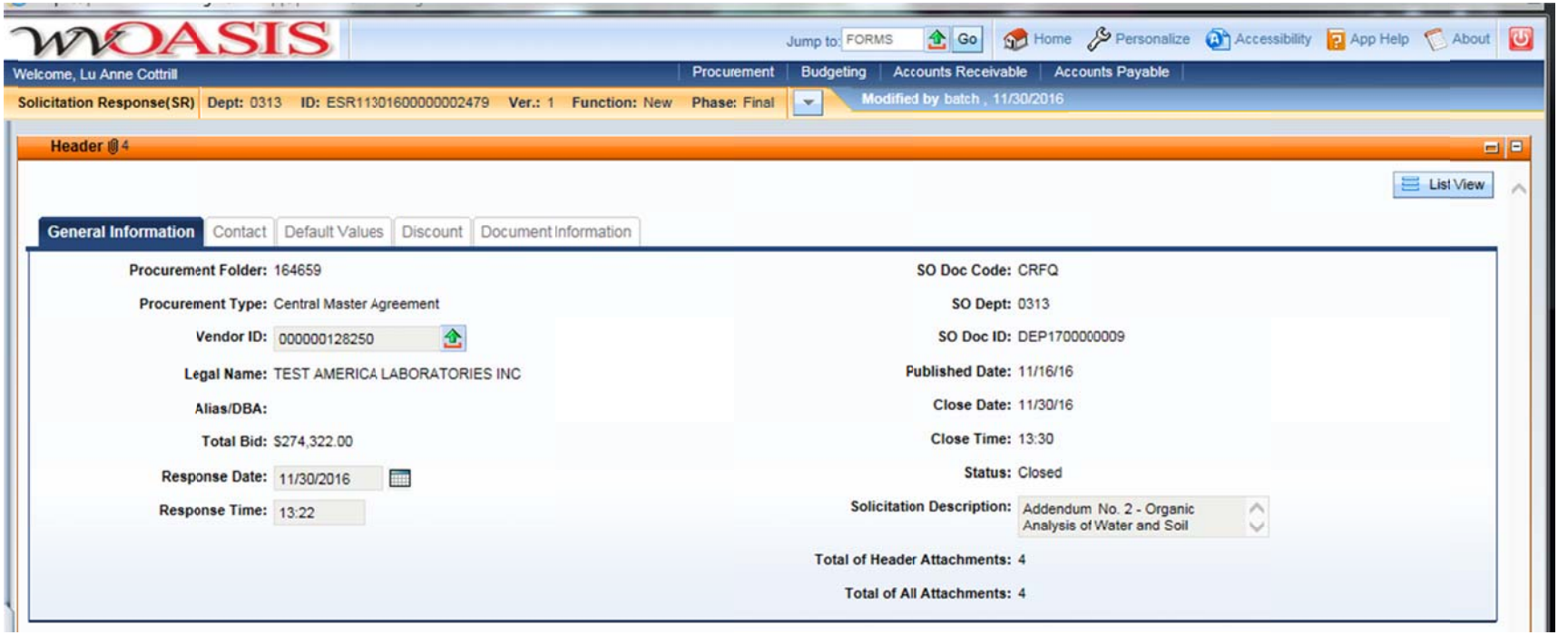
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.


wvOASIS
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Welcome, Lu Anne Cottrill
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR) Dept: 0313 ID: ESR11301600000002479 Ver.: 1 Function: New Phase: Final
Modified by batch , 11/30/2016
Header 4
List View
General Information
Contact
Default Values
Discount
Document Information
Procurement Folder: 164659
Procurement Type: Central Master Agreement
Vendor ID: 000000128250
Legal Name: TEST AMERICA LABORATORIES INC
Alias/DBA:
Total Bid: $274,322.00
Response Date: 11/30/2016
Response Time: 13:22
SO Doc Code: CRFQ
SO Dept: 0313
SO Doc ID: DEP1700000009
Published Date: 11/16/16
Close Date: 11/30/16
Close Time: 13:30
Status: Closed
Solicitation Description: Addendum No. 2 - Organic Analysis of Water and Soil
Total of Header Attachments: 4
Total of All Attachments: 4

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

State of West Virginia
Solicitation Response

Proc Folder : 164659

Solicitation Description : Addendum No. 2 - Organic Analysis of Water and Soil

Proc Type : Central Master Agreement

Date issued	Solicitation Closes	Solicitation Response	Version
	2016-11-30 13:30:00	SR 0313 ESR11301600000002479	1

VENDOR

000000128250

TEST AMERICA LABORATORIES INC

Solicitation Number: CRFQ 0313 DEP1700000009

Total Bid : $274,322.00 **Response Date:** 2016-11-30 **Response Time:** 13:22:24

Comments:

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers

(304) 558-2063
michelle.l.childers@wv.gov

Signature on File **FEIN #** **DATE**

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Organic Analysis of Water and Soil				$274,322.00

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description : Organic Analysis of Water and Soil

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

State of West Virginia
Request for Quotation
23 — Laboratory

Proc Folder: 164659

Doc Description: Organic Analysis of Water and Soil

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-10-12	2016-11-15 13:30:00	CRFQ 0313 DEP1700000009	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:

TESTAMERICA Laboratories Inc.
3355 McLemore Dr.
Pensacola, FL 32514-7045
850 474-1001

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X Peggy Gray-Eden **FEIN #** 232919996 **DATE** 11/30/16

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

ADDITIONAL INFORMAITON:

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 Organic Analysis of Water and Soil Samples.

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	Organic Analysis of Water and Soil				

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :

Organic Analysis of Water and Soil

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
23 — Laboratory

Proc Folder: 164659

Doc Description: Addendum No. 1 - Organic Analysis of Water and Soil

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-11-09	2016-11-30 13:30:00	CRFQ 0313 DEP1700000009	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:

TEST America Laboratories, Inc.
3355 McLemore Dr.
Pensacola, Fl 32514-7045
850 474-1001

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X Peggy Jay-Edmann **FEIN #** 232919996 **DATE** 11/30/16

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

ADDITIONAL INFORMAITON:

Addendum

Addendum No. 1 issued to publish and distribute the attached information to the vendor community.
****

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 Organic Analysis of Water and Soil Samples.

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	Organic Analysis of Water and Soil				

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :
Organic Analysis of Water and Soil

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
23 — Laboratory

Proc Folder: 164659
Doc Description: Addendum No. 1 - Organic Analysis of Water and Soil
Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-11-09	2016-11-30 13:30:00	CRFQ 0313 DEP1700000009	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:

TEST AMERICA Laboratories Inc
3355 McLemore DR.
Pensacola FL 32514-7045
850-474-1001

FOR INFORMATION CONTACT THE BUYER
Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X Peggy Day-Eck FEIN # 23 2919996 DATE 11/30/16

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

ADDITIONAL INFORMAITON:

Addendum

Addendum No. 1 issued to publish and distribute the attached information to the vendor community.

****

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 Organic Analysis of Water and Soil Samples.

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	Organic Analysis of Water and Soil				

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :

Organic Analysis of Water and Soil

SOLICITATION NUMBER: CRFQ DEP1700000009
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 November 30, 2016 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.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: 1

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.

TEST AMERICA Laboratories Inc
Company

Authorized Signature

11/30/16
Date

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

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

State of West Virginia
Request for Quotation
23 — Laboratory

Proc Folder: 164659

Doc Description: Addendum No. 2 - Organic Analysis of Water and Soil

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2016-11-16	2016-11-30 13:30:00	CRFQ 0313 DEP1700000009	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:

TESTAMERICA Laboratories Inc
3355 McLemore Dr.
Pensacola Fl 32514-7045
850 474-1001

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X Peggy Day Ed FEIN # 23 2919996 DATE 11/30/16

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

ADDITIONAL INFORMAITON:

Addendum

Addendum No. 2 issued to publish and distribute the attached information to the vendor community.
****

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 Organic Analysis of Water and Soil Samples.

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	Organic Analysis of Water and Soil				

Comm Code	Manufacturer	Specification	Model #
81102600			

Extended Description :
Organic Analysis of Water and Soil

SOLICITATION NUMBER: CRFQ DEP1700000009
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 publish vendor questions and agency answers.

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 DEP1700000009
Organic Analysis of Water and Soil
Questions and Answers

Q1.) For line item 31.0 it states "Metals/Cyanide Target Analyte List (TAL)-Low Level option EPA 200.7/SW7470/7471". This leads to these questions:

There is no method reference for Cyanide. After review of Attachment A for this line item, Cyanide is NOT on the list. Should my price point include Cyanide?

A1.) Yes, please include cyanide.

Q2.) The methods listed, combine two different references. EPA 200.7 is from EPA Methods for Water & Wastewater; while SW7470/7471 is from SW-846 Methods. Further, you ask for "low-level option". That would infer ICP-MS of either EPA 200.8 or SW6020B. Please confirm.

A2.) Yes, Low Level Option ICP-MS method, 200.8 (EPA) and 6020B (SW-846), with Method 7470 or 7471 for Mercury.

Q3.) Additionally, as you state methods SW7470/7471, which are mercury methods, the list in attachment A, does not include mercury. Please confirm if this is to be included or not.

A3.) Yes, please include mercury.

Q4.) Line item 35.0 requests 8280 PCBs by GC. I believe the correct method is 8082. Please confirm.

A4.) The correct method for PCBs is 8082.

Q5.) Line item 38.0 states "8260B Semivolatile Organics by GC/MS". That should be Volatile Organics if the method is correct. Please confirm.

A5.) Yes, 8260B is for Volatile Organics.

Q6.) For the Organic Analysis of Water and Soil Bid, is that strictly laboratory services or will you need people to actually go out and collect those samples and bring them to a lab?

A6.) No, we will not need laboratory staff to collect samples. This bid is strictly for laboratory services.

Q7.) Can alternate methods be used? If so how did you want this on the Bid schedule?

A7.) No, alternate methods cannot be used.

Q8.) Can you tell us who the incumbent lab is?

A8.) Labs on the previous contract were: REI Consultants, ALS Environmental, Reliance Laboratories, Pace Analytical, and Bio Chem Testing Inc.

Q9.) Can you provide a copy of their current contract prices?

A9.) Using the link below, please see the Bid Index for February 2, 2012 DEP15706:

http://www.state.wv.us/admin/purchase/Bids/FY2012/BO20120202.html

Q10.) Under section 3 General requirements- are the documents requested in 3.1.1.1.3 and 3.1.1.1.4 required at the time of bid submission or when the contract is awarded?

A10.) These should be submitted with the vendor's response, but may be requested after bid opening and prior to contract award.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: 2

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.

TEST AMERICA Laboratories
Company

Peggy Gay-Eden
Authorized Signature

11/30/16
Date

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

Attachment I

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

List of Certified Parameters
for

TESTAMERICA PENSACOLA

PENSACOLA, FLORIDA

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Acidity	SM2310 B-11	Titrimetric
Alkalinity	SM2320 B-97	Titrimetric
Ammonia	EPA350.1 Rev 2.0-1993	Spectrophotometric
Ammonia	SM4500-NH3 H-11	Spectrophotometric
Bromide	EPA300.0 Rev 2.1-1993	IC
Bromide	SW9056	IC
Carbon, Total Organic (TOC)	SM5310 B-11	Combustion
Carbon, Total Organic (TOC)	SW9060A	Combustion
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4500-Cl E-11	Spectrophotometric
Chloride	SW9056	IC
Chloride	SW9251	Colorimetric
Chlorine, Residual	SM4500-Cl G-11	Spectrophotometric
Chromium, Hexavalent	SM3500-Cr B-11	Spectrophotometric
Chromium, Hexavalent	SW7196A	Spectrophotometric
Color	SM2120 B-11	Spectrophotometric
Conductance, Specific	EPA120.1 Rev 1982	Probe
Conductance, Specific	SM2510 B-11	Probe
Conductance, Specific	SW9050A	Probe
Cyanide, Amenable to Chlorination	SW9012B	Spectrophotometric
Cyanide, Total	SM4500-CN C-11	Distillation
Cyanide, Total	SM4500-CN E-11	Spectrophotometric
Cyanide, Total	SW9012B	Spectrophotometric
Fluoride	EPA300.0 Rev 2.1-1993	IC
Fluoride	SM4500-F B-11	Distillation
Fluoride	SM4500-F C-11	ISE
Fluoride	SW9056	IC
Hardness, Total	SM2340 B-11	Calculation
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	EPA353.2 Rev 2.0-1993	Calculation
Nitrate	SW9056	IC
Nitrate-Nitrite	EPA300.0 Rev 2.1-1993	Calculation

ANALYTE	METHOD	TECHNOLOGY
Nitrate-Nitrite	EPA353.2 Rev 2.0-1993	Spectrophotometric
Nitrate-Nitrite	SM4500-NO3 F-11	Spectrophotometric
Nitrate-Nitrite	SW9056	Calculation
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	SM4500-NO2 B-00	Spectrophotometric
Nitrite	SW9056	IC
Nitrogen, Total Kjeldahl (TKN)	EPA351.2 Rev 2.0-1993	Colorimetric
Nitrogen, Total Kjeldahl (TKN)	EPA351.2 Rev 2.0-1993	Digestion
Oil & Grease	EPA1664 A	Gravimetric
Oxygen Demand, Biochemical (BOD)	SM5210 B-11	Probe
Oxygen Demand, Carbonaceous Biochemical (CBOD)	SM5210 B-11	Probe
Oxygen Demand, Chemical (COD)	EPA410.4 Rev 2.0-1993	Spectrophotometric
Oxygen Demand, Chemical (COD)	SM5220 D-11	Spectrophotometric
pH (Hydrogen Ion)	SM4500-H B-11	Electrode
pH (Hydrogen Ion)	SW9040B	Electrode
pH (Hydrogen Ion)	SW9040C	Electrode
Phenolics, Total	EPA420.1 Rev 1978	Spectrophotometric
Phenolics, Total	SW9065	Spectrophotometric
Phosphorus, Ortho	EPA365.1 Rev 2.0-1993	Spectrophotometric
Phosphorus, Ortho	SM4500-P F-11	Spectrophotometric
Phosphorus, Total	EPA365.4 Rev 1974	Spectrophotometric
Phosphorus, Total	SM4500-P F-11	Spectrophotometric
Solids, Dissolved	SM2540 C-11	Gravimetric
Solids, Settleable	SM2540 F-11	Imhoff
Solids, Suspended	SM2540 D-11	Gravimetric
Solids, Total	SM2540 B-11	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Solids, Volatile	SM2540 E-11	Gravimetric
Sulfate	EPA300.0 Rev 2.1-1993	IC
Sulfate	SM4500-SO4 E-11	Turbidimetric
Sulfate	SW9038	Turbidimetric
Sulfate	SW9056	IC
Sulfide	SM4500-S D-11	Spectrophotometric
Surfactants (MBAS)	SM5540 C-11	Spectrophotometric
Turbidity	EPA180.1 Rev 2.0-1993	Turbidimetric
Turbidity	SM2130 B-11	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
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	SW6010B	ICP
Antimony	SW6010C	ICP

METAL	METHOD	TECHNOLOGY
Antimony	SW6020	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
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
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
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
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
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
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
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
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
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

METAL	METHOD	TECHNOLOGY
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
Lithium	EPA200.7 Rev 4.4-1994	ICP
Lithium	EPA200.8 Rev 5.4-1994	ICP-MS
Lithium	SW6010B	ICP
Lithium	SW6010C	ICP
Lithium	SW6020	ICP-MS
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
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
Mercury	EPA1631 E	CVAF
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SW7470A	CVAA
Mercury	SW7470A	Digestion
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
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
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
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
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

METAL	METHOD	TECHNOLOGY
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
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
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
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
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
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
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
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

NONPOTABLE WATER VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Dissolved Gases	RSK175	GC
Halogenated & Aromatic Volatiles	SW8021B	GC
Purge & Trap For Aqueous Samples	SW5030B	Extraction
Purgeable Aromatics	EPA602	GC
Purgeables	EPA624	GC/MS
Total Petroleum Hydrocarbons (GRO)	SW8015B	GC/FID

GROUP	METHOD	TECHNOLOGY
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
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
Continuous Liquid-Liquid	SW3520C	Extraction
EDB & DBCP	EPA504.1	GC/ECD
EDB & DBCP	SW8011	GC/ECD
Microextraction	SW3511	Extraction
Nonhalogenated Semi-Volatile Organics	SW8015B	GC/FID
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	GC
Organochlorine Pesticides & PCBs	EPA608	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
Total Petroleum Hydrocarbons (DRO)	SW8015B	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Ignitability	SW1010A	Closed Cup
Paint Filter Test	SW9095B	Gravimetric
TCLP- Metals & Organics	SW1311	Extraction

SOLID AND CHEMICAL INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Ammonia	EPA350.1	Discrete
Bromide	SW9056	IC
Carbon, Total Organic (TOC)	Walkley-Black	
Chloride	SW9056	IC
Chloride	SW9251	Colorimetric
Chromium, Hexavalent	SW7196	Spectrophotometric
Cyanide, Total	SW9012B	Spectrophotometric
Nitrate	SW9056	IC
Nitrate-Nitrite	SW9056	Calculation
Nitrite	SW9056	IC
Oil & Grease	SW9071B	Gravimetric
pH (Hydrogen Ion)	SW9045D	Electrode
Phenolics, Total	SW9065	Spectrophotometric

