



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
 DEP15729

PAGE
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
 GUY NISBET
 304-558-8802

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

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

SHIP TO

ENVIRONMENTAL PROTECTION,
 DEPARTMENT OF
 DIV OF WATER AND WASTE MGT
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

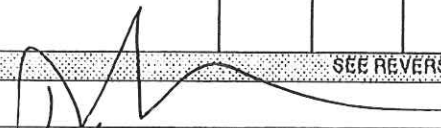
DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/25/2012	Net 30	Best Way	-	-

BID OPENING DATE: 01/31/2012 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS	961-48	GENERAL ANALYSIS OF WATER AND SOIL FIELD TESTING		
ADDENDUM NO. 1 ADDENDUM ISSUED TO DISTRIBUTE Q&A'S AND REVISED BID SCHEDULE AND APPENDIX B. BID OPENING DATE REMAINS: 01/31/2012 AT 1:30PM. NO OTHER CHANGES END OF ADDENDUM NO. 1						
***** THIS IS THE END OF RFQ DEP15729 ***** TOTAL:						<u>\$526,182</u>

RECEIVED
 2012 JAN 31 PM 12:22
 WV PURCHASING DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE:  TITLE: President

TELEPHONE: 304-757-8954 DATE: 01-31-2012

FEIN: 55-0732395 ADDRESS CHANGES TO BE NOTED ABOVE

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

Addendum Q&A - DEP15729

Q1. What is the matrix for the radiochemistry parameters (Line No.s 83-92)? Are they both aqueous and solid, or just for aqueous matrix?

A. Both liquid and solid. See revised bid schedule.

Q2. For those parameters (Line No.) that we will not bid, how should this be indicated on the Vendor's Bid Sheet?

A. The vendor would leave those lines blank. The DEP is aware that all labs are not certified to conduct all of the analyses requested.

Q3. Referring to Appendix A Group A, one of the constituents listed is "Dissolved Manganese", yet in the next column the request is for "(Total)" which indicates the State is looking for "all species in the groundwater that contain this element...". Please clarify whether the State is requesting Dissolved Manganese or Total Manganese as Dissolved Manganese requires an additional step prior to preparation and analysis.

A. This is Total Manganese. See revised bid schedule and revised Appendix B.

Q4. Will a line item be added for the cost of sample containers and preservatives that may be requested by the department as per page 11?

A. No. This cost is considered incidental to and included in the cost of each test.

Q5. Did the WV DEP previously make one award or multiple?

A. Multiple

Q6. Under step 3-Quality Control It lists that sample duplicates are to be run at a frequency of 1 per 10 and that spikes are to be analyzed at a frequency of 1 per 10. Although that is the case for some general wet chemistry techniques the standard for SW-846 6000 and 8000 series methods is 1 per 20. Is this acceptable?

A. Yes, for SW-846 methods 1 in 20 or 5% is acceptable frequency for duplicates and spikes. Preference is for matrix spikes and matrix spike duplicates for SW-846 methods.

Q7. Will sufficient sample be provided to facilitate duplicate and spike QC?

A. Yes, different labs may require different sample volumes. DEP will provide the volumes needed by the labs.

Q8. Will WV DEP designate the samples that are to be run as the duplicates and spikes?

A. If there is some reason to need extra QC for a particular sample, we would want the option to designate certain samples for matrix spikes and/or duplicates.

Q. 9. There are several routine packages requested by the inspectors that are not included in the bid. Can we add a price for them or just bill them separately out of contract?

A. No. The vendor is to bid only on what is included in the specifications. Separate contracts exist for other needed routine packages.

ANALYSIS OF WATER AND SOIL

DEP15729

Vendor's Bid Sheet

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

Vendors Name: _____

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

ITEM NO.	EST. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
1	4000	pH	SM4500H ¹ B	N/A	\$ 1.00	\$ 4000
1A	10	pH (Solid)	SW9045D	N/A	\$ 1.00	\$ 4000
2	4000	Hot Acidity	SM2310B(4)	5 mg/l	\$ 6.00	\$ 24000
2A	1000	Hot Acidity Alt. Method	—	*	\$ —	\$ —
3	4000	Alkalinity	SM2320B	5 mg/L	\$ 6.00	\$ 24000
3A	1000	Alkalinity Alt. Method	—	—	\$ —	\$ —
4	500	Hardness	SM2340B	1 mg/L	\$ 7.00	\$ 3500
4A	100	Hardness Alt. Method	HACH 8226	2.4 mg/L	\$ 6.00	\$ 600
4B	10	Hardness (Solid)	SM2340B	17 mg/kg	\$ 7.00	\$ 70
	1000	Specific Conductance	EPA 120.1	3 uS/cm	\$ 2.00	\$ 2000
5A	500	Specific Conductance Alt. Method	—	—	\$ —	\$ —
6	4000	Sulfate	EPA 300.0	5 mg/L	\$ 7.00	\$ 28000
6A	1000	Sulfate Alt. Method	—	—	\$ —	\$ —
6B	10	Sulfate (Solid)	EPA 300.0	3.4 mg/kg	\$ 8.50	\$ 85
7	20	Sulfide	SW9034	1 mg/L	\$ 15.00	\$ 300
7A	10	Sulfide Alt. Method	—	—	\$ —	\$ —
8	20	Turbidity	EPA 180.1a	1 NTU (higher OK if highly turbid)	\$ 5.00	\$ 100
8A	10	Turbidity Alt. Method	—	—	\$ —	\$ —
9	300	Bromide	EPA 300.0	0.1 mg/L	\$ 7.00	\$ 2100
9A	10	Bromide Alt. Method	—	1 mg/L	\$ —	\$ —
9B	10	Bromide (Solid)	EPA 300.0	0.5 mg/kg	\$ 8.50	\$ 85
10	3000	Chloride	EPA 300.0	5 mg/L	\$ 7.00	\$ 21000
10A	100	Chloride Alt. Method (Solid)	SM4500-cl ²	60 mg/kg	\$ 8.00	\$ 800
10B	10	Chloride (Solid)	EPA 300.0	1.5	\$ 8.50	\$ 85
11	25	Fluoride	EPA 300.0	0.2 mg/L	\$ 7.00	\$ 175
11A	10	Fluoride Alt. Method	—	—	\$ —	\$ —
11B	10	Fluoride (Solid)	EPA 300.0	0.2 mg/kg	\$ 8.50	\$ 85
12	4000	Fecal Coliform (MF)	SM 9222 D	4 cfu/100 mL	\$ 15.00	\$ 60000
12A	1000	Fecal Coliform (MF) Alt. Method	—	—	\$ —	\$ —
13	100	Fecal Coliform (MPN)	SM 9221 E	4 cfu/100 mL	\$ 30.00	\$ 3000
13A	50	Fecal Coliform (MPN) Alt. Method (Solid)	SW 1680	1.8 MPN/g	\$ 35.00	\$ 1750
14	20	Total Coliform (CF)	SM 9222 B	2 cfu/100 mL	\$ 15.00	\$ 300
15	25	Total Solids	SM 2540 B	1 mg/L	\$ 10.00	\$ 250
15A	10	Total Solids Alt. Method	—	—	\$ —	\$ —
15B	10	Total Solid (Solid)	SM 2540 G	5 mg/kg	\$ 10.00	\$ 100
5	3000	Dissolved Solids (TDS)	SM 2540 C	1 mg/L	\$ 7.00	\$ 21000
16A	1000	Dissolved Solids (TDS) Alt. Method	—	—	\$ —	\$ —
17	4000	Suspended Solids (TSS)	SM 2540 D	3 mg/L	\$ 7.00	\$ 28000

1	EST. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
17A	1000	Suspended Solids (TSS) Alt. Method	—	—	\$ —	\$ —
18	25	Settleable Solids	SM 2540F	0.1 mg/L	\$ 8.00	\$ 200
18A	10	Settleable Solids Alt. Method	—	—	\$ —	\$ —
19	25	Volatile Solids	EPA 160.4	1 mg/L	\$ 15.00	\$ 375
19A	10	Volatile Solids Alt. Method	—	—	\$ —	\$ —
19B	10	Volatile solid (Solid)	EPA 160.4	0.1 %	\$ 15.00	\$ 150
20	25	Percent Solids	SM 2540G	1%	\$ 10.00	\$ 250
20A	10	Percent Solids Alt. Method	—	—	\$ —	\$ —
20B	10	Percent Solids (Solid)	SM 2540G	1%	\$ 10.00	\$ 100
21	400	Kjeldahl Nitrogen	SM 4500 Norg + NH ₄ C	0.1 mg/L	\$ 19.50	\$ 7800
21A	100	Kjeldahl Nitrogen Alt. Method	SM 4500 Norg + HACH 8038	0.02 mg/L	\$ 21.50	\$ 2150
21B	10	Kjeldahl Nitrogen (Solid)	SM 4500 Norg + NH ₄ C	3.6 mg/Kg	\$ 21.00	\$ 210
21C	10	Kjeldahl Nitrogen Alt. Method (Solid)	SM 4500 Norg + HACH 8038	2 mg/Kg	\$ 21.50	\$ 215
22	50	Ammonia Nitrogen	HACH 8038	0.1 mg/L	\$ 12.00	\$ 600
22A	10	Ammonia Nitrogen Alt. Method	SM 4500 NH ₄ F	0.25 mg/L	\$ 16.50	\$ 165
22B	10	Ammonia Nitrogen (Solid)	SM 4500 NH ₄ C	1.0 mg/Kg	\$ 12.00	\$ 120
22C	10	Ammonia Nitrogen Alt. Method (Solid)	HACH 8038	10 mg/Kg	\$ 16.50	\$ 165
23	50	Organic Nitrogen	THM 21.22	0.5 mg/L	\$ 31.00	\$ 1550
23A	10	Organic Nitrogen Alt. Method	THM 21A-22A	1 mg/L	\$ 34.00	\$ 340
24	50	Nitrate-Nitrogen	EPA 300.0	0.05 mg/L	\$ 7.00	\$ 350
24A	10	Nitrate-Nitrogen Alt. Method	EPA 353.2	0.004 mg/L	\$ 26.00	\$ 260
25	50	Nitrite-Nitrogen	EPA 300.0	0.05 mg/L	\$ 7.00	\$ 350
25A	10	Nitrite-Nitrogen Alt. Method	EPA 353.2	0.002 mg/L	\$ 22.00	\$ 220
25B	10	Nitrite-Nitrogen (Solid)	EPA 300.0	0.7 mg/Kg	\$ 8.50	\$ 85
25C	10	Nitrite-Nitrogen Alt. Method (Solid)	EPA 353.2	0.2 mg/Kg	\$ 22.00	\$ 220
26	400	Nitrite-Nitrate	EPA 353.2	0.05 mg/L	\$ 7.00	\$ 2800
26A	100	Nitrite-Nitrate Alt. Method	EPA 300.0	0.4 mg/L	\$ 21.00	\$ 2100
26B	10	Nitrite-Nitrate (Solid)	EPA 300.0	0.07 mg/Kg	\$ 9.50	\$ 95
26C	10	Nitrite-Nitrate Alt. Method (Solid)	EPA 353.2	0.5 mg/Kg	\$ 26.00	\$ 260
27	400	Total Phosphorus	SM 4500 P B.5	0.01 mg/L	\$ 15.00	\$ 6000
27A	100	Total Phosphorus Alt. Method	SM 365.1	0.003 mg/L	\$ 26.00	\$ 2600
27B	10	Total Phosphorus (Solid)	SM 6010	1 mg/Kg	\$ 7.50	\$ 75
27C	10	Total Phosphorus Alt. Method (Solid)	—	—	\$ —	\$ —
28	50	Orthophosphate	SM 4500 PE	0.01 mg/L	\$ 9.00	\$ 450
28A	10	Orthophosphate Alt. Method	—	—	\$ —	\$ —
29	50	Total Phosphate	SM 4500 PE	0.01 mg/L	\$ 15.00	\$ 750
29A	10	Total Phosphate Alt. Method	SM 365.1	0.009 mg/L	\$ 26.00	\$ 260
29B	10	Total Phosphate (Solid)	SM 6010	3 mg/Kg	\$ 7.50	\$ 75
29C	10	Total Phosphate Alt. Method (Solid)	—	—	\$ —	\$ —
30	25	BOD	SM 5210B	2 mg/L	\$ 19.00	\$ 475
30A	10	BOD Alt. Method	—	—	\$ —	\$ —
31	25	BOD-carbonaceous	SM 5210B	2 mg/L	\$ 20.00	\$ 500
31A	10	BOD-carbonaceous Alt. Method	—	—	\$ —	\$ —
32	25	COD	—	0.5 mg/L	\$ —	\$ —
32A	10	COD Alt. Method	HACH 8000	4 mg/L	\$ 17.50	\$ 175
33	25	TOC	SM 5310C	1 mg/L	\$ 20.00	\$ 500
33A	10	TOC Alt. Method	—	—	\$ —	\$ —
34	25	MBAS	SM 5540C	0.05 mg/L	\$ 27.00	\$ 675
34A	10	MBAS Alt. Method	—	—	\$ —	\$ —
35	25	Phenolics	EPA 420.1	0.01 mg/L	\$ 24.00	\$ 600
35A	10	Phenolics Alt. Method	—	—	\$ —	\$ —
35B	10	Phenolics (Solid)	—	—	\$ —	\$ —
36	25	Total Cyanide	SM 4500 CN E	0.005 mg/L	\$ 22.00	\$ 550
36A	10	Total Cyanide Alt. Method	—	—	\$ —	\$ —

* If Ammonia-N & TAN is analyzed than there will be no charge for org-Nitrogen.

