



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

Request for Quotation

RFQ NUMBER
 DEP15037

PAGE
 1

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

VENDOR
 *626144827 304-757-8954
 BIO CHEM TESTING INC
 PO BOX 634
 PUTNAM VILLAGE SHOPPING CTR
 TEAYS WV 25569-0634

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

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
10/27/2010				
BID OPENING DATE: 11/17/2010		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
***** ADDENDUM NO. 5 *****						
ADDENDUM ISSUED FOR THE WATER/SOIL TESTING CONTRACT TO DISTRIBUTE THE REVISED SPECIFICATIONS, APPENDIX A, APPENDIX B, AND THE NEW BID SCHEDULE PER THE ATTACHED.						
BID OPENING DATE AND TIME ARE EXTENDED FROM 10/28/10 TO 11/17/2010 AT 1:30 PM.						
***** NO OTHER CHANGES *****						
0001	1	LS	961-48	GENERAL ANALYSIS OF WATER AND SOIL FIELD TESTING		

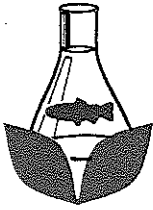
RECEIVED
 2010 NOV 17 PM 12:59
 WV PURCHASING DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: 304-757-8954 DATE: 11-17-10

TITLE: President FEIN: 55-0732395 ADDRESS CHANGES TO BE NOTED ABOVE

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



BIO-CHEM TESTING, INC.

5 Weatheridge Drive
Hurricane, WV 25526

Phone: (304) 757-8954

Fax: (304) 757-9676

P.O. Box 634
Teays, WV 25569

Web Site: www.biochemtesting.com

e-mail: info@biochemtesting.com

November 15, 2010

Mr. Chuck Bowman
Department of Environmental Protection
Office of Water Resources
610 57th Street SE
Charleston, West Virginia 25304

RE: RFQ Number DEP15037

Dear Mr. Bowman:

On behalf of Bio-Chem Testing, Inc., I am submitting an analytical quote for your review and consideration.

Not all laboratories are certified for every parameter. Some of the tests have to be sub-contracted. Bio-Chem has included Attachment I of the laboratories to which work is currently being sub contracted. All these laboratories are certified by WVDEP. Unless method is specified on chain of custody form accompanying the sample, Bio-Chem will use the least expensive methodology for analysis.

While going through quote, you will notice:

- A. Bio-Chem Testing is certified for more than two methods for a few parameters. Separate pages have been provided with associated information.
- B. Method Detection Limit (MDL) should be viewed as a best case value. MDL of the sample can be higher than actual determined, in case (but not limited to) the following scenario's:
 - 1. Sample containing potential interference, as a result sample being diluted to reduce interference effect.
 - 2. Low volume of sample being used due to insufficient sample received Or concentration of analyte is suspected.

Thank you,

Mukesh Shah
President

GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at www.state.wv.us/admin/purchase/vrc/hipaa.htm and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

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

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).

AREA OF WORK

Bids should be submitted by vendors in connection with the costs associated with collection from all Department of Environmental Protection (DEP) offices as listed herein.

Awards will be made to all laboratories possessing a current valid West Virginia DEP Laboratory Quality Assurance certification for the appropriate categories of parameters and meeting the qualifications listed below. Because of the short holding times for certain parameters and the desire to avoid multiple labs analyzing samples from individual sites, work will be distributed based on proximity of lab to sample collection location, overall costs for parameters being requested, and the ability of labs to analyze all requested parameters (i.e., certified for all requested parameters). Costs to pickup samples from DEP personnel will also be taken into consideration.

Bidding should be done for each analyte within a specific method. Prices should also be given for liquid and solid samples. If vendor is certified for more than one method per parameter, include method#, MDL and cost. Bids must be submitted exactly as per attached bid sheet.

QUALIFICATIONS

The DEP conducts inspections of permitted and non-permitted facilities, investigates complaints, monitors ambient quality of surface water, groundwater and sediments, performs studies, and provides water quality information to the citizens of West Virginia and other government agencies. Legal action based upon analytic results is possible. Therefore, the vendor or vendors selected must have a quality control program in place and meet the following qualifications:

1. The laboratory must be certified by the Water Resources Quality Assurance Program. This includes any laboratories to which analyses are subcontracted.
2. Be accessible by telephone **24 hours per day, 7 days per week.**
3. Capable of attending and providing expert testimony in legal proceeding, upon request.
4. **Proof of certification and staff chemist(s) resume(s) must be provided at the time of bid.**

SCOPE

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

STEP 1 - Collection of sample from specified office.

STEP 2 - Conduct specified analysis on samples in a timely and professional manner.

STEP 3 - Establishment of continuing program to ensure the reliability of analytical data.

STEP 4 - Legal Testimony

Step 1 - Collection of Samples from Specified Office

The sampling for the DEP shall be conducted by Department personnel. The vendor shall be notified of the date sampling occurs or is to occur and from which DEP office or other location the sample can be obtained. The vendor shall be notified when the sample was taken (time/date) for circumstances when holding times for parameters to be analyzed are less than seven (7) days. The vendor shall indicate the time the sample was obtained from the pickup location and its condition and the time the sample was delivered to the laboratory. The vendor shall be responsible for holding times, preservation of the sample and the internal chain of custody from the time the vendor obtained the sample until the time the analysis is accepted by the Department. The vendor shall also maintain records of the results of analysis for a minimum of five (5) years.

Step 2 - Conduct Specified Analysis on Samples

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

Vendors must complete the column in Appendix A with the method # associated with methods that have current MDLs that meet or are below the maximum MDL listed for each parameter. A single analytical method for some parameters isn't adequate, for example, a sample of discharge water from a sewage treatment plant need not have the same precision as a sample from relatively clean oligotrophic waters. If vendors are certified for more than 2 methods for a parameter, the vendor can provide bids and associated information on a separate page.

Vendors must provide a single bid for the cost of the analysis and reporting for the Phase 1 Detection Monitoring constituent lists described in the bid sheet.

Results of analytical tests must be submitted electronically in a Microsoft Excel (or compatible) format. Where provided, the vendor must include the WQ ID number with the data submitted. This electronic data submittal requirement may be waived in some circumstances where the number of samples and/or number of analytical tests requested is low. Waiver must be requested prior to data submittal

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

Step 3 - Quality Control

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

To check the laboratory analytical precision, duplicate analysis of samples shall be performed at regular intervals. Duplicate samples must be carried through the complete analytical process. For all analyses, the interval shall be every tenth (10th) sample. When less than ten (10) samples are tested in one day, at least one duplicate sample shall be analyzed, and that sample must be a DEP sample. The difference between the replicates for each analysis are to be plotted on Shewart precision quality control charts. "Out-of-Control" samples are to be repeated and appropriate steps shall be taken to locate and remedy the error.

To check the laboratory analytical accuracy, samples containing a known addition of the target analyte (spike) shall be analyzed at regular intervals. Spiked samples must be carried through the complete analytical process. For all analyses, the interval shall be every tenth (10th) sample. Where less than ten samples are tested in one day, at least one spiked sample shall be analyzed, and that sample must be a DEP sample. The percent recovery must be plotted out on Shewart accuracy quality control charts. "Out-of-Control" samples are to be repeated and appropriate steps taken to locate and remedy the source of error. The DEP reserves the right to conduct unannounced examinations of the laboratory's records to assure compliance.

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

*These analyses shall be conducted under the vendor's performance evaluation test number through the Analytical Products Group.

Step 4 - Legal Testimony

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

1. Time of notification by Department of sampling and by whom.
2. When and where samples were collected by the firm.
3. Condition of sample.
4. How sample was preserved by the firm.
5. Date and time(s) of analysis and by whom.
6. Chain of Custody procedures within the laboratory
7. Methods used.
8. Results of analysis.

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

PRIME VENDOR RESPONSIBILITIES

A vendor who is awarded a contract, when performing work under the terms and conditions of this contract, is solely responsible for the satisfactory completion of the work. The vendor shall be responsible for ensuring that any subcontractors have all the necessary permits, certifications (including WV State Laboratory Certification) and insurance to perform the work. DEP will consider the prime vendor to be the sole point of contact with regard to authorized work under the contract, however this provision does not prohibit the DEP from directly contacting subcontractors.

SUBCONTRACTORS

The prime vendor shall not be allowed to subcontract any work or services under this contract to any other person, company, corporation, firm, organization or agency without prior written approval of the DEP.

CONFIDENTIALITY

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

MISCELLANEOUS PROVISIONS

1. The DEP will provide all sample containers and field preservatives.
2. The DEP may, at their discretion, choose to deliver samples to the vendor's establishment rather than having them picked up by or delivered to the vendor.
3. Any updates to the MDLs during the life of this contract shall be provided to the DEP, in writing within one week of the update(s) completion.
4. The vendor shall provide at no additional cost, any requested quality control/calibration information associated with a particular sample. Quality control/calibration information includes but is not limited to: values of standards used in calibration, date of last calibration, correlation coefficients of calibration curves, instrument blank values, check standard values, spike/recovery values, duplicate values, dilution volumes, bench sheets, calculations and Shewart quality control charts.
5. Notice of any changes to the vendor's certification status with regard to any of the parameters that the vendor is certified to analyze for, must be submitted to DEP, in writing, within ten (10) days of the time of status change.
6. The laboratory will provide blank water to the DEP, at no charge, upon request.

Appendix A - Method

Item No.	Parameter	Associated MDL*	Method #	Alt Method #	Alt MDL
1	pH	N/A	SM 4500 ⁺ B	-	-
2	Hot Acidity	5 mg/L	SM 2310 B (4 th)	-	-
3	Alkalinity	5 mg/L	SM 2320 B	-	-
4	Hardness	1 mg/L	SM 2340 B	SM 2340 C	2.4
5	Specific Conductance	3 µS/cm ²	EPA 120.1	-	-
6	Sulfate	5 mg/L	EPA 300.0	-	-
7	Sulfide	1 mg/L	SW 9034	-	-
8	Turbidity	1 NTU (higher OK if highly turbid)	EPA 180.1	-	-
9	Bromide	1 mg/L	EPA 300.0	-	-
10	Chloride	5 mg/L	EPA 300.0	SM 4500 C/C	2.5B
11	Fluoride	0.2 mg/L	EPA 300.0	-	-
12	Fecal Coliform (MF)	4 col/100 ml	SM 9222 D	-	-
13	Fecal Coliform (MPN)	4 col/100 ml	SM 9221 E	-	-
14	Total Solids	1 mg/L	SM 2540 B 300 ml.	SM 2540 B, 100 ml	4.3
15	Dissolved Solids (TDS)	1 mg/L	SM 2540 C 300 ml.	SM 2540 C, 100 ml	3.5
16	Suspended Solids (TSS)	3 mg/L	SM 2540 D	-	-
17	Settleable Solids	0.5 mg/L	SM 2540 F	-	-
18	Volatile Solids	1 mg/L	-	EPA 160.4	5
19	Percent Solids	1%	SM 2540 G	-	-
20	Kjeldahl Nitrogen	0.5 mg/L	SM 4500 NH ₃ C	HACH 8038	0.015
20A	Kjeldahl Nitrogen (alt. method)	0.1 mg/L	-	-	-
21	Ammonia Nitrogen	0.1 mg/L	SM 4500 NH ₃ E	HACH 8038	0.017
22	Organic Nitrogen	0.5 mg/L	by dist. TN-NH ₃ LOW (CYL)	by dist 8038	0.017
23	Nitrate-Nitrogen	0.05 mg/L	EPA 300.0	by dist NH ₃ NH ₂ -NH ₂	0.002
24	Nitrite-Nitrogen	0.05 mg/L	EPA 300.0	EPA 353.2	0.002
25	Nitrite-Nitrate	0.05 mg/L	EPA 300.0	EPA 353.2	0.002
25A	Nitrite-Nitrate (alt method)	0.01 mg/L	-	-	-
26	Total Phosphorus	0.02 mg/L	SM 4500 PE B5	-	-
26A	Total Phosphorus (alt. method)	0.005 mg/L	-	EPA 365.1	0.003
27	Orthophosphate	0.01 mg/L	SM 4500 PE	-	-
28	Total Phosphate	0.01 mg/L	SM 4500 PE	-	-

