Appendix A

SAMPLING

There are several instructions that apply to all sampling techniques for all contaminants.

1. Do not rinse or empty bottles. Several bottles contain a preservative that must remain in the bottle.

2. Assume that any liquid present when a bottle arrives from the laboratory is caustic. If it comes in contact with skin or eyes, use first aid procedures for acid burns.

3. If there is an overflow while filling a sample bottle, restart the procedure using a new sample bottle.

4. If one bottle is to be used for several different samples, use the most restrictive sampling technique. (In the case of Fluoride, Sulfate and Nitrite; use the sampling procedure for Nitrite).

As of this printing many samples are collected by the Minnesota Department of Health personnel. This appendix is a review of sampling techniques used by the Minnesota Department of Health or yourself in gathering the required samples.

CONTAMINANT GROUPS

9/20/93
(u) unregulated

GROUP	SUBGROUP	CONTAMINANT	GROUP	SUBGROUP	CONTAMINANT
IOC	IOC1	Antimony (635)	SOC	HERB (406)	2,4-D
		Arsenic (110)			2,4,5-TP
		Beryllium (640)			Dalapon
		Nickel (175)			Dicamba (u)
		Sodium (645)			Dinoseb
		Thallium (238)			Picloram
	CYN	Cyanide (86)		BNA (407)	Alachlor
					Aldrin (u)
	FLOR	Fluoride (29)			Atrazine
					Benzo(A)pyrene
	SULF	Sulfate (28) (u)			Butachlor (u)
					Chlordane
	IOC2	Barium (117)			Dieldrin
		Cadmium (124)			Di(ethylhexyl)-adipate
		Chromium (131)			Di(ethylhexyl)-phthalate
		Mercury (637)			Endrin
		Selenium (180)			Heptachlor

NO2		Nitrite (67)
NO3		Nitrate (69)
PBCU		Lead (160)
		Copper (147)
VOC	(465)	Benzene
		Bromobenzene (u)
		Bromodichloromethane (u)
		Bromoform (u)
		Bromomethane (u)
		Carbon Tetrachloride
		Chlorobenzene (u)
		Chlorodibromomethane (u)
		Chloroform (u)
		Chloroethane (u)
		Chloromethane (u)
		cis-1,2-Dichloroethylene
		Dibromomethane
		Dichlorobenzene (u)
		Dichloromethane
		Ethylbenzene
		m-Dichlorobenzene (u)
		Monochlorobenzene
		o-Chlorotoluene (u)
		o-Dichlorobenzene
		p-chlorotoluene (u)
		para-Dichlorobenzene
		Styrene
		Tetrachloroethylene
		Toluene
		Trans-1,2-Dichloroethylene
		Trichloroethylene
		Vinyl Chloride
		Xylenes
		1,1-Dichloroethane (u)
		1,1-Dichloroethylene
		1,1-Dichloropropene (u)
		1,1,1-Trichloroethane
		1,1,1,2-Tetrachloroethane (u)
		1,1,2-Trichloroethane
		1,1,2,2-Tetrachloroethane (u)
		1,2-Dichloroethane
		1,2-Dichloropropane
		1,2,3-Trichloropropane (u)
		1,2,4-Trichlorobenzene
		1,3-Dichloropropane (u)
		1,3-Dichloropropene (u)
		2,2-Dichloropropane (u)
THM	(464)	Chloroform
		Bromoform
		Bromodichloromethane
		Chlorodibromomethane
		Heptachlor epoxide
		Hexachlorobenzene
		Hexachlorocyclo-pentadiene
		Lindane
		Methoxychlor
		Metolachlor (u)
		Metribuzin (u)
		Pentachlorophenol
		Propachlor (u)
		Simazine
		Toxaphene
	CARB (408)	Aldicarb
		Aldicarb Sulfofoxide (u)
		Aldicarb suflone (u)
		Carbaryl (u)
		Carbofuran
		Methomyl (u)
		Oxymal (Vydate)
		3-Hydroxycarbofuran (u)
	GLYPH(409)	Glyphosate
EDB	(403)	EDB
		DBCP
PCB	(404)	PCB’s
DIQU	(waived)	Diquat
ENDO	(waived)	Endothall
DIOX	(waived)	Dioxin
RAD		226-Radium (805)
		228-Radium (806)
		Gross Alpha (808)
ASB		Asbestos (880)
BAC		P/A Coliform (327)

GROUP: **IOC** SUBGROUP: IOC 1&2	**BOTTLE:** One 500-mL

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.