	EST. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
36B	10	Total Cyanide (Solid)	SM 4500CNF	0.2 mg/kg	\$ 26.00	\$ 260
37	200	Hexavalent Chromium	SM 3500CD	0.005 mg/L	\$ 17.00	\$ 3400
37A	10	Hexavalent Chromium Alt. Method	—	—	\$ —	\$ —
37B	10	Hexavalent Chromium (Solid)	—	—	\$ —	\$ —
38	25	Oil-Grease	EPA 1664A	2 mg/L	\$ 25.00	\$ 625
38A	10	Oil-Grease Alt. Method	—	—	\$ —	\$ —
38B	10	Oil-Grease (Solid)	—	—	\$ —	\$ —
39	100	Chlorophyll A	EPA 446	0.5 ug/L	\$ 45.00	\$ 4500
39A	20	Chlorophyll A Alt. Method	—	—	\$ —	\$ —
40	25	Color (APHA)	SM 2120B	5 color units	\$ 10.00	\$ 250
40A	10	Color (APHA) Alt. Method	—	—	\$ —	\$ —
41	25	Color (ADMI)	SM 2120E	10 ADMI value	\$ 18.00	\$ 450
41A	10	Color Alt. Method	—	—	\$ —	\$ —
42	25	Cyanide, Amenable	EPA 335.4	0.005 mg/L	\$ 34.00	\$ 850
42A	10	Cyanide, Amenable Alt. Method	—	—	\$ —	\$ —
43	25	Cyanide, Free (ASTM)	SM 4500CNF	0.005 mg/L	\$ 19.00	\$ 475
43A	10	Cyanide, Free Alt. Method	SM 4500CNF	0.0015 mg/L	\$ 19.00	\$ 190
44	25	Mineral Acidity	SM 2310B	1 mg/L	\$ 6.00	\$ 150
44A	10	Mineral Acidity Alt. Method	—	—	\$ —	\$ —
45	25	Total Acidity	SM 2310B	1 mg/L	\$ 6.00	\$ 150
45A	10	Total Acidity Alt. Method	—	—	\$ —	\$ —
46	25	Tot Petroleum Hydrocarbons GRO/DRO (8015)	SW 8015B	0.5 mg/L	\$ 75.00	\$ 1875
	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) (Solid)	SW 8015B	10 mg/kg	\$ 75.00	\$ 750
47	25	Fecal Streptococci	SM 9230C	4 cfu/100 mL	\$ 60.00	\$ 1500
47A	10	Fecal Streptococci Alt. Method	—	—	\$ —	\$ —
47B	10	Fecal Streptococci (Solid)	—	—	\$ —	\$ —
48	25	Escherichia Coli (Numeric Result)	HACH 10029	1 cfu/100 mL	\$ 22.00	\$ 550
48A	10	E. Coli (Numeric Result) Alt. Method	—	—	\$ —	\$ —
49	100	Enterococci	—	1 cfu/100 mL	\$ —	\$ —
50	20	Iron Bacteria	HACH BART	—	\$ 52.00	\$ 1040
51	20	Sulfate Reducing Bacteria	HACH BART	—	\$ 52.00	\$ 1040
52	25	Bicarbonate (Standard Methods)	SM 2320B	1 mg/L	\$ 6.00	\$ 150
52A	10	Bicarbonate Alt. Method	—	—	\$ —	\$ —
53	25	Ferrous Iron (Standard Methods)	SM 3500 FeD	0.05 mg/L	\$ 20.00	\$ 500
53A	10	Ferrous Iron Alt. Method	—	—	\$ —	\$ —
54	25	Dissolved Organic Carbon	SM 5310C	1 mg/L	\$ 18.00	\$ 450
54A	10	Dissolved Organic Carbon Alt. Method	—	—	\$ —	\$ —
55	4000	Aluminum	200.716010B	0.005 mg/L	\$ 5.00	\$ 20000
55A	100	Aluminum - Alt. method	200.816020	0.0002 mg/L	\$ 7.50	\$ 750
55B	10	Aluminum (Solid)	6010B	0.4 mg/kg	\$ 5.75	\$ 57.50
56	20	Antimony	200.716010B	0.005 mg/L	\$ 5.75	\$ 115
56A	10	Antimony Alt. Method	200.816020	0.00008 mg/L	\$ 7.50	\$ 75
56B	10	Antimony (Solid)	6010B	0.4 mg/kg	\$ 6.00	\$ 60
57	20	Arsenic	200.716010B	0.005 mg/L	\$ 5.75	\$ 115
57A	10	Arsenic Alt. Method	200.816020	0.0003 mg/L	\$ 7.50	\$ 75
57B	10	Arsenic (Solid)	6010B	0.4 mg/kg	\$ 6.00	\$ 60
58	20	Barium	200.716010B	0.005 mg/L	\$ 5.75	\$ 115
58A	10	Barium Alt. Method	200.816020	0.0001 mg/L	\$ 7.50	\$ 75
58B	10	Barium (Solid)	6010B	0.02 mg/kg	\$ 6.00	\$ 60
	20	Beryllium	200.716010B	0.00008 mg/L	\$ 5.75	\$ 115
59A	10	Beryllium Alt. Method	200.816020	0.00001 mg/L	\$ 7.50	\$ 75
59B	10	Beryllium (Solid)	6010B	0.01 mg/kg	\$ 6.00	\$ 60

* Weak Acid Dissociable Cyanide

FORM	EST. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
60	20	Boron	200.7/6010B	0.02 mg/L	\$ 5.75	\$ 115
60A	10	Boron Alt. Method	—	—	\$ —	\$ —
60B	10	Boron (Solid)	6010B	0.5 mg/kg	\$ 6.00	\$ 60.00
61	200	Cadmium	200.8/6020	0.00005 mg/L	\$ 7.00	\$ 1400
61A	20	Cadmium Alt. Method	200.7/6010B	0.00009 mg/L	\$ 5.75	\$ 115
61B	10	Cadmium (Solid)	6010B	0.1 mg/kg	\$ 6.00	\$ 60
62	500	Calcium	—	0.02 mg/L	\$ —	\$ —
62A	20	Calcium Alt. Method	200.7/6010B	0.07 mg/L	\$ 5.00	\$ 100
62B	10	Calcium (Solid)	6010B	2.7 mg/kg	\$ 6.00	\$ 60
63	20	Chromium	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 115
63A	10	Chromium Alt. Method	200.8/6020	0.0002 mg/L	\$ 7.50	\$ 75
63B	10	Chromium (Solid)	6010B	0.03 mg/kg	\$ 6.00	\$ 60
64	20	Cobalt	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 115
64A	10	Cobalt Alt. Method	200.8/6020	0.0004 mg/L	\$ 7.50	\$ 75
64B	10	Cobalt (Solid)	6010B	0.1 mg/kg	\$ 6.00	\$ 60
65	200	Copper	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 1150
65A	20	Copper Alt. Method	200.8/6020	0.00003 mg/L	\$ 7.50	\$ 150
65B	10	Copper (Solid)	6010B	0.15 mg/kg	\$ 6.00	\$ 60
66	3000	Iron	200.7/6010B	0.01 mg/L	\$ 5.00	\$ 15000
66A	100	Iron Alt. Method	—	—	\$ —	\$ —
66B	10	Iron (Solid)	6010B	0.15 mg/kg	\$ 6.00	\$ 60
67	200	Lead	200.8/6020	0.00054 mg/L	\$ 7.50	\$ 1500
67A	10	Lead Alt. Method	200.7/6010B	0.0009 mg/L	\$ 5.75	\$ 57.50
67B	10	Lead (Solid)	6010B	0.2 mg/kg	\$ 6.00	\$ 60
68	500	Magnesium	200.7/6010B	0.05 mg/L	\$ 5.00	\$ 2500
68A	20	Magnesium Alt. Method	—	—	\$ —	\$ —
68B	10	Magnesium (Solid)	6010B	2.6 mg/kg	\$ 6.00	\$ 60
69	3000	Manganese	200.7/6010B	0.005 mg/L	\$ 5.00	\$ 15000
69A	100	Manganese Alt. Method	200.8/6020	0.00005 mg/L	\$ 7.50	\$ 750
69B	10	Manganese (Solid)	6010B	0.6 mg/kg	\$ 6.00	\$ 60
70	200	Mercury	245.1/7470	0.0001 mg/L	\$ 20.00	\$ 4000
70A	200	Mercury / Method 1631E	1631E	0.5 ng/L	\$ 45.00	\$ 4500
70B	10	Mercury (Solid)	245.5/7471	0.004 mg/kg	\$ 20.00	\$ 200
71	20	Molybdenum	200.7/6010B	0.005 mg/L	\$ 5.75	\$ 115
71A	10	Molybdenum Alt. Method	200.8/6020	0.00002 mg/L	\$ 7.50	\$ 75
71B	10	Molybdenum (Solid)	6010B	0.15 mg/kg	\$ 6.00	\$ 60
72	200	Nickel	200.7/6010B	0.005 mg/L	\$ 5.00	\$ 1000
72A	20	Nickel Alt. Method	200.8/6020	0.00002 mg/L	\$ 7.50	\$ 150
72B	10	Nickel (Solid)	6010B	0.15 mg/kg	\$ 6.00	\$ 60
73	500	Potassium	200.7/6010B	0.05 mg/L	\$ 5.00	\$ 2500
73A	20	Potassium Alt. Method	—	—	\$ —	\$ —
73B	10	Potassium (Solid)	6010B	2 mg/kg	\$ 6.00	\$ 60
74	500	Selenium	200.8/6020	0.001 mg/L	\$ 7.00	\$ 3500
74A	20	Selenium Alt. Method, Atomic Fluorescence	3114 < C M)	0.00005 mg/L	\$ 24.00	\$ 480
74B	10	Selenium (Solid)	6010B	1.0 mg/kg	\$ 6.00	\$ 60
75	200	Silver	200.8/6020	0.000072 mg/L	\$ 7.50	\$ 1500
75A	20	Silver Alt. Method	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 115
75B	10	Silver (Solid)	6010B	0.07 mg/kg	\$ 6.00	\$ 60
76	500	Sodium	200.7/6010B	0.05 mg/L	\$ 5.00	\$ 2500
76A	20	Sodium Alt. Method	—	—	\$ —	\$ —
76B	10	Sodium (Solid)	6010B	16 mg/kg	\$ 6.00	\$ 60
77	200	Strontium	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 1150
77A	20	Strontium Alt. Method (Solid)	6010B	0.9 mg/kg	\$ 6.00	\$ 120
78	20	Thallium	200.7/6010B	0.001 mg/L	\$ 5.75	\$ 115

MDk could be raised depend on complexity of sample.