REVISED PER ADDM# 5

Appendix A - Method (Continued)

Item No.	Parameter	Associated MDL	Method #	Alt Method #	Alt MDL
29	BOD	1 mg/L	SM 5210 B	-	-
30	BOD-carbonaceous	1 mg/L	SM 5210 B	-	-
31	COD	0.5 mg/L	-	HACH 8000	5
32	TOC	1 mg/L	SM 5310 C	-	-
33	MBAS	0.05 mg/L	SM 5540 C	-	-
34	Phenolics	0.01 mg/L	EPA 420.1	-	-
35	Total Cyanide	0.005 mg/L	SM 4500 CN-C	SM 4500 CN-E	0.003
36	Hexavalent Chromium	0.005 mg/L	SM 3500 Cr-D	-	-
37	Oil-Grease	0.1 mg/L	-	EPA 1664A	1.0
38	Chlorophyll A (Standard Methods)	0.5 mg/L	EPA 446.0	-	-
39	Color (APHA)	5 color units	SM 2120 B	-	-
40	Color (ADMI)	10 ADMI value	SM 2120 E	-	-
41	Cyanide, Amenable (40 CSR 136)	0.005 mg/L	EPA 335.4	-	-
42	Cyanide, Free (ASTM)	0.01 mg/L	SM 4500 CN-E	-	-
43	Mineral Acidity (Standard Methods)	1 mg/L	SM 2310 B	-	-
44	Total Acidity (Standard Methods)	1 mg/L	SM 2310 B	-	-
45	Tot Petroleum Hydrocarbons GRO/DRO (WVTPH/8015B)	0.5 mg/L	SW 8015 B	-	-
46	Fecal Streptococci (Standard Methods)	4 col/100 mL	SM 9230 C	-	-
47	Escherichia Coli (Numeric Result)	1 col/100 mL	HACH 10029	-	-
48	Bicarbonate (Standard Methods)	1 mg/L	SM 2320 B	-	-
49	Ferrous Iron(Standard Methods)	0.05 mg/L	SM 3500 F-E-D	-	-
50	Unionized Ammonia (46 CSR 1)	0.1 mg/L	SM 19 th page 8-18	-	-
51	Dissolved Organic Carbon (Standard Methods)	1 mg/L	SM 5310 C	-	-
52	Particulate Organic Carbon (Standard Methods)	1 mg/L	SM 5310 C	-	-

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Appendix A - Method (Continued)

Metals (Dissolved or Total)

(dissolved metals will be field filtered)

Item No.	Parameter	Associated MDL (mg/L)	Method #	Alt Method #	Alt MDL
53	Aluminum	0.005	200.7/6010	200.8/6020	0.004
54	Antimony	0.005	200.7/6010	200.8/6020	0.002
55	Arsenic	0.005	200.8/6020	200.7/6010	0.01
56	Barium	0.005	200.7/6010	200.8/6020	0.0005
57	Beryllium	0.001	200.7/6010	200.8/6020	0.0002
58	Boron	0.02	200.7/6010	-	-
59	Cadmium	0.0002	200.7/6010	200.8/6020	0.000028
60	Calcium	0.02	200.7/6010	-	-
61	Chromium	0.001	200.7/6010	200.8/6020	0.0002
62	Cobalt	0.001	200.7/6010	200.8/6020	0.00005
63	Copper	0.001	200.7/6010	200.8/6020	0.0003
64	Iron	0.01	200.7/6010	-	-
65	Lead	0.001	200.8/6020	200.7/6010	0.005
66	Magnesium	0.05	200.7/6010	-	-
67	Manganese	0.005	200.7/6010	200.8/6020	0.0001
68	Mercury	0.5 (ng/L)	-	Method 1631-E	0.06 (ng/L)
68A	Mercury (alt. method)	0.0001	245.1/7470	-	-
69	Molybdenum	0.005	200.7/6010	200.8/6020	0.0003
70	Nickel	0.005	200.7/6010	200.8/6020	0.0004
71	Potassium	0.05	200.7/6010	-	-
72	Selenium	0.001	200.8/6020	200.7/6010	0.01
73	Silver	0.0002	200.8/6020	200.7/6010	0.001
74	Sodium	0.05	200.7/6010	-	-
75	Thallium	0.001	200.8/6020	200.7-6010	0.01
76	Tin	0.02	200.7/6010	-	-
77	Vanadium	0.005	200.7/6010	200.8/6020	0.0015
78	Zinc	0.002	200.7/6010	200.8/6020	0.0004
79	N/A	N/A	-	-	-

nanogram per liter

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Appendix A - Method (Continued)

Radiochemistry

Item No.	Parameter	Associated MDL	Method #	Alt Method #	Alt MDL
80	Gross Alpha	0.38 pci/L	900.0	-	-
81	Gross Beta	0.41 pci/L	900.0	-	-
82	Ra - 226	0.26 pci/L	903.0	-	-
83	Ra - 228	0.74 pci/L	904.0	-	-
84	Total Uranium	0.97 pci/L	908.0	200-8/6020	0.0034 mg/L
85	Sr-89	3 pci/L	905.0	-	-
86	Sr-90	3 pci/L	905.0	-	-
87	Tritium (H3)	3 pci/L	906.0	-	-
88	Gamma (Cs-137)	3 pci/L	901.0	-	-
89	Radon	100 pci/L	7500	-	-

Toxicity Testing - Freshwater organisms *Applied for Certification*

Item No.	Test	Est. #	Method #
	Acute:		
90	Ceriodaphnia	25	2002.0
91	Daphnia Pulex / D. magna	10	2021.0
92	Pimephales promelas	25	2000.0
	Chronic:		
93	Ceriodaphnia	25	1002.0
94	Pimephales promelas (Survival & growth)	25	1000.0
95	Pimephales promelas (Survival & teratogenicity)	25	1001.0

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Appendix B

Constituents for Phase I Detection Monitoring**GROUP A: Inorganic Constituents**

COMMON NAME ²	CAS RN ³
Acidity	(Total)
Aluminum	(Total) id as package
Alkalinity	(Total) (Groups A and B combined)
Ammonia Nitrogen	(Total)
Antimony	(Total)
Arsenic	(Total)
Barium	(Total)
Beryllium	(Total)
Bicarbonates	(mg/l)
Boron	(Total)
Cadmium	(Total)
Chlorides	(Total)
Chromium	(Total)
Cobalt	(Total)
COD	(mg/l)
Copper	(Total)
Dissolved Manganese	(Total)
Iron	(Total)
Lead	(Total)
Magnesium	(Total)
Mercury	(Total)
Molybdenum	(Total)
Nickel	(Total)
Nitrate	(Total)
pH	(Std. Units)
Potassium	(Total)
Selenium	(Total)
Silver	(Total)
Sodium	(Total)
Specific Conductance	(umhos/cm)
Sulfate	(Total)
TDS	(mg/l)
Thallium	(Total)
TOC	(mg/l)
Total Phenolic Materials	(Total)
TSS	(Total)
Turbidity	(Total)
Vanadium	(Total)
Zinc	(Total)

In addition to the above, the following parameters should be analyzed:
 Temperature, (BOD-5-day), flouride and calcium.

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GROUP B: Organic Constituents¹

COMMON NAME²	CAS RN³
Acetone	67-64-1
Acrylonitrile	107-13-1
Benzene	71-43-2
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform; Tribromomethane	75-25-2
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane; Ethyl chloride	75-00-3
Chloroform; Trichloromethane	67-66-3
Dibromochloromethane; Chlorodibromomethane	124-48-1
1,2-Dibromo-3-chloropropane; DBCP	96-12-8
1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
trans-1,4-Dichloro-2-butene	110-57-6
1,1-Dichloroethane; Ethylidene chloride	75-34-3
1,2-Dichloroethane; Ethylene dichloride	107-06-2
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane; Propylene dichloride	78-87-5
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4
2-Hexanone; Methyl butyl ketone	591-78-6
Methyl bromide; Bromomethane	74-83-9
Methyl chloride; Chloromethane	74-87-3
Methylene bromide; Dibromomethane	74-95-3
Methylene chloride; Dichloromethane	75-09-2
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
Methyl iodide; Iodomethane	74-88-4
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene; Perchloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane; Methylchloroform	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethylene; Trichloroethene	79-01-6
Trichlorofluoromethane; CFC-II	75-69-4
1,2,3-Trichloropropane	96-18-4
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylenes	1330-20-7

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1. This list contains volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986, as revised December 1987, includes Method 8260 and 8011; and metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.

2. Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

3. Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

REVISED PER ADDM# 5

ANALYSIS OF WATER AND SOIL

DEP15037

Vendor's Bid Sheet

Vendors Name: Bio-Chem Testing, Inc.

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

Liquid Samples						
ITEM NO.	EST. QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
1	4000	pH	SM14500B	N/A	\$ 3.00	\$ 12000
1A	10	pH (Solid)	SM9045C	-	\$ 6.00	\$ 60
2	4000	Hot Acidity	SM2310B(4a)	5 mg/l	\$ 7.00	\$ 28000
2A	1000	Hot Acidity Alt. Method	-	*	\$	\$
3	4000	Alkalinity	SM2320B	5 mg/L	\$ 7.00	\$ 28000
3A	1000	Alkalinity Alt. Method	-	-	\$	\$
4	500	Hardness	SM2340B	1 mg/L	\$ 9.00	\$ 4500
4A	100	Hardness Alt. Method	SM2340C	2.4 mg/L	\$ 7.50	\$ 750
4B	10	Hardness (Solid)	-	-	\$	\$
5	1000	Specific Conductance	EPA 120.1	3 uS/cm ²	\$ 3.50	\$ 3500
5A	500	Specific Conductance Alt. Method	-	-	\$	\$
6	4000	Sulfate	EPA 300.0	5 mg/L	\$ 7.50	\$ 30000
6A	1000	Sulfate Alt. Method	-	-	\$	\$
6B	10	Sulfate (Solid)	300.0 DW Ext.	10 mg/kg	\$ 10.00	\$ 100
7	20	Sulfide	SM9034	1 mg/L	\$ 20.00	\$ 400
7A	10	Sulfide Alt. Method	-	-	\$	\$
8	20	Turbidity	EPA 120.1	1 NTU (higher OK if highly turbid)	\$ 10.00	\$ 200
8A	10	Turbidity Alt. Method	-	-	\$	\$
9	25	Bromide	EPA 300.0	1 mg/L	\$ 7.50	\$ 187.50
9A	10	Bromide Alt. Method	-	0.1 mg/L	\$	\$
9B	10	Bronide (Solid)	-	-	\$	\$
10	3000	Chloride	EPA 300.0	5 mg/L	\$ 7.50	\$ 22500
10A	100	Chloride Alt. Method	SM4500CIC	2.5B	\$ 9.00	\$ 900
10B	10	Chloride (Solid)	300.0 DW Ext.	0.3 mg/kg	\$ 10.00	\$ 100
11	25	Fluoride	EPA 300.0	0.2 mg/L	\$ 7.50	\$ 187.50
11A	10	Fluoride Alt. Method	-	-	\$	\$
11B	10	Fluoride (Solid)	EPA 300.0	0.2 mg/kg	\$ 10.00	\$ 100
12	4000	Fecal Coliform (MF)	SM9222D	4 col/100 mL	\$ 17.00	\$ 68000
12A	1000	Fecal Coliform (MF) Alt. Method	-	-	\$	\$
13	100	Fecal Coliform (MPN)	SM9221E	4 col/100 mL	\$ 25.00	\$ 2500
13A	50	Fecal Coliform (MPN) Alt. Method	-	-	\$	\$
14	25	Total Solids	SM2540B	1 mg/L	\$ 12.00	\$ 300
14A	10	Total Solids Alt. Method	-	-	\$	\$
14B	10	Total Solide (Solid)	SM2540G	1%	\$ 12.00	\$ 120
15	3000	Dissolved Solids (TDS)	SM2540C	1 mg/L	\$ 7.50	\$ 22500
15A	1000	Dissolved Solids (TDS) Alt. Method	-	-	\$	\$
16	4000	Suspended Solids (TSS)	SM2540D	3 mg/L	\$ 7.50	\$ 30000
16A	1000	Suspended Solids (TSS) Alt. Method	-	-	\$	\$

