Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
—

Proc Folder: 132914

Doc Description: Addendum 01 Inorganic Analysis of Water and Soil Open End

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-09-30	2015-10-28 13:30:00	CRFQ 0313 DEP1600000011	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Bio-Chem Testing
5 Weatheridge Drive
State Route 34
Hurricane, WV 25526
304-757-8954

11/12/15 12:21:35
WV Purchasing Division

FOR INFORMATION CONTACT THE BUYER

Beth Collins
(304) 558-2157
beth.a.collins@wv.gov

Signature X [signature] **FEIN #** 55-0732395 **DATE** 11-11-2015

All offers subject to all terms and conditions contained in this solicitation

Bio-Chem Testing, Inc. Environmental Laboratory

5 Weatheridge Drive
Hurricane, WV 25526

Phone: (304) 757-8954
Fax: (304) 757-9676

P.O. Box 634
Teays, WV 25569

Web Site: www.biochemtesting.com
e-mail: info@biochemtesting.com

November 12, 2015

Bid Clerk
Department of Administration
Purchasing Division
2019 Washington St. E
Charleston, WV 25305

RE: Solicitation CRFQ 0313 DEP 1600000011
Inorganic Analysis of Water and Soil Open End

Enclosed you will find Bio-Chem Testing, Inc's bid for Solicitation CRFQ 0313 DEP 1600000011, Inorganic Analysis of Water and Soil Open End. We submit this package for your consideration.

Please let us know if there is anything further you require or if you have any questions or concerns. We look forward to continuing to work with you in the future.

Sincerely,

Mukesh Shah
Laboratory President

Bio-Chem warrants the accuracy of analysis performed with respect to sound scientific methodology and technique. Sample results are warranted on an "as received" basis from the time Bio-Chem accepts custody. All work must be accompanied by a written work request or custody form that accurately details the analyses to be performed and the expected turn around time. No other warranties, expressed or implied, are valid. Bio-Chem does not accept any legal responsibilities for the purposes for which test results are used by our clients or third party clients. Any other conditions other than those stated here must be signed by the President of Bio-Chem Testing, Inc. before submittal of samples.

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Solicitation	Agency/Buyer/Category	Dates	St
Addendum 02 Inorganic Analysis of Water and Soil Open End **CRFQ : DEP1600000011** Summary Details	**DEPARTMENT OF ENVIRONMENTAL PROTECTION** **Beth Collins**	Published On : 8/19/15 Amended On : 10/27/15 **Closing On : 11/12/15 1:30 PM EST** **Time Left: 16 Days, 01:20:24** Intent Posted On:	Op
EOI: Jefferson County Landfill Leachate Tank Study **CEOI : DEP1600000011** Summary Details	**DEPARTMENT OF ENVIRONMENTAL PROTECTION** **Beth Collins** Architect/Engr	Published On : 10/5/15 Amended On : **Closing On : 11/18/15 1:30 PM EST** **Time Left: 22 Days, 01:20:24** Intent Posted On:	Op

From 1 to 2 Total: 2

First Prev Next

ADDITIONAL INFORMAITON:

Addendum No. 01
This addendum is issued to modify the solicitation per the attached documentation and the following:
1. To modify the bid opening date to October 28, 2015 at 1:30PM, EST.
No other changes.

C
The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Department of Environmental Protection to establish an open-end contract for inorganic analysis of water and soil, per the attached specifications.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF ADMINISTRATION 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Analysis of Soil and Water Samples	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :

Analysis of Soil and Water Samples as outlined on the attached bid sheet.
Do not enter prices on commodity line.

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Tech Question Deadline at 5:00 PM, EST	2015-09-08

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation

Proc Folder: 132914

Doc Description: Inorganic Analysis of Water and Soil Open End

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-08-19	2015-10-01 13:30:00	CRFQ 0313 DEP1600000011	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Bio-Chem Testing
5 Weatheridge Drive
State Route 34
Hurricane, WV 25526
304-757-8954

FOR INFORMATION CONTACT THE BUYER

Beth Collins
(304) 558-2157
beth.a.collins@wv.gov

Signature X FEIN # 55-0732395 DATE 11-11-2015

All offers subject to all terms and conditions contained in this solicitation

SOLICITATION NUMBER: CRFQ DEP1600000011
Addendum Number: 01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[✓] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[ ] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To modify the bid opening date to October 28, 2015 at 1:30PM, EST.

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF ADMINISTRATION 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Analysis of Soil and Water Samples	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :

Analysis of Soil and Water Samples as outlined on the attached bid sheet.
Do not enter prices on commodity line.

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X]	Addendum No. 1	[ ]	Addendum No. 6
[ ]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Bio-Chem Testing, INC.
Company

Authorized Signature

11-11-2015
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.

   ☑ A pre-bid meeting will not be held prior to bid opening.

   ☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

   ☐ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

   All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

   An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding. Submitted e-mails should have solicitation number in the subject line.

   Question Submission Deadline: September 8, 2015 at 5:00 PM, EST

   Submit Questions to: Beth A. Collins, Senior Buyer
   2019 Washington Street, East
   Charleston, WV 25305
   Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
   Email: beth.a.collins@wv.gov

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. **BID SUBMISSION:** All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile. The bid delivery address is:

   Department of Administration, Purchasing Division
   2019 Washington Street East
   Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID:
BUYER:
SOLICITATION NO.:
BID OPENING DATE:
BID OPENING TIME:
FAX NUMBER:

In the event that Vendor is responding to a request for proposal, and choses to respond in a manner other than by electronic submission through wvOASIS, the Vendor shall submit one original technical and one original cost proposal plus convenience copies of each to the Purchasing Division at the address shown above. Additionally, if Vendor does not submit its bid through wvOASIS, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

☐ Technical

☐ Cost

7. **BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: October 1, 2015 at 1:30 PM, EST
Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. **ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. **BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. **ALTERNATES:** Any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

11. **EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. **COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. **REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the $125 fee, if applicable.

14. **UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. **PREFERENCE:** Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Vendor Preference Certificate form has been attached hereto to allow Vendor to apply for the preference. Vendor's failure to submit the Vendor Preference Certificate form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

16. **SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the

same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. **WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. **ELECTRONIC FILE ACCESS RESTRICTIONS:** Vendor must ensure that its submission in wvOASIS can be accessed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately opened and/or viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening if those documents are required with the bid.

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

   2.1. **"Agency"** or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

   2.2. **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

   2.3. **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.

   2.4. **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.

   2.5. **"Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

   2.6. **"Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

   2.7. **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

   2.8. **"Vendor"** or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☑ **Term Contract**

Initial Contract Term: This Contract becomes effective on contract award and extends for a period of One (1) year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to Three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed 36 months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

   ☑ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. 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.

   ☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

   ☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

   ☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☐ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☐ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

☐ **Commercial General Liability Insurance:** In the amount of _____ _____ or more.

☐ **Builders Risk Insurance:** In an amount equal to 100% of the amount of the Contract.

☐

☐

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

☑ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

☑ Water Resources Quality Assurance Certification

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

9. **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. **LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or $5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

11. **LIQUIDATED DAMAGES:** Vendor shall pay liquidated damages in the amount of _____ for _____.
This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

12. **ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Award Document, upon receipt.

13. **FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

14. **PAYMENT:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

15. **TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

16. **CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.

17. **TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.

18. **APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

19. **COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable law.

20. **PREVAILING WAGE:** Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage requirements are applicable.

21. **ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

22. **MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.

23. **WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

24. **SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

25. **ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.

26. **WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

27. **STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

28. **BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

29. **CONFIDENTIALITY:** The Vendor agrees that it 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. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/default.html.

30. **DISCLOSURE:** Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code §§ 29B-1-1 et seq. and the competitive bidding laws found West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq.

    If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. A legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Additionally, pricing or cost information will not be considered exempt from disclosure and requests to withhold publication of pricing or cost information WILL NOT BE HONORED.

    Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

31. **LICENSING:** In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor 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 agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

32. **ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to 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 Vendor.

33. **VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

34. **PURCHASING CARD ACCEPTANCE:** The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

    ☑ Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

35. **VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense

against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. **INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. **PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of $1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.

38. **ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. **CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. **REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

    ☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. **BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. **PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater.

For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. **PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

CERTIFICATIONAND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Bio-Chem Testing, Inc.
(Company)

Mukesh Shah, President
(Authorized Signature) (Representative Name, Title)

304-757-8954, 304-757-9676, 11-11-2015
(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

☒	Addendum No. 1	☐	Addendum No. 6
☐	Addendum No. 2	☐	Addendum No. 7
☐	Addendum No. 3	☐	Addendum No. 8
☐	Addendum No. 4	☐	Addendum No. 9
☐	Addendum No. 5	☐	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Biochem Testing, Inc.
Company

Authorized Signature

11-11-2015
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of The West Virginia Department of Environmental Protection to establish an open end contract for Inorganic Analysis of water and soil samples.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in Attachment A and section 2 of the General Terms and Conditions.

   2.1 "Contract Item" or **"Contract Items"** the list of items identified in Section 3.1 below and on the Pricing Pages

   2.2 "Pricing Pages" means the schedule of prices, estimated order quantity, and totals contained in wvOASIS or attached hereto as Exhibit A, and used to evaluate the Solicitation responses

   2.3 "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

   2.4 "WVDEP" means the West Virginia Department of Environmental Protection.

3. **GENERAL REQUIREMENTS:**

   3.1. Contract Items and Mandatory Requirements: Vendor shall provide Agency with the Contract Items listed below on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below:

   3.1.1. Inorganic analysis of water and soil samples.

   3.1.1.1. The laboratory must be certified by the Water Resources Quality Assurance Program. This includes any laboratories to which analyses are subcontracted. **Must submit proof of certification preferably with bid, but must be sent prior to award.**

3.1.1.2. Must be accessible by telephone **24 hours per day, 7 days per week**.

3.1.1.3. Must be capable of attending and providing expert testimony in legal proceedings upon request.

3.1.1.4 The vendor must follow the Quality Control and Analytical Procedures outlined in Attachment A.

3.1.1.5 The vendors, who are awarded a contract, when performing work under the terms and conditions of this contract, are solely responsible for the satisfactory completion of the work. The prime vendor shall be responsible for ensuring that any subcontractor has all the necessary permits, certifications (including WV State Laboratory certifications), experience and insurance to perform the work. All subcontractors must be approved by DEP before subcontractor initiates work. The primary contractor shall supply resumes and/or other documents to prove subcontractor's qualifications. All work performed by a subcontractor must be appropriately annotated on any submitted documentation (report or EDD). DEP will consider the prime vendor to be the sole point of contact with regard to authorized work under the contract: however, this provision does not prohibit the DEP from directly contacting subcontractors.

3.1.1.6 The vendor agrees that any and all data, analyses, materials, reports or other information, oral or written, prepared by the vendor with respect to this requisition shall, except for information which has been publicly available, be treated as confidential and shall not be utilized, released, published, or disclosed, by the vendor at any time for any purpose whatsoever other than to provide consultation or other service to the DEP

3.1.1.7 The vendor shall provide sample containers and field preservatives to the DEP at no charge, if requested by the DEP.

3.1.1.8 The DEP may, at their discretion, choose to deliver samples to the vendor's establishment rather than having them picked up by or delivered to the vendor.

3.1.1.9 All unit pricing quoted must be based on standard (not to exceed two weeks) turn-around time.

3.1.1.10 Upon awarding the contract, the vendor shall provide one copy to the method detection limits (MDLs) for all analytes for which the contract is awarded. Any updates to the MDLs during the life of this contract shall be provided to the DEP, in writing, within one week of the update(s) completion.

3.1.1.11 The vendor shall provide at no additional cost, any requested quality control/calibration information associated with a particular sample. Quality control/calibration information includes, but is not limited to, values of standards used in calibration, date of last calibration, correlation coefficients of calibration curves, instrument blank values, check standard values, spike/recovery values, duplicate values, dilution volumes, bench sheets, calculations and Shewhart quality control charts.

3.1.1.12 Notice of any changes to the vendor's certification status with regard to any of the parameters that the vendor is certified to analyze for, must be submitted to the DEP, in writing, within ten (10) days of the time of status change.

3.1.1.13 The laboratory will provide DEP approved blank water to the DEP, at no charge, upon request.

4. CONTRACT AWARD:

4.1 Contract Award: The Contract is intended to provide Agency with a purchase price on all Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Item meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

4.2 Pricing Pages: Vendor should complete the Pricing Pages by filling in the "Unit Price" box with the price per unit. The "Amount" box is filled in by multiplying the "Unit Price" with the "Quantity". Vendor should include method number (identifier), MDL, PQL, and cost for each parameter. If Vendor is certified for more than one method per parameter, they should include method number, MDL, PQL, and cost for any additional method per parameter in the "Alt. Method" space on te bid sheet. Bids must be submitted exactly as per attached bid sheet. Vendor should

complete the Pricing Page in their entirety as failure to do so may result in Vendor's bid being disqualified.

The Pricing Pages contain a list of the Contract Items and estimated purchase volume. The estimated purchase volume of each item represents the approximate volume of anticipated purchases only. No future use of the Contract of any individual item is guaranteed or implied.

Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document. In most cases, the Vendor can request an electronic copy of the Pricing Pages for bid purposes by sending an email request to the following address:

5. ORDERING AND PAYMENT:

5.1 Ordering: Vendor shall accept orders through wvOASIS, regular mail, facsimile, e-mail, or any other written form of communication. Vendor may, but is not required to, accept on-line orders through a secure internet ordering portal/website. If Vendor has the ability to accept on-line orders, it should include in its response a brief description of how Agencies may utilize the on-line ordering system. Vendor shall ensure that its on-line ordering system is properly secured prior to processing Agency orders on-line.

5.2 Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

6. DELIVERY AND RETURN:

6.1 Delivery Time: Vendor shall deliver standard orders within 10 working days after orders are received. Vendor shall deliver emergency orders within 1working day(s) after orders are received. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.

6.2 Late Delivery: The Agency placing the order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

6.3 Delivery Payment/Risk of Loss: Standard order delivery shall be F.O.B.

destination to the Agency's location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery. The Agency will pay delivery charges on all emergency orders provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.

6.4 Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.5 Return Due to Agency Error: Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7. VENDOR DEFAULT:

7.1 The following shall be considered a vendor default under this Contract.

7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.

7.1.2 Failure to comply with other specifications and requirements contained herein.

7.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.

7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

8.1 No Substitutions: Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 Vendor Supply: Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

8.3 Reports: Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased, and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items, and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.

8.4 Contract Manager: During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Mukesh Shah / Kara Frampton
Telephone Number: 304-757-8954
Fax Number: 304-757-9676
Email Address: info@biochemtesting.com

In administering and enforcing most of the pollution control laws of the state, the importance of quality control cannot be overstated. Quality control measures must be strictly adhered to in all phases of sample collection, preservation, transportation, and analysis. The quality control and analytical processes, as they relate to the vendor's responsibility, are divided into four (4) major steps:

Step 1 – Collection of sample from specified office.
Step 2 – Conduct specified analysis on samples in a timely and professional manner.
Step 3 - Establishment of continuing program to ensure the reliability of analytical data.
Step 4 – Legal Testimony

Step 1 – Collection of Samples from Specified Office

The sampling for the DEP shall be conducted by Department personnel. The vendor shall be notified of the date sampling occurs /is to occur and from which DEP office or other location the sample can be obtained. The vendor shall be notified when the sample was taken (time/date) and the person who collected the sample. The vendor shall be responsible for obtaining the sample from the specified office and delivery of sample to the laboratory within 24 hours from the time of sampling. The vendor shall indicate the time the sample was obtained from the pickup location and its condition and the time the sample was delivered to the laboratory. The vendor shall be responsible for adhering to holding times, checking the adequacy of, and maintaining preserved samples, and the internal chain of custody from the time the vendor obtained the sample until the time the analysis is accepted by the Department. The vendor shall also maintain records of the results of analysis for a minimum of five (5) years.

Step 2 - Conduct Specified Analysis on Samples

The methods used by the laboratory for the analysis shall be either **1)** Methods described in 40 CFR-136 or **2)** Test Methods for Evaluating Solid Waste - Physical/Chemical Methods (SW-846) Third Edition, with updates. The sampler shall be responsible for specifying either 1 or 2 above. In the event the method is not specified, the laboratory shall contact the sampler for verification of the method to be used.

