Schlumberger Water Services

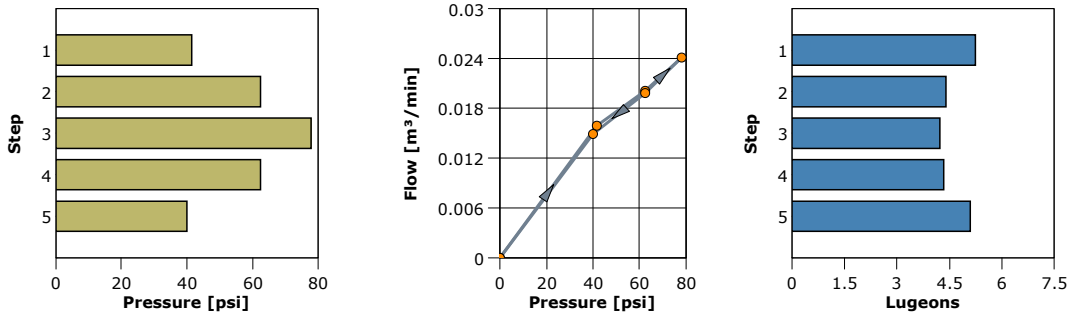
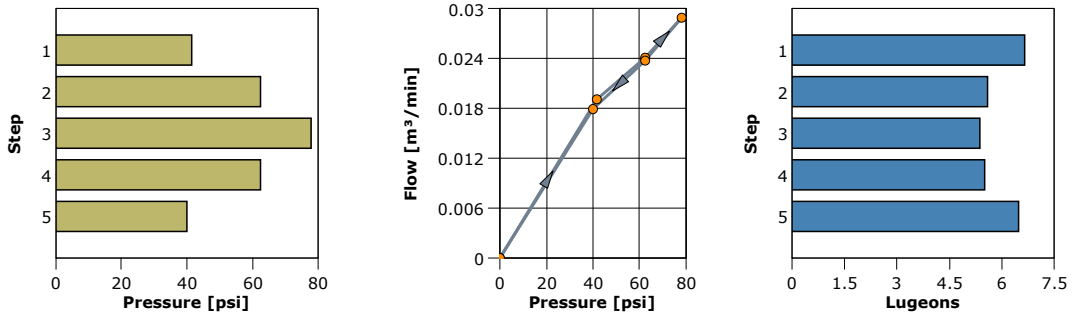
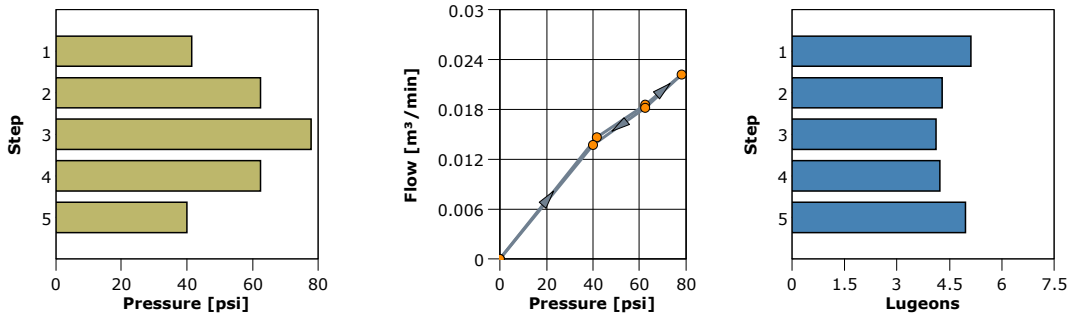
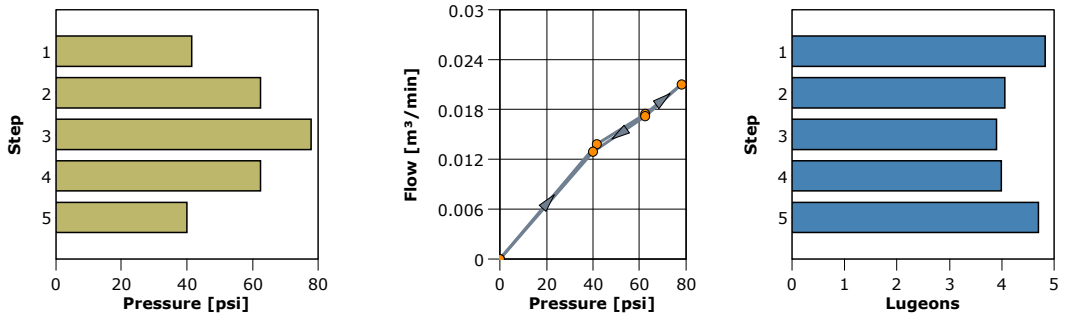
**Contact Info**
**Address**
**Company Name**
**City, State/Province**

