI P/N					45004	45005	45007	45017	45016	45006	45008			
					46004	46005	46007	46017	46016	46006	46008			
					46033	46030	46034	46037	46036	46031	46032			
					46043	46040	46044	46047	46046	46041				
Temperature °F °C				44019	55004	55005	55007	55017	55016	55006	55008			
				400 Series Probes	55033	55030	55034	55037	55036	55031	55032			
	478.4 248				6.6	8.8	14.6	17.6	29.4	38.7	77.9			
	480.2 249				6.5	8.6	14.4	17.4	28.9	38.1	76.6			
482.0 250					6.4	8.5	14.2	17.1	28.5	37.5	75.3			



APPENDIX E

Laboratory Test Results



APPENDIX E

Laboratory Test Results

Classification (Index) Testing Results

Borehole	Sample No.	Sample Depth ^(a)				Proportion By Mass			Water Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity	USCS Group Symbol	Sample Description	Comment
		From m	(ft)	To m	(ft)	Gravel (%)	Sand (%)	Fines (%)								
JP1-SD-01	2	15.2	50.0	15.5	51.0	0	4.1	95.9	22.6	0	0	np		(ML)	SILT, trace sand	Lakebed Sediment
JP1-SD-02	1	12.2	40.0	12.8	42.0	0	3.8	96.2	26.0	26	20	6		(CL-ML)	SILTY CLAY to CLAYEY SILT, trace sand	Lakebed Sediment
JP2-SD-01	1	1.1	3.5	1.1	3.7	0	3.4	96.6	26.4	25	21	4		(CL-ML)	SILTY CLAY to CLAYEY SILT, trace sand	Lakebed Sediment
JP4N-SD-02	1	4.3	14.0	4.6	15.0	0.3	15.8	83.9	14.5	18	14	4		(CL-ML)	sandy SILTY CLAY to CLAYEY SILT	Lakebed Sediment
JP4N-SD-07	1	10.7	35.0	10.8	35.5	0.9	3.7	95.4	29.3	31	23	8		(CI)	SILTY CLAY, trace sand and gravel	Lakebed Sediment
JP4S-SD-03	1	10.4	34.0	10.7	35.0	0	3.9	96.1	19.8	23	18	5		(CI)	SILTY CLAY, trace sand	Lakebed Sediment
JP4S-SD-04	1	7.8	25.5	7.9	26.0	0	1.5	98.5						(CI)	SILTY CLAY, trace sand	Lakebed Sediment
JP5-SD-02	1	5.5	18.0	5.8	19.0	0	6.8	93.2	56.9	47	28	19	2.68	(ML)	CLAYEY SILT, some sand	Lakebed Sediment
JP5-SD-08	1	10.5	34.5	10.7	35.0	0	1.6	98.4	31.8	27	21	6	2.75	(CL-ML)	SILTY CLAY to CLAYEY SILT, trace sand	Lakebed Sediment
JP5-SD-01&05&07	1 (combined) ^(b)	n/a	n/a	n/a	n/a	0	8.6	91.4	25.3	26	20	6		(CL-ML)	SILTY CLAY to CLAYEY SILT, some sand	Lakebed Sediment. Combined sample.
JP1-SD-01	4	23.2	76.0	23.5	77.0	0	52.2	47.8	20.4	0	0	np		(SM)	SAND and silt	Competent Soil
JP1-SD-01	6	26.2	86.0	26.4	86.5	43.7	28.3	28	12.3	14	13	1		(GM)	sandy SILTY GRAVEL	Competent Soil
JP1-SD-01	10	29.1	95.3	29.3	96.0	47.2	38.1	14.7	13.9	28	17	11		(GC)	CLAYEY GRAVEL and sand	Competent Soil
JP1-SD-01	11	31.9	104.5	32.0	105.0	29.3	29.8	40.9						(SC)	gravelly CLAYEY SAND	Competent Soil
JP1-SD-02	6	22.3	73.0	22.6	74.0	0.3	93.8	5.9	9.0	0	0	np		(SP-SM)	SAND, some silt	Competent Soil
JP1-SD-02	7B	24.7	81.0	25.0	82.0	50.1	28.5	21.4	11.0	25	9	9		(GC)	sandy CLAYEY GRAVEL	Competent Soil
JP1-SD-03	4	17.0	55.8	17.1	56.0	18.8	61.2	20.0	9.6	0	0	np		(SM)	gravelly SILTY SAND	Competent Soil
JP1-SD-03	8	20.0	65.5	20.1	66.0	42.4	27.4	30.2						(GC)	sandy CLAYEY GRAVEL	Competent Soil
JP2-SD-01	3	7.5	24.5	7.8	25.5	21.2	48.1	30.7						(SM)	gravelly SILTY SAND	Competent Soil
JP2-SD-01	6	16.2	53.0	16.3	53.3	21.2	52	26.8						(SM)	gravelly SILTY SAND	Competent Soil
JP4N-SD-01	2	8.8	29.0	9.1	30.0	54.2	28.8	17.0	8.9	14	12	2		(GM)	sandy SILTY GRAVEL	Competent Soil
JP4N-SD-03	3	10.5	34.5	10.7	35.0	2.2	67.8	30.0						(SM)	SILTY SAND, trace gravel	Competent Soil
JP4N-SD-04	2	11.9	39.0	12.0	39.5	28.7	63.5	7.8						(SW-SM)	gravelly SILTY SAND	Competent Soil
JP4N-SD-05	2	11.6	38.0	11.9	39.0	16.2	43.8	40.0	9.4	14	11	3		(SM)	gravelly SILTY SAND	Competent Soil
JP4N-SD-06	2	10.2	33.5	10.4	34.0	48.8	22.7	28.5						(GM)	sandy SILTY GRAVEL	Competent Soil
JP4N-SD-08	1	11.0	36.0	11.1	36.5	22.2	35.0	42.8	10.3	17	13	4		(SM)	gravelly SAND and silt	Competent Soil
JP4S-SD-01	1	6.7	22.0	7.2	23.5	2.1	30.6	67.3	32.6	33	20	13		(CI)	sandy SILTY CLAY, trace gravel	Competent Soil
JP4S-SD-01	3	9.5	31.0	9.8	32.0	40.3	41.7	18						(SC)	CLAYEY SAND and gravel	Competent Soil
JP4S-SD-01	6 & 8	n/a	n/a	n/a	n/a	49.6	39.1	11.3						(GM)	silty GRAVEL and SAND	Competent Soil. Combined sample.
JP4S-SD-01	9 & 11 & 14	n/a	n/a	n/a	n/a	65.5	31.3	3.2						(GW)	sandy GRAVEL, trace silt	Competent Soil. Combined sample.
JP4S-SD-01	12	23.5	77.0	23.8	78.0	70.6	15.4	14.0	8.1	16	14	2		(GM)	sandy SILTY GRAVEL	Competent Soil
JP4S-SD-01	15	26.8	88.0	27.1	89.0	30.4	28.9	40.7	12.9	27	17	10		(GC)	sandy GRAVEL and CLAY	Competent Soil
JP4S-SD-02	4	25.3	83.0	25.6	84.0	74.7	14.1	11.2						(GP-GM)	sandy SILTY GRAVEL	Competent Soil
JP4S-SD-02	6	28.0	92.0	28.4	93.0	42.1	24	33.9						(GM)	sandy SILTY GRAVEL	Competent Soil
JP4S-SD-03	3	10.8	35.5	11.3	37.0	55.2	26.9	17.9	5.4	16	13	3		(GM)	sandy SILTY GRAVEL	Competent Soil
JP5-SD-01	2 & 3	10.1	33.0	10.8	35.5	16.2	39.6	44.2	10.9	16	11	5		(SM-SC)	gravelly SILTY SAND to CLAYEY SAND	Competent Soil. Combined sample.
JP5-SD-02	2 & 3	7.0	23.0	8.8	29.0	29	35.6	35.4	10.2	16	12	4		(SM)	gravelly SILTY SAND	Competent Soil. Combined sample.
JP5-SD-03	2	12.8	42.0	13.0	42.5	47.6	35.5	16.9						(GM)	SILTY GRAVEL and sand	Competent Soil
JP5-SD-04	1	3.8	12.5	4.0	13.0	34.7	51.5	13.8						(SM)	gravelly SILT SAND	Competent Soil
JP5-SD-06	1	12.5	41.0	12.8	42.0	42.5	31.3	26.2	13.6	20	15	5		(GC-GM)	sandy CLAYEY GRAVEL to SILTY GRAVEL	Competent Soil
JP5-SD-07	2	11.3	37.0	11.4	37.5	61.3	22.5	16.2						(GM)	sandy SILTY GRAVEL	Competent Soil
JP5-SD-08	3	14.5	47.5	14.8	48.5				15.4	20	14	6		(CL-ML)	SILTY CLAY TO CLAYEY SILT	Competent Soil
JP5-SD-08	4 & 5	16.3	53.5	17.7	58.0	5.8	9.1	85.1	24.3	34	21	13		(CI)	SILTY CLAY some sand	Competent Soil
JP5-SD-08	6	19.7	64.5	19.8	65.0				19.8	23	15	8		(CL)	SILTY CLAY	Competent Soil
JP5-SD-08	7	22.0	72.0	22.3	73.0	36.8	41.4	21.8						(SM)	SILTY SAND and gravel	Competent Soil
JP5-SD-09	3	5.8	19.0	5.9	19.5	21.2	58	20.8						(SM)	gravelly SILTY SAND	Competent Soil
JP5-SD-09	4 & 5	8.7	28.5	10.4	34.0	62	32.6	5.4						(GW-GM)	sandy GRAVEL, some silt	Competent Soil. Combined sample.
JP5-SD-10	1	13.4	44.0	13.6	44.5	26.6	48.6	24.8	7.9	15	11	4		(SM)	gravelly SILTY SAND	Competent Soil
JP5-SD-10	2	13.7	45.0	14.0	46.0	27.5	47.1	25.4						(SM)	gravelly SILTY SAND	Competent Soil
JP5-SD-10	4	16.0	52.5	16.3	53.5	61.7	27.7	10.6	6.3	0	0	np		(GW-GM)	sandy SILTY GRAVEL	Competent Soil

Notes:

(a) - Sample depth measured from the collar elevation which is equivalent to the top of ice.

(b) - Samples were combined from several boreholes. Sample 1 was taken from each of the following boreholes: JP5-SD-01, JP5-SD-05, and JP5-SD-07.

'np' - Implies that sample is non-plastic

'USCS' - United Soil Classification System

n/a' - Sample depth not applicable. Samples combined to not have a consistent or overlapping depth.

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-01

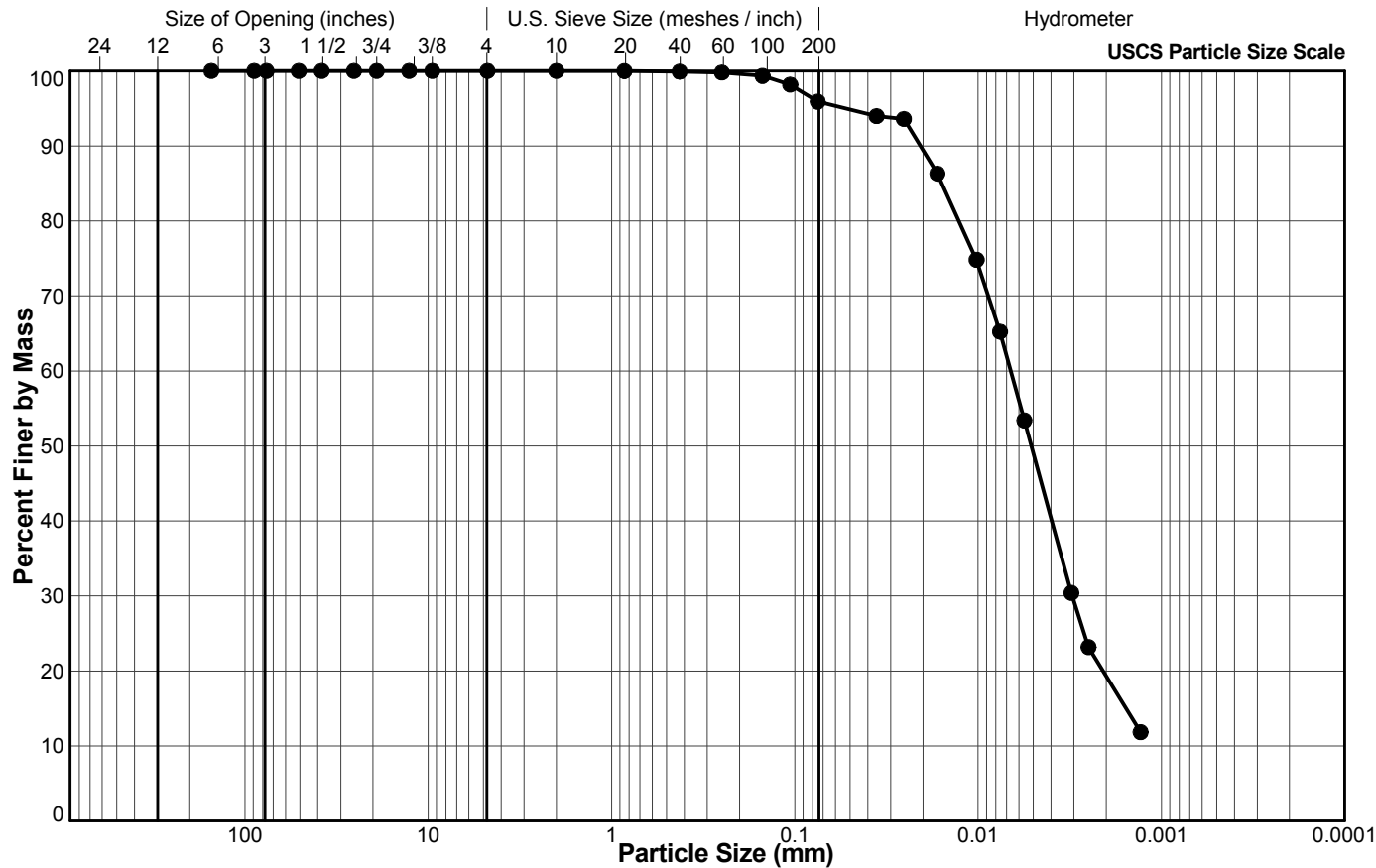
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 15.24 to 15.54

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	100.0
#40 US MESH	0.425	99.9
#60 US MESH	0.25	99.8
#100 US MESH	0.15	99.3
#140 US MESH	0.106	98.2
#200 US MESH	0.075	95.9
	0.0358	94.0
	0.0254	93.6
	0.0167	86.3
	0.0102	74.8
	0.0076	65.2
	0.0056	53.4
	0.0031	30.4
	0.0025	23.2
	0.0013	11.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/OA
4/29/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-01

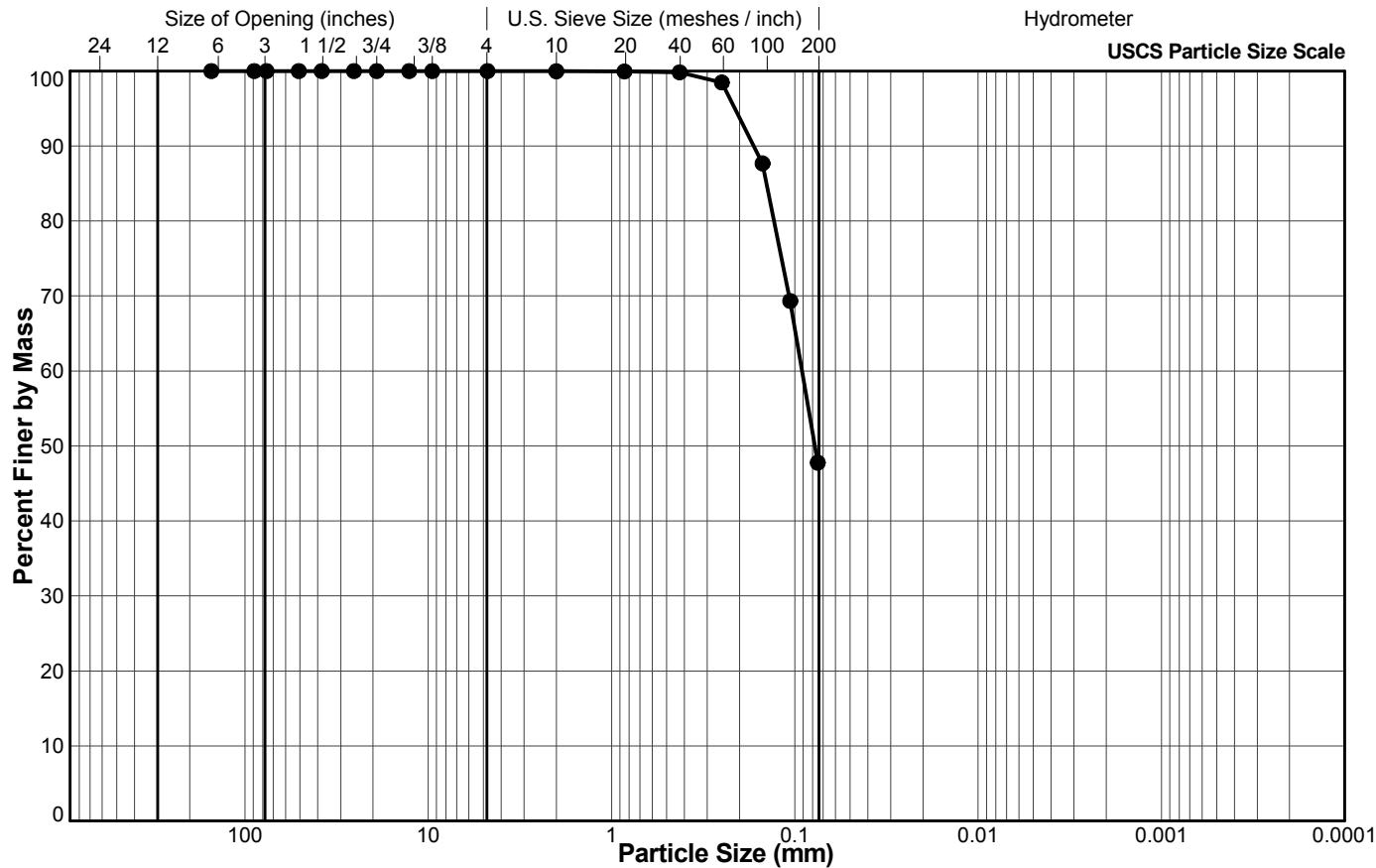
Project: Jay Project

Sample No.: 4

Location: Lac du Sauvage

Depth Interval (m): 23.16 to 23.47

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	99.9
#40 US MESH	0.425	99.8
#60 US MESH	0.25	98.5
#100 US MESH	0.15	87.7
#140 US MESH	0.106	69.3
#200 US MESH	0.075	47.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/IC
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-01

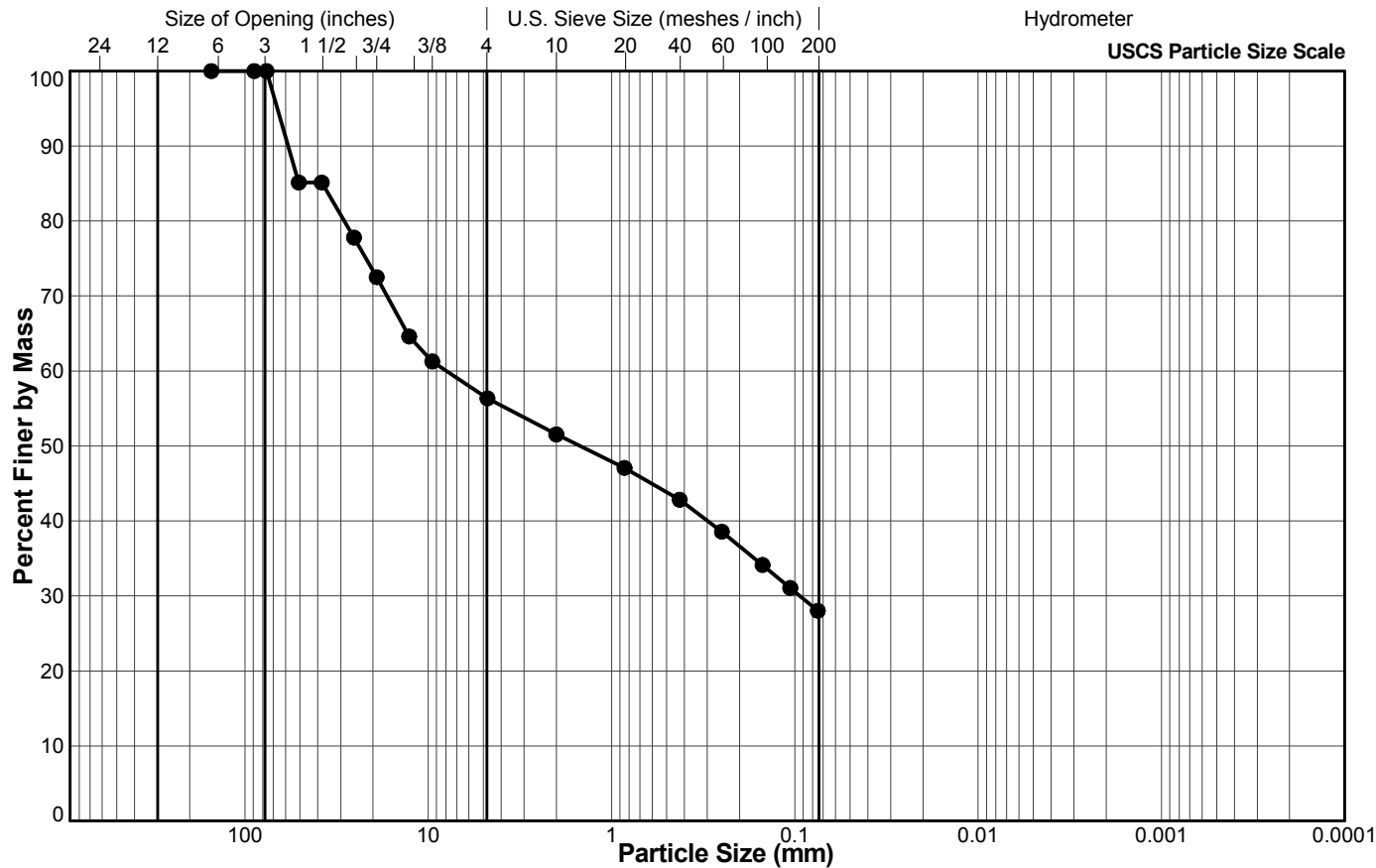
Project: Jay Project

Sample No.: 6

Location: Lac du Sauvage

Depth Interval (m): 26.21 to 26.37

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	85.1
1 1/2"	38.1	85.1
1"	25.4	77.8
3/4"	19.1	72.5
1/2"	12.7	64.6
3/8"	9.5	61.3
#4 US MESH	4.75	56.3
#10 US MESH	2	51.5
#20 US MESH	0.85	47.1
#40 US MESH	0.425	42.8
#60 US MESH	0.25	38.6
#100 US MESH	0.15	34.1
#140 US MESH	0.106	31.1
#200 US MESH	0.075	28.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/IC
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-01

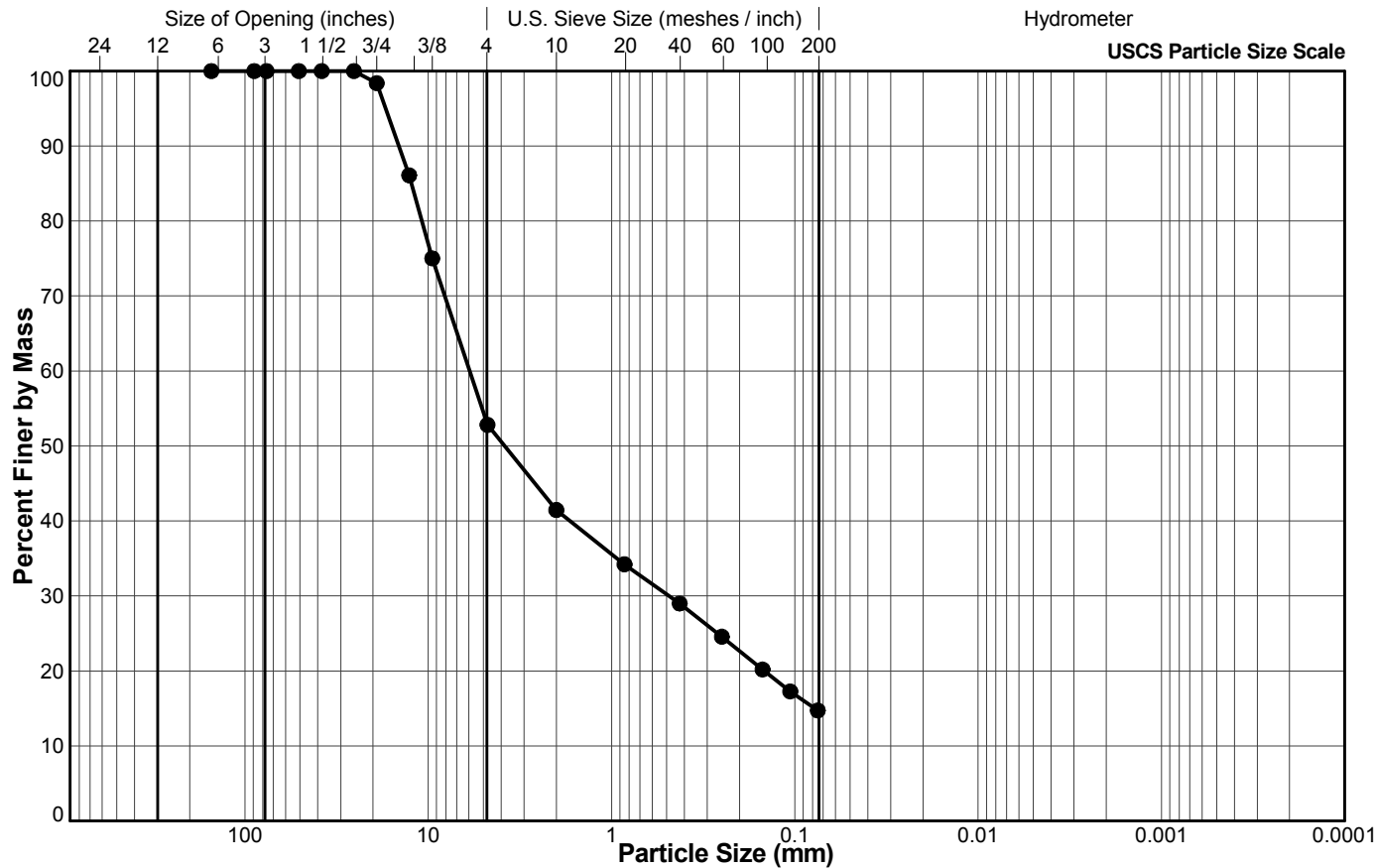
Project: Jay Project

Sample No.: 10

Location: Lac du Sauvage

Depth Interval (m): 29.05 to 29.26

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	98.4
1/2"	12.7	86.1
3/8"	9.5	75.0
#4 US MESH	4.75	52.8
#10 US MESH	2	41.5
#20 US MESH	0.85	34.2
#40 US MESH	0.425	29.0
#60 US MESH	0.25	24.6
#100 US MESH	0.15	20.2
#140 US MESH	0.106	17.3
#200 US MESH	0.075	14.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA/SJ
5/14/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-01

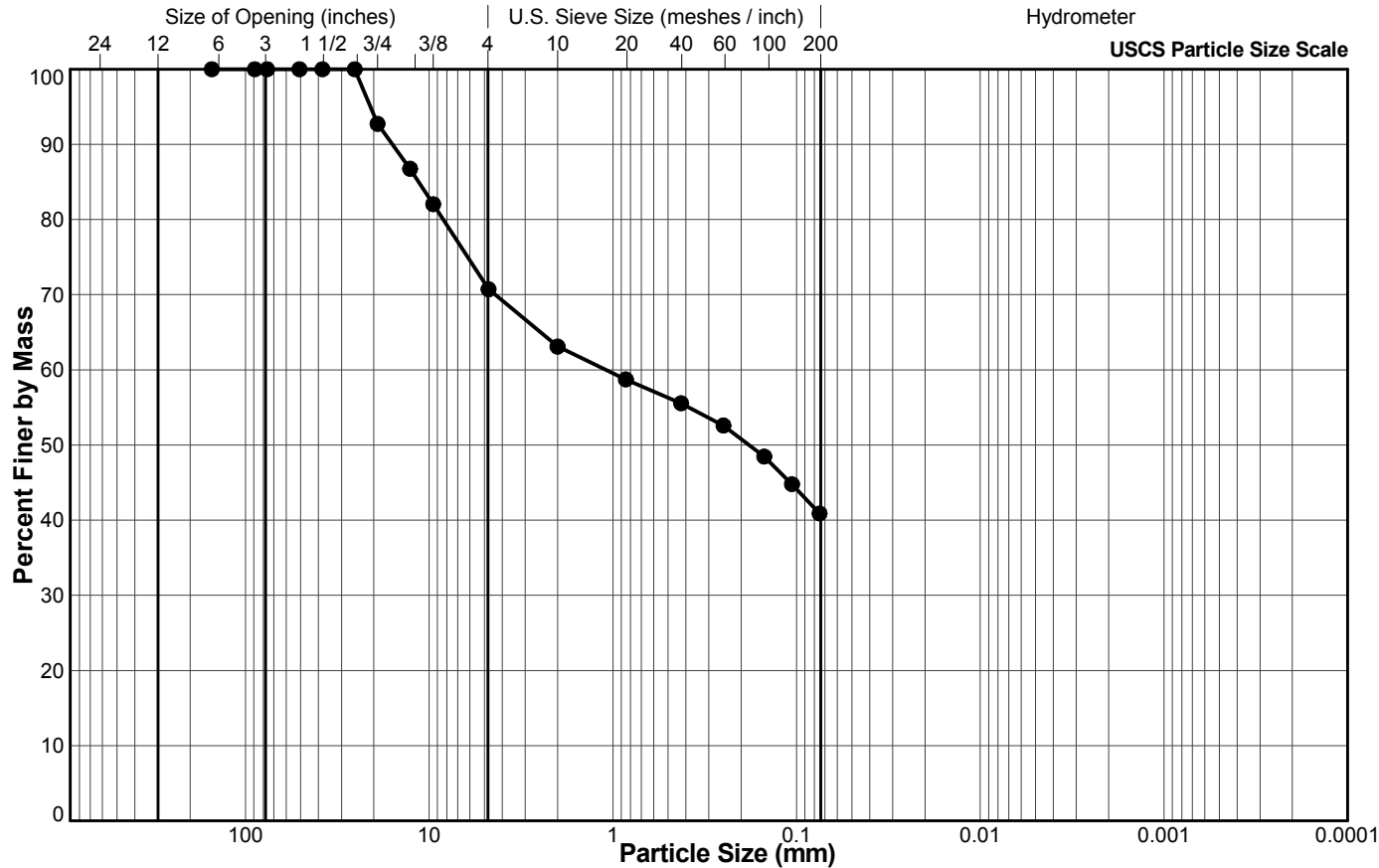
Project: Jay Project

Sample No.: 11

Location: Lac du Sauvage

Depth Interval (m): 31.85 to 32.00

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	92.7
1/2"	12.7	86.8
3/8"	9.5	82.0
#4 US MESH	4.75	70.7
#10 US MESH	2	63.1
#20 US MESH	0.85	58.7
#40 US MESH	0.425	55.6
#60 US MESH	0.25	52.6
#100 US MESH	0.15	48.5
#140 US MESH	0.106	44.8
#200 US MESH	0.075	40.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
5/15/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-02

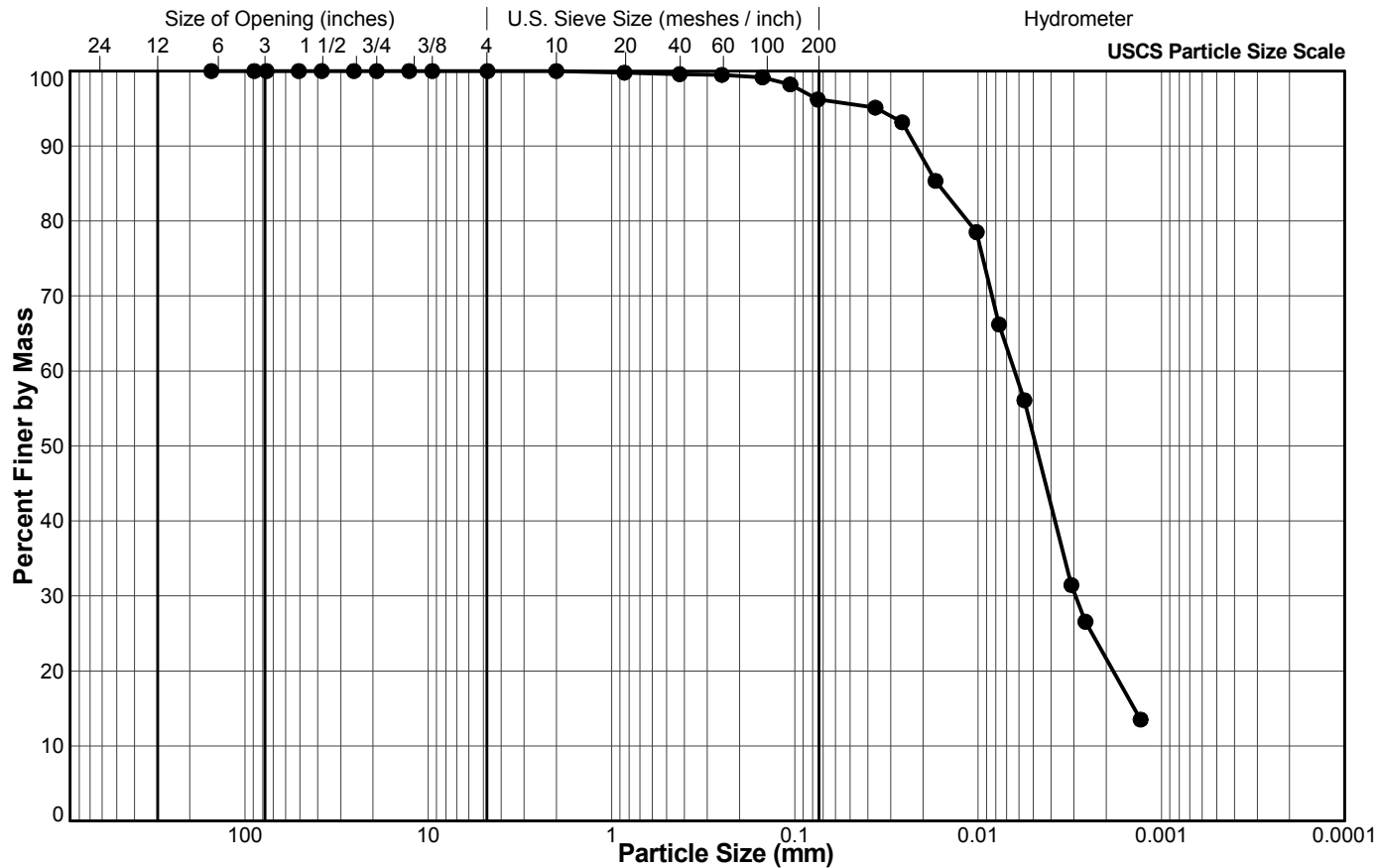
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 12.19 to 12.80

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	99.8
#40 US MESH	0.425	99.6
#60 US MESH	0.25	99.5
#100 US MESH	0.15	99.2
#140 US MESH	0.106	98.2
#200 US MESH	0.075	96.2
	0.0364	95.1
	0.0260	93.2
	0.0171	85.4
	0.0102	78.5
	0.0077	66.2
	0.0056	56.1
	0.0031	31.5
	0.0026	26.6
	0.0013	13.5

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/OA
5/13/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-02

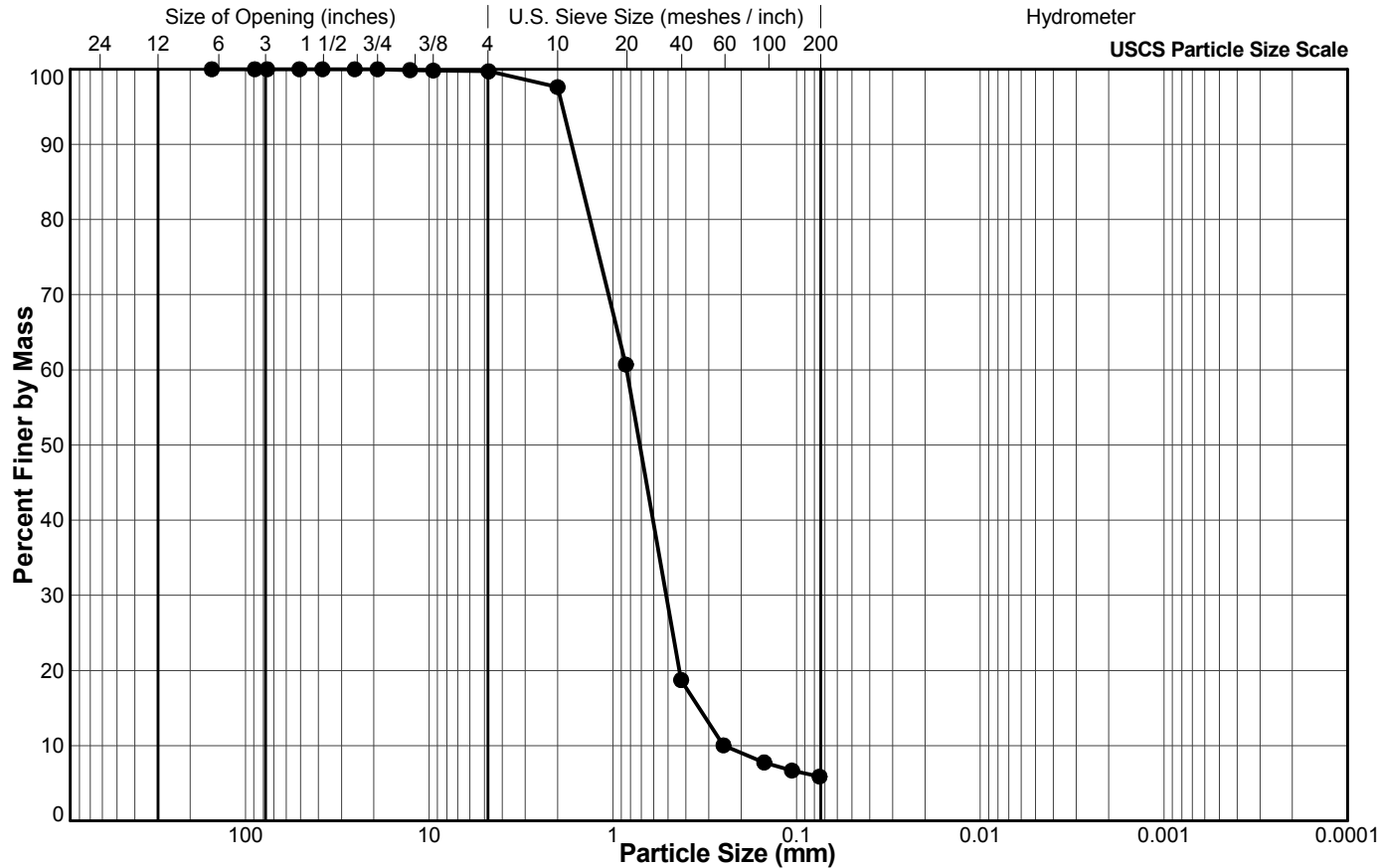
Project: Jay Project

Sample No.: 6

Location: Lac du Sauvage

Depth Interval (m): 22.25 to 22.56

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	99.9
3/8"	9.5	99.8
#4 US MESH	4.75	99.7
#10 US MESH	2	97.6
#20 US MESH	0.85	60.7
#40 US MESH	0.425	18.7
#60 US MESH	0.25	10.0
#100 US MESH	0.15	7.8
#140 US MESH	0.106	6.7
#200 US MESH	0.075	5.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/IC
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-02

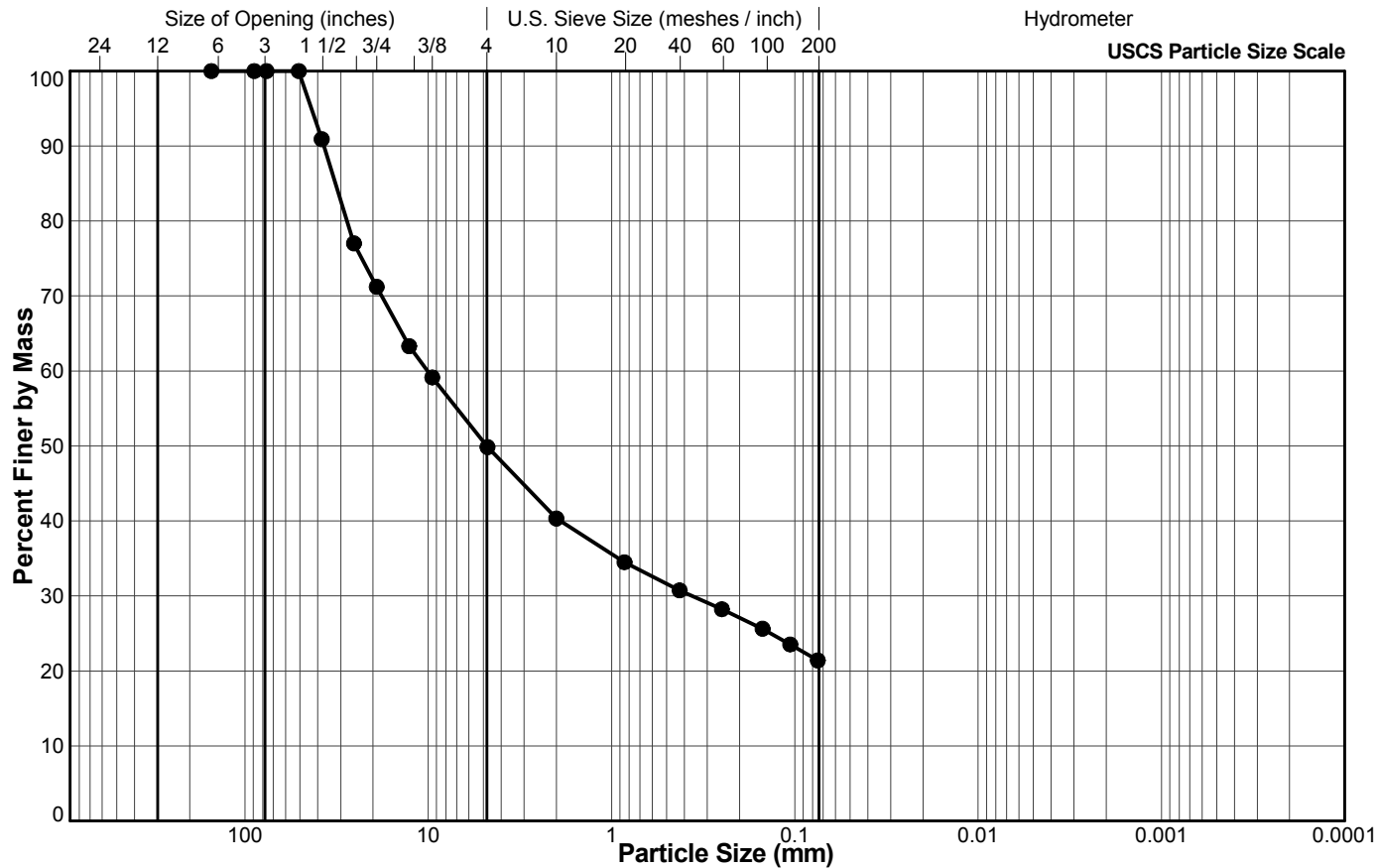
Project: Jay Project

Sample No.: 07B

Location: Lac du Sauvage

Depth Interval (m): 24.69 to 24.99

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	90.9
1"	25.4	77.0
3/4"	19.1	71.2
1/2"	12.7	63.3
3/8"	9.5	59.1
#4 US MESH	4.75	49.9
#10 US MESH	2	40.3
#20 US MESH	0.85	34.5
#40 US MESH	0.425	30.7
#60 US MESH	0.25	28.2
#100 US MESH	0.15	25.6
#140 US MESH	0.106	23.5
#200 US MESH	0.075	21.4

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/IC
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-03

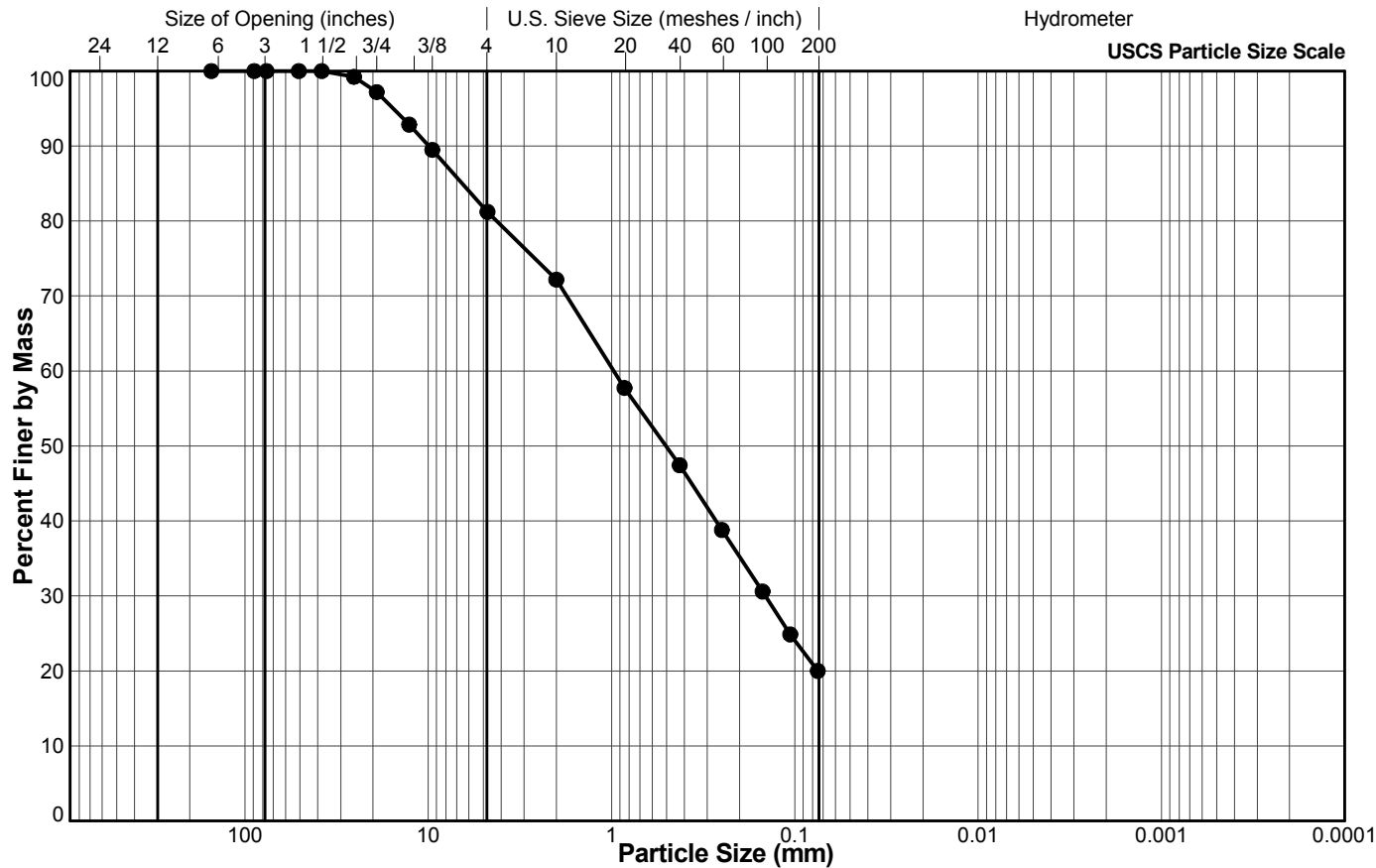
Project: Jay Project

Sample No.: 4

Location: Lac du Sauvage

Depth Interval (m): 17.01 to 17.07

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	99.2
3/4"	19.1	97.2
1/2"	12.7	92.9
3/8"	9.5	89.5
#4 US MESH	4.75	81.2
#10 US MESH	2	72.2
#20 US MESH	0.85	57.7
#40 US MESH	0.425	47.4
#60 US MESH	0.25	38.8
#100 US MESH	0.15	30.6
#140 US MESH	0.106	24.9
#200 US MESH	0.075	20.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/IC
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP1-SD-03

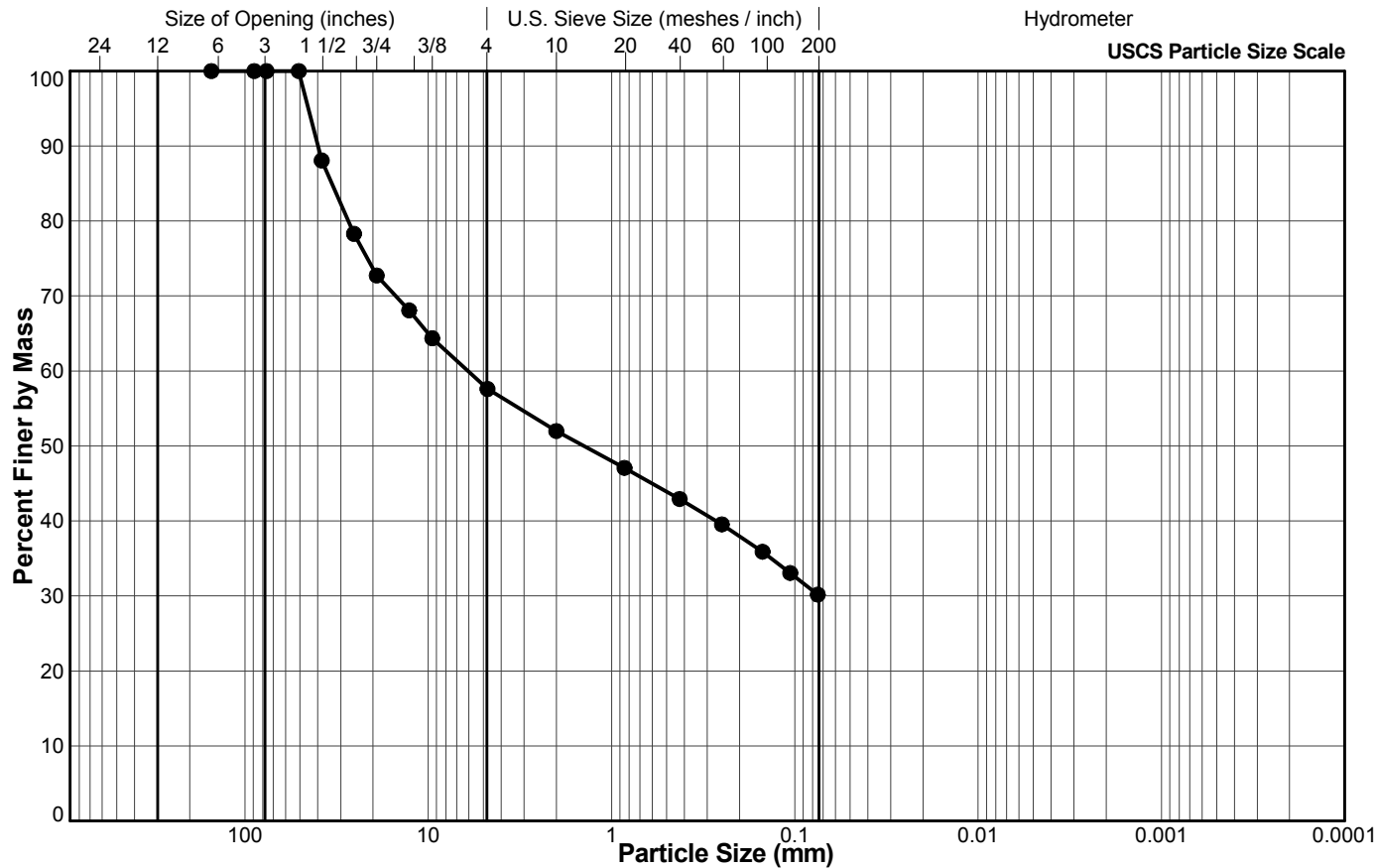
Project: Jay Project

Sample No.: 8

Location: Lac du Sauvage

Depth Interval (m): 19.96 to 20.12

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	88.1
1"	25.4	78.3
3/4"	19.1	72.7
1/2"	12.7	68.1
3/8"	9.5	64.4
#4 US MESH	4.75	57.6
#10 US MESH	2	52.0
#20 US MESH	0.85	47.1
#40 US MESH	0.425	42.9
#60 US MESH	0.25	39.5
#100 US MESH	0.15	35.9
#140 US MESH	0.106	33.1
#200 US MESH	0.075	30.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

	SJ	5/15/2014	LH	5/22/2014	
	Tech	Date	Checked	Date	

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2
Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP2-SD-01

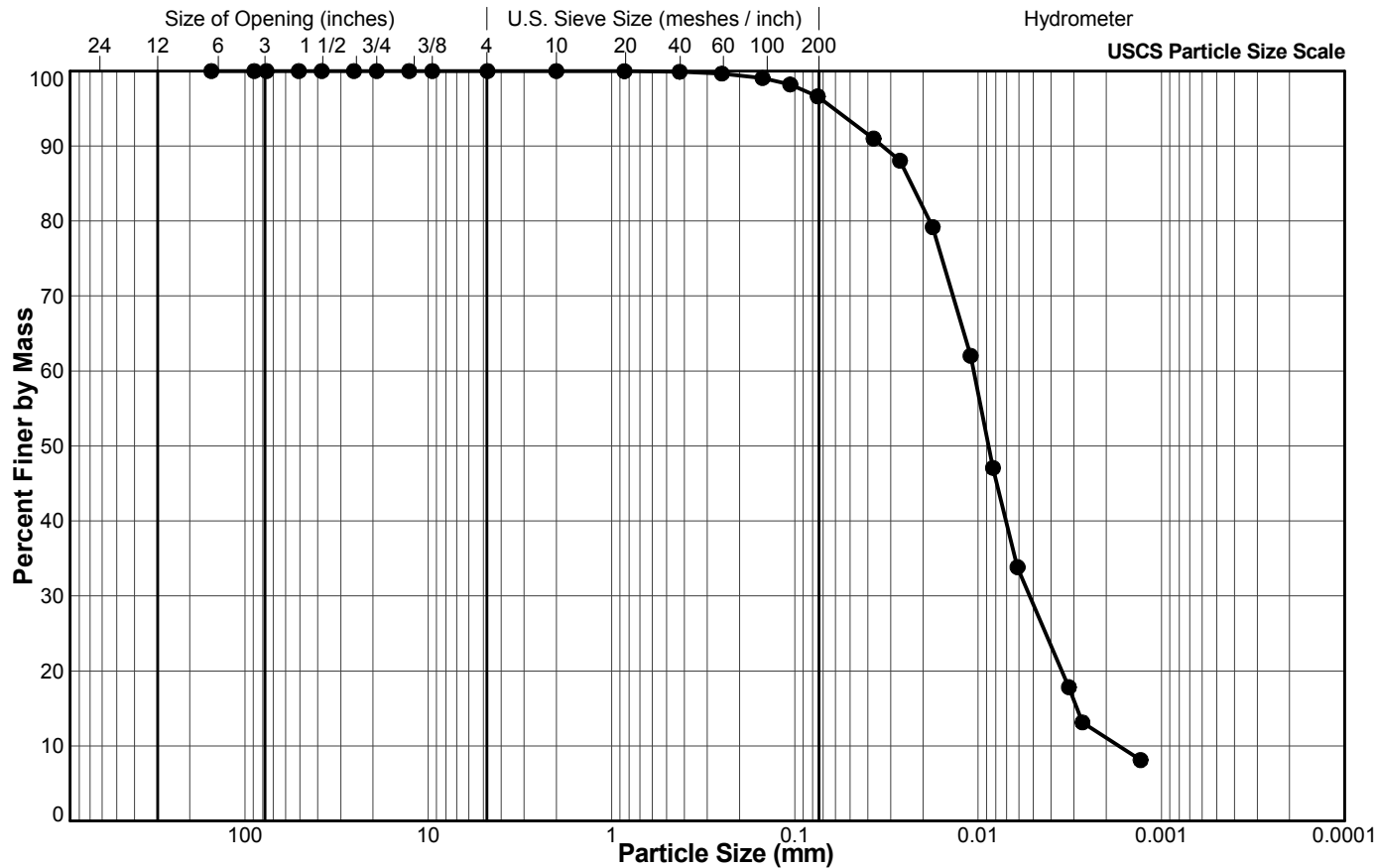
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 1.07 to 1.13

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	100.0
#40 US MESH	0.425	99.9
#60 US MESH	0.25	99.7
#100 US MESH	0.15	99.1
#140 US MESH	0.106	98.2
#200 US MESH	0.075	96.6
	0.0372	91.0
	0.0267	88.0
	0.0177	79.2
	0.0110	62.0
	0.0083	47.1
	0.0061	33.8
	0.0032	17.8
	0.0027	13.1
	0.0013	8.1

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA
5/16/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP2-SD-01

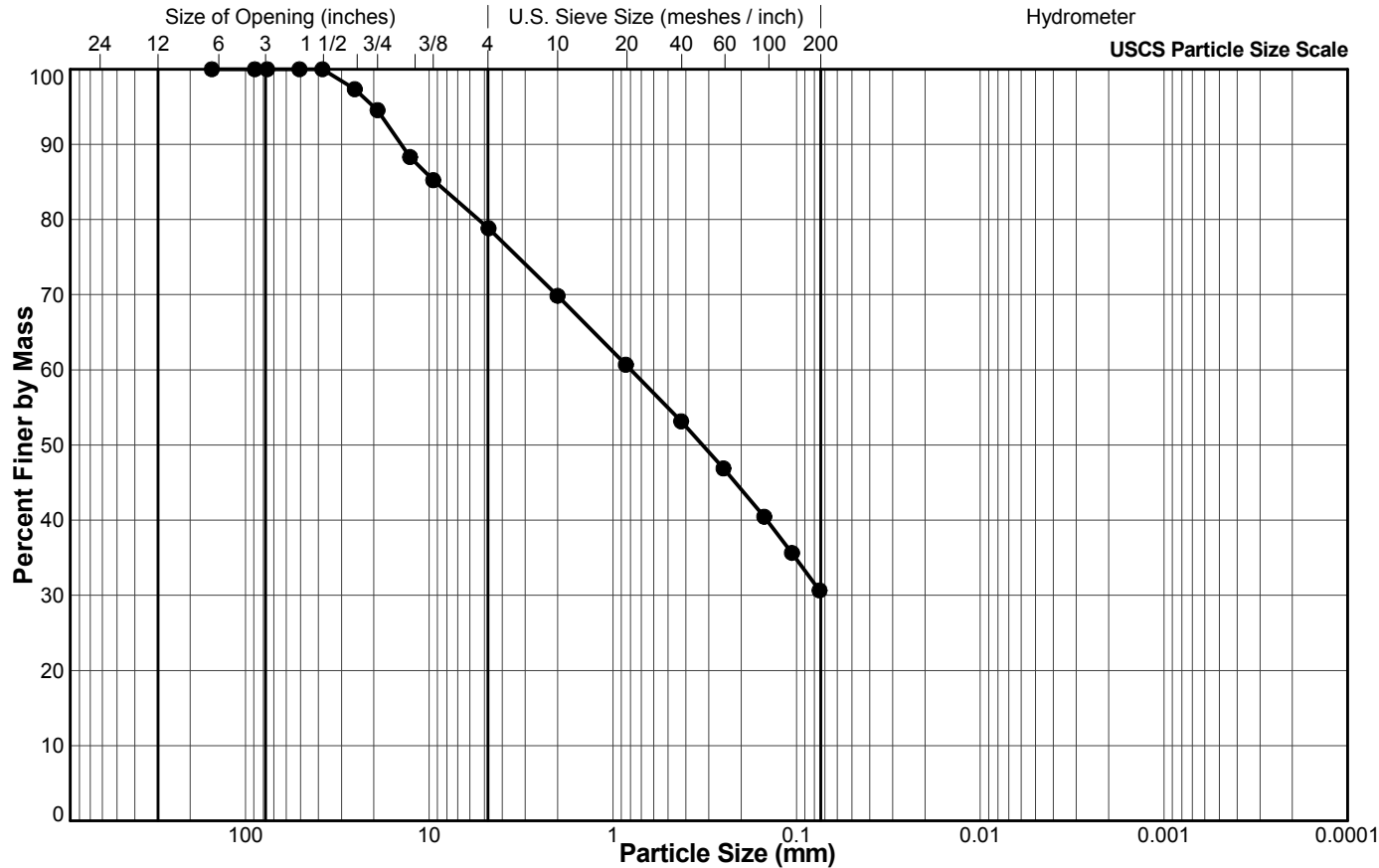
Project: Jay Project

Sample No.: 3

Location: Lac du Sauvage

Depth Interval (m): 7.47 to 7.77

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	97.3
3/4"	19.1	94.5
1/2"	12.7	88.3
3/8"	9.5	85.2
#4 US MESH	4.75	78.8
#10 US MESH	2	69.8
#20 US MESH	0.85	60.7
#40 US MESH	0.425	53.2
#60 US MESH	0.25	46.9
#100 US MESH	0.15	40.5
#140 US MESH	0.106	35.6
#200 US MESH	0.075	30.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
5/15/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP2-SD-01

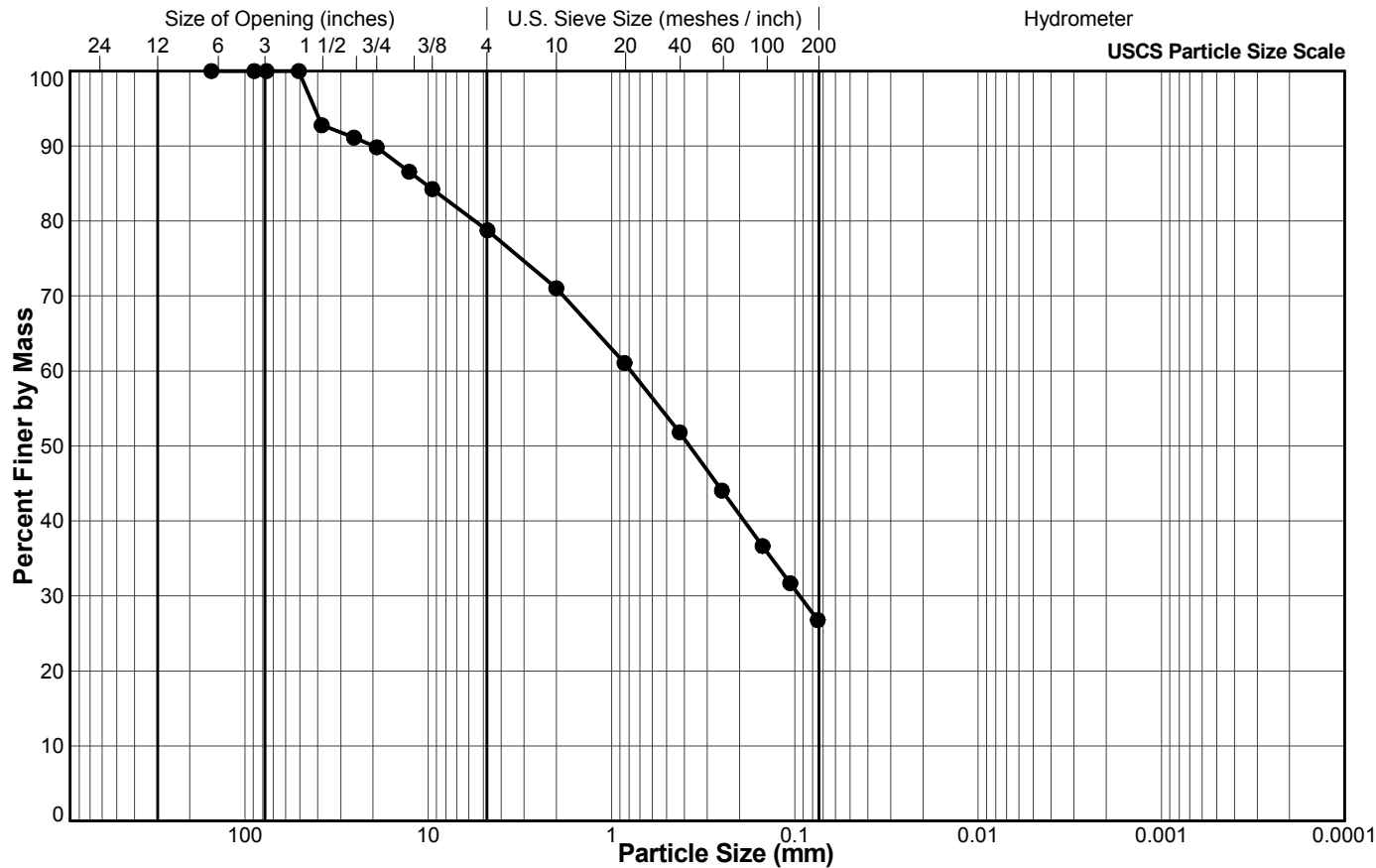
Project: Jay Project

Sample No.: 6

Location: Lac du Sauvage

Depth Interval (m): 16.15 to 16.25

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	92.8
1"	25.4	91.1
3/4"	19.1	89.8
1/2"	12.7	86.6
3/8"	9.5	84.3
#4 US MESH	4.75	78.8
#10 US MESH	2	71.0
#20 US MESH	0.85	61.1
#40 US MESH	0.425	51.8
#60 US MESH	0.25	44.1
#100 US MESH	0.15	36.7
#140 US MESH	0.106	31.7
#200 US MESH	0.075	26.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
5/15/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-01

