

Kytrina Delabroux 4/8/14



VERMONT DEPARTMENT OF HEALTH LABORATORY  
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Mailing: PO Box 1125, Burlington, VT 05402-1125  
1-800-660-9997 (VT only) or 1-802-338-4724

**Water Test Order Form Supplement**  
[Supplement and Kit Descriptions are Subject to Change]

**Test Kit Descriptions 2013**  
Effective May 2013

**IOC's**  
**INORGANIC CHEMICALS**

**Kit IA, Kit IB and Kit C samples are accepted Monday – Friday.** Kit C needs to be cooled and should be received **within 24 hours of sampling** - the temperature of the sample when received at the laboratory should be cooling or cooled to less than ~ 42 degrees Fahrenheit (6 degrees Celsius), but not frozen. **Please note that testing for Sulfate is being offered in Kit AN and as an individual test. Estimated turnaround time for test results is 21 calendar days from the time of sample receipt.**

**TRACE METALS AND FLUORIDE -KIT IA**

(Regulated Water Systems and Homeowners)

**Cost: \$125**

- |              |                |
|--------------|----------------|
| 1. Antimony  | 11. Lead       |
| 2. Arsenic   | 12. Manganese  |
| 3. Barium    | 13. Mercury    |
| 4. Beryllium | 14. Molybdenum |
| 5. Cadmium   | 15. Nickel     |
| 6. Chromium  | 16. Selenium   |
| 7. Cobalt    | 17. Thallium   |
| 8. Copper    | 18. Uranium    |
| 9. Fluoride  | 19. Vanadium   |
| 10. Iron     | 20. Zinc       |

For waters with high turbidity: Mercury may not be tested.

**LEAD/COPPER- Kit IB**

**Cost: \$ 20**

1. Lead
2. Copper

**INORGANIC CHEMICALS- KIT C (Homeowner)**

**Cost: \$ 100**

- |             |              |
|-------------|--------------|
| 1. Arsenic  | 7. Lead      |
| 2. Chloride | 8. Manganese |
| 3. Copper   | 9. Nitrate   |
| 4. Fluoride | 10. Sodium   |
| 5. Hardness | 11. Uranium  |
| 6. Iron     |              |

**IOC's  
INORGANIC CHEMICALS (Cont.)**

**INORGANIC CHEMICALS- KIT ID, Kit A1 ( Nitrate and Nitrite) and Kit AN samples are accepted Monday – Thursday, 7:45 a.m. – 4:30 p.m. and Friday, 7:45 a.m. – 12 noon.** Kits ID, A1 and AN need to be cooled - the temperature of the sample when received at the laboratory should be cooling or cooled to less than ~ 42 degrees Fahrenheit (6 degrees Celsius), but not frozen. **Samples must be received within 24 hours of sampling for odor, nitrate and nitrite tests. Note: Oxidizers such as chlorine interfere with testing for Nitrite.**

**INORGANIC CHEMICALS- KIT ID Required for some permits and water supplies. Cost: \$ 90**

- |              |             |
|--------------|-------------|
| 1. Arsenic   | 6. Nitrate  |
| 2. Chloride  | 7. Odor     |
| 3. Iron      | 8. pH       |
| 4. Manganese | 9. Sodium   |
| 5. Nitrite   | 10. Uranium |

**Coliform testing not included in this kit.**

**Note: For Kit ID or Kit C, sulfate can be added for an additional \$15.00.**

**New Kits for Anions:**

**KIT: N<sub>3</sub>N<sub>2</sub> – Nitrate and Nitrite. Nitrate and Nitrite required for some permits and water supplies. Cost: \$ 24**

**Kit: AN – Sulfate, Fluoride, Chloride, Nitrate, Nitrite. Cost: \$ 50**

Testing for the inorganic chemicals listed below is available upon request.