MDL for solid sample is on an as received basis.

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ITEM NO	EST. QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
17	25	Settleable Solids	SM 2540F	0.5 mg/L	\$ 7.50	\$ 187.50
17A	10	Settleable Solids Alt. Method	-	-	\$	\$
18	25	Volatile Solids	-	1 mg/L	\$	\$
18A	10	Volatile Solids Alt. Method	EPA 160.4	5 mg/L	\$ 15.00	\$ 150
18B	10	Volatile Solids (Solid)	EPA 160.4	0.5%	\$ 15.00	\$ 150
19	25	Percent Solids	SM 2540G	1%	\$ 15.00	\$ 375
19A	10	Percent Solids Alt. Method	-	-	\$	\$
19B	10	Percent Solids (Solid)	SM 2540G	1%	\$ 15.00	\$ 150
20	400	Kjeldahl Nitrogen	SM 4500NH ₂ C	0.1 mg/L	\$ 20.00	\$ 8000
20A	100	Kjeldahl Nitrogen Alt. Method	HACH 8038	0.015 mg/L	\$ 22.00	\$ 2200
20B	10	Kjeldahl Nitrogen (Solid)	SM 4500NH ₂ C	2.00 mg/kg	\$ 22.00	\$ 220
20C	10	Kjeldahl Nitrogen Alt. Method (Solid)	-	-	\$	\$
21	50	Ammonia Nitrogen	SM 4500NH ₂ E	0.1 mg/L	\$ 15.00	\$ 750
21A	10	Ammonia Nitrogen Alt. Method	HACH 8038	0.017 mg/L	\$ 16.50	\$ 165
21B	10	Ammonia Nitrogen (Solid)	SM 4500NH ₂ C	2.0 mg/kg	\$ 16.50	\$ 165
21C	10	Ammonia Nitrogen Alt. Method (Solid)	-	-	\$	\$
22	50	Organic Nitrogen	By Dir. TRN-NH ₃	0.5 mg/L	\$ 35.00	\$ 1750
22A	10	Organic Nitrogen Alt. Method	By Dir. low level 8038	0.017	\$ 36.50	\$ 365
23	50	Nitrate-Nitrogen	EPA 300.0	0.05 mg/L	\$ 7.50	\$ 375
23A	10	Nitrate-Nitrogen Alt. Method	By Dir. NO ₃ -NO ₂ -NO ₂	0.002 mg/L	\$ 26.00	\$ 260
24	50	Nitrite-Nitrogen	EPA 300.0	0.05 mg/L	\$ 7.50	\$ 375
24A	10	Nitrite-Nitrogen Alt. Method	EPA 353-2	0.002 mg/L	\$ 21.00	\$ 210
24B	10	Nitrite-Nitrogen (Solid)	EPA 300.0	1.0 mg/kg	\$ 10.00	\$ 100
24C	10	Nitrite-Nitrogen Alt. Method (Solid)	-	-	\$	\$
25	400	Nitrite-Nitrate	EPA 300.0	0.05 mg/L	\$ 7.50	\$ 3000
25A	100	Nitrite-Nitrate Alt. Method	EPA 353-2	0.002 mg/L	\$ 21.00	\$ 2100
25B	10	Nitrite-Nitrate (Solid)	EPA 300.0	1.0 mg/kg	\$ 10.00	\$ 100
25C	10	Nitrite-Nitrate Alt. Method (Solid)	EPA 353-2	0.002 mg/L	\$ 21.00	\$ 210
26	400	Total Phosphorus	SM 4500P85E	0.005 mg/L	\$ 15.00	\$ 6000
26A	100	Total Phosphorus Alt. Method	EPA 365.1	0.003 mg/L	\$ 25.00	\$ 2500
26B	10	Total Phosphorus (Solid)	SM 4500PE	0.2 mg/kg	\$ 17.00	\$ 170
26C	10	Total Phosphorus Alt. Method (Solid)	-	-	\$	\$
27	50	Orthophosphate	SM 4500PE	0.01 mg/L	\$ 10.00	\$ 500
27A	10	Orthophosphate Alt. Method	-	-	\$	\$
28	50	Total Phosphate	SM 4500PE	0.01 mg/L	\$ 15.00	\$ 750
28A	10	Total Phosphate Alt. Method	-	-	\$	\$
28B	10	Total Phosphate (Solid)	-	-	\$	\$
28C	10	Total Phosphate Alt. Method (Solid)	-	-	\$	\$
29	25	BOD	SM 5210B	1 mg/L	\$ 19.00	\$ 475
29A	10	BOD Alt. Method	-	-	\$	\$
30	25	BOD-carbonaceous	SM 5210B	1 mg/L	\$ 19.00	\$ 475
30A	10	BOD-carbonaceous Alt. Method	-	-	\$	\$
31	25	COD	-	0.5 mg/L	\$	\$
31A	10	COD Alt. Method	HACH 8000	5 mg/L	\$ 18.00	\$ 180
32	25	TOC	SM 5310C	1 mg/L	\$ 15.00	\$ 375
32A	10	TOC Alt. Method	-	-	\$	\$
33	25	MBAS	SM 5540C	0.05 mg/L	\$ 30.00	\$ 750
33A	10	MBAS Alt. Method	-	-	\$	\$
34	25	Phenolics	EPA 420.1	0.01 mg/L	\$ 25.00	\$ 625
34A	10	Phenolics Alt. Method	-	-	\$	\$
34B	10	Phenolics (Solid)	-	-	\$	\$
35	25	Total Cyanide	SM 4500CNC	0.005 mg/L	\$ 23.00	\$ 575
35A	10	Total Cyanide Alt. Method	SM 4500CNT	0.003 mg/L	\$ 25.00	\$ 250
35B	10	Total Cyanide (Solid)	SM 4500CNE	0.15 mg/L	\$ 30.00	\$ 300

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ITEM NO.	EST. QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
36	200	Hexavalent Chromium	SM 3500 CrD	0.005 mg/L	\$ 18.00	\$ 3600
36A	10	Hexavalent Chromium Alt. Method	-	-	\$	\$
36B	10	Hexavalent Chromium (Solid)	-	-	\$	\$
37	25	Oil-Grease	EPA 1664A	2 mg/L	\$ 25.00	\$ 625
37A	10	Oil-Grease Alt. Method	EPA 1664A	1.0 mg/L	\$ 25.00	\$ 250
37B	10	Oil-Grease (Solid)	SW 9071B	100 mg/kg	\$ 30.00	\$ 300
38	100	Cholorophyll A	EPA 446.0	0.5 mg/L	\$ 42.00	\$ 4200
38A	20	Cholorophyll A Alt. Method	-	-	\$	\$
39	25	Color (APHA)	SM 2120B	5 color units	\$ 10.00	\$ 250
39A	10	Color (APHA) Alt. Method	-	-	\$	\$
40	25	Color (ADMI)	SM 2120E	10 ADMI value	\$ 18.00	\$ 450
40A	10	Color Alt. Method	-	-	\$	\$
41A	25	Cyanide, Amenable	EPA 335.4	0.005 mg/L	\$ 35.00	\$ 875
41B	10	Cyanide, Amenable Alt. Method	-	-	\$	\$
42	25	Cyanide, Free (ASTM)	SM 4500CNE	0.01 mg/L	\$ 20.00	\$ 500
42A	10	Cyanide, Free Alt. Method	-	-	\$	\$
43	25	Mineral Acidity	SM 2310B	1 mg/L	\$ 7.00	\$ 175
43A	10	Mineral Acidity Alt. Method	-	-	\$	\$
44	25	Total Acidity	SM 2310B	1 mg/L	\$ 7.00	\$ 175
44A	10	Total Acidity Alt. Method	-	-	\$	\$
45	25	Tot Petroleum Hydrocarbons GRO/DRO (8015)	SW 8015B	0.5 mg/L	\$ 55.00	\$ 1375
45A	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) Alt. Method	-	-	\$	\$
45B	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) (Solid)	SW 8015B	10 mg/kg	\$ 75.00	\$ 750
46	25	Fecal Streptococci	SM 9230C	4 col/100 mL	\$ 60.00	\$ 1500
46A	10	Fecal Streptococci Alt. Method	-	-	\$	\$
46B	10	Fecal Streptococci (Solid)	-	-	\$	\$
47	25	Escherichia Coli (Numeric Result)	HACH 10029	1 col/100 mL	\$ 22.00	\$ 550
47A	10	E. Coli (Numeric Result) Alt. Method	-	-	\$	\$
48	25	Bicarbonate (Standard Methods)	SM 2320B	1 mg/L	\$ 7.00	\$ 175
48A	10	Bicarbonate Alt. Method	-	-	\$	\$
49	25	Ferrous Iron (Standard Methods)	SM 3500FED	0.05 mg/L	\$ 32.00	\$ 800
49A	10	Ferrous Iron Alt. Method	-	-	\$	\$
51	25	Dissolved Organic Carbon	SMS 310C	1 mg/L	\$ 15.00	\$ 375
51A	10	Dissolved Organic Carbon Alt. Method	-	-	\$	\$
53	4000	Aluminum	200.7/6010	0.005 mg/L	\$ 6.50	\$ 26000
53A	100	Aluminum - Alt. method	200.8/6020	0.004 mg/L	\$ 8.00	\$ 800
53B	10	Aluminum (Solid)	6010	0.3 mg/kg	\$ 6.50	\$ 65
54	20	Antimony	200.8/6020	0.005 mg/L	\$ 8.00	\$ 160
54A	10	Antimony Alt. Method	200.7/6010	0.01 mg/L	\$ 7.00	\$ 70
54B	10	Antimony (Solid)	6010	0.6 mg/kg	\$ 7.00	\$ 70
55	20	Arsenic	200.8/6020	0.005 mg/L	\$ 8.00	\$ 160
55A	10	Arsenic Alt. Method	200.7/6010	0.01 mg/L	\$ 7.00	\$ 70
55B	10	Arsenic (Solid)	6010	0.5 mg/kg	\$ 7.00	\$ 70
56	20	Barium	200.7/6010	0.005 mg/L	\$ 7.00	\$ 140
56A	10	Barium Alt. Method	200.8/6020	0.0005 mL	\$ 8.00	\$ 80
56B	10	Barium (Solid)	6010	0.1 mg/kg	\$ 7.00	\$ 70
57	20	Beryllium	200.7/6010	0.001 mg/L	\$ 7.00	\$ 140
57A	10	Beryllium Alt. Method	200.8/6020	0.0002 mL	\$ 8.00	\$ 80
57B	10	Beryllium (Solid)	6010	0.05 mg/kg	\$ 7.00	\$ 70
58	20	Boron	200.7/6010	0.02 mg/L	\$ 7.00	\$ 140
58A	10	Boron Alt. Method	-	-	\$	\$