GROUP: CYN SUBGROUP: (086)	**BOTTLE:** One 500-mL

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Add the premeasured vial of sodium hydroxide (NaOH).
9. Replace cap and tighten.
10. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
11. Completely fill out the laboratory request form.

GROUP: **IOC**
SUBGROUP: Fluoride (029)

BOTTLE: 125-mL
General

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.

GROUP: **IOC** SUBGROUP: Sulfate (028)	**BOTTLE:** 125-mL General

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.

GROUP: **Nitrite** SUBGROUP: NO2 (067)	**BOTTLE:** 125 mL General

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the top of the sample container. Do not leave air spaces.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten. Do not shake or agitate the filled sampling container.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Sample must be cooled to 4-degrees centigrade.
11. Completely fill out the laboratory request form.
12. Sample must be in the laboratory within 30 hours.

GROUP: **Nitrate** SUBGROUP: NO3 (069)	**BOTTLE:** 175 - mL, "Square"

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill the sample container to the "fill line". Do not over fill.
   CAUTION: The sampling container contains a premeasured amount of sulfuric acid (H2S04). This acid will burn the skin upon contact.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.

GROUP: **VOC** SUBGROUP: (465)	**BOTTLE:** 4 40 –mL, screw cap, silicone septum

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Begin the filling process with the sample container held at a slight angle. Add water until the sample container is 1/2 full. Remove the sample container from the water flow and add two (2) drops of 1:1 HCl. (CAUTION: Hydrochloric acid causes severe burns. Use extreme caution when adding the acid.
7. Carefully complete filling the vial to form a meniscus (the curved upper surface of a liquid formed by surface tension), or use the vial cap to top off the vial and form the meniscus.
8. Screw cap on the vial so that the milky white side of the septum is in contact with the water. Do not touch the septum and do not over tighten.
9. Invert the vial and tap lightly against your other hand. Check for air bubbles. If bubbles are present, add additional water and reform the meniscus. Recheck for air bubbles.
10. Shake sampling container vigorously for one minute.
11. Sample must be cooled to 4-degrees centigrade.

GROUP: THM SUBGROUP: (464)	**BOTTLE:** (4) 40 –mL screw cap, silicone septum

LOCATION: Samples must be taken from locations within the distribution system that reflect the points of highest vulnerability and maximum residence time of water in the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), in good repair, and not attached to an internal water softener. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Begin the filling process with the sample container held at a slight angle. Add water until the sample container is 1/2 full, remove the sample container from the water flow and add two (2) drops of 1:1 HCL. CAUTION: Hydrochloric acid causes severe burns. Use extreme caution when adding the acid.
7. Carefully complete filling the vial to form a meniscus (the curved upper surface of a liquid formed by surface tension), or use the vial cap to top off the vial and form the meniscus.
8. Screw cap on the vial so that the milky white side of the septum is in contact with the water. Do not touch the septum and do not over tighten.
9. Invert the vial and tap lightly against your other hand. Check for air bubbles. If bubbles are present, add additional water and reform the meniscus. Recheck for air bubbles.
10. Shake sampling container vigorously for one minute.
11. Sample must be cooled to 4-degrees centigrade.

GROUP: **SOC** SUBGROUP: HERB (406)	**BOTTLE:** 1 Liter Amber colored

LOCATION: Entry points such as: Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Add the 3mL vial of hydrochloric acid to the sample. CAUTION: Hydrochloric acid (HCL) will burn the skin upon contact. (Return the empty 3mL vial to the laboratory).
9. Replace cap and tighten.
10. Shake sampling container vigorously for one minute.
11. Do not worry about bubbles.
12. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
13. Completely fill out the laboratory request form.
14. Sample must be cooled and shipped at 4-degrees centigrade.

