SPOKANE RIVER
REGIONAL TOXICS TASK FORCE

COLLABORATION INNOVATION PROGRESS

March 13, 2014

ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626
Attn: Lisa Domenighini and Ron McLeod

AXYS Analytical Services, Ltd
2045 Mills Road W
Sidney, BC
Canada V8L 5X2
Attn: Cynthia Tomey and Richard Grace

Pacific Rim Laboratories
#103, 19575 – 55A Avenue
Surrey, BC
Canada V3S 8P8
Attn: Dave Hope

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
Attn: Martha Maier Jennifer Miller

Dear Potential Supplier:

The Spokane River Regional Toxics Task Force (SRTTF) was formed for the purpose of developing a Comprehensive Plan for achieving the applicable water quality standards for PCB in the Spokane River. As a first step, the SRRTTF is preparing a monitoring plan that involves, over the next 12 to 17 months, the collection and analysis of at least 160 water samples (ambient river samples as well as point source discharge samples) for PCB congener analysis by EPA Method 1668C. The SRRTTF, through its Administrative and Contracting Entity (SRRTTF-ACE) is now in the process of identifying an analytical laboratory and a field sampling contractor to provide the necessary services for executing our Sampling and Analysis Plan.

Attached is SRRTTF-ACE Specification 1 dated March 13, 2014. This Specification identifies the Scope of Qualifications, Contractor Selection Process, and Additional Information with respect to this project. Exhibit "A" contains the Scope of Work for the project and Exhibit "B" identifies the information that is requested with respect to qualifications and cost.

Submittals for bidding on this project are to be sent electronically to the SRRTTF facilitator and project associate. From there the submittal will be forwarded to the Technical Work Group of the SRRTTF for review. Following the review of the bids received, the Technical Work Group will make a recommendation to the full Task Force for their decision.

The contact information for the SRRTTF facilitator and project associate is as follows:

Chris Page
William D. Ruckelshaus Center
901 Fifth Avenue, Suite 2900
Seattle, WA 98164
(206) 770-6060
c.page@wsu.edu

Aubri Denevan
William D. Ruckelshaus Center
901 Fifth Avenue, Suite 2900
Seattle, WA 98164
(206) 219-2432
aubri.denevan@wsu.edu

For technical questions on the Specification or the project bid submittal, please contact me. My contact information is as follows:

Bud Leber
Kaiser Aluminum
PO Box 15108, Mail Stop #32
Spokane Valley, WA 99215
(509) 927-6554
bud.leber@kaisertwd.com

Exhibit "B" and the requested information are to be provided to Chris and Aubri at the e-mail addresses provided above by the close of business on March 21, 2014.

If you should have any questions or need any clarifications, please contact me.

Sincerely,

Bernard P. (Bud) Leber, Jr.
SRRTTF Technical Work Group Chair

SRRTTF-ACE
Specification 1

March 13, 2014

PCB Analytical Services by EPA Method 1668C

The Spokane River Regional Toxics Task Force (SRRTTF) through its Administrative and Contracting Entity (SRRTTF-ACE) will be conducting PCB source identification studies on the Spokane River for PCB. These studies will require analytical services for PCB by EPA Method 1668C.

Scope of Qualifications

1.0 Provide Analytical Services

Project details are provided in the attached Exhibit "A", Scope of Work (SOW). To be considered for this project, the Contractor must electronically provide the following documentation/information:

1.1 Provide documentation that the Contractor's laboratory is currently accredited by the Department of Ecology's Laboratory Accreditation Unit for all analyses described in the attached SOW, and on the Idaho Department of Environmental Quality's list of approved labs.

1.2 Provide documentation that the Contractor has a minimum of 5 years of experience with the method.

1.3 Provide documentation that the Contractor has participated in an International Round Robin Intercalibration Study (and provide the most recent results) for the relevant analyses described in the attached SOW.

1.4 Provide documentation that the Contractor can provide the analysis as requested, including but not limited to a Method Detection Limit (MDL) supporting the requested reporting limits including documentation of a standard analyzed at the reporting limit requested for this SOW.

1.5 Submit Method Blank demonstrating that the Contractor can meet the required Method Blank contamination limits described in the SOW.

1.6 Provide documentation of the quantitation limits (based on the lowest calibration standard) that the instrument can achieve.

1.7 Provide quality control limits for laboratory control samples, duplicates, matrix spikes, etc., for all analyses in this SOW.