Vendors must include the analysis method number on the bid sheet. A single analytical method for some parameters is not adequate, for example, a sample of discharge water from a sewage treatment plant need not have the same detection limit as a sample from relatively clean oligotrophic waters. If the vendor submits bids for an alternate method, the analysis method number, MDL and PQL must be included on the bid sheet. If vendors are certified for more than 2 methods for a parameter, the vendor can provide bids and associated information on a separate page if necessary.

Results of analytical tests must be submitted as both an analysis report and as an Electronic Data Deliverable (EDD). Acceptable analysis report formats include either a paper

hardcopy or electronic version of the report (e.g., pdf). All EDDs should be submitted in a Microsoft Excel (or compatible) format and conform the DEP program approved template. Where provided, the vendor must include all appropriate data fields from the original COC that documents the identity of the sample with the data submitted. This electronic data submittal requirement may be waived in some circumstances where the number of samples and/or number of analytical tests requested is low. Waiver must be requested prior to data submittal.

Analysis of samples is not deemed completed until the data has been submitted to and accepted by DEP. Should the DEP not provide notice of acceptance within four weeks of the date results were mailed, the vendor may consider the data to be acceptable by the Department. The vendor shall be responsible for maintaining preservation of the samples until the holding time is exceeded. Any samples with a sheen, discoloration or odor shall be maintained by the vendor until DEP's notification that the sample can be properly disposed of. DEP will advise the vendor which samples fall into this category. The vendor shall be responsible for the proper disposal of all samples submitted to them by the DEP unless otherwise notified. The vendor shall dispose of the sample no earlier than four weeks after DEP accepts the results. The results of the analysis shall be submitted to the DEP no more that two (2) weeks after receipt of samples.

Step 3 - Quality Control

Three programs are to be utilized to assure reliable laboratory data: (1) the use and documentation of standard analytical methods, (2) analysis of duplicate and spiked (where the concept applies) samples at regular intervals each day to check analytical precision and accuracy, and (3) analysis of reference samples a 6 (six) month intervals. These analyses shall be conducted under the vendor's performance test number through an EPS-approved PT provider. Regardless of which analytical methods are used in a laboratory, the methodology must be carefully documented. Analytical methods which have been modified or entirely replaced because of recent advances in the state of art may only be used when it has been given approval in the Federal Register. Documentation of procedures must be clear, honest, and adequately referenced; and the procedures shall be applied exactly as documented. The responsibility for legally-defensible results obtained from these procedures rests with the analyst and supervisor, both as representatives of the laboratory.

To check the laboratory analytical precision, duplicate analysis of samples shall be performed at regular intervals. Duplicate samples must be carried through the complete analytical process. For all analyses, the interval shall be every tenth (10th) sample. When less than ten (10) samples are tested in an analytical batch, at least one duplicate sample shall be analyzed, and that sample must be a DEP sample. The difference between the replicates for each analysis is to be plotted on Shewhart precision quality control charts. If the Shewhart chart indicates the samples are not in control, the analyses are to be repeated and appropriate steps shall be taken to locate and remedy the error. Quality control limits used by the laboratory to assess method compliance

cannot be broader than those specified by the analytical method of 47CSR32 where applicable.

To check the laboratory analytical accuracy, samples containing a known addition of the target analyte (spike) shall be analyzed at regular intervals. Spiked samples must be carried through the complete analytical process. For all analyses, the interval shall be every tenth (10th) sample. Where less than ten samples are tested in an analytical batch, at least one spiked sample shall be analyzed, and that sample must be a DEP sample. The percent recovery must be plotted out on Shewhart accuracy quality control charts. If the Shewhart chart indicates the samples are not in control, the analyses are to be repeated and appropriate steps taken to locate and remedy the source of error. Quality control limits used by the laboratory to assess the method compliance cannot be broader than those specified by the analytical method or 47CSR32 where applicable.

If the analyte of interest is detected in the laboratory Method Blank (MB) or Continuing Calibration Blank (CCB) above the Method Detection Limit (MDL), corrective action is to be taken to identify and alleviate the laboratory contamination and sample analysis is to be repeated. If sample analysis cannot be repeated for any reason including, but not limited to, inadequate remaining sample volume, expired holding time or equipment failure, and the laboratory chooses to report the original analytical data, all sample results associated with the contaminated MB and/or CCB must be qualified in the final report.

If the percent recovery of a known laboratory control standard such as a Laboratory Control Sample (LCS) of Continuing Calibration Verification (CCV) is outside of method-defined control limits (or those defined in 47CSR32 where appropriate) corrective action is to be taken to identify and alleviate the issue and sample analysis is to be repeated. If sample analysis cannot be repeated for any reason including inadequate remaining sample volume, expired holding time of equipment failure and the laboratory chooses to report the analytical data, all sample results associated with the failing quality control must be qualified in the final report.

In addition to the above requirements, all applicable requirements of the analytical methods, 40CFR136, 47CFR32 and the West Virginia DEP's Laboratory Certification program must be adhered to. In the event that any of these requirements are not met, all affected data must be appropriately qualified by te laboratory in the final report. It is the responsibility of the laboratory to provide all necessary information so data usability can be determined by the DEP.

All samples submitted to the laboratory are to be handed, prepared and analyzed in the same manner consistent with the method. Corrective action is to be initiated when a QC check exceeds acceptance limits.

The DEP reserves the right to conduct unannounced examinations of the laboratory's records.

Periodic submission of samples with known composition will occur. No notice of this activity will be provided unless results indicate an anomaly.

Step 4 - Legal Testimony

The selected vendor or vendors may be requested by the DEP to testify concerning the validity of the laboratory analysis. The vendor will only be required to testify to the following areas:

1. Time of notification by Department of sampling and by whom.
2. When and where samples were received by the laboratory's courier and/or by the laboratory's facility.
3. Condition of sample upon receipt by the laboratory.
4. How sample preservation was maintained by the laboratory.
5. Date and time(s) of analysis and by whom.
6. Chain of Custody procedures within the laboratory
7. Methods used.
8. Results of analysis.

At no time will the firm respond to questions concerning interpretation of results. The Department shall reimburse the vendor for the costs of any such testimony. The vendor must provide a detailed invoice of actual costs incurred.

Attachment A

PROGRAM SPECIFIC PROVISIONS

Watershed Assessment Branch of DEP - Electronic Data Deliverable Requirements

Field	Data Type	Description	Notes
AnalyticalLab	Text	The name of the lab providing analysis of the given analyte	Any subcontracted analysis would indicate the subcontracting lab name here
LabNumber	Text	Internal Sample Identifier	e.g., From lab's LIM System
WQ ID	Text	WQ Sample ID from COC	
SampleDateTime	Date/Time	The Date/Time of the sampling event from the COC	
ProjectName	Text	Project Name from the COC	
SiteName	Text	Stream Name from COC	
ANCODE	Text	ANCODE from COC	
MilePoint	Text	Mile Point from COC	This number is in brackets { } following the ANCode on the COC
RandomNumber	Text	Random # from COC	This is only populated if project is designated as RANDOM
Fraction	Text	Fraction of the Analyte	e.g., Total or Dissolved
Analyte	Text	Analyte Name	Report the speciation of the analyte if necessary (e.g., Sulfate as SO4 or Nitrate + Nitrite as N)
Qualifier	Text	Flag Code about the analyte results or analysis	e.g., J flag for result that falls between MDL and PQL; < for result below MDL (i.e., Non-Detect); > for results greater than the result value.
Notes	Text	Notes about the analyte results or analysis (e.g., analyzed out of holding time, estimated results, subcontracted analysis)	
Result	Number, Decimal, 18, 6	The result of the analysis	If the result is a non-detect, report the value of the MDL with a Qualifier of "<"
MDL	Number, Decimal, 18, 6	The Method Detection Limit of the analysis	
PQL	Number, Decimal, 18, 6	The Practical Quantification Limit of the analysis	
Units	Text	The units of the result analysis.	All units should be in mg/L except for Organics, which are reported in ug/L
Method	Text	The analysis methodology	Standard Methods or EPA Methods. Include full context of method (e.g., EPA200.7Rev4.4-1994)
AnalysisDateTime	Date/Time	The Date/Time of Analysis	

Attachment A

Agency desired MDLs				
Item #	**Description**	**Method Detection Limit***		
1	pH	N/A		
2	Hot Acidity	5 mg/l		
3	Alkalinity	5 mg/L		
4	Hardness	1 mg/L		
5	Specific Conductance	3 uS/cm^2		
6	Sulfate	5 mg/L		
7	Sulfide	1 mg/L		
8	Turbidity	1 NTU (higher OK if highly turbid)		
9	Bromide	0.05 mg/L		
10	Chloride	1 mg/L		
11	Fluoride	0.2 mg/L		
12	Fecal Coliform (MF)	4 col/100 mL		
13	Fecal Coliform (MPN)	4 col/100 mL		
15	Total Solids	1 mg/L		
16	Dissolved Solids (TDS)	5 mg/L		
17	Suspended Solids (TSS)	3 mg/L		
19	Volatile Solids	1 mg/L		
20	Percent Solids	1%		
21	Kjeldahl Nitrogen	0.05 mg/L		
22	Ammonia Nitrogen	0.02 mg/L		
23	Organic Nitrogen	0.5 mg/L		
24	Nitrate-Nitrogen	0.01 mg/L		
25	Nitrite-Nitrogen	0.01 mg/L		
26	Nitrite-Nitrate	0.01 mg/L		
27	Total Phosphorus	0.003 mg/L		
28	Orthophosphate	0.01 mg/L		
29	Total Phosphate	0.01 mg/L		
30	BOD	1 mg/L		
31	BOD-carbonaceous	1 mg/L		
32	COD	0.5 mg/L		
33	TOC	1 mg/L		
34	MBAS	0.05 mg/L		
35	Phenolics	0.01 mg/L		
36	Total Cyanide	0.005 mg/L		
37	Hexavalent Chromium	0.005 mg/L		
37A	Hexavalent Chromium (Alt)	0.000043 mg/L		
37B	Hexavalent Chromium (Solid)	0.017 mg/kg		
38	Oil-Grease	2 mg/L		
39	Chlorophyll A	0.5 mg/L		
40	Color (APHA)	5 color units		
41	Color (ADMI)	10 ADMI value		

Attachment A

42	Cyanide, Amenable	0.005 mg/L		
43	Cyanide, Free (ASTM)	0.005 mg/L		
44	Mineral Acidity	1 mg/L		
45	Total Acidity	1 mg/L		
46	Tot Petroleum Hydrocarbons GRO/DRO (8015)	0.5 mg/L		
47	Fecal Streptococci	4 col/100 mL		
48	Escherichia Coli (Numeric Result)	1 col/100 mL		
52	Bicarbonate (Standard Methods)	1 mg/L		
53	Ferrous Iron (Standard Methods)	0.05 mg/L		
54	Dissolved Organic Carbon	1 mg/L		
55	Aluminum	0.005 mg/L		
56	Antimony	0.005 mg/L		
Item #	**Description**	**Method Detection Limit***		
57	Arsenic	0.005 mg/L		
58	Barium	0.005 mg/L		
59	Beryllium	0.001 mg/L		
60	Boron	0.03 mg/L		
61	Cadmium	0.00009 mg/L		
62	Calcium	0.2 mg/L		
63	Chromium	0.001 mg/L		
64	Cobalt	0.001 mg/L		
65	Copper	0.001 mg/L		
66	Iron	0.01 mg/L		
67	Lead	0.00054 mg/L		
68	Magnesium	0.2 mg/L		
69	Manganese	0.005 mg/L		
70	Mercury	0.0001 mg/L		
71	Molybdenum	0.005 mg/L		
72	Nickel	0.005 mg/L		
73	Potassium	0.5 mg/L		
74	Selenium	0.001 mg/L		
75	Silver	0.0002 mg/L		
76	Sodium	0.5 mg/L		
77	Strontium	0.001 mg/L		
78	Thallium	0.001 mg/L		
79	Tin	0.02 mg/L		
80	Vanadium	0.005 mg/L		
80A	Vanadium (Alt)	0.001 mg/L		
81	Zinc	0.002 mg/L		
70A	Mercury / Method 1631E	0.5 ng/L		
9A	Bromide Alt. Method	0.1 mg/L		

INORGANIC ANALYSIS OF WATER AND SOIL

Liquid Samples & Solids

Item #	Est. Quantity	Description	Method #	Method Detection Limit*	Practical Quantitation Limit	Unit Price	Amount
1	4000	pH	SM4500-H B-00	N/A	--	$1.50	$6,000.00
1A	10	pH (solid)	SW9045D	N/A	--	$7.50	$75.00
2	4000	Hot Acidity	SM2310 B (4A)-97	5 mg/L	12.5 mg/L	$6.50	$26,000.0
2A	1000	Hot Acidity Alt. Method	--	--	--	NA	NA
3	4000	Alkalinity	SM2320B	5 mg/L	12.5 mg/L	$6.50	
3A	1000	Alkalinity Alt. Method	--	--	--	NA	NA
4	500	Hardness	SM2340B	4 mg/L	10 mg/L	$8.00	$4,000.00
4A	100	Hardness Alt. Method	HACH 8226	5 mg/L	12.5 mg/L	$14.00	$1,400.00
4B	10	Hardness (solid)	SM2340B		--	NA	
5	1000	Specific Conductance	EPA 120.1	3uS/cm2	7.5 uS/cm2	$4.00	$4,000.00
5A	500	Specific Conductance (Alt. Method)	--	--	--	NA	
6	4000	Sulfate	EPA 300.0	2 mg/L	5 mg/L	$7.50	$30,000.0
6A	1000	Sulfate Alt. method	--	--	--	NA	
6B	10	Sulfate (solid)	EPA 300.0	10 mg/Kg	25 mg/Kg	$12.50	$125.00
7	20	Sulfide	SW9034	3 mg/L	7.5 mg/L	$20.00	$400.00
7A	10	Sulfide Alt. Method	--	--	--	NA	
8	20	Turbidity	EPA 180.12.0	1 NTU (higher OK if highly turbid)	2.5 NTU	$8.00	$160.00
8A	10	Turbidity Alt. Method	--	--	--	NA	
9	25	Bromide	EPA 300.0	0.05 mg/L	0.125 mg/L	$7.50	$187.50
9A	10	Bromide Alt. Method	--	0.1 mg/L	--	NA	
9B	10	Bromide (solid)	EPA 300.0	5 mg/Kg	10 mg/Kg	$12.50	$125.00
10	3000	Chloride	EPA 300.0	1 mg/L	2.5 mg/L	$7.50	$22,500.0
10A	100	Chloride Alt. Method (solid)	SM4500-CL C-97	10 mg/Kg	25 mg/Kg	$15.00	$1,500.00
10B	10	Chloride (solid)	EPA 300.0	10 mg/Kg	25 mg/Kg	$12.50	$125.00
11	25	Fluoride	EPA 300.0	0.2 mg/L	0.5 mg/L	$7.50	$187.50
11A	10	Fluoride Alt Method	--	--	--	NA	
11B	10	Fluoride (solid)	EPA 300.0	5 mg/Kg	25 mg/Kg	$12.50	$125.00
12	4000	Fecal Coliform (MF)	SM9222D	4 col/100 mL	10 col/100mL	$18.00	$72,000.0
12A	1000	Fecal Coliform (MF) Alt. Method	--	--	--	NA	
13	100	Fecal Coliform (MPN)	SM9221E	4 col/100 mL	10 col/100mL	$40.00	$4,000.00
13A	50	Fecal Coliform (MPN) Alt. Method (solid)	SW1680	1.8 col/100 mL	1.8 col/100 mL	$40.00	$2,000.00
14	20	Total Coliform (MF)	SM9222B	2.0 cfu/100ml	5.0 cfu/100ml	$19.00	$380.00
15	25	Total Solids	SM2540B	2 mg/L	5 mg/L	$11.00	$275.00
15A	10	Total Solids Alt. Method	--	--	--	NA	
15B	10	Total Solid (solid)	SM2540G	--	--	$11.00	$110.00
16	3000	Dissolved Solids (TDS)	SM2540C	5 mg/L	12.5 mg/L	$8.00	$24,000.0
16A	1000	Dissolved Solids (TDS) Alt. Method	--	--	--	NA	
17	4000	Suspended Solids (TSS)	SM2540D	2 mg/L	5 mg/L	$8.00	$32,000.0