Test	<u>Sample to be Received Within 24 hrs of Sampling?</u>	Cost	Test	<u>Sample to be Received Within 24 hrs of Sampling?</u>	Cost
Alkalinity		\$12.00	Lead		\$12.00
Antimony		\$12.00	Manganese		\$12.00
Arsenic		\$12.00	Mercury		\$25.00
Barium		\$12.00	Nickel		\$12.00
Beryllium		\$12.00	Nitrate		\$12.00
Cadmium		\$12.00	Nitrite		\$12.00
Calcium, Titration		\$12.00	Odor	yes	\$10.00
Chloride		\$12.00	pH	Yes	\$10.00
Chlorine Residual, Free	yes	\$12.00	Selenium		\$12.00
Chlorine Residual, Total	yes	\$12.00	Sodium		\$12.00
Chromium		\$12.00	Sulfate		\$15.00
Conductivity	yes	\$12.00	Thallium		\$12.00
Copper		\$12.00	Total Dissolved Solids		\$12.00
Fluoride		\$12.00	Turbidity	yes	\$12.00
Hardness		\$12.00	Uranium (Kit RU)		\$25.00
Iron		\$12.00	Zinc		\$12.00

## VOC'S VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANIC CHEMICALS- KIT OA (EPA Method 524.2)

Cost: \$120

NOTE: Kit OA tests for all regulated and unregulated VOC's.

**VOC samples must be delivered or mailed to the laboratory and received Monday – Friday within 48 hours of sampling. Please keep samples cool. Estimated turnaround time for sample results is 21 calendar days from the time of sample receipt.**

1	Methyl tert-butyl ether	30	2,2-Dichloropropane
2	Benzene	31	1,3-Dichloropropane
3	Bromobenzene	32	1,1-Dichloropropene
4	Bromochloromethane	33	cis-1,3-Dichloropropene
5	Bromodichloromethane	34	trans-1,3-Dichloropropene
6	Bromoform	35	Ethylbenzene
7	Bromomethane	36	Fluorotrichloromethane
8	n-Butylbenzene	37	Hexachlorobutadiene
9	sec-Butylbenzene	38	Isopropylbenzene
10	tert-Butylbenzene	39	p-Isopropyltoluene
11	Carbon tetrachloride	40	Methylene chloride (Dichloromethane)
12	Chlorobenze	41	Naphthalene
13	Chlorodibromomethane	42	n-Propylbenzene
14	Chloroethane	43	Styrene
15	Chloroform	44	1,1,1,2-Tetrachloroethane
16	Chloromethane	45	1,1,2,2-Tetrachloroethane
17	2-Chlorotoluene	46	Tetrachloroethylene
18	4-Chlorotoluene	47	Toluene
19	Dibromomethane	48	1,2,3-Trichlorobenzene
20	1,3-Dichlorobenzene	49	1,2,4-Trichlorobenzene
21	1,2-Dichlorobenzene	50	1,1,1-Trichloroethane
22	1,4-Dichlorobenzene	51	1,1,2-Trichloroethane
23	Dichlorodifluoromethane	52	Trichloroethylene
24	1,1-Dichloroethane	53	1,2,3-Trichloropropane
25	1,2-Dichloroethane	54	1,2,4-Trimethylbenzene
26	1,1-Dichloroethene	55	1,3,5-Trimethylbenzene
27	trans-1,2-Dichloroethene	56	Vinyl chloride
28	cis-1,2-Dichloroethene	57	m+p-Xylene
29	1,2-Dichloropropane	58	o-Xylene

ORGANIC CHEMICAL TESTING (cont.)

Disinfection By-Products

TRihalOMETHANES-KIT OB (EPA METHOD 524.2)

Cost: \$120

Trihalomethane samples must be delivered or mailed to the laboratory and received Monday – Friday within 48 hours of sampling. Please keep samples cool. Estimated turnaround time for sample results is 21 calendar days from the time of sample receipt.  
Note: HALOACETIC-KIT OK may need to be sampled at the same time and at the same location as THM sampling occurs.

1. Chloroform
2. Dibromochloromethane
3. Bromodichloromethane
4. Bromoform

Note: Reported as total trihalomethanes.