ANALYTE	METHOD	TECHNOLOGY
Solids, Total, Fixed, & Volatile	SM2540 G-11	Gravimetric
Sulfate	SW9056	IC

SOLID AND CHEMICAL TRACE METALS

METAL	METHOD	TECHNOLOGY
Aluminum	SW6010B	ICP
Aluminum	SW6010C	ICP
Aluminum	SW6020	ICP-MS
Antimony	SW6010B	ICP
Antimony	SW6010C	ICP
Antimony	SW6020	ICP-MS
Arsenic	SW6010B	ICP
Arsenic	SW6010C	ICP
Arsenic	SW6020	ICP-MS
Barium	SW6010B	ICP
Barium	SW6010C	ICP
Barium	SW6020	ICP-MS
Beryllium	SW6010B	ICP
Beryllium	SW6010C	ICP
Beryllium	SW6020	ICP-MS
Boron	SW6010B	ICP
Boron	SW6010C	ICP
Boron	SW6020	ICP-MS
Cadmium	SW6010B	ICP
Cadmium	SW6010C	ICP
Cadmium	SW6020	ICP-MS
Calcium	SW6010B	ICP
Calcium	SW6010C	ICP
Calcium	SW6020	ICP-MS
Chromium	SW6010B	ICP
Chromium	SW6010C	ICP
Chromium	SW6020	ICP-MS
Cobalt	SW6010B	ICP
Cobalt	SW6010C	ICP
Cobalt	SW6020	ICP-MS
Copper	SW6010B	ICP
Copper	SW6010C	ICP
Copper	SW6020	ICP-MS
Iron	SW6010B	ICP
Iron	SW6010C	ICP
Iron	SW6020	ICP-MS
Lead	SW6010B	ICP
Lead	SW6010C	ICP
Lead	SW6020	ICP-MS
Lithium	SW6010B	ICP
Lithium	SW6010C	ICP
Lithium	SW6020	ICP-MS
Magnesium	SW6010B	ICP
Magnesium	SW6010C	ICP

METAL	METHOD	TECHNOLOGY
Magnesium	SW6020	ICP-MS
Manganese	SW6010B	ICP
Manganese	SW6010C	ICP
Manganese	SW6020	ICP-MS
Mercury	SW7471A	CVAA
Mercury	SW7471A	Digestion
Mercury	SW7471B	CVAA
Mercury	SW7471B	Digestion
Metals, Total	SW3050B	Digestion
Molybdenum	SW6010B	ICP
Molybdenum	SW6010C	ICP
Molybdenum	SW6020	ICP-MS
Nickel	SW6010B	ICP
Nickel	SW6010C	ICP
Nickel	SW6020	ICP-MS
Potassium	SW6010B	ICP
Potassium	SW6010C	ICP
Potassium	SW6020	ICP-MS
Selenium	SW6010B	ICP
Selenium	SW6010C	ICP
Selenium	SW6020	ICP-MS
Silicon	SW6010B	ICP
Silicon	SW6010C	ICP
Silicon	SW6020	ICP-MS
Silver	SW6010B	ICP
Silver	SW6010C	ICP
Silver	SW6020	ICP-MS
Sodium	SW6010B	ICP
Sodium	SW6010C	ICP
Sodium	SW6020	ICP-MS
Strontium	SW6010B	ICP
Strontium	SW6010C	ICP
Strontium	SW6020	ICP-MS
Thallium	SW6010B	ICP
Thallium	SW6010C	ICP
Thallium	SW6020	ICP-MS
Tin	SW6010B	ICP
Tin	SW6010C	ICP
Tin	SW6020	ICP-MS
Titanium	SW6010B	ICP
Titanium	SW6010C	ICP
Titanium	SW6020	ICP-MS
Vanadium	SW6010B	ICP
Vanadium	SW6010C	ICP
Vanadium	SW6020	ICP-MS
Zinc	SW6010B	ICP
Zinc	SW6010C	ICP
Zinc	SW6020	ICP-MS

SOLID AND CHEMICAL VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Closed System Purge & Trap	SW5035	Extraction
Halogenated & Aromatic Volatiles	SW8021B	GC
Total Petroleum Hydrocarbons (GRO)	SW8015B	GC/FID
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW8260C	GC/MS

SOLID AND CHEMICAL EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Chlorinated Herbicides	SW8151A	GC/ECD
Glycols	SW8015B	GC/FID
Microwave Extraction	SW3546	Extraction
Nonhalogenated Semi-Volatile Organics	SW8015B	GC/FID
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	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
Total Petroleum Hydrocarbons (DRO)	SW8015B	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Ultrasonic	SW3550B	Extraction
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 June 30, 2017. Certificate No 136

Issued on October 11, 2016

Justin Carpenter
QA Auditor

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

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	SM2310 B-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
Chromium, Hexavalent	SM3500 Cr B-09	Spectrophotometric
Chromium, Hexavalent	SW7196A	Spectrophotometric
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

ANALYTE	METHOD	TECHNOLOGY
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
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
Hydrocarbons, Total	EPA1664 B	Gravimetric (SGT)
Iron	SM3500-Fe B-97	Spectrophotometric
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

ANALYTE	METHOD	TECHNOLOGY
Sulfate	EPA300.0 Rev 2.1-1993	IC
Sulfate	SM4110 B-00	IC
Sulfate	SW9038	Turbidimetric
Sulfate	SW9056A	IC
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

METAL	METHOD	TECHNOLOGY
Chromium	SW6010C	ICP
Chromium	SW6020A	ICP-MS
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	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	SW3005A	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
Phosphorus	SW6010C	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

NONPOTABLE WATER VOLATILE ORGANIC CHEMICALS

GROUP	METHOD	TECHNOLOGY
Acrolein & Acrylonitrile	EPA624	GC/MS
Acrolein & Acrylonitrile	SW8260B	GC/MS
Acrolein & Acrylonitrile	SW8260C	GC/MS
Dissolved Gases	RSK175	GC
Halogenated & Aromatic Volatiles	SW8021B	GC
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Nonhalogenated Volatile Organics	SW8015D	GC/FID
Purge & Trap For Aqueous Samples	SW5030B	Extraction
Purgeable Aromatics	EPA602	GC
Purgeables	EPA624	GC/MS
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (GRO)	SW8015D	GC/FID
Volatile Organic Compounds	SW8260B	GC/MS

GROUP	METHOD	TECHNOLOGY
Volatile Organic Compounds	SW8260C	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
Nonhalogenated Semi-Volatile Organics	SW8015D	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
Semivolatile Organic Compounds	SW8270D	SIM
Separatory Funnel Liquid-Liquid	SW3510C	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015D	GC/FID

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Corrosivity	SW1110A	Gravimetric
Corrosivity	SW9040C	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
Chromium, Hexavalent	SW3060A	Digestion

ANALYTE	METHOD	TECHNOLOGY
Chromium, Hexavalent	SW7196A	Spectrophotometric
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
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)	SW9040C	Electrode
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
Cobalt	SW6010C	ICP
Cobalt	SW6020A	ICP-MS
Copper	SW6010C	ICP
Copper	SW6020A	ICP-MS
Iron	SW6010C	ICP
Iron	SW6020A	ICP-MS
Lead	SW6010C	ICP

METAL	METHOD	TECHNOLOGY
Lead	SW6020A	ICP-MS
Lithium	SW6010C	ICP
Magnesium	SW6010C	ICP
Magnesium	SW6020A	ICP-MS
Manganese	SW6010C	ICP
Manganese	SW6020A	ICP-MS
Mercury	SW7471B	Digestion
Metals, Total	SW3050B	Digestion
Metals, Total	SW3051A	Digestion
Molybdenum	SW6010C	ICP
Molybdenum	SW6020A	ICP-MS
Nickel	SW6010C	ICP
Nickel	SW6020A	ICP-MS
Phosphorus	SW6010C	ICP
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
Acrolein & Acrylonitrile	SW8260B	GC/MS
Closed System Purge & Trap	SW5035	Extraction
Closed System Purge & Trap	SW5035A	Extraction
Halogenated & Aromatic Volatiles	SW8021B	GC
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Nonhalogenated Volatile Organics	SW8015D	GC/FID
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (GRO)	SW8015D	GC/FID
Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW8260C	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
Nonhalogenated Semi-Volatile Organics	SW8015D	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
Semivolatile Organic Compounds	SW8270D	GC/MS
Semivolatile Organic Compounds	SW8270D	SIM
Soxhlet, Automated	SW3541	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015D	GC/FID
Ultrasonic	SW3550C	Extraction
Waste Dilution	SW3580A	Dilution

SOLID AND CHEMICAL VOLATILE ORGANIC

GROUP	METHOD	TECHNOLOGY
Acrolein & Acrylonitrile	SW8260C	GC/MS

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, 2017. Certificate No 219

Issued on February 18, 2016

Justin Carpenter
QA Auditor

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

Attachment I

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

List of Certified Parameters
for

TESTAMERICA NORTH CANTON

NORTH CANTON, OHIO

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Ammonia	SM4500-NH3 C-11	Titrimetric
Bromide	EPA300.0 Rev 2.1-1993	IC
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	SM5310 C-00	Oxidation
Carbon, Total Organic (TOC)	SW9060	Combustion
Chloride	EPA300.0 Rev 2.1-1993	IC
Chloride	SM4500-Cl E-97	Colorimetric
Chloride	SW9056A	IC
Chromium, Hexavalent	SM3500-Cr C-09	IC
Chromium, Hexavalent	SW7196A	Spectrophotometric
Conductance, Specific	SM2510 B-97	Probe
Conductance, Specific	SW9050A	Probe
Cyanide, Amenable to Chlorination	SM4500-CN G-99	Distillation
Cyanide, Total	SM4500-CN E-99	Spectrophotometric
Cyanide, Total	SW9012A	Spectrophotometric
Cyanide, Total	SW9012B	Spectrophotometric
Fluoride	EPA300.0 Rev 2.1-1993	IC
Fluoride	SM4500-F C-97	ISE
Fluoride	SW9056A	IC
Hardness, Total	SM2340 B-97	Calculation
Hardness, Total	SM2340 C-97	Titrimetric
Nitrate	EPA300.0 Rev 2.1-1993	IC
Nitrate	SW9056A	IC
Nitrite	EPA300.0 Rev 2.1-1993	IC
Nitrite	SW9056A	IC
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)	EPA410.4 Rev 2.0-1993	Spectrophotometric
Oxygen Demand, Chemical (COD)	SM5220 D-97	Spectrophotometric

ANALYTE	METHOD	TECHNOLOGY
pH (Hydrogen Ion)	SM4500-H B-00	Electrode
pH (Hydrogen Ion)	SW9040B	Electrode
Phenolics, Total	EPA420.1 Rev 1978	Spectrophotometric
Phenolics, Total	SW9065	Spectrophotometric
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
Sulfate	EPA300.0 Rev 2.1-1993	IC
Sulfate	SW9056A	IC
Sulfide	SM4500-S F-00	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

METAL	METHOD	TECHNOLOGY
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	EPA200.8 Rev 5.4-1994	ICP-MS
Lithium	SW6010B	ICP
Lithium	SW6010C	ICP
Lithium	SW6020	ICP-MS

METAL	METHOD	TECHNOLOGY
Lithium	SW6020A	ICP-MS
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	EPA1631 E	CVAF
Mercury	EPA245.1 Rev 3.0-1994	CVAA
Mercury	SW7470A	CVAA
Metals	SW3005A	Digestion
Metals	SW3010A	Digestion
Metals, Dissolved	SW3005A	Digestion
Methyl Mercury	EPA1630	CVAS
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
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
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silicon	SW6010B	ICP
Silicon	SW6020	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

METAL	METHOD	TECHNOLOGY
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
Dissolved Gases	RSK175	GC
Nonhalogenated Volatile Organics	SW8015B	GC/FID
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Nonhalogenated Volatile Organics	SW8015D	GC/FID
Purge & Trap For Aqueous Samples	SW5030B	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
Continuous Liquid-Liquid	SW3520C	Extraction
Formaldehyde	SW8315A	HPLC
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	GC
Organochlorine Pesticides & PCBs	EPA608	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
Total Petroleum Hydrocarbons (DRO)	SW8015B	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015D	GC/FID

HAZARDOUS WASTE CHARACTERISTICS

PROCEDURE	METHOD	TECHNOLOGY
Corrosivity	SW9045C	Electrode
Corrosivity	SW9045D	Electrode
Ignitability	SW1010	Closed Cup
Ignitability	SW1010A	Closed Cup
TCLP- Metals & Organics	SW1311	Extraction

SOLID AND CHEMICAL INORGANIC NONMETALS

ANALYTE	METHOD	TECHNOLOGY
Ammonia	SM4500-NH3 C-11	Titrimetric
Bromide	SW9056A	IC
Carbon, Total Organic (TOC)	Walkley-Black	
Chloride	SW9056A	IC
Chromium, Hexavalent	SW3060A	Digestion

ANALYTE	METHOD	TECHNOLOGY
Chromium, Hexavalent	SW7196A	Spectrophotometric
Cyanide, Total	SM4500-CN E-99	Spectrophotometric
Cyanide, Total	SW9012A	Spectrophotometric
Cyanide, Total	SW9012B	Spectrophotometric
Fluoride	SW9056A	IC
Halides, Extractable Organic (EOX)	SW9023	Titrimetric
Nitrate	SW9056A	IC
Nitrite	SW9056A	IC
Nitrogen, Total Kjeldahl (TKN)	SM4500-NH3 C-11	Titrimetric
Nitrogen, Total Kjeldahl (TKN)	SM4500-Norg C-97	Digestion
pH (Hydrogen Ion)	SW9040C	Electrode
Phenolics, Total	SW9065	Spectrophotometric
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

METAL	METHOD	TECHNOLOGY
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
Lithium	SW6020	ICP-MS
Lithium	SW6020A	ICP-MS
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	SW7471B	CVAA
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
Silicon	SW6010B	ICP
Silicon	SW6020	ICP-MS

METAL	METHOD	TECHNOLOGY
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
Nonhalogenated Volatile Organics	SW8015B	GC/FID
Nonhalogenated Volatile Organics	SW8015C	GC/FID
Nonhalogenated Volatile Organics	SW8015D	GC/FID
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
Florisil Cleanup	SW3620B	Cleanup
Formaldehyde	SW8315A	HPLC
Gel-Permeation Cleanup	SW3640A	Cleanup
Microwave Extraction	SW3546	Extraction
Organochlorine Pesticides	SW8081A	GC
Organochlorine Pesticides	SW8081B	GC
Polychlorinated Biphenyls	SW8082	GC
Polychlorinated Biphenyls	SW8082A	GC
Semivolatile Organic Compounds	SW8270C	GC/MS
Semivolatile Organic Compounds	SW8270D	GC/MS
Soxhlet	SW3540C	Extraction
Sulfur Cleanup	SW3660B	Cleanup
Sulfuric Acid/Permanganate Cleanup	SW3665A	Cleanup
Total Petroleum Hydrocarbons (DRO)	SW8015B	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Total Petroleum Hydrocarbons (DRO)	SW8015D	GC/FID
Ultrasonic	SW3550B	Extraction
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 December 31, 2016. Certificate No 210

Issued on January 01, 2016

Justin Carpenter
QA Auditor

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

CORPORATE QUALITY MANAGEMENT PLAN

Analytical Laboratories

Revision: 3.1
April 2016

Corporate Quality Management Plan

Approval Signatures

Raymond J. Frederici
Exec. Director of Quality & EH&S

16 April 2016
Date

Larry Penfold
Corporate Quality Compliance Director

31 March 2016
Date

Verl D. Preston
Corporate Quality Systems Director

31 March 2016
Date

Pamela Schemmer
Corporate Quality Assessment Director

31 March 2016
Date

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Tables & Figures

Appendix

3.0 Introduction

3.1 Overview

TestAmerica is the leading environmental testing firm in the United States. We provide innovative technical expertise and comprehensive analytical testing services from over 90 locations nationwide with a staff of over 2500 employees. Some of our specialty analyses include source and ambient air, aquatic toxicity, asbestos, explosives, specialty organics, dioxins, drinking water, industrial hygiene, sediments and tissues, emerging contaminants, radiochemistry and mixed waste testing.

Our environmental testing service capabilities are broad and include chemical, physical, and biological analyses of a variety of matrices, including aqueous, solid, drinking water, waste, tissue, air, mold and fungus (mycology) and saline/estuarine samples. These testing services include specialty capabilities for air toxics testing, radiological, mixed waste testing, geotechnical testing, tissue preparation and analysis, aquatic toxicology, dioxin/furan testing, indoor air quality and microscopy services, asbestos analysis, High Resolution Mass Spectrometry (HRMS), Inductively Coupled Plasma/MS (ICP/MS), Liquid Chromatography/MS (LC/MS), PCR microbiology and on-site technologies including mobile laboratories. TestAmerica is well positioned to support a variety of clients including commercial, governmental and chemical industries.

3.2 Purpose

The purpose of the Corporate Quality Management Plan (CQMP) is to describe TestAmerica's quality system and outline those systems which enable all employees of TestAmerica to meet the Quality Assurance (QA) Policy and Data Integrity Goals. This management plan also describes specific QA activities and requirements; and prescribed frequencies of the defined items. Roles and responsibilities of the Executive Committee (senior management) and their support of the quality system are also defined. Each of our laboratories maintains an independent operational Quality Assurance (QA) Manual based on this CQMP.

