

**CHEMICAL DATA - Analytes tested for in a lab, 2017 - MVTL, New Ulm**

**PLC001 - Primary Lower Cottonwood River near New Ulm - Non-impacted stream/Western Corn Belt Plains**

**STORET CODE - S001-918**

**2017 Wateryear (Oct 1, 2016 to Sept. 30, 2017)**

| FLOW TYPE   | SAMP TYPE | DATE       | TIME  | FLOW (ft <sup>3</sup> /sec) | LAB SAMPLE ID # | TSS MG/L | TSVS MG/L | TKN MG/L | N-NO2+NO3 MG/L | P-PO4 MG/L | TP MG/L |
|-------------|-----------|------------|-------|-----------------------------|-----------------|----------|-----------|----------|----------------|------------|---------|
| Base        | Grab      | 1/30/2017  | 13:00 |                             | 17-A3388        | 10       |           | 1.4      | 9.40           | 0.130      | 0.178   |
| Snowmelt    | Grab      | 2/21/2017  | 14:40 |                             | 17-A5829        | 184      |           | 1.4      | 5.96           | 0.059      | 0.234   |
| Base        | Grab      | 3/9/2017   | 13:45 |                             | 17-A7917        | 25       |           | 1.2      | 9.46           | 0.017      | 0.059   |
| Base        | Grab      | 3/22/2017  | 13:50 |                             | 17-A9907        | 24       |           | 1.2      | 8.33           | 0.016      | 0.042   |
| Base        | Grab      | 4/13/2017  | 14:15 |                             | 17-A13828       | 14       |           | 1.2      | 8.02           | <0.005     | 0.045   |
| Storm Event | Grab      | 4/17/2017  | 14:20 |                             | 17-A14221       | 158      |           | 1.7      | 11.70          | 0.016      | 0.174   |
| Storm Event | Grab      | 4/21/2017  | 14:00 |                             | 17-A15799       | 300      |           | 1.8      | 13.50          | 0.036      | 0.322   |
| Storm Event | Grab      | 4/24/2017  | 14:05 |                             | 17-A16507       | 166      |           | 1.5      | 13.40          | 0.027      | 0.189   |
| Storm Event | Grab      | 5/3/2017   | 10:55 |                             | 17-A18247       | 359      |           | 2.0      | 14.30          | 0.038      | 0.352   |
| Base        | Grab      | 5/15/2017  | 12:25 |                             | 17-A20929       | 92       |           | 1.4      | 10.70          | 0.016      | 0.108   |
| Storm Event | Grab      | 5/18/2017  | 15:20 |                             | 17-A21917       | 228      |           | 3.3      | 12.00          | 0.138      | 0.490   |
| Storm Event | Grab      | 5/23/2017  | 16:10 |                             | 17-A22636       | 240      |           | 3.8      | 15.50          | 0.096      | 0.332   |
| Storm Event | Grab      | 5/30/2017  | 15:15 |                             | 17-A23626       | 140      |           | 1.5      | 12.60          | 0.047      | 0.167   |
| Storm Event | Grab      | 6/14/2017  | 14:40 |                             | 17-A27034       | 173      |           | 1.9      | 13.70          | 0.050      | 0.248   |
| Base        | Grab      | 6/26/2017  | 15:15 |                             | 17-A29846       | 80       |           | 0.6      | 12.40          | 0.034      | 0.134   |
