



RESEARCH ENVIRONMENTAL & INDUSTRIAL CONSULTANTS, INC.

Improving the environment, one client at a time...

225 Industrial Park Rd.
Post Office Box 286
Beaver, WV 25813
800.999.0105
304.255.2500 • 304.255.2572 (fax)
website: www.reiclabs.com

- Member:
- American Chemical Society
 - Association of Official Analytical Chemists
 - Petroleum Marketers Association
 - Rural Water Association
 - Mining & Reclamation Association
 - American Water Works Association
 - The Solid Waste Association of North America
 - West Virginia Manufacturers Association
 - Association of West Virginia Solid Waste Authorities
 - West Virginia Oil Marketers & Grocers Association

September 11, 2009

Mr. Chuck Bowman
WV Department of Environmental Protection
Department of Administration, Purchasing Division
Building 15
2019 Washington Street East
Charleston, WV 25305-0130

SUBJECT: RFQ DEP 14746, "Animal Tissue Sample Analysis"

Mr. Bowman:

REI Consultants, Inc. (REIC) is pleased to submit the attached quotation for the subject RFQ. Please note that all quoted services will be provided by REIC personnel. We look forward to working with you on this program.

Should you have any questions or need further information, please feel free to call me at (800) 999-0105.

Sincerely,

Clarence L. Haile, Ph.D.
Executive Vice President/Lab Director

RECEIVED

2009 SEP 15 AM 10:37

WV PURCHASING
DIVISION



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DEP14746

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
CHUCK BOWMAN
304-558-2157

***709054747** **304-255-2500**
REI CONSULTANTS INC
PO BOX 286

BEAVER WV 25813

ENVIRONMENTAL PROTECTION
DEPARTMENT OF
OFFICE OF WATER RESOURCES
601 57TH STREET SE
CHARLESTON, WV
25304 **304-926-0499**

DATE PRINTED 08/31/2009	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
-----------------------------------	---------------	----------	--------	---------------

BID OPENING DATE: **09/17/2009** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		493-09		
<p>ANIMAL TISSUE SAMPLE ANALYSIS.</p> <p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING BIDS FOR THE HOMOGENIZATION AND ANALYSIS OF ANIMAL TISSUE SAMPLES FOR METALS AND POLYCHLORINATED BIPHENYLS PER THE FOLLOWING BID REQUIREMENTS AND ATTACHED SPECIFICATIONS.</p> <p>PLEASE PAY CLOSE ATTENTION TO THE REQUIRED INFORMATION SUBMISSIONS NOTED ON THE THREE (3) PAGE BID SCHEDULE.</p> <p>EXHIBIT 3</p> <p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE UPON AWARD AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>[Signature]</i>	TELEPHONE 304-255-2500	DATE 11 Sept 2009
TITLE Exec. Vice President	FERN 55-0668654	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 DEP14746

PAGE
 2

ADDRESS CORRESPONDENCE TO ATTENTION OF
 CHUCK BOWMAN
 304-558-2157

VENDOR

*709054747 304-255-2500
 REI CONSULTANTS INC
 PO BOX 286
 BEAVER WV 25813

SHIP TO

ENVIRONMENTAL PROTECTION
 DEPARTMENT OF
 OFFICE OF WATER RESOURCES
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
08/31/2009				

BID OPENING DATE: 09/17/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: 304-255-2500 DATE: 11 Sept 2009
 TITLE: Exec. Vice President FEIN: 55-0668654 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DEP14746

PAGE
3

ADDRESS CORRESPONDENCE TO ATTENTION OF:
CHUCK BOWMAN
304-558-2157

VENDOR
 *709054747 304-255-2500
 REI CONSULTANTS INC
 PO BOX 286
 BEAVER WV 25813

SHIP TO
 ENVIRONMENTAL PROTECTION
 DEPARTMENT OF
 OFFICE OF WATER RESOURCES
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/31/2009				

BID OPENING DATE: **09/17/2009** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 05/26/2009</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: CB-23</p> <p>RFQ. NO.: DEP14746</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: **304-255-2500** DATE: **11 Sept 2009**
 TITLE: **Exec. Vice President** FEIN: **55-0668654** ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DEP14746

PAGE
4

ADDRESS CORRESPONDENCE TO ATTENTION OF:
CHUCK BOWMAN 304-558-2157

V E N D O R	*709054747 304-255-2500
	REI CONSULTANTS INC
	PO BOX 286
BEAVER WV 25813	

S H I P T O	ENVIRONMENTAL PROTECTION
	DEPARTMENT OF
	OFFICE OF WATER RESOURCES
	601 57TH STREET SE
	CHARLESTON, WV 25304 304-926-0499

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/31/2009				

BID OPENING DATE: **09/17/2009** **BID OPENING TIME 01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
BID OPENING DATE:				09/17/2009		
BID OPENING TIME:				1:30 PM		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
----- 304-255-2572 -----						
CONTACT PERSON (PLEASE PRINT CLEARLY):						
----- Clarence L. Haile -----						
***** THIS IS THE END OF RFQ DEP14746 *****						# 44,965.00

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
<i>Clarence L. Haile</i>	304-255-2500	11 Sept 2009
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
Exec. Vice President	55-0668654	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

State of West Virginia
VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

1. **Application is made for 2.5% resident vendor preference for the reason checked:**
 _____ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 _____ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 _____ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% resident vendor preference for the reason checked:**
 _____ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% resident vendor preference for the reason checked:**
 _____ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. **Application is made for 5% resident vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 _____ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 _____ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: REI Consultants, Inc.