3.3 References

The following references were used in preparation of this management plan and are the basis of the TestAmerica Quality System:

- The NELAC Institute (TNI) Standard, dated 2009.
- ISO/IEC Guide 17025:2005(E).
- ANSI/ASQC, E4-1994, "Specifications and Guidelines for Quality Management Systems for Environmental Data Collection and Environmental Technology Programs" (American National Standard, January 5, 1995, or most recent version).
- AIHA-LAP, LLC Policy Documents
- NVLAP Procedures and General Requirements, NIST Handbook 150
- "EPA Requirements for Quality Management Programs" (QA/R-2) (EPA/240/B-01/002, May 31, 2006).
- EPA 600/4-88/039, *Methods for the Determination of Organic Compounds in Drinking Water,* EPA, Revised July 1991.
- EPA 600/R-95/131, *Methods for the Determination of Organic Compounds in Drinking Water,* Supplement III, EPA, August 1995.

- EPA 600/4-79-019, *Handbook for Analytical Quality Control in Water and Wastewater Laboratories,* EPA, March 1979.
- Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, September 1986, Final Update I, July 1992, Final Update IIA, August 1993, Final Update II, September 1994; Final Update IIB, January 1995; Final Update III, December 1996; Final Update IV, January 2008.
- Federal Register, 40 CFR Parts 136, 141, 172, 173, 178, 179 and 261.
- *Statement of Work for Inorganics & Organics Analysis, SOM and ISM, current versions, USEPA Contract Laboratory Program Multi-media, Multi-concentration.*
- APHA, *Standard Methods for the Examination of Water and Wastewater,* 18th, 19th, 20th, 21st, and on-line Editions.
- U.S. Department of Energy Order 414.1B, Quality Assurance, April 29, 2004.
- U.S. Department of Energy Order 414.1C, Quality Assurance, June 17, 2005.
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013.
- U.S. Department of Defense, *Air Force Center for Environmental Excellence Quality Assurance Project Plan (QAPP),* Version 4.0.02, May 2006.
- Nuclear Regulatory Commission (NRC) Quality Assurance Requirements.
- Marine Protection, Research, and Sanctuaries Act (MPRSA).
- Toxic Substances Control Act (TSCA).

3.4 Scope

The requirements set forth in this CQMP are applicable to all TestAmerica laboratories. Where this management plan uses the terms "must" and "shall", this refers to required activities. Practices described herein represent how those activities are performed in general, and each laboratory may have a more detailed description of that activity.

EMLab P&K & Metco businesses have the responsibility and authority to operate within the regulatory requirements of the jurisdiction in which their work is performed. As such, they are bound by the standards on which their Quality Assurance Manuals are based.

Each laboratory has the responsibility and authority to operate in compliance with regulatory requirements of the jurisdiction in which the work is performed. Where this CQMP may conflict with those regulatory requirements, the regulatory requirements of the jurisdiction shall hold primacy. Each laboratory's QA Manual (Section 5.3.1) shall take precedence over the CQMP in those cases. Furthermore, each TestAmerica laboratory has the responsibility and authority to operate in compliance with documented client requirements where they do not conflict with regulatory requirements or TestAmerica's Ethics Policy (Document No. CW-L-P-004). TestAmerica shall not enter into any client agreement that conflicts with regulatory requirements in the jurisdiction in which the work is being performed. Where documented client agreements conflict with this document, but meet the regulatory requirements of the jurisdiction in which the work is performed, the client agreements shall supersede the requirements in this CQMP. Each laboratory must maintain a local perspective in its scope of services and client relations and maintain a national perspective in terms of quality.

TestAmerica Policies are documented and adhered to by each laboratory. The Quality Assurance (QA) Manager at each laboratory is responsible to ensure that their QA Manual remains in the Corporate-approved format and that all updates are in accordance with the CQMP and their respective operational processes.

TestAmerica operates under the regulations and guidelines of the following federal programs:

- Department of Defense Environmental Restoration (DoD ER)
- Air Force Civil Engineer Center (AFCEC)
- US Army Corp of Engineers, Hazardous, Toxic and Radioactive Waste (USACE HTRW)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Department of Energy (DOE)
- Marine Protection, Research, and Sanctuaries Act (MPRSA)
- Navy Facilities Engineering Service Center (NFESC)
- National Pollutant, Discharge, and Elimination System (NPDES)
- Nuclear Regulatory Commission (NRC)
- Occupational Safety and Health Administration (OSHA)
- Resource Conservation and Recovery Act (RCRA)
- Safe Drinking Water Act (SDWA)
- Toxic Substances Control Act (TSCA)
- The Asbestos Hazard Emergency Response Act (AHERA)

TestAmerica also provides services under various state and local municipal guidelines. A listing of each laboratory's service offerings and certifications is presented on TestAmerica's website or available from each of the laboratories.

This CQMP was written to comply with The NELAC Institute (TNI) 2009 Standard and the ISO/IEC Guide 17025:2005(E) Standards.

3.5 Terms and Definitions

TestAmerica views our Quality Assurance Program as a company-wide system designed to ensure that data produced by our laboratories conform to the standards established by state and/or federal regulations. The program functions at the management level through company goals and management policies, and at the analytical level through Standard Operating Procedures (SOPs) and quality control. Each laboratory's QA Manual contains a glossary of terms and acronyms that are widely used in our industry.

4.0 Management Requirements

4.1 Roles and Responsibilities

TestAmerica's Management Organizational structure is presented in Figure 4-1. Corporate employees are located at various TestAmerica laboratories or off-site locations. A QA Manager shall be designated at each TestAmerica laboratory.

In the event of a vacancy for an Executive Committee position, a person will be designated by the CEO to fulfill that responsibility.

Chairman and Chief Executive Officer (CEO)

The CEO is a member of the Board of Directors, leads the Executive Committee and is ultimately responsible for the quality and performance of all TestAmerica laboratories. The CEO establishes the overall quality standard and data integrity program for the Analytical Business, providing the necessary leadership and resources to assure that the standard and integrity programs are met. The CEO authorizes the CQMP and as such, sets the standards for the quality system.

Vice President of Client Service

The VP of Client Services leads the Client Service Organization (CSO) and is responsible for client satisfaction, driving operational excellence and improving client responsiveness. The VP provides direction to the Client Service Directors, Programs Managers and Project Managers.

Executive Director of Quality & EHS

The Executive Director of Quality & EHS reports directly to the Chairman and CEO. With the aid of the Executive Committee, Laboratory Directors, Quality Directors and QA Managers, the Executive Director of Quality & EHS has the responsibility for the establishment, general overview and corporate maintenance of the Quality Assurance Program within TestAmerica. Additional responsibilities include:

- Review of QA/QC aspects of Corporate SOPs & Policies, national projects and expansions or changes in services.
- Monitoring and improvement of customer service.
- Technical oversight of laboratory practices and provides support and direction to both the Directors and Managers of these areas.
- Authorizes the CQMP and supports the CEO in decisions regarding long-term planning, resource allocation and capital expenditures.
- Work with various organizations outside of TestAmerica to further the development of quality standards and represent TestAmerica at various trade meetings.

Technical Services Director

The Technical Services Director is responsible for establishing, implementing and communicating TestAmerica's Analytical Business's Technical Policies, SOPs, and Manuals. Other responsibilities include conducting technical assessments as required, acting as a technical resource in national contracts review, coordinating new technologies, establishing best practices, advising staff on technology advances, innovations, and applications.

Executive Vice President Operations

The Executive VP of Operations reports directly to the Chairman and CEO of TestAmerica. The Exec. VP oversees the operations of all TestAmerica laboratories and the EMLab P&K business unit. The VP's of Operations report directly to Exec. VP of Operations.

Vice Presidents of Operations

Each VP of Operations reports directly to the Executive VP of Operations and is a part of the Executive Committee. Each VP of Operations is responsible for the overall administrative and operational management of their respective laboratories. The VP's responsibilities include allocation of personnel and resources, long-term planning, goal setting, and achieving the financial, business, and quality objectives of TestAmerica. The VP's ensure timely compliance with Corporate Management directives, policies, and management systems reviews. The VP's are also responsible for restricting any laboratory from performing analyses that cannot be consistently and successfully performed to meet the standards set forth in this manual.

Quality Compliance Director

The Quality Compliance Director reports to the Exec. Director of Quality & EHS. The Quality Compliance Director has QA oversight of laboratories; monitors and communicates DoD / DoE requirements; develops corporate tools for ensuring and improving compliance; develops corporate assessment tools; identifies common laboratory weaknesses; and monitors corrective action closures. Together with the Quality Systems Director, the Quality Assessment Director and the Exec. Director of Quality & EHS, the Quality Compliance Director has the responsibility for the establishment, general overview and maintenance of the Analytical Quality Assurance Program within TestAmerica.

Quality Systems Director

The Quality Systems Director reports to the Exec. Director of Quality & EHS. The Quality Systems Director has QA oversight of laboratories; develops quality policies, procedures and management tools; monitors and communicates regulatory and certification requirements; identifies common laboratory weaknesses; and monitors corrective action closures. Together with the Quality Compliance Director, the Quality Assessment Director and the Exec. Director of Quality & EHS, the Quality Systems Director has the responsibility for the establishment, general overview and maintenance of the Analytical Quality Assurance Program within TestAmerica.

Quality Assessment Director

The Quality Assessment Director reports to the Exec. Director of Quality & EHS. The Quality Assessment Director has QA oversight of laboratories; responsible for the internal audit system, schedule and procedure; monitors laboratory internal audit findings; identifies common laboratory weaknesses; and monitors corrective action closures. Together with the Quality Compliance Director, the Quality Systems Director, and the Exec. Director of Quality & EHS, the Quality Assessment Director has the responsibility for the establishment, general overview and maintenance of the Analytical Quality Assurance Program within TestAmerica.

Ethics and Compliance Officers (ECOs)

TestAmerica has designated two senior members of the corporate staff to fulfill the role of Ethics and Compliance Officer (ECO) – Corporate Counsel/VP of Human Resources and the Exec. Director of Quality & EHS. Each ECO acts as a back-up to the other ECO and both are involved when data investigations occur. One ECO is a member of the Executive Committee and the other has a direct line of communication to the entire Executive Committee Members.

The ECOs ensure that the organization distributes the data integrity and ethical practice policies to all employees and ensures annual training and orientation of new hires to the Ethics Program and its policies. The ECOs are responsible for establishing & maintaining a mechanism to foster employee reporting of incidents of illegal, unethical, or improper practices in a safe and confidential environment.

The ECOs monitor and audit procedures to determine compliance with policies and provide recommendations for policy enhancements to the CEO, VP's of Operations, Laboratory Directors or other appropriate individuals within the laboratory. The ECOs assist the QA Manager in the coordination of internal auditing of ethics-related activities and processes within the laboratory, in conjunction with regular internal auditing functions.

The ECOs also participate in investigations of alleged violations of policies and work with the appropriate internal departments to investigate misconduct, remedy the situation, and prevent recurrence of any such activity.

Chief Information Officer (CIO)

The CIO is responsible for establishing, implementing and communicating TestAmerica's Information Technology (IT) Policies, SOPs and Manuals. Other responsibilities include coordinating new technologies, development of electronic communication tools such as TestAmerica's intranet and internet sites, ensuring data security and documentation of software, ensuring compliance with TNI standards, and assistance in establishing, updating, and maintaining Laboratory Information Management Systems (LIMS) at the various locations.

Environmental Health and Safety Officer (EHS)

The EHS Officer is responsible for the development and implementation of the TestAmerica Environmental, Health and Safety program. Responsibilities include:

- Consolidation and tracking of all safety and health-related information and reports, as well as managing compliance activities for TestAmerica locations.
- Coordination/preparation of the Corporate Environmental Health and Safety Manual that is used by each laboratory to prepare its own laboratory-specific Environmental Health & Safety Manual.
- Preparation of information and training materials for laboratory EHS Coordinators.
- Assistance in the internal and external coordination of employee exposure and medical monitoring programs to insure compliance with applicable safety and health regulations.
- Serve as the Department of Transportation (D.O.T.) focal point and provide technical assistance to location management.
- Serve as the Hazardous Waste Management main contact and provide technical assistance to location management.

Laboratory Director

The Laboratory Director oversees the daily operations of the defined laboratory. The Laboratory Director's responsibilities include supervision of staff, setting goals and objectives for both the business and the employees, and achieving the financial, business, technical and quality objectives of the laboratory. The Laboratory Director ensures timely compliance with audits and

corrective actions, and is responsible for maintaining a working environment which encourages open, constructive problem solving and continuous improvement.

QA Manager

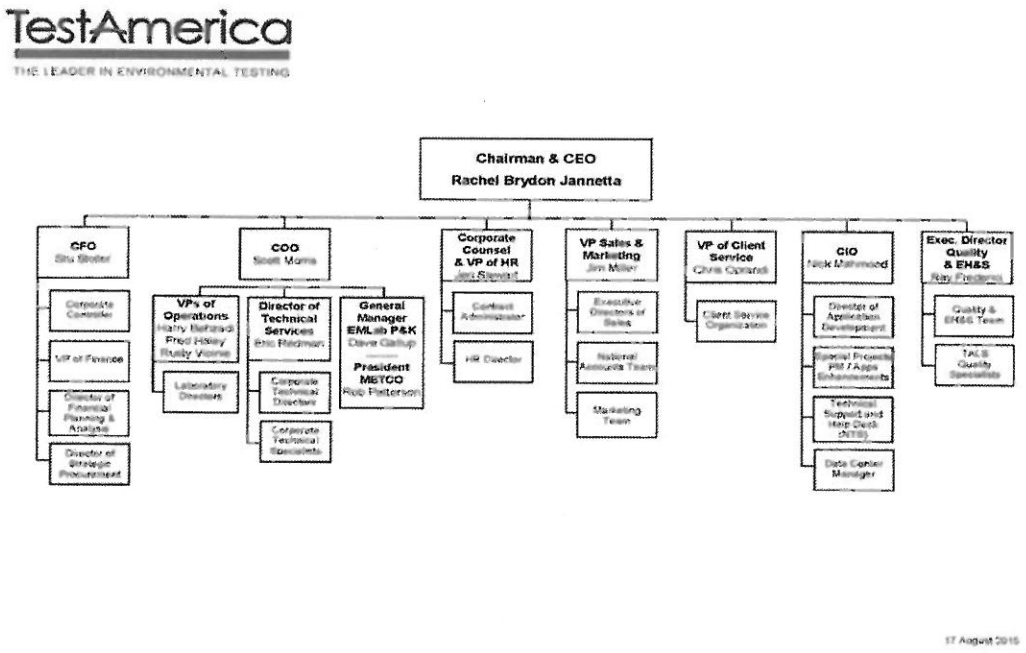
The QA Manager is responsible for ensuring that the defined laboratory's quality system and QA Manual meet the requirements set forth in the CQMP. They ensure compliance with the programs listed in Section 3.4 that are applicable to the laboratory. They also provide quality systems training to all new personnel, maintain the QA Manual in a current and active status, perform or oversee systems, data, special, and external audits. The QA Manager performs, or supervises, the maintenance of QA records, the maintenance of certifications and accreditations, the submission of monthly QA Reports, and assists in reviewing new work as needed. The QA Manager shall have the final authority to accept or reject data, and to stop work in progress in the event that procedures or practices compromise the validity and integrity of analytical data. The QA Manager is available to any employee at the laboratory to resolve data quality or ethical issues. The QA Manager shall be independent of laboratory operations. The laboratory QA Manager has a direct reporting relationship to the Quality Director and has a detailed description of their roles and responsibilities within their QA Manual.

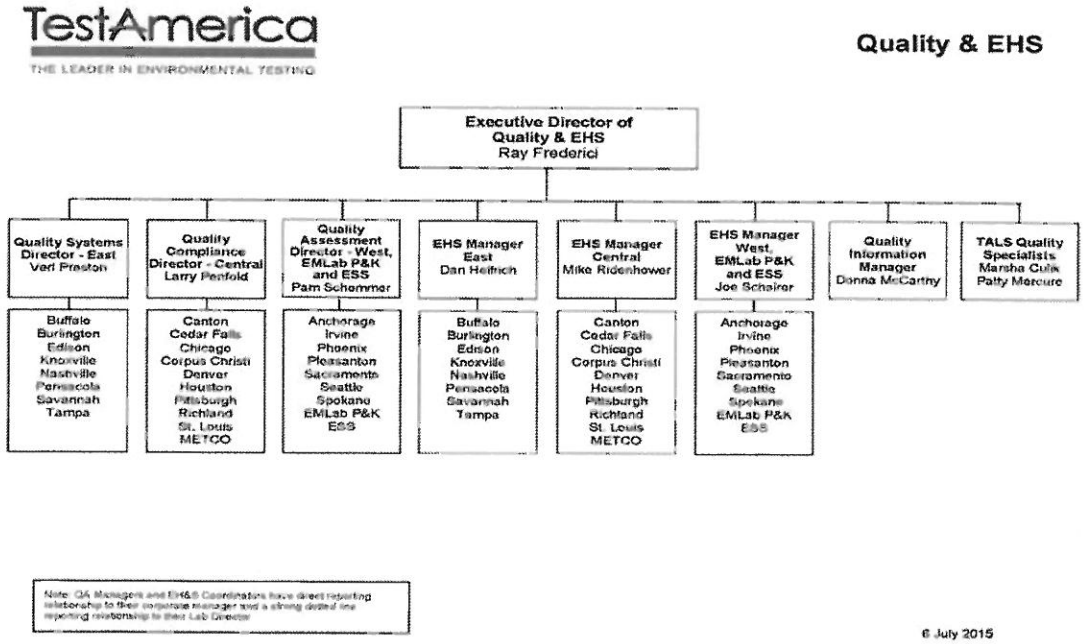
Technical Manager

The Technical Manager(s) has the overall responsibility for a defined portion of the technical operations of the laboratory, and are otherwise referred to as the Department Supervisor(s). They ensure compliance with the programs listed in Section 3.4 that are applicable to the laboratory. The Technical Manager solves day to day technical issues, provides technical training and guidance to staff, project managers, and clients, investigates technical issues identified by QA, and directs evaluation of new methods.