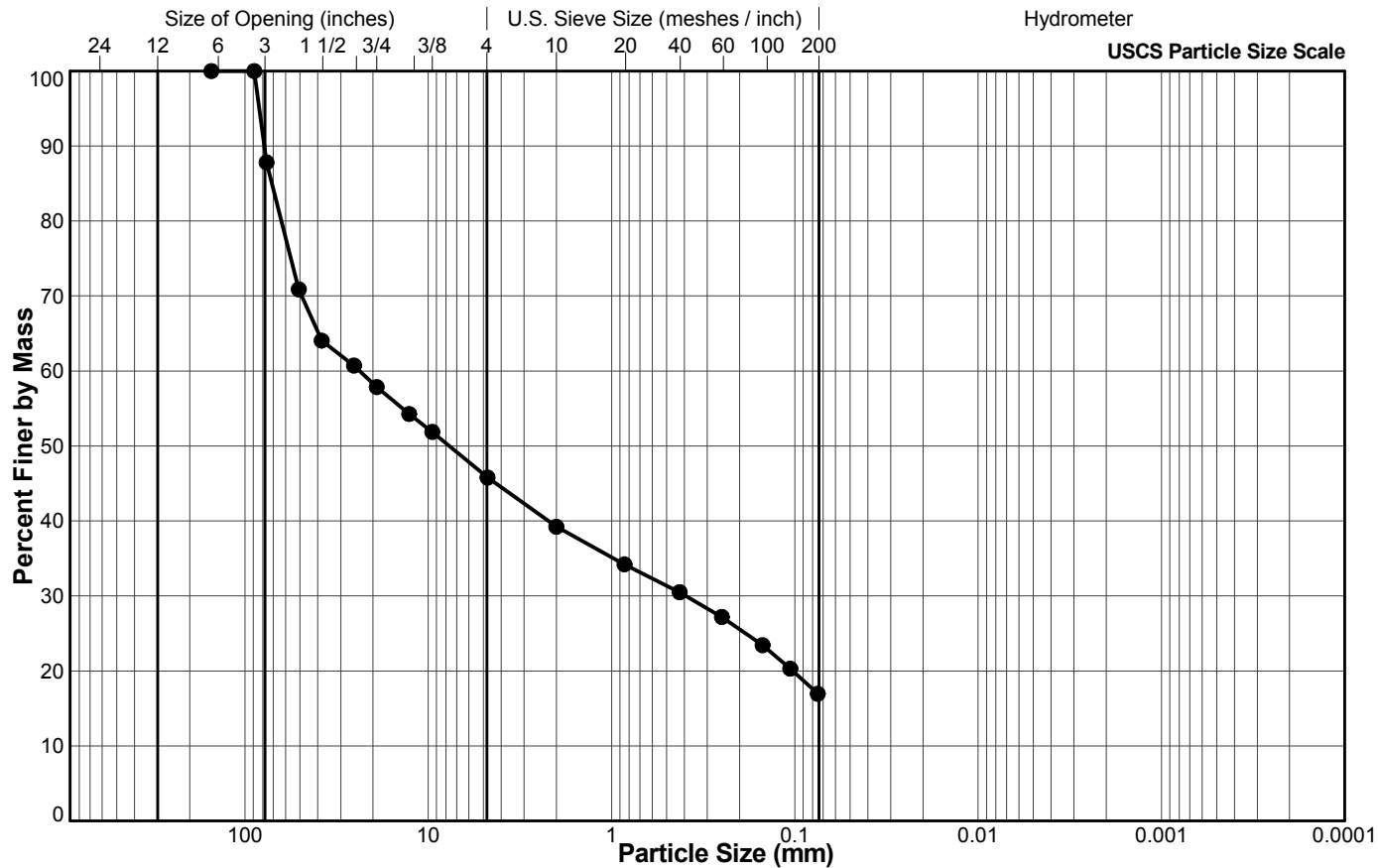
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 8.84 to 9.14

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	87.8
2"	50.8	70.9
1 1/2"	38.1	64.0
1"	25.4	60.7
3/4"	19.1	57.9
1/2"	12.7	54.3
3/8"	9.5	51.9
#4 US MESH	4.75	45.8
#10 US MESH	2	39.2
#20 US MESH	0.85	34.2
#40 US MESH	0.425	30.5
#60 US MESH	0.25	27.2
#100 US MESH	0.15	23.4
#140 US MESH	0.106	20.3
#200 US MESH	0.075	17.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/16/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-02

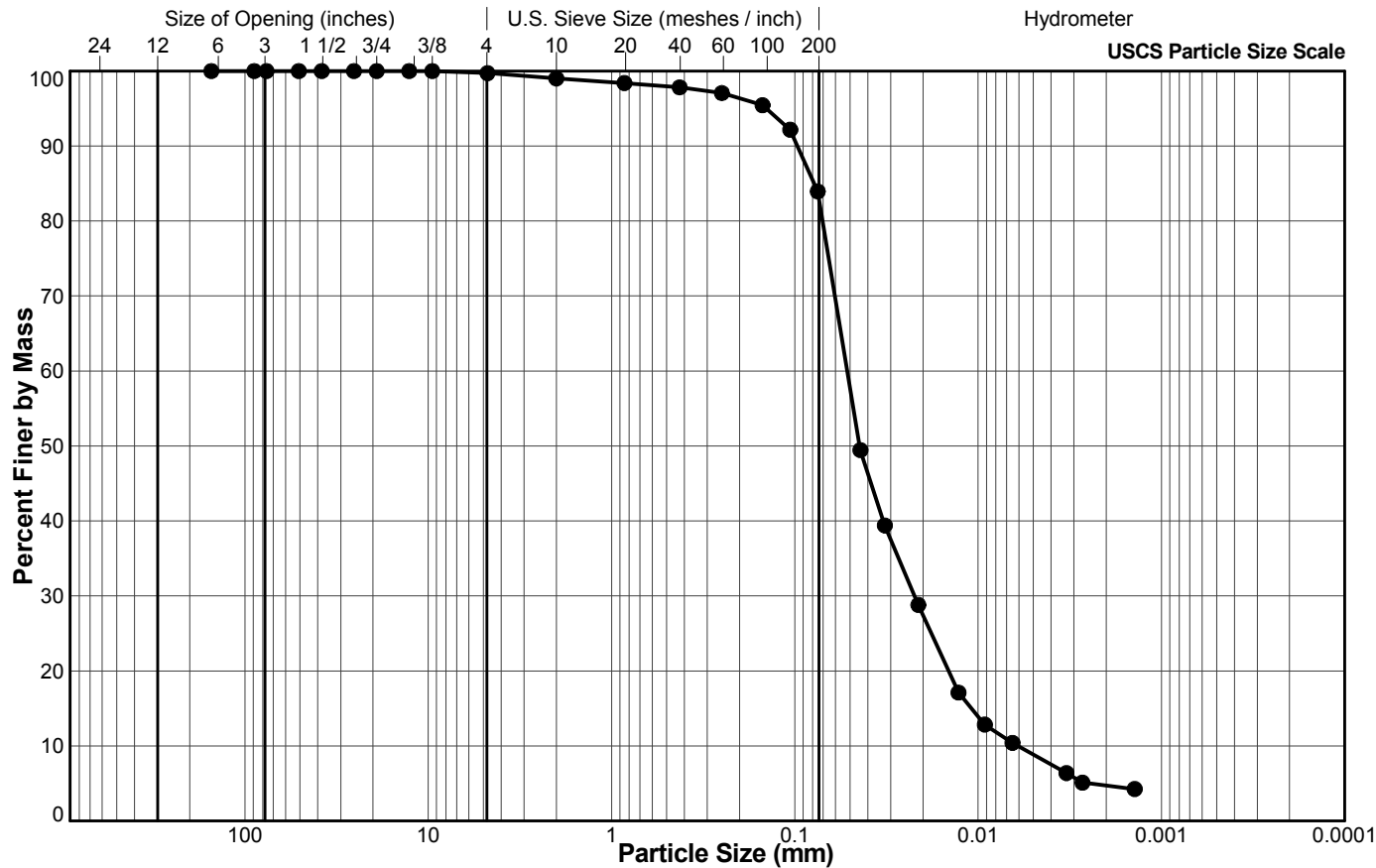
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 4.27 to 4.57

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	99.7
#10 US MESH	2	99.0
#20 US MESH	0.85	98.4
#40 US MESH	0.425	97.8
#60 US MESH	0.25	97.1
#100 US MESH	0.15	95.4
#140 US MESH	0.106	92.2
#200 US MESH	0.075	83.9
	0.0439	49.5
	0.0323	39.4
	0.0212	28.8
	0.0128	17.1
	0.0092	12.8
	0.0065	10.4
	0.0033	6.4
	0.0027	5.1
	0.0014	4.3

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
4/17/2014
LH
4/18/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-03

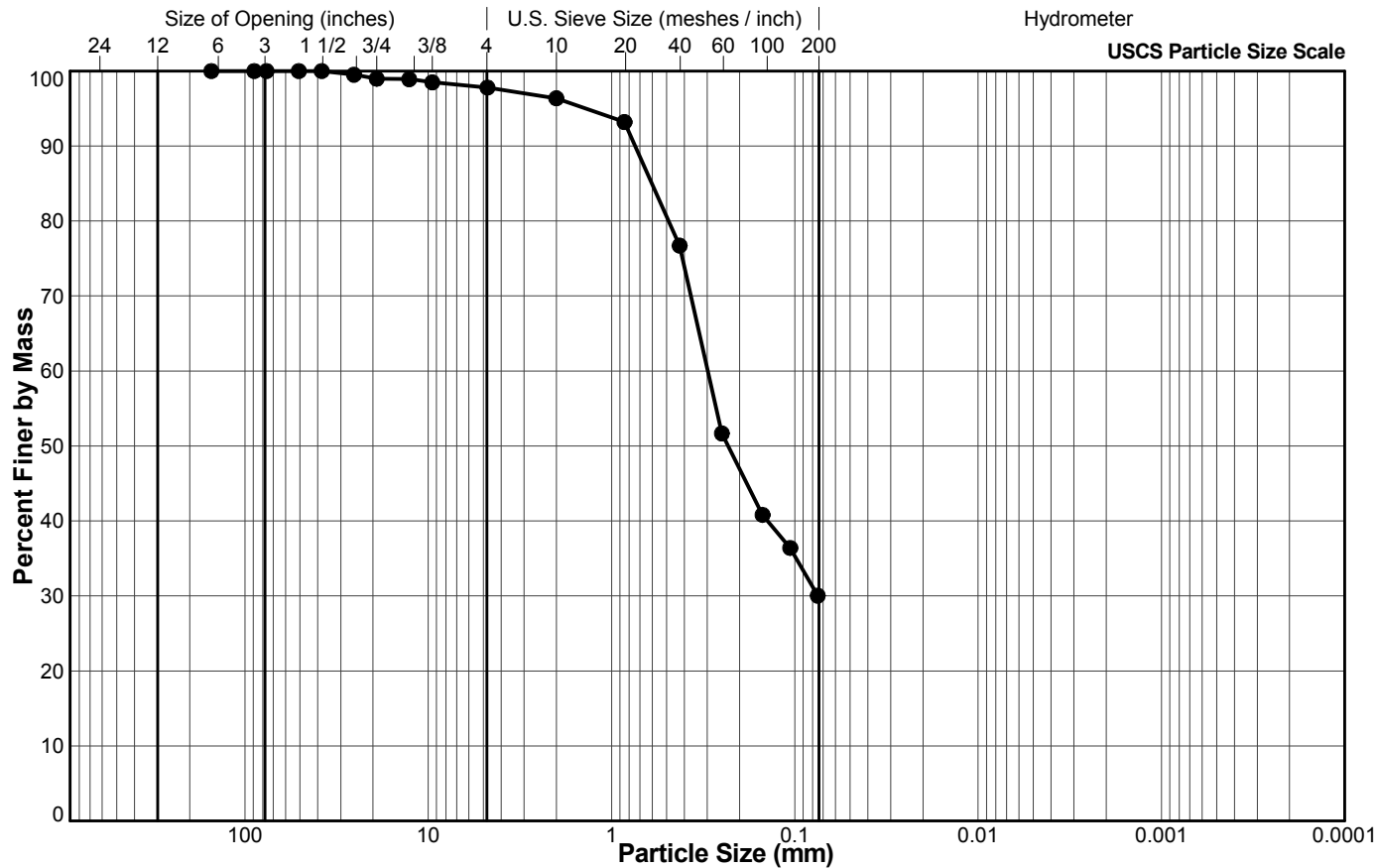
Project: Jay Project

Sample No.: 3 - Total

Location: Lac du Sauvage

Depth Interval (m): 10.52 to 10.67

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	99.5
3/4"	19.1	99.0
1/2"	12.7	98.9
3/8"	9.5	98.5
#4 US MESH	4.75	97.8
#10 US MESH	2	96.4
#20 US MESH	0.85	93.2
#40 US MESH	0.425	76.7
#60 US MESH	0.25	51.7
#100 US MESH	0.15	40.8
#140 US MESH	0.106	36.4
#200 US MESH	0.075	30.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

MM/DL
4/18/2014
LP
4/29/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-04

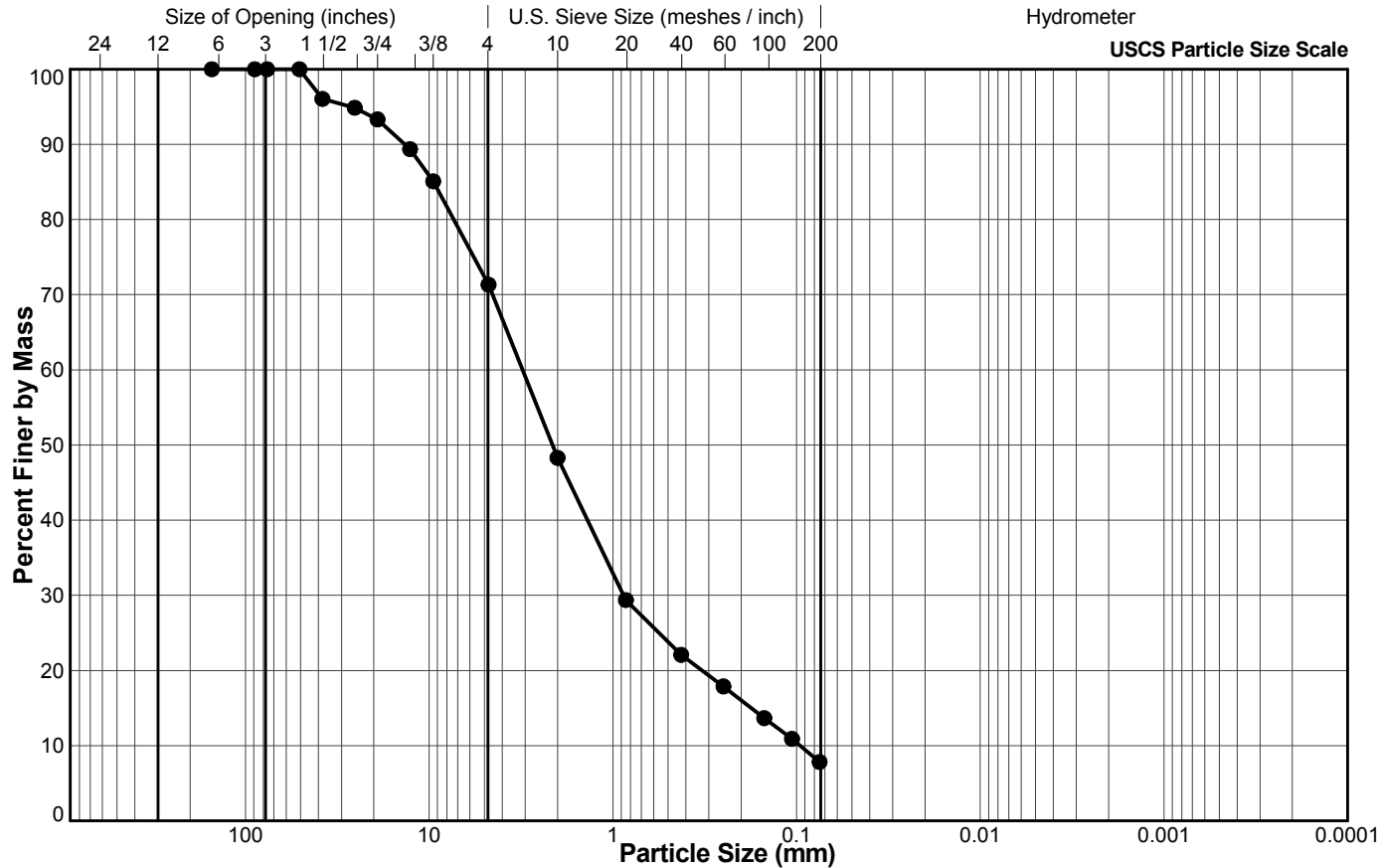
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 11.89 to 12.04

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	96.0
1"	25.4	94.9
3/4"	19.1	93.3
1/2"	12.7	89.4
3/8"	9.5	85.1
#4 US MESH	4.75	71.3
#10 US MESH	2	48.3
#20 US MESH	0.85	29.4
#40 US MESH	0.425	22.1
#60 US MESH	0.25	17.9
#100 US MESH	0.15	13.7
#140 US MESH	0.106	10.9
#200 US MESH	0.075	7.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/15/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-05

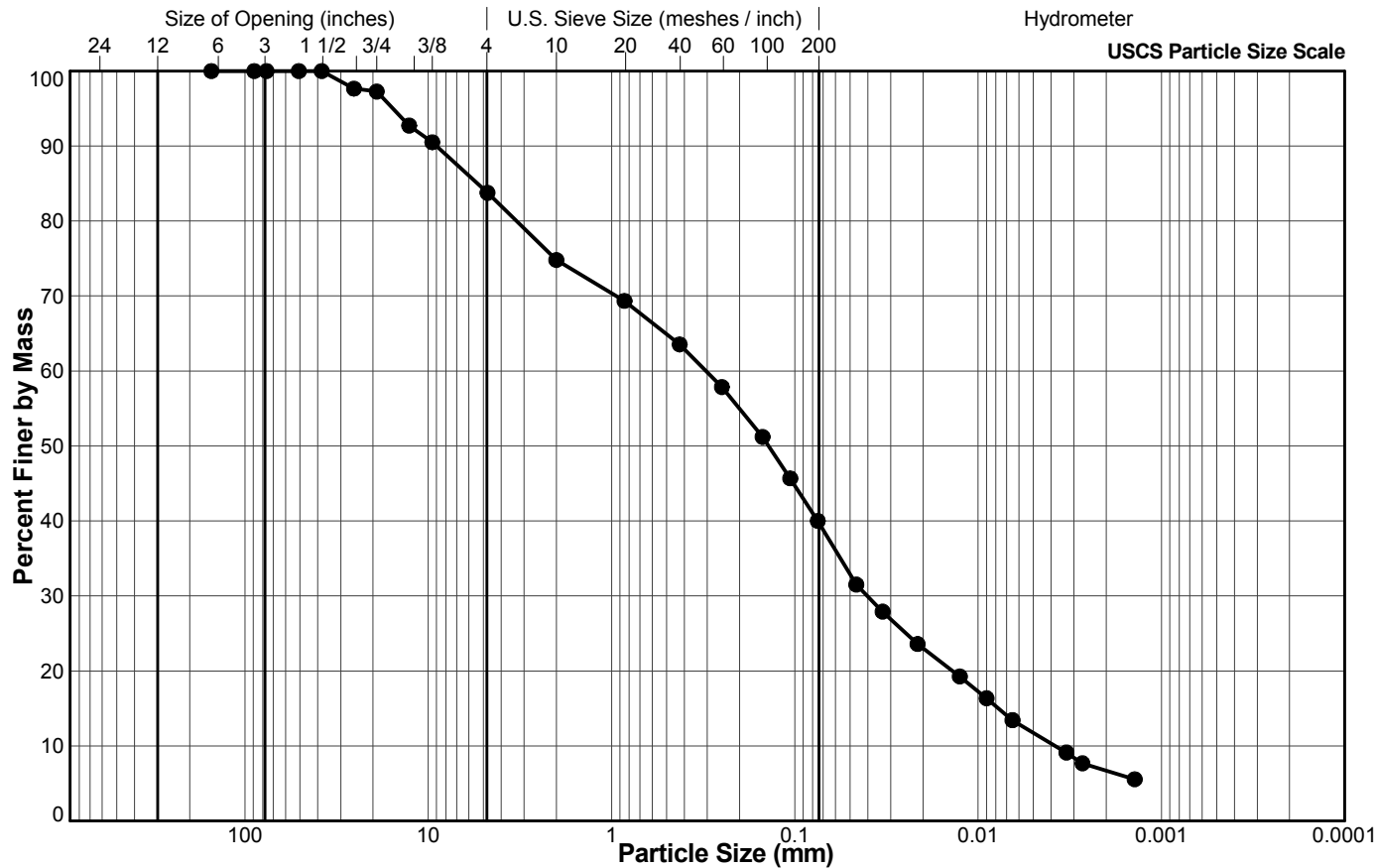
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 11.58 to 11.89

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	97.7
3/4"	19.1	97.3
1/2"	12.7	92.7
3/8"	9.5	90.5
#4 US MESH	4.75	83.8
#10 US MESH	2	74.8
#20 US MESH	0.85	69.4
#40 US MESH	0.425	63.5
#60 US MESH	0.25	57.9
#100 US MESH	0.15	51.2
#140 US MESH	0.106	45.7
#200 US MESH	0.075	40.0
	0.0462	31.5
	0.0332	27.9
	0.0214	23.6
	0.0126	19.3
	0.0090	16.4
	0.0065	13.4
	0.0033	9.1
	0.0027	7.7
	0.0014	5.6

Boulder	Cobble	Gravel		Sand			Fines (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

	SJ	4/17/2014	LH	4/18/2014	
	Tech	Date	Checked	Date	

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2
Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-06

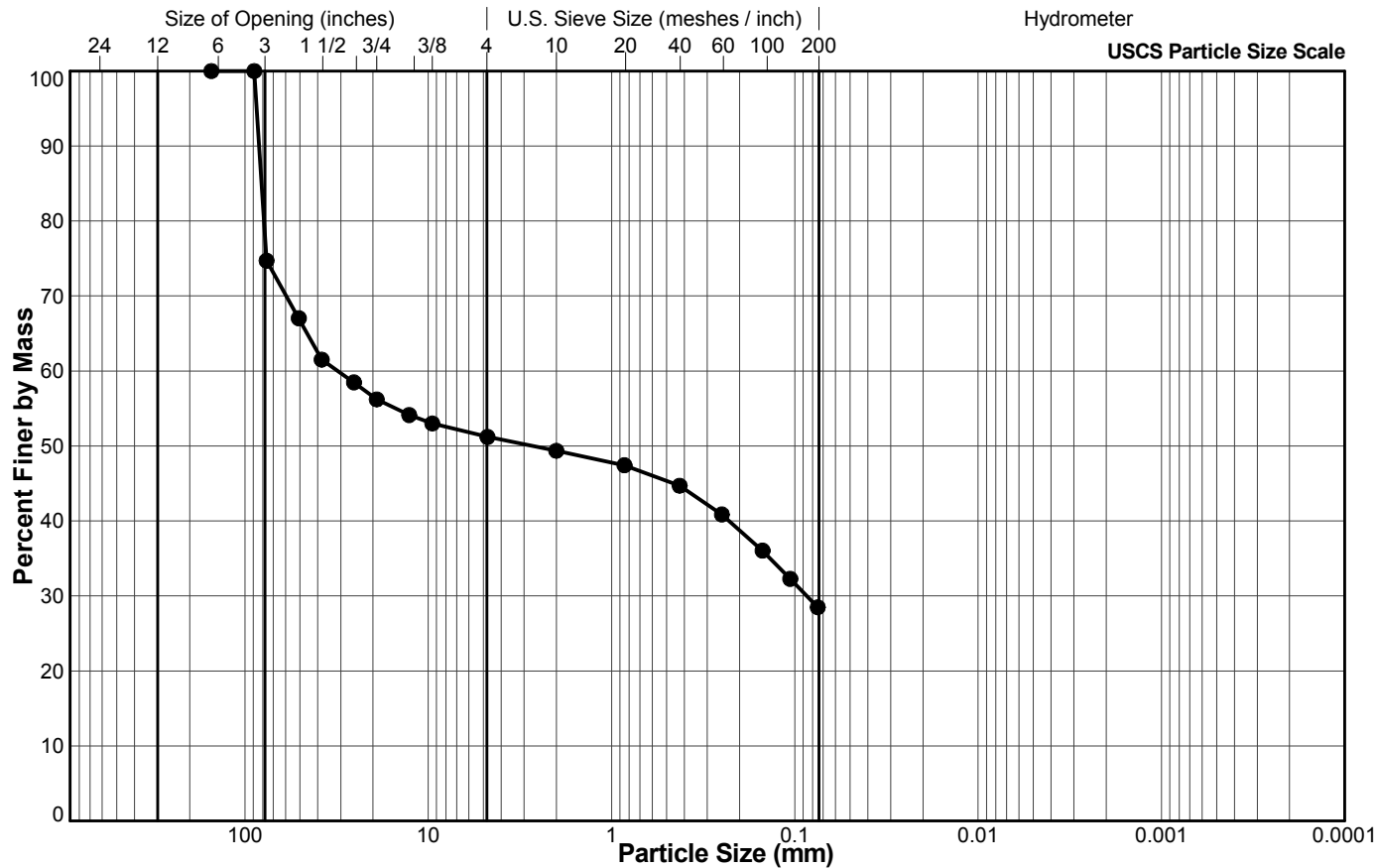
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 10.21 to 10.36

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	74.7
2"	50.8	67.0
1 1/2"	38.1	61.5
1"	25.4	58.5
3/4"	19.1	56.2
1/2"	12.7	54.1
3/8"	9.5	53.0
#4 US MESH	4.75	51.2
#10 US MESH	2	49.4
#20 US MESH	0.85	47.4
#40 US MESH	0.425	44.7
#60 US MESH	0.25	40.9
#100 US MESH	0.15	36.0
#140 US MESH	0.106	32.3
#200 US MESH	0.075	28.5

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/16/2014
LH
4/18/2014

Tech

Date

Checked

Date

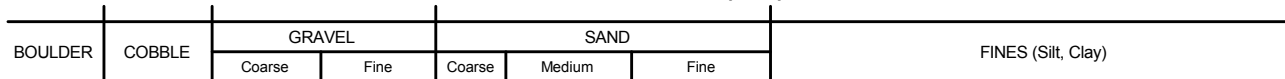
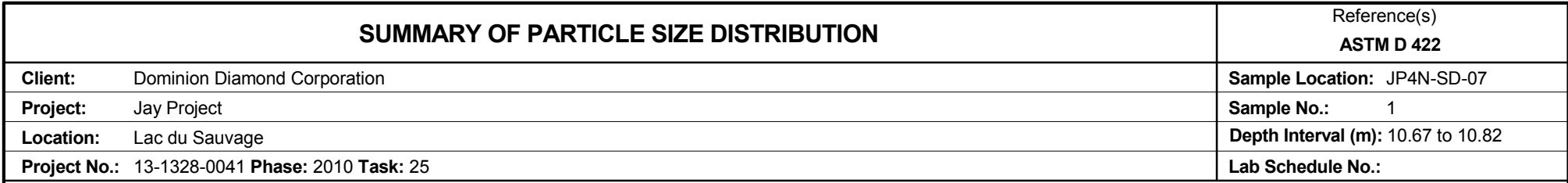
File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America



	OA	5/16/2014	LH	5/22/2014	
	Tech	Date	Checked	Date	

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-08

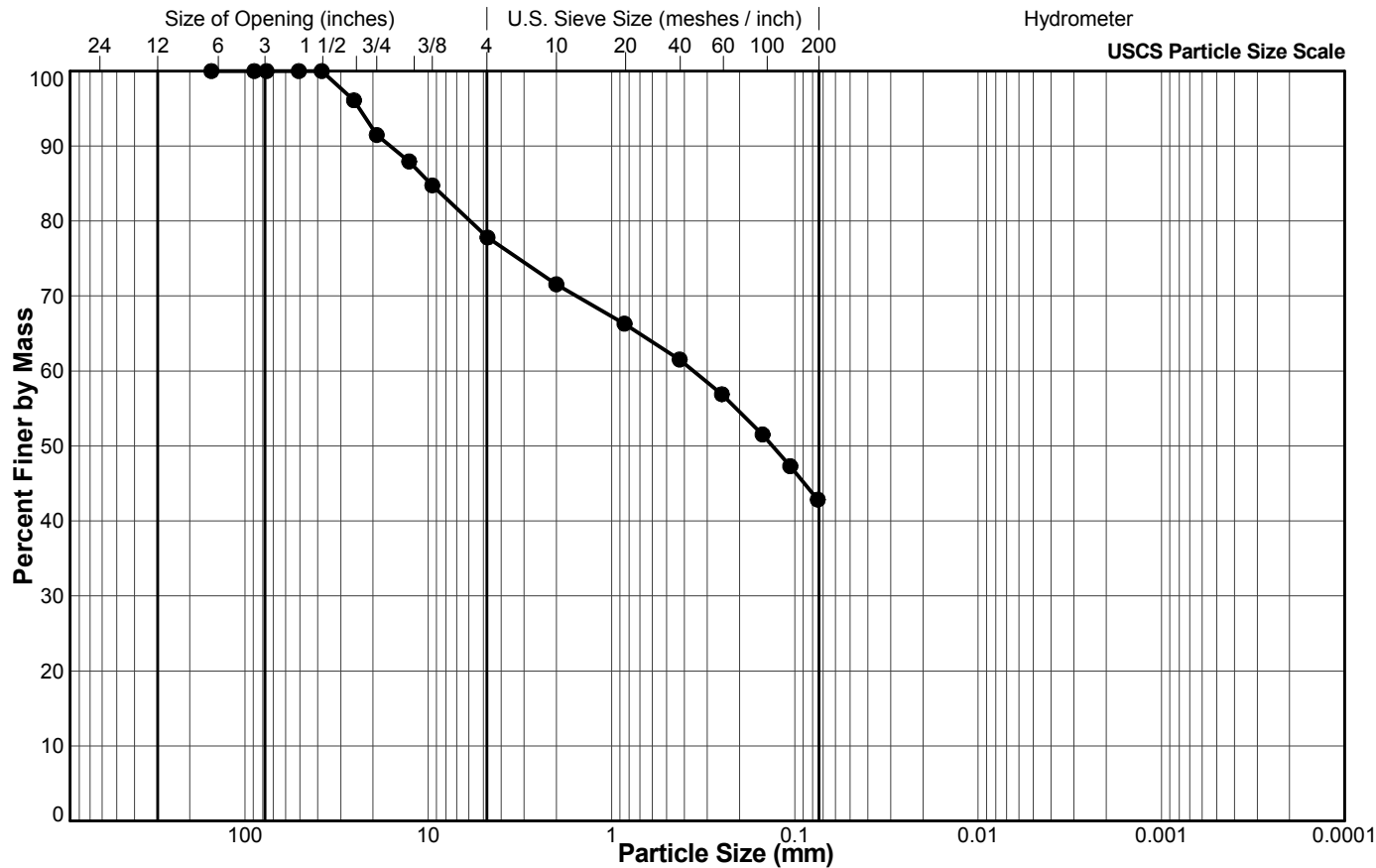
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 10.97 to 11.13

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	96.1
3/4"	19.1	91.5
1/2"	12.7	87.9
3/8"	9.5	84.7
#4 US MESH	4.75	77.8
#10 US MESH	2	71.6
#20 US MESH	0.85	66.3
#40 US MESH	0.425	61.5
#60 US MESH	0.25	56.9
#100 US MESH	0.15	51.5
#140 US MESH	0.106	47.3
#200 US MESH	0.075	42.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC/SJ
5/15/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

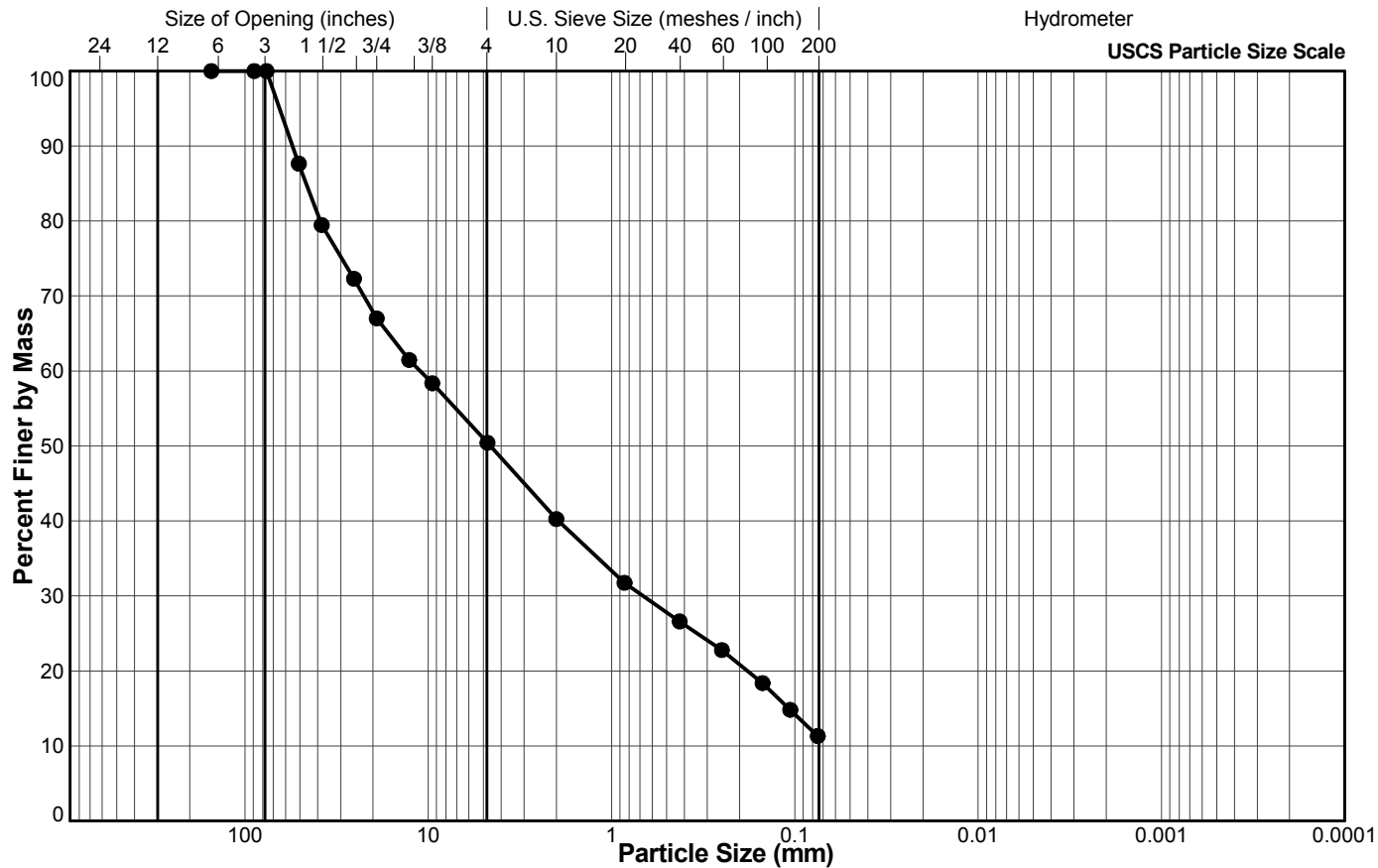
Project: Jay Project

Sample No.: 6 & 8 Total

Location: Lac du Sauvage

Depth (m): N/A

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	87.6
1 1/2"	38.1	79.5
1"	25.4	72.3
3/4"	19.1	67.0
1/2"	12.7	61.5
3/8"	9.5	58.4
#4 US MESH	4.75	50.4
#10 US MESH	2	40.3
#20 US MESH	0.85	31.8
#40 US MESH	0.425	26.6
#60 US MESH	0.25	22.8
#100 US MESH	0.15	18.4
#140 US MESH	0.106	14.8
#200 US MESH	0.075	11.3

Boulder	Cobble	Gravel	Sand	Fines (Silt, Clay)
		Coarse	Coarse	
		Fine	Medium	
			Fine	

DL/KG
5/2/2014
LH
5/5/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

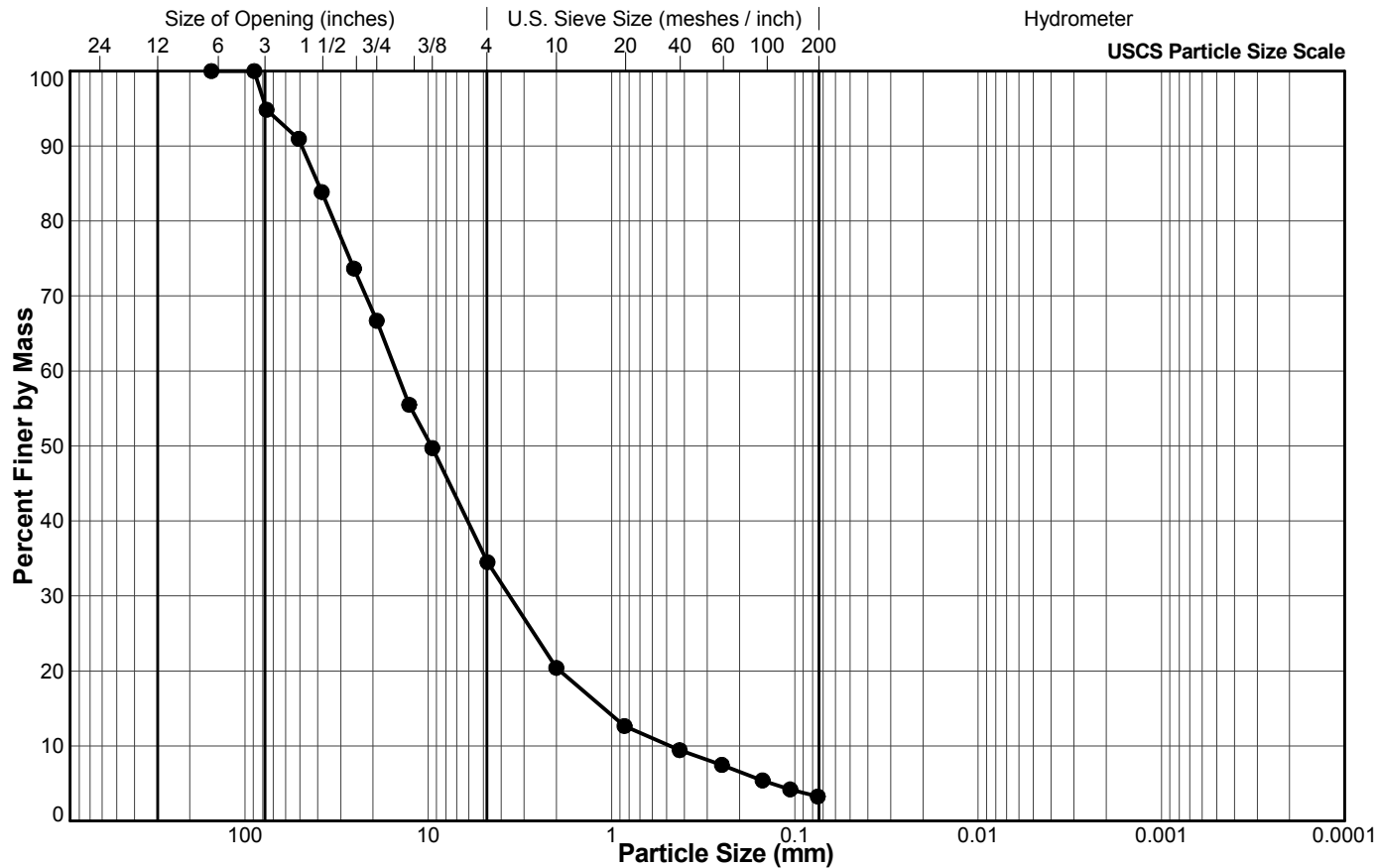
Project: Jay Project

Sample No.: 9 & 11 & 14 Total

Location: Lac du Sauvage

Depth (m): N/A

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	94.8
2"	50.8	91.0
1 1/2"	38.1	83.9
1"	25.4	73.7
3/4"	19.1	66.7
1/2"	12.7	55.5
3/8"	9.5	49.7
#4 US MESH	4.75	34.5
#10 US MESH	2	20.4
#20 US MESH	0.85	12.7
#40 US MESH	0.425	9.4
#60 US MESH	0.25	7.5
#100 US MESH	0.15	5.4
#140 US MESH	0.106	4.2
#200 US MESH	0.075	3.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DL/KG
5/2/2014
LH
5/5/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

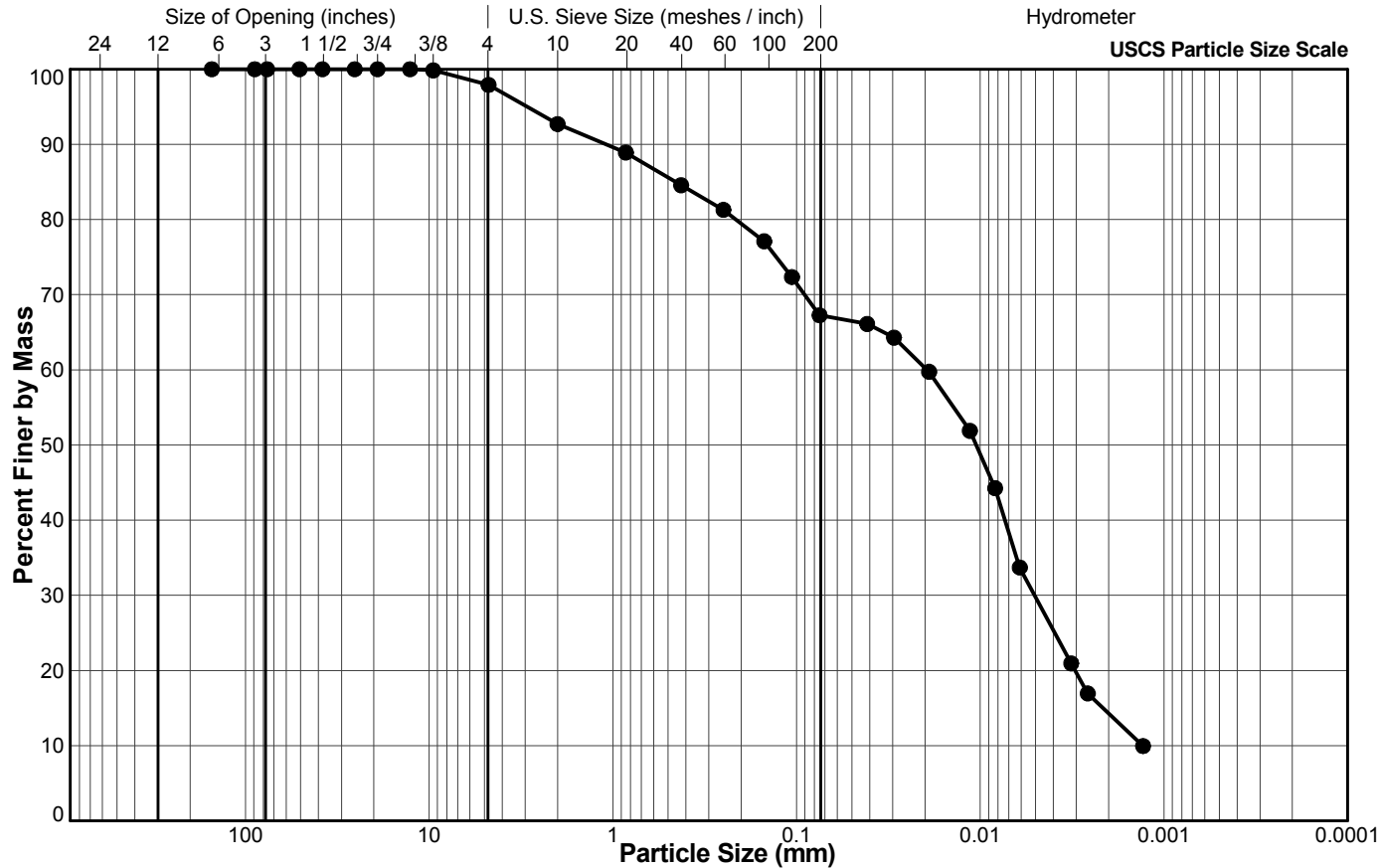
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 6.71 to 7.16

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	99.8
#4 US MESH	4.75	97.9
#10 US MESH	2	92.7
#20 US MESH	0.85	88.9
#40 US MESH	0.425	84.6
#60 US MESH	0.25	81.3
#100 US MESH	0.15	77.1
#140 US MESH	0.106	72.3
#200 US MESH	0.075	67.3
	0.0413	66.1
	0.0295	64.3
	0.0190	59.7
	0.0114	51.9
	0.0083	44.3
	0.0061	33.7
	0.0032	20.9
	0.0026	16.9
	0.0013	9.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA
5/7/2014
LH
5/7/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

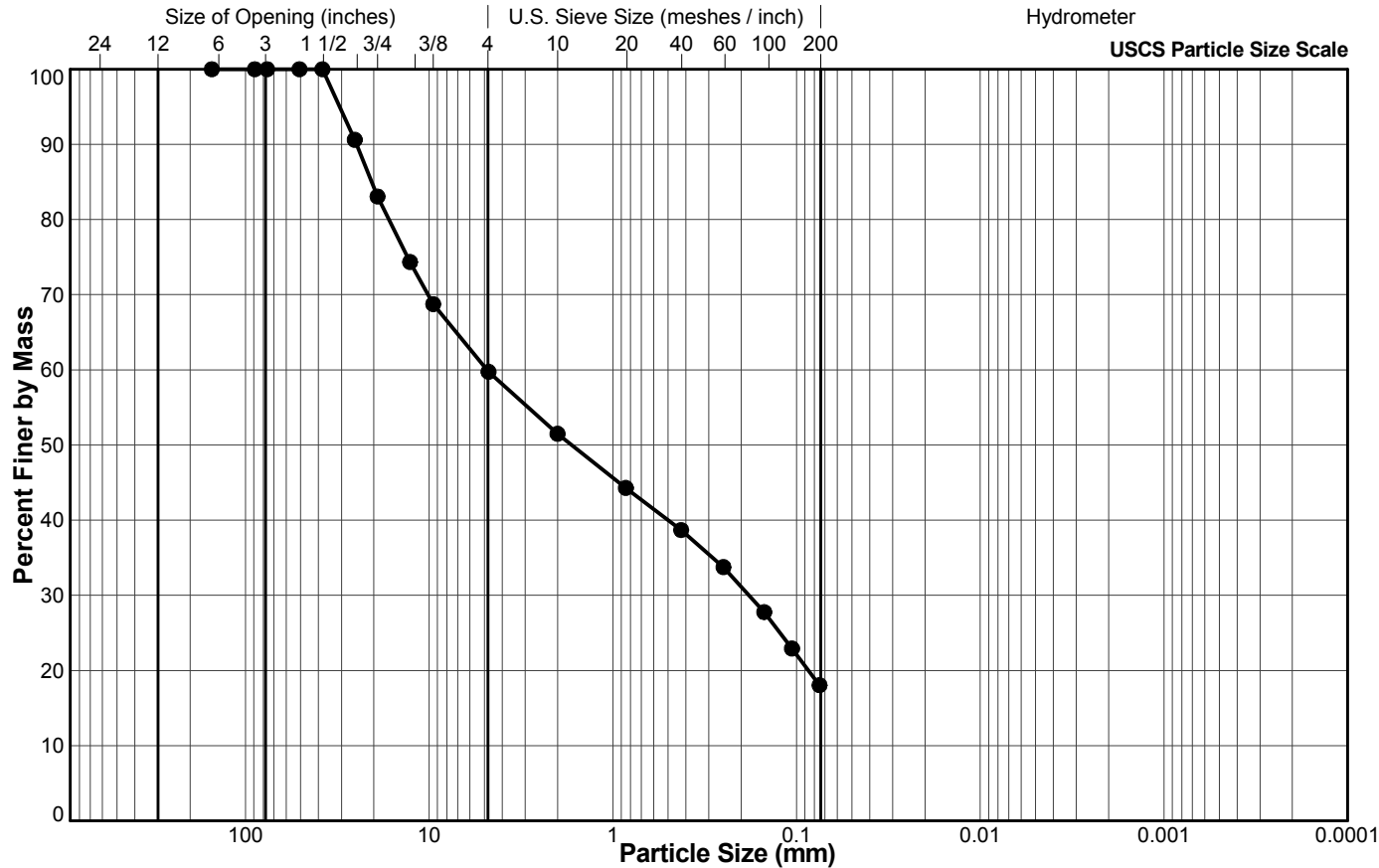
Project: Jay Project

Sample No.: 3

Location: Lac du Sauvage

Depth Interval (m): 9.45 to 9.75

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	90.6
3/4"	19.1	83.1
1/2"	12.7	74.3
3/8"	9.5	68.7
#4 US MESH	4.75	59.7
#10 US MESH	2	51.5
#20 US MESH	0.85	44.3
#40 US MESH	0.425	38.7
#60 US MESH	0.25	33.8
#100 US MESH	0.15	27.8
#140 US MESH	0.106	22.9
#200 US MESH	0.075	18.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/16/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

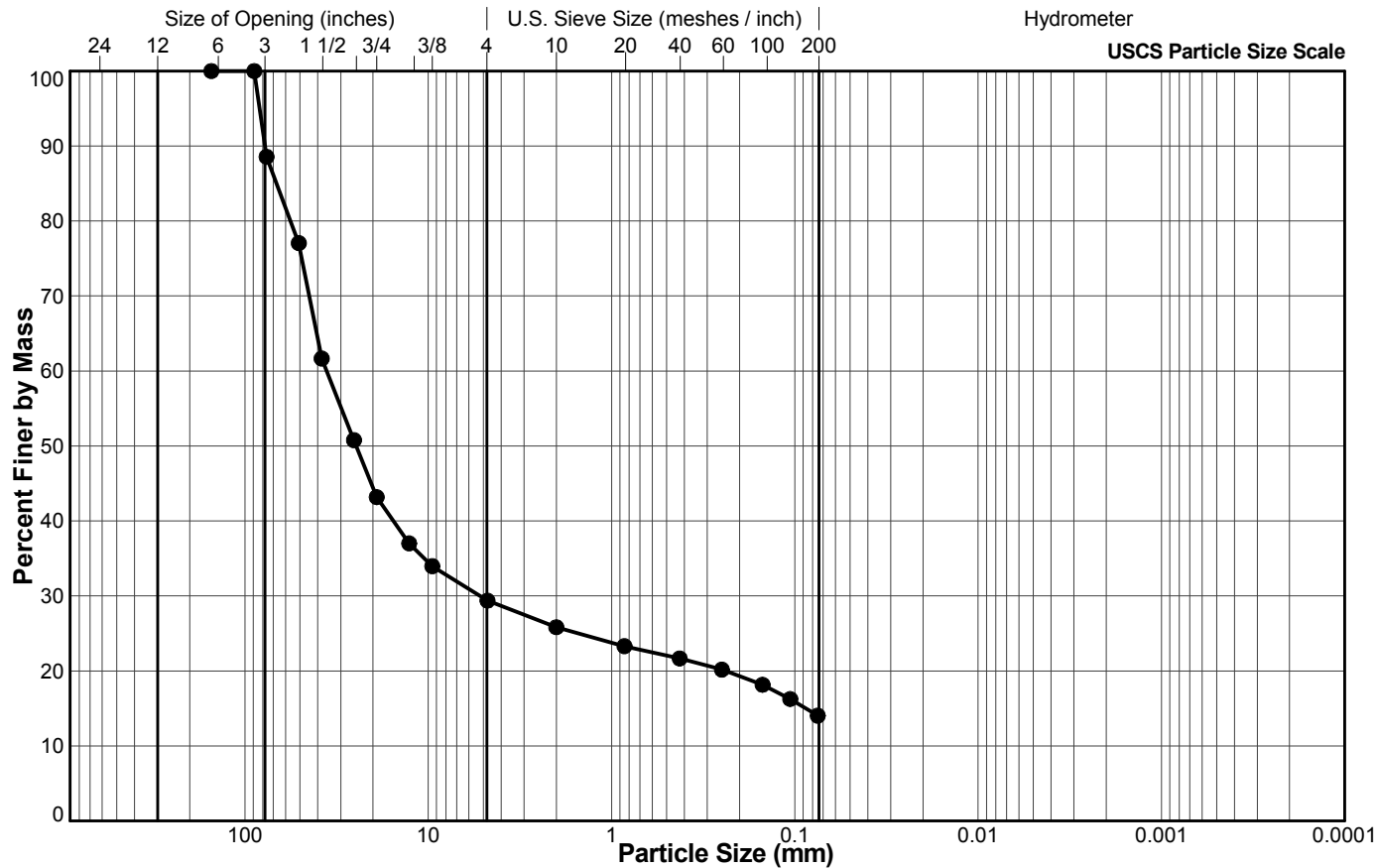
Project: Jay Project

Sample No.: 12

Location: Lac du Sauvage

Depth Interval (m): 23.47 to 23.77

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	88.6
2"	50.8	77.1
1 1/2"	38.1	61.7
1"	25.4	50.8
3/4"	19.1	43.2
1/2"	12.7	37.0
3/8"	9.5	34.0
#4 US MESH	4.75	29.4
#10 US MESH	2	25.8
#20 US MESH	0.85	23.3
#40 US MESH	0.425	21.7
#60 US MESH	0.25	20.2
#100 US MESH	0.15	18.2
#140 US MESH	0.106	16.3
#200 US MESH	0.075	14.0

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/16/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

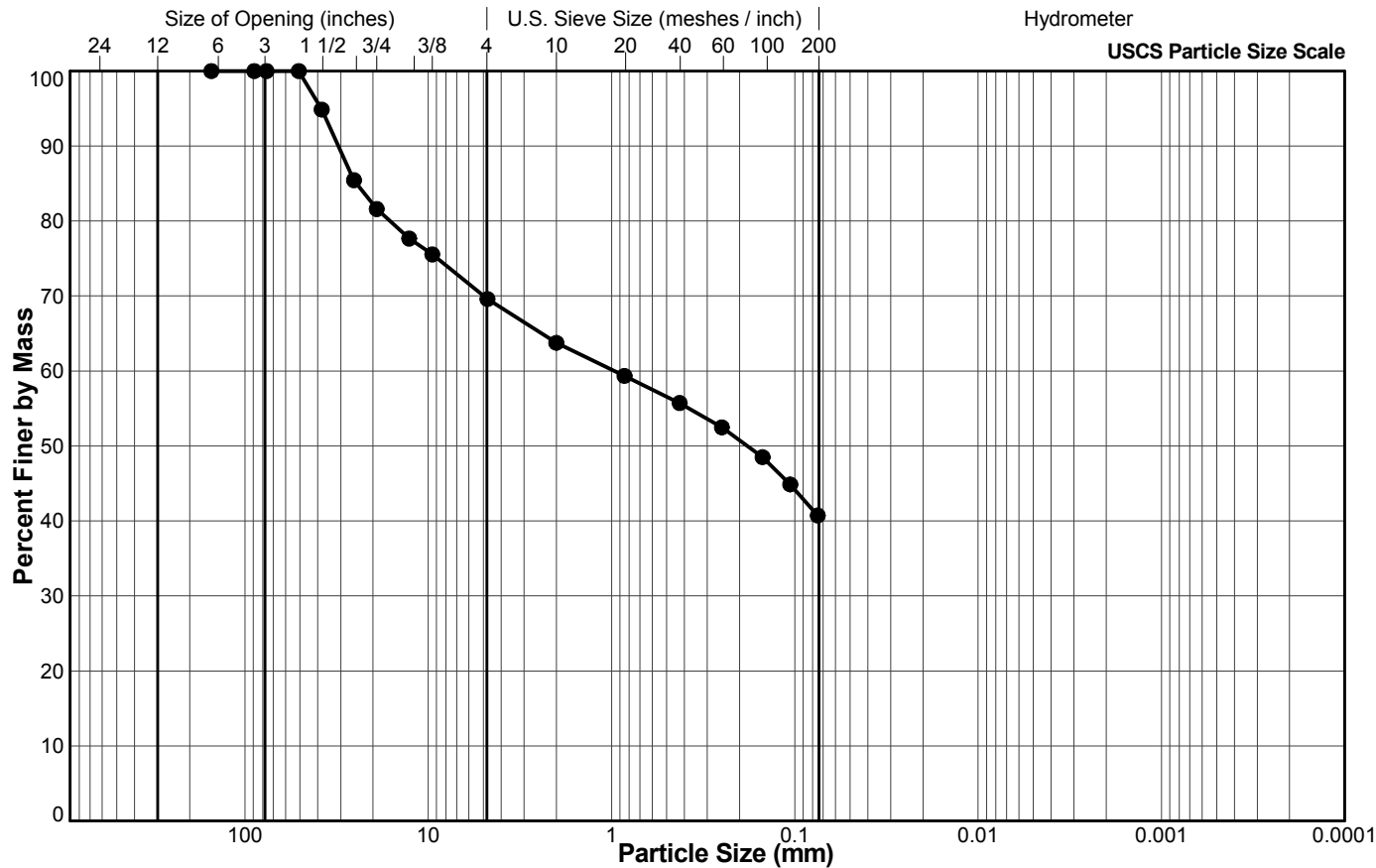
Project: Jay Project

Sample No.: 15

Location: Lac du Sauvage

Depth Interval (m): 26.82 to 27.13

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	94.9
1"	25.4	85.4
3/4"	19.1	81.6
1/2"	12.7	77.7
3/8"	9.5	75.6
#4 US MESH	4.75	69.6
#10 US MESH	2	63.8
#20 US MESH	0.85	59.3
#40 US MESH	0.425	55.7
#60 US MESH	0.25	52.5
#100 US MESH	0.15	48.5
#140 US MESH	0.106	44.9
#200 US MESH	0.075	40.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC
4/16/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-02

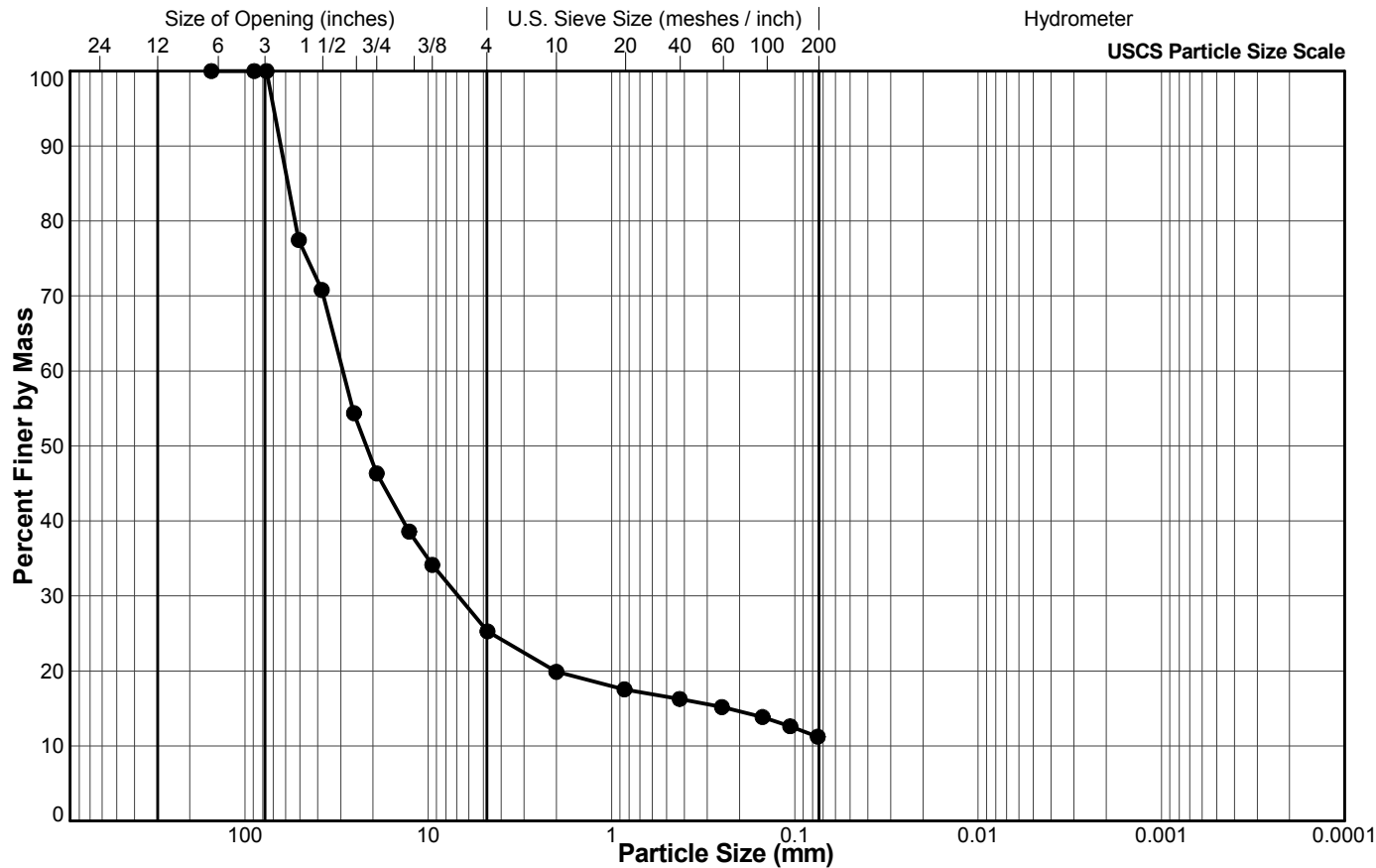
Project: Jay Project

Sample No.: 4

Location: Lac du Sauvage

Depth Interval (m): 25.30 to 25.60

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	77.5
1 1/2"	38.1	70.8
1"	25.4	54.4
3/4"	19.1	46.3
1/2"	12.7	38.6
3/8"	9.5	34.1
#4 US MESH	4.75	25.3
#10 US MESH	2	19.9
#20 US MESH	0.85	17.5
#40 US MESH	0.425	16.3
#60 US MESH	0.25	15.2
#100 US MESH	0.15	13.9
#140 US MESH	0.106	12.6
#200 US MESH	0.075	11.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
5/2/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-02

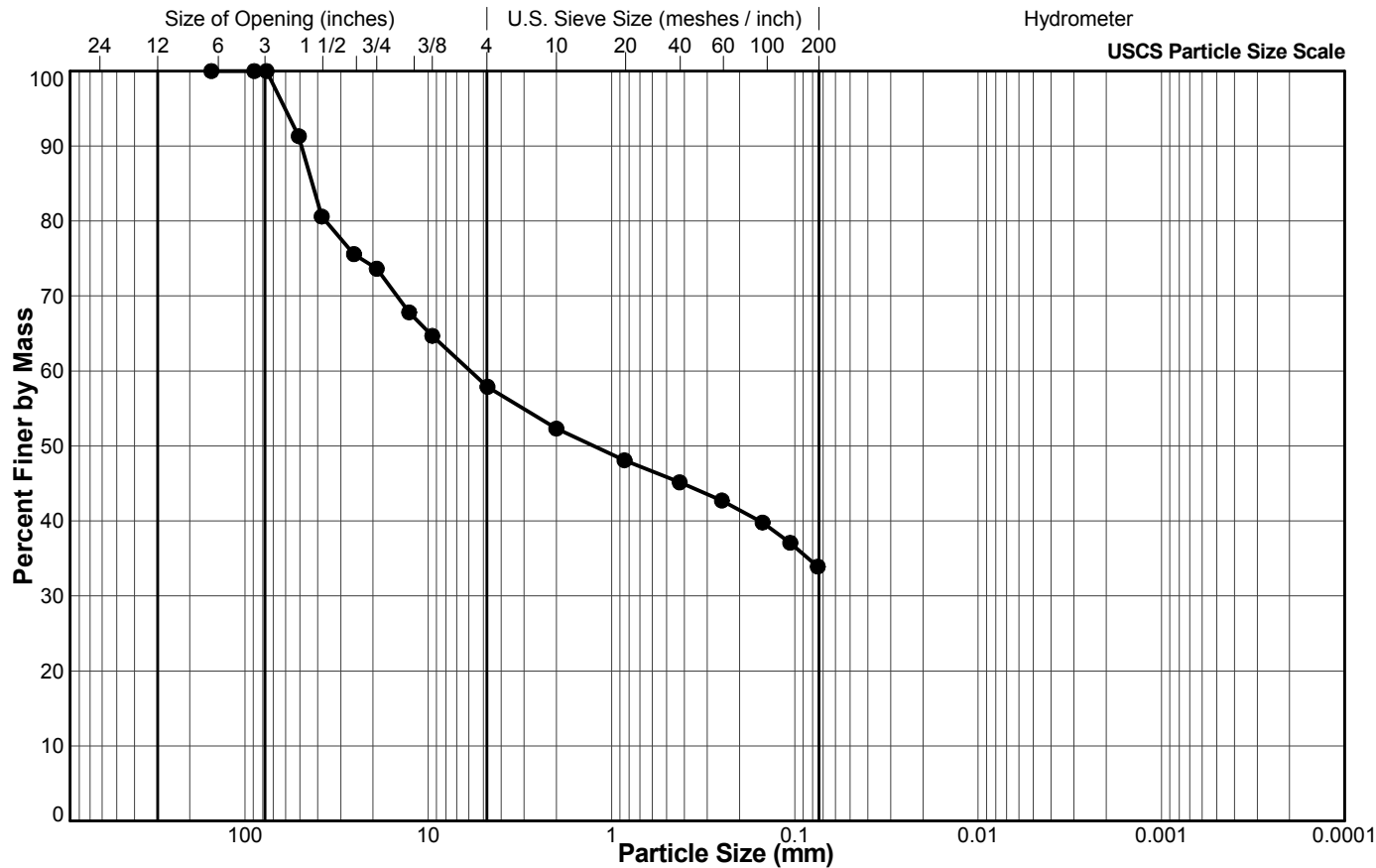
Project: Jay Project

Sample No.: 6

Location: Lac du Sauvage

Depth Interval (m): 28.04 to 28.35

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	91.3
1 1/2"	38.1	80.6
1"	25.4	75.6
3/4"	19.1	73.6
1/2"	12.7	67.8
3/8"	9.5	64.7
#4 US MESH	4.75	57.9
#10 US MESH	2	52.3
#20 US MESH	0.85	48.1
#40 US MESH	0.425	45.2
#60 US MESH	0.25	42.7
#100 US MESH	0.15	39.8
#140 US MESH	0.106	37.1
#200 US MESH	0.075	33.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
5/16/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-03