Signed: 

Date: 11 Sept 2009

Title: Executive Vice President

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:

West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:

West Virginia Code §21-1D-5 provides that: Any solicitation for a public improvement construction contract shall require each vendor that submits a bid for the work to submit at the same time an affidavit that the vendor has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code. A public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the West Virginia Code and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the West Virginia Code may take place before their work on the public improvement is begun.

ANTITRUST:

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and is in compliance with the requirements as stated.

Vendor's Name: REI Consultants, Inc.

Authorized Signature: _____

Date: 11 Sept 2009

Homogenization & Analysis of Animal Tissue

DEP14746

Vendor's Bid Sheet

Vendors Name: REI Consultants, Inc.

The DEP reserves the right to request additional information and supporting documentation regarding unit prices when the unit price appears to be unreasonable.

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0		Bids must include the following information: (Bidders must use the format provided below)		
1.a	30 ea	Cost per fish to prepare fillets from whole fish samples	\$10.00	\$ 300.00
1.b	200 ea	Cost per sample (up to 10 fillets) to prepare homogenate of fillet specimens	\$15.00	\$ 3000.00
1.c	100 ea	Cost per fish to prepare homogenate for whole-fish samples (Small fish may be grouped and considered one sample)	\$25.00	\$ 2500.00
1.d	40 ea	Cost per sample to prepare homogenate for aquatic insect samples	\$15.00	\$ 600.00
1.e	50 ea	Cost per sample to prepare homogenate for bird egg samples (samples may include eggshell and mature embryos with well-developed boney tissue)	\$20.00	\$ 1000.00
1.f	300 ea	Cost per sample to perform % moisture analysis	\$10.00	\$ 3000.00
1.g	200 ea	Cost per sample to perform % lipids analysis	\$25.00	\$ 5000.00
1.h	200 ea	Cost per sample to perform Hg analysis	\$35.00	\$ 7000.00
1.i	200 ea	Cost per sample to perform PCB's analysis	\$88.20	\$ 17640.00
1.j	100 ea	Cost per sampe to perform Se analysis	\$36.75	\$ 3675.00
2.0	1,000 miles	Cost per mile for sample pick-up at DEP Charleston Headquarters	NC	\$ 0.00
3.0	10 hours	Cost per hour for professional staff representation of data in legal/administrative meetings	\$125.00	\$ 1250.00
		TOTAL COST		\$ 44965.00

*****Note: Quantities are estimates for bidding purposes only.**

DEP14746 Bid Sheet continued...

Please Complete:

Approximate Minimum Detection Limit lab is able to attain for each analyte (bidders must use the format below):

- a. Total Mercury: 0.02 mg/kg
- b. Total Selenium: 0.1 mg/kg
- c. Total PCB: 0.034 mg/Kg

WV Lab Certification #: 060

Name of Laboratory Contact: Clarence L. Haile, Ph.D

Contact's Signature: 

Contact's Phone Number: 304.255.2500

Contact's Address: P.O. Box 286 Beaver, WV 25813

DEP14746 Bid Sheet continued...

SUMMARY OF EXPERIENCE

1. **Client:** WVU - WVCFWRU

Contact Name: Dr. Patricia M. Mazik

Phone #: 304.293.4943

Address/Contact Information:

322 Percival Hall

Morgantown, WV 26505-6125

Experience: We determined selenium levels on about 100 whole-
fish and gonadal tissue samples.

2. **Client:** WV-DEP Division of Water and Waste Management

Contact Name: Janice Smithson

Phone #: 304.926.0499

Address/Contact Information:

601 57th Street, Room 2180

Charleston, WV 25304

Experience: Processed and analyzed 75 whole fish and samples
in fall 2007.

3. **Client:** Foundation Coal

Contact Name: Larry Emerson

Phone #: 724.852.5789

Address/Contact Information:

P.O. Box 1020, 854 Kirby Road

Waynesboro, PA 15370

Experience: Processed and analyzed approximately 30 whole
fish, selected organ and fillet specimens for selenium
levels.

****Additional References and Experience Information may be attached to this form.*

ANIMAL TISSUE SAMPLE ANALYSIS DEP14746

Experience Summary

REI Consultants, Inc. (REIC) first performed chemical analyses on fish tissue samples in the Spring of 1992. Samples were larger-sized, gamefish species such as Largemouth bass *Micropterus salmoides*, Smallmouth bass *Micropterus dolomieu*, Yellow perch *Perca flavescens*, and Common carp *Cyprinus carpio*, and were collected within the Kanawha River, near Charleston. Edible, fillet-only portions were analyzed for mercury, PCB's, and lead.