1.8 Provide a contact name, company name, address, and phone number for three Contractor client references who have had the requested analyses performed on the matrices specified in the SOW.
1.9 Demonstrate that the Contractor can provide the analytical reports as requested in the attached SOW.
1.10 Demonstrate that the Contractor has the ability to concentrate and composite samples in-house.

2.0 Other Factors

In addition to the analytical qualifications described in Section 1.0 above, the Contractor must electronically provide the following documentation/information:

2.1 Provide a maximum three-page length description of their qualifications specific to the SOW and their intended approach to performing the analysis, electronically. This should also include information on capabilities for performing this method in various matrices: water, sediment/soil, animal tissue, and other materials. Include details of preparation method to be used on these samples.
2.2 Submit an example work product in the form of one fully bookmarked and searchable PDF file. This work product must include all raw data that would be needed to perform an independent review of the results: calibration reports, chromatograms, spectra, bench sheets, etc.
2.3 Submit the 20 most recent Method Blanks for the matrix/matrices of interest in the SOW.
2.4 Submit the 20 most recent Ongoing Precision and Recovery Standards - OPRs (LCS) for the matrix/matrices of interest in the SOW.

Contractor Selection Process

3.0 Selection Criteria

The selection process will be based on cost, relevant experience, and ability to provide the specified deliverables according to schedule. The following criteria will be used:

3.1 Submittal was received by the date and time specified.
3.2 Submittal contained all required documentation/information.
3.3 Submittal shows a good understanding of project goals and needs.
3.4 Submittal demonstrates relevant experience with similar environmental samples.
3.5 Submittal demonstrates capability to meet all technical specifications. This includes evaluation of 20 blanks and 20 OPRs for conformance to criteria in this SOW (1668C criteria for the OPRS and Paragraph 9D in the SOW under Reporting of Results).

3.6 Submittal demonstrates the ability to meet the specified schedule for sample analysis and reporting.
3.7 Submittal provided complete and clear cost information.

Additional Information

4.0 Errors in Submittal

Contractor is liable for all errors or omissions contained in their submittals. Contractor will not be allowed to alter submittals after the submission deadline. SRRTTF-ACE is not liable for any errors in submittals. SRRTTF-ACE reserves the right to contact Contractor for clarification of submittal contents. If clarification questions result in a required revision by the Contractor, only revisions addressing the clarification will be allowed.

5.0 Vendor Questions and Exceptions

Any Contractor questions must be transmitted by electronic mail. Only written questions will receive official written responses. Should a Contractor question result in a revision to this specification, all potential Contractors will be advised and the submittal date will be revised if appropriate.

With respect to any exceptions that the Contractor may have with respect to this specification, these shall be noted on Exhibit "B".

6.0 Proprietary or Confidential Information

Any proprietary or confidential contained in the Contractor's submittal must be clearly identified. Marking of the entire or entire sections of the submittal as proprietary or confidential will not be accepted nor honored. SRRTTF-ACE will not accept submittals where pricing is identified as proprietary or confidential.

7.0 Submittal

The submittal by the Contractor shall include the documentation/information described above as well as Exhibit "B".

Exhibit "A"

Scope of Work
(SOW)

This SOW does not include the collection of any samples.

SRRTTF-ACE will send approximately 161 water samples over approximately 4 events for PCB congeners by High Resolution Mass Spectrometer (HRMS) analysis, EPA Method 1668C. The successful laboratory must follow the quality control criteria in EPA Method 1668C with the following exception. The labeled compound percent recovery for Sample and Method Blank Standard Recovery must be within the range of 25% to 150%. Samples may be collected in various volumes or types such as 1 liter, 2 liters, 4 liters, 8 liters, CLAM Cartridges, or XAD2 Columns. At least two sets of samples (except CLAM and XAD2 samples) will require compositing by the lab. Compositing will consist of three or five samples. A lab duplicate, matrix spike, and matrix spike duplicate will be requested for each sample event. The samples will be sent approximately:

- May, 2014 (~17 samples)
- August, 2014 (~115 samples)
- December-February, 2015 (~15 samples)
- May, 2015 (~15 samples)

Laboratories must provide a copy of the extraction methods as performed.

Laboratories must analyze and provide data for an independent source standard (different vendor than the calibration standards).

The estimated cost of ground shipping sample containers, field blank water, coolers, and blue ice are to be included in the price quote responding to this RFQQ.