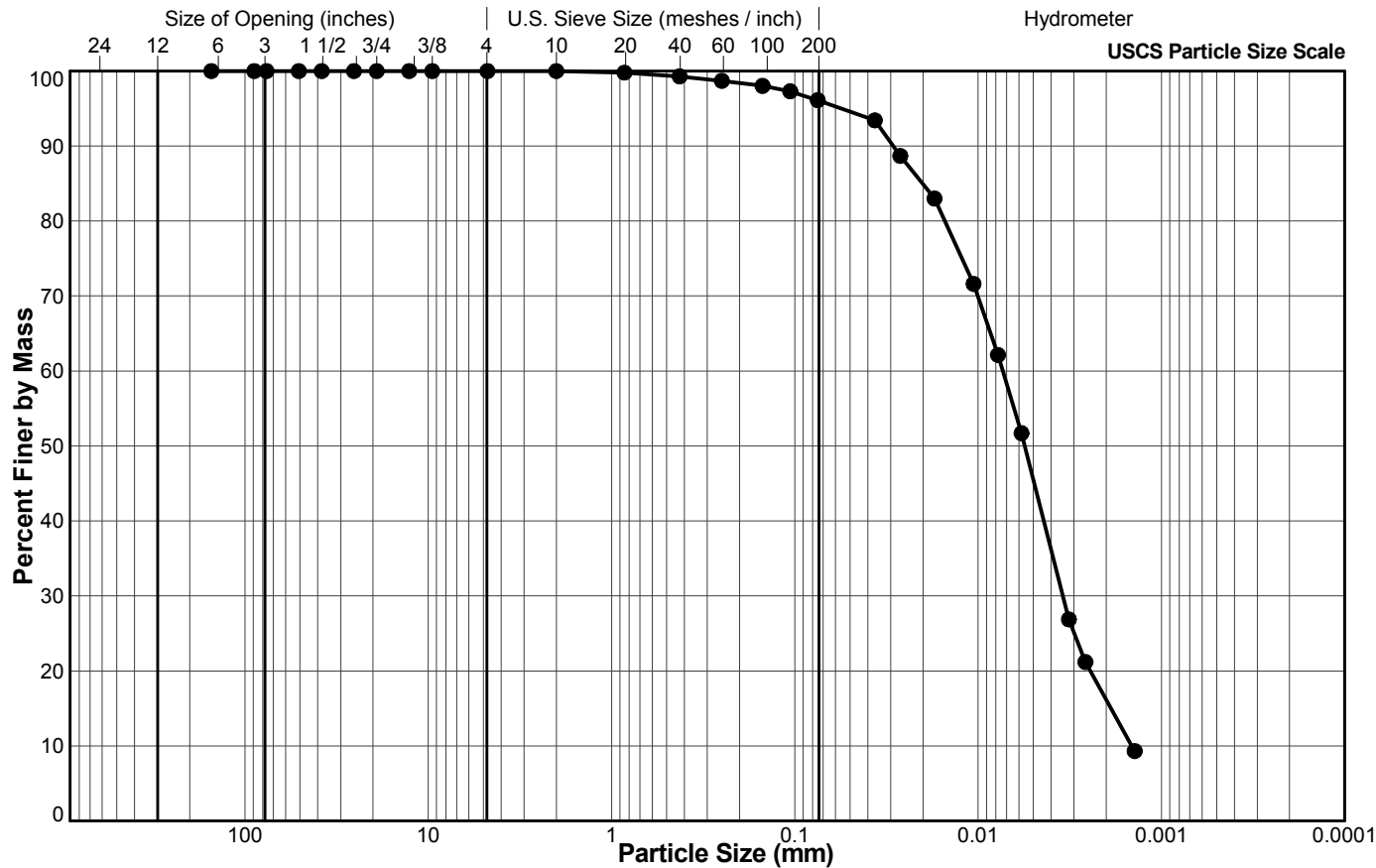
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 10.36 to 10.67

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	99.8
#40 US MESH	0.425	99.3
#60 US MESH	0.25	98.7
#100 US MESH	0.15	98.0
#140 US MESH	0.106	97.3
#200 US MESH	0.075	96.1
	0.0366	93.4
	0.0266	88.7
	0.0173	83.0
	0.0106	71.6
	0.0078	62.1
	0.0058	51.7
	0.0032	26.9
	0.0026	21.2
	0.0014	9.3

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/OA
5/13/2014
LH
5/22/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-03

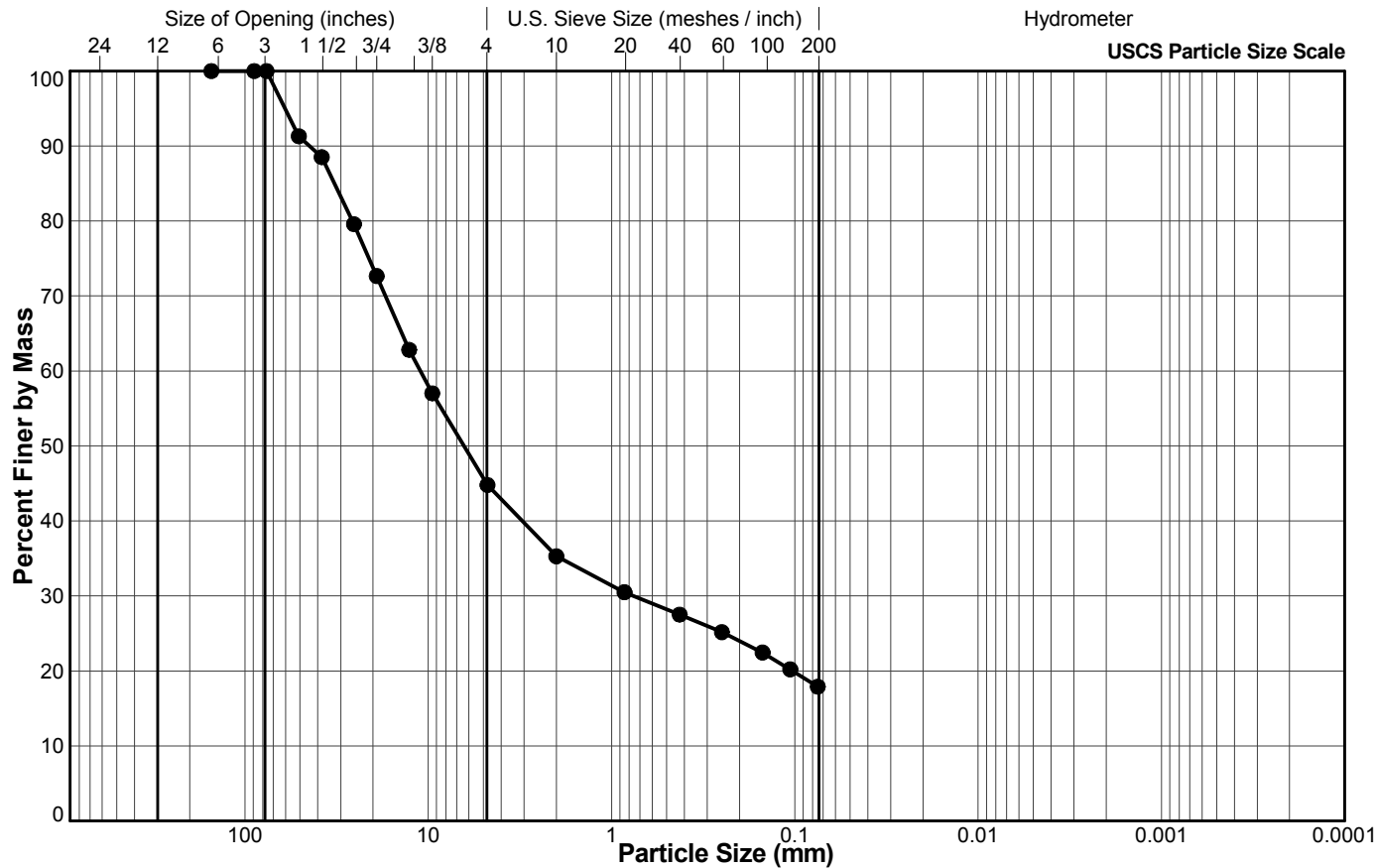
Project: Jay Project

Sample No.: 3

Location: Lac du Sauvage

Depth Interval (m): 10.82 to 11.28

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	91.3
1 1/2"	38.1	88.5
1"	25.4	79.6
3/4"	19.1	72.7
1/2"	12.7	62.8
3/8"	9.5	57.0
#4 US MESH	4.75	44.8
#10 US MESH	2	35.3
#20 US MESH	0.85	30.5
#40 US MESH	0.425	27.5
#60 US MESH	0.25	25.2
#100 US MESH	0.15	22.5
#140 US MESH	0.106	20.2
#200 US MESH	0.075	17.9

Boulder	Cobble	Gravel		Sand			Fines (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
4/25/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-04

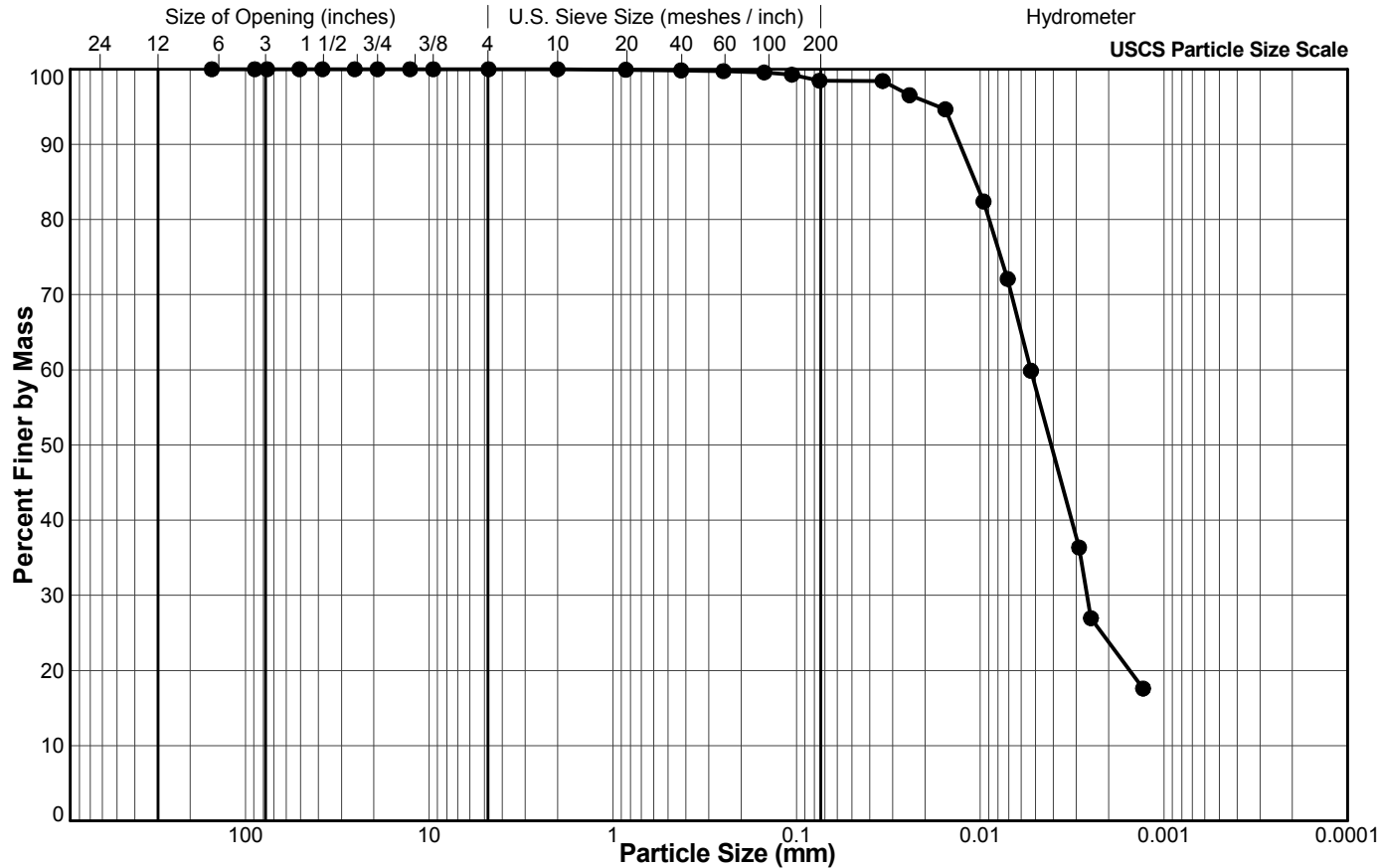
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 7.77 to 7.92

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	99.9
#40 US MESH	0.425	99.8
#60 US MESH	0.25	99.7
#100 US MESH	0.15	99.6
#140 US MESH	0.106	99.3
#200 US MESH	0.075	98.5
	0.0340	98.4
	0.0243	96.5
	0.0155	94.7
	0.0096	82.4
	0.0071	72.1
	0.0053	59.9
	0.0029	36.4
	0.0025	27.0
	0.0013	17.6

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ
4/17/2014
LH
4/18/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-01

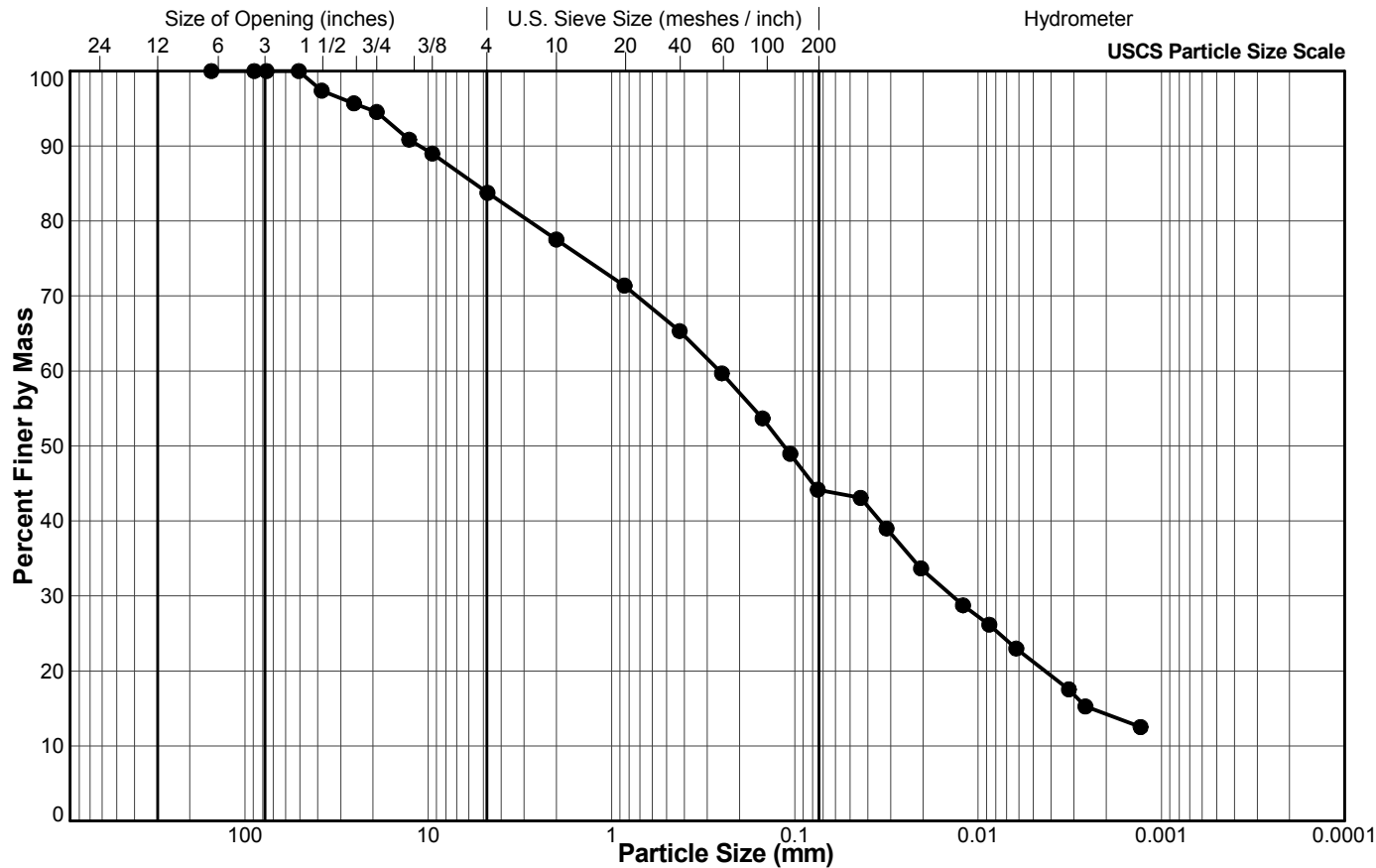
Project: Jay Project

Sample No.: 2 & 3

Location: Lac du Sauvage

Depth Interval (m): 10.06 to 10.82

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	97.4
1"	25.4	95.7
3/4"	19.1	94.5
1/2"	12.7	90.8
3/8"	9.5	89.0
#4 US MESH	4.75	83.8
#10 US MESH	2	77.5
#20 US MESH	0.85	71.4
#40 US MESH	0.425	65.3
#60 US MESH	0.25	59.7
#100 US MESH	0.15	53.7
#140 US MESH	0.106	49.0
#200 US MESH	0.075	44.2
	0.0438	43.1
	0.0316	39.0
	0.0205	33.7
	0.0121	28.7
	0.0087	26.2
	0.0062	23.0
	0.0032	17.5
	0.0026	15.3
	0.0013	12.5

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA/AY
5/13/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-01&05&07

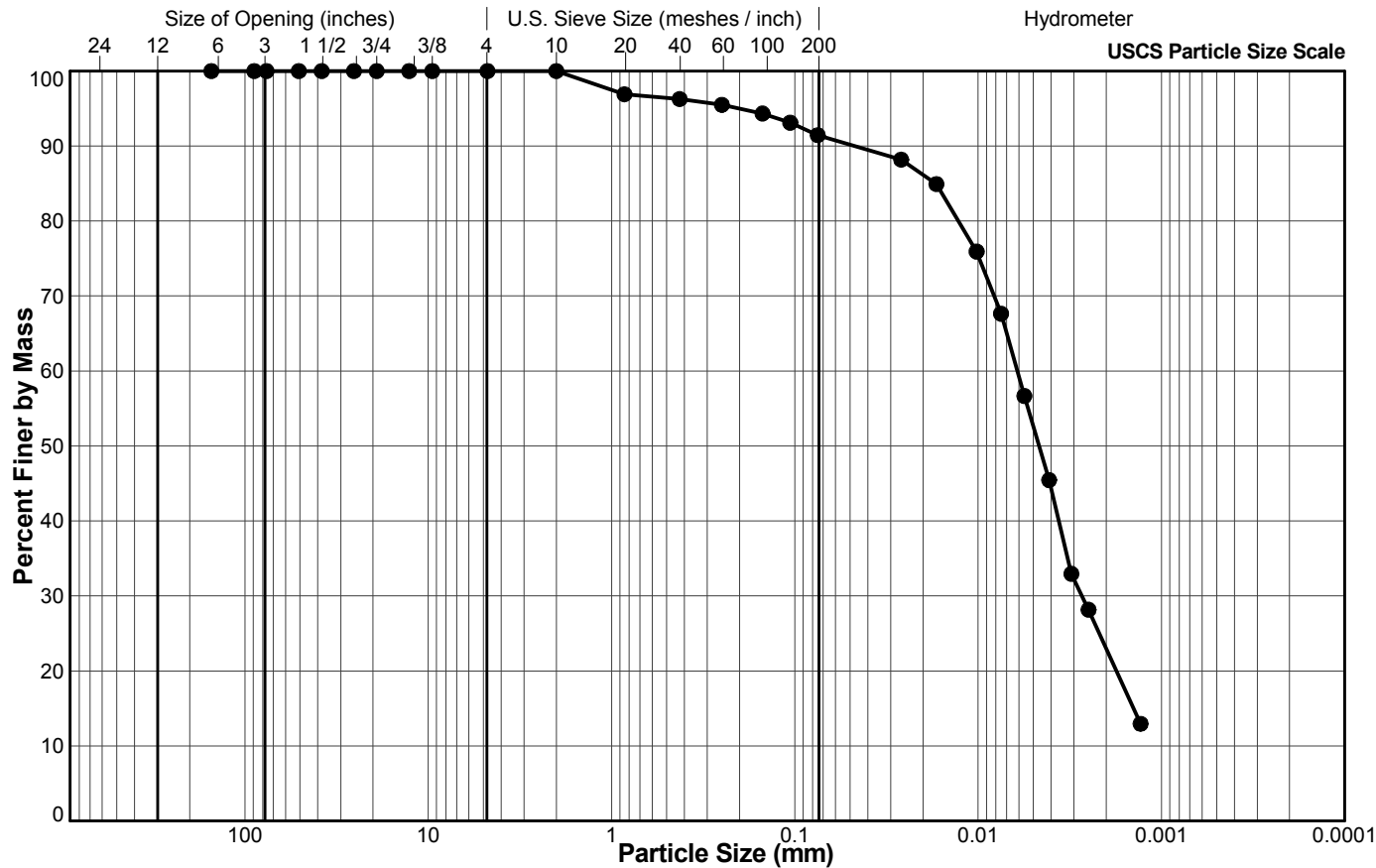
Project: Jay Project

Sample No.: 1-combined

Location: Lac du Sauvage

Depth (m): N/A

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	96.9
#40 US MESH	0.425	96.3
#60 US MESH	0.25	95.5
#100 US MESH	0.15	94.3
#140 US MESH	0.106	93.1
#200 US MESH	0.075	91.4
	0.0263	88.2
	0.0169	84.9
	0.0102	75.9
	0.0075	67.6
	0.0056	56.7
	0.0041	45.5
	0.0031	33.0
	0.0025	28.2
	0.0013	12.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA
5/15/2014
LP
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-02

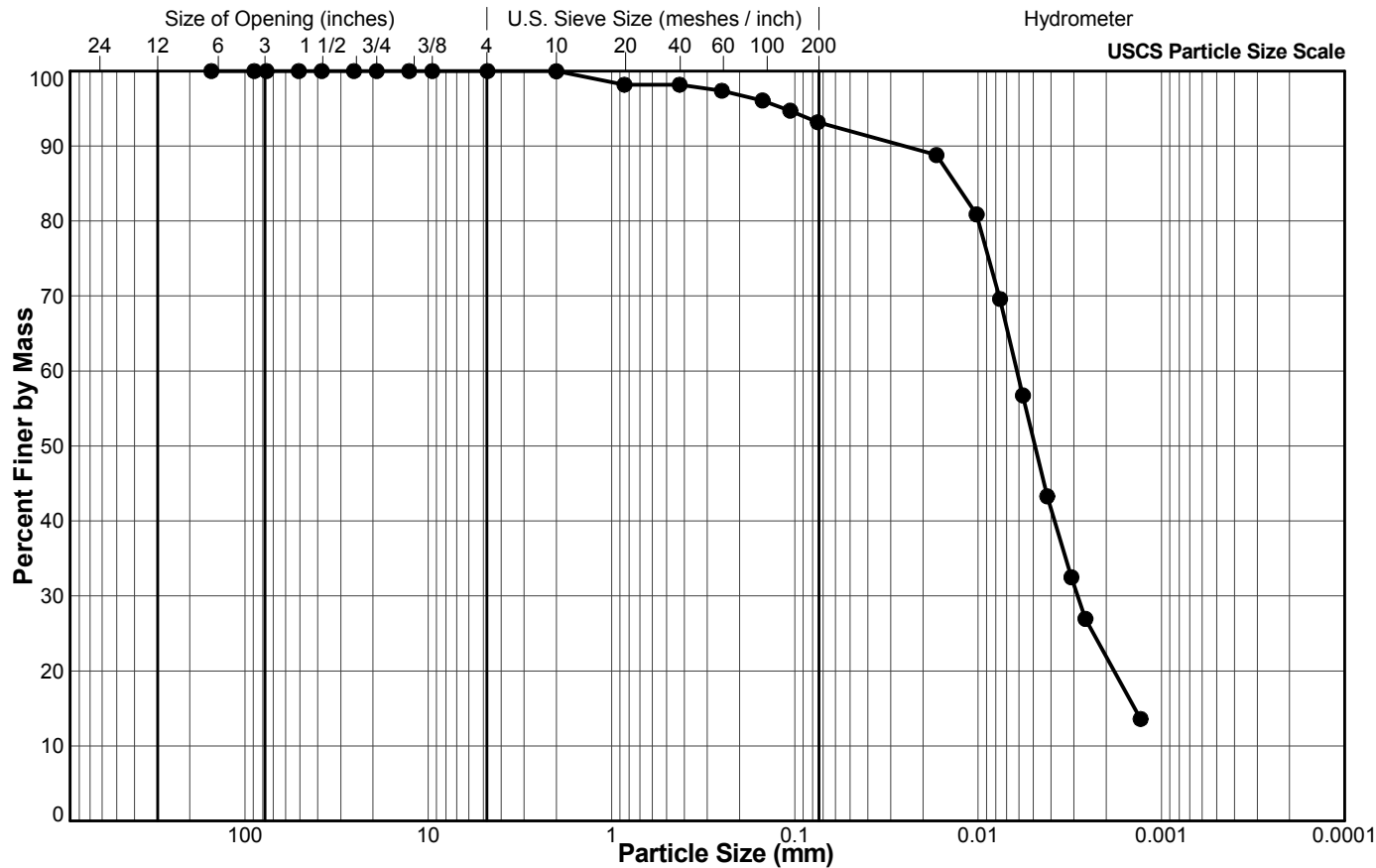
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 5.49 to 5.79

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	98.2
#40 US MESH	0.425	98.2
#60 US MESH	0.25	97.4
#100 US MESH	0.15	96.1
#140 US MESH	0.106	94.7
#200 US MESH	0.075	93.2
	0.0169	88.8
	0.0102	80.9
	0.0076	69.6
	0.0057	56.7
	0.0042	43.3
	0.0031	32.5
	0.0026	27.0
	0.0013	13.6

Boulder	Cobble	Gravel		Sand			Fines (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA
5/13/2014
LH
4/14/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-02

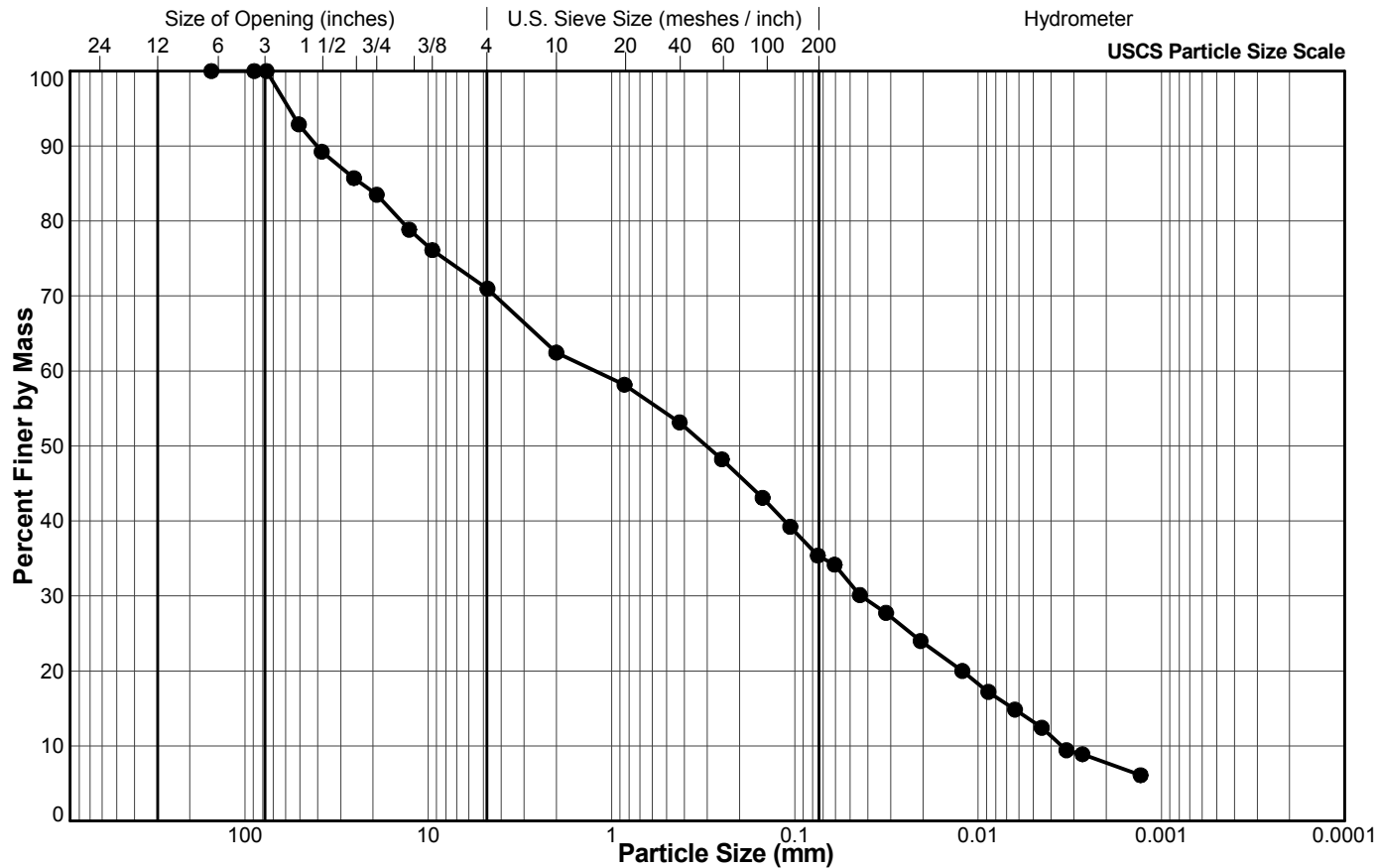
Project: Jay Project

Sample No.: 2 & 3 Total

Location: Lac du Sauvage

Depth Interval (m): 7.01 to 8.84

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	92.9
1 1/2"	38.1	89.2
1"	25.4	85.7
3/4"	19.1	83.5
1/2"	12.7	78.9
3/8"	9.5	76.1
#4 US MESH	4.75	71.0
#10 US MESH	2	62.5
#20 US MESH	0.85	58.2
#40 US MESH	0.425	53.1
#60 US MESH	0.25	48.2
#100 US MESH	0.15	43.1
#140 US MESH	0.106	39.2
#200 US MESH	0.075	35.4
	0.0607	34.2
	0.0442	30.1
	0.0318	27.7
	0.0206	24.0
	0.0122	20.0
	0.0088	17.2
	0.0063	14.8
	0.0045	12.4
	0.0033	9.4
	0.0027	8.9
	0.0013	6.1

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA/BM
5/15/2014
LP
5/22/2014
Tech
Date
Checked
Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-03

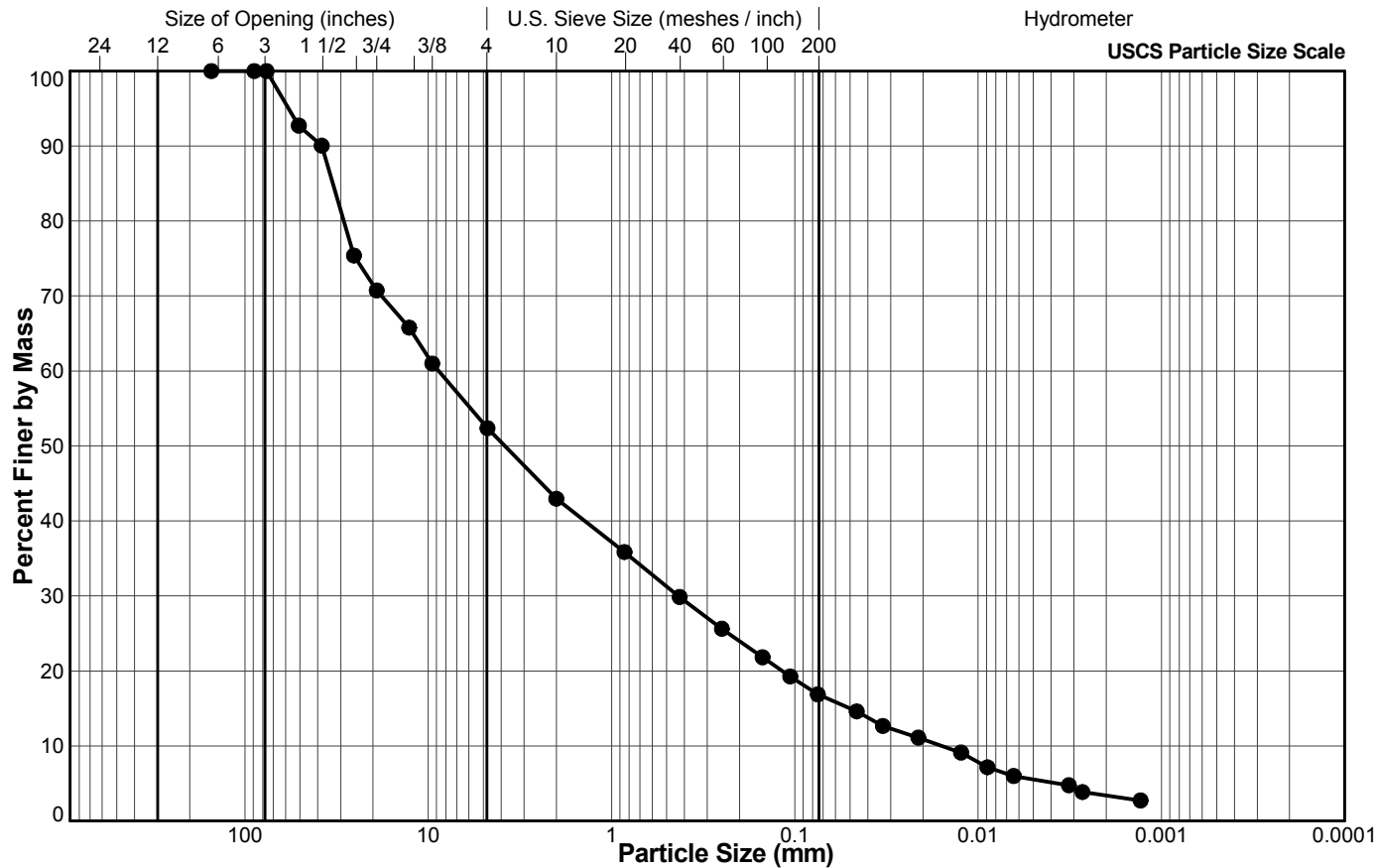
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 12.80 to 12.95

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	92.7
1 1/2"	38.1	90.1
1"	25.4	75.4
3/4"	19.1	70.7
1/2"	12.7	65.8
3/8"	9.5	61.0
#4 US MESH	4.75	52.4
#10 US MESH	2	43.0
#20 US MESH	0.85	35.9
#40 US MESH	0.425	29.9
#60 US MESH	0.25	25.6
#100 US MESH	0.15	21.8
#140 US MESH	0.106	19.3
#200 US MESH	0.075	16.9
	0.0460	14.6
	0.0331	12.7
	0.0212	11.1
	0.0124	9.1
	0.0089	7.2
	0.0064	6.0
	0.0032	4.8
	0.0027	3.9
	0.0013	2.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/OA
5/1/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-04

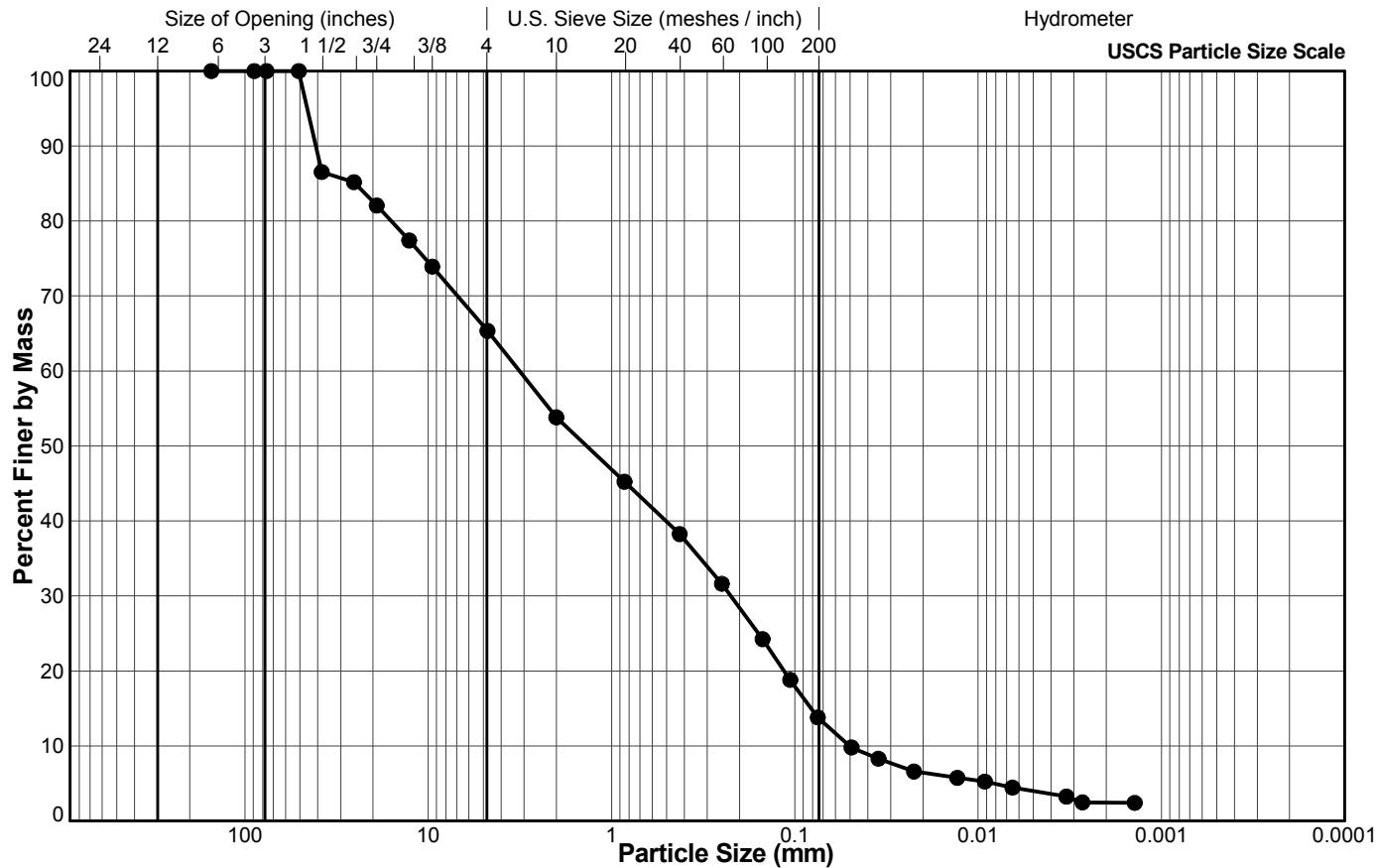
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 3.81 to 3.96

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	86.5
1"	25.4	85.2
3/4"	19.1	82.1
1/2"	12.7	77.4
3/8"	9.5	73.9
#4 US MESH	4.75	65.3
#10 US MESH	2	53.8
#20 US MESH	0.85	45.2
#40 US MESH	0.425	38.3
#60 US MESH	0.25	31.6
#100 US MESH	0.15	24.2
#140 US MESH	0.106	18.8
#200 US MESH	0.075	13.8
	0.0491	9.8
	0.0350	8.3
	0.0224	6.6
	0.0130	5.7
	0.0092	5.2
	0.0065	4.4
	0.0033	3.2
	0.0027	2.5
	0.0014	2.4

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

SJ/OA
5/1/2014
LH
5/2/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-06

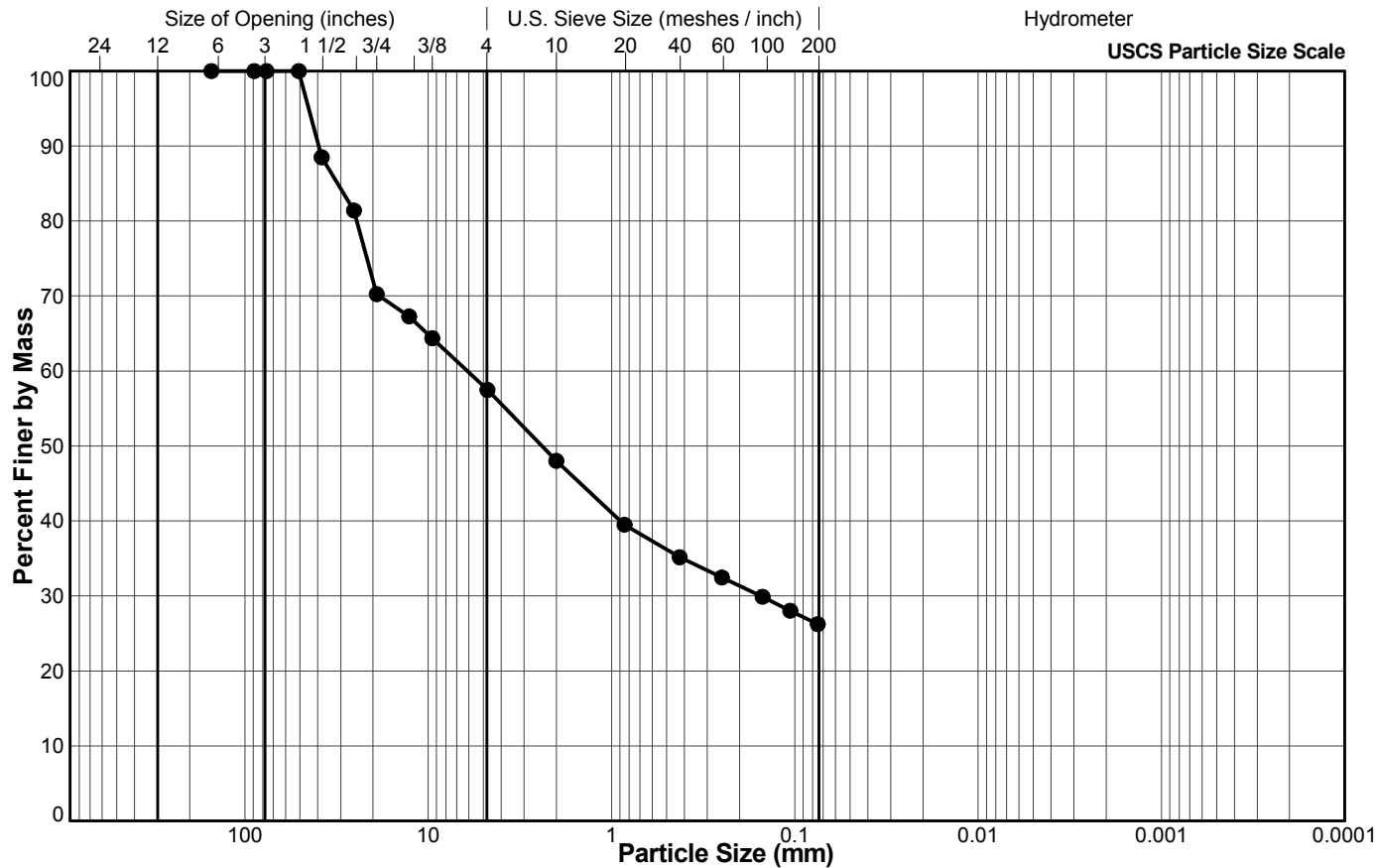
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 12.50 to 12.80

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	88.5
1"	25.4	81.4
3/4"	19.1	70.3
1/2"	12.7	67.3
3/8"	9.5	64.4
#4 US MESH	4.75	57.5
#10 US MESH	2	48.0
#20 US MESH	0.85	39.5
#40 US MESH	0.425	35.2
#60 US MESH	0.25	32.5
#100 US MESH	0.15	29.9
#140 US MESH	0.106	28.0
#200 US MESH	0.075	26.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-07

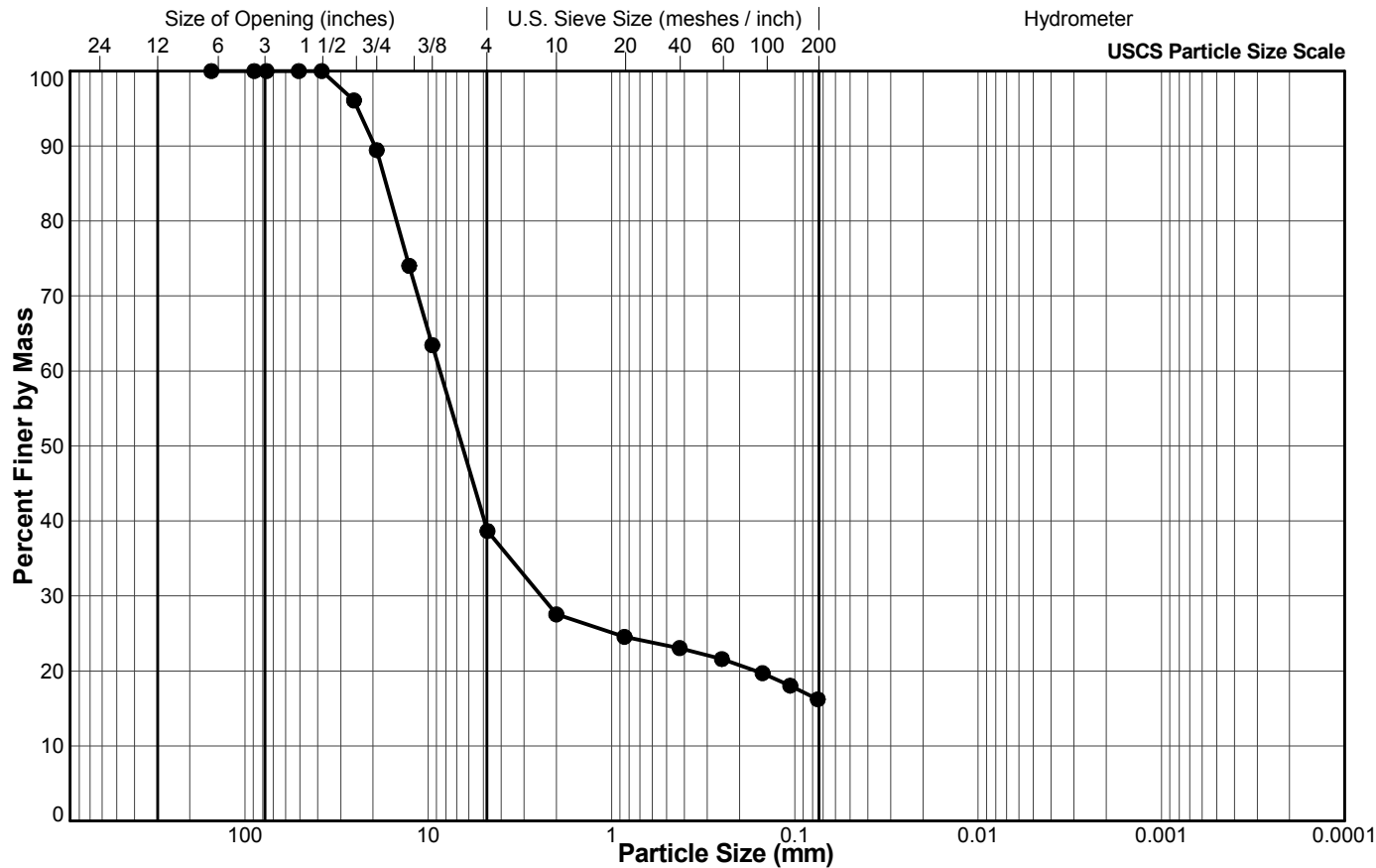
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 11.28 to 11.43

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	96.1
3/4"	19.1	89.5
1/2"	12.7	74.0
3/8"	9.5	63.4
#4 US MESH	4.75	38.7
#10 US MESH	2	27.5
#20 US MESH	0.85	24.5
#40 US MESH	0.425	23.0
#60 US MESH	0.25	21.6
#100 US MESH	0.15	19.7
#140 US MESH	0.106	18.0
#200 US MESH	0.075	16.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DC/AY
5/13/2014
LH
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-08

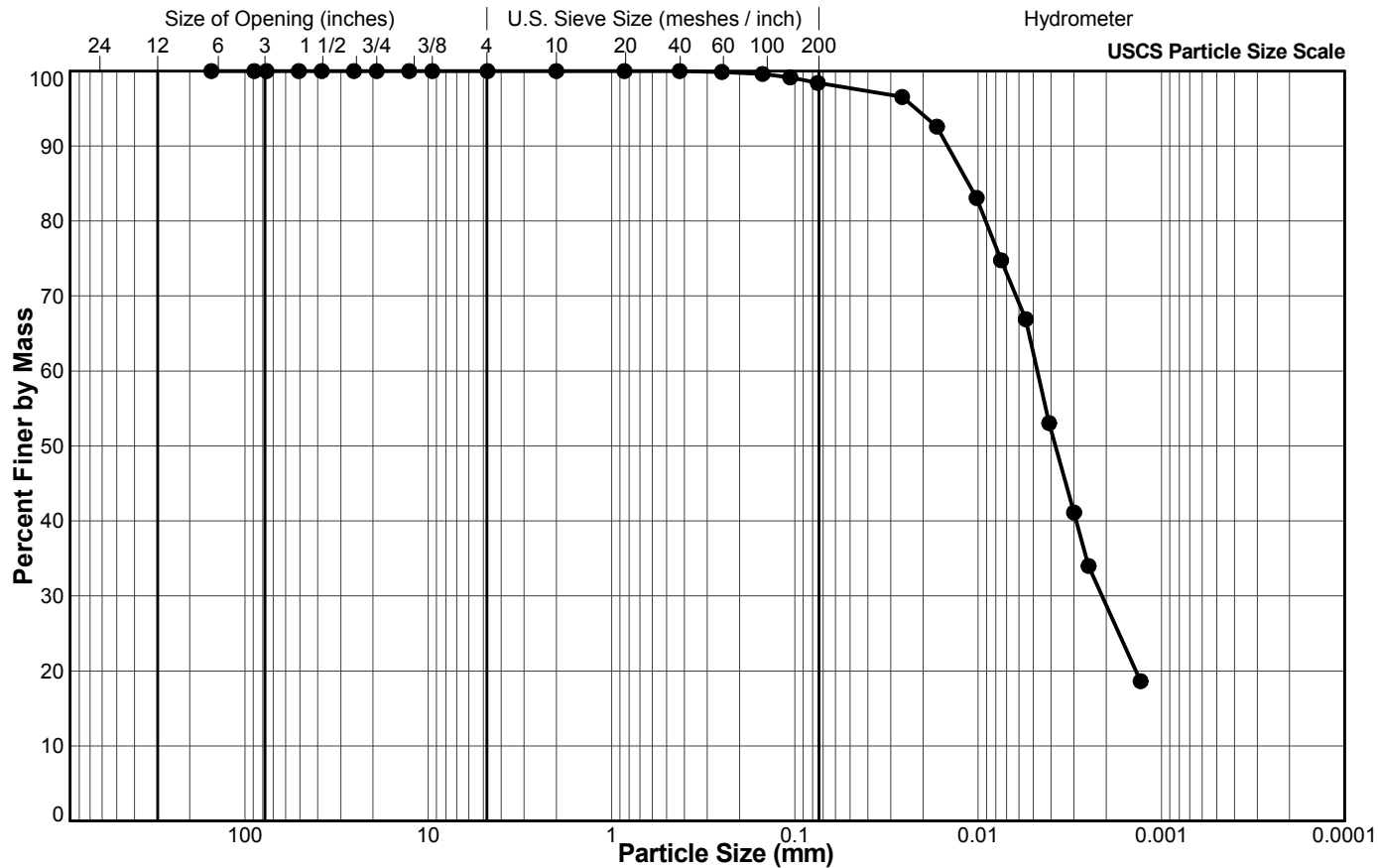
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 10.52 to 10.67

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	100.0
#20 US MESH	0.85	100.0
#40 US MESH	0.425	100.0
#60 US MESH	0.25	99.9
#100 US MESH	0.15	99.6
#140 US MESH	0.106	99.2
#200 US MESH	0.075	98.4
	0.0260	96.5
	0.0168	92.6
	0.0102	83.1
	0.0075	74.8
	0.0055	66.9
	0.0041	53.0
	0.0030	41.1
	0.0025	34.0
	0.0013	18.6

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA
5/13/2014
LH
5/14/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-08

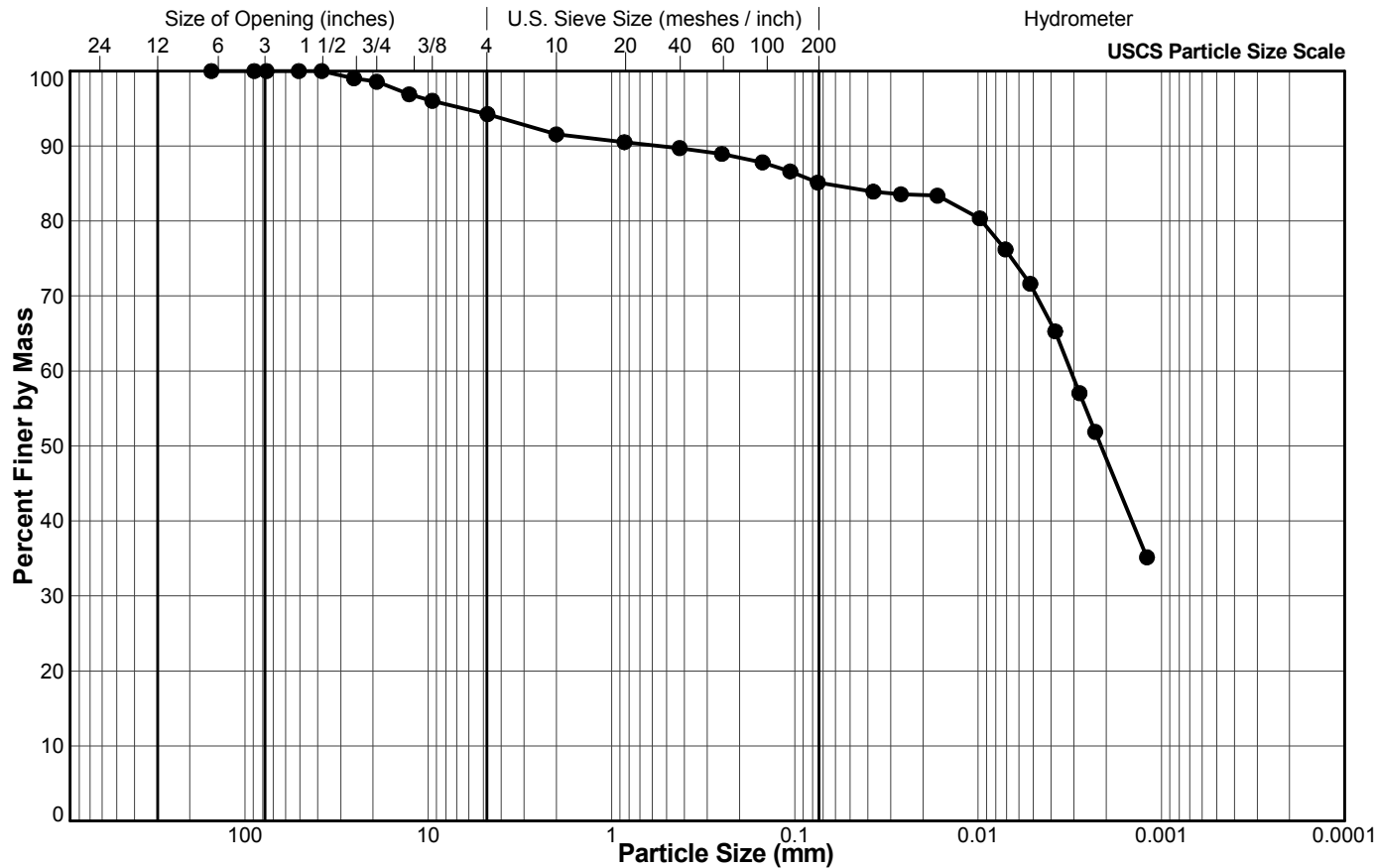
Project: Jay Project

Sample No.: 4 & 5 Total

Location: Lac du Sauvage

Depth Interval (m): 16.31 to 17.68

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	99.0
3/4"	19.1	98.6
1/2"	12.7	96.9
3/8"	9.5	96.0
#4 US MESH	4.75	94.2
#10 US MESH	2	91.6
#20 US MESH	0.85	90.5
#40 US MESH	0.425	89.7
#60 US MESH	0.25	89.0
#100 US MESH	0.15	87.8
#140 US MESH	0.106	86.6
#200 US MESH	0.075	85.1
	0.0373	83.9
	0.0264	83.6
	0.0167	83.4
	0.0098	80.4
	0.0071	76.2
	0.0052	71.6
	0.0038	65.3
	0.0028	57.0
	0.0023	51.9
	0.0012	35.2

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

MM/OA
5/28/2014
LP
6/1/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-08

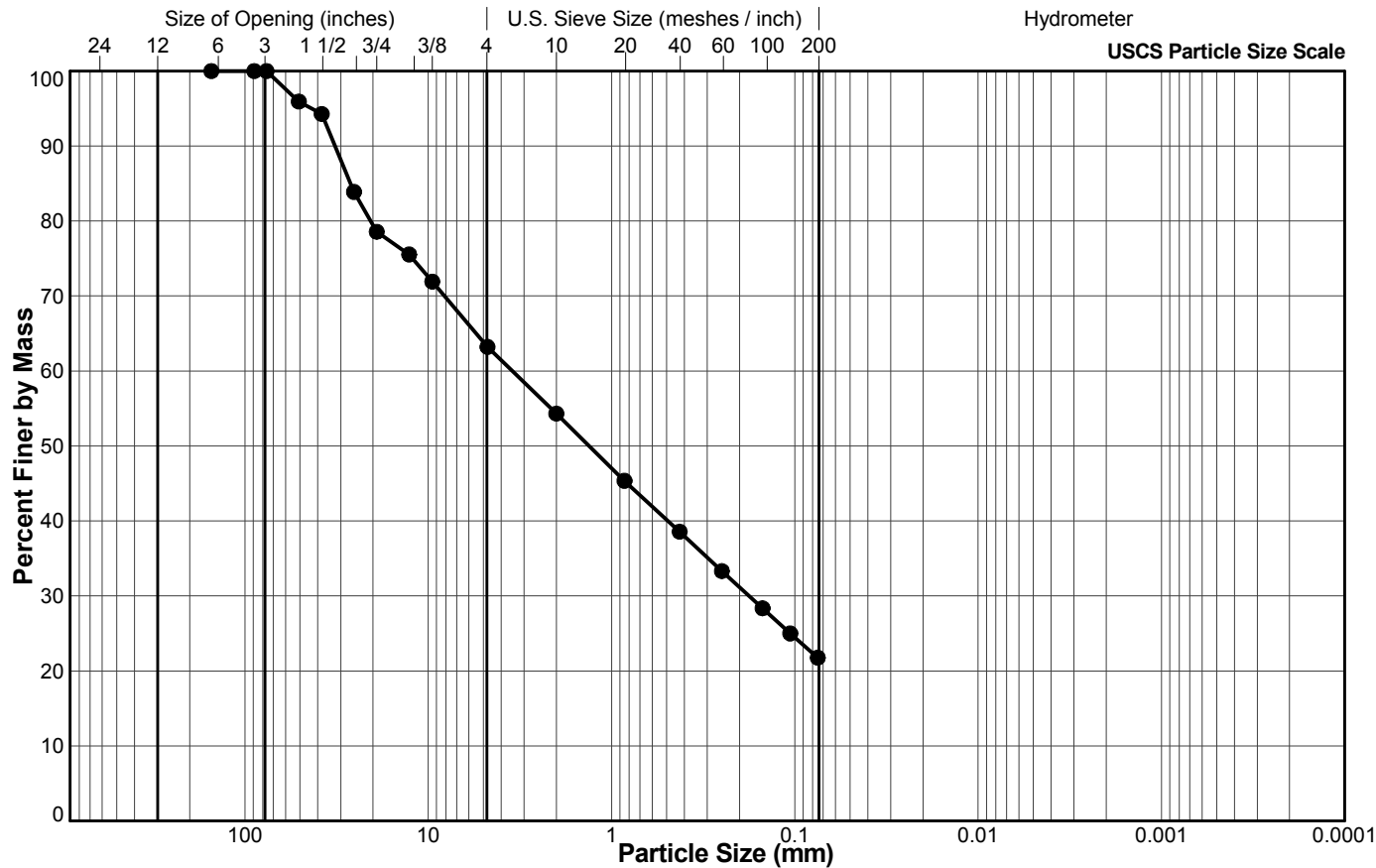
Project: Jay Project

Sample No.: 7

Location: Lac du Sauvage

Depth Interval (m): 21.95 to 22.25

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	95.9
1 1/2"	38.1	94.3
1"	25.4	83.9
3/4"	19.1	78.6
1/2"	12.7	75.5
3/8"	9.5	71.9
#4 US MESH	4.75	63.2
#10 US MESH	2	54.3
#20 US MESH	0.85	45.4
#40 US MESH	0.425	38.6
#60 US MESH	0.25	33.3
#100 US MESH	0.15	28.4
#140 US MESH	0.106	25.0
#200 US MESH	0.075	21.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-09

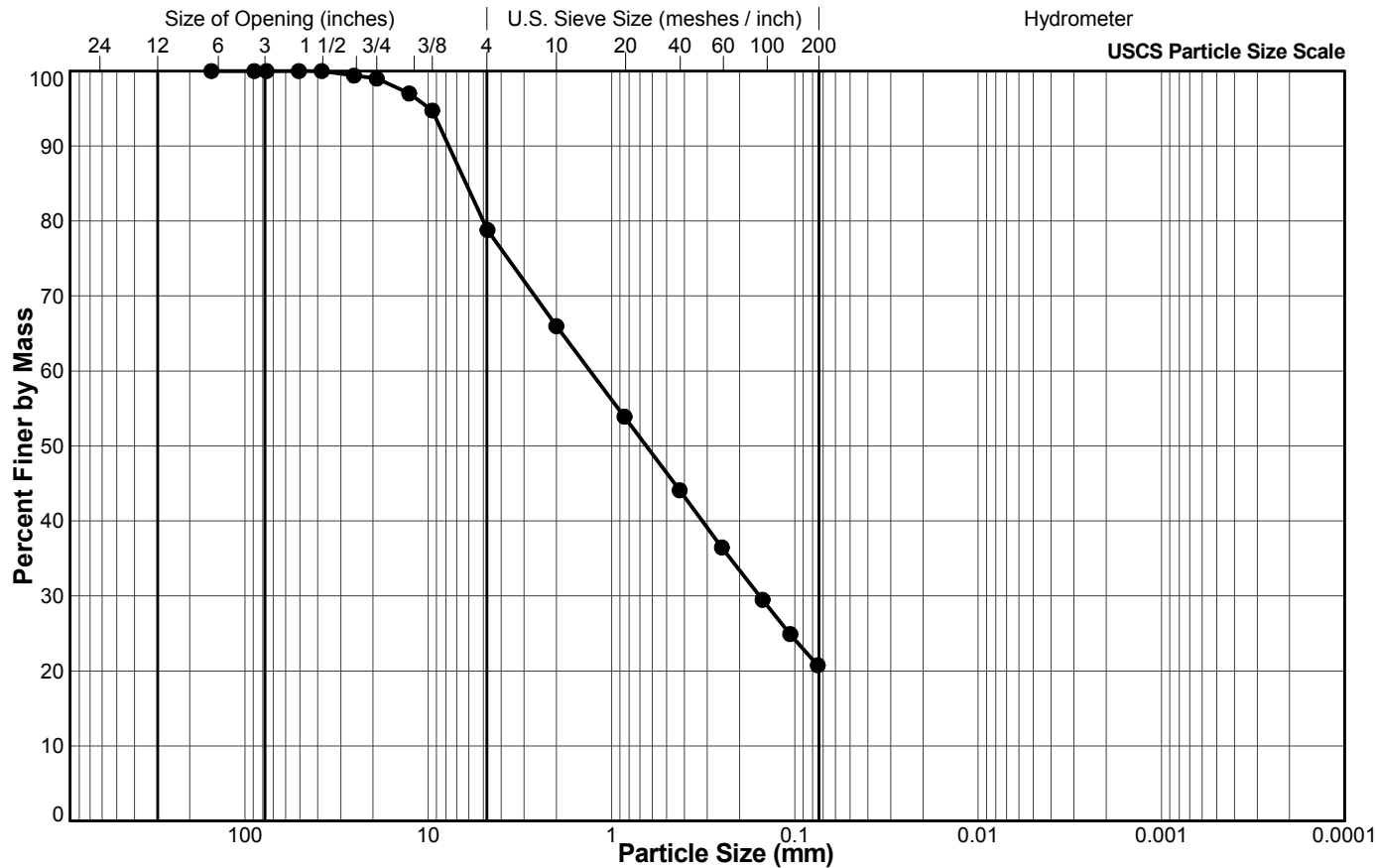
Project: Jay Project

Sample No.: 3

Location: Lac du Sauvage

Depth Interval (m): 5.79 to 5.94

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	99.4
3/4"	19.1	99.0
1/2"	12.7	97.0
3/8"	9.5	94.7
#4 US MESH	4.75	78.8
#10 US MESH	2	66.0
#20 US MESH	0.85	53.9
#40 US MESH	0.425	44.1
#60 US MESH	0.25	36.5
#100 US MESH	0.15	29.5
#140 US MESH	0.106	24.9
#200 US MESH	0.075	20.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-09