Item #	Est. Quantity	Description	Method #	Method Detection Limit*	Practical Quantitation Limit	Unit Price	Amount
17A	1000	Suspended Solids (TSS) Alt. Method	--	--	--	NA	
18	25	Settleable Solids	SM2540F	0.1 mg/L	0.1 mg/L	$11.00	$275.00
18A	10	Settleable Solids Alt.	--	--	--	NA	
19	25	Volatile Solids	EPA 160.4	1 mg/L	4 mg/L	$11.00	$275.00
19A	10	Volatile Solids Alt. Method	--	--	--	NA	
19B	10	Volatile Solids (solid)	EPA 160.4	--	--	NA	
20	25	Percent Solids	SM2540G	1%	1%	$11.00	$275.00
20A	10	Percent Solids Alt Method	--	--	--	NA	
20B	10	Percent Solids (solid)	SM2540G	1%	1%	$11.00	$110.00
21	400	Kjeldahl Nitrogen	SM4500NORG+NH 3C	1 mg/L	2.5 mg/L	$20.00	$8,000.00
21A	100	Kjeldahl Nitrogen Alt. Method	10-107-06-2-E	0.05 mg/L	0.125 mg/L	$20.00	$2,000.00
21B	10	Kjeldahl Nitrogen (solid)	SM4500NORG+NH 3C	3.6 mg/Kg	5 mg/Kg	$20.00	$200.00
21C	10	Kjeldahl Nitrogen Alt. Method (solid)	SM4500NORG+HA CH8038	5 mg/Kg	10 mg/Kg	$20.00	$200.00
22	50	Ammonia Nitrogen	HACH 8034	0.02 mg/L	0.05 mg/L	$13.00	$650.00
22A	10	Ammonia Nitrogen Alt. Method	SM4500NH3C	0.25 mg/L	0.5 mg/L	$18.00	$180.00
22B	10	Ammonia Nitrogen (solid)	SM4500NH3C	10 mg/Kg	100 mg/Kg	$15.00	$150.00
22C	10	Ammonia Nitrogen Alt. Method (solid)	HACH 8036	--	--	NA	
23	50	Organic Nitrogen	Item 21.22	0.5 mg/L	0.5 mg/L	$34.00	$1,700.00
23A	10	Organic Nitrogen Alt. Method	Item 21A.22A	1 mg/L	1 mg/L	$37.00	$370.00
24	50	Nitrate-Nitrogen	EPA 300.0	0.05 mg/L	0.125 mg/L	$7.50	$375.00
24A	10	Nitrate-Nitrogen Alt. Method	10-107-04-1-C	0.005 mg/L	0.0125 mg/L	$11.50	$115.00
25	50	Nitrite-Nitrogen	EPA 300.0	0.05 mg/L	0.125 mg/L	$7.50	$375.00
25A	10	Nitrite-Nitrogen Alt. Method	10-107-04-1-C	0.005 mg/L	0.0125 mg/L	$11.50	$115.00
25B	10	Nitrite-Nitrogen (solid)	EPA 300.0	0.25 mg/Kg	2.5 mg/Kg	$12.50	$125.00
25C	10	Nitrite-Nitrogen Alt. Method (solid)	EPA 353.2	--	--	NA	
26	400	Nitrite-Nitrate	10-107-04-1-C	0.01 mg/L	0.025 mg/L	$7.50	$3,000.00
26A	100	Nitrite-Nitrate Alt. Method	EPA 300.0	0.05 mg/L	0.125 mg/L	$9.00	$900.00
26B	10	Nitrite-Nitrate (solid)	EPA 300.0	0.25 mg/Kg	2.5 mg/Kg	$12.50	$125.00
26C	10	Nitrite-Nitrate Alt. Method (solid)	EPA 353.2	--	--	NA	
27	400	Total Phosphorus	SM4500PB.5	0.01 mg/L	0.025 mg/L	$15.60	$6,240.00
27A	100	Total Phosphorus Alt. Method	10-115-01-1-F	0.0016 mg/L	0.005 mg/L	$20.00	$2,000.00
27B	10	Total Phosphorus (solid)	SW6010	1 mg/Kg	10 mg/Kg	$15.00	$150.00
27C	10	Total Phosphorus Alt Method (Solid)	--	--	--	NA	
28	50	Orthophosphate	SM4500PE	0.01 mg/L	0.025 mg/L	$11.00	$550.00
28A	10	Orthophosphate Alt. Method	--	--	--	NA	
29	50	Total Phosphate	SM4500 PE	0.01 mg/L	0.025 mg/L	$16.00	$800.00
29A	10	Total Phosphate Alt. Method	10-115-01-1-F	0.01 mg/L	0.015 mg/L	$20.00	$200.00
29B	10	Total Phosphate (solid)	SW6010	3 mg/Kg	25 mg/Kg	$26.00	$260.00
29C	10	Total Phosphate Alt Method (Solid)		--	--	NA	
30	25	BOD	SM 5210B	2 mg/L	5 mg/L	$23.00	$575.00
30A	10	BOD Alt. Method	--	--	--	NA	
31	25	BOD-carbonaceous	SM5210B	2 mg/L	5 mg/L	$24.00	$600.00
31A	10	BOD-cabonaceous Alt. Method	--	--	--	NA	
32	25	COD	--	--	--	NA	

Item #	Est. Quantity	Description	Method #	Method Detection Limit*	Practical Quantitation Limit	Unit Price	Amount
32A	10	COD Alt. Method	HACH 8000	10 mg/L	25 mg/L	$21.50	$215.00
33	25	TOC	SM5310C	1 mg/L	2.5 mg/L	$21.00	$525.00
33A	10	TOC Alt. Method	--	--	--	NA	
34	25	MBAS	SM5540C	0.05 mg/L	--	$32.00	$800.00
34A	10	MBAS Alt. Method	--	--	--	NA	
35	25	Phenolics	EPA 420.1	0.01 mg/L	0.025 mg/L	$28.00	$700.00
35A	10	Phenolics Alt. Method	--	--	--	NA	
35B	10	Phenolics (Solid)	--	--	--	NA	
36	25	Total Cyanide	SM4500CNE	0.005 mg/L	0.0125 mg/L	$24.00	$600.00
36A	10	Total Cyanide Alt Method	--	--	--	NA	
36B	10	Total Cyanide (solid)	SM4500CNE	0.2 mg/Kg	0.5 mg/Kg		
37	200	Hexavalent Chromium	SM3500 CR B	0.006 mg/L	0.015 mg/L	$20.00	$4,000.00
37A	10	Hexavalent Chromium Alt. Method	EPA218.6	--	--	$44.00	$440.00
37B	10	Hexavalent Chromium		--	--	NA	
38	25	Oil-Grease	EPA 1664A	2 mg/L	5 mg/L	$26.00	$650.00
38A	10	Oil-Grease Alt. Method	--	--	--	NA	
38B	10	Oil-Grease (Solid)	SW9071	0.001%	0.004%	$80.00	$800.00
39	100	Chlorophyll A	EPA 446	0.5 mg/L	--	$55.00	$5,500.00
39A	20	Chlorophyll A Alt. Method	--	--	--	NA	
40	25	Color (APHA)	SM2120B	10 color units	25 color units	$12.00	$300.00
40A	10	Color (APHA) Alt. Method	--	--	--	NA	
41	25	Color (ADMI)	SM2120E	10 color units	25 color units	NA	
41A	10	Color Alt. Method	--	--	--	NA	
42	25	Cyanide, Amenable	EPA 335.4	0.005 mg/L	0.0125 mg/L	$35.00	$875.00
42A	10	Cyanide, Amenable Alt. Method	--	--	--	NA	
43	25	Cyanide, Free (ASTM)	SM4500 CN I	0.005 mg/L	0.0125 mg/L	$21.00	$525.00
43A	10	Cyanide, Free Alt. Method	SM4500CNF	0.0925 mg/L	--	$21.00	$210.00
44	25	Mineral Acidity	SM2310B	5 mg/L	12.5 mg/L	$7.50	$187.50
44A	10	Mineral Acidity Alt. Method	--	--	--	--	
45	25	Total Acidity	SM2310B	5 mg/L	12.5 mg/L	$7.50	$187.50
45A	10	Total Acidity Alt. Method	--	--	--	NA	
46	25	Tot Petroleum Hydrocarbons GRO/DRO (8015)	SW8015B	0.5 mg/L	--	$75.00	$1,875.00
46A	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) Alt Method.	SW8015B	10 mg/Kg	--	$75.00	$750.00
46B	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) (Solid)	--	--	--	NA	
47	25	Fecal Streptococci	SM9230C	4 col/ 100 ml	10 col/ 100 ml	$60.00	$1,500.00
47A	10	Fecal Streptococci Alt. Method	--	--	--	NA	
47B	10	Fecal Streptococci (Solid)	--	--	--	NA	
48	25	Escherichin Coli (Numeric Result)	HACH 10029	1 col/100mL	2.5 col/100mL	$60.00	$1,500.00
48A	10	E. Coli (Numeric Result) Alt. Method	--	--	--	NA	
49	100	Enterococci	--	--	--		
50	20	Iron Bacteria	HACH BART	--	--	$60.00	$1,200.00
51	20	Sulfate Reducing Bacteria	HACH BART	--	--	$60.00	$1,200.00
52	25	Bicarbonate (Standard Methods)	SM 2320B	5 mg/L	12.5 mg/L	$7.50	$187.50
52A	25	Bicarbonate (Standard Methods)	--	--	--		

Item #	Est. Quantity	Description	Method #	Method Detection Limit*	Practical Quantitation Limit	Unit Price	Amount
53	25	Ferrous Iron (Standard Methods)	SM 3500 FeD	0.05 mg/L	--	$24.00	$600.00
53A	10	Ferrous Iron Alt. Method	--	--	--		
54	25	Dissolved Organic Carbon	SM 5310C	1 mg/L	2.5 mg/L	$21.00	$525.00
54A	10	Dissolved Organic Carbon Alt. Method	--	--	--		
55	4000	Aluminum	200.7 6010B	0.005 mg/L	0.02 mg/L	$5.50	$22,000.0
55A	100	Aluminum - Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$850.00
55B	10	Aluminum (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$7.20	$72.00
56	20	Antimony	200.7 6010B	0.005mg/L	0.0125 mg/L	$5.75	$115.00
56A	10	Antimony Alt. Method	200.8 6020	0.002 mgL	0.005 mg/L	$8.50	$85.00
56B	10	Antimony (solid)	6010B	2 mg/Kg	5 mg/Kg	$7.20	$72.00
57	20	Arsenic	200.7 6010B	0.005 mg/L	0.0125 mg/L	$5.75	$115.00
57A	10	Arsenic Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$85.00
57B	10	Arsenic (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$7.20	$72.00
58	20	Barium	200.7 6010B	0.005 mg/L	0.0125 mg/L	$6.00	$120.00
58A	10	Barium Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$9.00	$90.00
58B	10	Barium (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$7.20	$72.00
59	20	Beryllium	200.7 6010B	0.002 mg/L	0.005 mg/L	$5.75	$115.00
59A	10	Beryllium Alt. Method	200.8 6020	0.001 mg/L	0.0025 mg/L	$9.00	$90.00
59B	10	Beryllium (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
60	20	Boron	200.7 6010B	0.03 mg/L	0.075 mg/L	$6.00	$120.00
60A	10	Boron Alt. Method	--	--	--		
60B	10	Boron (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
61	200	Cadmium	200.8 6020	0.001 mg/L	0.0025 mg/L	$8.50	$1,700.00
61A	20	Cadmium Alt. Method	200.7 6010B	0.002 mg/L	0.005 mg/L	$6.00	$120.00
61B	10	Cadmium (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
62	500	Calcium	--	0.5 mg/L	1.25 mg/L		
62A	20	Calcium Alt. Method	200.7 6010B	0.2 mg/L	0.5 mg/L	$5.25	$105.00
62B	10	Calcium (solid)	6010B	10 mg/Kg	25 mg/Kg	$7.20	$72.00
63	20	Chromium	200.7 6010B	0.002 mg/L	0.005 mg/L	$6.00	$120.00
63A	10	Chromium Alt. Method	200.8 6020	0.001 mg/L	0.0025 mg/L	$8.50	$85.00
63B	10	Chromium (solid)	6010 B	0.25 mg/Kg	0.625 mg/L	$7.20	$72.00
64	20	Cobalt	200.7 6010B	0.005 mg/L	0.0125 mg/L	$6.00	$120.00
64A	10	Cobalt Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$85.00
64B	10	Cobalt (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
65	200	Copper	200.7 6010B	0.004 mg/L	0.010 mg/L	$6.00	$1,200.00
65A	20	Copper Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$170.00
65B	10	Copper (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
66	3000	Iron	200.7 6010B	0.01 mg/L	0.025 mg/L	$5.50	$16,500.0
66A	100	Iron Alt. Method	--	--	--		
66B	10	Iron (solid)	6010B	0.5 mg/Kg	0.125 mg/Kg	$7.20	$72.00
67	200	Lead	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$1,700.00
67A	10	Lead Alt. Method	200.7 6010B	0.005 mg/L	0.0125 mg/L	$6.00	$60.00
67B	10	Lead (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
68	500	Magnesium	200.7 6010B	0.2 mg/L	0.5 mg/L	$5.50	$2,750.00
68A	20	Magnesium Alt. Method	--	--	--		
68B	10	Magnesium (solid)	6010B	5 mg/Kg	12.5 mg/Kg	$7.20	$72.00
69	3000	Manganese	200.7 6010B	0.005 mg/L	0.0125 mg/L	$5.50	$16,500.0
69A	100	Manganese Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$850.00
69B	10	Manganese (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
70	200	Mercury	245.1 2420	0.0002 mg/L	0.0005 mg/L	$20.00	$4,000.00
70A	200	Mercury Method 1631E	1631E	0.5 ng/L	--	$65.00	$13,000.0
70B	10	Mercury (solid)	245.5 7471	0.01 mg/Kg	0.25 mg/Kg	$26.00	$260.00

Item #	Est. Quantity	Description	Method #	Method Detection Limit*	Practical Quantitation Limit	Unit Price	Amount
71	20	Molybdenum	200.7 6010B	0.005 mg/L	0.0125 mg/L	$6.00	$120.00
71A	10	Molybdenum Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$85.00
71B	10	Molybdenum (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
72	200	Nickel	200.7 6010B	0.005 mg/L	0.0125 mg/L	$5.50	$1,100.00
72A	200	Nickel Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$1,700.00
72B	10	Nickel (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
73	500	Potassium	200.7 6010B	0.2 mg/L	0.5 mg/L	$5.50	$2,750.00
73A	20	Potassium Alt Method	--	--	--		
73B	10	Potassium (solid)	6010B	5 mg/Kg	12.5 mg/Kg	$7.20	$72.00
74	500	Selenium	200.7/6010B	0.001 mg/L	0.0025 mg/L	$7.00	$3,500.00
74A	20	Selenium Alt Method	3114 C-97Modified	0.001 mg/L	0.002 mg/L	$30.00	$600.00
74B	10	Selenium (solid)	6010B	2 mg/Kg	5 mg/Kg	$8.00	$80.00
75	200	Silver	200.8 6020	0.00005 mg/L	0.000125 mg/L	$8.50	$1,700.00
75A	200	Silver Alt. Method	200.7 6010B	0.002 mg/L	0.005 mg/L	$6.00	$1,200.00
75B	10	Silver (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
76	500	Sodium	200.7 6010B	0.5 mg/L	1.25 mg/L	$5.50	$2,750.00
76A	20	Sodium Alt. Method	--	--	--		
76B	10	Sodium (solid)	6010B	10 mg/Kg	25 mg/Kg	$7.20	$72.00
77	200	Strontium	200.7 6010B	0.002 mg/L	0.005 mg/L	$9.00	$1,800.00
77A	20	Strontium Alt. Method (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$9.00	$180.00
78	20	Thallium	200.7 6010B	0.020 mg/L	0.050 mg/L	$6.00	$120.00
78A	10	Thallium Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$85.00
78B	10	Thallium (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$9.00	$90.00
79	20	Tin	200.7 6010B	0.1 mg/L	0.25 mg/L	$9.00	$180.00
79A	10	Tin Alt Method	--	--	--		
79B	10	Tin (solid)	6010B	0.5 mg/Kg	1.25 mg/Kg	$9.00	$90.00
80	20	Vanadium	200.7 6010B	0.005 mg/L	0.0125 mg/L	$6.00	$120.00
80A	10	Vanadium Alt. Method	200.8 6020	0.002 mg/L	0.005 mg/L	$8.50	$85.00
80B	10	Vanadium (solid)	6010B	0.5 mg/L	1.25 mg/L	$7.20	$72.00
81	200	Zinc	200.8 6020	0.001 mg/L	0.0025 mg/L	$5.75	$1,150.00
81A	20	Zinc Alt. Method	200.8 6020B	0.003 mg/L	0.0075 mg/L	$8.50	$170.00
81B	10	Zinc (solid)	6010B	0.25 mg/Kg	0.625 mg/Kg	$7.20	$72.00
82	200	Metals Prep Cost (200.7,200.8,6010,6020,3114)	Aqueous	--	--	$4.50	$900.00
82A	10	Metals Prep Cost (solid) (200.7,200.8,6010,6020,3114	solid	--	--	$6.50	$65.00
83	20	Gross Alpha	900		3 pCi/L	$55.00	$1,100.00
83A	10	Gross Alpha (solid)	9310		10 pCi/L	$56.80	$568.00
84	20	Gross Beta	900		4 pCi/L	included with item 83	
84A	10	Gross Beta (solid)	9310		10 pCi/g	included with item 83A	
85	20	Ra-226	903		1 pCi/L	$99.40	$1,988.00
85A	10	Ra-226 (solid)	9315 EPA 901.1M		1 pCi/g	$106.50	$1,065.00
86	20	Ra-228	904		1 pCi/L	$99.40	$1,988.00
86A	10	Ra-228 (solid)	9320		1 pCi/g	included with Ra-226 & Cs-137	
87	20	Total Uranium	908			$49.70	$994.00
87A	10	Total Uranium (solid)	6020		1 pCi/g	$113.60	$1,136.00
88	20	Sr-89	905			$150.00	$3,000.00
88A	10	Sr-89 (solid)	905			$150.00	$1,500.00