EST. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
78A 10	Thallium Alt. Method	200-8/6020	0.0001 ml/L	\$ 7.50	\$ 75
78B 10	Thallium (Solid)	6010B	0.4 mg/Kg	\$ 6.00	\$ 60
79 20	Tin	200-7/6010B	0.02 mg/L	\$ 5.75	\$ 115
79A 10	Tin Alt. Method	6010B	1.3 mg/Kg	\$ 6.00	\$ 60
79B 10	Tin (Solid)	200-7/6010B	0.005 mg/L	\$ 5.75	\$ 115
80 20	Vanadium	200-8/6020	0.002 mg/L	\$ 7.50	\$ 75
80A 10	Vanadium Alt. Method	6010B	0.4 mg/Kg	\$ 6.00	\$ 60
80B 10	Vanadium (Solid)	200-7/6020	0.002 mg/L	\$ 5.80	\$ 1000
81 200	Zinc	200-8/6020	0.002 ml/L	\$ 7.50	\$ 150
81A 20	Zinc Alt. Method	6010B	0.1 mg/Kg	\$ 6.00	\$ 60
81B 10	Zinc (Solid)	200-7/6020	0.002 mg/L	\$ 4.00	\$ 800
82 200	Metals Prep Cost	200-7, 200-8, 6010, 6020, 3112, 411M	Aqueous	\$ 5.00	\$ 50
82A 10	Metals Prep Cost (Solid)	Solid	—	\$ 5.00	\$ 50
83 20	Gross Alpha	900	0.38 pci/L	\$ 40.80	\$ 816
83A 10	Gross Alpha (Solid)	9310	0.38 pci/G	\$ 40.80	\$ 408
84 20	Gross Beta	900	0.41 pci/L	\$ 50.40	\$ 1008
84A 10	Gross Beta (Solid)	9310	0.41 pci/G	\$ 50.40	\$ 504
85 20	Ra-226	903	0.26 pci/L	\$ 72.00	\$ 1440
85A 10	Ra-226 (Solid)	9315	0.26 pci/G	\$ 72.00	\$ 720
86 20	Ra-228	904	0.74 pci/L	\$ 93.60	\$ 1872
86A 10	Ra-228 (Solid)	9320	0.74 pci/G	\$ 93.60	\$ 936
87 20	Total Uranium	908	0.97 pci/L	\$ 57.60	\$ 1152
87A 10	Total Uranium (Solid)	6020	0.9 mg/Kg	\$ 57.60	\$ 576
88 20	Sr-89	905	3 pci/L	\$ 120.00	\$ 2400
88A 10	Sr-89 (Solid)	905	3 pci/G	\$ 120.00	\$ 1200
89 20	Sr-90	905	3 pci/L	\$ 120.00	\$ 2400
89A 10	Sr-90 (Solid)	905	3 pci/G	\$ 120.00	\$ 1200
90 20	Tritium (H3)	906	435 pci/L	\$ 70.00	\$ 1400
90A 10	Tritium (H3) (Solid)	906	435 pci/G	\$ 70.00	\$ 700
91 20	Gamma (Cs-137)	901	3 pci/L	\$ 80.00	\$ 1600
91A 10	Gamma (Cs-137) (Solid)	901-1	3 pci/G	\$ 80.00	\$ 800
92 20	Radon	7500	300 pci/L	\$ 70.00	\$ 1400
92A 10	Radon (Solid)	7500	300 pci/G	\$ 70.00	\$ 700

Toxicity Testing - Freshwater Organisms					
Acute:					
93	25	Ceriodaphnia		\$ 250	\$ 6250
94	10	Daphnia Pulex / D. magna		\$ 250	\$ 2500
95	25	Pimephales promelas		\$ 200	\$ 5000
Chronic:					
96	25	Ceriodaphnia		\$ 750	\$ 18750
97	25	Pimephales promelas (Survival & Growth)		\$ 800	\$ 20000
98	200	Analysis of entire "Phase I Parameters" for landfills		\$ 350	\$ 70000
See Appendix A for list.					

99	10	Professional staff representation of data in legal/administrative setting per hour		\$ 110	\$ 1100
----	----	--	--	--------	---------

Radiochemistry & Organic analysis will be subcontracted to WVDEP certified lab.

Collection of samples - costs associated with sample pickup from the following locations:

	24	Charleston Office, 601 57th St., SE, Charleston, WV 25304	\$ 00	\$ 00
101	24	Teays Office, P.O. Box 662, Teays, WV 25596	\$ 00	\$ 00
102	24	Fairmont Office, 2031 Pleasant Valley Rd., Fairmont, WV 26554	\$ 50	\$ 1200
103	24	Romney Office, HC 63, Box 2545, Romney, WV 26757	\$ 90	\$ 2160
104	24	French Creek Office, P.O. Box 38, French Creek, WV 26218	\$ 50	\$ 1200
105	24	Wheeling Office, 131A Peninsula St., Wheeling, WV 26003	\$ 90	\$ 2160
106	24	Parkersburg Office, 2311 Ohio Ave., Parkersburg, WV 26010	\$ 40	\$ 960
107	24	Oak Hill Office, 116 Industrial Dr., Oak Hill, WV 25901	\$ 40	\$ 960
108	24	Logan Office, 1101 George Kostas Dr. Logan, 25601	\$ 35	\$ 840
109	24	Phillippi Office, 105 S Railroad St. Phillippi WV 26416	\$ 40	\$ 960
110	24	Welch Office, 311 Court St. Welch 24801	\$ 80	\$ 1920
111	5000	Other locations as Cost Per Mile to pickup site	\$ 0.40	\$ 2000
112	10	24 Hour Turn-Around Rush Orders**	\$ 50%	#
113	10	48 Hour Turn-Around Rush Orders**	\$ 25%	#
114	10	72 Hour Turn Around Rush Orders**	\$ 10%	#
TOTAL				\$526,182

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. Enter percent increase over standard turn-around time.

Appendix B - Phase 1 Detection Monitoring

Constituents for Phase I Detection Monitoring

GROUP A: Inorganic Constituents

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



State of West Virginia
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 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 DEP15729

PAGE
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF
 GUY NISBET
 304-558-8802

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

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

SHIP TO

ENVIRONMENTAL PROTECTION,
 DEPARTMENT OF
 DIV OF WATER AND WASTE MGT
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED 01/05/2012	TERMS OF SALE Net 30	SHIP VIA Best Way	FOB	FREIGHT TERMS
BID OPENING DATE: 01/31/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		961-48		
GENERAL ANALYSIS OF WATER AND SOIL FIELD TESTING THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, IS SOLICITING QUOTATIONS FROM QUALIFIED VENDORS TO PROVIDE THE AGENCY WITH GENERAL ANALYSIS OF WATER AND SOIL PER THE FOLLOWING SPECIFICATIONS, SCOPE OF WORK, TERMS & CONDITIONS, BID REQUIREMENTS, AND THE ATTACHED BID SCHEDULE. INQUIRES: WRITTEN QUESTIONS SHALL BE ACCEPTED THROUGH THE CLOSE OF BUSINESS ON TUESDAY, 01/17/2012. QUESTIONS MAY BE SENT VIA: USPS, FAX, COURIER OR EMAIL. IN ORDER TO ASSURE NO VENDOR RECEIVES AN UNFAIR ADVANTAGE, NO SUBSTANTIVE QUESTIONS WILL BE ANSWERED ORALLY. IF POSSIBLE, EMAIL QUESTIONS ARE PREFERRED. ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL WRITTEN ADDENDUM TO BE ISSUED BY THE PURCHASING DIVISION AFTER Q&A DEADLINE HAS LAPSED. ADDRESS INQUIRES TO: GUY NISBET DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION 2019 WASHINGTON STREET, EAST CHARLESTON, WV. 25305 FAX: 304.558.4115 EMAIL: GUY.L.NISBET@WV.GOV						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE:

TITLE: President

FEIN: 55-0732395

TELEPHONE: 304-757-8954

DATE: 01-31-2012

ADDRESS CHANGES TO BE NOTED ABOVE

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

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.html 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).



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
 DEP15729

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ADDRESS CORRESPONDENCE TO ATTENTION OF
 GUY NISBET
 304-558-8802

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

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

SHIP TO

ENVIRONMENTAL PROTECTION,
 DEPARTMENT OF
 DIV OF WATER AND WASTE MGT
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED 01/05/2012	TERMS OF SALE Net 30	SHIP VIA But Way	F.O.B.	FREIGHT TERMS
BID OPENING DATE: 01/31/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				EXHIBIT 3		
				<p>LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE UPON AWARD-----, AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.</p> <p>UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.</p> <p>RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR</p>		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: 304 757 8954 DATE: 11-31-2012

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

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



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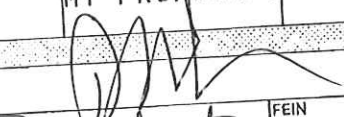
SUPPLIER

ENVIRONMENTAL PROTECTION,
 DEPARTMENT OF
 DIV OF WATER AND WASTE MGT
 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED 01/05/2012	TERMS OF SALE Net 30	SHIP VIA Best Way	FOB -	FREIGHT TERMS -
BID OPENING DATE: 01/31/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 05/26/2009</p> <p>EXHIBIT 10</p> <p>REQUISITION NO.: DEP15729</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE:  TELEPHONE: 304-757-8954 DATE: 01-31-2012

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

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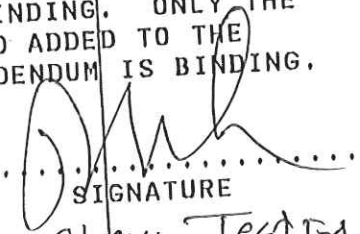
VENDOR

Bio-Chem Testing
 5 Weatheridge Drive
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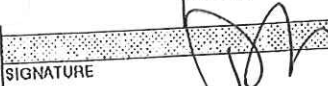
SHIP TO

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 601 57TH STREET SE
 CHARLESTON, WV
 25304 304-926-0499

DATE PRINTED 01/05/2012	TERMS OF SALE Net 30	SHIP VIA But Way	F.O.B. -	FREIGHT TERMS -
BID OPENING DATE: 01/31/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO.'S:						
NO. 1						
NO. 2						
NO. 3						
NO. 4						
NO. 5						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						
VENDOR MUST CLEARLY 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.						
 SIGNATURE Bio-Chem Testing, Inc. COMPANY 01-31-2012 DATE						
NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE:  TELEPHONE: 304-757-8954 DATE: 01-31-2012

TITLE: President FEIN: 55-0722395 ADDRESS CHANGES TO BE NOTED ABOVE

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BID OPENING DATE: 01/31/2012		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: GN-23</p> <p>RFQ. NO.: DEP15729</p> <p>BID OPENING DATE: 01/31/2012</p> <p>BID OPENING TIME: 1:30 PM</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: ----- 304-757-9676 -----</p> <p>CONTACT PERSON (PLEASE PRINT CLEARLY): Mukesh Shah</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: 304-757-8954 DATE: 01-31-2012

TITLE: *[Signature]* FEIN: 55-0732395 ADDRESS CHANGES TO BE NOTED ABOVE

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LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>ANY INDIVIDUAL SIGNING THIS BID IS CERTIFYING THAT: (1) HE OR SHE IS AUTHORIZED BY THE BIDDER TO EXECUTE THE BID OR ANY DOCUMENTS RELATED THERETO ON BEHALF OF THE BIDDER, (2) THAT HE OR SHE IS AUTHORIZED TO BIND THE BIDDER IN A CONTRACTUAL RELATIONSHIP, AND (3) THAT THE BIDDER HAS PROPERLY REGISTERED WITH ANY STATE AGENCIES THAT MAY REQUIRE REGISTRATION.</p> <p>***** THIS IS THE END OF RFQ DEP15729 ***** TOTAL:</p>						

Please see Addendum I

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: *[Signature]* TELEPHONE: 304-757-8954 DATE: 01-31-2012

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

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

Page | 1
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

Page | 2

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 include the method number on the bid sheet. 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 vendor submits bids for an alternate method, the method number and MDL must be included on the bid sheet. If vendors are certified for more than 2 methods for a parameter, the vendor can provide bids and associated information on a separate page.