Figure 4-1.

TestAmerica's Management Organizational Charts





5.0 Quality System

5.1 Quality Assurance Policy

It is TestAmerica's Policy to:

- Provide data of known quality to its clients by adhering to approved methodologies, regulatory requirements and the QA/QC protocols.
- Effectively manage all aspects of the laboratory and business operations by the highest ethical standards.
- Continually improve systems and provide support to quality improvement efforts in laboratory, administrative and managerial activities. TestAmerica recognizes that the implementation of a quality assurance program requires management's commitment and support as well as the involvement of the entire staff.
- Provide clients with the highest level of professionalism and the best service practices in the industry.
- To comply with the ISO/IEC 17025:2005(E) International Standard, the 2009 TNI Standard and to continually improve the effectiveness of the management system.

5.2 Management's Commitment to Quality Assurance and Data Integrity

TestAmerica's management team is committed to providing data of known and documented quality and of the highest level of service in the environmental testing industry. To ensure that the data produced and reported by TestAmerica meets the requirements of our clients and complies with the letter and spirit of municipal, state and federal regulations, TestAmerica maintains quality and data integrity systems that are clear, effective, well communicated, and supported at all levels in the company. Therefore, the responsibility for quality resides with every employee.

5.3 Objectives of the Quality System

The goal of the TestAmerica quality system is to ensure that business and technical operations are conducted with the highest standards of professionalism and ethics in the industry.

To achieve this goal, it is necessary to provide our clients with not only scientifically sound, well-documented, and regulatory-compliant data, but also to ensure that TestAmerica provides the highest quality service available in the industry with uncompromising data integrity. A well-structured and well-communicated quality system is essential in meeting this goal. TestAmerica's quality system is designed to minimize systematic error, encourage constructive, documented problem solving (e.g., root cause analysis), and provide a framework for continuous improvement within the organization.

This CQMP is the basis for TestAmerica's quality and data integrity system. It contains requirements and general guidelines under which all TestAmerica laboratories shall conduct their operations.

5.3.1 Laboratory Quality Assurance Manual

Each TestAmerica laboratory shall have a QA Manual that further describes the specific QA program at their laboratory. At previously stated, the policies and procedures outlined in the individual QA Manuals shall be compliant with this CQMP and the various accreditation and certification programs that each laboratory has listed in their QA Manuals.
The QA Manual shall address the following items:

Section No.	Title	2009 TNI Standard Reference
-	Cover Page	V1M2 Sec. 4.2.8.3
1.0	Title Page	
2.0	Table of Contents	V1M2 Secs. 4.2.8.3-4.2.8.4
3.0	Introduction, Scope & Applicability	V1M2 Sec. 4.2.8.4
4.0	Management Requirements	V1M2 Sec. 4
5.0	Quality System	V1M2
6.0	Document Control	V1M2 Secs. 4.2.7; 4.3.1; 4.3.2.2; 4.3.3.3; 4.3.3.4
7.0	Service to the Client	V1M2 Secs. 4.4.1 - 4.4.4
8.0	Subcontracting of Tests	V1M2 Secs. 4.4.3; 4.5.4
9.0	Purchasing Services & Supplies	V1M2 Sec. 4.6.1
10.0	Complaints	V1M2 Sec. 4.8
11.0	Control of Non-Conforming Work	V1M2 Secs. 4.9.1; 5.10.5
12.0	Corrective Action	V1M2 Sec. 4.11
13.0	Preventive Action / Improvement	V1M2 Secs. 4.10; 4.12.1; 4.12.2
14.0	Control of Records	V1M2 Secs. 4.2.7; 4.13.1.1; 4.13.3
15.0	Audits	V1M2 Sec. 4.14
16.0	Management Reviews	V1M2 Sec. 4.1.6; 4.15; 4.15.1; 4.15.2
17.0	Personnel	V1M2 Secs. 5.2; 5.2.1
18.0	Accommodations & Environmental Conditions	V1M2 Sec. 5.3
19.0	Test Methods & Method Validation	V1M2 Sec. 5.4.1
20.0	Equipment and Calibration	V1M2 Secs. 5.5.4; 5.5.5; 5.5.6
21.0	Measurement Traceability	V1M2 Sec. 5.5
22.0	Sampling	V1M2 Sec. 5.7
23.0	Handling of Samples	V1M2 Sec. 5.8.1
24.0	Assuring the Quality of Test Results	V1M2 Sec. 5.9
25.0	Reporting Results	V1M2 Sec. 5.10

5.3.2 Data Quality Objectives

Data Quality Objectives (DQOs) is the process that results in a series of qualitative and quantitative statements. The DQO process is a methodology used by project planners to define the environmental question to be answered and the processes needed to ensure the generation of the type, quantity, and quality of environmental data that will be needed for the intended application. DQOs are identified before project initiation, and are the basis of laboratory quality control limits in project documents, such as Quality Assurance Program Plans (QAPPs) and Sampling & Analysis Plans (SAPs). QC samples routinely used by TestAmerica are described in Section 24.

Data quality indicators, a subset of the DQOs, include Precision, Accuracy, Representativeness, Completeness, and Comparability:

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, agree with each other. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms. In laboratory reports, batch precision is commonly expressed in terms of relative percent difference (RPD) for replicate pairs of measurements (e.g., matrix spike/matrix spike duplicates) or relative standard deviation (RSD) for more than two replicates.

Accuracy is the degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components that are due to sampling and analytical operations. Accuracy is commonly expressed by the laboratory as the percent recovery of analytical spikes. However, project teams typically consider bias and precision separately when assessing data quality.

Representativeness is a qualitative term that describes the ability of the sample team to collect samples and laboratory personnel to analyze those samples in such manners that the data produced accurately and precisely reflects the conditions at the site. Data representativeness is primarily a function of sampling strategy (e.g., the sampling scheme must be designed to maximize representativeness). The portion of the sample used for analysis must also be representative of the entire sample delivered to the laboratory.

Completeness is defined as the percentage of measurements that are judged valid or useable. Examples of factors negatively affecting completeness include the following: sample leakage or breakage in transit or during handling, loss of sample during laboratory analysis, improper documentation such that traceability is compromised, or the sample result is rejected due to failure to conform to QC specifications. A completeness objective of greater than 90% of the data specified by the statement of work is the goal established for most projects.

Comparability is a measure of the confidence with which one data set can be compared to another. To ensure comparability, project plans typically require the use of methods approved by EPA or other standards setting bodies. Within the laboratory, analysts are required to use uniform procedures (e.g., SOPs) and a uniform set of units and calculations for analyzing and reporting environmental data.

What is most important for the laboratory is that the components of analytical variability (uncertainty) can be estimated when QC samples of the right types and at the appropriate frequency are incorporated into measurement process at the laboratory. With these QC results, the laboratory's client can assess whether or not the DQOs were met. With data of known and documented quality, the laboratory data and ultimately the environmental decision made using the data can withstand scientific and legal scrutiny.

6.0 Document Control

6.1 Document Type

The following documents, at a minimum, must be controlled at each TestAmerica laboratory:

- Laboratory QA Manual
- Standard Operating Procedures (SOPs)
- Corporate Quality Management Plan (CQMP)
- Corporate Policies and Procedures
- Corporate Policies and Procedures distributed outside the Intranet

6.2 Document Control Procedure

The security and control of documents is essential to ensure that confidential information is not distributed and that all current copies of a given document are from the latest approved revision. Unambiguous identification of a controlled document is maintained by identification of the following items in the document header: Document Number, Revision Number, Effective Date and Number of Pages. Controlled documents are authorized by Management and/or the QA Department. Controlled documents are marked as such and records of their distribution are maintained by the QA Department. Document control maybe achieved by either electronic or hardcopy distribution.

Controlled documents shall be available at all laboratories where the operational activity described in the document is performed.

6.3 Document Revision

Quality system policies and procedures will be reviewed at a minimum of every two years* and revised as appropriate. Changes to documents occur when a procedural change warrants a revision of the document to reflect the operational or analytical process. When an approved revision of a document is ready for distribution, obsolete copies of the document shall be replaced with the current version of the document. The previous revision of the document must be archived by the QA Department.

* Laboratory's participating in the DoD programs will update their relevant documents every calendar year. Corporate quality documents that support the DoD programs will be reviewed annually by Corporate staff members.

6.4 Official Documents

TestAmerica's Corporate Quality staff posts Corporate Manuals, SOPs, Policies, Work Instructions, White Papers and Training Materials on the intranet site known as Oasis. These are collectively termed "Official Documents".

All TestAmerica laboratories are required to implement the requirements stated in the Corporate Manuals, SOPs and Policies and to incorporate those requirements into their laboratory specific documents. Work Instructions, White Papers and Training Materials provide information and model approaches for implementing the corporate requirements. These materials allow for the capture of corporate knowledge and its preservation within the company.

Each laboratory has the responsibility and authority to operate within the regulatory requirements of the jurisdiction in which their work is performed. Where TestAmerica official documents conflict with those regulatory requirements, the regulatory requirements of the jurisdiction shall hold primacy.

A detailed description of the procedure for issuing, authorizing, controlling, distributing, and archiving of Corporate Documents is located in the Corporate SOP No. CW-Q-S-001, Corporate Document Control and Archive.

7.0 Service to the Client

7.1 Contract Review

For many environmental sampling and analysis programs, the testing design is site- or program-specific and does not necessarily "fit" into a standard laboratory service or product. It is TestAmerica's intent to provide both standard and customized environmental testing services to our clients. To ensure project success, technical staff shall perform a thorough review of technical and QC requirements contained in contracts. The technical requirements of each contract are reviewed to ensure TestAmerica's capability to meet those requirements.

Contract review shall include a review of the client's requirements in terms of target analyte lists, requested test methods; and sensitivity, accuracy, and precision requirements. The TestAmerica representative ensures that the laboratory's test methods are suitable to achieve these requirements and must ensure that the laboratory holds the appropriate certifications and approvals to perform the work. The review also includes the laboratory's capabilities in terms of turnaround time, capacity, and resources to provide the services requested, as well the laboratory's ability to provide the documentation, whether hardcopy or electronic. If the laboratory cannot provide all services but intends to subcontract such services, whether to another TestAmerica laboratory or to an outside firm, TestAmerica will advise the client of that arrangement in writing and, when appropriate and as required by specific programs or projects, gain the approval of the client (refer to Section 8, Subcontracting).

All contracts entered into by TestAmerica shall be reviewed and approved by the appropriate personnel at the laboratory or laboratories performing the work. Any contract requirement or amendment to a contract communicated to TestAmerica verbally must be documented and confirmed with the client in writing. Any discrepancy between the client's requirements and TestAmerica's capability to meet those requirements is resolved in writing before acceptance of the contract. Contract amendments, initiated by the client and/or TestAmerica, are documented in writing for the benefit of both the client and TestAmerica.

All contracts, Quality Assurance Program Plans (QAPPs), Sampling and Analysis Plans (SAPs), contract amendments, and documented communications become part of the permanent project record as defined in Section 14.

7.2 Project Specific Quality Planning

Communication of contract specific technical and QC criteria is an essential activity in ensuring the success of site-specific testing programs. To achieve this goal, TestAmerica assigns a Project Manager (PM) to each client. The PM is the primary point of contact for the client. It is the PM's responsibility to ensure that project-specific technical and QC requirements are effectively communicated to the laboratory personnel before and during the project.

Each TestAmerica laboratory shall have established project planning procedures in order to ensure that communication is inclusive and effective. These include project memos, designation and meetings of project teams, and meetings between the laboratory staff and the client. TestAmerica has found it very effective to invite the client into this process. TestAmerica strongly encourages our clients to visit the laboratories and conduct formal or informal sessions with employees in order to effectively communicate ongoing client needs as well as project-specific details for customized testing programs.

7.3 Client Confidentiality

Data and sample materials provided by the client or at the client's request, and the results obtained by TestAmerica, shall be held in confidence (unless such information is generally available to the public or is in the public domain) subject to any disclosure required by law or legal process. TestAmerica will not intentionally divulge to any person (other than the Client or any other person designated by the Client in writing) any information regarding the services provided by TestAmerica or any information disclosed to TestAmerica by the Client. Furthermore, information known to be potentially endangering to national security or an entity's proprietary rights will not be released.

Note: This shall not apply to the extent that the information is required to be disclosed by TestAmerica under the compulsion of legal process. TestAmerica will, to the extent feasible, provide reasonable notice to the client before disclosing the information.

7.4 Client Surveys

The laboratory assesses both positive and negative client feedback. The results are used to improve overall laboratory quality and client service. TestAmerica's Sales and Marketing teams periodically develop laboratory- and client-specific surveys to assess client satisfaction.

8.0 Subcontracting

TestAmerica may subcontract work to another competent and qualified laboratory, and will advise the client of that arrangement in writing and, when appropriate and as required by specific programs or projects, gain the approval of the client. All QC guidelines specific to the client's analytical program are transmitted to the subcontractor and agreed upon before sending samples to the subcontract laboratory. The originating laboratory shall obtain proof of certification from the subcontract laboratory, and retain this information in their project records. Where applicable, specific QC guidelines, QAPPs, and/or SAPs are transmitted to the subcontract laboratory. Samples are subcontracted under formal Chain of Custody (COC).

Non-TestAmerica subcontract laboratories may receive an on-site audit by a representative of TestAmerica's QA staff if it is deemed appropriate by the QA Manager. The audit involves a measure of compliance with the required test method, QC requirements, as well as any special client requirements. The originating laboratory may also perform a paper audit of the subcontractor, which could entail reviewing the QA Manual, the last two PT studies, and a copy of any recent regulatory audits with the laboratory's responses. Complete details on TestAmerica's Subcontracting Procedure are available in Corporate SOP No. CA-L-S-002.

Project reports from both TestAmerica and external subcontractors are discussed in Section 25.

9.0 Purchasing Services and Supplies

Evaluation and selection of suppliers and vendors is performed, in part, on the basis of the quality of their products, their ability to meet the demand for their products on a continuous and short-term basis, the overall quality of their services, their past history, and competitive pricing. This is achieved through evaluation of objective evidence of quality furnished by the supplier, which can include certificates of analysis, recommendations, and proof of historical compliance with similar programs for other clients. To ensure that quality critical consumables and equipment conform to specified requirements, which may affect quality, all purchases from specific vendors are approved by a member of the supervisory or management staff.

Chemical reagents, solvents, glassware, and general supplies are monitored to maintain sufficient quantities on hand. Purchasing guidelines for equipment and reagents meet with the requirements of the specific method and testing procedures for which they are being purchased. Solvents and acids are pre-tested in accordance with the Corporate SOP No. CA-Q-S-001, Solvent & Acid Lot Testing & Approval.

10.0 Complaints

TestAmerica believes that an effective client complaint handling process has important business and strategic value. Listening to and documenting client's concerns captures "client knowledge" that helps to continually improve the process and outpace the competition. Implementing a client complaint handling process also provides assurance to the data user that the laboratory will stand behind its data, service obligations and products.

Client complaints shall be documented, communicated to management, and addressed promptly and thoroughly. Client complaints are documented by the employee receiving the complaint. The documentation can take the form of a corrective action report (as described in Section 12) or in a format specifically designed for that purpose.

The nature of the complaint is identified, documented, and investigated, and an appropriate action is determined and taken. In cases where a client complaint indicates that an established policy or procedure was not followed, the QA department is notified and may conduct a special audit to assist in resolving the issue. A written confirmation or letter to the client outlining the issue and response taken is strongly recommended as part of the overall action taken.

The number of client complaints shall be reported to the Quality Directors in the QA monthly report submitted by each laboratory. The overall number of complaints received per laboratory is tracked and the appropriateness of the response to client complaints is assessed. Monitoring and addressing the overall level and nature of client complaints and the effectiveness of the solutions is part of the Management Systems Review. Most client feedback is acquired either verbally or in writing. However, TestAmerica also uses a number of additional mechanisms to obtain client feedback including a customer satisfaction survey and a response card system. Each of these is monitored for trends and opportunities for improvement.

11.0 Control of Non-Conforming Work

Each laboratory shall have a procedure to control and document non-conformances. Non-conformances broadly include any QC result outside of established control limits or actions outside of established processes. Non-conformances may relate to client-specific requirements,

procedural requirements, or equipment issues. All non-conformances in the laboratory are documented at the time of their occurrence.

