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**Slimy Sculpin Metals Data for  
Reference Creeks Used to  
Develop Background Benthos-to-  
Sculpin Trophic Transfer Factors**



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## **Appendix M**

### **Slimy Sculpin Metals Data for Reference Creeks Used to Develop Background Benthos-to-Sculpin Trophic Transfer Factors**

This appendix presents the slimy sculpin (*Cottus cognatus*) data for six reference creeks (California, Downey, Fuller, Ice, No Name, and Vreeland Creeks) in the middle Kuskokwim River region (see Tables M-1 and M-2). The data were collected by the United States Department of Interior Bureau of Land Management in 2010 and 2011. A figure showing the locations of the reference creeks is included in Appendix F. The exposure point concentrations developed from these data (see Table G-3) were used in the BERA Supplement to develop background benthos-to-sculpin trophic transfer factors (see Appendix N).



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***M Slimy Sculpin Metals Data for Reference Creeks Used to Develop Background  
Benthos-to-Sculpin Trophic Transfer Factors***

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**Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region. Alaska.**

| Sample Date (Day-Month-Year) | Lab ID | Client Sample ID           | Arsenic     |          | Antimony   |          | Mercury    |          | Barium      |          | Beryllium  |          | Cadmium    |          | Chromium   |          | Copper     |          | Lead       |          |
|------------------------------|--------|----------------------------|-------------|----------|------------|----------|------------|----------|-------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|
|                              |        |                            | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. |
| <b>No Name Creek</b>         |        |                            |             |          |            |          |            |          |             |          |            |          |            |          |            |          |            |          |            |          |
| 18-Aug-10                    | 563    | 2-NN-13-SC                 | 0.243       |          | 0.055      |          | 0.03648    |          | 4.336       | J+       | 0.025      | UJ       | 0.044      |          | 0.115      |          | 0.622      |          | 0.03       |          |
| 18-Aug-10                    | 564    | 2-NN-14-SC                 | 0.141       |          | 0.025      | U        | 0.0464     |          | 5.78        | J+       | 0.025      | UJ       | 0.041      |          | 0.106      |          | 0.792      |          | 0.03       |          |
| 18-Aug-10                    | 565    | 2-NN-15-SC                 | 0.215       |          | 0.025      | U        | 0.05918    |          | 4.02        | J+       | 0.025      | UJ       | 0.1        |          | 0.112      |          | 0.944      |          | 0.038      |          |
| 18-Aug-10                    | 566    | 2-NN-16-SC                 | 0.138       |          | 0.025      | U        | 0.03042    |          | 3.674       | J+       | 0.025      | UJ       | 0.074      |          | 0.103      |          | 0.710      |          | 0.03       |          |
| 18-Aug-10                    | 567    | 2-NN-17-SC                 | 0.093       |          | 0.025      | U        | 0.03028    |          | 2.174       | J+       | 0.025      | UJ       | 0.05       |          | 0.025      | U        | 0.521      |          | 0.025      | U        |
| 18-Aug-10                    | 568    | 2-NN-18-SC                 | 0.168       |          | 0.025      | U        | 0.03675    |          | 4.685       | J+       | 0.025      | UJ       | 0.055      |          | 0.092      |          | 0.850      |          | 0.032      |          |
| 18-Aug-10                    | 569    | 2-NN-19-SC                 | 0.298       |          | 0.025      | U        | 0.03772    |          | 6.298       | J+       | 0.025      | UJ       | 0.107      |          | 0.275      |          | 0.941      |          | 0.089      |          |
| 18-Aug-10                    | 570    | 2-NN-20-SC                 | 0.141       |          | 0.025      | U        | 0.02917    |          | 3.36        | J+       | 0.025      | UJ       | 0.05       |          | 0.082      |          | 0.614      |          | 0.028      |          |
| 18-Aug-10                    | 571    | 2-NN-21-SC                 | 0.189       |          | 0.025      | U        | 0.05131    |          | 2.674       | J+       | 0.025      | UJ       | 0.042      |          | 0.057      |          | 0.606      |          | 0.025      | U        |
| 18-Aug-10                    | 572    | 2-NN-22-SC                 | 0.189       |          | 0.027      |          | 0.02886    |          | 4.026       | J+       | 0.025      | UJ       | 0.071      |          | 0.131      |          | 0.819      |          | 0.038      |          |
| 18-Aug-10                    | 573    | 2-NN-23-SC                 | 0.216       |          | 0.025      | U        | 0.02492    |          | 3.389       |          | 0.025      | UJ       | 0.047      | J        | 0.144      |          | 0.685      |          | 0.047      | J        |
| 18-Aug-10                    | 574    | 2-NN-24-SC                 | 0.155       |          | 0.025      | U        | 0.02488    |          | 4.195       |          | 0.025      | UJ       | 0.061      | J        | 0.143      |          | 0.588      |          | 0.035      | J        |
| 15-Jun-10                    | 185    | NONA 1,2,3/Slimey Sculpin  | 0.171       | J        | 0.038      | J        | 0.04       | J        | 3.574       | J        | 0.025      | U        | 0.082      | J        | 0.163      | J        | 0.941      |          | 0.04       | J        |
| 15-Jun-10                    | 185    | NONA 1,2,3/Slimey Sculpin  | 0.18        |          | 0.025      | U        | 0.13       |          | 3.714       |          |            |          | 0.077      |          | 0.156      |          |            |          | 0.044      |          |
| 15-Jun-10                    | 192    | NONA 10/Slimey Sculpin     | 0.154       |          | 0.025      | U        | 0.03       |          | 2.642       |          | 0.025      | U        | 0.059      |          | 0.039      | J-       | 0.824      |          | 0.025      | UJ       |
| 15-Jun-10                    | 193    | NONA 11/Slimey Sculpin     | 0.132       |          | 0.025      | U        | 0.04       |          | 2.937       |          | 0.025      | U        | 0.098      |          | 0.071      | J-       | 1.024      |          | 0.025      | UJ       |
| 15-Jun-10                    | 194    | NONA 12/Slimey Sculpin     | 0.142       |          | 0.025      | U        | 0.04       |          | 2.716       |          | 0.025      | U        | 0.043      |          | 0.07       | J-       | 0.665      |          | 0.025      | UJ       |
| 15-Jun-10                    | 186    | NONA 4/Slimey Sculpin      | 0.116       |          | 0.025      | U        | 0.03       |          | 2.146       |          | 0.025      | U        | 0.036      |          | 0.048      | J-       | 0.597      |          | 0.025      | UJ       |
| 15-Jun-10                    | 187    | NONA 5/Slimey Sculpin      | 0.169       |          | 0.025      | U        | 0.04       |          | 2.92        |          | 0.025      | U        | 0.049      |          | 0.096      | J-       | 0.647      |          | 0.025      | UJ       |