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ITEM NO.	EST QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
58B	10	Boron (Solid)	6010	0.5	\$ 7.00	\$ 70
59	200	Cadmium	200-7/6010	0.0002 mg/L	\$ 7.00	\$ 1400
59A	20	Cadmium Alt. Method	200-8/6020	0.0002 mg/L	\$ 8.00	\$ 160
59B	10	Cadmium (Solid)	6010	0.25 mg/kg	\$ 7.00	\$ 70
60	500	Calcium	200-7/6010	0.02 mg/L	\$ 7.00	\$ 3500
60A	20	Calcium Alt. Method	-	-	\$	\$
60B	10	Calcium (Solid)	6010	5 mg/kg	\$ 7.00	\$ 70
61	20	Chromium	200-7/6010	0.001 mg/L	\$ 7.00	\$ 140
61A	10	Chromium Alt. Method	200-8/6020	0.0002 mg/L	\$ 8.00	\$ 80
61B	10	Chromium (Solid)	6010	0.25 mg/kg	\$ 7.00	\$ 70
62	20	Cobalt	200-7/6010	0.001 mg/L	\$ 7.00	\$ 140
62A	10	Cobalt Alt. Method	200-8/6020	0.0005	\$ 8.00	\$ 80
62B	10	Cobalt (Solid)	6010	0.5 mg/kg	\$ 7.00	\$ 70
63	200	Copper	200-7/6010	0.001 mg/L	\$ 7.00	\$ 1400
63A	20	Copper Alt. Method	200-8/6020	0.0003 mg/L	\$ 8.00	\$ 160
63B	10	Copper (Solid)	6010	1 mg/kg	\$ 7.00	\$ 70
64	3000	Iron	200-7/6010	0.01 mg/L	\$ 6.50	\$ 19500
64A	100	Iron Alt. Method	-	-	\$	\$
64B	10	Iron (Solid)	6010	5 mg/kg	\$ 7.00	\$ 70
65	200	Lead	200-8/6020	0.001 mg/L	\$ 8.00	\$ 1600
65A	10	Lead Alt. Method	200-7/6010	0.005 mg/L	\$ 7.00	\$ 70
65B	10	Lead (Solid)	6010	1.5 mg/kg	\$ 7.00	\$ 70
66	500	Magnesium	200-7/6010	0.05 mg/L	\$ 7.00	\$ 3500
66A	20	Magnesium Alt. Method	-	-	\$	\$
66B	10	Magnesium (Solid)	6010	15 mg/kg	\$ 7.00	\$ 70
67	3000	Manganese	200-7/6010	0.005 mg/L	\$ 6.50	\$ 19500
67A	100	Manganese Alt. Method	200-8/6020	0.0001 mg/L	\$ 8.00	\$ 800
67B	10	Manganese (Solid)	6010	1 mg/kg	\$ 7.00	\$ 70
68	200	Mercury	245-1/7470	0.0001 mg/L	\$ 20.00	\$ 4000
68A	200	Mercury / Method 1631E	EPA 1631E	0.5 ng/L	\$ 45.00	\$ 9000
68B	10	Mercury (Solid)	245-7/471	0.2 mg/kg	\$ 20.00	\$ 200
69	20	Molybdenum	200-7/6010	0.005 mg/L	\$ 7.00	\$ 140
69A	10	Molybdenum Alt. Method	200-8/6020	0.0003 mg/L	\$ 8.00	\$ 80
69B	10	Molybdenum (Solid)	6010	1.5 mg/kg	\$ 7.00	\$ 70
70	200	Nickel	200-7/6010	0.005 mg/L	\$ 7.00	\$ 1400
70A	20	Nickel Alt. Method	200-8/6020	0.0004 mg/L	\$ 8.00	\$ 160
70B	10	Nickel (Solid)	6010	1 mg/kg	\$ 7.00	\$ 70
71	500	Potassium	200-7/6010	0.05 mg/L	\$ 7.00	\$ 3500
71A	20	Potassium Alt. Method	-	-	\$	\$
71B	10	Potassium (Solid)	6010	20 mg/kg	\$ 7.00	\$ 70
72	500	Selenium	200-8/6020	0.001 mg/L	\$ 8.00	\$ 4000
72A	20	Selenium Alt. Method	200-7/6010	0.01 mg/L	\$ 7.00	\$ 140
72B	10	Selenium (Solid)	6010	10 mg/kg	\$ 7.00	\$ 70
73	200	Silver	200-8/6020	0.0002 mg/L	\$ 8.00	\$ 1600
73A	20	Silver Alt. Method	200-7/6010	0.001 mg/L	\$ 7.00	\$ 140
73B	10	Silver	6010	5 mg/kg	\$ 7.00	\$ 70
74	500	Sodium	200-7/6010	0.05 mg/L	\$ 7.00	\$ 3500
74A	20	Sodium Alt. Method	-	-	\$	\$
74B	10	Sodium (Solid)	6010	20 mg/kg	\$ 7.00	\$ 70
75	20	Thallium	200-8/6020	0.001 mg/L	\$ 8.00	\$ 160
75A	10	Thallium Alt. Method	200-7/6010	0.01 mg/L	\$ 7.00	\$ 70
75B	10	Thallium (Solid)	6010	2 mg/kg	\$ 7.00	\$ 70
76	20	Tin	200-7/6010	0.02 mg/L	\$ 7.00	\$ 140
76A	10	Tin Alt. Method	-	-	\$	\$

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ITEM NO.	EST. QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
76B	10	Tin (Solid)	6010	10 mg/kg	\$ 7.00	\$ 70
77	20	Vanadium	200.7/6010	0.005 mg/L	\$ 7.00	\$ 140
77A	10	Vanadium Alt. Method	200.8/6020	0.0015 mg/L	\$ 8.00	\$ 80
77B	10	Vanadium (Solid)	6010	0.3 mg/kg	\$ 7.00	\$ 70
78	200	Zinc	200.7/6010	0.002 mg/L	\$ 7.00	\$ 1400
78A	20	Zinc Alt. Method	200.8/6020	0.0004 mg/L	\$ 8.00	\$ 160
78B	10	Zinc (Solid)	6010	3 mg/kg	\$ 7.00	\$ 70
79	200	Metals Prep Cost <i>for each ICP, ICPMS, & HANAL</i>	-	-	\$ 7.00	\$ 1400
79A	10	Metals Prep Cost (Solid)	5W30508	-	\$ 7.00	\$ 70
80	20	Gross Alpha	900.0	0.38 pci/L	\$ 34.00	\$ 680
81	20	Gross Beta	900.0	0.41 pci/L	\$ 42.00	\$ 840
82	20	Ra-226	903.0	0.26 pci/L	\$ 60.00	\$ 1200
83	20	Ra-228	904.0	0.74 pci/L	\$ 78.00	\$ 1560
84	20	Total Uranium	908.0	0.97 pci/L	\$ 48.00	\$ 960
85	20	Sr-89	905.0	3 pci/L	\$ 150.00	\$ 3000
86	20	Sr-90	905.0	3 pci/L	\$ 150.00	\$ 3000
87	20	Tritium (H3)	906.0	3 pci/L	\$ 120.00	\$ 2400
88	20	Gamma (Cs-137)	901.0	3 pci/L	\$ 180.00	\$ 3600
89	20	Radon	7500	100 pci/L	\$ 78.00	\$ 1560

Toxicity Testing - Freshwater Organisms *applied for certification to DEP*
Acute:

90	25	Ceriodaphnia			\$ 250	\$ 6250
91	10	Daphnia Pulex / D. magna			\$ 250	\$ 2500
92	25	Pimephales promelas			\$ 200	\$ 5000
Chronic:						
93	25	Ceriodaphnia			\$ 750	\$ 18750
94	25	Pimephales promelas (Survival & Growth)			\$ 800	\$ 20000

95	200	Analysis of entire "Phase I Parameters" for landfills See Appendix B for list.			\$ 350	\$ 70000
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96	10	Professional staff representation of data in legal/administrative setting per hour			\$ 75.00	\$ 750
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Collection of samples - costs associated with sample pickup from the following locations:

97	24	Charleston Office, 601 57th St., SE, Charleston, WV 25304			\$ 00	\$ 00
98	24	Teays Office, P.O. Box 662, Teays, WV 25596			\$ 00	\$ 00
99	24	Fairmont Office, 2031 Pleasant Valley Rd., Fairmont, WV 26554			\$ 50	\$ 1200
100	24	Romney Office, HC 63, Box 2545, Romney, WV 26757			\$ 90	\$ 2160
101	24	French Creek Office, P.O. Box 38, French Creek, WV 26218			\$ 50	\$ 1200
102	24	Wheeling Office, 131A Peninsula St., Wheeling, WV 26003			\$ 90	\$ 2160
103	24	Parkersburg Office, 2311 Ohio Ave., Parkersburg, WV 26010			\$ 40	\$ 960
104	24	Oak Hill Office, 116 Industrial Dr., Oak Hill, WV 25901			\$ 40	\$ 960

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ITEM NO.	EST. QUANTITY	DESCRIPTION	Method #	Method Dection Level*	UNIT PRICE	AMOUNT
105	24	Logan Office, 1101 George Kostas Dr. Logan, 25601			\$ 35	\$ 840
106	24	Welch Office, 311 Court St. Welch 24801			\$ 80	\$ 1920
107	5000	Other locations as Cost Per Mile to pickup site			\$ 0.40	\$ 2000
108	10	24 Hour Turn-Around Rush Orders**		75% Surcharge		\$
109	10	48 Hour Turn-Around Rush Orders**		50% Surcharge		\$
110	10	72 Hour Turn Around Rush Orders**		25% Surcharge		\$
TOTAL						\$573407.50

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

* For Alternate test methods (and methods for which no MDL is listed), list your current method detection limit for each method

**During emergency situations samples may be requested on a quicker turn-around basis.



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Phone: (304) 926-0495
Fax: (304) 926-0497

Joe Manchin III, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

October 29, 2010

Mukesh Shah
President
Bio-Chem Testing, Inc.
P.O. Box 634
Teays, WV 255690634

Dear Mr. Shah:

Please find enclosed an ATTACHMENT I extending certification of your facility through December 31, 2010.