All non-conformances that affect a sample and/or sample data become part of the affected project's permanent record. When appropriate, reanalysis is performed where QC data falls outside of specifications, or where data appears anomalous. If the reanalysis is within established tolerances, the results are approved. If the reanalysis is still outside tolerances, further reanalysis or consultation with the Technical Manager, PM, Laboratory Director, or QA Manager for direction may be required. All records of reanalysis are maintained with the data files.

Where non-conformances specifically affect a client's sample and/or data, the client shall be informed and action must be taken. Action can take the form of reporting and flagging the data, and including a description of the non-conformance in the project narrative or cover letter.

12.0 Corrective Action

12.1 General

Each TestAmerica laboratory shall maintain an established and documented corrective action process. The outcome of each investigation, actions taken and follow-up to prevent recurrence is documented. The more significant the issue to be corrected, the more formal the investigation into root cause and the more detailed the documentation that is required.

12.2 Initiation

Any employee in TestAmerica shall be authorized to initiate a corrective action. The initial source of corrective action can also be external to TestAmerica (e.g., client complaint, regulatory audit, or proficiency testing results). When a situation that requires corrective action is identified, the following items are documented by the initiator on the corrective action report (or however named): the nature of the problem; the name of the initiator; and the date identified. If the problem relates to a specific client or project, the name of the client and project number is recorded, and the PM is informed immediately.

12.3 Cause Analysis

The corrective action process must be embarked upon as a joint problem solving and constructive effort. Identification of systematic errors, or errors that are likely to occur repetitively due to a defect or weakness in a system, is particularly valuable in maintaining an environment of continuous improvement in laboratory operations.

When a corrective action report (or however named) is initiated, the initiator works with the affected employee(s) and/or department(s) to identify the root cause of the problem. An essential part of the corrective action process is to identify whether the problem occurred due to a systematic or isolated error.

If the initiator of the corrective action report (or however named) is uncertain as to what would constitute appropriate corrective action or is unable to resolve the situation, the problem is identified to the Technical Manager, Laboratory Director or the QA Manager who provides assistance in the corrective action process. The root cause of the problem and associated cause analysis is documented.

12.4 Corrective Action

Once the root cause of a problem is identified, the initiator and affected employee(s) and/or department(s) examine potential actions that will rectify the present problem to the extent possible, and prevent recurrence of future, similar occurrences. An appropriate corrective action is then recommended. The corrective action must be appropriate for the size and nature of the issue.

If the corrective action concerns a specific project related issue, the PM or the Manager of PMs approves the corrective action before its implementation. Implementation of the corrective action and the date of implementation are documented on the corrective action report (or however named).

If a corrective action is related to a specific project report, it is included in the project file. An essential part of the corrective action process is communication and awareness of the problem, the cause, and the action taken to prevent future occurrences and/or rectify the immediate problem.

12.5 Monitoring Corrective Action

The QA department reviews corrective action reports and selects one or more of the more significant corrective actions for inclusion in the annual systems audit. The QA Department may also implement a special audit. The purpose of inclusion of the corrective action process in both routine and special audits is to monitor the implementation of the corrective action and to determine whether the action taken has been effective in overcoming the issue identified.

13.0 Preventative Action/Improvement

Each laboratory shall maintain an established and documented preventative action and continual improvement process. Preventative action is identifying process weaknesses which have the potential to lead to failure(s). Preventative action and improvement includes analysis of the quality system to detect, analyze, and eliminate potential causes of non-conformances. It may include trend analysis using control charts to detect chemical analysis problems before QC results exceed control limits at a high frequency. When potential problems are identified, preventative action is initiated to effectively address the problem to eliminate or reduce the risk identified.

13.1 Management of Change

A Management of Change System is a documentation system designed to manage significant events and changes that occur within the laboratory. The types of changes include, but are not limited to: major accreditation and approval changes, addition or deletion to laboratory capabilities, key personnel changes and the addition of a new type of instrumentation. Through a documentation system (however named by the laboratories), the potential risks inherent with a new event or change are identified and evaluated. The risks are minimized or eliminated through pre-planning and the development of preventive measures.

A Management of Change System can apply to all areas except in the application of: maintenance, repairs and activities which are "repair or replacement in-kind", and other changes at the discretion of the Laboratory Director. A laboratory may expand on this process for internal changes as long as the basic framework of documentation & communication is followed.

14.0 Control of Records

14.1 Record Types & Record Retention

Table 14-1 outlines TestAmerica's standard record retention time. For raw data and project records, record retention shall be calculated from the date the project report is issued. For other records, such as Controlled Documents, QA, or Administrative Records, the retention time is calculated from the date the record is formally retired. Records related to the programs listed in Table 14-2 have lengthier retention requirements and are subject to the requirements in Section 14.2.

Table 14-1. Example of TestAmerica Record Types[1]

	Record Types [1]:	Retention Time:
Technical Records	- Raw Data - Logbooks[2] - Standards - Certificates - Analytical Records - MDLs/IDLs - Lab Reports	5 years from analytical report issue*
Official Documents	- QA Manual - Work Instructions - Policies - SOPs - Policy Memorandums - Manuals	5 years from document retirement date*
QA Records	- Internal & External Audits/Responses - Certifications - Corrective/Preventive Actions - Management Reviews - Method & Software Validation / Verification Data - Data Investigation	5 years from archival * **Data Investigation:** 5 years or the life of the affected raw data storage whichever is greater (beyond 5 years if ongoing project or pending investigation)
Project Records	- Sample Receipt & COC Documentation - Contracts and Amendments - Correspondence - QAPP - SAP - Telephone Logbooks - Lab Reports	5 years from analytical report issue*
Administrative Records	Finance and Accounting	10 years
	EH&S Manual, Permits	7 years
	Disposal Records	Indefinitely
	Hazardous Waste Permits	Indefinitely
	Employee Handbook	Indefinitely
	Personnel files, Employee Signature & Initials, Administrative Training Records (e.g., Ethics)	Refer to HR Manual
	Administrative Policies Technical Training Records	7 years

[1] Record Types encompass hardcopy and electronic records.

[2] Examples of Logbook types: Maintenance, Instrument Run, Preparation (standard and samples), Standard and Reagent Receipt, Archiving, Balance Calibration, Temperature (hardcopy or electronic records).
* Exceptions are listed in each laboratory QA Manual.

14.2 Programs with Longer Retention Requirements

Some regulatory programs have longer record retention requirements than the TestAmerica standard record retention time. These are detailed in Table 14-2 with their retention requirements. In these cases, the longer retention requirement must be implemented and noted in the archive or addressed in a laboratory-specific records retention procedure. If special instructions exist such that client data cannot be destroyed prior to notification of the client, the record retention management system provides information as to who to contact for authorization prior to destroying the data.

Table 14-2. Example - Special Record Retention Requirements

Program	Retention Requirement [1]
Drinking Water – All States	5 years (project records) 10 years - Radiochemistry (project records)
Drinking Water Lead and Copper Rule	12 years (final reports only)
Commonwealth of MA – All environmental data 310 CMR 42.14	10 years
FIFRA – 40 CFR Part 160	Retain for life of research or marketing permit for pesticides regulated by EPA
Housing and Urban Development (HUD) Environmental Lead Testing	10 years
Alaska	10 years
Louisiana – All	10 years
Michigan Department of Environmental Quality – all environmental data	10 years
Navy Facilities Engineering Service Center (NFESC)	10 years
NY Potable Water NYCRR Part 55-2	10 years
NY Critical Agents NYCRR Part 55-2	10 years (longer if requested)
Ohio VAP	10 years and State contacted prior to disposal
TSCA - 40 CFR Part 792	10 years after publication of final test rule or negotiated test agreement

[1] Extended retention requirements must be noted with the archive documents or addressed in laboratory-specific records retention procedures.

14.3 Archives and Record Transfer

Archives must be indexed such that records are accessible on either a project or temporal basis. Archives are protected against fire, theft, loss, deterioration, and vermin. Electronic records are protected from deterioration caused by magnetic fields and/or electronic deterioration. Access to archives is controlled and documented. On-site and/or off-site laboratories may be used.

TestAmerica ensures that all records are maintained as required by the regulatory guidelines and per the CQMP upon laboratory location change or ownership transfer. Upon a laboratory

location change, all archives are retained by TestAmerica in accordance with the CQMP. Upon ownership transfer, record retention requirements shall be addressed in the ownership transfer agreement and the responsibility for maintaining archives is clearly established.

15.0 Audits

15.1 Internal Audits - Audit Types and Frequency

Various types of audits shall be performed at the laboratories throughout the calendar year. Audit types and frequencies are categorized in Table 15-1.

Table 15-1. Types of Internal Audits and Frequency

Description	Performed by	Frequency
Quality System Audits	QA Department, QA approved designee, or Corporate QA	All areas of the laboratory annually
QA Technical Audits	Joint responsibility: a) QA Manager or designee b) Technical Manager or designee (Refer to SOP No. CW-Q-S-003)	Technical Audits Frequency: 50% of methods annually
SOP Method Compliance	Joint responsibility: a) QA Manager or designee b) Technical Manager or designee (Refer to SOP No. CW-Q-S-003)	SOP Compliance Review Frequency: • Every 2 years • 100% of SOPs annually (DoD Labs)
Special	QA Department or designee	Surveillance or spot checks performed as needed, e.g., to confirm corrective actions from other audits.
Performance Testing	Analysts with QA oversight	Two successful per year for each TNI field of testing or as dictated by regulatory requirements

15.1.1 Annual Quality Systems Audit

An annual quality systems audit is required to ensure compliance to analytical methods and SOPs, TestAmerica's Data Integrity and Ethics Policies, TNI quality systems, accreditation body requirements (such as NVLAP, A2LA and AIHA-LAP, LLC), client and state requirements, and the effectiveness of the internal controls of the analytical process, including but not limited to data review, quality controls, preventive action and corrective action. The completeness of earlier corrective actions shall also be assessed. The audit is divided into modules for each operating or support area of the lab, and each module is comprehensive for a given area. The area audits may be performed on a rotating schedule throughout the year to ensure adequate coverage of all areas. This schedule may be modified as situations in the laboratory warrant.

15.1.2 QA Technical Audits

QA technical audits are based on client projects, associated sample delivery groups, and the methods performed. Reported results are compared to raw data to verify the authenticity of results. The validity of calibrations and QC results are compared to data qualifiers, footnotes,

and case narratives. Documentation is assessed by examining run logs and records of manual integrations. Manual calculations are checked. Where possible, electronic audit miner programs (e.g., MintMiner and Chrom AuditMiner) are used to identify unusual manipulations of the data deserving closer scrutiny. QA technical audits will include all methods within a two-year period.

15.1.3 SOP Method Compliance

Compliance of all SOPs with the source methods and compliance of the operational groups with the SOPs will be assessed by the Technical Manager or qualified designee at least every two years. The SOPs are also evaluated as the work of each newly hired analyst is assessed within 3 months of working independently, (e.g., completion of method IDOC). In addition, as analysts add methods to their capabilities, (new IDOC) reviews of the analyst work products will be an integral part of the training. All newly trained analysts shall read the SOP for the procedure on which they have been trained, and provide feedback to the technical manager on the SOP and procedure.

15.1.4 Special Audits

Special audits are conducted on an as-needed basis. These are generally as a follow-up to specific issues such as client complaints, corrective actions, PT results, data audits, system audits, validation comments, regulatory audits or suspected ethical improprieties. Special audits are focused on a specific issue, and report format, distribution, and timeframes are designed to address the nature of the issue.

15.1.5 Proficiency Testing (PT)

Each laboratory participates semi-annually (TNI) or annually (Non-TNI) in proficiency testing audits conducted through the analysis of PT samples provided by a third party. The laboratory participates in the types of PT studies pertinent to the work, such as Drinking Water, Non-Potable Water, Soil, Air, and Radiochemistry. The EMLab P&K facility participation in external PT programs and internal round robin PT programs is described in the EMLab Quality Manual and SOPs.

It is TestAmerica's policy that PT samples be treated as typical samples in the production process. Furthermore, where PT samples present special or unique problems in the regular production process, they may need to be treated differently as would any special or unique request submitted by a client. The QA Manager must be consulted and in agreement with any decisions made to treat a PT sample differently due to special circumstance; and all such decisions are documented within the project file.

Written responses to unacceptable PT results are required. In some cases, it may be necessary for blind QC samples to be submitted to the laboratory to show a return to control situation for the applicable method/process.

15.2 External Audits

TestAmerica laboratories are routinely audited by clients and external regulatory authorities. TestAmerica is available for these audits and makes every effort to provide the auditors with the personnel, documentation, and assistance required by the auditors. TestAmerica recommends that the audits be scheduled with the QA Department so that all necessary personnel are available on the day of the audit.

15.3 Audit Findings

Audit findings are documented using the corrective action process. The laboratory's corrective action responses for both types of audits may include action plans that could not be completed within a pre-defined timeframe. In these instances, a completion date must be set and agreed to by operations management and the QA Manager.

Developing and implementing corrective actions to findings is the responsibility of the laboratory management personnel. Findings that are not corrected by specified due dates are reported monthly to management in the QA monthly report. When requested, a copy of the audit report and the laboratory's corrective action plan will be forwarded to the Corporate Quality staff.

If any audit finding casts doubt on the effectiveness of the operations or on the validity of the laboratory's test results, the laboratory shall take timely corrective action and investigate the situation. The laboratory shall notify clients in writing if the investigation identified that the laboratory results have been affected. Once corrective action is implemented, a follow-up audit shall be scheduled to ensure that the event has been corrected.

Clients must be notified promptly in writing of any event such as the identification of defective measuring or test equipment that casts doubt on the validity of results given in any test report or amendment to a test report. The investigation must begin within 24-hours of discovery of the problem and all efforts are made to notify the client within two weeks after the completion of the investigation. Further details are provided in the Corporate SOP No. CW-L-S-002, Internal Investigation & Data Recall.

16.0 Management Reviews

16.1 QA Reports to Management

A monthly QA report shall be prepared by the QA Manager or their designee and forwarded to their Laboratory Director, VP of Operations and Quality Directors. The report includes statistical results that are used to assess the effectiveness of the quality system.

A Corporate QA Monthly Report containing a compilation of the Laboratory QA reports statistics, information on progress of the Corporate QA program, and a narrative outlining significant occurrences and/or concerns shall be compiled by the Quality Directors and forwarded to the Exec. Director of Quality & EHS who, after preparing comments, forwards the report to the CEO, and the VP's of Operations.

16.1.1 Monthly QA Report and Metrics

The QA Manager's monthly QA report is due by the third day of the month, or the next business day if the third falls on a non-business day. The report will contain a narrative summary and metrics spreadsheet. At a minimum, the report content will contain the laboratory's status for defined quality metrics and a discussion of both improvements and weaknesses in the quality system. During the course of the year, the Laboratory Director, VP of Operations, Exec. Director of Quality & EHS or the Quality Directors may request that additional information be added to the report.

16.2 Management Systems Review

Each laboratory shall perform a management quality system review annually in accordance with the Corporate SOP No. CW-Q-S-004, Management Systems Review. This will synchronize quality planning with the fiscal year planning. The management systems review will assess the adequacy of the laboratory's quality system and plan any changes in laboratory organization, policies, practices, and certifications / accreditations in order to achieve operational efficiencies, meet regulatory requirements and client expectations.

17.0 Personnel

17.1 General

TestAmerica management believes that its highly qualified, ethical and professional staff is the single most important asset in assuring the highest level of data quality and service in the industry.

17.1.1 Training

TestAmerica is committed to furthering the professional and technical development of analysts at all levels. Minimum training requirements for TestAmerica employees are outlined in Table 17-1.

Table 17-1. TestAmerica Analyst Minimum Training Requirements

Required Training	Time Frame*	Employee Type
Environmental Health & Safety	Prior to lab work	All
Ethics – New Hires	1 week of hire	All
Ethics – Comprehensive	90 days of hire	All
Data Integrity	30 days of hire	Technical and PMs
Quality Assurance	90 days of hire	All
Ethics – Refresher	Annually	All
Initial Demonstration of Capability (DOC)	Prior to unsupervised method performance	Technical

**From date of initial employment unless otherwise indicated.*

Technical training is accomplished within each laboratory by the technical management to ensure method comprehension. The laboratory shall have a defined training program. As part of the technical training, all new personnel shall be required to demonstrate competency in performing a particular method by successfully completing an Initial Demonstration of Capability (DOC) before conducting analysis independently on client samples.

DOCs are performed by analysis of four replicate QC samples. Results of successive Laboratory Control Sample (LCS) analyses can be used to fulfill the DOC requirement. The accuracy and precision, measured as average recovery and standard deviation (using n-1 as the population), of the 4 replicate results are calculated and compared to those in the test method (where available). If the test method does not include accuracy and precision requirements, the results are compared to target criteria set by the laboratory. The laboratory sets the target criteria such that they reflect the DQOs of the specific test method or project. A

DOC Certification Statement is recorded and maintained in the employee's training or personnel file.

The following documentation must be on file at the laboratory for each technical employee. Additional items may be maintained based on the laboratory-specific QA Manual.

