**Missing Data:** In the tabular data, the code “NaN” (i.e., Not a Number) is used to represent data that were not collected or do not exist.

**Description of data by row:**

|  |  |
| --- | --- |
| **Row(s)** | **Description** |
| 1 | Classification of each column as one of:  Site = site characterization or study design  Stream = primarily characterizing the in-stream environment or sample  Hyporheic = primarily characterizing the hyporheic environment or sample  Sediment = primarily characterizing the sediment sample |
| 2 | Data description (used for macroinvertebrate order only) |
| 3 | Data description (used in all columns) |
| 4 | Data description (commonly units) |
| 5-66 | Observations |

**Description of data by column (for rows 5+, where rows 1-4 are headers):**

|  |  |
| --- | --- |
| **Column(s)** | **Description** |
| 1 | Site code |
| 2 | Site code used on original field samples |
| 3 | Date for sample collection |
| 4 | Arrival time at site for data collection |
| 5, 6 | UTM Zone 10N Site Location (5 = X, 6 = Y) snapped to stream centerline from TopoToolbox Analysis |
| 7 | Segment number from TopoToolbox analysis |
| 8 | Drainage area (ha) at site from TopoToolbox analysis |
| 9 | Valley slope (m/m) at site |
| 10 | Stream slope at site (m/m) |
| 11 | Valley width at site (m) |
| 12 | Average valley slope for segment (m/m) |
| 13 | Average stream slope for segment (m/m) |
| 14 | Average valley width for segment (m) |
| 15 | Stream order from TopoToolbox analysis |
| 16 | Sinuosity for segment |
| 17 | Along-valley distance to watershed outlet (m) |
| 18 | Water temperature upon arrival (deg C) in stream |
| 19 | Dissolved oxygen upon arrival (mg/L) in stream |
| 20 | Dissolved oxygen upon arrival (% saturation) in stream |
| 21 | Water temperature upon arrival (deg C) in hyporheic zone |
| 22 | Dissolved oxygen upon arrival (mg/L) in hyporheic zone |
| 23 | Dissolved oxygen upon arrival (% saturation) in hyporheic zone |
| 24, 25 | mL of water filtered for microbial sample collection in stream (24), hyporheic (25) |
| 26 | Sediment sample collection for microbial ecology (1 = yes, 0 = no) |
| 27, 28 | Non-purgable organic carbon (mg/L) in stream (27), hyporheic zone (28) |
| 29, 30 | Non-purgable organic carbon below detection (<0.05 mg/L) for stream (1 = yes, 0 = no) |
| 31, 32 | SUVA254 for stream (31), hyporheic zone (32) |
| 33, 34 | Spectral slope ratio for stream (33), hyporheic zone (34) |
| 35, 36 | Total dissolved nitrogen (mg/L) for stream (35), hyporheic zone (36) |
| 37, 38 | Total dissolved nitrogen below detection (<0.05 mg/L) for stream (1 = yes, 0 = no) |
| 39, 40 | Integrated absorbance from 300-400 nm (per m) for stream (39), hyporheic zone (40) |
| 41, 42 | Decadic absorbance at 254 nm (per m) for stream (41), hyporheic zone (42) |
| 43, 44 | Decadic absorbance at 300 nm (per m) for stream (43), hyporheic zone (44) |
| 45, 46 | Decadic absorbance at 562 nm (per m) for stream (45), hyporheic zone (46) |
| 47-62 | Naperian absorbance at A nm (per m) for stream (B) hyporheic zone (C)  A -- B -- C  300 -- 47 -- 48  305 -- 49 -- 50  315 -- 51 -- 52  320 -- 53 -- 54  340 -- 55 -- 56  380 -- 57 -- 58  395 -- 59 -- 60  412 -- 61 -- 62 |
| 63, 64 | Spectral slope ratio as Slope of Abs275-295/300-350 for stream (63), hyporheic zone (64) |
| 65, 66 | Integrated fluorescence (Raman units) for stream (65), hyporheic zone (66) |
| 67, 68 | Intensity of EEM peak A (250-450 nm); Raman units, for stream (67), hyporheic zone (68) |
| 69, 70 | Intensity of EEM peak C (350-450 nm); Raman units, for stream (69), hyporheic zone (70) |