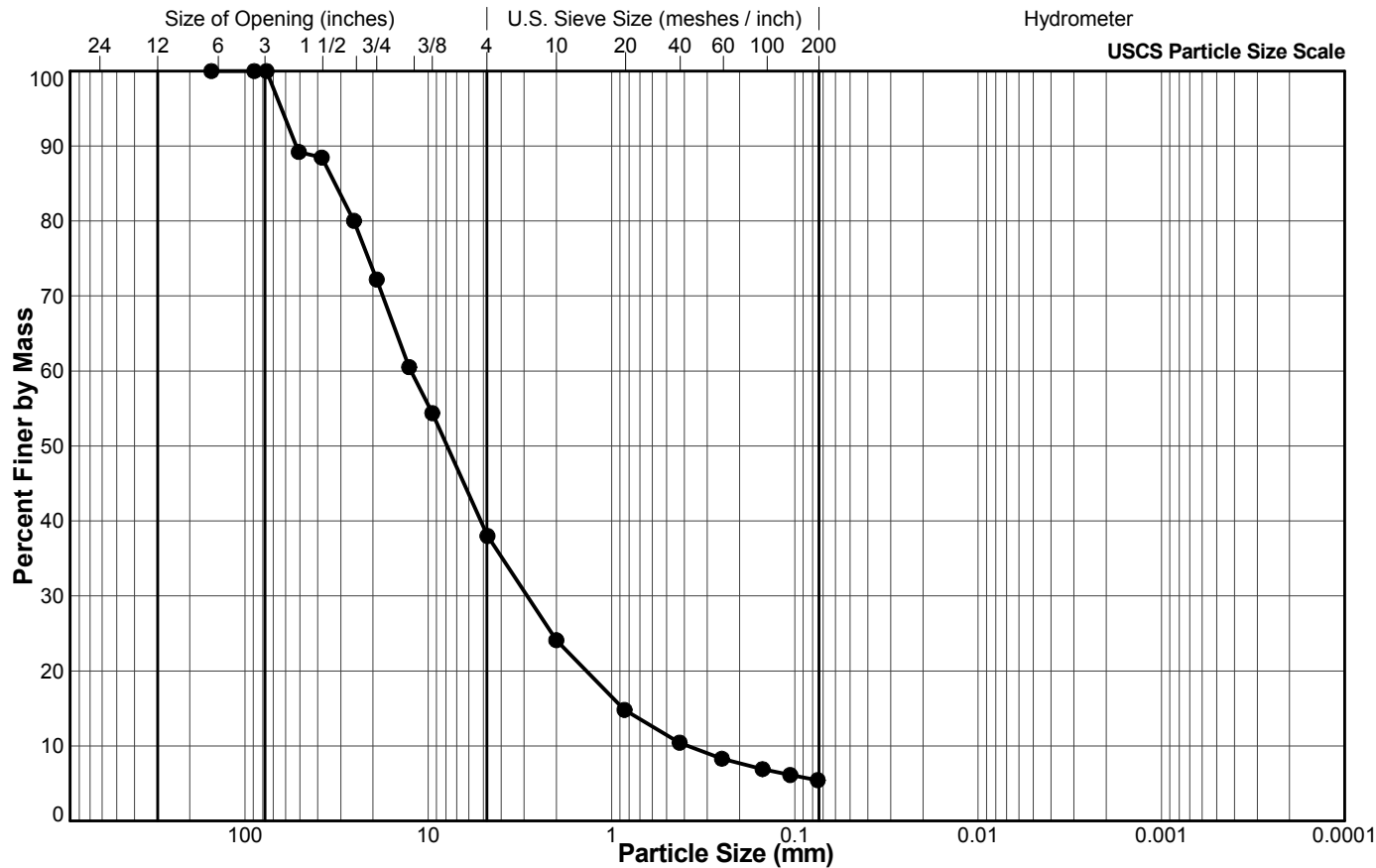
Project: Jay Project

Sample No.: 4 & 5 Total

Location: Lac du Sauvage

Depth Interval (m): 8.69 to 10.36

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	89.2
1 1/2"	38.1	88.5
1"	25.4	80.0
3/4"	19.1	72.2
1/2"	12.7	60.5
3/8"	9.5	54.4
#4 US MESH	4.75	38.0
#10 US MESH	2	24.1
#20 US MESH	0.85	14.8
#40 US MESH	0.425	10.4
#60 US MESH	0.25	8.3
#100 US MESH	0.15	6.9
#140 US MESH	0.106	6.1
#200 US MESH	0.075	5.4

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

AY/SJ
5/15/2014
LP
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-10

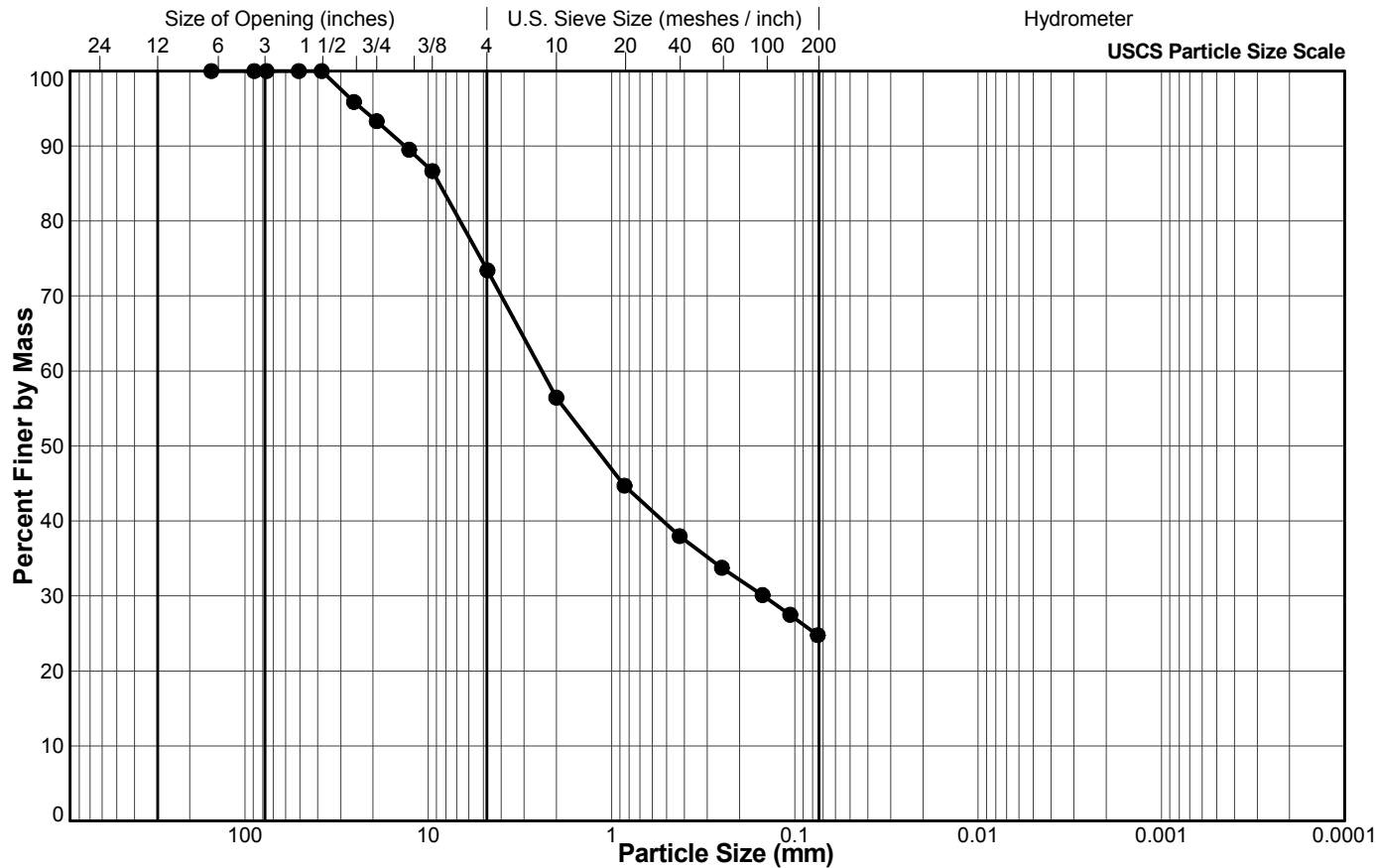
Project: Jay Project

Sample No.: 1

Location: Lac du Sauvage

Depth Interval (m): 13.41 to 13.56

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	95.9
3/4"	19.1	93.3
1/2"	12.7	89.5
3/8"	9.5	86.7
#4 US MESH	4.75	73.4
#10 US MESH	2	56.5
#20 US MESH	0.85	44.7
#40 US MESH	0.425	38.0
#60 US MESH	0.25	33.8
#100 US MESH	0.15	30.1
#140 US MESH	0.106	27.5
#200 US MESH	0.075	24.8

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-10

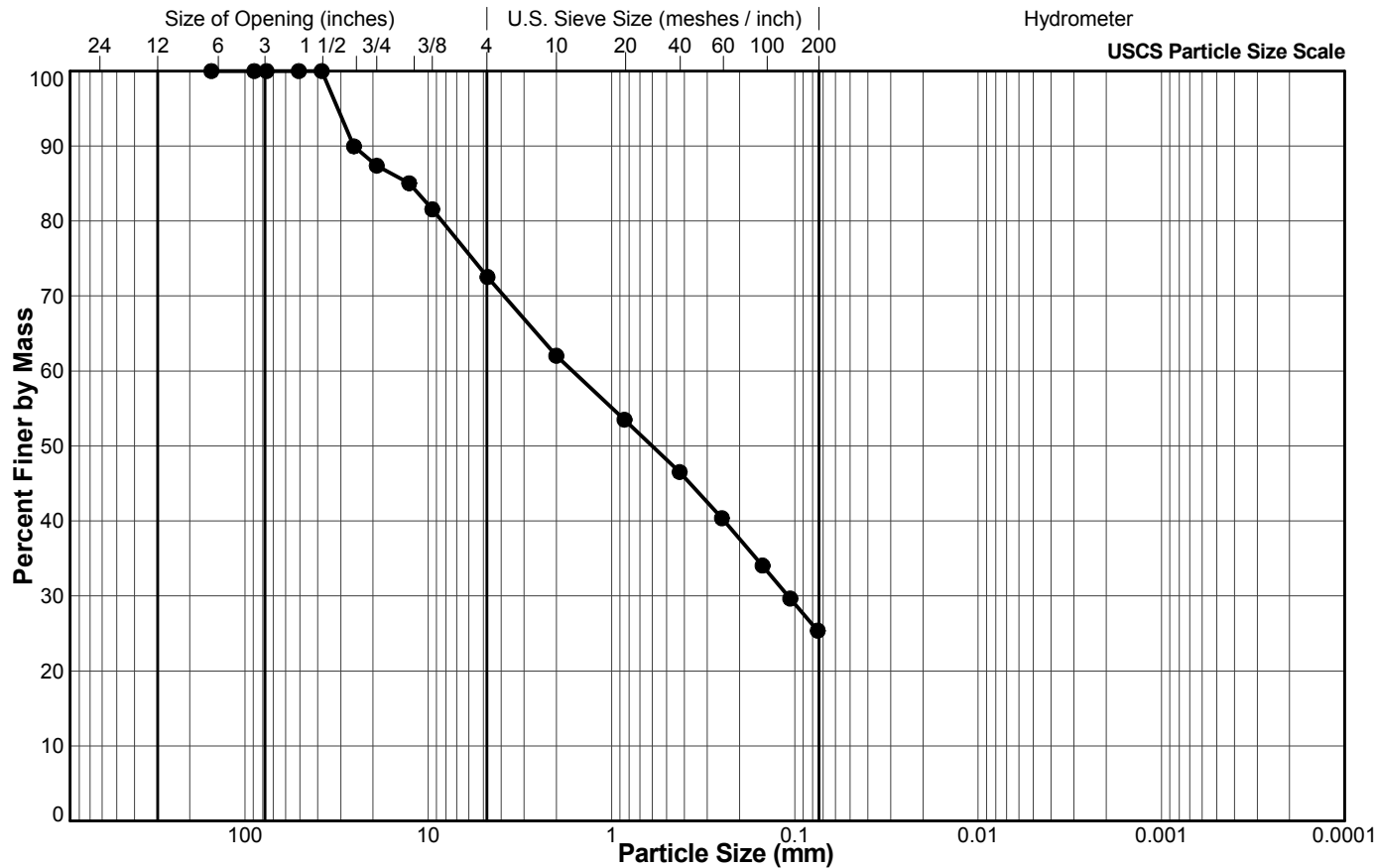
Project: Jay Project

Sample No.: 2

Location: Lac du Sauvage

Depth Interval (m): 13.72 to 14.02

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (USS)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	90.0
3/4"	19.1	87.4
1/2"	12.7	85.0
3/8"	9.5	81.6
#4 US MESH	4.75	72.5
#10 US MESH	2	62.0
#20 US MESH	0.85	53.5
#40 US MESH	0.425	46.5
#60 US MESH	0.25	40.4
#100 US MESH	0.15	34.0
#140 US MESH	0.106	29.7
#200 US MESH	0.075	25.4

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-10

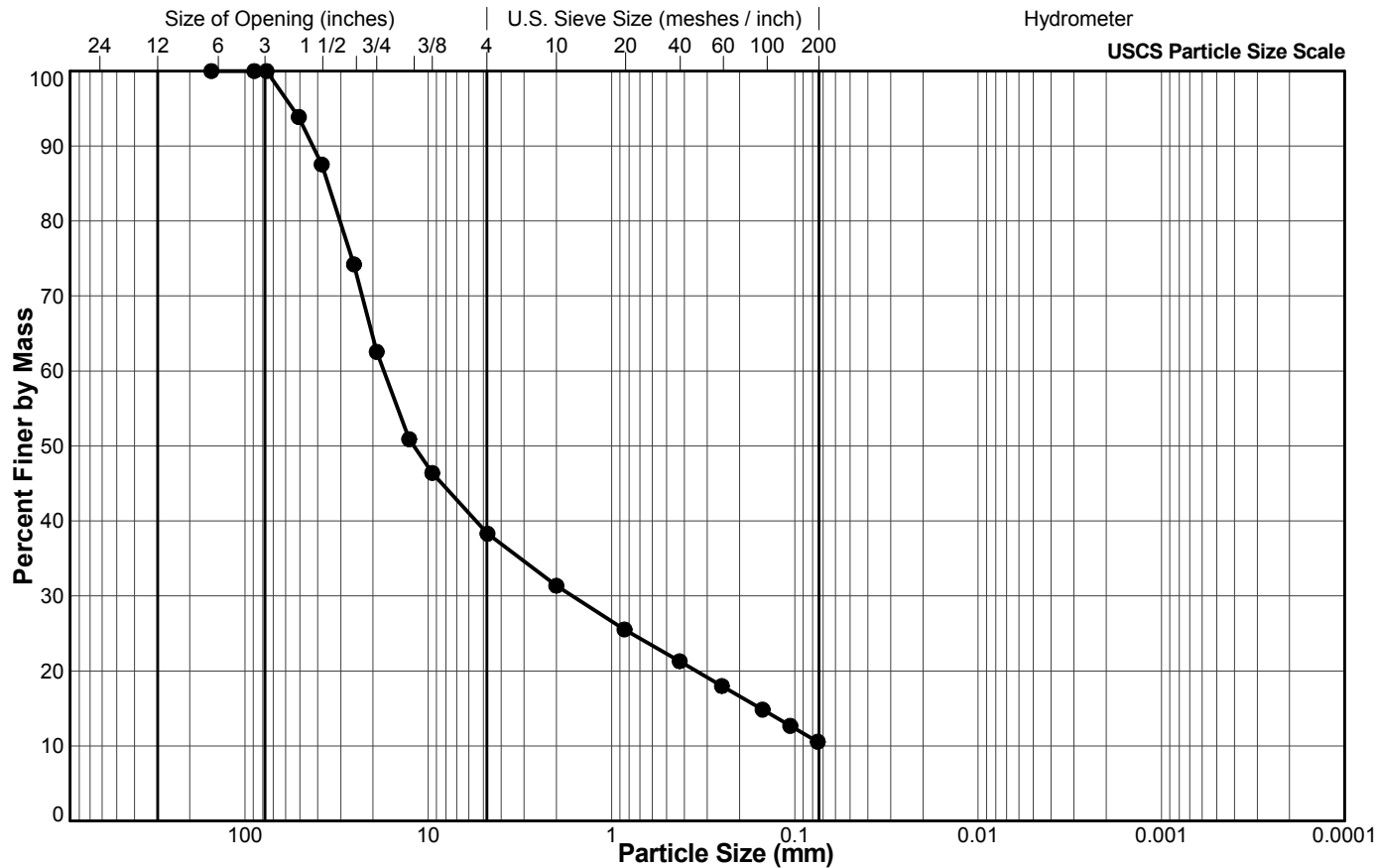
Project: Jay Project

Sample No.: 4

Location: Lac du Sauvage

Depth Interval (m): 16.00 to 16.31

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	93.9
1 1/2"	38.1	87.5
1"	25.4	74.2
3/4"	19.1	62.6
1/2"	12.7	50.9
3/8"	9.5	46.4
#4 US MESH	4.75	38.3
#10 US MESH	2	31.4
#20 US MESH	0.85	25.5
#40 US MESH	0.425	21.3
#60 US MESH	0.25	18.0
#100 US MESH	0.15	14.8
#140 US MESH	0.106	12.7
#200 US MESH	0.075	10.6

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

VN/DT
4/30/2014
LH
5/2/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

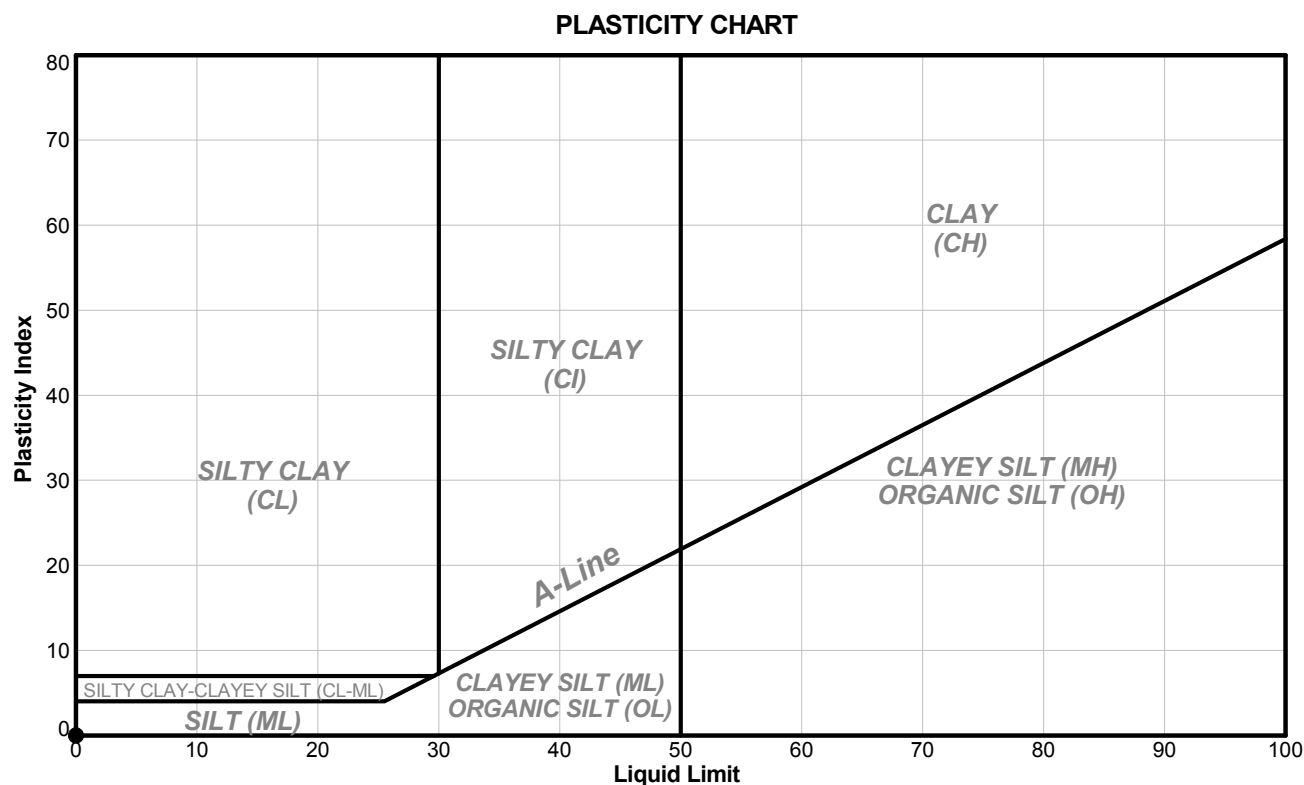
Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-01
Project:	Jay Project				Sample No.: 2
Location:	Lac du Sauvage				Depth Interval (m): 15.24 to 15.54
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-01	2	15.24	15.54	100	NP	NP	NP	22.6	NP

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

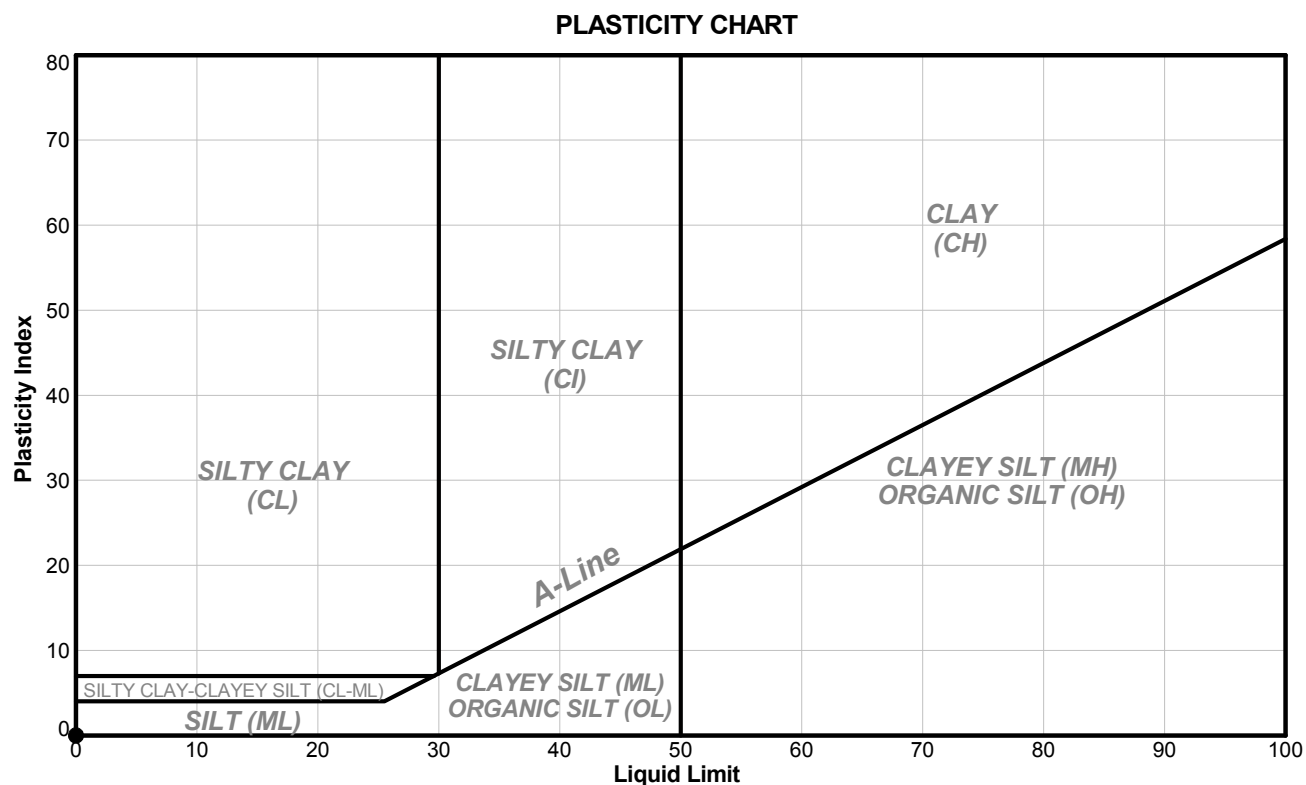
OA	4/28/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-01
Project:	Jay Project				Sample No.: 4
Location:	Lac du Sauvage				Depth Interval (m): 23.16 to 23.47
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-01	4	23.16	23.47	100	NP	NP	NP	20.4	NP

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

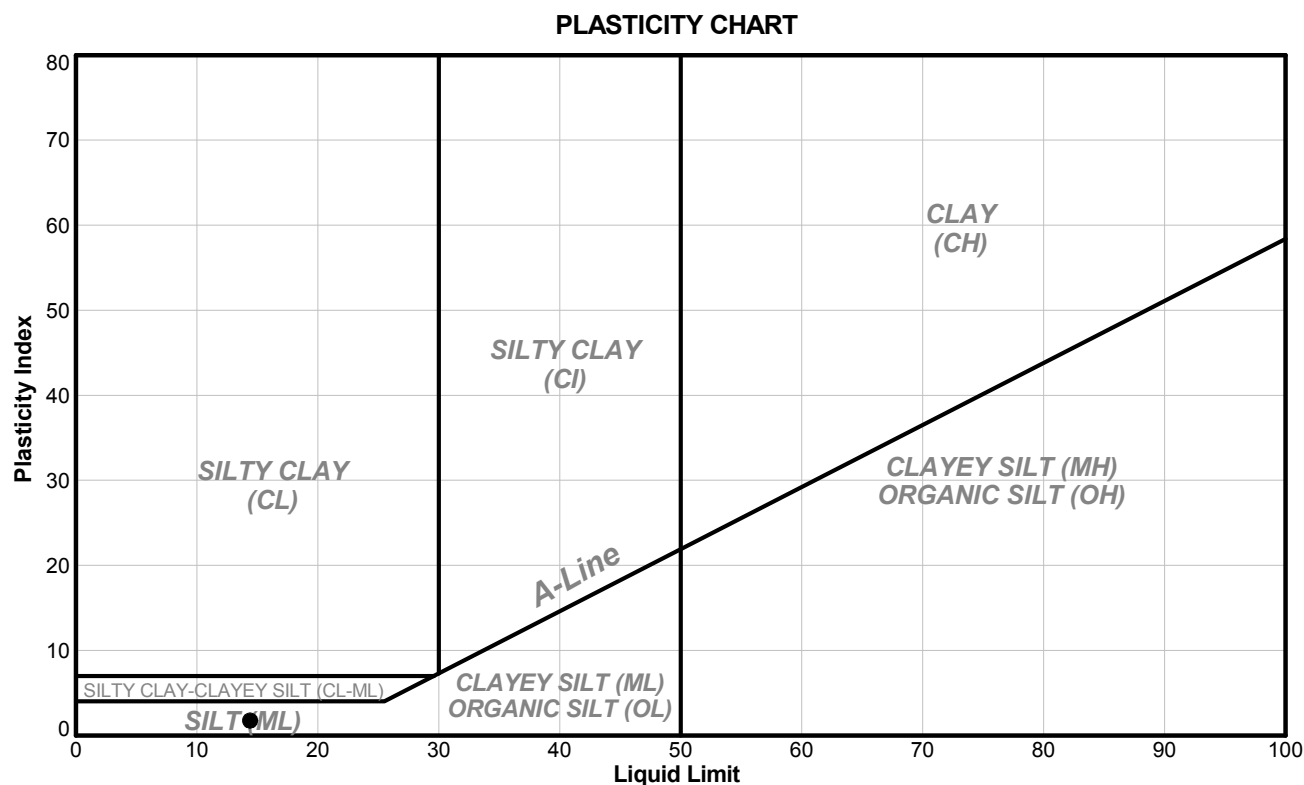
OADC	4/28/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP1-SD-01	
Project: Jay Project						Sample No.: 6	
Location: Lac du Sauvage						Depth Interval (m): 26.21 to 26.37	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-01	6	26.21	26.37	43	14	13	1.0	12.3	-0.7

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

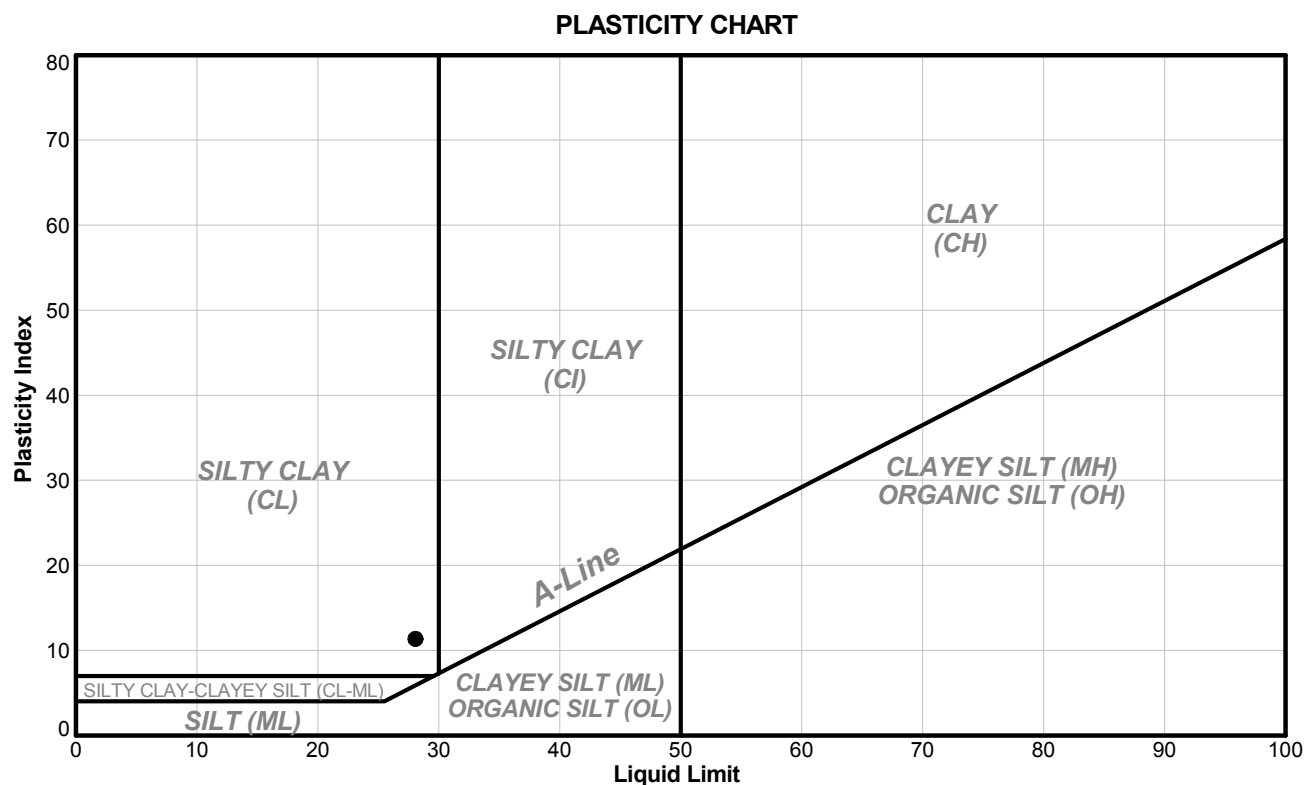
OADC	4/28/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-01
Project:	Jay Project				Sample No.: 10
Location:	Lac du Sauvage				Depth Interval (m): 29.05 to 29.26
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-01	10	29.05	29.26	29	28	17	11.0	13.9	-0.3

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

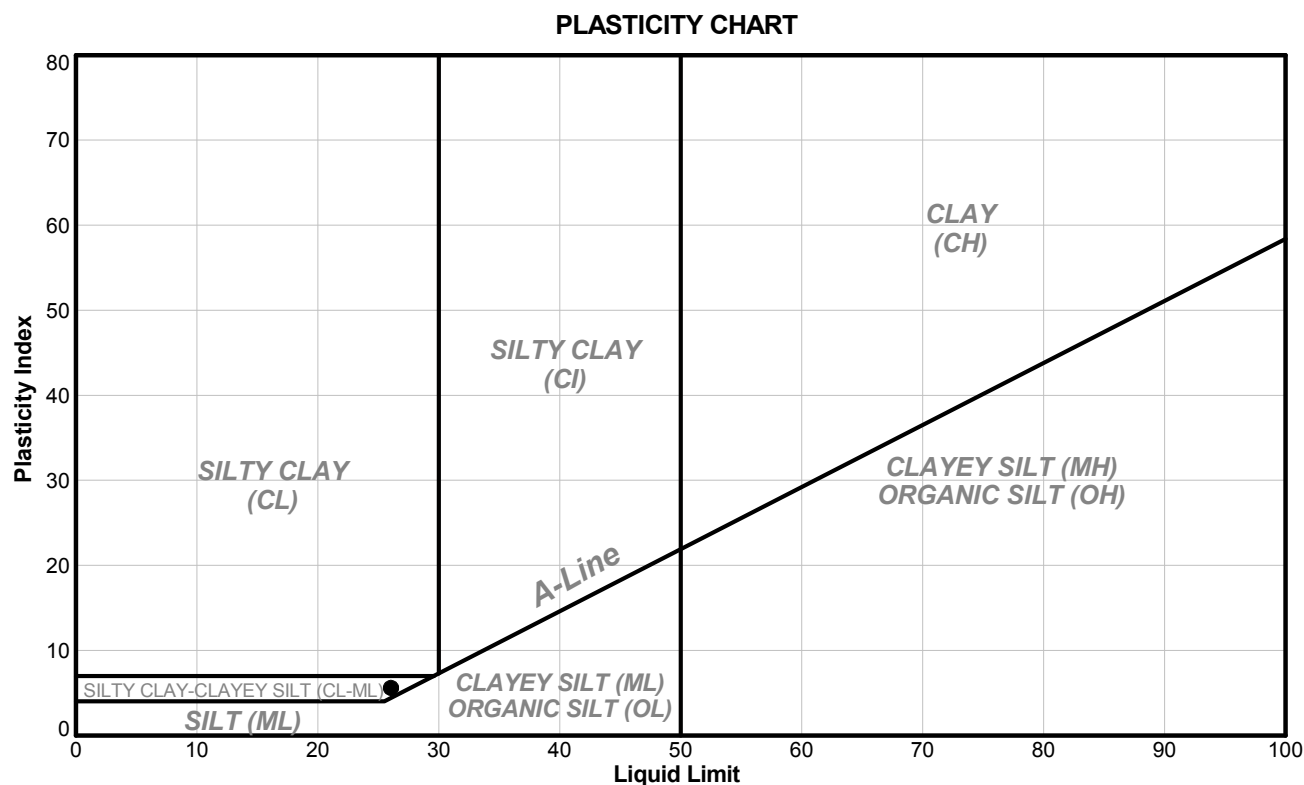
OA/DC	5/16/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-02
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 12.19 to 12.80
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-02	1	12.19	12.80	100	26	20	6.0	26.0	1.0

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

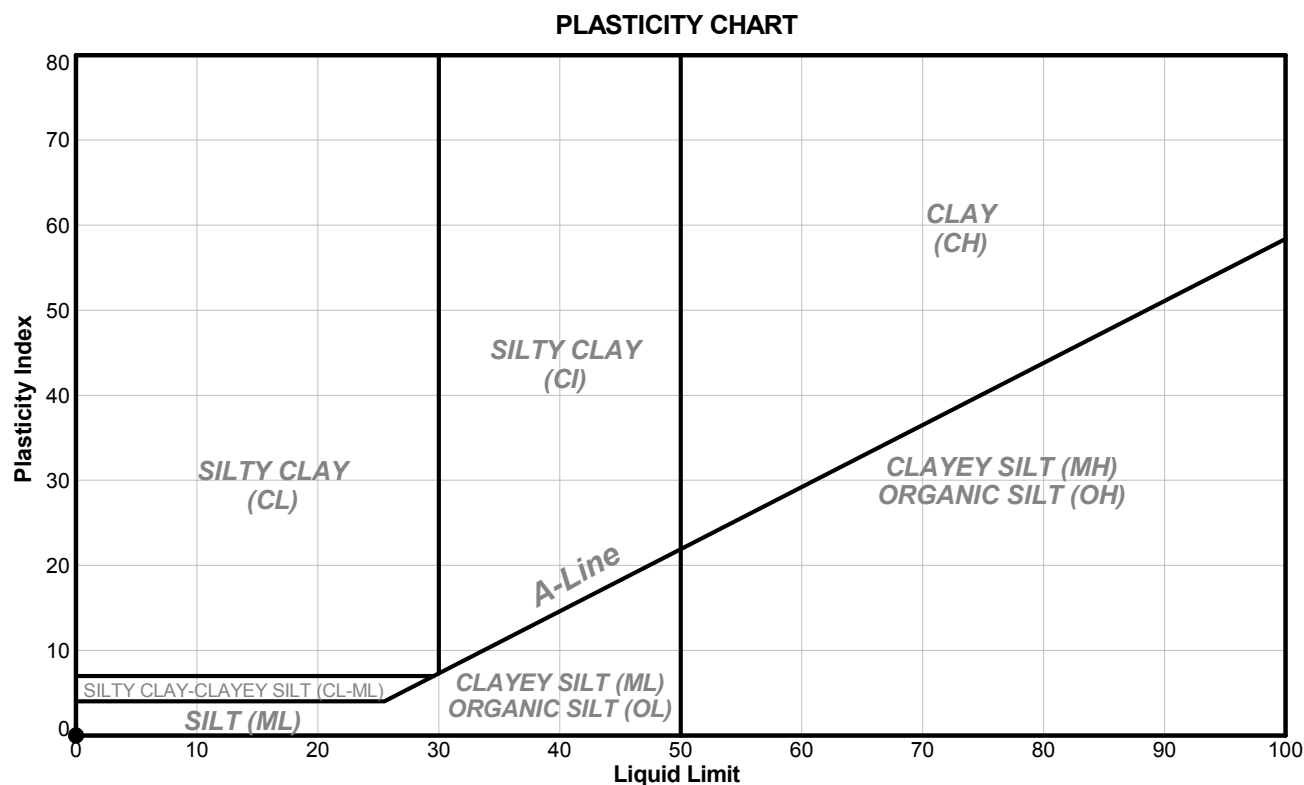
OA/DC	5/15/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP1-SD-02	
Project: Jay Project						Sample No.: 6	
Location: Lac du Sauvage						Depth Interval (m): 22.25 to 22.56	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-02	6	22.25	22.56	19	NP	NP	NP	9.0	NP

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

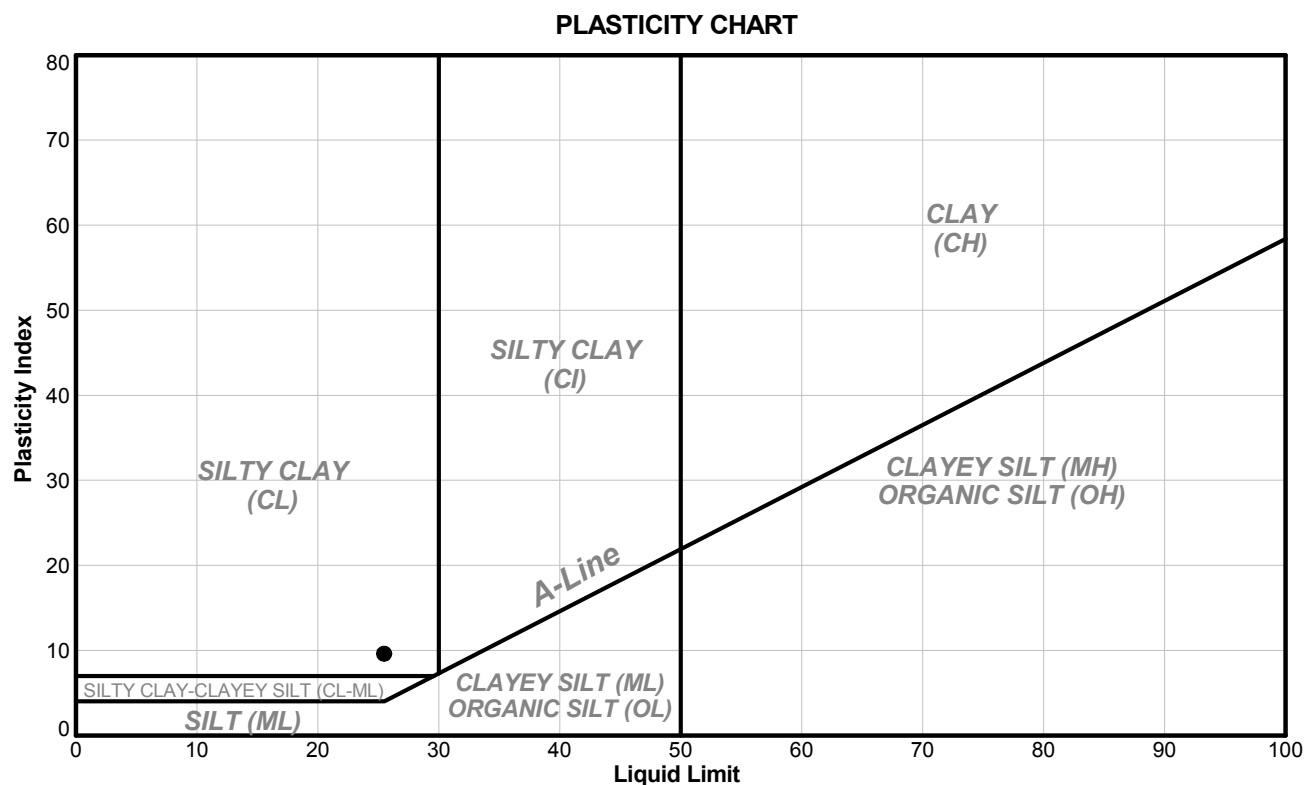
OADC	4/28/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-02
Project:	Jay Project				Sample No.: 07B
Location:	Lac du Sauvage				Depth Interval (m): 24.69 to 24.99
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-02	07B	24.69	24.99	31	25	16	9.0	11.0	-0.6

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

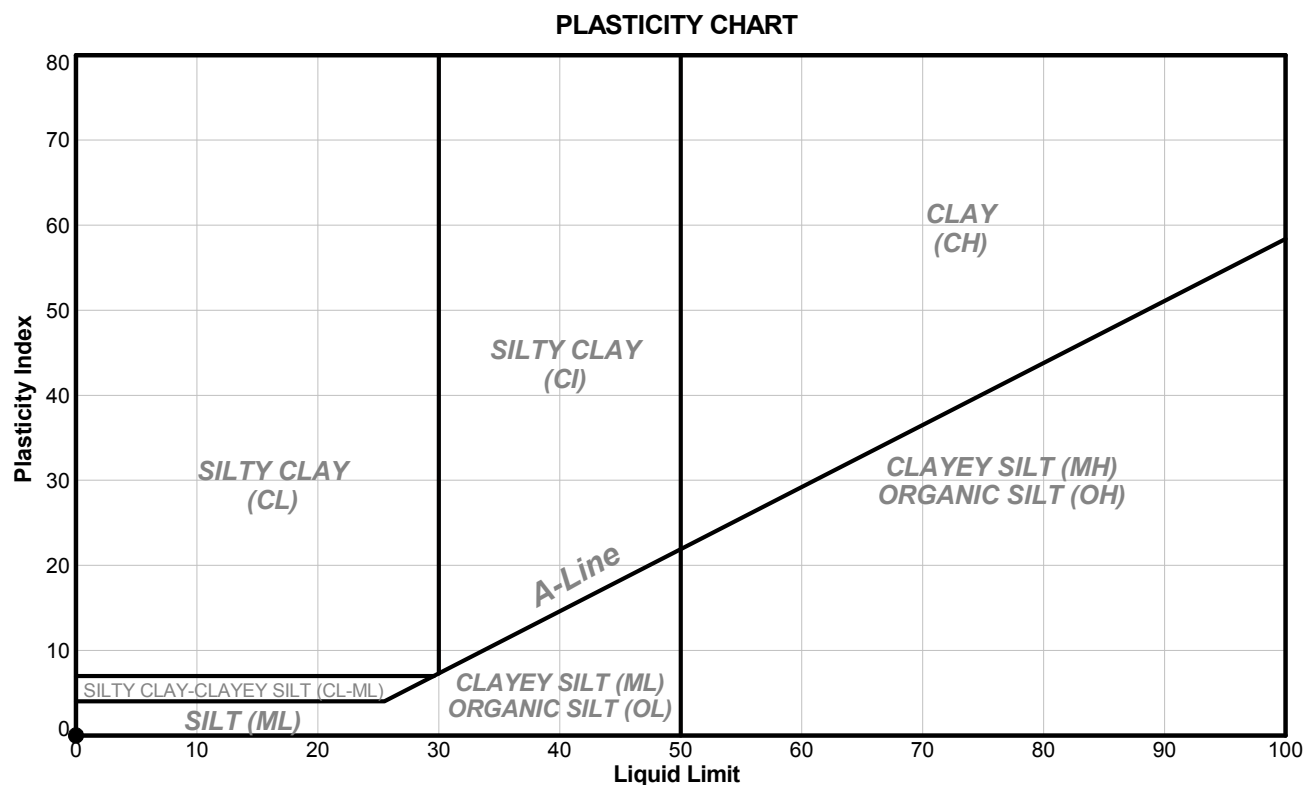
OA/DC	4/28/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP1-SD-03
Project:	Jay Project				Sample No.: 4
Location:	Lac du Sauvage				Depth Interval (m): 17.01 to 17.07
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP1-SD-03	4	17.01	17.07	47	NP	NP	NP	9.6	NP

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

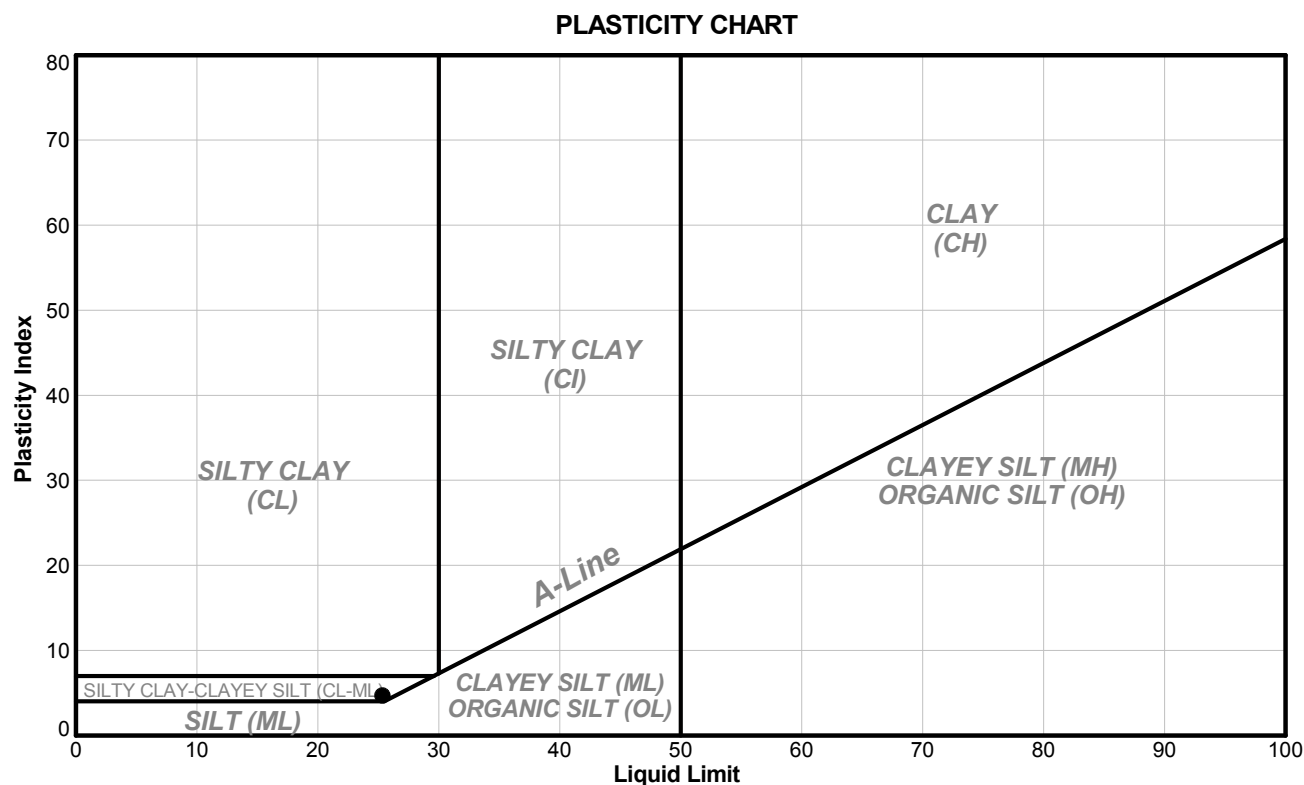
OA/DC	4/29/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP2-SD-01
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 1.07 to 1.13
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Wet



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP2-SD-01	1	1.07	1.13	100	25	21	4.0	26.4	1.3

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

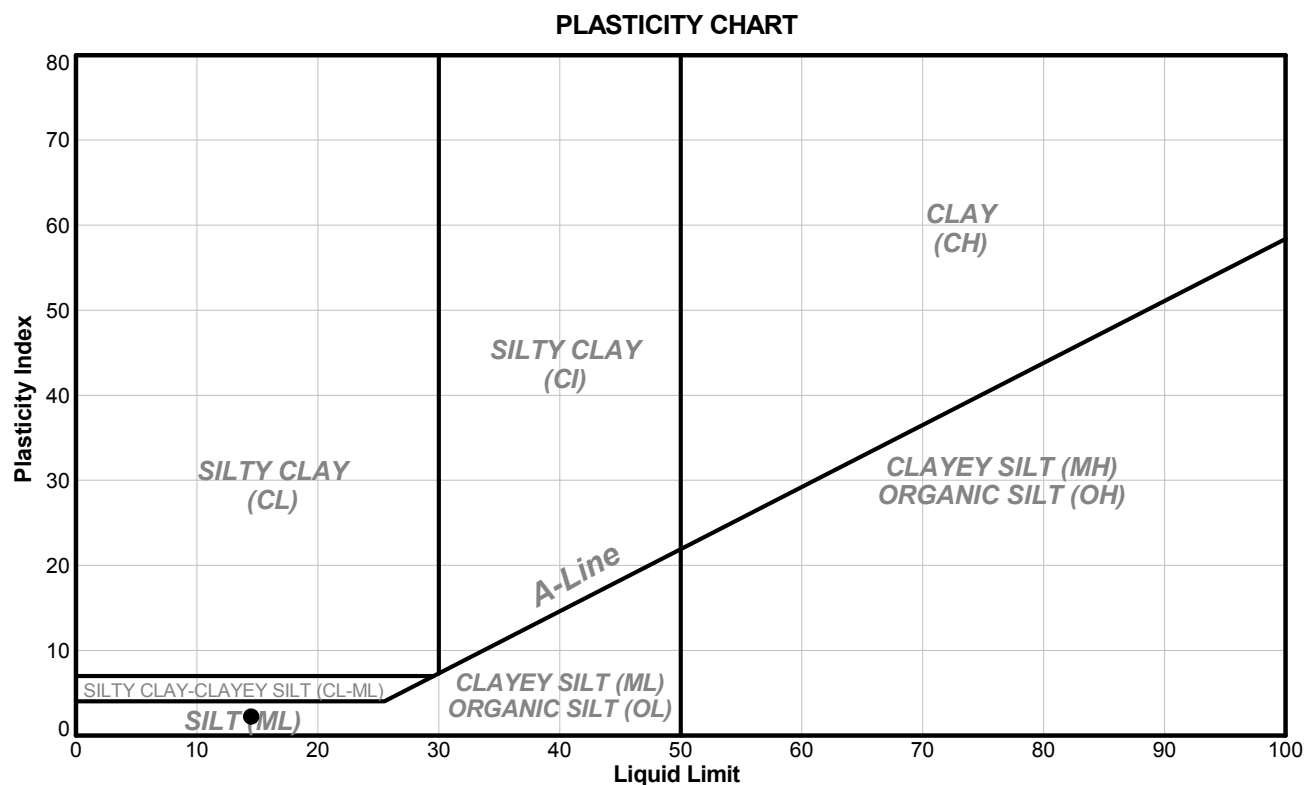
SJ/DC	5/15/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP4N-SD-01
Project:	Jay Project				Sample No.: 2
Location:	Lac du Sauvage				Depth Interval (m): 8.84 to 9.14
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4N-SD-01	2	8.84	9.14	30	14	12	2.0	8.9	-1.6

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

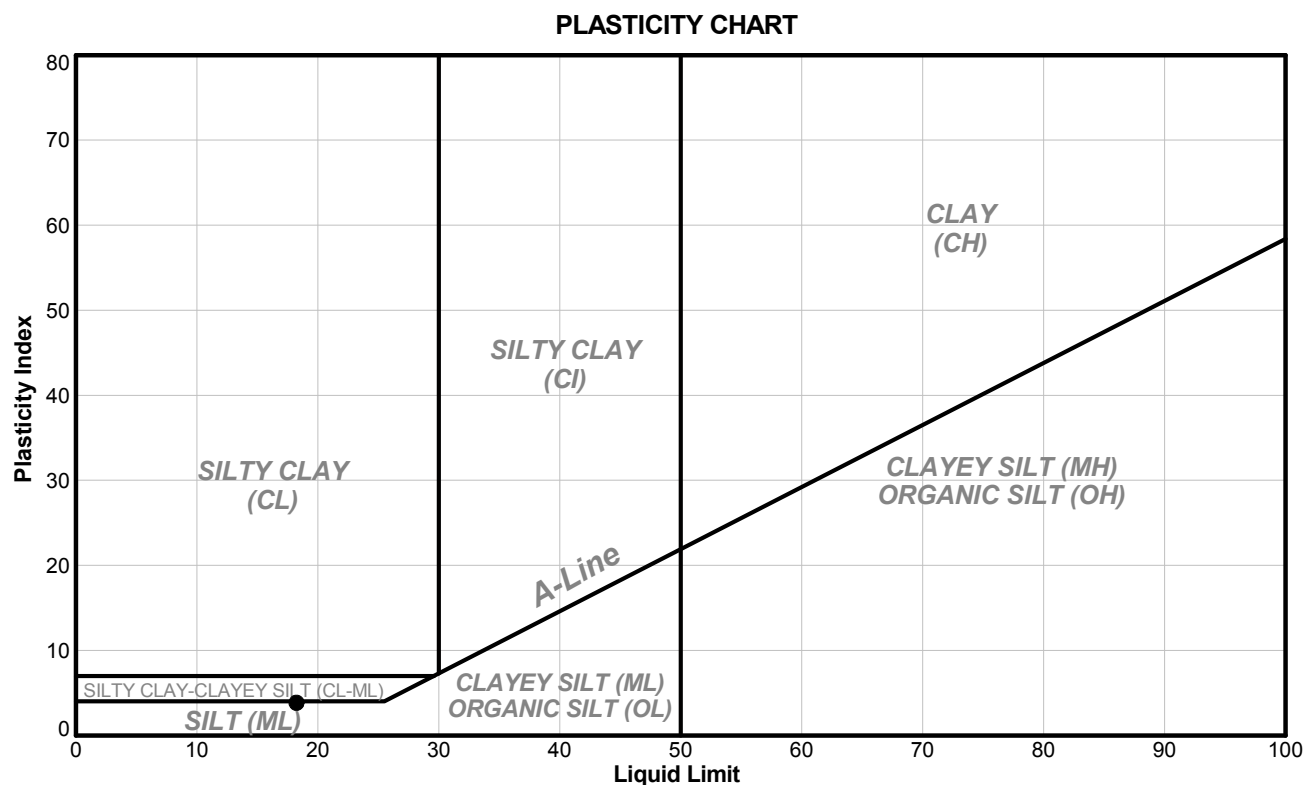
SJ/DC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP4N-SD-02
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 4.27 to 4.57
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4N-SD-02	1	4.27	4.57	98	18	14	4.0	14.5	0.1

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

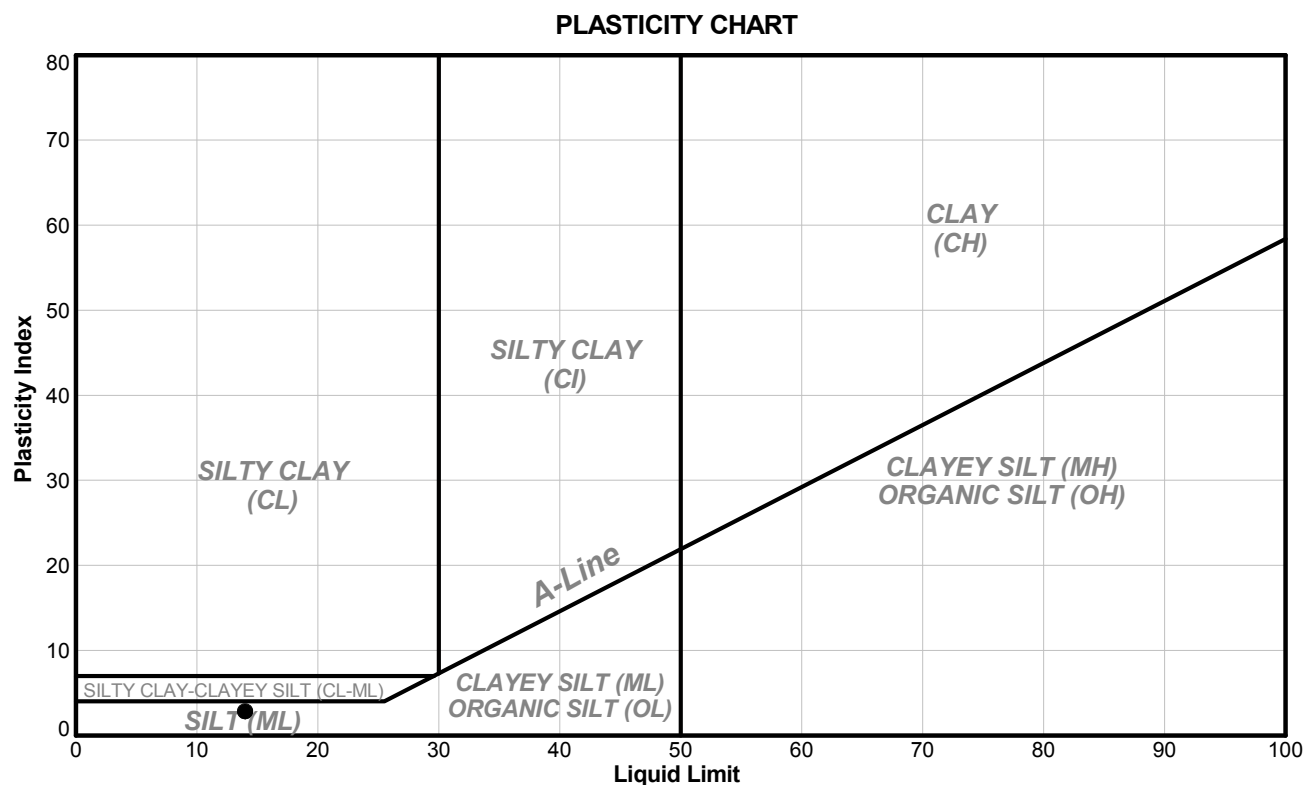
OA/DC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4N-SD-05	
Project: Jay Project						Sample No.: 2	
Location: Lac du Sauvage						Depth Interval (m): 11.58 to 11.89	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4N-SD-05	2	11.58	11.89	64	14	11	3.0	9.4	-0.5

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

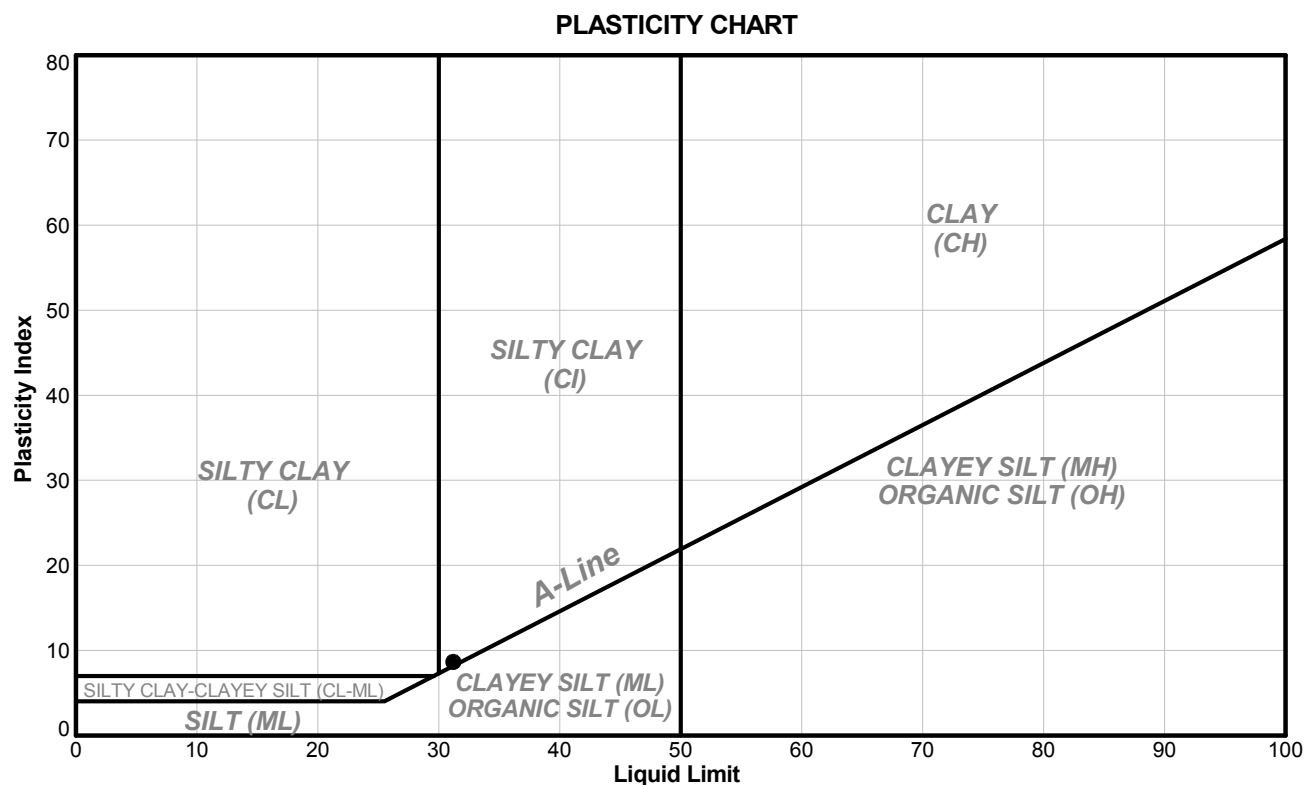
SJ/DC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4N-SD-07	
Project: Jay Project						Sample No.: 1	
Location: Lac du Sauvage						Depth Interval (m): 10.67 to 10.82	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Wet



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4N-SD-07	1	10.67	10.82	98	31	23	8.0	29.3	0.8

