# SSHCZO Metadata Worksheet

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| Data File Name | **20160314\_sequential\_filtration\_ICP.xls** |
| Date Prepared | 3/16/2016 |
| Descriptive Title | Sequential filtrations of groundwater and stream water chemistry |
| Update Frequency | yearly |
| Abstract | To quantify “truly dissolve” phases of solute concentrations, groundwater and stream water samples collected at the Shale Hills Critical Zone observatory were filtered a sequence of filters with different pore sizes (1μm, 0.45 μm, 0.22 μm, 100KDa, and sometimes 1 KDa).  |
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| Data Value Descriptions |

|  |  |  |
| --- | --- | --- |
| * Col1
 | :label= | rundate |
| * Col2
 | :label= | Your # |
| * Col3
 | :label= | location |
| * Col4
 | :label= | date |
| * Col5
 | :label= | depth |
| * Col6
 | :label= | filter size |
| * Col7
 | :label= | filter number |
| * Col8
 | :label= | Al (ug/mL) |
| * Col9
 | :label= | Ba (ug/mL) |
| * Col10
 | :label= | Ca (ug/mL) |
| * Col11
 | :label= | Fe (ug/mL) |
| * Col12
 | :label= | K (ug/mL) |
| * Col13
 | :label= | Mg (ug/mL) |
| * Col14
 | :label= | Mn (ug/mL) |
| * Col15
 | :label= | Na (ug/mL) |
| * Col16
 | :label= | Ni (ug/mL) |
| * Col17
 | :label= | P (ug/mL) |
| * Col18
 | :label= | Si (ug/mL) |
| * Col19
 | :label= | Sr (ug/mL) |
| * Col20
 | :label= | Ti (ug/mL) |
| * Col21
 | :label= | Zn (ug/mL) |

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| Keywords | groundwater chemistry, stream water chemistry, sequential filtration  |
| Methods | Approximately 1L of water samples were taken at the Shale Hills CZO. The samples were retrieved to the laboratory within an hour and were filtered at the laboratory. The samples were filtered:

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| --- | --- | --- | --- |
| Filter pore size | filter material | filter manufacture | filtration method  |
| 1μm | Cellulose nitrate membrane filters | Whatman | vacuum filtration |
| 0.45 μm | Polyethersulfone membrane filter  | Pall Corporation  | vacuum filtration |
| 0.22 μm | Polyethersulfone membrane filter  | Pall Corporation  | vacuum filtration |
| 100KDa | Regenerated Cellulose filter | EMD Millipore  | ultra-filtration |
| 1KDa | Regenerated Cellulose filter | EMD Millipore  | ultra-filtration |

The filtrates were acidified (1% v/v) using Optima Nitric acid. Major cations and silica were analyzed on an inductively coupled plasma–optical emission spectrometer (ICP– OES).  |
| Sites | Shale Hills Critical Zone Observatory  |
| Publications | not published. Please embargo public access  |
| Citation | The following acknowledgment should accompany any publication or citation of these data: Logistical support and/or data were provided by the NSF-supported Susquehanna Shale Hills Critical Zone Observatory. |
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