Since that time, literally hundreds of fish samples have been collected by REIC via nighttime boat electro-fishing surveys, gill-net surveys, backpack electrofishing surveys, or seining, and have had various tissues and organs analyzed for a variety of contaminants. Primarily, selenium has been analyzed on nearly one-hundred fish samples from the fillet-only portions (both skin-on and skin-off), to individual organs such as gonads, heart, liver, kidneys, and eggs. Samples had been collected both from mining-related stream sites as well as "control" sites. Some of the results of these studies have been presented in the past few years at the West Virginia Mining Symposium in Charleston, as well as at the Acid Mine Drainage Task Force meeting in Morgantown.

Most recently, REIC has processed whole-fish and gonadal material tissue samples for WVU's Fish & Wildlife Cooperative Research Unit in Morgantown, WV. Close to 100 whole-fish samples were processed and analyzed for selenium levels. Dr. Patricia M. Mazik (304-293-4943) was the primary contact for this study. Later this fall, benthic macro invertebrate samples are slated to be collected by WVU-CFWRU and sent to REIC for selenium analysis.

Unless specified by the client, the majority of the procedures utilized in fish sample analysis have been in compliance with "Guidance for assessing chemical contaminant data for use in fish advisories" (US EPA Report EPA 823-R-93-002). Always, all knives and grinding/processing equipment are cleaned in between every sample with a laboratory-grade detergent solution, rinsed with tap water, rinsed with 50% HNO₃ for 15 minutes, and rinsed 3 times with de-ionized water.

Further selenium-related studies have been conducted at REIC pertaining to hatching and fecundity success of larval fish from waters of varying selenium concentrations. Most recently, REIC has been re-designing drainage control ponds and sediment cells at mine sites to convert these structures into wetlands to allow for various aquatic plants to be grown which are known to be able to assist with removal of selenium from the water.

REIC currently has, on staff, individuals who have been directly involved with the fieldwork for these studies, as well as experienced laboratory technicians who have personally processed hundreds of fish samples for analyses of various contaminants. To

date, REIC has not been involved with the processing and analyses of bird eggs, but is familiar with the process procedures and difficulties of this work.

Sample Preparation

Upon receipt of samples, Chain of Custody (COC) forms from DEP will be signed, and an in-house COC form will be filled out listing all samples received, received date & time, how delivered, tissue (sample) type, number of containers, condition of the samples, analysis desired, and any other pertinent information.

Sample processing will follow "Guidance for assessing chemical contaminant data for use in fish advisories" (US EPA Report EPA 823-R-93-002). Before processing, knives, tools, and processing equipment will be washed with a detergent solution, rinsed thoroughly with tap water, soaked in 50% HNO₃ for 24 hours at room temperature, and rinsed with distilled, and then de-ionized water. All knives and tools will be high-quality, corrosion-resistant, stainless steel. All knives, tools, and processing equipment will be wrapped in heavy plastic wrap during storage. NO metal (aluminum) foil will be utilized during sample processing.

Cleaning of stainless steel bowls used during homogenization, spatulas and spoons used to transfer from processor to bowls, and from bowls to glass sample jars will be washed in the same manner as the knives and processing equipment described above.

As requested by DEP, fish consumption samples will be processed as a unit, or as they are a single sample. Therefore, compositing of three to five fish may be necessary. Procedures for homogenizing a single sample as well as homogenizing multi-fish composite samples will follow "Guidance for assessing chemical contaminant data for use in fish advisories" (US EPA Report EPA 823-R-93-002).

Also as requested by DEP, catfish fillets will be processed as "skin-off" for fillets, and will be processed as "skin-on" for whole fish samples. Scaled fish fillets will be processed as "skin-on, scales-off" for fillet analysis.

Tissues designated as metal samples will be dissected on a washable plastic surface covered with a plastic sheet which is changed after each dissection. If organs are also being taken for contaminant analysis, special care will be taken to isolate the organ to be used from other organs as well as from fillet portions.

If available, approximately 50 grams of homogenized sample will be transferred into an acid-washed glass jar and provided to the metals prep-lab for further processing. Sample jars will be labeled with an indelible glass marker with ink that is resistant to freezing. Information such as the sample ID number, sample type (fillet, whole-body, or organ), collection date, processing date, etc., will be on the label.

Unused sample portions will be frozen, and retained for at least one (1) year.

All knives and grinding/processing equipment, and cutting boards will be cleaned in between every sample with a laboratory-grade detergent solution, rinsed with tap water, rinsed with 50% HNO₃ for 15 minutes, and rinsed 3 times with de-ionized water.

Tissue Analysis

As noted in the experience summary, REIC has considerable experience in analysis of tissue samples for both trace metals and organic analytes. For the proposed study, REIC will analyze tissue samples for mercury by SW-846 Method 7471A. Samples for PCBs will be analyzed by SW-846 Method 8082. To achieve more reliable low level quantitation for selenium than GFAAS, REIC proposed to use an automated hydride generation atomic fluorescence spectroscopy procedure based on SW-846 Method 7742. REIC is certified by WV DEP for this method and has successfully utilized it to determine low level selenium in a wide variety of tissue, solid, and water samples.