# Lugeon Test Summary - BH-01

Project: Lugeon Test Example

Number:

Client:

| Test Interval Top Bottom | Graphs | Result |
|---|---|---|
| 4.00 m<br>14.60 m |  | Turbulent<br>Lugeon: 4.4<br>Hydraulic Conductivity: 5.39E-7 m/s<br>Hydraulic Conductivity: 0.047 m/d |
| 20.00 m<br>30.00 m |  | Turbulent<br>Lugeon: 5.6<br>Hydraulic Conductivity: 6.77E-7 m/s<br>Hydraulic Conductivity: 0.058 m/d |
| 45.00 m<br>55.00 m |  | Turbulent<br>Lugeon: 4.3<br>Hydraulic Conductivity: 5.19E-7 m/s<br>Hydraulic Conductivity: 0.045 m/d |
| 72.00 m<br>82.00 m |  | Turbulent<br>Lugeon: 4.1<br>Hydraulic Conductivity: 4.91E-7 m/s<br>Hydraulic Conductivity: 0.042 m/d |

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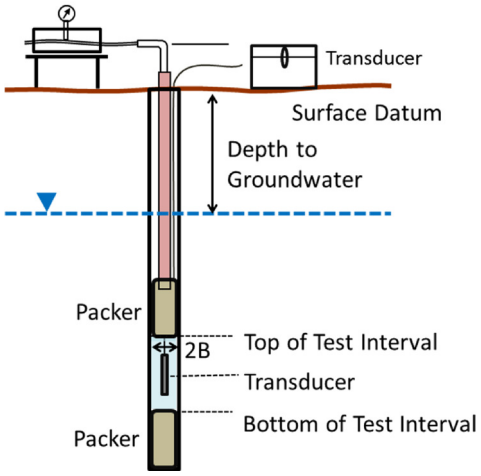
# Lugeon Test Analysis Report

Project: Lugeon Test Example

Number:

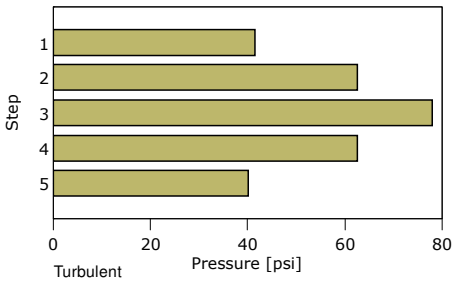
Client:

| | | |
|---|---|---|
| Location: | Lugeon Test: Lugeon Test - shallow interval | Tested bore: BH-01 |
| Test Conducted by: | | Test Date: 1/30/2014 |
| Analysis Performed by: John Smith | | Analysis Date: 1/30/2014 |
| Lithology: | | |