89	20	Sr-90	905		4 pCi/L	$150.00	$3,000.00
89A	10	Sr-90 (solid)	905		1 pCi/g	$150.00	$1,500.00
90	20	Tritium (H3)	906		400 pCi/L	$135.00	$2,700.00
90A	10	Tritium (H3) (solid)	906		400 pCi/g	$135.00	$1,350.00
91	20	Gamma (Cs-137)	901		10 pCi/L	$165.00	$3,300.00
91A	10	Gamma (Cs-137) (solid)	901.1		1 pCi/L	included with items 85/86	
92	20	Radon	7500		100 pCi/L	$160.00	$3,200.00
92A	10	Radon (solid)	7500		pCi/g	$160.00	$1,600.00

		Toxicity Testing-Freshwater Organisms			
Item #	Est. Quantity	Description	Method #	Unit Price	Amount
		Acute:			
93	25	Ceriodaphnia		$395.00	$9,875.00
94	10	Daphnia Pulex/D. Magna		$395.00	$3,950.00
95	25	Pimephales Promelas		$530.43	$13,260.8
		Chronic:			
96	25	Ceriodaphnia		$1,395.00	$34,875.0
97	25	Pimephales Promelas (Survival and Growth)		$1,990.00	$49,750.0

		Collection of Samples - costs associated with sample pickup from the following locations:		
98	24	**Bridgeport Office, 101 Cambridge Place, Bridgeport, WV 26330**	$80.00	$1,920.0
99	24	**Charleston Office, 601 57th Street SE, Charleston WV 25304**	$0.00	$0.0
100	24	**Fairmont Office, 2031 Pleasant Valley Road, Fairmont, WV 26554**	$80.00	$1,920.0
101	24	**French Creek Office, P.O. Box 38, French Creek, WV 26218**	$63.00	$1,512.0
102	24	**Logan Office, 1101 George Kostas Dr., Logan, WV 25601**	$40.00	$960.0
103	24	**Oak Hill Office, 116 Industrial Dr., Oak Hill, WV 25901**	$40.00	$960.0
104	24	**Parkersburg Office, 2311 Ohio Ave., Parkersburg, WV 26010**	$50.00	$1,200.0
105	24	**Philippi Office, 105 South Railroad Street, Philippi, WV 26416**	$80.00	$1,920.0
106	24	**Romney Office, HC 63, Box 2545, Romney, WV 26757**	$130.00	$3,120.0
107	24	**Teays Office, P.O. Box 662, Teays, WV 25596**	$0.00	$0.0
108	24	**Welch Office, 311 Court St., Welch, WV 24801**	$80.00	$1,920.0
109	24	**Wheeling Office, 131A Peninsula St., Wheeling, WV 26003**	$100.00	$2,400.0
110	5000	**Other locations as Cost Per Mile to pickup site**	$0.42	$2,100.0
111	10	**24 Hour Turn-Around Rusk Order fee, per sample**	50%	
112	10	**48 Hour Turn-Around Rush Order fee, per sample**	25%	
113	10	**72 Hour Turn-Around Rush Order fee, per sample**	10%	

	TOTAL		$555,363

Quantities listed on the bid schedule are for bid evaluation purposes only and are not a guarantee of quantities to be ordered over the life of the contract. Actual quantities may be more or less than those stated on this schedule.

Company: Bio-Chem Testing, Inc.

Name: Mukesh Bhat

Signature: [signature] Date: 11-11-2015

Bio-Chem Testing, Inc.
Environmental Laboratory

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Teays, WV 25569

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November 11, 2015

METHOD DETECTION LIMIT (MDL)

Method Detection Limit (MDL) determinations as typically performed in the environmental laboratory follow guidelines set forth in 40CFR136 Appendix B with additional guidance provided by the WVDEP.

This procedure calls for the use laboratory pure water into which is spiked the analyte of interest in an amount sufficient to produce a final concentration between 1 and 5 times the expected MDL. A minimum of 7 replicates of this solution are then analyzed and the standard deviation of the results is determined. The standard deviation is them multiplied by a statistically derived factor based on the number of replicates analyzed. This calculated result is considered the MDL.

This MDL should be viewed as a best case value. Actual samples containing potential interferences would possibility yield a result higher than that as determined by the above procedure. For this reason another value, sometimes referred to as the Level of Quantitation (LOQ) or Practical Quantitation Level (PQL) is often used instead of the MDL as a more defensible value for real world samples.

If these standards were recovered close to their prepared concentrations a PQL was calculated using the Standard Methods guideline of the PQL being approximately 2.5 times the MDL. If the MDL study data showed these standard recovered poorly a factor of 5 was, in some cases applied. In some other cases past experience with the analyte, such as a history of poor calibration verification at low levels as well as high duplicate RPDs and/or a wide range of spike recovery percentages, led to an even greater increase in the PQL as compared to the MDL. Perhaps not the most scientific approach but a least an attempt at trying to make sure the lowest reported results are defensible from accuracy standpoint.

While the WVDEP requires the reporting of MDLs on laboratory reports many laboratories show their LOQ value in the MDL column on the report instead of their statistically derived value for the reasons stated above.

Bio-Chem Testing, Inc.
5 Weatheridge Drive,
Hurricane, WV 25526

Bio-Chem warrants the accuracy of analysis performed with respect to sound scientific methodology and technique. Sample results are warranted on an "as received" basis from the time Bio-Chem accepts custody. All work must be accompanied by a written work request or custody form that accurately details the analyses to be performed and the expected turn around time. No other warranties, expressed or implied, are valid. Bio-Chem does not accept any legal responsibilities for the purposes for which test results are used by our clients or third party clients. Any other conditions other than those stated here must be signed by the President of Bio-Chem Testing, Inc. before submittal of samples.

Attachment I

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

List of Certified Parameters
for

BIO-CHEM TESTING, INC.

TEAYS, WEST VIRGINIA

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Acidity, Hot	SM2310 B(4a)-97	Titrimetric
Alkalinity	SM2320 B-97	Titrimetric
Ammonia	HACH 8038	Spectrophotometric
Ammonia	SM4500-NH3 B-97	Distillation
Ammonia	SM4500-NH3 C-97	Titrimetric
Bromide	EPA300.0 Rev 2.1-1993	IC
Carbon, Total Organic (TOC)	SM5310 C-00	Oxidation
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4500-Cl C-97	Titrimetric
Chlorine, Residual	HACH 8167	Spectrophotometric
Chromium, Hexavalent	SM3500 Cr B-09	Spectrophotometric
Color	SM2120 B-01	Visual Comparison
Conductance, Specific	EPA120.1 Rev 1982	Probe
Cyanide, Total	SM4500-CN C-99	Distillation
Cyanide, Total	SM4500-CN E-99	Spectrophotometric
Cyanide, Weak Acid Dissociable	SM4500-CN E-99	Spectrophotometric
Cyanide, Weak Acid Dissociable	SM4500-CN I-99	Distillation
Fluoride	EPA300.0 Rev 2.1-1993	IC
Hardness, Calcium	SM2340 B-97	Calculation
Hardness, Total	HACH 8226	Titrimetric
Hardness, Total	SM2340 B-97	Calculation
Iron, Ferrous	SM3500-Fe B(4.c)-97	Spectrophotometric
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate	Lachat 10-107-04-1-C	Calculation
Nitrate-Nitrite	EPA300.0 Rev 2.1-1993	Calculation
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate-Nitrite	Lachat 10-107-04-1-C	Spectrophotometric
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	Lachat 10-107-04-1-C	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	HACH 8038	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	Lachat 10-107-06-2-E	Spectrophotometric

ANALYTE	METHOD	TECHNOLOGY
Nitrogen, Total Kjeldahl (TKN)	SM4500-NH3 B-97	Distillation
Nitrogen, Total Kjeldahl (TKN)	SM4500-NH3 C-97	Titrimetric
Nitrogen, Total Kjeldahl (TKN)	SM4500-Norg C-97	Digestion
Oil & Grease	EPA1664 A	Gravimetric
Oxygen Demand, Biochemical (BOD)	SM5210 B-01	Probe
Oxygen Demand, Carbonaceous Biochemical (CBOD)	SM5210 B-01	Probe
Oxygen Demand, Chemical (COD)	HACH 8000	Spectrophotometric
Oxygen, Dissolved	SM4500-O G-01	Probe
pH (Hydrogen Ion)	SM4500-H B-00	Electrode
Phenolics, Total	EPA420.1 Rev 1978	Spectrophotometric
Phosphorus, Ortho	SM4500-P E-99	Spectrophotometric
Phosphorus, Total	EPA365.1 Rev 2.0-1993	Spectrophotometric
Phosphorus, Total	Lachat 10-115-01-1-F	Spectrophotometric
Phosphorus, Total	SM4500-P B(5)-99	Digestion
Phosphorus, Total	SM4500-P E-99	Spectrophotometric
Solids, Dissolved	SM2540 C-97	Gravimetric
Solids, Settleable	SM2540 F-97	Imhoff
Solids, Suspended	SM2540 D-97	Gravimetric
Solids, Total	SM2540 B-97	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0 Rev 2.1-1993	IC
Temperature	SM2550 B-00	Thermometric
Turbidity	EPA180.1 Rev 2.0-1993	Turbidimetric

NONPOTABLE WATER TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Aluminum	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6010B	ICP
Aluminum	SW6020	ICP-MS
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	SM3113 B-04	GFAA
Antimony	SW6010B	ICP
Antimony	SW6020	ICP-MS
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	SM3113 B-04	GFAA
Arsenic	SW6010B	ICP
Arsenic	SW6020	ICP-MS
Barium	EPA200.7 Rev 4.4-1994	ICP
Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Barium	SW6010B	ICP
Barium	SW6020	ICP-MS
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	SW6010B	ICP
Beryllium	SW6020	ICP-MS
Boron	EPA200.7 Rev 4.4-1994	ICP

METAL	METHOD	TECHNOLOGY
Boron	SW6010B	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	SM3113 B-04	GFAA
Cadmium	SW6010B	ICP
Cadmium	SW6020	ICP-MS
Calcium	EPA200.7 Rev 4.4-1994	ICP
Calcium	SW6010B	ICP
Chromium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	SW6010B	ICP
Chromium	SW6020	ICP-MS
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	SW6010B	ICP
Cobalt	SW6020	ICP-MS
Copper	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	SM3113 B-04	GFAA
Copper	SW6010B	ICP
Copper	SW6020	ICP-MS
Iron	EPA200.7 Rev 4.4-1994	ICP
Iron	SW6010B	ICP
Lead	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	SM3113 B-04	GFAA
Lead	SW6010B	ICP
Lead	SW6020	ICP-MS
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Magnesium	SW6010B	ICP
Manganese	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Manganese	SW6010B	ICP
Manganese	SW6020	ICP-MS
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SW7470A	CVAA
Metals, Total	SM3030 E-97	Digestion
Metals, Total	SM3030 F-97	Digestion
Molybdenum	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	SW6010B	ICP
Molybdenum	SW6020	ICP-MS
Nickel	EPA200.7 Rev 4.4-1994	ICP
Nickel	EPA200.8 Rev 5.4-1994	ICP-MS
Nickel	SW6010B	ICP
Nickel	SW6020	ICP-MS
Potassium	EPA200.7 Rev 4.4-1994	ICP
Potassium	SW6010B	ICP
Selenium	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.8 Rev 5.4-1994	ICP-MS
Selenium	SM3113 B-04	GFAA

METAL	METHOD	TECHNOLOGY
Selenium	SM3114 C-97 (Modified)	HGAF
Selenium	SW6010B	ICP
Selenium	SW6020	ICP-MS
Silica	EPA200.7 Rev 4.4-1994	Calculation
Silica	SW6010B	Calculation
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silicon	SW6010B	ICP
Silver	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.8 Rev 5.4-1994	ICP-MS
Silver	SM3113 B-04	GFAA
Silver	SW6010B	ICP
Silver	SW6020	ICP-MS
Sodium	EPA200.7 Rev 4.4-1994	ICP
Sodium	SW6010B	ICP
Strontium	EPA200.7 Rev 4.4-1994	ICP
Strontium	SW6010B	ICP
Thallium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.8 Rev 5.4-1994	ICP-MS
Thallium	EPA279.2 (1978)	GFAA
Thallium	SW6010B	ICP
Thallium	SW6020	ICP-MS
Tin	EPA200.7 Rev 4.4-1994	ICP
Tin	SW6010B	ICP
Titanium	EPA200.7 Rev 4.4-1994	ICP
Titanium	SW6010B	ICP
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	EPA200.8 Rev 5.4-1994	ICP-MS
Vanadium	SW6010B	ICP
Vanadium	SW6020	ICP-MS
Zinc	EPA200.7 Rev 4.4-1994	ICP
Zinc	EPA200.8 Rev 5.4-1994	ICP-MS
Zinc	SW6010B	ICP
Zinc	SW6020	ICP-MS

NONPOTABLE WATER MICROBIOLOGY

GROUP	METHOD	TECHNOLOGY
Coliform, Fecal (MF)	SM9222 D-97	Membrane Filter
Coliform, Fecal (MPN)	SM9221 E-06	Multiple Tube
Coliform, Total (MF)	SM9222 B-97	Membrane Filter
E. Coli (MF)	HACH 10029	Membrane Filter
Steptococci, Fecal (MF)	SM9230 C-07	Membrane Filter

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Corrosivity	SW9040C	Electrode
Paint Filter Test	SW9095B	Gravimetric
SPLP- Metals	SW1312	Extraction
TCLP- Metals	SW1311	Extraction

SOLID AND CHEMICAL INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Ammonia	HACH 8038	Spectrophotometric
Ammonia	SM4500-NH3 B-97	Distillation
Ammonia	SM4500-NH3 C-97	Titrimetric
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4500-Cl C-97	Titrimetric
Cyanide, Total	SM4500-CN C-99	Distillation
Cyanide, Total	SM4500-CN E-99	Spectrophotometric
Fluoride	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate-Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	HACH 8038	Spectrophotometric
Nitrogen, Total Kjeldahl (TKN)	SM4500-NH3 B-97	Distillation
Nitrogen, Total Kjeldahl (TKN)	SM4500-NH3 C-97	Titrimetric
Nitrogen, Total Kjeldahl (TKN)	SM4500-Norg C-97	Digestion
pH (Hydrogen Ion)	SW9045C	Electrode
Phosphorus, Total	EPA365.1 Rev 2.0-1993	Spectrophotometric
Phosphorus, Total	SM4500-P B(5)-99	Digestion
Phosphorus, Total	SM4500-P E-99	Spectrophotometric
Solids, Total, Fixed, & Volatile	SM2540 G-97	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0 Rev 2.1-1993	IC

SOLID AND CHEMICAL TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Antimony	SW7010	GFAA
Arsenic	SW6010B	ICP
Arsenic	SW7010	GFAA
Barium	SW6010B	ICP
Beryllium	SW6010B	ICP
Boron	SW6010B	ICP
Cadmium	SW6010B	ICP
Cadmium	SW7010	GFAA
Calcium	SW6010B	ICP
Chromium	SW6010B	ICP
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Copper	SW7010	GFAA
Iron	SW6010B	ICP
Lead	SW6010B	ICP
Lead	SW7010	GFAA
Magnesium	SW6010B	ICP
Manganese	SW6010B	ICP
Mercury	SW7470A	CVAA

METAL	METHOD	TECHNOLOGY
Mercury	SW7471A	CVAA
Metals, Total	SW3050B	Digestion
Molybdenum	SW6010B	ICP
Nickel	SW6010B	ICP
Phosphorus	SW6010B	ICP
Potassium	SW6010B	ICP
Selenium	SW6010B	ICP
Selenium	SW7010	GFAA
Silicon	SW6010B	ICP
Silver	SW6010B	ICP
Silver	SW7010	GFAA
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Thallium	SW7010	GFAA
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP

SOLID AND CHEMICAL MICROBIOLOGY

GROUP	METHOD	TECHNOLOGY
Coliform, Fecal (MPN)	EPA-821-R-10-003 (2010)	Multiple Tube
Coliform, Fecal (MPN)	SM9221 E-06	Multiple Tube

This laboratory may test **ONLY** for those environmental parameters listed above for compliance reporting purposes. All testing must be by the test method cited in the current application for certification.