The laboratory must document which preparation and extraction procedures are performed – and how - for the samples from this project. The laboratory must also document in a logbook, and in a case narrative, any deviations from their Standard Operating Procedures (SOP) performed for this project.

The final data package is to include:

a) All raw data (EPA "Tier IV" or "Level 4" deliverables) in a fully bookmarked PDF file; and
b) All results in an electronic data deliverable (EDD) format as shown in Section 13 of **Reporting of Results** below. The EDD format is needed for loading results to Ecology's Information Management (EIM) database.

Other items may be included as needed to help understand the data package.

Data Turnaround Time

45 days from sample receipt for May 2014 samples.
60 days from sample receipt for all other sample events.

Analytical Details

1. Section 9.5.1 in all versions of EPA Method 1668 state: "Analyze the blank immediately after analysis of the ongoing precision and recovery standards (OPR) (Section 15.5) to demonstrate freedom from contamination." However, as mentioned in EPA Method 1668, Revision C, if congeners will be carried from the OPR into the Method Blank, analyze one or more aliquots of solvent between the OPR and the Method Blank.
2. Perform all result calculations using the initial calibration as per the method. In other words, do not use a single point calibration standard. Also, do not average in additional standards analyzed on a different day, or analyzed after the samples have been analyzed.
3. PCB congeners: Use the combined 209 congener standard solution for calibration verification. (Including the labeled and native toxics/Level of Chlorination (LOC)/window-defining congeners in the calibration verification allows a check against the Initial Calibration (ICAL) for those congeners.)

   Alternatively, a separate solution may be analyzed for each, but both solutions must be analyzed on the method schedule for calibration verification. SRRTTF-ACE must be able to evaluate the daily 209 standard against the initial analysis of this standard.
4. All congeners and labeled compounds in the low level Calibration Standard (CS-1 standard) must be within the method QC limits for their respective ion abundance ratios; otherwise, the mass spectrometer must be adjusted and this test repeated until the m/z ratios fall within the limits specified. (If the adjustment alters the resolution of the mass spectrometer, resolution must be verified prior to repeat of the test.)
5. Because of the low reporting limits requested, it is recommended the lab add in an extra standard to the initial calibration curve. This will account for increased sensitivity potentially causing analyte saturation at the high end of the curve, and allow a minimum of 5 points to be used in calculating analyte concentration. This will be accomplished by use of the CS-0.2 standard specified in the method.
6. HRMS instrument resolution must be 10,000 or better. Proof (in the form of an instrument printout) must be submitted with the data.

Reporting of Results

1. Report all results in pg/L for water.
2. Include a copy of the "Request for Laboratory Services" with signed and dated Chain of Custody section; this form will be provided by the SRRTTF-ACE Sampling Contractor. Proof of Clean Certification must be provided for project sample containers with a frequency of at least 1 in every 20 containers as well as the last 10 results.

3. Include Case Narratives and corrective action reports.

4. Provide description of: analytical method used; any modifications to the method, Quality Assurance/Quality Control (QA/QC) performed and results; definitions of all data flags and qualifiers used; and any other information that helps client understand the data package.
5. Provide fully validatable deliverables package: Deliverables shall include copies of all raw data necessary to perform an independent evaluation of the results, including, but not limited to initial calibration and verification standards, sample and QC chromatograms and spectra, analytical sequence (run) logs, bench sheets, standard logs and Certificates of Analysis for standards, etc.
   A. Include a fully paginated and bookmarked Adobe Acrobat (PDF) file on compact disk (CD).
   B. Bookmark *each individual sample and each standard chromatogram* for ease of review.
   C. Rotate landscape pages as needed so that all information is viewable left to right in the electronic file.
   D. Clearly identify all field and QC samples with the sample number or QC name in the raw data and report.
   E. All initial calibration (ICAL) standards and Calibration Verification Standard (VER), and the single point 209 PCB standard, shall be clearly identified in the raw data and separately bookmarked in the electronic file. (For example: CS-0.2, CS-1, etc., for the ICAL.)
   F. An Independent Calibration Verification (ICV) standard must be analyzed from a separate source in order to verify the initial calibration standards. The ICV must be analyzed each time a new standard curve is prepared. Provide the results of the most recent ICV with the data. This is equivalent to the Quality Control Check Sample in the method.
   G. Provide before and after printouts of any and all manual integrations.
   H. Provide analytical sequence logs that include the date, time, and filename for the initial and continuing calibrations, all field and QC samples, check standards, etc., associated with the project.
6. Reporting Limits (RL), Quantitation Limit (QL), Method Detection Limit (MDL), Estimated Detection Limit (EDL).