| 15-Jun-10                    | 188    | NONA 6/Slimey Sculpin      | 0.121       |          | 0.025      | U        | 0.04       |          | 3.044       |          | 0.025      | U        | 0.054      |          | 0.12       | J-       | 1.091      |          | 0.028      | J-       |
| 15-Jun-10                    | 189    | NONA 7/Slimey Sculpin      | 0.159       |          | 0.025      | U        | 0.04       |          | 2.98        |          | 0.025      | U        | 0.036      |          | 0.06       | J-       | 0.565      |          | 0.025      | UJ       |
| 15-Jun-10                    | 190    | NONA 8/Slimey Sculpin      | 0.179       |          | 0.025      | U        | 0.02       |          | 3.278       |          | 0.025      | U        | 0.064      |          | 0.106      | J-       | 1.546      |          | 0.036      | J-       |
| 15-Jun-10                    | 191    | NONA 9/Slimey Sculpin      | 0.165       |          | 0.043      |          | 0.04       |          | 2.845       |          | 0.025      | U        | 0.056      |          | 0.079      | J-       | 0.897      |          | 0.028      | J-       |
| <b>Downey Creek</b>          |        |                            |             |          |            |          |            |          |             |          |            |          |            |          |            |          |            |          |            |          |
| 05-Oct-10                    | 1154   | 2-DOW-SS-1                 | 0.085       |          | 0.025      | U        | 0.04246    | J-       | 3.21        | J+       | 0.025      | UJ       | 0.038      |          | 0.025      | U        | 0.596      |          | 0.025      | U        |
| 05-Oct-10                    | 1162   | 2-DOW-SS-10                | 0.129       |          | 0.025      | U        | 0.03507    | J-       | 3.121       | J+       | 0.025      | UJ       | 0.025      | U        | 0.061      |          | 0.682      |          | 0.025      | U        |
| 25-Oct-10                    | 1163   | 2-DOW-SS-11                | 0.114       |          | 0.025      | U        | 0.1441     | J-       | 4.068       | J+       | 0.025      | UJ       | 0.031      |          | 0.036      |          | 0.611      |          | 0.025      | U        |
| 25-Oct-10                    | 1164   | 2-DOW-SS-12                | 0.115       |          | 0.025      | U        | 0.07433    | J-       | 3.699       | J+       | 0.025      | UJ       | 0.025      | U        | 0.057      |          | 0.647      |          | 0.025      | U        |
| 05-Oct-10                    | 1155   | 2-DOW-SS-3                 | 0.13        |          | 0.025      | U        | 0.05876    | J-       | 3.615       | J+       | 0.025      | UJ       | 0.066      |          | 0.038      |          | 0.645      |          | 0.025      | U        |
| 05-Oct-10                    | 1156   | 2-DOW-SS-4                 | 0.138       |          | 0.025      | U        | 0.03414    | J-       | 2.514       | J+       | 0.025      | UJ       | 0.026      |          | 0.082      |          | 0.626      |          | 0.025      | U        |
| 05-Oct-10                    | 1157   | 2-DOW-SS-5                 | 0.121       |          | 0.025      | U        | 0.03279    | J-       | 2.696       | J+       | 0.025      | UJ       | 0.049      |          | 0.029      |          | 0.578      |          | 0.025      | U        |
| 05-Oct-10                    | 1158   | 2-DOW-SS-6                 | 0.067       |          | 0.025      | U        | 0.066      | J-       | 2.428       | J+       | 0.025      | UJ       | 0.025      | U        | 0.031      |          | 0.534      |          | 0.025      | U        |
| 05-Oct-10                    | 1159   | 2-DOW-SS-7                 | 0.14        |          | 0.025      | U        | 0.0399     | J-       | 5.573       | J+       | 0.025      | UJ       | 0.033      |          | 0.111      |          | 0.703      |          | 0.032      |          |
| 05-Oct-10                    | 1160   | 2-DOW-SS-8                 | 0.124       |          | 0.025      | U        | 0.04851    | J-       | 2.62        | J+       | 0.025      | UJ       | 0.035      |          | 0.025      | U        | 0.534      |          | 0.025      | U        |
| 05-Oct-10                    | 1161   | 2-DOW-SS-9                 | 0.143       |          | 0.025      | U        | 0.03239    | J-       | 2.777       | J+       | 0.025      | UJ       | 0.041      |          | 0.039      |          | 0.573      |          | 0.025      | U        |
| 15-Jun-10                    | 198    | DOW 1/Slimey Sculpin       | 0.166       |          | 0.025      | U        | 0.03       |          | 3.779       |          | 0.025      | U        | 0.07       |          | 0.609      | J-       | 0.764      |          | 0.025      | UJ       |
| 15-Jun-10                    | 204    | DOW 10/Slimey Sculpin      | 0.236       |          | 0.025      | U        | 0.03       |          | 2.69        |          | 0.025      | U        | 0.025      | U        | 0.093      | J-       | 3.443      |          | 0.030      | J-       |
| 15-Jun-10                    | 205    | DOW 11/Slimey Sculpin      | 0.131       |          | 0.025      | U        | 0.07       |          | 3.283       |          | 0.025      | U        | 0.047      |          | 0.065      | J-       | 1.12       | J-       | 0.025      | UJ       |
| 15-Jun-10                    | 206    | DOW 12/Slimey Sculpin      | 0.186       |          | 0.025      | U        | 0.05       |          | 2.936       |          | 0.025      | U        | 0.078      |          | 0.192      | J-       | 1.258      | J-       | 0.033      | J-       |
| 15-Jun-10                    | 199    | DOW 2/Slimey Sculpin       | 0.101       |          | 0.025      | U        | 0.05       |          | 3.52        |          | 0.025      | U        | 0.042      |          | 0.469      | J-       | 0.764      |          | 0.025      | UJ       |
| 15-Jun-10                    | 200    | DOW 3/Slimey Sculpin       | 0.112       |          | 0.025      | U        | 0.03       |          | 2.259       |          | 0.025      | U        | 0.061      |          | 0.025      | UJ       | 0.561      |          | 0.025      | UJ       |
| 15-Jun-10                    | 201    | DOW 4/Slimey Sculpin       | 0.117       |          | 0.025      | U        | 0.02       |          | 2.282       |          | 0.025      | U        | 0.048      |          | 0.087      | J-       | 0.71       |          | 0.025      | UJ       |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin | 0.114       |          | 0.025      | U        | 0.05       |          | 2.775       |          | 0.025      | U        | 0.052      |          | 0.136      | J-       | 2.076      |          | 0.031      | J-       |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin | 0.117       |          | 0.052      |          | 0.05       |          | 3.306       |          | 0.025      | U        | 0.055      |          | 0.134      |          | 0.804      | J-       | 0.029      |          |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 2.109      |          |            |          |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 0.761      |          |            |          |
| 15-Jun-10                    | 203    | DOW 8/Slimey Sculpin       | 0.15        |          | 0.025      | U        | 0.03       |          | 4.088       |          | 0.025      | U        | 0.081      |          | 0.106      | J-       | 1.072      | J-       | 0.025      | UJ       |

Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region. Alaska.

| Sample Date<br>(Day-Month-Year) | Lab ID | Client Sample ID      | Arsenic    |          | Antimony   |          | Mercury    |          | Barium     |          | Beryllium  |          | Cadmium    |          | Chromium   |          | Copper     |          | Lead       |          |
|---------------------------------|--------|-----------------------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|
|                                 |        |                       | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. |
| <b>Ice Creek</b>                |        |                       |            |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |
| 18-Aug-10                       | 504    | 2-ICE-13-SC           | 0.104      |          | 0.025      | U        | 0.039      | J-       | 3.364      |          | 0.025      | U        | 0.045      |          | 0.035      |          | 0.594      |          | 0.025      | UJ       |
| 18-Aug-10                       | 505    | 2-ICE-14-SC           | 0.157      |          | 0.025      | U        | 0.040      | J-       | 5.969      |          | 0.025      | U        | 0.079      |          | 0.177      |          | 0.775      |          | 0.036      | J        |
| 18-Aug-10                       | 506    | 2-ICE-15-SC           | 0.203      |          | 0.025      | U        | 0.023      | J-       | 4.498      |          | 0.025      | U        | 0.058      |          | 0.271      |          | 0.934      |          | 0.055      | J        |
| 18-Aug-10                       | 507    | 2-ICE-16-SC           | 0.088      |          | 0.025      | U        | 0.048      |          | 2.749      |          | 0.025      | UJ       | 0.035      | J        | 0.055      |          | 0.683      |          | 0.023      | J        |
| 18-Aug-10                       | 508    | 2-ICE-17-SC           | 0.126      |          | 0.025      | U        | 0.024      | J-       | 3.523      |          | 0.025      | U        | 0.068      |          | 0.078      |          | 0.655      |          | 0.025      | UJ       |
| 18-Aug-10                       | 509    | 2-ICE-18-SC           | 0.164      |          | 0.025      | U        | 0.027      | J-       | 4.891      |          | 0.025      | U        | 0.074      |          | 0.154      |          | 0.567      |          | 0.036      | J        |
| 18-Aug-10                       | 510    | 2-ICE-19-SC           | 0.107      |          | 0.025      | U        | 0.025      | J-       | 3.179      |          | 0.025      | U        | 0.042      |          | 0.121      |          | 0.746      |          | 0.028      | J        |
| 18-Aug-10                       | 511    | 2-ICE-20-SC           | 0.138      |          | 0.025      | U        | 0.030      | J-       | 3.242      |          | 0.025      | U        | 0.038      |          | 1.518      |          | 0.733      |          | 0.027      | J        |
| 18-Aug-10                       | 512    | 2-ICE-21-SC           | 0.151      |          | 0.025      | U        | 0.025      | J-       | 2.756      |          | 0.025      | U        | 0.048      |          | 0.046      |          | 0.742      |          | 0.025      | UJ       |
| 18-Aug-10                       | 513    | 2-ICE-22-SC           | 0.122      |          | 0.025      | U        | 0.031      | J+       | 3.024      | J+       | 0.025      | U        | 0.059      |          | 0.075      |          | 0.689      |          | 0.025      | UJ       |
| 18-Aug-10                       | 514    | 2-ICE-23-SC           | 0.157      |          | 0.027      |          | 0.026      | J+       | 4.546      | J+       | 0.025      | U        | 0.067      |          | 0.164      |          | 0.765      |          | 0.029      | J        |
| 17-Aug-10                       | 515    | 2-ICE-24-SC           | 0.171      |          | 0.025      | U        | 0.026      | J+       | 5.35       | J+       | 0.025      | U        | 0.034      |          | 0.279      |          | 0.693      |          | 0.052      | J        |
| 15-Jun-10                       | 218    | ICE 1/Slimey Sculpin  | 0.117      |          | 0.025      | U        | 0.020      |          | 2.717      |          | 0.025      | U        | 0.050      |          | 0.058      | J-       | 0.868      | J-       | 0.025      | UJ       |
| 15-Jun-10                       | 227    | ICE 10/Slimey Sculpin | 0.111      | J        | 0.039      |          | 0.030      |          | 2.463      |          | 0.025      | U        | 0.030      |          | 0.035      |          | 0.574      |          | 0.025      | UJ       |
| 15-Jun-10                       | 228    | ICE 11/Slimey Sculpin | 0.149      | J        | 0.025      | U        | 0.030      |          | 3.284      |          | 0.025      | U        | 0.045      |          | 0.067      |          | 1.232      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 243    | ICE 19/Slimey Sculpin | 0.092      | J        | 0.043      |          | 0.020      |          | 2.346      |          | 0.025      | U        | 0.036      |          | 0.025      | U        | 0.528      |          | 0.031      | J-       |
| 15-Jun-10                       | 219    | ICE 2/Slimey Sculpin  | 0.122      |          | 0.025      | U        | 0.030      |          | 3.323      |          | 0.025      | U        | 0.071      |          | 0.155      | J-       | 2.261      |          | 0.034      | J-       |
| 15-Jun-10                       | 220    | ICE 3/Slimey Sculpin  | 0.106      |          | 0.025      | U        | 0.030      |          | 2.953      |          | 0.025      | U        | 0.053      |          | 0.065      | J-       | 0.944      | J-       | 0.046      | J-       |
| 15-Jun-10                       | 221    | ICE 4/Slimey Sculpin  | 0.153      |          | 0.025      | U        | 0.040      |          | 3.274      |          | 0.025      | U        | 0.074      |          | 0.092      | J-       | 0.935      | J-       | 0.030      | J-       |
| 15-Jun-10                       | 222    | ICE 5/Slimey Sculpin  | 0.188      |          | 0.025      | U        | 0.040      |          | 4.705      |          | 0.025      | U        | 0.087      |          | 0.169      | J-       | 1.701      | J-       | 0.046      | J-       |
| 15-Jun-10                       | 223    | ICE 6/Slimey Sculpin  | 0.129      |          | 0.025      | U        | 0.030      |          | 2.816      |          | 0.025      | U        | 0.061      |          | 0.089      | J-       | 0.856      | J-       | 0.035      | J-       |
| 15-Jun-10                       | 224    | ICE 7/Slimey Sculpin  | 0.138      |          | 0.025      | U        | 0.030      |          | 2.813      |          | 0.025      | U        | 0.065      |          | 0.096      | J-       | 0.794      | J-       | 0.027      | J-       |
| 15-Jun-10                       | 225    | ICE 8/Slimey Sculpin  | 0.113      |          | 0.025      | U        | 0.100      |          | 5.305      |          | 0.025      | U        | 0.053      |          | 0.070      | J-       | 0.805      | J-       | 0.025      | UJ       |
| 15-Jun-10                       | 226    | ICE 9/Slimey Sculpin  | 0.145      | J        | 0.025      | U        | 0.030      |          | 3.95       |          | 0.025      | U        | 0.058      |          | 0.034      |          | 1.227      | J        | 0.025      | UJ       |
| <b>Vreeland Creek</b>           |        |                       |            |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |            |          |
| 04-Oct-10                       | 1137   | 2-VR-SS-1             | 0.107      | J        | 0.025      | U        | 0.029      | J-       | 4.292      | J+       | 0.025      | UJ       | 0.025      | U        | 0.114      |          | 0.589      |          | 0.025      | U        |
| 04-Oct-10                       | 1146   | 2-VR-SS-10            | 0.099      | J        | 0.025      | U        | 0.019      | J-       | 2.699      | J+       | 0.025      | UJ       | 0.025      | U        | 0.025      | U        | 0.679      |          | 0.025      | U        |
| 04-Oct-10                       | 1147   | 2-VR-SS-11            | 0.174      | J        | 0.034      |          | 0.029      | J-       | 4.157      | J+       | 0.025      | UJ       | 0.041      |          | 0.033      |          | 0.539      |          | 0.025      | U        |
| 04-Oct-10                       | 1148   | 2-VR-SS-12            | 0.104      | J        | 0.025      | U        | 0.062      | J-       | 5.164      | J+       | 0.025      | UJ       | 0.031      |          | 0.025      | U        | 0.579      |          | 0.025      | U        |
| 04-Oct-10                       | 1138   | 2-VR-SS-2             | 0.102      | J        | 0.025      | U        | 0.034      | J-       | 6.902      | J+       | 0.025      | UJ       | 0.025      | U        | 0.069      |          | 0.651      |          | 0.025      | U        |
| 04-Oct-10                       | 1139   | 2-VR-SS-3             | 0.167      | J        | 0.025      | U        | 0.021      | J-       | 5.814      | J+       | 0.025      | UJ       | 0.041      |          | 0.109      |          | 0.665      |          | 0.025      | U        |
| 04-Oct-10                       | 1140   | 2-VR-SS-4             | 0.113      | J        | 0.025      | U        | 0.018      | J-       | 4.010      | J+       | 0.025      | UJ       | 0.031      |          | 0.053      |          | 0.604      |          | 0.025      | U        |
| 04-Oct-10                       | 1141   | 2-VR-SS-5             | 0.164      | J        | 0.025      | U        | 0.032      | J-       | 5.068      | J+       | 0.025      | UJ       | 0.046      |          | 0.036      |          | 0.765      |          | 0.025      | U        |
| 04-Oct-10                       | 1142   | 2-VR-SS-6             | 0.109      | J        | 0.025      | U        | 0.043      | J-       | 6.936      | J+       | 0.025      | UJ       | 0.025      | U        | 0.031      |          | 0.570      |          | 0.025      | U        |
| 04-Oct-10                       | 1143   | 2-VR-SS-7             | 0.208      | J        | 0.025      | U        | 0.020      | J-       | 4.036      | J+       | 0.025      | UJ       | 0.041      |          | 0.046      |          | 0.677      |          | 0.025      | U        |
| 04-Oct-10                       | 1144   | 2-VR-SS-8             | 0.081      | J        | 0.025      | U        | 0.068      | J-       | 5.416      | J+       | 0.025      | UJ       | 0.025      | U        | 0.025      | U        | 0.613      |          | 0.025      | U        |
| 04-Oct-10                       | 1145   | 2-VR-SS-9             | 0.144      | J        | 0.025      | U        | 0.020      | J-       | 4.523      | J+       | 0.025      | UJ       | 0.057      |          | 0.074      |          | 0.737      |          | 0.025      | U        |
| 15-Jun-10                       | 304    | VR 1,2/Slimey Sculpin | 0.079      |          | 0.025      | U        | 0.100      |          | 4.705      |          | 0.025      | U        | 0.025      | U        | 0.113      | J-       | 1.611      |          | 0.025      | UJ       |
| 15-Jun-10                       | 304    | VR 1,2/Slimey Sculpin | 0.081      |          | 0.025      | U        | 0.100      |          | 4.696      |          | 0.025      | U        | 0.026      |          | 0.123      |          | 0.781      | J        | 0.025      | U        |
| 15-Jun-10                       | 304    | VR 1,2/Slimey Sculpin |            |          |            |          |            |          |            |          | 0.025      | U        |            |          |            |          | 1.496      |          |            |          |
| 15-Jun-10                       | 304    | VR 1,2/Slimey Sculpin |            |          |            |          |            |          |            |          | 0.025      | U        |            |          |            |          | 0.520      |          |            |          |
| 15-Jun-10                       | 312    | VR 10/Slimey Sculpin  | 0.111      |          | 0.025      | U        | 0.040      |          | 3.899      |          | 0.025      | U        | 0.059      |          | 0.101      |          | 1.149      | J-       | 0.026      |          |
| 15-Jun-10                       | 311    | VR 11/Slimey Sculpin  | 0.092      |          | 0.025      | U        | 0.070      |          | 5.282      |          | 0.025      | U        | 0.025      | U        | 0.025      |          | 0.457      | J-       | 0.025      | U        |
| 15-Jun-10                       | 302    | VR 12/Slimey Sculpin  | 0.100      |          | 0.025      | U        | 0.030      |          | 3.936      |          | 0.025      | U        | 0.031      |          | 0.265      | J-       | 0.665      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 303    | VR 3/Slimey Sculpin   | 0.074      |          | 0.025      | U        | 0.110      |          | 7.264      |          | 0.025      | U        | 0.025      | U        | 0.122      | J-       | 0.429      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 310    | VR 4/Slimey Sculpin   | 0.100      |          | 0.025      | U        | 0.120      |          | 5.642      |          | 0.025      | U        | 0.025      | U        | 0.080      |          | 0.834      | J-       | 0.025      | U        |
| 15-Jun-10                       | 307    | VR 5/Slimey Sculpin   | 0.151      |          | 0.025      | U        | 0.120      |          | 5.474      |          | 0.025      | U        | 0.063      |          | 0.101      | J-       | 0.458      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 305    | VR 6/Slimey Sculpin   | 0.081      |          | 0.077      |          | 0.150      |          | 4.907      |          | 0.025      | U        | 0.025      | U        | 0.067      | J-       | 0.569      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 306    | VR 7/Slimey Sculpin   | 0.127      |          | 0.025      | U        | 0.050      |          | 3.486      |          | 0.025      | U        | 0.025      | U        | 0.045      | J-       | 0.418      | J        | 0.025      | UJ       |
| 15-Jun-10                       | 308    | VR 8/Slimey Sculpin   | 0.123      |          | 0.025      | U        | 0.050      |          | 2.365      |          | 0.025      | U        | 0.032      |          | 0.028      |          | 0.679      | J-       | 0.025      | U        |
| 15-Jun-10                       | 309    | VR 9/Slimey Sculpin   | 0.092      |          | 0.025      | U        | 0.050      |          | 2.400      |          | 0.025      | U        | 0.059      |          | 0.031      |          | 0.560      | J-       | 0.025      | U        |

**Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region, Alaska.**

| Sample Date (Day-Month-Year) | Lab ID | Client Sample ID         | Arsenic     |          | Antimony   |          | Mercury    |          | Barium      |          | Beryllium  |          | Cadmium    |          | Chromium   |          | Copper     |          | Lead       |          |            |
|------------------------------|--------|--------------------------|-------------|----------|------------|----------|------------|----------|-------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|
|                              |        |                          | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) | QA Qual. | (ug/wet g) |
| <b>California Creek</b>      |        |                          |             |          |            |          |            |          |             |          |            |          |            |          |            |          |            |          |            |          |            |
| 05-Oct-10                    | 1099   | 2-CC-SS-1                | 0.137       |          | 0.025      | U        | 0.024      |          | 3.038       |          | 0.025      | UJ       | 0.030      |          | 0.167      |          | 0.649      |          | 0.029      | J        |            |
| 05-Oct-10                    | 1108   | 2-CC-SS-10               | 0.183       |          | 0.025      | U        | 0.029      |          | 3.005       |          | 0.025      | UJ       | 0.041      |          | 0.057      |          | 0.738      |          | 0.027      | J        |            |
| 05-Oct-10                    | 1109   | 2-CC-SS-11               | 0.172       |          | 0.025      | U        | 0.016      |          | 2.701       |          | 0.025      | UJ       | 0.025      | U        | 0.089      |          | 0.629      |          | 0.031      | J        |            |
| 05-Oct-10                    | 1110   | 2-CC-SS-12               | 0.208       |          | 0.025      | U        | 0.047      |          | 3.966       |          | 0.025      | UJ       | 0.118      |          | 0.097      |          | 0.777      |          | 0.040      | J        |            |
| 05-Oct-10                    | 1100   | 2-CC-SS-2                | 0.170       |          | 0.025      | U        | 0.018      |          | 4.025       |          | 0.025      | UJ       | 0.047      |          | 0.073      |          | 0.624      |          | 0.025      | UJ       |            |
| 05-Oct-10                    | 1101   | 2-CC-SS-3                | 0.171       |          | 0.025      | U        | 0.021      |          | 2.339       |          | 0.025      | UJ       | 0.025      | U        | 0.074      |          | 0.616      |          | 0.025      | UJ       |            |
| 05-Oct-10                    | 1102   | 2-CC-SS-4                | 0.129       |          | 0.025      | U        | 0.060      |          | 3.345       |          | 0.025      | UJ       | 0.028      |          | 0.128      |          | 0.647      |          | 0.025      | UJ       |            |
| 05-Oct-10                    | 1103   | 2-CC-SS-5                | 0.136       |          | 0.025      | U        | 0.051      |          | 4.816       |          | 0.025      | UJ       | 0.031      |          | 0.091      |          | 0.705      |          | 0.025      | UJ       |            |
| 05-Oct-10                    | 1104   | 2-CC-SS-6                | 0.225       |          | 0.025      | U        | 0.059      |          | 6.136       |          | 0.025      | UJ       | 0.047      |          | 0.221      |          | 0.729      |          | 0.043      | J        |            |
| 05-Oct-10                    | 1105   | 2-CC-SS-7                | 0.137       |          | 0.025      | U        | 0.078      |          | 3.292       |          | 0.025      | UJ       | 0.030      |          | 0.088      |          | 0.533      |          | 0.025      | UJ       |            |
| 05-Oct-10                    | 1106   | 2-CC-SS-8                | 0.180       |          | 0.025      | U        | 0.031      |          | 2.875       |          | 0.025      | UJ       | 0.040      |          | 0.094      |          | 0.692      |          | 0.030      | J        |            |
| 05-Oct-10                    | 1107   | 2-CC-SS-9                | 0.158       |          | 0.025      | U        | 0.039      |          | 3.726       |          | 0.025      | UJ       | 0.051      |          | 0.047      |          | 0.606      |          | 0.025      | UJ       |            |
| 15-Jun-10                    | 352    | CA 10/Slimey Sculpin     | 1.583       |          | 0.418      |          | 0.070      |          | 3.205       |          | 0.025      | U        | 0.095      |          | 0.151      | J-       | 1.834      | J+       | 0.038      | J-       |            |
| 15-Jun-10                    | 353    | CA 11/Slimey Sculpin     | 0.134       |          | 0.025      | U        | 0.050      |          | 2.545       |          | 0.025      | U        | 0.025      | U        | 0.070      | J-       | 0.952      | J-       | 0.025      | UJ       |            |
| 15-Jun-10                    | 351    | CA 12/Slimey Sculpin     | 0.198       |          | 0.025      | U        | 0.030      |          | 2.840       |          | 0.025      | U        | 0.088      |          | 0.099      | J-       | 1.512      | J+       | 0.032      | J-       |            |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    | 0.138       |          | 0.025      | U        | 0.090      |          | 3.148       |          | 0.025      | U        | 0.035      |          | 0.135      |          | 2.214      |          | 0.025      | UJ       |            |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    | 0.120       |          | 0.025      | U        | 0.090      |          | 3.779       |          | 0.025      | U        | 0.034      |          | 0.120      |          | 0.674      |          | 0.025      | U        |            |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 1.988      |          |            |          |            |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 0.658      |          |            |          |            |
| 15-Jun-10                    | 360    | CA 3/Slimey Sculpin      | 0.119       |          | 0.025      | U        | 0.040      |          | 2.534       |          | 0.025      | U        | 0.051      |          | 0.127      |          | 0.609      |          | 0.025      | UJ       |            |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      | 0.119       |          | 0.025      | U        | 0.070      |          | 2.296       |          | 0.025      | U        | 0.029      |          | 0.079      | J-       | 1.560      |          | 0.025      | UJ       |            |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      | 0.139       |          | 0.025      | U        | 0.080      |          | 1.871       |          | 0.025      | U        | 0.025      | U        | 0.118      |          | 0.493      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 1.899      |          |            |          |            |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      |             |          |            |          |            |          |             |          | 0.025      | U        |            |          |            |          | 0.497      |          |            |          |            |
| 15-Jun-10                    | 359    | CA 5/Slimey Sculpin      | 0.145       |          | 0.025      | U        | 0.060      |          | 2.774       |          | 0.025      | U        | 0.030      |          | 0.096      |          | 3.125      |          | 0.040      | J-       |            |
| 15-Jun-10                    | 357    | CA 6/Slimey Sculpin      | 0.180       |          | 0.025      | U        | 0.060      |          | 2.598       |          | 0.025      | U        | 0.040      |          | 0.092      | J-       | 0.856      | J-       | 0.031      | J-       |            |
| 15-Jun-10                    | 356    | CA 7/Slimey Sculpin      | 0.190       |          | 0.025      | U        | 0.040      |          | 2.041       |          | 0.025      | U        | 0.040      |          | 0.094      | J-       | 0.624      | J-       | 0.025      | UJ       |            |
| 15-Jun-10                    | 355    | CA 8/Slimey Sculpin      | 0.101       |          | 0.025      | U        | 0.060      |          | 2.483       |          | 0.025      | U        | 0.043      |          | 0.036      | J-       | 0.541      | J-       | 0.025      | UJ       |            |
| 15-Jun-10                    | 354    | CA 9/Slimey Sculpin      | 0.155       |          | 0.025      | U        | 0.060      |          | 2.100       |          | 0.025      | U        | 0.048      |          | 0.069      | J-       | 0.559      | J-       | 0.030      | J-       |            |
| <b>Fuller Creek</b>          |        |                          |             |          |            |          |            |          |             |          |            |          |            |          |            |          |            |          |            |          |            |
| 06-Oct-10                    | 1084   | 2-FuL-SS-1               | 0.131       | J-       | 0.025      | U        | 0.02421    | J        | 3.206       |          | 0.025      | U        | 0.042      |          | 0.036      |          | 0.636      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1093   | 2-FuL-SS-10              | 0.088       |          | 0.025      | U        | 0.0968     |          | 8.137       |          | 0.025      | UJ       | 0.025      | U        | 0.044      |          | 0.470      |          | 0.025      | UJ       |            |
| 06-Oct-10                    | 1094   | 2-FuL-SS-11              | 0.139       |          | 0.025      | U        | 0.04577    |          | 7.286       |          | 0.025      | UJ       | 0.025      | U        | 0.245      |          | 0.694      |          | 0.025      | UJ       |            |
| 06-Oct-10                    | 1095   | 2-FuL-SS-12              | 0.129       |          | 0.025      | U        | 0.02399    |          | 6.973       |          | 0.025      | UJ       | 0.025      | U        | 0.028      |          | 0.467      |          | 0.025      | UJ       |            |
| 06-Oct-10                    | 1085   | 2-FuL-SS-2               | 0.128       | J-       | 0.025      | U        | 0.0382     | J        | 3.863       |          | 0.025      | U        | 0.033      |          | 0.066      |          | 0.646      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1086   | 2-FuL-SS-3               | 0.163       | J-       | 0.025      | U        | 0.02       | J        | 3.829       |          | 0.025      | U        | 0.042      |          | 0.062      |          | 0.684      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1087   | 2-FuL-SS-4               | 0.116       | J-       | 0.025      | U        | 0.05546    | J        | 7.063       |          | 0.025      | U        | 0.028      |          | 0.025      | U        | 0.690      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1088   | 2-FuL-SS-5               | 0.130       | J-       | 0.025      | U        | 0.05679    | J        | 4.869       |          | 0.025      | U        | 0.025      | U        | 0.143      |          | 0.610      |          | 0.054      |          |            |
| 06-Oct-10                    | 1089   | 2-FuL-SS-6               | 0.216       | J-       | 0.025      | U        | 0.01522    | J        | 6.371       |          | 0.025      | U        | 0.034      |          | 0.175      |          | 0.530      |          | 0.030      |          |            |
| 06-Oct-10                    | 1090   | 2-FuL-SS-7               | 0.104       | J-       | 0.025      | U        | 0.02519    | J        | 5.060       |          | 0.025      | U        | 0.025      | U        | 0.025      | U        | 0.528      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1091   | 2-FuL-SS-8               | 0.118       | J-       | 0.025      | U        | 0.02063    | J        | 5.289       |          | 0.025      | U        | 0.036      |          | 0.026      |          | 0.558      |          | 0.025      | U        |            |
| 06-Oct-10                    | 1092   | 2-FuL-SS-9               | 0.143       |          | 0.025      | U        | 0.08107    |          | 7.795       |          | 0.025      | UJ       | 0.025      | U        | 0.033      |          | 0.630      |          | 0.025      | UJ       |            |
| 15-Jun-10                    | 266    | FUL 1,2,3/Slimey Sculpin | 0.113       |          | 0.025      | U        | 0.06       |          | 5.125       |          | 0.025      | U        | 0.029      |          | 0.098      |          | 0.760      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 266    | FUL 1,2,3/Slimey Sculpin | 0.119       |          | 0.025      | U        | 0.05       |          | 5.614       |          | 0.025      | U        | 0.029      |          | 0.086      |          | 0.702      |          | 0.025      | U        |            |
| 15-Jun-10                    | 273    | FUL 10/Slimey Sculpin    | 0.125       |          | 0.025      | U        | 0.04       |          | 5.860       |          | 0.025      | U        | 0.026      |          | 0.057      |          | 0.666      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 274    | FUL 11/Slimey Sculpin    | 0.096       |          | 0.025      | U        | 0.04       |          | 5.616       |          | 0.025      | U        | 0.043      |          | 0.070      |          | 1.562      |          | 0.025      | U        |            |
| 15-Jun-10                    | 275    | FUL 12/Slimey Sculpin    | 0.176       |          | 0.025      | U        | 0.05       |          | 5.690       |          | 0.025      | U        | 0.042      |          | 0.103      |          | 1.720      |          | 0.027      |          |            |
| 15-Jun-10                    | 267    | FUL 4/Slimey Sculpin     | 0.100       |          | 0.025      | U        | 0.07       |          | 8.110       |          | 0.025      | U        | 0.025      | U        | 0.059      |          | 0.714      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 268    | FUL 5/Slimey Sculpin     | 0.140       |          | 0.025      | U        | 0.07       |          | 10.050      |          | 0.025      | U        | 0.030      |          | 0.094      |          | 1.358      | J-       | 0.027      |          |            |
| 15-Jun-10                    | 269    | FUL 6/Slimey Sculpin     | 0.093       |          | 0.025      | U        | 0.03       |          | 3.539       |          | 0.025      | U        | 0.032      |          | 0.059      |          | 0.702      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 270    | FUL 7/Slimey Sculpin     | 0.129       |          | 0.025      | U        | 0.06       |          | 11.787      |          | 0.025      | U        | 0.025      | U        | 0.093      |          | 0.779      | J-       | 0.027      |          |            |
| 15-Jun-10                    | 271    | FUL 8/Slimey Sculpin     | 0.111       |          | 0.025      | U        | 0.08       |          | 4.091       |          | 0.025      | U        | 0.074      |          | 0.052      |          | 0.698      | J-       | 0.025      | U        |            |
| 15-Jun-10                    | 272    | FUL 9/Slimey Sculpin     | 0.151       |          | 0.025      | U        | 0.03       |          | 3.321       |          | 0.025      | U        | 0.087      |          | 0.530      |          | 1.020      | J-       | 0.030      |          |            |

**Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region, Alaska.**

| Sample Date (Day-Month-Year) | Lab ID | Client Sample ID           | Manganese  |          | Nickel      |          | Selenium   |          | Vanadium   |          | Zinc       |          |
|------------------------------|--------|----------------------------|------------|----------|-------------|----------|------------|----------|------------|----------|------------|----------|
|                              |        |                            | (ug/wet g) | QA Qual. | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. |
| <b>No Name Creek</b>         |        |                            |            |          |             |          |            |          |            |          |            |          |
| 18-Aug-10                    | 563    | 2-NN-13-SC                 | 8.232      |          | 0.123       | J        | 3.447      | J+       | 0.293      |          | 20.876     |          |
| 18-Aug-10                    | 564    | 2-NN-14-SC                 | 7.345      |          | 0.112       | J        | 2.188      | J+       | 0.291      |          | 36.058     |          |
| 18-Aug-10                    | 565    | 2-NN-15-SC                 | 11.628     |          | 0.149       | J        | 1.837      | J+       | 0.343      |          | 24.578     |          |
| 18-Aug-10                    | 566    | 2-NN-16-SC                 | 6.899      |          | 0.098       | J        | 1.923      | J+       | 0.258      |          | 23.212     |          |
| 18-Aug-10                    | 567    | 2-NN-17-SC                 | 3.974      |          | 0.042       | J        | 3.346      | J+       | 0.113      |          | 19.173     |          |
| 18-Aug-10                    | 568    | 2-NN-18-SC                 | 8.356      |          | 0.112       | J        | 1.578      | J+       | 0.229      |          | 22.827     |          |
| 18-Aug-10                    | 569    | 2-NN-19-SC                 | 11.048     |          | 0.278       | J        | 1.603      | J+       | 0.592      |          | 26.597     |          |
| 18-Aug-10                    | 570    | 2-NN-20-SC                 | 8.659      |          | 0.1         | J        | 2.583      | J+       | 0.208      |          | 24.731     |          |
| 18-Aug-10                    | 571    | 2-NN-21-SC                 | 5.931      |          | 0.077       | J        | 2.494      | J+       | 0.228      |          | 25.503     |          |
| 18-Aug-10                    | 572    | 2-NN-22-SC                 | 9.611      |          | 0.154       | J        | 2.415      | J+       | 0.328      |          | 25.422     |          |
| 18-Aug-10                    | 573    | 2-NN-23-SC                 | 7.764      |          | 0.146       |          | 2.03       | J+       | 0.296      |          | 19.601     |          |
| 18-Aug-10                    | 574    | 2-NN-24-SC                 | 6.684      |          | 0.473       |          | 2.193      | J+       | 0.348      |          | 27.446     |          |
| 15-Jun-10                    | 185    | NONA 1,2,3/Slimey Sculpin  | 8.728      | J        | 0.123       | J        | 2.174      | J        | 0.32       | J        | 26.433     | J        |
| 15-Jun-10                    | 185    | NONA 1,2,3/Slimey Sculpin  | 9.38       |          | 0.133       |          | 2.346      |          | 0.318      |          | 26.726     |          |
| 15-Jun-10                    | 192    | NONA 10/Slimey Sculpin     | 10.577     |          | 0.046       |          | 1.58       |          | 0.156      |          | 27.255     | J-       |
| 15-Jun-10                    | 193    | NONA 11/Slimey Sculpin     | 8.485      |          | 0.062       |          | 1.749      |          | 0.15       |          | 23.159     | J-       |
| 15-Jun-10                    | 194    | NONA 12/Slimey Sculpin     | 8.181      |          | 0.054       |          | 1.36       |          | 0.171      |          | 21.629     | J-       |
| 15-Jun-10                    | 186    | NONA 4/Slimey Sculpin      | 5.078      |          | 0.051       |          | 1.413      |          | 0.109      |          | 24.92      | J-       |
| 15-Jun-10                    | 187    | NONA 5/Slimey Sculpin      | 15.274     |          | 0.067       |          | 1.558      |          | 0.144      |          | 24.796     | J-       |
| 15-Jun-10                    | 188    | NONA 6/Slimey Sculpin      | 8.816      |          | 0.113       |          | 2.107      |          | 0.228      |          | 21.261     | J-       |
| 15-Jun-10                    | 189    | NONA 7/Slimey Sculpin      | 14.489     |          | 0.048       |          | 1.191      |          | 0.139      |          | 23.917     | J-       |
| 15-Jun-10                    | 190    | NONA 8/Slimey Sculpin      | 7.419      |          | 0.11        |          | 2.008      |          | 0.296      |          | 21.223     | J-       |
| 15-Jun-10                    | 191    | NONA 9/Slimey Sculpin      | 6.984      |          | 0.091       |          | 2.257      |          | 0.2        |          | 19.669     | J-       |
| <b>Downey Creek</b>          |        |                            |            |          |             |          |            |          |            |          |            |          |
| 05-Oct-10                    | 1154   | 2-DOW-SS-1                 | 11.409     |          | 0.025       | UJ       | 1.675      | J+       | 0.141      |          | 22.047     |          |
| 05-Oct-10                    | 1162   | 2-DOW-SS-10                | 8.765      |          | 0.039       | J-       | 1.057      | J+       | 0.162      |          | 20.094     |          |
| 25-Oct-10                    | 1163   | 2-DOW-SS-11                | 10.65      |          | 0.025       | UJ       | 1.922      | J+       | 0.255      |          | 26.047     |          |
| 25-Oct-10                    | 1164   | 2-DOW-SS-12                | 9.017      |          | 0.055       | J-       | 2.554      | J+       | 0.2        |          | 26.186     |          |
| 05-Oct-10                    | 1155   | 2-DOW-SS-3                 | 15.725     |          | 0.028       | J-       | 1.609      | J+       | 0.195      |          | 25.17      |          |
| 05-Oct-10                    | 1156   | 2-DOW-SS-4                 | 7.888      |          | 0.072       | J-       | 1.529      | J+       | 0.22       |          | 20.34      |          |
| 05-Oct-10                    | 1157   | 2-DOW-SS-5                 | 9.618      |          | 0.027       | J-       | 1.825      | J+       | 0.192      |          | 22.001     |          |
| 05-Oct-10                    | 1158   | 2-DOW-SS-6                 | 6.134      |          | 0.025       | UJ       | 1.874      | J+       | 0.185      |          | 21.141     |          |
| 05-Oct-10                    | 1159   | 2-DOW-SS-7                 | 20.155     |          | 0.137       | J-       | 1.499      | J+       | 0.266      |          | 19.861     |          |
| 05-Oct-10                    | 1160   | 2-DOW-SS-8                 | 11.858     |          | 0.025       | UJ       | 1.939      | J+       | 0.139      |          | 23.166     |          |
| 05-Oct-10                    | 1161   | 2-DOW-SS-9                 | 10.563     |          | 0.025       | UJ       | 1.884      | J+       | 0.231      |          | 21.659     |          |
| 15-Jun-10                    | 198    | DOW 1/Slimey Sculpin       | 16.889     |          | 0.061       |          | 1.518      |          | 0.295      |          | 25.096     | J-       |
| 15-Jun-10                    | 204    | DOW 10/Slimey Sculpin      | 12.072     |          | 0.071       |          | 0.902      |          | 0.104      |          | 21.017     |          |
| 15-Jun-10                    | 205    | DOW 11/Slimey Sculpin      | 9.523      |          | 0.038       |          | 1.048      |          | 0.238      |          | 20.632     |          |
| 15-Jun-10                    | 206    | DOW 12/Slimey Sculpin      | 16.092     |          | 0.103       |          | 1.229      |          | 0.184      |          | 24.047     |          |
| 15-Jun-10                    | 199    | DOW 2/Slimey Sculpin       | 9.393      |          | 0.065       |          | 0.868      |          | 0.205      |          | 24.694     | J-       |
| 15-Jun-10                    | 200    | DOW 3/Slimey Sculpin       | 12.304     |          | 0.043       |          | 0.999      |          | 0.168      |          | 19.088     | J-       |
| 15-Jun-10                    | 201    | DOW 4/Slimey Sculpin       | 12.106     |          | 0.045       |          | 0.876      |          | 0.129      |          | 20.627     | J-       |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin | 10.054     |          | 0.070       |          | 1.103      |          | 0.124      |          | 22.526     |          |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin | 11.83      |          | 0.073       |          | 1.156      |          | 0.139      |          | 22.997     |          |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 202    | DOW 5,6,7,9/Slimey Sculpin |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 203    | DOW 8/Slimey Sculpin       | 14.884     |          | 0.053       |          | 1.205      |          | 0.216      |          | 25.732     |          |



**Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region, Alaska.**

| Sample Date (Day-Month-Year) | Lab ID | Client Sample ID      | Manganese  |          | Nickel      |          | Selenium   |          | Vanadium   |          | Zinc       |          |
|------------------------------|--------|-----------------------|------------|----------|-------------|----------|------------|----------|------------|----------|------------|----------|
|                              |        |                       | (ug/wet g) | QA Qual. | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. |
| <b>Ice Creek</b>             |        |                       |            |          |             |          |            |          |            |          |            |          |
| 18-Aug-10                    | 504    | 2-ICE-13-SC           | 8.404      |          | 0.045       |          | 1.804      |          | 0.286      |          | 33.721     |          |
| 18-Aug-10                    | 505    | 2-ICE-14-SC           | 9.268      |          | 0.129       |          | 1.905      |          | 0.425      |          | 24.996     |          |
| 18-Aug-10                    | 506    | 2-ICE-15-SC           | 8.972      |          | 0.166       |          | 2.190      |          | 0.628      |          | 21.173     |          |
| 18-Aug-10                    | 507    | 2-ICE-16-SC           | 4.892      |          | 0.067       |          | 2.122      | J+       | 0.198      |          | 21.854     |          |
| 18-Aug-10                    | 508    | 2-ICE-17-SC           | 8.656      |          | 0.077       |          | 1.617      |          | 0.290      |          | 21.107     |          |
| 18-Aug-10                    | 509    | 2-ICE-18-SC           | 11.198     |          | 0.157       |          | 1.786      |          | 0.478      |          | 23.631     |          |
| 18-Aug-10                    | 510    | 2-ICE-19-SC           | 4.585      |          | 0.111       |          | 1.967      |          | 0.276      |          | 21.562     |          |
| 18-Aug-10                    | 511    | 2-ICE-20-SC           | 6.148      |          | 0.114       |          | 1.775      |          | 0.261      |          | 19.639     |          |
| 18-Aug-10                    | 512    | 2-ICE-21-SC           | 8.559      |          | 0.077       |          | 1.674      |          | 0.207      |          | 23.741     |          |
| 18-Aug-10                    | 513    | 2-ICE-22-SC           | 9.376      |          | 0.082       |          | 1.772      |          | 0.265      |          | 21.058     |          |
| 18-Aug-10                    | 514    | 2-ICE-23-SC           | 10.621     |          | 0.771       |          | 1.902      |          | 0.353      |          | 26.896     |          |
| 17-Aug-10                    | 515    | 2-ICE-24-SC           | 7.650      |          | 0.178       |          | 1.889      |          | 0.613      |          | 19.789     |          |
| 15-Jun-10                    | 218    | ICE 1/Slimey Sculpin  | 5.216      |          | 0.047       |          | 1.109      |          | 0.128      |          | 18.891     |          |
| 15-Jun-10                    | 227    | ICE 10/Slimey Sculpin | 5.996      |          | 0.030       |          | 1.372      |          | 0.073      |          | 23.844     | J-       |
| 15-Jun-10                    | 228    | ICE 11/Slimey Sculpin | 17.701     |          | 0.057       |          | 1.105      |          | 0.219      |          | 22.420     | J-       |
| 15-Jun-10                    | 243    | ICE 19/Slimey Sculpin | 8.288      |          | 0.031       |          | 1.087      |          | 0.077      |          | 15.840     | J-       |
| 15-Jun-10                    | 219    | ICE 2/Slimey Sculpin  | 13.627     |          | 0.095       |          | 1.254      |          | 0.237      |          | 20.365     |          |
| 15-Jun-10                    | 220    | ICE 3/Slimey Sculpin  | 6.855      |          | 0.057       |          | 1.338      |          | 0.200      |          | 18.050     |          |
| 15-Jun-10                    | 221    | ICE 4/Slimey Sculpin  | 9.008      |          | 0.067       |          | 0.976      |          | 0.220      |          | 21.186     |          |
| 15-Jun-10                    | 222    | ICE 5/Slimey Sculpin  | 12.829     |          | 0.151       |          | 1.752      |          | 0.424      |          | 22.031     |          |
| 15-Jun-10                    | 223    | ICE 6/Slimey Sculpin  | 9.912      |          | 0.076       |          | 1.663      |          | 0.164      |          | 19.333     |          |
| 15-Jun-10                    | 224    | ICE 7/Slimey Sculpin  | 11.212     |          | 0.083       |          | 0.992      |          | 0.254      |          | 19.629     |          |
| 15-Jun-10                    | 225    | ICE 8/Slimey Sculpin  | 12.434     |          | 0.048       |          | 1.076      |          | 0.153      |          | 22.776     |          |
| 15-Jun-10                    | 226    | ICE 9/Slimey Sculpin  | 12.499     |          | 0.046       |          | 1.397      |          | 0.142      |          | 23.994     | J-       |
| <b>Vreeland Creek</b>        |        |                       |            |          |             |          |            |          |            |          |            |          |
| 04-Oct-10                    | 1137   | 2-VR-SS-1             | 9.915      |          | 0.066       | J        | 1.614      | J+       | 0.165      | J        | 20.681     |          |
| 04-Oct-10                    | 1146   | 2-VR-SS-10            | 5.31       |          | 0.025       | UJ       | 1.63       | J+       | 0.095      | J        | 18.169     |          |
| 04-Oct-10                    | 1147   | 2-VR-SS-11            | 15.575     |          | 0.049       | J        | 1.156      | J+       | 0.179      | J        | 26.329     |          |
| 04-Oct-10                    | 1148   | 2-VR-SS-12            | 8.821      |          | 0.058       | J        | 1.553      | J+       | 0.139      | J        | 26.821     |          |
| 04-Oct-10                    | 1138   | 2-VR-SS-2             | 18.132     |          | 0.061       | J        | 1.335      | J+       | 0.214      | J        | 22.773     |          |
| 04-Oct-10                    | 1139   | 2-VR-SS-3             | 15.164     |          | 0.100       | J        | 1.655      | J+       | 0.402      | J        | 23.083     |          |
| 04-Oct-10                    | 1140   | 2-VR-SS-4             | 6.113      |          | 0.050       | J        | 1.619      | J+       | 0.142      | J        | 23.852     |          |
| 04-Oct-10                    | 1141   | 2-VR-SS-5             | 14.466     |          | 0.061       | J        | 1.47       | J+       | 0.232      | J        | 29.397     |          |
| 04-Oct-10                    | 1142   | 2-VR-SS-6             | 11.392     |          | 0.069       | J        | 1.828      | J+       | 0.144      | J        | 22.472     |          |
| 04-Oct-10                    | 1143   | 2-VR-SS-7             | 7.572      |          | 0.056       | J        | 2.059      | J+       | 0.17       | J        | 22.111     |          |
| 04-Oct-10                    | 1144   | 2-VR-SS-8             | 9.136      |          | 0.039       | J        | 1.678      | J+       | 0.115      | J        | 19.160     |          |
| 04-Oct-10                    | 1145   | 2-VR-SS-9             | 10.594     |          | 0.087       | J        | 1.809      | J+       | 0.277      | J        | 21.685     |          |
| 15-Jun-10                    | 304    | VR 1,2/Slimey Sculpin | 13.398     |          | 0.065       |          | 1.432      |          | 0.131      |          | 22.860     |          |
| 15-Jun-10                    | 304    | VR 1,2/Slimey Sculpin | 15.434     |          | 0.067       |          | 1.41       |          | 0.142      |          | 22.220     |          |
| 15-Jun-10                    | 304    | VR 1,2/Slimey Sculpin |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 304    | VR 1,2/Slimey Sculpin |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 312    | VR 10/Slimey Sculpin  | 12.349     |          | 0.079       |          | 0.961      |          | 0.251      |          | 24.275     |          |
| 15-Jun-10                    | 311    | VR 11/Slimey Sculpin  | 15.525     |          | 0.026       |          | 1.039      |          | 0.107      |          | 23.012     |          |
| 15-Jun-10                    | 302    | VR 12/Slimey Sculpin  | 13.066     |          | 0.042       |          | 0.979      |          | 0.227      |          | 22.156     |          |
| 15-Jun-10                    | 303    | VR 3/Slimey Sculpin   | 10.671     |          | 0.027       |          | 0.978      |          | 0.132      |          | 27.274     |          |
| 15-Jun-10                    | 310    | VR 4/Slimey Sculpin   | 6.563      |          | 0.070       |          | 1.603      |          | 0.183      |          | 24.373     |          |
| 15-Jun-10                    | 307    | VR 5/Slimey Sculpin   | 16.145     |          | 0.083       |          | 2.462      |          | 0.282      |          | 30.850     |          |
| 15-Jun-10                    | 305    | VR 6/Slimey Sculpin   | 6.746      |          | 0.048       |          | 1.075      |          | 0.177      |          | 15.419     |          |
| 15-Jun-10                    | 306    | VR 7/Slimey Sculpin   | 14.829     |          | 0.041       |          | 1.162      |          | 0.083      |          | 18.251     |          |
| 15-Jun-10                    | 308    | VR 8/Slimey Sculpin   | 13.605     |          | 0.027       |          | 0.844      |          | 0.118      |          | 22.176     |          |
| 15-Jun-10                    | 309    | VR 9/Slimey Sculpin   | 6.838      |          | 0.028       |          | 1.184      |          | 0.119      |          | 18.088     |          |