This Certification Expires July 31, 2016. Certificate No 220

Issued on July 27, 2015

Tommy W. Smith II
Quality Assurance Officer

NOTE: This Attachment I supersedes and voids all previous Attachment I documents issued by WV DEP.

Mukesh Shah
Laboratory Manager/President

Experience

May 1975 to April 1989
Technical Testing, Inc.

- BOD5,
- Chemical Oxygen Demand
- Specific Conductance
- TSS, TDS, TS, %Solids
- Phenolics
- Fecal Coliform, Total Coliform
- Acidity, Alkalinity, Hardness
- Nutrient, Ammonia, TKN, Organic Nitrogen
- Metals by AA Flame, AA Furnace
- Mercury by Cold Vapor Technique using Mercury Analyzer
- Quality Control
- Supervision of 8 Technicians
- Over seeing production

April 1989 to March 1995
SGS Environmental, Commercial Testing & Engineering

- Supervision of 11 Technicians
- Wet Chemistry, Physical Characteristics (as described above)
- Metals analysis by ICP, AA Furnace, AA Flame, Mercury Analyzer
- Over seeing production

March 1995 to date
Bio-Chem Testing, Inc.

- Operation over all laboratory including but not limited to:

    1. Purchasing
    2. Business development
    3. Hiring new employees
    4. Management

Education

West Virginia Institute of Technology; Graduate, BS in Chemistry 1975, Montgomery, WV

Bio-Chem Testing, Inc.
5 Weatheridge Drive,
Hurricane, WV 25526
304-757-8954

Brian Richards
Laboratory Supervisor

Experience

June 2003 – October 2005
Environmental Assessment Associates, LLC. (EAA), Barboursville, WV

- Field Assistant (2003-2004)
- Project Supervisor (2004-2005)
- Benthic Identification WVSCI, Habitat Assessments (2002-2005)

December 2005 - Present
Bio-Chem Testing, Inc.

- Laboratory / Manager/Client Relation/New Business Development: 6 years experience
- Field Crew Supervision: 9 years experience
- ICP: 3 years experience

Education

Alderson Broaddus College; Graduate, BS in Environmental Science, 2003, Philippi, WV

Marshall University; GeoBioPhysical Modeling, 2003-2005, Huntington, WV

Christi Joyce Raines
Quality Control Officer

Experience

June 22, 2015 - Present
Bio-Chem Testing, Inc.

- Maintain all required documentation for WVDEP, and KYDEP accreditation
- Manage proficiency testing programs
- Maintain, review and approve quality manual revisions
- Provide guidance and training on quality manual and laboratory protocols for quality control
- Maintain files of current MDL and DOC study results
- Manage corrective actions for all internal audits
- Assemble level II, III and IV reports for various clients

August 2013 – May 2015
West Virginia University – Graduate Research Assistant

- DNA Extraction
- Spectrophotometry
- Polymerase Chain Reaction/Multiplex PCR
- DNA Fingerprinting
- Multiplex Genotyping

January 2006 – May 2011
Saginaw Valley State University – Undergraduate Research Assistant

- DNA Extraction
- Polymerase Chain Reaction
- DNA Fingerprinting
- DNA Sequencing

Education

West Virginia University, M.Agr. with Concentrations in Genetics and Developmental Biology, 2015, Morgantown, WV.

Saginaw Valley State University, B.S. in Biology, 2011, University Center, MI.

John Joseph
Quality Assurance Officer

Experience

October 1973 – September 1982
WV Health Dept.

October 1982 – May 1993
WVDNR, DEP

May 1993 – June 2000
FMC, Great Lakes Chemical

June 2000 – April 2001
AC&S Analytical

April 2001 – October 2008
WVDEP Quality Assurance/Lab Certification

November 2008 - Present
Bio-Chem Testing, Inc.

- Quality Assurance Officer: 18.5 years experience
- Level Three QA-QC: 6.5 years experience

Education

West Virginia State College; Graduate, BS in Chemistry 1973, Institute, WV

Kara Frampton
Analyst/Lab Reports

Experience

May 2004 – Present
Bio-Chem Testing, Inc.
Production Supervisor

- Cold Vapor Mercury: 10.7 years experience
- Graphite Furnace AA: 10.2 years experience
- Settleable Solids: 7.2 years experience
- Paint Filter Test: 10.7 years experience
- Chlorides Titration: 9.2 years experience
- ICP: 2.2 years experience
- Generation of Laboratory Reports: 6.2 years experience
- eDMRs: 5.2 years experience

Education

Fairmont State College; Graduate, BS Biology 2003, Fairmont, WV

Matthew Carte
Analyst

Experience

June 2014 - Present
Bio-Chem Testing, Inc.

- Ammonia, titration: 15 months experience
- Ammonia, Nesslers: 15 months experience
- TKN, titration: 15 months experience
- TKN, Nesslers: 15 months experience

Education

Marshall University; Graduate, BS in Bio-chemistry 2012, Huntington, WV.

Alicia Gamble
Laboratory

Experience

January 2014 - August 2014
Tra-Det, Inc.

- Acidity
- Alkalinity
- Ammonia
- Total Kjeldahl Nitrogen
- Total Phosphorus

August 2015 to Present
Bio-Chem Testing, Inc.

- Total Dissolved Solids
- Ion Chromatography
- Fecal Coliform by MPN

EDUCATION

- **West Liberty University** – Graduate, Bachelor of Science in Biology 2008, West Liberty, WV

Paul Ice
Sampler

Experience

April 2000 - Present
Bio-Chem Testing, Inc.

- Field Sampling: 15.5 years experience
- Completed Required safety training to access mine property

Education

West Virginia University: Environmental Protection

Blake Karawan
Analyst

Experience

June 2014 - Present
Bio-Chem Testing, Inc.

- Total Phosphorus, Lachat: 10 months experience
- Nitrate+Nitrite, Lachat: 9 months experience
- Total Solids: 13 months experience
- Total Dissolved Solids: 13 months experience
- Fecal Coliform, MPN: 11 months experienced

Education

University of Charleston; Graduate, BS in Chemistry 2014, Charleston, WV

Krissenda McMahon
Laboratory

Experience

June 2014 - Present
Bio-Chem Testing, Inc.

- Field Sampling and environmental Center Management at Bayer CropScience: 1.5 years experience
- Sample receipt and login: 1 month experience

EDUCATION

- Concord University, Athens, WV Bachelor of Science in Biology

Nathan Milam
Analyst

Experience

May 2008 - Present
Bio-Chem Testing, Inc.

- Total Phosphorus: 6.5 years experience
- Ortho-Phosphorus: 6.5 years experience
- Total Cyanide: 6.5 years experience
- WAD Cyanide: 6 years experience
- Total Suspended Solids: 6.5 years experience
- Oil and Grease: 6.5 years experience
- Hardness: 6 years experience

Education

Glenville State College; Graduate, BS in Biology 1999, Glenville, WV

Hemant Shah
Analyst

Experience

November 2000 - Present
Bio-Chem Testing, Inc.

- Acidity: 14.5 years experience
- Alkalinity: 14.5 years experience
- Biochemical Oxygen Demand: 14.5 years experience
- Total Organic Carbon: 12.5 years experience
- Bacteria by Membrane Filter: 14.5 years experience

Education

University of Indore; Graduate, BS in Chemistry 1977.

Tiara Nesselrotte
Analyst

Experience

May 2012 – Present
Bio-Chem Testing, Inc.

- TKN : 3 years experience
- Ammonia Nitrogen: 3 years experience
- Total Dissolved Solids: 3 years experience
- Total Solids: 3 years experience
- Turbidity: 3 years experience
- Color: 3 years experience
- pH: 2.5 years experience
- Preparation of sample for metals analysis: 1.5 months experience
- Generation of Laboratory Reports: 10 months experience

Education

Marshall University; Graduate, BS Psychology & Biology Minor 2012

Andrew Robert
Laboratory

Experience

December 2014 - Present
Bio-Chem Testing, Inc.

- Field Sampling and environmental Center Management at Bayer CropScience: 1.5 years experience

EDUCATION

- 2010- West Virginia University - Bachelor of Science in Biology

William Smith
Analyst

Experience

September 2002 - Present
Bio-Chem Testing, Inc.

- Ion Chromatography: 12.5 years experience
- Chemical Oxygen Demand: 12.5 years experience
- Specific Conductance: 12.5 years experience
- ICP/MS: 6.5 years experience
- Phenolics: 10.5 years experience
- Field Sampling: 12.5 years experience

Education

Marshall University; Graduate, BS in Biology 2002, Huntington, WV

Cindy Walker
Analyst

Experience

August 2008 - Present
Bio-Chem Testing, Inc.

- Metals Digestions: 6.5 years experience
- Turbidity: 6.5 years experience
- TS: 6.5 years experience
- TDS: 6.5 years experience
- Color PtCo: 6.5 years experience
- TCLP: 6.5 years experience
- SPLP: 6.5 years experience
- pH: 6.5 years experience
- % Solids: 6.5 years experience
- Volatile Solids: 6.5 years experience
- Selenium by GHAF: 2.5 years
- ICP Metals: 3.5 years

Education

West Virginia State University; Graduate, BS in Biology, 2007, Institute, WV

Frederic Walker
Bioassay Technician/Sampler

Experience

March 2011 - Present
Bio-Chem Testing, Inc.

- Field Sampling: 4.5 years experience
- Completed Required safety training to access mine property

Education

Wheeling Jesuit University: Graduate, BS in Science and Chemistry, 2008, Wheeling, WV

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Personnel Resume

Terence Romanko
Technical Director

Qualifications Summary

Mr. Romanko has a B.S. in Chemistry from Rice University. He has more than 20 years experience in quality control, research, development and production within the pharmaceutical, radiochemical and analytical industries. He oversees all technology operations for the St. Louis Laboratory, including direction and strategy. He has worked closely with Quality Assurance groups to ensure data/document reliability, including the set-up of systems, methods, batch records, procedures, specifications and validation protocols. He also has experience as Radiation Safety Officer. His responsibilities include ensuring that all Technology actions, plans and expenditures support TestAmerica Laboratories Company goals and directives. As a principal technical resource for the company, he oversees the technical and scientific content of the analytical services provided and provides technical assistance to laboratory's personnel and clients.

Professional Experience

Technical Director – TestAmerica St. Louis – 2007 to present
Manages all technology operations for TestAmerica, including future directions and strategy. Ensures that all Technology actions, plans and expenditures support TestAmerica goals and directives. As a principal technical resource for the company, oversees the technical and scientific content of analytical services provided. Also, provides technical assistance to laboratory personnel and clients.

Project Manager – 2007
Coordinated and managed customer projects through all phases of laboratory operations, ensuring fulfillment of laboratories commitments to client requirements, error-free work, and on-time delivery. Maintained communications with clients, Account Executives, and served as a liaison between clients and laboratory operations to meet client needs. Worked closely with business unit personnel to manage quotations and change order for existing scopes of work. Monitored compliance with industry regulations, contractual agreements, program management processes, and program specifications. Worked toward achieving goals for revenue, profit, and KPI's through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager – 2005 to 2007
Served as the primary contact and technical consultant to major clients. With knowledge of EPA, ASTM, Standard Methods & California Analytical Methods and Regulations, provided clients with technical interpretation where necessary. With experience in sampling, provided clients with sample volumes, preservatives and shipping procedures. Characterized samples for disposal. Assisted with development and implementation of sales strategies and plans for the laboratory. Reviewed and approved Certificate of Analysis, reports, and project data packages. Reviewed and verifies client invoices for accuracy.

Operations Manager – 2003 to 2005
Managed the day-to-day operational activities of a large analytical laboratory. Directly supervised group leaders, and coordinated the efforts of analytical operating groups.

Product Development and Quality Control Manager – NeoRx Corporation-Seattle, WA – 2002 to 2003 (formerly International Isotopes, Inc)
Responsible for managing and coordinating all Chemistry, Manufacturing, and Controls activities to move NeoRx products from Research through Clinical Development to NDA stage. Managed pharmaceutical and radiopharmaceutical process development, scale-up, and process qualifications. Supervised analytical method development/validation and specifications development. Director quality control testing and release of raw materials and clinical materials produced in the NeoRx Seattle pilot plant, including investigations and external contractor oversight. Implementation of technology/method transfer to outside organizations. Developed of information required for and writing of CMC section of FDA and foreign regulatory submissions. Oversight of radiation safety practices within the laboratory (Radiation Safety Officer).

Radiochemical Technology and Manufacturing Manager – 1997 to 2002
Responsible for the radiochemical manufacturing staff in the safe and reliable operation of manufacturing equipment and production of radiochemical in a cGMP environment. Oversight of radiochemistry chemists and technicians through production and technology transfer. Coordinated production planning, regulatory and quality engineering and safety departments, among others to meet customer requirements. Implemented production technology transfer and documentation in compliance with all relevant Federal, State and I3 procedures and requirements. Assisted in the day-to-day manufacturing and analytical testing of radiochemical and radiopharmaceuticals while assuming a supervisory role. Operated Gamma Spectroscopy and Beta/Gamma instrumentation. Included development and performance of analytical tests and formulation procedures, preparation and recovery of enriched target materials and writing of purchase specifications for laboratory equipment, components and raw materials. Was the principal inventor of the chemistry method and processing system for which a patent application was submitted for the production of a cyclotron-produced radiochemical.

Technical Lead, Radionuclide Section-LAS Laboratories, Inc –1996 to 1997 (formerly Lockheed Analytical Services)
Supervised and performed day-to day operations within the radionuclide section of the laboratory, including scheduling of work for employees to meet contractual requirements and data quality objectives for analysis of customer samples.

Technical Lead, radionuclide Counting – 1990 to 1996
Assisted in the start-up of the environmental laboratory. Prepared and analyzed samples according to customer requirements, performed analytical chemistry methods and generated/reviewed analytical data reports. Generated and interpreted data from Alpha Scintillation, Alpha Spectroscopy, Gamma Spectroscopy, Gas-Flow Proportional Counting, Liquid Scintillation Counting, and other instrumentation. Tasks included writing sample preparation and instrument system Standard Operation Procedures. Responsible for instrument set-up, maintenance, calibration and operation, laboratory set-up, and assisting with software design toward automated analysis and data transfer through the Radionuclide Section of the Laboratory. Instructed Laboratory Radiation Safety Training, and presented new methodology, Quality Assurance and Data Validation techniques.

Product Supervisor-Imagents, Inc. –1988 to 1990
Responsible for scheduling, production, and shipping of radiopharmaceutical raw materials to meet orders, including a liaison with Texas Medical Center cyclotron facilities performing target irradiation, documentation under CGMP and Drug Master File guidelines, and compliance with

all regulatory requirements including DOT/IATA transport. Generated and interpreted data from Gamma Spectroscopy and Beta/Gamma Counting Instrumentation. Also, assisted the Radiation Safety Officer to perform personnel and facility monitoring and documentation.