If you have any questions, and if I can be of further assistance please call me at (304) 926-0499 ext. 1601 or e-mail me at Tommy.W.Smith@wv.gov.

Sincerely,

Tommy W. Smith II
Quality Assurance Officer
ts

Enclosure:

Attachment I

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

Annual Certified Parameter List

for

BIO-CHEM TESTING, INC.
TEAYS, WEST VIRGINIA

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Acidity	SM19th2310 B(4a)	Titrimetric
Alkalinity	SM19th2320 B	Titrimetric
Ammonia	SM18th4500-NH3 E	Titrimetric
Ammonia	HACH8038	Spectrophotometric
Bromide	EPA300.0 Rev. 2.1	IC
Chloride	EPA300.0 Rev. 2.1	IC
Chloride	SM19th4500-Cl C	Titrimetric
Chlorine, Residual	SM19th4500-Cl G	Spectrophotometric
Chlorine, Residual (Field Test)	SM19th4500-Cl G	Spectrophotometric
Color	SM19th2120 B	Visual Comparison
Color	SM19th2120 E	Colorimetric
Conductance, Specific	EPA120.1	Probe
Cyanide, Total	SM19th4500-CN E	Spectrophotometric
Cyanide, Available	SM19th4500-CN E	Spectrophotometric
Demand, Biochemical Oxygen (BOD)	SM19th5210 B	Probe
Demand, Carbonaceous (CBOD)	SM19th5210 B	Probe
Demand, Chemical Oxygen (COD)	HACH8000	Spectrophotometric
Fluoride	EPA300.0 Rev. 2.1	IC
Hardness, Calcium	SM19th2340B	Calculation
Hardness, Total	SM19th2340 B	Calculation
Hardness, Total	SM19th2340 C	Titrimetric
Kjeldahl, Total Nitrogen	SM19th4500-NH3 C	Titrimetric
Kjeldahl, Total Nitrogen	HACH8038	Spectrophotometric
Nitrate	EPA300.0 Rev. 2.1	IC
Nitrate	EPA353.2 Rev. 2.0	Spectrophotometric
Nitrate-Nitrite	EPA300.0 Rev. 2.1	IC
Nitrate-Nitrite	EPA353.2 Rev. 2.0	Spectrophotometric

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Nitrite	EPA300.0 Rev. 2.1	IC
Nitrite	EPA353.2 Rev. 2.0	Spectrophotometric
Oil & Grease	EPA1664 A	Gravimetric
Organic Carbon, Total	SM19th5310 C	Oxidation
Phenolics, Total	EPA420.1 Rev 1978	Manual Spectrophotometric
Phosphorus, ortho	SM19th4500 P E	Manual Spectrophotometric
Phosphorus, Total	SM19th4500 P E	Manual Spectrophotometric
Phosphorus, Total	EPA365.1 Rev 2.0	Manual Spectrophotometric
Silica, Dissolved	EPA200.7 Rev. 4.4-1994	ICP
Silica, Dissolved	SW6010B	ICP
Solids, Dissolved	SM19th2540 C	Gravimetric
Solids, Settleable	SM19th2540 F	Imhoff
Solids, Suspended	SM19th2540 D	Gravimetric
Solids, Total	SM19th2540 B	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0 Rev. 2.1	IC
Temperature	SM19th2550 B	Thermometric
Turbidity	EPA180.1 Rev. 2.0	Turbidimetric
Oxygen, Dissolved	SM19th4500-O G	Probe
Oxygen, Dissolved (Field Test)	SM19th4500-O G	Probe
pH	SM19th4500-H B	Probe
pH(Field Test)	SM19th4500-H B	Probe
Ammonia	SM190th4500-NH3 B	Distillation
Cyanide	SM19th4500-CN C	Distillation
Cyanide	SM19th4500-CN I	Distillation
Phosphorus, Total	SM19th4500-P B.5	Digestion
Total Kjeldahl Nitrogen	SM19th4500-Norg C	Digestion
Total Kjeldahl Nitrogen	SM19th4500-NH3 B	Distillation

NONPOTABLE WATER TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Barium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Boron	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Calcium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.7 Rev 4.4-1994	ICP
Iron	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.7 Rev 4.4-1994	ICP

METALMETHODTECHNOLOGY

Magnesium	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.7 Rev 4.4-1994	ICP
Nickel	EPA200.7 Rev 4.4-1994	ICP
Potassium	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.7 Rev 4.4-1994	ICP
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.7 Rev 4.4-1994	ICP
Sodium	EPA200.7 Rev 4.4-1994	ICP
Strontium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.7 Rev 4.4-1994	ICP
Tin	EPA200.7 Rev 4.4-1994	ICP
Titanium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Zinc	EPA200.7 Rev 4.4-1994	ICP
Aluminum	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	EPA200.8 Rev 5.4-1994	ICPMS
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Nickel	EPA200.8 Rev 5.4-1994	ICP-MS
Selenium	EPA200.8 Rev 5.4-1994	ICP-MS
Silver	EPA200.8 Rev 5.4-1994	ICP-MS
Thallium	EPA200.8 Rev 5.4-1994	ICP-MS
Vanadium	EPA200.8 Rev 5.4-1994	ICP-MS
Zinc	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Arsenic	SW6010B	ICP
Barium	SW6010B	ICP
Beryllium	SW6010B	ICP
Boron	SW6010B	ICP
Cadmium	SW6010B	ICP
Calcium	SW6010B	ICP
Chromium	SW6010B	ICP
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Iron	SW6010B	ICP
Lead	SW6010B	ICP
Magnesium	SW6010B	ICP

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Manganese	SW6010B	ICP
Molybdenum	SW6010B	ICP
Nickel	SW6010B	ICP
Potassium	SW6010B	ICP
Selenium	SW6010B	ICP
Silicon	SW6010B	ICP
Silver	SW6010B	ICP
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Aluminum	SW6020	ICP-MS
Antimony	SW6020	ICP-MS
Arsenic	SW6020	ICP-MS
Barium	SW6020	ICP-MS
Beryllium	SW6020	ICP-MS
Cadmium	SW6020	ICP-MS
Chromium	SW6020	ICP-MS
Cobalt	SW6020	ICP-MS
Copper	SW6020	ICP-MS
Lead	SW6020	ICPMS
Manganese	SW6020	ICP-MS
Molybdenum	SW6020	ICP-MS
Nickel	SW6020	ICP-MS
Selenium	SW6020	ICP-MS
Silver	SW6020	ICP-MS
Thallium	SW6020	ICP-MS
Vanadium	SW6020	ICP-MS
Zinc	SW6020	ICP-MS
Mercury	EPA245.1	CVAA
Mercury	SW7470A	CVAA
Mercury	EPA245.5	CVAA
Antimony	SM19th3113B	GFAA
Arsenic	SM19th3113B	GFAA
Cadmium	SM19th3113B	GFAA
Copper	SM19th3113B	GFAA
Lead	SM19th3113B	GFAA
Selenium	SM19th3113B	GFAA
Silver	SM19th3113B	GFAA
Thallium	EPA279.2	GFAA
Metals	SM19th3030E	Digestion
Metals	SM19th3030F	Digestion
Chromium, Hexavalent	SM19th3500-Cr D	Colorimetric
Total Recoverable Metals	EPA200.7 Rev 4.4-1994	Digestion

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Metals	EPA200.7 Rev 4.4-1994	Digestion
Dissolved Metals	EPA200.7 Rev 4.4-1994	
Total Recoverable Metals	EPA200.8 Rev 5.4-1994	Digestion
Total Metals	EPA200.8 Rev 5.4-1994	Digestion
Dissolved Metals	EPA200.8 Rev 5.4-1994	

NONPOTABLE WATER MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Fecal Coliform	SM19th9222 D	Membrane Filter
Fecal Coliform	SM19th9221 E	Most Probable Number
Total Coliform	SM19th9222 B	Membrane Filter
E-coli	HACH10029	Membrane Filter

HAZARDOUS WASTE CHARACTERISTICS

<u>PROCEDURE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Corrosivity	SW9040 C	Probe
Reactive Cyanide	Run Total Cyanide by SW9010/9014	
Paint Filter Test	SW9095B	Gravimetric
TCLP (Metals)	SW1311	Rotating Extractor
SPLP (Metals)	SW1312	Rotating Extractor

SOLID AND CHEMICAL INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
pH	SW9045C	Probe
Ammonia	SM18th4500-NH3 E	Titrimetric
Ammonia	HACH8038	Spectrophotometric
Chloride	SM19th4500-Cl C	Titrimetric
Chloride	EPA300.0 Rev. 2.1	IC
Cyanide, Total	SM19th4500-CN E	Spectrophotometric
Fluoride	EPA300.0 Rev. 2.1	IC
Kjeldahl, Total Nitrogen	SM19th4500-NH3 C	Titrimetric
Kjeldahl, Total Nitrogen	HACH8038	Spectrophotometric
Nitrate	EPA300.0 Rev. 2.1	IC
Nitrate	EPA353.2 Rev. 2.0	Spectrophotometric
Nitrate-Nitrite	EPA300.0 Rev. 2.1	IC
Nitrate-Nitrite	EPA353.2 Rev. 2.0	Spectrophotometric
Nitrite	EPA300.0 Rev. 2.1	IC
Nitrite	EPA353.2 Rev. 2.0	Spectrophotometric
Phosphorus, Total	SM20th4500-P E	Manual Spectrophotometric

ANALYTEMETHODTECHNOLOGY

Phosphorus, Total	EPA365.1 Rev. 2.0	Manual Spectrophotometric
Solids, Total	SM19th2540 B	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0 Rev. 2.1	IC
Ammonia	SM18th4500-NH3 B (M)*	Distillation
Cyanide, Total	SM19th4500-CN C	Distillation
Total Kjeldahl Nitrogen	SM19th4500Norg B	Digestion
Total Kjeldahl Nitrogen	SM19th4500-NH3 B	Distillation
Phosphorus, Total	SM19th4500-P B.5 (M)*	Digestion

*Modified for analysis of solid and chemical matrices.

SOLID AND CHEMICAL TRACE METALS

METALMETHODTECHNOLOGY

Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Arsenic	SW6010B	ICP
Barium	SW6010B	ICP
Beryllium	SW6010B	ICP
Boron	SW6010B	ICP
Cadmium	SW6010B	ICP
Calcium	SW6010B	ICP
Chromium	SW6010B	ICP
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Iron	SW6010B	ICP
Lead	SW6010B	ICP
Magnesium	SW6010B	ICP
Manganese	SW6010B	ICP
Molybdenum	SW6010B	ICP
Nickel	SW6010B	ICP
Potassium	SW6010B	ICP
Selenium	SW6010B	ICP
Silicon	SW6010B	ICP
Silver	SW6010B	ICP
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Uranium	SW6010B	ICP
Antimony	SW7010	GFAA

METAL

METHOD

TECHNOLOGY

Arsenic	SW7010	GFAA
Cadmium	SW7010	GFAA
Copper	SW7010	GFAA
Lead	SW7010	GFAA
Selenium	SW7010	GFAA
Silver	SW7010	GFAA
Thallium	SW7010	GFAA
Mercury	SW7471A	CVAA
Mercury	SW7470A	CVAA
Metals	SW3050B	Digestion

SOLID AND CHEMICAL MICROBIOLOGY

GROUP

METHOD

TECHNOLOGY

Fecal Coliform	SM19th9221E	Most Probable Number
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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, 2010.