HALOACETIC ACIDS - Kit OK (EPA METHOD 552.2)

Cost: \$ 150

Haloacetic Acid (Kit OK). Please order approximately one month before compliance monitoring is needed. Subject to laboratory capacity.  
Note: TRIHALOMETHANES-KIT OB, may need to be sampled at the same time and at the same location as haloacetic acid sampling occurs.  
Haloacetic samples must be delivered or mailed to the laboratory and received Monday – Friday within 48 hours of sampling. Please keep samples cool. Estimated turnaround time for sample results is 21 calendar days from the time of sample receipt.

1. Chloroacetic Acid
2. Bromoacetic Acid
3. Dichloroacetic Acid
4. Trichloroacetic Acid
5. Dibromoacetic Acid

Note: Also reported as total Haloacetic acids.

ORGANIC CHEMICAL TESTING (cont.)

**SOC's**  
**SYNTHETIC ORGANIC CHEMICALS**  
Kits OL, OE, OH and OG

**Please order approximately one month before compliance monitoring is needed.**  
Samples will be accepted the second full week of each month. The kits must be ordered in advance and will be sent out about 1 week prior to scheduled sample receipt dates.  
SOC Kits OE, OG, OH samples must be delivered or mailed to the laboratory and received Monday – Friday within 48 hours of sampling. Please keep samples cool. Estimated turnaround time for sample results is 21 calendar days from the time of sample receipt.

**HERBICIDES in WATER – KIT OE – EPA Method 515.4**

**Cost: \$200**

1. Dalpon
2. Dicamba
3. Dinoseb
4. Pentachlorophenol
5. Picloram
6. 2,4-D
7. 2,4,5-TP (silvex)

**CARBAMATE PESTICIDES – KIT OG (EPA METHOD 531.2)**

**Cost: \$100**

- |                       |                         |
|-----------------------|-------------------------|
| 1. Aldicarb           | 6. Aldicarb sulfone     |
| 2. Aldicarb Sulfoxide | 7. Baygon (Propoxur)    |
| 3. Carbaryl           | 8. Carbofuran           |
| 4. Methiocarb         | 9. Methomyl             |
| 5. Oxamyl (Vydate)    | 10. 3-Hydroxycarbofuran |

**EDB/DBCP-KIT OH (EPA METHOD 504.1)**

**Cost: \$ 80**

1. Ethylene dibromide(EDB)
2. Dibromochloropropane(DBCP)

ORGANIC CHEMICAL TESTING (cont.)

SOC's  
SYNTHETIC ORGANIC CHEMICALS (cont.)

Semi volatile Chemicals and Pesticides - Kit OL (EPA METHOD 525.2)

Cost: \$250

**Please order approximately one month before compliance monitoring is needed.**

Samples will be accepted the second full week of each month. The kits must be ordered in advance and will be sent out about 1 week prior to scheduled sample receipt dates.

SOC Kit OL samples must be delivered or mailed to the laboratory and received Monday – Friday within 24 hours of sampling. Please keep samples cool. Estimated turnaround time for sample results is 21 calendar days from the time of sample receipt.

**Compounds in method:**

Aldrin  
alpha-Chlordane  
gamma-BHC (lindane)  
Heptachlor  
Methoxychlor  
Simazine  
Bis-(2-ethylhexyl) phthalate  
Hexachlorocyclopentadiene  
2,4,5-Trichlorobiphenyl  
2,2',3',4,6-Pentachlorobiphenyl  
Benzo[a]pyrene  
Propachlor  
Metolachlor  
Dieldrin

di-n-Butyl phthalate  
Dimethyl phthalate  
2,3-Dichlorobiphenyl  
2,2',3,3',4,4',6-Heptachlorobiphenyl  
Anthracene  
Benzo[b]fluoranthene  
Benzo[ghi]perylene  
Dibenz[a,h]anthracene  
Indeno[1,2,3-cd]pyrene  
Pyrene

2,4-Dinitrotoluene  
Acetochlor  
EPTC (Torbin, Stauffer, R1608)  
DCPA (Dacthal)