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

Results of analytical tests must be submitted electronically in a Microsoft Excel (or compatible) format. The electronic results should conform to the DEP program approved template 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.

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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. The prime contractor is ultimately responsible for seeing the results submitted electronically and must also provide copies hard or electronic copies of any documentation provided by the subcontractor.

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 vendor shall provide necessary sample containers and field preservatives to the DEP if requested by the Department.
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

Constituents for Phase I Detection Monitoring

GROUP A: Inorganic Constituents

COMMON NAME ²	CAS RN ³	
Acidity	(Total)	
Aluminum	(Total)	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), fluoride and calcium.

GROUP B: Organic Constituents¹

COMMON NAME ²	CAS RN ³
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

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.

ANALYSIS OF WATER AND SOIL

DEP15729

Vendor's Bid Sheet

Vendor's Name: _____

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

ITEM NO	EST QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
				N/A	\$	\$
1	4000	pH			\$	\$
1A	10	pH (Solid)		5 mg/l	\$	\$
2	4000	Hot Acidity		*	\$	\$
2A	1000	Hot Acidity Alt. Method		5 mg/L	\$	\$
3	4000	Alkalinity			\$	\$
3A	1000	Alkalinity Alt. Method		1 mg/L	\$	\$
4	500	Hardness			\$	\$
4A	100	Hardness Alt. Method			\$	\$
4B	10	Hardness (Solid)			\$	\$
	1000	Specific Conductance		3 uS/cm ²	\$	\$
		Specific Conductance Alt. Method			\$	\$
5A	500	Sulfate		5 mg/L	\$	\$
6	4000	Sulfate			\$	\$
6A	1000	Sulfate Alt. Method			\$	\$
6B	10	Sulfate (Solid)			\$	\$
7	20	Sulfide		1 mg/L	\$	\$
7A	10	Sulfide Alt. Method			\$	\$
8	20	Turbidity		1 NTU (higher OK if highly turbid)	\$	\$
8A	10	Turbidity Alt. Method			\$	\$
9	300	Bromide		0.1 mg/L	\$	\$
9A	10	Bromide Alt. Method		1 mg/L	\$	\$
9B	10	Bromide (Solid)			\$	\$
10	3000	Chloride		5 mg/L	\$	\$
10A	100	Chloride Alt. Method			\$	\$
10B	10	Chloride (Solid)			\$	\$
11	25	Fluoride		0.2 mg/L	\$	\$
11A	10	Fluoride Alt. Method			\$	\$
11B	10	Fluoride (Solid)			\$	\$
12	4000	Fecal Coliform (MF)		4 cfu/100 mL	\$	\$
12A	1000	Fecal Coliform (MF) Alt. Method			\$	\$
13	100	Fecal Coliform (MPN)		4 cfu/100 mL	\$	\$
13A	50	Fecal Coliform (MPN) Alt. Method			\$	\$
14	20	Total Coliform			\$	\$
15	2.5	Total Solids		1 mg/L	\$	\$
15A	10	Total Solids Alt. Method			\$	\$
15B	10	Total Solid (Solid)			\$	\$
16	3000	Dissolved Solids (TDS)		1 mg/L	\$	\$
16A	1000	Dissolved Solids (TDS) Alt. Method			\$	\$
17	4000	Suspended Solids (TSS)		3 mg/L	\$	\$

ADDENDUM I

See

see

NO.	EST QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
17A	1000	Suspended Solids (TSS) Alt. Method			\$	\$
18	25	Settleable Solids			\$	\$
18A	10	Settleable Solids Alt. Method		1 mg/L	\$	\$
19	25	Volatile Solids			\$	\$
19A	10	Volatile Solids Alt. Method			\$	\$
19B	10	Volatile solid (Solid)		1%	\$	\$
20	25	Percent Solids			\$	\$
20A	10	Percent Solids Alt. Method			\$	\$
20B	10	Percent Solids (Solid)		0.1 mg/L	\$	\$
21	400	Kjeldahl Nitrogen			\$	\$
21A	100	Kjeldahl Nitrogen Alt. Method			\$	\$
21B	10	Kjeldahl Nitrogen (Solid)			\$	\$
21C	10	Kjeldahl Nitrogen Alt. Method (Solid)		0.1 mg/L	\$	\$
22	50	Ammonia Nitrogen			\$	\$
22A	10	Ammonia Nitrogen Alt. Method			\$	\$
22B	10	Ammonia Nitrogen (Solid)			\$	\$
22C	10	Ammonia Nitrogen Alt. Method (Solid)		0.5 mg/L	\$	\$
23	50	Organic Nitrogen			\$	\$
23A	10	Organic Nitrogen Alt. Method		0.05 mg/L	\$	\$
24	50	Nitrate-Nitrogen			\$	\$
24A	10	Nitrate-Nitrogen Alt. Method		0.05 mg/L	\$	\$
25	50	Nitrite-Nitrogen			\$	\$
25A	10	Nitrite-Nitrogen Alt. Method			\$	\$
25B	10	Nitrite-Nitrogen (Solid)			\$	\$
25C	10	Nitrite-Nitrogen Alt. Method (Solid)		0.05 mg/L	\$	\$
26	400	Nitrite-Nitrate			\$	\$
26A	100	Nitrite-Nitrate Alt. Method			\$	\$
26B	10	Nitrite-Nitrate (Solid)			\$	\$
26C	10	Nitrite-Nitrate Alt. Method (Solid)		0.01 mg/L	\$	\$
27	400	Total Phosphorus			\$	\$
27A	100	Total Phosphorus Alt. Method			\$	\$
27B	10	Total Phosphorus (Solid)			\$	\$
27C	10	Total Phosphorus Alt. Method (Solid)		0.01 mg/L	\$	\$
28	50	Orthophosphate			\$	\$
28A	10	Orthophosphate Alt. Method		0.01 mg/L	\$	\$
29	50	Total Phosphate			\$	\$
29A	10	Total Phosphate Alt. Method			\$	\$
29B	10	Total Phosphate (Solid)			\$	\$
29C	10	Total Phosphate Alt. Method (Solid)		2 mg/L	\$	\$
30	25	BOD			\$	\$
30A	10	BOD Alt. Method		2 mg/L	\$	\$
31	25	BOD-carbonaceous			\$	\$
31A	10	BOD-carbonaceous Alt. Method		0.5 mg/L	\$	\$
32	25	COD			\$	\$
32A	10	COD Alt. Method		1 mg/L	\$	\$
33	25	TOC			\$	\$
33A	10	TOC Alt. Method		0.05 mg/L	\$	\$
34	25	MBAS			\$	\$
34A	10	MBAS Alt. Method		0.01 mg/L	\$	\$
35	25	Phenolics			\$	\$
35A	10	Phenolics Alt. Method			\$	\$
35B	10	Phenolics (Solid)		0.005 mg/L	\$	\$
36	25	Total Cyanide			\$	\$
36A	10	Total Cyanide Alt. Method			\$	\$

ADDENDUM

see

see

NO.	EQT. QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
36B	10	Total Cyanide (Solid)		0.005 mg/L	\$	\$
37	200	Hexavalent Chromium			\$	\$
37A	10	Hexavalent Chromium Alt. Method			\$	\$
37B	10	Hexavalent Chromium (Solid)		2 mg/L	\$	\$
38	25	Oil-Grease			\$	\$
38A	10	Oil-Grease Alt. Method			\$	\$
38B	10	Oil-Grease (Solid)		0.5 ug/L	\$	\$
39	100	Chlorophyll A			\$	\$
39A	20	Chlorophyll A Alt. Method		5 color units	\$	\$
40	25	Color (APHA)			\$	\$
40A	10	Color (APHA) Alt. Method		10 ADMI value	\$	\$
41	25	Color (ADMI)			\$	\$
41A	10	Color Alt. Method		0.005 mg/l.	\$	\$
42	25	Cyanide, Amenable			\$	\$
42A	10	Cyanide, Amenable Alt. Method		0.005 mg/L	\$	\$
43	25	Cyanide, Free (ASTM)			\$	\$
43A	10	Cyanide, Free Alt. Method		1 mg/L	\$	\$
44	25	Mineral Acidity			\$	\$
44A	10	Mineral Acidity Alt. Method		1 mg/L	\$	\$
45	25	Total Acidity			\$	\$
45A	10	Total Acidity Alt. Method			\$	\$
46	25	Tot Petroleum Hydrocarbons GRO/DRO (8015)		0.5 mg/L	\$	\$
47	10	Tot Petroleum Hydrocarbons GRO/DRO (8015) (Solid)		4 cfu/100 mL	\$	\$
47A	25	Fecal Streptococci			\$	\$
47B	10	Fecal Streptococci Alt. Method			\$	\$
47C	10	Fecal Streptococci (Solid)		1 cfu/100 mL	\$	\$
48	25	Escherichia Coli (Numeric Result)			\$	\$
48A	10	E. Coli (Numeric Result) Alt. Method		1 cfu/100 mL	\$	\$
49	100	Enterococci			\$	\$
50	20	Iron Bacteria			\$	\$
51	20	Sulfate Reducing Bacteria		1 mg/L	\$	\$
52	25	Bicarbonate (Standard Methods)			\$	\$
52A	10	Bicarbonate Alt. Method		0.05 mg/L	\$	\$
53	25	Ferrous Iron (Standard Methods)			\$	\$
53A	10	Ferrous Iron Alt. Method		1 mg/L	\$	\$
54	25	Dissolved Organic Carbon			\$	\$
54A	10	Dissolved Organic Carbon Alt. Method		0.005 mg/L	\$	\$
55	4000	Aluminum			\$	\$
55A	100	Aluminum - Alt. method			\$	\$
55B	10	Aluminum (Solid)		0.005 mg/L	\$	\$
56	20	Antimony			\$	\$
56A	10	Antimony Alt. Method			\$	\$
56B	10	Antimony (Solid)		0.005 mg/L	\$	\$
57	20	Arsenic			\$	\$
57A	10	Arsenic Alt. Method			\$	\$
57B	10	Arsenic (Solid)		0.005 mg/L	\$	\$
58	20	Barium			\$	\$
58A	10	Barium Alt. Method			\$	\$
58B	10	Barium (Solid)		0.00008 mg/L	\$	\$
59	20	Beryllium			\$	\$
59A	10	Beryllium Alt. Method			\$	\$
59B	10	Beryllium (Solid)			\$	\$

ADDENDUM

see

	EST QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
60	20	Boron		0.02 mg/L	\$	\$
60A	10	Boron Alt. Method			\$	\$
60B	10	Boron (Solid)			\$	\$
61	200	Cadmium		0.00005 mg/L	\$	\$
61A	20	Cadmium Alt. Method			\$	\$
61B	10	Cadmium (Solid)			\$	\$
62	500	Calcium		0.02 mg/L	\$	\$
62A	20	Calcium Alt. Method			\$	\$
62B	10	Calcium (Solid)			\$	\$
63	20	Chromium		0.001 mg/L	\$	\$
63A	10	Chromium Alt. Method			\$	\$
63B	10	Chromium (Solid)			\$	\$
64	20	Cobalt		0.001 mg/L	\$	\$
64A	10	Cobalt Alt. Method			\$	\$
64B	10	Cobalt (Solid)			\$	\$
65	200	Copper		0.001 mg/L	\$	\$
65A	20	Copper Alt. Method			\$	\$
65B	10	Copper (Solid)			\$	\$
66	3000	Iron		0.01 mg/L	\$	\$
66A	100	Iron Alt. Method			\$	\$
66B	10	Iron (Solid)			\$	\$
67	200	Lead		0.00034 mg/L	\$	\$
67A	10	Lead Alt. Method			\$	\$
67B	10	Lead (Solid)			\$	\$
68	500	Magnesium		0.05 mg/L	\$	\$
68A	20	Magnesium Alt. Method			\$	\$
68B	10	Magnesium (Solid)			\$	\$
69	3000	Manganese		0.005 mg/L	\$	\$
69A	100	Manganese Alt. Method			\$	\$
69B	10	Manganese (Solid)			\$	\$
70	200	Mercury		0.0001 mg/L	\$	\$
70A	200	Mercury / Method 1631E		0.5 ng/L	\$	\$
70B	10	Mercury (Solid)			\$	\$
71	20	Molybdenum		0.005 mg/L	\$	\$
71A	10	Molybdenum Alt. Method			\$	\$
71B	10	Molybdenum (Solid)			\$	\$
72	200	Nickel		0.005 mg/L	\$	\$
72A	20	Nickel Alt. Method			\$	\$
72B	10	Nickel (Solid)			\$	\$
73	500	Potassium		0.05 mg/L	\$	\$
73A	20	Potassium Alt. Method			\$	\$
73B	10	Potassium (Solid)			\$	\$
74	500	Selenium		0.001 mg/L	\$	\$
74A	20	Selenium Alt. Method			\$	\$
74B	10	Selenium (Solid)			\$	\$
75	200	Silver		0.000072 mg/L	\$	\$
75A	20	Silver Alt. Method			\$	\$
75B	10	Silver (Solid)			\$	\$
76	500	Sodium		0.05 mg/L	\$	\$
76A	20	Sodium Alt. Method			\$	\$
76B	10	Sodium (Solid)			\$	\$
77	200	Strontium		0.001 mg/L	\$	\$
77A	20	Strontium Alt. Method			\$	\$
78	20	Thallium		0.001 mg/L	\$	\$

