

Table S2. Spearman correlation coefficients between concentrations of inorganic solutes and spatial metrics.

|           | Nearest  | IDW    | ID <sup>2</sup> W | IDW    | ID <sup>2</sup> W | ID <sub>ups</sub> | ID <sub>ups</sub> | ID <sub>ups</sub> | Sum    | Sum    |
|-----------|----------|--------|-------------------|--------|-------------------|-------------------|-------------------|-------------------|--------|--------|
|           | UOG well | 2 km   | 2 km              | 5 km   | 5 km              | 0.5 km            | 1 km              | 2 km              | 2 km   | 5 km   |
| Chemical  |          |        |                   |        |                   |                   |                   |                   |        |        |
| PA        |          |        |                   |        |                   |                   |                   |                   |        |        |
| Arsenic   | -0.01    | -0.02  | -0.03             | 0.06   | 0.00              | 0.05              | 0.08              | 0.07              | 0.03   | 0.09   |
| Barium    | -0.15    | 0.10   | 0.13              | 0.15   | 0.15              | 0.14              | 0.17*             | 0.12              | 0.09   | 0.14   |
| Bromide   | -0.09    | 0.16*  | 0.16*             | 0.06   | 0.11              | 0.27*             | 0.22*             | 0.17*             | 0.14   | 0.05   |
| Calcium   | 0.07     | -0.10  | -0.11             | -0.18* | -0.17*            | -0.10             | -0.05             | -0.06             | -0.05  | -0.21* |
| Chloride  | -0.25*   | 0.23*  | 0.24*             | 0.07   | 0.12              | 0.27*             | 0.24*             | 0.22*             | 0.23*  | 0.02   |
| Fluoride  | 0.07     | -0.06  | -0.07             | -0.04  | -0.05             | 0.03              | -0.05             | -0.05             | -0.08  | 0.00   |
| Iron      | 0.12     | -0.19* | -0.16*            | -0.26* | -0.20*            | -0.03             | -0.05             | -0.07             | -0.21* | -0.28* |
| Lead      | 0.00     | 0.00   | 0.00              | 0.05   | 0.05              | -0.02             | 0.06              | 0.12              | -0.01  | 0.02   |
| Lithium   | 0.02     | 0.00   | 0.00              | -0.04  | -0.04             | -0.03             | -0.03             | 0.00              | 0.04   | -0.04  |
| Magnesium | 0.18*    | -0.16* | -0.18*            | -0.25* | -0.24*            | -0.15             | -0.14             | -0.15             | -0.08  | -0.26* |
| Manganese | 0.22*    | -0.15  | -0.15             | -0.16* | -0.15             | -0.04             | -0.10             | -0.11             | -0.12  | -0.15  |
| Nitrate   | -0.11    | 0.02   | 0.02              | 0.13   | 0.08              | 0.01              | 0.07              | 0.11              | 0.02   | 0.16*  |
| Sodium    | 0.03     | 0.01   | 0.00              | -0.03  | -0.03             | 0.06              | 0.04              | 0.06              | 0.05   | -0.03  |
| Strontium | 0.01     | 0.01   | 0.01              | -0.11  | -0.07             | -0.01             | 0.01              | -0.01             | 0.04   | -0.14  |
| Sulfate   | 0.13     | -0.13  | -0.16*            | -0.23* | -0.22*            | -0.17*            | -0.12             | -0.12             | -0.06  | -0.24* |
| Uranium   | -0.05    | -0.01  | 0.00              | 0.13   | 0.08              | 0.03              | 0.11              | 0.16*             | -0.01  | 0.15   |
| OH        |          |        |                   |        |                   |                   |                   |                   |        |        |
| Barium    | 0.09     | -0.01  | -0.02             | -0.02  | -0.05             | 0.06              | 0.00              | -0.06             | -0.01  | -0.02  |
| Bromide   | 0.09     | -0.06  | -0.07             | -0.17* | -0.15             | 0.21*             | 0.03              | -0.06             | -0.06  | -0.15  |
| Calcium   | -0.07    | 0.06   | 0.07              | 0.06   | 0.07              | -0.02             | 0.04              | 0.01              | 0.06   | 0.09   |
| Chloride  | 0.06     | -0.05  | -0.07             | 0.02   | -0.03             | 0.11              | 0.05              | -0.06             | -0.04  | 0.10   |
| Fluoride  | 0.02     | -0.01  | -0.01             | -0.11  | -0.08             | 0.22*             | 0.06              | 0.02              | -0.02  | -0.11  |
| Iron      | -0.06    | 0.05   | 0.05              | 0.07   | 0.07              | 0.19              | 0.16*             | 0.09              | 0.03   | 0.08   |
| Lithium   | 0.00     | -0.02  | -0.01             | -0.07  | -0.03             | 0.04              | -0.03             | 0.02              | -0.02  | -0.05  |
| Magnesium | 0.00     | -0.03  | -0.02             | 0.00   | 0.00              | -0.09             | -0.04             | -0.03             | -0.02  | 0.08   |
| Manganese | -0.07    | 0.05   | 0.06              | -0.07  | 0.00              | 0.16*             | 0.10              | 0.07              | 0.04   | -0.10  |
| Nitrate   | -0.02    | 0.02   | 0.01              | 0.10   | 0.08              | -0.16*            | -0.04             | 0.03              | 0.02   | 0.06   |
| Sodium    | 0.07     | -0.11  | -0.10             | -0.20* | -0.16*            | 0.10              | -0.03             | -0.03             | -0.13  | -0.18* |
| Strontium | 0.01     | -0.04  | -0.03             | -0.08  | -0.06             | -0.01             | -0.08             | 0.01              | -0.03  | -0.02  |
| Sulfate   | -0.15    | 0.12   | 0.11              | 0.11   | 0.13              | -0.01             | 0.03              | 0.11              | 0.12   | 0.13   |

\* Statistically significant at the  $p < 0.05$  level.