Alachlor  
Atrazine  
gamma-Chlordane  
Endrin  
Heptachlor epoxide-isomer B  
trans-Nonachlor  
Bis-(2-ethylhexyl) adipate  
Hexachlorobenzene  
Pentachlorophenol  
2,2',4,4'-Tetrachlorobiphenyl  
2,2',3,3',4,5',6,6'-Octachlorobiphenyl  
Toxaphene  
Metribuzin  
Butachlor  
Total chlordane

Butyl benzyl phthalate  
Diethyl phthalate  
2-Chlorobiphenyl  
2,2',4,4',5,6'-Hexachlorobiphenyl  
Acenaphthylene  
Benz[a]anthracene  
Benzo[k]fluoranthene  
Chrysene  
Fluorene  
Phenanthrene

2,6-Dinitrotoluene  
4,4'-DDE (Dilene, Rhothanel)  
Molinate  
Terbacil

## RADIONUCLIDES

Samples are accepted Monday – Friday within 5 days of sampling, \* except Kit RC, which must be received within 48 hours. Estimated turnaround times are listed below for each method.

### WATER

**GROSS ALPHA IN WATER- KIT RA (EPA METHOD 900.0 or EERF 00-02) COST: \$ 45**

Test for gross alpha in water. [Turnaround time – approximately 14 workdays]

**\*RADON-222- KIT RC (SM 7500 Rn) COST: \$ 25**

Test for radon-222 in water. [Turnaround time – approximately 7-10 workdays]

**URANIUM IN WATER – KIT RU (EPA METHOD 200.8) COST: \$ 25**

Test for Uranium in water reported as mass. [Turnaround time – approximately 21 workdays]

### AIR

**RADON IN AIR-KIT RF (EPA METHOD 402-R-92-004) COST: \$ 50**

Test for radon-222 in air – 2 to 7 day sample. [Turnaround time – approximately 7 workdays]  
It is recommended that two testing devices be placed side by side when conducting short term radon in air testing: Kit RF is configured this way.

**RADON IN AIR-KIT RG (EPA METHOD 402-R-92-004) COST: \$ 25**

Test for radon- 222 in air – 1 to 3 month sample. [Turnaround time – approximately 7 workdays]

**RADON IN AIR-KIT RH (EPA METHOD 402-R-92-004) COST: \$ 25**

Test for radon-222 in air – 3 to 12 month sample. [Turnaround time – approximately 7 workdays]

## MICROBIOLOGICAL TESTING

Samples are accepted Monday – Friday (7:45 a.m. – 4:30 p.m.) within 30 hours of sampling. Please keep samples cool.

TOTAL COLIFORM BACTERIA AND *E. coli* - Presence/Absence -KIT A (Homeowner) COST: \$ 14

TOTAL COLIFORM BACTERIA AND *E. coli* - Presence/Absence -KIT AA (Regulated Water Systems) COST: \$ 14

ENUMERATION OF TOTAL COLIFORM AND *E. coli* in drinking water -KIT NU COST: \$ 15

IRRIGATION WATER- *E. coli* -KIT AG COST: \$ 15

RECREATIONAL WATER- *E. coli* -KIT SW COST: \$ 15

SPECIAL REQUEST: HETEROTROPHIC PLATE COUNT- KIT HP COST: \$ 15

Samples are only accepted Monday – Thursday (7:45 a.m. – 3:00 p.m) and within 24 hours of sampling. Please keep the samples cool. Estimated turnaround time is up to 4 calendar days.

### GENERAL INFORMATION

Sampling instructions and sample acceptance criteria can be found at the VDH website, click on [www.healthvermont.gov](http://www.healthvermont.gov), Laboratory Services.

For a complete listing of laboratories certified within the state of Vermont, please contact Vermont Department of Health Laboratory at (800) 660-9997 in state or (802) 338-4724 or the list can be found at the VDH website, click on [www.healthvermont.gov](http://www.healthvermont.gov), Laboratory Services.

For public water supply questions please call the Department of Environmental Conservation, Drinking Water and Groundwater Protection Division, at (800) 823-6500 in state or (802) 241-3400.

Records relating to water testing and radon in air are public. Public records may be used for statistical purposes, and may be released upon request in writing, pursuant to Vermont access to public document law (1 VSA § 315 – 320).