See ADDENDUM

Please

NO	EST QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
					\$	\$
					\$	\$
78A	10	Thallium Alt. Method			\$	\$
78B	10	Thallium (Solid)		0.02 mg/L	\$	\$
79	20	Tin			\$	\$
79A	10	Tin Alt. Method			\$	\$
79B	10	Tin (Solid)		0.005 mg/L	\$	\$
80	20	Vanadium			\$	\$
80A	10	Vanadium Alt. Method			\$	\$
80B	10	Vanadium (Solid)		0.002 mg/L	\$	\$
81	200	Zinc			\$	\$
81A	20	Zinc Alt. Method			\$	\$
81B	10	Zinc (Solid)			\$	\$
82	200	Metals Prep Cost			\$	\$
82A	10	Metals Prep Cost (Solid)			\$	\$
83	20	Gross Alpha			\$	\$
84	20	Gross Beta			\$	\$
85	20	Ra-226			\$	\$
86	20	Ra-228			\$	\$
87	20	Total Uranium			\$	\$
88	20	Sr-89			\$	\$
89	20	Sr-90			\$	\$
90	20	Tritium (H3)			\$	\$
91	20	Gamma (Cs-137)			\$	\$
?	20	Radon			\$	\$

ADDENDUM I

Toxicity Testing - Freshwater Organisms						
Acute:						
93	25	Ceriodaphnia			\$	\$
94	10	Daphnia Pulex/ D. magna			\$	\$
95	25	Pimephales promelas			\$	\$
Chronic:						
96	25	Ceriodaphnia			\$	\$
97	25	Pimephales promelas (Survival & Growth)			\$	\$
98	200	Analysis of entire "Phase 1 Parameters" for landfills See Appendix A for sig.			\$	\$

See

99	10	Professional staff representation of data in legal/administrative setting per hour			\$	\$
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Collection of samples - costs associated with sample pickup from the following locations:						
100	24	Charleston Office, 601 57th St., SE, Charleston, WV 25304			\$	\$
101	24	Tenys Office, P.O. Box 662, Tenys, WV 25596			\$	\$
102	24	Fairmont Office, 2031 Pleasant Valley Rd., Fairmont, WV 26554			\$	\$
103	24	Romney Office, IIC 63, Box 2545, Romney, WV 26757			\$	\$
104	24	French Creek Office, P.O. Box 38, French Creek, WV 26218			\$	\$

NO.	EST QUANTITY	DESCRIPTION	Method #	Method Detection Level*	UNIT PRICE	AMOUNT
105	24	Wheeling Office, 131A Peninsula St., Wheeling, WV 26003			\$	\$
106	24	Parkersburg Office, 2311 Ohio Ave., Parkersburg, WV 26010			\$	\$
107	24	Oak Hill Office, 116 Industrial Dr., Oak Hill, WV 25901			\$	\$
108	24	Logan Office, 1101 George Kostas Dr. Logan, 25601			\$	\$
109	24	Philippi Office, 105 S Railroad St. Philippi WV 26076			\$	\$
110	24	Welch Office, 311 Court St. Welch 24801			\$	\$
111	5000	Other locations as Cost Per Mile to pickup site			\$	\$
112	10	24 Hour Turn-Around Rush Orders**				%
113	10	48 Hour Turn-Around Rush Orders**				%
114	10	72 Hour Turn Around Rush Orders**				%
TOTAL						\$

ADDENDUM

Please

** 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. Enter percent increases over standard turn-around time.

Rev. 09/08

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: 01-31-2012 Title: President

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

RFQ No. DEP 15729

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 exceeds 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.

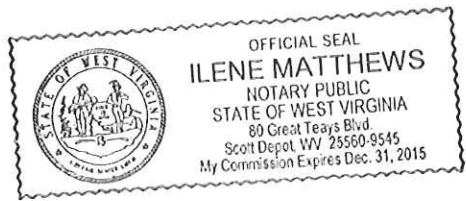
WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: Bio-Chem Testing, INC.
Authorized Signature: [Signature] Date: 01-27-2012
State of WV

County of Putnam, to-wit:
Taken, subscribed, and sworn to before me this 27th day of January, 2012
My Commission expires Dec 31 2015, 20 .

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]





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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

September 06, 2011

Mukesh Shah
President
Bio-Chem Testing, Inc.
P.O. Box 634
Teays, WV 25569

Dear Mr. Shah:

Please find enclosed an ATTACHMENT I modifying certification of your facility through July 31, 2012.

Certification for WET has been added to the Attachment I.

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	SM190th4500-NH3 B	Distillation
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
Chromium, Hexavalent	SM19th3500-Cr D	Colorimetric
Color	SM19th2120 B	Visual Comparison
Color	SM19th2120 E	Colorimetric
Conductance, Specific	EPA120.1	Probe
Cyanide	SM19th4500-CN C	Distillation
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	HACH 8226	Titrimetric
Kjeldahl, Total Nitrogen	SM19th4500-Norg C	Digestion
Kjeldahl, Total Nitrogen	SM19th4500-NH3 B	Distillation
Kjeldahl, Total Nitrogen	SM19th4500-NH3 C	Titrimetric
Kjeldahl, Total Nitrogen	HACH8038	Spectrophotometric

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
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
Oil & Grease	EPA1664 A	Gravimetric
Organic Carbon, Total	SM19th5310 C	Oxidation
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
Phenolics, Total	EPA420.1 Rev 1978	Manual Spectrophotometric
Phosphorus, ortho	SM19th4500 P E	Manual Spectrophotometric
Phosphorus, Total	SM19th4500-P B.5	Digestion
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

NONPOTABLE WATER TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	EPA200.7 Rev 4.4-1994	ICP
Aluminum	EPA200.8 Rev 5.4-1994	ICP-MS
Aluminum	SW6010B	ICP
Aluminum	SW6020	ICP-MS
Antimony	EPA200.7 Rev 4.4-1994	ICP
Antimony	EPA200.8 Rev 5.4-1994	ICP-MS
Antimony	SM19th3113B	GFAA
Antimony	SW6010B	ICP
Antimony	SW6020	ICP-MS
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Arsenic	EPA200.8 Rev 5.4-1994	ICP-MS
Arsenic	SM19th3113B	GFAA
Arsenic	SW6010B	ICP
Arsenic	SW6020	ICP-MS
Arsenic	EPA200.7 Rev 4.4-1994	ICP
Barium	EPA200.8 Rev 5.4-1994	ICP-MS
Barium		

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Barium	SW6010B	ICP
Barium	SW6020	ICP-MS
Beryllium	EPA200.7 Rev 4.4-1994	ICP
Beryllium	EPA200.8 Rev 5.4-1994	ICP-MS
Beryllium	SW6010B	ICP
Beryllium	SW6020	ICP-MS
Boron	EPA200.7 Rev 4.4-1994	ICP
Boron	SW6010B	ICP
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Cadmium	EPA200.8 Rev 5.4-1994	ICP-MS
Cadmium	SM19th3113B	GFAA
Cadmium	SW6010B	ICP
Cadmium	SW6020	ICP-MS
Cadmium	EPA200.7 Rev 4.4-1994	ICP
Calcium	SW6010B	ICP
Calcium	EPA200.7 Rev 4.4-1994	ICP
Chromium	EPA200.8 Rev 5.4-1994	ICP-MS
Chromium	SW6010B	ICP
Chromium	SW6020	ICP-MS
Chromium	EPA200.7 Rev 4.4-1994	ICP
Cobalt	EPA200.8 Rev 5.4-1994	ICP-MS
Cobalt	SW6010B	ICP
Cobalt	SW6020	ICP-MS
Cobalt	EPA200.7 Rev 4.4-1994	ICP
Copper	EPA200.8 Rev 5.4-1994	ICP-MS
Copper	SM19th3113B	GFAA
Copper	SW6010B	ICP
Copper	SW6020	ICP-MS
Copper	EPA200.7 Rev 4.4-1994	ICP
Iron	SW6010B	ICP
Iron	EPA200.7 Rev 4.4-1994	ICP
Lead	EPA200.8 Rev 5.4-1994	ICP-MS
Lead	SM19th3113B	GFAA
Lead	SW6010B	ICP
Lead	SW6020	ICP-MS
Lead	EPA200.7 Rev 4.4-1994	ICP
Magnesium	SW6010B	ICP
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.8 Rev 5.4-1994	ICP-MS
Manganese	SW6010B	ICP
Manganese	SW6020	ICP-MS
Manganese	EPA245.1	CVAA
Mercury	EPA245.5	CVAA
Mercury	SW7470A	CVAA
Mercury	EPA200.7 Rev 4.4-1994	ICP
Molybdenum	EPA200.8 Rev 5.4-1994	ICP-MS
Molybdenum	SW6010B	ICP
Molybdenum	SW6020	ICP-MS

METAL

Nickel
 Nickel
 Nickel
 Nickel
 Potassium
 Potassium
 Selenium
 Selenium
 Selenium
 Selenium
 Selenium
 Silicon
 Silicon
 Silver
 Silver
 Silver
 Silver
 Silver
 Sodium
 Sodium
 Strontium
 Strontium
 Thallium
 Thallium
 Thallium
 Thallium
 Thallium
 Tin
 Tin
 Titanium
 Titanium
 Vanadium
 Vanadium
 Vanadium
 Vanadium
 Zinc
 Zinc
 Zinc
 Zinc
 Metals
 Metals
 Selenium
 Total Metals
 Total Metals
 Total Recoverable Metals
 Total Recoverable Metals
 Dissolved Metals

METHOD

EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 SW6010B
 SW6020
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 SM19th3113B
 SM21st3114C*
 SW6010B
 SW6020
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 SM19th3113B
 SW6010B
 SW6020
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 EPA279.2
 SW6010B
 SW6020
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 SW6010B
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 SW6010B
 SW6020
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 SW6010B
 SW6020
 SM19th3030E
 SM19th3030F
 SM21st3114B (4.c)
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 EPA200.7 Rev 4.4-1994
 EPA200.8 Rev 5.4-1994
 EPA200.7 Rev 4.4-1994

TECHNOLOGY

ICP
 ICP-MS
 ICP
 ICP-MS
 ICP
 ICP
 ICP
 ICP-MS
 GFAA
 HG/AF
 ICP
 ICP-MS
 ICP
 ICP
 ICP
 ICP-MS
 GFAA
 ICP
 ICP-MS
 ICP
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 ICP
 ICP-MS
 GFAA
 ICP
 ICP-MS
 ICP
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 ICP-MS
 ICP
 ICP-MS
 ICP
 ICP-MS
 ICP
 ICP-MS
 Digestion
 Digestion
 Digestion
 Digestion
 Digestion
 Digestion
 Digestion

METAL
Dissolved Metals
*Modified

METHOD
EPA200.8 Rev 5.4-1994

TECHNOLOGY

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

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
Daphnia pulex	EPA821-R-02-012 2021.0	Acute
Survival & Growth of Fathead Minnow Larval	EPA821-R-02-013 1000.0	Chronic
Survival & Reproduction of Ceriodaphnia	EPA821-R-02-013 1002.0	Chronic

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>
Ammonia	SM18th4500-NH3 B (M)*Distillation	
Ammonia	SM18th4500-NH3 E	Titrimetric
Ammonia	HACH8038	Spectrophotometric
Chloride	SM19th4500-Cl C	Titrimetric
Chloride	EPA300.0 Rev. 2.1	IC
Cyanide, Total	SM19th4500-CN C	Distillation
Cyanide, Total	SM19th4500-CN E	Spectrophotometric
Fluoride	EPA300.0 Rev. 2.1	IC
Kjeldahl, Total Nitrogen	SM19th4500Norg B	Digestion
Kjeldahl, Total Nitrogen	SM19th4500-NH3 B	Distillation
Kjeldahl, Total Nitrogen	SM19th4500-NH3 C	Titrimetric
Kjeldahl, Total Nitrogen	HACH8038	Spectrophotometric

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
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
pH	SW9045D	Probe
Phosphorus, Total	SM20th4500-P E	Manual Spectrophotometric
Phosphorus, Total	SM19th4500-P B.5 (M)*	Digestion
Phosphorus, Total	EPA365.1 Rev. 2.0	Manual Spectrophotometric
Solids, Total	SM19th2540 G	Gravimetric
Solids, Volatile	EPA160.4	Gravimetric
Sulfate	EPA300.0 Rev. 2.1	IC.