GROUP: SOC SUBGROUP: BNA (407)	**BOTTLE:** 1 Liter Amber with round colored label

LOCATION: Entry points such as: Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Add the 3mL vial of hydrochloric acid to the sample. CAUTION: Hydrochloric acid (HCL) will burn the skin upon contact. (Return the empty 3mL vial to the laboratory).
9. Replace cap and tighten.
10. Shake sampling container vigorously for one minute.
11. Do not worry about bubbles.
12. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
13. Completely fill out the laboratory request form.
14. Sample must be cooled and shipped at 4-degrees centigrade.

GROUP: SOC SUBGROUP: CARB (408)	**BOTTLE:** 40 mL with round colored label

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill the sampling container to within 1/4-inch of the top. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Shake sampling container vigorously for one minute.
10. Do not worry about bubbles.
11. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
12. Completely fill out the laboratory request form.
13. Sample must be cooled and shipped at 4-degrees centigrade.

GROUP: **SOC** SUBGROUP: GLYP (409)	**BOTTLE:** 40 mL Amber colored

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill the sampling container to within 1/4-inch of the top. Do not over fill.
7. Quickly remove the sampling container from the water flow, replace cap, and tighten.
8. Shake sampling container vigorously for one minute.
9. Do not worry about any bubbles.
10. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
11. Completely fill out the laboratory request form.
12. Sample must be cooled to 4-degrees centigrade.

GROUP: EDB SUBGROUP: (403)	**BOTTLE:** 4 40 –mL, clear glass, with teflon-lined septum

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Begin the filling process with the sample container held at a slight angle. Add water until the sample container is 1/2 full. Remove the sample container from the water flow and add two (2) drops of 1:1 HC1. (CAUTION: Hydrochloric acid causes severe burns. Use extreme caution when adding the acid).
7. Carefully complete filling the vial to form a meniscus (the curved upper surface of a liquid formed by surface tension), or use the vial cap to top off the vial and form the meniscus.
8. Screw cap on the vial so that the milky white side of the septum is in contact with the water. Do not touch the septum and do not over tighten.
9. Invert the vial and tap lightly against your other hand. Check for air bubbles. If bubbles are present, add additional water and reform the meniscus. Recheck for air bubbles.
10. Shake sampling container vigorously for one minute.
11. Sample must be cooled to and shipped at 4-degrees centigrade.

GROUP: PCB SUBGROUP: (404)	**BOTTLE:** 4 40 –mL clear glass with teflon lined septum

LOCATION: General areas; Filter/treatment effluent, tap on a storage container providing water directly to the system, or a tap on the discharge pipe from a well pumping directly to the system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.
11. Sample must be cooled to and shipped at 4-degrees centigrade.

GROUP: **RAD** SUBGROUP: Gross Alpha (808)	**BOTTLE:** 1 Gallon Collapsible

LOCATION: Samples must be taken from locations representative of the water in the distribution system. Avoid locations subject to zeolite water softening.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Do not use faucets connected to home/local water softeners. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.

GROUP: ASB SUBGROUP: (880)	**BOTTLE:** 1 Liter Plastic

LOCATION: Either: Entry points to the distribution system; or, locations within the system that reflect the points of highest vulnerability.

System documentation must be reviewed to determine if samples will be taken from entry points or from within the distribution system.

PROCEDURE

1. Using waterproof ink, fill out and attach label. At a minimum, include the PWS ID number, sampling point, and date.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.
3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow rate could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. When possible, hold the sampling container in one hand and the cap in the other or set the cap on a clean surface. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill to the shoulder of the container. Do not over fill.
7. Quickly remove the sampling container from the water flow.
8. Replace cap and tighten.
9. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
10. Completely fill out the laboratory request form.
11. Sample must be cooled and shipped at 4-degrees centigrade.
12. Sample must reach the laboratory within 30 hours.

GROUP: **BAC** SUBGROUP: Coliform (327)	**BOTTLE:** 125 mL Sterilized

LOCATION: 1) Well water prior to treatment. 2) Points in the distribution system that provide samples representative of water in the system.