A. Maximum RLs are defined in the table below.

Analytical Methods and Reporting Limits			
Analysis	**Analyte**	**Water**	**Sediment**
EPA 1668C	PCB congeners	1-20 pg/L (depending on congener)	NA

B. If any of these limits cannot be met for individual samples due to interference or other issues, contact the client to discuss action to take.

C. Provide the QL for each result in the electronic results file. (The QL is based on the lowest validated standard in calibration curve; and equivalent to "Minimum Level or ML" in 1668C).

D. Provide the most recent MDL results for each analyte and include the date performed.

E. Report down to the (EDL) - aka Instrument Detection Limits (IDL) or Sample Detection Limits (SDL) - based on 2.5 times the signal-to-noise ratio. Provide this value for each target analyte in the electronic results file.

F. Dilutions

   a. Any results above the range of the calibration curve must be diluted to be within the range of the calibration curve.

   b. All results reported from dilution analyses must be within the range of the calibration curve.

G. For non-detect values, record the EDL in the "Result Reported Value" column and a "UJ" the "Result Data Qualifier" column.

H. Qualify detected values that are below the QL as estimates ("J").

I. Do not report below the EDL. Where the EDL is above the QL due to interference, raise any values below the EDL to the value of the EDL and qualify "UJ".

J. Report total homologs when not detected as "U" without a value.

K. Calculate and report the Estimated Maximum Possible Concentration (EMPC) value for results that do not meet ion abundance ratio criteria. Qualify these results with "NJ". Provide an example calculation if the result value is adjusted.

7. The qualifiers used above are defined as:

   A. "J" – The analyte was positively identified. The associated numerical result is an estimate.

   B. "U" – The analyte was not detected above the reporting limit. (This qualifier will likely be used only for total homologs, since all analytes are to be reported down to the level of the EDL.)

C. "UJ" – The analyte was not detected at or above the estimated reporting limit.

D. "NJ" – The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. (See 6. K., above.)

8. Perform all QC samples as specified in the method.

   A. Report results of Laboratory Control Samples (On-going Precision and Recovery standards), labeled compounds, (including cleanup standards and extraction internal standard/surrogates) as % recoveries in the EDD.

9. Method Blanks.

   A. Clearly identify samples associated with each laboratory Method Blank.

   B. If sample results are less than three times the concentration in the associated method blank, flag sample results with "B" – even if the sample result has already been qualified "NJ"; but not when the blank result is qualified "NJ". Discuss in the Case Narrative whether these qualified results are included in the summing of total homolog results and Total PCBs; where applicable.

   C. Total PCBs in the Method Blank, at a maximum, must not exceed 50 pg/L. Method Blanks for Total PCBs in the range of 10pg/L to 1 pg/L are desired. If the 50 pg/L or other established limit is exceeded, contact SRRTTF-ACE to discuss actions to take. Most likely, any blanks with individual results greater than half the EQL should be re-extracted along with any associated samples.

   D. Concentrations of congeners in a minimum of 10 blanks must be significantly below the ML {QL}. "Significant" means that the ML for the congener is no less than 2 standard deviations above the mean (average) level in the minimum of 10 blanks. The blanks must be analyzed during the same period that samples are analyzed, ideally over an approximately 1-month period.

10. Treatment of result qualifiers for and summing of homologs.

    A. Describe in the case narrative how totals were derived for PCB homolog groups and Total PCBs (e.g. what rules are used for rounding values, dealing with non-detects, blank detects, qualifier definitions, etc.).

    B. Report Total PCB results for each homolog group in the EDD. However, do not report a QL or an EDL (leave these columns blank for summed values).

    C. Do not include EMPC results in the calculations of the total homologs.

11. Sample identification.

    A. Provide the client sample ID (field ID) associated with all sample results.

B. Provide the lab's internal sample ID associated with all results OR a table that cross-references field ID with the lab's internal sample ID.

C. Clearly identify QA/QC samples and results: blanks, matrix spikes, Standard Reference Materials (SRM), lab duplicates. If samples are reanalyzed, these results need be clearly identified as such.

D. Label all analyte peaks on chromatograms with either the congener name or the retention time and scale chromatograms such that peaks are visible above the baseline.