*Modified for analysis of solid and chemical matrices.

SOLID AND CHEMICAL TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Antimony	SW7010	GFAA
Arsenic	SW6010B	ICP
Arsenic	SW7010	GFAA
Barium	SW6010B	ICP
Beryllium	SW6010B	ICP
Boron	SW6010B	ICP
Cadmium	SW6010B	ICP
Cadmium	SW7010	GFAA
Calcium	SW6010B	ICP
Chromium	SW6010B	ICP
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Copper	SW7010	GFAA
Iron	SW6010B	ICP
Lead	SW6010B	ICP
Lead	SW7010	GFAA
Magnesium	SW6010B	ICP
Manganese	SW6010B	ICP
Mercury	SW7470A	CVAA
Mercury	SW7471A	CVAA
Molybdenum	SW6010B	ICP
Nickel	SW6010B	ICP
Potassium	SW6010B	ICP
Selenium	SW6010B	ICP
Selenium	SW7010	GFAA
Silicon	SW6010B	ICP
Silver	SW6010B	ICP

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Silver	SW7010	GFAA
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Thallium	SW7010	GFAA
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Uranium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Metals	SW3050B	Digestion

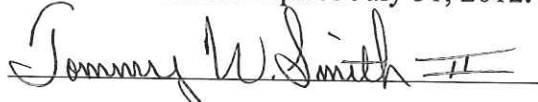
SOLID AND CHEMICAL MICROBIOLOGY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Fecal Coliform	SM19th9221E	Most Probable Number

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

This Certification Expires July 31, 2012.

Certificate No 220

 Issued on September 06, 2011

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

FEB 17 2011

Mr. Mukesh Shah
BIO-CHEM Testing, Inc.
P.O. Box 634
Teays, WV 25569-0634

Dear Mr. Shah:

Your facility submitted correspondence requesting approval for an Alternate Test Procedure (ATP) for the determination of selenium. BIO-CHEM wants to use the Gaseous Hydride Atomic Fluorescence (GHAF), Standard Methods; 21st Ed.3114C (modified), followed by Atomic Fluorescence Spectrometry (AFS) as the detector. This procedure will be used for selenium determination in support of the NPDES Permit Program.

The Environmental Protection Agency (EPA) Region III maintains a two tiered review process for approving limited-use ATP requests in support of the NPDES Permit Program, Category#1 and Category#2. In Category #1, EPA's Engineering and Analysis Support Division (EAD) **has not** evaluated a proposed method/technology for possible use in support of the NPDES Permit Program. Also, a proposed modification is not within the allowed flexibility of CFR Part 136.6. In Category #2, EPA's EAD **has** evaluated a proposed method/technology for changes considered allowable under "methods modification" (Part 136.6). BIO-CHEM's ATP request was evaluated in accordance with Category #1 as it has not been evaluated by EPA's Engineering and Analysis Support Division.

The West Virginia Department of Environmental Protection (WV DEP) along with the EPA Region III Water Management and the Environmental Assessment and Innovation Divisions have carefully reviewed BIO-CHEM's method modification and the validation data submitted in support of its application. The validation data includes an "Initial Demonstration of Laboratory Capability", and parallel testing with an approved method. The supportive data demonstrate that the modified method produces results that are equivalent to results produced by the EPA approved method. Also demonstrated was improved method performance such as accuracy, precision, lower detection limits and that the results meet the EPA QC acceptance criteria for designated methods.

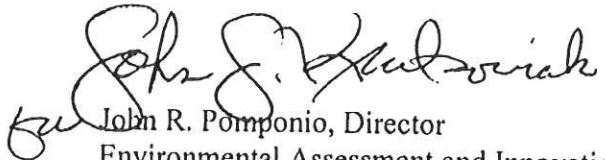
All groups recommended approval of BIO-CHEM's request. Therefore, based upon the review of the supportive comparability data and their recommendations, limited-use approval is granted for the use of the modified method, SM3114C. BIO-CHEM may use the GHAF/AFS Procedure for the measurement of selenium in wastewater compliance monitoring samples in



support of the NPDES Permit Program. It should be noted that EPA evaluates methods/technologies, it does not evaluate instrumentation.

If you have any questions regarding this correspondence, please contact Charles Jones, Jr. Regional Quality Assurance Officer at 215-814-2734

Sincerely,


John R. Pomponio, Director
Environmental Assessment and Innovation Division

Cc: Daniel T. Arnold (WV DEP - DWWM)

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 CERTIFIEDNONPOTABLE WATER FIELD TESTS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
pH (Field Test - Hydrogen Ion)	SM21st4500-H B	Probe
pH (Field Test - Hydrogen Ion)	SW9040C	Probe
pH (Field Test - Hydrogen Ion)	SW9045	Probe

NONPOTABLE WATER INORGANICS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Ammonia	SM21st4500-NH3 B	Distillation
Ammonia	SM21st4500-NH3 F	Electrode
Bromide	EPA300.0	IC
Bromide	SW9056	IC
Chloride	EPA300.0	IC
Chloride	SW9056	IC
Demand, Biochemical(BOD)	SM21st5210 B	Probe
Demand, Carbonaceous(CBOD)	SM21st5210 B	Probe
Demand, Chemical Oxygen (COD)	SM21st5520 C	Spectrometric
Fluoride	EPA300.0	IC
Fluoride	SW9056	IC
Kjeldahl Nitrogen, Total	SM21st4500-Norg B	Digestion
Kjeldahl Nitrogen, Total	SM21st4500-NH3 B	Distillation
Kjeldahl Nitrogen, Total	SM21st4500-NH3 D	Electrode
Nitrate	EPA300.0	IC
Nitrate	SW9056	IC
Nitrate-Nitrite	EPA300.0	IC
Nitrate-Nitrite	SW9056	IC
Nitrite	EPA300.0	IC
Nitrite	SW9056	IC

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Oil & Grease	EPA1664A	Gravimetric
Organic Carbon, Total (TOC)	SM21st5310 B	Oxidation
Organic Halide, Total (TOX)	SW9020B	Oxidation
Phenolics, Total	SM21st5310 D	Spectrometric
Phenolics, Total	SW9065	Spectrometric
Phosphate, Ortho	EPA300.0	Spectrometric
Phosphate, Ortho	SW9056	Spectrometric
Phosphate, Total	SM21st4500-P B	Digestion
Phosphate, Total	SM21st4500-P E	Spectrometric
Solids, Dissolved	SM21st2540 C	Gravimetric
Solids, Suspended	SM21st2540 D	Gravimetric
Solids, Total	SM21st2540 B	Gravimetric
Sulfate	EPA300.0	IC
Sulfate	SW9056	IC
Surfactants (MBAS)	SM20th5540 C	Spectrometric

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
Cadmium	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
Magnesium	EPA200.7 Rev 4.4-1994	ICP
Manganese	EPA200.7 Rev 4.4-1994	ICP
Nickel	EPA200.7 Rev 4.4-1994	ICP
Phosphorus	EPA200.7 Rev 4.4-1994	ICP
Selenium	EPA200.7 Rev 4.4-1994	ICP
Silver	EPA200.7 Rev 4.4-1994	ICP
Sodium	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
Mercury	EPA245.1	CVAA
Mercury	EPA1631E	CVAA (Low Level)
Mercury	SW7470A	CVAA

NONPOTABLE WATER VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Purgeables	EPA624	GC/MS

NONPOTABLE WATER EXTRACTABLES & SEMI-VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Organochlorine Pesticides & PCBs	EPA608	GC/ECD
Chlorinated Herbicides	EPA615	GC/ECD
Base/Neutrals & Acids	EPA625	GC/MS
Carbamates	EPA632	HPLC

NONPOTABLE WATER DIOXINS & DIBENZOFURANS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Dioxins & Furans (PCDD/F)	EPA1613B	HRGC/HRMS
Chlorinated Biphenyl (PCB) Congeners	EPA1668A	HRGC/HRMS

NONPOTABLE WATER RADIOCHEMISTRY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Gross Alpha	SM21st7110 C	Gas Flow Proportional
Gross Alpha	SW9310	Gas Flow Proportional
Gross Beta	SW9310	Gas Flow Proportional
Radium 226	SW9315	Gas Flow Proportional
Radium 228	SW9320	Gas Flow Proportional
Uranium	EPA200.8	ICP/MS
Uranium	SW6020	ICP/MS

HAZARDOUS WASTE CHARACTERISTICS

<u>PROCEDURE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Corrosivity (Water)	SW9040B	Probe
Corrosivity (Soil)	SW9045D	Probe
Ignitability (Penske-Martin)	SW1010	Closed Cup
Reactive Cyanide	Chap 7.3.3.2	SW9010B/9014
Reactive Sulfide	Chap 7.3.3.2	SW9030B/9034A
TCLP (Metals & Organics)	SW1311	Rotating Extractor

SOLID & CHEMICAL INORGANICS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Bromide	SW9056	IC
Chloride	SW9056	IC
Cyanide, Total	SW9010B	Spectrometric
Cyanide, Total	SW9014	Spectrometric
Fluoride	SW9056	IC
Kjeldahl Nitrogen, Total	SM21st4500-Norg B	Digestion
Kjeldahl Nitrogen, Total	SM21st4500-NH3 B	Distillation
Kjeldahl Nitrogen, Total	SM21st4500-NH3 D	Electrode
Nitrate	SW9056	IC
Nitrate-Nitrite	SW9056	IC
Nitrite	SW9056	IC
Oil & Grease	SW9070	Gravimetric
Oil & Grease	SW9071B	Gravimetric
Organic Halide, Extractable (EOX)	SW9023	Oxidation
Phenolics, Total	SW9065	Spectrometric
Phosphate, Ortho	SW9056	Spectrometric
Sulfate	SW9056	IC
Sulfide	SW9030B	Spectrometric
Sulfide	SW9034A	Spectrometric

SOLID & CHEMICAL TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Aluminum	SW6010B	ICP
Antimony	SW6010B	ICP
Arsenic	SW6010B	ICP
Barium	SW6010B	ICP
Cadmium	SW6010B	ICP
Chromium	SW6010B	ICP
Cobalt	SW6010B	ICP
Copper	SW6010B	ICP
Lead	SW6010B	ICP
Nickel	SW6010B	ICP
Phosphorus	SW6010B	ICP
Selenium	SW6010B	ICP
Silver	SW6010B	ICP
Tin	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Mercury	SW7471A	CVAA