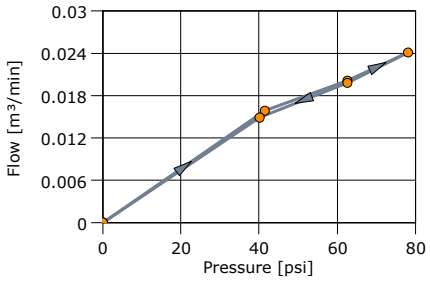


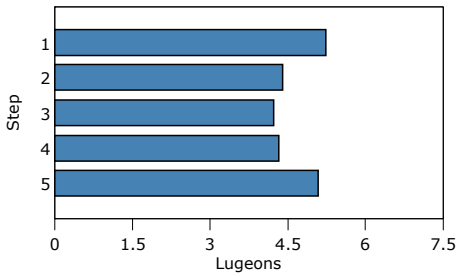

Top of Test Interval: 4.00 m
Bottom of Test Interval: 14.60 m
Length of Test Interval: 10.60 m
Depth to Groundwater: 5.00 m
Radius of Test Section: 0.10 m

| Step | Pressure [psi] | Flow Meter Readings [m³] | | | | | | | | | | Average Flow Rate [m³/min] | Hydraulic Conductivity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | [m/s] | [m/d] | Lugeon |
| 1 | 41.5 | 8.836 | 8.852 | 8.867 | 8.883 | 8.899 | 8.915 | 8.931 | 8.947 | 8.962 | 8.979 | 0.016 | $6.41 \times 10^{-7}$ | 0.055 | 5.2 |
| 2 | 62.5 | 9.023 | 9.043 | 9.062 | 9.083 | 9.103 | 9.123 | 9.144 | 9.164 | 9.184 | 9.204 | 0.020 | $5.39 \times 10^{-7}$ | 0.047 | 4.4 |
| 3 | 78.0 | 9.252 | 9.276 | 9.300 | 9.325 | 9.348 | 9.372 | 9.396 | 9.421 | 9.445 | 9.469 | 0.024 | $5.18 \times 10^{-7}$ | 0.045 | 4.2 |
| 4 | 62.5 | 9.500 | 9.520 | 9.539 | 9.559 | 9.579 | 9.599 | 9.618 | 9.638 | 9.658 | 9.678 | 0.020 | $5.30 \times 10^{-7}$ | 0.046 | 4.3 |
| 5 | 40.0 | 9.715 | 9.730 | 9.745 | 9.760 | 9.775 | 9.790 | 9.805 | 9.820 | 9.835 | 9.849 | 0.015 | $6.23 \times 10^{-7}$ | 0.054 | 5.1 |
| | | | | | | | | | | | | Average | $5.70 \times 10^{-7}$ | 0.049 | 4.7 |




Turbulent
Lugeon: 4.4
Hydraulic Conductivity: 5.39E-7 m/s
Hydraulic Conductivity: 0.047 m/d



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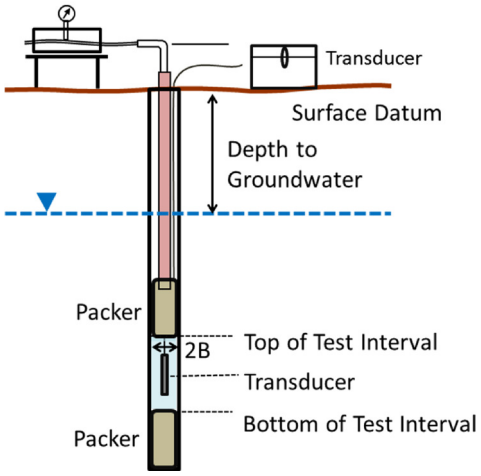
# Lugeon Test Analysis Report

Project: Lugeon Test Example

Number:

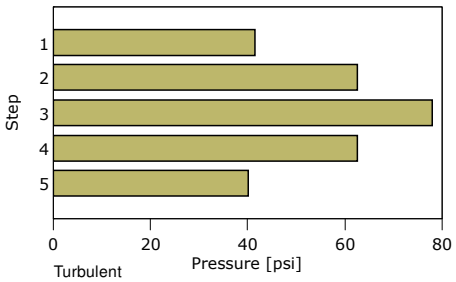
Client:

| | | |
|---|---|---|
| Location: | Lugeon Test: Lugeon Test - middle interval1 | Tested bore: BH-01 |
| Test Conducted by: | | Test Date: 1/30/2014 |
| Analysis Performed by: John Smith | | Analysis Date: 1/30/2014 |
| Lithology: | | |

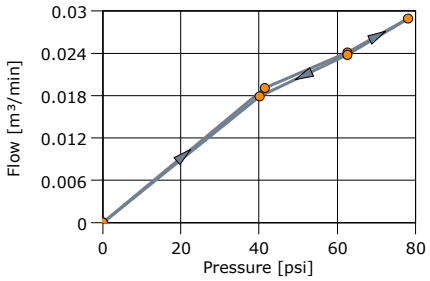


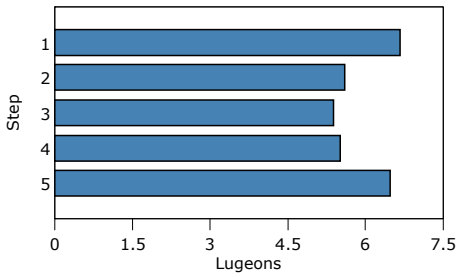

Top of Test Interval: 20.00 m
Bottom of Test Interval: 30.00 m
Length of Test Interval: 10.00 m
Depth to Groundwater: 5.00 m
Radius of Test Section: 0.10 m

| Step | Pressure [psi] | Flow Meter Readings [m³] | | | | | | | | | | Average Flow Rate [m³/min] | Hydraulic Conductivity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | [m/s] | [m/d] | Lugeon |
| 1 | 41.5 | 10.603 | 10.622 | 10.640 | 10.660 | 10.679 | 10.698 | 10.717 | 10.736 | 10.754 | 10.775 | 0.019 | $8.05 \times 10^{-7}$ | 0.070 | 6.7 |
| 2 | 62.5 | 10.828 | 10.852 | 10.874 | 10.900 | 10.924 | 10.948 | 10.973 | 10.997 | 11.021 | 11.045 | 0.024 | $6.77 \times 10^{-7}$ | 0.058 | 5.6 |
| 3 | 78.0 | 11.102 | 11.131 | 11.160 | 11.190 | 11.218 | 11.246 | 11.275 | 11.305 | 11.334 | 11.363 | 0.029 | $6.50 \times 10^{-7}$ | 0.056 | 5.4 |
| 4 | 62.5 | 11.400 | 11.424 | 11.447 | 11.471 | 11.495 | 11.519 | 11.542 | 11.566 | 11.590 | 11.614 | 0.024 | $6.66 \times 10^{-7}$ | 0.058 | 5.5 |
| 5 | 40.0 | 11.658 | 11.676 | 11.694 | 11.712 | 11.730 | 11.748 | 11.766 | 11.784 | 11.802 | 11.819 | 0.018 | $7.83 \times 10^{-7}$ | 0.068 | 6.5 |
| | | | | | | | | | | | | Average | $7.16 \times 10^{-7}$ | 0.062 | 5.9 |




Turbulent
Lugeon: 5.6
Hydraulic Conductivity: 6.77E-7 m/s
Hydraulic Conductivity: 0.058 m/d



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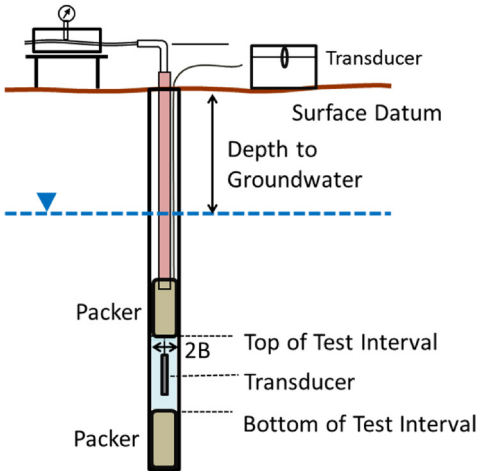
# Lugeon Test Analysis Report