Education

- BS Chemistry – Rice University (1988)

Professional Training

- Ethics Training
- Leadership Training

Attachment I

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

List of Certified Parameters
for

TESTAMERICA LABORATORIES, INC.
PITTSBURGH
PITTSBURGH, PENNSYLVANIA

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Acidity	SM2310 B-97	Titrimetric
Alkalinity	SM2320 B-97	Titrimetric
Ammonia	EPA350.1 Rev 2.0-1993	Spectrophotometric
Bromide	EPA300.0 Rev 2.1-1993	IC
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	SM5310 C-00	Oxidation
Carbon, Total Organic (TOC)	SW9060A	Combustion
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4500-Cl E-97	Spectrophotometric
Chloride	SW9056A	IC
Chloride	USGS I-1187-85	Spectrophotometric
Chlorine, Residual	SM4500-Cl G-00	Spectrophotometric
Chromium, Hexavalent	SM3500-Cr B-09	Spectrophotometric
Chromium, Hexavalent	SW7196A	Spectrophotometric
Color	SM2120 B-01	Visual Comparison
Conductance, Specific	EPA120.1 Rev 1982	Probe
Conductance, Specific	SW9050A	Probe
Cyanide, Available	OIA-1677	FI/LE
Cyanide, Total	EPA335.4 Rev 1.0-1993	Spectrophotometric
Cyanide, Total	SW9010C	Distillation
Cyanide, Total	SW9012B	Spectrophotometric
Cyanide, Total	SW9014	Titrimetric
Fluoride	EPA300.0 Rev 2.1-1993	IC
Fluoride	SW9056A	IC
Hardness, Calcium	SM2340 B-97	Calculation
Hardness, Total	SM2340 B-97	Calculation
Hardness, Total	SM2340 C-97	Titrimetric
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation

Nitrate	SW9056A	IC
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	SW9056A	IC
Oil & Grease	EPA1664 A	Gravimetric
Oil & Grease	EPA1664 B	Gravimetric
Oxygen Demand, Biochemical (BOD)	SM5210 B-01	Probe
Oxygen Demand, Carbonaceous Biochemical (CBOD)	SM5210 B-01	Probe
Oxygen Demand, Chemical (COD)	EPA410.4 Rev 2.0-1993	Spectrophotometric
Oxygen, Dissolved	SM4500-O G-11	Probe
pH (Hydrogen Ion)	SM4500-H B-00	Electrode
Phenolics, Total	EPA420.1 Rev 1978	Spectrophotometric
Phenolics, Total	EPA420.4 Rev 1.0-1993	Spectrophotometric
Phenolics, Total	SW9065A	Spectrophotometric
Phenolics, Total	SW9066	Spectrophotometric
Phosphorus, Ortho	EPA300.0 Rev 2.1-1993	IC
Phosphorus, Ortho	SW9056A	IC
Solids, Dissolved	SM2540 C-97	Gravimetric
Solids, Settleable	SM2540 F-97	Imhoff
Solids, Suspended	SM2540 D-97	Gravimetric
Solids, Total	SM2540 B-97	Gravimetric
Sulfate	EPA300.0 Rev 2.1-1993	IC
Sulfate	SW9056A	IC
Sulfide	SM4500-S F-11	Titrimetric
Sulfide	SW9034	Titrimetric
Surfactants (MBAS)	SM5540 C-00	Spectrophotometric
Turbidity	EPA180.1 Rev 2.0-1993	Turbidimetric

NONPOTABLE WATER TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Aluminum	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6010B	ICP
Aluminum	SW6010C	ICP
Aluminum	SW6020	ICP-MS
Aluminum	SW6020A	ICP-MS
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	SW6010B	ICP
Antimony	SW6010C	ICP
Antimony	SW6020	ICP-MS
Antimony	SW6020A	ICP-MS
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	SW6010B	ICP
Arsenic	SW6010C	ICP
Arsenic	SW6020	ICP-MS
Arsenic	SW6020A	ICP-MS
Barium	EPA200.7 Rev 4.4-1994	ICP

Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Barium	SW6010B	ICP
Barium	SW6010C	ICP
Barium	SW6020	ICP-MS
Barium	SW6020A	ICP-MS
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	SW6010B	ICP
Beryllium	SW6010C	ICP
Beryllium	SW6020	ICP-MS
Beryllium	SW6020A	ICP-MS
Boron	EPA200.7 Rev 4.4-1994	ICP
Boron	EPA200.8 Rev 5.4-1994	ICP-MS
Boron	SW6010B	ICP
Boron	SW6010C	ICP
Boron	SW6020	ICP-MS
Boron	SW6020A	ICP-MS
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	SW6010B	ICP
Cadmium	SW6010C	ICP
Cadmium	SW6020	ICP-MS
Cadmium	SW6020A	ICP-MS
Calcium	EPA200.7 Rev 4.4-1994	ICP
Calcium	EPA200.8 Rev 5.4-1994	ICP-MS
Calcium	SW6010B	ICP
Calcium	SW6010C	ICP
Calcium	SW6020	ICP-MS
Calcium	SW6020A	ICP-MS
Chromium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	SW6010B	ICP
Chromium	SW6010C	ICP
Chromium	SW6020	ICP-MS
Chromium	SW6020A	ICP-MS
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	SW6010B	ICP
Cobalt	SW6010C	ICP
Cobalt	SW6020	ICP-MS
Cobalt	SW6020A	ICP-MS
Copper	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	SW6010B	ICP
Copper	SW6010C	ICP
Copper	SW6020	ICP-MS
Copper	SW6020A	ICP-MS
Iron	EPA200.7 Rev 4.4-1994	ICP
Iron	EPA200.8 Rev 5.4-1994	ICP-MS
Iron	SW6010B	ICP
Iron	SW6010C	ICP
Iron	SW6020	ICP-MS
Iron	SW6020A	ICP-MS

Lead	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	SW6010B	ICP
Lead	SW6010C	ICP
Lead	SW6020	ICP-MS
Lead	SW6020A	ICP-MS
Lithium	EPA200.7 Rev 4.4-1994	ICP
Lithium	SW6010B	ICP
Lithium	SW6010C	ICP
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Magnesium	EPA200.8 Rev 5.4-1994	ICP-MS
Magnesium	SW6010B	ICP
Magnesium	SW6010C	ICP
Magnesium	SW6020	ICP-MS
Magnesium	SW6020A	ICP-MS
Manganese	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Manganese	SW6010B	ICP
Manganese	SW6010C	ICP
Manganese	SW6020	ICP-MS
Manganese	SW6020A	ICP-MS
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SW7470A	CVAA
Metals, Total	SW3005A	Digestion
Metals, Total	SW3010A	Digestion
Molybdenum	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	SW6010B	ICP
Molybdenum	SW6010C	ICP
Molybdenum	SW6020	ICP-MS
Molybdenum	SW6020A	ICP-MS
Nickel	EPA200.7 Rev 4.4-1994	ICP
Nickel	EPA200.8 Rev 5.4-1994	ICP-MS
Nickel	SW6010B	ICP
Nickel	SW6010C	ICP
Nickel	SW6020	ICP-MS
Nickel	SW6020A	ICP-MS
Phosphorus	EPA200.8 Rev 5.4-1994	ICP-MS
Phosphorus	SW6020	ICP-MS
Phosphorus	SW6020A	ICP-MS
Potassium	EPA200.7 Rev 4.4-1994	ICP
Potassium	EPA200.8 Rev 5.4-1994	ICP-MS
Potassium	SW6010B	ICP
Potassium	SW6010C	ICP
Potassium	SW6020	ICP-MS
Potassium	SW6020A	ICP-MS
Selenium	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.8 Rev 5.4-1994	ICP-MS
Selenium	SW6010B	ICP
Selenium	SW6010C	ICP
Selenium	SW6020	ICP-MS
Selenium	SW6020A	ICP-MS
Silica	EPA200.7 Rev 4.4-1994	Calculation

Silica	EPA200.8 Rev 5.4-1994	Calculation
Silica	SW6010B	Calculation
Silica	SW6010C	Calculation
Silica	SW6020	Calculation
Silica	SW6020A	Calculation
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silicon	EPA200.8 Rev 5.4-1994	ICP-MS
Silicon	SW6010B	ICP
Silicon	SW6010C	ICP
Silicon	SW6020	ICP-MS
Silicon	SW6020A	ICP-MS
Silver	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.8 Rev 5.4-1994	ICP-MS
Silver	SW6010B	ICP
Silver	SW6010C	ICP
Silver	SW6020	ICP-MS
Silver	SW6020A	ICP-MS
Sodium	EPA200.7 Rev 4.4-1994	ICP
Sodium	EPA200.8 Rev 5.4-1994	ICP-MS
Sodium	SW6010B	ICP
Sodium	SW6010C	ICP
Sodium	SW6020	ICP-MS
Sodium	SW6020A	ICP-MS
Strontium	EPA200.7 Rev 4.4-1994	ICP
Strontium	EPA200.8 Rev 5.4-1994	ICP-MS
Strontium	SW6010B	ICP
Strontium	SW6010C	ICP
Strontium	SW6020	ICP-MS
Strontium	SW6020A	ICP-MS
Thallium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.8 Rev 5.4-1994	ICP-MS
Thallium	SW6010B	ICP
Thallium	SW6010C	ICP
Thallium	SW6020	ICP-MS
Thallium	SW6020A	ICP-MS
Tin	EPA200.7 Rev 4.4-1994	ICP
Tin	EPA200.8 Rev 5.4-1994	ICP-MS
Tin	SW6010B	ICP
Tin	SW6010C	ICP
Tin	SW6020	ICP-MS
Tin	SW6020A	ICP-MS
Titanium	EPA200.7 Rev 4.4-1994	ICP
Titanium	EPA200.8 Rev 5.4-1994	ICP-MS
Titanium	SW6010B	ICP
Titanium	SW6010C	ICP
Titanium	SW6020	ICP-MS
Titanium	SW6020A	ICP-MS
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	EPA200.8 Rev 5.4-1994	ICP-MS
Vanadium	SW6010B	ICP
Vanadium	SW6010C	ICP
Vanadium	SW6020	ICP-MS
Vanadium	SW6020A	ICP-MS

Zinc	EPA200.7 Rev 4.4-1994	ICP
Zinc	EPA200.8 Rev 5.4-1994	ICP-MS
Zinc	SW6010B	ICP
Zinc	SW6010C	ICP
Zinc	SW6020	ICP-MS
Zinc	SW6020A	ICP-MS

NONPOTABLE WATER VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Closed System Purge & Trap	SW5035A	Extraction
Closed System Purge & Trap	SW5035	Extraction
Dissolved Gases	RSK175	GC
Purge & Trap For Aqueous Samples	SW5030B	Extraction
Purge & Trap For Aqueous Samples	SW5030C	Extraction
Purgeables	EPA624	GC/MS
Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW8260C	GC/MS

NONPOTABLE WATER EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Base/Neutrals & Acids	EPA625	GC/MS
Chlorinated Herbicides	SW8151A	GC
Cleanup	SW3600C	Cleanup
Continuous Liquid-Liquid	SW3520C	Extraction
EDB & DBCP	SW8011	GC/ECD
Florisil Cleanup	SW3620C	Cleanup
Gel-Permeation Cleanup	SW3640A	Cleanup
Glycols	SW8015D	GC/FID
Organic Extraction & Sample Preparatic	SW3500C	Extraction
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	GC
Organochlorine Pesticides & PCBs	EPA608	GC
Organophosphorus Compounds	SW8141A	GC
Organophosphorus Compounds	SW8141B	GC
Polychlorinated Biphenyls	SW8082	GC
Polychlorinated Biphenyls	SW8082A	GC
Semivolatile Organic Compounds	SW8270C	GC/MS
Semivolatile Organic Compounds	SW8270D	GC/MS
Separatory Funnel Liquid-Liquid	SW3510C	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Corrosivity	SW9040C	Electrode
Corrosivity	SW9045D	Electrode
EP Tox- Metals & Organics	SW1310A	Extraction

Ignitability	SW1010A	Closed Cup
Paint Filter Test	SW9095B	Gravimetric
SPLP- Metals & Organics	SW1312	Extraction
TCLP- Metals & Organics	SW1311	Extraction

SOLID AND CHEMICAL INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
18 H DI Leachate	ASTM D3987-85	Extraction
Ammonia	EPA350.1 Rev 2.0-1993	Spectrophotometric
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	Lloyd Kahn	Combustion IR
Chloride	SW9056A	IC
Chromium, Hexavalent	SW7196A	Spectrophotometric
Cyanide, Total	SW9010C	Distillation
Cyanide, Total	SW9012B	Spectrophotometric
Cyanide, Total	SW9013A	Extraction
Cyanide, Total	SW9014	Spectrophotometric
Fluoride	SW9056A	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate	SW9056A	IC
Oil & Grease	SW9071B	Gravimetric
pH (Hydrogen Ion)	SW9040C	Electrode
pH (Hydrogen Ion)	SW9045D	Electrode
Phosphorus, Ortho	SW9056A	IC
Sulfate	SW9056A	IC

SOLID AND CHEMICAL TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	SW6010B	ICP
Aluminum	SW6010C	ICP
Aluminum	SW6020	ICP-MS
Aluminum	SW6020A	ICP-MS
Antimony	SW6010B	ICP
Antimony	SW6010C	ICP
Antimony	SW6020	ICP-MS
Antimony	SW6020A	ICP-MS
Arsenic	SW6010B	ICP
Arsenic	SW6010C	ICP
Arsenic	SW6020	ICP-MS
Arsenic	SW6020A	ICP-MS
Barium	SW6010B	ICP
Barium	SW6010C	ICP
Barium	SW6020	ICP-MS
Barium	SW6020A	ICP-MS
Beryllium	SW6010B	ICP
Beryllium	SW6010C	ICP
Beryllium	SW6020	ICP-MS
Beryllium	SW6020A	ICP-MS
Boron	SW6010B	ICP

Boron	SW6010C	ICP
Boron	SW6020	ICP-MS
Boron	SW6020A	ICP-MS
Cadmium	SW6010B	ICP
Cadmium	SW6010C	ICP
Cadmium	SW6020	ICP-MS
Cadmium	SW6020A	ICP-MS
Calcium	SW6010B	ICP
Calcium	SW6010C	ICP
Calcium	SW6020	ICP-MS
Calcium	SW6020A	ICP-MS
Chromium	SW6010B	ICP
Chromium	SW6010C	ICP
Chromium	SW6020	ICP-MS
Chromium	SW6020A	ICP-MS
Cobalt	SW6010B	ICP
Cobalt	SW6010C	ICP
Cobalt	SW6020	ICP-MS
Cobalt	SW6020A	ICP-MS
Copper	SW6010B	ICP
Copper	SW6010C	ICP
Copper	SW6020	ICP-MS
Copper	SW6020A	ICP-MS
Iron	SW6010B	ICP
Iron	SW6010C	ICP
Iron	SW6020	ICP-MS
Iron	SW6020A	ICP-MS
Lead	SW6010B	ICP
Lead	SW6010C	ICP
Lead	SW6020	ICP-MS
Lead	SW6020A	ICP-MS
Lithium	SW6010B	ICP
Lithium	SW6010C	ICP
Magnesium	SW6010B	ICP
Magnesium	SW6010C	ICP
Magnesium	SW6020	ICP-MS
Magnesium	SW6020A	ICP-MS
Manganese	SW6010B	ICP
Manganese	SW6010C	ICP
Manganese	SW6020	ICP-MS
Manganese	SW6020A	ICP-MS
Mercury	SW7471A	CVAA
Mercury	SW7471B	CVAA
Metals	SW3050B	Digestion
Metals, Total	SW3050B	Digestion
Molybdenum	SW6010B	ICP
Molybdenum	SW6010C	ICP
Molybdenum	SW6020	ICP-MS
Molybdenum	SW6020A	ICP-MS
Nickel	SW6010B	ICP
Nickel	SW6010C	ICP
Nickel	SW6020	ICP-MS
Nickel	SW6020A	ICP-MS