SOLID & CHEMICAL VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Petroleums (TPH - Fuel - GRO)	SW8015B	GC/FID
Aromatics (Fuels - BTEX & MTBE)	SW8021B	GC/FID
Volatiles	SW8260B	GC/MS

SOLID & CHEMICAL EXTRACTABLES & SEMI-VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Petroleum (TPH - Fuel - DRO)	SW8015B	GC/FID
Organochlorine Pesticides	SW801A	GC/ECD
Polychlorinated Biphenyls (PCBs)	SW808Z	GC/ECD
Organophosphates	SW8141A	GC/FID
Chlorinated Herbicides	SW8151A	GC/ECD
Semi-volatiles	SW8270C	GC/MS

SOLID & CHEMICAL DIOXINS & DIBENZOFURANS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Dioxins & Furans (PCDD/F)	SW8290	HRGC/HRMS
Chlorinated Biphenyl (PCB) Congeners	EPA1668A	HRGC/HRMS

SOLID & CHEMICAL RADIOCHEMISTRY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Gross Alpha	SM21st7110 C	Gas Flow Proportional
Gross Alpha	SW9310	Gas Flow Proportional
Gross Beta	SW9310	Gas Flow Proportional
Radium 226	SW9315	Gas Flow Proportional
Radium 228	SW9320	Gas Flow Proportional
Uranium	EPA200.8	ICP/MS
Uranium	SW6020	ICP/MS

EXTRACTION, DIGESTION, CLEANUP, & PREPARATORY METHODS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Metals Digestion	EPA200.2	Acid
Metals digestion	SW3005A	Hot Block
Metals digestion	SW3010A	Microwave
Metals digestion	SW3050B	Acid
Metals digestion	SW3060A	Hexchrome
Extraction	SW3510C	Separatory Funnel (LL)
Extraction	SW3540C	Soxhlet
Extraction	SW3550C	Ultrasonic (Sonication)
Extraction	SW3580A	Waste Dilution
Extraction (Aqueous)	SW5030B	Purge & Trap (P&T)
Extraction (Soils)	SW5035	Purge & Trap (Closed)

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 2011.**

Certificate No. 248 .

David F Wolfe

Issued On, 31 March 2011.

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

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

October 07, 2011

Clarence Haile
Laboratory Director
REI Consultants, Incorporated
PO Box 286
Beaver, WV 25813

Dear Dr. Haile:

Please find enclosed an ATTACHMENT I modifying certification of your facility through September 30, 2012.

Corrections have been made in accordance with observations made by Brenda Barnett.

If you have any questions, and if I can be of further assistance please call me at (304) 926-0499 ext. 1341 or e-mail me at Daniel.T.Arnold@wv.gov.

Sincerely,

Daniel T. Arnold
Program Manager
da

Enclosure:

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-CN 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	SM18th2540 E	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 C	Winkler
Oxygen, Dissolved(Field Test)	SM18th4500-O C	Winkler
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

METALMETHODTECHNOLOGY

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
Chromium, Hexavalent	EPA218.6 Rev 3.3-1994	IC

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Metals digestion	SW3020A	Hot Block
Total Recoverable	EPA200.2 Rev -1994	Digestion
Dissolved Metals	EPA200.7 Rev 4.4-1994	
Mercury	EPA245.1	Digestion
Mercury	SW7470A	Digestion
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	SimPlate
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

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Phenols	SW8041	GC/FID
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
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
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 & Growth of Fathead Minnow Larval	EPA821-R-02-013 1000.0	Chronic
Survival & Reproduction of Ceriodaphnia	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)	SW1311A	Rotating Extractor

SOLID AND CHEMICAL INORGANIC NONMETALS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
pH	SW9045D	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 G	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	SW7470A	CVAA
Mercury	SW7471B	CVAA
Chromium, Hexavalent	SM18th3500-Cr D	Colorimetric
Chromium, Hexavalent	SW3060	Digestion
Metals	SW3050B	Digestion
Mercury	SW7471B	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

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Polychlorinated Biphenyls	SW8082A	GC/ECD
Polynuclear Aromatic Hydrocarbons	SW8100	GC/FID
Chlorinated Herbicides	SW8151A	GC/ECD
Semivolatile Organic Compounds	SW8270D	GC/MS
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
Florisil Cleanup	SW3620	Cleanup
Sulfur Cleanup	SW3660	Cleanup
Acid Cleanup	SW3665	Cleanup
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, 2012.

Certificate No 060

Daniel T. Arnold

Issued on October 07, 2011

Daniel T. Arnold
Program Manager



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

Earl Ray Tomblin, Governor
Randy C Huffman, Cabinet Secretary
www.wv.dep.gov

31 March 2011

Lab # 143 [6-10-1]
Randal T Hill, Quality Assurance Manager
Pace Analytical Services, Incorporated - Pittsburgh Laboratory
1638 Roseytown Road - Suites: 2, 3, & 4
Greensburg, Pennsylvania 15601

Dear Randy:

I have enclosed the **ATTACHMENT I** recertifying your facility through, **31 January 2012**.

Please do not hesitate to contact me, if you have any questions or concerns. I can be contacted by phone at: 304-472-5124, by fax at: 304-473-4203, by e-mail at: davidfwolfe@frontier.com, 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

PACE ANALYTICAL SERVICES, INCORPORATED- PITTSBURGH
GREENSBURG, PENNSYLVANIA

PARAMETERS CERTIFIED

NONPOTABLE WATER FIELD TESTS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
pH (Field Test - Hydrogen Ion)	SM20th4500-H B	Probe
Temperature(Field Test)	SM20th2550 B	Probe

NONPOTABLE WATER INORGANICS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Acidity	SM20th2310 B (4a)	Titrimetric
Alkalinity	SM20th2330B	Titrimetric
Ammonia	EPA350.1	Discrete
Chloride	SM20th4500-Cl E	Discrete
Conductance, Specific	EPA120.1	Probe
Chromium, Hexavalent	SM19th3500-Cr D	Colorimetric
Chromium, Hexavalent	SW7196A	Colorimetric
Cyanide	SM20th4500-CN C	Distillation
Cyanide, Total	SM20th 4500-CN E	Spectrometric
Cyanide, Total	EPA335.4	Spectrometric
Cyanide, Amenable	SM20th4500-CN G	Spectrometric
Demand, Biochemical(BOD)	SM20th5210 B	Probe
Demand, Carbonaceous(CBOD)	SM20th5210 B	Probe
Demand, Chemical Oxygen (COD)	EPA410.4	Spectrometric
Fluoride	EPA300.0	IC
Fluoride	SM20th4500-F B	Distillation
Fluoride	SM20th4500-F C	ISElectrode
Hardness, Total	SM20th2340 B	ICP Calculation
Hardness, Total	EPA200.7 Rev 4.4-1994	ICP Calculation
Kjeldahl Nitrogen, Total	SM20th4500-Norg B	Digestion
Kjeldahl Nitrogen, Total	SM20th4500-NH3 B	Distillation
Kjeldahl Nitrogen, Total	EPA351.2	Discrete

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Nitrate	SM20th4500-NO ₃ F	Discrete
Nitrate-Nitrite	SM20th4500-NO ₃ F	Discrete
Nitrite	SM20th4500-NO ₃ F	Discrete
Oil & Grease	EPA1664A	Gravimetric
Organic Carbon, Total	SM20th5310 C	Oxidation
Petroleum Hydrocarbons, Total	EPA1664A	Gravimetric
Phenolics, Total	EPA420.1 Rev 1978	Spectrometric
Phosphate, Ortho	SM20th4500-P E	Discrete
Phosphorus, Total	SM20th4500-P B.5	Digestion
Phosphorus, Total	SM20th4500-P E	Discrete
Solids, Dissolved	SM20th2540 C	Gravimetric
Solids, Settleable	SM20th2540 F	Gravimetric
Solids, Suspended	SM20th2540 D	Gravimetric
Solids, Total	SM20th2540 B	Gravimetric
Sulfate	ASTM D516-90, 02	Turbidimetric
Sulfide	SM20th4500-S F	Titrimetric
Turbidity	EPA180.1	Turbidimetric

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
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
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
Mercury	EPA245.1 Rev 3.0-1994	CVAA

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
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
Silver	SW6010B	ICP
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Mercury	SW7470A	CVAA

NONPOTABLE WATER VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Purgeables	EPA624	GC/MS
Total Petroleums (TPH - Fuel - GRO)	SW8015B	GC/FID
Volatiles	SW8260B	GC/MS

NONPOTABLE WATER EXTRACTABLES & SEMI-VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Pesticides & PCBs	EPA608	GC/ECD
Base/Neutrals & Acids	EPA625	GC/MS
Total Petroleums (TPH - Fuel - DRO)	SW8015B	GC/FID
Organochlorine Pesticides	SW8081A	GC/ECD
Polychlorinated Biphenyls	SW8082	GC/ECD
Semi-volatiles	SW8270C	GC/MS
Polynuclear Aromatics (PAHs/PNAs)	SW8270-SIM	GC/MS-SIM

NONPOTABLE WATER RADIOCHEMISTRY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Alpha Counting Error	EPA900.0	Gas Flow Proportional
Beta Counting Error	EPA900.0	Gas Flow Proportional
Gross Alpha	EPA900.0	Gas Flow Proportional
Gross Beta	EPA900.0	Gas Flow Proportional
Gamma Emitters	EPA901.1	Gamma Spectroscopy
Alpha Radium	EPA903.0	Gas Flow Proportional
Strontium-90	EPA-905.0	Gas Flow Proportional
Tritium	EPA-906.0	Gas Flow Proportional
Uranium	EPA-908.0	Gas Flow Proportional
Radium 226	SM20th7500Ra C	Scintillation Cell System
Radium 228	SM20th7500Ra D	Gas Flow Proportional
Isotopic Thorium	US DOE EML-HASL-300	Alpha Spectroscopy
Isotopic Uranium	US DOE EML-HASL-300	Alpha Spectroscopy

HAZARDOUS WASTE CHARACTERISTICS

<u>PROCEDURE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Corrosivity (Water)	SW9040B	Probe
Corrosivity (Soil)	SW9045C	Probe
Ignitability (Penske-Martin)	SW1010A	Closed Cup
Paint Filter Test	SW9095B	Gravimetric
Reactive Cyanide	Chap 7.3.3.2	SW9010/9012A/9014
Reactive Sulfide	Chap 7.3.4.2	SW9030/9034
TCLP (Metals & Organics)	SW1311	Rotating Extractor

SOLID & CHEMICAL INORGANICS

<u>ANALYTE</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Chromium, Hexavalent	SW7196A	Spectrometric
Cyanide, Total	SW9014	Spectrometric
Hardness, Total	SW6010B	ICP Calculation
Oil & Grease	SW9071A	Gravimetric

SOLID & CHEMICAL TRACE METALS

<u>METAL</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
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
Silver	SW6010B	ICP
Sodium	SW6010B	ICP
Strontium	SW6010B	ICP
Thallium	SW6010B	ICP
Tin	SW6010B	ICP
Titanium	SW6010B	ICP
Vanadium	SW6010B	ICP
Zinc	SW6010B	ICP
Mercury	SW7471A	CVAA

SOLID & CHEMICAL VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Petroleum (TPH - Fuel - GRO)	SW8015B	GC/FID
Volatiles	SW8260B	GC/MS

SOLID & CHEMICAL EXTRACTABLES & SEMI-VOLATILES

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Total Petroleum (TPH - Fuel - DRO)	SW8015B	GC/FID
Organochlorine Pesticides	SW8081A	GC/ECD
Polychlorinated Biphenyls (PCBs)	SW8082	GC/ECD
Semi-volatiles	SW8270C	GC/MS
Polynuclear Aromatics (PAHs/PNAs)	SW8270-SIM	GC/MS-SIM

SOLID & CHEMICAL RADIOCHEMISTRY

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Gross Alpha	SW9310	Gas Flow Proportional
Gross Beta	SW9310	Gas Flow Proportional
Gamma Emitters	EPA901.0	Gamma Spectroscopy
Gamma Spectrometry(Ra-226 modified)	EPA901.1	Gamma Spectroscopy
Gamma Spectrometry(Ra-228 modified)	EPA901.1	Gamma Spectroscopy
Strontium-90	US DOE EML-HASL-300	Alpha Spectroscopy
Strontium-90	EPA-905.0	Gas Flow Proportional
Isotopic Thorium	US DOE EML-HASL-300	Alpha Spectroscopy
Isotopic Uranium	US DOE EML-HASL-300	Alpha Spectroscopy


EXTRACTION, DIGESTION, CLEANUP, & PREPARATORY METHODS

<u>GROUP</u>	<u>METHOD</u>	<u>TECHNOLOGY</u>
Metals Digestion	EPA200.7 Rev 4.4-1994	Total
Metals Digestion	EPA200.7 Rev 4.4-1994	Dissolved
Metals digestion	SW3005A	Hot Block
Metals digestion	SW3050B	Acid
Metals digestion	SW3051A	Microwave
Metals digestion	SW3060A	Hexchrome
Extraction	SW3500B	Organic Samples
Extraction	SW3510C	Separatory Funnel (LL)
Extraction	SW3520C	Continuous (CLL)
Extraction	SW3535A	Solid Phase (SPE)
Extraction	SW3546	Pressurized Fluid (PFE)
Extraction	SW3550B	Ultrasonic (Sonication)
Extraction	SW3580A	Waste Dilution
Cleanup	SW3660B	Sulfur
Cleanup	SW3665A	H ₂ SO ₄ /Permanganate
Extraction (Aqueous)	SW5030B	Purge & Trap (P&T)
Extraction (Soils)	SW5035	Purge & Trap (Closed)

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 January 2012.**

Certificate No. **143 .**

 Issued On, 31 March 2011.