Bottles with WHITE labels contain the dechlorinating agent sodium thiosulfate and should be used when the system uses disinfection techniques. Bottles with YELLOW labels contain no additives and are to be used ONLY when the system uses no disinfection techniques.

PROCEDURE

1. Using waterproof ink, fill out and attach label. Include the PWS ID number, sampling point, date, and time of collection.
2. If possible, choose a tap that is clean, free of attachments (hoses, etc.), and in good repair. Avoid faucets with swivel necks and drinking fountains. Remove any aerator, strainer, or hose that is present.

2a. OPTIONAL: Flame the tap using a propane torch, lighter, or canned heat; or wipe the mouth of the outlet with an alcohol swab. CAUTION: Before using flame, ensure that the tap is not plastic, and make certain that all plastic/rubber washers are removed.

3. Turn on the cold water for two to three minutes at full flow before collecting the sample. When sampling from a single-lever faucet, be sure the handle is pushed all the way over to the cold water side. The time required to flush the system will vary depending on location. In most cases, the water temperature will drop after the interior plumbing has been flushed.
4. Reduce the water flow to a steady stream that allows filling without spilling. Do not change the water flow once you have started sampling. With multiple samples, maintain a constant, steady stream. (Changing the flow could dislodge microbial growth and unwanted contaminants.)
5. Remove the sampling container cap. Be careful not to touch the inside of the sampling container or cap with your fingers. Hold the sampling container in one hand and the cap in the other do not set the cap down. Quickly position the sampling container under the water flow. Do not allow the sampling container to touch the faucet or water to splash up onto the faucet.
6. Fill the sample container to the “fill line”. Do not over fill.
7. Quickly remove the sampling container from the water flow. Replace the cap and tighten.
8. Turn the tap off and replace the aerator, strainer, or hose. Dry the sample container.
9. Completely fill out the laboratory request form.
10. Sample must be iced as soon as possible. Temperature must remain between 4 and 10 degrees centigrade during shipment.
11. Sample must reach the laboratory within 30 hours of collection.

GROUP: PBCU	**BOTTLE:** 1 liter plastic

LOCATION: FOR TAP WATER SAMPLING: A kitchen or bathroom cold-water faucet is to be used for sampling. DO NOT SAMPLE water faucets that have point-of-use or point-of-entry treatment devices (e.g. softener, filter unit, etc.) to remove inorganic contaminants. Run cold water through this faucet prior to the 6-hour hold on water use to avoid sampling a residual of hot water that is trapped in the faucet spout.
FOR SOURCE SAMPLING: Sample each entry point to the distribution system that is representative of each well or each surface water source.

PROCEDURE FOR TAP WATER SAMPLING: See page 23 for number of sample(s) required by the lead and copper rule.

1. This sample is being collected to determine the contribution of faucet fixtures and household plumbing to the lead and copper levels in tap water. This sampling is required by the U.S. Environmental Protection Agency's lead and copper rule.

2. Stagnant water condition required. Water within the household plumbing should not be used for at least 6 hours before the tap water sample is collected.

3. Sample Point. A kitchen or bathroom cold-water faucet is to be used for sampling. DO NOT SAMPLE water faucets that have point-of-use or point-of-entry treatment devices (e.g. softener, filter unit, etc.) to remove inorganic contaminants. Run cold water through this faucet prior to the 6-hour hold on water use to avoid sampling a residual of hot water that is trapped in the faucet spout.

4. Collection of Sample. Open 1 Liter plastic sample container and place under the cold-water faucet selected for sampling. Do not remove the aerator and be sure mixing faucet is positioned to sample cold-water only. Open faucet slowly and allow the sample container to fill with the first water coming from the faucet. Use the same flow that you would normally fill a drinking glass. DO NOT OVERFLOW THE SAMPLE BOTTLE. Close the faucet slowly as the level in the container approaches the neck of the sample container. Replace the lid of the sample container and fill out the label in ink.

4. Tap Water Sampling Form. Complete tap water sample form and place in envelope. Fasten envelope to the water sample container with tape or a rubber band.

PROCEDURE FOR SOURCE MONITORING

1. In source monitoring, use similar collection techniques as used in Group IOC, Subgroup IOC l&2, page 347, however the bottle must be acid washed.