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

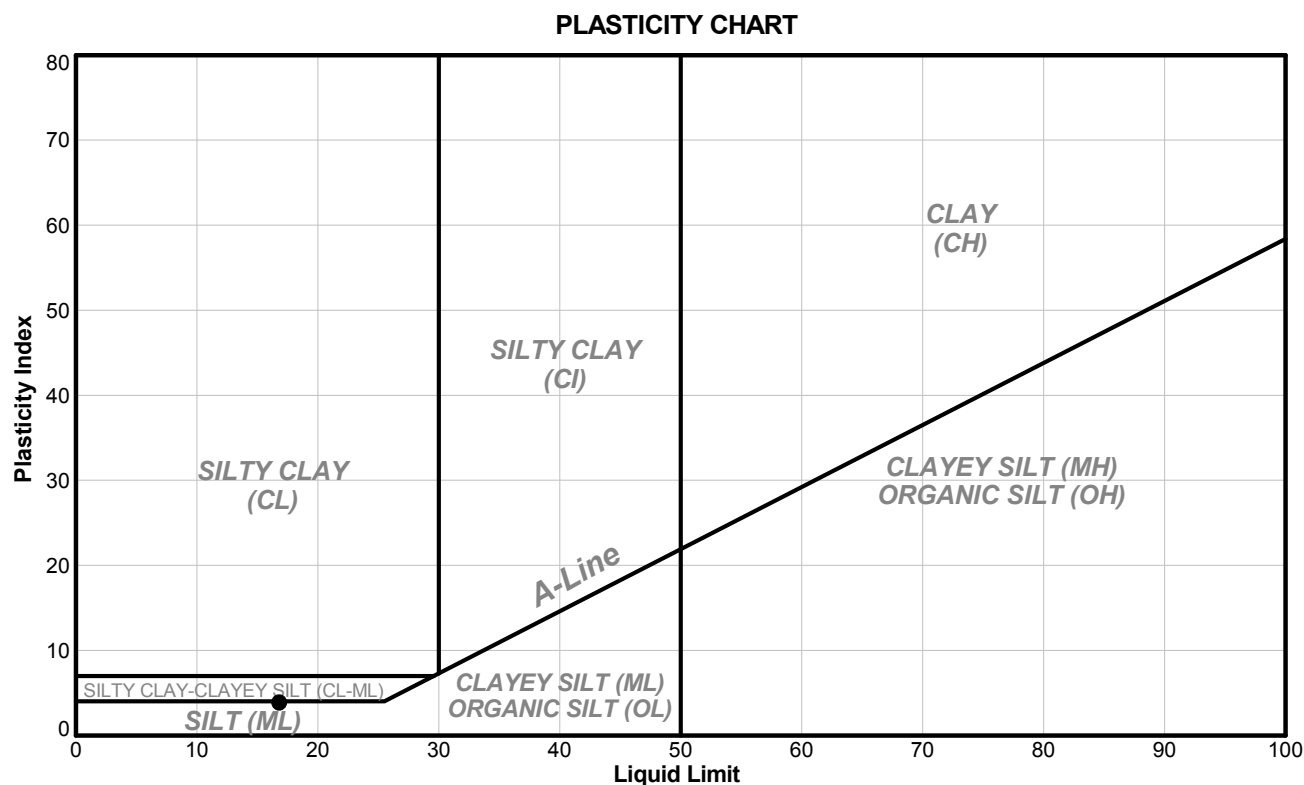
SJ/DC	5/15/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4N-SD-08	
Project: Jay Project						Sample No.: 1	
Location: Lac du Sauvage						Depth Interval (m): 10.97 to 11.13	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4N-SD-08	1	10.97	11.13	62	17	13	4.0	10.3	-0.7

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

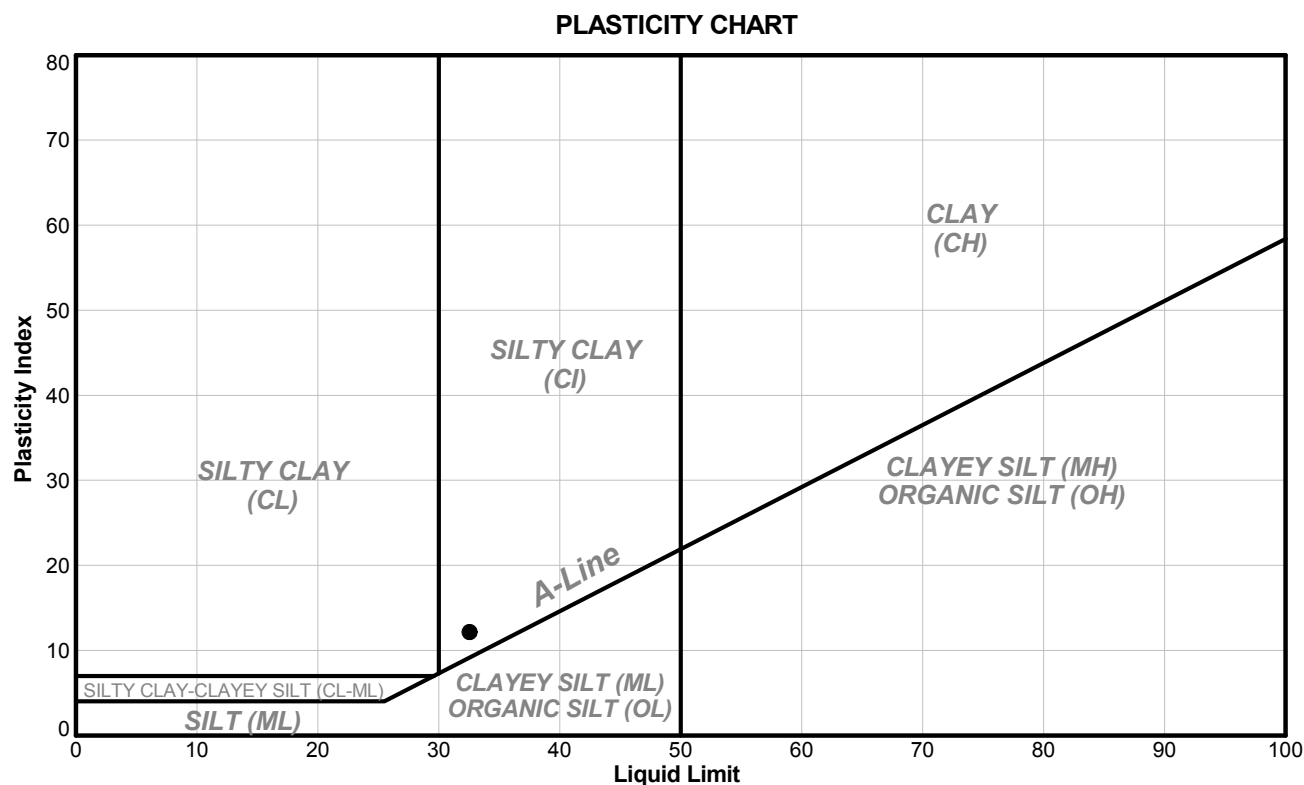
SJ/DC	5/20/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP4S-SD-01
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 6.71 to 7.16
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4S-SD-01	1	6.71	7.16	85	33	20	13.0	32.6	1.0

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

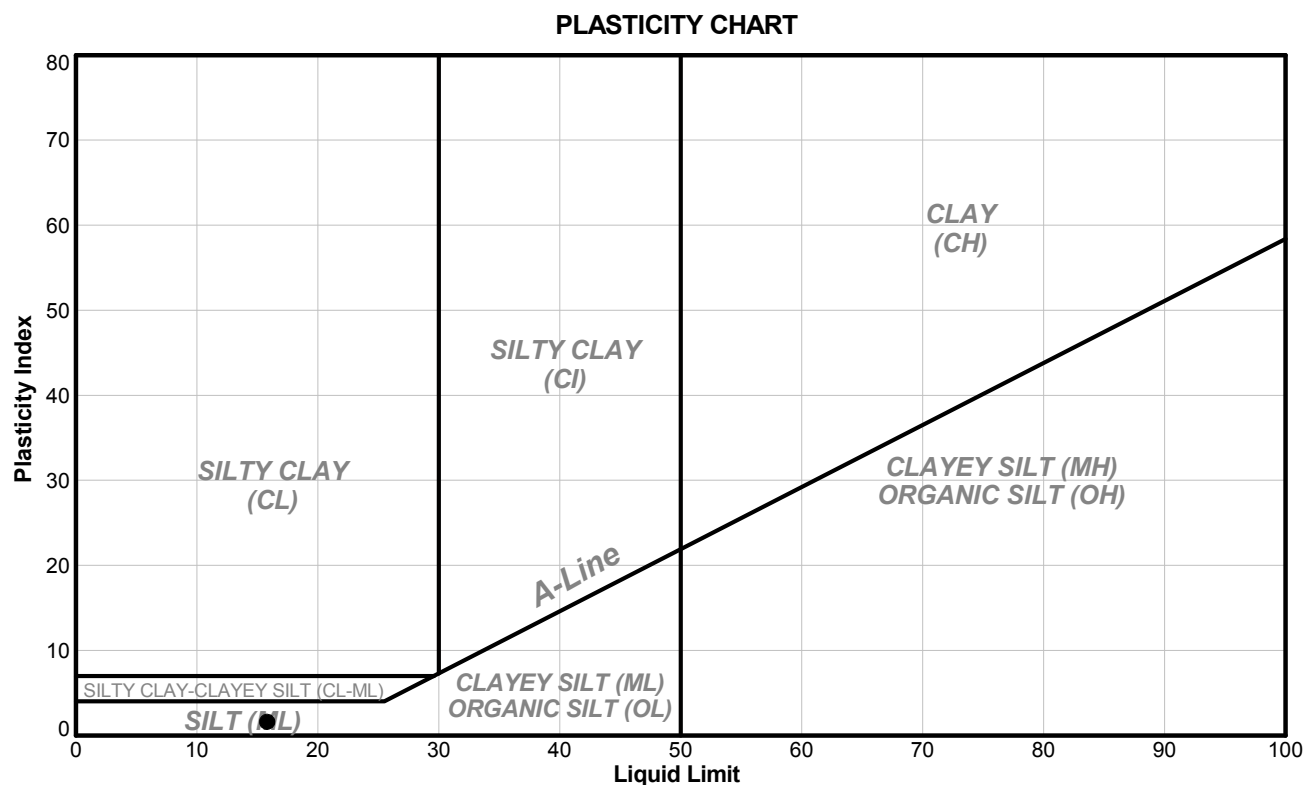
OADC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4S-SD-01	
Project: Jay Project						Sample No.: 12	
Location: Lac du Sauvage						Depth Interval (m): 23.47 to 23.77	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4S-SD-01	12	23.47	23.77	22	16	14	2.0	8.1	-2.9

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

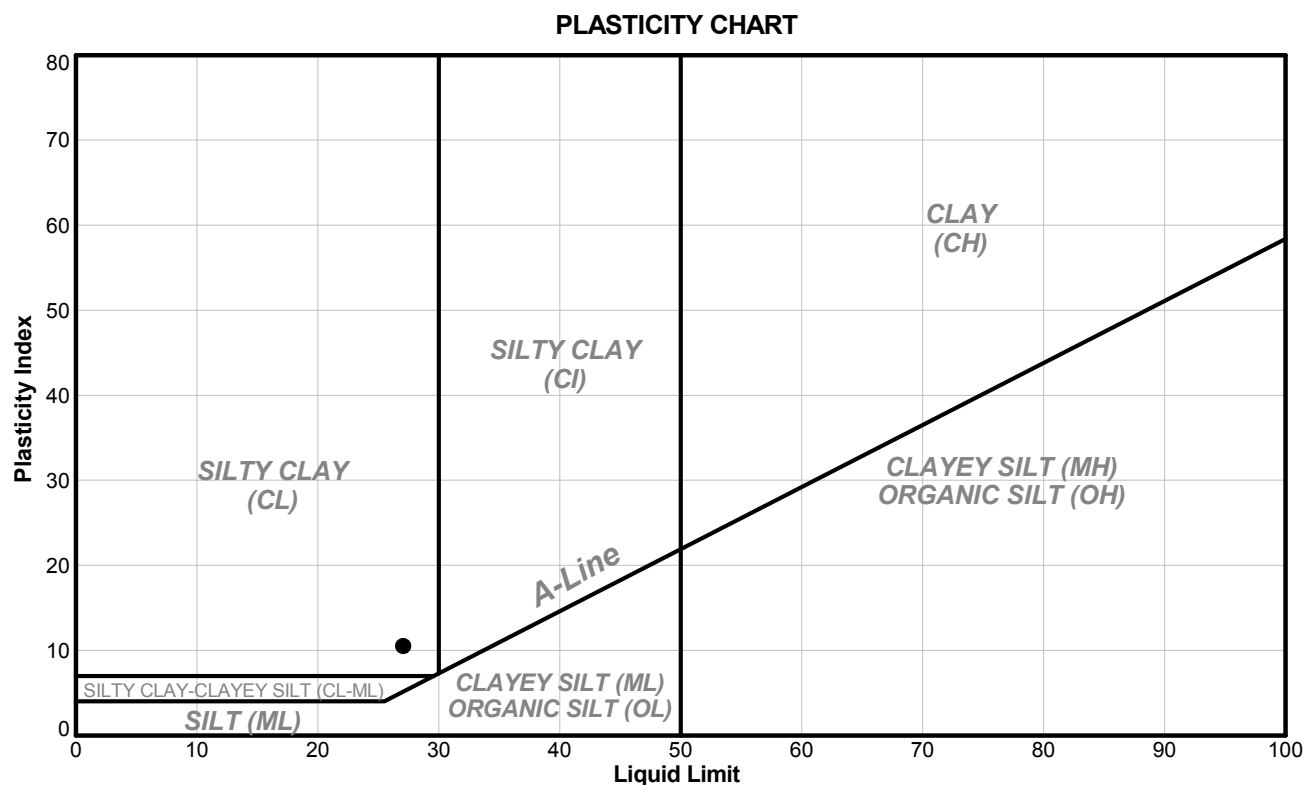
OA/DC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4S-SD-01	
Project: Jay Project						Sample No.: 15	
Location: Lac du Sauvage						Depth Interval (m): 26.82 to 27.13	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4S-SD-01	15	26.82	27.13	56	27	17	10.0	12.9	-0.4

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

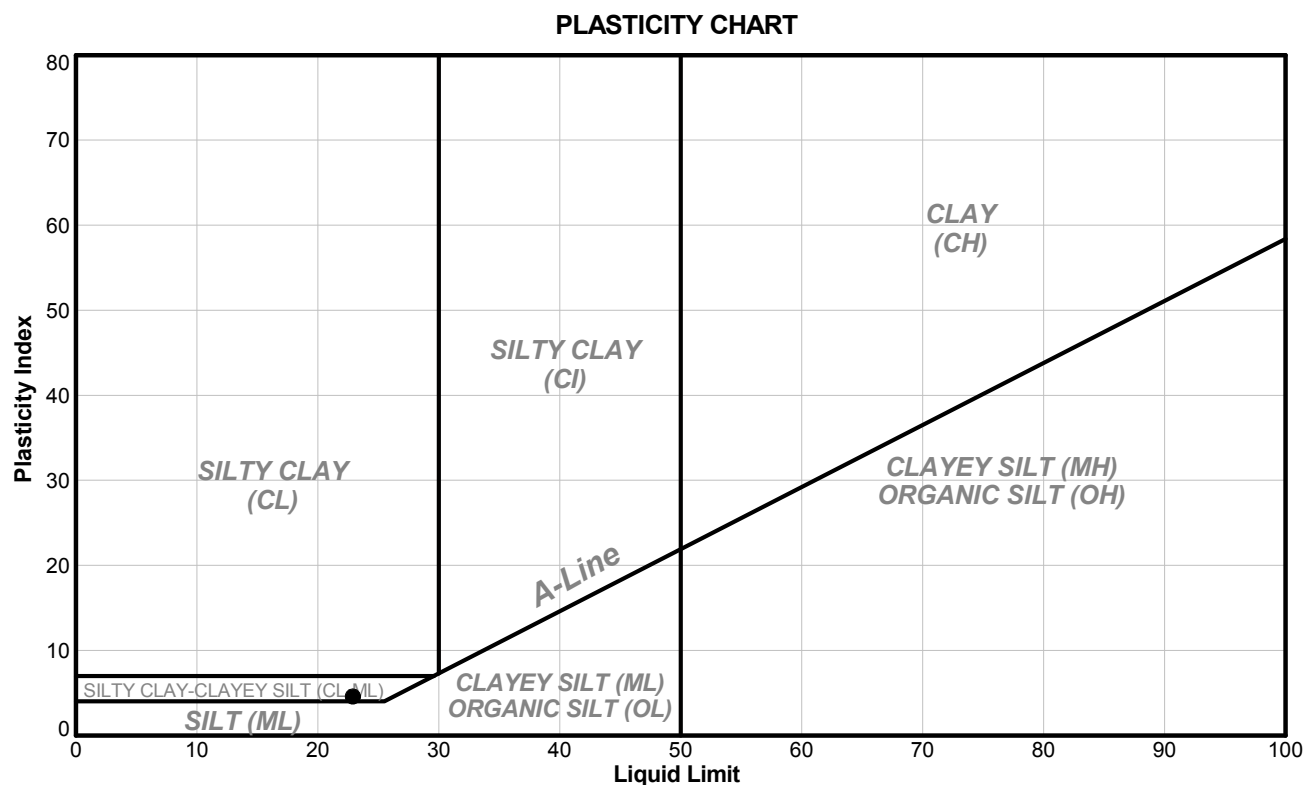
OA/DC	4/16/2014	LH	4/18/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4S-SD-03	
Project: Jay Project						Sample No.: 1	
Location: Lac du Sauvage						Depth Interval (m): 10.36 to 10.67	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4S-SD-03	1	10.36	10.67	99	23	18	5.0	19.8	0.4

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

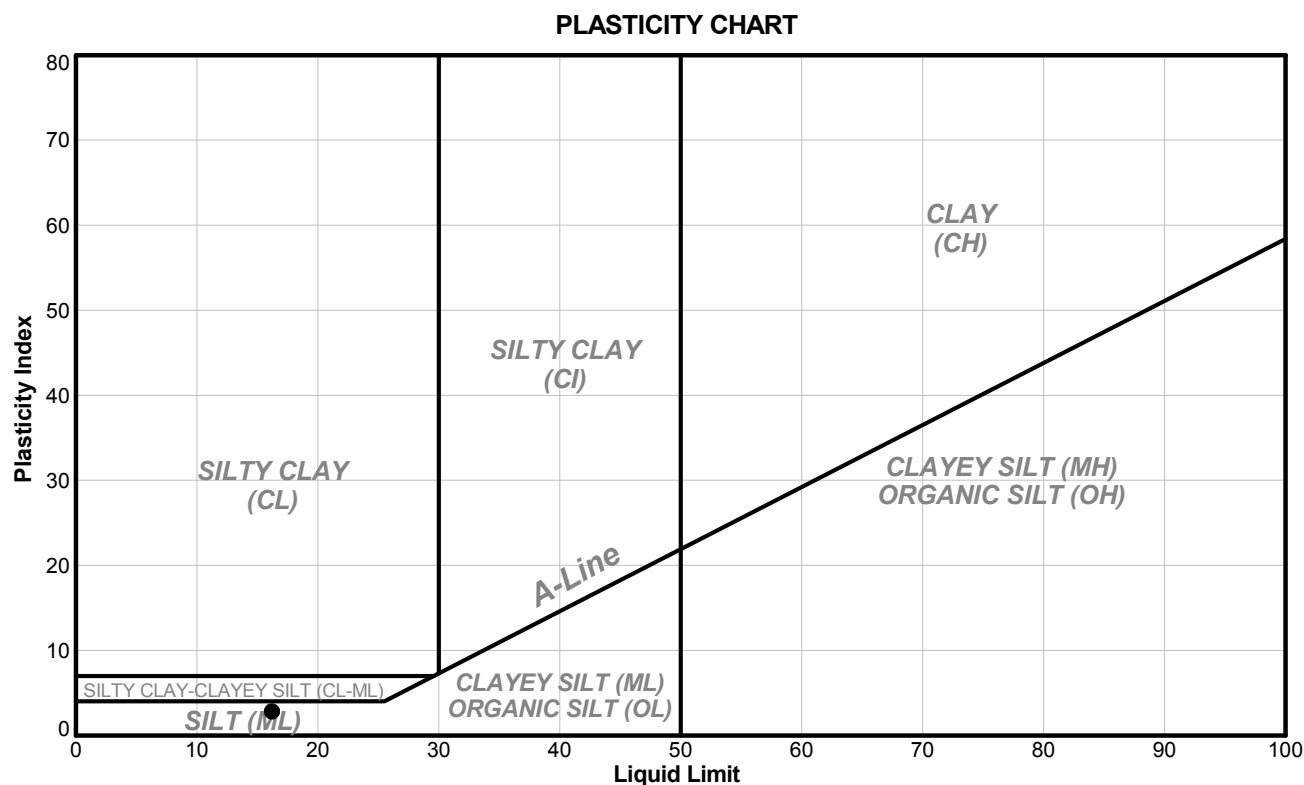
OADC	5/15/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP4S-SD-03	
Project: Jay Project						Sample No.: 3	
Location: Lac du Sauvage						Depth Interval (m): 10.82 to 11.28	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP4S-SD-03	3	10.82	11.28	28	16	13	3.0	5.4	-2.5

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

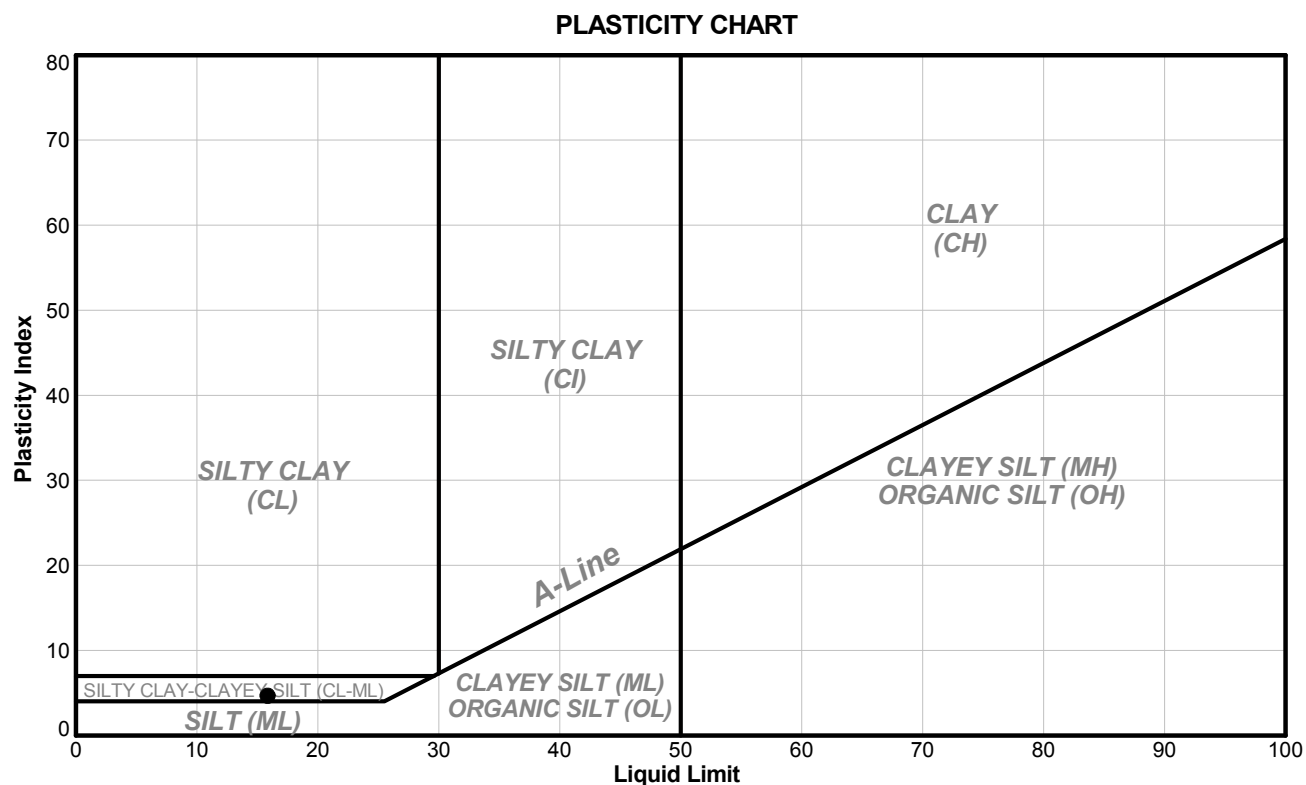
OADC	4/29/2014	LH	5/5/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-01
Project:	Jay Project				Sample No.: 2 & 3
Location:	Lac du Sauvage				Depth Interval (m): 10.06 to 10.82
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-01	2 & 3	10.06	10.82	65	16	11	5.0	10.9	0.0

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

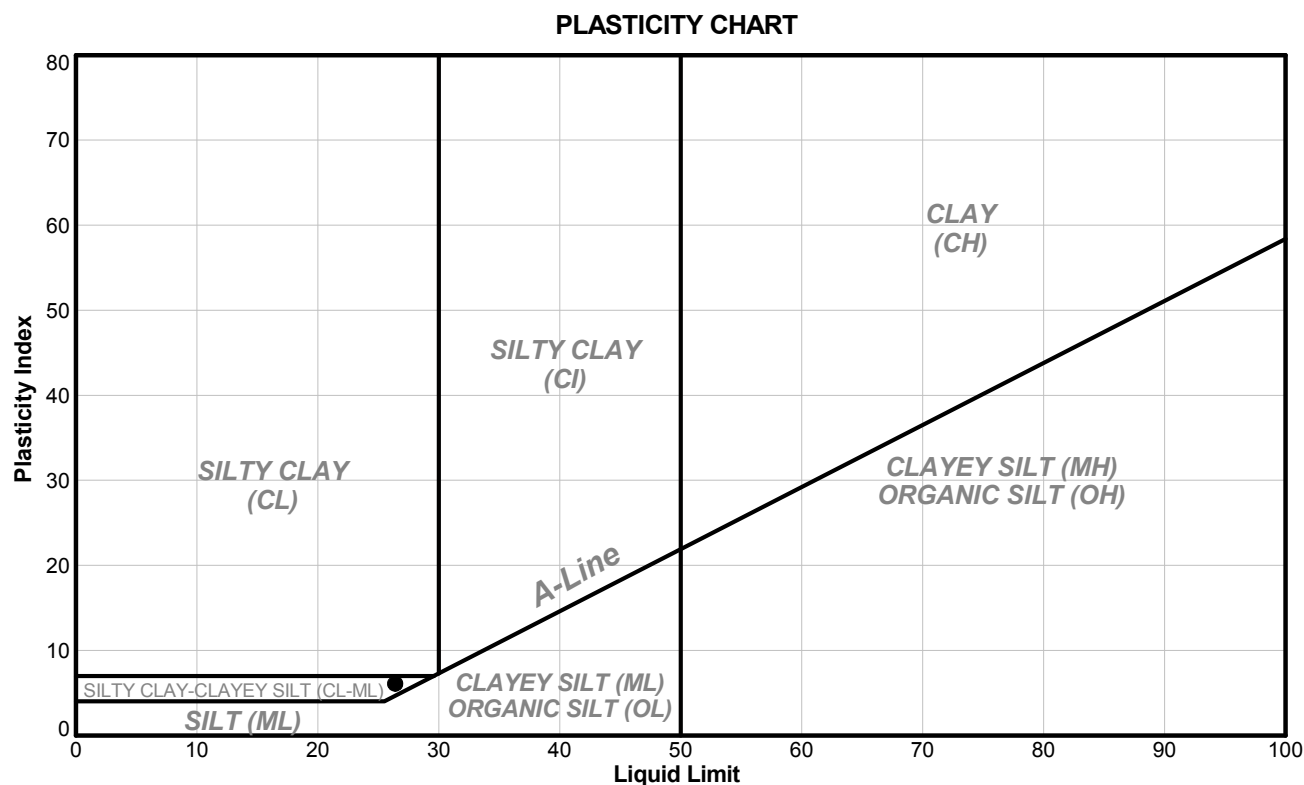
SJ/DC	5/20/2014	LP	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-01&05&07
Project:	Jay Project				Sample No.: 1-combined
Location:	Lac du Sauvage				Depth (m): N/A
Project No.: 13-1328-0041	Phase: 2010 Task: 25				Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-01&05&07	1-combined	0.00	0.00	96	26	20	6.0	25.3	0.9

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

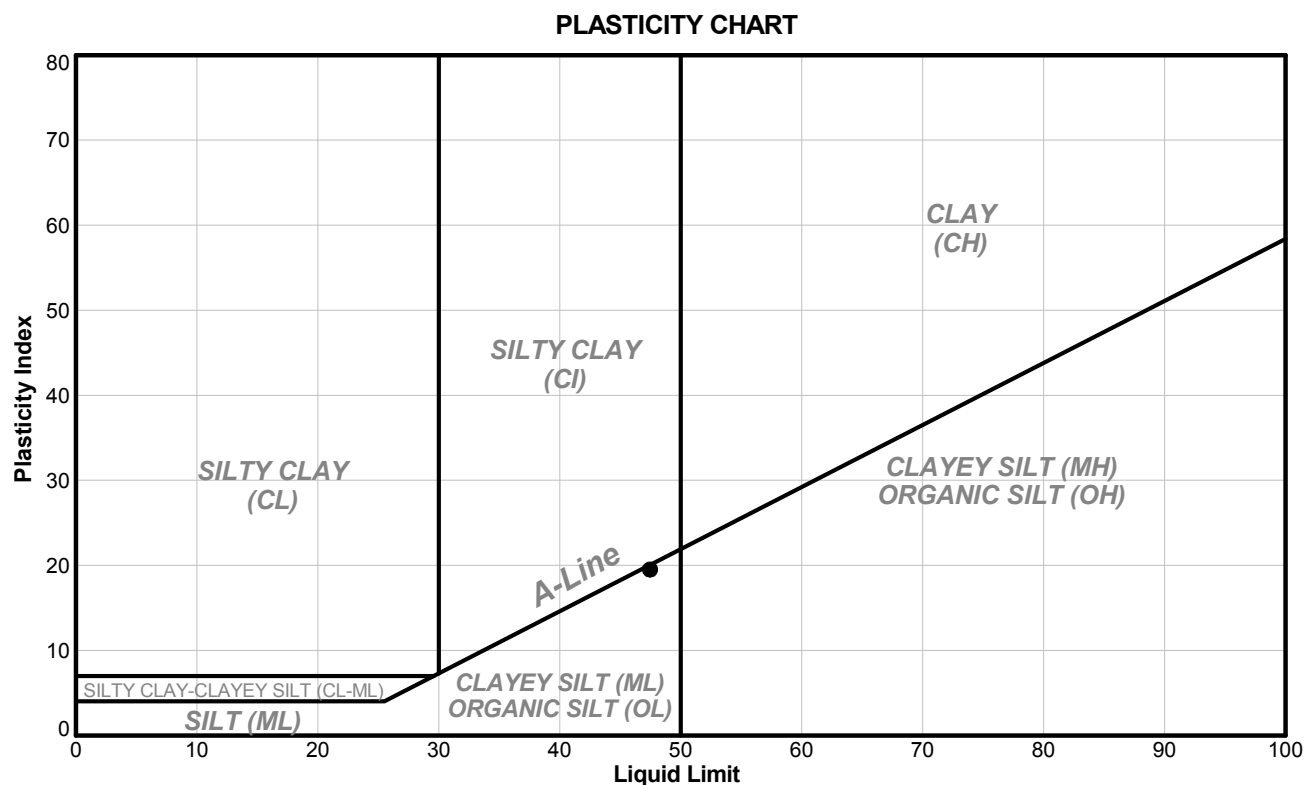
OADC	5/15/2014	LP	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-02
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 5.49 to 5.79
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Wet



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-02	1	5.49	5.79	98	47	28	19.0	56.9	1.5

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

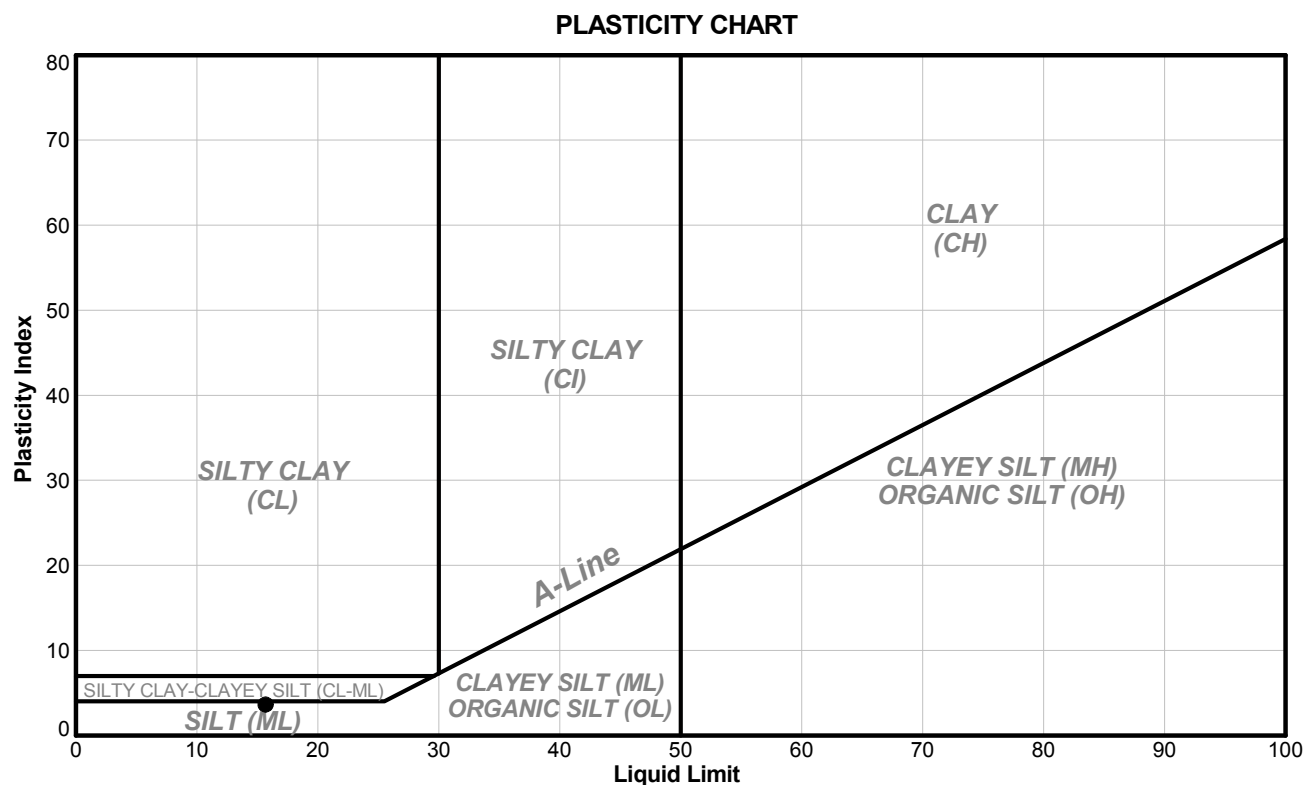
OADC	5/12/2014	LH	4/14/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-02
Project:	Jay Project				Sample No.: 2 & 3
Location:	Lac du Sauvage				Depth Interval (m): 7.01 to 8.84
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Wet



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-02	2 & 3	7.01	8.84	53	16	12	4.0	10.2	-0.5

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

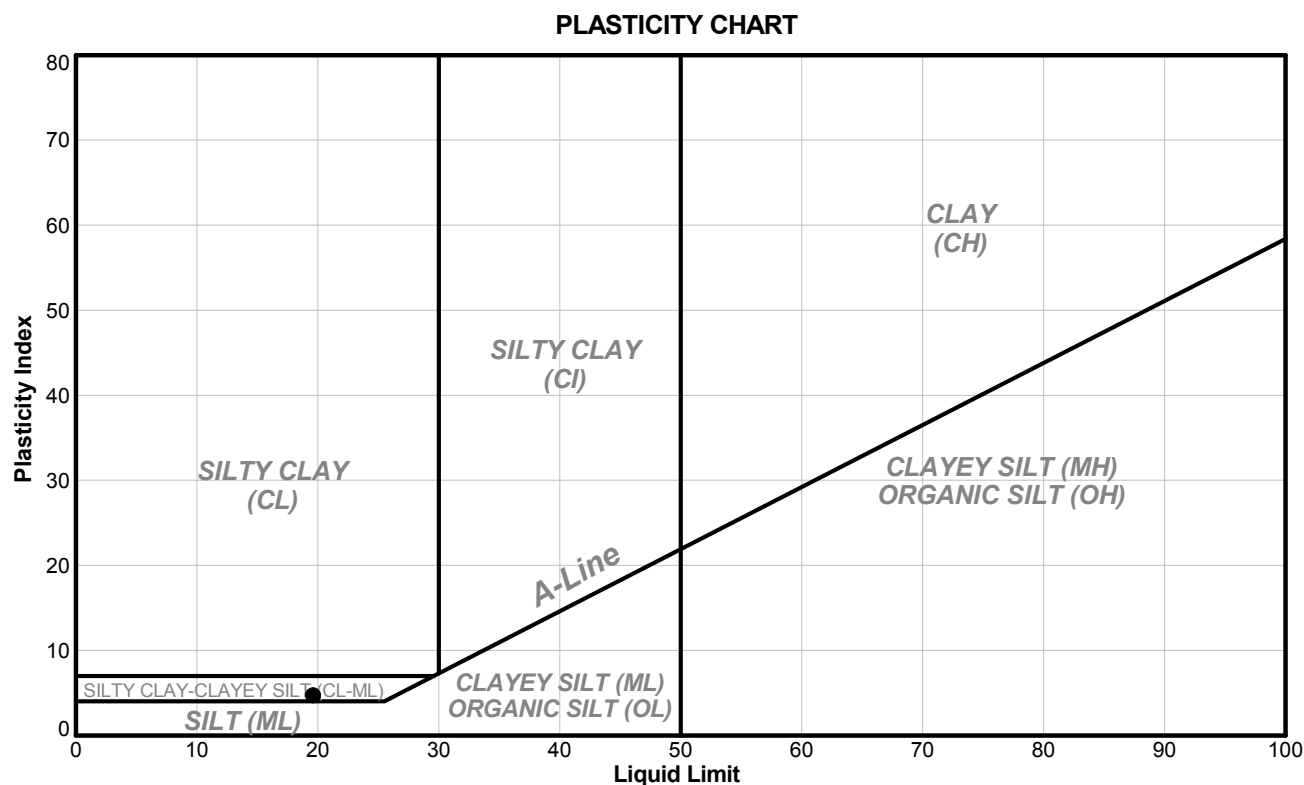
SJ/DC	5/20/2014	LH	5/22/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-06
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 12.50 to 12.80
Project No.: 13-1328-0041	Phase: 2010 Task: 25				Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-06	1	12.50	12.80	35	20	15	5.0	13.6	-0.3

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

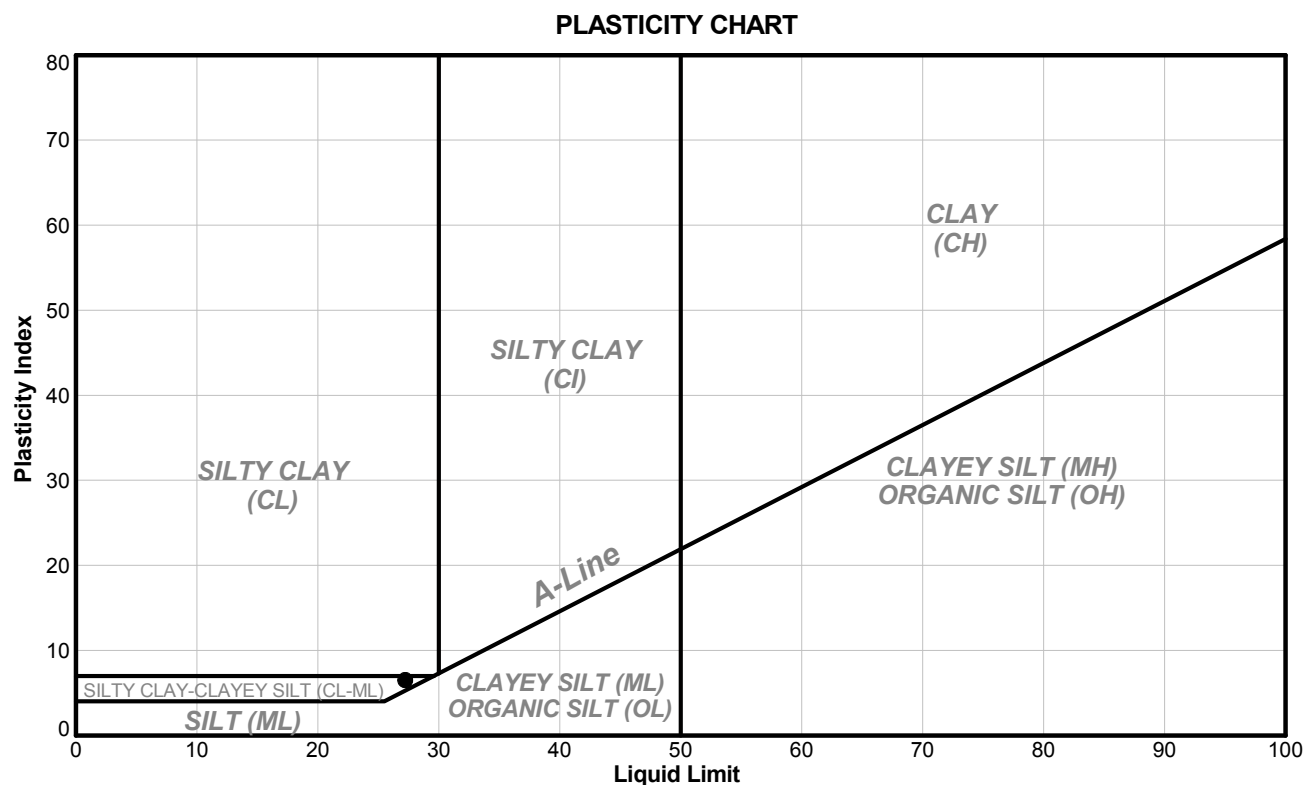
OA/DC	4/30/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s)
						ASTM D 4318-10
Client:	Dominion Diamond Corporation					ID: JP5-SD-08
Project:	Jay Project					Sample No.: 1
Location:	Lac du Sauvage					Depth Interval (m): 10.52 to 10.67
Project No.:	13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-08	1	10.52	10.67	100	27	21	6.0	31.8	1.8

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

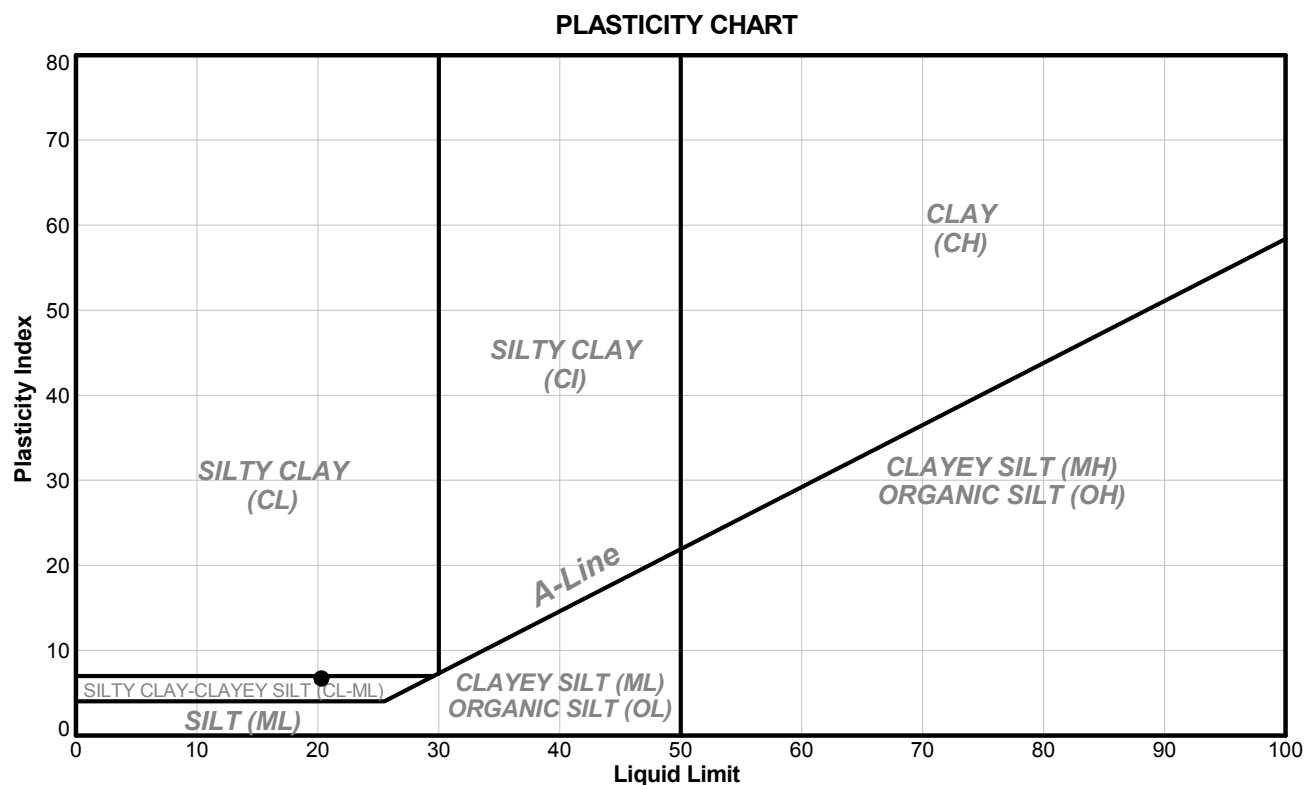
OADC	5/12/2014	LH	5/14/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-08
Project:	Jay Project				Sample No.: 3
Location:	Lac du Sauvage				Depth Interval (m): 14.48 to 14.78
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-08	3	14.48	14.78	ND	20	14	6.0	15.4	0.2

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

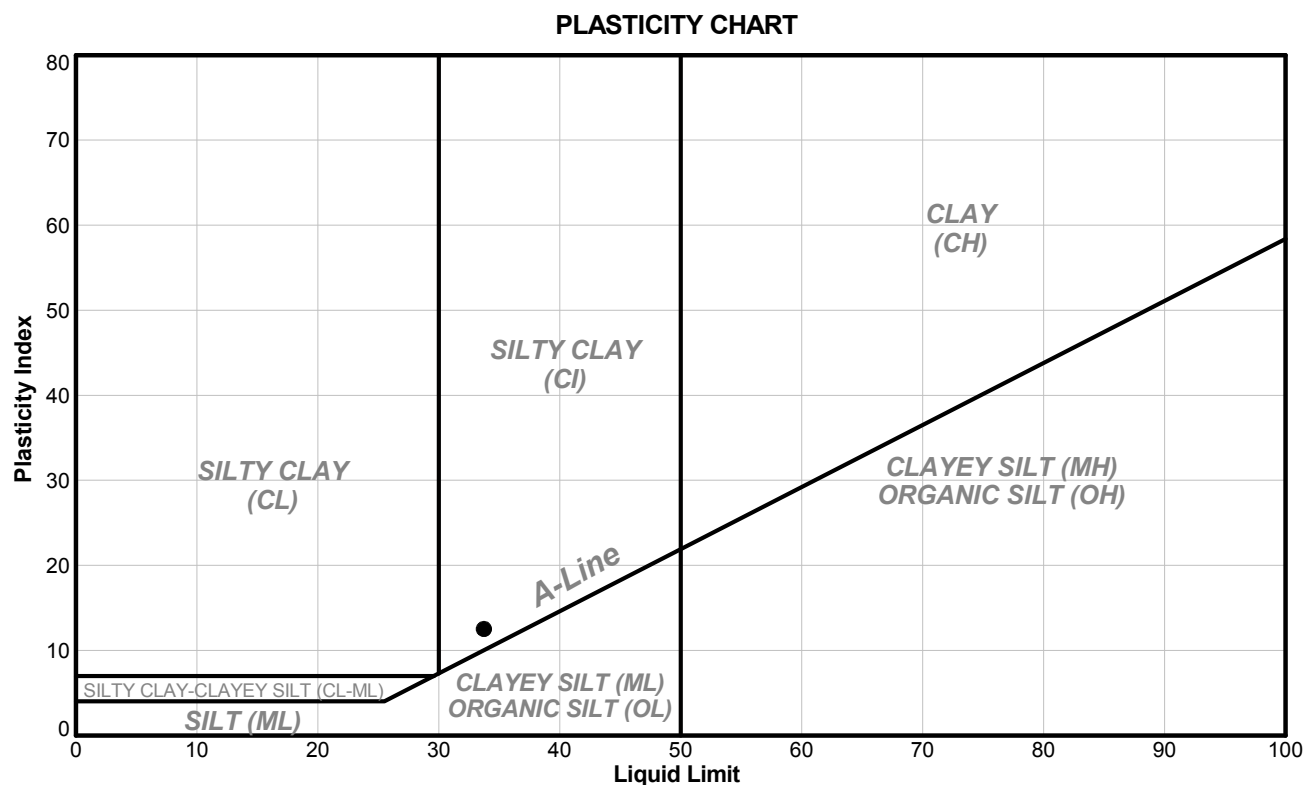
OADC	4/30/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-08
Project:	Jay Project				Sample No.: 4 & 5
Location:	Lac du Sauvage				Depth Interval (m): 16.31 to 16.46
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: N/A

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-08	4 & 5	16.31	16.46	ND	34	21	13.0	24.3	0.3

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

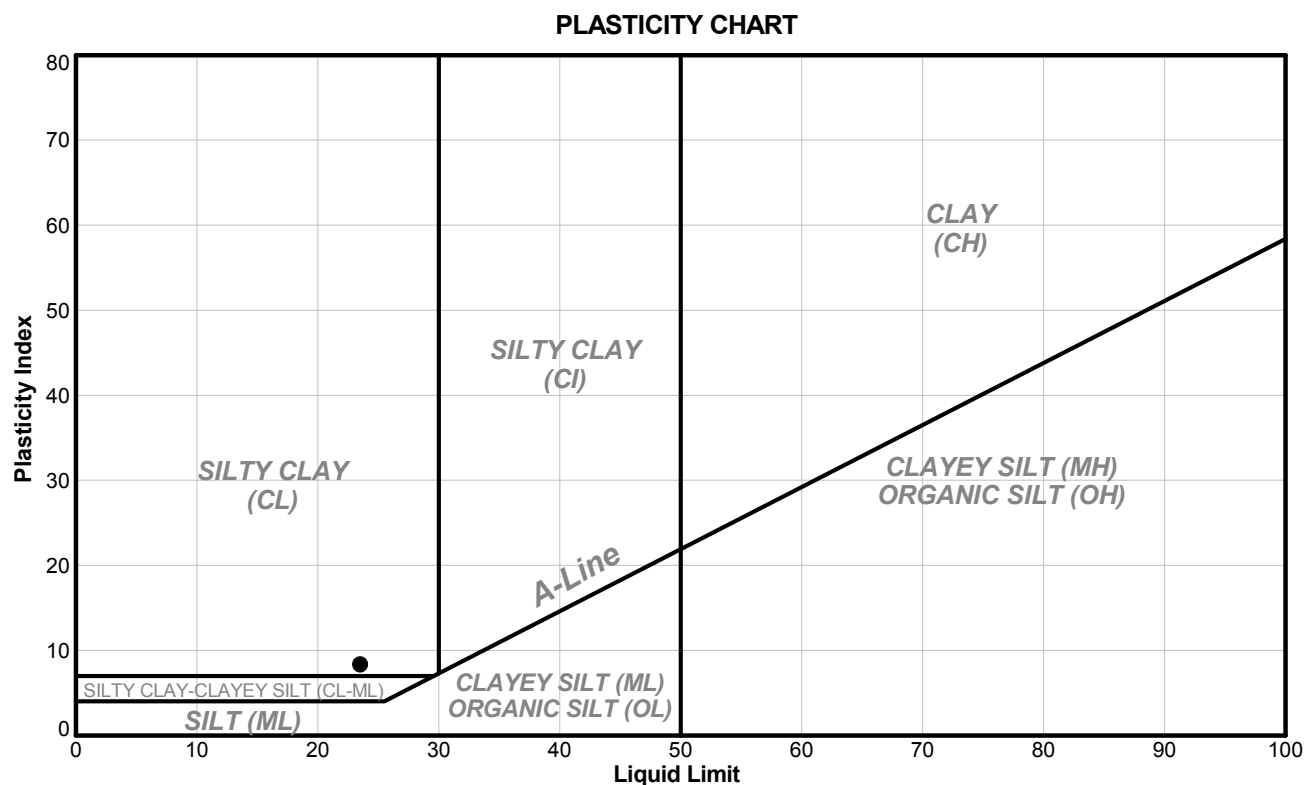
OADC	5/28/2014	LP	6/1/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s)
						ASTM D 4318-10
Client:	Dominion Diamond Corporation					ID: JP5-SD-08
Project:	Jay Project					Sample No.: 6
Location:	Lac du Sauvage					Depth Interval (m): 19.66 to 19.81
Project No.:	13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-08	6	19.66	19.81	ND	23	15	8.0	19.8	0.6

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

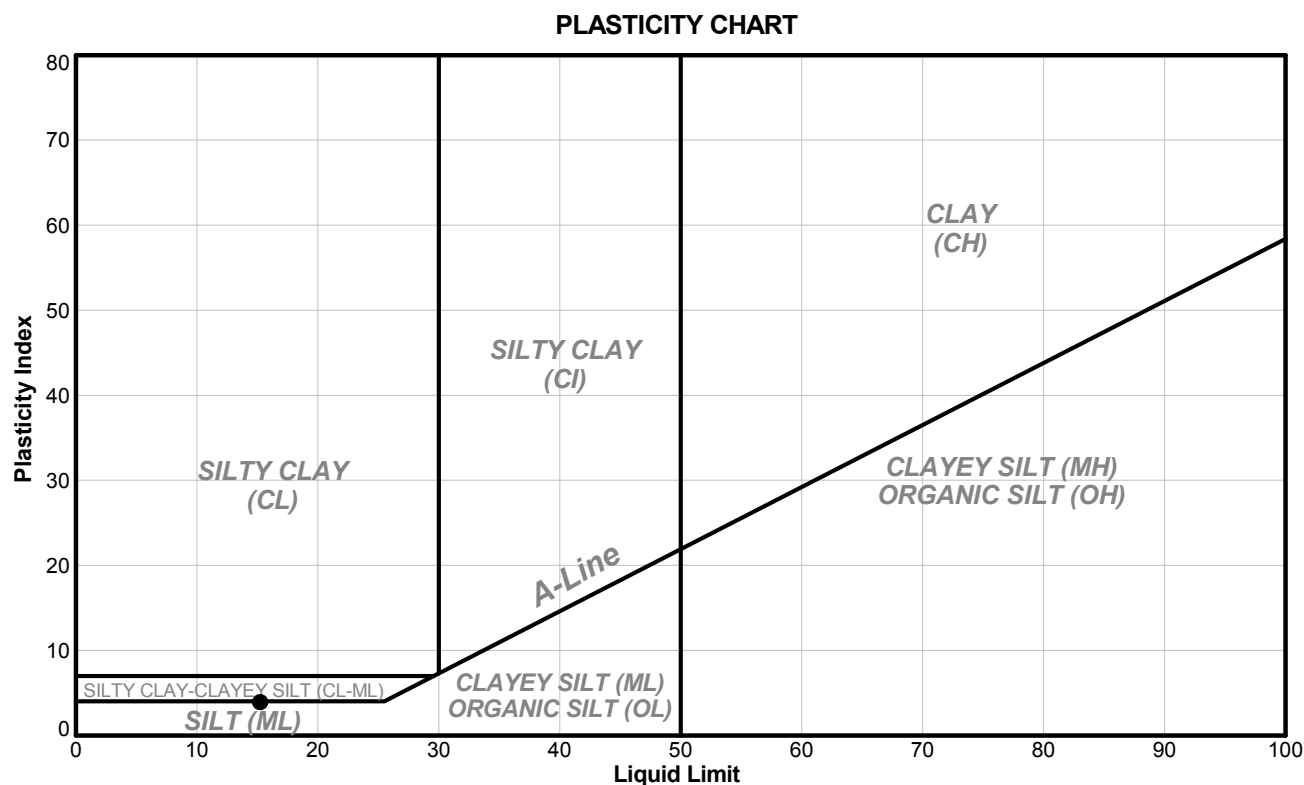
OADC	5/6/2014	LH	5/9/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS					Reference(s) ASTM D 4318-10
Client:	Dominion Diamond Corporation				ID: JP5-SD-10
Project:	Jay Project				Sample No.: 1
Location:	Lac du Sauvage				Depth Interval (m): 13.41 to 13.56
Project No.: 13-1328-0041 Phase: 2010 Task: 25					Lab Schedule No.:

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-10	1	13.41	13.56	38	15	11	4.0	7.9	-0.8

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

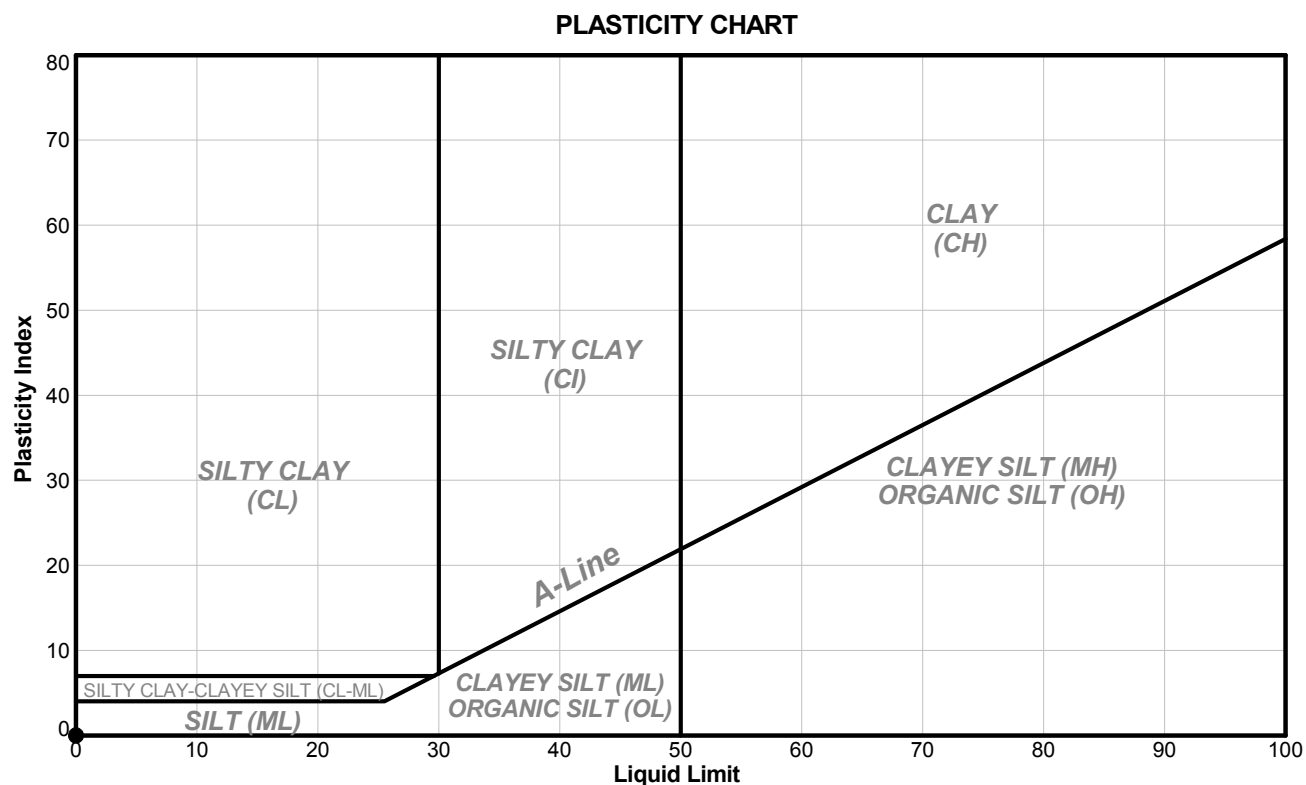
OA/DC	4/30/2014	LH	5/2/2014
Tech	Date	Checked	Date

LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS						Reference(s) ASTM D 4318-10	
Client: Dominion Diamond Corporation						ID: JP5-SD-10	
Project: Jay Project						Sample No.: 4	
Location: Lac du Sauvage						Depth Interval (m): 16.00 to 16.31	
Project No.: 13-1328-0041 Phase: 2010 Task: 25						Lab Schedule No.:	

Other Remarks: Sample air-dried before preparation.

Test Method: A-Multi Point

Preparation Method: Air Dried



Sym.	Sample Location	Sample / Specimen Number	Depth (m)	Bottom (m)	Percent Passing #40 Sieve (%)	Liquid Limit	Plastic Limit	Plasticity Index	Natural Water Content (%)	Liquidity Index
●	JP5-SD-10	4	16.00	16.31	21	NP	NP	NP	6.3	NP

NP - NON-PLASTIC RESULT ND - NOT DETERMINED

Note: The test data given herein pertain to the sample provided only. This report constitutes a testing service only.