| Base        | Dup       | 6/26/2017  | 15:20 |                             | 17-A29847       | 80       |           | 0.7      | 12.50          | 0.034      | 0.132   |
| Base        | Grab      | 7/12/2017  | 14:35 |                             | 17-A33221       | 65       |           | 1.7      | 6.24           | 0.007      | 0.063   |
| Base        | Grab      | 7/25/2017  | 14:40 |                             | 17-A35613       |          |           | 1.4      | 6.87           | 0.036      |         |
| Base        | SWAG      | 7/25/2017  | 14:45 |                             | 17-A35627       | 138      |           |          |                |            | 0.183   |
| Storm Event | Grab      | 8/17/2017  | 15:00 |                             | 17-A40039       | 224      |           | 1.3      | 1.49           | <0.005     | 0.253   |
| Storm Event | Grab      | 8/20/2017  | 12:00 |                             | 17-A40320       | 352      |           | 2.6      | 6.36           | 0.055      | 0.380   |
| Storm Event | Grab      | 8/22/2017  | 14:55 |                             | 17-A40676       | 187      |           | 2.1      | 7.87           | 0.103      | 0.301   |
| Base        | Grab      | 8/31/2017  | 13:35 |                             | 17-A43055       |          |           | 1.4      | 6.88           | 0.031      |         |
| Base        | SWAG      | 8/31/2017  | 13:40 |                             | 17-A43058       | 82       |           |          |                |            | 0.141   |
| Base        | Grab      | 9/29/2017  | 11:40 |                             | 17-A48664       |          |           | 1.6      | 2.42           | 0.024      |         |
| Base        | SWAG      | 9/29/2017  | 11:45 |                             | 17-A48668       | 42       |           |          |                |            | 0.122   |
| Storm Event | Grab      | 10/3/2017  | 14:45 |                             | 17-A49459       | 513      |           | 3.2      | 4.50           | 0.119      | 0.640^  |
| Storm Event | Dup       | 10/3/2017  | 14:50 |                             | 17-A49460       | 517      |           | 2.9      | 4.51           | 0.123      | 0.550^  |
| Storm Event | Grab      | 10/5/2017  | 13:20 |                             | 17-A50089       | 368      |           | 2.9      | 6.47           | 0.119      | 0.489   |
| Storm Event | Grab      | 10/9/2017  | 13:40 |                             | 17-A50697       | 166      |           | 2.0      | 8.35           | 0.103      | 0.300   |
| Base        | Grab      | 10/31/2017 | 14:00 |                             | 17-A54702       | 23       |           | 1.3      | 9.78           | 0.039      | 0.070   |
| Base        | Grab      | 11/20/2017 | 11:30 |                             | 17-A58213       | 9        |           | 1.1      | 9.83           | 0.021      | 0.043   |
| Base        | Grab      | 12/20/2017 | 13:30 |                             | 17-A62636       | 15       |           | 1.4      | 8.89           | 0.016      | 0.078   |
|             |           |            |       |                             |                 |          |           |          |                |            |         |