Potassium	SW6010B	ICP
Potassium	SW6010C	ICP
Potassium	SW6020	ICP-MS
Potassium	SW6020A	ICP-MS
Selenium	SW6010B	ICP
Selenium	SW6010C	ICP
Selenium	SW6020	ICP-MS
Selenium	SW6020A	ICP-MS
Silica	SW6010B	Calculation
Silica	SW6010C	Calculation
Silicon	SW6010B	ICP
Silicon	SW6010C	ICP
Silicon	SW6020	ICP-MS
Silicon	SW6020A	ICP-MS
Silver	SW6010B	ICP
Silver	SW6010C	ICP
Silver	SW6020	ICP-MS
Silver	SW6020A	ICP-MS
Sodium	SW6010B	ICP
Sodium	SW6010C	ICP
Sodium	SW6020	ICP-MS
Sodium	SW6020A	ICP-MS
Strontium	SW6010B	ICP
Strontium	SW6010C	ICP
Strontium	SW6020	ICP-MS
Strontium	SW6020A	ICP-MS
Thallium	SW6010B	ICP
Thallium	SW6010C	ICP
Thallium	SW6020	ICP-MS
Thallium	SW6020A	ICP-MS
Tin	SW6010B	ICP
Tin	SW6010C	ICP
Tin	SW6020	ICP-MS
Tin	SW6020A	ICP-MS
Titanium	SW6010B	ICP
Titanium	SW6010C	ICP
Titanium	SW6020	ICP-MS
Titanium	SW6020A	ICP-MS
Vanadium	SW6010B	ICP
Vanadium	SW6010C	ICP
Vanadium	SW6020	ICP-MS
Vanadium	SW6020A	ICP-MS
Zinc	SW6010B	ICP
Zinc	SW6010C	ICP
Zinc	SW6020	ICP-MS
Zinc	SW6020A	ICP-MS

SOLID AND CHEMICAL VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Closed System Purge & Trap	SW5035	Extraction
Closed System Purge & Trap	SW5035A	Extraction

Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW8260C	GC/MS
Waste Dilution for Volatile Organics	SW3585	Dilution

SOLID AND CHEMICAL EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Chlorinated Herbicides	SW8151A	GC/ECD
Cleanup	SW3600C	Cleanup
Florisil Cleanup	SW3620C	Cleanup
Gel-Permeation Cleanup	SW3640A	Cleanup
Glycols	SW8015D	GC/FID
Organic Extraction & Sample Preparatic	SW3500C	Extraction
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	GC
Organophosphorus Compounds	SW8141A	GC
Organophosphorus Compounds	SW8141B	GC
Polychlorinated Biphenyls	SW8082	GC
Polychlorinated Biphenyls	SW8082A	GC
Semivolatile Organic Compounds	SW8270C	GC/MS
Semivolatile Organic Compounds	SW8270D	GC/MS
Soxhlet, Automated	SW3541	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Waste Dilution	SW3580A	Dilution

This laboratory may test **ONLY** for those environmental parameters listed above for compliance reporting purposes. All testing must be by the test method cited in the current application for certification.

This Certification Expires January 31, 2016. Certificate No 142

Linda Keller Issued on October 19, 2015

Linda Keller
Program Manager

Attachment I

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT

List of Certified Parameters
for

TESTAMERICA LABORATORIES, INC.- NASHVILLE

NASHVILLE, TENNESSEE

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Acidity, Hot	SM2310 B(4a)-97	Titrimetric
Alkalinity	SM2320 B-97	Titrimetric
Ammonia	EPA350.1 Rev 2.0-1993	Spectrophotometric
Ammonia	SM4500-NH3 B-97	Distillation
Ammonia	SM4500-NH3 G-97	Spectrophotometric
Bromide	EPA300.0 Rev 2.1-1993	IC
Bromide	SM4110 B-00	IC
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	SM5310 B-00	Combustion
Carbon, Total Organic (TOC)	SM5310 C-00	Oxidation
Carbon, Total Organic (TOC)	SW9060A	Combustion
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4110 B-00	IC
Chloride	SM4500-Cl E-97	Spectrophotometric
Chloride	SW9056A	IC
Chloride	SW9251	Colorimetric
Conductance, Specific	EPA120.1 Rev 1982	Probe
Conductance, Specific	SM2510 B-97	Probe
Conductance, Specific	SW9050A	Probe
Cyanide	SM4500-CN C-99	Distillation
Cyanide, Amenable to Chlorination	SM4500-CN E-99	Spectrophotometric
Cyanide, Amenable to Chlorination	SM4500-CN G-99	Distillation
Cyanide, Amenable to Chlorination	SW9012B	Spectrophotometric
Cyanide, Total	EPA335.4 Rev 1.0-1993	Spectrophotometric
Cyanide, Total	SM4500-CN E-99	Spectrophotometric
Cyanide, Total	SW9010C	Distillation
Cyanide, Total	SW9012B	Spectrophotometric
Cyanide, Weak Acid Dissociable	SM4500-CN E-99	Spectrophotometric
Cyanide, Weak Acid Dissociable	SM4500-CN I-99	Distillation

ANALYTE	METHOD	TECHNOLOGY
Fluoride	EPA300.0 Rev 2.1-1993	IC
Fluoride	SM4110 B-00	IC
Fluoride	SW9056A	IC
Fluoride	SW9214	ISE
Halides, Total Organic (TOX)	SW9020B	Titrimetric
Halogens, Total Organic (TOX)	SM5320 B-10	Titrimetric
Hardness, Calcium	SM2340 B-97	Calculation
Hardness, Total	SM2340 B-97	Calculation
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate	SM4110 B-00	IC
Nitrate	SM4500-NO3 F-00	Calculation
Nitrate	SW9056A	IC
Nitrate-Nitrite	EPA300.0 Rev 2.1-1993	Calculation
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate-Nitrite	SM4110 B-00	Calculation
Nitrate-Nitrite	SM4500-NO3 F-00	Spectrophotometric
Nitrate-Nitrite	SW9056A	Calculation
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrite	SM4110 B-00	IC
Nitrite	SM4500-NO3 F-00	Spectrophotometric
Nitrite	SW9056A	IC
Nitrogen, Total Kjeldahl (TKN)	EPA351.2 Rev 2.0-1993	Colorimetric
Oil & Grease	EPA1664 A	Gravimetric
Oil & Grease	EPA1664 B	Gravimetric
Oil & Grease	SW9070B	Gravimetric
Oxygen Demand, Biochemical (BOD)	SM5210 B-01	Probe
Oxygen Demand, Carbonaceous Biochemical (CBOD)	SM5210 B-01	Probe
Oxygen Demand, Chemical (COD)	EPA410.4 Rev 2.0-1993	Spectrophotometric
Oxygen Demand, Chemical (COD)	SM5220 D-97	Spectrophotometric
Petroleum Hydrocarbons, Total	EPA1664 A	Gravimetric (SGT)
pH (Hydrogen Ion)	SM4500-H B-00	Electrode
pH (Hydrogen Ion)	SW9040C	Electrode
Phenolics, Total	EPA420.4 Rev 1.0-1993	Spectrophotometric
Phenolics, Total	SW9066	Colorimetric
Phosphorus, Ortho	SM4500-P E-99	Spectrophotometric
Phosphorus, Total	EPA365.4 Rev 1974	Spectrophotometric
Silica	SM4500-SiO2 C-97	Spectrophotometric
Solids, Dissolved	SM2540 C-97	Gravimetric
Solids, Settleable	SM2540 F-97	Imhoff
Solids, Suspended	SM2540 D-97	Gravimetric
Solids, Total	SM2540 B-97	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Solids, Volatile	SM2540 E-97	Gravimetric
Sulfate	ASTM D516-07	Turbidimetric
Sulfate	EPA300.0 Rev 2.1-1993	IC
Sulfate	SM4110 B-00	IC
Sulfate	SW9038	Turbidimetric
Sulfate	SW9056A	IC

ANALYTE	METHOD	TECHNOLOGY
Sulfide	SM4500-S B-00	Pretreatment
Sulfide	SM4500-S C-00	Pretreatment
Sulfide	SM4500-S D-00	Spectrophotometric
Sulfide	SM4500-S F-00	Titrimetric
Sulfide	SW9030B	Distillation
Sulfide	SW9034	Titrimetric
Surfactants (MBAS)	SM5540 C-00	Spectrophotometric
Temperature	SM2550 B-00	Thermometric
Turbidity	EPA180.1 Rev 2.0-1993	Turbidimetric
Turbidity	SM2130 B-01	Turbidimetric

NONPOTABLE WATER TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Aluminum	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6010C	ICP
Aluminum	SW6020A	ICP-MS
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	SW6010C	ICP
Antimony	SW6020A	ICP-MS
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	SW6010C	ICP
Arsenic	SW6020A	ICP-MS
Barium	EPA200.7 Rev 4.4-1994	ICP
Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Barium	SW6010C	ICP
Barium	SW6020A	ICP-MS
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	SW6010C	ICP
Beryllium	SW6020A	ICP-MS
Boron	EPA200.7 Rev 4.4-1994	ICP
Boron	SW6010C	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	SW6010C	ICP
Cadmium	SW6020A	ICP-MS
Calcium	EPA200.7 Rev 4.4-1994	ICP
Calcium	EPA200.8 Rev 5.4-1994	ICP-MS
Calcium	SW6010C	ICP
Calcium	SW6020A	ICP-MS
Chromium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	SW6010C	ICP
Chromium	SW6020A	ICP-MS
Chromium, Hexavalent	SM3500-Cr B-09	Spectrophotometric
Chromium, Hexavalent	SW7196A	Spectrophotometric

METAL	METHOD	TECHNOLOGY
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	SW6010C	ICP
Cobalt	SW6020A	ICP-MS
Copper	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	SW6010C	ICP
Copper	SW6020A	ICP-MS
Iron	EPA200.7 Rev 4.4-1994	ICP
Iron	EPA200.8 Rev 5.4-1994	ICP-MS
Iron	SM3500-Fe B-97	Spectrophotometric
Iron	SW6010C	ICP
Iron	SW6020A	ICP-MS
Lead	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	SW6010C	ICP
Lead	SW6020A	ICP-MS
Lithium	EPA200.7 Rev 4.4-1994	ICP
Lithium	SW6010C	ICP
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Magnesium	EPA200.8 Rev 5.4-1994	ICP-MS
Magnesium	SW6010C	ICP
Magnesium	SW6020A	ICP-MS
Manganese	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Manganese	SW6010C	ICP
Manganese	SW6020A	ICP-MS
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SM3112 B-09	CVAA
Mercury	SW7470A	CVAA
Metals	SW3005A	Digestion
Metals, Dissolved	EPA200.7 Rev 4.4-1994	Filtration
Metals, Total	EPA200.7 Rev 4.4-1994	Digestion
Metals, Total	EPA200.8 Rev 5.4-1994	Digestion
Metals, Total	SW3010A	Digestion
Molybdenum	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	SW6010C	ICP
Molybdenum	SW6020A	ICP-MS
Nickel	EPA200.7 Rev 4.4-1994	ICP
Nickel	EPA200.8 Rev 5.4-1994	ICP-MS
Nickel	SW6010C	ICP
Nickel	SW6020A	ICP-MS
Phosphorus	EPA200.7 Rev 4.4-1994	ICP
Potassium	EPA200.7 Rev 4.4-1994	ICP
Potassium	EPA200.8 Rev 5.4-1994	ICP-MS
Potassium	SW6010C	ICP
Potassium	SW6020A	ICP-MS
Selenium	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.8 Rev 5.4-1994	ICP-MS
Selenium	SW6010C	ICP

METAL	METHOD	TECHNOLOGY
Selenium	SW6020A	ICP-MS
Silver	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.8 Rev 5.4-1994	ICP-MS
Silver	SW6010C	ICP
Silver	SW6020A	ICP-MS
Sodium	EPA200.7 Rev 4.4-1994	ICP
Sodium	EPA200.8 Rev 5.4-1994	ICP-MS
Sodium	SW6010C	ICP
Sodium	SW6020A	ICP-MS
Strontium	EPA200.7 Rev 4.4-1994	ICP
Strontium	SW6010C	ICP
Sulfur	EPA200.7 Rev 4.4-1994	ICP
Sulfur	SW6010C	ICP
Thallium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.8 Rev 5.4-1994	ICP-MS
Thallium	SW6010C	ICP
Thallium	SW6020A	ICP-MS
Tin	EPA200.7 Rev 4.4-1994	ICP
Tin	EPA200.8 Rev 5.4-1994	ICP-MS
Tin	SW6010C	ICP
Tin	SW6020A	ICP-MS
Titanium	EPA200.7 Rev 4.4-1994	ICP
Titanium	EPA200.8 Rev 5.4-1994	ICP-MS
Titanium	SW6010C	ICP
Titanium	SW6020A	ICP-MS
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	EPA200.8 Rev 5.4-1994	ICP-MS
Vanadium	SW6010C	ICP
Vanadium	SW6020A	ICP-MS
Zinc	EPA200.7 Rev 4.4-1994	ICP
Zinc	EPA200.8 Rev 5.4-1994	ICP-MS
Zinc	SW6010C	ICP
Zinc	SW6020A	ICP-MS
Metals, Dissolved	EPA200.8 Rev 5.4-1994	Filtration

NONPOTABLE WATER VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Acrolein & Acrylonitrile	EPA624	GC/MS
Acrolein & Acrylonitrile	SW8260B	GC/MS
Dissolved Gases	RSK175	GC
Halogenated & Aromatic Volatiles	SW8021B	GC
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Purge & Trap For Aqueous Samples	SW5030B	Extraction
Purgeable Aromatics	EPA602	GC
Purgeables	EPA624	GC/MS
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Volatile Organic Compounds	SW8260B	GC/MS

NONPOTABLE WATER EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Base/Neutrals & Acids	EPA625	GC/MS
Carbonyl Compounds	SW8315A	HPLC
Chlorinated Herbicides	SW8151A	GC
EDB & DBCP	EPA504.1	GC/ECD
EDB & DBCP	SW8011	GC/ECD
Nonhalogenated Semi-Volatile Organics	SW8015C	GC/FID
Organochlorine Pesticides	SW8081B	GC
Organochlorine Pesticides & PCBs	EPA608	GC
Polychlorinated Biphenyls	SW8082A	GC
Polynuclear Aromatic Hydrocarbons	EPA610	GC/HPLC
Polynuclear Aromatic Hydrocarbons	EPA625	GC/MS
Polynuclear Aromatic Hydrocarbons	EPA625	SIM
Polynuclear Aromatic Hydrocarbons	SW8270D	GC/MS
Polynuclear Aromatic Hydrocarbons	SW8270D	SIM
Polynuclear Aromatic Hydrocarbons	SW8310	HPLC
Semivolatile Organic Compounds	SW8270D	GC/MS
Separatory Funnel Liquid-Liquid	SW3510C	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Corrosivity	SW1110A	Gravimetric
Corrosivity	SW9045C	Electrode
Corrosivity	SW9045D	Electrode
Ignitability	SW1010A	Closed Cup
Paint Filter Test	SW9095B	Gravimetric
SPLP- Metals & Organics	SW1312	Extraction
TCLP- Metals & Organics	SW1311	Extraction

SOLID AND CHEMICAL INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Ammonia	SM4500-NH3 G-97	Spectrophotometric
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	SW9060A	Combustion
Chloride	SW9056A	IC
Cyanide, Total	SW9010C	Distillation
Cyanide, Total	SW9012B	Spectrophotometric
Cyanide, Total	SW9013	Extraction
Cyanide, Total	SW9013A	Extraction
Cyanide, Total	SW9014	Spectrophotometric
Fluoride	SW9056A	IC
Halides, Extractable Organic (EOX)	SW9023	Titrimetric
Halides, Total	SW5050	Digestion

ANALYTE	METHOD	TECHNOLOGY
Halides, Total	SW9076	Microcoulometry
Nitrate	SW9056A	IC
Nitrate-Nitrite	SW9056A	Calculation
Nitrite	SW9056A	IC
Nitrogen, Total Kjeldahl (TKN)	SM4500-Norg B-97	Digestion
Oil & Grease	SW9071B	Gravimetric
pH (Hydrogen Ion)	SW9045D	Electrode
Phenolics, Total	SW9066	Colorimetric
Solids, Total, Fixed, & Volatile	SM2540 G-97	Gravimetric
Sulfate	SW9056A	IC
Sulfide	SW9030B	Distillation
Sulfide	SW9034	Titrimetric