- DOC.
- The employee has read and understood the latest version of the laboratory's quality documentation.
- The employee has read and understood the latest, approved version of all test methods and/or SOPs for which the employee is responsible.
- Annual evidence of continued DOC that may include successful analysis of a blind QC sample on the specific test method, or a similar test method, or an annual DOC, or four successive & successful LCSs.
- An Ethics Agreement signed by each staff member (renewed annually).

17.1.2 Ethics Policy

Establishing and maintaining a high ethical standard is an important element of TestAmerica's Quality System. In order to ensure that all personnel understand the importance the company places on maintaining such standards at all times, TestAmerica has established an *Ethics Policy*, Policy No. CW-L-P-004, and an Ethics Agreement. Each employee shall sign the Ethics Agreement, signifying agreed compliance with its stated purpose. The Ethics Agreement is required to be signed on an annual basis.

Violations of this Ethics Policy will not be tolerated. Employees who violate this policy will be subject to disciplinary actions up to and including termination. Criminal violations may also be referred to the Government for prosecution. In addition, such actions could jeopardize the Company's ability to do work on Government contracts. Inappropriate ethical behavior in any area of the company will not be tolerated.

Ethics is also a major component of TestAmerica's Quality and Data Integrity Systems. Employees must be trained as to the legal and environmental repercussions that result from data misrepresentation. These training guidelines are outlined in Table 17-1. A data integrity hotline is maintained by TestAmerica and administered by the Corporate Quality Department.

18.0 Accommodations & Environmental Conditions

Each laboratory must be secure and access must be controlled and documented. Access is controlled by various measures including locked doors, passwords, electronic access cards, security codes, and staffed reception areas. All visitors sign in and are escorted by TestAmerica personnel while at a laboratory.

TestAmerica's laboratories are designed for efficient, automated high-quality operations. All laboratories are equipped with Heating, Ventilation, and Air Conditioning (HVAC) systems appropriate to the needs of each laboratory. Environmental conditions in the laboratories, such as hood flow, are routinely monitored and documented.

All laboratories are equipped with structural safety features. Each employee is familiar with the location, use, and capabilities of general and specialized safety features associated with their

workplace. TestAmerica also provides and requires the use of protective equipment including safety glasses, protective clothing, gloves, respirators, etc.

19.0 Test Methods and Method Validation

19.1 Test Methods

Most of the test methods performed at our laboratories originate from test methods published by a regulatory agency such as the U.S. EPA and other state and federal regulatory agencies. These include, but are not limited to, the following published compendiums of test methods:

- *Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.*
- *Eastern Environmental Radiation Facility Radiochemistry Procedures Manual, EPA, PB84-215581, June 1984.*
- *HASL-300 28th Edition, Environmental Measurements Laboratory (EML), 1997.*
- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition, EPA/600/4-90/027F, August 1993.*
- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.*
- *Analytical Method for Determination of Asbestos Fibers in Water, EPA-600/4-83, September 1983.*
- *Determination of Asbestos Structures Over 10-mm in Length in Drinking Water, EPA-600/R-94-134, June 1994.*
- *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, US EPA, January 1996.*
- *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, and Appendix A-C; 40 CFR Part 136, USEPA Office of Water. Revised as of March 12, 2007, Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA 600 Series)*
- *Methods for Chemical Analysis of Water and Wastes, EPA 600 (4-79-020), 1983.*
- *Methods for the Determination of Inorganic Substances in Environmental Samples, EPA-600/R-93/100, August 1993.*
- *Methods for the Determination of Metals in Environmental Samples, EPA/600/4-91/010, June 1991. Supplement I: EPA-600/R-94/111, May 1994.*
- *Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88-039, December 1988, Revised, July 1991, Supplement I, EPA-600-4-90-020, July 1990, Supplement II, EPA-600/R-92-129, August 1992. Supplement III EPA/600/R-95/131 - August 1995 (EPA 500 Series) (EPA 500 Series methods)*
- *Technical Notes on Drinking Water Methods, EPA-600/R94-173, October 1994*
- *NIOSH Manual of Analytical Methods, 4th ed., August 1994.*
- *Statement of Work for Inorganics & Organics Analysis, SOM and ISM, current versions, USEPA Contract Laboratory Program.*
- *Standard Methods for the Examination of Water and Wastewater, 18th/19th /20th edition/ on-line edition; Eaton, A.D. Clesceri, L.S. Greenberg, A.E. Eds; American Water Works Association, Water Pollution Control Federation, American Public Health Association: Washington, D.C.*

- *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, September 1986, Final Update I, July 1992, Final Update IIA, August 1993, Final Update II, September 1994; Final Update IIB, January 1995; Final Update III, December 1996; Final Update IV, January 2008.*
- *Annual Book of ASTM Standards, American Society for Testing & Materials (ASTM), Philadelphia, PA.*
- *National Status and Trends Program, National Oceanographic and Atmospheric Administration, Volume I-IV, 1985-1994.*
- *Manual for the Certification of Laboratories Analyzing Drinking Water (EPA 815-R-05-004, January 2005)*
- *Code of Federal Regulations (CFR) 40, Parts 136, 141, 172, 173, 178, 179 and 261*
- Sample Preparation and Analysis for Asbestos Fibers by Polarized Light Microscopy (PLM), EPA Method 600/R-93/116 – Bulk Sample Analysis
- *Sample Preparation and Analysis for Asbestos Fibers by Polarized Light Microscopy (PLM) EPA Method 600/M4-82-020*

19.2 Standard Operating Procedures

Each laboratory shall maintain a Standard Operating Procedure (SOP) Index for both Method and Process SOPs. Method SOPs are maintained to describe a specific test method. Process SOPs are maintained to describe functions and processes not related to a specific test method.

Technical SOPs will contain the following information (in any order):

Title Page with Document Name, Document Number, Revision Number, Effective Date, Page Number and Total # of Pages, Authorized Signatures, Dates and Proprietary Information Statement (Figure 19-1).

Identification of Test Method
Applicable Matrix
Reporting Limit
Scope and Application, including test Analytes
Summary of the Test Method
Definitions
Interferences
Safety
Equipment and Supplies
Reagents and Standards
Sample Collection, Preservation, Shipment and Storage
Quality Control

Calibration and Standardization
Procedure
Calculations
Method Performance
Pollution Prevention
Data Assessment and Acceptance Criteria for Quality Control Measures
Corrective Actions for Out-of-Control Data
Contingencies for Handling Out-of-Control or Unacceptable Data
Waste Management
References
Tables, Diagrams, Flowcharts and Validation Data
Method Modifications
SOP Revision History

Non-Technical SOPs may contain the following information (in any particular order):

Title Page with Document Name, Document Number, Revision Number, Effective Date, Page Number and Total # of Pages, Authorized Signatures, Dates and Proprietary Information Statement (Figure 19-1).

Scope
Summary
Definitions
Responsibilities

Safety
Procedure
References
Tables, Diagrams and Flowcharts
SOP Revision History

The QA Department is responsible for the maintenance of SOPs, archival of SOP historical revisions, maintenance of an SOP index, and records of controlled distribution. SOPs, at a minimum, must undergo periodic review as described the each laboratory's QA Manual or SOP. Where an SOP is based on a published method, the laboratory must maintain a copy of the reference method.

Figure 19-1. Proprietary Information Statement

SOP Appendix
In some cases, a standard laboratory procedure is modified slightly for a specific client or project at the client or regulatory agency's request. In these cases, an Appendix to the SOP may be attached that indicates the modifications to the SOP which are specific to that project. SOP appendices shall not be used to alter test methods required by regulation such that the modifications would result in non-compliance with the regulation. All client- or project-specific modifications must be approved by laboratory management.

19.3 Method Validation and Verification Activities for All New Methods

While method validation can take various courses, the following activities can be required as part of this process. Method validation records are designated QC records and are archived accordingly.

Determination of Method Selectivity
If the new method is based on a published consensus method or an EPA method, then analysis of blanks and spikes as described in the source method is sufficient. If the laboratory is developing a method without a published source method, then more extensive validation is required. The laboratory must perform analysis of spikes in each sample matrix of interest. In some cases to achieve the required selectivity for an analyte, a confirmation analysis may be required.

Determination of Method Sensitivity
The sensitivity of new methods is normally demonstrated using the procedure described in the Corporate SOP No. CA-Q-S-006, Detection Limits. Sensitivity can also be estimated for short-term projects using other techniques (e.g., signal-to-noise ratio of low concentration standards), but only with client agreement.

Limit of Quantitation (LOQ) and Reporting Limit (RL)
The LOQ is the minimum level at which the concentration of an analyte can be determined within limits of confidence required by the data user. The lowest calibration standard must be at or below the LOQ. The LOQ cannot be at or below the detection limit concentration. Confirmed results between the method detection limit and the LOQ, if reported at all, must be qualified as estimated concentrations. The laboratory's routine reporting limit (RL) is equal to the LOQ, and higher reporting limits may be used to satisfy special project requirements.

Special project RLs can be lower than the lab's standard LOQ if there is a written agreement with the client that poorer bias and precision are acceptable. The client must be informed in writing (e.g., confirmation of communication, letter of agreement, QAPP or report narrative) of the likelihood of less accurate quantitation, increased probability of false positive and false negative results, potential method compliance problems, and/or potential misidentification at the lower concentration. The RL can never be below the method detection limit.

Determination of Freedom From Contamination
A determination performed on a blank matrix that determines the method to be free from contaminants.

Determination of Range
Where appropriate to the method, the quantitation range is determined by comparison of the response of an analyte in a curve to established or targeted criteria. Generally, the upper quantitation limit is defined by highest acceptable calibration concentration. The lower quantitation limit cannot be lower than the lowest non-zero calibration level, and can be constrained by required levels of bias and precision.

Determination of Accuracy and Precision
Accuracy and precision studies are generally performed using replicate analyses, with a resulting percent recovery and measure of reproducibility (standard deviation, relative standard deviation) calculated and measured against a set of target criteria. If the laboratory is developing a method without a published source method, then more extensive validation is required. The laboratory must establish the bias and precision in each sample matrix of interest throughout the working range.

Documentation of Method
The method is formally documented in an SOP. If the method is a minor modification of a standard laboratory method that is already documented in an SOP, an SOP Attachment describing the specific differences in the new method is acceptable in place of a separate SOP.

Continued Demonstration of Method Performance
Continued demonstration of Method Performance is addressed in the SOP. Continued demonstration of method performance is generally accomplished by batch specific QC samples such as LCS, Method Blanks (MB) or PT samples.

19.4 Permitting Departures from Documented Procedure

Each laboratory must have a procedure that defines the process, documentation, and level of authorization required to permit departures from documented procedures.

Where a departure from a documented SOP, test method, or policy is determined to be necessary, or unavoidable, the departure shall be documented and be authorized by the appropriate level of management, which is defined in the policy. In some instances, it is appropriate to inform the client before permitting a departure. Any such occurrence is documented in the cover letter and/or project narrative.

20.0 Equipment and Calibration

20.1 Equipment Operation

TestAmerica is committed to routinely updating and automating instrumentation. Our laboratories maintain state of the art instrumentation to perform the analyses within the QC specifications of the test methods. Each laboratory shall maintain an equipment list that must include the following information:

- Date installed or year placed in service;
- Manufacturer's name, model number, serial number; and
- Condition when received.

All equipment is subject to rigorous checks upon its receipt, upgrade, or modification to establish that the equipment meets with the selectivity, accuracy, and precision required by the test method for which it is to be used. All manufacturer's operations and maintenance manuals are to be maintained current to date and accessible for the use of the equipment operator. Documentation of equipment usage is maintained using analytical run and maintenance logbooks or the electronic versions of said documents.

20.2 Equipment Maintenance

Each laboratory must employ a system of preventative maintenance in order to ensure system up time, minimize corrective maintenance costs and ensure data validity. All routine maintenance is performed as recommended by the manufacturer and may be performed by an analyst, instrument specialist or outside technician. Maintenance logbooks or electronic records are kept on all major pieces of equipment in which both routine and non-routine maintenance is recorded. The details of the maintenance activity and date performed are recorded each time service procedures are performed. The return to analytical control following instrument repair

must also be documented. Maintenance logbooks or electronic records are retained as QA records.

Maintenance contracts are held on specific pieces of equipment where outside service is efficient, cost-effective, and necessary for effective operation of the laboratory.

20.3 Equipment Verification and Calibration

All equipment shall be tested upon receipt to establish its ability to meet the QC guidelines contained in the test method for which the instrumentation is to be used. This testing shall be documented. Once an instrument is placed in routine service, ongoing instrument calibration is demonstrated at the appropriate frequency as defined in the test method. Refer to the Corporate Policy CA-Q-P-003, Calibration Curves & Selection of Calibration Points,, for further guidance. Any instrument that is deemed to be malfunctioning is clearly marked and taken out-of-service. When the instrument is brought back into control, acceptable performance is documented.

20.4 Calibration

Each laboratory must define calibration protocols in their laboratory-specific SOPs. Refer to the Corporate Policy CA-Q-P-003, Calibration Curves & Selection of Calibration Points, for guidance on the calibration curve models used at TestAmerica and the basic formulae and calculations associated with them.

20.5 Glassware Cleaning

Each laboratory must define glassware cleaning procedures in their laboratory SOPs.

20.6 Data Integrity and Security

This section details those procedures that are relevant to computer systems that collect, analyze, and process raw instrumental data, and those that manage and report data. Instrument hardware and software adjustments are safeguarded through maintenance logs, audit trails and controlled access.

Security and Traceability

Access to computer systems that collect, analyze, and process raw instrumental data, and those that manage and report data must be both controlled and recorded. There are various systems at TestAmerica to which this applies, which include the Laboratory Information Management System (LIMS), as well as specific systems such as chromatography data systems.

Control of the system is accomplished through limitation of access to the system by users with the education, training and experience to perform the task knowledgeably and accurately. System users are granted privileges that are commensurate with their experience and responsibilities.

Computer access is tracked by using unique login names and passwords for all employees. "General" or "multi-user" account access to computer systems that collect, analyze and process raw instrumental data, and those that manage and report data shall not be permitted unless documented and approved by laboratory management. Entries and changes are documented with the identity of the individual making the entry, and the time and date. Where a computer

system is processing raw instrumental data, the instrument identification number is recorded. Many of these systems have the capability of maintaining audit trails to track entries and changes to the data. This function is activated on any computer system that has that capability.

TestAmerica requires that all sensitive computer systems, defined as LIMS servers and other servers of critical importance, be locked in a secured room. Access must be limited only to employees who need physical access to those systems. This room must also provide climate control within the parameters provided by the vendor of the secured equipment.

Verification
All commercially obtained software shall be verified prior to use and after version upgrade. Verification involves assessing whether the computer system accurately performs its intended function. Verification generally is accomplished by comparing the output of the program with the output of the raw data manually processed, or processed by the software being replaced. The records of the verification are required to contain the following information: software vendor, name of product, version, comparison of program output and manual output, raw data used to verify the program, date, and name of the individual performing the verification. Records of verification are retained with IT personnel.

Validation
Software validation involves documentation of specifications and coding as well as verification of results. Software validation is performed on all in-house programs. Records of validation include original specifications, identity of code, printout of code, software name, software version, name of individual writing the code, comparison of program output with specifications, and verification records as specified above. Records of validation are retained with IT personnel.

Auditing
The QA Departments quality system audits may include review of the control, security, and tracking of IT systems and software.

Version Control
The laboratory shall maintain copies of outdated versions of software and associated manuals for all software in use at the laboratory for a period of five years from its retirement date. The associated hardware, required to operate the software, must also be retained for the same time period.

21.0 Measurement Traceability

21.1 General

Traceability of measurements shall be assured using a system of documentation, calibration, and analysis of reference standards. Laboratory equipment that are peripheral to analysis and whose calibration is not necessarily documented in a test method analysis or by analysis of a reference standard shall be subject to ongoing certifications of accuracy. At a minimum, these must include procedures for checking specifications of ancillary equipment: balances, thermometers, temperature, De-ionized (DI) and Reverse Osmosis (RO) water systems, automatic pipettes and other volumetric measuring devices. With the exception of Class A Glassware (including glass microliter syringes that have a certificate of accuracy), quarterly accuracy checks are performed for all mechanical volumetric devices. Wherever possible,

subsidiary or peripheral equipment is checked against standard equipment or standards that are traceable to national or international standards.

An external certified service engineer services laboratory balances on an annual basis. This service is documented on each balance with a signed and dated certification sticker. Balance calibrations are checked each day of use. All temperature measuring devices, including thermometers and thermisters, are calibrated annually against a traceable reference thermometer. Temperature readings of ovens, refrigerators, and incubators are checked on each day of use.

Laboratory DI and RO water systems must have documented preventative maintenance schedules and the conductivity of the water will be recorded on each day of use.

21.2 Reference Standards Traceability

The receipt of all reference standards must be documented. References standards are labeled with a unique Standard Identification Number and expiration date. All documentation received with the reference standard is retained as a QC record and references the Standard Identification Number.

All standards should be purchased with an accompanying Certificate of Analysis that documents the standard purity. If a standard cannot be purchased from a vendor that supplies a Certificate of Analysis, the purity of the standard is documented by analysis. The documentation of standard purity is archived, and references the Standard Identification Number.

