

**Montana Soils ----- Trace Element Data**

**X-ray Fluorescence Data - Rigaku 3070 with an Rh tube**

**Leco Analysis**

|  | Mo<br>(ppm) | Pb<br>(ppm) | Zn<br>(ppm) | Cu<br>(ppm) | Ni<br>(ppm) | Co<br>(ppm) | Cr*<br>(ppm) | V<br>(ppm) | Ba<br>(ppm) | TiO <sub>2</sub><br>(wt.%) | Fe <sub>2</sub> O <sub>3</sub><br>(wt.%) | MnO <sub>2</sub><br>(wt.%) | TC<br>(wt.%) | TOC<br>(wt.%) | TS<br>(wt.%) |
|--|-------------|-------------|-------------|-------------|-------------|-------------|--------------|------------|-------------|----------------------------|--|----------------------------|--------------|---------------|--------------|
| <b>Quaternary deposits along South Boulder River, at IU Geologic Field station, MT</b>                   |             |             |             |             |             |             |              |            |             |                            |  |                            |              |               |              |
| FS-1-15 (15 in.)   | 0.7         | 25          | 193         | 114         | 101         | 25          | 146          | 95         | 580         | 0.738                      | 6.64                                     | 0.12                       | 2.9610       | 2.1670        | 0.0480       |
| FS-2-22 (22 in.)   | 0.8         | 25          | 144         | 57          | 68          | 16          | 103          | 74         | 687         | 0.714                      | 6.27                                     | 0.13                       | 2.8130       | 2.6340        | 0.0641       |
| FS-3-30 (30 in.)   | 0.7         | 49          | 146         | 58          | 69          | 20          | 100          | 92         | 695         | 0.704                      | 6.21                                     | 0.13                       | 2.4290       | 1.5850        | 0.0385       |
| FS-4a-32 (pit, 32 in.)   | 0.8         | 26          | 149         | 66          | 74          | 24          | 117          | 91         | 658         | 0.732                      | 6.24                                     | 0.12                       | 1.4460       | 0.8595        | 0.0615       |
| FS-4b-32 (sand lens)   | 0.8         | 25          | 146         | 60          | 69          | 18          | 101          | 100        | 702         | 0.729                      | 6.13                                     | 0.13                       | 1.4120       | 0.5047        | 0.0549       |
| <b>Willow Creek, Soil transect perpendicular to creek just above mouth of Willow Creek Reservoir, MT</b> |             |             |             |             |             |             |              |            |             |                            |  |                            |              |               |              |
| <b>South-facing slope</b>  |             |             |             |             |             |             |              |            |             |                            |  |                            |              |               |              |
| TWC-S80-C  | 0.6         | 22          | 83          | 34          | 28          | 18          | 73           | 106        | 507         | 0.723                      | 6.37                                     | 0.10                       | 1.162        | 0.691         | 0.0538       |
| TWC-S60-Bk   | 1.2         | 20          | 93          | 39          | 28          | 16          | 58           | 73         | 630         | 0.611                      | 5.19                                     | 0.09                       | 0.529        | 0.395         | 0.7591       |
| TWC-S60-B  | 1.5         | 20          | 88          | 35          | 29          | 12          | 65           | 80         | 709         | 0.594                      | 4.87                                     | 0.08                       | 0.421        | 0.169         | 0.7468       |
| TWC-S40-A  | 0.6         | 19          | 59          | 31          | 21          | 9           | 48           | 69         | 692         | 0.493                      | 4.05                                     | 0.07                       | 1.235        | 0.195         | 0.0573       |
| TWC-S20-A  | 1.2         | 31          | 101         | 38          | 23          | 14          | 61           | 67         | 584         | 0.573                      | 4.99                                     | 0.10                       | 2.696        | 2.423         | 0.0532       |
| TWC-S20-B  | 0.9         | 20          | 81          | 31          | 25          | 14          | 53           | 63         | 577         | 0.624                      | 5.07                                     | 0.10                       | 1.088        | 0.966         | 0.0470       |
| TWC-S0-A   | 3.0         | 62          | 113         | 79          | 25          | 12          | 68           | 60         | 744         | 0.543                      | 4.68                                     | 0.09                       | 2.149        | 1.080         | 0.0470       |
| TWC-S0-B   | 2.6         | 56          | 108         | 92          | 28          | 14          | 65           | 51         | 883         | 0.523                      | 4.47                                     | 0.08                       | 0.727        | 0.457         | 0.0551       |
| <b>Willow Creek, (below bridge)</b>  |             |             |             |             |             |             |              |            |             |                            |  |                            |              |               |              |
| TWC-N0-A   | 1.7         | 37          | 113         | 71          | 36          | 14          | 67           | 65         | 801         | 0.614                      | 4.95                                     | 0.09                       | 2.882        | 1.727         | 0.0552       |
| TWC-N0-B   | 2.3         | 22          | 40          | 24          | 16          | 7           | 77           | 45         | 1285        | 0.389                      | 3.22                                     | 0.05                       | 0.312        | 0.255         | 0.0450       |
| TWC-N20-A  | 1.0         | 22          | 88          | 38          | 34          | 15          | 61           | 62         | 762         | 0.620                      | 4.90                                     | 0.11                       | 1.320        | 0.956         | 0.0559       |
| TWC-N20-B  | 1.0         | 25          | 89          | 34          | 36          | 11          | 64           | 82         | 791         | 0.645                      | 5.01                                     | 0.13                       | 1.230        | 0.940         | 0.0510       |
| TWC-N40A   | 1.3         | 23          | 90          | 33          | 32          | 15          | 55           | 62         | 716         | 0.631                      | 5.08                                     | 0.10                       | 0.590        | 0.516         | 0.0548       |
| TWC-N60-A  | 1.2         | 24          | 80          | 36          | 28          | 12          | 55           | 73         | 741         | 0.592                      | 4.85                                     | 0.10                       | 1.544        |               | 0.0539       |
| TWC-N60-B  | 1.0         | 18          | 52          | 37          | 17          | 7           | 38           | 54         | 643         | 0.425                      | 3.67                                     | 0.05                       | 2.706        | 0.257         | 0.0468       |
| TWC-N80-A  | 1.3         | 27          | 93          | 36          | 34          | 17          | 62           | 69         | 732         | 0.631                      | 4.95                                     | 0.12                       | 1.569        | 1.043         | 0.0449       |
| TWC-N80-B  | 1.7         | 22          | 93          | 36          | 36          | 18          | 60           | 68         | 749         | 0.665                      | 5.25                                     | 0.13                       | 0.837        | 0.720         | 0.0449       |

**North-facing slope**

*Cr\* = samples ground in Hardened Steel mill*