**Table M-1. Slimy Sculpin Metals Data (June, August, and October 2010) for Reference Creeks in the Middle Kuskokwim River Region, Alaska.**

| Sample Date (Day-Month-Year) | Lab ID | Client Sample ID         | Manganese  |          | Nickel      |          | Selenium   |          | Vanadium   |          | Zinc       |          |
|------------------------------|--------|--------------------------|------------|----------|-------------|----------|------------|----------|------------|----------|------------|----------|
|                              |        |                          | (ug/wet g) | QA Qual. | (ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. | ug/ wet g) | QA Qual. | (ug/wet g) | QA Qual. |
| <b>California Creek</b>      |        |                          |            |          |             |          |            |          |            |          |            |          |
| 05-Oct-10                    | 1099   | 2-CC-SS-1                | 7.431      |          | 0.104       | J-       | 1.499      | J+       | 0.335      |          | 20.916     |          |
| 05-Oct-10                    | 1108   | 2-CC-SS-10               | 8.609      |          | 0.084       | J-       | 1.765      | J+       | 0.175      |          | 20.948     |          |
| 05-Oct-10                    | 1109   | 2-CC-SS-11               | 6.623      |          | 0.098       | J-       | 1.446      | J+       | 0.205      |          | 17.976     |          |
| 05-Oct-10                    | 1110   | 2-CC-SS-12               | 14.487     |          | 0.125       | J-       | 2.195      | J+       | 0.340      |          | 30.981     |          |
| 05-Oct-10                    | 1100   | 2-CC-SS-2                | 6.511      |          | 0.078       | J-       | 1.557      | J+       | 0.239      |          | 19.201     |          |
| 05-Oct-10                    | 1101   | 2-CC-SS-3                | 5.070      |          | 0.073       | J-       | 1.632      | J+       | 0.207      |          | 19.496     |          |
| 05-Oct-10                    | 1102   | 2-CC-SS-4                | 13.067     |          | 0.070       | J-       | 1.350      | J+       | 0.213      |          | 27.732     |          |
| 05-Oct-10                    | 1103   | 2-CC-SS-5                | 12.158     |          | 0.070       | J-       | 1.324      | J+       | 0.261      |          | 29.352     |          |
| 05-Oct-10                    | 1104   | 2-CC-SS-6                | 19.398     |          | 0.130       | J-       | 1.515      | J+       | 0.470      |          | 29.627     |          |
| 05-Oct-10                    | 1105   | 2-CC-SS-7                | 8.243      |          | 0.036       | J-       | 1.338      | J+       | 0.204      |          | 30.001     |          |
| 05-Oct-10                    | 1106   | 2-CC-SS-8                | 8.821      |          | 0.099       | J-       | 2.298      | J+       | 0.248      |          | 25.110     |          |
| 05-Oct-10                    | 1107   | 2-CC-SS-9                | 11.144     |          | 0.070       | J-       | 1.539      | J+       | 0.202      |          | 23.025     |          |
| 15-Jun-10                    | 352    | CA 10/Slimey Sculpin     | 11.019     |          | 0.110       |          | 1.149      |          | 0.319      |          | 30.959     |          |
| 15-Jun-10                    | 353    | CA 11/Slimey Sculpin     | 12.828     |          | 0.075       |          | 1.366      |          | 0.237      |          | 21.782     |          |
| 15-Jun-10                    | 351    | CA 12/Slimey Sculpin     | 10.230     |          | 0.090       |          | 1.431      |          | 0.282      |          | 23.464     |          |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    | 13.035     |          | 0.062       |          | 1.193      |          | 0.170      |          | 24.613     |          |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    | 16.069     |          | 0.060       |          | 1.219      |          | 0.187      |          | 25.521     |          |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    |            |          |             |          |            |          |            |          | 32.488     |          |
| 15-Jun-10                    | 361    | CA 2,1/Slimey Sculpin    |            |          |             |          |            |          |            |          | 29.146     |          |
| 15-Jun-10                    | 360    | CA 3/Slimey Sculpin      | 7.908      |          | 0.062       |          | 1.167      |          | 0.179      |          | 32.488     |          |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      | 9.078      |          | 0.060       |          | 1.394      |          | 0.196      |          | 29.146     |          |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      | 7.797      |          | 0.102       |          | 1.377      |          | 0.163      |          | 31.313     |          |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 358    | CA 4/Slimey Sculpin      |            |          |             |          |            |          |            |          |            |          |
| 15-Jun-10                    | 359    | CA 5/Slimey Sculpin      | 10.972     |          | 0.093       |          | 1.256      |          | 0.251      |          | 27.706     |          |
| 15-Jun-10                    | 357    | CA 6/Slimey Sculpin      | 10.471     |          | 0.095       |          | 1.340      |          | 0.245      |          | 26.496     |          |
| 15-Jun-10                    | 356    | CA 7/Slimey Sculpin      | 9.378      |          | 0.078       |          | 1.649      |          | 0.194      |          | 25.812     |          |
| 15-Jun-10                    | 355    | CA 8/Slimey Sculpin      | 16.283     |          | 0.047       |          | 1.437      |          | 0.262      |          | 20.968     |          |
| 15-Jun-10                    | 354    | CA 9/Slimey Sculpin      | 9.446      |          | 0.085       |          | 1.434      |          | 0.225      |          | 18.911     |          |
| <b>Fuller Creek</b>          |        |                          |            |          |             |          |            |          |            |          |            |          |
| 06-Oct-10                    | 1084   | 2-FuL-SS-1               | 9.060      |          | 0.051       |          | 2.142      | J+       | 0.203      |          | 19.730     |          |
| 06-Oct-10                    | 1093   | 2-FuL-SS-10              | 10.000     |          | 0.046       | J-       | 1.405      | J+       | 0.222      |          | 34.706     |          |
| 06-Oct-10                    | 1094   | 2-FuL-SS-11              | 8.962      |          | 0.08        | J-       | 1.234      | J+       | 0.305      |          | 19.677     |          |
| 06-Oct-10                    | 1095   | 2-FuL-SS-12              | 7.744      |          | 0.03        | J-       | 1.335      | J+       | 0.188      |          | 20.627     |          |
| 06-Oct-10                    | 1085   | 2-FuL-SS-2               | 8.350      |          | 0.069       |          | 1.275      | J+       | 0.312      |          | 23.884     |          |
| 06-Oct-10                    | 1086   | 2-FuL-SS-3               | 8.593      |          | 0.085       |          | 1.322      | J+       | 0.245      |          | 20.521     |          |
| 06-Oct-10                    | 1087   | 2-FuL-SS-4               | 9.672      |          | 0.037       |          | 1.211      | J+       | 0.190      |          | 26.902     |          |
| 06-Oct-10                    | 1088   | 2-FuL-SS-5               | 9.965      |          | 0.05        |          | 1.501      | J+       | 0.139      |          | 21.381     |          |
| 06-Oct-10                    | 1089   | 2-FuL-SS-6               | 13.351     |          | 0.205       |          | 1.085      | J+       | 0.413      |          | 16.021     |          |
| 06-Oct-10                    | 1090   | 2-FuL-SS-7               | 11.091     |          | 0.051       |          | 1.481      | J+       | 0.185      |          | 21.615     |          |
| 06-Oct-10                    | 1091   | 2-FuL-SS-8               | 9.922      |          | 0.044       |          | 1.436      | J+       | 0.263      |          | 22.522     |          |
| 06-Oct-10                    | 1092   | 2-FuL-SS-9               | 9.383      |          | 0.057       | J-       | 1.478      | J+       | 0.260      |          | 37.458     |          |
| 15-Jun-10                    | 266    | FUL 1,2,3/Slimey Sculpin | 9.660      |          | 0.05        |          | 0.853      |          | 0.183      |          | 23.077     | J-       |
| 15-Jun-10                    | 266    | FUL 1,2,3/Slimey Sculpin | 10.704     |          | 0.06        |          | 0.912      |          | 0.202      |          | 24.964     |          |
| 15-Jun-10                    | 273    | FUL 10/Slimey Sculpin    | 9.026      |          | 0.045       |          | 0.932      |          | 0.162      |          | 23.866     | J-       |
| 15-Jun-10                    | 274    | FUL 11/Slimey Sculpin    | 10.675     |          | 0.031       |          | 0.808      |          | 0.154      |          | 21.754     | J-       |
| 15-Jun-10                    | 275    | FUL 12/Slimey Sculpin    | 11.579     |          | 0.086       |          | 1.123      |          | 0.243      |          | 23.033     | J-       |
| 15-Jun-10                    | 267    | FUL 4/Slimey Sculpin     | 11.318     |          | 0.037       |          | 1.015      |          | 0.192      |          | 25.158     | J-       |
| 15-Jun-10                    | 268    | FUL 5/Slimey Sculpin     | 15.719     |          | 0.081       |          | 0.972      |          | 0.334      |          | 24.511     | J-       |
| 15-Jun-10                    | 269    | FUL 6/Slimey Sculpin     | 8.971      |          | 0.047       |          | 0.991      |          | 0.162      |          | 21.446     | J-       |
| 15-Jun-10                    | 270    | FUL 7/Slimey Sculpin     | 22.099     |          | 0.095       |          | 1.307      |          | 0.270      |          | 26.633     | J-       |
| 15-Jun-10                    | 271    | FUL 8/Slimey Sculpin     | 7.278      |          | 0.043       |          | 0.928      |          | 0.213      |          | 20.297     | J-       |
| 15-Jun-10                    | 272    | FUL 9/Slimey Sculpin     | 13.977     |          | 0.079       |          | 1.089      |          | 0.299      |          | 18.813     | J-       |