All efforts are made to purchase standards that are ≥97.0% purity or as prescribed by the methods. If this is not possible, the purity is used in performing standards calculations.

All initial calibrations shall be verified with a standard obtained from a second manufacturer or from a different lot. For the DoD ELAP program, a second lot is acceptable when only one manufacturer of the standard exists or when the vendor guarantees that the second lot is from a different manufacturer. The appropriate QC criteria for specific standards are defined in laboratory SOPs. In most cases, the analysis of an Initial Calibration Verification (ICV) or LCS is used as the second source confirmation.

21.3 Reagents

Reagents are, in general, required to be analytical reagent grade unless otherwise specified in method SOPs. Reagents must be, at a minimum, the purity required in the test method. The date of reagent receipt and/or preparation and the expiration date are documented.

22.0 Sampling

22.1 Sampling Plans

Sample representativeness and integrity are the foundations upon which meaningful analytical results rely. Where documented and approved SAPs and/or QAPPs are in place, they must be approved by laboratory management and be available to the laboratory before sample receipt.

23.0 Handling of Samples

23.1 General

Chain of Custody (COC) can be established either when sample containers are sent to the field, or at the time of sampling. TestAmerica can provide all of the necessary coolers, reagent water, sample containers, preservatives, sample labels, custody seals, COC forms and packing materials/instructions required to properly preserve, pack, and ship samples to the laboratory.

Samples are received at the laboratory by a designated sample custodian and a unique Laboratory Project Identification Number is assigned. The following information is recorded for each sample shipment: Client/Project Name, Date and Time of Laboratory Receipt, Laboratory Project Number, and Signature or Initials of the personnel receiving the cooler and making the entries.

Upon inspection of the cooler and custody seals, the sample custodian opens and inspects the contents of the cooler, and records the cooler temperature. If the cooler arrival temperature exceeds the required or method specified temperature range; sample receipt is considered "compromised" and the procedure described in Section 23.2 is followed. All documents are immediately inspected to assure agreement between the test samples received and the COC.

Any non-conformance, irregularity, or compromised sample receipt as described in Section 23.2 must be documented and brought to the immediate attention of the client. The COC, shipping documents, documentation of any non-conformance, irregularity, or compromised sample receipt, record of client contact, and resulting instructions become part of the permanent project record.

Samples that are being tested at another TestAmerica laboratory or by an external subcontractor shall be appropriately packaged and sent out under COC.

Following sample labeling as described in Section 23.3, the samples are placed in storage (refrigerated, frozen or room temperate, as applicable). Sample storage is required to be access-controlled. All samples are stored according to the requirements outlined in the test method and in a manner such that they are not subject to cross contamination or contamination from their environment. Unless specified by method or state regulation, a tolerance range of 0-6°C is used for refrigerated storage. Sample storage temperatures are monitored daily.

23.2 Sample Acceptance Policy

Each laboratory shall maintain a sample acceptance policy that describes compromised sample receipt. Samples shall be considered "compromised" if the following conditions are observed upon sample receipt:

- Cooler and/or samples are received outside of temperature specification.
- Samples are received broken or leaking.
- Samples are received beyond the specified holding time.
- Samples are received without appropriate preservative.
- Samples are received in inappropriate containers.
- COC does not match samples received.
- COC is not properly completed or not received.

- Breakage of any Custody Seal.
- Apparent tampering with cooler and/or samples.
- Headspace in volatiles samples.
- Seepage of extraneous water or materials into samples.
- Inadequate sample volume.
- Illegible, impermanent, or non-unique sample labelling.

When "compromised" samples are received, it must be documented by the laboratory and the client must be contacted for instructions. If the client decides to proceed with the analysis, the project report shall clearly indicate any of the above conditions and the resolution. If resolution is not reached with the client or the client cannot be contacted, then the "compromised" samples should be rejected.

23.3 Sample Identification and Traceability

Each sample container shall be assigned a unique Sample Identification Number that is cross-referenced to the client identification number such that traceability of test samples is unambiguous and documented. Each sample container is affixed with a sample identification label.

All unused portions of samples are returned to the secure sample control area. Where required by the project, empty sample containers are also retained.

23.4 Sub-sampling

Sub-sampling procedures must be referenced in each laboratory's QA Manual and documented in their SOPs.

23.5 Sample Preparation

Sample preparation procedures must be referenced in each laboratory's QA Manual and documented in their SOPs.

23.6 Sample Disposal

Each laboratory shall have an SOP describing sample retention and disposal procedures. Samples should be retained in the laboratory-designated storage location(s) for a minimum of 30 days after the project report is sent; however, provisions may be made for earlier disposal of samples once the holding time is exceeded. Some samples are required to be held for a longer time-frame based on regulatory or client requirements (e.g., 60 days after project report is sent). The laboratory must follow the longer sample retention requirements where required by regulation or client agreement. Samples may be returned to the client per written request. Unused portions of samples found or suspected to be hazardous according to state or federal guidelines may be returned to the client upon completion of the analytical work.

Samples shall be disposed of in accordance with federal, state and local regulations. Each laboratory must have an SOP detailing the disposal of samples, digestates, and extracts. All laboratories shall remove or deface sample labels prior to disposal unless this is accomplished through the disposal method (e.g., samples are incinerated).

24.0 Assuring the Quality of Test Results

24.1 Control Samples

Control samples are analyzed with each batch of samples to monitor laboratory performance in terms of accuracy, precision, sensitivity, selectivity, and interferences. Each regulatory program and each method within those programs specify the control samples that are prepared and/or analyzed with a specific batch. Control samples must be uniquely identified and correlated to unique batches. There are also a number of QC sample types that monitor field sampling accuracy, precision, representativeness, interferences, and the effect of the matrix on the method performed. Control sample types and typical frequency of their application are outlined in Table 24-1. Note that frequency and use of control samples vary with specific regulatory, methodology and project specific criteria. Table 24-1 does not define TestAmerica's approach to the application of QC samples for each regulatory program or test method.

Table 24-1. Example of Control Samples

Laboratory QC Sample Type	Use	Required Frequency
Laboratory Control Sample (LCS) (Laboratory Fortified Blank)	Measures accuracy of the method in a blank matrix	Generally 1 for each batch of samples; not to exceed 20 environmental samples.
Method Blank (MB)	Measures method contribution to any source of contamination	Generally 1 for each batch of samples; not to exceed 20 environmental samples.
Instrument Blank	Measures instrumental contribution to any source of contamination	As specified in test method
Reference Toxicant	Measure sensitivity of test organisms (Aquatic toxicology)	Annually

Field QC Sample Type	Use	Typical Frequency
Matrix Duplicate (MD)	Measures the effect of the site matrix on the precision of the method	Per 20 samples per matrix or per SAP/QAPP[1]
Matrix Spike (MS)	Measures the effect of the site matrix on the accuracy of the method	Per 20 samples per matrix or per SAP/QAPP
Matrix Spike Duplicate (MSD)	Measures the effect of the site matrix on the precision of method	Per 20 samples per matrix or per SAP/QAPP[1]
Equipment Blank (Equipment Rinsate)	Measures field equipment contribution to any source of contamination	Per SAP/QAPP
Trip Blank	Measures shipping contribution to any source of contamination (Volatiles only)	Per Cooler
Field Blank	Measures the field environment contribution to any source of contamination	Per SAP/QAPP

Field QC Sample Type	Use	Typical Frequency
Field Duplicate	Measures representativeness of the sampling and the effect of the site matrix on precision	Per SAP/QAPP

[1] Either an MSD or an MD is required per 20 samples per matrix or per SAP/QAPP.

24.2 Review / Verification Procedures

The data review process at the laboratory starts at the Sample Receiving level. Sample Receiving personnel review COC forms and input the sample information and required analyses into the LIMS. A secondary review of the transaction of the COC forms and the inputted information is also performed by sample receiving personnel. The PMs perform final review of the COC forms and inputted information.

The next level of data review occurs with the analysts. As results are generated, analysts review their work to ensure that the results generated meet QC requirements and relevant EPA methodologies. The analysts transfer the data into the LIMS and add data qualifiers, if applicable. To ensure data compliance, a different analyst performs a second level of review. Second level review is accomplished by checking reported results against raw data and evaluating the results for accuracy. During the second level review, initial calibrations, calibration verifications, blank runs, QA/QC check results, continuing calibration results, LCSs, sample data, qualifiers and spike information are evaluated. Approximately 15% of all sample data from manual methods, including manual calculations are reviewed. For automated methods, all GC/MS spectra and all manual integrations are reviewed. Manual integrations are also electronically reviewed utilizing auditing software to help ensure compliance to ethics and manual integration policies. Issues that deem further review include the following:

- QC data are outside the specified control limits for accuracy and precision.
- Reviewed sample data does not match with reported results.
- Unusual detection limit changes are observed.
- Samples having unusually high results.
- Samples exceeding a known regulatory limit.
- Raw data indicating some type of contamination or poor technique.
- Inconsistent peak integration.
- Transcription errors.
- Results outside of calibration range.
- Isometric pairs or commonly mis-identified peaks (GC, HPLC and GCMS)

Unacceptable analytical results may require reanalysis of the samples. Any problems are brought to the attention of the Laboratory Director, PM, QA Manager or Technical Manager for further investigation. Corrective action is initiated whenever necessary.

Any project that requires a data package is subject to a tertiary data review for transcription errors and acceptable quality control requirements.

All data, regardless of regulatory program or level of reporting, shall be subject to a thorough review which involves a primary, secondary, and completeness review process. All levels of the review must be documented.

Any anomalous results and/or non-conformances noted during the Primary Review are documented on a data review checklist (defined by each laboratory) communicated to the Technical Manager and the PM for resolution. Resolution can require sample reanalysis, or it may require that data be reported with a qualification. Non-conformances are documented per Section 12.

24.2.1 Manual Integrations

Computerized data systems provide the analyst with the ability to re-integrate raw instrument data in order to optimize the interpretation of the data. Though manual integration of data is an invaluable tool for resolving variations in instrument performance and some sample matrix problems, when used improperly, this technique would make unacceptable data appear to meet quality control acceptance limits. Improper re-integrations lead to legally indefensible data, a poor reputation, or possible laboratory decertification. Because guidelines for re-integration of data are not provided in the methods and most methods were written prior to widespread implementation of computerized data systems, the laboratory must train all analytical staff on proper manual integration techniques using TestAmerica's Corporate SOP No. CA-Q-S-002, Acceptable Manual Integration Practices, as the guideline.

24.3 Development of QC Criteria, Non-Specified in Method/Regulation

Where a method or regulation does not specify acceptance and/or rejection criteria, the laboratory must develop a policy for such situations and criteria. The policy must address how the laboratory examines the data user's needs and the demonstrated sensitivity, accuracy and precision of the available test methods in determining appropriate QC criteria.

Data users often need the laboratory's best possible sensitivity, accuracy, and precision using a routinely offered test method, or are unsure of their objectives for the data. For routine test methods that are offered as part of TestAmerica's standard services, the laboratory bases the QC criteria on statistical information such as determination of sensitivity, historical accuracy and precision data, and method verification data. The method SOP includes QC criteria for ongoing demonstration that the established criteria are met (e.g., acceptable LCS accuracy ranges, precision requirements, MB requirements, initial and continuing calibration criteria, etc.).

In some cases, a routine test method may be more stringent than a specific data user's needs for a project. The laboratory may either use the routinely offered test method, or may opt to develop an alternate test method based on the data user's objectives for sensitivity, accuracy, and precision. In this case, it can be appropriate to base the QC criteria on the data user's objectives, and demonstrate through method verification and ongoing QC samples that these objectives are met.

For example, a client may require that the laboratory test for a single analyte with specific DQOs for sensitivity, accuracy, and precision as follows: Reporting Limit of 10 ppm, Accuracy $\pm$25%, and RSD <30%. The laboratory may opt to develop a method that meets these criteria and document the results of the MBs, MDL study, and LCSs that the method satisfies those objectives. In this case, both the method and the embedded QC criteria have been based on the client's DQOs.

In some cases, the data user needs more stringent sensitivity, accuracy, and/or precision than the laboratory can provide using a routine test method. In this case, it is appropriate that the laboratory provide documentation of the sensitivity, accuracy, and precision obtainable to the

data user and let the data user determine whether to use the best available method offered by the laboratory, or determine whether method development or further research is required.

25.0 Reporting Results

25.1 Project Reports

All TestAmerica Project Reports that are generated under TNI requirements must contain the content as described below. This criteria applies to all Project Reports.

25.2 Project Report Content

Analytical results are reported in a format that is satisfactory to the client and meets all requirements of applicable accrediting authorities and agencies. A variety of report formats are available to meet specific needs. At a minimum, the standard laboratory report shall contain the following information:

- A report title (e.g., Analytical Report for Samples) with a "sample results" column header.
- Each report cover page printed on company letterhead, which includes the laboratory name, address and telephone number.
- A unique identification of the report (e.g., work order number) and on each page an identification in order to ensure the page is recognized as part of the report and a clear identification of the end.
- A copy of the chain of custody (COC).
- The name and address of client and a project name/number, if applicable.
- Client project manager or other contact.
- Description and unambiguous identification of the tested sample(s) including the client identification code.
- Date of sample receipt, date and time of collection, and date(s) of test preparation and performance, and time of preparation or analysis if the required holding time for either activity is less than or equal to 72 hours.
- Date reported or date of revision, if applicable.
- Method of analysis including method code (EPA, Standard Methods, etc.).
- Limit of Quantitation or Reporting Limit.
- Method Detection Limits (if requested).
- Definition of Data qualifiers and reporting acronyms (e.g., ND).
- Sample results.
- QC data consisting of MB, surrogate, LCS, and MS/MSD recoveries and control limits (if requested).
- Condition of samples at receipt including temperature. This may be accomplished in a narrative or by attaching sample login sheets.
- A statement expressing the validity of the results, that the source methodology was followed and all results were reviewed for error.
- A statement to the effect that the results relate only to the items tested and the sample as received by the laboratory.

- A signature and title of the person(s) accepting responsibility for the content of the report and date of issue. Signatories are appointed by the Laboratory Director. For AIHA-LAP, LLC, the approved signatory shall be the Technical Manager or his/her designee.
- When TNI accreditation is required, the lab shall certify that the test results meet all requirements of TNI or provide reasons and/or justification if they do not.
- Where a reference to AIHA-LAP, LLC or NVLAP accreditation is on the reports the final test results must clearly show which results are recognized under AIHA-LAP, LLC or NVLAP accreditation and which do not.
- Report cover page.
- Where applicable, a narrative to the report that explains the issue(s) and corrective action(s) taken in the event that a specific accreditation or certification requirement was not met.
- When soil samples are analyzed, a specific identification as to whether soils are reported on a "wet weight" or "dry weight" basis.
- Appropriate laboratory certification number for the state of origin of the sample, if applicable.
- If only part of the report is provided to the client (client requests some results before all of it is complete), it must be clearly indicated on the report (e.g., partial report, or how your lab identifies it). A complete report must be sent once all of the work has been completed.
- Any non-TestAmerica subcontracted analysis results are provided as a separate report on the official letterhead of the subcontractor. All TestAmerica subcontracting is clearly identified on the report as to which laboratory performed a specific analysis.

Note: Refer to the Corporate SOP No. CA-I-P-002, Electronic Reporting and Signature Policy, for details on internally applying electronic signatures of approval.

25.3 Electronic Data Deliverables

Electronic Data Deliverables (EDD) are routinely offered as part of TestAmerica's services. TestAmerica offers a variety of EDD formats including Environmental Restoration Information Management System (ERPIMS), New Agency Standard (NAS), Format A, Excel, Dbase, GISKEY, and Text Files.

EDD specifications are submitted to the IT department by the PM for review and undergo the contract review process outlined in Section 7. Once the laboratory has committed to providing data in a specific format that is agreeable to all parties, the coding of the format may need to be performed. This coding is documented and validated. The validation of the code is retained as a QC record.

EDDs shall be subject to a review to ensure their accuracy and completeness. If EDD generation is automated, review may be reduced to periodic screening if the laboratory can demonstrate that it can routinely generate that EDD without errors. Any revisions to the EDD format must be reviewed until it is demonstrated that it can routinely be generated without errors. If the EDD can be reproduced accurately and if all subsequent EDDs can be produced error-free, each EDD does not necessarily require a review.

25.4 Project Report Format

TestAmerica offers a wide range of project reporting formats, including EDDs, short report formats, and complete data deliverable packages modeled on the Contract Laboratory Protocol (CLP) guidelines. More information on the range of project reports available can be obtained by contacting any TestAmerica laboratory. Regardless of the level of reporting, all projects must undergo the levels of review as described in Section 24.2.

