

## Statement of Work (SOW)

**Technical POC:** Chris Eckley

**Program:** LSASD

**Date:** 2026/06/17

**TITLE:** Chemical analysis to determine inorganic and organic selenium speciation in water, sediment, and plant tissue.

**SCOPE OF WORK:** The United States Environmental Protection Agency (EPA) requires chemical analysis of water, tissue (plant tissue, periphyton), and sediments to determine the speciation of selenium (Se) in both inorganic and organic species.

The vendor must be able to provide analysis of all chemical parameters listed below, meet or exceed the stated Quality Assurance and Quality Control (QA/QC) requirements, and provide a timeline for delivery of results.

In water samples, the chemical analysis must include the following Se species: Se(IV), Se(VI), SeCN, SeMet, MeSe(IV), MeSe(VI),  $\text{SeSO}_3^{2-}$ , DMSeO, and the sum of unknown Se species. Detection limit capable of measuring down to 4 ng/L. In solid samples (tissue/sediment) the chemical analysis must include the following Se species: SeMet, MeSeCys, SeCys<sub>2</sub>, TMS<sub>2</sub>Se, Se(IV), and Se(VI).

### **FOR THE PURCHASE OF:**

Chemical analysis of environmental samples for total Se and Se speciation. Environmental samples will include:

- 30 unfiltered aqueous samples
- 144 filtered aqueous samples
- 80 plant tissue samples
- 40 sediment/soil samples

All necessary steps and processes required for preparation of the environmental samples for total Se and Se speciation including chemical extraction, acid digestion, and filtration.

**SPECIFIC TASKS/REQUIREMENTS:** Methods used to determine the speciation of Se in samples must be capable of identifying

- Se species in aqueous samples including selenite, selenate, selenocyanate (SeCN), selenomethionine (SeMet), methylseleninic acid [MeSe(IV)], methaneselenonic acid [MeSe(VI)], dimethylselenoxide (DMSeO), selenosulfate [ $\text{SeSO}_3^{2-}$ ], and the sum of any unidentified species detected during the analyses.
- Se species in biological tissue and sediment samples including selenomethionine (SeMet), methylselenocysteine (MeSeCys), selenocystine (SeCys<sub>2</sub>), trimethylselenonium (TMS<sub>2</sub>Se), selenite, and selenate.
- Data deliverable will include a Level II data validation report.
- All necessary QA/QC instructions for sample collection.
- Results from Se analysis should include all QA/QC data that was collected during the analysis

this would include but is not limited to Blanks, Blank Spike, Sample Spike, and Reference materials. The specific make and model of the instruments used and copies of the general standard operating procedures (SOPs) for extraction of compounds and instrument operation will be provided in advance of sampling.

- Documentation indicating the contractor has established SOPs for analysis of Se speciation in aqueous, sediment and biological tissue samples.
- Documentation of previous experience of determining organic and inorganic Se speciation in aqueous, sediment, and biological tissue samples in low concentration environmental matrixes relevant to Southeast Idaho rivers.

**DELIVERABLES AND DELIVERY SCHEDULE:**

The vendor shall provide the EPA Point of Contact with:

Results from the analysis within 30 days of receiving the samples and all requested QA/QC documents and standard methods used for Se analysis

**PERIOD OF PERFORMANCE:**

September 2026 through January 2028.

**APPLICABLE DOCUMENTS:** None