OA/DC	4/30/2014	LH	5/2/2014
Tech	Date	Checked	Date

Specific Gravity of Soil Solids By Water Pycnometer				Reference
				ASTM D854 -10
Project No.:	13-1328-0041 Phase 2010 Task 25	Borehole:	JP5-SD-02	
Project:	Jay Project	Sample Number:	1	
Location:	Lac du Sauvage	Depth (m):	5.49-5.79	
Client:	Dominion Diamond Corporation	Lab ID No:	150	
Visual Description:		% Passing 4.75µm	100.00	
Clayey Silt		Excluded Material Description	No excluded material	

Specific Gravity of Fine Fraction Method B - Oven Dried Samples

		Trial 1	Trial 2
Flask Number		A	6
Air Removal Method	M_p	Vacuum	Vacuum
Mass of Flask (g)		173.63	173.36
Mass of Flask + Dry Soil (g)		240.35	238.88
Mass of Flask + Soil + Water (g)	$M_{pws,t}$	713.58	712.35
Test Temperature (°C)	T_t	23	23
Mass of Flask + Water (g)	$M_{pw,t}$	671.66	671.19
Tare Number		342	13
Mass of Tare + Dry Soil (g)		420.82	430.01
Mass of Tare (g)		353.99	364.44
Mass of Oven Dry Soil (g)	M_s	66.83	65.57
Temperature Coefficient	K	1.00	1.00
Specific Gravity at Test Temperature	G_t	2.68	2.69
Specific Gravity at 20°C	$G_{20°C}$	2.68	2.68

AVERAGE SPECIFIC GRAVITY OF TRIALS
2.68

MM	May 16, 2014	LP	May 20, 2014
TESTED BY	DATE	CHECKED BY	DATE

Specific Gravity of Soil Solids By Water Pycnometer				Reference
				ASTM D854 -10
Project No.:	13-1328-0041 Phase 2010 Task 25	Borehole:	JP5-SD-08	
Project:	Jay Project	Sample Number:	1	
Location:	Lac du Sauvage	Depth (m):	10.52-10.67	
Client:	Dominion Diamond Corporation	Lab ID No:	150	
Visual Description:		% Passing 4.75µm	100.00	
Clayey Silt		Excluded Material Description	No excluded material	

Specific Gravity of Fine Fraction Method B - Oven Dried Samples

		Trial 1	Trial 2
Flask Number		7	2
Air Removal Method	M_p	Vacuum	Vacuum
Mass of Flask (g)		171.21	172.34
Mass of Flask + Dry Soil (g)		249.45	249.36
Mass of Flask + Soil + Water (g)	$M_{pws,t}$	718.56	719.52
Test Temperature (°C)	T_t	23.1	23.1
Mass of Flask + Water (g)	$M_{pw,t}$	668.98	670.50
Tare Number		I-6	cb
Mass of Tare + Dry Soil (g)		424.89	286.33
Mass of Tare (g)		346.94	209.41
Mass of Oven Dry Soil (g)	M_s	77.95	76.92
Temperature Coefficient	K	1.00	1.00
Specific Gravity at Test Temperature	G_t	2.75	2.76
Specific Gravity at 20°C	$G_{20^\circ C}$	2.75	2.75

AVERAGE SPECIFIC GRAVITY OF TRIALS
2.75

MM	May 16, 2014	LP	May 20, 2014
TESTED BY	DATE	CHECKED BY	DATE

WATER CONTENT DETERMINATION

Reference(s)
ASTM D 2216

Client: Dominion Diamond Corporation	Project No.: 13-1328-0041	Phase: 2010	Task: 25
Project: Jay Project	Lab Schedule No.:		
Location: Lac du Sauvage			

Sample Location	Sample No.	Specimen No.	Depth Interval		Water Content (%)
			Depth (m)	Bottom (m)	
JP1-SD-01	2		15.24	15.54	22.6
JP1-SD-01	4		23.16	23.47	20.4
JP1-SD-01	6		26.21	26.37	12.3
JP1-SD-01	10		29.05	29.26	13.9
JP1-SD-02	1		12.19	12.80	26.0
JP1-SD-02	6		22.25	22.56	9.0
JP1-SD-02	07B		24.69	24.99	11.0
JP1-SD-03	4		17.01	17.07	9.6
JP2-SD-01	1		1.07	1.13	26.4
JP4N-SD-01	2		8.84	9.14	8.9
JP4N-SD-02	1		4.27	4.57	14.5
JP4N-SD-05	2		11.58	11.89	9.4
JP4N-SD-07	1		10.67	10.82	29.3
JP4N-SD-08	1		10.97	11.13	10.3
JP4S-SD-01	1		6.71	7.16	32.6
JP4S-SD-01	12		23.47	23.77	8.1
JP4S-SD-01	15		26.82	27.13	12.9
JP4S-SD-03	1		10.36	10.67	19.8
JP4S-SD-03	3		10.82	11.28	5.4
JP5-SD-01	2		10.06	10.36	11.3
JP5-SD-01	3		10.67	10.82	10.4
JP5-SD-01	2 & 3		10.06	10.82	10.9
JP5-SD-01&05&07	1-combined		0.00	0.00	25.3
JP5-SD-02	1		5.49	5.79	56.9
JP5-SD-02	2 & 3		7.01	8.84	10.2
JP5-SD-06	1		12.50	12.80	13.6
JP5-SD-08	1		10.52	10.67	31.8
JP5-SD-08	3		14.48	14.78	15.4
JP5-SD-08	6		19.66	19.81	19.8
JP5-SD-08	4 & 5		16.31	16.46	24.3
JP5-SD-10	1		13.41	13.56	7.9
JP5-SD-10	4		16.00	16.31	6.3

LH

5/2/2014

Checked

Date

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2
Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America



APPENDIX E

Laboratory Test Results

Hydraulic Conductivity, Consolidation and Tri-axial Testing Results

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4N-SD-03

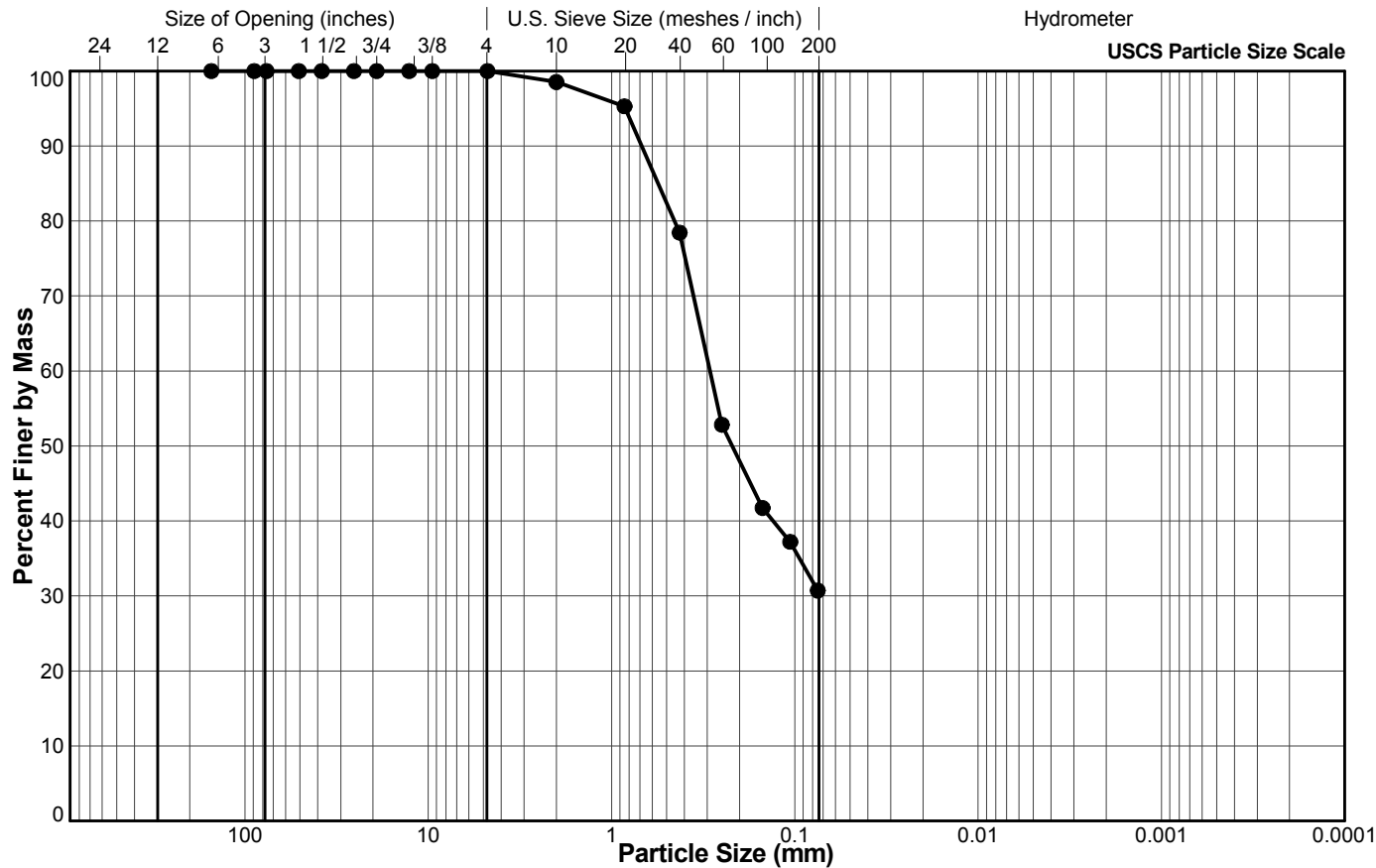
Project: Jay Project

Sample No.: 3 - Perm

Location: Lac du Sauvage

Depth Interval (m): 10.52 to 10.67

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	100.0
3/8"	9.5	100.0
#4 US MESH	4.75	100.0
#10 US MESH	2	98.5
#20 US MESH	0.85	95.3
#40 US MESH	0.425	78.4
#60 US MESH	0.25	52.8
#100 US MESH	0.15	41.7
#140 US MESH	0.106	37.2
#200 US MESH	0.075	30.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

MM/DL
4/18/2014
LP
4/29/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

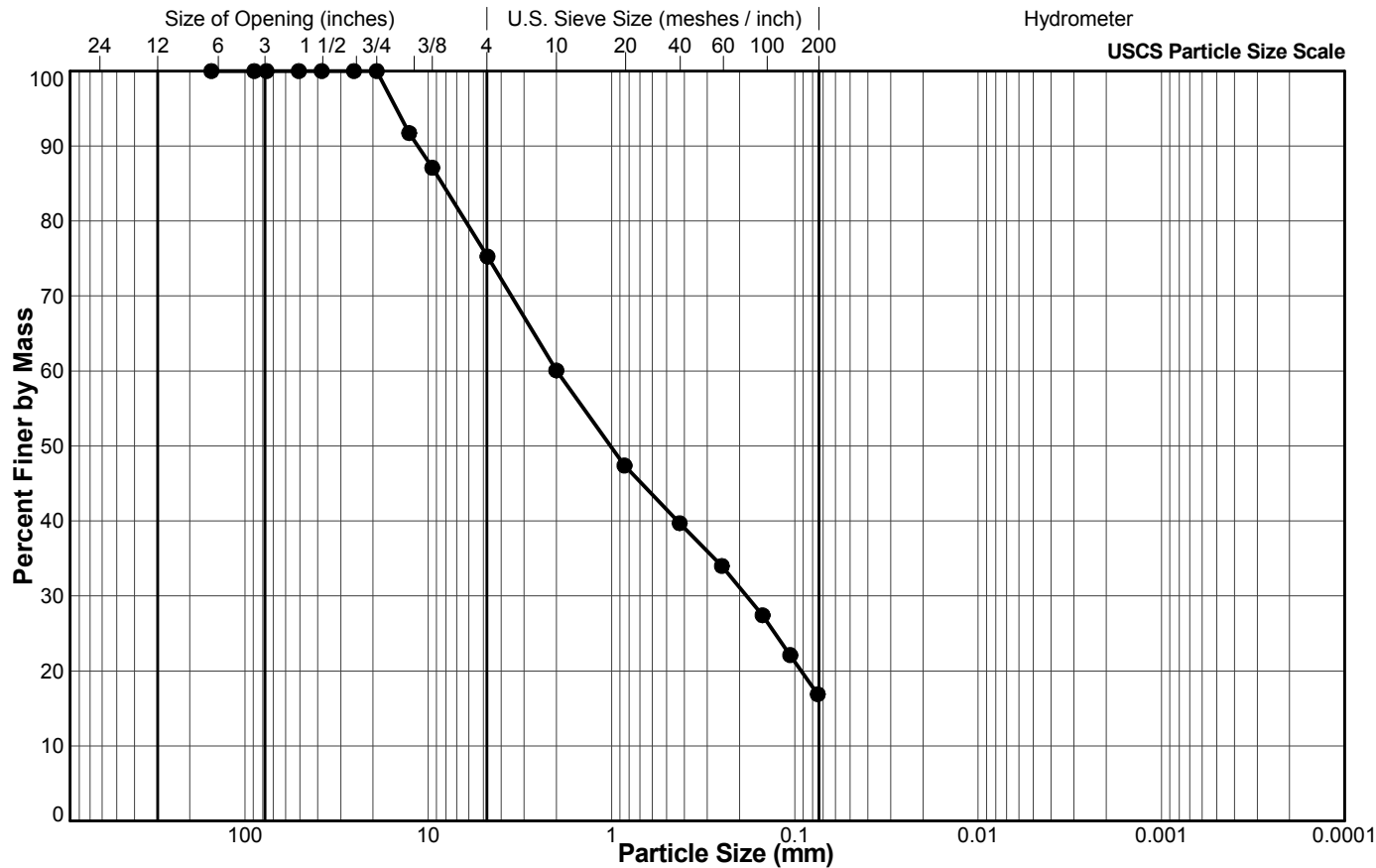
Project: Jay Project

Sample No.: 6 & 8 Perm

Location: Lac du Sauvage

Depth (m): N/A

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	91.7
3/8"	9.5	87.1
#4 US MESH	4.75	75.3
#10 US MESH	2	60.1
#20 US MESH	0.85	47.4
#40 US MESH	0.425	39.7
#60 US MESH	0.25	34.0
#100 US MESH	0.15	27.4
#140 US MESH	0.106	22.1
#200 US MESH	0.075	16.9

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DL/KG
5/2/2014
LH
5/5/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M/Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP4S-SD-01

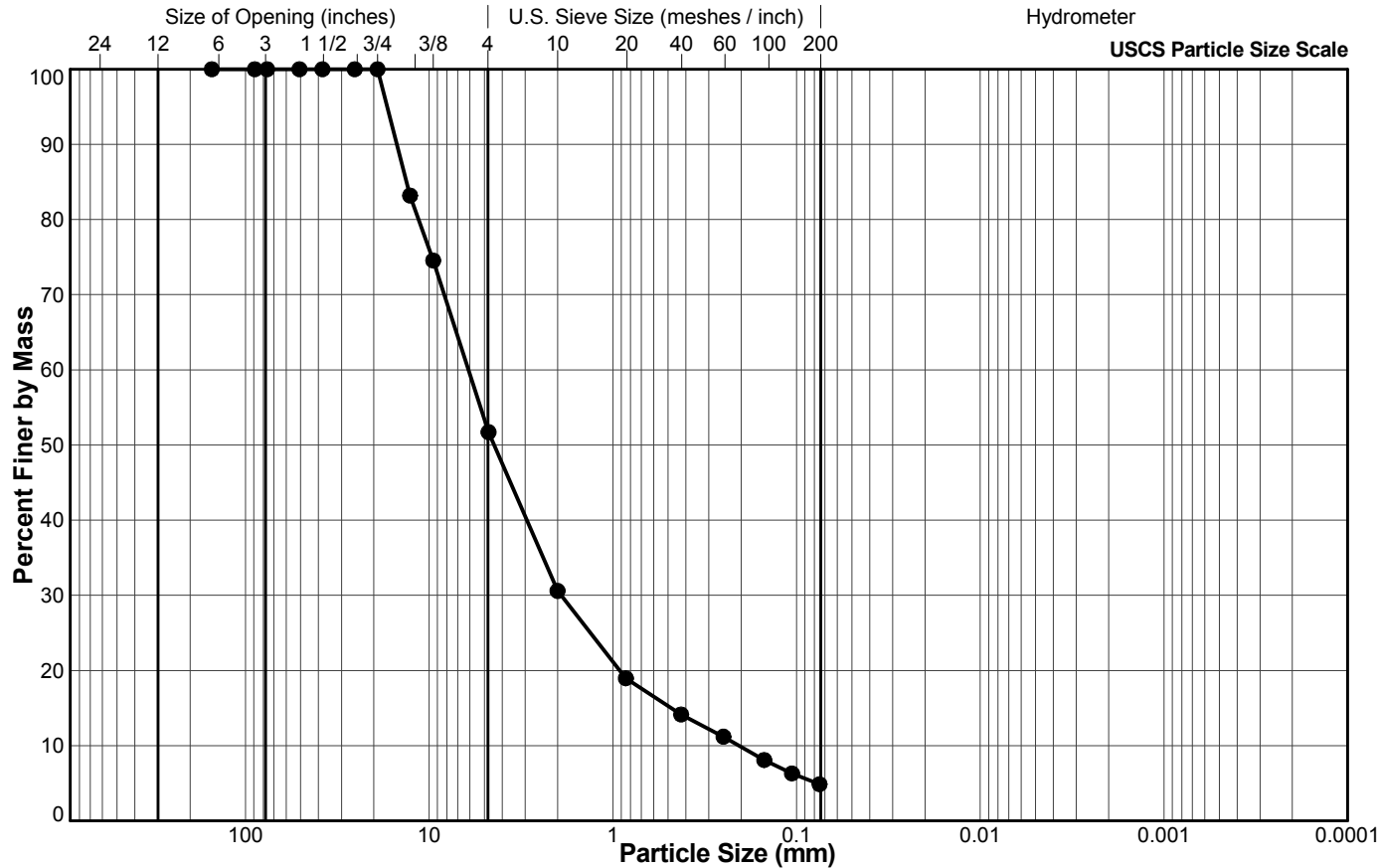
Project: Jay Project

Sample No.: 9 & 11 & 14 Perm

Location: Lac du Sauvage

Depth (m): N/A

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	83.2
3/8"	9.5	74.5
#4 US MESH	4.75	51.7
#10 US MESH	2	30.6
#20 US MESH	0.85	19.0
#40 US MESH	0.425	14.1
#60 US MESH	0.25	11.2
#100 US MESH	0.15	8.1
#140 US MESH	0.106	6.3
#200 US MESH	0.075	4.9

Boulder	Cobble	Gravel		Sand			Fines (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

DL/KG
5/2/2014
LH
5/5/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-02

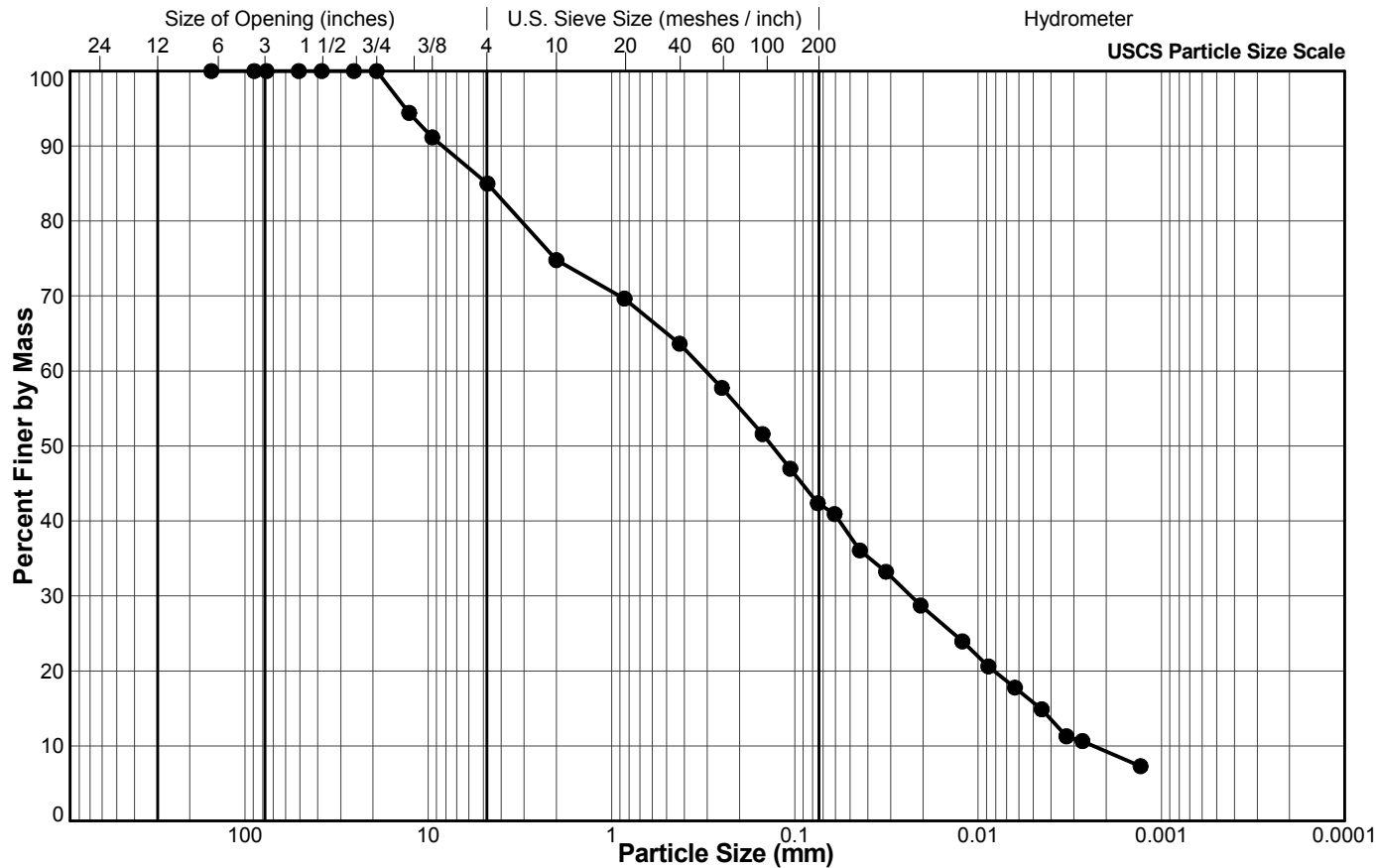
Project: Jay Project

Sample No.: 2 & 3 Perm

Location: Lac du Sauvage

Depth Interval (m): 7.01 to 8.84

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	94.4
3/8"	9.5	91.2
#4 US MESH	4.75	85.0
#10 US MESH	2	74.8
#20 US MESH	0.85	69.7
#40 US MESH	0.425	63.6
#60 US MESH	0.25	57.8
#100 US MESH	0.15	51.6
#140 US MESH	0.106	47.0
#200 US MESH	0.075	42.4
	0.0607	40.9
	0.0442	36.1
	0.0318	33.2
	0.0206	28.7
	0.0122	23.9
	0.0088	20.6
	0.0063	17.8
	0.0045	14.9
	0.0033	11.3
	0.0027	10.6
	0.0013	7.3

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

OA/BM
5/15/2014
LP
5/22/2014

Tech

Date

Checked

Date

File: GINT_GAL_NATIONALIM Output Form: LAB_PARTICLE SIZE (W/ GRADATIONS) Template: LOCALHOST: GINT_GAL_TEMPLATE_DEV Library: GAL_LIBRARY.GLB M: Miller 6/11/14

Golder Associates Ltd.

300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2

Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM D 422
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-08

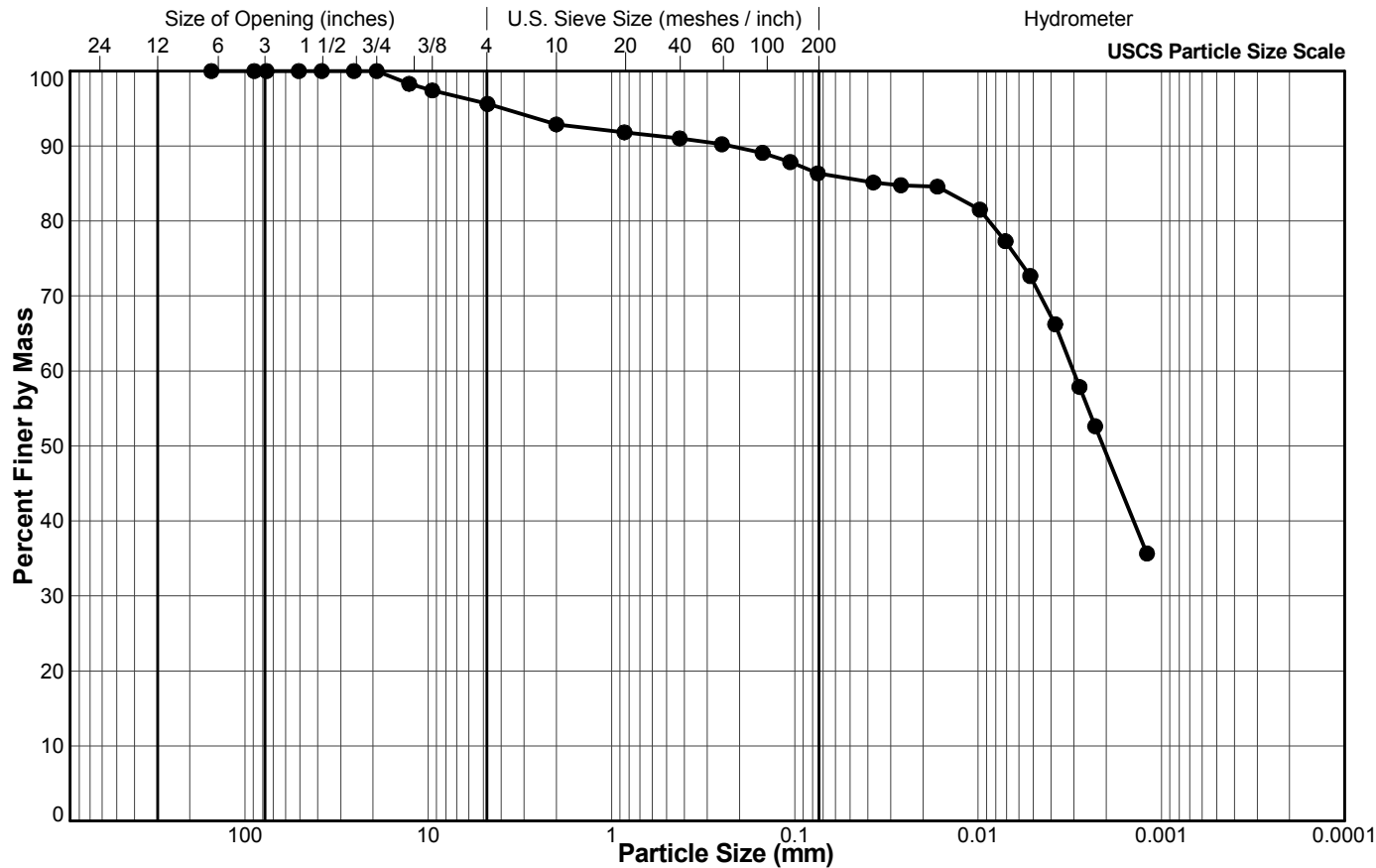
Project: Jay Project

Sample No.: 4 & 5 Perm

Location: Lac du Sauvage

Depth Interval (m): 16.31 to 17.68

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	98.3
3/8"	9.5	97.4
#4 US MESH	4.75	95.6
#10 US MESH	2	92.9
#20 US MESH	0.85	91.8
#40 US MESH	0.425	91.0
#60 US MESH	0.25	90.2
#100 US MESH	0.15	89.1
#140 US MESH	0.106	87.9
#200 US MESH	0.075	86.4
	0.0373	85.1
	0.0264	84.8
	0.0167	84.6
	0.0098	81.5
	0.0071	77.3
	0.0052	72.7
	0.0038	66.2
	0.0028	57.9
	0.0023	52.6
	0.0012	35.7

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

MM/OA
5/28/2014
LP
6/1/2014

Tech

Date

Checked

Date

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)

ASTM C136
Client: Dominion Diamond Corporation

Sample Location: JP5-SD-09

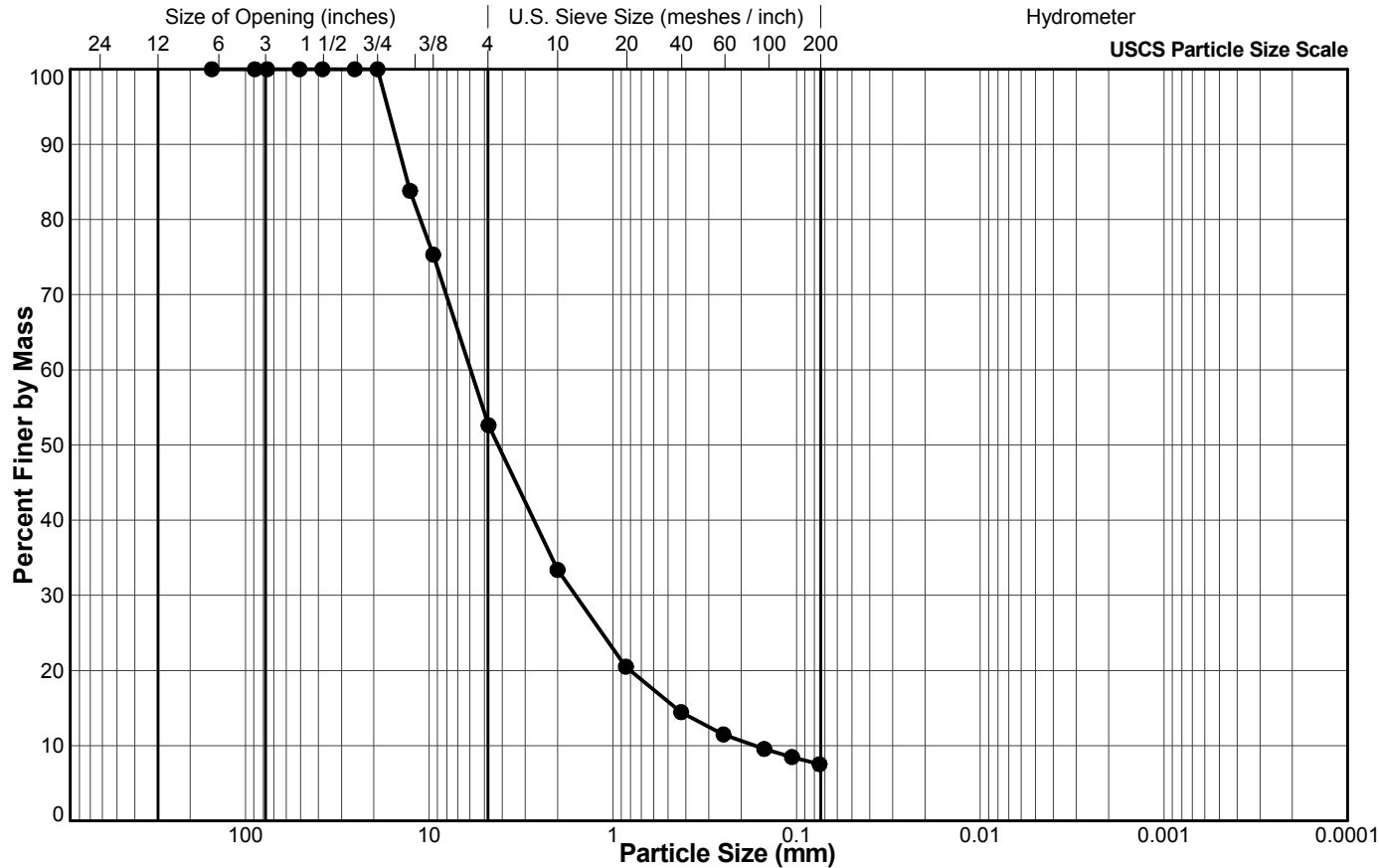
Project: Jay Project

Sample No.: 4 & 5 Perm

Location: Lac du Sauvage

Depth Interval (m): 8.69 to 10.36

Project No.: 13-1328-0041 **Phase:** 2010 **Task:** 25

Lab Schedule No.:


Legend

Sieve Size (US)	Particle Size (mm)	Percent Passing
6"	152.4	100.0
3.5"	88.9	100.0
3"	76.2	100.0
2"	50.8	100.0
1 1/2"	38.1	100.0
1"	25.4	100.0
3/4"	19.1	100.0
1/2"	12.7	83.8
3/8"	9.5	75.3
#4 US MESH	4.75	52.6
#10 US MESH	2	33.4
#20 US MESH	0.85	20.5
#40 US MESH	0.425	14.5
#60 US MESH	0.25	11.5
#100 US MESH	0.15	9.6
#140 US MESH	0.106	8.5
#200 US MESH	0.075	7.5

BOULDER	COBBLE	GRAVEL		SAND			FINES (Silt, Clay)
		Coarse	Fine	Coarse	Medium	Fine	

AY/SJ
5/15/2014
LP
5/22/2014

Tech

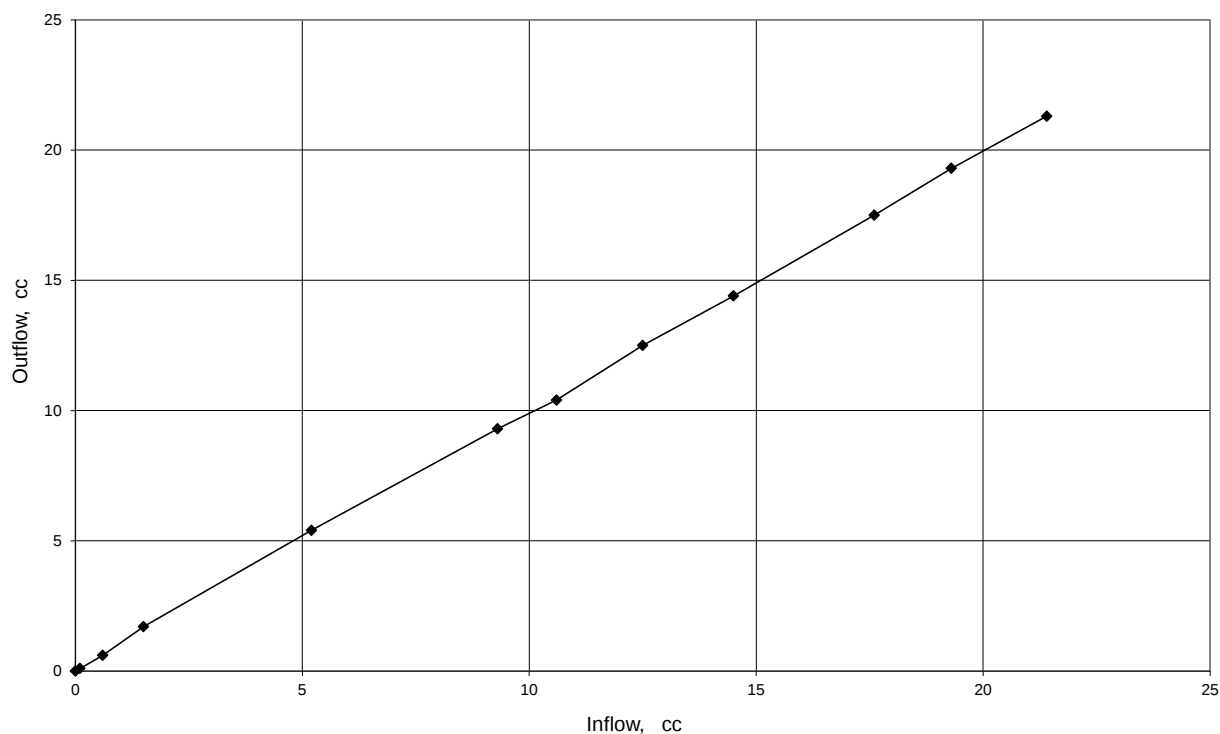
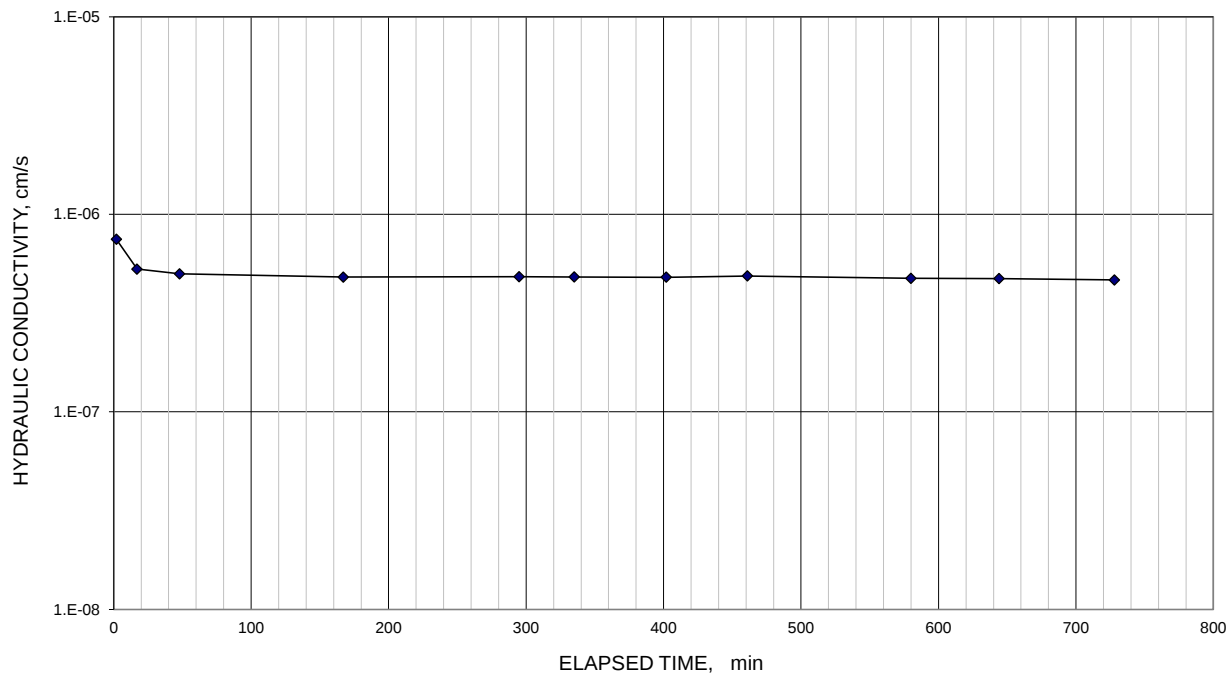
Date

Checked

Date

Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter												Reference: ASTM D5084-10 Method C																																													
Client	Dominion Diamond Corporation				Sample	JP5-SD-01, 05, 07 Sa 1				Falling Head, rising tailwater elevation																																															
Project	Jay Project				Depth Interval (m)	N/A																																																			
Location	Lac du Sauvage																																																								
Project #	13-1328-0041/2010/25				Test Number	Ktest-1 @ 200 kPa				Lab ID	86																																														
Remarks: Final sample geometry and moisture content were taken at consolidation at 200 kPa. Sample Geometry <table style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>Initial</th> <th>Final - at CIU2</th> <th></th> </tr> <tr> <td>Diameter =</td> <td>7.27</td> <td>7.24</td> <td>cm</td> </tr> <tr> <td>Length =</td> <td>14.94</td> <td>14.54</td> <td>cm</td> </tr> <tr> <td>Area =</td> <td>41.48</td> <td>41.17</td> <td>cm²</td> </tr> <tr> <td>Volume =</td> <td>619.6</td> <td>598.6</td> <td>cm³</td> </tr> </table> Test Parameters Cell Pressure = 682.6 kPa Back Pressure = 482.7 kPa σ'_{3c} = 200.0 kPa δV_c = 16.1 cc B_{value} = 0.97 a_{in} = 1.00 cm² a_{out} = 1.00 cm² Phase Relationships <table style="width:100%; border-collapse: collapse;"> <tr> <th></th> <th>Initial</th> <th>Final - at CIU2</th> </tr> <tr> <td>Wet Weight (g) =</td> <td>1266.0</td> <td>1262.7</td> </tr> <tr> <td>Dry Weight (g) =</td> <td>1038.4</td> <td>1038.4</td> </tr> <tr> <td>w (%) =</td> <td>21.9</td> <td>21.6</td> </tr> <tr> <td>ρ_{dry} (kg/m³) =</td> <td>1676</td> <td>1735</td> </tr> <tr> <td>S (%) =</td> <td>98</td> <td>106</td> </tr> <tr> <td>e =</td> <td>0.60</td> <td>0.54</td> </tr> <tr> <td>G_s (assumed) =</td> <td>2.68</td> <td>2.68</td> </tr> </table>															Initial	Final - at CIU2		Diameter =	7.27	7.24	cm	Length =	14.94	14.54	cm	Area =	41.48	41.17	cm ²	Volume =	619.6	598.6	cm ³		Initial	Final - at CIU2	Wet Weight (g) =	1266.0	1262.7	Dry Weight (g) =	1038.4	1038.4	w (%) =	21.9	21.6	ρ_{dry} (kg/m³) =	1676	1735	S (%) =	98	106	e =	0.60	0.54	G_s (assumed) =	2.68	2.68
	Initial	Final - at CIU2																																																							
Diameter =	7.27	7.24	cm																																																						
Length =	14.94	14.54	cm																																																						
Area =	41.48	41.17	cm ²																																																						
Volume =	619.6	598.6	cm ³																																																						
	Initial	Final - at CIU2																																																							
Wet Weight (g) =	1266.0	1262.7																																																							
Dry Weight (g) =	1038.4	1038.4																																																							
w (%) =	21.9	21.6																																																							
ρ_{dry} (kg/m³) =	1676	1735																																																							
S (%) =	98	106																																																							
e =	0.60	0.54																																																							
G_s (assumed) =	2.68	2.68																																																							
Read #	Date (mm/dd/yy)	Time (hh:mm)	Elapsed Time (min)	Burette Readings		Applied Pressure		Head Loss			Flow Volume		Viscosity Correction		k ₂₀ (cm/sec)																																										
				Bottom (cc)	Top (cc)	P _{bot} (psi)	P _{top} (psi)	h (cm)	h ₁ (cm)	h ₂ (cm)	V _{in} (cc)	V _{out} (cc)	Temp (°C)	R _t																																											
0	5/21/2014	1:06	0.0	0.2	24.6	75.0	70.0	375.9	--	--	0.0	0.0	22.0	0.953	--																																										
1			2.0	0.3	24.5	75.0	70.0	375.7	375.9	375.7	0.1	0.1	22.0	0.953	7.47E-07																																										
2			17.0	0.8	24.0	75.0	70.0	374.7	375.9	374.7	0.6	0.6	22.0	0.953	5.28E-07																																										
3			48.0	1.7	22.9	75.0	70.0	372.7	375.9	372.7	1.5	1.7	22.0	0.953	5.00E-07																																										
4			167.0	5.4	19.2	75.0	70.0	365.3	375.9	365.3	5.2	5.4	22.0	0.953	4.81E-07																																										
5			295.0	9.5	15.3	75.0	70.0	357.3	375.9	357.3	9.3	9.3	22.0	0.953	4.83E-07																																										
6			335.0	10.8	14.2	75.0	70.0	354.9	375.9	354.9	10.6	10.4	22.0	0.953	4.81E-07																																										
7			402.0	12.7	12.1	75.0	70.0	350.9	375.9	350.9	12.5	12.5	22.0	0.953	4.80E-07																																										
8			461.0	14.7	10.2	75.0	70.0	347.0	375.9	347.0	14.5	14.4	22.0	0.953	4.87E-07																																										
9			580.0	17.8	7.1	75.0	70.0	340.8	375.9	340.8	17.6	17.5	22.0	0.953	4.74E-07																																										
10			644.0	19.5	5.3	75.0	70.0	337.3	375.9	337.3	19.3	19.3	22.0	0.953	4.72E-07																																										
11			728.0	21.6	3.3	75.0	70.0	333.2	375.9	333.2	21.4	21.3	22.0	0.953	4.65E-07																																										
Trial-1														Average k₂₀ (cm/sec) =	4.74E-07																																										
Sample Description: SILT some sand some clay; firm, brown, moist. Comments : Compacted sample to a firm - stiff consistency. Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight Permeant Liquid : Tap water Conversion from pressure to water head: 1 psi = 70.305 cm of H₂O																																																									
TM/MM				May 21, 2014				LL				June 15, 2014																																													
Tested By				Date				Reviewed By				Date																																													

Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter				Reference: ASTM D5084-10 Method C	
Client	Dominion Diamond Corporation	Sample	JP5-SD-01, 05, 07 Sa 1	Falling Head, rising tailwater elevation	
Project	Jay Project	Depth Interval (m)	N/A		
Location	Lac du Sauvage				
Project #	13-1328-0041/2010/25	Test Number	Ktest-1 @ 200 kPa	Lab ID	86



TM/MM	May 21, 2014	LL	June 15, 2014
Tested By	Date	Reviewed By	Date

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

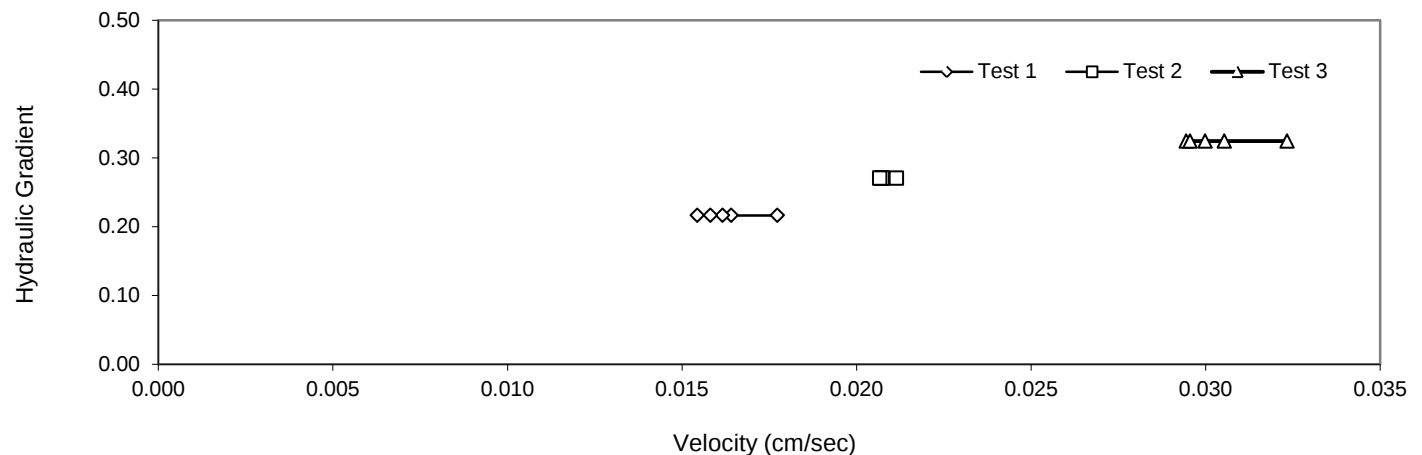
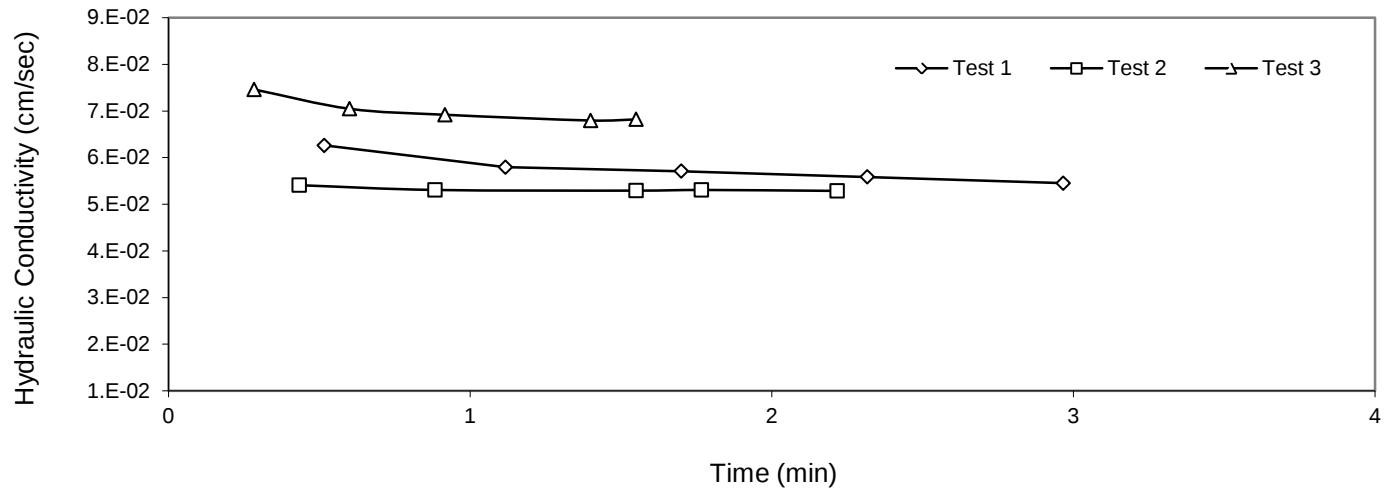
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP5-SD-09 Sample 4 & 5 Test 1
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was hand compacted to target a dry density between 1950-2000 kg/m ³	Initial Diameter, cm	15.22	Initial Water Content, %	5.30
		Initial Height, cm	11.09	Initial ρ_{dry} , kg/m ³ :	1976
		Initial Volume, cm ³	2018	Initial Void Ratio	0.33
		Final Diameter, cm	15.22	Final Water Content, %	11.59
Oversize material	29%	Final Height, cm	11.09	Final ρ_{dry} , kg/m ³ :	1976
Gs (assumed):	2.63	Final Volume, cm ³	2018	Final Void Ratio	0.33



Results

No. of Pore Volumes	3.0	Range of Hydraulic Gradient	0.32 to 0.22	Avg. Hyd Conductivity k_{20} , cm/s	6.0E-02
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	May 6, 2014	LL	May 7, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

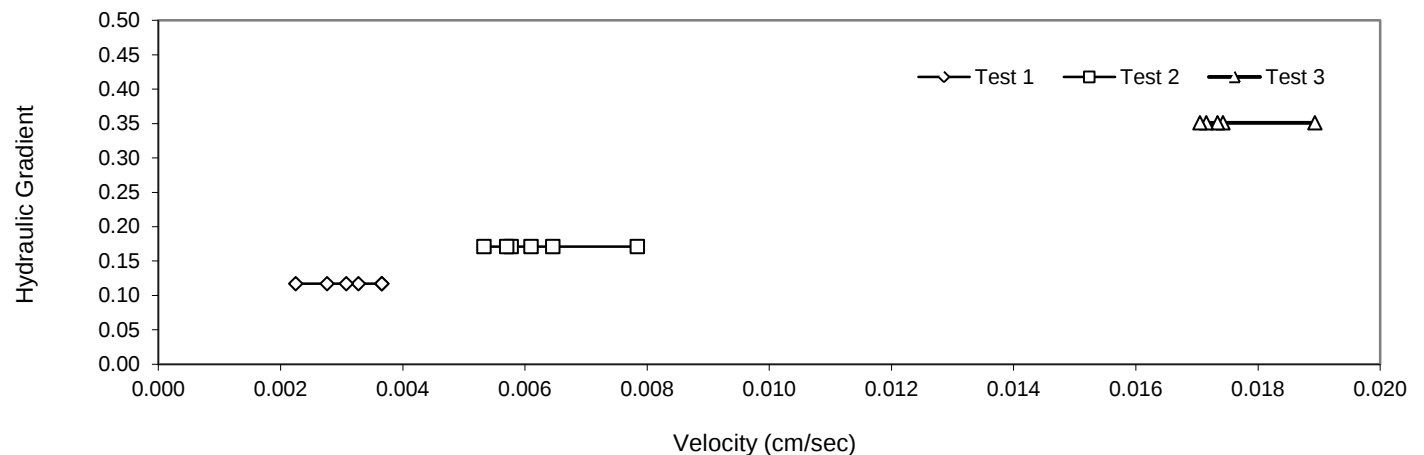
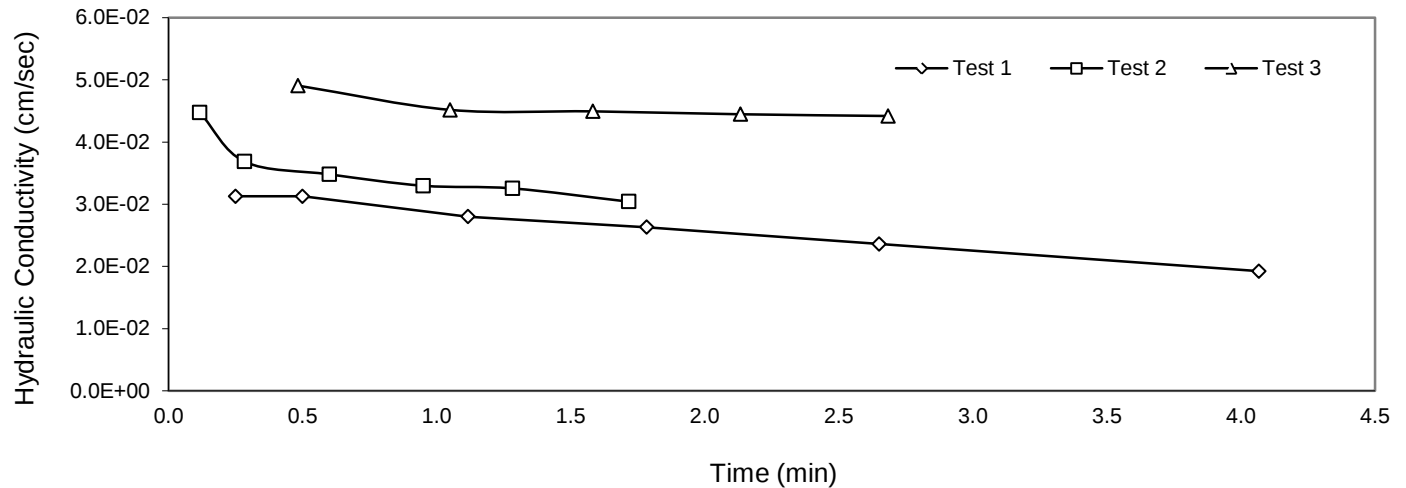
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP5-SD-09 Sample 4 & 5 Test 2
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was hand compacted to target a dry density of 2150 kg/m ³	Initial Diameter, cm	15.23	Initial Water Content, %	5.47
		Initial Height, cm	11.11	Initial ρ_{dry} , kg/m ³ :	2144
		Initial Volume, cm ³	2023	Initial Void Ratio	0.23
		Final Diameter, cm	15.23	Final Water Content, %	8.99
		Final Height, cm	11.11	Final ρ_{dry} , kg/m ³ :	2144
Oversize material	29%	Final Volume, cm ³	2024	Final Void Ratio	0.23
Gs (assumed):	2.63				



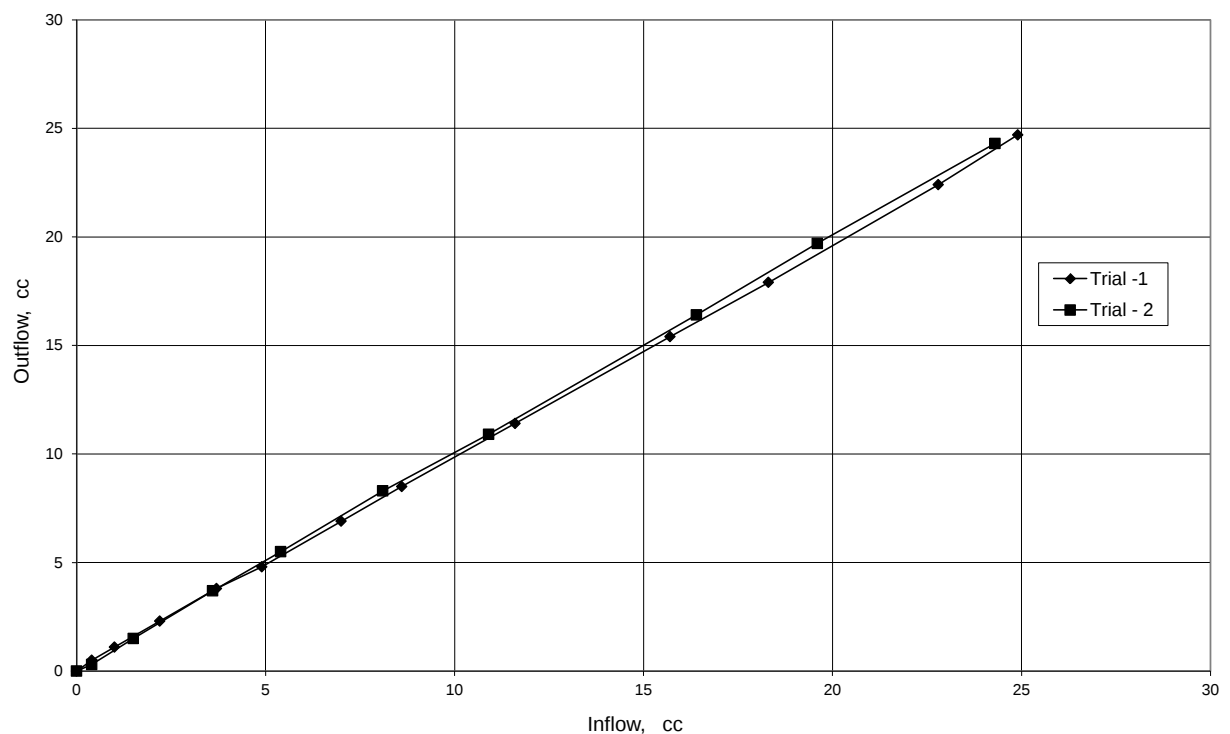
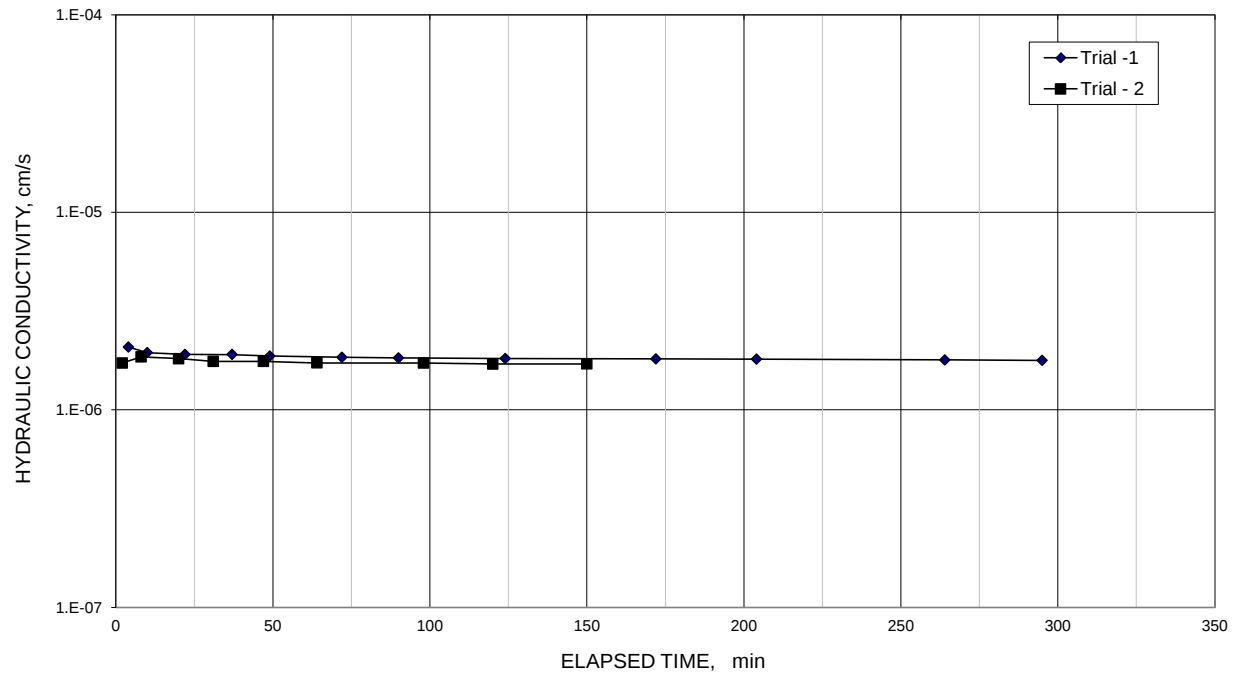
Results

No. of Pore Volumes	1.9	Range of Hydraulic Gradient	0.35 to 0.12	Avg. Hyd Conductivity k_{20} , cm/s	3.5E-02
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	May 13, 2014	LL	May 14, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter											Reference: ASTM D5084-10 Method C																																															
Client	Dominion Diamond Corporation				Sample	JP5-SD-02 Sa 2&3				Falling Head, rising tailwater elevation																																																
Project	Jay Project				Depth Interval (m)	7.01-8.84																																																				
Location	Lac du Sauvage																																																									
Project #	13-1328-0041/2010/25				Test Number	Ktest-1 @ 200 kPa				Lab ID	86																																															
Remarks: Final sample geometry and moisture content were taken at consolidation at 200 kPa. Sample Geometry <table> <tr> <td></td> <td>Initial</td> <td>Final-at CIU2</td> <td></td> </tr> <tr> <td>Diameter =</td> <td>10.23</td> <td>10.16</td> <td>cm</td> </tr> <tr> <td>Length =</td> <td>20.43</td> <td>19.79</td> <td>cm</td> </tr> <tr> <td>Area =</td> <td>82.19</td> <td>81.07</td> <td>cm²</td> </tr> <tr> <td>Volume =</td> <td>1679.0</td> <td>1604.4</td> <td>cm³</td> </tr> </table> Test Parameters Cell Pressure = 751.6 kPa Back Pressure = 551.6 kPa σ' _{3c} = 200.0 kPa ΔV_c = 56.3 cc B_{value} = 0.99 a_{in} = 1.00 cm² a_{out} = 1.00 cm² Phase Relationships <table> <tr> <td></td> <td>Initial</td> <td>Final-at CIU2</td> </tr> <tr> <td>Wet Weight (g) =</td> <td>3484.0</td> <td>3614.1</td> </tr> <tr> <td>Dry Weight (g) =</td> <td>3250.1</td> <td>3250.1</td> </tr> <tr> <td>w (%) =</td> <td>7.2</td> <td>11.2</td> </tr> <tr> <td>ρ_{dry} (kg/m³) =</td> <td>1936</td> <td>2026</td> </tr> <tr> <td>S (%) =</td> <td>50.2</td> <td>92.9</td> </tr> <tr> <td>e =</td> <td>0.38</td> <td>0.32</td> </tr> <tr> <td>G_s (assumed) =</td> <td>2.68</td> <td>2.68</td> </tr> </table>																Initial	Final-at CIU2		Diameter =	10.23	10.16	cm	Length =	20.43	19.79	cm	Area =	82.19	81.07	cm ²	Volume =	1679.0	1604.4	cm ³		Initial	Final-at CIU2	Wet Weight (g) =	3484.0	3614.1	Dry Weight (g) =	3250.1	3250.1	w (%) =	7.2	11.2	ρ_{dry} (kg/m³) =	1936	2026	S (%) =	50.2	92.9	e =	0.38	0.32	G_s (assumed) =	2.68	2.68
	Initial	Final-at CIU2																																																								
Diameter =	10.23	10.16	cm																																																							
Length =	20.43	19.79	cm																																																							
Area =	82.19	81.07	cm ²																																																							
Volume =	1679.0	1604.4	cm ³																																																							
	Initial	Final-at CIU2																																																								
Wet Weight (g) =	3484.0	3614.1																																																								
Dry Weight (g) =	3250.1	3250.1																																																								
w (%) =	7.2	11.2																																																								
ρ_{dry} (kg/m³) =	1936	2026																																																								
S (%) =	50.2	92.9																																																								
e =	0.38	0.32																																																								
G_s (assumed) =	2.68	2.68																																																								
Read #	Date (mm/dd/yy)	Time (hh:mm)	Elapsed Time (min)	Burette Readings		Applied Pressure		Head Loss			Flow Volume		Viscosity Correction		k ₂₀ (cm/sec)																																											
				Bottom (cc)	Top (cc)	P _{bot} (psi)	P _{top} (psi)	h (cm)	h ₁ (cm)	h ₂ (cm)	V _{in} (cc)	V _{out} (cc)	Temp (°C)	R _t																																												
0	5/8/2014	7:00	0.0	0.1	25	82.5	80.0	200.7	--	--	0.0	0.0	24.0	0.910	--																																											
1			4.0	0.5	24.5	82.5	80.0	199.8	200.7	199.8	0.4	0.5	24.0	0.910	2.08E-06																																											
2			10.0	1.1	23.9	82.5	80.0	198.6	200.7	198.6	1.0	1.1	24.0	0.910	1.95E-06																																											
3			22.0	2.3	22.7	82.5	80.0	196.2	200.7	196.2	2.2	2.3	24.0	0.910	1.91E-06																																											
4			37.0	3.8	21.2	82.5	80.0	193.2	200.7	193.2	3.7	3.8	24.0	0.910	1.91E-06																																											
5			49.0	5.0	20.2	82.5	80.0	191.0	200.7	191.0	4.9	4.8	24.0	0.910	1.87E-06																																											
6			72.0	7.1	18.1	82.5	80.0	186.8	200.7	186.8	7.0	6.9	24.0	0.910	1.85E-06																																											
7			90.0	8.7	16.5	82.5	80.0	183.6	200.7	183.6	8.6	8.5	24.0	0.910	1.83E-06																																											
8			124.0	11.7	13.6	82.5	80.0	177.7	200.7	177.7	11.6	11.4	24.0	0.910	1.82E-06																																											
9			172.0	15.8	9.6	82.5	80.0	169.6	200.7	169.6	15.7	15.4	24.0	0.910	1.81E-06																																											
10			204.0	18.4	7.1	82.5	80.0	164.5	200.7	164.5	18.3	17.9	24.0	0.910	1.80E-06																																											
11			264.0	22.9	2.6	82.5	80.0	155.5	200.7	155.5	22.8	22.4	24.0	0.910	1.79E-06																																											
12			295.0	25.0	0.3	82.5	80.0	151.1	200.7	151.1	24.9	24.7	24.0	0.910	1.78E-06																																											
Trial-1															Average k₂₀ (cm/sec) = 1.80E-06																																											
1	5/8/2014	9:00	0.0	0.4	24.5	85.0	80.0	375.6	--	--	0.0	0.0	24.0	0.910	--																																											
2			2.0	0.8	24.2	85.0	80.0	374.9	375.6	374.9	0.4	0.3	24.0	0.910	1.73E-06																																											
3			8.0	1.9	23.0	85.0	80.0	372.6	375.6	372.6	1.5	1.5	24.0	0.910	1.86E-06																																											
4			20.0	4.0	20.8	85.0	80.0	368.3	375.6	368.3	3.6	3.7	24.0	0.910	1.82E-06																																											
5			31.0	5.8	19.0	85.0	80.0	364.7	375.6	364.7	5.4	5.5	24.0	0.910	1.76E-06																																											
6			47.0	8.5	16.2	85.0	80.0	359.2	375.6	359.2	8.1	8.3	24.0	0.910	1.76E-06																																											
7			64.0	11.3	13.6	85.0	80.0	353.8	375.6	353.8	10.9	10.9	24.0	0.910	1.73E-06																																											
8			98.0	16.8	8.1	85.0	80.0	342.8	375.6	342.8	16.4	16.4	24.0	0.910	1.73E-06																																											
9			120.0	20.0	4.8	85.0	80.0	336.3	375.6	336.3	19.6	19.7	24.0	0.910	1.70E-06																																											
10			150.0	24.7	0.2	85.0	80.0	327.0	375.6	327.0	24.3	24.3	24.0	0.910	1.71E-06																																											
Trial-2															Average k₂₀ (cm/sec) = 1.72E-06																																											
Sample Description: Clayey SAND, some silt, some gravel; firm to stiff, brown, moist.																																																										
Comments : Compacted sample to a dry density of 1900 kg/m ³																																																										
Permeant Liquid : Tap water																																																										
TM/MM		May 8, 2014				LL				June 15, 2014																																																
Tested By		Date				Reviewed By				Date																																																