| 71, 72 | Intensity of EEM peak CT(275-340 nm); Raman units, for stream (71), hyporheic zone (72) |
| 73, 74 | Fluorescence index for stream (73), hyporheic zone (74) |
| 75-80 | Falling head hydraulic conductivity (m/s) for individual replicates |
| 81 | Geometric mean of hydraulic conductivity replicates (m/s) |
| 82 | Depth below streambed to top of screen (m) |
| 83 | Depth below streambed to bottom of screen (m) |
| 84 | Percent organic carbon in sediment sample (%) |
| 85 | Percent organic carbon in sediment sample (%) for duplicate field samples |
| 86-89 | Extracellular enzymatic activity (μmol g AFDM-1 hr-1) for NAG (86), LAP (87), GLU (88), AP (89) |
| 90-93 | Extracellular enzymatic activity (μmol g AFDM-1 hr-1) for NAG (90), LAP (91), GLU (92), AP (93) for duplicate field samples |
| 94, 95 | δ18O (‰) for stream (94), hyporheic zone (95) |
| 96, 97 | Standard deviation for δ18O (‰) analysis for stream (96), hyporheic zone (97) |
| 98, 99 | δ2H (‰) for stream (98), hyporheic zone (99) |
| 100, 101 | Standard deviation for δ2H (‰) analysis for stream (100), hyporheic zone (101) |
| 102 | Water isotope sample re-collected on 1-3 August 2016 due to loss during transport (1 = yes, 0 = no) |
| 103 | Wetted channel width (m) |
| 104 | Valley width (m) |
| 105 | Average channel depth (m) |
| 106 | Solute tracer experiment conducted? (1 = yes, 0 = no) |
| 107 | Date for solute tracer test |
| 108 | Measured channel width at upstream end of study reach (m) |
| 109 | Study reach length between upstream and downstream sensors (m) |
| 110 | Downstream tracer injection, background temperature (deg C) |
| 111 | Downstream tracer injection, background specific conductivity (uS/cm) |
| 112 | Downstream tracer injection, slug mass (g) |
| 113 | Downstream tracer injection, time of release |
| 114 | Upstream tracer injection, background temperature (deg C) |
| 115 | Upstream tracer injection, background specific conductivity (uS/cm) |
| 116 | Upstream tracer injection, slug mass (g) |
| 117 | Upstream tracer injection, time of release |
| 118 | Discharge estimate at downstream end of study reach (m3/s) |
| 119 | Discharge estimate at upstream end of tracer study reach (m3/s) |
| 120 | Advective travel time trough study reach (hr) |
| 121 | Velocity of solute tracer peak transport (m/s) |
| 122, 123 | Chloride (mg/L) in stream (122), hyporheic zone (123) |
| 124, 125 | Sulfate (mg/L) in stream (124), hyporheic zone (125) |
| 126, 127 | Sodium (mg/L) in stream (126), hyporheic zone (127) |
| 128, 129 | Potassium (mg/L) in stream (128), hyporheic zone (129) |
| 130, 131 | Magnesum (mg/L) in stream (130), hyporheic zone (131) |
| 132, 133 | Calcium (mg/L) in stream (132), hyporheic zone (133) |
| 134, 135 | Phosphate (mg/L) in stream (134), hyporheic zone (135) |
| 136, 137 | Nitrate + Nitrite (mg/L as nitrate) in stream (136), hyporheic zone (137) |
| 138, 139 | Ammonia (mg/L as ammonia) in stream (138), hyporheic zone (139) |
| 140 | Macroinvertebrate colonization pot deployed? (1 = yes, 0 = no) |
| 141 | Date of removal for colonization pot |
| 142-260 | Macroinvertebrate count from colonization pot organized by order, family, and genus. Column headings ending with “\_ad” and “\_juv” denote “adult” and “juvenile” life stages, respectively. |
| 261 | In-stream macroinvertebrate sample collected? (1 = yes, 0 = no) |
| 262 – 264 | Colonization pot D10, D50, D90 (μm) |
| 265 – 267 | Colonization pot percent by mass as gravel, sand, mud |
| 268+ | Colonization pot percent by mass at more highly resolved gradations ranging from “very coarse gravel” through “mud” |