Project: Lugeon Test Example

Number:

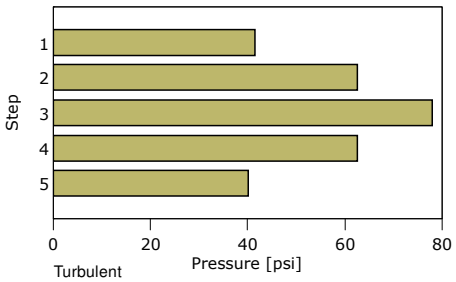
Client:

| | | |
|---|---|---|
| Location: | Lugeon Test: Lugeon Test - middle interval2 | Tested bore: BH-01 |
| Test Conducted by: | | Test Date: 1/30/2014 |
| Analysis Performed by: John Smith | | Analysis Date: 1/30/2014 |
| Lithology: | | |

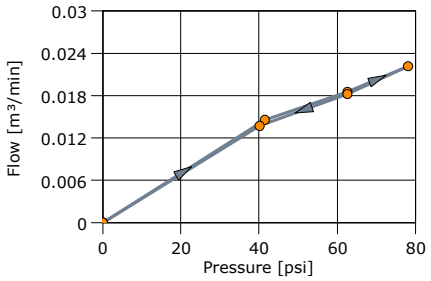


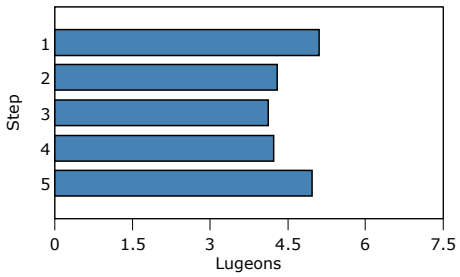

Top of Test Interval: 45.00 m
Bottom of Test Interval: 55.00 m
Length of Test Interval: 10.00 m
Depth to Groundwater: 5.00 m
Radius of Test Section: 0.10 m

| Step | Pressure [psi] | Flow Meter Readings [m³] | | | | | | | | | | Average Flow Rate [m³/min] | Hydraulic Conductivity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | [m/s] | [m/d] | Lugeon |
| 1 | 41.5 | 8.129 | 8.144 | 8.158 | 8.172 | 8.187 | 8.202 | 8.217 | 8.231 | 8.245 | 8.261 | 0.015 | $6.17 \times 10^{-7}$ | 0.053 | 5.1 |
| 2 | 62.5 | 8.301 | 8.320 | 8.337 | 8.356 | 8.375 | 8.393 | 8.412 | 8.431 | 8.449 | 8.468 | 0.019 | $5.19 \times 10^{-7}$ | 0.045 | 4.3 |
| 3 | 78.0 | 8.512 | 8.534 | 8.556 | 8.579 | 8.600 | 8.622 | 8.644 | 8.667 | 8.689 | 8.711 | 0.022 | $4.99 \times 10^{-7}$ | 0.043 | 4.1 |
| 4 | 62.5 | 8.740 | 8.758 | 8.776 | 8.794 | 8.813 | 8.831 | 8.849 | 8.867 | 8.885 | 8.904 | 0.018 | $5.10 \times 10^{-7}$ | 0.044 | 4.2 |
| 5 | 40.0 | 8.938 | 8.952 | 8.965 | 8.979 | 8.993 | 9.007 | 9.021 | 9.034 | 9.048 | 9.061 | 0.014 | $6.00 \times 10^{-7}$ | 0.052 | 5.0 |
| | | | | | | | | | | | | Average | $5.49 \times 10^{-7}$ | 0.047 | 4.5 |