12. Analyte identification.

A. Provide the Chemistry Abstract Service Registry Number (CAS RN) for individual congeners/each analyte.

B. PCB Congener Numbering.

a. Name PCB congeners using the naming convention given by Guitart, et al. (Guitart R., Puig P., Gomez-Catalan J., Chemosphere 27 1451-1459, 1993).

See http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/congeners.htm

b. Modify to a 7-character format that uses leading zeroes for congener numbers below 100 (e.g. PCB-008). (Conversely, the value "PCB-001" appears to have 7 characters yet actually has 11 since there are 4 spaces after the 001. This complicates export into databases and statistical packages.)

c. Records for co-eluting congeners must have no CAS number.

C. Co-eluting congeners for PCBs should be numbered in ascending order (e.g.: PCB-040/041/071), and records for co-eluting congeners must have no CAS number.

13. Electronic results must be in Excel-compatible format as in table below:

Required Fields for Electronic Data Deliverables		
Preferred Order	**Field Name**	**Example**
1	MEL (Client) Sample ID	1311021-03
2	Field ID (sample name on tag)	COLRIV034
3	Result Congener Name	2,3'-DiCB
4	Result Parameter Name	PCB-006
5	Result Parameter CAS Number	25569-80-6
6	Sample Extraction Date	11/14/2013**(format as numerical date)**
7	Sample Analysis Date	11/15/2013 **(format as numerical date)**
8	Lab Duplicate Flag	"Y" if lab duplicate, leave blank or "N" if not
9	Re-analysis Flag	"Y" if a re-analysis, leave blank or "N" if not
10	Result Reported Value	7.9 (format as number)
11	Result Data Qualifier	J
12	Result Value Units of Measure	pg/L
13	Result Value QL *	10 (format as number)
14	Result Value EDL**	3.42 (format as number)
15	Result Method Code	EPA 1668C
16	Result Lab Name	Laboratory Name
17	Contract Lab Sample ID	PR137954
18	Others as needed by contract lab or MEL.	If used, clearly identify field and content
	* = Estimated Quantitation Limit (Based on the lowest validated standard in the calibration curve and adjusted for weight, volume, % solids, etc., as applicable).	
	** = Estimated Sample Detection Limit; calculated from signal for each sample)	

Exhibit "B"

The Request For Proposal, Specification No. SRRTTF-ACE 1, sets forth the requirements for providing PCB analytical services utilizing EPA Method 1668C. This Exhibit and the requested documentation/information is to be provided to SRRTTF-ACE as identified in the bid package cover letter.

Contact Information

Please provide the following information:

Laboratory Name:	
Laboratory Address:	
Project Contact Name:	
Project Contact Phone:	
Project Contact E-mail:	

Is the Contractor a Minority or Women's Business Enterprise ☐ Yes ☐ No

It is the Owner's intention to select a Contractor on the basis of both laboratory performance and the competitiveness of Contractor's commercial proposal.

To assist the Owner in evaluating the various proposals, Contractor shall furnish the following information.

1. **Laboratory Performance**

As described in Specification No. SRRTTF-ACE 1, please provide the following:

Qualifications

Provide the documentation and/or information requested as described Section 1.0 of the Specification.

Other Factors

Provide the documentation and or/information requested as described in Section 2.0 of the Specification with respect to the Scope of Work described in Exhibit A.

All responses to these document/information requests are to be provided electronically.

2. **Commercial**

Price Breakdown

It is the Owner's intent to award all work covered under Specification SRRTTF-ACE 1 to a single Contractor. In order to assist the Owner in evaluating bids and to eliminate any obvious errors in bid pricing, the following price breakdown is requested.

Unit Price per Sample (US$ per Sample)			
Sample Volume or Type	Method Blank Level		
	Total PCB <50 pg/L	Total PCB <10 pg/L	Total PCB < 1 pg/L
1 Liter			
2 Liter			
4 Liter			
8 Liter			
CLAM			
XAD2			

Note: for each of the water sample sizes above, a Method Blank of the same volume is to be analyzed.

Provide pricing for water sample compositing:

Provide pricing for sample containers and shipping for the sample volumes/types listed above:

Provide pricing for EDDs:

3. Conditions of Contract

List any exceptions, if any, taken to Specification SRRTTF-ACE 1.

Potential Contractors are advised that any or all of the information furnished in response to this Exhibit "B" may, as mutually agreed upon, become part of the contract.