Certificate No 220

Tommy W. Smith II Issued on October 29, 2010

Tommy W. Smith II
Quality Assurance Officer



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street, SE
Charleston, WV 25304
Phone: 304-926-0495
Fax: 304-926-0496

Joe Manchin III, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

August 03, 2010

Charles Jones, Jr. (3EA00)
Regional Quality Assurance Officer
US-EPA, Region III
Environmental Assessment and Innovation Division
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Jones:

The WV DEP has reviewed the Alternate Test Procedure application for analysis of Selenium by Gaseous Hydride/Atomic Fluorescence, submitted by BioChem Testing, Inc. and has determined that it meets the requirements of the program. It is position of WV DEP that the application should be approved.

This technology appears to provide superior results compared to ICP-MS and GFAA in complex matrices, especially those matrices associated with the mining industry.

If you have any questions please contact Daniel T. Arnold at (304) 926-0499 Ext. 1341 or email Daniel.T.Arnold@wv.gov.

Respectfully submitted,
WATER AND WASTE MANAGEMENT

Scott G. Mandirola
Director

dta

CC: Daniel T. Arnold, WV DEP
John M. Joseph, BioChem

Attachment I

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

Annual Certified Parameter List

for

REI CONSULTANTS, INCORPORATED
BEAVER, WEST VIRGINIA

PARAMETERS CERTIFIED

NONPOTABLE WATER INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Acidity	SM18th2310 B	Titrimetric
Alkalinity	SM18th2320 B	Titrimetric
Ammonia	EPA350.1	Discrete
Bromide	EPA300.0	IC
Chloride	EPA300.0	IC
Chlorine, Residual	SM18th4500-Cl G	Spectrophotometric
Color	SM18th2120 B	Visual Comparison
Color	SM18th2120 E	Colorimetric
Conductance, Specific	SM18th2510 B	Probe
Cyanide, Total	EPA335.4	Spectrophotometric
Cyanide, Amenable to Chlorination	SM18th4500-CN G	Spectrophotometric
Cyanide, WAD	SM18th4500-C I	Spectrophotometric
Demand, Biochemical(BOD)	SM18th5210B	Probe
Demand, Carbonaceous(CBOD)	SM18th5210B	Probe
Demand, Chemical Oxygen (COD)	EPA410.4	Spectrophotometric
Fluoride	EPA300.0	IC
Hardness, Calcium	SM18th2340 B	Calculation
Hardness, Total	SM18th2340 B	Calculation
Kjeldahl, Total Nitrogen	SM18th4500-NH3 E	Titration
Kjeldahl, Total Nitrogen	EPA351.2	Discrete
Nitrate	EPA300.0	IC
Nitrate-Nitrite	EPA300.0	IC
Nitrite	EPA300.0	IC
Oil & Grease	EPA1664A	Gravimetric
Organic Carbon, Total	SM18th5310 C	Oxidation
Phenolics, Total	EPA420.1 Rev 1978	Manual Spectrophotometric

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Phosphate, ortho	EPA300.0	IC
Phosphorus, Total	SW18th4500-P E	Discrete
Silica, Dissolved	EPA200.7	ICP
Solids, Dissolved	SM18th2540 C	Gravimetric
Solids, Settleable	SM18th2540 F	Gravimetric
Solids, Suspended	SM18th2540 D	Gravimetric
Solids, Total	SM18th2540 B	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0	IC
Sulfide	SM18th4500-S2 E	Titrimetric
Sulfite	SM18th4500-SO3 B	Titrimetric
Surfactants (MBAS)	SM18th5540 C	Spectrophotometric
Temperature	SM18th2550 B	
Turbidity	SM18th2130 B	Turbidimetric
Oxygen, Dissolved	SM18th4500-O G	Probe
Oxygen, Dissolved(Field Test)	SM18th4500-O G	Probe
pH	SM18th4500-H B	Probe
pH(Field Test)	SM18th4500-H B	Probe
Ammonia	EPA350.1	Distillation
Cyanide	EPA335.4	Distillation
Phenolics	EPA420.1	Distillation
Phosphorus, Total	SM18th4500-P B.5	Digestion
Total Kjeldahl Nitrogen	SM18th4500Norg B	Digestion
Total Kjeldahl Nitrogen	SM18th4500-NH3 B	Distillation

NONPOTABLE WATER TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Barium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Boron	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Calcium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.7 Rev 4.4-1994	ICP
Gold	EPA200.7 Rev 4.4-1994	ICP
Iron	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.7 Rev 4.4-1994	ICP
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.7 Rev 4.4-1994	ICP

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Nickel	EPA200.7 Rev 4.4-1994	ICP
Potassium	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.7 Rev 4.4-1994	ICP
Silicon	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.7 Rev 4.4-1994	ICP
Sodium	EPA200.7 Rev 4.4-1994	ICP
Strontium	EPA200.7 Rev 4.4-1994	ICP
Thallium	EPA200.7 Rev 4.4-1994	ICP
Tin	EPA200.7 Rev 4.4-1994	ICP
Titanium	EPA200.7 Rev 4.4-1994	ICP
Vanadium	EPA200.7 Rev 4.4-1994	ICP
Zinc	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Gold	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	EPA200.8 Rev 5.4-1994	ICP-MS
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Nickel	EPA200.8 Rev 5.4-1994	ICP-MS
Palladium	EPA200.8 Rev 5.4-1994	ICP-MS
Platinum	EPA200.8 Rev 5.4-1994	ICP-MS
Selenium	EPA200.8 Rev 5.4-1994	ICP-MS
Silver	EPA200.8 Rev 5.4-1994	ICP-MS
Strontium	EPA200.8 Rev 5.4-1994	ICP-MS
Thallium	EPA200.8 Rev 5.4-1994	ICP-MS
Tin	EPA200.8 Rev 5.4-1994	ICP-MS
Titanium	EPA200.8 Rev 5.4-1994	ICP-MS
Vanadium	EPA200.8 Rev 5.4-1994	ICP-MS
Zinc	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6020A	ICP-MS
Arsenic	EPA200.9 Rev 2.2-1994	STGFAA
Cadmium	EPA200.9 Rev 2.2-1994	STGFAA
Chromium	EPA200.9 Rev 2.2-1994	STGFAA
Lead	EPA200.9 Rev 2.2-1994	STGFAA
Selenium	EPA200.9 Rev 2.2-1994	STGFAA
Mercury	EPA245.1	CVAA
Mercury	SW7470A	CVAA
Mercury	SW7471A	CVAA
Selenium	SM18th3114 B	GH/AF
Chromium, Hexavalent	SM18th3500-Cr D	Colorimetric
Metals digestion	SW3020A	Hot Block

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Recoverable	EPA200.2 Rev -1994	Digestion
Dissolved Metals	EPA200.7 Rev 4.4-1994	
Mercury	SW7470A	CVAA
Mercury	SW7471A	Digestion

NONPOTABLE WATER MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Fecal Coliform	SM18th9222 D	Membrane Filter
Fecal Coliform	SM18th9223 B	Most Probable Number
Total Coliform	SM18th9222 B	Membrane Filter
Total Coliform	SM18th9223 B	Most Probable Number
Fecal Streptococci	SM18th9230 C	Membrane Filter
Heterotrophic Plate Count (HPC)	SM9215 B	Pour Plate
Heterotrophic Plate Count (HPC)	SM9215 E	Membrane Filter

NONPOTABLE WATER VOLATILE ORGANIC CHEMICALS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Purgeable Halocarbons	EPA601	GC/ELCD
Purgeable Aromatics	EPA602	GC/PID
Acrolein & Acrylonitrile	EPA603	GC/FID
Purgeables	EPA624	GC/MS
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Nonhalogenated Volatiles	SW8015C	GC/FID
Halogenated & Aromatic Volatiles	SW8021B	GC/ELCD/PID
Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW5030B	Purge and Trap
Volatile Organic Compounds	SW5035	Purge and Trap, Closed

NONPOTABLE WATER EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
EDB/DBCP	EPA504	GC/ECD
Phenols	EPA604	GC/FID
Pesticides and PCBs	EPA608	GC/ECD
Base/Neutrals and Acids	EPA625	GC/MS
EDB & DBCP	SW8011	GC/ECD
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Phenols	SW8041	GC/FID

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Organochlorine Pesticides	SW8081B	GC/ECD
Polychlorinated Biphenyls	SW8082A	GC/ECD
Polynuclear Aromatic Hydrocarbons	SW8100	GC/FID
Chlorinated Herbicides	SW8151A	GC/ECD
Semivolatile Organic Compounds	SW8270D	GC/MS
Carbonyl Compounds	SW8315A	HPLC
Nitroaromatics and Nitroamines	SW8330	HPLC
Nitroglycerin	SW8332	HPLC
Liquid-Liquid Extraction	SW3510	Separatory Funnel
Waste Dilution	SW3580	
Chlorinated Herbicides	SW8151A	Extraction
Florisil Cleanup	SW3620	Cleanup
Sulfur Cleanup	SW3660	Cleanup
Acid Cleanup	SW3665	Cleanup
Carbonyl Compounds	SW8315A	Extraction
Nitroaromatics and Nitroamines	SW8330	Extraction

WHOLE EFFLUENT TOXICITY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Fathead minnow	EPA821-R-02-012 2000.0	Acute
Ceriodaphnia dubia	EPA821-R-02-012 2002.0	Acute
Survival & Reproduction of Ceriodaphnia	EPA821-R-02-013 1000.0	Chronic
Survival & Growth of Fathead Minnow Larval	EPA821-R-02-013 1002.0	Chronic

HAZARDOUS WASTE CHARACTERISTICS

<u>PROCEDURE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Corrosivity	SW9045 D	Probe
Corrosivity	SW9040 C	Probe
Ignitability	SW1010	Closed Cup
Reactive Cyanide	Run Total Cyanide by SW9010/9014	
Reactive Sulfide	Run Total Sulfide by SW9030B/9034	
Paint Filter Test	SW9095B	Gravimetric
TCLP (Metals and Organics)	SW1311 A	Rotating Extractor

SOLID AND CHEMICAL INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
pH	SW9045C	Probe
*Acidity	SM18th2310 B	Titrimetric
*Alkalinity	SM18th2320 B	Titrimetric
*Ammonia	EPA350.1	Discrete
*Ammonia	SM18th4500-NH3 E	Titrimetric
*Bromide	EPA300.0	IC
*Chloride	EPA300.0	IC
*Cyanide, Total	EPA335.4	Spectrophotometric
*Demand, Chemical (COD)	EPA410.4	Spectrophotometric
*Fluoride	EPA300.0	IC
*Kjeldahl, Total Nitrogen	EPA351.2	Discrete
*Kjeldahl, Total Nitrogen	SM18th4500-NH3 E	Titrimetric
*Nitrate	EPA300.0	IC
*Nitrate-Nitrite	EPA300.0	IC
*Nitrite	EPA300.0	IC
*Oil & Grease	EPA1664A	Gravimetric
Organic Carbon, Total	SM18th5310 C	Oxidation
*Phenolics, Total	EPA420.1 Rev 1978	Manual Spectrophotometric
*Phosphate, ortho	EPA300.0	IC
Phosphate, Total	SW6010C	ICP
Solids, Total	SM18th2540 B	Gravimetric
Solids, Volatile	SM18th2540 E	Gravimetric
Solids, Volatile	SM18th2540 G	Gravimetric
*Sulfate	EPA300.0	IC
*Ammonia	SM18th4500-NH3 B	Distillation
*Kjeldahl, Total Nitrogen	SM18th4500-Norg B	Digestion
*Kjeldahl, Total Nitrogen	SM18th4500-NH3 B	Distillation
* <u>Modified for soil analysis</u>		