David F Wolfe, PhD
Quality Assurance Officer

BIO-CHEM TESTING, INC.
5 WEATHERIDGE DRIVE
HURRICANE, WV 25526

Position Title	Name	Academic Training HS,BA/BS, MS, PhD	Experience Code/Year
Laboratory Manager	Mukesh Shah	BS Chemistry, Biology	1-36,2-36,5-36,6-7,8-36
Lab Supervisor Chemistry/Microbiology	Brian Richards	BS Biology, MS pending	1-6,2-3,8-6
Lab Supervisor Bioassay	Mukesh Shah	BS Chemistry, Biology	1-36,2-36,5-36,6-7,8-36
QA/QC Officer	John Joseph	BS Chemistry	1-38,2-4,5-6,8-1
Analyst(s)/ Technicians	Hemant Shah William E. Smith Kara Frampton Jamell Hart Nathan Milam Cindy Walker Justin Carpenter Brittany Haggerty Kellie McGettigan Zachary Lanham Fred Walker Frances Meredith	BS Chemistry BS Biology BS Biology BS Marine Science BS Biology BS Biology BS Ecology/Evo Bio BS Forensic Chemistry BS Biology BS Biology Chemistry BS,MS Education	1-11,5-11,8-11 1-10,2-10,4-3,8-9 1-8,2-7,5-8,8-8 1-5.5,5-5.5 1-3yr 7 mo 1-3yr 3 mo 1-3y8m,2-3,8-2y8m 1-8 months 1-5 months 6-8 months 1-9months,8-9months 1-1
Support Personnel e.g. Electronics tech, Samplers, etc.	Anu Shah Paul Ice	BS Chemistry, Some Accounting and Computer Courses BS Agronomy	8-6 Sample pickup only, Accounting 1-12,5-10,8-12

EXPERIENCE CODES USED

1-Chemistry

2-Atomic Absorption & ICP

3-Gas Chromatography

4-Mass Spectroscopy

5-Microbiology

6-Bioassay

7-Radio Chemistry

8-Sampling

Brian K. Richards

Experience

2005-Present

Bio-Chem Testing, Inc.

- Laboratory Manager (2009-present)
- Field Services Supervisor (2007-present)
- QA/QC Officer
- ICP Operation
- Supervise 15-20 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

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

Mukesh K Shah

Education: Graduate West Virginia Institute of Technology with a BS in Chemistry 1975, Montgomery, WV.

Experience: April 1995 – Present

Bio-Chem Testing, Inc.

President and Director of entire laboratory operations, functioning in the laboratory as an analyst, supervisor, and top-level data review.

Specializes in sampling for:

- Industrial wastewater, Sanitary wastewater, Process water, Stormwater both composite samples (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.

June 1976 – February 1995:

Technical Testing Laboratories and Commercial Testing & Engineering.

February 1993 – February 1995:

Senior Chemist and Supervisor for Metals and Nonmetals:

Supervised entire production and technical aspects of the Inorganic Laboratory.

June 1987 – February 1993:

Group Leader & Senior Chemist Metals Section:
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:

Analysis of Water, Wastewater and sludge for BOD, COD, TKN ammonia & organic nitrogen, TDS, TSS, TS, VS, pH, conductivity, surfactant, phosphate, phenols, and other conventional analysis associated with Inorganic and Metal sections.

Preparation of NPDES reports.

Analysis of effluents for fecal and total coliform bacteria.

Measuring the toxicity of effluents to fat-head minnow and Daphnia Magna.

Analysis of coal and coke for moisture, ash, BTU, FSI, volatile matter, ash mineral and washability study.

Inorganics Technical Director

Name: Cecilia Markovich

Education: Masters Degree in Analytical Chemistry
Latvian State University
Riga, Latvia

Experience: 23 years as Analytical Laboratory Chemist in USSR specializing in metals and organic analyses.

8 years serving as Environmental Metals Analyst for American Analytical Laboratories Inc., Akron, OH.

Presently serving as Metals and Dioxin Analyst and Technical Director for Summit Environmental Technologies, Inc.

Training: ICP Training – Leeman Labs

Qualifications: Ohio EPA Certified Drinking Water Analyst
AIHA accredited for metals analysis in air
Ohio VAP metals analyst
Certified Radiation Safety Officer

President

Name: Dr. Mo Osman, P.E., Ph.D.

Education: Doctor of Philosophy Degree in Environmental Engineering
The University of Akron, 1994

Master of Science Degree in Environmental Engineering
The University of Akron, 1991

Master of Science Degree in Civil Engineering
Youngstown State University, 1988

Bachelor of Science Degree in Civil Engineering
Tri-State University, Indiana, 1985

Registration: Registered Professional Engineer in many states including Ohio

Awards: Winner of the 1994 research paper competition in the Ohio Environmental Association

Presentations: Presented a research paper titled "Activated Carbon Adsorption: Effects of Pore Size Distribution on Adsorption Isotherms and Kinetics of Flexible Polymers"; Ohio Water Environmental Association; Columbus, OH, 1994

Experience: Over 13 years experience in the water environmental industry with drinking water companies, and engineering consulting firms. Designed many water treatment plants, with sizes up to 6.0 million gallons per day (MGD).

Over 11 years experience in environmental analytical chemistry using a wide range of analytical instruments such as GC, AA, ICP, GC/MS, and performing a broad spectrum of analytical techniques following SW-846 procedures.

Publications: "Activated Carbon Adsorption: Effects of Pore Size Distribution on Adsorption Isotherm and Kinetics of Flexible Polymers".
Dissertation, The University of Akron, 1994.

"Assessing the Adsorption of Polymers by Activated Carbon, both in the Presence and Absence of Solvent Molecules inside the Pores".
Submitted to Environmental Science and Technology magazine.

"Molecular Orientation of Flexible Polymers inside the Pores of Activated Carbon".
Submitted to Journal of Physical Chemistry

"Quantitative Assessment of the Optimum Pore Size of Activated Carbon in the Adsorption of Polymers".
Submitted to Environmental Science and Technology magazine.

Affiliations: American Water Works Association
Water Environment Federation
American Society of Civil Engineers

Qualifications: Ohio EPA Certified Drinking Water Analyst

Organics Technical Director

Name: John R. Troost

Education: Graduate Studies, Analytical Chemistry
University of New Orleans

Bachelor of Science Degree, Chemistry
University of South Florida

Experience: Spent over 22 years working for various environmental laboratories as Analyst, Laboratory Manager, Technical Director, Vice President, and Consultant.

Patents: No. 5,529,612 – "Method and System for Removing Volatile Organics from Landfill Gas".

No. 5,611,844 – "Method for Sampling and Analyzing Landfill Gas".

No. 5,650,560 – "Method and Apparatus for Analyzing Gases Containing Volatile Organic Compounds by Use of Tetraglyme".

Publications: "Evaluation of Commercially Available Capillary Columns and Chromatographic Conditions for the Analysis of Specific Tetrachlorodibenzo-p-dioxin Isomers" B.M. Hughes, J.R. Troost, J.F.Ryan, A.E. Dupuy, Presented at the American Society for Mass Spectrometry (ASMS) 28th Conference on Mass Spectrometry and Allied Topics, May 1980.

"Pyrolysis (GC)²/MS as a Coal Characterization Technique", B.M. Hughes, J.E. Gebhart, J.R. Troost, R. Liotta, presented at the 18th National Meeting of the American Chemical Society, April 1981.

"Chemists and Environmental Protection", Guest Editorial, John R. Troost, Environmental Laboratory, Oct/Nov 1990.

"Gas Chromatography/Mass Spectrometric Calibration Bias", J.R. Troost, E.Y. Olavesen, Analytical Chemistry, [Vol 68, p.708-711], Nov 16, 1996.

"An Air to Water Bridge: Air Sampling and Analysis using Tetraglyme", J.R. Troost, Analytical Chemistry, [Vol 71, p.708-711], Nov 16, 1999.

Affiliations: American Chemical Society

Qualifications: Ohio EPA Certified Drinking Water Analyst.

Organics Analyst

Name: Andrew K. Ecklund

Education: Bachelor of Science in Chemical Engineering
University of Pittsburgh, Pittsburgh, PA

Experience: 13 years as Chief Organic Chemist for at Free-Col Laboratories, Ltd.,
Meadville, PA. Specializing in GC and GC/MS analyses.

11 years as Chief Organic Chemist at Summit Environmental
Technologies, Inc. Specializing in GC and GC/MS analyses.

Affiliations: American Institute of Chemical Engineers
American Chemical Society
American Society for Mass Spectrometry

Qualifications: Ohio EPA Certified Drinking Water Analyst.

REI Consultants, Inc. – Key Staff Qualifications

Name	Current Position	Qualifications
Dr. Clarence L. Haile	Laboratory Director	PhD in Environmental Chemistry with 34 years research and laboratory management experience
Ray Erickson	Assistant Lab Director	BS in Biochemistry with 28 years laboratory management and research experience
Brenda Barnett	Quality Assurance Officer	BS in Biology with 13 years laboratory/quality assurance experience
Jimmy Suttle	Project Manager	19 years sampling/sample custody/project management experience
Ivan Leef	Inorganics Lab Manager	BS in Chemical Engineering with 23 years laboratory experience
Tammy Church	Organics Lab Manager	BS in Chemistry with 15 years laboratory experience
Dennis Layne	Metals Lab Supervisor	Associate in Science with 15 years metals laboratory experience
Jennifer Dunford	Metals Analyst	BS in Natural Science/Ecology with 8 years laboratory experience
Destiny Austin	Wet Chemistry Analyst	BS in Biology with 7 years laboratory experience
Jay Jones	Wet Chemistry Supervisor	10 years laboratory experience
Josh Cox	Organic Analyst	AA in Environmental Technology with 12 years laboratory experience
Clayton Scott	Organic Analyst	BS in Environmental Science with 5 years laboratory experience
Allison Ford	Organic Analyst	5 years of laboratory experience
Joy Mullins	Project Manager/ Supervisor, Mid-Ohio Valley Service Center	BS in Chemistry with 15 years of laboratory experience
Erin Bryant	Supervisor, Roanoke Service Center	BS in Biology with 9 years of laboratory experience
Todd Gibson	Supervisor, Shenandoah Service Center	BS in Chemistry with 20 years of laboratory experience
Randy Farley	Field Measurements Supervisor	19 years of experience sampling wastewater, groundwater, and stormwater
Ed Kirk	Biological Division Director	MS in Biology and 17 years of bioassay experience
Mike Lester	Bioassay Laboratory Manager	19 years of bioassay laboratory experience