Appendix 1. List of Cited TestAmerica Corporate Policies & SOPs

Document No.	Title
CA-Q-S-002	Acceptable Manual Integration Practices
CA-Q-P-003	Calibration Curves & Selection of Calibration Points
CW-Q-S-001	Corporate Document Control and Archives
CA-Q-S-006	Detection Limits
CA-I-P-002	Electronic Reporting and Signature Policy
CW-L-P-004	Ethics Policy
CW-Q-S-003	Internal Auditing
CW-L-S-002	Internal Investigation & Data Recall
CW-Q-S-004	Management Systems Review
CA-Q-S-001	Solvent & Acid Lot Testing & Approval
CA-L-S-002	Subcontracting Procedures

Exhibit A Bid Schedule
ORGANIC ANALYSIS OF WATER AND SOIL

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
1.0	**Method 601, Purgeable Halocarbons - See Attachment A**				
1.1	Single compound analyis cost	per sample		12	0.00
1.2	Up to 10 compounds then complete list cost applies	per sample		12	0.00
1.3	Complete list cost	per sample		12	0.00
2.0	**Method 602, Purgeable Aromatics - See Attachment A**				
2.1	Single compound analysis cost	per sample	80.00	15	1200.00
2.2	Complete list cost	per sample	80.00	15	1200.00
3.0	**Method 603, Acrolein & Acrylonitrile - See Attachment A**				
3.1	Single compound analysis cost	per sample		15	0.00
3.2	Complete list cost	per sample		15	0.00
4.0	**Method 604, Phenols - See attachment A**				
4.1	Single compound analysis cost	per sample		20	0.00
4.2	Up to 10 compounds then complete list cost applies	per sample		20	0.00
4.3	Complete list cost	per sample		20	0.00
5.0	**Method 605, Benzidines - See Attachment A**				
5.1	Single compound analysis cost	per sample		12	0.00
5.2	Complete list cost	per sample		12	0.00
6.0	**Method 606, Phthalate Esters - See Attachment A**				
6.1	Single compound analysis cost	per sample		12	0.00
6.2	Complete list cost	per sample		12	0.00
7.0	**Method 607, Nitrosamines - See Attachment A**				
7.1	Single compound analysis cost	per sample		12	0.00
7.2	Complete list cost	per sample		12	0.00
8.0	**Method 608, Organochlorine Pesticides & PCBs - See Attachment A**				
8.1	Single compound analysis cost	per sample	150.00	15	2250.00
8.2	Up to 10 compounds then complete list cost applies	per sample	150.00	15	2250.00
8.3	Complete list cost	per sample	150.00	15	2250.00
9.0	**Method 609, Nitroaromatics & Isophorone - See Attachment A**				
9.1	Single compound analysis cost	per sample		12	0.00
9.2	Complete list cost	per sample		12	0.00
10.0	**Method 610, Polynuclear Aromatic Hydrocarbons - See Attachement A**				
10.1	Single compound analysis cost	per sample		20	0.00
10.2	Up to 10 compounds then complete list cost applies	per sample		20	0.00
10.3	Complete list cost	per sample		20	0.00
11.0	**Method 611, Halocthers - See Attachment A**				
11.1	Single compound analysis cost	per sample		12	0.00
11.2	Complete list cost	per sample		12	0.00
12.0	**Method 612, Chlorinated hydrocarbons - See Attachement A**				

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
12.1	Single compound analysis cost	per sample		12	0.00
12.2	Complete list cost	per sample		12	0.00
13.0	**Method 613, 2,3,7,8 Tetrachlorldibenzo-P-dioxin - See Attachment A**				
13.1	Single compound analysis cost	per sample		12	0.00
14.0	**Method 613, Tetra-through Octa-Chlorinated Dibenzo-P-dioxins (CDDs) & Dibenzofurans (CDFs) - See Attachment A**				
14.1	Complete list cost	per sample		12	0.00
15.0	**Method 624, Purgeables - See Attachment A**				
15.1	Single compound analysis cost	per sample	80.00	20	1600.00
15.2	Up to 10 compounds then complete list cost applies	per sample	110.00	20	2200.00
15.3	Complete list cost	per sample	110.00	20	2200.00
16.0	**Method 625, Base/Neutrals Extractables - See Attachment A**				
16.1	Single compound analysis cost	per sample	160.00	12	1920.00
16.2	Up to 10 compounds then complete list cost applies	per sample	160.00	12	1920.00
16.3	Complete list cost	per sample	370.00	12	4440.00
17.0	**Method 625, Acid Extractables - See Attachment A**				
17.1	Single compound analysis cost	per sample	160.00	12	1920.00
17.2	Up to 10 compounds then complete list cost applies	per sample	160.00	12	1920.00
17.3	Complete list cost	per sample	220.00	12	2640.00
18.0	**Method 8015B - See Attachment A**				
18.1	Single compound analysis cost	per sample		20	0.00
18.2	Up to 10 compounds then complete list cost applies	per sample		20	0.00
18.3	Complete list cost	per sample		20	0.00
19.0	**Method 8041, Phenols by GC - See Attachment A**				
19.1	Single compound analysis cost	per sample		12	0.00
19.2	Up to 10 compounds then complete list cost applies	per sample		12	0.00
19.3	Complete list cost	per sample		12	0.00
20.0	**Method 8100, Polynuclear Aromatic Hydrocarbons - See Attachment A**				
20.1	Single compound analysis cost	per sample		20	0.00
20.2	Up to 10 compounds then complete list cost applies	per sample		20	0.00
20.3	Complete list cost	per sample		20	0.00
21.0	**Method 8121, Chlorinated Hydrocarbons - See Attachment A**				
21.1	Single compound analysis cost	per sample		12	0.00
21.2	Up to 10 compounds then complete list cost applies	per sample		12	0.00
21.3	Complete list cost	per sample		12	0.00
22.0	**Method 8151A, Chlorinated Herbicides - See Attachment A**				
22.1	Single compound analysis cost	per sample		12	0.00
22.2	Up to 10 compounds then complete list cost applies	per sample		12	0.00
22.3	Complete list cost	per sample		12	0.00
23.0	**Method 8260, - See Attachment A**				

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
23.1	Search for additional tentatively identified compounds	per sample	20.00	15	300.00
23.2	Single compound analysis cost	per sample	80.00	15	1200.00
23.3	Up to 10 compounds then complete list cost applies	per sample	80.00	15	1200.00
23.4	Complete list cost	per sample	110.00	15	1650.00
23.5	GC-MS Scan per TIC, report TICS that are detected at 10% of the area of the nearest internal standard	per sample		15	0.00
24.0	**Method 8270, - See Attachment A**				
24.1	Search for additional tentatively identified compounds	per sample	20.00	15	300.00
24.2	Single compound analysis cost	per sample	160.00	15	2400.00
24.3	Up to 10 compounds then complete list cost applies	per sample	160.00	15	2400.00
24.4	Complete list cost	per sample	220.00	15	3300.00
24.5	GC-MS Scan per TIC, report TICS that are detected at 10% of the area of the nearest internal standard	per sample		15	0.00
25.0	**Method 8310, Polynuclear Aromatic Hydrocarbons by HPLC - See Attachment A**				
25.1	Single compound analysis cost	per sample	140.00	15	2100.00
25.2	Up to 10 compounds then complete list cost applies	per sample	140.00	15	2100.00
25.3	Complete list cost	per sample	140.00	15	2100.00
26.0	**TCLP RCRA Pesticides & Herbicides EPA 1311/SW846 - See Attachment A**				
26.1	Single compound analysis cost	per sample	350.00	12	4200.00
26.2	Complete list cost	per sample	350.00	12	4200.00
27.0	**TCLP RCRA Metals EPA 1311/SW846 - See Attachment A**				
27.1	Single compound analysis cost	per sample	85.00	24	2040.00
27.2	Complete list cost	per sample	160.00	24	3840.00
28.0	**TCLP Volatile Organics 8260 with 1311 extraction - See Attachmant A**				
28.1	Single compound analysis cost	per sample	135.00	20	2700.00
28.2	Up to 10 compounds then complete list cost applies	per sample	135.00	20	2700.00
28.3	Complete list cost	per sample	165.00	20	3300.00
29.0	**TCLP Semi-Volatile Organics 8720 with 1311 extraction - See Attachment A**				
29.1	Single compound analysis cost	per sample	215.00	12	2580.00
29.2	Up to 10 compounds then complete list cost applies	per sample	215.00	12	2580.00
29.3	Complete list cost	per sample	275.00	12	3300.00
30.0	**RCRA General Chemistry - See Attachment A**				
30.1	Single compound analysis cost	per sample	103.00	12	1236.00
30.2	Complete list cost	per sample	103.00	12	1236.00
31.0	**Metals/Cyanide Target Analyte List (TAL)-Low level option EPA 200.7/SW 7470/7471**				
31.1	Single compound analysis cost	per sample	30.00	12	360.00
31.2	Complete list cost	per sample	185.00	12	2220.00
32.0	**Priority Pollutant Metals-(low level option-Mercury) Water**	per sample	**230.00**	10	2300.00

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
33.0	**Priority Pollutant Metals-(low level option-Mercury) Soil**	per sample	**165.00**	10	1650.00
	Quick Packages				
34.0	**8081A Organochlorine Pesticides GC**	per sample	**130.00**	10	1300.00
35.0	**8280 PCBs by GC**	per sample	**90.00**	10	900.00
36.0	**8061A Phathalate Esters by GC/EDC**	per sample		10	0.00
37.0	**8270 PAH by GC/MS**	per sample	**165.00**	10	1650.00
37.a	**PAH by GC/MS - 8270 SIM**	per sample		20	0.00
38.0	**8260B Semivolatile Organics by GC/MS**	per sample	**110.00**	20	2200.00
39.0	**8270C Semivolatile Organics by GC/MS**	per sample	220.00	20	4400.00
39.a	**Semivolatile Organics by GC/MS - 8270 SIM**	per sample	**175.00**	20	3500.00
40.0	**BTEX (8021B/8260B)**	per sample	**50.00**	30	1500.00
41.0	**BTEX (8021B)/MTBE (8021B)**	per sample	**60.00**	30	1800.00
42.0	**BTEX (8021B)/GRO (8015B)**	per sample	**110.00**	30	3300.00
43.0	**BTEX (8021B)/DRO/GRO (8015B)**	per sample	**175.00**	30	5250.00
44.0	**BTEX (8021B)/GRO (8015B)/MTBE (8021B)**	per sample	**120.00**	30	3600.00
45.0	**BTEX (8021B)/DRO/GRO (8015B)/MTBE (8021B)**	per sample	**185.00**	30	5550.00
46.0	**BTEX/MTBE/TBA/EDB/EDC by 8260B (SIM)**	per sample	**80.00**	30	2400.00
47.0	**TPH-ORO (8015B)**	per sample	**65.00**	10	650.00
48.0	**TPH-GRO (8015B)**	per sample	**60.00**	10	600.00
49.0	**TPH-DRO (8015B)**	per sample	**65.00**	10	650.00
50.0	**TPH-DRO/ORO (8015B)**	per sample	**80.00**	10	800.00
51.0	**TPH-GRO/DRO (8015B)**	per sample	**125.00**	10	1250.00
52.0	**TPH-GRO/DRO/ORO (8015B)**	per sample	**140.00**	20	2800.00
53.0	**CONSTITUENTS FOR PHASE I DETECTION MONITORING Cost (Groundwater only) per set: - See Attachment A**				
53.1	Search for additional tentatively identified compounds	per sample	20.00	12	240.00
53.2	Single compound analysis cost	per sample	30.00	12	360.00
53.3	Up to 10 compounds then complete list cost applies	per sample		12	0.00
53.4	Total cost Phase I complete list	per sample	672.00	12	8064.00

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
54.0	**Priority Pollutants by SW-846 Protocol Analysis**				
54.1	Priority Pollutant Volatiles	per sample	110.00	12	1320.00
54.2	Priority Pollutant Semi-Volatiles	per sample	220.00	12	2640.00
54.3	Priority Pollutant Pesticides/PCBs	per sample	220.00	12	2640.00
54.4	Priority Pollutant Inorganics	per sample	175.00	12	2100.00
54.5	Total Package Cost (less dioxins) Dioxin (2,3,7,8-Tetrachlorodlbenzo-p-Dioxin) quoted at time of analysis	per sample	725.00	12	8700.00
55.0	**Total Toxic Organics (TTO) by SW-846 Protocol Analysis**				
55.1	TTO Volatiles	per sample	110.00	12	1320.00
55.2	TTO Semi-Volatiles	per sample	220.00	12	2640.00
55.3	TTO Pesticides/PCBs	per sample	220.00	12	2640.00
55.4	TTO Inorganics	per sample		12	0.00
55.5	Total Package Cost (less dioxins) Dioxin (2,3,7,8-Tetrachlorodlbenzo-p-Dioxin) quoted at time of analysis	per sample	550.00	12	6600.00
56.0	**Target Compounds List (TCL) Analysis**				
56.1	TCL Volatiles	per sample	110.00	12	1320.00
56.2	TCL Semi-Volatiles	per sample	220.00	12	2640.00
56.3	TCL Pesticides/PCBs	per sample	220.00	12	2640.00
56.4	TCL Inorganics	per sample		12	0.00
56.5	Total Package Cost (less dioxins) Dioxin (2,3,7,8-Tetrachlorodlbenzo-p-Dioxin) quoted at time of analysis	per sample	550.00	12	6600.00
57.0	**Hazardous Waste Characterizations Analysis**				
57.1	Reacitivity	per sample	70.00	12	840.00
57.2	Ignitability	per sample	33.00	12	396.00
57.3	Corrosivity (pH)	per sample	15.00	12	180.00
57.4	Corrosivity (NACE)	per sample		12	0.00
57.5	BTU	per sample	65.00	12	780.00
57.6	TCLP	per sample	885.00	12	10620.00
57.7	Total Package Cost	per sample		12	0.00
58.0	**TCLP Extractions Analysis**				
58.1	Percent Solids (metals, semi-volatiles, volatiles, pesticides, herbicides)	per sample	10.00	15	150.00
58.2	Characterization Extraction (metals, semi-volatiles, pesticides, herbicides)	per sample	55.00	15	825.00
58.3	Zero Headspace Extraction (violatiles)	per sample	55.00	15	825.00
59.0	**TCLP Analysis - Analysis**				
59.1	TCLP Metals quantified to 10% of TCLP levels	per sample		20	0.00
59.2	TCLP-Mercury	per sample	35.00	20	700.00
59.3	TCLP-Individual Metal	per sample	30.00	20	600.00
59.4	Additional Metals (Flame, Furnace, ICP, ICP-MS)	per sample		20	0.00
59.5	Analysis by Standard Method of Addition (per metal)	per sample		20	0.00
59.6	TCLP Pb characterization (includes extraction fees)	per sample	85.00	20	1700.00
59.7	TCLP Volatile Organics	per sample	110.00	20	2200.00
59.8	TCLP Semi-Volatile Organics	per sample	220.00	20	4400.00
59.9	TCLP Persticides/Herbicides	per sample	295.00	20	5900.00
59.10	TCLP Pesticides	per sample	130.00	20	2600.00

ITEM NO.	DESCRIPTION	UNIT of MEASURE	UNIT PRICE	ESTIMATED QUANTITY	EXTENDED COST
59.11	TCLP Herbicides	per sample	165.00	20	3300.00
59.12	Full TCLP	per sample	730.00	20	14600.00
	NOTE: Multiphasic samples will be subject to additional extraction and analytical fee	per sample			
60.0	**PHASE II ASSESSMENT MONITORING (groundwater only) See Attachment A**				
60.1	Search for additional tentatively identified compounds	per sample	20.00	12	240.00
60.2	Single compound analysis cost	per sample		12	0.00
60.3	Up to 10 compounds then complete list cost applies	per sample		12	0.00
60.4	Total cost Phase II complete list	per sample	1,030.00	12	12360.00
61.0	**Encore Sampling Kits (each)**	each	30.00	12	360.00
62.0	**Terra Core Sampling Kits (each)**	each	15.00	12	180.00
	Collection of Samples-Cost assoicated with collecting samples from DEP offices per pick-up				
63.0	**Charleston Office, 601 57th St., SE, Charleston, WV 25304**	per trip	150.00	24	3600.00
64.0	**Teays Office, P.O. Box 662, Teays, WV 25596**	per trip	150.00	24	3600.00
65.0	**Fairmont Office, 2031 Pleasant Valley Rd., Fairmont, WV 26554**	per trip	100.00	24	2400.00
66.0	**Romney Office, HC 63, Box 2545, Romney, WV 26757**	per trip	150.00	24	3600.00
67.0	**French Creek Office, P.O. Box 38, French Creek, WV 26218**	per trip	100.00	24	2400.00
68.0	**Wheeling Office, 131A Peninsula St., Wheeling, WV 26003**	per trip	75.00	24	1800.00
69.0	**Parkersburg Office, 2311 Ohio Ave., Parkersburg, WV 26010**	per trip	150.00	24	3600.00
70.0	**Oak Hill Office, 116 Industrial Dr., Oak Hill, WV 25901**	per trip	150.00	24	3600.00
71.0	**24 Hour Turn-Around Rush Order percentage markup, per sampl**	per sample	100.00	$500.00	$
72.0	**48 Hour Turn-Around Rush Order percentage markup, per sampl**	per sample	75.00	$500.00	$
73.0	**72 Hour Turn Around Rush Order percentage markup, per sampl**	per sample	60.00	$500.00	$
	TOTAL Bid Amount				274,332.00

Quantities listed on the bid schedule are for bid evaluation purposes only and are not a guarentee of quantities to be ordered over the life of the contract. Actual quantities may be more or less than those stated on this schedule. Note: Modification of this pricing page will result in vendor disqualification.

Company: TestAmerica Laboratories, Inc.

Name: Peggy Gray-Erdmann

Signature: Peggy Gray Erdmann Date: 11/30/16