SOLID AND CHEMICAL TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	SW6010C	ICP
Antimony	SW6010C	ICP
Arsenic	SW6010C	ICP
Barium	SW6010C	ICP
Beryllium	SW6010C	ICP
Boron	SW6010C	ICP
Cadmium	SW6010C	ICP
Calcium	SW6010C	ICP
Chromium	SW6010C	ICP
Cobalt	SW6010C	ICP
Copper	SW6010C	ICP
Gold	SW6010C	ICP

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Iron	SW6010C	ICP
Lead	SW6010C	ICP
Magnesium	SW6010C	ICP
Manganese	SW6010C	ICP
Molybdenum	SW6010C	ICP
Nickel	SW6010C	ICP
Potassium	SW6010C	ICP
Selenium	SW6010C	ICP
Silicon	SW6010C	ICP
Silver	SW6010C	ICP
Sodium	SW6010C	ICP
Strontium	SW6010C	ICP
Thallium	SW6010C	ICP
Tin	SW6010C	ICP
Titanium	SW6010C	ICP
Vanadium	SW6010C	ICP
Zinc	SW6010C	ICP
Aluminum	SW6020A	ICP-MS
Antimony	SW6020A	ICP-MS
Arsenic	SW6020A	ICP-MS
Barium	SW6020A	ICP-MS
Beryllium	SW6020A	ICP-MS
Cadmium	SW6020A	ICP-MS
Chromium	SW6020A	ICP-MS
Cobalt	SW6020A	ICP-MS
Copper	SW6020A	ICP-MS
Gold	SW6020A	ICP-MS
Lead	SW6020A	ICP-MS
Manganese	SW6020A	ICP-MS
Molybdenum	SW6020A	ICP-MS
Nickel	SW6020A	ICP-MS
Palladium	SW6020A	ICP-MS
Platinum	SW6020A	ICP-MS
Selenium	SW6020A	ICP-MS
Silver	SW6020A	ICP-MS
Strontium	SW6020A	ICP-MS
Thallium	SW6020A	ICP-MS
Tin	SW6020A	ICP-MS
Titanium	SW6020A	ICP-MS
Vanadium	SW6020A	ICP-MS
Zinc	SW6020A	ICP-MS
Arsenic	SW7010	GFAA
Cadmium	SW7010	GFAA
Chromium	SW7010	GFAA
Lead	SW7010	GFAA
Selenium	SW7010	GFAA
Mercury	EPA245.1	CVAA

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Mercury	SW7471A	CVAA
Mercury	SW7471B	CVAA
Chromium, Hexavalent	SM18th3500-Cr D	Colorimetric
Chromium, Hexavalent	SW3060	Digestion
Metals	SW3050B	Digestion

SOLID AND CHEMICAL MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Fecal Coliform	SM18th9222 D	Membrane Filter
Fecal Coliform	SM18th9223 B	Most Probable Number
Total Coliform	SM18th9222 B	Membrane Filter
Total Coliform	SM18th9223 B	Most Probable Number
Fecal Streptococci	SM18th9230 C	Membrane Filter

SOLID AND CHEMICAL VOLATILE ORGANIC CHEMICALS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Purgeable Halocarbons	EPA601	GC/ELCD
Purgeable Aromatics	EPA602	GC/PID
Acrolein & Acrylonitrile	EPA603	GC/FID
Purgeables	EPA624	GC/MS
Total Petroleum Hydrocarbons (GRO)	SW8015C	GC/FID
Nonhalogenated Volatiles	SW8015C	GC/FID
Halogenated & Aromatic Volatiles	SW8021B	GC/ELCD/PID
Volatile Organic Compounds	SW8260B	GC/MS
Volatile Organic Compounds	SW5035	Purge and Trap, Closed

SOLID AND CHEMICAL EXTRACTABLE AND SEMI-VOLATILE ORGANIC CHEMICALS

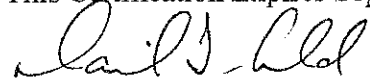
<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
EDB/DBCP	EPA504	GC/ECD
Phenols	EPA604	GC/FID
Pesticides and PCBs	EPA608	GC/ECD
Base/Neutrals and Acids	EPA625	GC/MS
EDB & DBCP	SW8011	GC/ECD
Total Petroleum Hydrocarbons (DRO)	SW8015C	GC/FID
Phenols	SW8041	GC/FID
Organochlorine Pesticides	SW8081B	GC/ECD
Polychlorinated Biphenyls	SW8082A	GC/ECD

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Polynuclear Aromatic Hydrocarbons	SW8100	GC/FID
Chlorinated Herbicides	SW8151A	GC/ECD
Semivolatile Organic Compounds	SW8270D	GC/MS
Carbonyl Compounds	SW8315A	HPLC
Nitroaromatics and Nitroamines	SW8330	HPLC
Nitroglycerin	SW8332	HPLC
Liquid-Liquid Extraction	SW3510	Separatory Funnel
Ultrasonic Extraction	SW3550	UE
Waste Dilution	SW3580	
Chlorinated Herbicides	SW8151A	Extraction
Florasil Cleanup	SW3620	Cleanup
Sulfur Cleanup	SW3660	Cleanup
Acid Cleanup	SW3665	Cleanup
Carbonyl Compounds	SW8315A	Extraction
Nitroaromatics and Nitroamines	SW8330	Extraction

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 September 30, 2011.

Certificate No 060



Issued on September 28, 2010

Daniel T. Arnold
Program Manager

Attachment I

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

Annual Certified Parameter List

for

**SUMMIT ENVIRONMENTAL TECHNOLOGIES, INCORPORATED
CUYAHOGA FALLS, OHIO**

PARAMETERS CERTIFIED

LIMITED CHEMISTRY: pH(Field Test)(SM20th4500-H B), Phenolics, Total(SM20th5310 D, Phosphorus, Total(SM20th4500-P B.5 + SM20th4500-P E), Cyanide, Reactive(SW9010B), Cyanide, Total(SW9010B), Cyanide, Total(SW9014), Sulfide(SW9030B), Sulfide, Reactive(SW9030B), Sulfide, Reactive(SW9034A), Sulfide(SW9030B), Sulfide(SW9034A), Oil & Grease(EPA1664A), Oil & Grease(SW9070), Oil & Grease(SW9071B), Corrosivity, pH (Lab)(SW9040C), Corrosivity, pH(Solid & Waste)(SW9045D), Phenolics(SW9065)

IC:

EPA300.0 Rev 2.1-1993 - Bromide, Chloride, Fluoride, Nitrate, Nitrate-Nitrite, Nitrite, Phosphorus, Ortho, Sulfate

SW9056 - Bromide, Chloride, Fluoride, Nitrate, Nitrate-Nitrite, Nitrite, Phosphorus, Ortho, Sulfate

Demand: Oxygen, Chemical, (COD)(SM20th5220 C), Organic Carbon, Total, (TOC)(SM20th5310 B)

SM20th5210 B - Oxygen, Biochemical, (BOD), Oxygen, Biochemical, Carbonaceous, (CBOD)

Nitrogen: Ammonia(SM20th4500-NH3 B + SM20th4500-NH3 F), Kjeldahl, Total, (TKN)(SM20th4500Norg B + SM20th4500NH3 B + SM20th4500NH3 D)

Solids: Dissolved(SM20th2540 C), Suspended(SM20th2540 D), Total(SM20th2540 B)

ICP: Phosphorus, Total(EPA200.7 Rev 4.4-1994)

MISCELLANEOUS: Surfactants, (MBAS)(SM20th5540 C), Total Organic Halides(SW9020B), Total Organic Halides(SW9023)

METALS:

ICP:

EPA200.7 Rev 4.4-1994 – Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Phosphorus, Selenium, Silicon, Silver, Sodium, Thallium, Tin, Titanium Vanadium, Zinc

SW6010B - Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Phosphorus, Selenium, Silicon, Silver, Sodium, Thallium, Tin, Titanium Vanadium, Zinc

CVAA: Mercury(EPA245.1 Rev 3.0-1994)

CVAA-Liquids: Mercury(SW7470A)

CVAA-Solids: Mercury(SW7470A)

CVAFS: Mercury(EPA1631E)

Digestion: Acid Digestion of Aqueous samples(EPA200.2)

SAMPLING: Sampling Ambient Water(EPA1669)

ORGANICS:

GC/MS: Purgeables(VOAs)(EPA624), Nonpurgeables(EPA625), Volatile Organic Compounds(VOAs)(SW8260B), Semivolatile Organic Compounds(SW8270C)

GC: Chlorinated Herbicides(EPA615), Total Petroleum Hydrocarbons(TPH) (SW8015B) (Fuels)(GRO & DRO), Halogenated & Aromatic Volatiles(SW8021B)(BTEX & MTBE), Organochlorine Pesticides(SW8081A), Polychlorinated Biphenyls(SW8082), Organophosphorus Compounds(SW8141A)

HRGC/HRMS: Dioxins & Furans (PCDD/F)(EPA1613B), 2,3,7,8-Tetrachlorodibenzo-p-dioxin(EPA1613B), Dioxins & Furans (PCDD/F)(SW8290)

HAZARDOUS WASTE:

Characteristics: Reactivity, Cyanide(SW Chapter 7.3.3.2), Reactivity, Sulfide(SW Chapter 7.3.4.2), Ignitability(SW1010), Cyanide, Reactive(SW9010B), Cyanide, Reactive(SW9014), Sulfide, Reactive(SW9030B), Sulfide, Reactive(SW9034A), Corrosivity, pH(Lab)(SW9040C), Corrosivity, pH(Solid & Waste)(SW9045D)

Digestion: Acid Digestion of Aqueous Samples(EPA200.2), Acid Digestion of Water(SW3005A), Acid Digestion of Aqueous Samples & Extracts(SW3010A), Acid Digestion of Sediments, Sludges, & Soils(SW3050B)

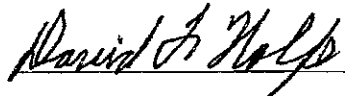
Extractions: Separatory Funnel Liquid-Liquid(SW3510C), Soxhlet(SW3540C), Pressurized Fluid (PFE)(SW3545A), Ultrasonic(SW3550C), Waste Dilution(SW3580A), Purge & Trap For Aqueous Sample(SW5030B), Closed System Purge & Trap(SW5035)

Toxicity: TCLP (Metals & Organics)(SW1311)

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 On, **31 December 2010.**

Certificate No. **248 .**

 Issued On, 28 February 2010.

David F Wolfe, PhD
Quality Assurance Officer



west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Phone: (304) 926-0495
Fax: (304) 926-0497

Joe Manchin III, Governor
Randy C Huffman, Cabinet Secretary
www.wvdep.org

28 February 2010

Lab # 209 [5-9-12]
Courtney E Van Voorhis
Laboratory Manager
EnviroScience, Incorporated
3781 Darrow Road
Stow, Ohio 44224-4035

Dear Courtney:

I have enclosed the **ATTACHMENT I** recertifying your facility through, **31 December 2010**.