^ Sample Diluted due to result above calibration of linear range

\* Sample Exceeded Holding Time

Reporting timeframe has changed from the USGS Wateryear (Oct. 1 to Sept. 30) to a calendar year system.

**CHEMICAL DATA - Analytes tested for in a lab, 2017- MVTL, New Ulm**

**PLS005 - Primary Lower Sleepy Eye Creek near Cobden - Non-impacted stream/Western Corn Belt Plains**

**STORET CODE - S001-919**

**2017 Wateryear (Oct 1, 2016 to Sept. 30, 2017)**

| FLOW TYPE   | SAMP TYPE | DATE       | TIME  | FLOW (ft <sup>3</sup> /sec) | LAB SAMPLE ID # | TSS MG/L | TSVS MG/L | TKN MG/L | N-NO2+NO3 MG/L | P-PO4 MG/L | TP MG/L |
|-------------|-----------|------------|-------|-----------------------------|-----------------|----------|-----------|----------|----------------|------------|---------|
| Snowmelt    | Grab      | 2/21/2017  | 13:50 |                             | 17-A5828        | 11       |           | 1.3      | 13.40          | 0.058      | 0.090   |
| Base        | Grab      | 3/9/2017   | 12:55 |                             | 17-A7907        | <2       |           | 1.2      | 16.30          | 0.017      | 0.037   |
| Base        | Grab      | 3/28/2017  | 15:00 |                             | 17-A10667       | 10       |           | 1.2      | 15.90          | 0.010      | 0.024   |
| Storm Event | Grab      | 4/15/2017  | 20:20 |                             | 17-A14217       | 49       |           | 1.4      | 16.90          | 0.016*     | 0.074   |
| Storm Event | Grab      | 4/17/2017  | 13:20 |                             | 17-A14220       | 63       |           | 1.1      | 18.30          | 0.026      | 0.096   |
| Storm Event | Grab      | 4/20/2017  | 15:40 |                             | 17-A15795       | 107      |           | 1.5      | 18.50          | 0.044      | 0.181   |
| Storm Event | Grab      | 4/24/2017  | 13:10 |                             | 17-A16506       | 52       |           | 1.2      | 18.70          | 0.023      | 0.086   |
| Storm Event | Grab      | 5/2/2017   | 16:00 |                             | 17-A18245       | 129      |           | 1.9      | 19.20          | 0.058      | 0.187   |
| Storm Event | Grab      | 5/4/2017   | 13:05 |                             | 17-A18642       | 57       |           | 1.3      | 18.90          | 0.034      | 0.104   |
| Base        | Grab      | 5/15/2017  | 11:45 |                             | 17-A20928       | 25       |           | 1.3      | 16.80          | 0.021      | 0.065   |
| Storm Event | Grab      | 5/18/2017  | 14:15 |                             | 17-A21916       | 308      |           | 2.8      | 17.60          | 0.143      | 0.462   |
| Storm Event | Grab      | 5/23/2017  | 15:00 |                             | 17-A22635       | 53       |           | 1.4      | 21.00^         | 0.074      | 0.150   |
| Storm Event | Grab      | 5/30/2017  | 14:20 |                             | 17-A23625       | 40       |           | 1.6      | 19.00          | 0.038      | 0.094   |
| Base        | Grab      | 6/14/2017  | 13:35 |                             | 17-A27033       | 64       |           | 1.7      | 19.50          | 0.048      | 0.135   |
| Base        | Grab      | 6/26/2017  | 13:45 |                             | 17-A29845       | 30       |           | 0.4      | 17.80          | 0.039      | 0.084   |
| Base        | Grab      | 7/12/2017  | 13:10 |                             | 17-A33220       |          |           | 1.6      | 9.19           | 0.014      |         |
| Base        | SWAG      | 7/12/2017  | 13:15 |                             | 17-A33260       | 23       |           |          |                |            | 0.060   |
| Base        | Grab      | 7/25/2017  | 12:45 |                             | 17-A35612       |          |           | 1.0      | 2.07           | 0.008      |         |
| Base        | SWAG      | 7/25/2017  | 12:50 |                             | 17-A35625       | 21       |           |          |                |            | 0.102   |
| Storm Event | Grab      | 8/17/2017  | 13:55 |                             | 17-A40038       | 36       |           | 1.4      | 2.89           | 0.032      | 0.156   |
| Storm Event | Grab      | 8/18/2017  | 13:07 |                             | 17-A40156       | 106      |           | 1.8      | 7.63           | 0.098      | 0.304   |
| Storm Event | Grab      | 8/23/2017  | 13:05 |                             | 17-A40972       | 66       |           | 1.9      | 14.30          | 0.079      | 0.185   |
| Base        | Grab      | 9/27/2017  | 14:35 |                             | 17-A48172       |          |           | 1.4      | 5.51           | 0.042      |         |
| Base        | SWAG      | 9/27/2017  | 14:30 |                             | 17-A48183       | 5        |           |          |                |            | 0.055   |
| Storm Event | Grab      | 10/3/2017  | 13:50 |                             | 17-A49458       | 320      |           | 3.4      | 7.40           | 0.145      | 0.530^  |
| Storm Event | Grab      | 10/4/2017  | 17:55 |                             | 17-A50082       | 48       |           | 2.3      | 8.96           | 0.144      | 0.355   |
| Storm Event | Dup       | 10/4/2017  | 18:00 |                             | 17-A50083       | 50       |           | 2.2      | 8.98           | 0.197      | 0.353   |
| Storm Event | Grab      | 10/9/2017  | 12:50 |                             | 17-A50696       | 27       |           | 1.4      | 13.90          | 0.113      | 0.174   |
| Base        | Grab      | 10/31/2017 | 13:10 |                             | 17-A54701       | 9        |           | 1.3      | 15.90          | 0.034      | 0.048   |
|             |           |            |       |                             |                 |          |           |          |                |            |         |