SOLID AND CHEMICAL TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	SW6010C	ICP
Aluminum	SW6020A	ICP-MS
Antimony	SW6010C	ICP
Antimony	SW6020A	ICP-MS
Arsenic	SW6010C	ICP
Arsenic	SW6020A	ICP-MS
Barium	SW6010C	ICP
Barium	SW6020A	ICP-MS
Beryllium	SW6010C	ICP
Beryllium	SW6020A	ICP-MS
Boron	SW6010C	ICP
Cadmium	SW6010C	ICP
Cadmium	SW6020A	ICP-MS
Calcium	SW6010C	ICP
Calcium	SW6020A	ICP-MS
Chromium	SW6010C	ICP
Chromium	SW6020A	ICP-MS
Chromium, Hexavalent	SW3060A	Digestion
Chromium, Hexavalent	SW7196A	Spectrophotometric
Cobalt	SW6010C	ICP
Cobalt	SW6020A	ICP-MS
Copper	SW6010C	ICP
Copper	SW6020A	ICP-MS
Iron	SW6010C	ICP
Iron	SW6020A	ICP-MS
Lead	SW6010C	ICP
Lead	SW6020A	ICP-MS
Lithium	SW6010C	ICP
Magnesium	SW6010C	ICP
Magnesium	SW6020A	ICP-MS
Manganese	SW6010C	ICP
Manganese	SW6020A	ICP-MS
Mercury	EPA245.5	CVAA
Mercury	SW7471B	Digestion

METAL	METHOD	TECHNOLOGY
Metals, Total	SW3050B	Digestion
Metals, Total	SW3051A	Digestion
Molybdenum	SW6010C	ICP
Molybdenum	SW6020A	ICP-MS
Nickel	SW6010C	ICP
Nickel	SW6020A	ICP-MS
Potassium	SW6010C	ICP
Potassium	SW6020A	ICP-MS
Selenium	SW6010C	ICP
Selenium	SW6020A	ICP-MS
Silver	SW6010C	ICP
Silver	SW6020A	ICP-MS
Sodium	SW6010C	ICP
Sodium	SW6020A	ICP-MS
Strontium	SW6010C	ICP
Sulfur	SW6010C	Calculation
Thallium	SW6010C	ICP
Thallium	SW6020A	ICP-MS
Tin	SW6010C	ICP
Tin	SW6020A	ICP-MS
Titanium	SW6010C	ICP
Titanium	SW6020A	ICP-MS
Vanadium	SW6010C	ICP
Vanadium	SW6020A	ICP-MS
Zinc	SW6010C	ICP
Zinc	SW6020A	ICP-MS

SOLID AND CHEMICAL VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Closed System Purge & Trap	SW5035	Extraction
Closed System Purge & Trap	SW5035A	Extraction
Halogenated & Aromatic Volatiles	SW8021B	GC
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Volatile Organic Compounds	SW8260B	GC/MS

SOLID AND CHEMICAL EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Carbonyl Compounds	SW8315A	HPLC
Chlorinated Herbicides	SW8151A	GC/ECD
Microwave Extraction	SW3546	Extraction
Nonhalogenated Semi-Volatile Organics	SW8015C	GC/FID
Organochlorine Pesticides	SW8081B	GC
Polychlorinated Biphenyls	SW8082A	GC
Polynuclear Aromatic Hydrocarbons	SW8270D	GC/MS
Polynuclear Aromatic Hydrocarbons	SW8270D	SIM
Polynuclear Aromatic Hydrocarbons	SW8310	HPLC

GROUP	METHOD	TECHNOLOGY
Semivolatile Organic Compounds	SW8270D	GC/MS
Soxhlet, Automated	SW3541	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Ultrasonic	SW3550C	Extraction
Waste Dilution	SW3580A	Dilution

This laboratory may test **ONLY** for those environmental parameters listed above for compliance reporting purposes. All testing must be by the test method cited in the current application for certification.

This Certification Expires February 28, 2016. Certificate No 219

Issued on March 31, 2015

Justin Carpenter
QA Auditor

NOTE: This Attachment I supersedes and voids all previous Attachment I documents issued by WV DEP.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Personnel Resume

Chris O'Bannon
Organics Operations Manager

Qualifications Summary

Mr. O'Bannon is currently assigned as the Organics Operations Manager for the Organic Extractions, Semivolatile and Volatile Organic Departments. Mr. O'Bannon is responsible for the overall operations of these areas, including method development, managing the human resources within the departments and ensuring quality assurance plan and health and safety compliance. He has a B.S. in Chemistry, an M. B. A. in Health Care Management, and a M. S. in Health Administration. He has been in the environmental industry 2002-2005, 2010-2011, and 2014 to the present.

Professional Experience

Organics Operations Manager – TestAmerica Nashville – May 2015 to present
Responsible for the overall operations of all organics-related analytical areas, including production, personnel, training, and implementation of SOPs and QA standards. Duties include oversight of data reporting, turnaround time, personnel issues, maintenance of instrumentation, SOP development, training, and approval of purchase of laboratory supplies. In addition, Mr. O'Bannon is responsible for process and technology improvements and a member of the Lab Director's senior management group.

Inorganics Analyst – TestAmerica Nashville – Jun 2010 to Oct 2011, Nov 2014 to May 2015
Provided environmental sampling and testing in the wet chemistry department on a part-time basis.

R & D Formulation Chemist – Schwan Cosmetics USA (formerly Cosmolab), Murfreesboro, TN – Oct 2011 to May 2015
Conducted qualitative and quantitative chemical analyses in the laboratories for quality control process to develop new cosmetics. Formulated, manufactured, and packaged FDA- approved cosmetics for client projects while reinventing previous cosmetic formulas. Developed and formulated new cosmetics for documenting and recording processing parameters to be used in a lab setting while defining product specifications and test methods. Drafted and executed formulations for client approval, submission forms, and filling lab samples for concept stability protocols. Communicated new raw materials' unique regulatory and handling techniques while maintaining mandatory compliance for all relevant clients. Commercialized products and equipment.

Forensic Chemist (Top Security Clearance), U. S. Drug Enforcement Administration, Nashville, TN – Oct 2009 to May 2010
Performed chemical and physical tests using instrument analysis (IR, UV-Vis, Gas Chromatograph and GC/MS) to detect the presence of a controlled substance and determine its concentration in a drug sample. In addition, established the identity and concentration of accompanying adulterants and diluents whenever possible.

Clinical Research Associate, Kriger Research Center, North York, Ontario – Sep 2008 to Sep 2009
Assist the principal investigator in a variety of clinical research projects.

Adjunct Professor, Biology and Chemistry, Central Maine Community College, Auburn, ME – Aug 2007 to May 2008
Provide the skills and tools for individuals to be successful in a job and the classroom.

Barrier Effects Application Chemist, CIBA Specialty Chemicals, Water and Paper Treatment, Greensboro, NC – Feb 2002 to Aug 2005
Conducts chemical and biochemical analysis at the water pollution control plant to ensure compliance with Federal, State, and local environmental laws and regulations.

Education

- M.B.A. in Health Care Management – University of Phoenix, Phoenix, AZ (2009)
- M.S. in Health Administration – Saint Joseph College of Maine, Standish, ME (2007)
- B.S. in Chemistry – North Carolina A&T State University, Greensboro, NC (2001

Professional Training

- Ethics training
- Leadership training, Management Training, Microsoft Office Project Management Training, Statistical Problem Tactics Training, Finance Training, LEAN Training (creating more value for customers with fewer resources)
- Quality training
- Calibration training
- Safety training

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Personnel Resume

Cliff Eaton
Inorganics Operations Manager/
Metals Department Manager

Qualifications Summary

Mr. Eaton is currently assigned as the Inorganics Operations Manager for the Metals and Wet Chemistry Departments. He has an A.A.S. in Petroleum Technologies, including two years of college chemistry, from Lincoln Trail College in Robinson, IL. He has been in the environmental industry since 1985. Mr. Eaton is responsible for the overall operations of this area, including method development, managing the human resources within the department and ensuring quality assurance plan and health and safety compliance.

Professional Experience

Inorganics Operations Manager/Metals Department Manager – TestAmerica Nashville – 2014 to present
As Metals Department Manager, responsible for ICP-AES, ICP-MS, and mercury for Methods 200.7, 200.8, 245.1, 245.5, 6010, 6020, 7470, 7471, SM3113 B. As Inorganics Operations Manager, oversees the wet chemistry department to assist where needed. His goals are to meet client satisfaction goals, manage the human resources within the department, and ensure the health and safety and quality assurance plan compliance. Serves as a technical resource to department employees, as well as Project Managers, sales personnel, and clients. Makes recommendations to laboratory management in regard to process improvements. Assists with standard operating procedure writing, method detection limit study performance, and demonstrations of capability.

Metals and Organic Prep Department Manager / Supervisor – TestAmerica Savannah – 2005 to 2014
Provided technical and operational support to the lab, also participating in daily sample production. Responsibilities included but are not limited to scheduling and prioritizing work tasks, training, problem solving, implementing new procedures and methods, analyzing samples, reviewing and validating data and completing reports.

Metals Supervisor – McCoy and McCoy Laboratories, Inc, Madisonville, KY. – 1995 to 2005
Responsible for overseeing the preparing and analyzing samples for ICP, ICP/MS, and by GC for PCBs, Pesticides, Herbicides.

Analyst – Applied Research and Development Laboratory, Inc., Mt. Vernon, IL. – 1985 to 1995
Provided environmental sampling and testing; wet chemistry, GFAA, FLAA, and ICP.

Education

- A.A.S. in Petroleum Technologies – Lincoln Trail College, Robinson, IL (1982)

Cliff Eaton
Inorganics Operations Manager/
Metals Department Manager

Professional Training

- Ethics training
- Leadership training
- ICP training
- Quality training
- Calibration training
- Safety training

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Personnel Resume

Sessily Overton-Gray
Inorganics Department Manager

Qualifications Summary

Ms. Overton-Gray has experience and extensive knowledge in environmental laboratory analysis and department management. She has worked in the environmental laboratory industry since 1999. Ms. Overton-Gray is a team player, proficient in the operation and trouble shooting of inorganic analyses and instrumentation, i.e. Lachat, Konelab, TOC, TOX, titration methods, ion chromatography, BOD, COD, solids, Karl Fischer, Flash Point, colorimetric methods, probe methods, etc.

Professional Experience

Inorganics Department Manager – TestAmerica Nashville – 2006 to Present
Responsible for the overall operations and performance of a variety of inorganic analyses by established environmental methods, maintaining laboratory policy, the supervision of laboratory staff, and editing of Standard Operating Procedures.

Inorganics Analyst – 1999 to 2006.
Performed a variety of inorganics methods; considered a "rover" in the department responsible for making sure all work was completed each day; responsible for the training of other analysts.

Education

- B.S. in Pre-Med & Biology – Knoxville College, Knoxville, TN – 1994-1997.
- University of Tennessee, Knoxville, TN – 1990-1993.

Professional Training

- Supervisor training
- Leadership Development Training
- Ethics Training
- Safety Training
- Variety of instrumentation training seminars and conferences
- Calibration Training

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation

Proc Folder: 132914

Doc Description: Addendum 02 Inorganic Analysis of Water and Soil Open End

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-10-27	2015-11-12 13:30:00	CRFQ 0313 DEP1600000011	3

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

FOR INFORMATION CONTACT THE BUYER

Beth Collins
(304) 558-2157
beth.a.collins@wv.gov

Signature X FEIN # 55-0732395 DATE 11-11-2015

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMAITON:

Addendum No. 02
This addendum is issued to modify the solicitation per the attached documentation and the following:
o modify the bid opening date to November 12, 2015 at 1:30PM, EST.
o provide answers to vendor submitted questions.
No other changes.

Addendum No. 01
This addendum is issued to modify the solicitation per the attached documentation and the following:
1. To modify the bid opening date to October 28, 2015 at 1:30PM, EST.
No other changes.

CRFQ
The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Department of Environmental Protection to establish an open-end contract for inorganic analysis of water and soil, per the attached specifications.

INVOICE TO	SHIP TO
ENVIRONMENTAL PROTECTION OFFICE OF ADMINISTRATION 601 57TH ST SE CHARLESTON WV25304 US	ENVIRONMENTAL PROTECTION 601 57TH ST CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Analysis of Soil and Water Samples	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :
Analysis of Soil and Water Samples as outlined on the attached bid sheet.
Do not enter prices on commodity line.

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Tech Question Deadline at 5:00 PM, EST	2015-09-08

SOLICITATION NUMBER: CRFQ DEP1600000011
Addendum Number: 02

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[✓] Modify bid opening date and time

[ ] Modify specifications of product or service being sought

[✓] Attachment of vendor questions and responses

[ ] Attachment of pre-bid sign-in sheet

[ ] Correction of error

[ ] Other

Description of Modification to Solicitation:

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To modify the bid opening date to November 12, 2015 at 1:30PM, EST.
2. To provide answers to vendor submitted questions.

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

CRFQ DEP16*011

1. Q. Will this RFQ be awarded to multiple vendors?

   A. Yes.

2. Q. Is the past winning contract and bid amounts available for review?

   A. Yes.

3. Q. How often are emergency services required where you would need to call after hours, 24/7, 365 days/year?

   A. This happens only occasionally.

4. Q. Is the Internal Chain-of-Custody required to be submitted with the analytical report?

   A. The Chain-of –Custody (COC) provided by DEP to the receiving lab should be submitted with the analytical report. COC's generated by the lab for internal use should be available upon request but do not have to be submitted with the analytical report.

5. Q. Can you provide an example of the WV DEP approved EDD?

   A. Yes. Upon award of the contract we can provide a copy. An example of the one requested by the Watershed Assessment Branch is in Attachment A of the contract.

6. Q. In the solicitation, Quality Control is listed as a "no additional cost" item. Are Electronic Data Deliverables (EDDS) considered part of this provision?

   A. Yes – section 3.1.1.4 says vendor must follow QC and Analytical Procedures in Attachment A. Attachment A, step 2, paragraph 3, says Analytical Tests must be submitted as both in Analysis Report and EDD.

7. Q. Can you please elaborate as to what you are defining as "approved blank water"?

   A. Approved Blank Water will depend on the DEP program or office. Some examples are: distilled, deionized, or Type I water as long there are no confirmed contaminants present in the water at detectable levels that would cause lab and field blanks to fail.

8. Q. Would you be more specific as to which containers are expected to be provided to the DEP as part of this contract?

   A. DEP usually requires 1 liter cubitainers.

9. Q. Could you please elaborate on the preservatives that will be required? Are you requesting 2 liter bottles of HNO3 and H2So4 or do you require vials? If you are requiring vials, can you please tell us whether you request glass or plastic, as well as the sizes you will need?

   A. Most DEP programs require vials with Nitric Acid in plastic 8 ml and Sulfuric Acid in glass or plastic 8 ml.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: _____

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[ ]	Addendum No. 1	[ ]	Addendum No. 6
[X]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Bio-Chem Testing, Inc.
Company

Authorized Signature

11-11-2015
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

BIOCHEM TESTING INC
5 WEATHERIDGE DRIVE
HURRICANE WV 25526-8742

Rev. 04/14

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 Vendor Preference, if applicable.

1. **Application is made for 2.5% 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% 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% 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,**

X **Application is made for 5% 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% 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% 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.

7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
___ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

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: Bio-Chem Testing, Inc. **Signed:** [signature]

Date: 11-11-2015 **Title:** President

RFQ No. DEP 1600000011

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Bio-Chem Testing, INC.

Authorized Signature: _____ Date: 09-30-2015

State of WV

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 30 day of September, 2015

My Commission expires 5/16, 2016

AFFIX SEAL HERE

NOTARY PUBLIC OFFICIAL SEAL
EDWARD A KINSERY
State of West Virginia
My Comm. Expires May 5, 2016
210 Great Teays Blvd
Scott Depot WV 25560

NOTARY PUBLIC _____

RFQ No. 0313 DEP1600000011

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Bio-Chem Testing, Inc.

Authorized Signature: _____ Date: 11-10-2015

State of WEST VIRGINIA

County of PUTNAM, to-wit:

Taken, subscribed, and sworn to before me this 10th day of November, 2015.

My Commission expires May 17th, 2022.

AFFIX SEAL HERE

NOTARY PUBLIC OFFICIAL SEAL
ROBERT J SEALS
State of West Virginia
My Comm. Expires May 17, 2022
Jpmorgan Chase 1000 5th Ave
Huntington WV 25701

NOTARY PUBLIC _____