**Table M-2. Slimy Sculpin Methylmercury Data for Reference Creeks in Middle Kuskokwim River Region. Alaska.**

| Date Collected | Lab ID        | Reference Stream | Client Sample ID                                 | MeHg (ng/wet g) | QA Qual. |
|----------------|---------------|------------------|--|-----------------|----------|
| Jul-12         | 1007189-58    | California Creek | CA 5/Slimey Sculpin California CK - Whole Fish   | 65.2            | J+       |
| Jul-10         | 1007189-27RE1 | Downey Creek     | DOW 5,6,7,9/Slimey Sculpin Downey CK (Composite) | 39.8            |          |
| Jul-10         | 1007189-44    | Fuller Creek     | FUL 1,2,3/Slimey Sculpin Fuller CK (Composite)   | 74.6            |          |
| Jul-10         | 1007189-32    | Ice Creek        | Ice 1/Slimey Sculpin Ice CK - Whole Fish         | 33.4            |          |
| Jul-10         | 1007189-33    | Ice Creek        | Ice 2/Slimey Sculpin Ice CK - Whole Fish         | 24.6            |          |
| Jul-10         | 1007189-34    | Ice Creek        | Ice 3/Slimey Sculpin Ice CK - Whole Fish         | 28.7            |          |
| Aug-10         | 1009071-02RE1 | Ice Creek        | 2-ICE-19-SC ICE CK-whole                         | 38.2            |          |
| Jul-10         | 1007189-25    | No Name Creek    | NONA 1,2,3/Slimey Sculpin NoName CK#2 Composite  | 53.8            |          |
| Aug-10         | 1009071-07    | No Name Creek    | 2-NN-18-SC NONAME CK #2-whole                    | 34.1            |          |
| Jul-10         | 1007189-48    | Vreeland Creek   | VR 1,2/Slimey Sculpin Vreeland CK (Composite)    | 120             |          |

**Table M-3. ProUCL Output Summary for Slimy Sculpin Metals Data from Reference Creeks Used in Red Devil Mine BERA Supplement.**

| Analyte              | Units     | Number of Observations | Number of Detections | Mean of Detected | SD of Detected | Maximum Detected | Distribution (detects only) | UCL Statistic             | 95% UCL | EPC    | EPC Source |
|----------------------|-----------|------------------------|----------------------|------------------|----------------|------------------|-----------------------------|---------------------------|---------|--------|------------|
| Arsenic <sup>a</sup> | mg/kg wet | 140                    | 139                  | 0.139            | 0.0382         | 0.298            | Gamma                       | 95% Student's-t UCL       | 0.145   | 0.145  | 95% UCL    |
| Antimony             | mg/kg wet | 140                    | 11                   | 0.0775           | 0.114          | 0.418            | Not Discernable             | 95% KM (Chebyshev) UCL    | 0.0421  | 0.0421 | 95% UCL    |
| Mercury              | mg/kg wet | 140                    | 140                  | 0.0463           | 0.0262         | 0.15             | Not Discernable             | 95% Student's-t UCL       | 0.05    | 0.05   | 95% UCL    |
| Barium               | mg/kg wet | 140                    | 140                  | 4.034            | 1.636          | 11.79            | Not Discernable             | 95% Student's-t UCL       | 4.263   | 4.263  | 95% UCL    |
| Beryllium            | mg/kg wet | 147                    | 0                    | --               | --             | --               | --                          | --                        | --      | 0.0125 | 1/2 MDL    |
| Cadmium              | mg/kg wet | 140                    | 113                  | 0.0508           | 0.0194         | 0.118            | Approx. Lognormal           | KM Student's t            | 0.046   | 0.046  | 95% UCL    |
| Chromium             | mg/kg wet | 140                    | 130                  | 0.115            | 0.151          | 1.518            | Approx. Lognormal           | KM H-UCL                  | 0.115   | 0.115  | 95% UCL    |
| Copper               | mg/kg wet | 147                    | 147                  | 0.855            | 0.477          | 3.443            | Not Discernable             | 95% Student's-t UCL       | 0.92    | 0.92   | 95% UCL    |
| Lead                 | mg/kg wet | 140                    | 53                   | 0.035            | 0.0106         | 0.089            | Not Discernable             | 95% KM (t) UCL            | 0.0288  | 0.0288 | 95% UCL    |
| Manganese            | mg/kg wet | 140                    | 140                  | 10.44            | 3.394          | 22.1             | Gamma                       | 95% Approximate Gamma UCL | 10.92   | 10.92  | 95% UCL    |
| Nickel               | mg/kg wet | 140                    | 134                  | 0.0845           | 0.079          | 0.771            | Approx. Lognormal           | KM H-UCL                  | 0.0865  | 0.0865 | 95% UCL    |
| Selenium             | mg/kg wet | 140                    | 140                  | 1.532            | 0.472          | 3.447            | Gamma                       | 95% Approximate Gamma UCL | 1.597   | 1.597  | 95% UCL    |
| Vanadium             | mg/kg wet | 140                    | 140                  | 0.228            | 0.0968         | 0.628            | Gamma                       | 95% Approximate Gamma UCL | 0.241   | 0.241  | 95% UCL    |
| Zinc                 | mg/kg wet | 140                    | 140                  | 23.42            | 3.912          | 37.46            | Approx. Gamma               | 95% Approximate Gamma UCL | 23.96   | 23.96  | 95% UCL    |
| Methylmercury        | µg/kg wet | 10                     | 10                   | 51.24            | 29.07          | 120              | Approx. Normal              | 95% Student's-t UCL       | 68.09   | 68.09  | 95% UCL    |

**Key:**

- (dash) = Insufficient detected values to calculate statistic
- BERA = Baseline ecological risk assessment
- CLT = Central limit theorem
- EPC = Exposure point concentration
- KM = Kaplan-Meier
- MDL = Method detection limit
- SD = Standard deviation
- UCL = Upper confidence level

**Note:**

a = One outlier (1.54 mg/kg from California Creek) removed to calculate UCL.