^ Sample Diluted due to result above calibration of linear range

\* Sample Exceeded Holding Time

(\*\*) Reporting limit elevated due to instrument performance at the RL

**CHEMICAL DATA - Analytes tested for in a lab, 2017 - MVTL, New Ulm**

**PLC010 - Primary Lower Cottonwood River near Leavenworth - Non-impacted stream/Western Corn Belt Plains**

**STORET CODE - S001-920**

**2017 Wateryear (Oct 1, 2016 to Sept. 30, 2017)**

| FLOW TYPE   | SAMP TYPE | DATE       | TIME  | FLOW (ft <sup>3</sup> /sec) | LAB SAMPLE ID # | TSS MG/L | TSVS MG/L | TKN MG/L | N-NO2+NO3 MG/L | P-PO4 MG/L | TP MG/L |
|-------------|-----------|------------|-------|-----------------------------|-----------------|----------|-----------|----------|----------------|------------|---------|
| Snowmelt    | Grab      | 2/21/2017  | 13:25 |                             | 17-A5827        | 63       |           | 1.4      | 4.78           | 0.051      | 0.145   |
| Base        | Grab      | 3/9/2017   | 12:25 |                             | 17-A7906        | 17       |           | 1.2      | 7.27           | 0.015      | 0.063   |
| Base        | Grab      | 3/28/2017  | 14:30 |                             | 17-A10666       | 22       |           | 0.9      | 7.73           | 0.010      | 0.036   |
| Storm Event | Grab      | 4/15/2017  | 20:05 |                             | 17-A14216       | 50       |           | 1.2      | 6.51           | 0.016*     | 0.082   |
| Storm Event | Grab      | 4/17/2017  | 12:50 |                             | 17-A14219       | 104      |           | 1.4      | 7.59           | 0.012      | 0.133   |
| Storm Event | Grab      | 4/21/2017  | 13:00 |                             | 17-A15798       | 228      |           | 1.8      | 10.30          | 0.029      | 0.255   |
| Storm Event | Grab      | 4/24/2017  | 12:40 |                             | 17-A16505       | 129      |           | 1.5      | 10.80          | 0.024      | 0.165   |
| Storm Event | Grab      | 5/2/2017   | 15:30 |                             | 17-A18244       | 245      |           | 2.3      | 10.70          | 0.037      | 0.265   |
| Storm Event | Grab      | 5/3/2017   | 9:55  |                             | 17-A18246       | 260      |           | 2.4      | 11.80          | 0.039      | 0.306   |
| Base        | Grab      | 5/15/2017  | 11:20 |                             | 17-A20927       | 83       |           | 1.3      | 8.84           | 0.020      | 0.121   |
| Storm Event | Grab      | 5/18/2017  | 13:50 |                             | 17-A21915       | 148      |           | 1.9      | 9.94           | 0.049      | 0.203   |
| Storm Event | Grab      | 5/23/2017  | 14:40 |                             | 17-A22634       | 103      |           | 3.1      | 13.20          | 0.075      | 0.231   |
| Storm Event | Grab      | 5/30/2017  | 14:00 |                             | 17-A23624       | 104      |           | 1.5      | 10.80          | 0.029      | 0.147   |
| Storm Event | Grab      | 6/14/2017  | 12:55 |                             | 17-A27032       | 183      |           | 2.1      | 12.30          | 0.057      | 0.280   |
| Storm Event | Dup       | 6/14/2017  | 13:00 |                             | 17-A27035       |          |           | 2.2      | 12.40          |            | 0.297   |
| Storm Event | SWAG      | 6/14/2017  | 13:05 |                             | 17-A27020       | 210      |           |          |                |            | 0.298   |
| Base        | Grab      | 6/26/2017  | 13:20 |                             | 17-A29844       | 74       |           | 0.5      | 11.10          | 0.036      | 0.149   |
| Base        | Grab      | 7/12/2017  | 12:25 |                             | 17-A33219       |          |           | 1.4      | 5.37           | 0.007      |         |
| Base        | SWAG      | 7/12/2017  | 12:30 |                             | 17-A33229       | 45       |           |          |                |            | 0.076   |
| Base        | Grab      | 7/25/2017  | 12:20 |                             | 17-A35611       |          |           | 1.1      | 7.65           | 0.078      |         |
| Base        | SWAG      | 7/25/2017  | 12:15 |                             | 17-A35624       | 105      |           |          |                |            | 0.204   |
| Storm Event | Grab      | 8/17/2017  | 13:30 |                             | 17-A40037       | 121      |           | 1.1      | 1.76           | 0.037      | 0.244   |
| Storm Event | Grab      | 8/19/2017  | 17:10 |                             | 17-A40321       | 246      |           | 3.0      | 5.08           | 0.072*     | 0.364   |
| Storm Event | Grab      | 8/23/2017  | 12:35 |                             | 17-A40971       | 134      |           | 2.0      | 5.95           | 0.073      | 0.261   |
| Base        | Grab      | 9/27/2017  | 14:05 |                             | 17-A48171       |          |           | 1.5      | 2.14           | 0.048      |         |
| Base        | SWAG      | 9/27/2017  | 14:00 |                             | 17-A48182       | 40       |           |          |                |            | 0.124   |
| Storm Event | Grab      | 10/3/2017  | 13:25 |                             | 17-A49457       | 303      |           | 2.8      | 4.20           | 0.137      | 0.530^  |
| Storm Event | Grab      | 10/4/2017  | 17:30 |                             | 17-A50081       | 280      |           | 2.3      | 3.52           | 0.107      | 0.490   |
| Storm Event | Grab      | 10/5/2017  | 12:15 |                             | 17-A50088       | 141      |           | 2.2      | 4.83           | 0.102      | 0.381   |
| Storm Event | Grab      | 10/9/2017  | 12:25 |                             | 17-A50695       | 74       |           | 1.9      | 6.80           | 0.097      | 0.214   |
| Base        | Grab      | 10/31/2017 | 12:45 |                             | 17-A54700       | 22       |           | 1.5      | 7.95           | 0.038      | 0.097   |
|             |           |            |       |                             |                 |          |           |          |                |            |         |

^ Sample Diluted due to result above calibration of linear range

\* Sample Exceeded Holding Time