Turbulent
Lugeon: 4.3
Hydraulic Conductivity: 5.19E-7 m/s
Hydraulic Conductivity: 0.045 m/d



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**City, State/Province**

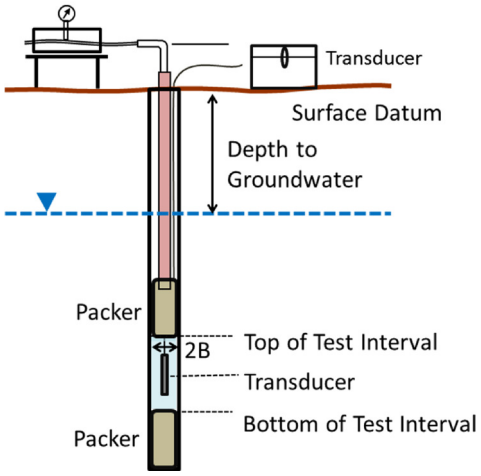
# Lugeon Test Analysis Report

Project: Lugeon Test Example

Number:

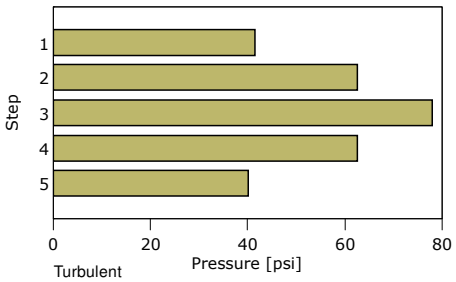
Client:

| | | |
|---|---|---|
| Location: | Lugeon Test: Lugeon Test - deep interval | Tested bore: BH-01 |
| Test Conducted by: | | Test Date: 1/30/2014 |
| Analysis Performed by: John Smith | | Analysis Date: 1/30/2014 |
| Lithology: | | |




Top of Test Interval: 72.00 m
Bottom of Test Interval: 82.00 m
Length of Test Interval: 10.00 m
Depth to Groundwater: 5.00 m
Radius of Test Section: 0.10 m

| Step | Pressure [psi] | Flow Meter Readings [m³] | | | | | | | | | | Average Flow Rate [m³/min] | Hydraulic Conductivity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | [m/s] | [m/d] | Lugeon |
| 1 | 41.5 | 7.687 | 7.701 | 7.714 | 7.728 | 7.742 | 7.756 | 7.770 | 7.784 | 7.797 | 7.812 | 0.014 | $5.84 \times 10^{-7}$ | 0.050 | 4.8 |
| 2 | 62.5 | 7.850 | 7.867 | 7.884 | 7.902 | 7.920 | 7.937 | 7.955 | 7.973 | 7.990 | 8.007 | 0.017 | $4.91 \times 10^{-7}$ | 0.042 | 4.1 |
| 3 | 78.0 | 8.049 | 8.070 | 8.091 | 8.113 | 8.133 | 8.154 | 8.175 | 8.196 | 8.217 | 8.238 | 0.021 | $4.71 \times 10^{-7}$ | 0.041 | 3.9 |
| 4 | 62.5 | 8.265 | 8.282 | 8.299 | 8.316 | 8.334 | 8.351 | 8.368 | 8.385 | 8.402 | 8.420 | 0.017 | $4.83 \times 10^{-7}$ | 0.042 | 4.0 |
| 5 | 40.0 | 8.452 | 8.465 | 8.478 | 8.491 | 8.504 | 8.517 | 8.530 | 8.543 | 8.556 | 8.569 | 0.013 | $5.68 \times 10^{-7}$ | 0.049 | 4.7 |
| | | | | | | | | | | | | Average | $5.19 \times 10^{-7}$ | 0.045 | 4.3 |




Turbulent
Lugeon: 4.1
Hydraulic Conductivity: 4.91E-7 m/s
Hydraulic Conductivity: 0.042 m/d