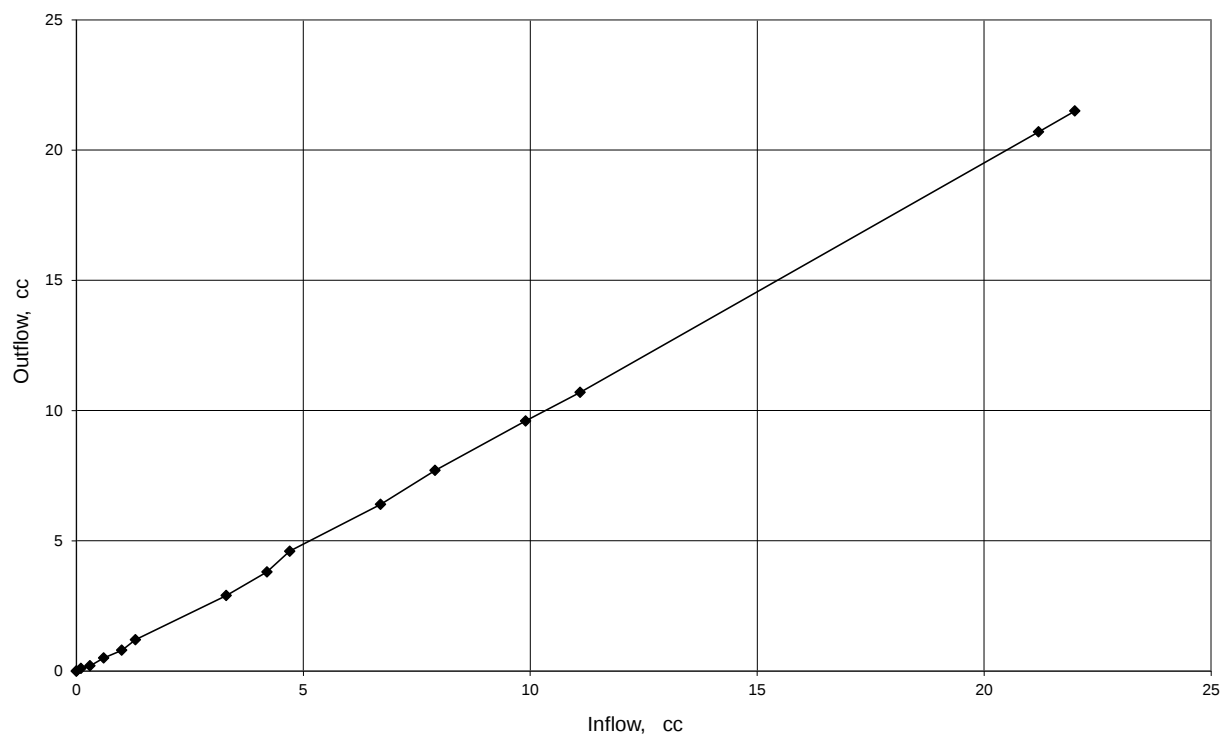
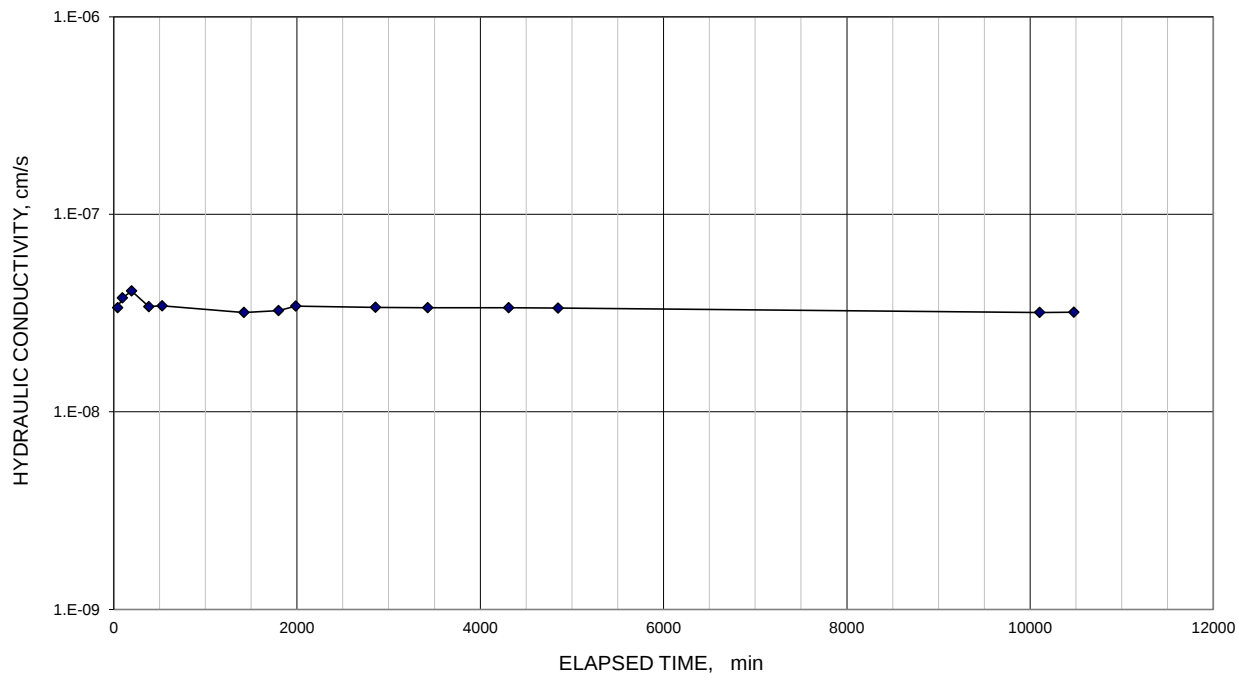
Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter				Reference: ASTM D5084-10 Method C	
Client	Dominion Diamond Corporation	Sample	JP5-SD-02 Sa 2&3	Falling Head, rising tailwater elevation	
Project	Jay Project	Depth Interval (m)	7.01-8.84		
Location	Lac du Sauvage				
Project #	13-1328-0041/2010/25	Test Number	Ktest-1 @ 200 kPa	Lab ID	86



TM/MM	May 8, 2014	LL	June 15, 2014
Tested By	Date	Reviewed By	Date

Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter													Reference: ASTM D5084-10 Method C																																													
Client			Dominion Diamond Corporation			Sample			JP5-SD-08 Sa 4&5			Falling Head, rising tailwater elevation																																														
Project			Jay Project			Depth Interval (m)			16.31-17.83																																																	
Location			Lac du Sauvage																																																							
Project #			13-1328-0041/2010/25			Test Number			Ktest-1 @ 200 kPa			Lab ID		86																																												
Remarks: Final sample geometry and moisture content were taken at consolidation at 200 kPa. Sample Geometry <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Initial</td> <td style="text-align: center;">Final - at CIU2</td> <td></td> </tr> <tr> <td>Diameter =</td> <td style="text-align: center;">7.27</td> <td style="text-align: center;">7.29</td> <td>cm</td> </tr> <tr> <td>Length =</td> <td style="text-align: center;">15.26</td> <td style="text-align: center;">14.65</td> <td>cm</td> </tr> <tr> <td>Area =</td> <td style="text-align: center;">41.45</td> <td style="text-align: center;">41.75</td> <td>cm²</td> </tr> <tr> <td>Volume =</td> <td style="text-align: center;">632.7</td> <td style="text-align: center;">611.7</td> <td>cm³</td> </tr> </table> Test Parameters Cell Pressure = 758.5 kPa Back Pressure = 558.5 kPa σ'_{3c} = 200.0 kPa δV_c = 16.7 cc B_{value} = 1.00 a_{in} = 1.00 cm² a_{out} = 1.00 cm² Phase Relationships <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">Initial</td> <td style="text-align: center;">Final - at CIU2</td> </tr> <tr> <td>Wet Weight (g) =</td> <td style="text-align: center;">1288.9</td> <td style="text-align: center;">1289.6</td> </tr> <tr> <td>Dry Weight (g) =</td> <td style="text-align: center;">1054.5</td> <td style="text-align: center;">1054.5</td> </tr> <tr> <td>w (%) =</td> <td style="text-align: center;">22.2</td> <td style="text-align: center;">22.3</td> </tr> <tr> <td>ρ_{dry} (kg/m³) =</td> <td style="text-align: center;">1666</td> <td style="text-align: center;">1724</td> </tr> <tr> <td>S (%) =</td> <td style="text-align: center;">98</td> <td style="text-align: center;">108</td> </tr> <tr> <td>e =</td> <td style="text-align: center;">0.61</td> <td style="text-align: center;">0.55</td> </tr> <tr> <td>G_s (assumed) =</td> <td style="text-align: center;">2.68</td> <td style="text-align: center;">2.68</td> </tr> </table>																Initial	Final - at CIU2		Diameter =	7.27	7.29	cm	Length =	15.26	14.65	cm	Area =	41.45	41.75	cm ²	Volume =	632.7	611.7	cm ³		Initial	Final - at CIU2	Wet Weight (g) =	1288.9	1289.6	Dry Weight (g) =	1054.5	1054.5	w (%) =	22.2	22.3	ρ_{dry} (kg/m³) =	1666	1724	S (%) =	98	108	e =	0.61	0.55	G_s (assumed) =	2.68	2.68
	Initial	Final - at CIU2																																																								
Diameter =	7.27	7.29	cm																																																							
Length =	15.26	14.65	cm																																																							
Area =	41.45	41.75	cm ²																																																							
Volume =	632.7	611.7	cm ³																																																							
	Initial	Final - at CIU2																																																								
Wet Weight (g) =	1288.9	1289.6																																																								
Dry Weight (g) =	1054.5	1054.5																																																								
w (%) =	22.2	22.3																																																								
ρ_{dry} (kg/m³) =	1666	1724																																																								
S (%) =	98	108																																																								
e =	0.61	0.55																																																								
G_s (assumed) =	2.68	2.68																																																								
Read #	Date (mm/dd/yy)	Time (hh:mm)	Elapsed Time (min)	Burette Readings		Applied Pressure		Head Loss			Flow Volume		Viscosity Correction		k ₂₀ (cm/sec)																																											
				Bottom (cc)	Top (cc)	P _{bot} (psi)	P _{top} (psi)	h (cm)	h ₁ (cm)	h ₂ (cm)	V _{in} (cc)	V _{out} (cc)	Temp (°C)	R _t																																												
0	5/13/2014	6:47	0.0	0.1	24.7	85.0	80.0	376.1	--	--	0.0	0.0	23.0	0.931	--																																											
1			17.0	0.1	24.7	85.0	80.0	376.1	376.1	376.1	0.0	0.0	23.0	0.931	0.00E+00																																											
2			43.0	0.2	24.6	85.0	80.0	375.9	376.1	375.9	0.1	0.1	23.0	0.931	3.37E-08																																											
3			96.0	0.4	24.5	85.0	80.0	375.6	376.1	375.6	0.3	0.2	23.0	0.931	3.77E-08																																											
4			195.0	0.7	24.2	85.0	80.0	375.0	376.1	375.0	0.6	0.5	23.0	0.931	4.09E-08																																											
5			383.0	1.1	23.9	85.0	80.0	374.3	376.1	374.3	1.0	0.8	23.0	0.931	3.41E-08																																											
6			528.0	1.4	23.5	85.0	80.0	373.6	376.1	373.6	1.3	1.2	23.0	0.931	3.44E-08																																											
7			1421.0	3.4	21.8	85.0	80.0	369.9	376.1	369.9	3.3	2.9	23.0	0.931	3.19E-08																																											
8			1799.0	4.3	20.9	85.0	80.0	368.1	376.1	368.1	4.2	3.8	23.0	0.931	3.25E-08																																											
9			1987.0	4.8	20.1	85.0	80.0	366.8	376.1	366.8	4.7	4.6	23.0	0.931	3.43E-08																																											
10			2857.0	6.8	18.3	85.0	80.0	363.0	376.1	363.0	6.7	6.4	23.0	0.931	3.38E-08																																											
11			3426.0	8.0	17.0	85.0	80.0	360.5	376.1	360.5	7.9	7.7	23.0	0.931	3.37E-08																																											
12			4309.0	10.0	15.1	85.0	80.0	356.6	376.1	356.6	9.9	9.6	23.0	0.931	3.36E-08																																											
13			4849.0	11.2	14.0	85.0	80.0	354.3	376.1	354.3	11.1	10.7	23.0	0.931	3.35E-08																																											
14			10104.0	21.3	4.0	85.0	80.0	334.2	376.1	334.2	21.2	20.7	23.0	0.931	3.18E-08																																											
15			10478.0	22.1	3.2	85.0	80.0	332.6	376.1	332.6	22.0	21.5	23.0	0.931	3.19E-08																																											
Trial-1													Average k₂₀ (cm/sec) =		3.27E-08																																											
Sample Description: Silty CLAY, some sand, trace gravel, moist, firm to stiff. Conversion from pressure to water head:																																																										
Comments : Compacted sample to a dry density of 1600 kg/m ³ 1 psi = 70.305 cm of H₂O																																																										
Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight																																																										
Permeant Liquid : Tap water																																																										
TM/MM				May 21, 2014				LL				June 4, 2014																																														
Tested By				Date				Reviewed By				Date																																														

Measurements of Hydraulic Conductivity of Saturated Porous Material Using a Flexible Wall Permeameter				Reference: ASTM D5084-10 Method C	
Client	Dominion Diamond Corporation	Sample	JP5-SD-08 Sa 4&5	Falling Head, rising tailwater elevation	
Project	Jay Project	Depth Interval (m)	16.31-17.83		
Location	Lac du Sauvage				
Project #	13-1328-0041/2010/25	Test Number	Ktest-1 @ 200 kPa	Lab ID	86



TM/MM	May 21, 2014	LL	June 4, 2014
Tested By	Date	Reviewed By	Date

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

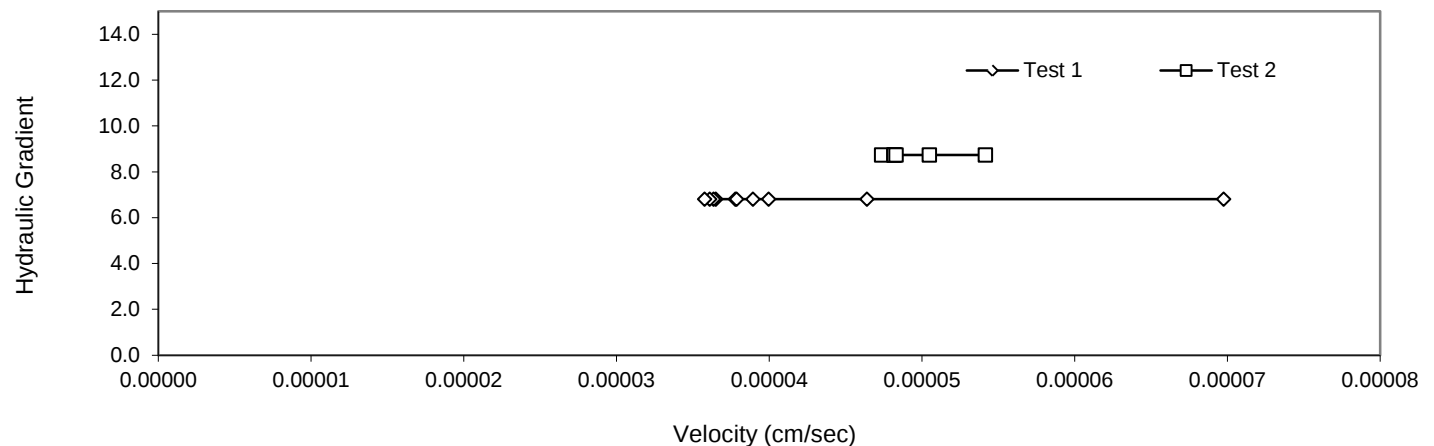
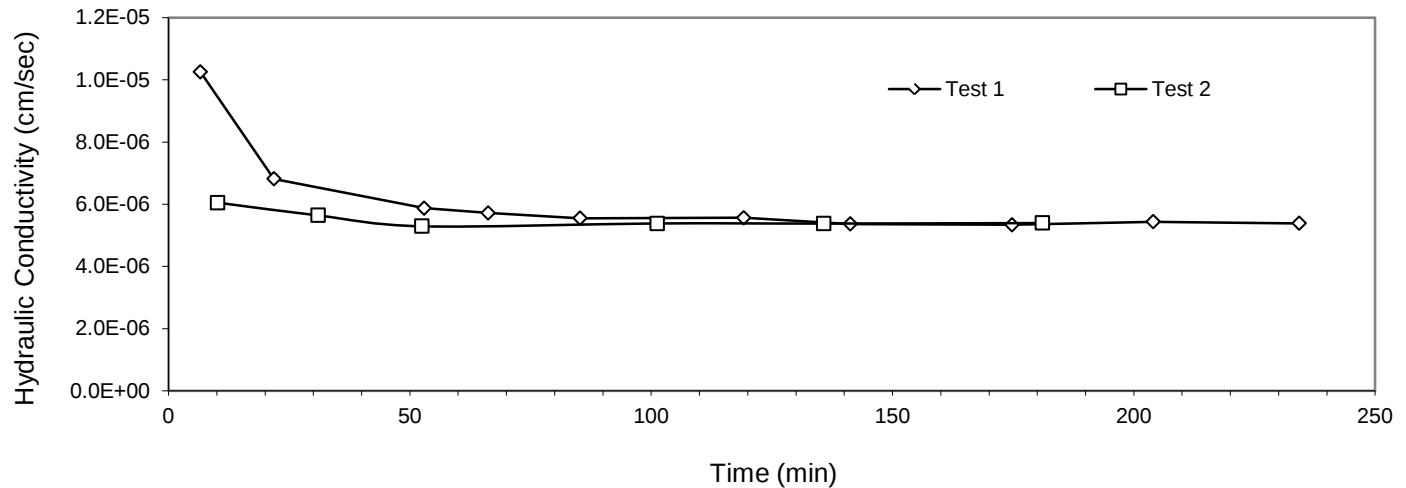
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP4S-SD-01 Sa 6 & 8
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was placed in three layers, compacted with 56 blows per layer for dense compaction.	Initial Diameter, cm	15.18	Initial Water Content, %	5.68
		Initial Height, cm	11.76	Initial ρ_{dry} , kg/m ³ :	2162
		Initial Volume, cm ³	2128	Initial Void Ratio	0.22
		Final Diameter, cm	15.18	Final Water Content, %	7.82
Oversize material	34%	Final Height, cm	11.76	Final ρ_{dry} , kg/m ³ :	2162
Gs (assumed):	2.63	Final Volume, cm ³	2129	Final Void Ratio	0.22



Results

No. of Pore Volumes	0.5	Range of Hydraulic Gradient	8.74 to 6.80	Avg. Hyd Conductivity $k_{20,cm/s}$	5.8E-06
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	April 14, 2014	LL	April 16, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

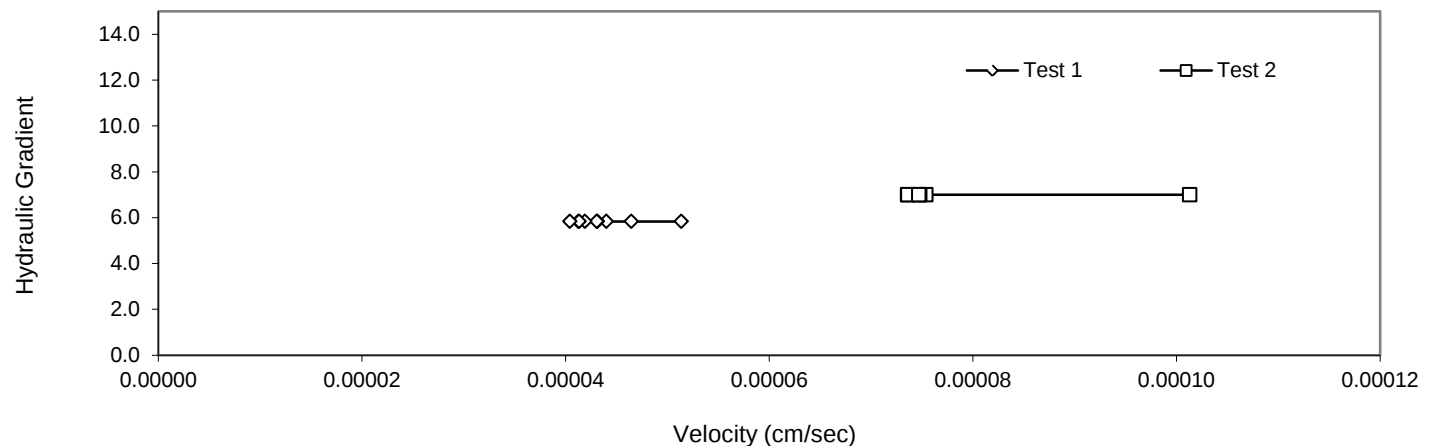
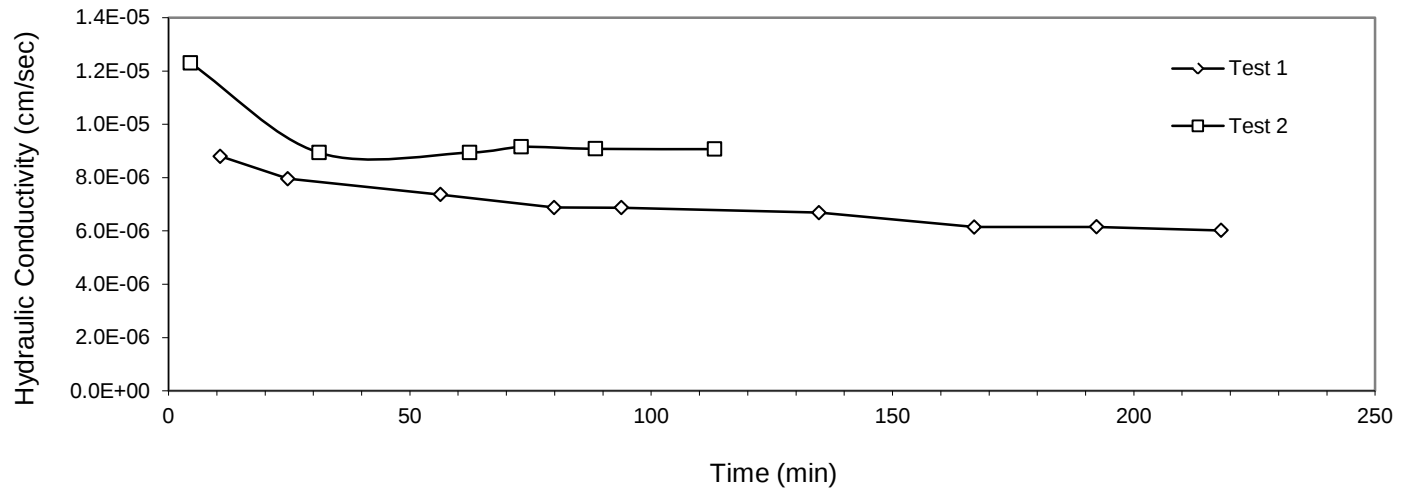
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP4S-SD-01 Sa 6 & 8 (Second Test)
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was hand compacted in three layers to 2050 kg/m ³	Initial Diameter, cm	15.20	Initial Water Content, %	6.20
		Initial Height, cm	11.14	Initial ρ_{dry} , kg/m ³ :	2035
		Initial Volume, cm ³	2022	Initial Void Ratio	0.29
		Final Diameter, cm	15.20	Final Water Content, %	10.94
Oversize material	34%	Final Height, cm	11.14	Final ρ_{dry} , kg/m ³ :	2035
Gs (assumed):	2.63	Final Volume, cm ³	2022	Final Void Ratio	0.29



Results

No. of Pore Volumes	0.0	Range of Hydraulic Gradient	7.00 to 5.83	Avg. Hyd Conductivity $k_{20,cm/s}$	8.0E-06
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	April 28, 2014	LP	April 29, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

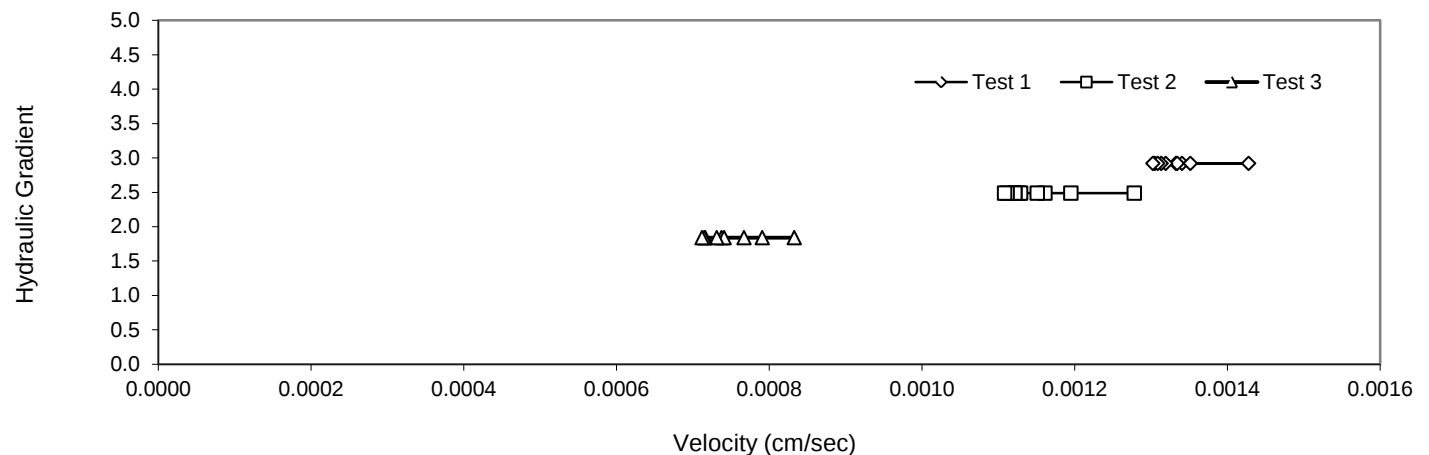
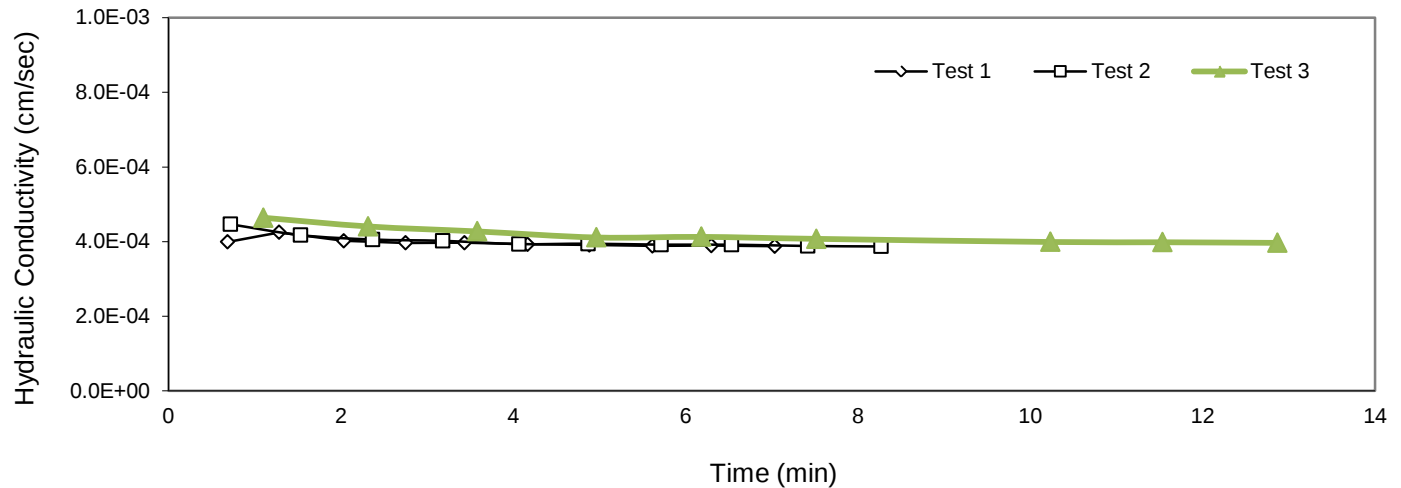
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP4S-SD-01 Sa 9 & 11& 14
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was placed in three layers, compacted with 56 blows per layer for dense compaction.	Initial Diameter, cm	15.22	Initial Water Content, %	3.42
		Initial Height, cm	11.76	Initial ρ_{dry} , kg/m ³ :	2136
		Initial Volume, cm ³	2139	Initial Void Ratio	0.22
		Final Diameter, cm	15.55	Final Water Content, %	6.88
		Final Height, cm	11.76	Final ρ_{dry} , kg/m ³ :	2136
Oversize material	33%	Final Volume, cm ³	2139	Final Void Ratio	0.22
Gs (assumed):	2.60				



Results

No. of Pore Volumes	0.8	Range of Hydraulic Gradient	2.92 to 1.84	Avg. Hyd Conductivity k_{20} , cm/s	4.0E-04
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	April 15, 2014	LL	April 16, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurement of Hydraulic Conductivity of Porous Material Using a Rigid-Wall, Compaction-Mold Permeameter

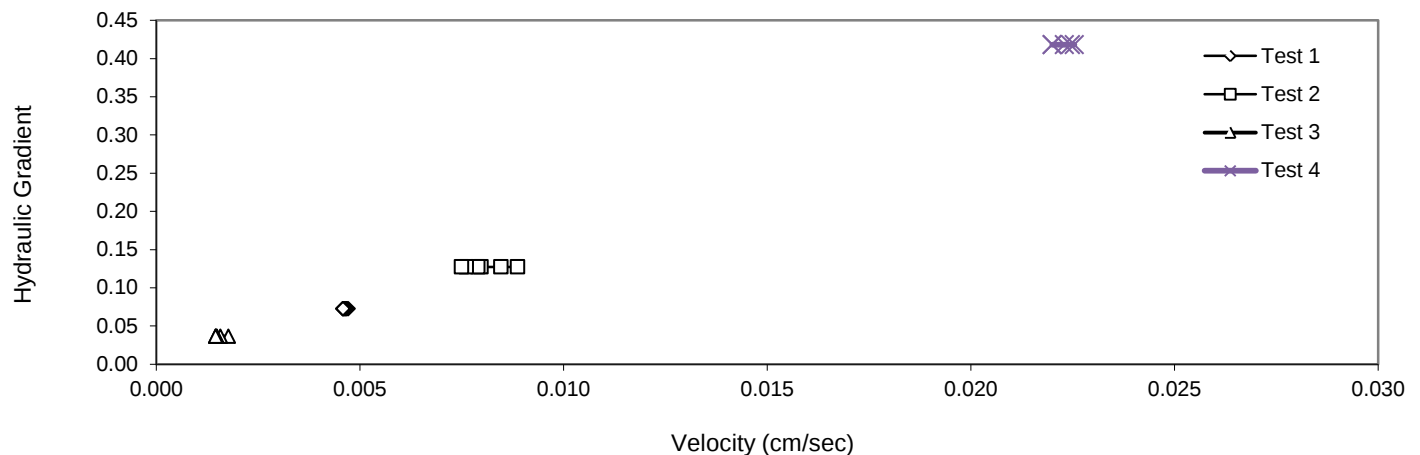
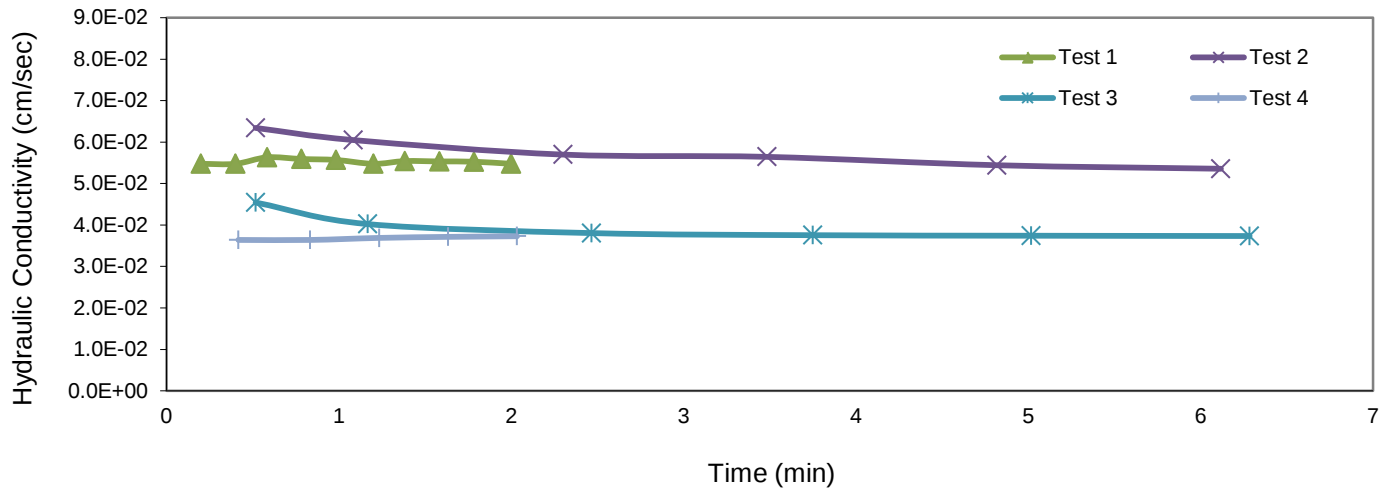
Reference

ASTM D5856-96 (2007)

Project No.:	13-1328-0041/2010/25	Sample No.:	JP4S-SD-01 Sa 9 & 11 & 14 (Second Test)
Project:	Jay Project	Test Method:	A:Constant Head
Location:	Lac du Sauvage	Permeameter:	Single Ring Base Plate
Client:	Dominion Diamond Corporation	Lab ID No:	86

Sample Properties

Sample Preparation	Sample was hand compacted in three layers to 1950 kg/m ³	Initial Diameter, cm	15.22	Initial Water Content, %	3.18
		Initial Height, cm	11.00	Initial ρ_{dry} , kg/m ³ :	1952
		Initial Volume, cm ³	2000	Initial Void Ratio	0.33
		Final Diameter, cm	15.22	Final Water Content, %	12.70
Oversize material	33%	Final Height, cm	11.00	Final ρ_{dry} , kg/m ³ :	1952
Gs (assumed):	2.60	Final Volume, cm ³	2000	Final Void Ratio	0.33



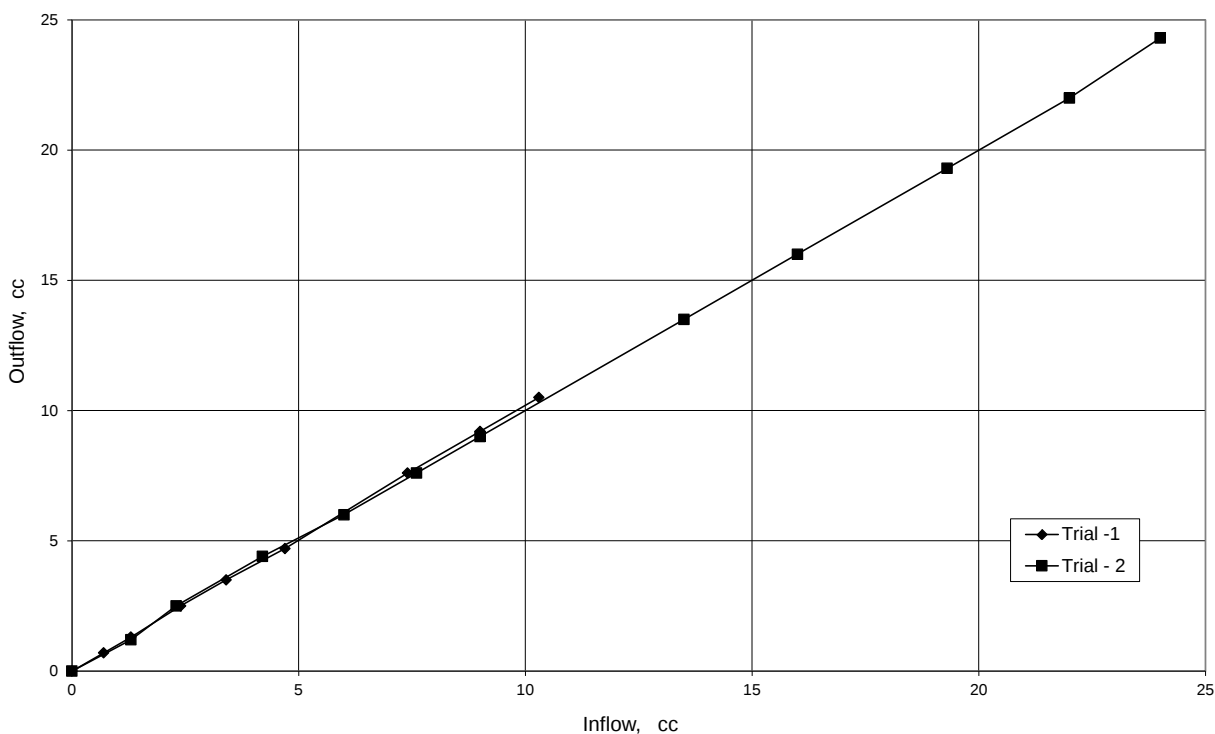
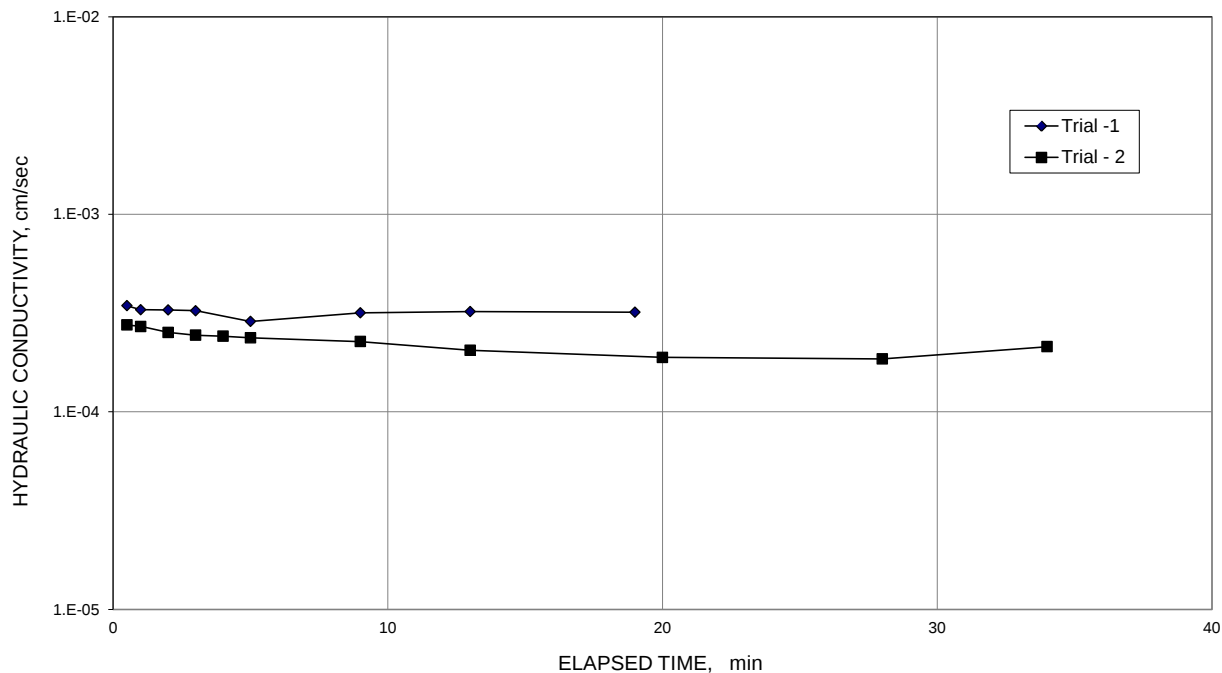
Results

No. of Pore Volumes	2.4	Range of Hydraulic Gradient	0.42 to 0.04	Avg. Hyd Conductivity k_{20} , cm/s	4.9E-02
Swelling	0.0	Permeant Liquid:	Tap Water		

MM	April 21, 2014	LP	April 29, 2014
TESTED BY	DATE	CHECKED BY	DATE

Measurements of Hydraulic Conductivity Using a Flexible Wall Permeameter											Reference: ASTM D5084-10 Method C																																																																				
Client	Dominion Diamond Corporation				Sample	JP4N-SD-03 Sa 3				Falling Head, rising tailwater elevation																																																																					
Project	Jay Project				Depth Interval (m)	10.52-10.67																																																																									
Location	Lac du Sauvage					Dense Compaction																																																																									
Project #	13-1328-0041/2010/25				Test Number	Ktest-1				Lab ID	86																																																																				
Remarks: Sample Geometry <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Initial</th> <th>Final</th> <th></th> </tr> </thead> <tbody> <tr> <td>Diameter =</td> <td>7.27</td> <td>7.26</td> <td>cm</td> </tr> <tr> <td>Length =</td> <td>15.41</td> <td>15.31</td> <td>cm</td> </tr> <tr> <td>Area =</td> <td>41.53</td> <td>41.36</td> <td>cm²</td> </tr> <tr> <td>Volume =</td> <td>640.0</td> <td>633.2</td> <td>cm³</td> </tr> </tbody> </table> Test Parameters <table style="width:100%; border-collapse: collapse;"> <tbody> <tr> <td>Cell Pressure =</td> <td>99.0</td> <td>psi</td> </tr> <tr> <td>Back Pressure =</td> <td>48.0</td> <td>psi</td> </tr> <tr> <td>σ'_{3c} =</td> <td>51.0</td> <td>psi</td> </tr> <tr> <td>δV_c =</td> <td>6.6</td> <td>cc</td> </tr> <tr> <td>B_{value} =</td> <td>1.00</td> <td></td> </tr> <tr> <td>a_{in} =</td> <td>1.00</td> <td>cm²</td> </tr> <tr> <td>a_{out} =</td> <td>1.00</td> <td>cm²</td> </tr> </tbody> </table> Phase Relationships <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Initial</th> <th>Final</th> </tr> </thead> <tbody> <tr> <td>Wet Weight (g) =</td> <td>1315.4</td> <td>1384.1</td> </tr> <tr> <td>Dry Weight (g) =</td> <td>1195.9</td> <td>1195.9</td> </tr> <tr> <td>w (%) =</td> <td>10.0</td> <td>15.7</td> </tr> <tr> <td>ρ_{dry} (kg/m³) =</td> <td>1869</td> <td>1889</td> </tr> <tr> <td>S (%) =</td> <td>61.1</td> <td>99.8</td> </tr> <tr> <td>e =</td> <td>0.44</td> <td>0.42</td> </tr> <tr> <td>G_s (assumed) =</td> <td>2.69</td> <td>2.69</td> </tr> </tbody> </table>																Initial	Final		Diameter =	7.27	7.26	cm	Length =	15.41	15.31	cm	Area =	41.53	41.36	cm ²	Volume =	640.0	633.2	cm ³	Cell Pressure =	99.0	psi	Back Pressure =	48.0	psi	σ'_{3c} =	51.0	psi	δV_c =	6.6	cc	B_{value} =	1.00		a_{in} =	1.00	cm ²	a_{out} =	1.00	cm ²		Initial	Final	Wet Weight (g) =	1315.4	1384.1	Dry Weight (g) =	1195.9	1195.9	w (%) =	10.0	15.7	ρ_{dry} (kg/m³) =	1869	1889	S (%) =	61.1	99.8	e =	0.44	0.42	G_s (assumed) =	2.69	2.69
	Initial	Final																																																																													
Diameter =	7.27	7.26	cm																																																																												
Length =	15.41	15.31	cm																																																																												
Area =	41.53	41.36	cm ²																																																																												
Volume =	640.0	633.2	cm ³																																																																												
Cell Pressure =	99.0	psi																																																																													
Back Pressure =	48.0	psi																																																																													
σ'_{3c} =	51.0	psi																																																																													
δV_c =	6.6	cc																																																																													
B_{value} =	1.00																																																																														
a_{in} =	1.00	cm ²																																																																													
a_{out} =	1.00	cm ²																																																																													
	Initial	Final																																																																													
Wet Weight (g) =	1315.4	1384.1																																																																													
Dry Weight (g) =	1195.9	1195.9																																																																													
w (%) =	10.0	15.7																																																																													
ρ_{dry} (kg/m³) =	1869	1889																																																																													
S (%) =	61.1	99.8																																																																													
e =	0.44	0.42																																																																													
G_s (assumed) =	2.69	2.69																																																																													
Read #	Date (mm/dd/yy)	Time (hh:mm)	Elapsed Time (min)	Burette Readings		Applied Pressure		Head Loss			Flow Volume		Viscosity Correction		k ₂₀ (cm/sec)																																																																
				Bottom (cc)	Top (cc)	P _{bot} (psi)	P _{top} (psi)	h (cm)	h ₁ (cm)	h ₂ (cm)	V _{in} (cc)	V _{out} (cc)	Temp (°C)	R _t																																																																	
0	4/11/2014	1:10	0.0	0.8	24.3	48.0	48.0	23.5	--	--	0.0	0.0	24.0	0.910	--																																																																
1			0.5	1.5	23.6	48.0	48.0	22.1	23.5	22.1	0.7	0.7	24.0	0.910	3.45E-04																																																																
2			1.0	2.1	23.0	48.0	48.0	20.9	23.5	20.9	1.3	1.3	24.0	0.910	3.29E-04																																																																
3			2.0	3.2	21.8	48.0	48.0	18.6	23.5	18.6	2.4	2.5	24.0	0.910	3.28E-04																																																																
4			3.0	4.2	20.8	48.0	48.0	16.6	23.5	16.6	3.4	3.5	24.0	0.910	3.25E-04																																																																
5			5.0	5.5	19.6	48.0	48.0	14.1	23.5	14.1	4.7	4.7	24.0	0.910	2.87E-04																																																																
6			9.0	8.2	16.7	48.0	48.0	8.5	23.5	8.5	7.4	7.6	24.0	0.910	3.17E-04																																																																
7			13.0	9.8	15.1	48.0	48.0	5.3	23.5	5.3	9.0	9.2	24.0	0.910	3.21E-04																																																																
8			19.0	11.1	13.8	48.0	48.0	2.7	23.5	2.7	10.3	10.5	24.0	0.910	3.20E-04																																																																
Trial-1											Average k₂₀ (cm/sec) =				3.11E-04																																																																
1	4/11/2014	2:35	0.0	0.5	24.6	48.3	47.9	52.2	--	--	0.0	0.0	24.0	0.910	--																																																																
2			0.5	1.8	23.4	48.3	47.9	49.7	52.2	49.7	1.3	1.2	24.0	0.910	2.75E-04																																																																
3			1.0	2.8	22.1	48.3	47.9	47.4	52.2	47.4	2.3	2.5	24.0	0.910	2.71E-04																																																																
4			2.0	4.7	20.2	48.3	47.9	43.6	52.2	43.6	4.2	4.4	24.0	0.910	2.52E-04																																																																
5			3.0	6.5	18.6	48.3	47.9	40.2	52.2	40.2	6.0	6.0	24.0	0.910	2.44E-04																																																																
6			4.0	8.1	17.0	48.3	47.9	37.0	52.2	37.0	7.6	7.6	24.0	0.910	2.41E-04																																																																
7			5.0	9.5	15.6	48.3	47.9	34.2	52.2	34.2	9.0	9.0	24.0	0.910	2.37E-04																																																																
8			9.0	14.0	11.1	48.3	47.9	25.2	52.2	25.2	13.5	13.5	24.0	0.910	2.27E-04																																																																
9			13.0	16.5	8.6	48.3	47.9	20.2	52.2	20.2	16.0	16.0	24.0	0.910	2.05E-04																																																																
10			20.0	19.8	5.3	48.3	47.9	13.6	52.2	13.6	19.3	19.3	24.0	0.910	1.89E-04																																																																
11			28.0	22.5	2.6	48.3	47.9	8.2	52.2	8.2	22.0	22.0	24.0	0.910	1.85E-04																																																																
12			34.0	24.5	0.3	48.3	47.9	3.9	52.2	3.9	24.0	24.3	24.0	0.910	2.14E-04																																																																
Trial-2											Average k₂₀ (cm/sec) =				1.98E-04																																																																
Sample Description: silty SAND, trace gravel Conversion from pressure to water head:																																																																															
Comments : Dense compaction - 25 blows / layer at 3 layers 1 psi = 70.305 cm of H₂O																																																																															
Permeant Liquid : Tap water																																																																															
MM/TM		April 10, 2014				LL				April 16, 2014																																																																					
Tested By		Date				Reviewed By				Date																																																																					

Measurements of Hydraulic Conductivity Using a Flexible Wall Permeameter				Reference: ASTM D5084-10 Method C	
Client	Dominion Diamond Corporation	Sample	JP4N-SD-03 Sa 3	Falling Head, rising tailwater elevation	
Project	Jay Project	Depth Interval (m)	10.52-10.67		
Location	Lac du Sauvage		Dense Compaction		
Project #	13-1328-0041/2010/25	Test Number	Ktest-1	Lab ID	86



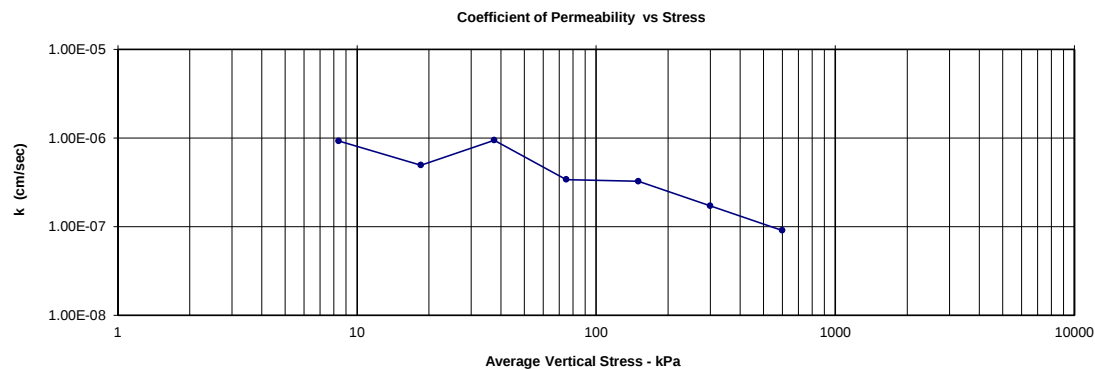
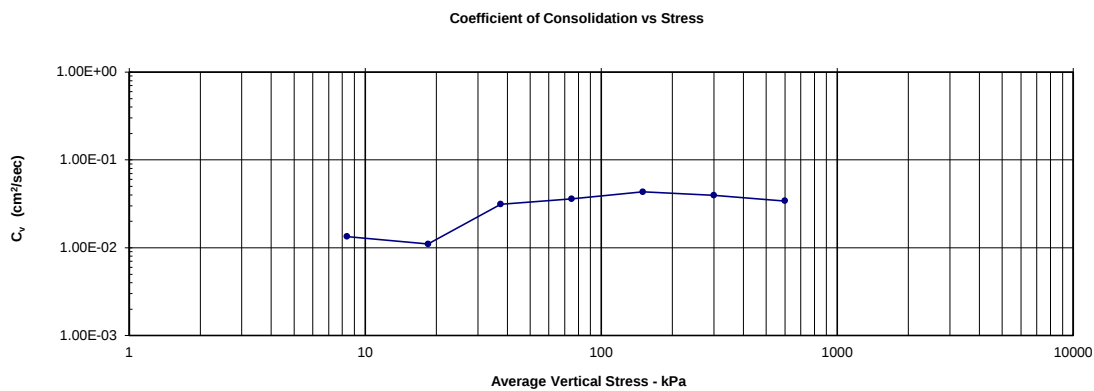
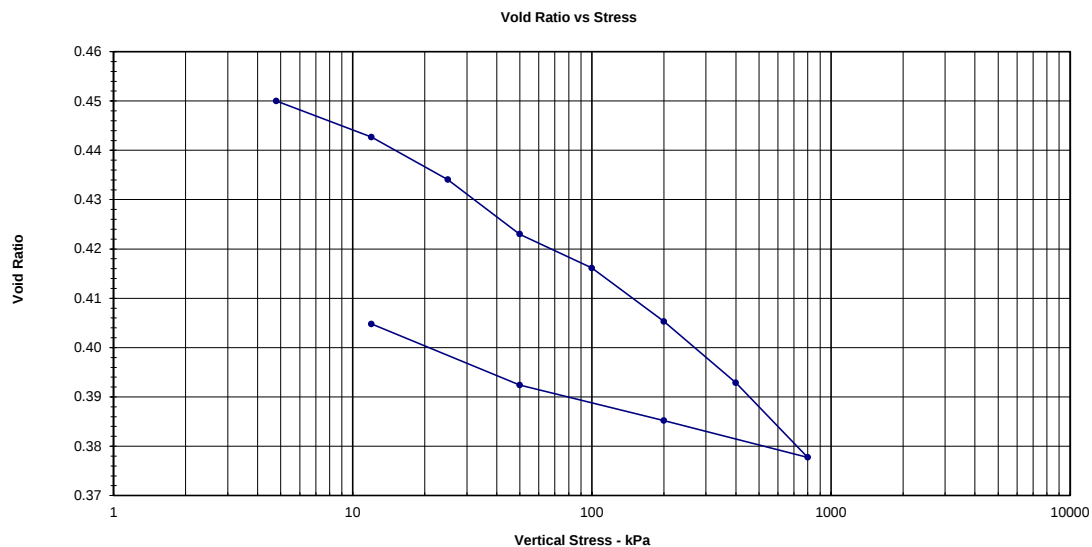
MM/TM	April 10, 2014	LL	April 16, 2014
Tested By	Date	Reviewed By	Date

One-Dimensional Consolidation Properties of Soils

Reference(s)

ASTM D 2435/D 2435M-11

Project No. :	13-1328-0041-2010-25	Client :	Dominion Diamond Corporation	Borehole:	JP5-SD-08
Sch No.	86	Project :	Jay Project	Sample:	6
Lab Work:	TM/MM	Location:	Lac du Sauvage	Depth (m) :	19.66 - 19.81



TM/MM	May 2, 2014	MS	May 19, 2014
TESTED BY	DATE	CHECKED BY	DATE

One-Dimensional Consolidation Properties of Soils

Reference(s)

ASTM D 2435/D 2435M-11

Project No. :	13-1328-0041-2010-25	Client :	Dominion Diamond Corporation	Borehole:	JP5-SD-08
Sch No.	86	Project :	Jay Project	Sample:	6
Lab Work:	TM/MM	Location:	Lac du Sauvage	Depth (m) :	19.66 - 19.81

Equipment	
Machine:	Sigma-1
Mach No.	Station 1
Ring No.	B
Drainage:	Double-sided

Specimen Geometry		
	Initial	Final
Height (mm) =	21.81	20.87
Diameter (mm) =	63.47	63.47
Area (cm ²) =	31.64	31.64
Volume (cm ³) =	68.99	66.03

Phase Relationships		
	Initial	Final
Wet Wt (g) =	147.44	146.03
Dry Wt (g) =	127.03	127.03
w (%) =	16.07	14.96
e =	0.47	0.40
ρ_{wet} (kg/m ³) =	2137	2212
ρ_{drv} (kg/m ³) =	1841	1924
S (%) =	93	100

	Remarks
ASTM Method:	A - Constant Time Increment
Method for C_v :	Taylor
H_{avg} :	Half the specimen height
Time Increment:	1440 min

Sample Properties

$G_s = \frac{2.70}{14.87}$ Assumed

[illegible]

Comments: Void Ratio Vs. Stress computed for end of loading.

Sample reconstituted - compacted by plunger to density of 1.84g/cm³

LL = 23, PL = 15, PI = 8, natural water content = 19.8%

Description: SILT; some clay; some coarse sand; some gravel, grey, moist, stiff.

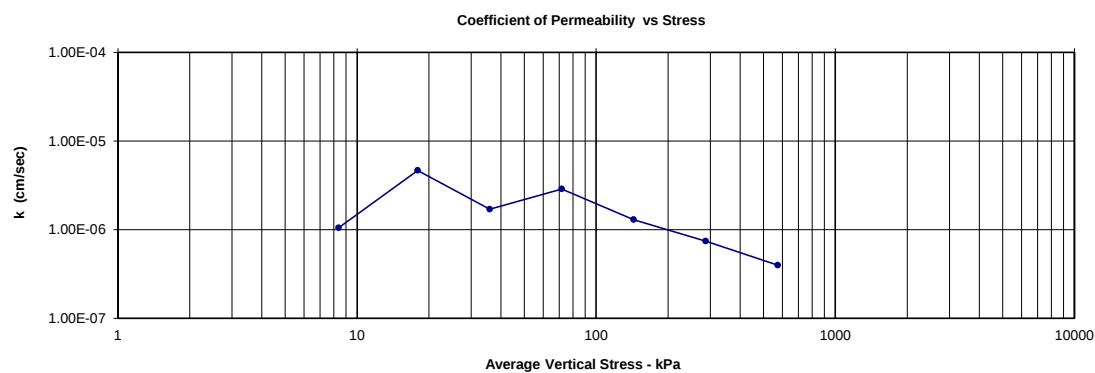
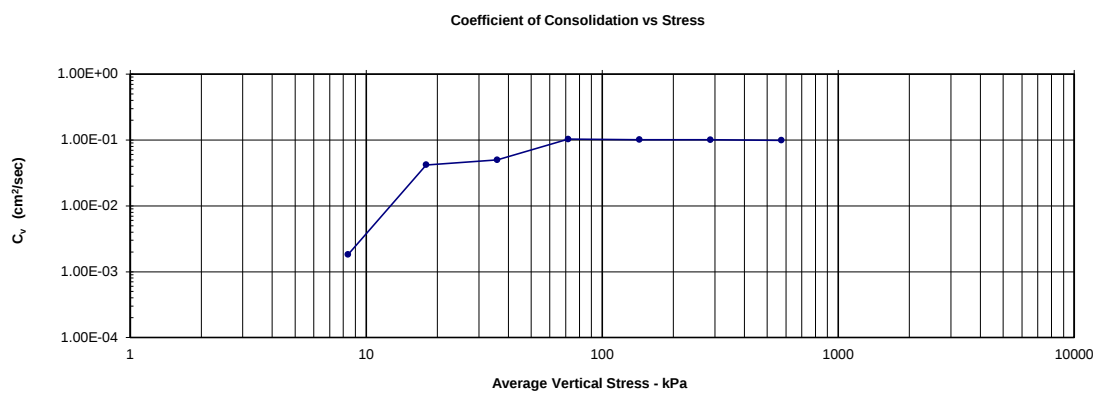
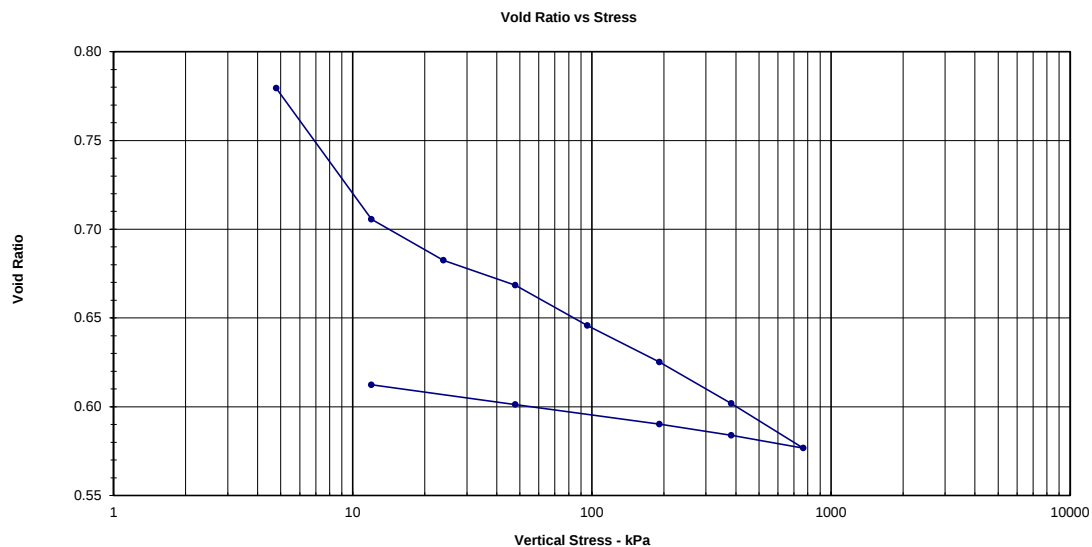
TM/MM	May 2, 2014	MS	May 19, 2014
TESTED BY	DATE	CHECKED BY	DATE

One-Dimensional Consolidation Properties of Soils

Reference(s)

ASTM D 2435/D 2435M-11

Project No. :	13-1328-0041-2010-25	Client :	Dominion Diamond Corporation	Borehole:	JP1-SD-01
Sch No.	86	Project :	Jay Project	Sample:	2
Lab Work:	MM	Location:	Lac du Sauvage	Depth (m) :	15.24-15.54



TM/MM	April 16, 2014	MS	May 12, 2014
TESTED BY	DATE	CHECKED BY	DATE

One-Dimensional Consolidation Properties of Soils

Reference(s)

ASTM D 2435/D 2435M-11

Project No. :	13-1328-0041-2010-25	Client :	Dominion Diamond Corporation	Borehole:	JP1-SD-01
Sch No.	86	Project :	Jay Project	Sample:	2
Lab Work:	MM	Location:	Lac du Sauvage	Depth (m) :	15.24-15.54

Equipment	
Machine:	Sigma-1
Mach No.	Station 1
Ring No.	M
Drainage:	Double-sided

Specimen Geometry		
	Initial	Final
Height (mm) =	21.97	19.72
Diameter (mm) =	63.39	63.39
Area (cm ²) =	31.55	31.55
Volume (cm ³) =	69.32	62.23

Phase Relationships		
	Initial	Final
Wet Wt (g) =	123.40	126.40
Dry Wt (g) =	103.02	103.02
w (%) =	19.78	22.69
e =	0.78	0.60
ρ_{wet} (kg/m ³) =	1780	2031
ρ_{drv} (kg/m ³) =	1486	1656
S (%) =	67	100

	Remarks
ASTM Method:	B - Constant Time Increment
Method for C_v :	Taylor
H_{avg} :	Half the specimen height
Time Increment:	360 min

Sample Properties

$G_s =$	2.65	Assumed
H_s (mm) =	12.32	

[illegible]

Comments:	Void Ratio Vs. Stress computed for end of primary. Final height measured after unloading.
-----------	---

Sample reconstituted - compacted by hammer to density of 1.49g/cm³

Description: SILT with some clay, grey, moist.