If you have any questions, and if I can be of further assistance please contact me by phone at: 304-472-5124, by fax at: 304-473-4203, by e-mail at: davidfwolfe@verizon.net, or by e-mail at: david.f.wolfe@wv.gov.

Sincerely,

David F Wolfe, PhD
Quality Assurance Officer

Division of Water and Waste Management
28 Hickory Flat Road
Buckhannon, West Virginia 26201-8541

Phone: 304-472-5124
Fax: 304-473-4203

dfw

Enclosure:

Attachment I

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

Annual Certified Parameter List

for

ENVIROSCIENCE, INCORPORATED
STOW, OHIO

PARAMETERS CERTIFIED

AQUATIC TOXICITY:

Acute-Invertebrate: Acute Toxicity, D. Magna and D. Pulex(EPA821-R-02-012 2021.0), Acute Toxicity, Ceriodaphnia dubia(EPA821-R-02-012 2002.0)

Acute-Vertebrate: Acute Toxicity, Fathead Minnows(EPA821-R-02-012 2000.0)

Chronic-Invertebrate: Survival & Reproduction of Ceridaphnia(EPA821-R-02-013 1002.0)

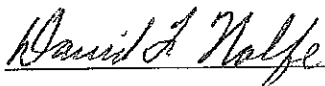
Chronic-Vertebrate: Survival & Growth of Fathead Minnow Larval(EPA821-R-02-013 1000.0)

LIMITED CHEMISTRY: Alkalinity(SM20th2320 B), Hardness, Total(SM20th2340 C), Specific Conductance(SM20th2510 B), Chlorine, Residual (Field Test)(SM20th4500-CI D), pH, (Field Test)(SM20th4500-H B), Oxygen, Dissolved, (Field Test)(SM20th4500-O G)

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 On, **31 December 2010.**

Certificate No. **209.**

 Issued On, 28 February 2010.

David F Wolfe, PhD
Quality Assurance Officer

Page 1 of 1

Mukesh K Shah

Experience

April 1995 – Present

Bio-Chem Testing, Inc.

President and Director of entire laboratory operations; analyst, supervisor, and senior data reviewer.

Specializing in sampling for:

- Industrial wastewater, Sanitary wastewater, Process water, stormwater for both composite (using auto-sampler) and grab samples.
- Ground water and Monitoring wells: Purging wells and collection of sample, leachate sampling, surface points, etc.
- Soil and Sludge waste sampling.

February 1993 – February 1995:

Technical Testing Laboratories and Commercial Testing & Engineering

Senior Chemist and Supervisor for Metals and Nonmetals; supervised entire production and technical aspects of the Inorganic Laboratory.

June 1987 – February 1993:

Technical Testing Laboratories and Commercial Testing & Engineering

Group Leader & Senior Chemist Metals Section; performed preparation of water, sludge, soil, oil, paint and air samples using hotplate and microwave digestion methods for the analysis of metals with the following instruments:

- AA Flame & Furnace
- ICP Sequential & Simultaneous
- Mercury Analyzer

June 1976 – June 1987:

Technical Testing Laboratories and Commercial Testing & Engineering

- Analyzed water, wastewater and sludge for BOD, COD, TKN ammonia & organic nitrogen, TDS, TSS, TS, VS, pH, conductivity, surfactants, phosphate, phenols, and other conventional analysis associated with Inorganic and Metal sections.
- Prepared NPDES reports.
- Analyzed effluents for fecal and total coliform bacteria.
- Measured the toxicity of effluents to fathead minnow and *Daphnia Magna*.
- Analyzed coal and coke for moisture, ash, BTU, FSI, volatile matter, ash mineral and washability study.

Education

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

Paul Sutherland

Experience

August 1983 – May 1986

WV Dep. Of Natural Resources

Worked as Bioassay Lab Technician under supervision of Janice Smithson

Responsible for: culturing organisms, assisting in bioassay testing & multi plate sampling and identifying organism for Benthic study

May 1986 – March 1994

Technical Testing, Inc.

Worked as Lab Supervisor in Bioassay laboratory.

Responsible for: culturing organisms, running bioassay both Acute and Chronic using Daphnia (Magna, Pulex & Ceriodaphnia dubia) and Pimephales Promelas

March 1994 – March 1995

Bio-Chem Testing, Inc..

Worked as Lab Supervisor in Bioassay laboratory.

Responsible for: culturing organisms, running bioassay both Acute and Chronic using Daphnia (Magna, Pulex & Ceriodaphnia dubia) and Pimephales Promelas

September 2010 – present

Bio-Chem Testing, Inc..

Worked as Lab Supervisor in Bioassay laboratory.

Responsible for: culturing organisms, running bioassay both Acute and Chronic using Daphnia (Pulex & Ceriodaphnia dubia) and Pimephales Promelas

Education

**West Virginia State College; Graduate, BS in Biology & Recreation 2001,
Institute, WV**

John Mack Joseph

Experience

November 2008-Present

Bio-Chem Testing, Inc.

Quality Control/Quality Assurance Officer

- Evaluate QA/QC data
- Revise & Update Quality Manual
- Oversee Demonstration of Capability and Method Detection Limit studies
- Ensure Control Charts are managed properly
- Communicate with Federal and State Departments of Environmental Protection & NELAC regarding certification requirements
- Prepare Quality Control Reports
- Verify Calculation Software, Temperature Calibrations, Distributions, Volumetric Equipment Calibration

2001- October 2008

West Virginia Department of Environmental Protection

•

2000-2001

AC&S Analytical

•

1999-2000

Great Lakes Chemical Corporation

•

1993-1999

FMC Corporaton

•

1987-1993

West Virginia Department of Environmental Protection

•

Education

West Virginia State College; BS Chemistry 1973

John Joseph

Experience

October 1973 – September 1982
WV Health Dept.

October 1982 – May 1993
WVDNR, DEP

May 1993 – June 2000
FMC, Great Lakes Chemical

June 2000 – April 2001
AC&S Analytical

April 2001 – October 2008
WVDEP Quality Assurance/Lab Certification

November 2008 - Present
Bio-Chem Testing, Inc.

- Astoria Pacific Nitrate
- Astoria Pacific Nitrite
- Astoria Pacific Phosphorus
- Quality Assurance Officer

Education

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

Kara Frampton

Experience

May 2004 – Present
Bio-Chem Testing, Inc.

- Cold Vapor Mercury
- Graphite Furnace AA
- Settleable Solids
- Paint Filter Test
- Chlorides Titration
- Generation of Laboratory Reports

Education

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

Hemant Shah

Experience

November 2000 - Present
Bio-Chem Testing, Inc.

- Acidity
- Alkalinity
- Biochemical Oxygen Demand
- Total Organic Carbon
- Bacteria by Membrane Filter

Education

University of Indore; Graduate, BS in Chemistry 1977.

Justin Carpenter

Experience

April 2009 - Present
Bio-Chem Testing, Inc.

- Selenium by Hydride
- Oil & Grease
- Sample Receiving, LIMS

Education

Marshall University: Graduate, BS in Ecology and Evolutionary Biology,
2008, Huntington, WV

Brian K. Richards

Experience

2005-Present

Bio-Chem Testing, Inc.

Field Services Supervisor & QA/QC Officer

- Supervise 2-3 field employees
- Monitor annual, semi-annual, quarterly and monthly sampling
- Evaluate analytical and reporting QA/QC
- Perform field sampling as needed
- Prepare Data Packages

2003-2005

Environmental Assessment Associates, LLC. (EAA), Barboursville, WV

Field Assistant(2003-2004); Project Supervisor(2004-2005)

- Coordinate on-site activities for annual freshwater mussel surveys in Ohio.
- Track movements for 6000+ live mussels trans-located from channel dredging activities at site of proposed power plant using water intakes for turbine cooling purposes.
- Coordinated survey efforts of a freshwater mussel survey in the New River Gorge National River, as well as report writing.
- Project Supervisor for a proposal written and received for the WV DNR's Natural Heritage Program, Non-Game Wildlife Grant. Survey of fresh water mussels in the lower Kanawha River.
- Aquatic Community Site Assessment, Rainelle, WV; Fish Survey and benthic macro-invertebrate sampling in Sewell and Wolfpen Creeks for a proposed coal-waste fired plant.

2004-2005

Marshall University, Integrated Science and Technology, Huntington, WV

Teaching Assistant

- Class & Lab Preparation

2002-2003

Alderson Broaddus College, Natural Science Dept., Philippi, WV

Laboratory Assistant

- Sub-Contracted work from Acculab to process macro-invertebrate samples for identification.

Education

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

Alderson Broaddus College; B.S. Environmental Science, Minor Biology and Chemistry 1999-2003, Philippi, WV

Jamell Hart

Experience

June 2006 - Present

Bio-Chem Testing, Inc.

- Total Kjeldahl Nitrogen
- Ammonia
- Bacteria by Most Probable Number
- Bio-solids by EPA1680
- Hex-chromium
- Total Residual Chlorine

Education

**Coastal Carolina University; Graduate, BS in Marine Science 2003,
Conway, SC**

Cindy Walker

Experience

August 2008 - Present
Bio-Chem Testing, Inc.

- Metals Digestions
- Turbidity
- Total Solids
- Total Dissolved Solids
- Color Pt-Co
- Color ADMI
- TCLP
- SPLP
- pH
- % Solids
- Volatile Solids

Education

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

William Smith

Experience

September 2002 - Present
Bio-Chem Testing, Inc.

- Ion Chromatography
- Chemical Oxygen Demand
- Specific Conductance
- ICP/MS
- Phenolics

Education

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

Nathan Milam

Experience

May 2008 - Present
Bio-Chem Testing, Inc.

- Total Phosphorus
- Ortho-Phosphorus
- Total Cyanide
- WAD Cyanide
- Total Suspended Solids

Education

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

BIO-CHEM TESTING, INC.
HURRICANE, wv 25526

Description		Method#	MDL	Unit Price
Antimony	Water	SM3113B	0.001	\$12.00
Arsenic	Water	SM3113B	0.001	\$12.00
Cadmium	Water	SM3113B	0.001	\$12.00
Copper	Water	SM3113B	0.001	\$12.00
Lead	Water	SM3113B	0.001	\$12.00
Selenium	Water	SM3113B	0.001	\$12.00
Silver	Water	SM3113B	0.001	\$12.00
Thallium	Water	EPA279.2	0.002	\$12.00
Selenium by Gaseous Hydride Atomic Fluorescence		SM3114C, Modified	0.0005	\$22.00
Antimony	Solid	SW7010	0.021	\$15.00
Arsenic	Solid	SW7011	0.008	\$15.00
Cadmium	Solid	SW7012	0.180	\$15.00
Copper	Solid	SW7013	0.180	\$15.00
Lead	Solid	SW7014	0.670	\$15.00
Selenium	Solid	SW7015	0.067	\$15.00
Silver	Solid	SW7016	0.033	\$15.00
Thallium	Solid	SW7017	0.027	\$15.00

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

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

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

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

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

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

Bidder: Bio-Chem Testing, Inc. Signed: [Signature]
Date: 11-17-10 Title: President

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

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

DEFINITIONS:

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

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

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

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

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Bio-Chem Testing Inc.

Authorized Signature: [Signature] Date: 11-15-10

State of WV

County of Putnam, to-wit:

Taken, subscribed, and sworn to before me this 15 day of November, 2011.

My Commission expires March 17, 2019

NOTARY PUBLIC [Signature]

AFFIX SEAL HERE