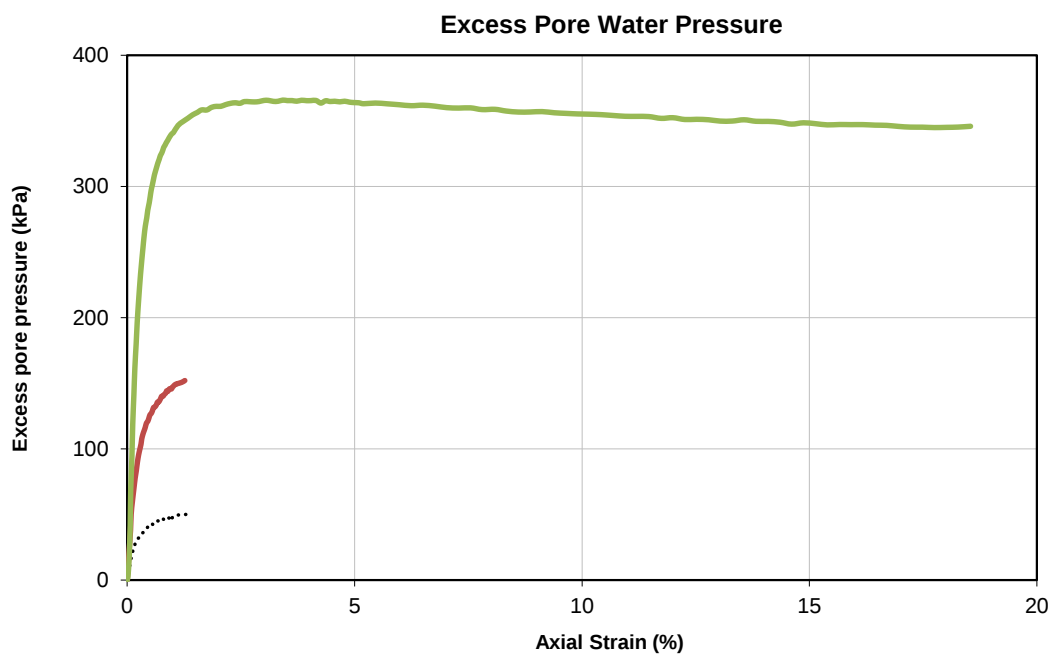
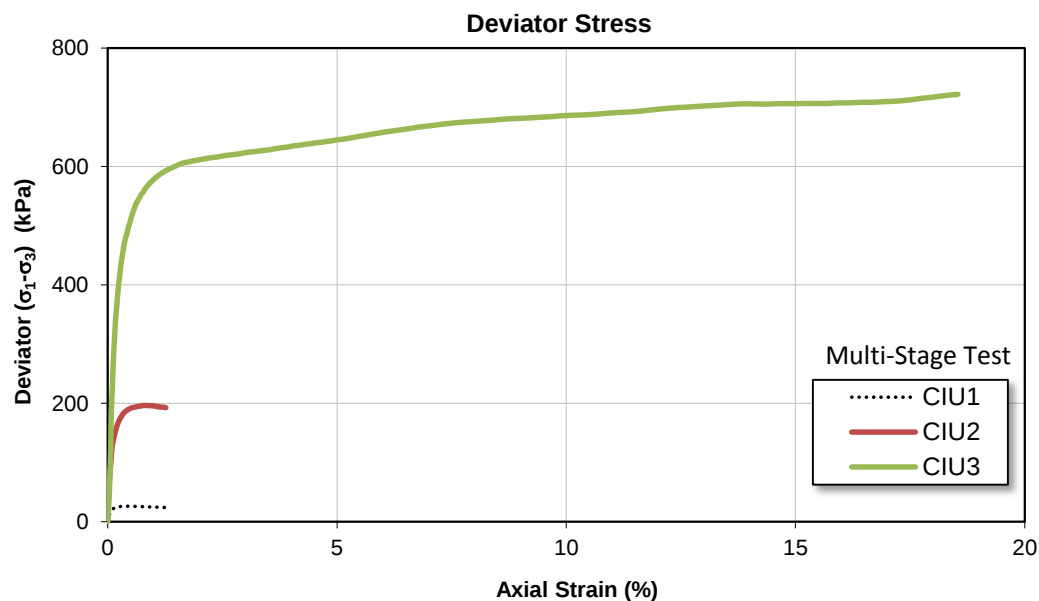
TM/MM	April 16, 2014	MS	May 12, 2014
TESTED BY	DATE	CHECKED BY	DATE

Consolidated Undrained Triaxial Compression Test for Soils					Reference ASTM D4767	
Client:	Dominion Diamond Corporation			Drillhole:	JP5-SD-02	
Project:	Jay Project			Sample:	2&3	
Location:	Lac du Sauvage			Depth (m):	7.01 - 8.84	
Project No.:	13-1328-0041 Phase: 2010 Task: 25			Lab ID No:	86	
Test	CIU1	CIU2	CIU3			
Sample	Multi-Stage Test					
Initial Dimensions						
H_o (cm)	20.43					
D_o (cm)	10.23					
Specific Gravity (assumed)	2.68					
w (%)	7.2					
γ_{o dry} (kN/m ³)	18.98					
Sat. (%)	50					
e_o	0.39					
B_{Value}	0.99					
Consolidation Results						
σ_{CELL} (kPa)	598	749	1049			
OCR	n/a	n/a	n/a			
σ_{3c'} (kPa)	51	198	500			
ΔV_c (cc)	-18.2	-38.3	-25.6			
t₅₀ (min)	N/A	N/A	N/A			
After Consolidation Dimensions						
H_c (cm)	20.21	19.79	19.44			
D_c (cm)	10.18	10.16	10.17			
A_c (cm ²)	81.35	81.12	81.25			
V_c (cm ³)	1643.8	1605.5	1579.9			
γ_{c dry} (kN/m ³)	19.40	19.86	20.18			
e_c	0.36	0.32	0.30			
w (%)	12.4	11.2	10.4			
Sat (%)	93	93	92			
Failure At Maximum Deviator Stress σ_{1'}-σ_{3'} :						
σ_{1'}-σ_{3'} (kPa) :	26	196	745			
ε_f (%)	0.37	0.87	20.87			
u (kPa)	37	144	359			
σ_{3'} (kPa)	14	54	141			
σ_{1'} (kPa)	40	250	886			
TM/MM	May 5, 2014		MS		July 11, 2014	
TESTED BY	DATE		CHECKED BY		DATE	

Consolidated Undrained Triaxial Compression Test for Soils

Reference
ASTM D4767

Client:	Dominion Diamond Corporation	Drillhole:	JP5-SD-02
Project:	Jay Project	Sample:	2&3
Location:	Lac du Sauvage	Depth (m):	7.01 - 8.84
Project No.:	13-1328-0041 Phase: 2010 Task: 25	Lab ID No:	86



TM/MM

May 5, 2014

MS

July 11, 2014

TESTED BY

DATE

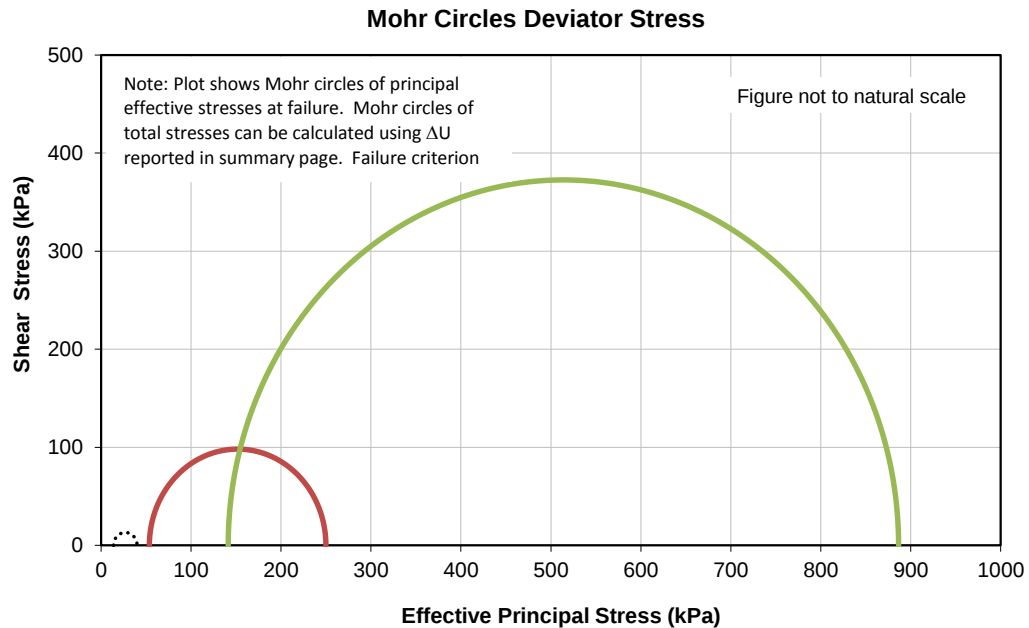
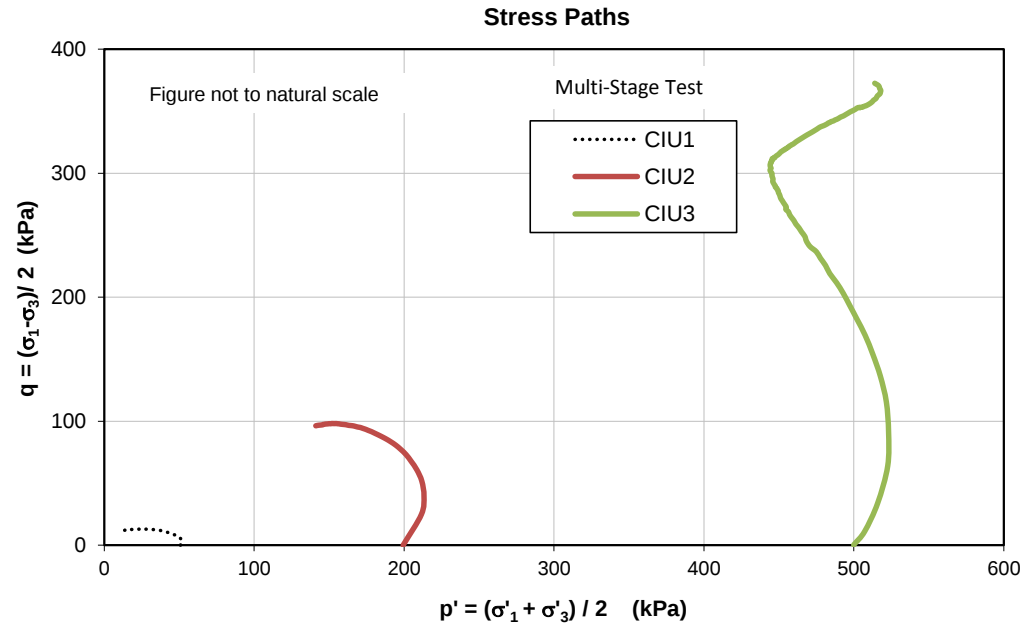
CHECKED BY

DATE

Consolidated Undrained Triaxial Compression Test for Soils

Reference
ASTM D4767

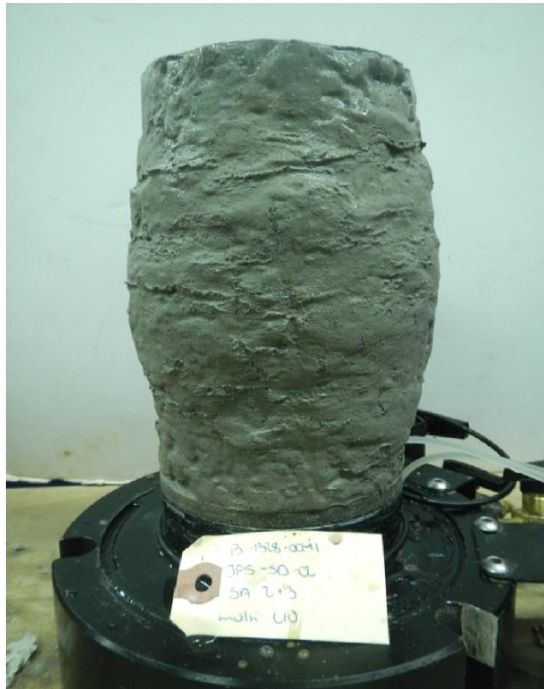
Client:	Dominion Diamond Corporation	Drillhole:	JP5-SD-02
Project:	Jay Project	Sample:	2&3
Location:	Lac du Sauvage	Depth (m):	7.01 - 8.84
Project No.:	13-1328-0041 Phase: 2010 Task: 25	Lab ID No:	86



TM/MM	May 5, 2014	MS	July 11, 2014
TESTED BY	DATE	CHECKED BY	DATE

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-02	
Project:	Jay Project		Sample:	2&3	
Location:	Lac du Sauvage		Depth (m):	7.01 - 8.84	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	SC	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty SAND, some clay, some gravel; brown, moist, firm to stiff.				
Other Remarks:	Sample Compacted to a dry density of 1900 kg/m ³ in order to achieve firm-stiff consistency.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	20.32	20.21	Load Cell:	689343	
Diameter (cm):	10.21	10.18	Axial DCDT:	LP-174	
Area (cm²):	81.81	81.35	Cell Pressure:	PS-3137	
Volume (cm³):	1662	1644	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	19.18	19.40	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	21.84	21.97	Feed Rate (%/hr):	1.00	
Water content, w (%):	7.2	12.4	PHOTO AT END OF TEST		
Saturation (%):	94	93	NA		
Void ratio, e:	0.37	0.36			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	51				
σ_{pwp} (kPa):	547				
B value:	0.99				
Volume Change (cc):	-18.2				
t_{50} (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_{3\ MAX}$:	26				
Strain, ϵ_f:	0.37				
u (kPa):	37				
σ'_1 (kPa):	40				
σ'_3 (kPa):	14				
TM/MM	May 5, 2014		MS	July 11, 2014	
TESTED BY	DATE		CHECKED BY	DATE	

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-02	
Project:	Jay Project		Sample:	2&3	
Location:	Lac du Sauvage		Depth (m):	7.01 - 8.84	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	SC	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty SAND, some clay, some gravel; brown, moist, firm to stiff.				
Other Remarks:	Sample Compacted to a dry density of 1900 kg/m ³ in order to achieve firm-stiff consistency.				
	Permeability test performed between consolidation and shear.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	19.94	19.79	Load Cell:	689343	
Diameter (cm):	10.25	10.16	Axial DCDT:	LP-174	
Area (cm²):	82.45	81.12	Cell Pressure:	PS-3137	
Volume (cm³):	1644	1606	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	19.40	19.86	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	21.97	22.26	Feed Rate (%/hr):	1.00	
Water content, w (%):	12.4	11.2	PHOTO AT END OF TEST		
Saturation (%):	93	93	NA		
Void ratio, e:	0.36	0.32			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	198				
σ_{pwp} (kPa):	552				
B value:	0.99				
Volume Change (cc):	-38.3				
t_{50} (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_{3\ MAX}$:	196				
Strain, ϵ_f:	0.87				
u (kPa):	144				
σ'_1 (kPa):	250				
σ'_3 (kPa):	54				
TM/MM	May 5, 2014		MS	July 11, 2014	
TESTED BY	DATE		CHECKED BY	DATE	

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-02	
Project:	Jay Project		Sample:	2&3	
Location:	Lac du Sauvage		Depth (m):	7.01 - 8.84	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	SC	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty SAND, some clay, some gravel; brown, moist, firm to stiff.				
Other Remarks:	Sample Compacted to a dry density of 1900 kg/m ³ in order to achieve firm-stiff consistency.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	19.54	19.44	Load Cell:	689343	
Diameter (cm):	10.23	10.17	Axial DCDT:	LP-174	
Area (cm²):	82.16	81.25	Cell Pressure:	PS-3137	
Volume (cm³):	1606	1580	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	19.86	20.18	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	22.26	22.46	Feed Rate (%/hr):	1.00	
Water content, w (%):	11.2	10.4	PHOTO AT END OF TEST		
Saturation (%):	93	92			
Void ratio, e:	0.32	0.30			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	500				
σ_{pwp} (kPa):	549				
B value:	0.99				
Volume Change (cc):	-25.6				
t₅₀ (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_3$ MAX:	745				
Strain, ϵ_f:	20.87				
u (kPa):	359				
σ'_1 (kPa):	886				
σ'_3 (kPa):	141				
TM/MM	May 5, 2014		MS	July 11, 2014	
TESTED BY	DATE		CHECKED BY	DATE	

Consolidated Undrained Triaxial Compression Test for Soils					Reference ASTM D4767	
Client:	Dominion Diamond Corporation			Drillhole:	JP5-SD-08	
Project:	Jay Project			Sample:	4&5	
Location:	Lac du Sauvage			Depth (m):	16.31 - 17.68	
Project No.:	13-1328-0041 Phase: 2010 Task: 25			Lab ID No:	86	
Test	CIU1	CIU2	CIU3			
Sample	Multi-Stage Test					
Initial Dimensions						
H_o (cm)	15.26					
D_o (cm)	7.26					
Specific Gravity (assumed)	2.68					
w (%)	22.2					
γ_{o dry} (kN/m ³)	16.35					
Sat. (%)	98					
e_o	0.61					
B_{Value}	0.97					
Consolidation Results						
σ_{CELL} (kPa)	602	757	1064			
OCR	n/a	n/a	n/a			
σ_{3c'} (kPa)	39	185	486			
ΔV_c (cc)	-4.0	-12.7	-10.2			
t₅₀ (min)	N/A	N/A	N/A			
After Consolidation Dimensions						
H_c (cm)	15.16	14.65	14.10			
D_c (cm)	7.24	7.29	7.37			
A_c (cm ²)	41.17	41.75	42.64			
V_c (cm ³)	624.3	611.6	601.4			
γ_{c dry} (kN/m ³)	16.57	16.91	17.20			
e_c	0.59	0.55	0.53			
w (%)	23.5	22.3	21.4			
Sat (%)	107	108	108			
Failure At Maximum Deviator Stress σ_{1'}-σ_{3'} :						
σ_{1'}-σ_{3'} (kPa) :	70	304	1505			
ε_f (%)	2.98	3.41	15.98			
u (kPa)	22	61	-258			
σ_{3'} (kPa)	16	124	743			
σ_{1'} (kPa)	86	428	2248			
TM/MM	May 5, 2014		MS	July 11, 2014		
TESTED BY	DATE		CHECKED BY	DATE		

Consolidated Undrained Triaxial Compression Test for Soils

Reference
ASTM D4767

Client: Dominion Diamond Corporation

Project: Jay Project

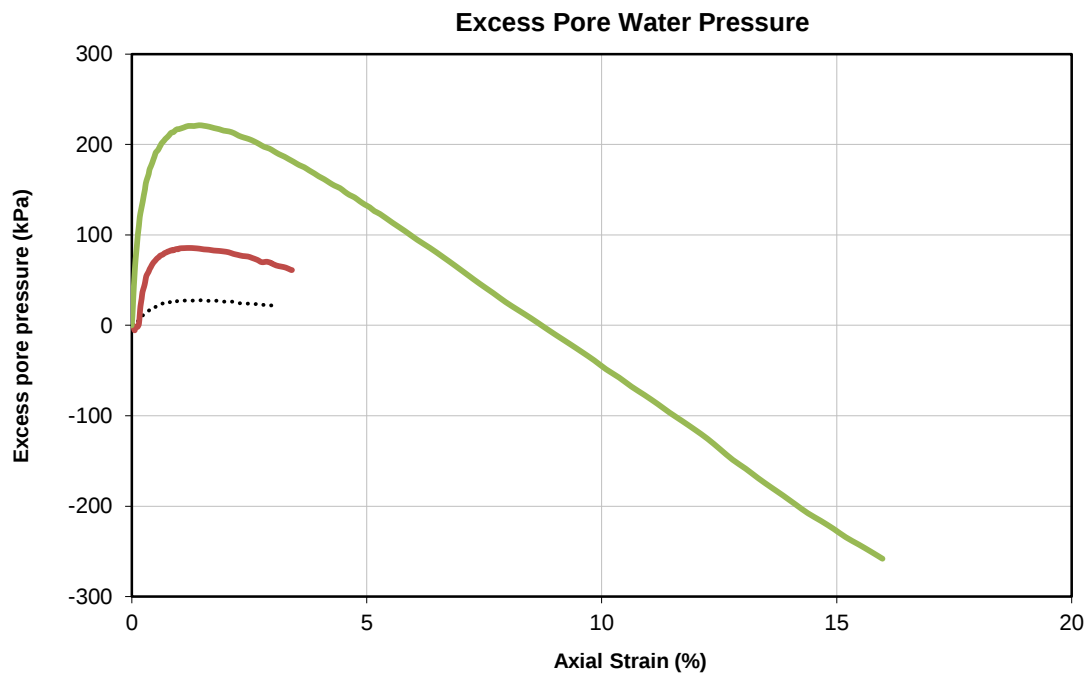
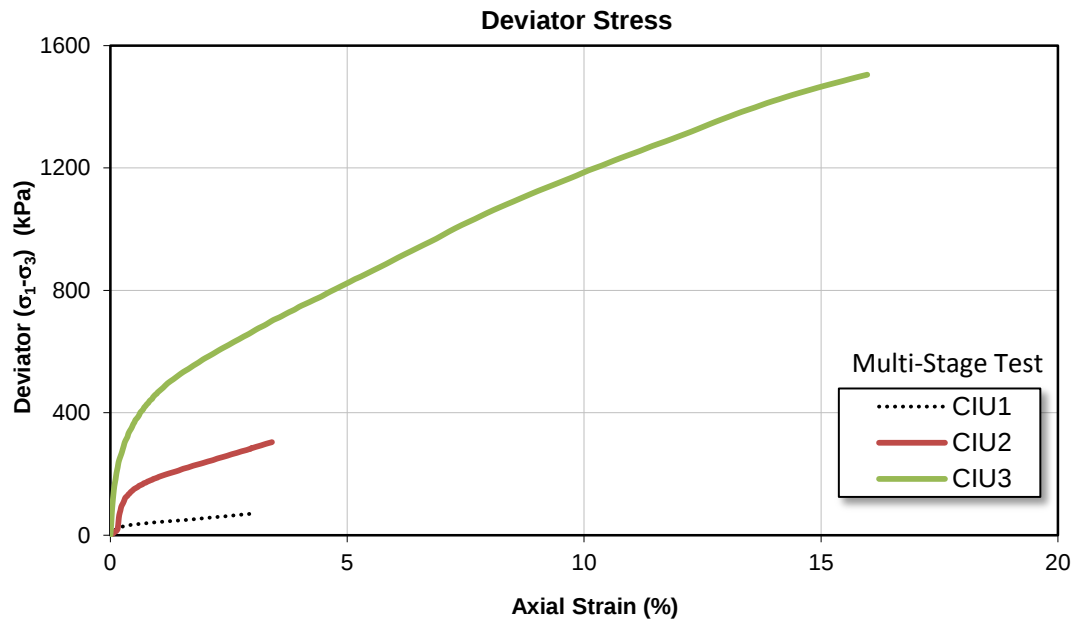
Location: Lac du Sauvage

Project No.: 13-1328-0041 Phase: 2010 Task: 25

Drillhole: JP5-SD-08

Sample: 4&5

Depth (m): 16.31 - 17.68

Lab ID No: 86


TM/MM

May 5, 2014

MS

July 11, 2014

TESTED BY

DATE

CHECKED BY

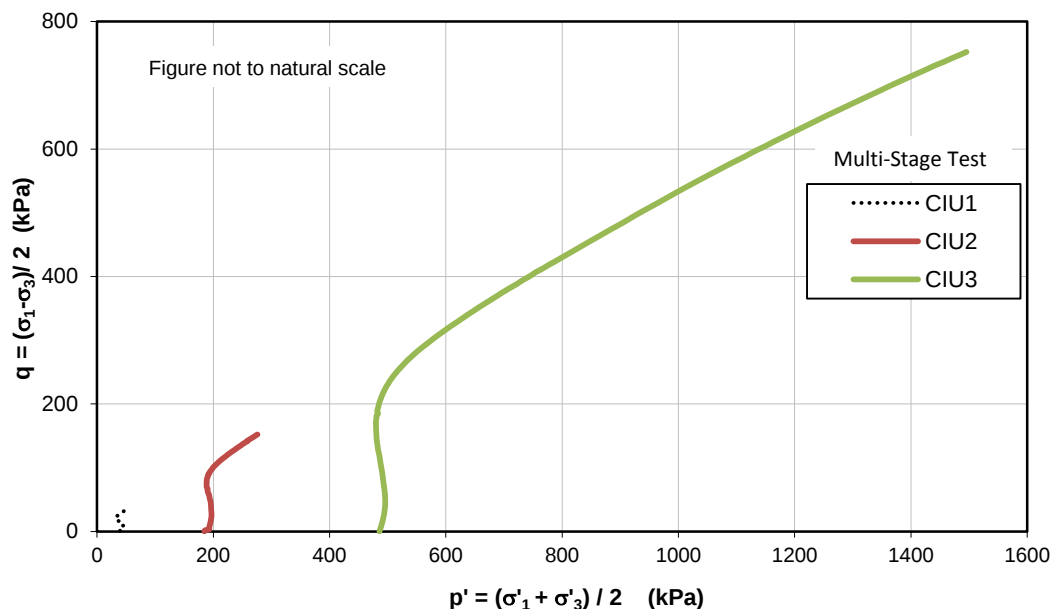
DATE

Consolidated Undrained Triaxial Compression Test for Soils

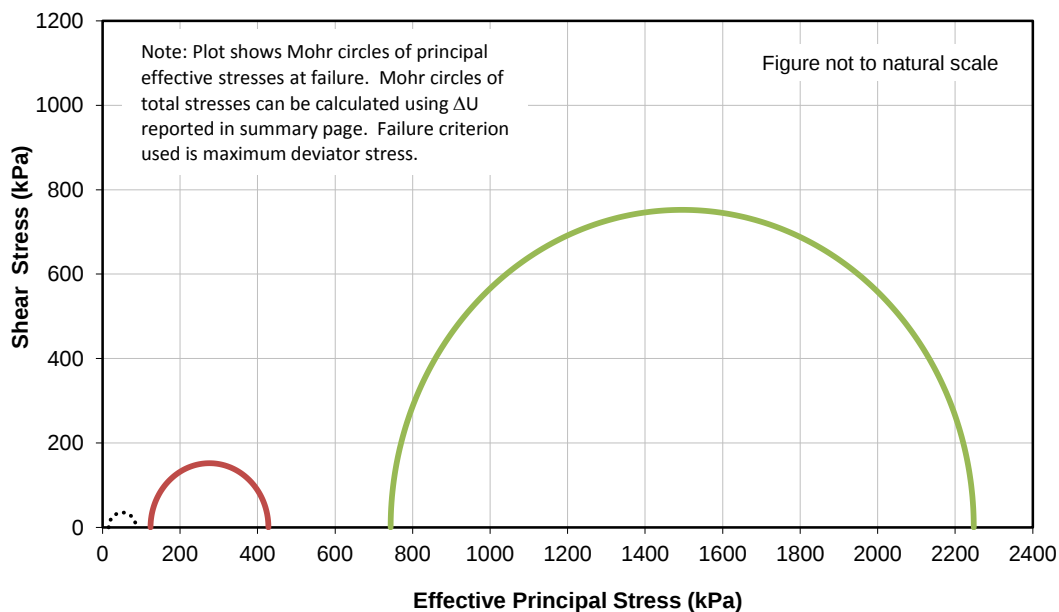
Reference
ASTM D4767

Client:	Dominion Diamond Corporation	Drillhole:	JP5-SD-08
Project:	Jay Project	Sample:	4&5
Location:	Lac du Sauvage	Depth (m):	16.31 - 17.68
Project No.:	13-1328-0041 Phase: 2010 Task: 25	Lab ID No:	86

Stress Paths



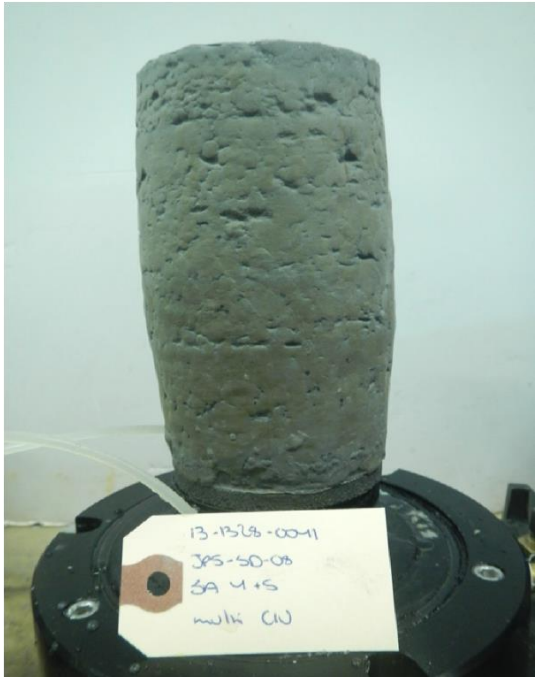
Mohr Circles Deviator Stress



TM/MM	May 5, 2014	MS	July 11, 2014
TESTED BY	DATE	CHECKED BY	DATE

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-08	
Project:	Jay Project		Sample:	4&5	
Location:	Lac du Sauvage		Depth (m):	16.31 - 17.68	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CI	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty CLAY, some sand, trace gravel; moist, firm to stiff.				
Other Remarks:	Compacted sample to a dry density of 1600 kg/m ³ in order to achieve firm-stiff consistency.				
	LL=34, PL=21, PI=13.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 2	
			Chamber:	KW	
Height (cm):	15.21	15.16	Load Cell:	689343	
Diameter (cm):	7.25	7.24	Axial DCDT:	LP-267	
Area (cm²):	41.31	41.17	Cell Pressure:	PS-3327	
Volume (cm³):	628	624	Back Pressure:	PS-3278	
γ_{dry} (kN/m³):	16.46	16.57	Pore Pressure:	PS-3127	
γ_{sat} (kN/m³):	20.13	20.20	Feed Rate (%/hr):	1.00	
Water content, w (%):	22.2	23.5	PHOTO AT END OF TEST		
Saturation (%):	107	107	NA		
Void ratio, e:	0.60	0.59			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	39				
σ_{pwp} (kPa):	564				
B value:	0.97				
Volume Change (cc):	-4.0				
t₅₀ (min):	N/A				
Strength Results					
$\sigma_1' - \sigma_3'_{MAX}$:	70				
Strain, ϵ_r:	2.98				
u (kPa):	22				
σ_1' (kPa):	86				
σ_3' (kPa):	16				
TM/MM	May 5, 2014	MS	July 11, 2014		
TESTED BY	DATE	CHECKED BY	DATE		

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-08	
Project:	Jay Project		Sample:	4&5	
Location:	Lac du Sauvage		Depth (m):	16.31 - 17.68	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CI	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty CLAY, some sand, trace gravel; moist, firm to stiff.				
Other Remarks:	Compacted sample to a dry density of 1600 kg/m ³ in order to achieve firm-stiff consistency.				
	LL=34, PL=21, PI=13.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight.				
	Permeability test performed between consolidation and shear.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 2	
			Chamber:	KW	
Height (cm):	14.71	14.65	Load Cell:	689343	
Diameter (cm):	7.35	7.29	Axial DCDT:	LP-267	
Area (cm²):	42.44	41.75	Cell Pressure:	PS-3327	
Volume (cm³):	624	612	Back Pressure:	PS-3278	
γ_{dry} (kN/m³):	16.57	16.91	Pore Pressure:	PS-3127	
γ_{sat} (kN/m³):	20.20	20.41	Feed Rate (%/hr):	1.00	
Water content, w (%):	23.5	22.3	PHOTO AT END OF TEST		
Saturation (%):	107	108	<u>NA</u>		
Void ratio, e:	0.59	0.55			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	185				
σ_{pwp} (kPa):	572				
B value:	0.97				
Volume Change (cc):	-12.7				
t₅₀ (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_3$ MAX:	304				
Strain, ϵ_r:	3.41				
u (kPa):	61				
σ'_1 (kPa):	428				
σ'_3 (kPa):	124				
TM/MM	May 5, 2014	MS	July 11, 2014		
TESTED BY	DATE	CHECKED BY	DATE		

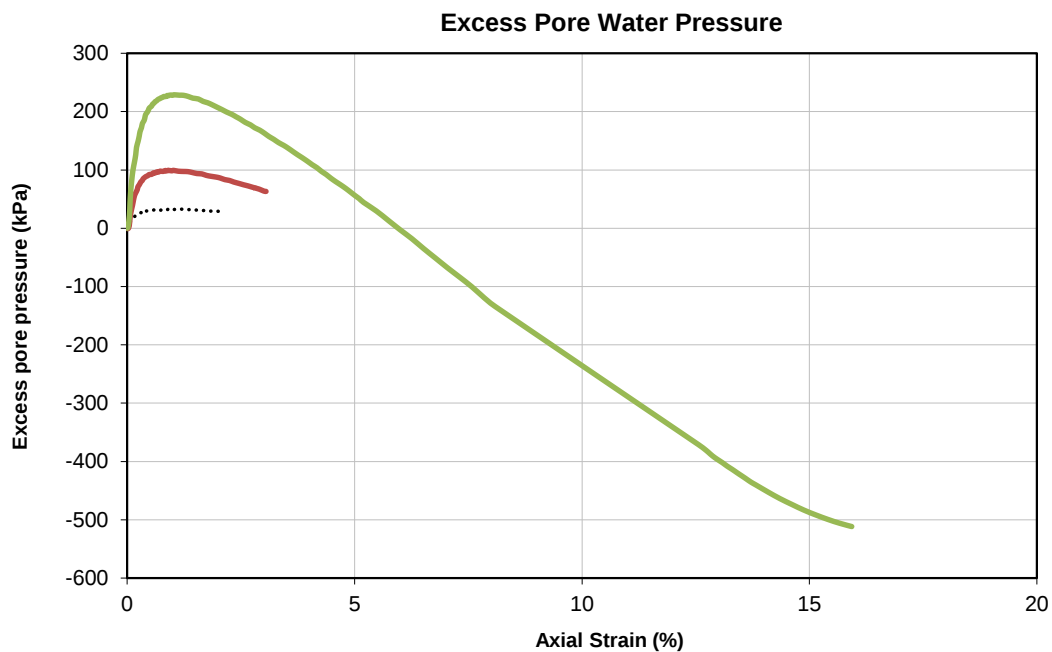
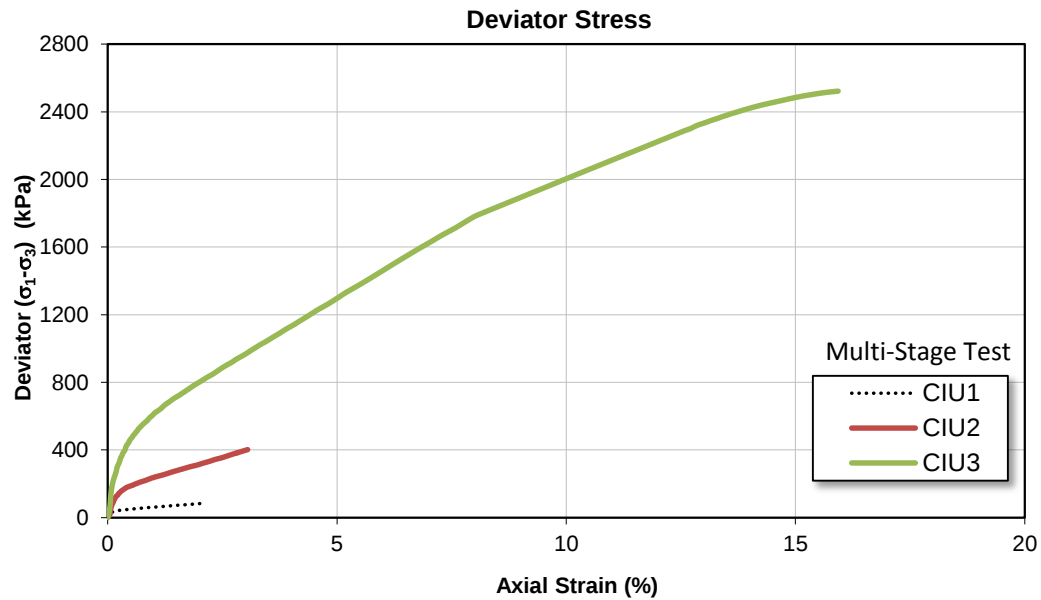
Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-08	
Project:	Jay Project		Sample:	4&5	
Location:	Lac du Sauvage		Depth (m):	16.31 - 17.68	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CI	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	Silty CLAY, some sand, trace gravel; moist, firm to stiff.				
Other Remarks:	Compacted sample to a dry density of 1600 kg/m ³ in order to achieve firm-stiff consistency.				
	LL=34, PL=21, PI=13.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 2	
			Chamber:	KW	
Height (cm):	14.15	14.10	Load Cell:	689343	
Diameter (cm):	7.42	7.37	Axial DCDT:	LP-267	
Area (cm²):	43.22	42.64	Cell Pressure:	PS-3327	
Volume (cm³):	612	601	Back Pressure:	PS-3278	
γ_{dry} (kN/m³):	16.91	17.20	Pore Pressure:	PS-3127	
γ_{sat} (kN/m³):	20.41	20.59	Feed Rate (%/hr):	1.00	
Water content, w (%):	22.3	21.4	PHOTO AT END OF TEST		
Saturation (%):	108	108			
Void ratio, e:	0.55	0.53			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	486				
σ_{pwp} (kPa):	579				
B value:	0.97				
Volume Change (cc):	-10.2				
t₅₀ (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_3$ MAX:	1505				
Strain, ϵ_r:	15.98				
u (kPa):	-258				
σ'_1 (kPa):	2248				
σ'_3 (kPa):	743				
TM/MM	May 5, 2014		MS	July 11, 2014	
TESTED BY	DATE		CHECKED BY	DATE	

Consolidated Undrained Triaxial Compression Test for Soils					Reference ASTM D4767	
Client:	Dominion Diamond Corporation			Drillhole:	JP5-SD-01&05&07	
Project:	Jay Project			Sample:	1-combined	
Location:	Lac du Sauvage			Depth (m):	N/A	
Project No.:	13-1328-0041 Phase: 2010 Task: 25			Lab ID No:	86	
Test	CIU1	CIU2	CIU3			
Sample	Multi-Stage Test					
Initial Dimensions						
H_o (cm)	14.94					
D_o (cm)	7.27					
Specific Gravity (assumed)	2.68					
w (%)	22.0					
γ_{o dry} (kN/m ³)	16.44					
Sat. (%)	98					
e_o	0.60					
B_{Value}	0.97					
Consolidation Results						
σ_{CELL} (kPa)	529	678	983			
OCR	n/a	n/a	n/a			
σ_{3c'} (kPa)	48	196	499			
ΔV_c (cc)	-4.2	-11.9	-9.5			
t₅₀ (min)	N/A	N/A	N/A			
After Consolidation Dimensions						
H_c (cm)	14.90	14.54	14.05			
D_c (cm)	7.23	7.24	7.31			
A_c (cm ²)	41.02	41.23	41.98			
V_c (cm ³)	611.1	599.2	589.8			
γ_{c dry} (kN/m ³)	16.67	17.00	17.27			
e_c	0.58	0.55	0.52			
w (%)	22.8	21.6	20.7			
Sat (%)	106	106	106			
Failure At Maximum Deviator Stress σ_{1'}-σ_{3'} :						
σ_{1'}-σ_{3'} (kPa) :	84	402	2522			
ε_f (%)	2.05	3.05	15.93			
u (kPa)	28	63	-512			
σ_{3'} (kPa)	20	133	1011			
σ_{1'} (kPa)	104	535	3533			
TM/MM	May 14, 2014		MS		July 11, 2014	
TESTED BY	DATE		CHECKED BY		DATE	

Consolidated Undrained Triaxial Compression Test for Soils

Reference
ASTM D4767

Client:	Dominion Diamond Corporation	Drillhole:	JP5-SD-01&05&07
Project:	Jay Project	Sample:	1-combined
Location:	Lac du Sauvage	Depth (m):	N/A
Project No.:	13-1328-0041 Phase: 2010 Task: 25	Lab ID No:	86



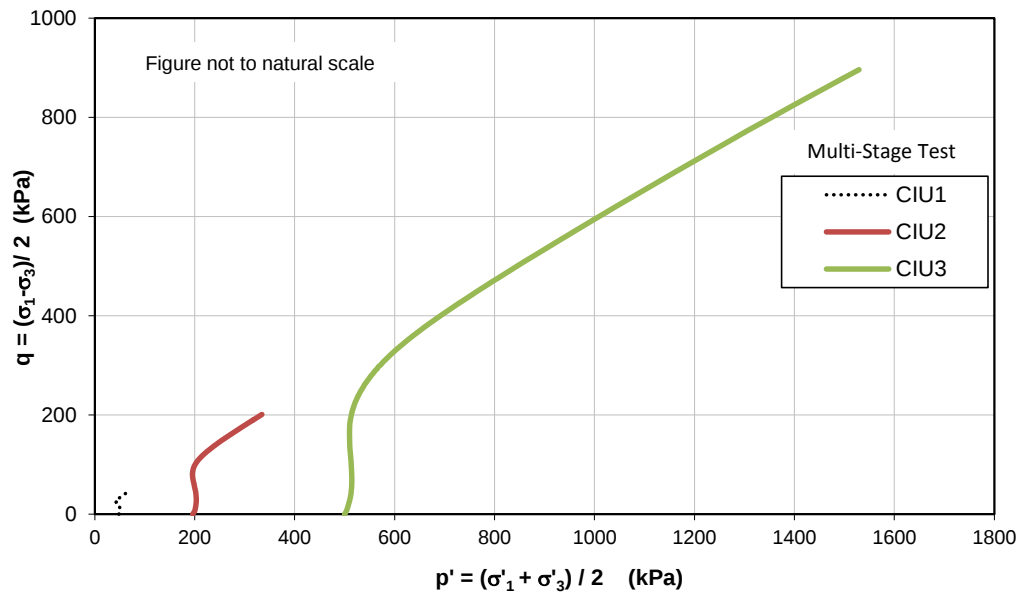
TM/MM	May 14, 2014	MS	July 11, 2014
TESTED BY	DATE	CHECKED BY	DATE

Consolidated Undrained Triaxial Compression Test for Soils

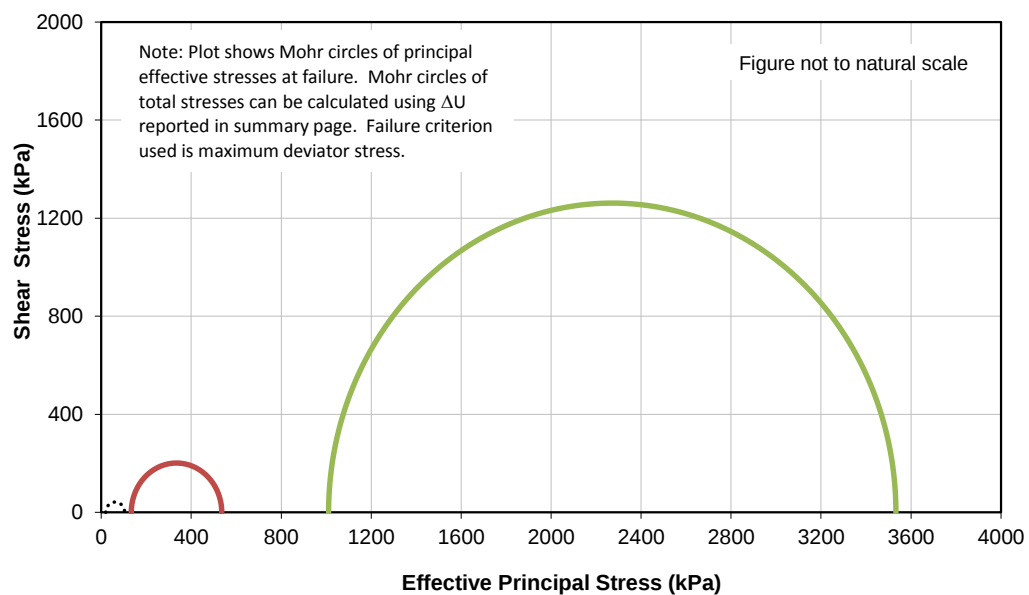
Reference
ASTM D4767

Client:	Dominion Diamond Corporation	Drillhole:	JP5-SD-01&05&07
Project:	Jay Project	Sample:	1-combined
Location:	Lac du Sauvage	Depth (m):	N/A
Project No.:	13-1328-0041 Phase: 2010 Task: 25	Lab ID No:	86

Stress Paths



Mohr Circles Deviator Stress



TM/MM	May 14, 2014	MS	July 11, 2014
TESTED BY	DATE	CHECKED BY	DATE

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-01&05&07	
Project:	Jay Project		Sample:	1-combined	
Location:	Lac du Sauvage		Depth (m):	N/A	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CL-ML	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	SILT some sand some clay; brown, firm, moist.				
Other Remarks:	Sample compacted 1700kg/m ³ in order to achieve firm-stiff consistency.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	14.92	14.90	Load Cell:	689343	
Diameter (cm):	7.25	7.23	Axial DCDT:	LP-174	
Area (cm²):	41.25	41.02	Cell Pressure:	PS-3137	
Volume (cm³):	615	611	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	16.56	16.67	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	20.19	20.26	Feed Rate (%/hr):	1.00	
Water content, w (%):	22.0	22.8	PHOTO AT END OF TEST		
Saturation (%):	106	106	<u>NA</u>		
Void ratio, e:	0.59	0.58			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	48				
σ_{pwp} (kPa):	481				
B value:	0.97				
Volume Change (cc):	-4.2				
t₅₀ (min):	N/A				
Strength Results					
$\sigma_1' - \sigma_3'_{MAX}$:	84				
Strain, ϵ_f:	2.05				
u (kPa):	28				
σ_1' (kPa):	104				
σ_3' (kPa):	20				
TM/MM	May 14, 2014	MS	July 11, 2014		
TESTED BY	DATE	CHECKED BY	DATE		

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-01&05&07	
Project:	Jay Project		Sample:	1-combined	
Location:	Lac du Sauvage		Depth (m):	N/A	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CL-ML	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	SILT some sand some clay; brown, firm, moist.				
Other Remarks:	Sample compacted 1700kg/m ³ in order to achieve firm-stiff consistency.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight				
	Permeability test performed between consolidation and shear.				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	14.59	14.54	Load Cell:	689343	
Diameter (cm):	7.30	7.24	Axial DCDT:	LP-174	
Area (cm²):	41.88	41.23	Cell Pressure:	PS-3137	
Volume (cm³):	611	599	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	16.67	17.00	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	20.26	20.47	Feed Rate (%/hr):	1.00	
Water content, w (%):	22.8	21.6	PHOTO AT END OF TEST		
Saturation (%):	106	106	<u>NA</u>		
Void ratio, e:	0.58	0.55			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	196				
σ_{pwp} (kPa):	483				
B value:	0.97				
Volume Change (cc):	-11.9				
t₅₀ (min):	N/A				
Strength Results					
$\sigma_1' - \sigma_3'_{MAX}$:	402				
Strain, ϵ_r:	3.05				
u (kPa):	63				
σ_1' (kPa):	535				
σ_3' (kPa):	133				
TM/MM	May 14, 2014	MS	July 11, 2014		
TESTED BY	DATE	CHECKED BY	DATE		

Consolidated Undrained Triaxial Compression Test for Soils				Reference ASTM D4767	
Client:	Dominion Diamond Corporation		Drillhole:	JP5-SD-01&05&07	
Project:	Jay Project		Sample:	1-combined	
Location:	Lac du Sauvage		Depth (m):	N/A	
Project No.:	13-1328-0041 Phase: 2010 Task: 25		Lab ID No:	86	
Type :	Reconstituted		Soil Classification:	CL-ML	
Saturation Method:	Back Pressure Saturation		Material Type	Soil	
Visual Description	SILT some sand some clay; brown, firm, moist.				
Other Remarks:	Sample compacted 1700kg/m ³ in order to achieve firm-stiff consistency.				
	Estimated Saturation > 100% may be due to specimen absorbing water prior to measurement of final weight				
Sample Data			Equipment		
	Before Consolidation	After Consolidation	Machine:	Truepath Load Frame - Stn. 1	
			Chamber:	KW	
Height (cm):	14.09	14.05	Load Cell:	689343/468925	
Diameter (cm):	7.36	7.31	Axial DCDDT:	LP-174	
Area (cm²):	42.52	41.98	Cell Pressure:	PS-3137	
Volume (cm³):	599	590	Back Pressure:	PS-3125	
γ_{dry} (kN/m³):	17.00	17.27	Pore Pressure:	PS-2330	
γ_{sat} (kN/m³):	20.47	20.64	Feed Rate (%/hr):	1.00	
Water content, w (%):	21.6	20.7	PHOTO AT END OF TEST		
Saturation (%):	106	106			
Void ratio, e:	0.55	0.52			
Specific Gravity (assumed):	2.68	2.68			
Consolidation Results					
$\sigma'_{eff} = \sigma_{cell} - \sigma_{pwp}$ (kPa):	499				
σ_{pwp} (kPa):	484				
B value:	0.97				
Volume Change (cc):	-9.5				
t_{50} (min):	N/A				
Strength Results					
$\sigma'_1 - \sigma'_3$ MAX:	2522				
Strain, ϵ_r:	15.93				
u (kPa):	-512				
σ'_1 (kPa):	3533				
σ'_3 (kPa):	1011				
TM/MM		May 14, 2014	MS		July 11, 2014
TESTED BY		DATE	CHECKED BY		DATE

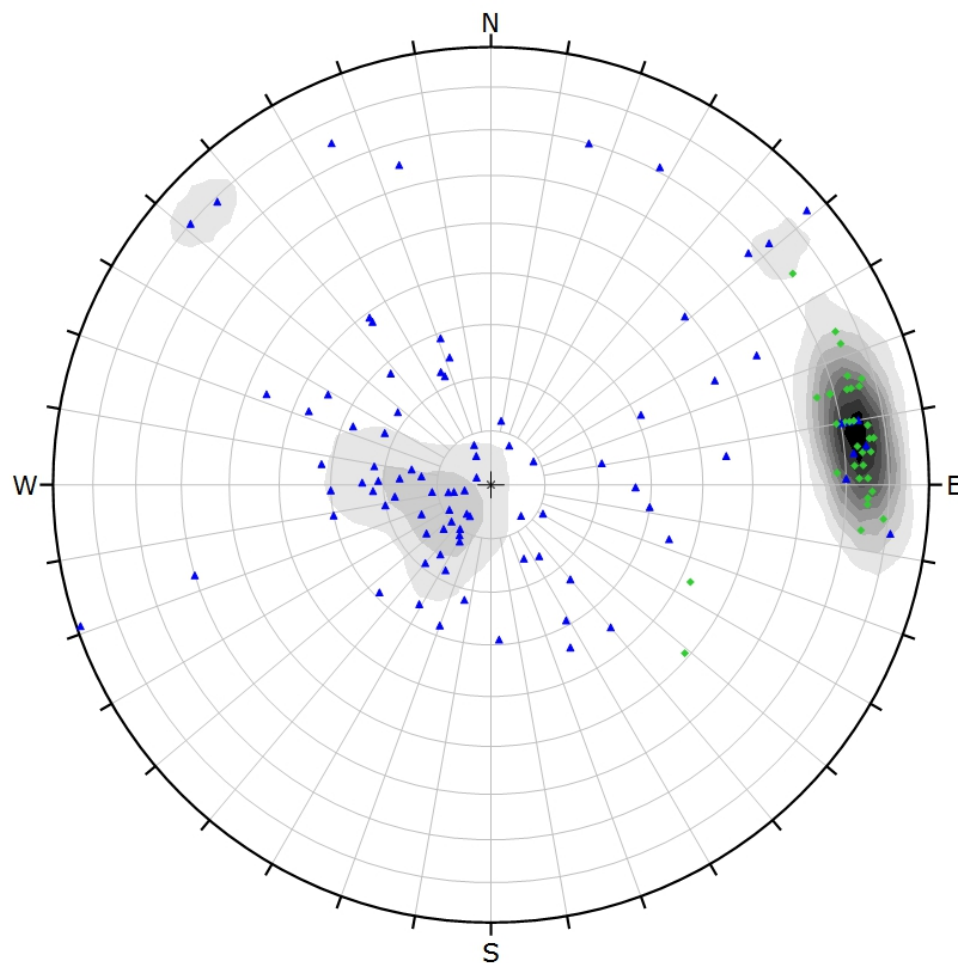


APPENDIX F

Structural Orientation Data



JP5-GT-01 All Data



Symbol	FEATURE_TYPE	Quantity
◆	FOL	33
▲	JN	88

Color	Density Concentrations
	0.00 - 2.60
	2.60 - 5.20
	5.20 - 7.80
	7.80 - 10.40
	10.40 - 13.00
	13.00 - 15.60
	15.60 - 18.20
	18.20 - 20.80
	20.80 - 23.40
	23.40 - 26.00

Maximum Density	25.36%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

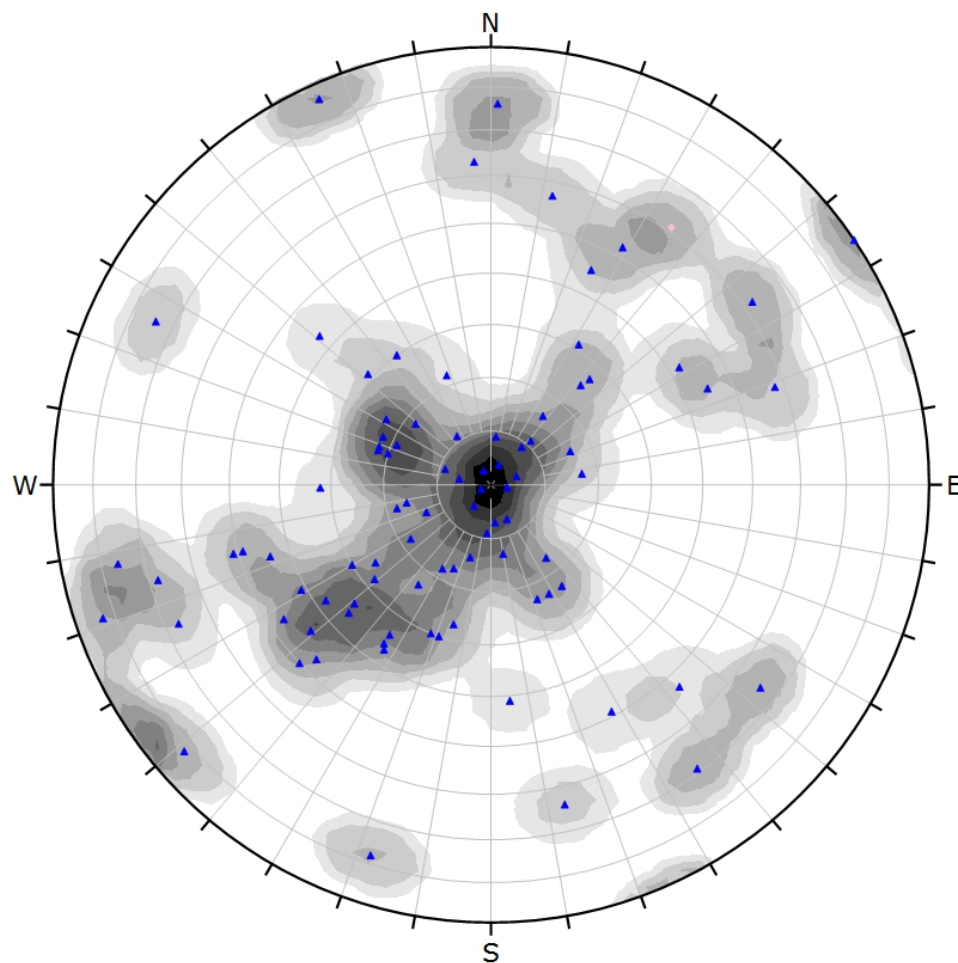
Plot Mode	Pole Vectors
Vector Count	121 (121 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN



JP5-GT-02 All Data



Symbol	FEATURE_TYPE	Quantity
●	CONO	1
▲	JN	90

Color	Density Concentrations
	0.00 - 0.70
	0.70 - 1.40
	1.40 - 2.10
	2.10 - 2.80
	2.80 - 3.50
	3.50 - 4.20
	4.20 - 4.90
	4.90 - 5.60
	5.60 - 6.30
	6.30 - 7.00

Maximum Density	6.82%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

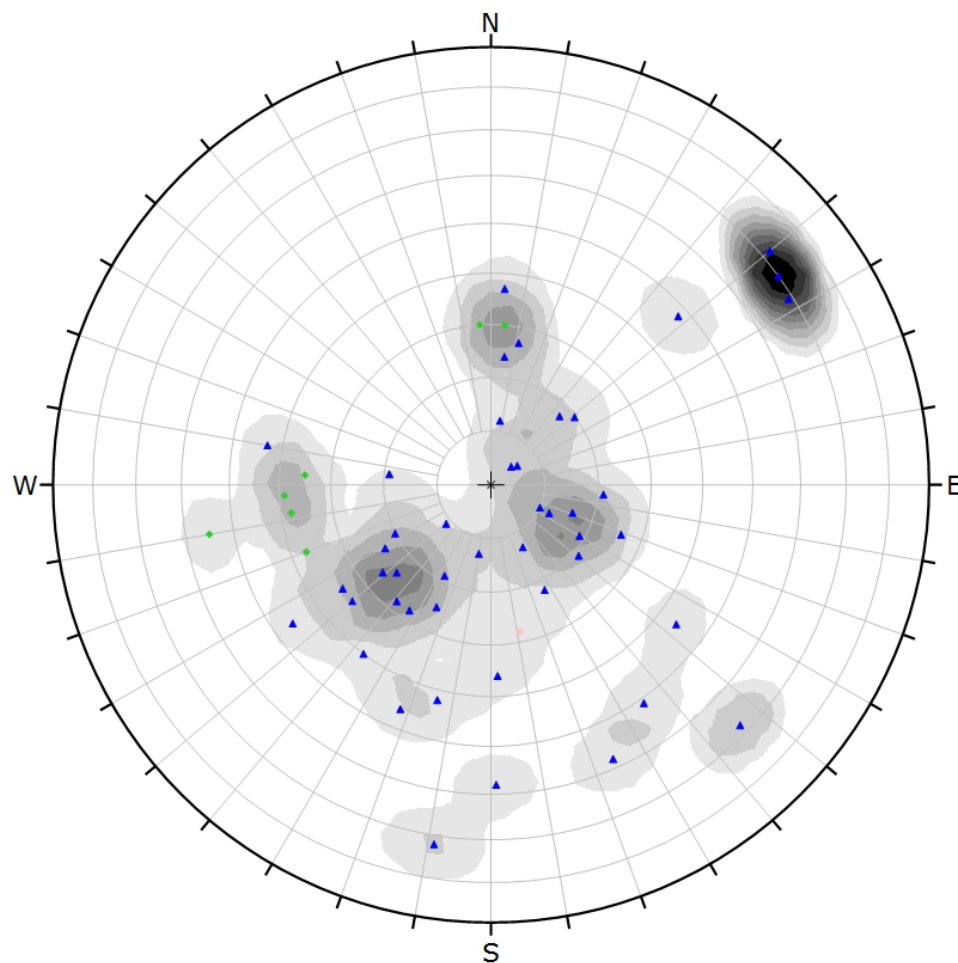
Plot Mode	Pole Vectors
Vector Count	91 (91 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN



JP5-GT-03 All Data



Symbol	FEATURE_TYPE	Quantity
●	CONO	1
◆	FOL	7
▲	JN	46

Color	Density Concentrations
	0.00 - 1.50
	1.50 - 3.00
	3.00 - 4.50
	4.50 - 6.00
	6.00 - 7.50
	7.50 - 9.00
	9.00 - 10.50
	10.50 - 12.00
	12.00 - 13.50
	13.50 - 15.00

Maximum Density	14.73%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

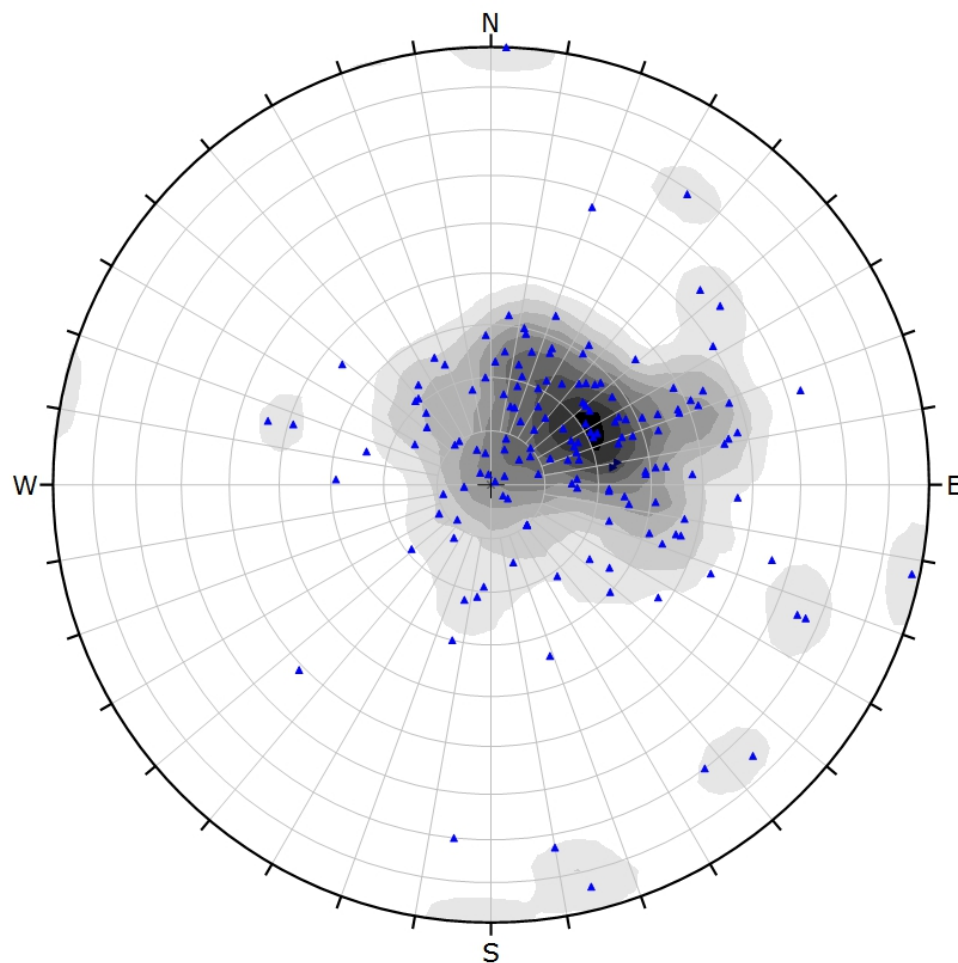
Plot Mode	Pole Vectors
Vector Count	54 (54 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN



JP5-GT-04 All Data



Symbol	FEATURE_TYPE	Quantity
▶	BC	2
▲	JN	155

Color	Density Concentrations
	0.00 - 1.30
	1.30 - 2.60
	2.60 - 3.90
	3.90 - 5.20
	5.20 - 6.50
	6.50 - 7.80
	7.80 - 9.10
	9.10 - 10.40
	10.40 - 11.70
	11.70 - 13.00

Maximum Density	12.12%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

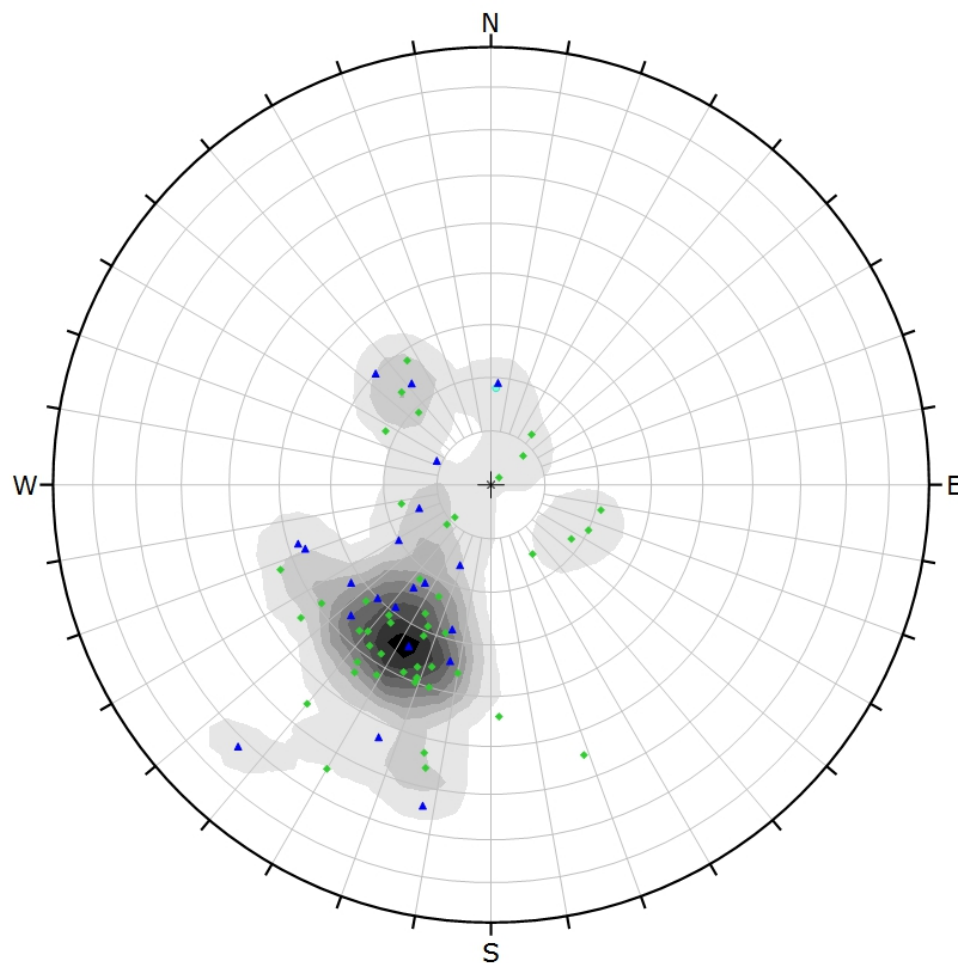
Plot Mode	Pole Vectors
Vector Count	157 (157 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN



JP1-GT-04 All Data



Symbol	FEATURE_TYPE	Quantity
●	CLF	1
◆	FOL	47
▲	JN	21

Color	Density Concentrations
	0.00 - 2.30
	2.30 - 4.60
	4.60 - 6.90
	6.90 - 9.20
	9.20 - 11.50
	11.50 - 13.80
	13.80 - 16.10
	16.10 - 18.40
	18.40 - 20.70
	20.70 - 23.00

Maximum Density	22.01%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

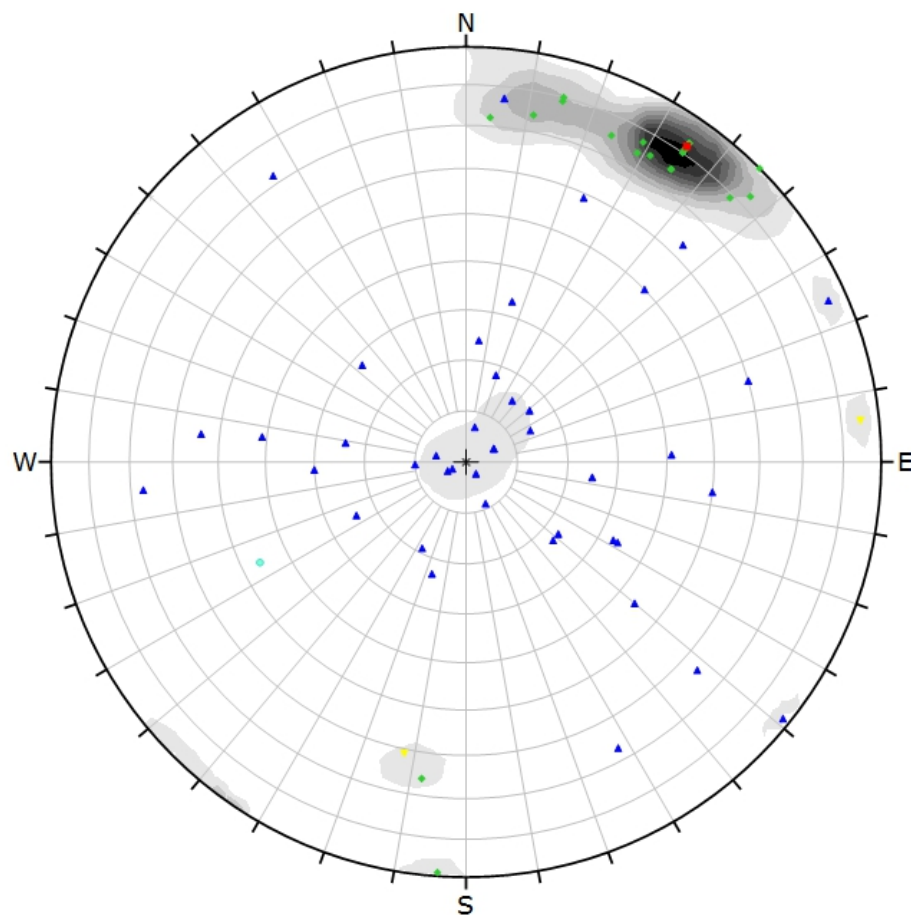
Plot Mode	Pole Vectors
Vector Count	69 (69 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN



JP4S-GT-04 All Data



Symbol	FEATURE TYPE	Quantity
●	CLF	1
■	FLT	1
◆	FOL	20
▲	JN	42
◆	VNO	2

Color	Density Concentrations
	0.00 - 2.50
	2.50 - 5.00
	5.00 - 7.50
	7.50 - 10.00
	10.00 - 12.50
	12.50 - 15.00
	15.00 - 17.50
	17.50 - 20.00
	20.00 - 22.50
	22.50 - 25.00

Maximum Density	24.85%
Contour Data	Pole Vectors
Contour Distribution	Fisher
Counting Circle Size	1.0%

Plot Mode	Pole Vectors
Vector Count	66 (66 Entries)
Terzaghi Weighting	Minimum Bias Angle 15°
Hemisphere	Lower
Projection	Equal Area

LEGEND:

BC	BROKEN CORE
CLF	CLOSED FEATURE
CONO	OPEN CONTACT
FLT	FAULT
FOL	FOLIATION
JN	JOINT
VNO	OPEN VEIN

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
500 - 4260 Still Creek Drive
Burnaby, British Columbia, V5C 6C6
Canada
T: +1 (604) 296 4200

